

VBS | Catalogue 2012/2013



# Connection and fastening systems

THINK CONNECTED.

## Welcome to Customer Service

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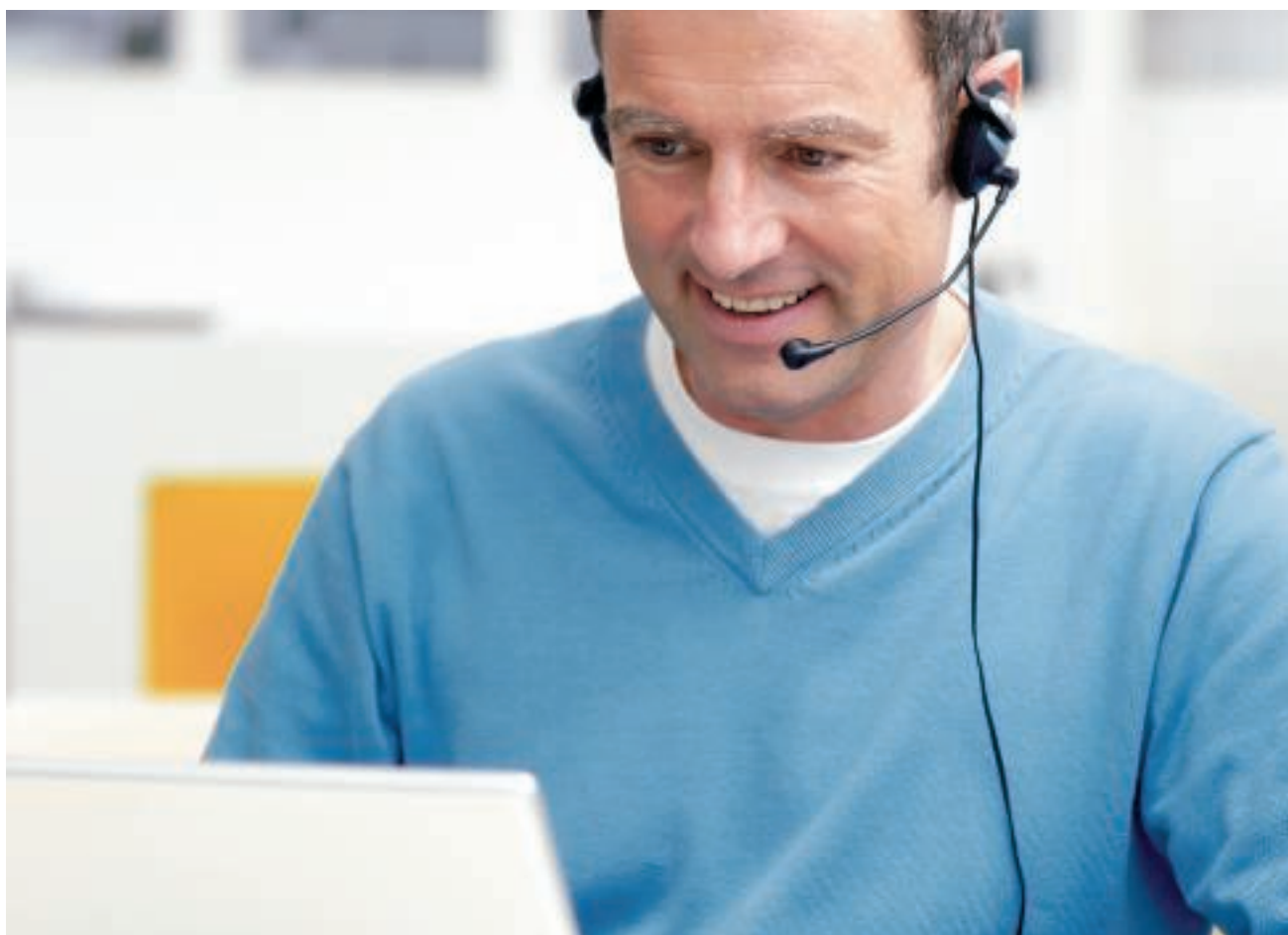
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Use the direct line to OBO Customer Service! On the Service Hotline +49 (0)2373 89-1500, we are available every day from 7.30 a.m. to 5.00 p.m. for any questions about the OBO product range for electrical installations. The newly structured OBO Customer Services can offer you the full works:

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- All the information on the OBO product range
- Knowledgeable advice on special application topics
- Quick, direct access to all the technical data of the OBO products – we also want to provide the best in customer relations!

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With a comprehensive programme of training courses and seminars on the subject of connection and fastening systems, OBO is able to support its customers with specialist knowledge from a single source. Alongside the basic theoretical principles, the programme also deals with practical implementation in everyday applications. Special calculation and application examples round off the comprehensive programme of knowledge transfer.

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## Planning and mounting aids

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## Contact corrosion



Contact corrosion between two different metals poses a considerable risk to the load capacity and lifespan of the components used.

### Height of the potential difference

The level of contact corrosion is primarily determined by the level of the potential difference between the contact partners. Contact corrosion occurs at potential differences of 100 mV or greater and the anodic (electrically negative) partner is at risk of corrosion. Therefore, strongly non-precious metals should never be brought into contact with precious metals.

### Additional contact corrosion criteria

- Level of electrical resistance between the contact partners. The higher the resistance, the lower the contact corrosion. Positive on Al and Ti.
- Occurrence of an electrolyte. An electrolyte, such as perspiration or condensate attacks the protective layers, increasing conductivity. Dirt increases this effect through released ions.
- Length of the impact of the electrolyte. The longer the electrolyte is at the work, the greater the corrosion will be.
- The surface ratios of the contact partners influence the current density. The best thing to have is a small surface ratio of the "precious" to the "less precious" contact partner.

### Potential difference

Normal potential		Practical voltage series, water pH 6		Practical voltage series, artificial Sea water pH 7.5	
Metal	mV	Metal	mV	Metal	mV
Copper	+340	Titanium	136	Nickel	1
Lead	-126	Brass MS 63	100	Brass MS 63	32
Tin	-140	Copper	94	Copper	-35
Nickel	-230	Nickel	73	RF steel 1.4301	-90
Iron	-440	RF steel	-129	Titanium	-156
Zinc	-763	Aluminium	-214	Lead	-304
Titanium	-1630	Hard chromium	-294	Hard chromium	-336
Aluminium	-1660	Tin 98	-320	Steel	-380
Magnesium	-2370	Lead 99.9	-328	Aluminium	-712
Steel	-395				
Zinc	-852				



## Contact corrosion



### Land climate

Material component (large)		Material construction element (small)					
<b>OBO designation</b>	Basic material Coating	FT	VA	AL	CU	MS	Za- mak
<b>Steel, galvanised (FT, FS, DD, G)</b>	DD11/Zn, S234(St37)/Zn, ST4-2/Zn, St500-2/Zn, StW22/Zn, DX51D/Zn	0	0	0	2	1	0
<b>Stainless steel V2A, V4A, V5A</b>	1.4301, 1.4310, 1.4401, 1.4404, 1.4571, 1.4529	0	0	1	1	1	0
<b>Aluminium Al</b>	AlMg3, AlMgSi0.5	0	0	0	2	1	0
<b>Copper Cu</b>	E-Cu S7, F24, Se-Cu(2.0070), SF-Cu F24, St50-2	1	1	1	0	1	2
<b>Brass Ms1</b>	CuZn39Pb3, CuZn40Pb2	0	1	1	1	0	2
<b>Brass MS2</b>	CuZn37	0	2	1	1	0	2
<b>Die-cast zinc Zamak ZnAlCu1</b>	Z410(GD-ZnAl4Cu1)	1	1	0	3	1	0

#### Legend

0 No risk for contact corrosion

1 Low risk

2 Risk in case of small area ration (area of non-precious metal / area of precious metal)

3 High risk



## Contact corrosion



### Industrial atmosphere

Material component (large)		Material construction element (small)						
<b>OBO designation</b>	Basic material Coating	FT	VA	AL	CU	MS	Za- mak	
<b>Steel, galvanised (FT, FS, DD, G)</b>	DD11/Zn, S234(St37)/Zn, ST4-2/Zn, St500-2/Zn, StW22/Zn, DX51D/Zn	0	0	1	3	2	0	
<b>Stainless steel V2A, V4A, V5A</b>	1.4301, 1.4310, 1.4401, 1.4404, 1.4571, 1.4529	0	0	1	1	1	0	
<b>Aluminium Al</b>	AlMg3, AlMgSi0.5	1	1	0	2	2	0	
<b>Copper Cu</b>	E-Cu S7, F24, Se-Cu(2.0070), SF-Cu F24, St50-2	2	2	3	0	1	2	
<b>Brass Ms1</b>	CuZn39Pb3, CuZn40Pb2	1	1	2	1	0	1	
<b>Brass MS2</b>	CuZn37	1	1	3	1	0	1	
<b>Die-cast zinc Zamak ZnAlCu1</b>	Z410(GD-ZnAl4Cu1)	0	0	0	3	2	0	

#### Legend

0 No risk for contact corrosion

1 Low risk

2 Risk in case of small area ration (area of non-precious metal / area of precious metal)

3 High risk





## Contact corrosion



### Sea climate

Material component (large)		Material construction element (small)					
<b>OBO designation</b>	Basic material Coating	FT	VA	AL	CU	MS	Zamak
<b>Steel, galvanised (FT, FS, DD, G)</b>	DD11/Zn, S234(St37)/Zn, ST4-2/Zn, St500-2/Zn, StW22/Zn, DX51D/Zn	0	1	3	3	2	1
<b>Stainless steel V2A, V4A, V5A</b>	1.4301, 1.4310, 1.4401, 1.4404, 1.4571, 1.4529	1	0	3	1	1	0
<b>Aluminium Al</b>	AlMg3, AlMgSi0.5	3	1	0	2	2	0
<b>Copper Cu</b>	E-Cu S7, F24, Se-Cu(2.0070), SF-Cu F24, St50-2	2	2	3	0	1	2
<b>Brass Ms1</b>	CuZn39Pb3, CuZn40Pb2	1	1	3	1	0	1
<b>Brass MS2</b>	CuZn37	1	1	3	1	0	1
<b>Die-cast zinc Zamak ZnAlCu1</b>	Z410(GD-ZnAl4Cu1)	0	0	0	3	2	2

#### Legend

- 0 No risk for contact corrosion
- 1 Low risk
- 2 Risk in case of small area ration (area of non-precious metal / area of precious metal)
- 3 High risk



## Surface testing and corrosion categories



### Surface testing/salt spray mist test

All the system components must show sufficient resistance against corrosion in agreement with the KTS standard, DIN EN 61537. The minimum zinc layer thicknesses are determined through a measurement. The grouping into the appropriate class is located at the right of the table. The top of the table shows the area of application and the zinc loss to be expected according to DIN EN ISO 12944.



## Surface testing and corrosion categories

### Corrosion categories to DIN EN ISO 12944

Corrosion category	Typical environment, inside	Typical environment, outside	Corrosion load	Average zinc loss
C 1	Heated buildings with neutral atmospheres, e.g. offices, shops, schools, hotels	-	Insignificant	<0.1 $\mu\text{m/a}$
C 2	Unheated buildings in which condensation can occur, e.g. warehouse, sports' halls	Atmosphere with low level of impurities – often rural areas	Low	0.1 to 0.7 $\mu\text{m/a}$
C 3	Production facilities with a high level of humidity and some air impurities, e.g. plants for food production, laundries, breweries, dairies	City and industrial atmosphere, considerable impurities through sulphur dioxide, coastal areas with low salt load	Medium	0.7 to 2.1 $\mu\text{m/a}$
C 4	Chemical plants, swimming pools, boatsheds over seawater	Industrial areas and coastal areas with low salt load	Strong	2.1 to 4.2 $\mu\text{m/a}$
C 5-I	Buildings or areas with almost constant condensation and with heavy impurities	Industrial areas with high levels of humidity and aggressive atmosphere	Very strong (industry)	4.2 to 8.4 $\mu\text{m/a}$
C 5-M	Buildings or areas with almost continuous condensation and with high levels of impurities	Coastal or offshore areas with salt load	Very strong (sea)	> 4.2 to 8.4 $\mu\text{m/a}$

### Classification of corrosion resistance (from the draft of DIN EN 61537)

Class	Reference material and surface treatment
0*	None
1	Electroplated to a minimum thickness of 5 $\mu\text{m}$
2	Electroplated to a minimum thickness of 12 $\mu\text{m}$
3	Pre-galvanised to 275 degrees according to EN 10327 and EN 10326
4	Pre-galvanised to 350 degrees according to EN 10327 and EN 10326
5	Galvanised to a zinc coating thickness of (minimum) 45 $\mu\text{m}$ according to ISO 1461
6	Galvanised to a zinc coating thickness of (minimum) 55 $\mu\text{m}$ according to ISO 1461
7	Galvanised to a zinc coating thickness of (minimum) 70 $\mu\text{m}$ according to ISO 1461
8	Galvanised to a zinc coating thickness of (minimum) 85 $\mu\text{m}$ according to ISO 1461 (usually high-alloy silicon steel)
9A	Rustproof steel, manufactured according to ASTM: A 240/A 240M – 95 a designation S30403 or EN 10088 degree 1-4301 without finishing **
9B	Rustproof steel, manufactured according to ASTM: A 240/A 240M – 95 a designation S31603 or EN 10088 degree 1-4301 without finishing
9C	Rustproof steel, manufactured according to ASTM: A 240/A 240M – 95 a designation S30403 or EN 10088 degree 1-4301 with finishing **
9D	Rustproof steel, manufactured according to ASTM: A 240/A 240M – 95 a designation S31603 or EN 10088 degree 1-4404 with finishing **

\* For materials which do not have a declared corrosion resistance classification

\*\* The end treatment process is used to improve the protection against crack corrosion and the contamination of other steels



## Surfaces for use in internal areas



Whether indoors or outdoors, in aggressive atmospheres or under special hygienic conditions: OBO can offer the perfect surface and materials for your connection and fastening system, no matter what the requirements may be. OBO connection and fastening systems are machined from high-quality sheet steel or steel wire and are available with various surfaces. Different hardening and coating methods ensure tailor-made corrosion protection, specially tailored to the appropriate application. In addition, OBO connection and fastening systems are available in stainless steel.

### Indoor use

For applications in indoor areas, OBO can offer connection and fastening systems with galvanisation or strip galvanisation. They are particularly suited to dry atmospheres without any impact from aggressive pollutants.

### Electro-galvanisation

- Electrolytic galvanisation in accordance with DIN EN 12329
  - Average coating thickness approx. 2.5–10  $\mu\text{m}$
  - According to RoHS guideline
- Components: profile rails, clamp clips and small parts such as bolts, washers and nuts.

### Strip galvanisation

- Hot-dip galvanised according to the strip-galvanising method in accordance with DIN EN 10346 (formerly DIN EN 10327)
- Average coating thickness approx. 20  $\mu\text{m}$
- Joints in the metal are protected by cathodic corrosion protection up to a thickness of 2.0 mm

Components: metal products such as profile rails and mounting components.



## Surfaces for use in external areas



### Outdoor use

OBO can offer versions with hot dip galvanisation and double-dip galvanisation for outdoor and wet room use.

### Hot-dip galvanisation

- Hot galvanisation using the dipping method according to DIN EN ISO 1461
- Coating thickness to DIN EN ISO 1461 approx. 40–60  $\mu\text{m}$
- Any interfaces added at a later date must also be galvanised to protect against corrosion

Components: Sheet steel products such as cable trays and welded components such as supports and brackets

### Double-dip galvanisation

- Hot dipping with zinc-aluminium coating in accordance with DIN EN 10327
- Average coating thickness approx. 23  $\mu\text{m}$
- Joints in the metal are protected by cathodic corrosion protection up to a thickness of 2.0 mm

Components: Metal products such as covers, barrier strips and punched parts



## Surfaces for use in tunnels, food or chemical industries



### Applications: Tunnel construction, food or chemical industries

There are also OBO stainless steel systems for special hygiene and quality requirements for special visual criteria for open wiring.

### SS304 stainless steel

- OBO Code: V2A
- European material number: 1.4301
- American material designation: 304
- Welded components are additionally passivated
- Unwelded components are rinsed and degreased

Components: V2A selection programme with the title "V2A stainless steel systems"

### V4A stainless steel

- OBO Code: V4A
- European material number: 1.4571
- American material designation: 316 / 316 T
- Welded components are additionally passivated
- Unwelded components are rinsed and degreased

Components: V4A selection programme with the title "V4A stainless steel systems"



## Surfaces for special visual requirements or special environmental loads



### Applications with specific optical requirements or special environmental conditions

Colour-coated cable support systems are becoming ever more popular. The coating may be required for optical reasons or for reasons of corrosion protection:

### Colour coatings for reasons of corrosion protection

- Cable support system in FT (hot-dip galvanised version)
- All RAL colours available
- Coating of the visible surfaces and/or the complete system
- Suitable for the colour of the structure when routed openly
- Separation of different voltages/-functions (e.g. blue 230/400 V power supply; red weak current such as telephone line and IT)



Colour-coated systems are not indicated specially in this catalogue. You can obtain details for these systems by contacting our telephone hotline on +49 (0)2373 89-1500.



## UV and weather resistance



### Protected and unprotected installations outdoors

Outdoor installations should always be viewed particularly critically with regard to the mounting locations and the selection of the installation materials. It is important to include the environment conditions and influences in the product selection in advance.

### UV and weather resistance for outdoor installations

Besides UV radiation, installations outdoors must also take other environmental influences into account. Here, it is necessary to determine the exact environmental conditions. Factors such as maximum temperatures, regularity of (extreme) temperature changes, humidity and the location of use/mounting (housing, industry, town, region, continent) all have their role to play here. The problem is that there is no standardised testing method for the resistance of installation materials under different environmental influences. Therefore outdoor installations near dumps, chemical or petrochemical plants, sewage plants, etc. must be given special attention before mounting.



### Caution!!!

All the T series boxes are UV-resistant.





## Labelling of halogen-free materials



### Halogen-free installation materials

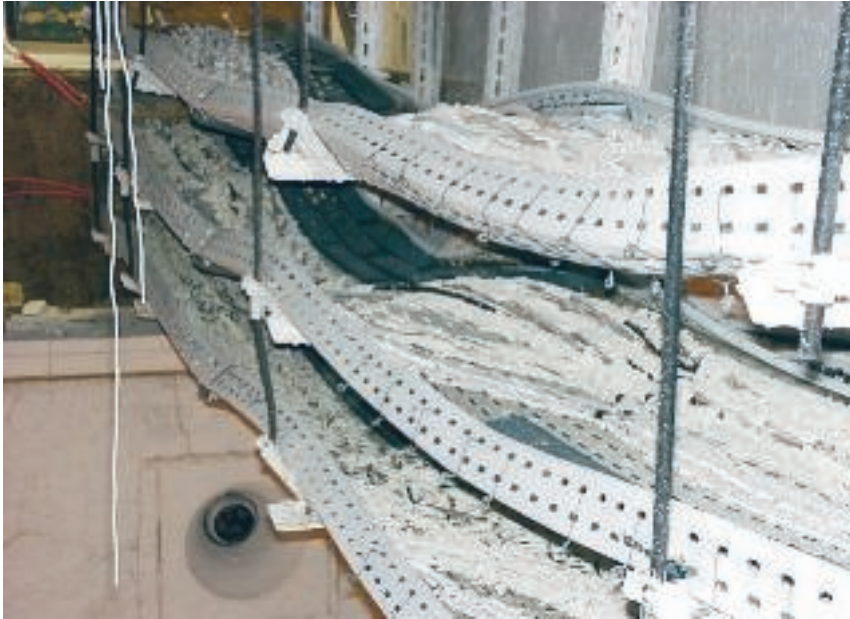
Events such as the fire at Düsseldorf Airport, in which people were killed by the extreme smoke development, have made us more sensitive, not just to the areas of function maintenance and fire protection systems, but also to standard installation materials. The result is the increasing demand for halogen-free plastics. Halogen-free installation should/must always be used in public areas (emergency routes, lifts, etc). The chemical composition of these halogen-free systems is designed in such a way that, in the case of fire, they produce less hazardous (toxic/corrosive) gases, which could combine with extinguishing agents to form hydrochloric acid. In the sense of the standard DIN VDE 0472, this means that materials are considered halogen-free when "the proportions of the halogens chlorine, bromine and iodine are  $\leq 0.2\%$  for chlorine and  $\leq 0.1\%$  for fluorine". The DIN-VDE specification does not explicitly require halogen-free installation systems as yet, but OBO Bettermann can, nevertheless, offer a wide range of halogen-free articles. This means that, if there is a fire, the risk to peo-

ple and property can be reduced to a minimum.





## Function maintenance for electrical systems



### Safety in case of fire

#### A lot of people, a lot of safety

Function maintenance is particularly important in buildings regularly frequented by large numbers of people. These include public buildings such as schools, hospitals, meeting places, civic buildings and underground stations, but also industrial plants, high-rise buildings, shopping centres and large car parks.

#### 30 minutes: Function maintenance for an evacuation

The first 30 minutes after the start of a fire are decisive when clearing the affected building. During this time, function maintenance must be guaranteed for the following units:

- Safety lighting systems
- Lifts with fire control
- Fire alarm systems
- Alarm systems and systems to issue instructions to visitors and employees
- Fire extraction systems

#### 90 minutes: Function maintenance for improved fire-fighting

To support fire-fighting operations, it is imperative that certain technical equipment is supplied with sufficient power even up to 90 minutes after a fire breaks out in a building. This equipment includes:

- Systems to increase the pressure of the water for fighting the fire
- Mechanical smoke extraction and smoke protection pressure systems
- Fire brigade lifts, bed lifts in hospitals

#### Individual laying systems

With the individual laying systems, OBO Bettermann can offer a range of practical, flexible mounting options for electrical installations with function maintenance. The systems are suited to vertical and horizontal installation and are approved for the fire protection classes E30 and E90. Standardised supporting constructions as defined in the testing standard, DIN 4102 Part 12, include: The laying of cables with individual clips and the laying of cables with profile rails, clamp clips and a long trough.

#### Fire loads of installation systems

According to the valid MLAR, there is no longer a need to specify the fire loads for electrical installations in emergency and escape routes, as a fire load of 0 kWh is always required.



## Function maintenance for electrical systems



### Maintain the function!

To ensure that emergency and escape routes and important technical equipment such as emergency lighting, fire alarm systems and smoke exhaust systems remain usable in case of fire, it is absolutely essential to provide special protection for the power supply for these systems. The use of special cables and laying systems means that it is possible to maintain the power supply, even in the case of fire, thus guaranteeing the function maintenance. You can find detailed information on the subject of fire protection in the OBO BSS fire protection catalogue.

### Standard support type, clamp clip, type 2056

Standard support construction consisting of clamp clip without long trough for individual laying or bundling cables. Brief information:

- Wall or ceiling mounting
- Vertical or horizontal mounting
- Rail mounting: max. 0.3 m
- Anchor spacing in the rail: max. 0.25 m
- Individual cable assignment: diameters of up to 100 mm possible
- Assignment with bunched cables: max. three cables with max. diameter 25 mm

### Cable tidy, cable-specific laying type

Cable-specific laying type with collective brackets for individual laying, mounting on wall or ceiling. Brief information:

#### Type 2031/M 15

- Mounting distance: max. 0.5 m
- Cable assignment: max. 1.1 kg/m

#### Type 2031/M 30

- Mounting distance: max. 0.5 m
- Cable assignment: max. 2.5 kg/m

#### Type 2031/M 70

- Mounting distance: max. 0.8 m
- Cable assignment: max. 6.0 kg/m

### Standard support type, clamp clip, type 732/733

Standard support construction consisting of spacer clips for individual laying or bundling cables. Brief information:

- Wall or ceiling mounting
- Vertical or horizontal mounting
- Mounting spacing: max. 0.3 m
- Individual cable assignment: diameters of up to 50 mm possible
- Assignment with bunched cables: max. three cables with max. diameter 25 mm

### Pressure clip, cable-specific laying type

Cable-specific laying type for individual laying, mounting on the ceiling. Brief information:

#### Type 2033 M

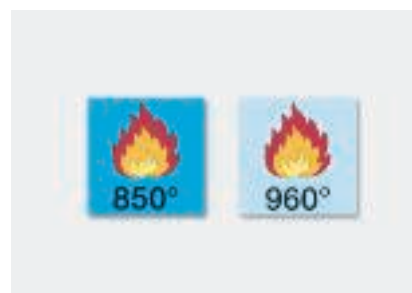
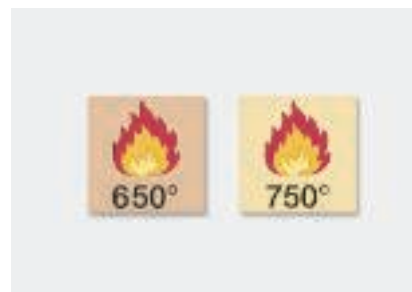
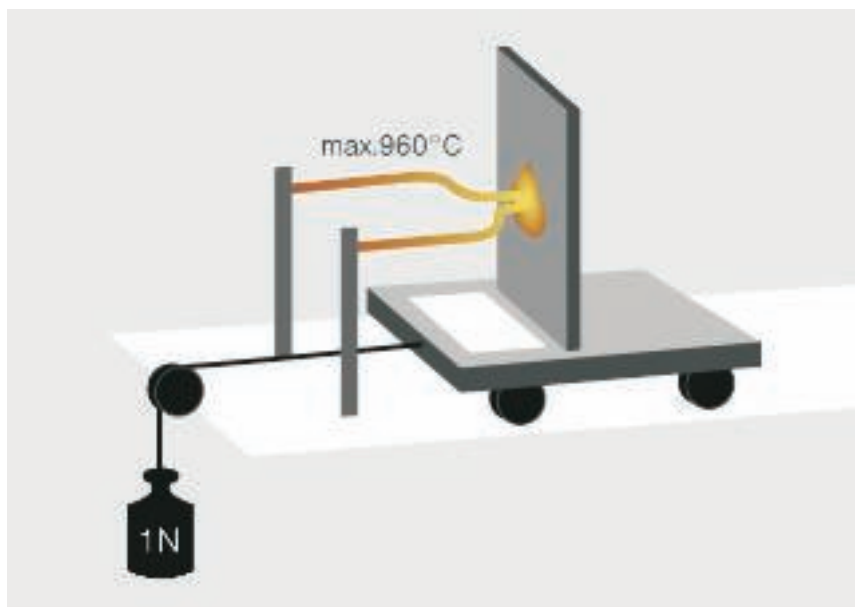
- Mounting distance: max. 0.5 m

#### Type 2034 M

- Mounting distance: max. 0.5 m



## Flame-resistance/fire-resistance



According to DIN EN 60695-2-11 (VDE 0471 Part 2-11), electrical connection materials must be subjected to a glow wire test, in order to evaluate the fire risk of the end product. End products, in the sense of the standard, are electrical resources

and modules and components. When the glow wire test is being carried out, a glowing wire (for temperature, see table below) is inserted into the component to be tested for a period of 30 seconds and then removed. After 30 seconds at the lat-

est, the object, if it has caught light, must have extinguished again, in order to specify the flame resistances.

### Types of installation systems

Types of bodies on test	Surface-mounted	Con-cealed	Flush-mounted	Cavity wal-l/furniture	Concrete structure	Install-a-tion duct
	Testing temperatures in °C					
<b>Connection sockets</b>	650	650	750	850	650	750
<b>Accessory sockets and device connection sockets</b>	750	650	-	850	650	750
<b>Ceiling lights, connection sockets</b>	750	650	-	850	650	750
<b>Wall light connection sockets</b>	750	650	-	850	650	750
<b>Device connection sockets</b>	750	650	-	850	650	750
<b>Connection sleeves</b>	750	-	-	-	-	750
<b>Insulation sections, which support active parts</b>	960	-	-	-	-	-
<b>Cover for installation sockets</b>	750	-	-	-	-	-



## VDE and CE marks



### VDE

The VDE is the Association for Electrical, Electronic and Information Technologies, their study and the technologies and applications based upon them. The VDE Testing and Certification Institute is a nationally and internationally accredited institute in the field of testing and certification of electro-technical devices, components and systems. These electrical products are tested for their safety, electromagnetic compatibility and additional product properties. Tests and certificates are important for consumer protection and for the marketing of our products. As a neutral and independent institution, the VDE Testing and Certification Institute is a global partner for the electrical engineering, electronics and information technology industries. All the relevant tests for the different product properties are anchored in the VDE.

### CE symbol:

Technical resources included in a legal ordinance, i.e. electrical resources, machines and safety components, must have a CE symbol, with which the manufacturer confirms that the safety requirements of the ordinances are fulfilled. In addition, there must also be a declaration of conformity and technical documentation. The CE symbol is not a mark of quality, but simply a declaration by the manufacturer that they have complied with the legal requirements and the codes of practice.



## IP protection rating



### IP protection rating

The IP protection rating specifies how far a component is protected against contact and foreign bodies and the ingress of water. The IP protection ratings are controlled by the standard DIN EN 60529 (VDE 0470 Part 1). The IP is always made up of two digits.

- The first digit (see table below) designates the contact and foreign body protection. On the one hand, it specifies how far a housing prevents access to dangerous parts, by preventing or limiting the ingress of body parts or objects held by a person. On the other hand, it specifies how far the housing protects the installed resources against the ingress of solid foreign bodies.
- The second digit (see table on the right) specifies the protection against water. It specifies how far the resource is protected against incoming water and the resulting damage.

### Protection rating

First code digit	Against access to the dangerous parts	Against solid foreign bodies
0	Protected against access to dangerous parts with the back of the hand	Not protected
1	Protected against access to dangerous parts with a finger	Protected against solid foreign bodies of 50 mm diameter and larger
2	Protected against access to dangerous parts with a tool	Protected against solid foreign bodies of 12.5 mm diameter and larger
3	Protected against access to dangerous parts with a wire	Protected against solid foreign bodies of 2.5 mm diameter and larger
4	Protected against access to dangerous parts with a wire	Protected against solid foreign bodies of 1.0 mm diameter and larger
5	Protected against access to dangerous parts with a wire	Dust-protected
6	Protected against access to dangerous parts with a wire	Dust-proof



## IP protection rating

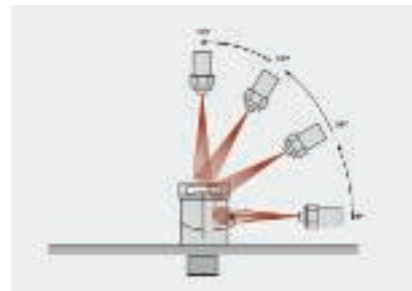


### Protection rating against the entry of water with a damaging impact

Second code digit	Short description	Definition
0	Not protected	-
1	Protected against water droplets	Droplets falling vertically may have no damaging impact.
2	Protected against water droplets when the housing is tilted to up to 15°	Droplets falling vertically may not have a damaging impact, if the housing is tilted to angle of 15° on either side of the vertical.
3	Protected against spray water	Water being sprayed at an angle of 60° on both sides of the vertical may not have any damaging impact.
4	Protected against spray water	Water spraying the housing from any direction may not have any damaging impact.
5	Protected against water jets	Jets of water pointing at the housing from any direction may not have any damaging impact.
6	Protected against strong water jets	Strong jets of water pointing at the housing from any direction may not have any damaging impact.
7	Protected against the effects of being temporarily immersed in water	If the housing is sometimes underwater under standard pressure and time conditions, then water may not enter in such volumes as would have a damaging impact.
8	Protected against the effects of being continuously immersed in water	If the housing is continuously underwater, then water may not enter in such volumes as would have a damaging impact and this shall be subject to conditions to be agreed between the manufacturer and the user. However, the conditions are more difficult to fulfil than for number 7.



## IPX9 protection rating



Besides the protection ratings according to IEC 60529 (DIN EN 60529, VDE 0470-1:2000-09) "Degrees of protection provided by enclosures (IP code)", there are other standards, which describe the testing of the protection rating. One such standard is ISO 20653:2005-08. This has been created more or less exactly from the German standard DIN 40050-9: 1993-05 "Road

vehicles; degrees of protection (IP code); protection against foreign objects; water and contact; electrical equipment".

DIN 40050-9 is intended particularly for road vehicles, as installations are often subjected to spray water here. But higher protection ratings are also required in electrical installations, as, in many areas, cleaning with high pressure equipment is part of every-

day work. Examples of this are in the foods industry or in car washes. If steam washers are also used, then the protection rating must also be effective at increased temperatures. You can find a comparison of DIN 50050 Part 9 and DIN EN 60529.

### Comparison DIN 40050 Part 9 - DIN EN 60529

DIN 40050 Part 9	DIN EN 60529	Meaning: protection against ingress of water
0	0	No protection
1	1	Protection against falling water droplets
2	2	Protection against falling water droplets when the housing is tilted to up to 15°
3	3	Protection against falling spray water to up to 60° from the vertical
4	4	Protection against spray water from all sides
5	5	Protection against water jet from any angle
6	6	Protection against strong water jets
6K		Protection against strong water jets under increased pressure, specific for road vehicles
7	7	Protection against temporary submersion
8	8	Protection against continuous submersion
9		Protection against water during high pressure and steam cleaning, specifically for road vehicles





## IK code



### IK code

The IK code to DIN EN 50102 indicates the protection rating of housing against external mechanical loads. It is made up of the code letters IK and a two-digit number from 00 to 10. Each group of numbers stands for a load energy value in Joules (J). The IK code always applies to the complete housing, which guarantees the protection of resources against the damaging effects of mechanical loads. The housings are tested by knocking them with different testing hammers.



<b>IK code</b>	00	01	02	03	04	05	06	07	08	09	10
<b>Stress energy value [J]</b>	-	015	020	035	0.50	0.70	1	2	5	10	20



## Protection classes of electrical resources



### Protection classes according to VDE 0140

#### Protection classes of electrical resources

DIN VDE 0140 defines the protection classes as follows:

- Protection class I: Resources with protective conduction connection (protection measure through protective conductor connection on housing)
- Protection class II: Resources with protective insulation (protection measure through insulation)
- Protection class III: Resource with protective low voltage (SELV-PELV, protection through measured voltages max. 25/50 V AC and max. 60/120 V DC)

Empty plastic housings correspond to protection class II, housings made of metal/metal plating must be intended for the connection of a protection conductor and thus meet protection class I.





## Labelling of electrical resources

### Explanations from the standard

#### Electrical designations

When using junction boxes, connection sockets and connection terminals, the resources are assigned nominal values, as defined in VDE 0100 Part 200. In the designation, a distinction is made between the maximum approved voltage (nominal voltage), the maximum approved current (nominal current) and the maximum approved cross-section (nominal cross-section of the cables to be connected).



#### Nominal cross-section

Largest tested-approved cross-section of the cable to be connected.



#### Rated current

Largest approved current at the connection point.



#### Rated voltage

Greatest approved voltage at the connection point.



#### Number of poles

Number of connection points of the clamp connector.

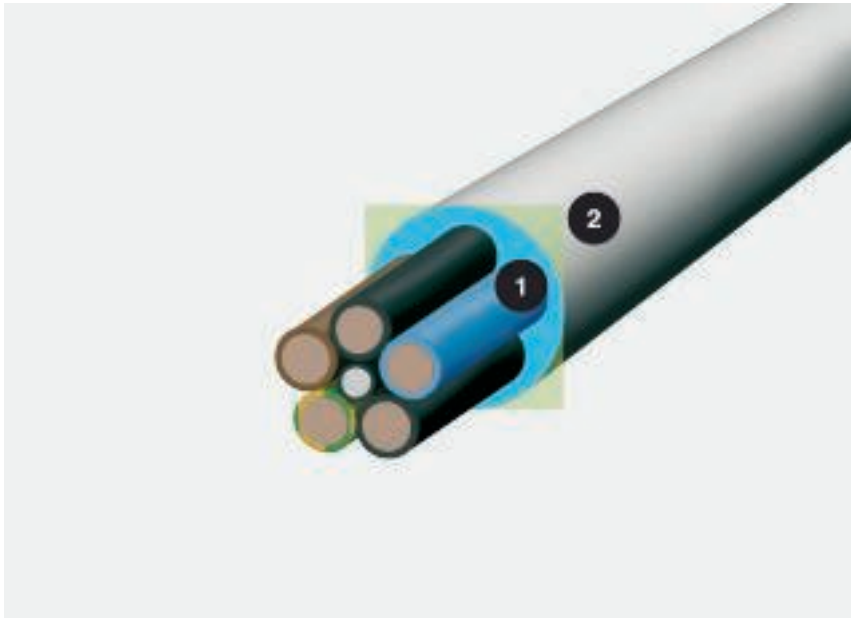


#### Number of entries

Number of entries in an electrical connection box or connection socket.



## Important information on the external dimension data



Cable diameter and space required; 1 = diameter in mm, 2 = space required in cm<sup>2</sup>

### Cable sizes, outer diameters PG and metric sizes

The term "cable" means a jacketed electrical cable for the transmission of electrical energy and data. Cables are given according to their nominal cross-section. The external diameter and usable cross-section depend on their nominal cross-section and the number of individual wires combined in the cable. Fastening clips are given with their maximum span distance as a nominal size in mm. To determine the correct fastening clip for the component to be fastened, you can find the interplay between the PG sizes and the metric data in the table.

### Calculation using the formula $(2r)^2$

The diameter says little about the actual space required by a cable. Calculate:  $(2r)^2$ . This value reflects the realistic space requirements, including the compartments.



## Important information on the external dimension data

### Cable diameter and space required

External diameter in mm	PG sizes	External diameter in mm	Metric sizes
12	PG 7	12.5	M 12
13	PG 7	12.5	M 12
15	PG 9	15.2	M 16
16			M 16
18	PG 11	18.6	M 16/M 20
19	PG 11	18.6	M 16/M 20
20	PG 13.5	20.4	M 20
21	PG 13.5	20.4	M 20/M 25
22	PG 16	22.5	M 20/M 25
23	PG 16	22.5	M 20/M 25
24			M 20/M 25
25			M 25
28	PG 21	28.3	M 25/M 32
32			M 32
37	PG 29	37	M 32/ M 40
40			M 40
47	PG 36	47	M 40/M 50
50			M 50
54	PG 42	54	M 50/M 63
59	PG 48	59.3	M 50/M 63
63			M 63



## How can I work out the volume of cables?



### Insulated power cables

Type	Diameter mm	Usable cross-section cm <sup>2</sup>
1 x 4	6.5	0.42
1 x 6	7	0.49
1 x 10	8	0.64
1 x 16	9.5	0.9
1 x 25	12.5	1.56
3 x 1.5	8.5	0.72
3 x 2.5	9.5	0.9
3 x 4	11	1.21
4 x 1.5	9	0.81
4 x 2.5	10.5	1.1
4 x 4	12.5	1.56
4 x 6	13.5	1.82
4 x 10	16.5	2.72
4 x 16	19	3.61
4 x 25	23.5	5.52
4 x 35	26	6.76
5 x 1.5	9.5	0.9
5 x 2.5	11	1.21
5 x 4	13.5	1.82
5 x 6	14.5	2.1
5 x 10	18	3.24
5 x 16	21.5	4.62
5 x 25	26	6.76
7 x 1.5	10.5	1.1
7 x 2.5	13	1.69



### Insulated power cables

Type	Diameter mm	Usable cross-section cm <sup>2</sup>
1 x 10	10.5	1.1
1 x 16	11.5	1.32
1 x 25	12.5	1.56
1 x 35	13.5	1.82
1 x 50	15.5	2.4
1 x 70	16.5	2.72
1 x 95	18.5	3.42
1 x 120	20.5	4.2
1 x 150	22.5	5.06
1 x 185	25	6.25
1 x 240	28	7.84
1 x 300	30	9
3 x 1.5	11.5	1.32
3 x 2.5	12.5	1.56
3 x 10	17.5	3.06
3 x 16	19.5	3.8
3 x 50	26	6.76
3 x 70	30	9
3 x 120	36	12.96
4 x 1.5	12.5	1.56
4 x 2.5	13.5	1.82
4 x 6	16.5	2.72
4 x 10	18.5	3.42
4 x 16	21.5	4.62
4 x 25	25.5	6.5
4 x 35	28	7.84
4 x 50	30	9
4 x 70	34	11.56
4 x 95	39	15.21
4 x 120	42	17.64
4 x 150	47	22
4 x 185	52	27
4 x 240	58	33.6
5 x 1.5	13.5	1.82
5 x 2.5	14.5	2.1
5 x 6	18.5	3.42
5 x 10	20.5	4.2
5 x 16	22.5	5.06
5 x 25	27.5	7.56
5 x 35	34	11.56
5 x 50	40	16



### Telecommunications cables

Type	Diameter mm	Usable cross-section cm <sup>2</sup>
2 x 2 x 0.6	5	0.25
4 x 2 x 0.6	5.5	0.3
6 x 2 x 0.6	6.5	0.42
10 x 2 x 0.6	7.5	0.56
20 x 2 x 0.6	9	0.81
40 x 2 x 0.6	11	1.12
60 x 2 x 0.6	13	1.69
100 x 2 x 0.6	17	2.89
200 x 2 x 0.6	23	5.29
2 x 2 x 0.8	6	0.36
4 x 2 x 0.8	7	0.49
6 x 2 x 0.8	8.5	0.72
10 x 2 x 0.8	9.5	0.9
20 x 2 x 0.8	13	1.69
40 x 2 x 0.8	16.5	2.72
60 x 2 x 0.8	20	4
100 x 2 x 0.8	25.5	6.5
200 x 2 x 0.8	32	10.24



### IT cables Type Cat...

Type	Diameter mm	Usable cross-section cm <sup>2</sup>
Cat. 5	8	0.64
Cat. 6	8	0.64



### Coax cable (Standard)

Type	Diameter mm	Usable cross-section cm <sup>2</sup>
SAT/BK cable	6.8	0.48







## Planning aids, junction box systems



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## Condensation water in housings



### Condensation water in closed housings

Condensation water in tightly closed housings, such as junction boxes, is a particular problem during regular and strong temperature deviations. Temperature changes outside the housing means that excess humidity in a very tightly closed junction box cannot escape and it condenses within the housing. This creates the impression that the housing is not tightly closed. If this humidity is not removed, then, in the worst case, it may cause damage to the electrical connection. Therefore, try to avoid installations in areas with extreme temperature variations.

OBO junction boxes have pre-marked openings, which can be opened to minimise and even prevent the formation of condensation water. The pre-marked 4 mm openings are located on the base of the housing. If the pre-marked openings are pierced, then the change in temperature and humidity inside and outside the housing takes place almost at the same time. According to DIN VDE 010-520 – Erection of heavy current systems for rated voltages of up to 1,000 V "Measures must be taken to remove water, if water or water condensation can occur within cable systems". In the case of installation with high tightness requirements, alternative measurements may need to be taken.



## Mounting of junction boxes



### Mounting junction boxes on combustible constructions or materials

The VdS directive 2023 specifies that, on combustible substrates, electrical connections of cables carrying voltage may only be made with terminals in suitable electrical installation boxes according to DIN VDE 0606. The housing must be closed to the mounting surface and fulfil the requirements of DIN VDE 0606.

### Protected and unprotected installation in damp and wet areas and rooms and outdoor systems

In damp and wet areas, such as in industrial kitchens, laundries, cold rooms, etc. electrical resources must have a protection rating of at least IP X1 (protected against water droplets).

In areas in which water jets can be expected, the resources must have a protection rating of at least IPX5 (water jet protection) to protect electrical resources. DIN EN 60529 provides detailed information on the necessary protection ratings.

With unprotected installations outdoors (DIN VDE 0100-737), such as on railway platforms, crane systems, external walls of buildings, etc., the resources used must meet the protection rating IPX3. With protected installations outdoors (DIN VDE 0100-737), such as in garage entrances, on buildings with an appropriate roof overhang, etc., resources must have at least the protection rating IPX1 (protected against water droplets).

Comment: With installations outdoors, pollutants in the surrounding atmosphere may limit the suitability of the selected articles.

## Mounting aid, junction box, A series



The classic in installing wet-room junction boxes: the OBO A series made of halogen-free, thermoplastic material. Both internally and externally, the screwless, tight clamshell allows quick, safe mounting. The A series junction boxes are available with and without terminal strips. Besides the standard colour, light grey (RAL 7035) and the pure white (RAL 9010) variants for increased visual requirements, the red variant is available for signal cables such as telecommunications cables or other signal state monitors. All the junction boxes are made of halogen-free material and are flame-resistant to VDE 0471/DIN IEC 695 Part 2-1, test temperature 750 °C.



## Mounting aid, junction box, A series



**A series application, wall mounting**  
Complete mounting, A series with installation pipe and Quick clip.



**Fastening the A series**  
The stable external fastenings mean that the junction box can be installed quickly and easily.



**Cable entry, A series**  
The pre-marked cable entries can be opened with a knife or, using the supplied insertion point, directly penetrated with the cable.



**Insertion point application**  
Place the insertion point on the end of the wire. Push the cable with the point through the pre-marked entries.



**Cover mounting, A series**  
The covers can be placed on the bases without the need for tools.



**Space for wiring work**  
The A series junction boxes offer sufficient space for wiring with screw or screwless terminals.

## Mounting aid, junction box, B 9/T



The OBO B9/T junction box consists of two halogen-free, thermoplastic components:

- a soft one for the seal (membrane) in the cable entry
- a hard one for the housing.

This two-component technology stands for perfect tightness and stability. The protection rating IP67 is thus achieved when the membrane is directly penetrated with cables. A cable gland for strain relief can also be inserted in the threads pre-marked in side walls.

The smooth external walls allow an arrangement of multiple junction boxes without spaces – even with retroinstallation. All the fastening dimensions are shown clearly on the back, allowing exact fastening.

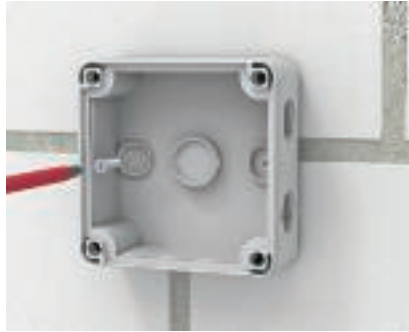
The B9/T is a universal problem-solver with virtually unlimited applications – even in permanently wet environments.



## Mounting aid, junction box, B 9/T



**B9T application, wall mounting**  
Junction box available with 3-cap nut cable gland in set.



**Fastening the B 9/T**  
The fastening holes in the floor area have a soft membrane, which fixes the fastening screws and maintains the protection rating.



**Cable entry**  
The soft membrane of the B 9/T is just pushed through directly with the cable, without any additional tools.



**Tightness of the cable entry**  
The membrane tightly seals the cable. The protection rating remains intact.



**Installation with V-TEC gland**  
Torsion-protected and with strain relief: V-TEC glands with a short thread offer a secure hold.



**Installation with V-TEC gland**  
The V-TEC cable gland with short connection thread is simply screwed into the available box thread. The soft membrane need not be removed.



**Earthing terminal**  
There is the option of mounting an earthing terminal in the junction box.

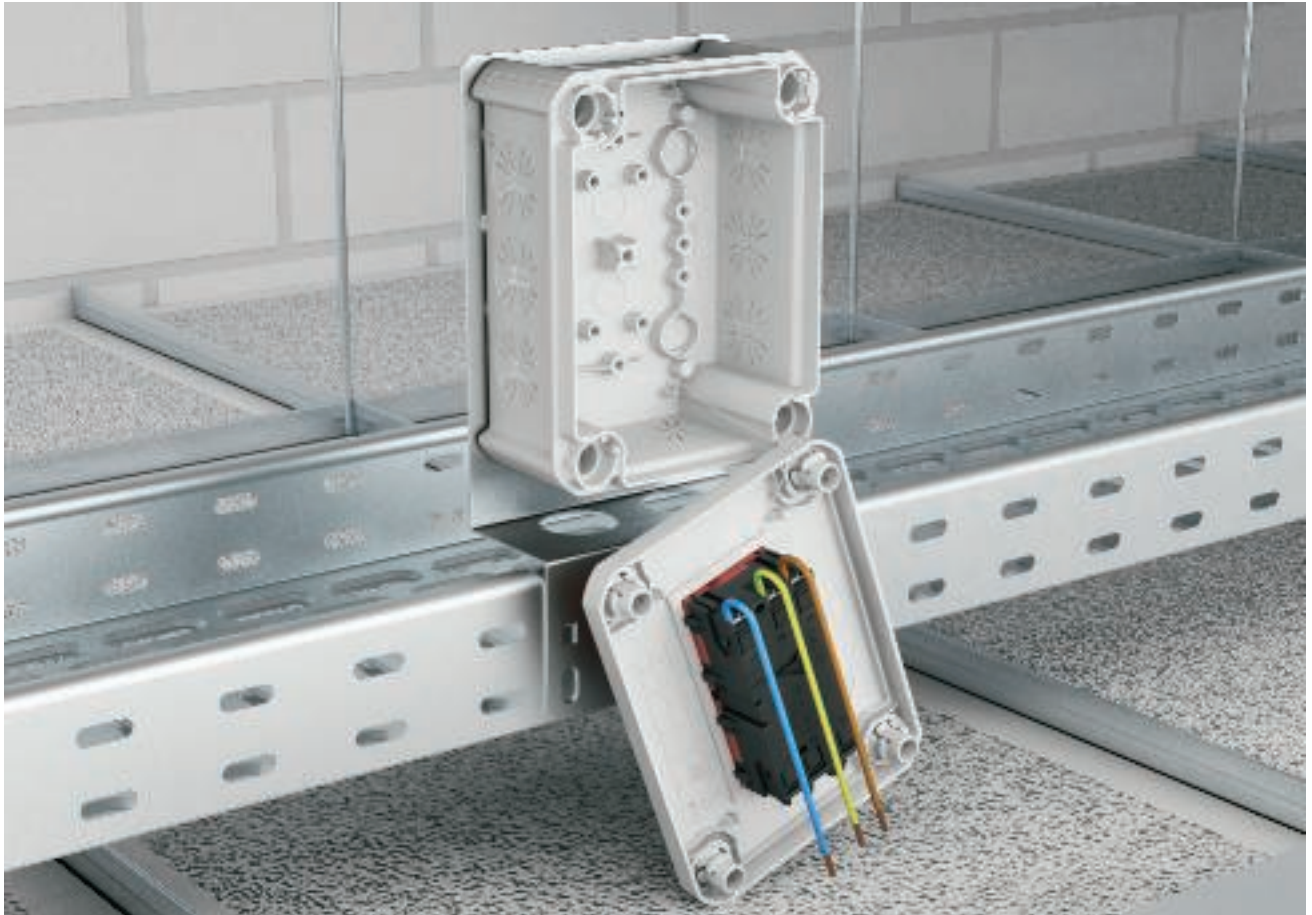


**Cover mounting**  
The cover is placed on the base.



**Cover mounting**  
The bolts are closed using a screwdriver.

## Mounting aid, junction box, T series



The T series from OBO is made from a halogen-free, thermoplastic material and is available in various coloured versions. The T series has openings in the side walls which are closed with 4 to 24 cable plug-in seals (depending on the size of the T box).

Irrespective of their size, colour or equipment, all the junction boxes of the T series are made from UV-stabilised material.

In addition, variants are available in a flame-resistant version for up 960 °C and with a red signal cover. Cables can be installed directly in the junction box through plug-in seals. The plug-in seals are flat and countersunk in the housing, meaning that they do not protrude over the edge. This means that the junction boxes can be arranged without gaps.





## Mounting aid, junction box, T series



### T 25 application

Installation with the round junction box T 25.



### T 40 application

Installation with the smallest square junction box T 40.



### T series cover with signal cable

Installation with a junction box T 60 with a red signal cover.



### Floor/wall fastening

The junction boxes can be fastened through two to four break-out openings in the base. The openings can be reclosed using cover caps.



### Corner dome, wall fastening

From box size T 60, the junction boxes can be mounted on the substrate through the corner domes for cover fastening.



### Fastening on mounting plate

There are two to four fastening domes integrated in the base substrate for metal screws of 3.5 x 9.5 mm, in order to fasten the box, e.g. to a mounting plate.



### Plug-in seals

Cables can be installed directly by pushing through without any aids.



### Pipe push-in seals

When using pipes, the user can also use plug-in pipe seals. This allows the creation of a closed installation.



### Insertion opening / cable gland insert

Cable glands of type V-TEC VM can be inserted in the insertion opening, in order to create mechanical resistance and strain relief.



### Cover captivity

All the lids are fastened captively in the box interior with a holding strap on the base.



### Cover lock

From size T 60, the cover is fastened to the base with sash locks and can be opened or closed by giving the lock a quarter-turn.



### Cover seal / IP protection rating

Junction boxes of size T 60 or larger are fitted with a foamed cover seal. This creates the high protection rating of IP66.



**Terminal block fastening**

An earthing terminal can be attached to the central dome in the interior of the T 25 to T 100 junction boxes.



**Hat rail fastening**

Hat profile rails can be mounted in lengthwise, transverse or diagonal directions in the cable box bases of sizes T 60 to T 350.



**Use of screwless terminals**

Screwless terminals are used for wiring "on the fly" for cross-sections of up to 2.5 mm<sup>2</sup>.



**T250 with terminal strips at top**

Wired junction box T250 with terminal strips at top. Clear and easy-to-test wiring.



**Cable entries for closed junction boxes**

With the T boxes with closed side walls, stepped drills can be used to drill individual openings. The high protection rating can be maintained by using the EDK plug-in seals or V-TEC VM cable glands and locknuts.



**Break-out openings in the base**

There are break-out openings in the box base, through which cables coming directly out of the mounting substrate can be inserted in the junction box.



**T series cover with signal cable**

Junction boxes with covers in the red signal colour are available for labelling safety-relevant circuits.



**Outdoor mounting of T series**

The junction boxes of the T series with the UV addition, can also be used in external areas with direct sunlight penetration. Cables can be run through the plug-in seal without reducing the protection rating.



**Outdoor mounting of T series with cable glands**

Cable glands of type V-TEC VM can be used to provide strain relief of the cables and also protect them against twisting.



**Condensation water**

With tightly closing housings in external areas, it is important that any condensation water created is drained using the appropriate openings. This only applies to systems without increased foreign body or moisture protection.



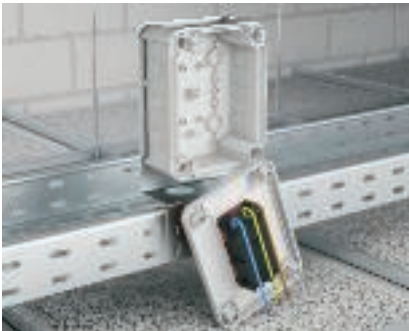
**T series with strain relief entries**

The strain relief entries mean that installation cables can be inserted directly in the T Box. The special ribs protect the cable against unintentional withdrawal.



**T series with Wieland sockets**

The Wieland sockets, type GSt 18-i3, locked into the sides of the T-Box 100 WB, are pre-terminated and electrically connected. The sockets have different colour coding and can be used for different circuits.



**T series with Modul 45 sockets**

The T 100 MSD with pre-mounted and ready-wired sockets can be used in false ceilings for variable wiring.



**Fastening element on junction box**

The junction box is snapped onto the mesh cable tray without tools using the previously mounted fastening element.



**Fastening element with junction box on the mesh cable tray**

The junction box can be fastened to a mesh cable tray quickly, efficiently and without tools in just a few actions. Installation can start after just the minimum of preparation time.



**Fastening element with junction box on the cable tray**

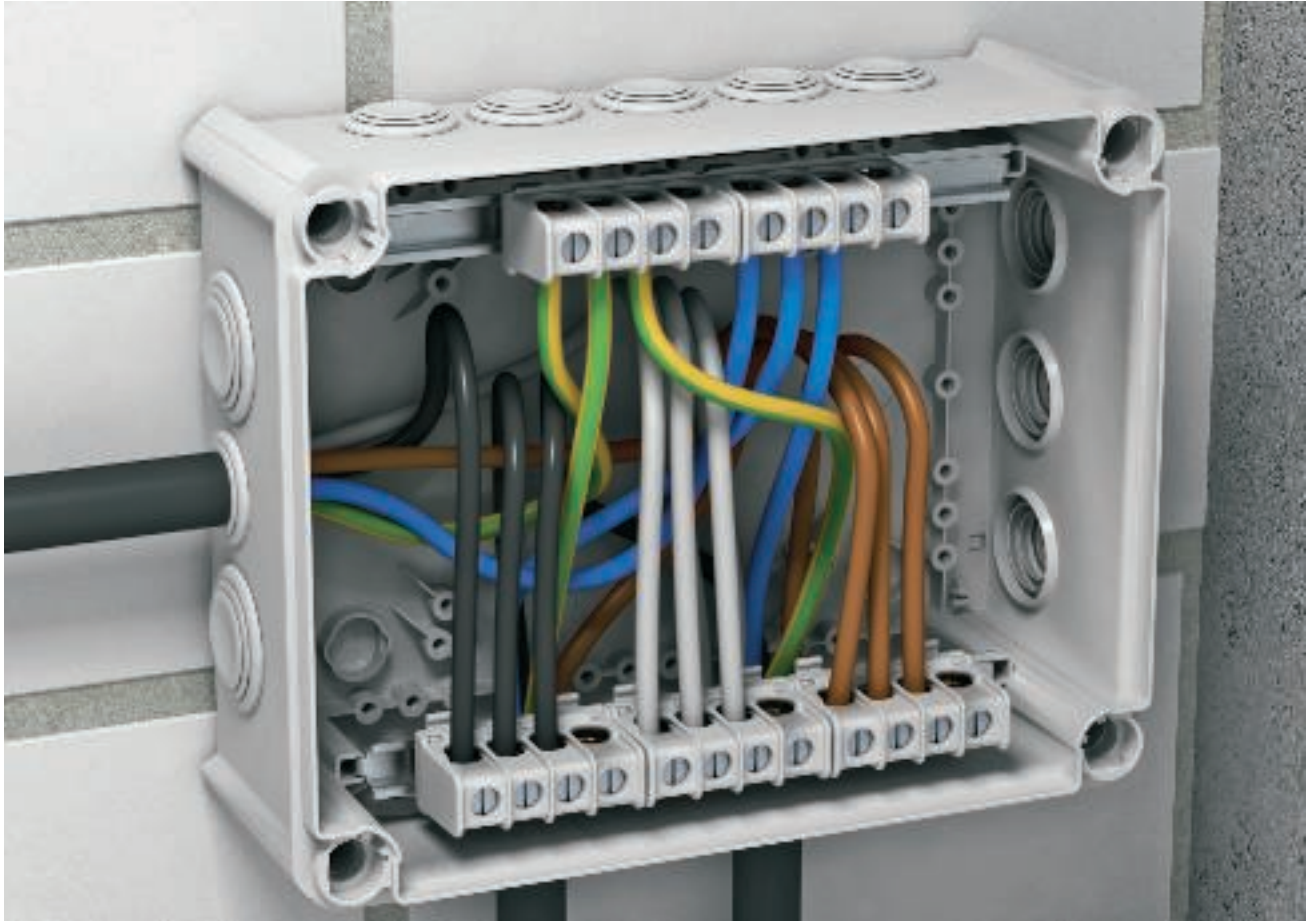
The junction box can be fastened to all standard cable trays quickly, efficiently and without tools in just a few actions. Installation can start after just the minimum of preparation time. The image shows mounting without the slide lock.



**Connect the fastening element with the junction box**

The fastening element is snapped onto the rear side of the cable box mesh cable tray without tools.

## Mounting aid, junction box, T series with clamping piece



The new T series terminal strips are child's play to mount in the junction box and require no tools. Positioning the terminal strips at the top edge of the junction box keeps wiring easy to follow and accessible at all times. The hat profile rails can be installed both lengthwise and transversely in junction boxes of size T100 and greater. Terminal strips of type KL-T 06-16 and L-T 16-35 can be snapped onto standard hat profile rails. 5 terminal strips are required for normal applications, as each terminal strip is one-pole. There are 4 terminal holes on each terminal strip. However, the modular structure means that it is possible to use more or less than these 5 terminal strips at any time. The maximum number of terminal strips is specified by the size of the junction box. This means that it is possible to mount up to 12 terminal strips of type KL-T 06-16 in a T250 junction box.



## Mounting aid, junction box, T series with clamping piece



### T250 with terminal strip

The earthing terminals can simply be snapped onto the hat profile rail fastened in the junction box.



### T250 with terminal strips

Fastening of the hat profile rail in the junction box by simply pushing into the existing rail seats.



### Snapping on of the terminal strips

The terminal strips are attached to the inner side of the junction box and locked by applying slight pressure to the outer side of the junction box.



### T250 with terminal strips

If the junction box is ordered with terminal strips, then 2 hat profile rails and 5 terminal strips are supplied.



### T250 with terminal strips

If the junction box is ordered with terminal strips, 2 hat profile rails and 5 terminal strips are supplied.



### Terminal strip on mini hat profile rail

One or more earthing terminals can be fastened on the mounted hat profile rail.



### Fastening of the mini hat profile rail

The hat profile rail is attached to the "dome" in the base of the cable box.



### Snapping on of the terminal strip

The individual terminal strips can simply be snapped onto the mini hat profile rail without tools.



### Terminal strip lengthwise in junction box

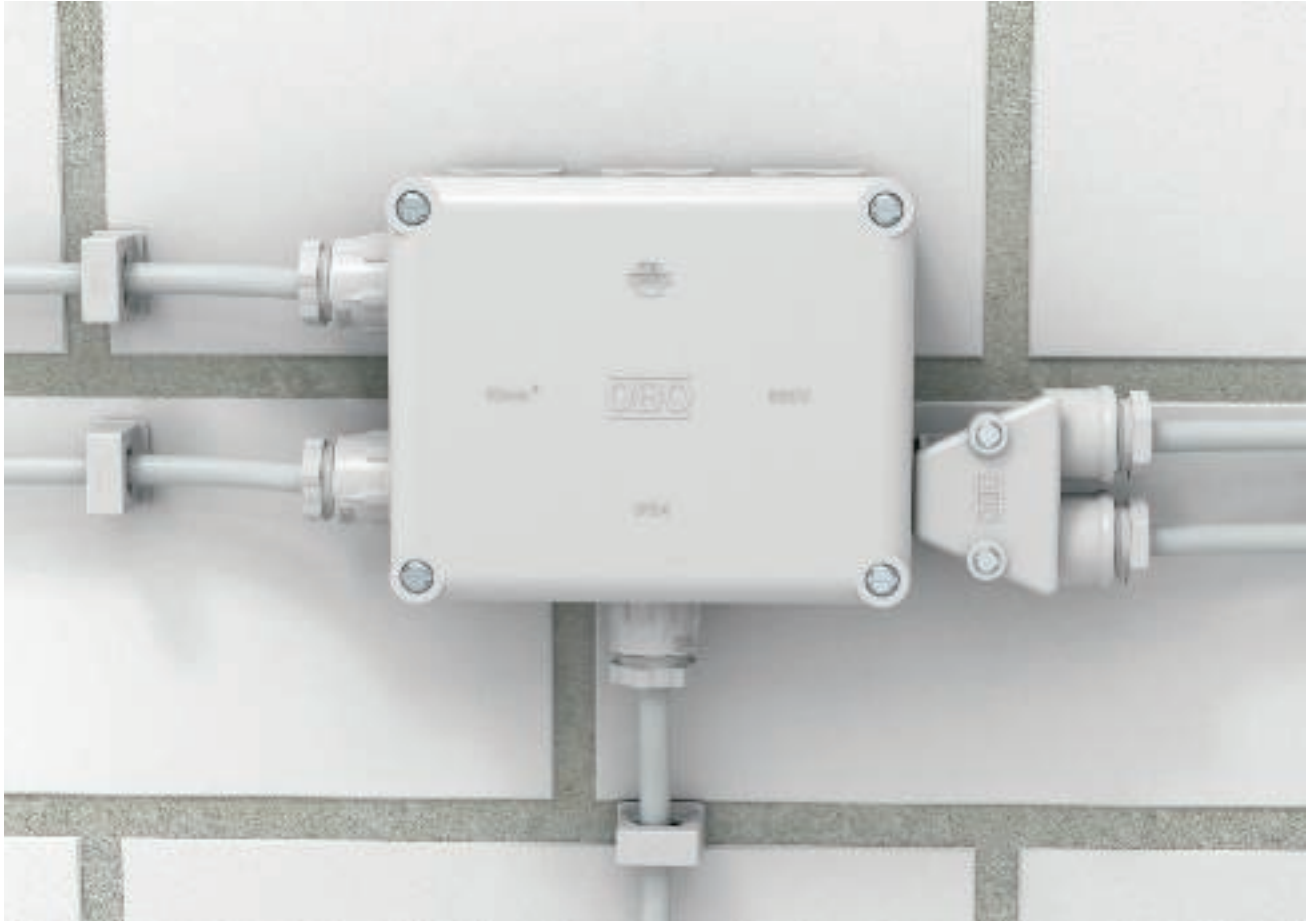
The hat profile rails can be mounted both "lengthwise" and "across" in the junction box. The maximum number of terminals is dependent on the installation, the size of the junction box and the terminal strip used.



### Terminal strip transverse in junction box

5-pole wiring is also possible in the transverse direction.

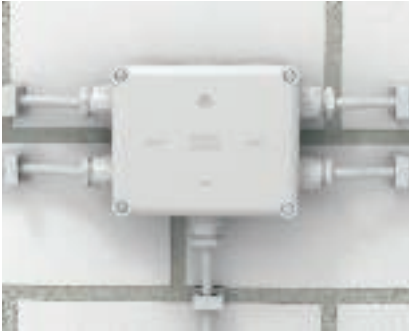
## Mounting aid, junction box, B series with thread



For decades, the B series OBO junction boxes with threads have been a permanent component of the OBO Bettermann product range. They are made of Aminoplast. This plastic is hard and is highly resistant, meaning that the junction boxes are very stiff and stable. The B series is particularly suitable for environments with extreme temperature deviations. The required cable openings can be broken out at the appropriate points using a screwdriver. Cable glands can be screwed directly into the openings in the side walls. This automatically provides strain relief for cables.



## Mounting aid, junction box, B series with thread



**B series with thread application, wall mounting**  
Complete mounting and installation of B11 with screwed-in cone cable glands and pressure ISO clips.



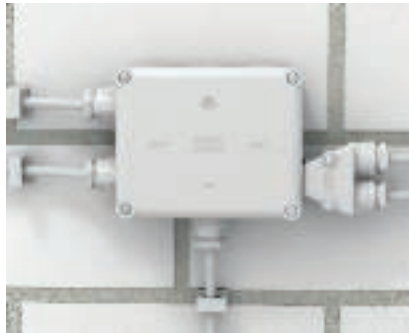
**Wall mounting B11M**  
The junction boxes are mounted on the mounting substrate using the external fastening elements. The break-out openings can be broken out using a screwdriver or another suitable tool.



**Mounting of cable gland**  
Cable glands can be screwed directly into the thread in the housing.

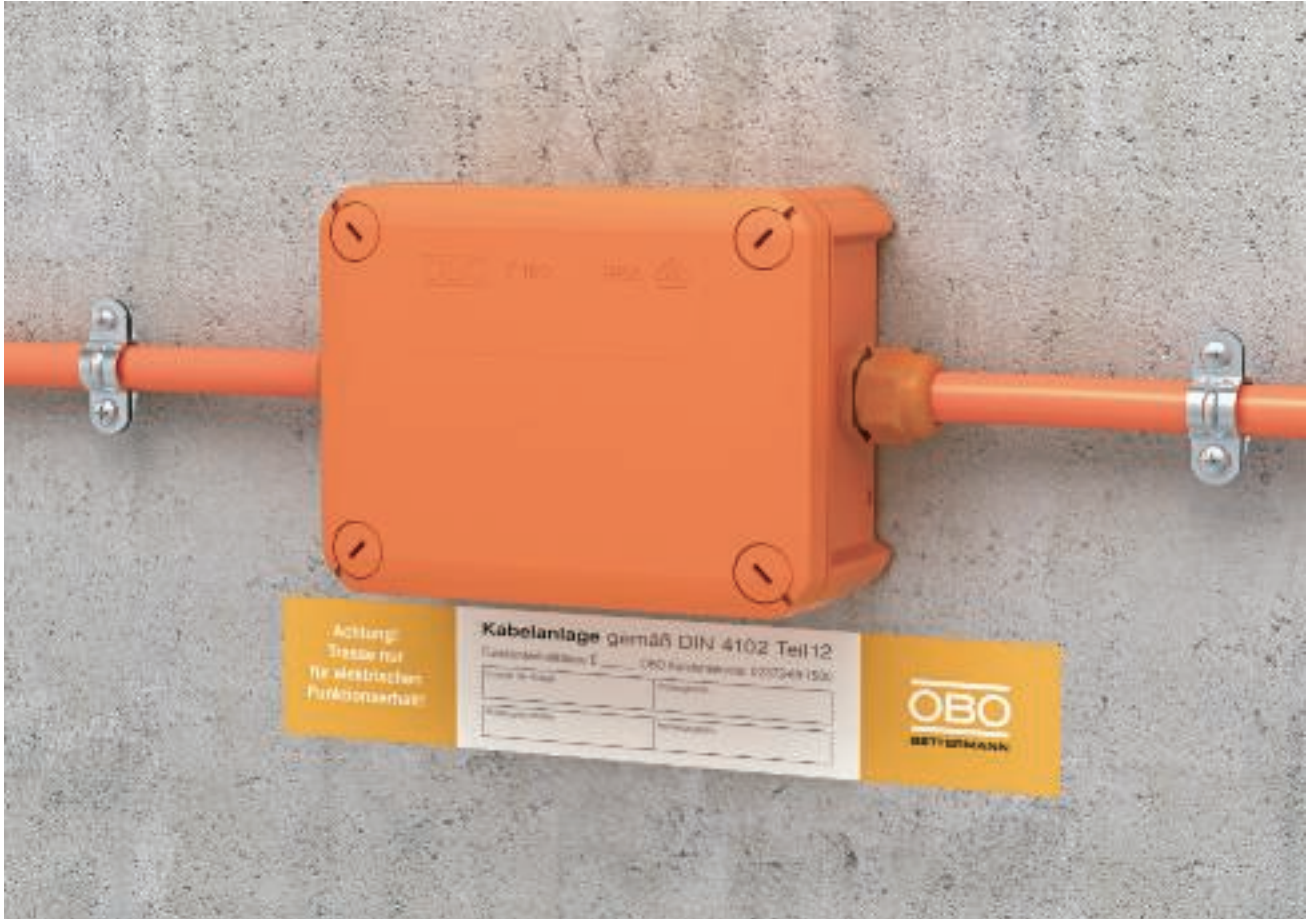


**Cable installation**  
The cables are then be inserted into the junction box through the cable glands. The IP protection rating can thus be maintained.



**Application with cone cable glands**  
All kinds of cable glands can be inserted in the break-out openings. Twin cable glands can be used to insert two cables through an opening.

## Mounting aid, junction box, FireBox



There are ever higher requirements attached to the fire safety of installations in modern buildings. For these requirements to be fulfilled safely, OBO can offer the FireBox made of Duroplast to extend or branch defined function maintenance cables. With the FireBox series, OBO can complete its range for function maintenance systems for safety-relevant systems.

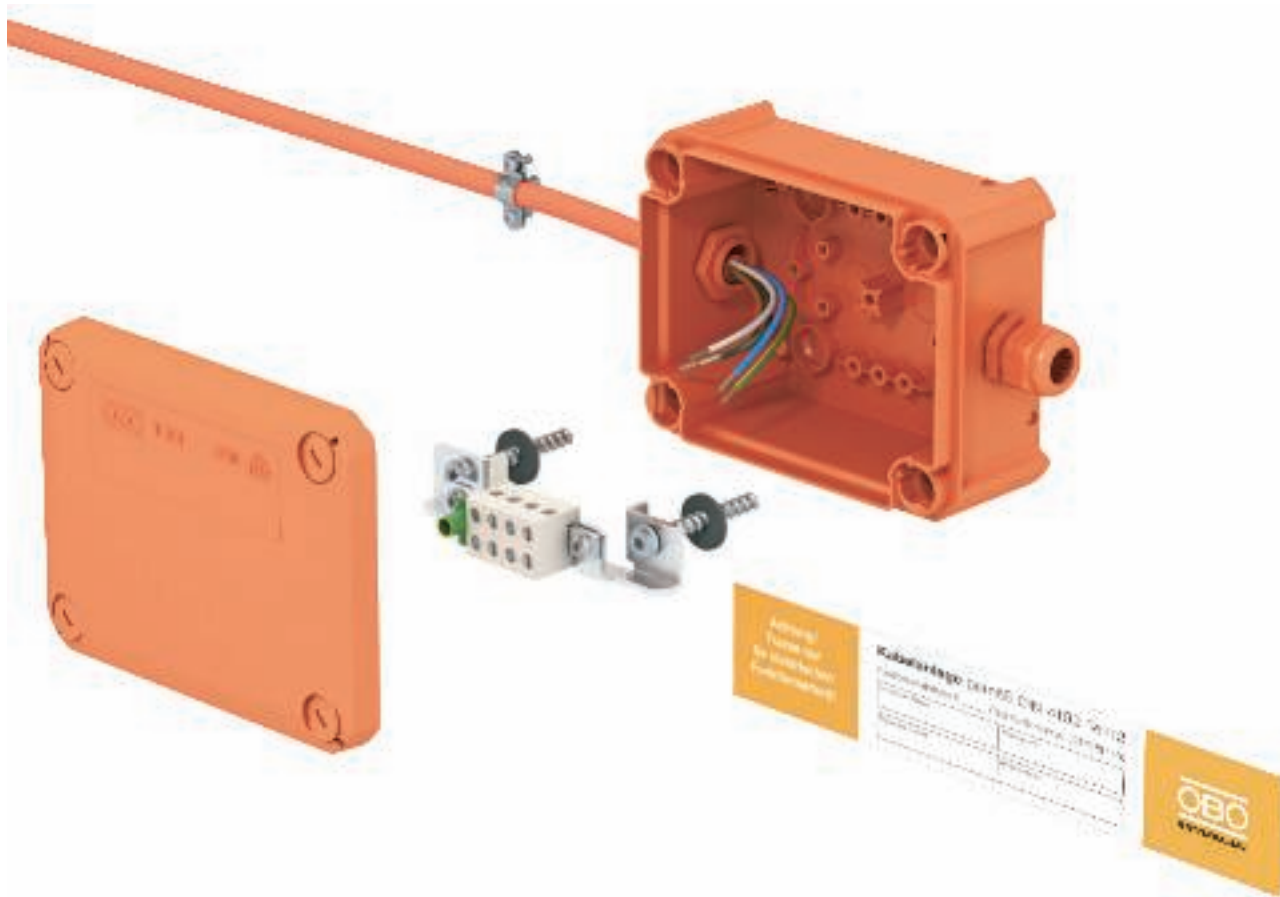
The tested and approved types T 100 E and T 160 E will fulfil your requirements reliably and safely. All the components needed for mounting are included in the contents of the delivery: the cable junction boxes, four plug-in seals and the connecting unit with two bolt ties.

A unique highlight of the OBO FireBox is the fully pre-assembled connecting unit that is built to withstand high temperatures. As always, OBO has all the solutions for your needs – and all from a single source.





## Installation principle FireBox junction box



### System description

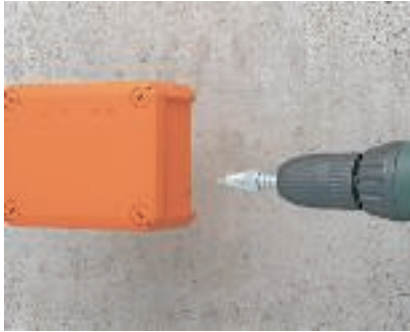
<b>Routing type</b>	Duroplastic cable-specific connection with high temperature-resistant connection unit
<b>Test certificate no.</b>	P-MPA-E-08-016
<b>Function maintenance classes</b>	E30 to E90
<b>Testing standard</b>	DIN 4102 Part 12

### Approved data

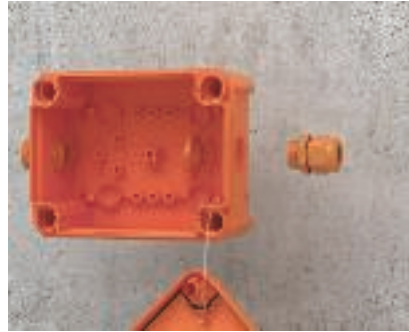
Type	Nominal wire cross-sections	Nominal wire cross-sections Double assignment
<b>T100E 4-5</b>	5 x 4 mm <sup>2</sup>	Max. 2 x 1.5 mm <sup>2</sup>
<b>T160E 10-5</b>	5 x 10 mm <sup>2</sup>	Max. 2 x 4 mm <sup>2</sup>
<b>T160E 16-5</b>	5 x 16 mm <sup>2</sup>	Max. 2 x 6 mm <sup>2</sup>
<b>T160E 4-8D</b>	Wire diameter 0.8 mm	

The data in the general construction test certificates of the materials testing office of North Rhine-Westphalia, Erwitte, apply.

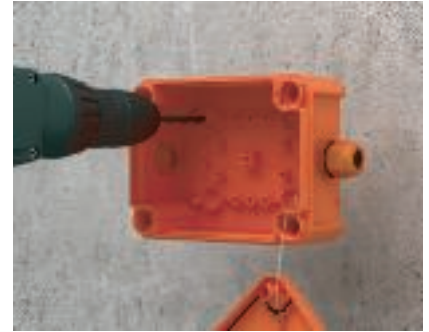
## Mounting aid, junction box, FireBox



**Creating insertion openings**  
Drill the holes for V-TEC cable glands with a stepped drill.



**Mounting, cable glands**  
Fastening of the V-TEC cable glands using locknuts.



**Create fastening holes**  
Drill base openings for wall fastening.



**Mounting preparations**  
Draw on the drill holes for subsequent mounting.



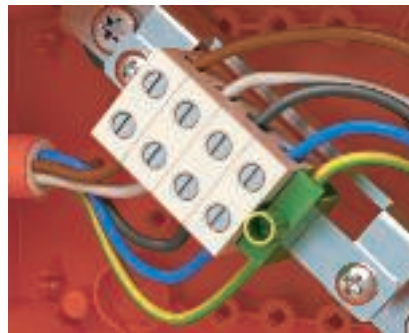
**Drill fastening holes**  
Drilling diameter: 5 mm, 60 mm deep. Clean the drill holes well.



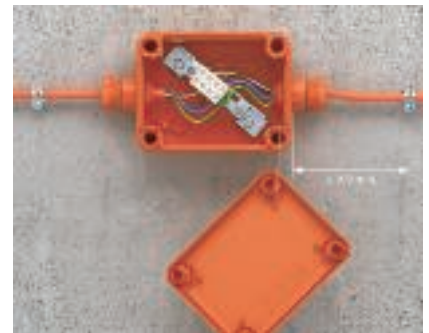
**Mounting, connection unit**  
Fasten the bolt tie with seals directly in the substrate through the clamp and base of the junction box.



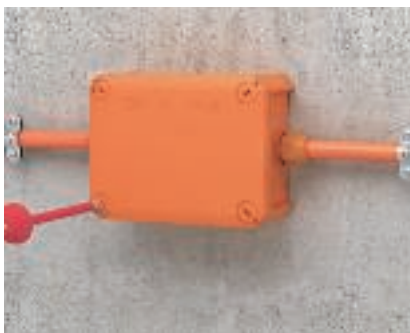
**Cable insertion**  
Strip the cable ends and insert them into the junction box through the cable gland.



**Protective conductor terminal**  
Always place the protective conductor on the green-yellow PE terminal. Try to avoid wire cross-overs.



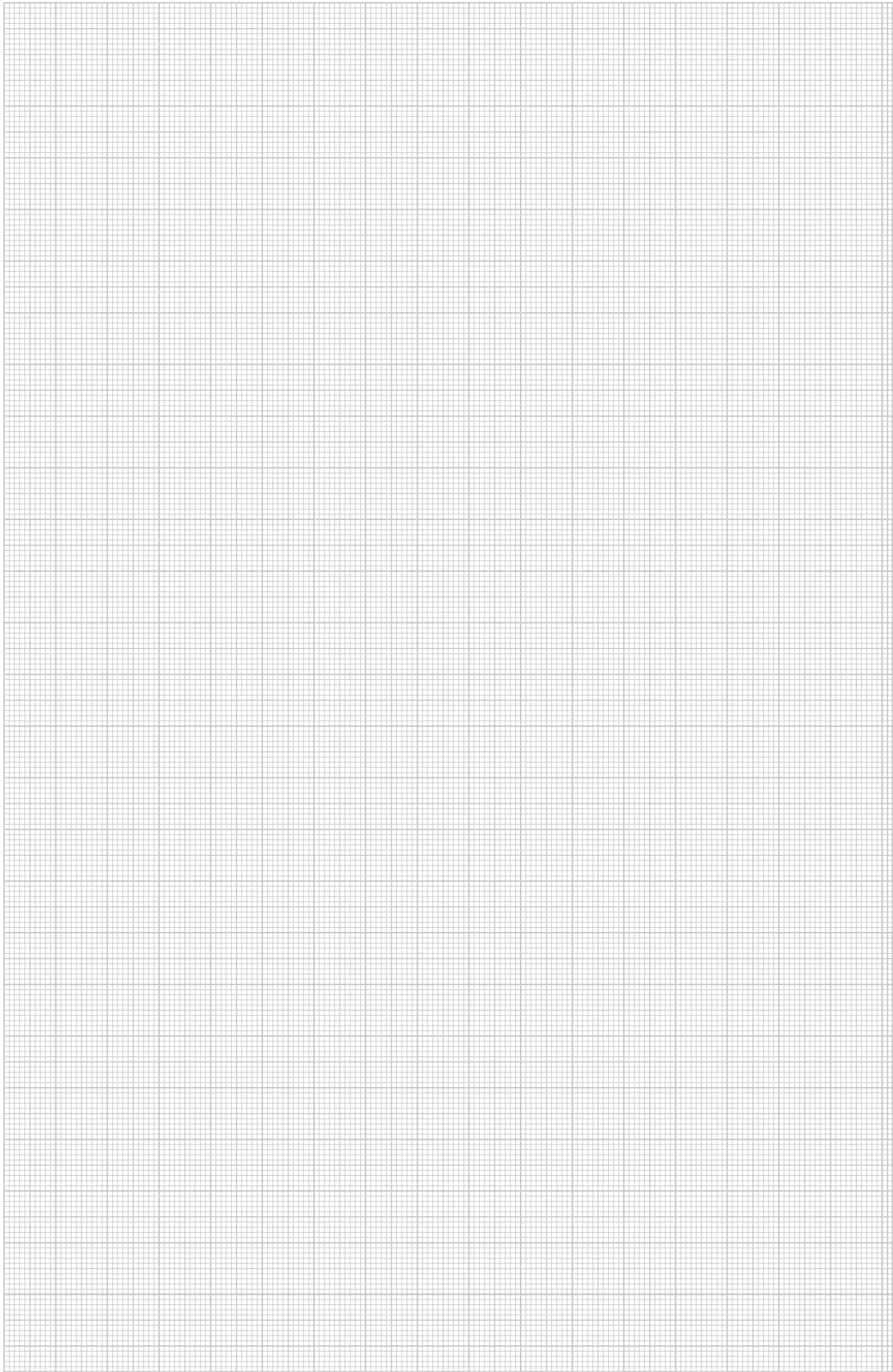
**Clip spacing**  
Maximum clip spacing in front of the junction box 100 mm, in order to prevent sagging in case of fire.



**Mounting completion**  
Attach the lid and lock it by turning the four corner screws through 90°.



**Labelling**  
Attach the sign with the cable system data according to DIN 4102 Part 12.



## Mounting aid, Aquasit casting compound



Aquasit is a two-component casting compound in a press cartridge for applications in areas with extremely high, continuous moisture. It can also be used against mechanical shock and vibrations.

The cartridge is suitable for use in standard cartridge pistols. At room temperature, the unopened aluminium packaging can be stored for up to a year. When the cartridge is opened, the material should be used within 24 hours.

### Properties of Aquasit:

Protection rating: IP68 at 1.8 bar: 1000 hr.

Rated voltage: 400 V

Impact resistance: >20 kV/mm according to VDE 0291 Part 2

Operational temperature: -40 to +90 °C

Processing temperature: 0 to +40 °C

Halogen-free, silicone-free, isocyanate-free

Environmentally friendly and without a labelling requirement



## Mounting aid, Aquasit casting compound



### Preparations

During wall installations, to be able to fill with Aquasit, remove one plug-in seal in the top area of the box.



### Add the Aquasit

Aquasit can be processed using a standard cartridge pistol. An emulsion tube must be placed on the Aquasit cartridge. This can be used to fill multiple cable boxes. After opening, the Aquasit must be used within 24 hours. The gel in the emulsion tube hardens after approx. 20–30 min.



### Fully cast junction box

The plug-in seal can be inserted again after the junction box has been cast. The electrical system can be recommissioned immediately. The junction box is now protected against any kind of continuous moisture and fulfils the protection rating IP68.



### Pump shaft application

Aquasit can be used to protect those electrical installations, which could be damaged by extreme or continuous moisture.



### Preparation for external installation

In the case of applications in the ground, e.g. for cable branches, Aquasit can protect the installation, when it becomes invisible at a later time. Cable glands should be attached to the junction box as strain relief.



### Add the Aquasit

Aquasit can be processed using a standard cartridge pistol. An emulsion tube must be placed on the Aquasit cartridge. This can be used to fill multiple cable boxes. After opening, the Aquasit must be used within 24 hours. The gel in the emulsion tube hardens after approx. 20–30 min.



### Filled junction box

It is sufficient to fill the junction box so that the terminals are completely covered.



### Electrical testing

When hardened, Aquasit is soft and elastic. This means that electrical connections can be inspected at any time. Aquasit is "self-healing", meaning that the holes of the inspection points close themselves, posing no risk to the protection rating. The compound can be easily removed and refilled later for reinstallation.



### Fully cast junction box

The junction box is cast and now fulfils the protection rating IP68.



# Planning aids, concealed and cavity wall systems



Mounting aid, concealed systems	56
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## Mounting aid, concealed systems



OBO concealed systems offer a wide range of accessories and are ideally suited for use in any masonry and all areas of application. The systems were developed according to the state of the art and are perfectly matched. They can fulfil any practical requirements, thus allowing perfect installations in record time.





## Mounting aid, concealed systems



### Accessory socket installation

Concealed devices and connection sockets can easily be plastered into masonry of all kinds.



### Accessory socket installation with nail straps

Concealed accessory socket with nail straps can be fastened in masonry using steel nails. The nail strap also prevents excessive penetration in the mounting opening.



### Distributor box installation

Concealed connection boxes allow distributions to be created in the wall.



### Combination of concealed sockets

The accessory sockets and the device connection sockets can be interconnected via their tunnel supports. The combination distance is 71 mm.



### Surface equalisation rings

If the plaster on the wall is to be thicker, surface equalisation rings can be screwed to the accessory or connection sockets.



### Signal cover

Before plastering, place the signal cover on the device or connection sockets. They prevent soiling of the socket interior and simplify finding the sockets again after plastering.



### Sprung cover

With connection sockets, the sockets can be closed simply after installation using the sprung cover.



### Universal cover

Universal covers are suitable for accessory sockets with 60 mm hole spacing, and connection sockets with 67 mm hole spacing.



### Wall light connection sockets

Supply cables for wall lights must end in wall light connection sockets. These boxes offer space for three terminal strips and a cable reserve.



**Device connection sockets**

Device connection sockets allow the installation of an accessory and can offer additional space for at least three connection terminals.



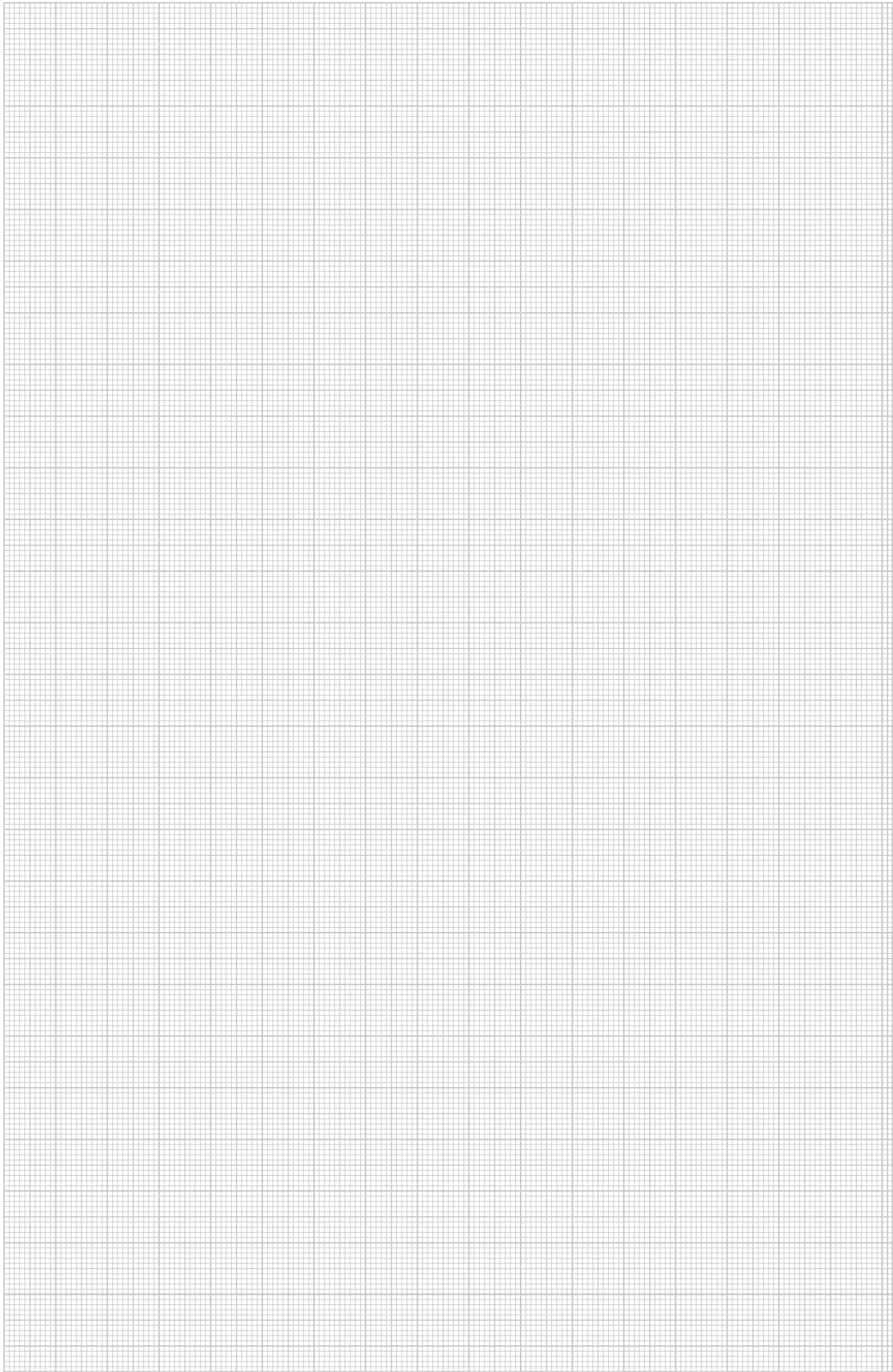
**Bending radii**

The device connection boxes with increased box volume are suitable for maintaining bend radii in a concealed installation (e.g. for coaxial cables).



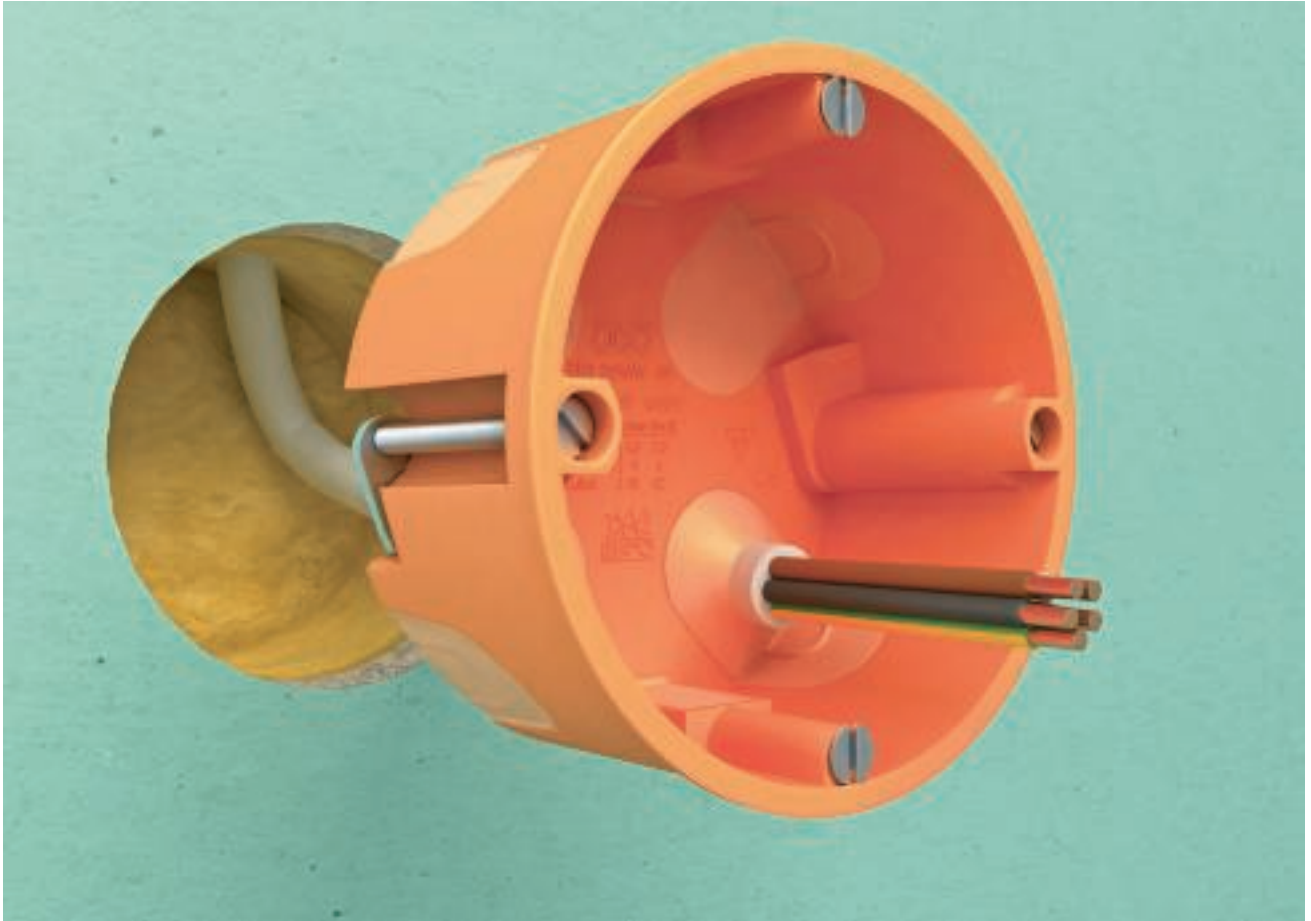
**CEE concealed fitted plug**

The CEE accessory socket 2392 and the cover plate 2393/UP allow the installation of CEE flanged sockets with 60 x 60 mm fastening dimension.





## Mounting aid, cavity wall systems



The cavity wall system with soft membrane guide comprises perfectly matched products, with which you can create and install wind-tight stand-off wall systems in any building – from a detached house to a large-scale construction project. The system is suitable for wall thicknesses from 7 mm to 35 mm.



## Mounting aid, cavity wall systems



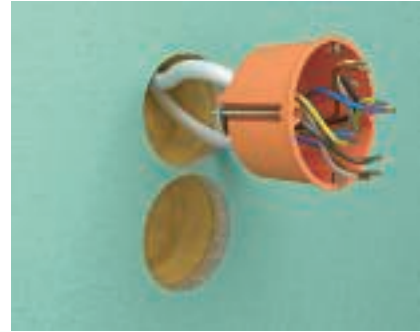
### Distributor box installation

Cavity wall distributor boxes allow distributions to be created in the wall.



### Preparation of mounting hole

Draw on the centre of the hole and cut out a drill hole of 68 mm using a circular band saw. With combination mounting, maintain the standardised hole spacing of 71 mm and create a second hole vertically or horizontally to the first one.



### Mounting of accessory socket

Insert cables and/or pipes into the accessory socket in advance – these clamp themselves in the socket automatically. Then place the accessory sockets in the drill hole.



### Preparation of mounting hole for double accessory sockets

When using the double accessory socket, two holes are drilled in advance at a spacing of 71 mm and a diameter of 68 mm. The rest is cut out with a knife.



### Mounting of double accessory sockets

Insert cables and/or pipes into the accessory socket in advance – these clamp themselves in the socket automatically. Then place the accessory sockets in the drill hole.



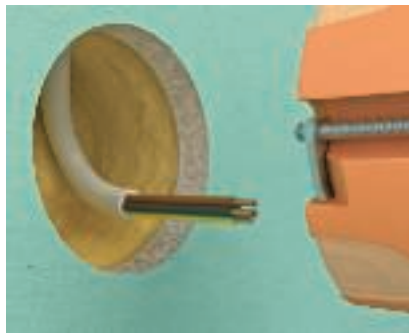
### Fastening the cavity wall sockets

Fix the accessory sockets in the drill hole using a screwdriver and the fastening screw. The small holding plates on the rear side of the sockets provide the necessary hold.



### Mounting of installation units in cavity wall sockets

Now equip ready-placed accessory and connection sockets with device installation units.



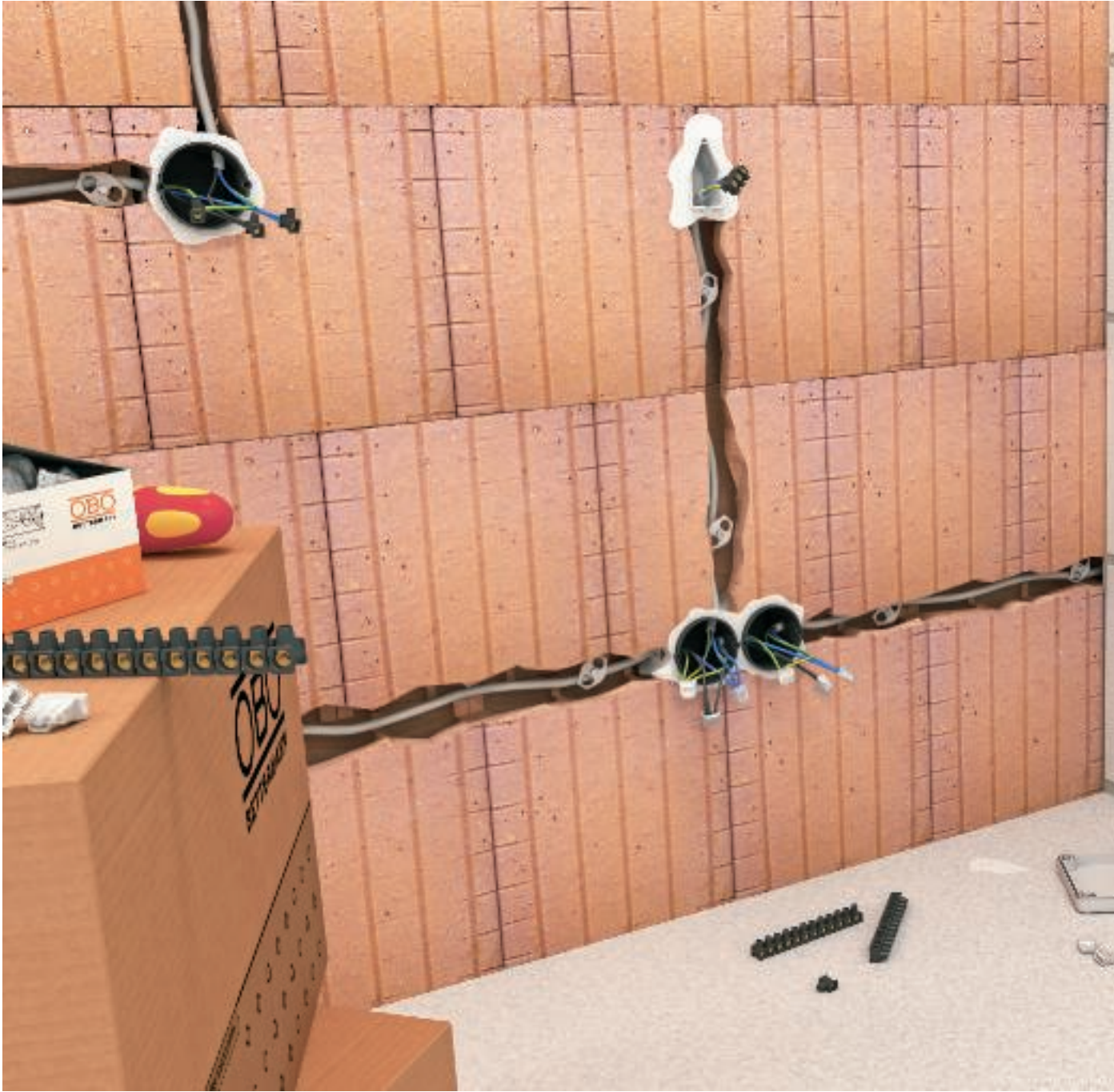
### Wind-proof installation

When using the wind-tight cavity wall accessory sockets, push the cables and/or pipes directly through the soft membrane entry.



### Sealing of the input cables

The cables and/or pipes are tightly sealed by the sealing membrane. This means that no leakage air currents can escape from the devices.



# Planning aids, clamp systems

Mounting aid, terminal systems

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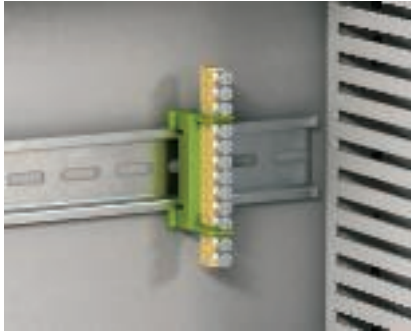
## Mounting aid, clamp systems



Electrical connections are made with screw-in and screwless terminals. In terminal strips and Dolü branch terminals, the cables are fixed in the terminal using a screw. With screwless terminals, the contact and the holding force is applied to the wires using special spring mechanics. The transparent cover of the contact terminals allows a visual check of the correct wire connection in the screwless terminals.



# Mounting aid, clamp systems



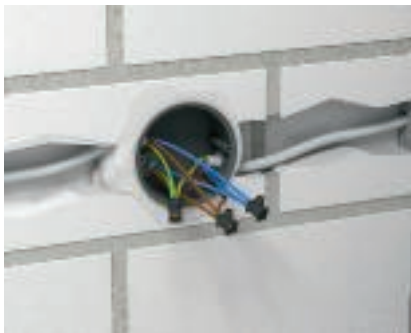
**Protective conductor terminal application**  
Neutral and protective conductor terminals can be snapped onto 35 mm hat profile rails in a transverse direction.



**Neutral conductor terminal application**  
Neutral and protective conductor terminals can be snapped onto flat irons, 10 x 2.5 mm, in a lengthwise direction.



**Dolü branch terminal application**  
With Dolü branch terminals, individual terminals can be twisted off to separate them. Coloured terminals are available for the different wire colours, meaning that continuously coloured wiring is not a problem.



**Application in a concealed distributor box**  
With Dolü branch terminals (socket lamp-wire connectors), multiple cables can be screwed together in one terminal.



**Application in junction box**  
Dolü branch terminals are also used for wiring within junction boxes.



**Terminal strip application**  
Flexible and rigid cables can be interconnected in terminal strips.



**Flexible fine-wire cables**  
The type 74/D means that it is possible to connect fine-wire cables without end sleeves. The wire protection clamp ensures full-surface contacts of the fine copper wires.



**Terminal strip application**  
For luminaire connection, wire ends can be secured with terminal clips.



**Terminal strips**  
Terminal strips are available in various versions with various current load capacities and connection cross-sections.



**Terminal strip**  
Lamp-wire connectors of the .../CE series are available in both white and black.



**Terminal strip**  
Terminal strips are soft and flexible.



**Terminal strip**  
The terminal strips can be cut down to the correct number of poles.

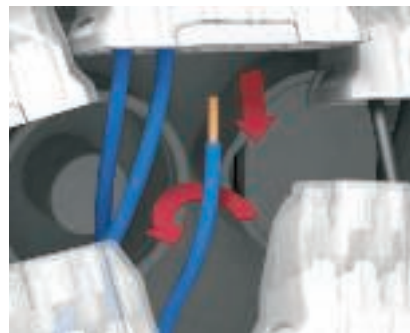




**Packaging information, screwless terminal**  
The packaging of the screwless terminals has briefly sketched user information.



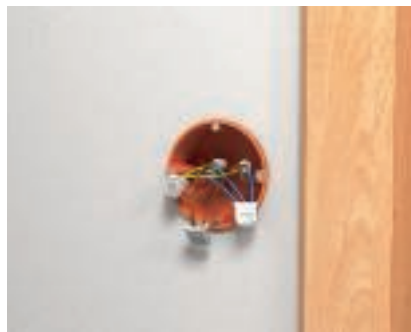
**Shortening of wires**  
A mark on the screwless terminal shows the correct amount of insulation to be removed. This not only ensures the perfect fit of the wires, but also maximum touch protection. The correct fit of the wires can be checked through the transparent sight glass.



**Slackening a wire**  
The individual wires sit tightly and firmly in the screwless terminal. They can be released by rotating and pulling them simultaneously.



**Testing pin opening**  
Practical and safe: the rear testing pin opening allows safe measurement and testing of the wires with a testing pin or phase tester (max. Ø 2 mm).



**Concealed and cavity wall screwless terminal application**  
Screwless terminals are used for "quick" wiring in cavity walls and concealed sockets.



**Screwless terminals application in junction boxes**  
Screwless terminals are ideally suited to for wiring cables within junction boxes. Cross-sections of between 0.75 mm<sup>2</sup> and 2.5 mm<sup>2</sup> can be connected in a terminal type using the OBO screwless terminals.





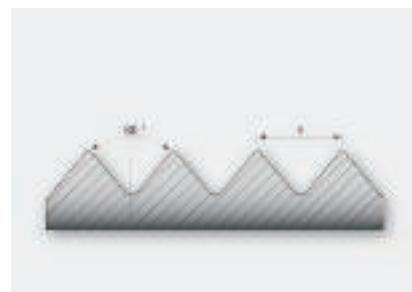
# Planning aids, cable gland systems



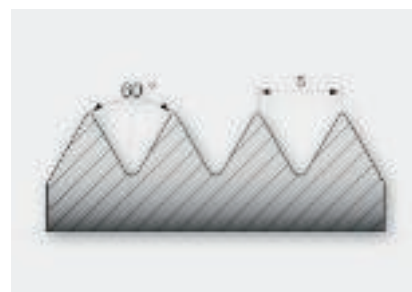
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## Useful information about cable glands



Thread increase Pg



Thread increase, metric

Cable glands are manufactured and tested according to DIN EN 50262. Amongst other things, this standard controls the retaining ability and strain relief of cables. The V-TEC cable glands from OBO Bettermann correspond to version "A". Table 2A of the standard specifies which withdrawal forces these cable glands must withstand. The V-TEC cable glands also fulfil the requirements of DIN EN 50262 with regard to the twist protection of cables (see Table 3).

To ensure the tested dust and moisture protection of the cable glands, continuous perforations should correspond to the mounting openings specified in the standard DIN EN 50262 according to Table 1. The on-site specialist must ensure that these parameters are complied with in order to handover a functioning system.

## Useful information about cable glands

**Table 1**

Size of the penetration hole	mm	6	8	10	12	16	20	25	32	40	50	63	75
Thread of the cable gland	M	M6	M8	M10	M12	M16	M20	M25	M32	M40	M50	M63	M75
Diameter of the mounting hole (+0.2/-0.4)	mm	6.5	8.5	10.5	12.5	16.5	20.5	25.5	32.5	40.5	50.5	63.5	75.5

**Table 2 A**

Cable diameter	Retaining capacity	Strain relief, version A
mm	N	N
to 4	5	–
>4 to 8	10	30
>8 to 11	15	42
>11 to 16	20	55
>16 to 23	25	70
>23 to 31	30	80
>31 to 43	45	90
>43 to 55	55	100
>55	70	115

**Table 3**

Cable diameter	Torque Version A and B
mm	Nm
>4 to 8	0.10
>8 to 11	0.15
>11 to 16	0.35
>16 to 23	0.60
>23 to 31	0.80
>31 to 43	0.90
>43 to 55	1.00
>55	1.20



## Mounting aid, plastic cable glands



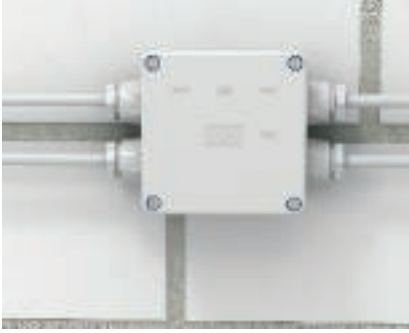
The quickest and most convenient way of providing strain relief and tightness with cable glands on junction boxes and housings is with the tried-and-trusted V-TEC VM cable glands from OBO. With the integrated sealing lip and the special OBO lamella technology protection class IP68 is achieved. Strain relief and tightness have been tested to DIN EN 50262.

The connecting threads of the cable glands are metric or PG and are therefore suitable for universal use. Once screwed in place, the fitting is there forever, as the optimum thread adjustment with the right pitch ensures permanent resistance to shaking.

Applications: from private housing with junction boxes up to industrial applications in the distributor cabinet.



## Mounting aid, plastic cable glands



### Installation in housings without a thread

Cable glands can be installed in junction boxes or housings without a thread using a locknut.



### Installation of cable glands

Any openings required on the junction box can be broken out. Then, push the cable glands through the opening and lock them tightly in the interior with a locknut.



### Installation in housings with a thread

Cable glands can be screwed directly into junction boxes or housings with threads.



### Installation of cable glands

Cable glands are screwed directly into the thread in the housing wall.



### Installation of V-TEC VM cable glands

Cable glands of type V-TEC VM are used wherever strain relief for cables must be achieved in addition to the mechanical resistance.



## Mounting aid, brass cable glands



Tough conditions are no problem for the brass V-TEC VM.

Here too, the known V-TEC cap nut design of the cable glands ensures a secure hold of the cables. The protection class IP68 is achieved using separate sealing rings and the special OBO slat technology. Strain relief and tightness have been tested to DIN EN 50262.

The connecting threads are metric or PG and are therefore suitable for universal use. Once screwed in place the fitting is there for ever, as the optimum thread adjustment with the right pitch ensures permanent resistance to shaking. Applications: from private housing with junction boxes up to industrial applications in the distributor cabinet.

## Mounting aid, brass cable glands



**Mounting of V-TEC MS on motor connection box**  
Brass V-TEC VM cable glands are used under tough conditions.



**Cable entry with V-TEC MS on distributor systems**  
In industrial distributor systems, cables are inserted in the system using cap nut cable glands of type V-TEC MS.



**Brass cable gland in LKM duct**  
Metal cable glands are also suitable for running cables out of a metal line routing duct (LKM).



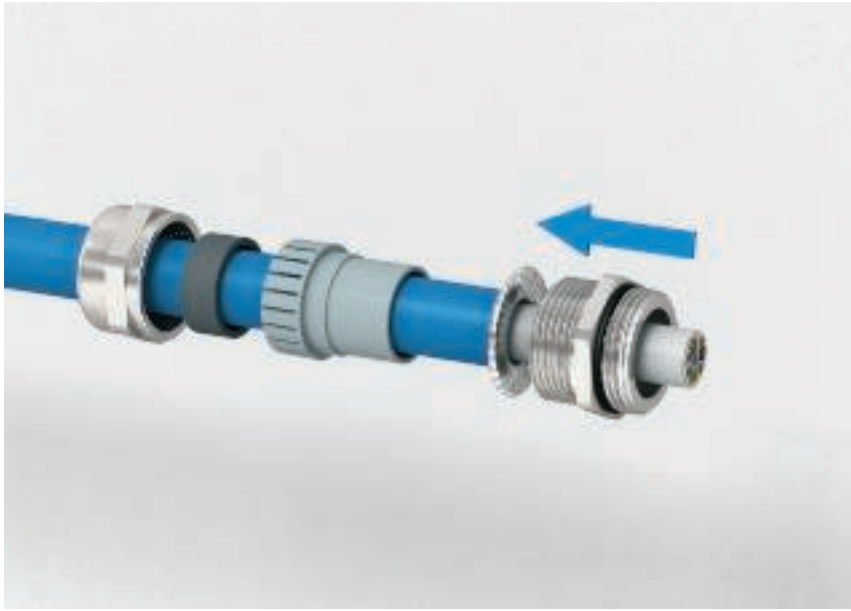
**Mounting of brass cable gland**  
The required openings are drilled in the side wall of the LKM. Then, push the cable glands through the opening and lock them tightly in the interior with a locknut.



**Cone cable gland application**  
Cables can be inserted in switching systems and distributor cabinets using cone cable glands.



## Useful information about cable glands



### EMC cable glands

The guarantee of fault-free operation of electrical systems is one of the most important aims of an installation. The topic of EMC (electromagnetic compatibility) is an important subject in industrial systems. In particular, it is external influences, such as switching operations, surge voltages or the use of frequency converters, which cause challenging requirements for the components used. Large cable lengths for power supplies or data transmission mean that some installation cables act like antennas and can thus receive electromagnetic fault signals. The actual payload signal can thus be superimposed, causing functional faults on system parts. To counteract this, it is important to create the installation in routing systems providing sufficient shielding, such as in closed cable support systems or metal line routing ducts and pipe systems. The use of cables with a braided shield can also have a positive impact when reducing fault signals.

Any efforts to make cable routing as secure as possible is destined for failure if no attention is paid to cable entries for EMC in control systems. For this, OBO Bettermann now offers EMC cable glands in two different versions.

The V-TEC VM EMV offers the user the option of inserting shielded cables into control systems. The insulation is removed from the cable and the braided shield connected to the cable gland. Alternatively, the installation engineer can use the V-TEC

VM EMV-K, which creates the contact between the braided shield and the gland by means of a contact spring.

Both variants allow perfect, continuous contacting of the system.

## Mounting aid, EMV cable glands



**Mounting preparation of V-TEC EMV cable gland**  
Remove the outer jacketing of the installation cable and expose the braided shield to a length of approx. 10–15 mm (depending on the cable diameter).



**Pushing of the V-TEC VM EMV cable gland**  
Push the cap nut and the lamella insert with the ceiling ring onto the cable.



**Preparation of braided shield**  
Bend the braided shield outwards at a right angle (90°). Then fold the braid twice in the direction of the external jacket (i.e. bend it through another 180°). Then attach the intermediate connector up to the braided shield and turn it back and forth around the cable axis so that the braid is contacted across the full area.



**Combination of the individual parts**  
Push in the lamella insert with the sealing ring into the intermediate connector and lock into the twist protection.



**Combination of the individual parts**  
The cap nut must now be screwed tight.



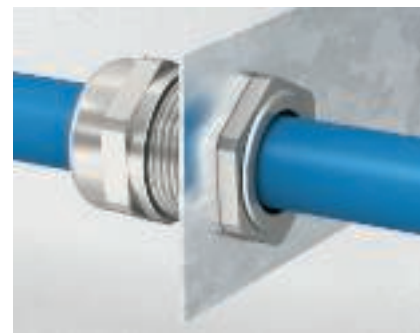
**Complete installation of the V-TEC EMV cable gland**  
The cable shield is pressed all between the lamella insert and the intermediate connector, ensuring perfect contacting.



**Mounting preparation of V-TEC VM EMV K cable gland**  
The cable jacketing is partially stripped, so that the braided shield is revealed to a length of approx. 10 mm.



**Pushing of the V-TEC VM EMV-K cable gland**  
The cable is run through the cable gland from the cap nut side until the contact spring presses against the exposed braided shield. This creates the contact between the cable gland and the installation cable.



**Complete installation of the V-TEC VM EMV-K cable gland**  
The principle of the contact spring within the cable gland allows interruption-free running of the braided screen up to the clamping point.





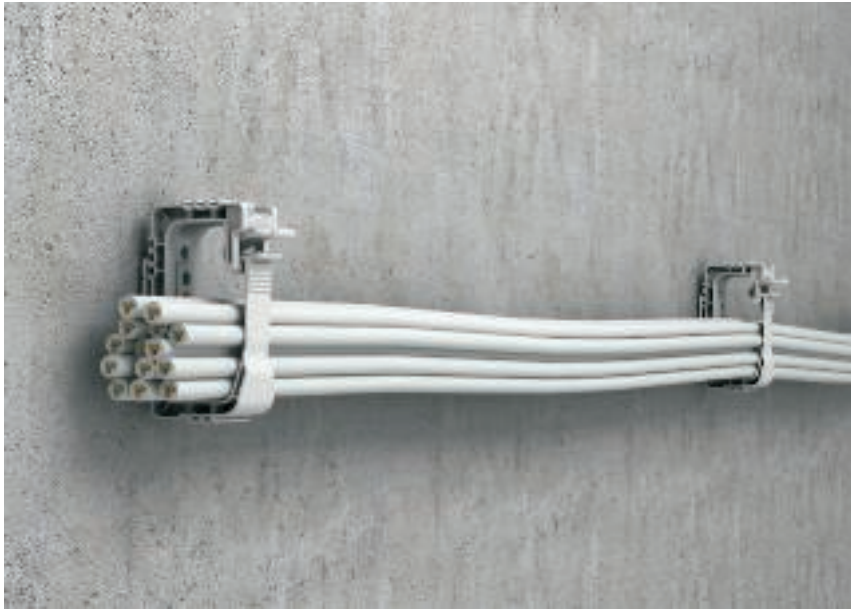
## Planning aids, cable and pipe fastening systems, plastic



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## Information on cable fastening



### Cable fastening

The standard DIN EN 61914 "Cable holders for electrical installations" specifies that cable holders "must be able to accept cables or cable bundles of the diameter specified by the manufacturer or responsible retailer, without tearing or breaking or shearing off the threads of bolts".

During the installation of cables, the current national and international standard must be taken into account, such as DIN VDE 0100 520. "Suitable agents and methods, which prevent damage or changes to the shape", must be used for fastening. In addition, with masses of cables, DIN VDE 0298 requires the appropriate "load capacities of cables for fixed laying in and on buildings..." to

be taken into account when selecting the fastening systems.

Besides these standardising aspects, the end customer/client must take specific laying specifications into account.

The fastening spacing for cables is given in DIN VDE 0100-520, June 2003. For example, cables laid horizontally require a spacing of 20x the cable diameter. However, a spacing of 80 cm should not be exceeded. With vertical laying, the clip spacings may be increased but should not exceed 1.5 m.

The table below shows the maximum fastening spacings for cables according to the cable diameter. The laying spacings given in the catalogue, e.g. for cable ties or Quick

clips, are guide values and can only be treated as such.

### Slits and recesses

DIN1053-1 specifies that slits and recesses may only be ground unless they were created in a walled composite. The slots and recesses may not affect the statics of the construction. Grinding is defined as the cutting of two grooves and the subsequent removal of the masonry in between. Mortising and knocking out slots and recesses is not permitted. Recesses and slots are also not permitted in chimney jambs.

External diameter of the cables mm	Maximum spacing for horizontal fastening mm	Maximum spacing for vertical fastening mm
$D \leq 9$	250	400
$9 < D \leq 15$	300	400
$15 < D \leq 20$	350	450
$20 < D \leq 40$	400	550



## Mounting aid, OBO Quick family



With its Quick clips, starQuick clips and Multi-Quick clips, the OBO Quick family can offer three designs of clip, which are available for all different kinds of work. All the clip designs can accept the OBO Quick pipe and fasten cables. With the Quick family, electrical installations can be fastened in a way which both saves time and guarantees security.



## Mounting aid, OBO Quick family



### Mounting of the installation pipes

Electrical installation pipes can be pushed gently through the insertion slopes of the Quick clips.



### Locked-in installation pipes

The Quick clips safely fix the installation pipe to the ceiling or the wall. The recommended fastening spacing between the clips is 50–60 cm.



### Multi-Quick clips application

The Multi-Quick clips can cover spans of 16–32 mm or 15–37 mm using just three clip types. The teeth in the clips guarantee that the installation pipes are held in place securely.



### Wall mounting with Multi-Quick clips

Multi-Quick clips are suitable for mounting installation pipes on walls, as the clips simply adjust themselves to the pipe diameter by simply pushing in the pipes.



### starQuick clip application

The safety lock of the starQuick clips means that they are the ideal installation aid during pipe mounting, primarily under ceilings. The clip has two locking positions and can thus be used for different pipe diameters.



### Ceiling mounting with starQuick@ clips

The safety lock and the high load capacity of the starQuick@ clip mean that the installation pipes can also be mounted under difficult conditions. The special material of the starQuick@ clips makes them resistant to various chemical influences.



### StarQuick for outdoor areas

StarQuick clips can be used in outdoor areas, as these clips are made from a UV- and weather-resistant material.



### Arrangement of the clip family

The shared arrangement system allows the interconnection of various clip types.



### Quick clip with push-fit anchor

This clip is used when alignment and speed are the most important mounting conditions. This can be achieved both through the locking option of the anchor on the clip and the arrangement of the clips.

## Mounting aid, push-fit anchors



Save time and effort – with the highly flexible OBO BETTERMANN plug-in anchor system. The system is suitable for a wide range of applications: for full brick walls made of concrete, calcareous sandstone, tiles and gas concrete and also for partition walls, for cables and for rigid and flexible electrical installation pipes. All you need is a drill hole with a diameter of 6 mm. Because you can then simply push the different push-fit anchors into the drill holes by hand – with the minimum of force. The products are manufactured from polyamide – and are, of course, halogen-free.

## Mounting aid, push-fit anchors



### Snap clip application

Draw the course and create the mounting holes.



### Mounting of Snap clip

Prefix the clip in the drill hole using the push-fit anchor. Then attach the pipe and push the pipe with the clip onto the mounting surface.



### Complete installation, Snap clip

The side wings of the clip grip around the pipe and fix it to the wall.



### Click-snap clip application

Draw on the exact position of the drill holes with a chalk line.



### Mounting preparations

Push the Quick pipe into the snap push-fit anchor, insert the cables, close the Quick pipe – and you're done!



### Complete mounting of the Click-snap clip

The installation pipe is held by the wings of the clip. The lock provides additional protection, so that the clip cannot open itself by mistake.



### Quick clip with push-fit anchor

This clip is used when alignment and speed are the most important mounting conditions. This can be achieved both through the locking option of the anchor on the clip and the arrangement of the clips.



### BKS clamp clip application

Drill the drill holes, run the BKS clip around the cable and push it into the drill hole.



### Complete installation, BKS clamp clip

The cables are held simply and safely.



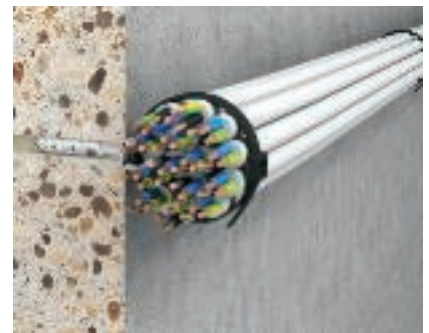
### Application 910/STK

Create a drill hole and pass the cable tie through the wing of the push-fit anchor.



### Fastening cables

Tie cables to be installed together using the cable tie.



### Complete installation, 910/STK

Fix the bundled cables in the drill hole with push-fit anchor.



**Push-fit anchor application, type 1974**  
Draw the mounting line and create the drill holes.



**Complete installation, type 1974**  
Fix installation pipes or cables together with the push-fit anchor.



**Double push-fit clip application, type 1974**  
Draw the mounting line and create the drill holes.



**Complete installation, double push-fit anchor**  
Fix installation pipes or cables together with the push-fit anchor.



**Push-fit anchor application with mushroom head 910/STP**  
Draw and create the drill holes.



**Complete installation, push-fit anchor with mushroom head 910/STP**  
Push the push-fit anchor through the mounting section and into the drill hole.

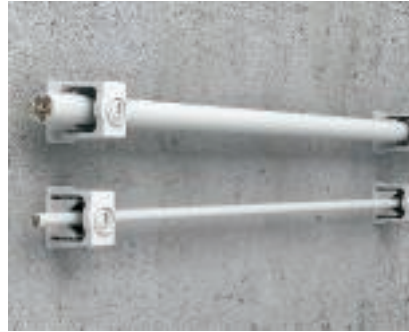


## Mounting aid, fastening clips



### Grip ISO clip application

The terminal base can be fastened with standard bolts in the slot. Alternatively, the base can be stuck onto the substrates using appropriate aids or screwed onto an M6 thread.



### Complete installation with grip ISO clips

The cover is attached and the cable fixed using the clamping screw.



### SOM clip application

The terminal base can be fastened with standard bolts or a 5 mm knock-in anchor.



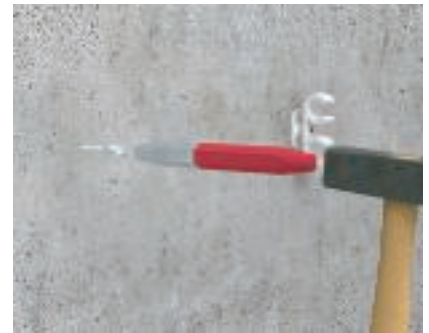
### Cable fixing

Cables are fixed using the plastic screws.



### Complete installation, SOM clip

The design of this plastic clip means that it is primarily suitable for locations in which no metallic components may be used for reasons of corrosion protection.



### Base clamp clip application

The clip can be screwed onto an M6 thread.



### Mounting with OBO anchor

The installation can be prepared rapidly with the help of the OBO anchors and a flattener.



### Screwing on of the base clamp clip

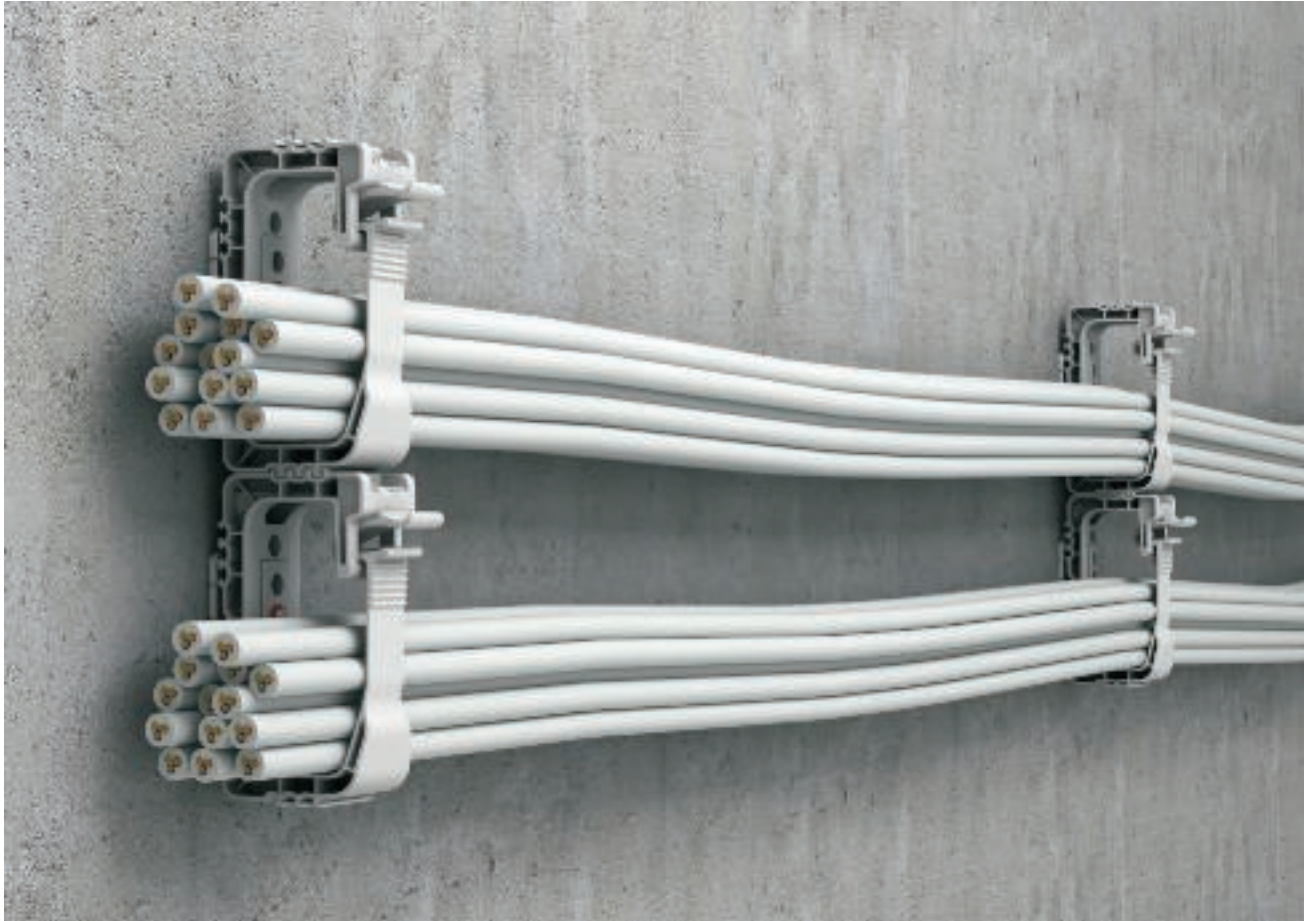
The base clamp clip is screwed onto the thread of the OBO anchor.



### Complete installation, with base clamp clip

Pipes of different diameters can be inserted into the clip.

## Mounting aid, Grip cable tidy, arranged



Besides, the known benefits, such as toolless opening and closing, the plastic Grip cable tidies can offer additional details to simplify easy cable routing - even under the toughest conditions. The moulded fastening element cannot be lost, making mounting under the ceiling or on the wall child's play. No matter whether it is with gas pressure nail guns, with knock-in anchors or the conventional method using bolts and anchors – the fastening options are wide-ranging. By locking the cable tidy on the fastening element there is no need for lengthy messing about with hammers or screwdrivers in the interior of the bracket. The Grip cable tidies (Grip 20, Grip 40) can offer an additional time-saving benefit in that the arrangement contour allows the side and rear connection of cable tidies without the need for tools. This means that the system can be expanded at any time, without needing to carry out additional drilling. Grip cable tidies are available in a hardly flammable version (colour: stone grey).



## Mounting aid, Grip cable tidy, arranged



**Fastening with knock-in anchors**  
Push the knock-in anchor together with the fastening element into the drill hole and knock it in with a hammer.



**Mounting on the wall with gas pressure nail gun**  
The fastening element of the bus holder can be placed on the head of a gas pressure nail gun and is automatically fixed using special lamella. Fastening takes place directly on the wall or ceiling using the gas pressure nail gun without additional aids.



**Mounting under the ceiling**  
The Grip cable tidy is fastened under the ceiling.



**Fastening the cable tidy**  
Pull and twist the fastening element to separate it from the Grip cable tidy.



**Fastening the cable tidy**  
Push the Grip cable tidy on the previously separated fastening element.



**Complete mounting of the cable tidy**  
The Grip cable tidy noticeably engages as soon as the right position has been reached.



**Arrangement above each other**  
The patented arrangement contour means that the OBO cable tidies can be interconnected.



**Arrangement above each other**  
Multiple cable tidies can be interconnected. Depending on the load and fastening, do not arrange more than two OBO cable tidies next to each other.



**Rear arrangement**  
The patented arrangement contour means that the OBO cable tidies can be connected back to back.



**Rear arrangement**  
Two cable tidies can be connected back to back. In this case, it is sufficient to fasten one cable tidy.



**Mounting on the wall**  
Fastening the Grip cable tidy on the wall.



**Fastening the cable tidy**  
Separate the fastening element from the Grip cable tidy.





**Fastening the cable tidy**

Place the Grip cable tidies on the fastening element and lock it downwards.



**Complete mounting of the cable tidy**

Attached cable tidy, fastened to the wall.



**Arrangement above each other**

The patented arrangement contour means that the OBO cable tidies can be interconnected.



**Arrangement above each other**

Multiple cable tidies can be interconnected. Depending on the load and fastening, do not arrange more than two OBO cable tidies next to each other. Depending on the load, it is sufficient to fasten the top Grip.



**Insertion of the installation cables**

Cables can easily be mounted through the opening of the Grip cable tidy.



**Complete installation with a cable tidy**

The grip cable tidy can be closed without additional tools simply by pressing the locking contour.



## Mounting aid, pressure clip



The quicker, the better – this also applies to installations in false ceilings.

The pressure clips from OBO BETTERMANN are made of high-quality polyamide and simplify the routing of cables under the ceiling. The pressure clip is an ideal solution for areas in which every centimetre counts. Mounting is very simple using an M6 knock-in anchor. The top impact surface simplifies contact with the impact bolt on knocking in. After mounting the cables are passed under the clips in a "lasso technique" hand movement – and that's all there is to it!

## Mounting aid, pressure clip



### Fixing the pressure clips

Push the knock-in anchor through the fastening hole of the pressure clips and fix in the drill hole.



### Fastening the pressure clips

No additional mounting tools are required when using an OBO knock-in anchor. The anchor can be knocked in directly using a hammer.



### Installation of cables

Push the cables from the side under the hips of the pressure clips.



### Complete mounting, pressure clip, type 2033

The pressure clips 2033 can accept a maximum of 16 cables of type NYM 3 x 1.5 mm<sup>2</sup>. This is a guide value and may vary according to cable manufacturer.



### Complete mounting, pressure clip, type 2034

The pressure clips 2034 can accept a maximum of 10 cables of type NYM 3 x 1.5 mm<sup>2</sup>. This is a guide value and may vary according to cable manufacturer.



### Spacer

Using the spacer 2033D, it is possible to increase the clamping height to 13 mm, meaning that cables with a large diameter can also be clamped. The cable weight and cable diameter reduce the carrying capacity of the pressure clips accordingly.



## Mounting aid, clips



OBO can offer a wide range of clip systems, which can be fastened to various substrates with nails: starting with the adhesive clip of ISO nail clips for fastening, e.g. on wooden beams, up to the Nail-Fix for fixing in masonry slits.

## Mounting aid, clips



### Adhesive clip application

Adhesive clips are suitable for fastening installation cables on various substrates. The shape of the adhesive clip clamps it to the cable. This means that mounting is even possible in difficult locations.



### Complete installation, adhesive clip

Adhesive clips are suitable for fastening various cable diameters, due to their variable clamping areas.



### ISO nail clip application

Select the ISO nail clips according to the cable diameter and clamp them onto the cable.



### Complete installation, ISO nail clip

ISO nail clips are suitable on visible masonry to fix telecommunications cables, for example.



### Nail-Fix application

OBO Nail-Fix is suitable to fix installation cables in masonry slits or on masonry which will be plastered at a later time.



### Fixing the Nail-Fix

The various nail lengths mean that the Nail-Fix can be used in many different substrates.



### Complete installation, Nail-Fix

The Nail-Fix fixes the cables securely in the wall slot.





# Planning aids, cable and pipe fastening systems, metal



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## Mounting aid, spacer fastening clip



Whether in V2A stainless steel, in electrogalvanised, hot-dip galvanised steel or in aluminium - OBO can offer a wide range of spacer clips and screw-in spacer clips in various materials. The clips can be fastened both with bolt ties or with Angler anchors or Sprint screws. Depending on their design, the clips can be "shot" using a bolt-firing tool or gas pressure nail device.



## Mounting aid, spacer fastening clip



**Function maintenance with screw-in spacer clips**  
The screw-in spacer clips of type 732 and 733 are tested and approved for routing to DIN 4102 Part 12. You can find the fastening spaces and approved cable types in the OBO BSS fire protection catalogue.



**Pipe systems application**  
Screw-in spacer clips are suitable for routing steel armoured pipes on the wall or ceiling.



**Pipe systems application for outdoor areas**  
When used in the open air, fastening clips with hot galvanised surfaces or ones made of stainless steel should be used to avoid corrosion.



**Mounting of spacer clip 733**  
Mounting of the spacer clips with bolt ties or Sprint screws in an Angler anchors.



**Mounting of cable bundle with spacer clip 733**  
Spacer clips are also suitable for bundling multiple cables.



## Mounting aid, fastening clip



### Fastening clip application, type 604

Cables or pipes can be installed using the single-lobe fastening, e.g. on the raw concrete floor.



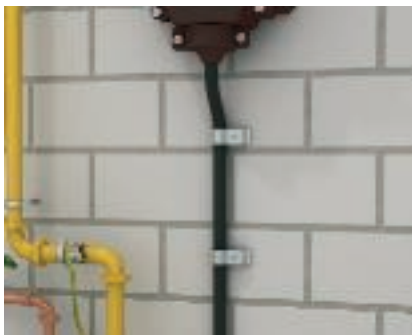
### Fastening clip application

Cables can be mounted flat on the wall or ceiling using single or double-lobe fastening clips.



### Fastening clip application with reinforced steel pipes

One or two-lobe clips are also used to fasten pipes. This means that the pipe can be installed laying flat on the substrate.



### Main cable fastening, building connection box

Heavy-duty cable clips of type 1594 are used to fasten the main VNB cable at the entrance to the building.



## Mounting aid, pressure clip



Metal pressure clips ensure a high level of mechanical stability in installations above false ceilings or suspended fire protection ceilings in emergency and escape routes. The mechanical load capacity in case of fire was successfully confirmed by a test to DIN 4102. The metallic pressure clips are approved as a cable-specific routing variant for electrical function maintenance to DIN 4102 Part 12. You can find detailed information on the use of the brackets for function maintenance in the OBO BSS fire protection catalogue.





## Mounting aid, pressure clip



### Fire protection ceiling area of application

Maintain a minimum spacing when used above fire protection ceilings.

Distance "a" to the fire protection ceiling for pressure clips

Type 2033 M: at least 70 mm

Type 2034 M: at least 50 mm



### Function maintenance with the pressure clips

The metallic pressure clips are tested and approved for cable-specific cable routing to DIN 4102 Part 12. You can find the fastening spaces and approved cable types in the OBO BSS fire protection catalogue.



### Fastening the pressure clips

Turning of the bolt tie into the drill hole. Screwing-in can take place with a rechargeable screwdriver, hammer screwdriver and by hand.



### Installation of cables

Push the cables from the side under the hips of the pressure clips.



### Mounted pressure clips

Complete mounting and maximum assignment of the pressure clips.

## Mounting aid, OBO Quick family Alu



Due to its easy fastening options, e.g. arrangement, the OBO Quick family, made of aluminium, is ideally suited for time-saving, secure fastening of electrical installations. There are six different pipe clip sizes for various areas of application. All the designs are intended for the fastening of the OBO aluminium pipe system and for all metric aluminium pipe systems as well as light-duty and heavy-duty insulation pipes.



## Mounting aid, OBO Quick family Alu



**Ceiling mounting with the aluminium Quick clip**  
Installation pipes can be fastened to the ceiling using the Quick clip.



**Wall mounting with the aluminium Quick clip**  
Routing variants with Quick clip and aluminium pipe system.



**Arrangement of the aluminium Quick clips**  
The arrangement contour of the clip type allows the interconnection of various sizes between 16-63 mm.



**Rail with aluminium Quick clip application**  
The Quick clip is also used in conjunction with rails. This means that the clip can be attached in profile rails with a slot width of 11 mm. This can be used when pipe systems must be mounted on the fastening support "Profile rail".



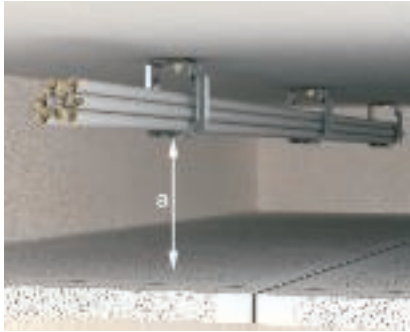
## Mounting aid, cable tidy



Cable tidies are suitable for installations above false ceilings or suspended fire protection ceilings in emergency and escape routes. The mechanical load capacity in case of fire was successfully confirmed by a test to DIN 4102. The metallic cable tidies are approved as a cable-specific routing variant for electrical function maintenance to DIN 4102 Part 12. You can find detailed information on the use of the retainer for function maintenance in the OBO BSS fire protection catalogue.



## Mounting aid, cable tidy



### Fire protection ceiling area of application

Maintain a minimum spacing when used above fire protection ceilings.

Distance "a" to the fire protection ceiling for collecting clamps:

For 60 cm fastening distance: a = min. 100 mm for cable sag of max. 30 mm

For 80 cm fastening distance: a = min. 250 mm for cable sag of max. 50 mm



### Function maintenance with the collecting clamp

The metallic collecting clamps are tested and approved for cable-specific cable routing to DIN 4102 Part 12. You can find the fastening spaces and approved cable types in the OBO BSS fire protection catalogue.



### Wall mounting of the cable tidies

Simultaneous mounting of the bolt ties or Angler anchors and Sprint screws with cable tidies as push-through mounting.



### Inserting the cables

Insert the cables in the cable tidies. When cable assignment is complete, close the cable tidies by hooking the opening flap into the appropriate opening.



### Ceiling mounting of the cable tidy, Grip 70

The cable tidy 2031/M 70 is supplied with a fire protection bolt tie MMS 6 x 50. The cable tidy is fastened to the ceiling using the bolt tie.



### Cable installation, ceiling

Insert the cables in the cable tidies. When cable routing has been completed, close the cable tidies by hooking the opening flap into the appropriate opening.



### Wall mounting of Grip 70 cable tidy

Mounting of the screw-in anchors with cable tidies with the push-through method.



### Cable installation, wall

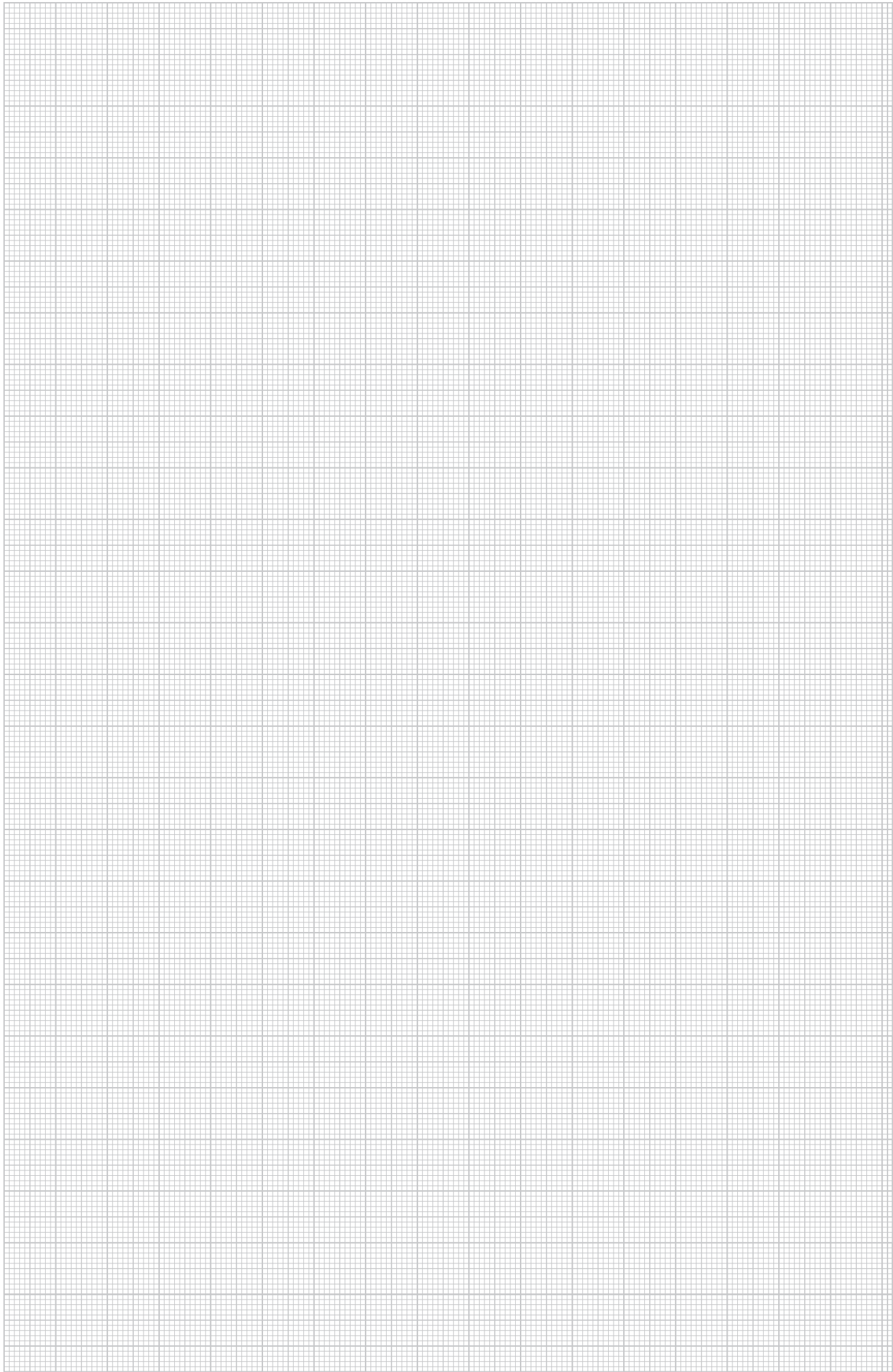
Insert the cables in the cable tidies. When cable routing has been completed, close the cable tidies by hooking the opening flap into the appropriate opening.



### Mounted cable tidy

Cables can be retro-installed or removed at any time by opening and reclosing the cable tidies.







# Planning aids, cable and pipe fastening systems, special



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## Loads, installation strip

Assignment of different load types to the columns A, B and C

When two loads are combined, the value of the worst case applies.

**In addition, the table values only apply under the following conditions:**

- The load of the installation strip 5055 may only be placed in the round holes.
- In the case of screw fastenings in the last hole, there must be a complete bar above the hole.
- Screw sizes appropriate to the appropriate installation strip must be used (M5 for Size I, M6 for Size II, M8 for Size III).
- The screws must be tight. The use of smaller or loose screws causes a strong drop in the break load.

### Explanation of load cases of installation strips

Load	1	2	3	4	5	6	7	8	9	10
Minimum breaking load according to column	A	B	A	C	B	2xB	2xB	A	B	A

### Minimum break load of perforated straps 5055 and 5062 for the different applications:

Type	Item no.	Minimum breaking loads N	
		A	B
5055	1470124	2,150	1,850
	1470175	3,050	2,000
	1470264	6,750	6,750
5055/L	1471120	1,150	1,400
	1471171	2,200	1,500
	1471260	5,350	2,800
5055/ L PE	1473220	1,500	1,500
	1473271	2,300	2,300
	1473360	4,700	4,250
5062	1475126	1,600	1,600
	1475177	2,350	2,350
	1475266	4,700	4,700
5062/L	1475622	1,300	1,300
	1475673	1,650	1,650
	1475762	3,800	3,800

## Loads, installation strip



Load 1: Smooth belt  
Minimum breaking load according to column A



Load 2: Screwed to flat suspender  
Minimum breaking load according to column B



Load 3: Screwed to flat suspender, belt end doubled, free end of belt inside  
Minimum breaking load according to column A



Load 4: Screw under the ceiling with bolt and washer  
Minimum breaking load according to column C



Load 5: Screwed under the ceiling with bolt, belt end doubled, free belt end down  
Minimum breaking load according to column B



Load 6: Belt wound around flat eyelet and pipe or similar  
Minimum breaking load according to column 2 x B



Load 7: Pipe or similar fastened to wall with belt  
Minimum breaking load according to column 2 x B



Load 8: Pipe or similar suspended from belt  
Minimum breaking load according to column A



Load 9: Belt end screwed to pipe clamp  
Minimum breaking load according to column B



Load 10: Belt end screwed to pipe clamp, belt end doubled  
Minimum breaking load according to column A



## Mounting aid, special cable and pipe fastening systems



Planning aids, special cable and pipe fastening systems



The cable and pipe fastenings of the special system include cable ties, fastening straps and installation strips, with which cable and pipe installations can be fastened to cable support systems such as cable or mesh cable trays or other mounting constructions. A complete tensioning wire system to suspend and catch cable weights is also a component part of the special system.

## Mounting aid, special cable and pipe fastening systems



### Pipe suspension with steel strip

Pipes can be suspended with installation strips. The installation strip consists of a metal core with plastic jacketing.



### Cable fastening on suspended chain

Cables can be fixed to and run on a chain using cable ties.



### Fixing within a cable tray

Bundles of cables in cable trays can be protected against slippage by fixing with cable ties.



### Suspension with installation strip

The installation strip can be fastened to the ceiling in many different ways. Here, with a screw on a Rabitz coupler, type 2083.



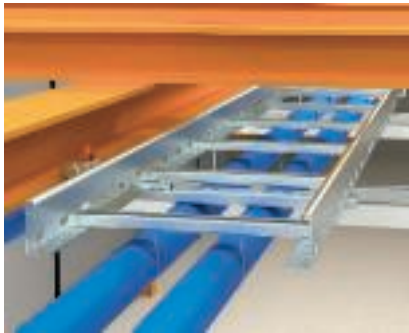
### Suspension with installation strip

The installation strip can be fastened to the ceiling in many different ways. Here, it is directly suspended from a TS ceiling hook, type 2989, which can be screwed onto an M6 thread.



### Steel wire tensioning cable systems

Steel wire tensioning ropes can be used to support cable weights.



### Use of cable ties and ribbon clips

Pipes and cables can be fastened beneath cable trays using cable ties and ribbon clips.



### Fastening with installation strip

Clips can be quickly bent into any shape using the installation strip, to fasten installation pipes for cable to the floor using OBO anchors, type 903/RB and flatteners.



### Impu-Fix adhesive application

Ribbon conductors can be fastened with the Impu-Fix adhesive. Apply the adhesive to both sides with a brush and stick on the cable after drying. Fix the ribbon conductor using gentle knocks with a rubber mallet.







# Planning aids, pipe systems



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## Standards and classification

### Classification of pipe systems according to DIN EN 61386-1

The OBO Bettermann pipe systems are machined and tested according to DIN EN 61386 "External diameters of electrical installation pipes and thread for electrical installation pipes and their accessories" and DIN EN 60423 "Electrical installation pipe systems for electrical energy and information".

### Numeric code

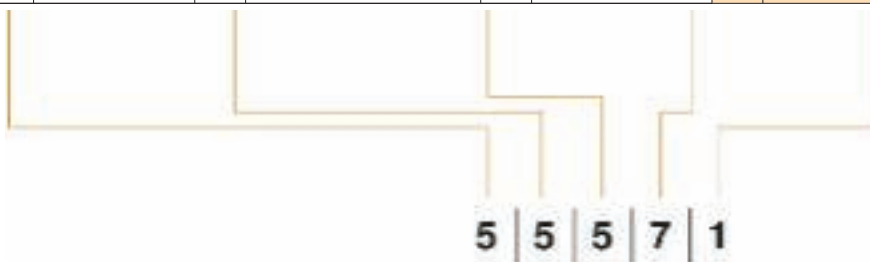
DIN EN 61386-1 classifies installation pipes using a 12-digit numeric code, which provides information on the pressure resistance, impact resistance or use temperatures. You can find the first five digits in the product descriptions of the pipe systems. The table below provides an overview of the different meanings of the numbers.



Numeric code on the product

### Classification code according to DIN EN 61386 with application example (orange)

	First digit		Second digit		Third digit		Fourth digit		Fifth digit
	Pressure resistance		Impact resistance		Minimum use temperature		Maximum use temperature		Bending behaviour
1	Very light (125 N)	1	Very light (0.5 kg/100 mm)	1	+ 5 °C	1	+ 60 °C	1	Rigid
2	Light (320 N)	2	Light (1.0 kg/100 mm)	2	- 5 °C	2	+ 90 °C	2	Bendable
3	Medium (750 N)	3	Medium (2.0 kg/100 mm)	3	- 15 °C	3	+ 105 °C	3	Bendable, self-healing
4	Heavy (1250 N)	4	Heavy (2.0 kg/300 mm)	4	- 25 °C	4	+ 120 °C	4	Flexible
5	Very heavy (4000 N)	5	Very heavy (6.8 kg/300 mm)	5	- 45 °C	5	+ 150 °C		
						6	+ 250 °C		
						7	+ 400 °C		



## Pipe properties by routing location



### **Corrosion protection according to routing location**

Before commencing installation, it is important to select the appropriate installation pipe, as not each pipe is suitable for each application.

Electrogalvanised pipes and pipes painted black are designed for interior applications, whilst hot galvanised steel armoured pipes as well as stainless steel and aluminium pipes can also be installed in external applications.

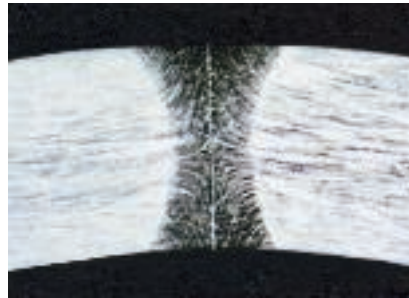
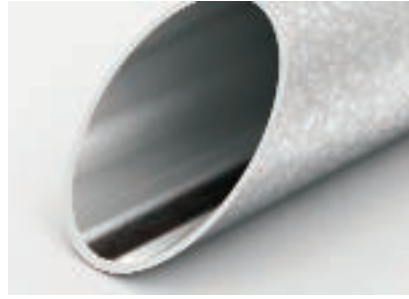
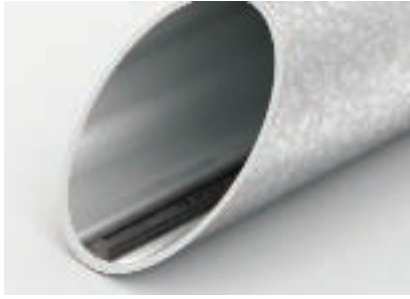
### **Protection against mechanical loads**

OBO steel armoured pipes are particularly suited to use under tough industrial conditions. They provide reliable protection against very heavy mechanical loads during cable routing.

The different material and surface qualities, from galvanised to painted, allow perfect adaptation to the requirements of the appropriate environment.



## No compromises. More effective work with precision steel armoured pipes



*Structure with weld seam area, not scraped*

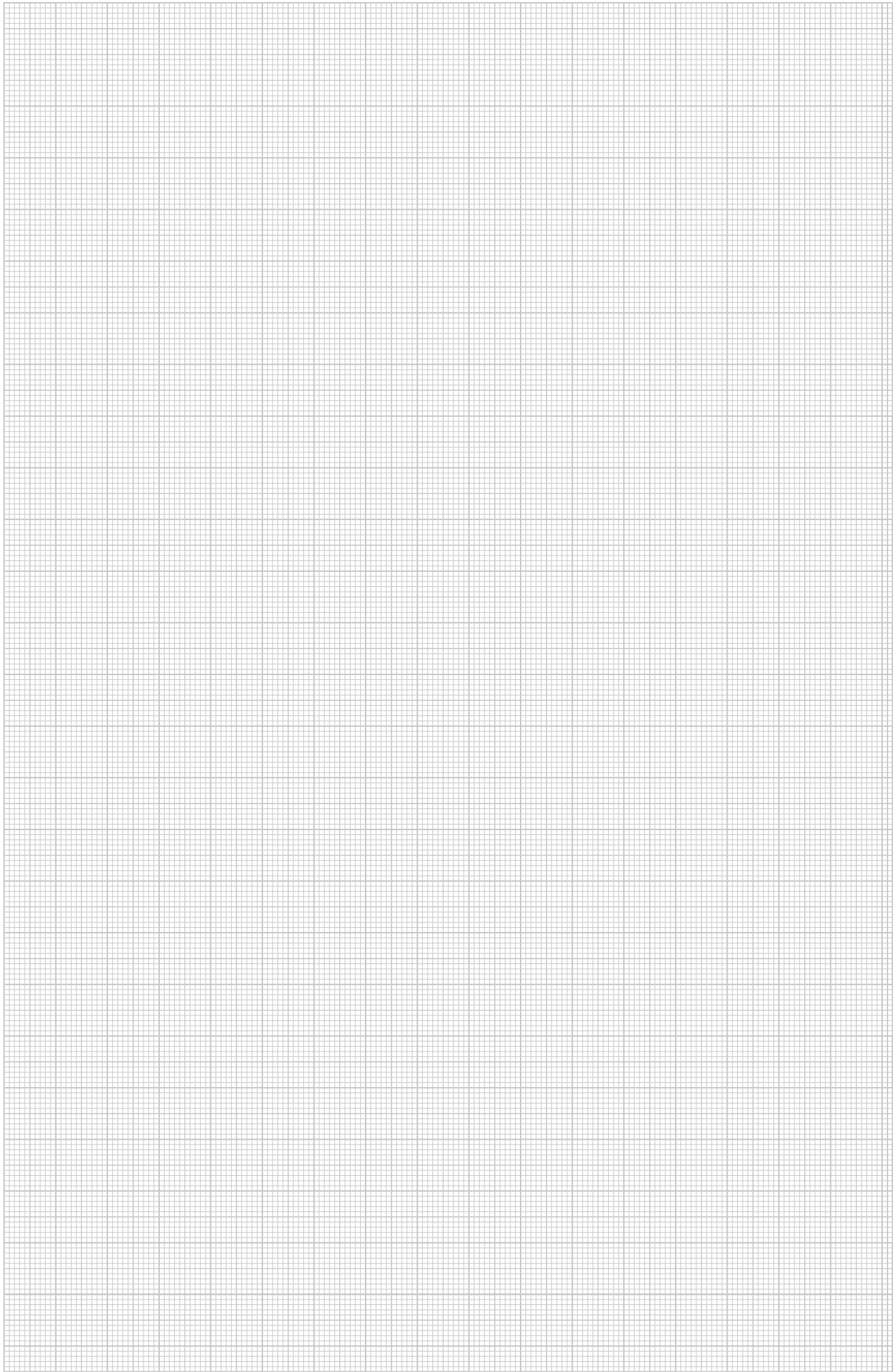
*Structure with weld seam area, scraped*

### **Increased precision, simpler installation**

When producing steel pipes, the machining process creates a bulge along the welding seam. When cables are pushed through, this creates friction, thus impeding the installation.

The OBO precision steel armoured pipes have the annoying bulge removed directly after welding. This means that the inside of the pipes is completely smooth – and cables can be pushed through without any problems. This saves the installation engineer valuable time.





## Double safety: perfect protection for very heavy mechanical loads and function maintenance in case of fire



Planning aids, pipe systems

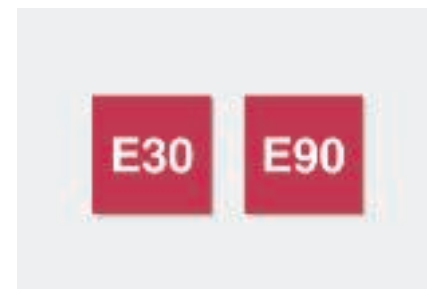
### Protection against mechanical loads

OBO reinforced steel pipes are particularly suitable for use under tough industrial conditions: they provide reliable protection against very heavy mechanical loads during cable routing.

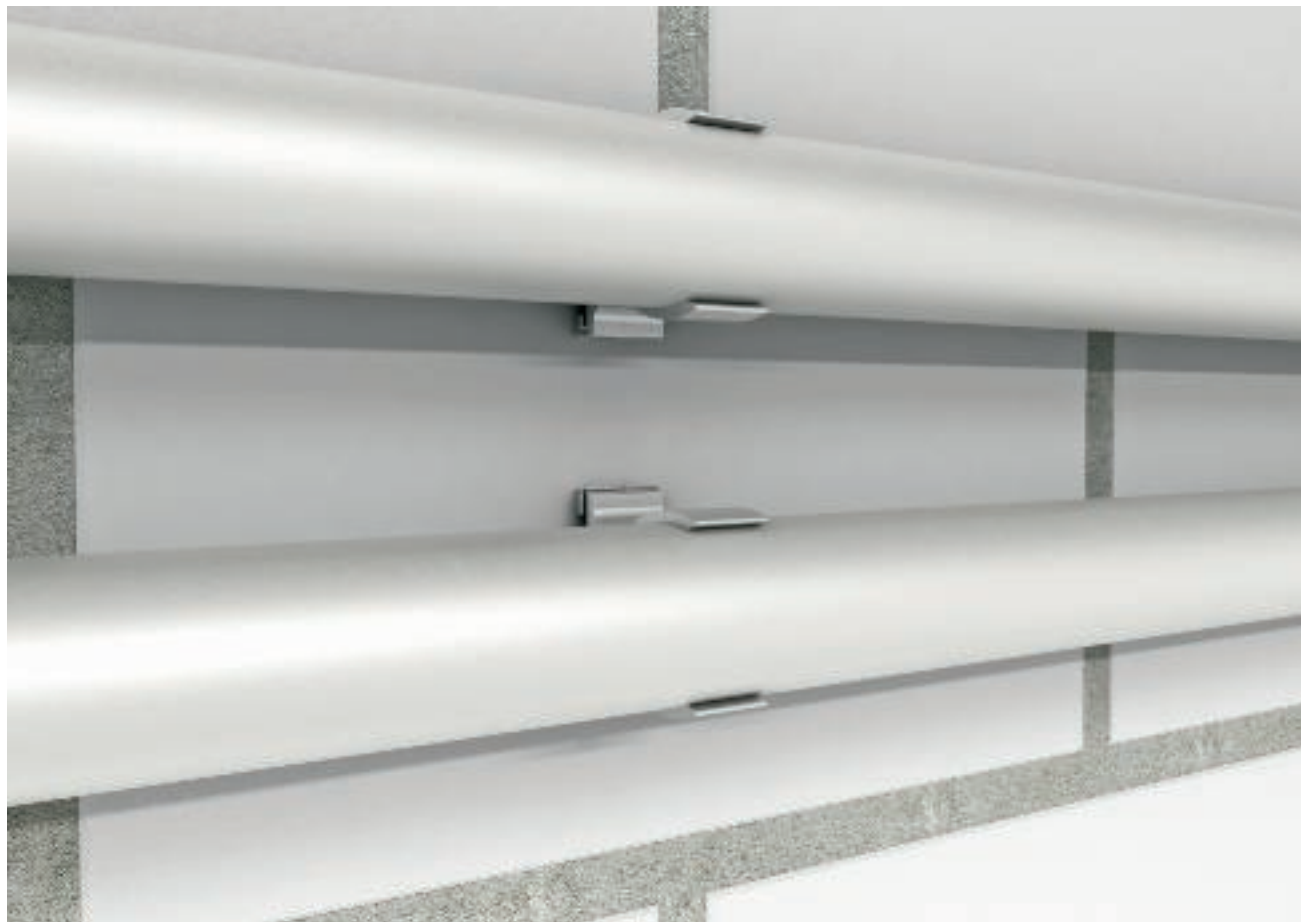
The different material and surface qualities, from galvanised to painted, allow perfect adaptation to the requirements of the appropriate environment.

### Function maintenance E 30/E 90

Our steel pipes guarantee function maintenance to E 30/E 90. They are thus ideal for the connection of safety-relevant equipment, such as fire alarm systems.



## Mounting aid, pipe systems, metal



Besides the electrogalvanised, black painted and hot-dip galvanised pipes, the metal pipe system includes systems made of rust-proof stainless steel (V2A and V4A) and aluminium. Fittings such as 90° pipe bends and pipe connection sleeves are also part of the portfolio. Metal pipes are particularly suitable for applications with high mechanical loads, such as those in industry.



## Mounting aid, pipe systems, metal



### Fastening with metal clips

Metal pipes can be fastened to the wall with double-lobe metal clips, type 605.



### Connection sleeve SVMxx

Connection sleeves can be screwed onto metal pipes with threads.



### Connection between pipes

Pipes can be interconnected and connected to 90° pipe bends using connection sleeves.



### Connection between pipes

Interconnected pipes are combined into a closed unit.



### Plug connection

Pipes without a threaded connection can be extended with plug-in sleeves. 90° pipe bends can also be connected with a pipe using a plug-in sleeve.



### Plug connection between pipes

Plug-in sleeves allow the combination of interconnected pipes into a closed unit.



### Cable installation

After fastening the metal pipes, the cables can be pulled directly into the electrical installation pipe.



### Complete installation

After installation, we have a closed systems. The pulled-in cables are protected against mechanical loads.



### Pipe end socket application

The end sockets prevent damage to the cables by any burring on the cutting edge, particularly in the case of shortened pipes. Simply plug the end socket onto the pipe.



### Stapa pipe with end bush

After attachment, the sleeve holds itself on the end of the pipe.



### Pipe end socket application

Now pull cables through the pipe.





## Mounting aid, pipe systems, Quick Pipe



The plastic pipe system contains the OBO Quick Pipe as a duct pipe, in which cables can be inserted as in a duct. Turning-in to the OBO Quick Clip causes the OBO Quick Pipe to close, surrounding the cables like a closed pipe. The system also includes accessories like fittings such as 90° bends, T pieces and connection sleeves.



# Mounting aid, pipe systems, Quick Pipe



**Cable routing in the Quick pipe**  
Insert the installation cable into the opened Quick pipe.



**Closing the Quick pipe**  
Turn the Quick pipe in the Quick clip, thus closing the cover.



**Fully connected Quick pipe**  
The closed pipe fixes the cable. The Quick pipe system is ideal for laying pre-terminated cables.



**Mounting of the Quick pipe T piece**  
The T piece is a hood fitting and is placed on the pipe.



**Complete mounting, T piece**  
Mounting is completed after locking on the front section. The T piece can be easily opened again using a screwdriver.



**Mounting of Quick pipe bend**  
The bend is a hood fitting and is placed on the pipe.

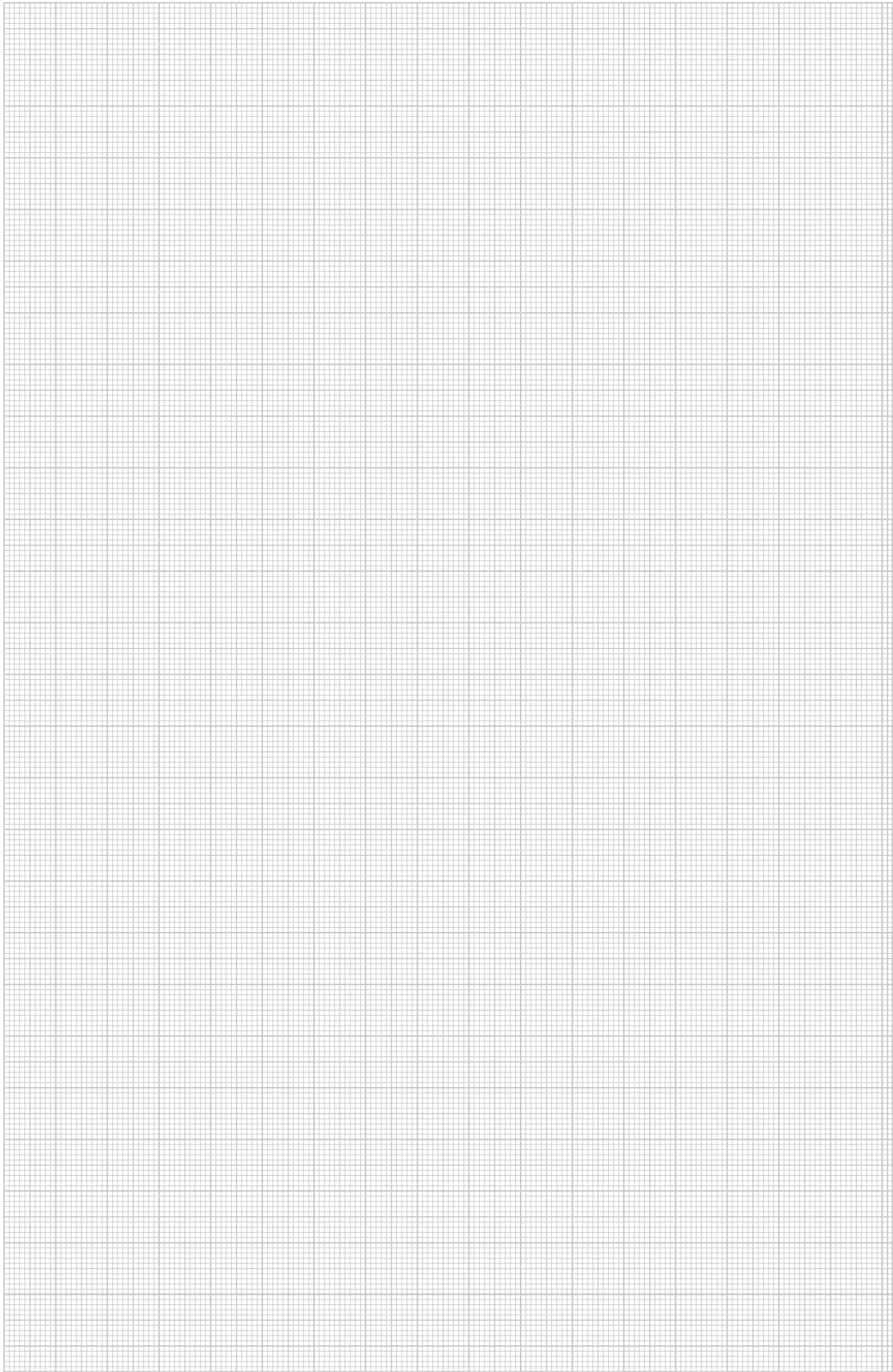


**Complete mounting, Quick pipe bend**  
Mounting is completed after locking on the front section. The bend can be easily opened again using a screwdriver.



**Processing the Quick pipe**  
The Quick duct shears allow shortening of the Quick pipe into the required pieces, meaning that installation can commence.







# Planning aids, support clamp systems



Mounting aid, beam clamps for knocking-in

## Mounting aid, beam clamp



Beam clamps can be used on various steel girder constructions, in order to install additional components beneath the steel girder construction. It is important to take the appropriate clamping ranges and the thickness of the support or flat iron into account. The range of beam clamps and systems permits various applications, e.g. fastening of ribbon clips and pipe systems. Beam clamps are available in two variants: for knocking onto the flange and for screwing on to the flange. With the knocking variant, the beam clamps grab the metal, whilst, with the screw-on variant, the bolt clamps the flange to the beam clamp.



# Mounting aid, beam clamp



**Opening of beam clamps**  
Beam clamps are attached to the flange and they then grab it.



**Screwing on of beam clamps**  
Screw-in beam clamps are pushed onto the flange and the flange clamped using the bolt in the beam clamp.



**Beam clamps for pipes**  
Use of screw-in beam clamps with directly fastened pipe seat.



**Beam clamp mounting**  
Installation of strike beam clamp and suspension chain for luminaire installation.



**Beam clamp mounting**  
Mounting with knock-in beam clamps with thread and screw-in spacer clip 732 for mounting installation pipes.



**Beam clamp mounting**  
Installation of strike beam clamp and fastening of threaded rods with connection sleeve.



**Beam clamp mounting**  
Installation of beam clamps and installation tube parallel to flange.



**Beam clamp mounting**  
Installation of screw-in beam clamps and installation tube parallel to flange.



**Beam clamp mounting**  
Installation of beam clamps and installation tube vertical to flange.



**Beam clamp mounting with type 328**  
Movable fastening of two beam clamps and a profile rail.



**Beam clamps, type 328**  
Movable fastening of two beam clamps and a profile rail. This allows mounting structures beneath steel girders.



**Beam clamp installation**  
Beam clamps can be knocked onto the flange both in a horizontal and a vertical position.





**Beam clamp application, type 339**

With beam clamps of type 339, profile rails can be variably fastened to steel girder using terminal strips.



**Pipe clip application, type TKCI**

The beam clamp as a pipe clip is used to route pipes or cables in steel girders.



**Beam clamp application with hinge**

Hinged beam clamps can be used for suspensions on sloping steel constructions. Fastening on the beam is achieved using terminal strips.



**Visible rail terminal application**

The visible rail terminal TKD and the locknut TKD-G allow easy fastening of constructions to ceiling profiles.



**S-hook application**

The hole of diameter 6.7 mm can accept an appropriately dimensioned S-hook.



**Wire cable application**

The vertical opening (rear side 8 x 9.5 mm) of the beam clamp permits an application with a wire cable.



**Threaded rod application**

Threaded rods of the dimension M6-M8 can be mounted on the opening on the back (8 x 9.5 mm).



**Threaded rod application**

Additional connections to flat irons (turned support clamps) can be created using threaded rods of the dimension M6-M8.



**Cable tie application**

Due to its opening (8 x 9.5 mm), the beam clamp can accept cable ties or straps with widths of up to 9 mm. This means that pipes or cables can be fastened without any trouble.





**Beam clamp, heavy-duty version, application**

The beam clamp can be fixed on support systems and flat irons. If necessary, the double nipple, type 3100 M8, or an M8 threaded rod can be used on the clip element. The figure shows a connection with the cable and pipe spacer clip.





# Planning aids, profile rail systems



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## Information on hat profile rails



The OBO hat/G support rails are machined according to DIN EN 60715. According to the standard IEC 60947-7-2, steel support rails are approved as a protective conductor bus bar (PE function), however not as a PEN function!

Article type	Material (material thickness)	Short-circuit resistant $\wedge$ E CU cable (mm <sup>2</sup> )	Short-time withstand current 1 s
46277 GTP	Steel (1 mm)	10 mm <sup>2</sup>	1.2 kA
46277 GTPL	Steel (1 mm)	10 mm <sup>2</sup>	1.2 kA
2069	Steel (1 mm)	16 mm <sup>2</sup>	1.92 kA
2069S	Steel (1 mm)	16 mm <sup>2</sup>	1.90 kA
2069 GTP	Steel (1 mm)	16 mm <sup>2</sup>	1.92 kA
2069 GTPL	Steel (1 mm)	16 mm <sup>2</sup>	1.90 kA
2069/15 GTP	Steel (1 mm)	16 mm <sup>2</sup>	1.92 kA
2069/15 GTPL	Steel (1 mm)	16 mm <sup>2</sup>	1.90 kA
2069/15 GTP	Steel (1.5 mm)	35 mm <sup>2</sup>	4.2 kA
2069/15 GTPL	Steel (1.5 mm)	35 mm <sup>2</sup>	4.1 kA
2069/15 GTP	Steel (2.5 mm)	50 mm <sup>2</sup>	5.9 kA
2069/15 GTPL	Steel (2.5 mm)	50 mm <sup>2</sup>	5.8 kA
2064 GTP	Steel (1.5 mm)	35 mm <sup>2</sup>	4.2 kA
2064 GTPL	Steel (1.5 mm)	35 mm <sup>2</sup>	4.1 kA
(Rounded values)	Cross-sections calculated according to IEC 60439-1/EN 60439-1/VDE 0660-500 Table 3.	Relevant cross-section range according to DIN VDE 0100-540 Table 54.3.	

## Mounting aid, hat profile and support rail



The OBO rail system contains hat rails, support rails and profile rails with slot widths of 7.5 to 22 mm. Electrical components such as terminal strips, contactors and fuses can be locked on and connected to hat and support rails. When profile rails are used as mounting rails, small and larger mounting areas can be created, but classic fastening of BBS clamp clips is, of course, also possible. In this programme, you can find the right rail, both for cable ladders and for simple wall mounting. By using the available accessory parts such as hammer-head and hook-head bolts, slide nuts or also series clips for cable fastening, you'll always find the right solution.



## Mounting aid, hat profile and support rail



### Hat profile rail application

If wiring is carried out using series terminals, then junction boxes should be used with mounted or inserted hat profile rails.



### Hat profile rail application

Hat profile rails are usually used in switching and distributor cabinets.



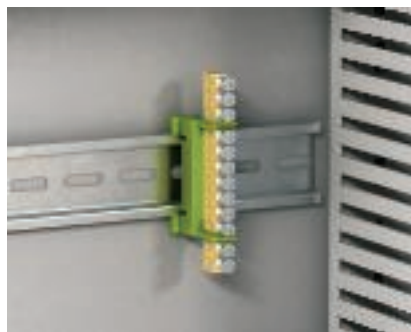
### Series-mounted device on hat profile rails

The hat profile and support rails can be used as a protective conductor bus bar but not as a PEN conductor. Series-mounted devices (REG) or series terminals can be locked onto the hat profile rails.



### Installation of lightning current and surge arresters

Hat profile rails can be used for modular applications. For example, this could be the ProtectionSet, type PS-VA..., from the TBS transient and light protection range.



### Hat profile rail for modular applications

Neutral and protective conductor terminals can be locked onto hat profile rails.



### Shortening of hat profile rails

The hat profile and support rail cutting device, type HTS 35, allows the shortening of hat profile rails to almost any length without burring. The hat profile and support rail cutting device is equipped to handle the four most common profiles.

## Mounting aid, profile rail



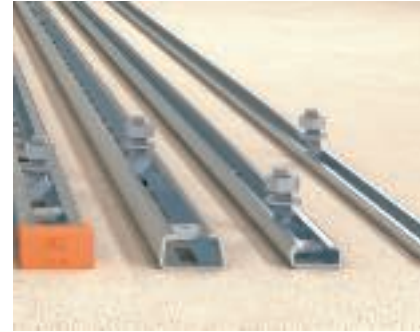
### Overview of profile rail variations

A large range of profile rails are available: various materials, various material thicknesses, various profiles with appropriate slot widths, various hole patterns and the required accessories for each profile, comprising slide nuts, hammer-head bolts and BBS clamp clips.



### Protective cap application

The OBO product range contains orange protective caps for some of the profile rails, in order to minimise the risk of injury.



### Use of hammer-head bolts

Hammer-head bolts and slide nuts allow fastening of additional components on profile rails. Hammer-head bolts and slide nuts are adjusted to the slot width of the profile rail and can be shifted within the profile rail.



### Clamp clip mounting in profile rails

With the different base shapes, BBS clamp clips can be suspended in the appropriate slot widths of the profile rails.



### Fastening the clamp clips

Clamp clips can be fastened to the profile rails to fix cables or pipes.



### Series clip application

Cable weights can be supported beneath a switch and distributor cabinet using series clips of types 2049–2055. Series clips can be moved in the profile rail, cables are clamped between two clips.



### Rung seat in steel girder

Direct fastening (clamping) of the rung seat, type SAA, with profile rail, type CPS 4, on steel girder.



### Constructions beneath steel girders

Profile rail, type 1269, combined with two beam clamps, type 328. This allows structures to be created under steel girders.



### Mounting of profile rails with clamping lug

Clamping lugs can be used to fasten profile rails under steel girders.

## Mounting aid, rail systems MS21/MS41



### Slide nut mounting in profile rails

The slide nuts for slot width 22 mm can be inserted into the profile rail MS 41 by sliding or turning them in.



### Shifting of the slide nut in profile rails

Pushing the sprung slide nut together unlocks the slide nut in the profile rail. This makes it easier to move the slide nut.



### Use of the hammer-head bolt

For the MS 41 profile rails there are hammer-head bolts fitted with a tensioning spring and toothing. The tensioning spring fixes the hammer-head bolt on the rail, thus simplifying installation, in particular in overhead mounting.



### Mounting of wall, floor and ceiling brackets

In conjunction with the holder, the MS 41 profile rail can be attached on the wall, on the floor and on the ceiling.

The profile rail is pushed on the holder and fastened using two bolts. For greater loads, we recommend a connection with 4 bolts.



### Mounting of the rail connector

The rail connector is used to interconnect two profile rails.



### Mounting of the rail connector

The profile rails are pushed onto the rail connector and connected using 2 bolts. Mounting with this rail connector ensures that there is no static weakpoint in the connection area of individual rails.



### Mounting bracket to connect profile rails

Panels and frames are erected using the mounting bracket. The profile rails can be interconnected at an angle of 45°.



### Omega clamp as connection element

The omega clamp is used to interconnect profile rails of various dimensions in a cross shape.



### 90° angle connector

The angle connector is used to interconnect two profile rails at a right angle.







**Cross-connector**

The connection plate is used when cross-connectors (4 profile rails MS 41) are to be interconnected.



**Application of the accessory MS21/MS41**

The overview shows application examples of the MS21/MS41 mounting rail range.





# Planning aids, BBS clamp clip systems

Mounting aid, BBS clamp clip systems

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## Mounting aid, BBS clamp clip systems



Clamp clips allow cables and pipes to be fastened to profile rails. Clamp clips are available with three standard base shapes and can be hooked into the appropriate slot widths of the profile rails. The component to be fastened is pressed onto the profile rail with the pressure trough of the clamp clip and held in place. Various versions of profile rails are available for mounting on angle or flat irons and on round profiles. There are special versions of BBS clips available for bundling multiple installation cables and fixing single-wire cables in rotary current systems.



# Mounting aid, BBS clamp clip systems



**Ceiling mounting**  
Cable mounting on profile rails with clamp clips.



**Ceiling mounting**  
Cable mounting on profile rails with clamp clips.



**Wall mounting**  
Cable mounting on profile rails with clamp clips.



**Wall mounting**  
Cable mounting on profile rails with clamp clips.



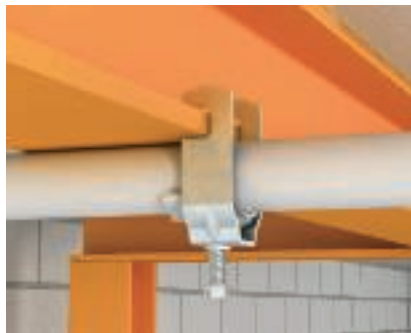
**Mounted clamp clips**  
Complete cable installations and mounting with clamp clips on wall and ceiling.



**Base shape variants**  
With the different base shapes, BBS clamp clips can be suspended in the appropriate slot widths of the profile rails.



**Mounting on angle profile**  
Clamp clips of type 2056W fasten cables or pipes to angle profile with a hip length of 40 mm.



**Mounting on flat iron**  
Clamp clips of type 2056F fasten cables or pipes to flat irons with a material thickness of 4–12 mm.



**Three single-wire clamp clip**  
The BBS clips 2056/E and 2056U/E are suitable for system routing of single-wire cables in rotary current networks. The arrangement of the external cables remove the magnetic fields, meaning that no excessively high heating need be expected.



**Bundle clip**  
Clamp clips of type 2056/B are particularly suitable for routing/fastening multiple installation cables in small areas.



**Pipe fastening with clamp clips**  
Clamp clips are also suitable for fastening pipes.





# Planning aids, screw-in and knock-in systems

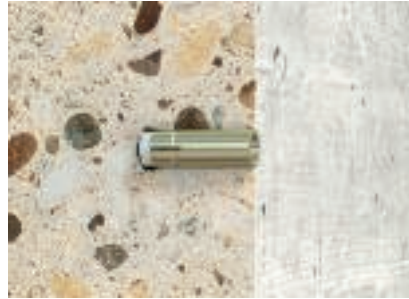


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## Information on screw-in and knock-in systems



With the friction closing method, the anchors/ties maintain their load through friction in the mounting substrate. Usually, push-through mounting is used here, in which the anchor/tie is pushed through the fastening hole of the mounting component and then both are fixed in the drill hole.



With fitting, the geometry of the anchor/tie adapts itself to the mounting substrate (drill hole). Here, pre-attachment mounting is used, in which the anchor/tie is first placed in the drill hole and the mounting part fastened separately afterwards.



The use of a mortar which fixes the anchor/tie in the mounting base is termed the material closing method.

### Selection criteria for ties and anchors

When selecting the anchor/tie, factors such as the substrate and its characteristics, the mounting type and the load of the anchor have a role to play. Therefore, the following basic questions should be asked when selecting the anchor/tie:

- What is the mounting substrate?
- Are there edge or axis spacings to be taken into account?
- How thick is the mounting substrate? Can I maintain the required drill hole depths?
- Which mounting type is the right one for fastening the component?
- Is the anchor/tie required for cracked or uncracked concrete?
- Is it an application for function maintenance? Do the anchors/ties have the appropriate approval?
- Are there any corrosion protection requirements of the anchor/tie?

### Requirements of the Model Building Regulations

To provide the core statement for supporting constructions, it is possible to quote the Model Building Regulations of November 2002. Paragraph 3 states, amongst other things, that "Systems are to be arranged, erected, modified and maintained in such a way that public safety and order, and in particular life, health and natural requirements for life, are not endangered". Therefore, for applications, for example, in the field of cable support systems, only approved ties and anchors should be used.



## Mounting aid, nails and OBO knock-in anchor



Many different materials are used in the construction industry. As an installation engineer, you must install anchors, bolts, knock-in anchors, nails and bolt ties in all kinds of wall materials. These different wall materials have different properties. Some substrates are hard, others soft, some are solid, whilst others have cavities. Therefore, we have matched our fastening components to the different wall properties. We can offer the right fastening material for any substrate.

## Mounting aid, nails and OBO knock-in anchor



**Sprint screw with angler straddling dowel**  
The Impu nail is placed in the separating retainers of the ribbon conductor.



**Siko nail application**  
The Siko nail is placed in the separating retainers of the ribbon conductor.



**Hook nail application**  
Knock the hook nail into the mounting substrate. Care must be taken here that the pipe is not deformed too much. For this reason, fastening cables with hook nails is critical.

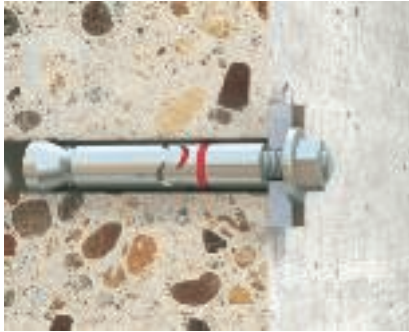


**Sprung hinged and tilting anchor application**  
OBO anchors 903 and 904 are simply knocked into the substrate without drilling. Special flatteners are available to knock the anchors in safely.



**OBO anchor application, type 903/RB with installation strip**  
OBO anchors without threads, such as the 903/RB, are suitable for fastening installation strips, for example on raw concrete.

## Mounting aid, anchor



### Heavy-duty anchor, type FH

Heavy-duty anchor, type FH, with M12 threaded connection for fastening components with large loads, load capacity 8.26 kN.



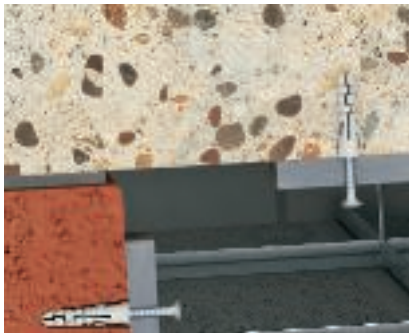
### Multipurpose anchors 910/MZ

Sprint screw 4759 in a multipurpose anchor 910/MZ, for use in hollow tiles. The multipurpose anchor locks into the cavity.



### Knock-in anchor, type 910/SD

Mounting parts are fastened in concrete or full brick using the push-through method using knock-in anchors 910/SD. The knock-in anchor is made of plastic and is knocked in together with the conical bolt. The fastening can be regulated by turning the bolt.



### Sprint screw with angler straddling dowel

Sprint screws 4759 and expansion anchors 910/N can be used to fasten components to concrete walls. Use on walls or under ceilings



### Porous concrete masonry

Plastic anchor, 910/GD, for knocking into gas or porous concrete and to accept Sprint screws.



### Hexagonal wood screw, type 12400

Components can be fastened to wooden beams or supports using wood screws. The wood screws have a hexagonal head as their drive.



### Fire protection bolt tie MMS

No plastic anchors are required for the use of a bolt tie. The bolt tie is screwed directly into the blown out hole.



### Tie bolt, type FAZ II

Tie bolt, type FAZ II, to fasten heavy-duty anchors in reinforced or non-reinforced normal concrete C20/25 to C50/60, suitable for push-through mounting, with connection thread M8, M10 or M12, load capacity 4.3 kN (M8), 7.6 kN (M10), 11.9 kN (M12). Suitable for function maintenance.



### Angler anchor application with Sprint screw

Insert the angler anchor into the drill hole and fasten the clip using a Sprint screw.



**Knock-in anchor 910/SD application**

Push the knock-in anchor 910/SD through the fastening hole of the mounting hole and into the drill hole. Fix the knock-in anchor in the drill hole using the hammer. The spreading of the anchor means that the mounting part is fixed to the wall or under the ceiling.



**Knock-in anchor 910/SD-Q application**

The knock-in anchor, type 910/SD-Q, is pushed into through the fastening hole of the Quick clip. The knock-in anchor is fixed in the drill hole using a screwdriver and a hammer. The spreading of the anchor means that the clip is fixed to the wall or under the ceiling.



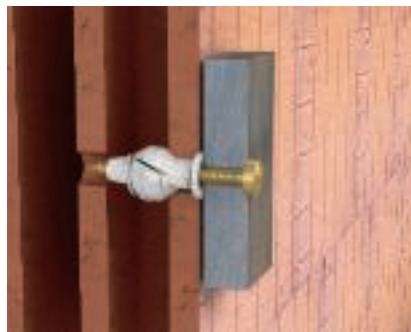
**Metal spreading anchor MD application**

In low-resistance porous concrete, knock in the metal spreading anchor directly.



**Metal spreading anchor MD application**

Fasten the mounting section using a Sprint or Golden Sprint screw.



**Golden Sprint screw and multipurpose anchor**

The multipurpose anchors of type 910/MZ are suitable for hollow bricks, full brick and concrete. The moulded fins (rotation locks) prevent it from turning in the drill hole. The plastic edge prevents the anchor from slipping through the drill hole. The anchor locks into the cavity of cavity bricks. In solid, full-surface substrates, the anchor is kept in the drill hole by the pressure.



**Sprung hinged and tilting anchors**

Tilting or sprung hinged anchors are used for mounting on suspended ceilings or in cavity walls. The sprung-hinged mechanism means that the anchor can be inserted in a relatively small drill hole in the ceiling.



**Sprung hinged and tilting anchors**

The spreading of the side wings creates a contact surface on the plate. Turning the thread moves the hook to the right position and locks it with the nut.



**Gas concrete anchor application**

Knock the anchor directly into the porous concrete (gas concrete resistance class G2). With a resistance class of G4 or greater, a 5 or 6 mm hole should be predrilled.



**Gas concrete anchor application**

Fasten the Quick clip in the anchor using a Sprint screw.

## Mounting aid, bolts



### Ceiling hook application with multipurpose anchor

Using a screwdriver, turn the hook into the anchor at least as far as the end of the thread.



### Bolt tie MMS-ST application

Using steel cables or cable locks, luminaires can be mounted to the mounted ring eyelet, for example.



### GOLDEN SPRINT screw application

The GOLDEN SPRINT screws are ideally suited for fastening components together with angler or multipurpose anchors.



### GOLDEN SPRINT screw application

When using plastic anchors, the Hostafilon-coated surface and the two-gang thread of the bolt reduce the screw-in time considerably.



### GOLDEN SPRINT screw application

The GOLDEN SPRINT screws are available with Pozidrive or T-bit panheads.



### Hexagonal wood screw, type 12400








Components can be fastened to wooden beams or supports using wood screws. The wood screws have a hexagonal head as their drive.



### Fire protection bolt tie MMS

No plastic anchors are required for the use of a bolt tie. The bolt tie is screwed directly into the blown out hole.















## Test marks

	AENOR, Producto Certificado, Spain
	STOWARZYSZENIE ELEKTRYKÓW POLSKICH, Poland
	CEBEC, Belgium
	DEMKO, Danmarks Elektriske Materielkontrol, Denmark
	Det Norske Veritas
	ATEX certificate for explosive areas
	ELEKTROTECHNICKÝ ZKUŠEBNÍ ÚSTAV, Czech Republic
	FIMKO, Finland
	Russia, GOST The State Committee for Standards
	KEMA-KEUR, Netherlands
	Indication of metric products
	NEMKO, Norway
	AFNOR Quality symbol of the French standardisation institute
	Underwriters Laboratories Inc., USA + CSA, Canada
	Österreichischer Verband für Elektrotechnik, Austria
	INSTITUTO ITALIANO DEL MARCHO DI QUALITÀ, Italy
	Underwriters Laboratories Inc., USA
	SEMKO An Inchcape Testing Services Company, Sweden
	Eidgenössisches Starkstrominspektorat, Switzerland
	Underwriters Laboratories Inc., USA
	Underwriters Laboratories Inc., USA
	Verband der Elektrotechnik, Elektronik, Informationstechnik e.V., Germany





# Pictogram explanation






## Surfaces

	Strip-galvanised
st	Strip-galvanised/plastic-coated
	Bright
	Hot-dip galvanised
	Electro-galvanised
EI	Electrogalvanised/plastic-coated
	Electrogalvanised, yellow passivated
	Electrogalvanised, transparently passivated
	Hot-dip galvanised
	Copper-plated
	Nickel-plated
	Galvanised, Deltatone 500
	Galvanised, MAGNI 565
	Hot-dip galvanised/SOMY
	Zinc-aluminium coated, double-dip
	Zinc-aluminium coated, Galfan







## Conformity symbol

	Communautés Européennes, EC declaration of conformity according to EC directives
	RoHS-conformant




## Quality marks

	Halogen-free; without chlorine, fluorine and bromine
	Flame resistant 650 °C
	Flame resistant 750 °C
	Flame resistant 960 °C
	UV-RESISTANT




## Nominal cross-section

	Nominal cross-section 1.5 mm <sup>2</sup>
	Nominal cross-section 1.5–2.5 mm <sup>2</sup>
	Nominal cross-section 2.5 mm <sup>2</sup>
	Nominal cross-section 2.5–4 mm <sup>2</sup>
	Nominal cross-section 4 mm <sup>2</sup>
	Nominal cross-section 4–6 mm <sup>2</sup>











## Nominal cross-section

	Nominal cross-section 6 mm <sup>2</sup>
	Nominal cross-section 10 mm <sup>2</sup>
	Nominal cross-section 16 mm <sup>2</sup>














## Nominal voltage

	Nominal voltage 400 V
	Nominal voltage 500 V
	Nominal voltage 660 V

## Protection rating

	Protection rating IP 20
	Protection rating IP 30
	Protection rating IP 31
	Protection rating IP 54
	Protection rating IP 54
	Protection rating IP 55
	Protection rating IP 65
	Protection rating IP 66
	Protection rating IP 67
	Protection rating IP 68

## Entries

	4 cable entries
	6 cable entries
	7 cable entries
	8 cable entries
	9 cable entries
	10 cable entries
	12 cable entries
	10 cable entries ECO
	12 cable entries ECO
	14 cable entries ECO
	16 cable entries
	18 cable entries ECO
	24 cable entries






## Pictogram explanation













### Polarity

	3-pole
	5-pole
	7-pole
	8-pole
	10-pole
	12-pole

### Clamp clip base shapes

	Cable clip for C profile rail with slot width 11–12 mm
	Cable clip for C profile rail with slot width 16–17 mm
	Clamp clip for C profile rail with slot width 18–22 mm


### Slot widths

	Slot width 7.5 mm
	Slot width 11 mm
	Slot width 11–12 mm
	Slot width 12 mm
	Slot width 15 mm
	Slot width 16 mm
	Slot width 16.5 mm
	Slot width 16–17 mm
	Slot width 17 mm
	Slot width 18 mm
	Slot width 22 mm
	Slot width 35 mm





### Diameter

	Diameter 60 mm
	Diameter 68 mm
	Diameter 70 mm
	Diameter 74 mm





### Gland thread

	Thread metric
	Thread Pg





### Screw heads

	Phillips screw
	Torx screw
	Phillips screw
	Pozidrive



### Entry size

	M20 entry
	M25 entry
	M32 entry
	M40 entry



### Materials

	Flat steel
	Angular steel
	U steel
	Round material




### Firing devices

	Bolt-firing tool
	Nail device





### BSS test marks/material class

	Function maintenance class E30
	Function maintenance class E90

### KTS side heights

	Cable tray, side height 35 mm
	Cable tray, side height 60 mm
	Cable tray, side height 85 mm
	Mesh cable tray, slant height 35 mm
	Mesh cable tray, slant height 55 mm

### BSS function maintenance installation



	Escape route ceiling mounting with pressure clip
	OBO Grip, wall routing type
	OBO Grip, ceiling routing type
	Pressure clip, function maintenance, ceiling mounting

















# Pictogram explanation

















## BSS anchor

	Fire protection anchor
	Fire protection bolt tie

## Metals

	Aluminium
	Stainless steel, grade 304
	Stainless steel, 1.4307
	Stainless steel, grade 301
	Stainless steel, grade 316
	Stainless steel, grade 316 L
	Stainless steel, grade 354/1
	Stainless steel, grade 316 Ti
	Brass
	Steel
	Cast iron
	Die-cast zinc

## Plastics

	Acrylonitrile butadiene styrene
	Duroplast, Aminoplast, type 131.5
	Duroplast, melamine resin, type 150
	Ethylene vinyl acetate
	Fibre-proof material DIN 28091
	Rubber mixture
	Nitrile rubber
	Polyamide
	Polyamide, fibre-glass reinforced
	Polybutylene terephthalate
	Polycarbonate
	Polyethylene
	Polypropylene, fibre-glass reinforced
	Polystyrene
	Polyvinylchloride
	Cellular polyethylene



## Metallic materials

### **Alu — Aluminium**

**VA (1.4301) — Stainless steel, grade 304**

**VA (1.4307) — Stainless steel, 1.4307**

**VA (1.4310) — Stainless steel, grade 301**

**VA (1.4401) — Stainless steel, grade 316**

**VA (1.4404) — Stainless steel, grade 316 L**

**VA (1.4529) — Stainless steel, grade 354/1**

**VA (1.4571) — Stainless steel, grade 316 Ti**

### **CuZn — Brass**

**TG — Cast iron**  
Electrogalvanised

**St — Steel**

**Zn — Die-cast zinc**



# Plastic materials

## ABS/ASA — Acrylonitrile butadiene styrene

Temperature resistance: permanently up to 70 °C, briefly up to 85 °C and to about minus 40 °C.

### Resistant to

Formic acid, citric acid, lactic acid.

### Conditionally resistant to

Hydrochloric acid, sulphuric acid.

### Unstable with

Acetone, petrol, benzene, solvents for paints and butyric acid, chlorine, acetic acid, nitric acid.

### Risk of tension cracking

Relatively high, similar to polystyrene.

## UF — Duroplast, Aminoplast, type 131.5

for boxes, glands and clips

Temperature resistance:

permanently up to 65 °C, briefly up to 90 °C and to about minus 40 °C.

### Resistant to

Alcohol, ester, ether, benzene, petrol, mineral oils, greases, weak alkalis, water.

### Conditionally resistant to

Weak acids.

### Unstable with

Strong acids, strong alkalis.

### Risk of tension cracking

Low risk of stress cracks.

## MF — Duroplast, melamine resin, type 150

For terminal blocks

Temperature resistance:

permanently up to 80 °C, briefly up to 110 °C and to about minus 40 °C.

### Resistant to

Alcohol, ester, ether, benzene, petrol, mineral oils, greases, weak alkalis, water.

### Conditionally resistant to

Weak acids.

### Unstable with

Strong acids, strong alkalis.

### Risk of tension cracking

Low risk of stress cracks.

## EVA — Ethylene vinyl acetate

## FA — Fibre-proof material DIN 28091

To DIN 28091, asbestos-free

Temperature resistance:

up to 300 °C.

## NBR/SBR — Rubber mixture

## NBR — Nitrile rubber

Temperature resistance:

permanently up to 120 °C, briefly up to 150 °C, and to about minus 30 °C.

### Resistant to

Oils and petrol.

## PA — Polyamide

Temperature resistance:

permanently up to approx. 90 °C, briefly up to about 130 °C and to about minus 40 °C\*.

Chem. resistance generally as for polyethylene.

### Resistant to

Petrol, benzene, diesel oil, acetone, solvents for paints and lacquers, oils and greases.

### Unstable with

Bleach, most acids, chlorine.

### Risk of tension cracking

Low in air-humid conditions; only with some aqueous salt solutions.

Highly desiccated parts (high temperature and extremely low air humidity) are highly sensitive to fuels and various solvents.

## PA/GF — Polyamide, fibre-glass reinforced

Temperature resistance:

permanently up to 100–110 °C, briefly up to 160 °C and to about minus 40 °C\*.

### Resistant to

Petrol, benzene, diesel oil, acetone, solvents for paints and lacquers, oils and greases.

Slightly susceptible to stress-cracking.

### Unstable with

Bleach, most acids, chlorine.

### Risk of tension cracking

Low in air-humid conditions; only with some aqueous salt solutions.

Highly desiccated parts (high temperature and extremely low air humidity) are highly sensitive to fuels and various solvents.

## PBPT — Polybutylene terephthalate

Thermoplastic polyester

Temperature resistance:

permanently up to 120 °C, briefly up to 140 °C and to approx. minus 40 °C.

### Resistant to

Petrol, diesel oil, most weak acids, oils and greases.

### Conditionally resistant to

Acetone, ammonia, benzene.

### Unstable with

Strong acids, chlorine, fluorine, bromine vapour, bleach, trichloroethylene, methylene chloride.

### Risk of tension cracking

Low.

## PC — Polycarbonate

Temperature resistance:

permanently up to approx. 110 °C (in water 60 °C), briefly up to 125 °C, and to below minus 35 °C.

### Resistant to

Petrol, turpentine, most weak acids.

### Unstable with

Acetone, benzene, chlorine, methylene chloride, most concentrated acids.

### Risk of tension cracking

Relatively low.

Media which can cause tension cracking include benzene, aromatic hydrocarbons, methanol, butanol, acetone, turpentine.

## PE — Polyethylene

Temperature resistance:

hard types permanently up to about 90 °C, briefly up to about 105 °C, soft types permanently up to about 80 °C, briefly up to about 100 °C and to about minus 40 °C\*.

### Resistant to

Alkalis and inorganic acids.

### Conditionally resistant to

Acetone, organic acids, petrol, benzene, diesel oil, most oils.

### Unstable with

Chlorine, hydrocarbons, oxidising acids.

### Risk of tension cracking

Relatively high.

Stress cracks can be caused by, among other things, acetone, various alcohols, formic acid, ethanol, petrol, benzene, butyric acid, acetic acid, formaldehyde, various oils, petroleum, propanol, nitric acid, hydrochloric acid, sulphuric acid, soap solutions, turpentine, trichloroethylene, citric acid.

## PP — Polypropylene, fibre-glass reinforced

Temperature resistance:

permanently up to approx. 90 °C, briefly up to approx. 110 °C and to approx. minus 30 °C\*.

Chem. resistance generally as for polyethylene.

### Resistant to

Alkalis and inorganic acids.

### Conditionally resistant to

Acetone, organic acids, petrol, benzene, diesel oil, most oils.

### Unstable with

Chlorine, hydrocarbons, oxidising acids.

### Risk of tension cracking

Low, only with some acids such as chromic acid, hydrofluoric acid and hydrochloric acid, as well as nitrogen oxide.



# Plastic materials

## PS — Polystyrene

Temperature resistance:

Because of its relatively high sensitivity to the effects of chemicals, its use is not recommended at temperatures above normal room temperature, about 25 °C.

Resistance to cold: to about minus 40 °C\*.

### Resistant to

Alkalis, most acids, alcohol.

### Conditionally resistant to

Oils and greases.

### Unstable with

Butyric acid, concentrated nitric acid, concentrated acetic acid, acetone, ether, petrol and benzene, solvents for paints and lacquers, chlorine, diesel fuel.

### Risk of tension cracking

Relatively high.

Stress cracks can be caused by, amongst other things, acetone, ether, petrol, cyclohexane, heptane, methanol, propanol and the softeners used in some PVC cable mixes.

## PVC — Polyvinylchloride

Temperature resistance:

permanently up to 65 °C, briefly up to 75 °C and to about minus 30 °C.

### Resistant to

Weak acids, alkalis, oils and greases, petrol.

### Unstable with

Strong acids, benzene, acetone, iodine, toluene, trichloroethylene.

### Risk of tension cracking

Low, only with some solvents such as benzene and acetone.

## ZPE — Cellular polyethylene

\*The minus values apply only for parts in the quiescent condition with no severe impact stress.

There is no plastic that is resistant to every chemical. The agents listed are only a small selection. Plastic parts are especially at risk in the presence of chemicals and high temperatures. Stress cracks may occur. If in doubt, please consult us and/or ask for a detailed chemical resistance table.

Stress crack formation: stress cracks may occur if plastic parts under tension are exposed to chemicals at the same time. Parts made of polystyrene and polyethylene are particularly susceptible. Stress cracks may even be caused by agents to which the plastic in question is resistant in the absence of stress. Typical examples of parts under constant stress when used as intended: grip clips, intermediate connectors of cable glands, ribbon clips.



# Chemical resistances of hard PVC

A = very good resistance  
B = average resistance  
C = not resistant

Medium	Temp. °C	Resistance
1.3-benzole disulphonic acid	20	A
1.3-butadiene	20	A
2.4-chlorobenzoyl chloride	20	A
2-amino-2.2-diphenylacetic acid	20	A
4-chlorine-2-nitroaniline	20	C
4-chlorobenzaldehyde-2-sulphonic acid	20	A
5-amino-2-hydroxybenzoic acid	20	A
Abietic acid	20	A
Acetaldehyde 100%	20	C
Acetaldehyde 40%	20	A
Acetaldehyde 40%	40	B
Acetaldehyde, acetic acid ratio 90:10	20	B
Acetanilide 100%	20	A
Acetates (ammonium-, Na- and others)	50	A
Acetic acid 10%	60	A
Acetic acid 100%	20	A
Acetic acid 100%	60	B
Acetic acid 25%	40	A
Acetic acid 25-70%	40	A
Acetic anhydride	20	C
Acetone	20	C
Acetophenone (methyl phenyl ketone)	20	C
Acetylacetone (2.4-pentanedione)	20	C
Acetylene 100%	20	B
Acetylsalicylic acid	20	A
Adipic acid	20	A
Adipic acid	60	B
Alcoholic drinks	< 40	A
Alizarin 100%	20	A
Alkanoic sulphonic acids	50	A
Allyl alcohol 100%	20	B
Allyl alcohol 100%	60	C
Allyl chloride	20	C
Aminobenzene (p-)	20	A
Aminobenzenesulphonic acid (m-, o-, p-)	20	A
Aminosalicylic acid (p-)	20	A
Ammonia (vapours of all concentrations)	40	A
Ammonia (vapours of all concentrations)	60	B
Ammonia, anhydrous, liquid	< 60	B
Ammonium hydroxide	60	A
Aniline 100%	20	A
Aniline chloride, saturated solution	20	C
Apple juice	60	A
Ascorbic acid	20	A
Aspartic acid	20	A
Beer	60	A
Benzine, containing benzole	20	C
Benzine, free from aromatic hydrocarbons	60	A
Benzoic acid	40	A
Benzoic anhydride	30	A
Benzole	20	C
Benzophenone 100%	20	C
Benzosulphonic acid	60	A
Benzotrifluoride	20	C
Benzotrifluoride	20	C
Benzoylbenzoic acid	20	A
Benzyl chloride	20	C
Betene	20	A
Bleaching liquor, 12% active chlorine	40	A
Bleaching liquor, 12% active chlorine	60	B
Blood	40	A
Boiled oil	60	C
Borates (NA-)	20	A
Borax	40	A
Boric acid	20	A
Brewer's wort	20	A
Brine	60	A
Bromates (K-, Na-)	40	A
Bromic acid	20	A
Bromides (K-, Na- and others)	60	A
Bromine water	20	A
Bromine, gaseous, dry	20	A
Bromine, liquid	20	C
Bromobenzene	20	C
Bromochloromethane	20	C
Bromochloropropane	20	C
Bromoform 100%	20	C
Butane, gaseous, 30%	20	A
Butanediol over 60%	40	B
Butanediol over 60%	20	C
Butanediol to 10%	20	A
Butanol	60	A
Buttermilk	20	A
Butyl acetate	20	C
Butyl butyrate	20	C
Butyl chloride	20	C
Butyl glycolate	20	C

A = very good resistance  
B = average resistance  
C = not resistant

Medium	Temp. °C	Resistance
Butyl phenoles	20	C
Butyric acid 100%	20	C
Butyric acid 20%	20	A
Butyric acid 20%	60	C
Carbon dioxide	60	A
Carbon disulphide 100%	20	B
Carbon monoxide	60	A
Castor oil	60	A
Chlorates (K-, Na- and others)	20	A
Chlorates (K-, Na- and others)	60	B
Chlorates (K-, Na- and others)	60	A
Chloric acid to 20%	40	A
Chloric acid to 20%	60	B
Chlorides (ammonium-, Na- and others)	20	A
Chlorine cyanide	20	A
Chlorine water (saturated solution)	20	B
Chlorine, gaseous, dry 0.5%	20	A
Chlorine, gaseous, dry 100%	20	B
Chlorine, gaseous, moist 5%	20	B
Chlorine, liquid	20	C
Chloroacetaldehyde	20	C
Chloroacetic acid	20	A
Chloroacetones	20	C
Chloroacetylchloride	20	C
Chloroanilines	20	C
Chlorobenzaldehyde	20	C
Chlorobenzene	20	C
Chlorobenzotrifluoride	20	C
Chlorobenzoylchloride	20	C
Chlorocresoles	20	C
Chloroethylbenzene	20	C
Chloroform	20	C
Chloronaphthalines	20	C
Chloronitrobenzoic acid	20	A
Chromates (K-, Na- to 50%)	50	A
Chrome alum	60	A
Chromic acid	30	A
Chromic acid to 50%	40	A
Citrates (ammonium-, Na)	20	A
Citric acid	20	A
Citric acid	60	B
Cresol	20	C
Cumene	20	C
Cyanacetic acid	20	C
Cyanamide	20	A
Cyanides (K-, Na- to 50%)	60	A
Cyclohexanol	20	C
Cyclohexanone	20	C
Developer	40	A
Dextrose	50	A
Dibromomethylene	20	C
Dibutyl phthalate	20	C
Dibutylxalate	20	C
Dichloroethylene	20	C
Dichloropropylene	20	C
Dichromates (K-, Na-)	50	C
Diethyl ether	20	C
Diethylamine 100%	20	C
Diethylene glycol	60	C
Dimethylether	20	C
Di-n-butylether	20	C
Diethylphthalate	20	C
Dioxan	20	C
Diphenyl	20	C
Diphenylamine	20	C
Ethane	20	A
Ethanol	40	A
Ethanolamine	20	B
Ethyl acetate	20	C
Ethyl acrylate	20	C
Ethyl chloride	20	C
Ethylbenzene	20	C
Ethylene glycol	20	A
Fish oil	20	A
Fixing bath	60	A
Fluorides (ammonium-, K-, Na- and others)	60	A
Fluorine	20	B
Fluorine	60	C
Formaldehyde	60	A
Formamide 100%	20	C
Formiates (ammonium- and others)	20	A
Formic acid 100%	20	B
Formic acid 100%	60	C
Formic acid 50%	40	A
Furfural	20	C
Furfuryl alcohol	20	C
Gelatine	60	A



# Chemical resistances of hard PVC

A = very good resistance  
B = average resistance  
C = not resistant

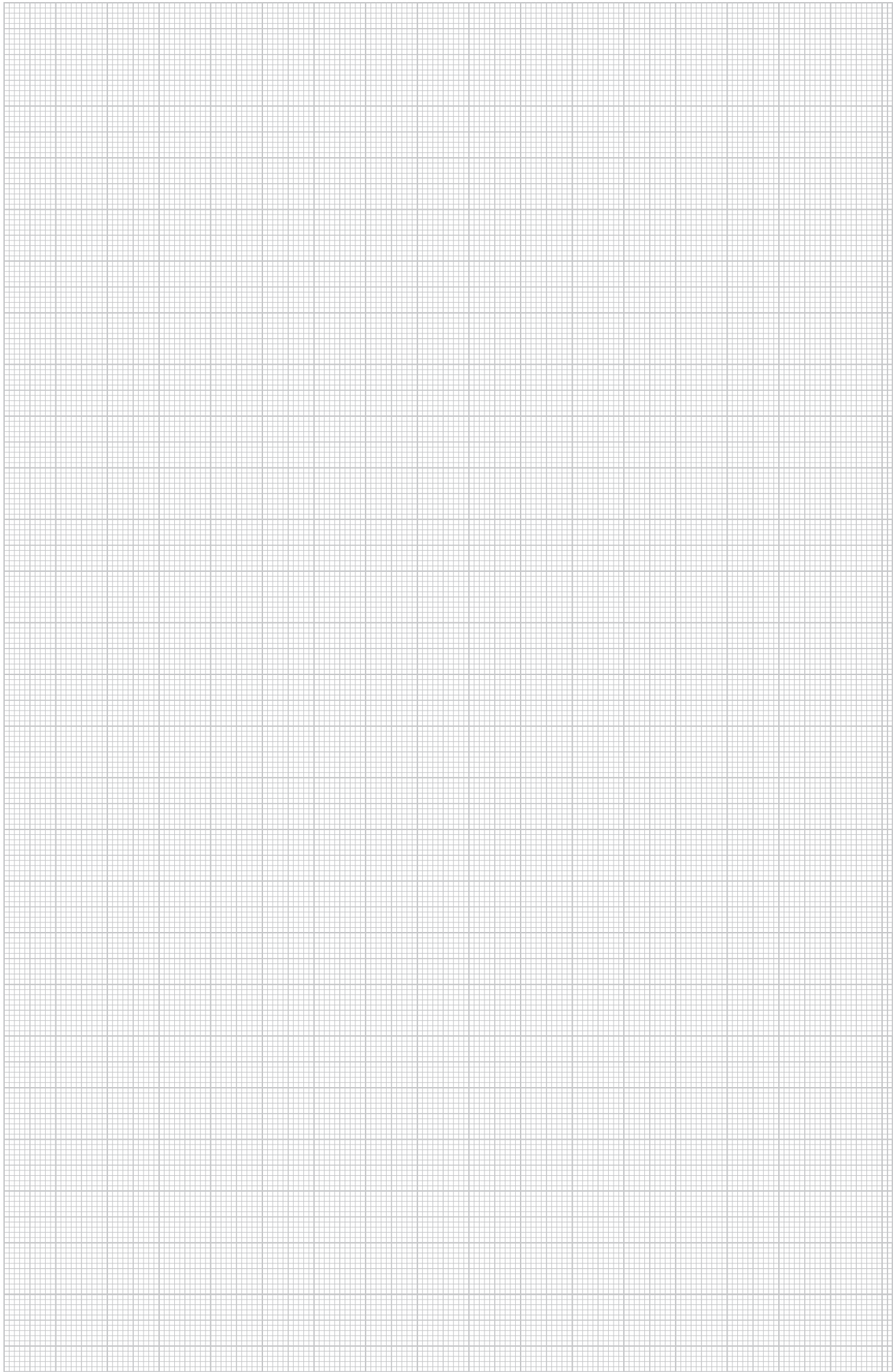
Medium	Temp. °C	Resistance
Gluconic acid	20	A
Glucose	60	A
Glutamic acid	20	A
Glycerine	60	A
Glycine	40	A
Glycol	60	A
Heptanes	20	A
Hexachloroethane	20	C
Hexacyanoferrates-II (Na-)	40	A
Hexacyanoferrates-III (K-)	40	A
Hexafluorosilicates (ammonium-, K- and others)	60	A
Hexafluorosilicic acid 32%	60	A
Hexamethylenetetramine (urotropine) 40% aqueous solution	60	A
Humic acids	20	A
Hydrazine, diluted solution 100%	20	C
Hydrazine, diluted solution 30%	20	A
Hydrobromic acid to 40%	60	A
Hydrochloric acid to 30%	20	A
Hydrochloric acid to 30%	60	B
Hydrochloric acid to 37%	20	A
Hydrochloric acid to 37%	40	B
Hydrofluoric acid to 40%	40	A
Hydrofluoric acid to 60%	60	B
Hydrogen bromide 100%	20	A
Hydrogen bromide 100%	60	B
Hydrogen chloride (gaseous, dry and moist)	40	A
Hydrogen cyanide	40	A
Hydrogen peroxide to 30%	60	A
Hydrogen peroxide to 90%	20	A
Hydrogen sulphide	60	A
Hydroxides (alkaline-earth metal)	60	A
Hydroxides (K-, Na-)	60	A
Hypochlorites (K-, Na- and others)	60	A
hypochlorous acid	60	A
illuminating gas	20	A
Iodates (K-, Na- and others)	60	A
Iodides (K-, Na-)	60	A
Iodine	20	C
Isobutylphosphate	20	C
Lactic acid 10%	20	A
Lactic acid 10%	60	C
Lactic acid 100%	20	C
Lard	20	A
Linoleic acid	60	A
Linseed oil	60	A
Malic acid	20	A
Material characteristics		
Methanol 100%	40	A
Methanol 100%	60	B
Methyl bromide	20	C
Methyl chloride	20	C
Methyl methacrylate	20	C
Methylamine	20	B
Methylene dichloride	20	C
Milk	20	A
Mineral oils	60	C
N,N-diethyl aniline	20	C
Naphthalene	20	C
Nitrates (ammonium-, K-, Na- and others)	60	A
Nitric acid 25%	20	A
Nitric acid 25%	60	B
Nitric acid 50%	20	A
Nitric acid 50%	50	B
Nitric acid 95%	20	C
Nitrites (K-, Na- and others)	60	A
Nitrobenzene	20	C
Nitrogen oxide	20	C
Nitroglycerine	20	B
Nitrous acid to 50%	50	A
Nitrous acid to 98%	20	C
Oleic acid	60	A
Oxalates (ammonium-, K-, Na- and others)	60	A
Oxalic acid	40	A
Oxygen	60	A
Ozone 10%	30	A
Ozone 10%	60	B
Palmitic acid	20	A
Paraffin	40	A
Pentyl laurate	20	C
Pentylacetate	20	C
Pentylalcohol	60	A
Pentylchloride	20	C
Perbonate (K-)	60	A
Perchlorate	40	A
Perchloric acid 70%	20	A

A = very good resistance  
B = average resistance  
C = not resistant

Medium	Temp. °C	Resistance
Permanganate (K-) 6 to 15%	40	A
Permanganate (K-) 6 to 15%	60	B
Permanganate (K-) to 6%	60	A
Peroxymonosulphuric acid (Caro's acid)	20	A
Persulphate (Ammonium-, K-, Na- and others)	40	A
Petroleum	60	A
Phenol 1%	20	A
Phenol 90%	45	B
Phenylhydrazine	20	C
Phenylhydrazine chloride	20	B
Phenylhydrazine chloride	60	C
Phosgene, gaseous	20	A
Phosgene, gaseous	60	B
Phosgene, liquid	20	C
Phosphates (ammonium-, K-, Na- and others)	60	A
Phosphoric acid	40	A
Phosphoric acid	60	B
Phosphorus pentoxide	20	A
Propane	20	A
Propanol	60	A
Pyridine	20	A
Rhodianides (ammonium-, K-, Na- and others)	60	A
Salicylic acid	20	A
Silicates (K-)	20	A
Soap solution	40	A
Stearic acid	60	A
Sulphates (ammonium-, K-, Na- and others)	60	A
Sulphites (ammonium-, K-, Na- and others)	60	A
Sulphur dioxide, gaseous, dry and moist 100%	60	A
Sulphuric acid to 40%	20	C
Sulphuric acid to 50%	50	A
Sulphuric acid to 50%	60	A
Sulphuric acid to 80%	40	C
Sulphuric acid to 80%	60	B
Sulphuric acid to 96%	20	A
Sulphuric acid to 96%	60	B
Sulphuric acid, fuming (10% oleum)	20	C
Sulphurous acid	60	A
Tallow	60	A
Tan bark	20	A
Tar, free from aromatic hydrocarbons	20	A
Tartaric acid	60	A
Tetraethyl lead	60	A
Tetrafluoroboric acid	20	A
Tetrahydrofurane	20	C
Thickness	60	A
Toluene	20	A
Transformer oil	60	A
Trichloroethylene	20	C
Turpentine	20	A
Urea	60	C
Vegetable oils	40	A
Vinyl acetate	20	C
Viscose spinning solutions	60	A
Water	40	A
Water	60	B
Wine	40	A
Wine vinegar	50	A
Wood tar	20	C
Xylenes	20	C

Material properties of the hard PVC used  
Material description according to DIN 7748 PVC-U-E-D-080-04-28  
Tensile strength according to DIN 53 455 min. 40 N/mm<sup>2</sup>  
Elongation at tear according to DIN 53 455 min. 65%  
Puncture strength according to DIN 53 481 min. 20 KV/mm  
Surface resistance according to DIN 53 482 min. 10 10  
Thermoforming resistance according to DIN 53 460/B min. 75 °C  
Temperature resistance in the application max. 65 °C  
Flammability according to UL 94 Level V-0  
Material classification to DIN EN 4102, Class B1 and B2-tested



















## Junction box systems

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# Thermoplastic cable junction box, A series



## Junction box A 6

Type	Accessories	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
A 6	Without terminal strip	Light grey	10	10	2.500	2000 00 1
A 6 HF RW	Without terminal strip	Pure white	10	10	2.500	2000 00 5
A 6 HF RO	Without terminal strip	Red	10	10	2.500	2000 00 3

PE Polyethylene /100 pc.

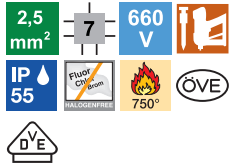
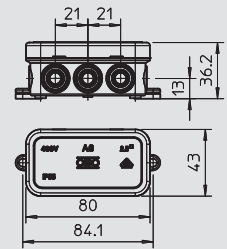
Protection rating IP55, nominal voltage 400 V, nominal cross-section 2,5 mm<sup>2</sup>, 6 entries for cable diameter 7-14 mm and 4 entries for cable diameter 7-9 mm.

Clamshell.

Dimensions: 80 x 43 x 34 mm

Clear internal dimensions: 70 x 32 x 31 mm

2 penetration mandrels for every 10 boxes



## Junction box A 8

Type	Accessories	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
A 8 5	1 terminal strip	Light grey	150	10	6.500	2000 02 4
A 8	Without terminal strip	Light grey	150	10	5.140	2000 01 6
A 8 HF RO	Without terminal strip	Red	150	10	5.140	2000 05 9
A 8 HF RW	Without terminal strip	Pure white	150	10	5.140	2000 07 5

PE Polyethylene /100 pc.

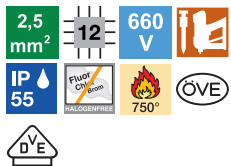
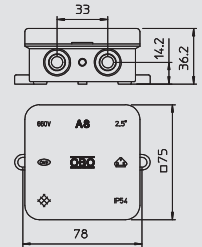
Protection rating IP54, nominal voltage 660 V, nominal cross-section 2,5 mm<sup>2</sup>, 7 entries for cable diameter 8-14 mm.

Clamshell.

Dimensions: 75 x 75 x 36.2 mm

Clear internal dimensions: 65 x 65 x 32 mm

2 penetration mandrels for every 10 boxes



## Junction box A 11

Type	Accessories	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
A 11 5	1 terminal strip	Light grey	80	10	7.640	2000 32 6
A 11	Without terminal strip	Light grey	80	10	6.200	2000 34 2
A 11 HF RO	Without terminal strip	Red	80	10	6.200	2000 16 4
A 11 HF RW	Without terminal strip	Pure white	80	10	6.200	2000 18 0

PE Polyethylene /100 pc.

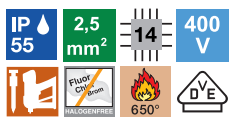
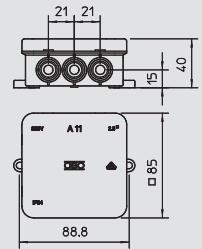
Protection rating IP54, nominal voltage 660 V, nominal cross section 2,5 mm<sup>2</sup>, 12 entries for cable diameter 8-14 mm.

Clamshell.

Dimension: 85 x 85 x 40 mm.

Clear internal dimensions: 75 x 75 x 35 mm.

Two penetration pins for every 10 sockets.



## Junction box A 14

Type	Accessories	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
A 14 5	1 terminal strip	Light grey	10	10	5.860	2000 38 2
A 14	Without terminal strip	Light grey	10	10	5.860	2000 37 8
A 14 HF RO	Without terminal strip	Red	10	10	5.860	2000 38 6
A 14 HF RW	Without terminal strip	Pure white	10	10	5.860	2000 39 0

PE Polyethylene /100 pc.

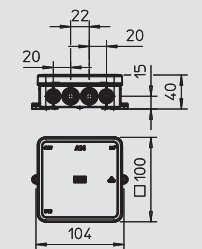
Protection rating IP55, nominal voltage 400 V, nominal cross-section 2,5 mm<sup>2</sup>, 14 pre-assembled entry nipples for cable diameters 7-13 mm.

Clamshell.

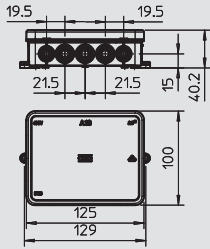
Dimensions: 100 x 100 x 40 mm

Clear internal dimensions: 90 x 90 x 35 mm

2 penetration mandrels for every 10 boxes



# Thermoplastic cable junction box, A series



## Junction box A 18

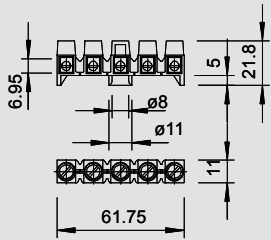


Type	Accessories	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>A 18 5</b>	1 terminal strip	Light grey	10	10	6.960	<b>2000 41 4</b>
<b>A 18</b>	Without terminal strip	Light grey	10	10	6.960	<b>2000 41 0</b>
<b>A 18 HF RO</b>	Without terminal strip	Red	10	10	6.960	<b>2000 41 8</b>
<b>A 18 HF RW</b>	Without terminal strip	Pure white	10	10	6.960	<b>2000 42 2</b>

**PE** Polyethylene /100 pc.  
 Protection rating IP55, nominal voltage 400 V, nominal cross-section 2,5 mm<sup>2</sup>, 18 pre-assembled entry nipples for cable diameters 7-13 mm.  
 Clamshell.  
 Dimensions: 125 x 100 x 40 mm  
 Clear internal dimensions: 115 x 90 x 35 mm  
 2 penetration mandrels for every 10 boxes



Junction box systems



## Terminal strip, junction box, A series

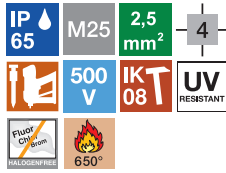


Type	Colour	No. of screwless terminals	Nominal cross section mm <sup>2</sup>	Nominal voltage V	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>689</b>	Light grey	5	0.8-2.5	660	500	50	1.420	<b>2017 34 2</b>

**PA** Polyamide /100 pc.  
 Terminal strip, nickel-plated brass, steel screws, galvanised and transparently passivated, nominal cross-section 0,8 - 2,5 mm<sup>2</sup>, nominal voltage 660 V, 5-pole, with terminal sockets, max. connectable cross-sections per terminal: 4 x 2.5 mm<sup>2</sup>, 5 x 1.5 mm<sup>2</sup> or 6 x 1 mm<sup>2</sup>, unnecessary poles can be cut off and used as individual terminals.



# Thermoplastic junction box, T series



## Junction box T 25, plug-in seal

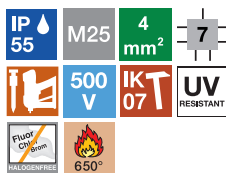
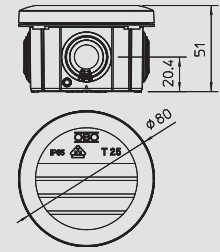
Type	Version	Entries	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
T 25	Standard	4 x M25	Light grey	125	5	4.190	2007 02 9
T 25 RW	—	4 x M25	Pure white	125	5	4.190	2007 50 9
T 25 F	960 °C flame-resistant	4 x M25	Light grey	125	5	4.190	2007 31 2
T 25 RO-LGR	With red lid.	4 x M25	Red grey	125	5	4.190	2007 62 2
T 25 HEB	—	4 x M25	Light ivory	125	5	4.190	2007 58 1
T 25 KL	With terminal strip	4 x M25	Light grey	125	5	6.400	2007 43 0

PP Polypropylene /100 pc.

The junction boxes are made of a thermoplastic polypropylene polymer with plug-in seals made of ethylene vinyl acetate (EVA). This plastic is soft, which means that it is malleable. This allows installation of cables either directly through the 4 x M25 seals, or the seals can be cut with a knife at the pre-marked points, in order to create an insertion opening for cables or pipes. In addition, cable glands can be inserted through the openings instead of the seals and locked with a locknut from inside.

The cable junction boxes can be screwed onto an M6 thread or mounted on mounting plates in the openings on the floor using steel bolts 3.5 x 9.5.

Clear internal dimensions: Ø63 x 45 mm.  
Cover with labelling panel.



## Junction box T 40, plug-in seal

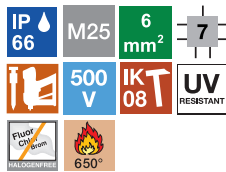
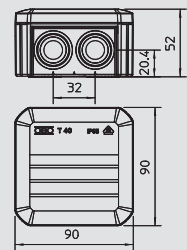
Type	Version	Entries	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
T 40	Standard	7 x M25	Light grey	80	5	6.700	2007 04 5
T 40 RW	—	7 x M25	Pure white	80	5	6.700	2007 51 7
T 40 F	960 °C flame-resistant	7 x M25	Light grey	80	5	6.700	2007 32 0
T 40 RO-LGR	With red lid	7 x M25	Red grey	80	5	6.700	2007 63 0
T 40 HEB	—	7 x M25	Light ivory	80	5	6.700	2007 58 4
T 40 KL	With terminal strip	7 x M25	Light grey	80	5	8.900	2007 43 2

PP Polypropylene /100 pc.

The junction boxes are made of a thermoplastic polypropylene polymer with plug-in seals made of ethylene vinyl acetate (EVA). This allows installation of cables either directly through the 7 x M25 seals, or the seals can be cut with a knife at the pre-marked points, in order to create an insertion opening for cables or pipes. Alternatively, cable glands can be pushed through the openings instead of the seals and locked with a locknut from the inside.

The junction boxes can be mounted on mounting plates in the openings on the floor using steel screws 3.5 x 9.5.

Clear internal dimensions: 77 x 77 x 46 mm  
Cover with labelling panel and lead-sealed.



## Junction box T 60, plug-in seal

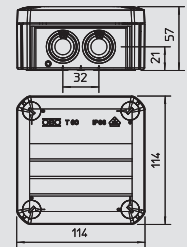
Type	Version	Entries	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
T 60	Standard	7 x M25	Light grey	60	5	12.300	2007 06 1
T 60 RW	—	7 x M25	Pure white	60	5	12.300	2007 52 5
T 60 F	960 °C flame-resistant	7 x M25	Light grey	60	5	12.300	2007 33 9
T 60 RO-LGR	With red cover	7 x M25	Red grey	60	5	12.300	2007 63 8
T 60 HEB	—	7 x M25	Light ivory	60	5	12.300	2007 58 7
T 60 KL	With terminal strip	7 x M25	Light grey	60	5	16.700	2007 43 4

PP Polypropylene /100 pc.

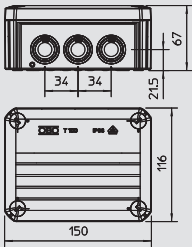
The junction boxes are made of a thermoplastic polypropylene polymer with plug-in seals made of ethylene vinyl acetate (EVA). This allows installation of cables either directly through the 7 x M25 seals, or the seals can be cut with a knife at the pre-marked points, in order to create an insertion opening for cables or pipes. Alternatively, cable glands can be pushed through the openings instead of the seals and locked with a locknut from the inside.

The junction boxes can be mounted on mounting plates in the openings on the floor using steel screws 3.5 x 9.5.

Clear internal dimensions: 100 x 100 x 48 mm  
Cover with labelling panel and lead-sealed.



# Thermoplastic junction box, T series



## Junction box T 100, plug-in seal

Type	Version	Entries	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>T 100</b>	Standard	10 x M25	Light grey	40	1	16.270	<b>2007 07 7</b>
<b>T 100 RW</b>	—	10 x M25	Pure white	40	1	16.270	<b>2007 53 3</b>
<b>T 100 M25-M32</b>	Large entry	8 x M25 2 x M32	Light grey	40	1	16.300	<b>2007 08 1</b>
<b>T 100 F</b>	960 °C flame-resistant	10 x M25	Light grey	40	1	16.270	<b>2007 34 7</b>
<b>T 100 RO-LGR</b>	With red lid	10 x M25	Red grey	40	1	16.270	<b>2007 64 4</b>
<b>T 100 HEB</b>	—	10 x M25	Light ivory	40	1	16.270	<b>2007 59 0</b>
<b>T 100 KL</b>	With terminal strip	10 x M25	Light grey	40	1	40.000	<b>2007 43 6</b>



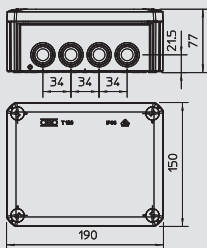
**PP** Polypropylene /100 pc.

The junction boxes are made of a thermoplastic polypropylene polymer with plug-in seals made of ethylene vinyl acetate (EVA). This allows installation of cables either directly through the 10 x M25 seals, or the seals can be cut with a knife at the pre-marked points, in order to create an insertion opening for cables or pipes. Alternatively, cable glands can be pushed through the openings instead of the seals and locked with a locknut from the inside.

The junction boxes can be mounted on mounting plates in the openings on the floor using steel screws 3.5 x 9.5.

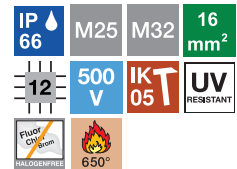
Clear internal dimensions: 136 x 102 x 57 mm

Cover with labelling panel and lead-sealed.



## Junction box T 160, plug-in seal

Type	Version	Entries	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>T 160</b>	Standard	7 x M25 5 x M32	Light grey	20	1	30.000	<b>2007 09 3</b>
<b>T 160 RW</b>	—	7 x M25 5 x M32	Pure white	20	1	30.000	<b>2007 54 1</b>
<b>T 160 M32</b>	Large entry	10 x M32	Light grey	20	1	30.000	<b>2007 09 7</b>
<b>T 160 F</b>	960 °C flame-resistant	7 x M25 5 x M32	Light grey	20	1	30.000	<b>2007 35 5</b>
<b>T 160 RO-LGR</b>	With red lid	7 x M25 5 x M32	Red grey	20	1	30.000	<b>2007 64 9</b>
<b>T 160 HEB</b>	—	7 x M25 5 x M32	Light ivory	20	1	30.000	<b>2007 59 3</b>
<b>T 160 KL</b>	With terminal strip	7 x M25 5 x M32	Light grey	20	1	64.200	<b>2007 44 0</b>



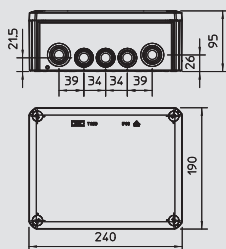
**PP/GF** Polypropylene, fibre-glass reinforced /100 pc.

The junction boxes are made of a thermoplastic polypropylene polymer with plug-in seals made of ethylene vinyl acetate (EVA). This allows installation of cables either directly through the 7x M25 + 5x M32 seals, or the seals can be cut with a knife at the pre-marked points, in order to create an insertion opening for cables or pipes. Alternatively, cable glands can be pushed through the openings instead of the seals and locked with a locknut from the inside.

The junction boxes can be mounted on mounting plates in the openings on the floor using steel screws 3.5 x 9.5.

Clear internal dimensions: 176 x 135 x 67 mm

Cover with labelling panel and lead-sealed.



## Junction box T 250, plug-in seal

Type	Version	Entries	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>T 250</b>	Standard	9 x M25 7 x M32	Light grey	8	1	50.000	<b>2007 10 9</b>
<b>T 250 RW</b>	—	9 x M25 7 x M32	Pure white	8	1	50.000	<b>2007 55 4</b>
<b>T 250 F</b>	960 °C flame-resistant	9 x M25 7 x M32	Light grey	8	1	50.000	<b>2007 36 3</b>
<b>T 250 RO-LGR</b>	With red lid	9 x M25 7 x M32	Red grey	8	1	50.000	<b>2007 65 7</b>
<b>T 250 HEB</b>	—	9 x M25 7 x M32	Light ivory	8	1	50.000	<b>2007 59 6</b>
<b>T 250 KL</b>	With terminal strip	9 x M25 7 x M32	Light grey	8	1	79.500	<b>2007 44 4</b>



**PP/GF** Polypropylene, fibre-glass reinforced /100 pc.

The junction boxes are made of a thermoplastic polypropylene polymer with plug-in seals made of ethylene vinyl acetate (EVA). This allows installation of cables either directly through the 9x M25 + 7x M32 seals, or the seals can be cut with a knife at the pre-marked points, in order to create an insertion opening for cables or pipes. Alternatively, cable glands can be pushed through the openings instead of the seals and locked with a locknut from the inside.

The junction boxes can be mounted on mounting plates in the openings on the floor using steel screws 3.5 x 9.5.

Clear internal dimensions: 225 x 173 x 86 mm

Cover with labelling panel and lead-sealed.

# Thermoplastic junction box, T series

Junction box systems



## Junction box T 350, plug-in seal

Type	Version	Entries	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
T 350	Standard	16 x M32 8 x M40	Light grey	5	1	63.000	2007 12 5
T 350 RW	—	16 x M32 8 x M40	Pure white	5	1	63.000	2007 56 8
T 350 F	960 °C flame-resistant	16 x M32 8 x M40	Light grey	5	1	63.000	2007 37 1
T 350 RO-LGR	With red lid	16 x M32 8 x M40	Red grey	5	1	63.000	2007 66 5
T 350 HEB	—	16 x M32 8 x M40	Light ivory	5	1	63.000	2007 59 9
T 350 KL	With terminal strip	16 x M32 8 x M40	Light grey	5	1	120.000	2007 44 8

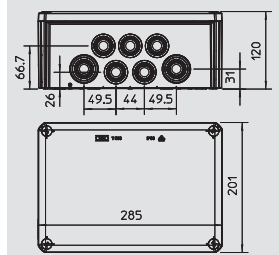
PP/GF Polypropylene, fibre-glass reinforced /100 pc.

The junction boxes are made of a thermoplastic polypropylene polymer with plug-in seals made of ethylene vinyl acetate (EVA). This allows installation of cables either directly through the 16x M32 + 8x M40 seals, or the seals can be cut with a knife at the pre-marked points, in order to create an insertion opening for cables or pipes. Alternatively, cable glands can be pushed through the openings instead of the seals and locked with a locknut from the inside.

The junction boxes can be mounted on mounting plates in the openings on the floor using steel screws 3.5 x 9.5.

Clear internal dimensions: 267 x 182 x 110 mm

Cover with labelling panel and lead-sealed.



## Junction box T 40, closed

Type	Version	Entries	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
T 40 OE	Closed	None	Light grey	80	5	6.300	2007 22 3

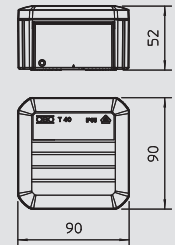
PP Polypropylene /100 pc.

The junction boxes are made of a thermoplastic polypropylene polymer with closed side walls. This means that the required openings can be made wherever they are required. EDK plug-in seals or cable glands with locknuts can be inserted in these openings, to allow cable insertion.

The junction boxes can be mounted on mounting plates in the openings on the floor using steel screws 3.5 x 9.5.

Clear internal dimensions: 77 x 77 x 46 mm

Cover with labelling panel and lead-sealed.



## Junction box T 60, closed

Type	Version	Entries	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
T 60 OE	Closed	None	Light grey	60	5	12.000	2007 23 9

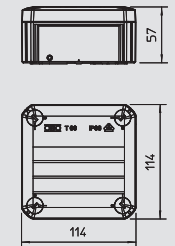
PP Polypropylene /100 pc.

The junction boxes are made of a thermoplastic polypropylene polymer with closed side walls. This means that the required openings can be made wherever they are required. EDK plug-in seals or cable glands with locknuts can be inserted in these openings, to allow cable insertion.

The junction boxes can be mounted on mounting plates in the openings on the floor using steel screws 3.5 x 9.5.

Clear internal dimensions: 100 x 100 x 46 mm

Cover with labelling panel and lead-sealed.



## Junction box T 100, closed

Type	Version	Entries	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
T 100 OE	Closed	None	Light grey	40	1	16.200	2007 25 5

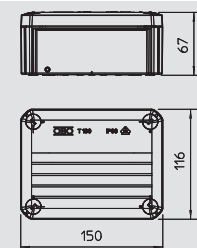
PP Polypropylene /100 pc.

The junction boxes are made of a thermoplastic polypropylene polymer with closed side walls. This means that the required openings can be made wherever they are required. EDK plug-in seals or cable glands with locknuts can be inserted in these openings, to allow cable insertion.

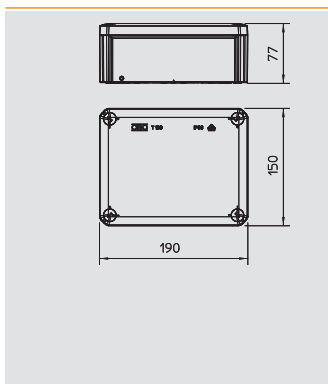
The junction boxes can be mounted on mounting plates in the openings on the floor using steel screws 3.5 x 9.5.

Clear internal dimensions: 136 x 102 x 57 mm

Cover with labelling panel and lead-sealed.



# Thermoplastic junction box, T series



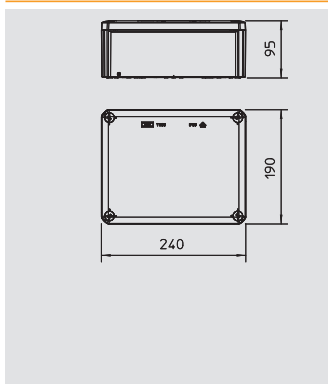
## Junction box T 160, closed

Type	Version	Entries	Colour	Shipping box	Pack.	Weight	Item No.
T 160 OE	Closed	None	Light grey	20 pcs	1	30.000	2007 27 1

PP/GF Polypropylene, fibre-glass reinforced /100 pc.

The junction boxes are made of a thermoplastic polypropylene polymer with closed side walls. This means that the required openings can be made wherever they are required. EDK plug-in seals or cable glands with locknuts can be inserted in these openings, to allow cable insertion. The junction boxes can be mounted on mounting plates in the openings on the floor using steel screws 3.5 x 9.5.

Clear internal dimensions: 176 x 135 x 67 mm  
Cover with labelling panel and lead-sealed.



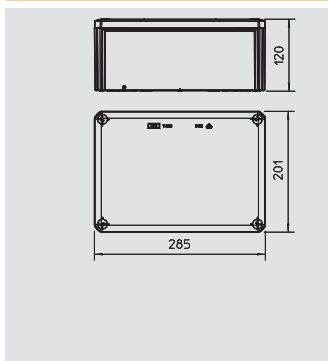
## Junction box T 250, closed

Type	Version	Entries	Colour	Shipping box	Pack.	Weight	Item No.
T 250 OE	Closed	None	Light grey	8 pcs	1	48.300	2007 28 7

PP/GF Polypropylene, fibre-glass reinforced /100 pc.

The junction boxes are made of a thermoplastic polypropylene polymer with closed side walls. This means that the required openings can be made wherever they are required. EDK plug-in seals or cable glands with locknuts can be inserted in these openings, to allow cable insertion. The junction boxes can be mounted on mounting plates in the openings on the floor using steel screws 3.5 x 9.5.

Clear internal dimensions: 225 x 173 x 86 mm  
Cover with labelling panel and lead-sealed.



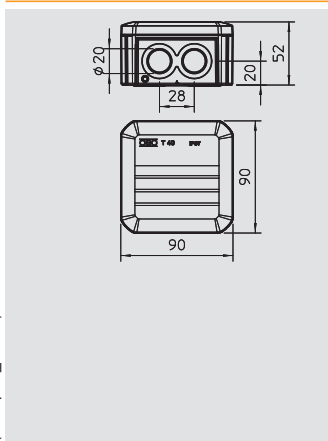
## Junction box T 350, closed

Type	Version	Entries	Colour	Shipping box	Pack.	Weight	Item No.
T 350 OE	Closed	None	Light grey	5 pcs	1	58.800	2007 30 3

PP/GF Polypropylene, fibre-glass reinforced /100 pc.

The junction boxes are made of a thermoplastic polypropylene polymer with closed side walls. This means that the required openings can be made wherever they are required. EDK plug-in seals or cable glands with locknuts can be inserted in these openings, to allow cable insertion. The junction boxes can be mounted on mounting plates in the openings on the floor using steel screws 3.5 x 9.5.

Clear internal dimensions: 267 x 182 x 110 mm  
Cover with labelling panel and lead-sealed.



## Junction box with premarking

Type	Version	Entries	Colour	Shipping box	Pack.	Weight	Item No.
T 40 M20	Closed	7 x Ø20	Light grey	80 pcs	5	6.100	2007 90 0
T 40 M20 KL	With terminal strip	7 x Ø20	Light grey	80 pcs	5	8.200	2007 90 4

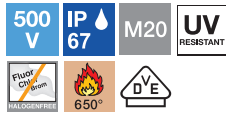
PP Polypropylene /100 pc.

The junction boxes are made of a thermoplastic polypropylene polymer with plug-in seals made of ethylene vinyl acetate (EVA). This allows installation of cables either directly through the 7 x Ø20 seals, or the seals can be cut with a knife at the pre-marked points, in order to create an insertion opening for cables or pipes. Alternatively, cable glands can be pushed through the openings instead of the seals and locked with a locknut from the inside.

The junction boxes can be mounted on mounting plates in the openings on the floor using steel screws 3.5 x 9.5.  
Clear internal dimensions: 77 x 77 x 46 mm  
Cover with labelling panel and lead-sealed.



# Thermoplastic junction box, T series



## Junction box with premarking

Type	Version	Entries	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
T 60 M20	Closed	7 x Ø20	Light grey	60	5	12.100	2007 91 0
T 60 M20 KL	With terminal strip	7 x Ø20	Light grey	60	5	16.500	2007 91 4

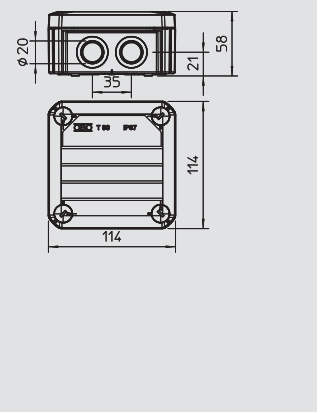
PP Polypropylene /100 pc.

The junction boxes are made of a thermoplastic polypropylene polymer with plug-in seals made of ethylene vinyl acetate (EVA). This allows installation of cables either directly through the 7 x Ø20 seals, or the seals can be cut with a knife at the pre-marked points, in order to create an insertion opening for cables or pipes. Alternatively, cable glands can be pushed through the openings instead of the seals and locked with a locknut from the inside.

The junction boxes can be mounted on mounting plates in the openings on the floor using steel screws 3.5 x 9.5.

Clear internal dimensions: 100 x 100 x 48 mm

Cover with labelling panel and lead-sealed.



## Plug-in seal for cables, T-series junction box

Type	Size	For Ø	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
EDK 25 LGR	M25 0-22	mm	Light grey	1000	100	0.180	2011 63 8
EDK 32 LGR	M32 0-27	mm	Light grey	300	50	0.260	2011 64 6
EDK 40 LGR	M40 0-34	mm	Light grey	300	25	0.430	2011 65 4
EDK 25 RW	M25 0-22	mm	Pure white	1000	100	0.180	2011 68 9
EDK 32 RW	M32 0-27	mm	Pure white	300	50	0.260	2011 69 7
EDK 40 RW	M40 0-34	mm	Pure white	300	25	0.430	2011 70 0

EVA Ethylene vinyl acetate /100 pc.

The plug-in seal can be cut back to suit the relevant cable diameter.

### Important dimensions, plug-in seal

G	L	A	D1	D2	D3	D4	D5	D6	D7	D8	D9
M25	10.1	2.2	29.5	25.4	0-5	4-10	9-15	14.5-18	18.5-22		
M32	11.4	2.2	36.4	32.3	0-5	4-10	9-15	14.5-18	18.5-22	24-27	
M40	13.4	2.2	44.1	40.2	0-5	4-10	9-15	14.5-18	18.5-22	24-27	31-34



## Plug-in seal for pipes, T-series junction box

Type	Size	For Ø	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
EDR 25 16-20 LGR	M25 16 & 20	mm	Light grey	50	50	0.520	2011 50 6
EDR 25 20-25 LGR	M25 20 & 25	mm	Light grey	50	50	0.680	2011 51 4
EDR 32 20-25 LGR	M32 20 & 25	mm	Light grey	50	50	1.020	2011 52 2
EDR 32 25-32 LGR	M32 25 & 32	mm	Light grey	50	50	1.170	2011 53 0
EDR 40 25-32 LGR	M40 25 & 32	mm	Light grey	25	25	1.950	2011 53 8
EDR 40 32-40 LGR	M40 32 & 40	mm	Light grey	25	25	2.200	2011 54 6

PVC Polyvinylchloride /100 pc.

Plug-in seals are used to run pipes tight to the junction box.

### Important dimensions, plug-in seal

G	L	A	D1	D2	D3	D4
M25	30	2.2	29.5	25.3	15.0	18.4
M25	30	2.2	29.5	25.3	18.5	24.2
M32	36	2.2	36.4	32.3	18.5	24.2
M32	36	2.2	37	32.3	24	31.2
M40	49	2.2	44.4	40.3	24	31.2
M40	49	2.2	46	42.3	31	39.2

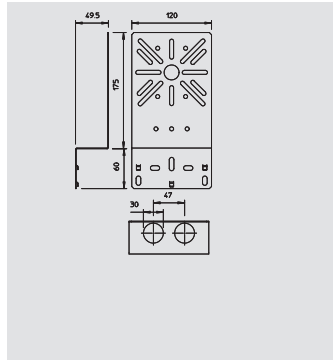
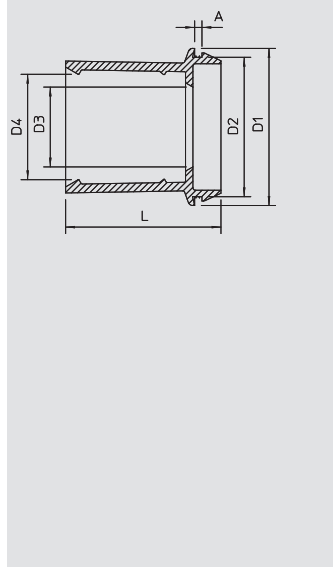


## Mounting plate, angled

Type	Height	Width	Pack. pcs	Weight kg/100 pcs.	Item No.
MP WI KL. FS	210	120	20	20.200	7084 76 5
MP WI KL. DD	210	120	20	20.200	7085 11 1

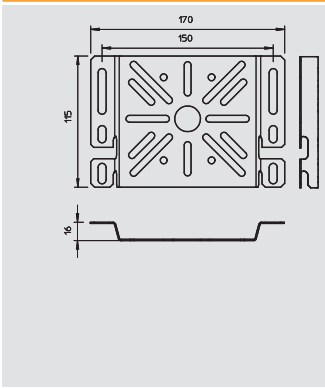
St Steel FS Strip-galvanised DD Zinc-aluminium coated, double-dip /pc.

Curved mounting plate, for fastening on the side rail of the cable tray.





# Thermoplastic junction box, T series

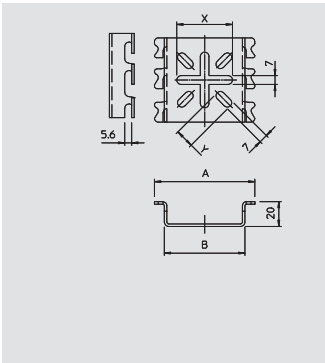


## Mounting plate for cable tray

Type	Height	Width	Pack.	Weight	Item No.
	mm	mm	pcs	kg/100 pcs.	
<b>MP UNI FS</b>	115	170	40	13.300	<b>7084 77 3</b>

**St** Steel **FS** Strip-galvanised /pc.

Mounting plate, for fastening on the side rail of cable support systems.

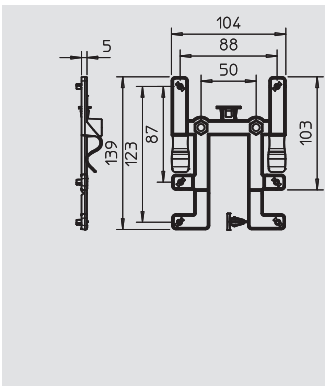


## Mounting plate for mesh cable tray

Type	Dimension A	Dimension B	Dimension x	Dimension y	Pack.	Weight	Item No.
	mm	mm	mm	mm	pcs	kg/100 pcs.	
<b>MPG 65 FT</b>	81	65	-	-	30	9.200	<b>6006 48 6</b>

**St** Steel **FT** Hot-dip galvanised /pc.

Mounting for screwless fastening on mesh cable trays.

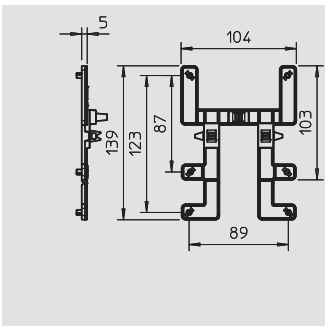


## Fastening element for cable tray

Type	Shipping box	Pack.	Weight	Item No.
	pcs	pcs	kg/100 pcs.	
<b>BE TS KR</b>	10	10	2.800	<b>2007 83 5</b>

**PC** Polycarbonate /100 pc.

The fastening element BE TS KR can be used to attach OBO junction boxes, type T60 and T100, to all standard cable trays in a few actions, quickly and without tools. This keeps the junction box securely in position. However, it can be quickly dismantled as necessary. This is all done without using tools.

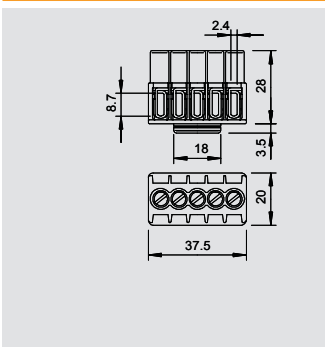


## Fastening element for mesh cable tray

Type	Shipping box	Pack.	Weight	Item No.
	pcs	pcs	kg/100 pcs.	
<b>BE TS GR</b>	10	10	2.300	<b>2007 83 3</b>

**PC** Polycarbonate /100 pc.

The fastening element BE TS GR can be used to attach OBO junction boxes, type T60 and T100, to all standard mesh cable trays in a few actions, quickly and without tools. This is all done without using tools. This keeps the junction box securely in position. However, it can be quickly dismantled as necessary.



## Terminal strip, junction box, T series

Type	Colour	No. of screwless terminals	Nominal cross section mm <sup>2</sup>	Nominal voltage V	Shipping box	Pack.	Weight	Item No.
					pcs	pcs	kg/100 pcs.	
<b>KL-T 01-04</b>	Light grey	5	1-4	400	100	10	2.100	<b>2016 18 0</b>

**PA** Polyamide /100 pc.

Steel terminal block and bolts, galvanised and transparently passivated, nominal 1 - 4 mm<sup>2</sup>, nominal voltage 400 V, 5-pole, with terminal sockets, Max. connectable cross-sections per terminal max. 4 x 2.5 mm<sup>2</sup>, 5 x 1.5 mm<sup>2</sup> or 6 x 1 mm<sup>2</sup>.



# Thermoplastic junction box, T series

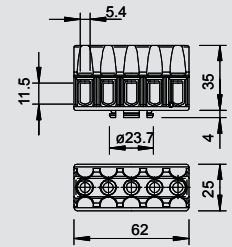
4-6 mm<sup>2</sup> 5 D'E



## Terminal strip, junction box, T series

Type	Colour	No. of screwless terminals	Nominal cross section mm <sup>2</sup>	Nominal voltage V	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>KL-T 02-06</b>	Light grey	5	1.5-6	400	120	10	4.380	<b>2016 18 5</b>

**PA** Polyamide /100 pc.  
Steel terminal block and bolts, galvanised and transparently passivated, nominal 1,5 - 6 mm<sup>2</sup>, nominal voltage 400 V, 5-pole, with terminal sockets, Max. connectable cross-sections per terminal: 3 x 6 mm<sup>2</sup>, 4 x 4 mm<sup>2</sup> or 6 x 2.5 mm<sup>2</sup>.



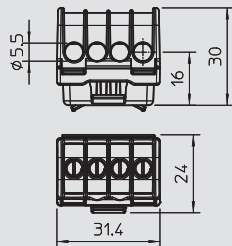
16 mm<sup>2</sup> D'E



## Terminal strip, junction box, T series

Type	Colour	No. of screwless terminals	Nominal cross section mm <sup>2</sup>	Nominal voltage V	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>KL-T 06-16</b>	Light grey	4	6-16	400	120	10	—	<b>2016 19 0</b>

**PA** Polyamide /100 pc.  
Brass terminals, steel screws, electrogalvanised and transparently passivated, nominal cross-section 6 - 16 mm<sup>2</sup>, nominal voltage 400 V, 1-pole, with terminal sockets, Max. connectable conductors per terminal max. 4 x 16 mm<sup>2</sup>, 4 x 10 mm<sup>2</sup>, 8x6 mm<sup>2</sup> or 12 x 4 mm<sup>2</sup>.



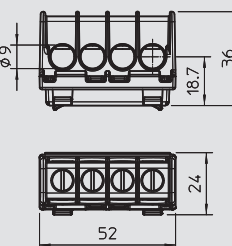
35 mm<sup>2</sup> D'E



## Terminal strip, junction box, T series

Type	Colour	No. of screwless terminals	Nominal cross section mm <sup>2</sup>	Nominal voltage V	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>KL-T 16-35</b>	Light grey	4	16-35	400	120	10	—	<b>2016 19 5</b>

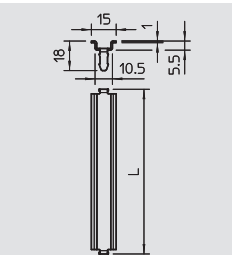
**PA** Polyamide /100 pc.  
Brass terminals, steel screws, electrogalvanised and transparently passivated, nominal cross-section 16 - 35 mm<sup>2</sup>, nominal voltage 400 V, 1-pole, with terminal sockets, Max. connectable conductors per terminal max. 4 x 35 mm<sup>2</sup>, 4 x 25 mm<sup>2</sup>, 8x16 mm<sup>2</sup> or 12 x 10 mm<sup>2</sup>.



## Hat profile rail, junction box T series

Type	Version	Length mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>46277 T160 Q GTP</b>	For T 160 lengthwise + T 100 crosswise	99	10	—	<b>1115 27 0</b>
<b>46277 T250 Q GTP</b>	For T 250 lengthwise + T 160 crosswise	139	10	—	<b>1115 27 4</b>
<b>46277 T250 L GTP</b>	For T 250 lengthwise	189	10	—	<b>1115 27 8</b>
<b>46277 T350 Q GTP</b>	For T 350 crosswise	161	10	—	<b>1115 28 2</b>
<b>46277 T350 L GTP</b>	For T 350 lengthwise	168	10	—	<b>1115 28 6</b>

**St** Steel **GTP** Electrogalvanised, transparently passivated /100 pc.  
Hat profile rail 15 x 5 mm to DIN EN 60715 (formerly DIN EN 50045).



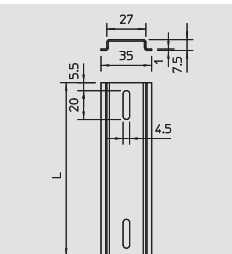
35 mm<sup>2</sup> D'E



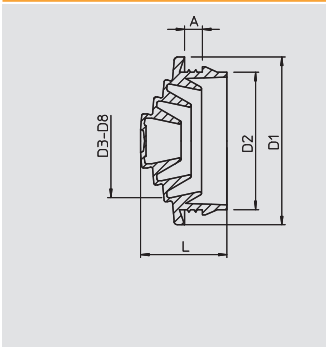
## Hat profile rail, junction box T series

Type	Version	Length mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>2069 T60 GTP</b>	For T 60 lengthwise + T 00 crosswise	89	10	3.070	<b>1115 38 0</b>
<b>2069 T100 GTP</b>	For T 100 lengthwise + T 160 crosswise	118	10	4.070	<b>1115 38 2</b>
<b>2069 T160 GTP</b>	For T 160 lengthwise + T 250, T350 crosswise	157	10	5.520	<b>1115 38 4</b>
<b>2069 T250 GTP</b>	For T 250 lengthwise	206	10	7.110	<b>1115 38 6</b>
<b>2069 T350 GTP</b>	For T 350 lengthwise	245	10	8.450	<b>1115 38 8</b>

**St** Steel **GTP** Electrogalvanised, transparently passivated /100 pc.  
Hat profile rail 35 x 7.5 mm to DIN EN 60715 (formerly DIN EN 50022).



# Thermoplastic junction box, T series



## Plug-in seal EDVS



Type	Size	For Ø	Colour	Shipping box	Pack.	Weight	Item No.
		mm		pcs	pcs	kg/100 pcs.	
<b>EDVS M20 LGR</b>	M 20	0-17	Light grey	1200	100	0.130	<b>2012 37 5</b>

PE Polyethylene

/100 pc.



The push-in nipple can be cut back to suit the relevant cable diameter.

### Important dimensions, plug-in seal

G	L	A	D1	D2	D3	D4	D5	D6	D7	D8
	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
M20	12.8	3.4	24.8	20.3	0 - 6	5 - 10	9 - 15	14 - 17		



# Thermoplastic junction box, T series with strain relief



## Junction box T 40 ZE, strain relief entry

Type	Version	Entries	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
T 40 ZE IP30-		7	Light grey	80	5	5.600	2007 80 1

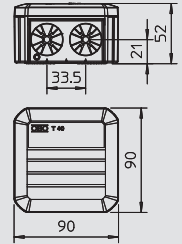
PP Polypropylene /pc.

The junction boxes are made of a thermoplastic polypropylene polymer and are equipped with special strain relief entries. These entries can be penetrated directly with the cables. The special structure of the opening means that the cables cannot be removed unintentionally. Suitable for cable diameters of between 7 and 21 mm.

The junction boxes can be mounted on mounting plates in the openings on the floor using steel screws 3.5 x 9.5.

Clear internal dimensions: 77 x 77 x 46 mm

Cover with labelling panel and lead-sealed.



## Junction box T 60 ZE, strain relief entry

Type	Version	Entries	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
T 60 ZE IP30-		7	Light grey	60	5	11.200	2007 80 3

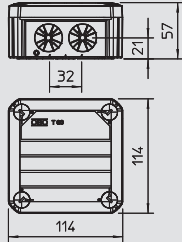
PP Polypropylene /pc.

The junction boxes are made of a thermoplastic polypropylene polymer and are equipped with special strain relief entries. These entries can be penetrated directly with the cables. The special structure of the opening means that the cables cannot be removed unintentionally. Suitable for cable diameters of between 7 and 21 mm.

The junction boxes can be mounted on mounting plates in the openings on the floor using steel screws 3.5 x 9.5.

Clear internal dimensions: 100 x 100 x 48 mm

Cover with labelling panel and lead-sealed.



## Junction box T 100 ZE, strain relief entry

Type	Version	Entries	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
T 100 ZE IP30-		10	Light grey	40	1	14.600	2007 80 5

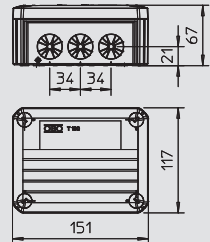
PP Polypropylene /pc.

The junction boxes are made of a thermoplastic polypropylene polymer and are equipped with special strain relief entries. These entries can be penetrated directly with the cables. The special structure of the opening means that the cables cannot be removed unintentionally. Suitable for cable diameters of between 7 and 21 mm.

The junction boxes can be mounted on mounting plates in the openings on the floor using steel screws 3.5 x 9.5.

Clear internal dimensions: 136 x 102 x 57 mm

Cover with labelling panel and lead-sealed.



## Junction box T 100 WB3, Wieland socket

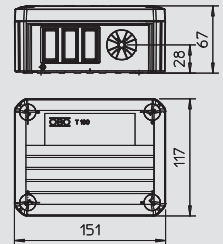
Type	Version	Entries	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
T 100 WB3	Without Wieland sockets	4	Light grey	40	1	14.600	2007 80 7

PP Polypropylene /pc.

The junction boxes are made of a thermoplastic polypropylene polymer and are equipped with strain relief entries and pre-terminated Wieland connection sockets, type GST-18-13 (s = black-/w = white). The strain relief entries can be penetrated directly with the cables. The special structure of the opening means that the cables cannot be removed unintentionally. Suitable for cable diameters of between 7 and 21 mm.

The junction boxes can be mounted on mounting plates in the openings on the floor using steel screws 3.5 x 9.5.

Cover with labelling panel and lead-sealed.



## Junction box T 100 WB5, Wieland socket

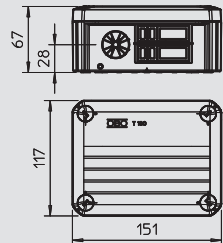
Type	Version	Entries	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
T 100 WB5-		4	Light grey	40	1	14.600	2007 84 0

PP Polypropylene /pc.

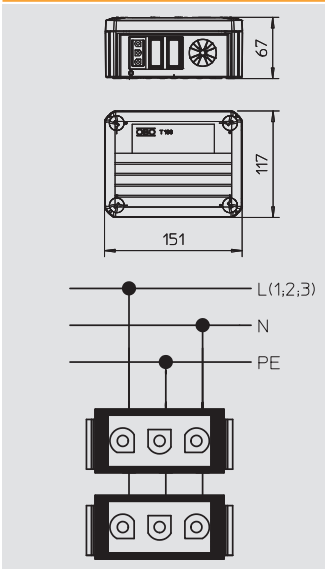
The junction boxes are made of a thermoplastic polypropylene polymer and are equipped with strain relief entries and pre-terminated Wieland connection sockets, type GST-18-13 (s = black-/w = white). The strain relief entries can be penetrated directly with the cables. The special structure of the opening means that the cables cannot be removed unintentionally. Suitable for cable diameters of between 7 and 21 mm.

The junction boxes can be mounted on mounting plates in the openings on the floor using steel screws 3.5 x 9.5.

Cover with labelling panel and lead-sealed.



# Thermoplastic junction box, T series with strain relief



## Junction box T 100 WB 2S3, Wieland socket



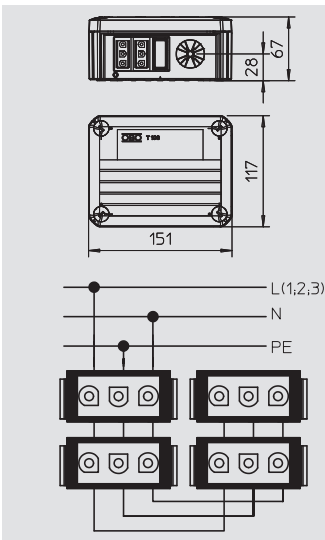
Type	Version	Entries	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>T 100 WB 2S3</b>	Wieland socket 2 s	4	Light grey	40	1	20.500	<b>2007 80 9</b>

PP Polypropylene /pc.

The junction boxes are made of a thermoplastic polypropylene polymer and are equipped with strain relief entries and pre-terminated Wieland connection sockets, type GST-18-13 (s = black-/w = white). The strain relief entries can be penetrated directly with the cables. The special structure of the opening means that the cables cannot be removed unintentionally. Suitable for cable diameters of between 7 and 21 mm.

The junction boxes can be mounted on mounting plates in the openings on the floor using steel screws 3.5 x 9.5.

Cover with labelling panel and lead-sealed.



## Junction box T 100 WB 4S3, Wieland socket



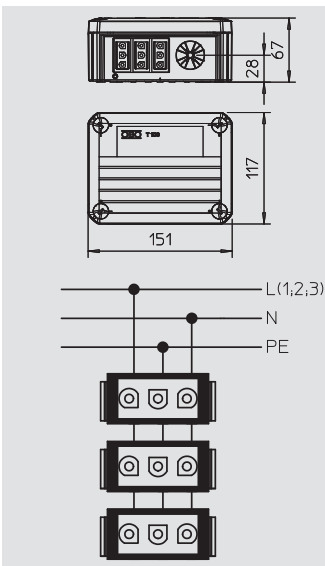
Type	Version	Entries	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>T 100 WB 4S3</b>	Wieland socket 4 s	4	Light grey	40	1	25.400	<b>2007 81 1</b>

PP Polypropylene /pc.

The junction boxes are made of a thermoplastic polypropylene polymer and are equipped with strain relief entries and pre-terminated Wieland connection sockets, type GST-18-13 (s = black-/w = white). The strain relief entries can be penetrated directly with the cables. The special structure of the opening means that the cables cannot be removed unintentionally. Suitable for cable diameters of between 7 and 21 mm.

The junction boxes can be mounted on mounting plates in the openings on the floor using steel screws 3.5 x 9.5.

Cover with labelling panel and lead-sealed.



## Junction box T 100 WB 3S3, Wieland socket



Type	Version	Entries	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>T 100 WB 3S3</b>	Wieland socket 3 s	4	Light grey	40	1	22.300	<b>2007 81 3</b>

PP Polypropylene /pc.

The junction boxes are made of a thermoplastic polypropylene polymer and are equipped with strain relief entries and pre-terminated Wieland connection sockets, type GST-18-13 (s = black-/w = white). The strain relief entries can be penetrated directly with the cables. The special structure of the opening means that the cables cannot be removed unintentionally. Suitable for cable diameters of between 7 and 21 mm.

The junction boxes can be mounted on mounting plates in the openings on the floor using steel screws 3.5 x 9.5.

Cover with labelling panel and lead-sealed.



01\_VBS\_Masterkatalog\_Länder\_2012 / en / 29/05/2012 (LLExpert\_01445) / 29/05/2012

Junction box systems

# Thermoplastic junction box, T series with strain relief



## Junction box T 100 WB6S 3x2, Wieland socket

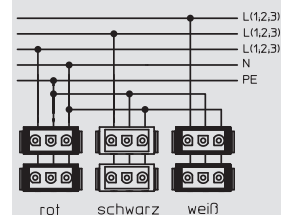
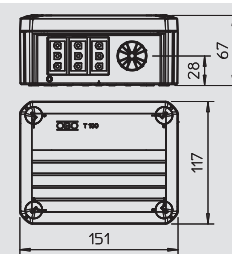
Type	Version	Entries	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>T 100 WB 6S 3x2</b>	W socket 3x2 (white; black; red)	4	Light grey	40	1	29.500	<b>2007 81 4</b>

PP Polypropylene

The junction boxes are made of a thermoplastic polypropylene polymer and are equipped with strain relief entries and pre-terminated Wieland connection sockets, type GST-18-13 (s = black-/w = white). The strain relief entries can be penetrated directly with the cables. The special structure of the opening means that the cables cannot be removed unintentionally. Suitable for cable diameters of between 7 and 21 mm.

The junction boxes can be mounted on mounting plates in the openings on the floor using steel screws 3.5 x 9.5.

Cover with labelling panel and lead-sealed.



## Junction box T 100 WB 1W3 1S3, Wieland socket

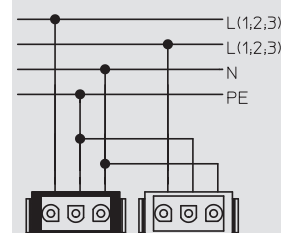
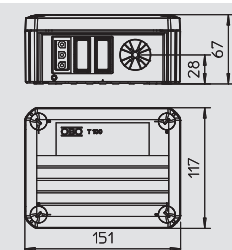
Type	Version	Entries	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>T 100 WB 1W3 1S3</b>	W socket 1w+1s	4	Light grey	40	1	21.600	<b>2007 81 5</b>

PP Polypropylene

The junction boxes are made of a thermoplastic polypropylene polymer and are equipped with strain relief entries and pre-terminated Wieland connection sockets, type GST-18-13 (s = black-/w = white). The strain relief entries can be penetrated directly with the cables. The special structure of the opening means that the cables cannot be removed unintentionally. Suitable for cable diameters of between 7 and 21 mm.

The junction boxes can be mounted on mounting plates in the openings on the floor using steel screws 3.5 x 9.5.

Cover with labelling panel and lead-sealed.



## Junction box T 100 WB 1W3 2S3, Wieland socket

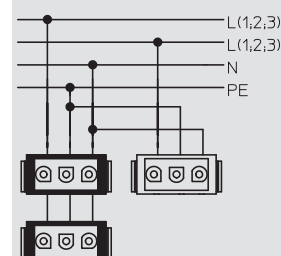
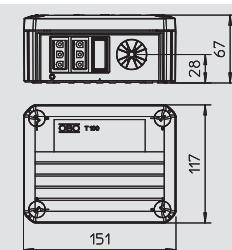
Type	Version	Entries	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>T 100 WB 1W3 2S3</b>	W socket 1w+2s	4	Light grey	40	1	23.600	<b>2007 81 7</b>

PP Polypropylene

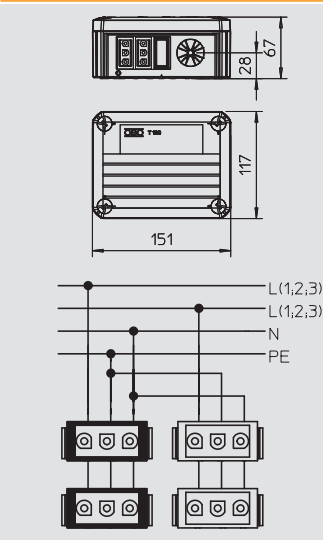
The junction boxes are made of a thermoplastic polypropylene polymer and are equipped with strain relief entries and pre-terminated Wieland connection sockets, type GST-18-13 (s = black-/w = white). The strain relief entries can be penetrated directly with the cables. The special structure of the opening means that the cables cannot be removed unintentionally. Suitable for cable diameters of between 7 and 21 mm.

The junction boxes can be mounted on mounting plates in the openings on the floor using steel screws 3.5 x 9.5.

Cover with labelling panel and lead-sealed.



# Thermoplastic junction box, T series with strain relief



## Junction box T 100 WB 2W3 2S3, Wieland socket



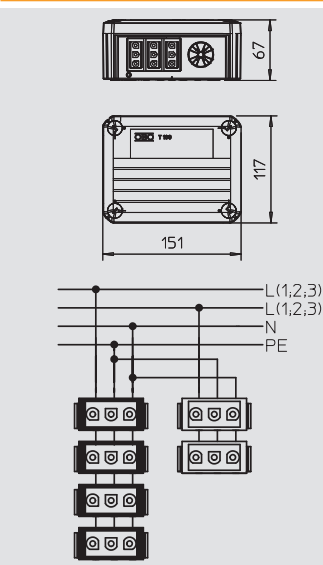
Type	Version	Entries	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
T 100 WB 2W3 2S3	W socket 2w+2s	4	Light grey	40	1	25.500	2007 81 9

PP Polypropylene /pc.

The junction boxes are made of a thermoplastic polypropylene polymer and are equipped with strain relief entries and pre-terminated Wieland connection sockets, type GST-18-13 (s = black-/w = white). The strain relief entries can be penetrated directly with the cables. The special structure of the opening means that the cables cannot be removed unintentionally. Suitable for cable diameters of between 7 and 21 mm.

The junction boxes can be mounted on mounting plates in the openings on the floor using steel screws 3.5 x 9.5.

Cover with labelling panel and lead-sealed.



## Junction box T 100 WB 2W3 4S3, Wieland socket



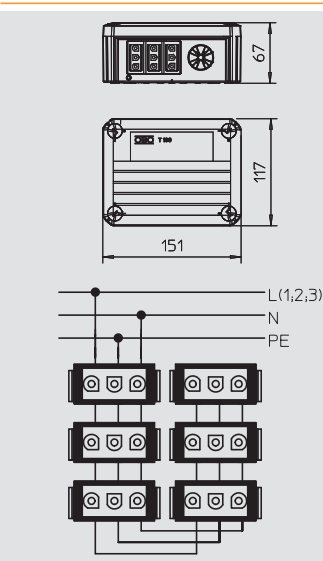
Type	Version	Entries	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
T 100 WB 2W3 4S3	W socket 2w+4s	4	Light grey	40	1	29.400	2007 82 0

PP Polypropylene /pc.

The junction boxes are made of a thermoplastic polypropylene polymer and are equipped with strain relief entries and pre-terminated Wieland connection sockets, type GST-18-13 (s = black-/w = white). The strain relief entries can be penetrated directly with the cables. The special structure of the opening means that the cables cannot be removed unintentionally. Suitable for cable diameters of between 7 and 21 mm.

The junction boxes can be mounted on mounting plates in the openings on the floor using steel screws 3.5 x 9.5.

Cover with labelling panel and lead-sealed.



## Junction box T 100 WB 6S3, Wieland socket



Type	Version	Entries	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
T 100 WB 6S3	W socket 6s	4	Light grey	40	1	29.400	2007 82 2

PP Polypropylene /pc.

The junction boxes are made of a thermoplastic polypropylene polymer and are equipped with strain relief entries and pre-terminated Wieland connection sockets, type GST-18-13 (s = black-/w = white). The strain relief entries can be penetrated directly with the cables. The special structure of the opening means that the cables cannot be removed unintentionally. Suitable for cable diameters of between 7 and 21 mm.

The junction boxes can be mounted on mounting plates in the openings on the floor using steel screws 3.5 x 9.5.

Cover with labelling panel and lead-sealed.



# Thermoplastic junction box, T series with strain relief



## Junction box T 100 WB 3S3 1S4, Wieland socket

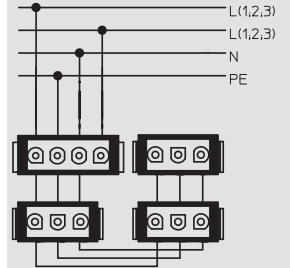
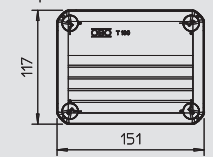
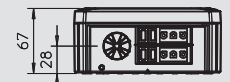
Type	Version	Entries	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
T 100 WB 3S3 1S4	—	4	Light grey	40	1	25.500	2007 84 4

PP Polypropylene /pc.

The junction boxes are made of a thermoplastic polypropylene polymer and are equipped with strain relief entries and pre-terminated Wieland connection sockets, type GST-18-13 (s = black-/w = white). The strain relief entries can be penetrated directly with the cables. The special structure of the opening means that the cables cannot be removed unintentionally. Suitable for cable diameters of between 7 and 21 mm.

The junction boxes can be mounted on mounting plates in the openings on the floor using steel screws 3.5 x 9.5.

Cover with labelling panel and lead-sealed.



## Junction box T 100 WB 2S4, Wieland socket

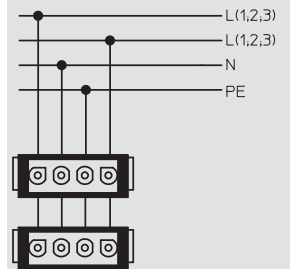
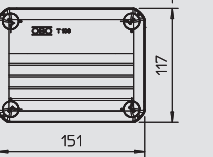
Type	Version	Entries	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
T 100 WB 2s4	—	4	Light grey	40	1	24.000	2007 84 8

PP Polypropylene /pc.

The junction boxes are made of a thermoplastic polypropylene polymer and are equipped with strain relief entries and pre-terminated Wieland connection sockets, type GST-18-13 (s = black-/w = white). The strain relief entries can be penetrated directly with the cables. The special structure of the opening means that the cables cannot be removed unintentionally. Suitable for cable diameters of between 7 and 21 mm.

The junction boxes can be mounted on mounting plates in the openings on the floor using steel screws 3.5 x 9.5.

Cover with labelling panel and lead-sealed.



## Junction box T 100 WB 2S5, Wieland socket

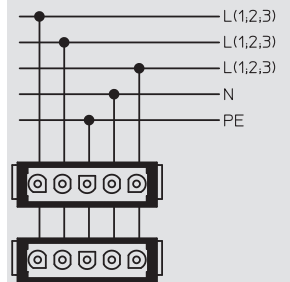
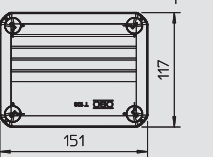
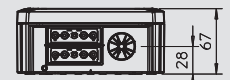
Type	Version	Entries	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
T 100 WB 2s5	—	4	Light grey	40	1	25.000	2007 85 2

PP Polypropylene /pc.

The junction boxes are made of a thermoplastic polypropylene polymer and are equipped with strain relief entries and pre-terminated Wieland connection sockets, type GST-18-13 (s = black-/w = white). The strain relief entries can be penetrated directly with the cables. The special structure of the opening means that the cables cannot be removed unintentionally. Suitable for cable diameters of between 7 and 21 mm.

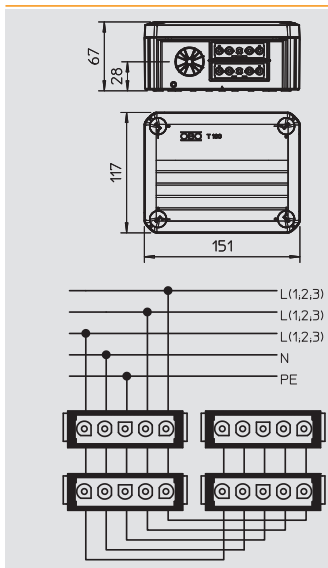
The junction boxes can be mounted on mounting plates in the openings on the floor using steel screws 3.5 x 9.5.

Cover with labelling panel and lead-sealed.





# Thermoplastic junction box, T series with strain relief



## Junction box T 100 WB 4s5, Wieland socket



Type	Version	Entries	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
T 100 WB 4s5	—	4	Light grey	40	1	28.000	2007 85 6

PP Polypropylene /pc.

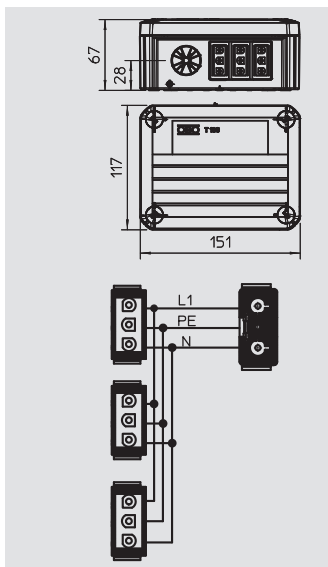
The junction boxes are made of a thermoplastic polypropylene polymer and are equipped with strain relief entries and pre-terminated Wieland connection sockets, type GST-18-13 (s = black-/w = white). The strain relief entries can be penetrated directly with the cables. The special structure of the opening means that the cables cannot be removed unintentionally. Suitable for cable diameters of between 7 and 21 mm.

The junction boxes can be mounted on mounting plates in the openings on the floor using steel screws 3.5 x 9.5.

Cover with labelling panel and lead-sealed.



Junction box systems



## Junction box T 100 WS 1S3 3S3A, Wieland connector and socket



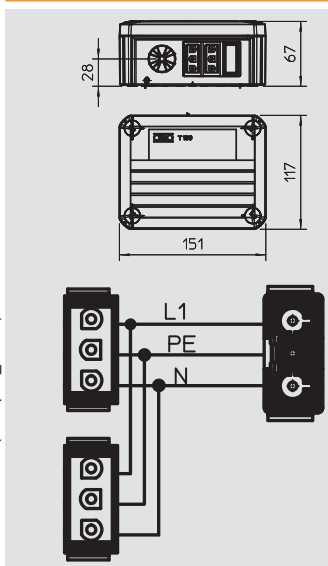
Type	Version	Entries	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
T100 WS 1S3 3S3A	—	4	Light grey	40	1	22.600	2007 87 0

PP Polypropylene /pc.

The junction boxes are made of a thermoplastic polypropylene polymer and are equipped with strain relief entries and pre-terminated Wieland connection sockets, type GST-18-13 (s = black-/w = white). The strain relief entries can be penetrated directly with the cables. The special structure of the opening means that the cables cannot be removed unintentionally. Suitable for cable diameters of between 7 and 21 mm.

The junction boxes can be mounted on mounting plates in the openings on the floor using steel screws 3.5 x 9.5.

Cover with labelling panel and lead-sealed.



## Junction box T 100 WS 1S3 2S3D, Wieland connector and socket



Type	Version	Entries	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
T100 WS 1S3 2S3D	—	4	Light grey	40	1	20.700	2007 87 6

PP Polypropylene /pc.

The junction boxes are made of a thermoplastic polypropylene polymer and are equipped with strain relief entries and pre-terminated Wieland connection sockets, type GST-18-13 (s = black-/w = white). The strain relief entries can be penetrated directly with the cables. The special structure of the opening means that the cables cannot be removed unintentionally. Suitable for cable diameters of between 7 and 21 mm.

The junction boxes can be mounted on mounting plates in the openings on the floor using steel screws 3.5 x 9.5.

Cover with labelling panel and lead-sealed.



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# Thermoplastic junction box, T series with strain relief



## Junction box T 100 WS 1S4 2S3C, Wieland connector and socket

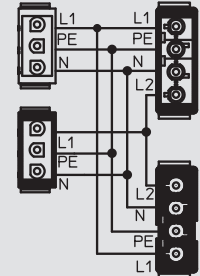
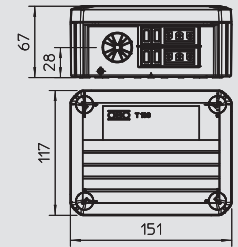
Type	Version	Entries	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>T100 WS 1S4 2S3C</b>	—	4	Light grey	40	1	24.500	<b>2007 87 4</b>

PP Polypropylene /pc.

The junction boxes are made of a thermoplastic polypropylene polymer and are equipped with strain relief entries and pre-terminated Wieland connection sockets, type GST-18-13 (s = black-/w = white). The strain relief entries can be penetrated directly with the cables. The special structure of the opening means that the cables cannot be removed unintentionally. Suitable for cable diameters of between 7 and 21 mm.

The junction boxes can be mounted on mounting plates in the openings on the floor using steel screws 3.5 x 9.5.

Cover with labelling panel and lead-sealed.



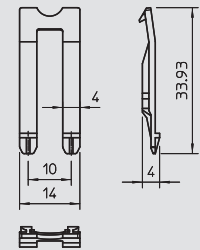
## Locking, junction boxes T100 Wieland



Type	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>TV WB SW</b>	100	0.050	<b>2007 86 0</b>
<b>TV WB WS</b>	100	0.050	<b>2007 86 5</b>

PA Polyamide /pc.

Zum nachträglichen Einbau in 3-, 4- oder 5 poligen Wielandsteckbuchsen. Somit können Wielandbuchsen nachträglich mit einer Zugentlastung ausgestattet werden.



## Junction box, T 100 MSD, 2 Modul 45 sockets in lid



Type	Version	Entries	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>T 100 2MSD WS</b>	2 sockets, 33° white	10	Light grey	5	1	25.850	<b>2007 82 1</b>
<b>T 100 2MSD RO</b>	2 sockets, 33° red	10	Light grey	5	1	25.000	<b>2007 82 3</b>

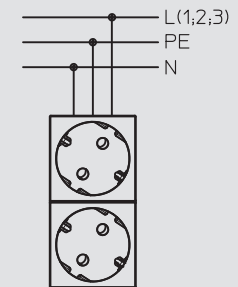
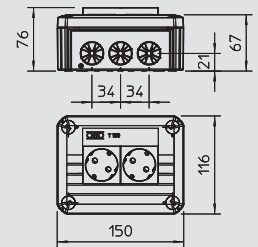
PP Polypropylene /pc.

The junction boxes are made of a thermoplastic polypropylene polymer and are equipped with strain relief entries. These entries can be penetrated directly with the cables. The special structure of the opening means that the cables cannot be removed unintentionally. Suitable for cable diameters of between 7 and 21 mm.

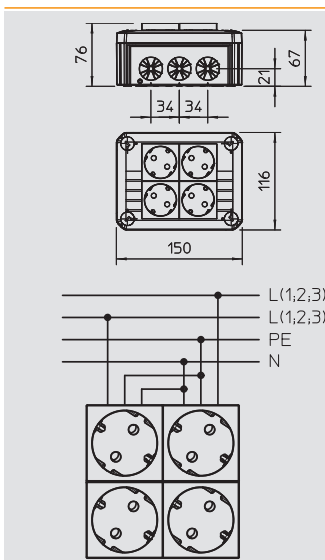
Depending on the type, the cover contains two or four Modul 45 protective contact sockets in red or white.

The junction boxes can be mounted on mounting plates in the openings on the floor using steel screws 3.5 x 9.5.

Cover can be lead-sealed, with labelling panel for double sockets.



# Thermoplastic junction box, T series with strain relief



## Junction box, T 100 MSD, 4 Modul 45 sockets in lid



Type	Version	Entries	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>T 100 4MSD WS</b>	4 sockets, 33° white	10	Light grey	5	1	35.200	<b>2007 82 5</b>

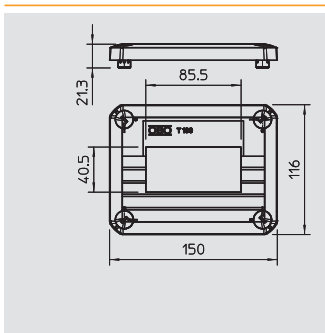
PP Polypropylene /pc.

The junction boxes are made of a thermoplastic polypropylene polymer and are equipped with strain relief entries. These entries can be penetrated directly with the cables. The special structure of the opening means that the cables cannot be removed unintentionally. Suitable for cable diameters of between 7 and 21 mm.

Depending on the type, the cover contains two or four Modul 45 protective contact sockets in red or white.

The junction boxes can be mounted on mounting plates in the openings on the floor using steel screws 3.5 x 9.5.

Cover can be lead-sealed, with labelling panel for double sockets.



## Junction box lid, T-100, unfitted for Modul 45 sockets

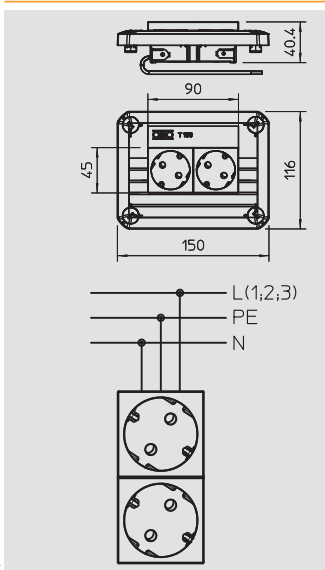


Type	Version	Entries	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>T 100 D MSD2A</b>	For 2 Modul 45 accessories	—	Light grey	8	1	6.200	<b>2007 82 6</b>

PP Polypropylene /pc.

Cover for T 100 propylene junction boxes. Depending on the type, opening for Modul 45 devices or with two or four Modul 45 protective contact sockets in white.

Cover can be lead-sealed, with labelling panel for double sockets.



## Junction box lid, T-100, with 2 Modul 45 sockets



Type	Version	Entries	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>T 100 D 2MSD RO</b>	2 sockets, 33° white	—	Light grey	4	1	15.600	<b>2007 82 4</b>

PP Polypropylene /pc.

Cover for T 100 propylene junction boxes. Depending on the type, opening for Modul 45 devices or with two or four Modul 45 protective contact sockets in white.

Cover can be lead-sealed, with labelling panel for double sockets.



# Thermoplastic junction box, T series with strain relief

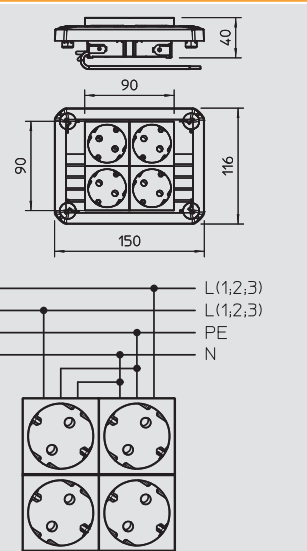


## Junction box lid, T-100, with 4 Modul 45 sockets

Type	Version	Entries	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>T 100 D 4MSD WS</b>	4 sockets, 33° white	—	Light grey	4	1	24.900	<b>2007 82 9</b>

**PP** Polypropylene

Cover for T 100 propylene junction boxes. Depending on the type, opening for Modul 45 devices or with two or four Modul 45 protective contact sockets in white. Cover can be lead-sealed, with labelling panel for double sockets.

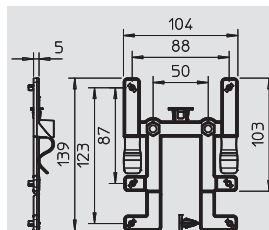


## Fastening element for cable tray

Type	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>BE TS KR</b>	10	10	2.800	<b>2007 83 5</b>

**PC** Polycarbonate

The fastening element BE TS KR can be used to attach OBO junction boxes, type T60 and T100, to all standard cable trays in a few actions, quickly and without tools. This keeps the junction box securely in position. However, it can be quickly dismantled as necessary. This is all done without using tools.

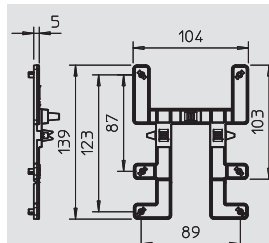


## Fastening element for mesh cable tray

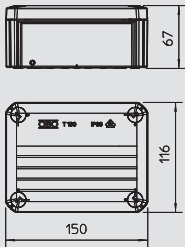
Type	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>BE TS GR</b>	10	10	2.300	<b>2007 83 3</b>

**PC** Polycarbonate

The fastening element BE TS GR can be used to attach OBO junction boxes, type T60 and T100, to all standard mesh cable trays in a few actions, quickly and without tools. This is all done without using tools. This keeps the junction box securely in position. However, it can be quickly dismantled as necessary.



# T series FireBox thermoplastic junction box



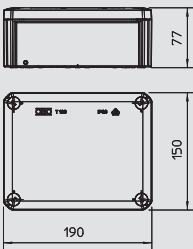
## Junction box, FireBox T 100



Type	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>T 100 E 4-5</b>	Pastel orange	17	1	27.400	<b>7205 51 0</b>

PP Polypropylene /pc.

Halogen-free junction box, approved for electrical function maintenance according to DIN 4102 Part 12. Function maintenance classes E30 to E90 Including premounted connection unit made of high temperature-resistant special ceramic and labelled protective conductor terminal. Supplied with fire protection screw ties for anchorless fastening.  
 Power cable nominal cross-sections: 1.5 to 4 mm<sup>2</sup>, data cables with 0.8 mm wire Ø. Maximum of 2 1.5 mm<sup>2</sup> rigid copper cables per terminal (remove wire protection).  
 High protection rating IP65, impact resistance class IK07. VDE-tested.  
 Details on the cable types and manufacturers can be found in the general construction test certificate of the material testing institute MPA NRW, Erwitte.  
 Number of terminals including protective conductor terminal  
 Internal clearance: 136 x 102 x 57 mm



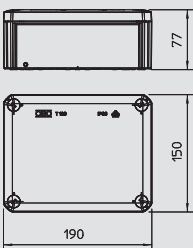
## Junction box, FireBox T 160



Type	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>T 160 E 10-5</b>	Pastel orange	5	1	48.700	<b>7205 52 4</b>
<b>T 160 E 16-5</b>	Pastel orange	5	1	53.800	<b>7205 52 8</b>

PP Polypropylene /pc.

Halogen-free junction box, approved for electrical function maintenance according to DIN 4102 Part 12. Function maintenance classes E30 to E90 Including premounted connection unit made of high temperature-resistant special ceramic and labelled protective conductor terminal. Supplied with fire protection screw ties for anchorless fastening.  
 Power cable nominal cross-sections: 10 mm<sup>2</sup>, data cables with 0.8 mm wire Ø. Maximum of 2 4 mm<sup>2</sup> rigid copper cables per terminal (remove wire protection).  
 High protection rating IP65, impact resistance class IK07. VDE-tested.  
 Details on the cable types and manufacturers can be found in the general construction test certificate of the material testing institute MPA NRW, Erwitte.  
 Number of terminals including protective conductor terminal  
 Internal clearance: 176 x 135 x 67 mm



## Junction box, FireBox T 160 D



Type	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>T 160 E 4-8D</b>	Pastel orange	5	1	46.500	<b>7205 52 0</b>

PP Polypropylene /pc.

Halogen-free junction box, approved for electrical function maintenance according to DIN 4102 Part 12. Function maintenance classes E30 to E90  
 Including premounted connection unit made of high temperature-resistant special ceramic with fire protection screw ties for anchorless fastening.  
 Nominal cross-section: data cables with 0.8 mm wire Ø.  
 High protection rating IP65, impact resistance class IK06. VDE-tested.



Details on the cable types and manufacturers can be found in the general construction test certificate of the material testing institute MPA NRW, Erwitte.

Number of terminals without protective conductor terminal  
 Internal clearance: 176 x 135 x 67 mm

# T series FireBox thermoplastic junction box



## Cable gland for FireBox

Type	Thread	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
V-TEC VM20 OR	M20 x 1,5	Pastel orange	600	50	0.860	7205 59 4
V-TEC VM25 OR	M25 x 1,5	Pastel orange	300	25	1.360	7205 59 7
V-TEC VM32 OR	M32 x 1,5	Pastel orange	240	20	2.240	7205 60 0
V-TEC VM40 OR	M40 x 1,5	Pastel orange	120	10	3.500	7205 60 3

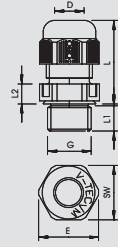
PA Polyamide /100 pc.

Robust cap nut cable gland with metric connecting thread to IEC 423. For high tightness requirements. Strain relief, wringing protection and tightness over the whole clamping area. Sealing ring made of polychloroprene/acrylnitrilbutadiene rubber. Moulded shaped sealing lip on intermediate support, no connection thread sealing ring required.

VDE-tested to DIN EN 50262, protection rating IP 68 at 5 bar for 1 hr.

For electrical function maintenance according to DIN 4102 Part 12 in connection with the junction boxes of the FireBox T series.

G	D	SW	E	L min.	L max.	L1	L2
	mm	mm	mm	mm	mm	mm	mm
M20 x 1.5	6 - 13	24	27	23.5	30.5	10	6
M25 x 1.5	9 - 17	29	32	26	35	10	6
M32 x 1.5	15 - 21	36	41	29	40	11	6
M40 x 1.5	16 - 28	44	50	36	46	11	7



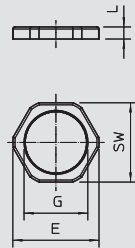
## Locknut for FireBox

Type	Thread	Colour	SW	Dimen- sion E	Dimen- sion L	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
			mm	mm	mm	pcs			
116 M20 OR PA	M20 x 1,5	Pastel orange	26	29	6	1200	100	0.250	7205 64 4
116 M25 OR PA	M25 x 1,5	Pastel orange	32	36	6.5	1000	100	0.350	7205 64 7
116 M32 OR PA	M32 x 1,5	Pastel orange	41	46	7	500	50	0.570	7205 65 0
116 M40 OR PA	M40 x 1,5	Pastel orange	50	56	7.5	250	25	0.470	7205 65 3

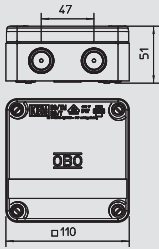
PA Polyamide /100 pc.

Locknut DIN 46319, with metric thread IEC 423.

For electrical function maintenance according to DIN 4102 Part 12 in connection with the junction boxes of the FireBox T series.



# B9/T thermoplastic cable junction box



## Junction box B 9/T, with perforation membrane

Type	Accessories	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>B 9 T M 5</b>	1 terminal strip	Light grey	40	5	17.500	<b>2001 84 5</b>
<b>B 9 T M</b>	–	Light grey	40	5	13.100	<b>2001 85 3</b>
<b>B 9 T M NL</b>	3 cable glands	Light grey	40	5	17.100	<b>2001 86 1</b>
<b>B 9 T M RO</b>	–	Red grey	40	5	13.100	<b>2001 88 8</b>

**PP** Polypropylene /100 pc.

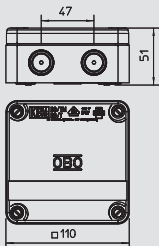
The wet-room junction box comprises two halogen-free plastic components, 8 threaded entries (M20 x 1.5), 1 additional entry in base with perforation membrane (for cable diameter up to 15 mm).

Where cable glands are used (giving additional strain relief) there is no need to remove the membrane (this saves time). Protection IP 67 with cable gland and for the perforation membrane.

Rated voltage 400 V; nominal cross-section 4 - 6 mm<sup>2</sup>.

The lid is sealed with 4 pre-fitted rapid fastenings (180°). The fastenings holes are additionally moulded with a soft plastic component for bolt ø 5 mm (spacing 75 mm).

2 fastening bolt caps and 1 fastening bolt.  
Clear internal dimensions: 98 x 98 x 40 mm



## Junction box B 9/T, without perforation membrane

Type	Accessories	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>B 9 T 5</b>	–	Light grey	40	5	17.500	<b>2001 80 2</b>

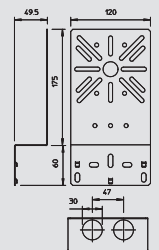
**PP** Polypropylene /100 pc.

B9/T...: Comprises 2 halogen-free plastics components, 8 threaded entries (PG16) with push-through membrane (for cable diameter up to 15 mm)

including one in base. Where cable glands are used (giving additional strain relief) there is no need to remove the membrane (this saves time).

Protection IP67. Rated voltage 400 V; Nominal cross section 4 - 6 mm<sup>2</sup>. The lid is secured with 4 pre-fitted rapid fixings (180°). The fixing holes are additionally moulded with a soft plastics component for screw ø 5 mm (spacing 75 mm).

Clear internal dimensions: 98 x 98 x 40

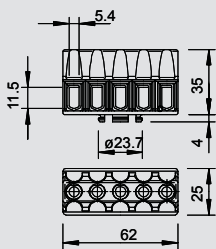


## Mounting plate, junction box B 9/T

Type	Height mm	Width mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>MP WI KL. FS</b>	210	120	20	20.200	<b>7084 76 5</b>
<b>MP WI KL. DD</b>	210	120	20	20.200	<b>7085 11 1</b>

**St** Steel **FS** Strip-galvanised **DD** Zinc-aluminium coated, double-dip /pc.

Curved mounting plate, for fastening on the side rail of the cable tray.



## Terminal strip, junction box, B 9/T

Type	Colour	No. of screwless terminals	Nominal cross section mm <sup>2</sup>	Nominal voltage V	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>KL-T 02-06</b>	Light grey	5	1.5-6	400	120	10	4.380	<b>2016 18 5</b>

**PA** Polyamide /100 pc.

Steel terminal block and bolts, galvanised and transparently passivated, nominal 1,5 - 6 mm<sup>2</sup>, nominal voltage 400 V, 5-pole, with terminal sockets, Max. connectable cross-sections per terminal: 3 x 6 mm<sup>2</sup>, 4 x 4 mm<sup>2</sup> or 6 x 2.5 mm<sup>2</sup>.



# Junction box, Duroplast, B series

IP 54 M20 2,5 mm<sup>2</sup> 7  
660 V Fluor D M  
CHLOR HALOGENFREI

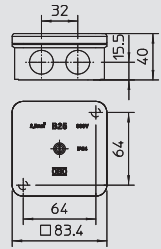


## Junction box, B 25 M, without thread

Type	Accessories	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>B 25 M 5</b>	1 terminal strip	Light grey	80	5	13.100	<b>2001 12 8</b>
<b>B 25 M</b>	–	Light grey	80	5	10.400	<b>2001 13 6</b>

UF Duroplast, Aminoplast, type 131.5 /100 pc.

Protection rating IP54, rated voltage 660 V, nominal cross-section 2,5 mm<sup>2</sup>, two fastening holes for bolts of up to 4.5 mm Ø in the interior of the box (seals and covers included), M6 fastening thread and adhesive area under the base, 1 cover bolt, 7 break-out entries Ø 21 mm (M 20), with 4 cable entries EDVS 20 for cable diameters 7.5–14 mm.  
Clear internal dimensions: 73 x 73 x 35 mm.



IP 54 M20 4 mm<sup>2</sup> 7  
660 V Fluor D M  
CHLOR HALOGENFREI

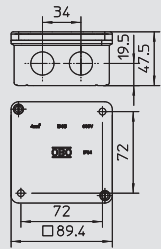


## Junction box, B 40 M, without thread

Type	Accessories	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>B 40 M 5</b>	1 terminal strip	Light grey	80	5	16.500	<b>2001 16 0</b>
<b>B 40 M</b>	–	Light grey	80	5	12.000	<b>2001 17 9</b>

UF Duroplast, Aminoplast, type 131.5 /100 pc.

Protection rating IP54, nominal voltage 660 V, nominal cross-section 4 mm<sup>2</sup>, two fastening holes for bolts up to 4.5 mm Ø on the inside of the box, but outside the terminals. M6 fastening thread and adhesive area under the base. Two cover bolts, 7 break-out entries Ø 20 mm (M20), with 4 cable entries EDVS 20 for cable diameters 20–15 mm.  
Clear internal dimensions: 78 x 78 x 43 mm.



IP 54 M20 6 mm<sup>2</sup> 7  
660 V Fluor D M  
CHLOR HALOGENFREI

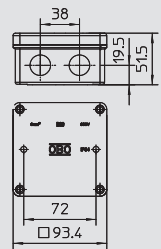


## Junction box, B 60 M, without thread

Type	Accessories	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>B 60 M 5</b>	1 terminal strip	Light grey	80	5	18.300	<b>2001 20 9</b>
<b>B 60 M</b>	–	Light grey	80	5	14.700	<b>2001 21 7</b>

UF Duroplast, Aminoplast, type 131.5 /100 pc.

Protection rating IP54, rated voltage 660 V, nominal cross-section 6 mm<sup>2</sup>, two fastening holes for bolts of up to 4.5 mm Ø in the interior of the box (seals and covers included), M6 fastening thread and adhesive area under the base, four cover bolts, 7 break-out entries Ø 20.5 mm (M 20), with 4 cable entries EDVS 20 for cable diameters 7.5–15 mm.  
Clear internal dimensions: 83 x 83 x 47 mm.



IP 54 M25 10 mm<sup>2</sup> 6  
660 V IK 04 T Fluor M  
CHLOR HALOGENFREI

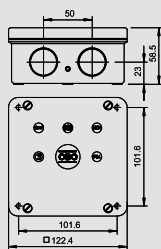


## Junction box, B 100 M, without thread

Type	Accessories	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>B 100 M 5</b>	1 terminal strip	Light grey	30	5	38.000	<b>2001 24 1</b>
<b>B 100 M</b>	–	Light grey	30	5	31.000	<b>2001 26 8</b>

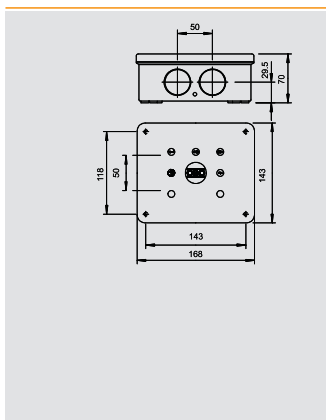
UF Duroplast, Aminoplast, type 131.5 /100 pc.

Protection rating IP54, nominal voltage 660 V, nominal cross-section 10 mm<sup>2</sup>, four fastening holes for bolts up to 5 mm Ø on the inside of the box, but outside the terminals. Four cover bolts, sealable with sealing caps supplied, 6 break-out entries Ø 25.5 mm (M25), with 4 push-in seals EDVS 25 for cable diameters 7.5–22 mm.  
Clear internal dimensions: 108 x 108 x 51 mm.





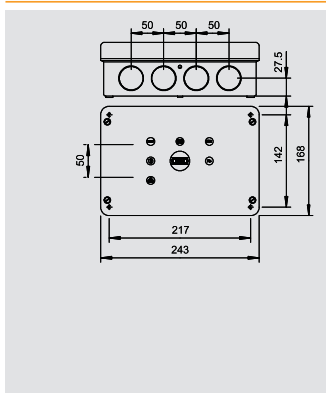
# Junction box, Duroplast, B series



## Junction box, B 160 M, without thread

Type	Accessories	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>B 160 M 5</b>	1 Terminal strip	Light grey	10	1	70.000	<b>2001 29 2</b>
<b>B 160 M</b>		Light grey	10	1	55.000	<b>2001 30 6</b>

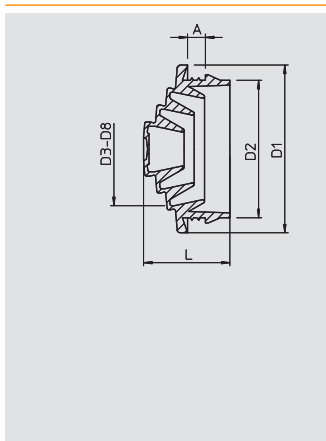
**UF** Duroplast, Aminoplast, type 131.5 /100 pc.  
 Protection rating IP54, nominal voltage 660 V, nominal cross-section 16 mm<sup>2</sup>, four fastening holes for bolts up to 5.5 mm Ø on the inside of the box, but outside the terminals.  
 Four cover bolts, sealable with sealing caps supplied, 8 break-out entries Ø 32.5 mm (M 32), with 4 cable entries EDVS 32 for cable diameters 12–30 mm.  
 Clear internal dimensions: 150 x 125 x 61 mm.



## Junction box, B 250 M, without thread

Type	Accessories	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>B 250 M</b>		Light grey	6	1	85.000	<b>2001 34 9</b>

**UF** Duroplast, Aminoplast, type 131.5 /100 pc.  
 Protection rating IP54, nominal voltage 660 V, nominal cross-section 25 mm<sup>2</sup>, four fastening holes for bolts up to 5.5 mm Ø on the inside of the box, but outside the terminals.  
 Four cover bolts, sealable with sealing caps supplied, 12 break-out entries Ø 32.5 mm (M 32), with 4 push-in seals EDVS 32 for cable diameters 12–30 mm.  
 Clear internal dimensions: 224 x 149 x 75 mm.



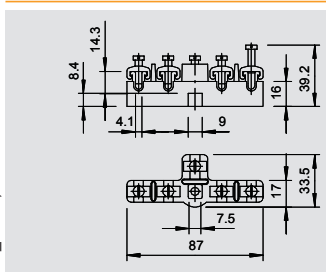
## Plug-in seal, B-series junction box

Type	Size	For Ø mm	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>EDVS M20 LGR</b>	M 20	0-17	Light grey	1200	100	0.130	<b>2012 37 5</b>
<b>EDVS M25 LGR</b>	M 25	0-22	Light grey	1200	100	0.190	<b>2012 38 3</b>
<b>EDVS M32 LGR</b>	M 32	0-28	Light grey	600	50	0.300	<b>2012 39 1</b>

**PE** Polyethylene /100 pc.  
 The push-in nipple can be cut back to suit the relevant cable diameter.

### Important dimensions, plug-in seal

G	L	A	D1	D2	D3	D4	D5	D6	D7	D8
M20	12.8	3.4	24.8	20.3	0 - 6	5 - 10	9 - 15	14 - 17	mm	mm
M25	14.5	4.3	29.5	25.3	0 - 6	5 - 10	9 - 15	14 - 20	19 - 22	
M32	17.8	4.4	36.3	32.3	0 - 6	5 - 10	9 - 15	14 - 20	19 - 25	24 - 28



## Terminal strip, junction box, B series

Type	No. of screwless terminals	Nominal cross section mm <sup>2</sup>	Nominal voltage V	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>KL 100 5</b>	5	4-10	660	60	5	7.000	<b>2016 12 5</b>

**MF** Duroplast, melamine resin, type 150 /100 pc.  
 Nickel-plated brass terminals, steel screws, galvanised and transparently passivated, nominal cross-section 4 - 10 mm<sup>2</sup>, nominal voltage 660 V, 5-pole, with terminal sockets, max. connectable cross-sections per terminal: 3 x 10 mm<sup>2</sup>, 4 x 6 mm<sup>2</sup> or 4 x 4 mm<sup>2</sup>.



# Junction box, Duroplast, B series



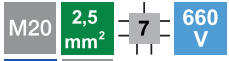
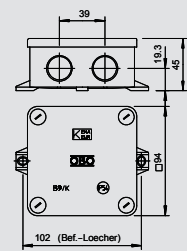
## Junction box, B 9/K M empty, with thread

Type	Accessories	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>B 9 K M</b>	3 cable glands	Light grey	60	5	13.500	<b>2001 94 2</b>

UF Duroplast, Aminoplast, type 131.5 /100 pc.

Protection rating IP54, empty box for use with individual terminals, four plastic cover bolts, thus absolute corrosion-protection, two fastening bases for bolts of up to 5 mm Ø, 7 break-out entries with thread M20 x 1.5. 3 polyamide cable glands for cable diameters of 9–12 mm, type 106 M.

Clear internal dimensions: 84 x 84 x 34 mm.



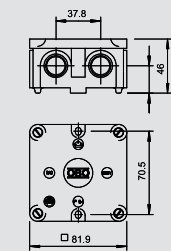
## Junction box, B 9/B M, with thread

Type	Accessories	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>B 9 B M 5</b>	1 terminal strip	Light grey	80	5	16.000	<b>2001 61 6</b>
<b>B 9 B M</b>	–	Light grey	80	5	9.960	<b>2001 63 2</b>

UF Duroplast, Aminoplast, type 131.5 /100 pc.

Protection rating IP54, nominal voltage 660 V, nominal cross-section 2,5 mm², two fastening holes for bolts up to 5 mm Ø on the outside of the box, four cover bolts, 7 break-out entries with thread M20 x 1.5, primarily for cable glands with short connecting thread.

Clear internal dimensions: 73 x 73 x 35 mm.



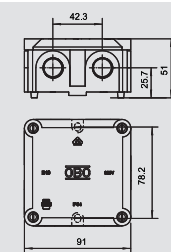
## Junction box, B 10 M, with thread

Type	Accessories	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>B 10 M 5</b>	1 terminal strip	Light grey	80	5	22.480	<b>2002 14 0</b>
<b>B 10 M</b>	–	Light grey	80	5	17.360	<b>2002 16 7</b>

UF Duroplast, Aminoplast, type 131.5 /100 pc.

Protection rating IP54, rated voltage 660 V, nominal cross-section 2,5 - 4, in combination with the earthing terminal 700/6 M, the box has the nominal cross-section 4 mm², two fastening holes for bolts of up to 5 mm Ø on the outer side of the box. Four cover lids, 7 break-out entries with thread M20 x 1.5, primarily for cable glands with short connecting thread.

Clear internal dimensions: 80 x 80 x 39 mm.



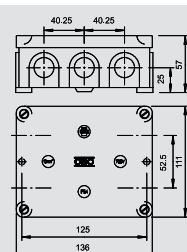
## Junction box, B 11 M, with thread

Type	Accessories	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>B 11 M 5</b>	1 terminal strip	Light grey	24	1	39.700	<b>2002 32 9</b>
<b>B 11 M</b>	–	Light grey	24	1	32.200	<b>2002 34 5</b>

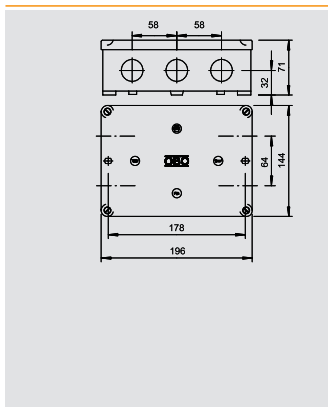
UF Duroplast, Aminoplast, type 131.5 /100 pc.

Protection rating IP54, nominal voltage 660 V, nominal cross-section 10 mm², two fastening holes for bolts up to 6 mm Ø on the outside of the box, four cover bolts, 10 break-out entries with thread M20 x 1.5, primarily for cable glands with short connecting thread.

Clear internal dimensions: 125 x 100 x 44 mm.



# Junction box, Duroplast, B series

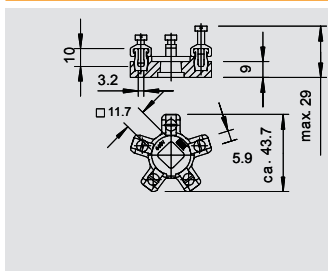


## Junction box, B 12 M, with thread

Type	Accessories	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>B 12 M 5</b>	1 terminal strip	Light grey	12	1	96.700	<b>2002 50 7</b>
<b>B 12 M</b>	–	Light grey	12	1	65.500	<b>2002 52 3</b>

**UF** Duroplast, Aminoplast, type 131.5 /100 pc.

Protection rating IP54, nominal voltage 660 V, nominal cross-section 16 mm<sup>2</sup>, two fastening holes for bolts up to 6 mm Ø on the outside of the box. Four cover bolts, 10 break-out entries with thread M25 x 1.5.  
Clear internal dimensions: 178 x 126 x 57 mm.

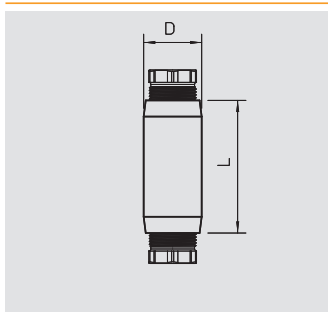


## Terminal strip, junction box, B series

Type	No. of screwless terminals	Nominal cross section mm <sup>2</sup>	Nominal voltage V	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>700 6</b>	5	4-6	660	120	10	3.460	<b>2017 29 6</b>

**MF** Duroplast, melamine resin, type 150 /100 pc.

Nickel-plated brass terminals, steel screws, galvanised and transparently passivated, nominal cross-section 4 - 6 mm<sup>2</sup>, nominal voltage 660 V, 5-pole, with terminal sockets, max. connectable cross-sections per terminal: 3 x 6 mm<sup>2</sup>, 4 x 4 mm<sup>2</sup>, 5 x 2.5 mm<sup>2</sup> or 8 x 1.5 mm<sup>2</sup>.



## Cable connection sleeve

Type	Entries	Dimension D mm	Dimension L mm	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>117 5x2.5</b>	Pg 16	28	64	Light grey	100	10	5.310	<b>2022 02 8</b>
<b>117 5x6</b>	Pg 21	33.5	82	Light grey	60	5	14.600	<b>2022 06 0</b>

**PS** Polystyrene /100 pc.

Protection rating IP54, nominal voltage 660 V. VDE specifications state that connection sleeves are only intended for local routing.



# Aquasit cold casting compound



## Aquasit cartridge

Type	Contents	Pack.	Weight	Item No.
	ml	pcs	kg/100 pcs.	
<b>KVM-250</b>		1	42.000	<b>2363 01 0</b>

/pc.

Aquasit is a two-component casting compound in a cartridge, for applications in areas with continuous and extremely high levels of moisture. It can also be used against mechanical shock and vibrations.

The cartridge is suitable for use in standard cartridge pistols. At room temperature, the unopened aluminium packaging can be stored for up to 18 months. When the cartridge is opened, the material should be used within 24 hours.

Aquasit properties:

Protection rating: IP68 at 1.8 bar/1.000 h

Rated voltage: 400 V

Penetration resistance: >20 kv/mm to VDE 0291 Part 2

Insulation resistance: > 50 MΩ

Operating temperature: -40 to +90 °C

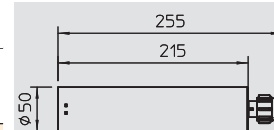
Processing temperature: 0 to +40 °C

Halogen-free, silicon-free, isocyanite-free

Environmentally friendly and without the need to be labelled

### Aquasit material consumption

Type	A6	A8	A11	A14	A18	T25	T40	T60	T100	B9/T
Quantity Cartridges per junction box	0.3	0.5	0.8	1.1	1.4	0.7	1.0	1.7	2.9	1.6



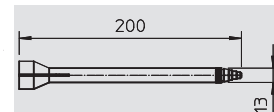
## AQUASIT mixer pipe

Type	Pack.	Weight	Item No.
	PU	kg/100 PUs	
<b>KVM-M</b>	1	17.000	<b>2363 01 5</b>

/VPE

10 mixer pipes in the set.

Simple, automatic mixing of OBO AQUASIT when pressing out the compound from the cartridge.

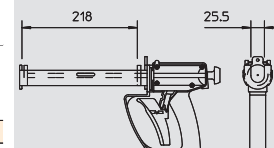


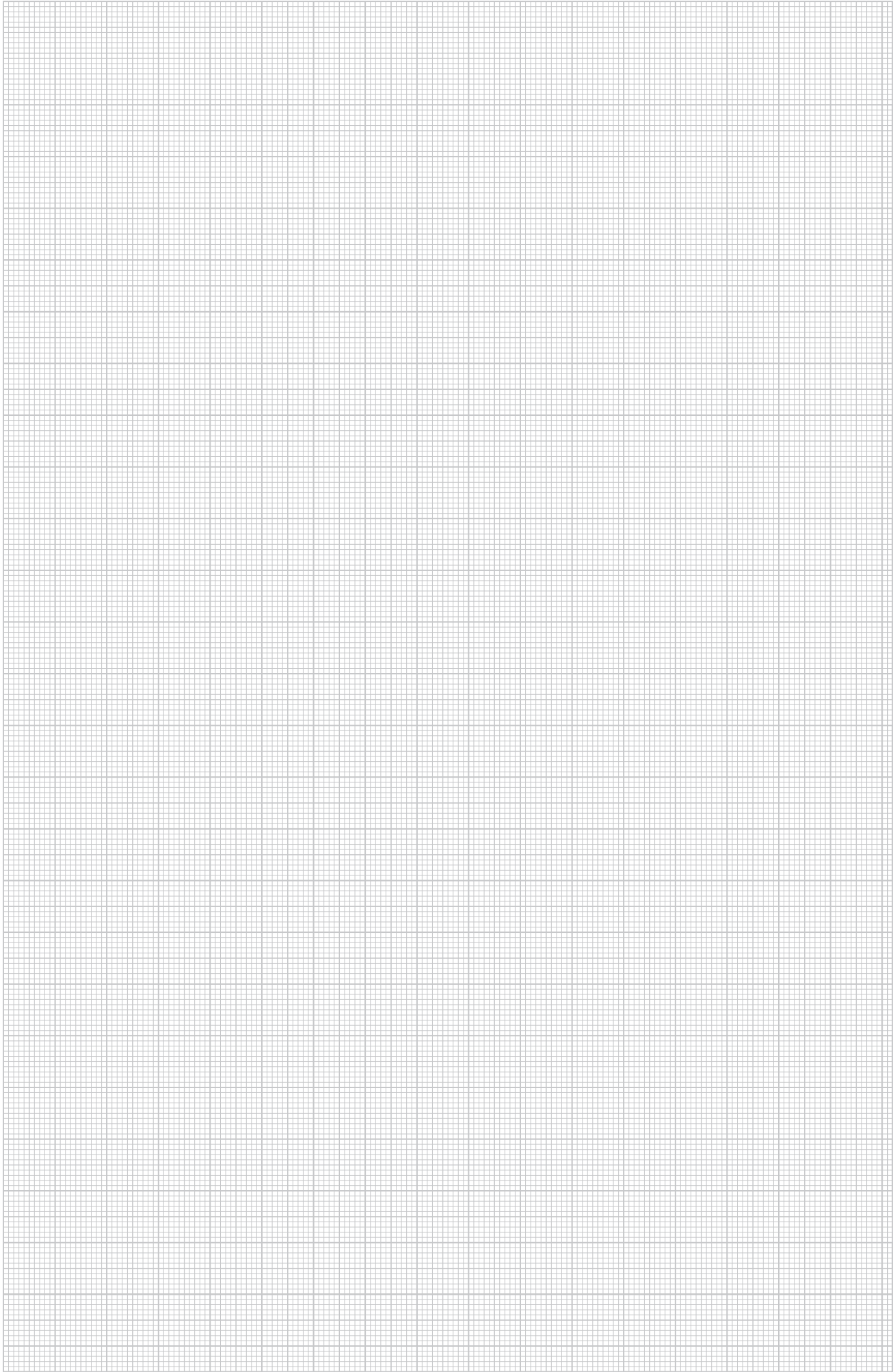
## Aquasit cartridge pistol

Type	Pack.	Weight	Item No.
	pcs	kg/100 pcs.	
<b>KVM-P</b>	2	100.000	<b>2363 01 9</b>

/pc.

High-quality one-component cartridge pistol for use with the AQUASIT cold casting compound. The cartridge pistol can also be used with normal 300 ml cartridges.







## Concealed and cavity wall systems

	Concealed	Concealed accessory socket	192
		Concealed accessory/connection socket	192
		Concealed accessory/connection socket	192
		Concealed accessory socket with nail strap	192
		Concealed accessory/connection socket with nail strap	193
		Concealed connection socket	193
		Concealed connection socket with nail strap	193
		Concealed connection box	194
		Wall light connection socket	194
		Sprung and universal cover	194
		Concealed accessory socket Modul 45	198
	Cavity wall	Cavity wall accessory socket	199
		Cavity wall, double accessory socket	199
		Modul 45 cavity wall accessory socket	201



## Concealed systems

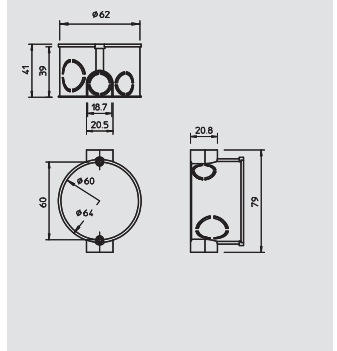


### Concealed accessory box

Type	Installation type	Colour	Shipping box	Pack.	Weight	Item No.
			pcs	pcs	kg/100 pcs.	
<b>UG 60 D</b>	Concealed	Black	300	25	1.490	<b>2003 01 5</b>

**PS** Polystyrene /100 pc.

Accessory socket with torsion-resistant guaranteed standard combination spacing of 71 mm (to DIN 49 073-1) through snap-lock coupling. 7 break-out openings for cables and pipes Ø 20 mm and Ø 25 mm. Combinable for spreading and screw fastening, low-laying plaster holders, device screw spacing 60 mm, for screw fastening with self-tapping screws 3.2 mm, with two screw domes without screws, protection rating IP20.

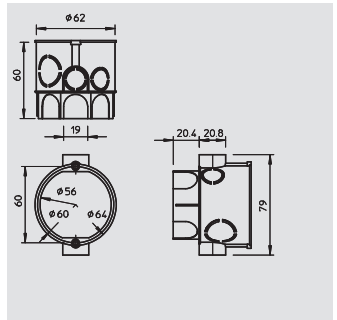


### Concealed accessory/connection socket

Type	Installation type	Colour	Shipping box	Pack.	Weight	Item No.
			pcs	pcs	kg/100 pcs.	
<b>UG 60 VD</b>	Concealed	Black	200	25	1.800	<b>2003 01 9</b>

**PS** Polystyrene /100 pc.

Accessory/connection socket with torsion-resistant guaranteed standard combination spacing of 71 mm (to DIN 49 073-1) through snap-lock coupling. 13 break-out openings for cables and pipes Ø 20 mm and Ø 25 mm. Combinable for spreading and screw fastening, low-laying plaster holders, device screw spacing 60 mm, for screw fastening with self-tapping screws 3.2 mm, with two screw domes without screws, protection rating IP20.

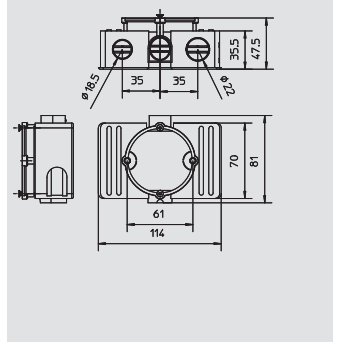


### Concealed accessory/connection box

Type	Installation type	Colour	Shipping box	Pack.	Weight	Item No.
			pcs	pcs	kg/100 pcs.	
<b>UG 60 VK</b>	Concealed	Black	100	10	4.600	<b>2003 02 3</b>

**PS** Polystyrene /100 pc.

Accessory/connection socket with increased socket volume on both sides of device installation opening to accept connection terminals. Torsion-resistant guaranteed standard combination spacing of 71 mm (to DIN 49 073-1) through snap-lock coupling. 8 break-out openings for cables and pipes to Ø 21 mm, low-laying plaster holders, device screw spacing 60 mm, for screw fastening with self-tapping screws 3.2 mm, with four screw domes and two device screws, protection rating IP20.

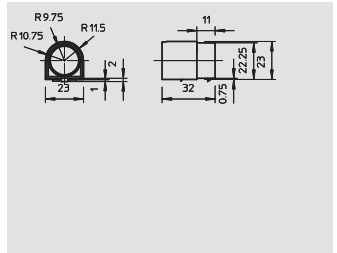


### Expansion support for concealed accessory sockets

Type	Installation type	Colour	Shipping box	Pack.	Weight	Item No.
			pcs	pcs	kg/100 pcs.	
<b>UG AS</b>	Concealed	Black	500	25	0.290	<b>2003 21 2</b>

**PS** Polystyrene /100 pc.

Expansion support suitable for all sockets with tunnel support. Suitable for the combination of heavy and weak current devices and telecommunications equipment using separated covers, combination spacing 90 mm.

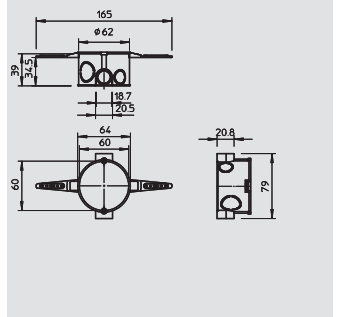


### Concealed accessory socket with nail strap

Type	Installation type	Colour	Shipping box	Pack.	Weight	Item No.
			pcs	pcs	kg/100 pcs.	
<b>UG 60 D NL</b>	Concealed	Black	100	100	2.100	<b>2003 03 1</b>

**PS** Polystyrene /100 pc.

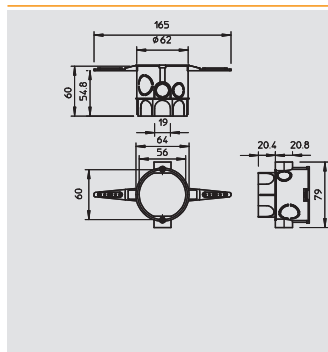
Accessory socket with nail straps. These are used as a mounting aid to prefix the sockets, nail diameter max. 3 mm, plaster thickness min. 8 mm. Torsion-resistant guaranteed standard combination spacing of 71 mm (to DIN 49 073-1) through snap-lock coupling, 7 break-out openings for cables and pipes Ø 20 mm and Ø 25 mm. Combinable for spreading and screw fastening, low-laying plaster holders, device screw spacing 60 mm, for screw fastening with self-tapping screws 3.2 mm, with two screw domes without screws, protection rating IP20.





## Concealed accessory/connection socket with nail strap

Ø 60



Type	Colour	Height	Shipping box	Pack.	Weight	Item No.
		mm	pcs	pcs	kg/100 pcs.	
<b>UG 60 VD NL</b>	Black	62	100	100	2.480	<b>2003 03 5</b>

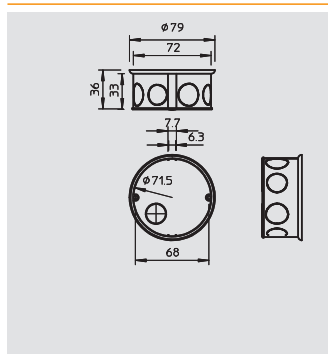
**PS** Polystyrene /100 pc.

Accessory/connection socket with nail straps. These are used as a mounting aid to prefix the sockets. Nail diameter max. 3 mm, plaster thickness min. 8 mm, with increased socket volume to accept connection terminals. Torsion-resistant guaranteed standard combination spacing of 71 mm (to DIN 49 073-1) through snap-lock coupling. 13 break-out openings for cables and pipes Ø 20 mm and Ø 25 mm. Combinable for spreading and screw fastening, low-laying plaster holders, device screw spacing 60 mm, for screw fastening with self-tapping screws 3.2 mm, with two screw domes without screws, protection rating IP20.



## Concealed connection socket

Ø 70



Type	Colour	Height	Shipping box	Pack.	Weight	Item No.
		mm	pcs	pcs	kg/100 pcs.	
<b>UV 70 D</b>	Black	36	250	25	1.880	<b>2003 04 3</b>

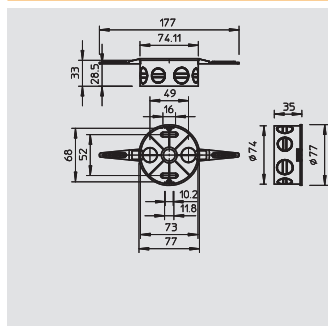
**PS** Polystyrene /100 pc.

Connection socket for connecting six terminals 1.5 mm<sup>2</sup> or five terminals 2.5 mm<sup>2</sup>. 9 break-out openings for cables and pipes to Ø 21 mm, in conjunction with the cover and cover bolts, the connection sockets achieve the VDE test mark to 0606 and are flame-resistant to VDE 0471/DIN 695 Part 2-1, testing temperature 750 °C, protection rating IP20.



## Concealed connection socket with nail strap

Ø 70



Type	Installation type	Colour	Shipping box	Pack.	Weight	Item No.
			pcs	pcs	kg/100 pcs.	
<b>UV 70 D NL</b>	Concealed	Black	100	100	2.250	<b>2003 04 7</b>

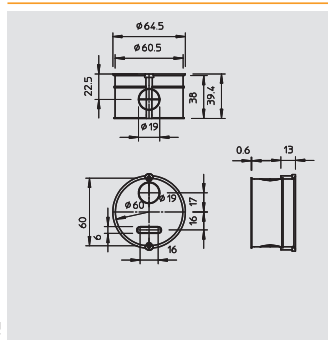
**PS** Polystyrene /100 pc.

Connection socket with nail straps. These are used as a mounting aid to prefix the sockets. Nail diameter max. 3 mm, plaster thickness min. 8 mm. Connection socket for connecting six terminals 1.5 mm<sup>2</sup> or five terminals 2.5 mm<sup>2</sup>. 9 break-out openings for cables and pipes to Ø 21 mm, in conjunction with cover and cover bolts, the connection sockets achieve the VDE test mark to 0606 and are flame-resistant to VDE 0471/DIN 695 Part 2-1, testing temperature 750 °C, protection rating IP20.



## Concealed accessory socket without support

Ø 60



Type	Installation type	Colour	Shipping box	Pack.	Weight	Item No.
			pcs	pcs	kg/100 pcs.	
<b>UG 60 DOS</b>	Concealed	Black	250	25	1.530	<b>2003 05 8</b>

**PS** Polystyrene /100 pc.

Accessory socket without support is suitable for use in facing masonry, 3 break-out openings for cables and pipes Ø 19 mm combinable for spreading and screw fastening, low-laying plaster holders, device screw spacing 60 mm, for screw fastening with self-tapping screws 3.2 mm, with two screw domes without screws, protection rating IP20.



# Concealed systems



## Concealed connection box

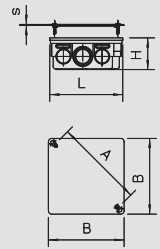
Type	Installation type	Colour	Shipping box	Pack.	Weight	Item No.
			pcs	pcs	kg/100 pcs.	
<b>UV 80 K</b>	Concealed	Black	50	50	4.500	<b>2003 11 2</b>
<b>UV 100 K</b>	Concealed	Black	100	100	6.400	<b>2003 11 8</b>
<b>UV 150 K</b>	Concealed	Black	30	30	15.670	<b>2003 12 4</b>
<b>UV 200 K</b>	Concealed	Black	10	10	35.710	<b>2003 13 0</b>
<b>UV 250 K</b>	Concealed	Black	10	10	52.000	<b>2003 13 6</b>

**PS** Polystyrene /100 pc.

Connection box for connecting terminals, with cover and cover bolts (15 mm), cover edge is flush, surface is roughened, in conjunction with cover and cover bolts, the connection sockets achieve the VDE test mark to VDE 060 and are flame-resistant to VDE 0471/DIN 695 Part 2-1, testing temperature 750 °C, protection rating IP20.

### Important dimensions, connection box

Type	A	B	H	L	s
	mm	mm	mm	mm	mm
UV80K	102	97	45	85	1.5
UV100K	130	114	45	107	1.5
UV150K	200	170	65	150	1.75
UV200K	260	210	65	200	2.0
UV250K	328	260	65	250	2.5

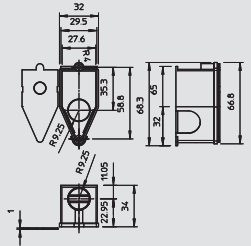


## Wall light connection socket

Type	Installation type	Colour	Shipping box	Pack.	Weight	Item No.
			pcs	pcs	kg/100 pcs.	
<b>UWA</b>	Concealed	Cream	250	25	1.120	<b>2003 08 2</b>

**PS** Polystyrene /100 pc.

Wall light connection socket with internal cover, compartment for three connection terminals, use according to VDE 0100, 3 break-out openings for cables and pipes Ø 18.7 mm, do not use as connection socket, protection rating IP20.

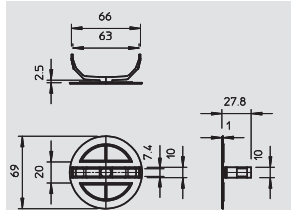


## Sprung cover, 60 mm

Type	Colour	Ø	Shipping box	Pack.	Weight	Item No.
		max.	pcs	pcs	kg/100 pcs.	
<b>UG 60 FD</b>	White	69	500	25	0.810	<b>2003 22 3</b>

**PS** Polystyrene /100 pc.

Sprung cover with centrally moulded, elastic spreading spring, for sockets with Ø 60 mm, cover edge is flush, surface is roughened.

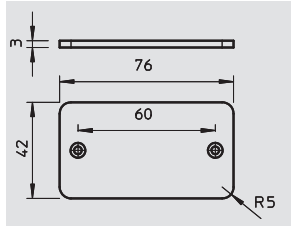


## Wall light socket cover

Type	Installation type	Colour	Shipping box	Pack.	Weight	Item No.
			pcs	pcs	kg/100 pcs.	
<b>UW AD</b>	Concealed	White	250	10	0.600	<b>2003 21 8</b>

**PS** Polystyrene /100 pc.

Wall light socket cover for flush closure of the wall outlet socket, surface is roughened, cover bolts can be lowered. Delivery including two 15 mm bolts.

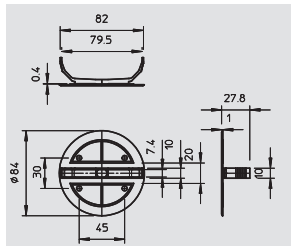


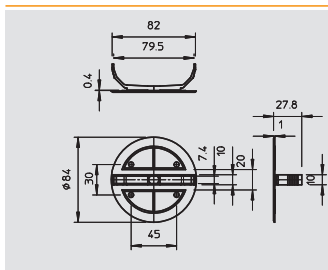
## Sprung cover, 70 mm

Type	Colour	Ø	Shipping box	Pack.	Weight	Item No.
		max.	pcs	pcs	kg/100 pcs.	
<b>UV 70 FD</b>	White	84	500	25	1.200	<b>2003 22 7</b>

**PS** Polystyrene /100 pc.

Sprung cover with centrally moulded, elastic spreading spring, for sockets with Ø 70 mm, cover edge is flush, surface is roughened.





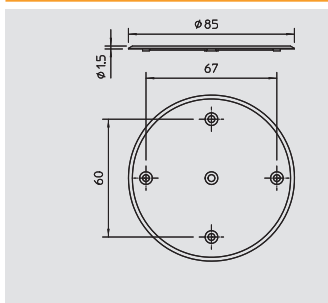
## Sprung cover, 80 mm



Type	Colour	Ø	Shipping box	Pack.	Weight	Item No.
		max.	pcs	pcs	kg/100 pcs.	
<b>UV 80 FD</b>	White	95	500	25	1.500	<b>2004 63 4</b>

**PS** Polystyrene /100 pc.

Sprung cover with centrally moulded, elastic spreading spring, for sockets with Ø 80 mm, cover edge is flush, surface is roughened.

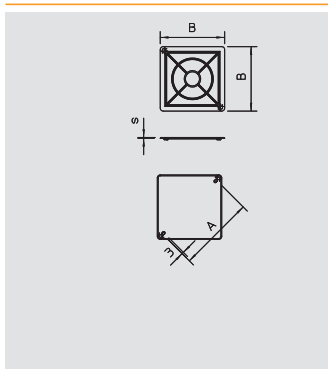


## Universal cover

Type	Colour	Ø	Shipping box	Pack.	Weight	Item No.
		max.	pcs	pcs	kg/100 pcs.	
<b>UG UD</b>	White	84	400	20	1.070	<b>2003 23 6</b>

**PS** Polystyrene /100 pc.

Universal cover for all socket types, cover with central fastening for connection sockets, bolt hole spacing 60 mm for accessory sockets and device connection sockets, bolt hole spacing 67 mm for connection sockets, cover edge is flush, surface is roughened, lowerable cover bolts.



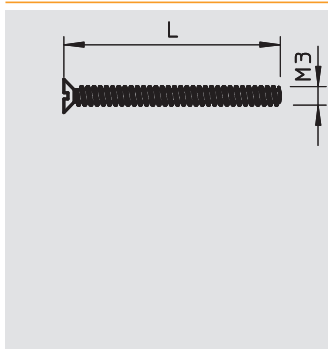
## Box cover



Type	Installation type	Dimension A	Dimension B	Dimension s	Colour	Shipping box	Pack.	Weight	Item No.
		mm	mm	mm		pcs	pcs	kg/100 pcs.	
<b>UV 80 D</b>	Concealed	102	97	1.5	White	250	10	1.270	<b>2003 24 0</b>
<b>UV 100 D</b>	Concealed	130	114	1.5	White	240	10	2.000	<b>2003 24 4</b>
<b>UV 150 D</b>	Concealed	200	170	1.75	White	150	5	4.850	<b>2003 24 8</b>
<b>UV 200 D</b>	Concealed	260	210	2	White	50	5	9.500	<b>2003 25 2</b>
<b>UV 250 D</b>	Concealed	328	260	2.5	White	25	5	17.190	<b>2003 25 6</b>

**PS** Polystyrene /100 pc.

Box cover suitable for the connection sockets, type UV...K, cover edge is flush, surface is roughened, cover bolts can be lowered.

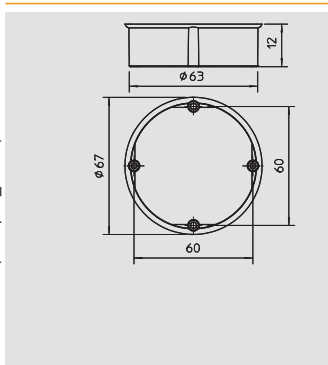


## Device screw

Type	Dimension L	Shipping box	Pack.	Weight	Item No.
	mm	pcs	pcs	kg/100 pcs.	
<b>U 15 GS</b>	15	3000	100	0.060	<b>2003 26 5</b>
<b>U 20 GS</b>	20	2500	100	0.090	<b>2004 67 6</b>
<b>U 25 GS</b>	25	2000	100	0.090	<b>2003 26 9</b>
<b>U 30 GS</b>	30	2000	100	0.110	<b>2004 68 0</b>
<b>U 35 GS</b>	35	1500	100	0.120	<b>2003 27 3</b>
<b>U 40 GS</b>	40	1000	100	0.140	<b>2003 27 7</b>

**St** Steel **G** Electrogalvanised /100 pc.

Screws suitable for different types of device and lid fastening, with self-tapping thread Ø 3.2 mm.



## Surface equalisation ring, 12 mm, accessory sockets



Type	Installation type	Colour	Shipping box	Pack.	Weight	Item No.
			pcs	pcs	kg/100 pcs.	
<b>UG 60 PA 12</b>	Concealed	Red	250	25	0.700	<b>2003 28 7</b>

**PS** Polystyrene /100 pc.

Compensation ring to screw onto deeply concealed accessory sockets and accessory connection sockets, can be combined, when they are screwed on at a 90° offset. Compensation heights selectable by combining the different types, with two device/cover screws 15 mm and two fastening screws, protection rating IP20.



## Concealed systems



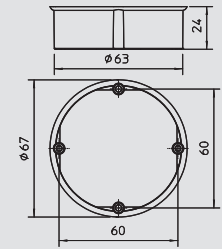
### Surface equalisation ring, 24 mm, accessory sockets



Type	Installation type	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>UG 60 PA 24</b>	Concealed	Red	250	25	1.100	<b>2003 29 5</b>

**PS** Polystyrene /100 pc.

Compensation ring to screw onto deeply concealed accessory sockets and accessory connection sockets, can be combined, when they are screwed on at a 90° offset. Compensation heights selectable by combining the different types, with two device/cover screws 15 mm and two fastening screws, protection rating IP20.



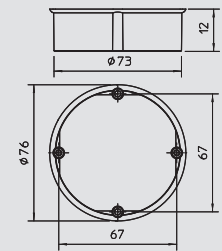
### Surface equalisation ring, 12 mm, connection sockets



Type	Installation type	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>UV 70 PA 12</b>	Concealed	Red	100	25	1.150	<b>2003 29 1</b>

**PS** Polystyrene /100 pc.

Compensation ring to screw onto deeply concealed connection sockets, can be combined, when they are screwed on at a 90° offset. Compensation heights selectable through combination of the various types, with 2 device/cover screws 15 mm and 2 fastening screws, protection rating IP20.



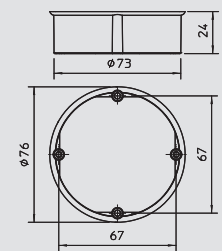
### Surface equalisation ring, 24 mm, connection sockets



Type	Installation type	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>UV 70 PA 24</b>	Concealed	Red	100	25	1.850	<b>2003 29 9</b>

**PS** Polystyrene /100 pc.

Compensation ring to screw onto deeply concealed connection sockets, can be combined, when they are screwed on at a 90° offset. Compensation heights selectable through combination of the various types, with 2 device/cover screws 15 mm and 2 fastening screws, protection rating IP20.



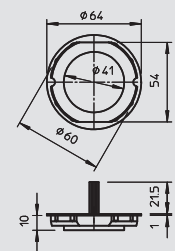
### Signal cover 60 mm, accessory sockets



Type	Installation type	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>UG 60 SD</b>	Concealed	Red	500	50	0.550	<b>2003 31 7</b>

**PE** Polyethylene /100 pc.

Signal covers protect the interior, the screw domes and screw heads on plastering. The marking bristles allow simple location of the sockets and boxes after plastering. The signal covers can be used several times. After plastering, simply push the cover into the socket and remove the signal cover.



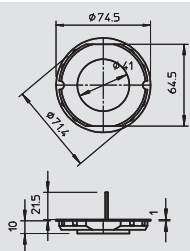
### Signal cover, 70 mm, connection sockets

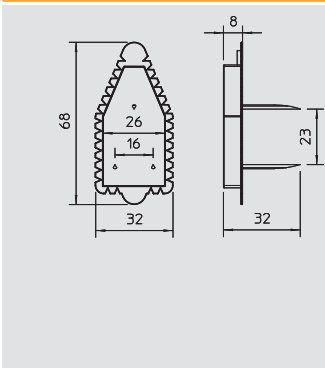


Type	Installation type	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>UV 70 SD</b>	Concealed	Red	25	25	0.680	<b>2003 32 1</b>

**PE** Polyethylene /100 pc.

Signal covers protect the interior, the screw domes and screw heads on plastering. The marking bristles allow simple location of the sockets and boxes after plastering. The signal covers can be used several times. After plastering, simply push the cover into the socket and remove the signal cover.





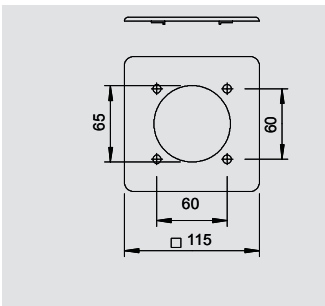
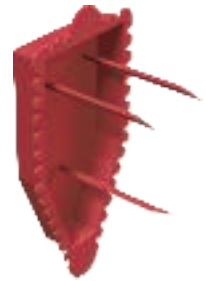
## Signal cover, wall luminaire socket



Type	Installation type	Colour	Shipping box	Pack.	Weight	Item No.
<b>UW ASD</b>	Concealed	Red	pcs	100	kg/100 pcs.	<b>2003 32 5</b>

**PE** Polyethylene /100 pc.

Signal covers protect the interior, the screw domes and screw heads on plastering. The marking bristles allow simple location of the sockets and boxes after plastering. The signal covers can be used several times. After plastering, simply push the cover into the socket and remove the signal cover.

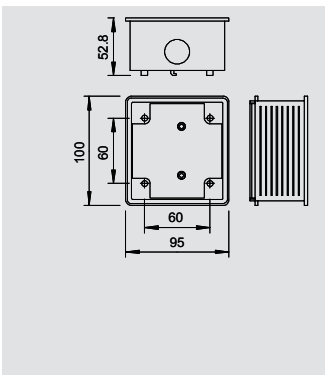


## CEE cover plate for fitted plug

Type	Colour	Pack.	Weight	Item No.
<b>2393 UP</b>	Light grey	pcs	kg/100 pcs.	<b>6024 10 6</b>
		5	4.300	

**PA** Polyamide /pc.

The cover plate, together with the concealed installation box, allows tidy wall closure. The underfloor box is placed on the floor connectors and fastened in the centre with a bolt.



## CEE installation box

Type	Colour	Pack.	Weight	Item No.
<b>2392</b>	Light grey	pcs	kg/100 pcs.	<b>6024 00 9</b>
		5	10.500	

**PA/GF** Polyamide, fibre-glass reinforced /pc.

Underfloor box for mounting CEE sockets in WDK trunking. Also suitable as concealed installation box for CEE sockets.

Concealed installation box for installing CEE sockets. The underfloor box can also be used for installing WDK trunking.

Straight version, 16 and 32 A, with 60 x 60 mm hole spacing.

Supplied complete with one strain relief clip.

1 plug-in seal ED 16.

1 screw plug VS 16 and 4 cylinder bolts M5 x 18 to fasten the socket.



## Modul 45 concealed systems



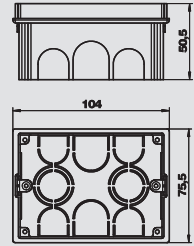
### Concealed accessory socket Modul 45, single

Type	Colour	Pack.	Weight	Item No.
		pcs	kg/100 pcs.	
<b>UG-UPM1</b>	Natural	1	3.200	<b>6119 94 0</b>

/pc.

Concealed accessory socket, rectangular, to accept support plates, type TG-UPM1, for Modul 45 devices of up to 1.5x module width = 67.5 mm, with breakable openings for cables and pipes.

Note: Always plaster the concealed accessory socket together with the appropriate plaster cover.



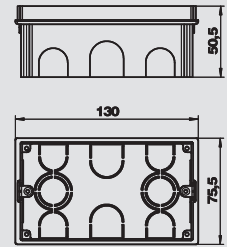
### Concealed accessory socket Modul 45, double

Type	Colour	Pack.	Weight	Item No.
		pcs	kg/100 pcs.	
<b>UG-UPM2</b>	Natural	1	4.550	<b>6119 94 1</b>

/pc.

Concealed accessory socket, rectangular, to accept support plates, type TG-UPM2, for Modul 45 devices of up to 2x module width = 90 mm, with breakable openings for cables and pipes.

Note: Always plaster the concealed accessory socket together with the appropriate plaster cover.



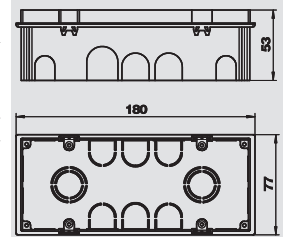
### Concealed accessory socket Modul 45, triple

Type	Colour	Pack.	Weight	Item No.
		pcs	kg/100 pcs.	
<b>UG-UPM3</b>	Natural	1	6.220	<b>6119 94 3</b>

/pc.

Concealed accessory socket, rectangular, to accept support plates, type TG-UPM3, for Modul 45 devices of up to 3x module width = 135 mm, with breakable openings for cables and pipes.

Note: Always plaster the concealed accessory socket together with the appropriate plaster cover.

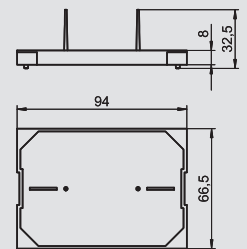


### Signal cover for Modul 45 accessory socket, single

Type	Colour	Pack.	Weight	Item No.
		pcs	kg/100 pcs.	
<b>PD-UPM1</b>	Red	1	0.550	<b>6119 94 5</b>

/pc.

The signal cover for the concealed accessory socket UG-UGM1 protects the interior, the bolt domes and bolt heads on plastering. The marking bristles allow simple location of the sockets after plastering. The signal covers can be used several times. After plastering, simply push the cover into the socket and remove the signal cover.

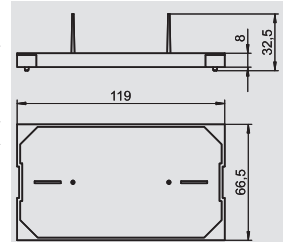


### Signal cover for Modul 45 accessory socket, double

Type	Colour	Pack.	Weight	Item No.
		pcs	kg/100 pcs.	
<b>PD-UPM2</b>	Red	1	0.100	<b>6119 94 6</b>

/pc.

The signal cover for the concealed accessory socket UG-UGM2 protects the interior, the bolt domes and bolt heads on plastering. The marking bristles allow simple location of the sockets after plastering. The signal covers can be used several times. After plastering, simply push the cover into the socket and remove the signal cover.

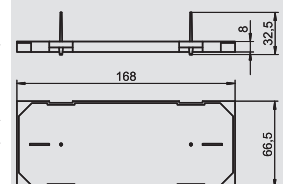


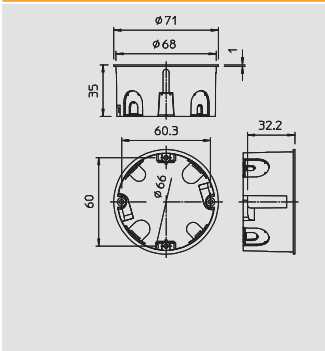
### Signal cover for Modul 45 accessory socket, triple

Type	Colour	Pack.	Weight	Item No.
		pcs	kg/100 pcs.	
<b>PD-UPM3</b>	Red	1	1.300	<b>6119 94 7</b>

/pc.

The signal cover for the concealed accessory socket UG-UGM3 protects the interior, the bolt domes and bolt heads on plastering. The marking bristles allow simple location of the sockets after plastering. The signal covers can be used several times. After plastering, simply push the cover into the socket and remove the signal cover.





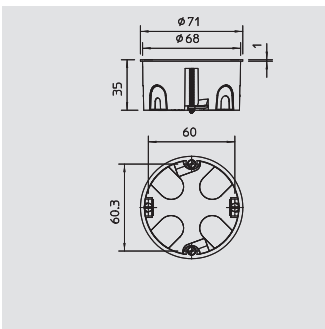
## Cavity wall accessory socket



Type	Colour	Milling hole Ø	Height	Ø	Shipping box	Pack.	Weight	Item No.
		mm	mm	max.	pcs	pcs	kg/100 pcs.	
<b>HG 60-35</b>	Orange	68	35	68	250	25	1.810	<b>2003 42 6</b>

PP Polypropylene /100 pc.

Cavity wall accessory socket. Dimensions to DIN 49073-1, for plate thickness 7–35 mm. Standard combination spacing 71 mm, option for continuous wiring using connection support for combinations between accessory sockets and accessory connection sockets, 8 break-out openings for NYM cables, data cables and pipes Ø 20 mm, accessory sockets can also be used as connection sockets to VDE 0606-1 with double bolt fastening and screw-on cover, protection rating IP20.



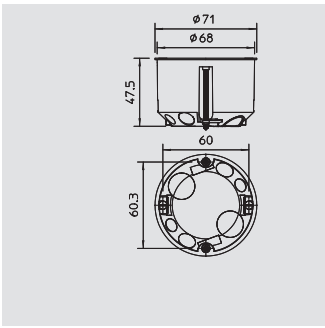
## Cavity wall accessory socket, wind-proof



Type	Colour	Milling hole Ø	Height	Ø	Shipping box	Pack.	Weight	Item No.
		mm	mm	max.	pcs	pcs	kg/100 pcs.	
<b>HG 60-35 MW</b>	Orange	68	35	68	250	25	1.280	<b>2003 60 3</b>

PP Polypropylene /100 pc.

Cavity wall accessory socket, wind-tight version through soft entry membrane. Dimensions to DIN 49073-1, for plate thickness 7–35 mm. Standard combination spacing 71 mm, option for continuous wiring using connection support for combinations between accessory sockets and accessory connection sockets, 8 wind-proof insertion membrane for NYM cables, data cables and pipes Ø 20 mm, accessory sockets can also be used as connection sockets to VDE 0606-1 with double bolt fastening and screw-on cover, protection rating IP40.



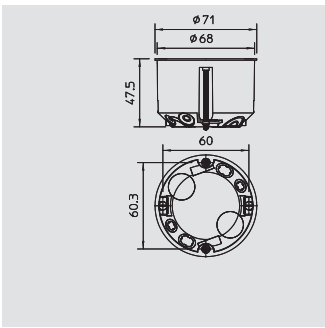
## Cavity wall accessory socket



Type	Colour	Milling hole Ø	Height	Ø	Shipping box	Pack.	Weight	Item No.
		mm	mm	max.	pcs	pcs	kg/100 pcs.	
<b>HG 60</b>	Orange	68	47	68	250	25	2.240	<b>2003 41 4</b>

PP Polypropylene /100 pc.

Cavity wall accessory socket. Dimensions to DIN 49073-1, for plate thickness 7–35 mm. Standard combination spacing 71 mm, option for continuous wiring using connection support for combinations between accessory sockets and accessory connection sockets, 8 break-out openings for NYM cables, data cables and pipes Ø 20 mm, accessory sockets can also be used as connection sockets to VDE 0606-1 with double bolt fastening and screw-on cover, protection rating IP20.



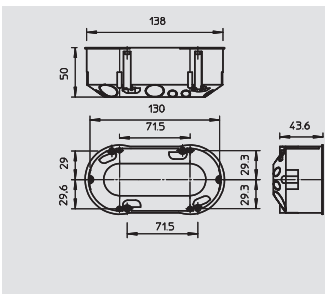
## Cavity wall accessory socket, wind-proof



Type	Colour	Milling hole Ø	Height	Ø	Shipping box	Pack.	Weight	Item No.
		mm	mm	max.	pcs	pcs	kg/100 pcs.	
<b>HG 60 MW</b>	Orange	68	47	68	250	25	1.490	<b>2003 61 1</b>

PP Polypropylene /100 pc.

Cavity wall accessory socket, wind-tight version through soft entry membrane. Dimensions to DIN 49073-1, for plate thickness 7–35 mm. Standard combination spacing 71 mm, option for continuous wiring using connection support for combinations between accessory sockets and accessory connection sockets, 8 wind-proof insertion membrane for NYM cables, data cables and pipes Ø 20 mm, accessory sockets can also be used as connection sockets to VDE 0606-1 with double bolt fastening and screw-on cover, protection rating IP40.



## Cavity wall, double accessory socket



Type	Colour	Shipping box	Pack.	Weight	Item No.
		pcs	pcs	kg/100 pcs.	
<b>HG 60 2</b>	Orange	100	10	4.850	<b>2003 42 2</b>

PP Polypropylene /100 pc.

Double accessory socket, for two service units or one double service unit, with four device bolts. Dimensions to DIN 49073-1, for plate thickness 7–35 mm. Standard combination spacing 71 mm, 14 break-out openings for NYM cables, data cables and pipes Ø 20 mm, protection rating IP20.



01\_VBS\_Masterkatalog\_Länder\_2012 / en / 29/05/2012 (LLEXP01\_01445) / 29/05/2012

# Cavity wall systems

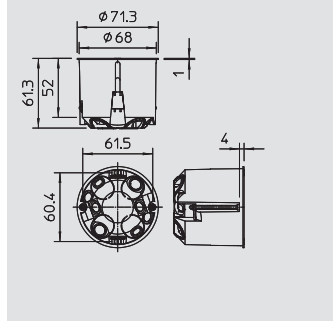


## Cavity wall accessory/connection socket

Type	Colour	Milling hole Ø	Height	Ø	Shipping box	Pack.	Weight	Item No.
		mm	mm	max.	pcs	pcs	kg/100 pcs.	
<b>HV 60</b>	Orange	68	61	68	200	25	2.740	<b>2003 44 2</b>

PP Polypropylene /100 pc.

Cavity wall accessory/connection socket. Dimensions to DIN 49073-1, for plate thickness 7–35 mm. Standard combination spacing 71 mm, option for continuous wiring using connection support for combinations between accessory sockets and accessory connection sockets, 8 break-out openings for NYM cables, data cables and pipes Ø 20 mm, accessory sockets can also be used as connection sockets to VDE 0606-1 with double bolts fastening and screw-on cover, protection rating IP20.

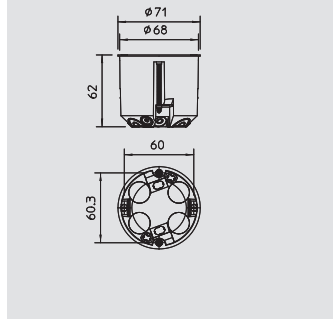


## Cavity wall accessory/connection socket, wind-proof

Type	Colour	Milling hole Ø	Height	Ø	Shipping box	Pack.	Weight	Item No.
		mm	mm	max.	pcs	pcs	kg/100 pcs.	
<b>HV 60 MW</b>	Orange	68	61	68	200	25	1.850	<b>2003 61 9</b>

PP Polypropylene /100 pc.

Cavity wall accessory/connection socket, wind-tight version through soft entry membrane. Dimensions to DIN 49073-1, for plate thickness 7–35 mm. Standard combination spacing 71 mm, option for continuous wiring using connection support for combinations between accessory sockets and accessory connection sockets, 8 wind-proof insertion membrane for NYM cables, data cables and pipes Ø 20 mm, accessory sockets can also be used as connection sockets to VDE 0806-1 with double bolt fastening and screw-on cover, protection rating IP40.

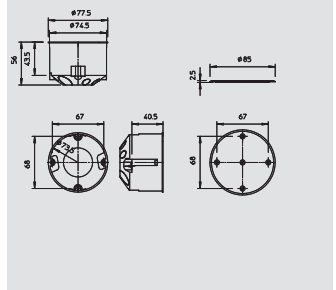


## Cavity wall connection socket with cover

Type	Colour	Milling hole Ø	Height	Ø	Shipping box	Pack.	Weight	Item No.
		mm	mm	max.	pcs	pcs	kg/100 pcs.	
<b>HV 70 D</b>	Orange	74	50	74	100	10	3.650	<b>2003 43 0</b>

PP Polypropylene /100 pc.

Cavity wall connection socket with cover, dimensions to DIN 49073-1, for plate thickness 7–35 mm. 8 break-out openings for NYM cables, data cables and pipes Ø 20 mm, protection rating IP20.

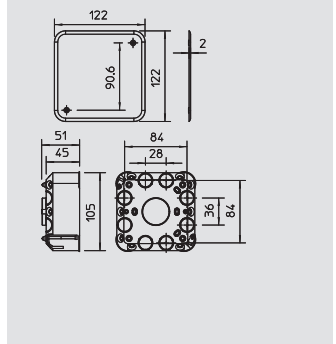


## Cavity wall connection box

Type	Colour	Height	Length	Width	Shipping box	Pack.	Weight	Item No.
		mm	mm	mm	pcs	pcs	kg/100 pcs.	
<b>HV 100 KD</b>	Orange	50	105	105	25	25	6.300	<b>2003 44 9</b>

PP Polypropylene /100 pc.

Cavity wall connection box, 20 break-out openings for NYM cables, data cables and pipes Ø 20 mm, with cover and cover bolt, with white cover and cover bolts (flame-resistant to VDE 0471/DIN 695 Part 2-1, testing temperature 750 °C), for plate thickness 7–35 mm. Suitable for installation of standard rails (hat and support rails) for series terminals, protection rating IP20.

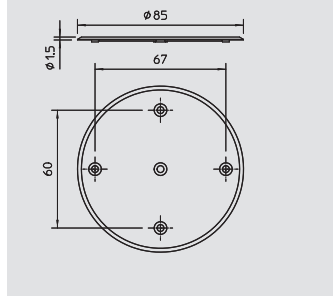


## Universal cover

Type	Colour	Ø	Shipping box	Pack.	Weight	Item No.
		max.	pcs	pcs	kg/100 pcs.	
<b>UG UD</b>	White	84	400	20	1.070	<b>2003 23 6</b>

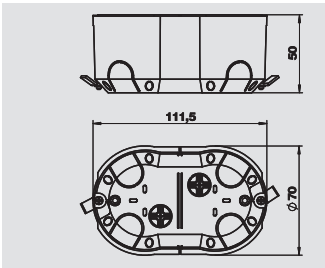
PS Polystyrene /100 pc.

Universal cover for all socket types, cover with central fastening for connection sockets, bolt hole spacing 60 mm for accessory sockets and device connection sockets, bolt hole spacing 67 mm for connection sockets, cover edge is flush, surface is roughened, lowerable cover bolts.





## Modul 45 cavity wall systems



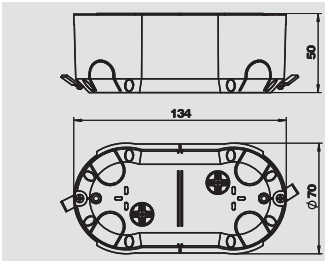
### Modul 45 cavity wall accessory socket, single

Type	Colour	Pack.	Weight	Item No.
		pcs	kg/100 pcs.	
HG-UPM1	Blue	1	3.300	6119 95 0



/pc.

Cavity wall accessory socket, oval, to accept support plates, type TG-UPM1, for Modul 45 devices of up to 1.5x module width = 67.5 mm, drill hole diameter 68 mm, hole spacing 45 mm.



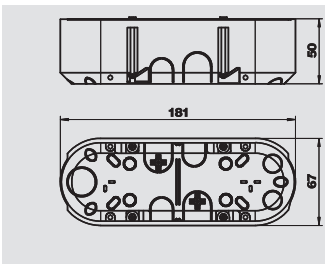
### Modul 45 cavity wall accessory socket, double

Type	Colour	Pack.	Weight	Item No.
		pcs	kg/100 pcs.	
HG-UPM2	Blue	1	4.600	6119 95 1



/pc.

Cavity wall accessory socket, oval, to accept support plates, type TG-UPM2, for Modul 45 devices of up to 2x module width = 90 mm, drill hole diameter 68 mm, hole spacing 68 mm.



### Modul 45 cavity wall accessory socket, triple

Type	Colour	Pack.	Weight	Item No.
		pcs	kg/100 pcs.	
HG-UPM3	Blue	1	6.300	6119 95 2









/pc.

Cavity wall accessory socket, oval, to accept support plates, type TG-UPM3, for Modul 45 devices of up to 3x module width = 135 mm, drill hole diameter 68 mm, hole spacing 112 mm.





## Terminal systems

	Terminal strip	Neutral and protective conductor terminal	204
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# Screw terminals

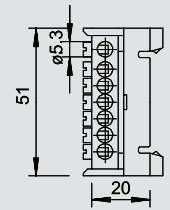


## Neutral and protective conductor terminals, 7-pole

Type	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
60 N 7x16 BL	Blue	100	10	2.900	2054 00 0
60 S 7x16 GBGN	Yellow green	100	10	2.900	2054 01 9

PA Polyamide /100 pc.

With 7 terminals to 16 mm<sup>2</sup>.  
Clamping rail, nickel-plated brass, steel screws, electrogalvanised and transparently passivated, for snapping onto 35 mm hat rails to DIN EN 50022 (transverse) or flat rails 10 x 2–2.5 mm (lengthwise).

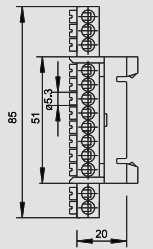


## Neutral and protective conductor terminals, 12-pole

Type	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
60 N 12x16 BL	Blue	200	10	4.200	2054 08 6
60 S 12x16 GBGN	Yellow green	200	10	4.200	2054 09 4

PA Polyamide /100 pc.

With 12 terminals to 16 mm<sup>2</sup>.  
Clamping rail, nickel-plated brass, steel screws, electrogalvanised and transparently passivated, for snapping onto 35 mm hat rails to DIN EN 50022 (transverse) or flat rails 10 x 2–2.5 mm (lengthwise).

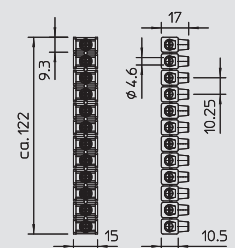


## Dolü branch terminals, open on both sides

Type	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
70 VDE (sorted)		400	10	2.500	2055 02 3

PA Polyamide /100 pc.

\* Sorted in colours black, brown, blue and yellow-green.  
Terminals made of brass, screws of steel, galvanised and transparently passivated, 12-pole, strip separable into individual terminals, open on both sides.  
Captive upwards screw.  
Nominal cross-section 2,5 mm<sup>2</sup>.  
Nominal voltage 380 V.  
Nominal current 16 A.  
Max. connectable cross-sections per terminal: 4 x 2.5 mm<sup>2</sup>, 5 x 1.5 mm<sup>2</sup> or 6 x 1 mm<sup>2</sup>.

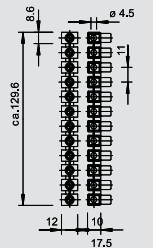


## Dolü branch terminals, open on one side

Type	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
70 S (sorted)		180	10	2.600	2055 20 1

PA Polyamide /100 pc.

Terminals made of brass, screws of steel, galvanised and transparently passivated, 12-pole, strip separable into individual terminals, only open on one side.  
Closed on one side, captive upwards screw.  
Nominal cross-section 2,5 mm<sup>2</sup>.  
Nominal voltage 380 V.  
Nominal current 20 A.  
Max. connectable cross-sections per terminal: 4 x 2.5 mm<sup>2</sup>, 5 x 1.5 mm<sup>2</sup> or 6 x 1 mm<sup>2</sup>.  
Delivery sorted by colour: 3 black, 2 blue, 3 yellow-green, 1 brown and 1 grey strip in each packaging unit.

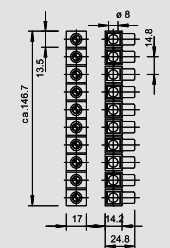


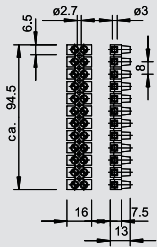
## Dolü branch terminals, open on both sides

Type	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
71	Black	120	10	7.030	2055 50 3

PP Polypropylene /100 pc.

Terminals made of brass, screws of steel, galvanised and transparently passivated, 10-pole, strip separable into individual terminals, open on both sides.  
Captive upwards screw.  
Nominal cross-section 10 mm<sup>2</sup>.  
Nominal voltage 380 V.  
Max. connectable cross-sections per terminal: 3 x 10 mm<sup>2</sup>, 4 x 6 mm<sup>2</sup>.



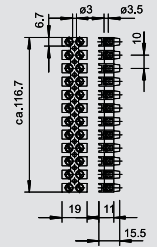


## 4 mm² series connector, polyamide

Type	Colour	Shipping box	Pack.	Weight	Item No.
		pcs	pcs	kg/100 pcs.	
<b>72 VDE</b>	Transparent	500	10	2.000	<b>2055 92 9</b>

**PA** Polyamide /100 pc.

Brass terminals, steel screws, galvanised and blue passivated, 12-pole, individual terminals detachable.  
 Captive upwards screw.  
 Nominal cross-section 4 mm².  
 Nominal voltage 450 V.  
 Nominal current 32 A.  
 Max. attachment each side: 4 mm² single wire or 2.5 mm² fine wire with wire end sleeve.  
 Maximum approved ambient temperature to EN 60998: -5 to +85 °C.

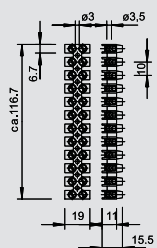


## 6 mm² series connectors, polyamide

Type	Colour	Shipping box	Pack.	Weight	Item No.
		pcs	pcs	kg/100 pcs.	
<b>74 VDE</b>	Transparent	200	10	3.580	<b>2056 14 3</b>

**PA** Polyamide /100 pc.

Tested to EN 60998.  
 Brass terminals, steel screws, electrogalvanised and blue passivated, 12pole, individual terminals detachable.  
 Captive upwards screw.  
 Nominal cross-section 6 mm².  
 Nominal voltage 450 V.  
 Nominal current 32 A.  
 Max. attachment each side: 6 mm² single wire with wire end sleeve.  
 Maximum approved ambient temperature to EN 60998: -5 to +85 °C.

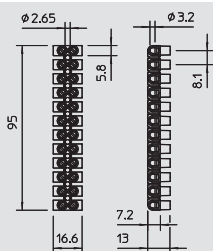


## Series connectors, polyamide wire protection clamp

Type	Colour	Shipping box	Pack.	Weight	Item No.
		pcs	pcs	kg/100 pcs.	
<b>74 D</b>	Transparent	200	10	3.680	<b>2056 17 8</b>

**PA** Polyamide /100 pc.

With wire protection clamp.  
 Tested to EN 60998.  
 Brass terminals, steel screws, galvanised and blue passivated, 12-pole, individual terminals detachable.  
 Captive upwards screw.  
 Nominal cross-section 4 mm².  
 Nominal voltage 450 V.  
 Nominal current 32 A.  
 Max. attachment each side: 4 mm² single-wire or 4 mm² fine-wire without wire end sleeve.  
 Maximum approved ambient temperature to EN 60998: -5 to +85 °C.



## 4 mm² series connectors, polypropylene

Type	Colour	Shipping box	Pack.	Weight	Item No.
		pcs	pcs	kg/100 pcs.	
<b>72 CE WS</b>	White	500	10	1.800	<b>2056 07 0</b>
<b>72 CE SW</b>	Black	500	10	1.800	<b>2056 08 9</b>

**PP** Polypropylene /100 pc.

Tested to EN 60998.  
 Steel terminals, steel screws, electrogalvanised, 12-pole, individual terminals detachable from strips using "twist'n'pull".  
 Captive upwards screw.  
 Max. approved ambient temperature to EN 60998: -5 to +80 °C.  
 Nominal cross-section 4 mm².  
 Nominal voltage 450 V.  
 Nominal current 32 A.  
 Max. attachment each side: 4 mm² single-wire or 4 mm² fine-wire without wire end sleeve.



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Terminal systems

# Screw terminals

Terminal systems

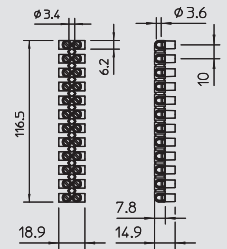


## 6 mm<sup>2</sup> series connectors, polypropylene

Type	Colour	Shipping box	Pack.	Weight	Item No.
		pcs	pcs	kg/100 pcs.	
74 CE WS	White	200	10	2.600	2056 22 4
74 CE SW	Black	200	10	2.600	2056 23 2

PP Polypropylene /100 pc.

Tested to EN 60998.  
Steel terminals, steel screws, electrogalvanised, 12-pole, individual terminals detachable from strips using "twist'n'pull".  
Captive upwards screw.  
Max. approved ambient temperature to EN 60998: -5 to +80 °C.  
Nominal cross-section 6 mm<sup>2</sup>.  
Nominal voltage 450 V.  
Nominal current 41 A.  
Max. attachment each side: 6 mm<sup>2</sup> single-wire or 4 mm<sup>2</sup> fine-wire without wire end sleeve.

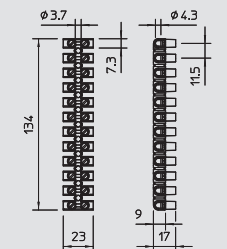


## 10 mm<sup>2</sup> series connectors, polypropylene

Type	Colour	Shipping box	Pack.	Weight	Item No.
		pcs	pcs	kg/100 pcs.	
76 CE WS	White	100	10	4.300	2056 37 2
76 CE SW	Black	100	10	4.300	2056 38 0

PP Polypropylene /100 pc.

Tested to EN 60998.  
Steel terminals, steel screws, electrogalvanised, 12-pole, individual terminals detachable from strips using "twist'n'pull".  
Captive upwards screw.  
Max. approved ambient temperature to EN 60998: -5 to +80 °C.  
Nominal cross-section 10 mm<sup>2</sup>.  
Nominal voltage 450 V.  
Nominal current 57 A.  
Max. attachment each side: 10 mm<sup>2</sup> single-wire or 6 mm<sup>2</sup> fine-wire without wire end sleeve.

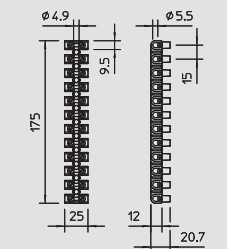


## 16 mm<sup>2</sup> series connectors, polypropylene

Type	Colour	Shipping box	Pack.	Weight	Item No.
		pcs	pcs	kg/100 pcs.	
78 CE WS	White	100	10	7.500	2056 55 0
78 CE SW	Black	100	10	7.500	2056 56 9

PP Polypropylene /100 pc.

Tested to EN 60998.  
Steel terminals, steel screws, electrogalvanised, 12-pole, individual terminals detachable from strips using "twist'n'pull".  
Captive upwards screw.  
Max. approved ambient temperature to EN 60998: -5 to +80 °C.  
Nominal cross-section 16 mm<sup>2</sup>.  
Nominal voltage 450 V.  
Nominal current 76 A.  
Max. attachment each side: 16 mm<sup>2</sup> multi-wire or 10 mm<sup>2</sup> fine-wire without wire end sleeve.

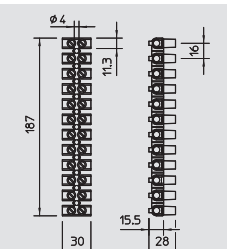


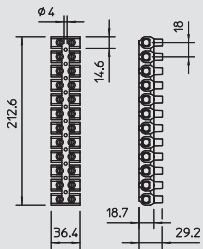
## 25 mm<sup>2</sup> series connectors, polypropylene

Type	Colour	Shipping box	Pack.	Weight	Item No.
		pcs	pcs	kg/100 pcs.	
79 CE WS	White	50	10	11.200	2056 57 7
79 CE SW	Black	50	10	11.200	2056 58 5

PP Polypropylene /100 pc.

Tested to EN 60998.  
Brass terminals, steel screws, electrogalvanised and transparently passivated, 12-pole, individual terminals detachable from strips.  
Captive upwards screw.  
Max. approved ambient temperature to EN 60998: -5 to +80 °C.  
Nominal cross-section 25 mm<sup>2</sup>.  
Nominal voltage 750 V.  
Nominal current 101 A.  
Max. attachment each side: 25 mm<sup>2</sup> multi-wire or 16 mm<sup>2</sup> fine-wire without wire end sleeve.





## 35 mm<sup>2</sup> series connectors, polypropylene

Type	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
80 CE WS	White	50	10	17.400	2056 59 0
80 CE SW	Black	50	10	17.400	2056 59 3

PP Polypropylene

/100 pc.

Tested to EN 60998.

Brass terminals, steel screws, electrogalvanised, 12-pole, individual terminals detachable from strips.

Captive upwards screw.

Max. approved ambient temperature to EN 60998: -5 to +80 °C.

Nominal cross-section 35 mm<sup>2</sup>.

Nominal voltage 1000 V.

Nominal current 125 A.

Max. attachment each side: 35 mm<sup>2</sup> multi-wire or 25 mm<sup>2</sup> fine-wire without wire end sleeve.



# Screwless terminals

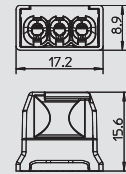


## Screwless terminals, 3-pole

Type	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs	Item No.
61 325 LGR	Light grey	2000	100	0.140	2054 48 5

PA Polyamide /100 pc.

Screwless terminal to connect single-strand cables.  
 Nominal cross-section:  
 3 x 0.5 mm<sup>2</sup> to 2.5 mm<sup>2</sup> single-wire cable.  
 3 x 1.5 mm<sup>2</sup> to 2.5 mm<sup>2</sup> rigid, multi-wire cable.  
 Rated voltage 450 V.  
 Rated current 24 A.  
 Stripping length: 8–9 mm.  
 Inspection opening: phase tester and testing pin (max. Ø 2 mm).

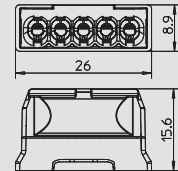


## Screwless terminals, 5-pole

Type	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs	Item No.
61 525 LGR	Light grey	2000	100	0.300	2054 50 7

PA Polyamide /100 pc.

Screwless terminal to connect single-strand cables.  
 Nominal cross-section:  
 5 x 0.5 mm<sup>2</sup> to 2.5 mm<sup>2</sup> single-wire cable  
 5 x 1.5 mm<sup>2</sup> to 2.5 mm<sup>2</sup> rigid, multi-wire cable  
 Rated voltage 450 V.  
 Rated current 24 A.  
 Stripping length: 8–9 mm.  
 Inspection opening: phase tester and testing pin (max. Ø 2 mm).

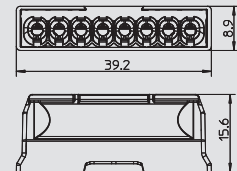


## Screwless terminals, 8-pole

Type	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs	Item No.
61 825 LGR	Light grey	1000	50	0.490	2054 52 3

PA Polyamide /100 pc.

Screwless terminal to connect single-strand cables.  
 Nominal cross-section:  
 8 x 0.5 mm<sup>2</sup> to 2.5 mm<sup>2</sup> single-wire cable.  
 8 x 1.5 mm<sup>2</sup> to 2.5 mm<sup>2</sup> rigid, multi-wire cable.  
 Rated voltage 450 V.  
 Rated current 24 A.  
 Stripping length: 8–9 mm.  
 Inspection opening: phase tester and testing pin (max. Ø 2 mm).

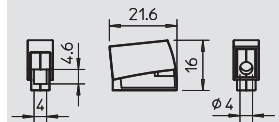


## Luminaire connection terminal with 2 connections

Type	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs	Item No.
61 1/1 25 GR	Grey	2000	100	0.200	2054 75 0

PA Polyamide /100 pc.

Luminaire connection terminal for toolless connection of remote cables. Tested according to EN 60998  
 Screwless terminal to connect single-strand cables to multi-wire cables.  
 Nominal cross-section:  
 0.5 - 2.5  
 Rated voltage 450 V  
 Rated current 24 A  
 Stripping length: 8–9 mm  
 Inspection opening: Phase tester and testing pin (max. Ø 2 mm)  
 Max. approved ambient temperature according to EN 60998: max. 110°C

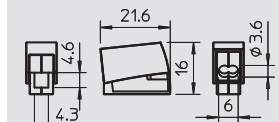


## Luminaire connection terminal with 3 connections

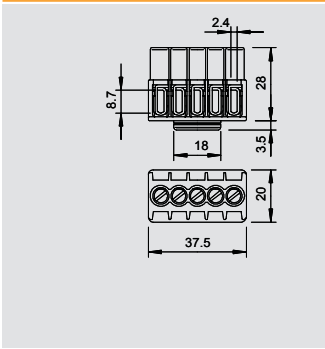
Type	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs	Item No.
61 2/1 25 WS	White	2000	100	0.230	2054 75 5

PA Polyamide /100 pc.

Luminaire connection terminal for toolless connection of remote cables. Tested according to EN 60998  
 Screwless terminal to connect single-strand cables to multi-wire cables.  
 Nominal cross-section:  
 0.5 - 2.5  
 Rated voltage 450 V  
 Rated current 24 A  
 Stripping length: 8–9 mm  
 Inspection opening: Phase tester and testing pin (max. Ø 2 mm)  
 Max. approved ambient temperature according to EN 60998: max. 110°C





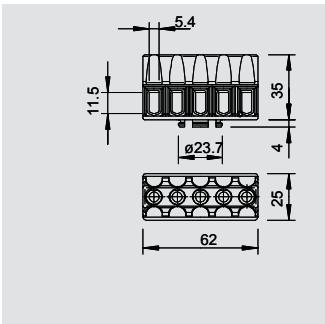


## Terminal strip, junction box, T series

2,5-4 mm<sup>2</sup> -5- DVE

Type	Colour	No. of screwless terminals	Nominal cross section mm <sup>2</sup>	Nominal voltage V	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>KL-T 01-04</b>	Light grey	5	1-4	400	100	10	2.100	<b>2016 18 0</b>

**PA** Polyamide /100 pc.  
Steel terminal block and bolts, galvanised and transparently passivated, nominal 1 - 4 mm<sup>2</sup>, nominal voltage 400 V, 5-pole, with terminal sockets, Max. connectable cross-sections per terminal max. 4 x 2.5 mm<sup>2</sup>, 5 x 1.5 mm<sup>2</sup> or 6 x 1 mm<sup>2</sup>.

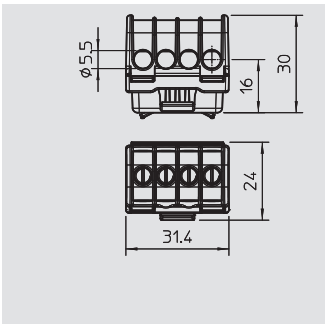


## Terminal strip, junction box, T series

4-6 mm<sup>2</sup> -5- DVE

Type	Colour	No. of screwless terminals	Nominal cross section mm <sup>2</sup>	Nominal voltage V	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>KL-T 02-06</b>	Light grey	5	1.5-6	400	120	10	4.380	<b>2016 18 5</b>

**PA** Polyamide /100 pc.  
Steel terminal block and bolts, galvanised and transparently passivated, nominal 1,5 - 6 mm<sup>2</sup>, nominal voltage 400 V, 5-pole, with terminal sockets, Max. connectable cross-sections per terminal: 3 x 6 mm<sup>2</sup>, 4 x 4 mm<sup>2</sup> or 6 x 2.5 mm<sup>2</sup>.

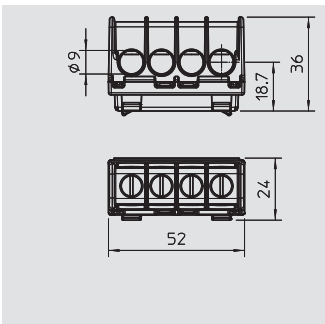


## Terminal strip, junction box, T series

16 mm<sup>2</sup> DVE

Type	Colour	No. of screwless terminals	Nominal cross section mm <sup>2</sup>	Nominal voltage V	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>KL-T 06-16</b>	Light grey	4	6-16	400	120	10	—	<b>2016 19 0</b>

**PA** Polyamide /100 pc.  
Brass terminals, steel screws, electrogalvanised and transparently passivated, nominal cross-section 6 - 16 mm<sup>2</sup>, nominal voltage 400 V, 1-pole, with terminal sockets, Max. connectable conductors per terminal max. 4 x 16 mm<sup>2</sup>, 4 x 10 mm<sup>2</sup>, 8x6 mm<sup>2</sup> or 12 x 4 mm<sup>2</sup>.

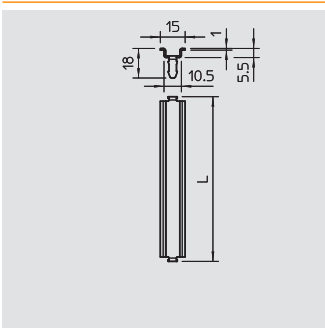


## Terminal strip, junction box, T series

35 mm<sup>2</sup> DVE

Type	Colour	No. of screwless terminals	Nominal cross section mm <sup>2</sup>	Nominal voltage V	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>KL-T 16-35</b>	Light grey	4	16-35	400	120	10	—	<b>2016 19 5</b>

**PA** Polyamide /100 pc.  
Brass terminals, steel screws, electrogalvanised and transparently passivated, nominal cross-section 16 - 35 mm<sup>2</sup>, nominal voltage 400 V, 1-pole, with terminal sockets, Max. connectable conductors per terminal max. 4 x 35 mm<sup>2</sup>, 4 x 25 mm<sup>2</sup>, 8x16 mm<sup>2</sup> or 12 x 10 mm<sup>2</sup>.



## Hat profile rail, junction box T series

DVE

Type	Version	Length mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>46277 T160 Q GTP</b>	For T 160 lengthwise + T 100 crosswise	99	10	—	<b>1115 27 0</b>
<b>46277 T250 Q GTP</b>	For T 250 lengthwise + T 160 crosswise	139	10	—	<b>1115 27 4</b>
<b>46277 T250 L GTP</b>	For T 250 lengthwise	189	10	—	<b>1115 27 8</b>
<b>46277 T350 Q GTP</b>	For T 350 crosswise	161	10	—	<b>1115 28 2</b>
<b>46277 T350 L GTP</b>	For T 350 lengthwise	168	10	—	<b>1115 28 6</b>

**St** Steel **GTP** Electrogalvanised, transparently passivated /100 pc.  
Hat profile rail 15 x 5 mm to DIN EN 60715 (formerly DIN EN 50045).





## Cable fastening systems, plastic

	Cap nut cable gland	Metric thread	212
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# Cap nut cable gland



## Cable gland, metric thread

Type	Thread	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
V-TEC VM12 SGR	M12 x 1.5	Silver grey	500	50	0.320	2022 84 3
V-TEC VM16 SGR	M16 x 1.5	Silver grey	500	50	0.640	2022 84 5
V-TEC VM20 SGR	M20 x 1.5	Silver grey	600	50	0.860	2022 84 7
V-TEC VM25 SGR	M25 x 1.5	Silver grey	300	25	1.360	2022 84 9
V-TEC VM32 SGR	M32 x 1.5	Silver grey	240	20	2.230	2022 85 1
V-TEC VM40 SGR	M40 x 1.5	Silver grey	120	10	3.470	2022 85 3
V-TEC VM50 SGR	M50 x 1.5	Silver grey	60	5	5.470	2022 85 5
V-TEC VM63 SGR	M63 x 1.5	Silver grey	60	5	8.310	2022 85 7
V-TEC VM12 LGR	M12 x 1.5	Light grey	500	50	0.320	2022 86 2
V-TEC VM16 LGR	M16 x 1.5	Light grey	500	50	0.640	2022 86 4
V-TEC VM20 LGR	M20 x 1.5	Light grey	600	50	0.860	2022 86 6
V-TEC VM25 LGR	M25 x 1.5	Light grey	300	25	1.360	2022 86 8
V-TEC VM32 LGR	M32 x 1.5	Light grey	240	20	2.230	2022 87 0
V-TEC VM40 LGR	M40 x 1.5	Light grey	120	10	3.470	2022 87 2
V-TEC VM50 LGR	M50 x 1.5	Light grey	60	5	5.470	2022 87 4
V-TEC VM63 LGR	M63 x 1.5	Light grey	60	5	8.310	2022 87 6
V-TEC VM12 SW	M12 x 1.5	Black	500	50	0.320	2022 88 3
V-TEC VM16 SW	M16 x 1.5	Black	500	50	0.640	2022 88 5
V-TEC VM20 SW	M20 x 1.5	Black	600	50	0.860	2022 88 7
V-TEC VM25 SW	M25 x 1.5	Black	300	25	1.360	2022 88 9
V-TEC VM32 SW	M32 x 1.5	Black	240	20	2.230	2022 89 1
V-TEC VM40 SW	M40 x 1.5	Black	120	10	3.470	2022 89 3
V-TEC VM50 SW	M50 x 1.5	Black	60	5	5.470	2022 89 5
V-TEC VM63 SW	M63 x 1.5	Black	60	5	8.310	2022 89 7

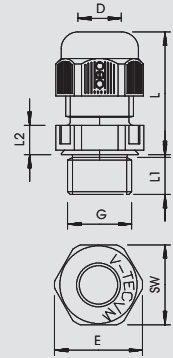
PA Polyamide /100 pc.

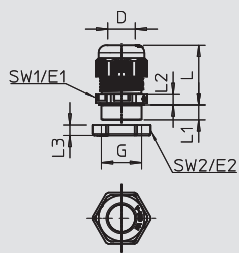
The quickest and most convenient way of providing strain relief and tightness with cable glands on junction boxes and housings is with the tried-and-trusted V-TEC VM cable glands from OBO. With the integrated sealing lip and the special OBO lamella technology, protection class IP 68 is achieved. Strain relief and tightness have been tested to DIN EN 50262. The connecting threads of the cable glands are metric or Pg and are therefore suitable for universal use. Once screwed in place the fitting is there for ever, as the optimum thread adjustment with the right pitch ensures permanent resistance to shaking.

Applications: from private housing with junction boxes up to industrial applications in the distributor cabinet.

### Important dimensions, V-TEC cable gland

G	D	SW	E	L min.	L max.	L1	L2
	mm	mm	mm	mm	mm	mm	mm
M12 x 1.5	3.5 - 7	15	16.5	18.5	23.5	8	5
M16 x 1.5	4.5 - 10	20	22	21.5	29	8	5
M20 x 1.5	6 - 13	24	27	23.5	30.5	10	6
M25 x 1.5	9 - 17	29	32	26	35	10	6
M32 x 1.5	15 - 21	36	41	29	40	11	6
M40 x 1.5	16 - 28	44	50	36	46	11	7
M50 x 1.5	23 - 35	54	60	43	52	12	8
M63 x 1.5	36 - 48	67	75	48	60	12	9





## Cable gland, metric thread, set with locknut

Type	Thread	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
V-TEC VM12+ LGR	M12 x 1,5	Light grey	600	50	0.340	2022 76 2
V-TEC VM16+ LGR	M16 x 1,5	Light grey	500	50	0.800	2022 76 4
V-TEC VM20+ LGR	M20 x 1,5	Light grey	600	50	1.110	2022 76 6
V-TEC VM25+ LGR	M25 x 1,5	Light grey	300	25	1.710	2022 76 8
V-TEC VM32+ LGR	M32 x 1,5	Light grey	240	20	2.840	2022 77 0
V-TEC VM40+ LGR	M40 x 1,5	Light grey	120	10	5.150	2022 77 2
V-TEC VM50+ LGR	M50 x 1,5	Light grey	60	5	6.360	2022 77 4
V-TEC VM63+ LGR	M63 x 1,5	Light grey	60	5	10.140	2022 77 6



PA Polyamide

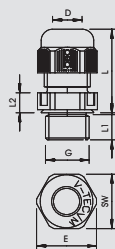
/100 pc.

The quickest and most convenient way of providing strain relief and tightness with cable glands on junction boxes and housings is with the tried-and-trusted V-TEC VM cable glands from OBO. With the integrated sealing lip and the special OBO lamella technology, protection class IP 68 is achieved. Strain relief and tightness have been tested to DIN EN 50262. The connecting threads of the cable glands are metric or Pg and are therefore suitable for universal use. Once screwed in place the fitting is there for ever, as the optimum thread adjustment with the right pitch ensures permanent resistance to shaking.

Applications: from private housing with junction boxes up to industrial applications in the distributor cabinet.

### Important dimensions, V-TEC cable gland

G	D	SW1	E1	SW2	E2	L min.	L max.	L2	L2	L3
mm										
M12 x 1.5	3.5 - 7	15	16.5	17	19	18.5	23.5	8	5	5
M16 x 1.5	4.5 - 10	20	22	22	25	21.5	23.5	8	5	5
M20 x 1.5	6 - 13	24	27	24	27	23.5	30.5	9	5	6
M25 x 1.5	9 - 17	29	32	32	36	26	35	10	6	6.5
M32 x 1.5	15 - 21	36	41	41	46	29	40	11	6	7
M40 x 1.5	16 - 28	44	50	50	56	36	46	11	7	7.5
M50 x 1.5	23 - 35	54	60	60	68	43	52	12	8	8
M63 x 1.5	36 - 48	67	75	75	83	48	60	12	9	8.5



## Cable gland, metric thread, with reducing seal insert

Type	Thread	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
V-TEC VM12RD LGR	M12 x 1,5	Light grey	500	50	0.320	2023 00 8
V-TEC VM16RD LGR	M16 x 1,5	Light grey	500	50	0.640	2023 01 0
V-TEC VM20RD LGR	M20 x 1,5	Light grey	600	50	0.860	2023 01 2
V-TEC VM25RD LGR	M25 x 1,5	Light grey	300	25	1.340	2023 01 4
V-TEC VM32RD LGR	M32 x 1,5	Light grey	240	20	2.230	2023 01 6
V-TEC VM40RD LGR	M40 x 1,5	Light grey	120	10	3.470	2023 01 8
V-TEC VM50RD LGR	M50 x 1,5	Light grey	60	5	5.470	2023 02 0
V-TEC VM63RD LGR	M63 x 1,5	Light grey	60	5	8.310	2023 02 2



PA Polyamide

/100 pc.

The quickest and most convenient way of providing strain relief and tightness with cable glands on junction boxes and housings is with the tried-and-trusted V-TEC VM cable glands from OBO. With the integrated sealing lip and the special OBO lamella technology, protection class IP 68 is achieved. Strain relief and tightness have been tested to DIN EN 50262. The connecting threads of the cable glands are metric or Pg and are therefore suitable for universal use. Once screwed in place the fitting is there for ever, as the optimum thread adjustment with the right pitch ensures permanent resistance to shaking.

Applications: from private housing with junction boxes up to industrial applications in the distributor cabinet.

### Important dimensions, V-TEC cable gland

G	D	SW	E	L min.	L max.	L1	L2
mm							
M12 x 1.5	2-5	15	16.5	18.5	23.5	8	5
M16 x 1.5	2.5-7	20	22	21.5	23.5	8	5
M20 x 1.5	4-9	24	27	23.5	30.5	9	5
M25 x 1.5	6-13	29	32	26	35	10	6
M32 x 1.5	11-16	36	41	29	40	11	6
M40 x 1.5	12-23	44	50	36	46	11	7
M50 x 1.5	18-29	54	60	43	52	12	8
M63 x 1.5	36 - 48	67	75	48	60	12	9

# Cap nut cable gland



## Cable gland, metric thread with multi-way seal insert

Type	Thread	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
V-TEC VM20 2x4	M20 x 1,5	Light grey	600	50	0.860	2022 11 0
V-TEC VM20 4x5	M20 x 1,5	Light grey	600	50	0.860	2022 11 2
V-TEC VM20 2x6	M20 x 1,5	Light grey	600	50	0.860	2022 11 4
V-TEC VM25 5x4	M25 x 1,5	Light grey	300	25	1.360	2022 12 0
V-TEC VM25 3x6	M25 x 1,5	Light grey	300	25	1.360	2022 12 2
V-TEC VM25 2x6	M25 x 1,5	Light grey	300	25	1.360	2022 12 4
V-TEC VM25 3x7	M25 x 1,5	Light grey	300	25	1.360	2022 12 6
V-TEC VM25 2x8	M25 x 1,5	Light grey	300	25	1.360	2022 12 8
V-TEC VM32 2x8	M32 x 1,5	Light grey	240	20	2.240	2022 13 6
V-TEC VM32 4x8	M32 x 1,5	Light grey	240	20	2.240	2022 13 8

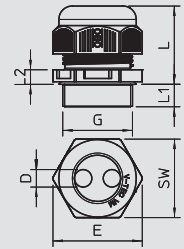
PA Polyamide /100 pc.

The quickest and most convenient way of providing strain relief and tightness with cable glands on junction boxes and housings is with the tried-and-trusted V-TEC VM cable glands from OBO. With the integrated sealing lip and the special OBO lamella technology, protection class IP 68 is achieved. Strain relief and tightness have been tested to DIN EN 50262. The connecting threads of the cable glands are metric or Pg and are therefore suitable for universal use. Once screwed in place the fitting is there for ever, as the optimum thread adjustment with the right pitch ensures permanent resistance to shaking.

Applications: from private housing with junction boxes up to industrial applications in the distributor cabinet.

### Important dimensions, V-TEC cable gland

G	Drill holes	D	SW	E	L min.	L max.	L1	L2
	Quantity	mm	mm	mm	mm	mm	mm	mm
M20 x 1.5	2	4	24	27	23.5	30.5	10	6
M20 x 1.5	4	5	24	27	23.5	30.5	10	6
M25 x 1.5	5	4	29	32	26	35	10	6
M25 x 1.5	3	6	29	32	26	35	10	6
M25 x 1.5	2	6	29	32	26	35	10	6
M25 x 1.5	3	7	29	32	26	35	10	6
M25 x 1.5	2	8	29	32	26	35	10	6
M32 x 1.5	2	8	36	41	29	40	11	6
M32 x 1.5	4	8	36	41	29	40	11	6



## Cable gland, metric thread, UV-resistant

Type	Thread	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
V-TEC VM12UV LGR	M12 x 1,5	Light grey	500	50	0.320	2022 90 0
V-TEC VM16UV LGR	M16 x 1,5	Light grey	500	50	0.590	2022 90 1
V-TEC VM20UV LGR	M20 x 1,5	Light grey	600	50	0.590	2022 90 2
V-TEC VM25UV LGR	M25 x 1,5	Light grey	300	25	1.360	2022 90 3
V-TEC VM32UV LGR	M32 x 1,5	Light grey	240	20	2.240	2022 90 4
V-TEC VM40UV LGR	M40 x 1,5	Light grey	120	10	3.500	2022 90 5
V-TEC VM50UV LGR	M50 x 1,5	Light grey	60	5	5.480	2022 90 6
V-TEC VM63UV LGR	M63 x 1,5	Light grey	60	5	8.330	2022 90 7

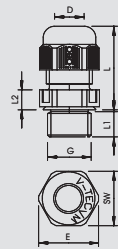
PA Polyamide /100 pc.

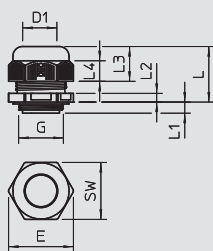
The quickest and most convenient way of providing strain relief and tightness with cable glands on junction boxes and housings is with the tried-and-trusted V-TEC VM cable glands from OBO. With the integrated sealing lip and the special OBO lamella technology, protection class IP 68 is achieved. Strain relief and tightness have been tested to DIN EN 50262. The connecting threads of the cable glands are metric or Pg and are therefore suitable for universal use. Once screwed in place the fitting is there for ever, as the optimum thread adjustment with the right pitch ensures permanent resistance to shaking.

Applications: from private housing with junction boxes up to industrial applications in the distributor cabinet.

### Important dimensions, V-TEC cable gland

G	D	SW	E	L min.	L max.	L1	L2	L3
	mm	mm	mm	mm	mm	mm	mm	mm
M12 x 1.5	3.5 - 7	15	16.5	18.5	23.5	8	5	
M16 x 1.5	4.5 - 10	20	22	21.5	23.5	8	5	
M20 x 1.5	6 - 13	24	27	23.5	30.5	9	5	
M25 x 1.5	9 - 17	29	32	26	35	10	6	
M32 x 1.5	15 - 21	36	41	29	40	11	6	
M40 x 1.5	16 - 28	44	50	36	46	11	7	
M63 x 1.5	36 - 48	67	75	48	60	12	9	





## Cable gland, short metric thread



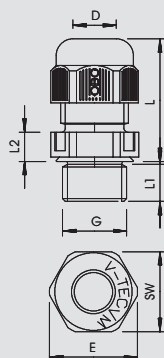
Type	Thread	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
V-TEC M KA M20	M20x1,5	Light grey	600	50	0.970	2024 82 9

PA Polyamide /100 pc.

With short metric connection thread to IEC 423, particularly suitable for junction boxes with metric connection thread. Robust cable gland with cap nut design for high tightness requirements. Strain relief, torsion protection and tightness over the entire clamping range. Sealing ring made of polychloroprene/acrylnitrilbutadiene rubber. Moulded shaped sealing lip on intermediate support, thus no connection thread sealing ring required, VDE-tested to DIN EN 50262, protection rating IP 68 at 5 bar 1 h. Temperature range -20 °C to +65 °C.

### Important dimensions, V-TEC cable gland

G	D	SW	E	L min.	L max.	L1	L2	L3
M20 x 1.5	6-13	24	27	23	30	7	5	18



## Cable gland, long metric thread



Type	Thread	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
V-TEC VM L12 SGR	M12 x 1,5	Silver grey	500	50	0.390	2022 92 1
V-TEC VM L16 SGR	M16 x 1,5	Silver grey	500	50	0.730	2022 92 4
V-TEC VM L20 SGR	M20 x 1,5	Silver grey	600	50	0.880	2022 92 6
V-TEC VM L25 SGR	M25 x 1,5	Silver grey	300	25	1.600	2022 92 8
V-TEC VM L32 SGR	M32 x 1,5	Silver grey	240	20	2.050	2022 93 0
V-TEC VM L40 SGR	M40 x 1,5	Silver grey	120	10	3.170	2022 93 3
V-TEC VM L50 SGR	M50 x 1,5	Silver grey	60	5	5.010	2022 93 5
V-TEC VM L63 SGR	M63 x 1,5	Silver grey	60	5	7.390	2022 93 7
V-TEC VM L12 LGR	M12 x 1,5	Light grey	500	50	0.390	2022 94 3
V-TEC VM L16 LGR	M16 x 1,5	Light grey	500	50	0.730	2022 94 5
V-TEC VM L20 LGR	M20 x 1,5	Light grey	600	50	0.880	2022 94 7
V-TEC VM L25 LGR	M25 x 1,5	Light grey	300	25	1.600	2022 94 9
V-TEC VM L32 LGR	M32 x 1,5	Light grey	240	20	2.050	2022 95 1
V-TEC VM L40 LGR	M40 x 1,5	Light grey	120	10	3.170	2022 95 3
V-TEC VM L50 LGR	M50 x 1,5	Light grey	60	5	5.010	2022 95 5
V-TEC VM L63 LGR	M63 x 1,5	Light grey	60	5	7.390	2022 95 7
V-TEC VM L12 SW	M12 x 1,5	Black	500	50	0.390	2022 96 4
V-TEC VM L16 SW	M16 x 1,5	Black	500	50	0.730	2022 96 6
V-TEC VM L20 SW	M20 x 1,5	Black	600	50	0.880	2022 96 8
V-TEC VM L25 SW	M25 x 1,5	Black	300	25	1.600	2022 97 0
V-TEC VM L32 SW	M32 x 1,5	Black	240	20	2.050	2022 97 2
V-TEC VM L40 SW	M40 x 1,5	Black	120	10	3.170	2022 97 4
V-TEC VM L50 SW	M50 x 1,5	Black	60	5	5.010	2022 97 6
V-TEC VM L63 SW	M63 x 1,5	Black	60	5	7.390	2022 97 8

PA Polyamide /100 pc.

The quickest and most convenient way of providing strain relief and tightness with cable glands on junction boxes and housings is with the tried-and-trusted V-TEC VM cable glands from OBO. With the integrated sealing lip and the special OBO lamella technology, protection class IP 68 is achieved. Strain relief and tightness have been tested to DIN EN 50262. The connecting threads of the cable glands are metric or Pg and are therefore suitable for universal use. Once screwed in place the fitting is there for ever, as the optimum thread adjustment with the right pitch ensures permanent resistance to shaking.

Applications: from private housing with junction boxes up to industrial applications in the distributor cabinet.

### Important dimensions, V-TEC cable gland

G	D	SW	E	L min.	L max.	L1	L2
M12 x 1.5	3.5 - 7	15	16.5	17.5	24	15	5
M16 x 1.5	4.5 - 10	20	22	20.5	29.5	15	5
M20 x 1.5	6 - 13	24	27	22.5	32.5	15	5
M25 x 1.5	9 - 17	29	32	25.5	36	15	6
M32 x 1.5	15 - 21	36	41	28	40	15	6
M40 x 1.5	16 - 28	44	50	32	46	18	7
M50 x 1.5	23 - 35	54	60	37.5	54.3	18	8
M63 x 1.5	36 - 48	68	75	41.5	60.3	18	9



# Cap nut cable gland



## Cable gland, metric thread, extra long

Type	Thread	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
V-TEC VM LL16 SW	M16x1,5	Black	500	50	0.800	2022 98 5
V-TEC VM LL20 SW	M20x1,5	Black	600	50	1.000	2022 98 7
V-TEC VM LL25 SW	M25x1,5	Black	300	25	1.700	2022 98 9
V-TEC VM LL32 SW	M32x1,5	Black	240	20	2.200	2022 99 1
V-TEC VM LL40 SW	M40x1,5	Black	120	10	2.200	2022 99 3
V-TEC VM LL50 SW	M50x1,5	Black	60	5	5.500	2022 99 5
V-TEC VM LL63 SW	M63x1,5	Black	60	5	7.500	2022 99 7

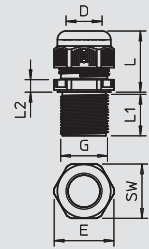
PA Polyamide /100 pc.

The quickest and most convenient way of providing strain relief and tightness with cable glands on junction boxes and housings is with the tried-and-trusted V-TEC VM cable glands from OBO. With the integrated sealing lip and the special OBO lamella technology, protection class IP 68 is achieved. Strain relief and tightness have been tested to DIN EN 50262. The connecting threads of the cable glands are metric or Pg and are therefore suitable for universal use. Once screwed in place the fitting is there for ever, as the optimum thread adjustment with the right pitch ensures permanent resistance to shaking.

Applications: from private housing with junction boxes up to industrial applications in the distributor cabinet.

### Important dimensions, V-TEC cable gland

G	D	SW	E	L min.	L max.	L1	L2
M16 x 1.5	4.5 - 10	20	22	20.5	29.5	15	15.5
M20 x 1.5	6 - 13	24	27	22.5	32.5	15	17.5
M25 x 1.5	9 - 17	29	32	25.5	36	15	19.5
M32 x 1.5	15 - 21	36	41	28	40	15	22
M50 x 1.5	23 - 35	54	60	37.5	54.3	18	29.5
M63 x 1.5	36 - 48	68	75	41.5	60.3	18	32.5



Cable gland systems, plastic



## Cable gland, metric thread, for function maintenance

Type	Thread	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
V-TEC VM20 OR	M20 x 1,5	Pastel orange	600	50	0.860	7205 59 4
V-TEC VM25 OR	M25 x 1,5	Pastel orange	300	25	1.360	7205 59 7
V-TEC VM32 OR	M32 x 1,5	Pastel orange	240	20	2.240	7205 60 0
V-TEC VM40 OR	M40 x 1,5	Pastel orange	120	10	3.500	7205 60 3

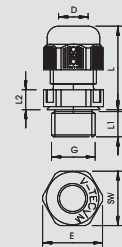
PA Polyamide /100 pc.

Robust cap nut cable gland with metric connecting thread to IEC 423. For high tightness requirements. Strain relief, wringing protection and tightness over the whole clamping area. Sealing ring made of polychloroprene/acrylnitrilbutadiene rubber. Moulded shaped sealing lip on intermediate support, no connection thread sealing ring required.

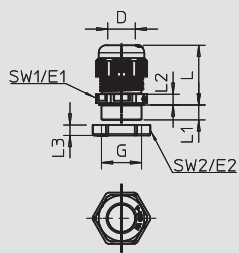
VDE-tested to DIN EN 50262, protection rating IP 68 at 5 bar for 1 hr.

For electrical function maintenance according to DIN 4102 Part 12 in connection with the junction boxes of the FireBox T series.

G	D	SW	E	L min.	L max.	L1	L2
M20 x 1.5	6 - 13	24	27	23.5	30.5	10	6
M25 x 1.5	9 - 17	29	32	26	35	10	6
M32 x 1.5	15 - 21	36	41	29	40	11	6
M40 x 1.5	16 - 28	44	50	36	46	11	7







## Cable gland, PG thread, set with locknut



Type	Thread	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
V-TEC PG7+ LGR	Pg 7	Light grey	600	50	0.500	2024 65 5
V-TEC PG9+ LGR	Pg 9	Light grey	500	50	0.800	2024 65 7
V-TEC PG11+ LGR	Pg 11	Light grey	500	50	1.070	2024 65 9
V-TEC PG13,5+LGR	Pg 13,5	Light grey	400	50	1.280	2024 66 1
V-TEC PG16+ LGR	Pg 16	Light grey	250	25	1.710	2024 66 3
V-TEC PG21+ LGR	Pg 21	Light grey	300	25	2.760	2024 66 5
V-TEC PG29+ LGR	Pg 29	Light grey	240	20	5.120	2024 66 7
V-TEC PG36+ LGR	Pg 36	Light grey	120	10	7.710	2024 66 9
V-TEC PG42+ LGR	Pg 42	Light grey	60	5	9.410	2024 67 1
V-TEC PG48+ LGR	Pg 48	Light grey	60	5	11.290	2024 67 3

PA Polyamide /100 pc.

The quickest and most convenient way of providing strain relief and tightness with cable glands on junction boxes and housings is with the tried-and-trusted V-TEC VM cable glands from OBO. With the integrated sealing lip and the special OBO lamella technology, protection class IP 68 is achieved. Strain relief and tightness have been tested to DIN EN 50262. The connecting threads of the cable glands are metric or Pg and are therefore suitable for universal use. Once screwed in place the fitting is there for ever, as the optimum thread adjustment with the right pitch ensures permanent resistance to shaking.

Applications: from private housing with junction boxes up to industrial applications in the distributor cabinet.

Table column D1: sealing range to VDE 0619, in which no strain relief is required.

### Important dimensions, V-TEC cable gland

G	D1	D2	SW1	E1	SW2	E2	L min.	L max.	L1	L2	L3
Pg 7	2.5 - 6.5	3 - 6.5	15	16.5	19	21	18	23	8	5	5
Pg 9	2.5 - 8	3.5 - 8	19	21	22	24	21	27	8	5	5
Pg 11	3.5 - 10	4.5 - 10	22	25	24	26	22	29	8	5	5
Pg 13.5	5 - 12	6 - 12	24	27	27	29	23	30	9	5	6
Pg 16	7 - 14	7 - 14	27	30	30	33	25	33	10	6	6
Pg 21	9 - 18	12 - 18	33	37.5	36	39	28	38	11	6	7
Pg 29	14 - 25	17 - 25	42	47.5	46	50	32	43	11	7	7
Pg 36	18 - 32	20 - 32	53	60	60	66	39	54	13	8	8
Pg 42	24 - 38	26 - 38	60	68.5	65	73	42	57	13	9	8
Pg 48	30 - 44	30 - 44	65	74	70	78	42	58	14	9	8



# Cap nut cable gland



## Cable gland, PG thread

Type	Thread	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
V-TEC PG7 SGR	Pg 7	Silver grey	500	50	0.410	2022 60 5
V-TEC PG9 SGR	Pg 9	Silver grey	500	50	0.630	2022 61 3
V-TEC PG11 SGR	Pg 11	Silver grey	500	50	0.890	2022 62 1
V-TEC PG13.5 SGR	Pg 13.5	Silver grey	400	50	1.020	2022 64 8
V-TEC PG16 SGR	Pg 16	Silver grey	250	25	1.380	2022 65 6
V-TEC PG21 SGR	Pg 21	Silver grey	300	25	2.290	2022 66 4
V-TEC PG29 SGR	Pg 29	Silver grey	240	20	4.020	2022 67 2
V-TEC PG36 SGR	Pg 36	Silver grey	120	10	6.040	2022 68 0
V-TEC PG42 SGR	Pg 42	Silver grey	60	5	7.650	2022 69 9
V-TEC PG48 SGR	Pg 48	Silver grey	60	5	9.460	2022 70 2
V-TEC PG7 LGR	Pg 7	Light grey	500	50	0.410	2024 70 5
V-TEC PG9 LGR	Pg 9	Light grey	500	50	0.630	2024 71 3
V-TEC PG11 LGR	Pg 11	Light grey	500	50	0.890	2024 72 1
V-TEC PG13 LGR	Pg 13.5	Light grey	400	50	1.020	2024 74 8
V-TEC PG16 LGR	Pg 16	Light grey	250	25	1.380	2024 75 6
V-TEC PG21 LGR	Pg 21	Light grey	300	25	2.290	2024 76 4
V-TEC PG29 LGR	Pg 29	Light grey	240	20	4.020	2024 77 2
V-TEC PG36 LGR	Pg 36	Light grey	120	10	6.030	2024 78 0
V-TEC PG42 LGR	Pg 42	Light grey	60	5	7.650	2024 79 9
V-TEC PG48 LGR	Pg 48	Light grey	60	5	9.460	2024 80 2

PA Polyamide

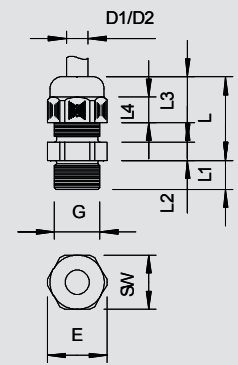
/100 pc.

The quickest and most convenient way of providing strain relief and tightness with cable glands on junction boxes and housings is with the tried-and-trusted V-TEC VM cable glands from OBO. With the integrated sealing lip and the special OBO lamella technology, protection class IP 68 is achieved. Strain relief and tightness have been tested to DIN EN 50262. The connecting threads of the cable glands are metric or Pg and are therefore suitable for universal use. Once screwed in place the fitting is there for ever, as the optimum thread adjustment with the right pitch ensures permanent resistance to shaking.

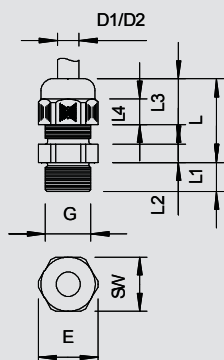
Applications: from private housing with junction boxes up to industrial applications in the distributor cabinet.

### Important dimensions, V-TEC cable gland

G	D1	D2	SW	E	L min.	L max.	L1	L2	L3
	mm	mm	mm	mm	mm	mm	mm	mm	mm
Pg 7	2.5 - 6.5	3 - 6.5	15	16.5	18	23	8	5	12.6
Pg 9	2.5 - 8	3.5 - 8	19	21	21	27	8	5	15.5
Pg 11	3.5 - 10	4.5 - 10	22	25	22	29	8	5	17
Pg 13.5	5 - 12	6 - 12	24	27	23	30	9	5	18
Pg 16	7 - 14	7 - 14	27	30	25	33	10	6	19
Pg 21	9 - 18	12 - 18	33	37.5	28	38	11	6	22
Pg 29	14 - 25	17 - 25	42	47.5	32	43	11	7	24.5
Pg 36	18 - 32	20 - 32	53	60	39	54	13	8	31
Pg 42	24 - 38	26 - 38	60	68.5	42	57	13	9	32.5
Pg 48	30 - 44	30 - 44	65	74	42	58	14	9	33



# Cap nut cable gland



## Cable gland, long PG thread

Type	Thread	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
V-TEC L PG7 SGR	Pg 7	Silver grey	500	50	0.410	2024 17 9
V-TEC L PG9 SGR	Pg 9	Silver grey	500	50	0.670	2024 18 7
V-TEC L PG11 SGR	Pg 11	Silver grey	500	50	0.930	2024 19 5
V-TEC L PG13 SGR	Pg 13.5	Silver grey	600	50	1.090	2024 20 9
V-TEC L PG16 SGR	Pg 16	Silver grey	250	25	1.490	2024 21 7
V-TEC L PG21 SGR	Pg 21	Silver grey	300	25	2.330	2024 22 5
V-TEC L PG29 SGR	Pg 29	Silver grey	240	20	3.860	2024 23 3
V-TEC L PG36 SGR	Pg 36	Silver grey	120	10	7.750	2024 24 1
V-TEC L PG7 LGR	Pg 7	Light grey	500	50	0.410	2024 28 4
V-TEC L PG9 LGR	Pg 9	Light grey	500	50	0.670	2024 29 2
V-TEC L PG11 LGR	Pg 11	Light grey	500	50	0.930	2024 30 6
V-TEC L PG13 LGR	Pg 13.5	Light grey	600	50	1.090	2024 31 4
V-TEC L PG16 LGR	Pg 16	Light grey	250	25	1.490	2024 32 2
V-TEC L PG21 LGR	Pg 21	Light grey	300	25	2.330	2024 33 0
V-TEC L PG29 LGR	Pg 29	Light grey	240	20	3.860	2024 34 9
V-TEC L PG36 LGR	Pg 36	Light grey	120	10	7.750	2024 35 7
V-TEC L PG42 LGR	Pg 42	Light grey	60	5	10.070	2024 36 5
V-TEC L PG48 LGR	Pg 48	Light grey	60	5	10.730	2024 37 3



PA Polyamide

/100 pc.

The quickest and most convenient way of providing strain relief and tightness with cable glands on junction boxes and housings is with the tried-and-trusted V-TEC VM cable glands from OBO. With the integrated sealing lip and the special OBO lamella technology, protection class IP 68 is achieved. Strain relief and tightness have been tested to DIN EN 50262. The connecting threads of the cable glands are metric or Pg and are therefore suitable for universal use. Once screwed in place the fitting is there for ever, as the optimum thread adjustment with the right pitch ensures permanent resistance to shaking.

Applications: from private housing with junction boxes up to industrial applications in the distributor cabinet.

### Important dimensions, V-TEC cable gland

G	D1	D2	SW	E	L min.	L max.	L1	L2	L3
Pg 7	2.5 - 6.5	3 - 6.5	15	16.5	18	23	15	5	12.6
Pg 9	2.5 - 8	3.5 - 8	19	21	21	27	15	5	15.5
Pg 11	3.5 - 10	4.5 - 10	22	25	22	29	15	5	17
Pg 13.5	5 - 12	6 - 12	24	27	23	30	15	5	18
Pg 16	7 - 14	7 - 14	27	30	25	33	15	6	19
Pg 21	9 - 18	12 - 18	33	37.5	28	38	15	6	22
Pg 29	14 - 25	17 - 25	42	47.5	32	43	15	7	24.5
Pg 36	18 - 32	20 - 32	53	60	39	54	18	8	31

## Cable gland, short PG thread

Type	Thread	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
V-TEC KA PG16LGR	Pg 16	Light grey	250	25	1.200	2024 86 1

PA Polyamide

/100 pc.

With short metric connection thread to IEC 423, particularly suitable for junction boxes with metric connection thread. Robust cable gland with cap nut design for high tightness requirements. Strain relief, torsion protection and tightness over the entire clamping range. Sealing ring made of polychloroprene/acrylnitrilbutadiene rubber. Moulded shaped sealing lip on intermediate support, thus no connection thread sealing ring required, VDE-tested to DIN EN 50262, protection rating IP 68 at 5 bar 1 h. Temperature range -20 °C to +65 °C.

### Important dimensions, V-TEC cable gland

G	D	SW	E	L min.	L max.	L1	L2	L3
Pg16	7-14	27	30	25	33	7	6	18



Cable gland systems, plastic



# Cap nut cable gland



## Cable gland, EX area, metric thread

Type	Thread	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
VTEC EX M12 SW	M12 x 1.5	Black	600	50	0.360	2050 30 7
VTEC EX M16 SW	M16 x 1.5	Black	500	50	0.630	2050 31 5
VTEC EX M20 SW	M20 x 1.5	Black	400	50	1.000	2050 32 3
VTEC EX M25 SW	M25 x 1.5	Black	300	25	2.350	2050 33 1
VTEC EX M32 SW	M32 x 1.5	Black	240	20	3.900	2050 35 8
VTEC EX M40 SW	M40 x 1.5	Black	120	10	7.500	2050 36 6
VTEC EX M50 SW	M50 x 1.5	Black	60	5	9.200	2050 37 4
VTEC EX M63 SW	M63 x 1.5	Black	60	5	9.460	2050 38 2

PA Polyamide /100 pc.

Cable gland with EG design type approval certificate for products and protection systems for use in accordance with the regulations in explosion-hazard area. Directive 94/9/EC EC design type approval certificate number: PTB 99 ATEX 3112X and ... 3113X.

With metric connecting thread to IEC 423.

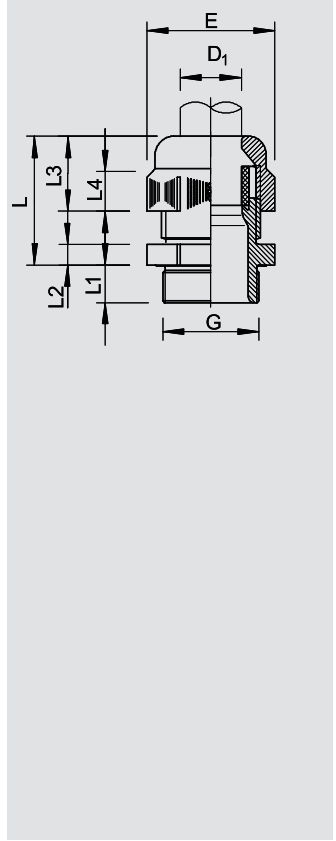
Robust cap-nut cable gland with large sealing area, strain relief and torsion protection for high sealing requirements.

Sealing ring of chloroprene/nitrile rubber, moulded sealing, so no connection thread sealing ring needed. Tested to VDE standards

Protection IP 68 at 5 bar.

### Important dimensions, V-TEC cable gland

G	D1	SW	E	L min.	L max.	L1	L2	L3
	mm	mm	mm	mm	mm	mm	mm	mm
M12 x 1.5	3.5 - 6.5	15	16.5	18	23	8	5	12.6
M16 x 1.5	5 - 8	19	21	21	27	8	5	15.5
M20 x 1.5	7 - 12	24	27	23	30	9	5	18
M25 x 1.5	12 - 18	33	37.5	28	38	11	6	22
M32 x 1.5	17 - 25	42	47.5	32	43	11	7	24.5
M40 x 1.5	21 - 32	53	60	39	54	13	8	31
M50 x 1.5	24 - 37	60	68.5	42	57	13	9	32.5
M63 x 1.5	30 - 44	65	74	42	58	14	9	33



## Cable gland, EX area, PG thread

Type	Thread	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
VTEC EX PG7 SW	Pg 7	Black	600	50	0.410	2050 00 5
VTEC EX PG9 SW	Pg 9	Black	500	50	0.630	2050 01 3
VTEC EX PG11 SW	Pg 11	Black	500	50	0.890	2050 02 1
VTEC EX PG13.5SW	Pg 13.5	Black	400	50	1.020	2050 04 8
VTEC EX PG16 SW	Pg 16	Black	250	25	1.380	2050 05 6
VTEC EX PG21 SW	Pg 21	Black	300	25	2.290	2050 06 4
VTEC EX PG29 SW	Pg 29	Black	240	20	4.020	2050 07 2
VTEC EX PG36 SW	Pg 36	Black	120	10	6.030	2050 08 0
VTEC EX PG42 SW	Pg 42	Black	60	5	7.650	2050 09 9
VTEC EX PG48 SW	Pg 48	Black	60	5	9.460	2050 10 2

PA Polyamide /100 pc.

Cable gland with EG design type approval certificate for products and protection systems for use in accordance with the regulations in explosion-hazard area. Directive 94/9/EC.

EC design type approval certificate number: PTB 99 ATEX 3112X and ... 3113X.

With PG connection thread according to IEC 423.

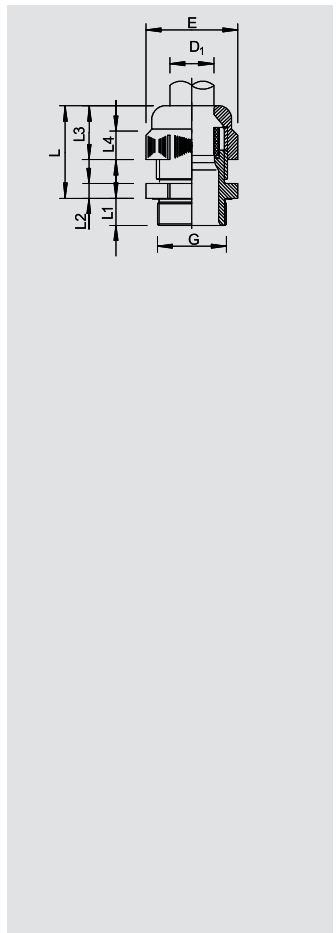
Robust cap-nut cable gland with large sealing area, as well as strain relief and torsion protection for high sealing demands.

Sealing ring of chloroprene/nitrile rubber, moulded sealing, so no connection thread sealing ring needed, VDE-tested.

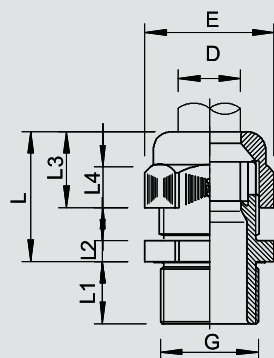
Protection rating IP 68 at 5 bar.

### Important dimensions, V-TEC cable gland

G	D1	SW	E	L min.	L max.	L1	L2	L3
	mm	mm	mm	mm	mm	mm	mm	mm
Pg 7	3.5 - 6.5	15	16.5	18	23	8	5	12.6
Pg 9	5 - 8	19	21	21	27	8	5	17
Pg 11	4.5 - 10	22	25	22	29	8	5	17
Pg 13.5	6.5 - 12	24	27	23	30	9	5	18
Pg 16	7 - 14	27	30	25	33	10	6	19
Pg 21	12 - 18	33	37.5	28	38	11	6	22
Pg 29	17 - 25	42	47.5	32	43	11	7	24.5
Pg 36	21 - 32	53	60	39	54	13	8	31
Pg 42	24 - 38	60	68.5	42	57	13	9	32.5
Pg 48	30 - 44	65	74	42	58	14	9	33



# Cap nut cable gland



## Cable gland, EX area, long PG thread

Type	Thread	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
VTEC EXL PG9 SW	Pg 9	Black	500	50	0.670	2050 14 5
VTEC EXL PG11 SW	Pg 11	Black	500	50	0.930	2050 15 3
VTEC EXL PG13 SW	Pg 13.5	Black	400	50	1.090	2050 16 1
VTEC EXL PG16 SW	Pg 16	Black	250	25	1.490	2050 18 8
VTEC EXL PG21 SW	Pg 21	Black	300	25	2.330	2050 19 6



PA Polyamide

/100 pc.

Cable gland with EG design type approval certificate for products and protection systems for use in accordance with the regulations in explosion-hazard area.

Directive 94/9/EC EC design type approval certificate number: PTB 99 ATEX 3112X and ... 3113X.

Robust cap-nut cable gland with large sealing area, as well as strain relief and torsion protection for high sealing demands.

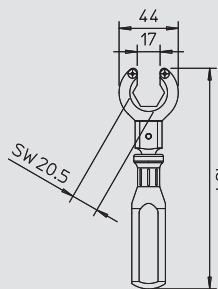
Sealing ring of chloroprene/nitrile rubber,

moulded sealing, so no connecting sealing ring needed. Tested to VDE standards Protection IP 68 at 5 bar.

### Important dimensions, V-TEC cable gland

G	D1	SW	E	L min.	L max.	L1	L2	L3
Pg 9	5 - 8	19	21	21	27	15	5	15.5
Pg 11	4.5 - 10	22	25	22	29	15	5	17
Pg 13.5	6.5 - 12	24	27	23	30	15	5	18
Pg 16	7 - 14	27	30	25	33	15	6	19
Pg 21	12 - 18	33	37.5	28	38	15	6	22

## Ground ratchet



Type	Pack. pcs	Weight kg/100 pcs.	Item No.
V-TEC RA	1	11.000	3010 20 1

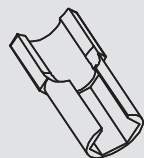


/pc.

Professional cable gland ratchet, including grip, also to tighten and slacken previously mounted cable glands. The special principle gives this system time-saving and slip-free tightening, without annoying removal and re-gripping during screwing. Even cable glands, which are mounted very closely to each other and may be in the second or third row, can be reached without any problems. If necessary, the supplied grip can be replaced with an appropriate standard torque wrench.

Load capacity to max. 20 Nm.

## Socket spanner attachment



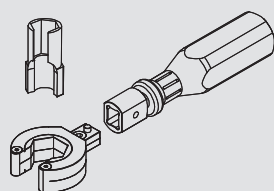
Type	Size	SW mm	Pack. pcs	Weight kg/100 pcs.	Item No.
V-TEC ST15	M12	15	1	3.500	3010 23 6
V-TEC ST20	M16	20	1	3.700	3010 24 4
V-TEC ST24	M20	24	1	6.600	3010 25 2
V-TEC ST29	M25	29	1	8.500	3010 26 0



/pc.

Socket spanner attachment opened at the side with side for ground ratchet, V-TEC GR.

## Ratchet set



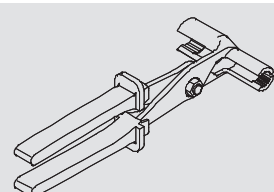
Type	Accessories	Pack. pcs	Weight kg/100 pcs.	Item No.
V-TEC RA SET	1 ground ratchet 1 grip for ground ratchet 4 socket spanner attachments	1	71.600	3010 27 5



/pc.

Set consisting of a ground ratchet, type V-TEC RA, a grip for ground ratchet, type V-TEC GR, and four socket spanner attachments in sizes WAF 15, WAF 20, WAF 24 and WAF 29.

## Special tongs for cable glands



Type	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
186	25	1	47.000	3010 10 4



/pc.

Universal tool for easy tightening of all glands up to size PG 21 or M25 x 1.5, also usable with glands very close to one another.

Small opening PG 7-PG 11.

Large opening PG 13.5-PG 21.

Cable gland systems, plastic



# Cap nut cable gland

**M**

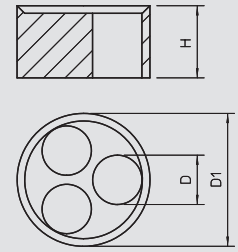


## Multiple sealing insert, metric

Type	Size	Dimension D	Dimension H	Dimension D1	Number of drill holes	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
107 C VM 20 2x4	M20 4	8.1	15.1	2	750	50	0.130	2029 67 2	
107 C VM 20 4x5	M20 5	8.1	15.1	4	750	50	0.080	2029 67 5	
107 C VM 20 2x6	M20 6	8.1	15.1	2	750	50	0.100	2029 67 7	
107 C VM 25 5x4	M25 4	10	19.8	5	500	50	0.180	2029 67 9	
107 C VM 25 3x6	M25 6	10	19.8	3	500	50	0.210	2029 68 2	
107 C VM 25 2x6	M25 6	10	19.8	2	500	50	0.260	2029 68 5	
107 C VM 25 3x7	M25 7	10	19.8	3	500	50	0.180	2029 68 8	
107 C VM 25 2x8	M25 8	10	19.8	2	500	50	0.200	2029 69 0	
107 C VM 32 2x8	M32 8	13.4	25.1	2	500	25	0.530	2029 69 3	
107 C VM 32 4x8	M32 8	13.4	25.1	4	500	25	0.400	2029 69 6	

**NBR-SBR** Rubber mixture /100 pc.

Use to insert multiple thin cables in the V-TEC VM cable glands, is replaced with the simple sealing ring of the cable gland.



**Pg**

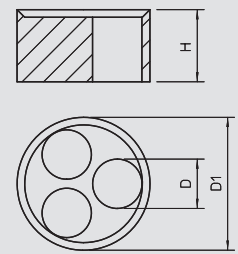


## Multiple sealing insert, PG

Type	Dimension H	Dimension D1	Shipping box pcs	Size mm	Number of drill holes	Dimension D mm	Pack. pcs	Weight kg/100 pcs.	Item No.
107 C V 16 5x4	9.5	17.5	750	Pg 16 5	4	50	0.210	2029 61 8	
107 C V 16 3x5	9.5	17.5	750	Pg 16 3	5	50	0.210	2029 62 6	
107 C V 16 2x6	9.5	17.5	750	Pg 16 2	6	50	0.210	2029 63 4	
107 C V 16 3x6	9.5	17.5	750	Pg 16 3	6.5	50	0.160	2029 64 2	
107 C V 21 3x7	12	23	500	Pg 21 3	7	25	0.450	2029 65 0	
107 C V 21 2x8	12	23	500	Pg 21 2	8	25	0.340	2029 66 9	

**NBR-SBR** Rubber mixture /100 pc.

Use to insert multiple thin cables in the V-TEC cable glands, is replaced with the simple sealing ring of the cable gland.



**M**



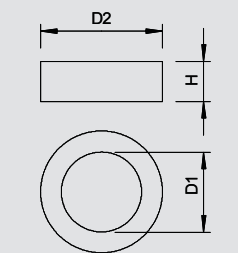
## Reducing sealing insert, metric

Type	Size	Sealing range D	Dimension D1	Dimension D2	Dimension H	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
107CR VM 12	M12	2-5	5	8.9	7.2	1300	50	0.050	2029 56 0
107CR VM 16	M16	2.5-7	7	12.7	8.1	1300	50	0.120	2029 56 3
107CR VM 20	M20	4-9	9	16	9.3	1200	50	0.210	2029 56 6
107CR VM 25	M25	6-13	13	20.7	10.5	1200	50	0.340	2029 56 9
107CR VM 32	M32	11-16	16	25.7	12.3	350	25	0.630	2029 57 2
107CR VM 40	M40	12-23	23	33.7	15	300	25	1.140	2029 57 5
107CR VM 50	M50	18-29	29	41.7	18.5	250	25	2.080	2029 57 8
107CR VM 63	M63	29-40	40	54.8	20.2	150	25	3.560	2029 58 1

**NBR-SBR** Rubber mixture /100 pc.

Reduces the sealing area D of the cable gland V-TEC VM and V-TEC VM L.

**Important dimensions, sealing ring**



**M**



## Dust protection plate, metric

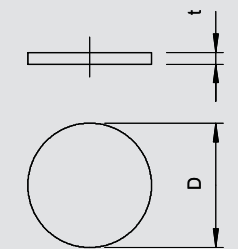
Type	Size	Dimension D	Dimension t	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
107 S VTEC M12	M12	12	1.5	12000	100	0.000	2028 87 0
107 S VTEC M16	M16	16	1.5	10000	100	0.000	2028 87 3
107 S VTEC M20	M20	20	1.5	12000	100	0.000	2028 87 5
107 S VTEC M25	M25	25	1.5	1500	100	0.010	2028 87 7
107 S VTEC M32	M32	32	1.5	1000	100	0.010	2028 88 0
107 S VTEC M40	M40	40	1.5	1200	100	0.020	2028 88 3
107 S VTEC M50	M50	50	1.5	1000	100	0.040	2028 88 5

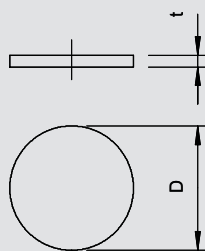
**ZPE** Cellular polyethylene /100 pc.

Cellular polyethylene. Small protective disc to protect the V-TEC VM and V-TEC VM MS cable glands against dust before the cable is installed.

Application: the discs are pre-mounted between the cap nut and the seal. They do not need to be removed when the cable is installed, but are simply passed through to the interior with the cable.

Note: the discs do not provide any mechanical protection.





## Dust protection plate, PG

Pg



Type	Shipping box pcs	Size mm	Dimension D mm	Dimension t mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>107 S VTEC PG7</b>	12000	Pg 7	11	1.5	100	0.000	<b>2028 89 1</b>
<b>107 S VTEC PG9</b>	12000	Pg 9	14	1.5	100	0.000	<b>2028 90 5</b>
<b>107 S VTEC PG11</b>	12000	Pg 11	16.5	1.5	100	0.000	<b>2028 91 3</b>
<b>107 S VTEC PG13</b>	10000	Pg 13.5	18.5	2	100	0.000	<b>2028 92 1</b>
<b>107 S VTEC PG16</b>	8000	Pg 16	21	2	100	0.010	<b>2028 94 8</b>
<b>107 S VTEC PG21</b>	12000	Pg 21	26.5	2	100	0.010	<b>2028 95 6</b>
<b>107 S VTEC PG29</b>	1000	Pg 29	34.5	2	100	0.020	<b>2028 96 4</b>
<b>107 S VTEC PG36</b>	1200	Pg 36	44	3	100	0.040	<b>2028 97 2</b>
<b>107 S VTEC PG42</b>	1200	Pg 42	50	3	100	0.050	<b>2028 98 0</b>
<b>107 S VTEC PG48</b>	1200	Pg 48	56	3	100	0.060	<b>2028 99 9</b>

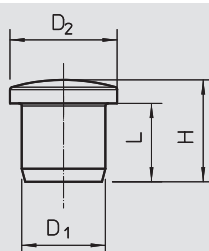
**ZPE** Cellular polyethylene /100 pc.

Cellular polyethylene.

Small protective disc to protect the V-TEC and V-TEC MS cable glands against dust before the cable is installed.

Application: the discs are pre-mounted between the cap nut and the seal. They do not need to be removed when the cable is installed, but are simply passed through to the interior with the cable.

Note: the discs do not provide any mechanical protection.



## Screw plug, metric and PG

Type	Size	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>107VS VM 5 PA</b>	für M12 / Pg9	Light grey	600	50	0.040	<b>2029 51 1</b>
<b>107VS VM 9 PA</b>	für M16 / Pg13.5	Light grey	750	50	0.090	<b>2029 51 4</b>
<b>107VS VM 12 PA</b>	für M20 / Pg16	Light grey	500	50	0.130	<b>2029 51 7</b>
<b>107VS VM 16 PA</b>	für M25 / Pg21	Light grey	500	50	0.190	<b>2029 52 0</b>
<b>107VS VM 20 PA</b>	für M32 / Pg29	Light grey	300	25	0.250	<b>2029 52 3</b>

**PA** Polyamide /100 pc.

Screw plug for dust-proof and waterproof closure of installed but (as yet) unfilled V-TEC... Cable glands.

### Important dimensions, screw plug

G	D1	L	H	D2
	mm	mm	mm	mm
For M12	5.5	9	12.5	10
For M16	9.5	12	16	13.5
For M20	12	12	16.5	16.5
For M25	16	15	19.5	20.5
For M32	20	17	21.5	24.5



# Cone cable gland, polyamide



## Cable gland, metric thread

Type	Thread	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
106 M 12 PA	M12 x 1,5	Light grey	1000	50	0.420	2035 41 3
106 M 16 PA	M16 x 1,5	Light grey	600	50	0.610	2035 42 1
106 M 20 PA	M20 x 1,5	Light grey	600	50	1.060	2035 44 8
106 M 25 PA	M25 x 1,5	Light grey	600	50	2.330	2035 45 6
106 M 32 PA	M32 x 1,5	Light grey	120	10	3.830	2035 46 4
106 M 40 PA	M40 x 1,5	Light grey	80	10	7.800	2035 47 2
106 M 50 PA	M50 x 1,5	Light grey	60	5	16.400	2035 48 0
106 M 63 PA	M63 x 1,5	Light grey	60	5	18.900	2035 49 9

PA Polyamide

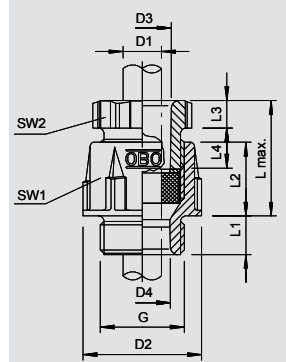
/100 pc.

Standard cable gland, shape A, to DIN 46320 with simple NR/SBR sealing ring and metric connection thread to IEC 423.

Protection rating: with connection thread sealing ring IP65, without connection thread sealing ring IP54.

### Important dimensions, cone cable gland

G	D1	D2	D3	D4	SW1	SW2	L1	L2	L3	L4	L max.
	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
M12 x 1.5	3.5-6.5	16.5	7	7	15	13	8	13	5	8.5	23
M16 x 1.5	4.5-7	21.5	10.2	10	19	16	8	14	5	9	25
M20 x 1.5	9-13	25	11.3	13	24	21	8	15	5	10	27
M25 x 1.5	10-14	27	13.4	16	27	23	9	16	5	10.8	28
M32 x 1.5	18-25	30	15.8	26	42	40	10	16.5	6	12	30
M40 x 1.5	25-33	37.5	21.2	33	53	50	11	19	7	17	38
M50 x 1.5	30-38	47.5	30	40.5	60	55	11	20.5	8	18	42
M63 x 1.5	37-44	58	38	45.5	65	60	12	24	8	17	43



## Cable gland, PG thread

Type	Thread	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
106 VDE PG9 PA	Pg 9	Light grey	600	50	0.610	2036 51 7
106 VDE PG11 PA	Pg 11	Light grey	500	50	0.870	2036 53 3
106 VDE PG13 PA	Pg 13.5	Light grey	600	50	1.060	2036 57 6
106 VDE PG16 PA	Pg 16	Light grey	600	50	1.370	2036 59 2
106 VDE PG21 PA	Pg 21	Light grey	600	50	2.330	2036 61 4
106 VDE PG29 PA	Pg 29	Light grey	120	10	3.830	2036 63 0
106 VDE PG36 PA	Pg 36	Light grey	80	10	7.800	2036 65 7

PA Polyamide

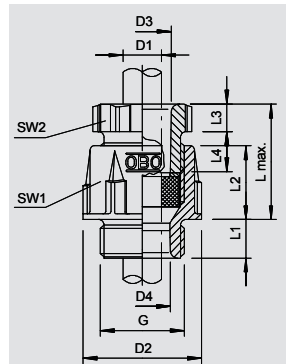
/100 pc.

Standard cable gland, shape A, to DIN 46320 with simple NR/SBR sealing ring PG connection thread to DIN 40430.

Protection rating: with connection thread sealing ring IP65, without connection thread sealing ring IP54.

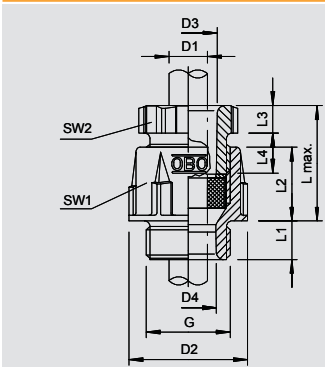
### Important dimensions, cone cable gland

G	D1	D2	D3	D4	SW1	SW2	L1	L2	L3	L4	L max.
	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
Pg 9	4.5-7	21.5	10.2	10.2	19	16	8	14	5	9	25
Pg 11	5.5-10	25	11.3	11.5	22	19	8	15	5	10	27
Pg 13.5	9-13	27	13.4	13.5	24	21	9	16	5	10.8	28
Pg 16	10-14	30	15.8	16.5	27	23	10	16.5	6	12	30
Pg 21	14-18	37.5	21.2	21	33	30	11	19	7	17	38
Pg 29	18-25	47.5	30	27.5	42	40	11	20.5	8	18	42
Pg 36	25-33	58	38	34.5	53	50	12	24	8	17	43





# Cable gland, polystyrene



## Cable gland, metric thread



Type	Thread	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
106 M12 PS	M12 x 1,5	Light grey	900	50	0.400	2035 31 6
106 M16 PS	M16 x 1,5	Light grey	600	50	0.560	2035 32 4
106 M 20 PS	M20 x 1,5	Light grey	600	50	0.900	2035 33 2
106 M 25 PS	M25 x 1,5	Light grey	600	50	2.110	2035 34 0
106 M 32 PS	M32 x 1,5	Light grey	120	10	3.700	2035 35 9
106 M 40 PS	M40 x 1,5	Light grey	80	10	6.240	2035 36 7
106 M 50 PS	M50 x 1,5	Light grey	50	5	8.500	2035 37 5
106 M 63 PS	M63 x 1,5	Light grey	50	5	9.630	2035 38 3



PS Polystyrene

/100 pc.

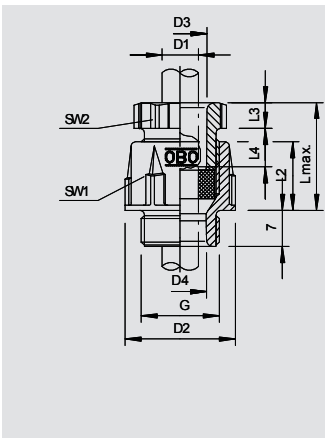
Standard cable gland, shape A, to DIN 46320 with simple NR/SBR sealing ring with metric connection thread to IEC 423.

Protection rating: with connection thread sealing ring IP65, without connection thread sealing ring IP54.

Shock-resistant

### Important dimensions, cone cable gland

G	D1	D2	D3	D4	SW1	SW2	L1	L2	L3	L4	L max.
M12 x 1.5	3.5-6.5	16.5	7	7	15	13	8	13	5	8.5	23
M16 x 1.5	4.5-7	21.5	10.2	10	19	16	8	14	5	9	25
M20 x 1.5	9-13	27	13.4	13.5	24	21	9	16	5	10.8	28
M25 x 1.5	10-14	30	15.8	16	27	23	10	16.5	6	12	30
M32 x 1.5	18-25	47.5	30.3	26	42	40	11	20.5	8	18	42
M40 x 1.5	25-33	58	38.4	33	53	50	12	24	8	17	43
M50 x 1.5	30-38	65	44.5	40.5	60	55	13	27	9	18.5	48
M63 x 1.5	37-44	70	50	45.5	65	60	14	27	9	18.5	48



## Cable gland, short metric thread



Type	Thread	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
106 K M20 PS	M20x1,5	Light grey	600	50	0.960	2038 07 2

PS Polystyrene

/100 pc.

Cable gland, shape A, to DIN 46320, however with shorter connection thread, particularly suitable for junction box with metric connection thread with simple NR/SBR sealing ring.

Protection rating: with connection thread sealing ring IP65, without connection thread sealing ring IP54.

Shock-resistant

### Important dimensions, cone cable gland

G	D1	D2	D3	D4	SW1	SW2	L2	L3	L4	L max.
M20 x 1.5	9-13	27	13.4	14	24	21	16	5	10.8	26



Cable gland systems, plastic



# Cable gland, polystyrene

Cable gland systems, plastic



## Cable gland, PG thread

Type	Thread	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
106 PG7	Pg 7	Light grey	900	50	0.400	2036 06 1
106 PG9	Pg 9	Light grey	600	50	0.560	2036 09 6
106 PG11	Pg 11	Light grey	500	50	0.800	2036 11 8
106 PG13.5	Pg 13.5	Light grey	600	50	0.900	2036 13 4
106 PG16	Pg 16	Light grey	600	50	1.230	2036 16 9
106 PG21	Pg 21	Light grey	600	50	2.120	2036 21 5
106 PG29	Pg 29	Light grey	120	10	3.700	2036 29 0
106 PG36	Pg 36	Light grey	80	10	6.240	2036 36 3
106 PG42	Pg 42	Light grey	50	5	8.500	2036 42 8
106 PG48	Pg 48	Light grey	50	5	9.630	2036 48 7

**PS** Polystyrene /100 pc.

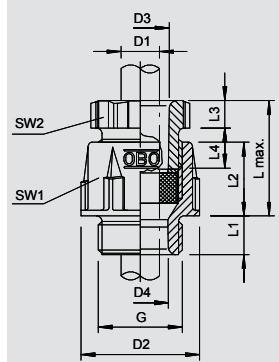
Standard cable gland, shape A, to DIN 46320 with simple NR/SBR sealing ring PG connection thread to DIN 40430.

Protection rating: with connection thread sealing ring IP65, without connection thread sealing ring IP54.

Shock-resistant

### Important dimensions, cone cable gland

G	D1	D2	D3	D4	SW1	SW2	L1	L2	L3	L4	L max.
	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
Pg 7	3.5-6.5	16.5	7	7	15	13	8	13	5	8.5	23
Pg 9	4.5-7	21.5	10.2	10.2	19	16	8	14	5	9	25
Pg 11	5.5-10	25	11.3	11.5	22	19	8	15	5	10	27
Pg 13.5	9-13	27	13.4	13.5	24	21	9	16	5	10.8	28
Pg 16	10-14	30	15.8	16.5	27	23	10	16.5	6	12	30
Pg 21	14-18	37.5	21.2	21	33	30	11	19	7	17	38
Pg 29	18-25	47.5	30	27.5	42	40	11	20.5	8	18	42
Pg 36	25-33	58	38	34.5	53	50	12	24	8	17	43
Pg 42	30-38	65	44.5	40.5	60	55	13	27	9	18.5	48
Pg 48	37-44	70	50	45.5	65	60	14	27	9	18.5	48



## Cable gland, short PG thread

Type	Thread	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
106 K PG16 PS	Pg 16	Light grey	250	25	1.170	2038 04 8

**PS** Polystyrene /100 pc.

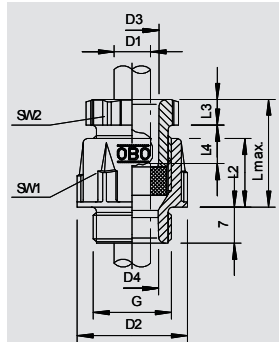
Cable gland, shape A, to DIN 46320, however with shorter connection thread, particularly suitable for junction box with PG thread with simple NR/SBR sealing ring.

Protection rating: with connection thread sealing ring IP65, without connection thread sealing ring IP54.

Shock-resistant

### Important dimensions, cone cable gland

G	D1	D2	D3	D4	SW1	SW2	L2	L3	L4	L max.
	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
Pg 16	10-14	30	15.8	15.5	27	23	16.5	6	12	27



## Cable gland, long PG thread

Type	Thread	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
106 L PG9 PS	Pg 9	Light grey	600	50	0.670	2039 02 8
106 L PG11 PS	Pg 11	Light grey	500	50	0.730	2039 04 4
106 L PG13.5 PS	Pg 13.5	Light grey	600	50	1.050	2039 06 0
106 L PG16 PS	Pg 16	Light grey	250	25	1.430	2039 08 7
106 L PG21 PS	Pg 21	Light grey	300	25	2.580	2039 10 9

**PS** Polystyrene /100 pc.

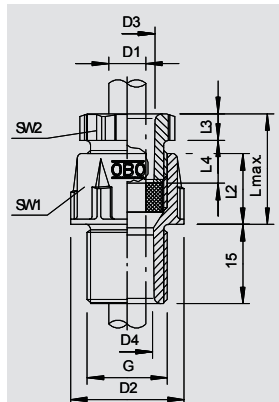
Cable gland, shape A, to DIN 46320 with long PG connection thread to DIN 40430, (preferably for use with locknut), with simple NR/SBR sealing ring.

Protection rating: with connection thread sealing ring IP65, without connection thread sealing ring IP54.

Shock-resistant

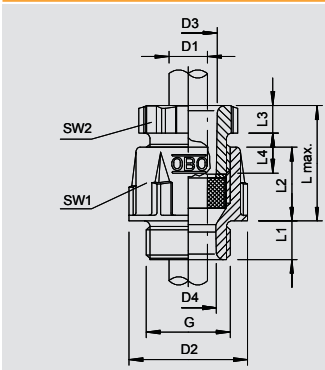
### Important dimensions, cone cable gland

G	D1	D2	D3	D4	SW1	SW2	L2	L3	L4	L max.
	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
Pg 9	4.5-7	21.5	10.2	10	19	16	14	5	9	32
Pg 11	5.5-10	25	11.3	12	22	19	15	5	10	34
Pg 13.5	9-13	27	13.4	14	24	21	16	5	10.8	34
Pg 16	10-14	30	15.8	16	27	23	16.5	6	12	35
Pg 21	14-18	37.5	21.2	21	33	30	19	7	17	42



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# Cable gland, polystyrene



## Cable gland, metric cutting ring



Type	Thread	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
106 B M16 PS	M16 x 1.5	Light grey	600	50	0.560	2035 51 0
106 B M20 PS	M20 x 1.5	Light grey	600	50	0.900	2035 51 2
106 B M25 PS	M25 x 1.5	Light grey	600	50	2.110	2035 51 4
106 B M32 PS	M32 x 1.5	Light grey	120	10	3.700	2035 51 6
106 B M40 PS	M40 x 1.5	Light grey	80	10	6.240	2035 51 8
106 B M50 PS	M50 x 1.5	Light grey	50	5	8.500	2035 52 0
106 B M63 PS	M63 x 1.5	Light grey	50	5	9.630	2035 52 2



PS Polystyrene

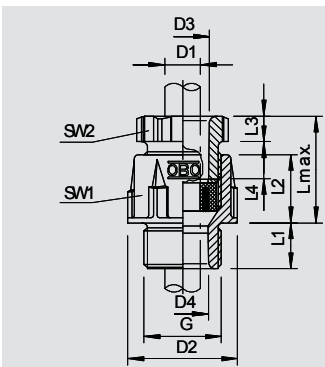
/100 pc.

Cable gland, shape A, to DIN 46320 with NR/SBR cutting ring, giving an extended sealing area, with metric connection thread to IEC 423. Protection rating: with connection thread sealing ring IP65, without connection thread sealing ring IP54.

Shock-resistant

### Important dimensions, cone cable gland

G	D1	D2	D3	D4	SW1	SW2	L1	L2	L3	L4	L max.
M16 x 1.5	5-10	21.5	10.2	10.2	19	16	8	14	5	9	25
M20 x 1.5	7.5-13	27	13.4	13.5	24	21	9	16	5	10.8	28
M25 x 1.5	7.5-15	30	15.8	16.5	27	23	10	16.5	6	12	30
M32 x 1.5	18-27	47.5	30	27.5	42	40	11	20.5	8	18	42
M40 x 1.5	24-34	58	38	34.5	53	50	12	24	8	17	43
M50 x 1.5	30-40	65	45	40.5	60	55	13	27	9	18.5	48
M63 x 1.5	36-45	70	50	45.5	65	60	14	27	9	18.5	48



## Cable gland, PG cutting ring



Type	Thread	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
106 B PG9 PS	Pg 9	Light grey	600	50	0.700	2036 08 8
106 B PG11 PS	Pg 11	Light grey	500	50	0.980	2036 12 6
106 B PG13.5 PS	Pg 13.5	Light grey	600	50	1.050	2036 14 2
106 B PG16 PS	Pg 16	Light grey	600	50	1.590	2036 15 0
106 B PG21 PS	Pg 21	Light grey	600	50	2.590	2036 22 3
106 B PG29 PS	Pg 29	Light grey	120	10	5.490	2036 30 4
106 B PG36 PS	Pg 36	Light grey	160	10	10.240	2036 37 1
106 B PG42 PS	Pg 42	Light grey	50	5	18.510	2036 43 6



PS Polystyrene

/100 pc.

Cable gland, shape A, to DIN 46320.

With PG connection thread to DIN 40430.

With NR/SBR cutting ring, giving an extended sealing area.

Protection rating: with connection thread sealing ring IP65, without connection thread sealing ring IP54.

### Important dimensions, cone cable gland

G	D1	D2	D3	D4	SW1	SW2	L1	L2	L3	L4	L max.
Pg 9	5-10	21.5	10.2	10.2	19	16	8	14	5	9	25
Pg 11	7.5-11.5	25	11.3	11.5	22	19	8	15	5	10	27
Pg 13.5	7.5-13	27	13.4	13.5	24	21	9	16	5	10.8	28
Pg 16	7.5-15	30	15.8	16.5	27	23	10	16.5	6	12	30
Pg 21	10-20	37.5	21.2	21	33	30	11	19	7	17	38
Pg 29	18-27	47.5	30	27.5	42	40	11	20.5	8	18	42
Pg 36	24-34	58	38	34.5	53	50	12	24	8	17	43
Pg 42	30-40	65	44.5	40.5	60	55	13	27	9	18.5	48

# Cable gland, polystyrene



## Reducing cone cable gland, PG thread

Type	External thread	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>106 R PG13-9 PS</b>	Pg 13,5	Light grey	500	50	0.600	<b>2040 04 2</b>
<b>106 R PG13-11 PS</b>	Pg 13,5	Light grey	500	50	0.740	<b>2040 06 9</b>
<b>106 R PG16-13 PS</b>	Pg 16	Light grey	300	25	1.030	<b>2040 10 7</b>

**PS** Polystyrene /100 pc.

The reducing cable glands are used anywhere in which, with a PG thread, smaller cable diameters must be sealed.

Dimensions according to DIN 46320.

PG connection thread to DIN 40430.

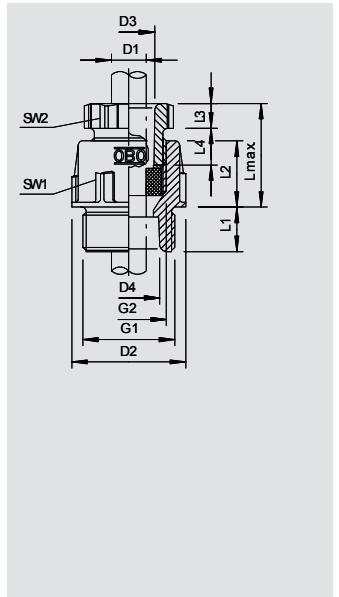
With simple NR/SBR sealing ring.

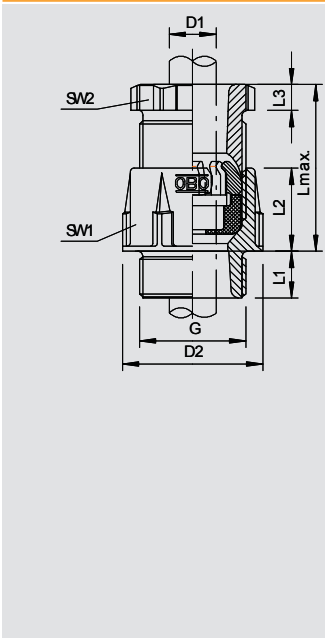
Protection rating: with connection thread sealing ring IP65, without connection thread sealing ring IP54.

Shock-resistant

### Important dimensions, reducing cone cable gland

G1	G2	D1	D2	D3	D4	SW1	SW2	L1	L2	L3	L4	L max.
		mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
Pg 13.5	Pg 9	4.5-7	25.5	102	10	19	16	9	14.5	5	9	26
Pg 13.5	Pg 11	5-10	25.5	113	12	22	19	9	15	5	10	27
Pg 16	Pg 13.5	9-13	28	13.4	14	24	21	11	16.5	5	10.8	29.5





## Cable gland, PG strain relief



Type	Thread	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
106 Z PG9 PC	Pg 9	Light grey	300	50	0.630	2023 50 4
106 Z PG11 PC	Pg 11	Light grey	500	50	0.860	2023 51 2
106 Z PG13.5 PC	Pg 13.5	Light grey	600	50	1.100	2023 52 0
106 Z PG16 PC	Pg 16	Light grey	250	25	1.420	2023 53 9
106 Z PG21 PC	Pg 21	Light grey	300	25	2.500	2023 54 7



PC Polycarbonate /100 pc.

Cable gland with external dimensions to DIN 46320, however with integrated centrally acted strain relief.

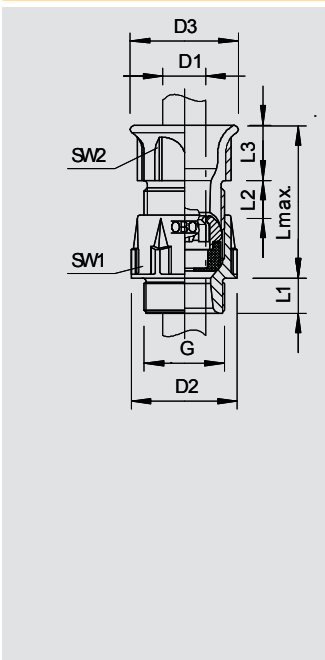
PG connection thread to DIN 40430.

Sealing ring made of chloroprene rubber with double-action sealing function.

Protection rating: with connection thread sealing ring IP65, without connection thread sealing ring IP54.

### Important dimensions, cone cable gland

G	D1	D2	SW1	SW2	L1	L2	L3	L max.
Pg 9	5-8	21.5	19	16	8	14	5	25
Pg 11	6-10	25	22	19	8	15	5	27
Pg 13.5	8-12	27	24	21	9	16	5	28
Pg 16	10-14	30	27	33	10	16.5	6	30
Pg 21	13-18	37.5	33	30	11	19	7	38



## Cable gland, PG bend protection



Type	Thread	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
106 ZB PG9 PC	Pg 9	Light grey	500	50	0.730	2023 70 9
106 ZB PG11 PC	Pg 11	Light grey	600	50	0.960	2023 71 7
106 ZB PG13.5 PC	Pg 13.5	Light grey	600	50	1.190	2023 72 5
106 ZB PG16 PC	Pg 16	Light grey	250	25	1.610	2023 73 3
106 ZB PG21 PC	Pg 21	Light grey	300	25	2.600	2023 74 1
106 ZB PG29 PC	Pg 29	Light grey	240	15	4.500	2023 76 8



PC Polycarbonate /100 pc.

Cable gland with integrated centrally acted strain relief and bend protection trumpet.

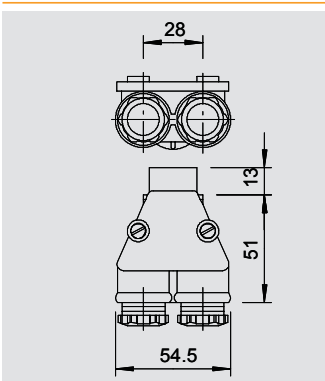
Sealing ring made of chloroprene rubber with double-action sealing function.

PG connection thread to DIN 40430.

Protection rating: with connection thread sealing ring IP65, without connection thread sealing ring IP54.

### Important dimensions, cone cable gland

G	D1	D2	D3	SW1	SW2	L1	L2	L3	L max.
Pg 9	5-8	21.5	23.5	19	16	8	14	10.2	30
Pg 11	6-10	25	26	22	19	8	15	13	35
Pg 13.5	8-12	27	27.5	24	21	9	16	14	37
Pg 16	10-14	30	32	27	23	10	16.5	16	40
Pg 21	10-14	30	32	27	23	10	16.5	16	40
Pg 29	17-24	47.5	49	42	40	11	20.5	20	54



## Twin gland, PG thread



Type	Thread	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
113 PG13.5 LGR	Pg 13.5	Light grey	60	5	4.670	2024 13 6
113 PG16 LGR	Pg 16	Light grey	60	5	4.360	2024 16 0



UF Duroplast, Aminoplast, type 131.5 /100 pc.

Protection rating IP54, with removable polystyrene cover, as well as two polyethylene connection thread sealing rings.

# Cable gland, special



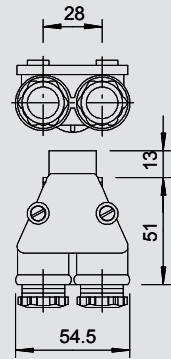
## Twin gland, metric thread

Type	Thread	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>113 M20 LGR</b>	M 20 x 1,5	Light grey	60	5	4.670	<b>2024 06 3</b>

**UF** Duroplast, Aminoplast, type 131.5 /100 pc.

Protection rating IP54, with removable polystyrene cover, as well as two polyethylene connection thread sealing rings.

With connection thread M20 x 1.5, two half glands PG 13.5 for cable diameters 6.5–10.5 mm.



## Flat cable threaded connection, metric thread M20

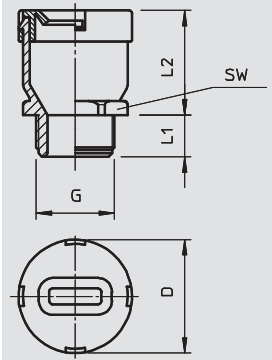
Type	Colour	Shipping box pcs	Thread	Flat cables/thickness mm	Flat cables/width mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>106 FL M20 8 19</b>	Stone grey	600	M20	6-8	17-19	50	1.350	<b>2013 00 2</b>

**PE** Polyethylene /100 pc.

Flat-cable entry, choke-nipple design with metric connecting thread to IEC 432, protection rating IP 31, with pre-mounted support sealing ring 107/F.

### Important dimensions, flat cable threaded connection

G	D	L1	L2	SW
M20	mm 32.5	mm 12	mm 30	mm 27



## Flat cable threaded connection, metric thread M25 - M40

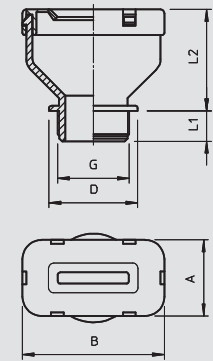
Type	Colour	Shipping box pcs	Thread	Flat cables/thickness mm	Flat cables/width mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>106 FL M25 6 30</b>	Stone grey	200	M25	4-6	27-30	25	2.630	<b>2013 00 6</b>
<b>106 FL M25 8 33</b>	Stone grey	200	M25	6-8	30-33	25	2.630	<b>2013 00 7</b>
<b>106 FL M25 9 22</b>	Stone grey	200	M25	7-9	19-22	25	2.630	<b>2013 00 8</b>
<b>106 FL M25 9 39</b>	Stone grey	200	M25	7-9	36-39	25	2.630	<b>2013 00 9</b>
<b>106 FL M25 10 29</b>	Stone grey	200	M25	8-10	26-29	25	2.630	<b>2013 01 0</b>
<b>106 FL M25 10 31</b>	Stone grey	200	M25	8.5-10.5	28.5-31.5	25	2.630	<b>2013 01 1</b>
<b>106 FL M25 12 35</b>	Stone grey	200	M25	9-12	31-35	25	2.630	<b>2013 01 2</b>
<b>106 FL M25 14 40</b>	Stone grey	200	M25	11-14	37-40	25	2.680	<b>2013 01 3</b>
<b>106 FL M32 6 30</b>	Stone grey	180	M32	4-6	27-30	15	3.450	<b>2013 01 5</b>
<b>106 FL M32 8 33</b>	Stone grey	180	M32	6-8	30-33	15	3.450	<b>2013 01 6</b>
<b>106 FL M32 9 22</b>	Stone grey	180	M32	7-9	19-22	15	3.450	<b>2013 01 7</b>
<b>106 FL M32 9 39</b>	Stone grey	180	M32	7-9	36-39	15	3.450	<b>2013 01 8</b>
<b>106 FL M32 10 29</b>	Stone grey	180	M32	8-10	26-29	15	3.450	<b>2013 01 9</b>
<b>106 FL M32 10 31</b>	Stone grey	180	M32	8.5-10.5	28.5-31.5	15	3.450	<b>2013 02 0</b>
<b>106 FL M32 12 35</b>	Stone grey	180	M32	9-12	31-35	15	3.450	<b>2013 02 1</b>
<b>106 FL M32 14 40</b>	Stone grey	180	M32	11-14	37-40	15	3.500	<b>2013 02 2</b>
<b>106 FL M40 6 30</b>	Stone grey	180	M40	4-6	27-30	15	3.450	<b>2013 02 5</b>
<b>106 FL M40 8 33</b>	Stone grey	180	M40	6-8	30-33	15	3.450	<b>2013 02 6</b>
<b>106 FL M40 9 22</b>	Stone grey	180	M40	7-9	19-22	15	3.450	<b>2013 02 7</b>
<b>106 FL M40 9 39</b>	Stone grey	180	M40	7-9	36-39	15	3.450	<b>2013 02 8</b>
<b>106 FL M40 10 29</b>	Stone grey	180	M40	8-10	26-29	15	3.450	<b>2013 02 9</b>
<b>10 6FL M40 10 31</b>	Stone grey	180	M40	8.5-10.5	28.5-31.5	15	3.450	<b>2013 03 0</b>
<b>106 FL M40 12 35</b>	Stone grey	180	M40	9-12	31-35	15	3.450	<b>2013 03 1</b>
<b>106 FL M40 14 40</b>	Stone grey	180	M40	11-14	37-40	15	3.500	<b>2013 03 2</b>

**PE** Polyethylene /100 pc.

Flat-cable entry, choke-nipple design with metric connecting thread to IEC 432, protection rating IP31, with pre-mounted support sealing ring 107/F.

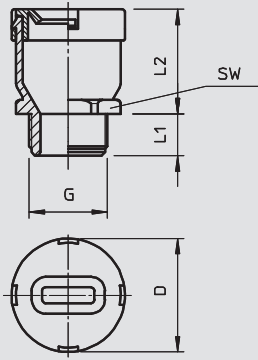
### Important dimensions, flat cable threaded connection

G	D	L1	L2	A	B
M25	mm 35	mm 12	mm 40	mm 30	mm 56
M32	mm 46	mm 13	mm 46	mm 30	mm 56
M40	mm 46	mm 13	mm 46	mm 30	mm 56



## Flat cable threaded connection, PG thread Pg16

IP 31 Pg



Type	Colour	Shipping box pcs	Thread	Flat cables/ thickness mm	Flat cables/ width mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>106 FL 16 8 19</b>	Stone grey	600	Pg 16	6-8	17-19	50	1.350	<b>2012 75 8</b>

PE Polyethylene /100 pc.

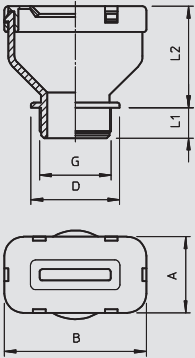
Flat-cable entry, choke-nipple design with PG connecting thread to DIN 40430, protection rating IP31, with pre-mounted support sealing ring 107/F.

### Important dimensions, flat cable threaded connection

G	D	L1	L2	SW
PG16	mm	mm	mm	mm
	32.5	12	30	27

## Flat cable threaded connection, PG thread Pg21-Pg29

IP 31 Pg



Type	Colour	Shipping box pcs	Thread	Flat cables/ thickness mm	Flat cables/ width mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>106 FL 21 6 30</b>	Stone grey	200	Pg 21	4-6	27-30	25	2.630	<b>2012 85 5</b>
<b>106 FL 21 8 33</b>	Stone grey	200	Pg 21	6-8	30-33	25	2.630	<b>2012 78 2</b>
<b>106 FL 21 9 22</b>	Stone grey	200	Pg 21	7-9	19-22	25	2.630	<b>2012 82 0</b>
<b>106 FL 21 9 39</b>	Stone grey	200	Pg 21	7-9	36-39	25	2.630	<b>2012 80 4</b>
<b>106 FL 21 10 29</b>	Stone grey	200	Pg 21	8-10	26-29	25	2.630	<b>2012 83 9</b>
<b>106 FL 21 10 31</b>	Stone grey	200	Pg 21	8.5-10.5	28.5-31.5	25	2.630	<b>2012 87 1</b>
<b>106 FL 21 12 35</b>	Stone grey	200	Pg 21	9-12	31-35	25	2.630	<b>2012 84 7</b>
<b>106 FL 21 14 40</b>	Stone grey	200	Pg 21	11-14	37-40	25	2.680	<b>2012 92 8</b>
<b>106 FL 29 14 40</b>	Stone grey	180	Pg 29	11-14	37-40	15	3.500	<b>2012 77 4</b>

PE Polyethylene /100 pc.

Flat-cable entry, choke-nipple design with PG connecting thread to DIN 40430, protection rating IP31, with pre-mounted support sealing ring 107/F.

### Important dimensions, flat cable threaded connection

G	D	L1	L2	A	B
	mm	mm	mm	mm	mm
PG21	35	12	40	30	56
PG29	46	13	46	30	56



# Locknuts, polyamide

Cable gland systems, plastic



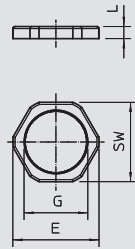
## Locknut, metric thread

Type	Thread	Colour	SW	Dimen- sion E	Dimen- sion L	Shipping box	Pack.	Weight	Item No.
			mm	mm	mm	pcs	pcs	kg/100 pcs.	
116 M12 SGR PA	M12x1,5	Silver grey	17	19	5	2000	100	0.100	2048 75 2
116 M16 SGR PA	M16x1,5	Silver grey	22	25	5	1000	100	0.160	2048 76 0
116 M20 SGR PA	M20x1,5	Silver grey	26	29	6	1200	100	0.250	2048 77 9
116 M25 SGR PA	M25x1,5	Silver grey	32	36	6.5	1000	100	0.350	2048 78 7
116 M32 SGR PA	M32x1,5	Silver grey	41	46	7	500	50	0.610	2048 79 5
116 M40 SGR PA	M40x1,5	Silver grey	50	56	7.5	250	25	0.470	2048 80 9
116 M50 SGR PA	M50x1,5	Silver grey	60	68	8	250	25	1.760	2048 81 7
116 M63 SGR PA	M63x1,5	Silver grey	75	83	8.5	200	25	1.830	2048 82 5
116 M12 LGR PA	M12x1,5	Light grey	17	19	5	2000	100	0.100	2048 90 6
116 M16 LGR PA	M16x1,5	Light grey	22	25	5	1000	100	0.160	2048 91 4
116 M20 LGR PA	M20x1,5	Light grey	26	29	6	1200	100	0.250	2048 92 2
116 M25 LGR PA	M25x1,5	Light grey	32	36	6.5	1000	100	0.350	2048 93 0
116 M32 LGR PA	M32x1,5	Light grey	41	46	7	500	50	0.610	2048 94 9
116 M40 LGR PA	M40x1,5	Light grey	50	56	7.5	250	25	1.680	2048 95 7
116 M50 LGR PA	M50x1,5	Light grey	60	68	8	250	25	0.890	2048 96 5
116 M63 LGR PA	M63x1,5	Light grey	75	83	8.5	200	25	1.830	2048 97 3
116 M12 SW PA	M12x1,5	Black	17	19	5	2000	100	0.100	2049 06 6
116 M16 SW PA	M16x1,5	Black	22	25	5	1000	100	0.160	2049 07 4
116 M20 SW PA	M20x1,5	Black	26	29	6	1200	100	0.250	2049 08 2
116 M25 SW PA	M25x1,5	Black	32	36	6.5	1000	100	0.350	2049 09 0
116 M32 SW PA	M32x1,5	Black	41	46	7	500	50	0.610	2049 10 4
116 M40 SW PA	M40x1,5	Black	50	56	7.5	250	25	1.680	2049 11 2
116 M50 SW PA	M50x1,5	Black	60	68	8	250	25	1.760	2049 12 0
116 M63 SW PA	M63x1,5	Black	75	83	8.5	200	25	1.830	2049 13 9

PA Polyamide

/100 pc.

Locknut DIN 46319, with metric thread IEC 423.



## Locknut, metric thread for function maintenance

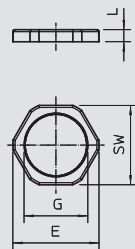
Type	Thread	Colour	SW	Dimen- sion E	Dimen- sion L	Shipping box	Pack.	Weight	Item No.
			mm	mm	mm	pcs	pcs	kg/100 pcs.	
116 M20 OR PA	M20 x 1,5	Pastel orange	26	29	6	1200	100	0.250	7205 64 4
116 M25 OR PA	M25 x 1,5	Pastel orange	32	36	6.5	1000	100	0.350	7205 64 7
116 M32 OR PA	M32 x 1,5	Pastel orange	41	46	7	500	50	0.570	7205 65 0
116 M40 OR PA	M40 x 1,5	Pastel orange	50	56	7.5	250	25	0.470	7205 65 3

PA Polyamide

/100 pc.

Locknut DIN 46319, with metric thread IEC 423.

For electrical function maintenance according to DIN 4102 Part 12 in connection with the junction boxes of the FireBox T series.



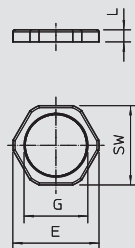
## Locknut, PG thread

Type	Thread	Colour	SW	Dimen- sion E	Dimen- sion L	Shipping box	Pack.	Weight	Item No.
			mm	mm	mm	pcs	pcs	kg/100 pcs.	
116 VDE PG7 PA	Pg 7	Light grey	19	21	5	2000	100	0.090	2048 07 8
116 VDE PG 9 PA	Pg 9	Light grey	22	24	5	2400	100	0.170	2048 09 4
116 VDE PG11 PA	Pg 11	Light grey	24	26	5	2400	100	0.180	2048 11 6
116 VDE PG13.5PA	Pg 13.5	Light grey	27	29	6	2000	100	0.260	2048 13 2
116 VDE PG16 PA	Pg 16	Light grey	30	33	6	2000	100	0.330	2048 16 7
116 VDE PG21 PA	Pg 21	Light grey	36	39	7	1200	100	0.470	2048 22 1
116 VDE PG29 PA	Pg 29	Light grey	46	50	7	500	50	1.100	2048 29 9
116 VDE PG36 PA	Pg 36	Light grey	60	66	8	250	25	1.680	2048 36 1
116 VDE PG42 PA	Pg 42	Light grey	65	73	8	250	25	1.760	2048 42 6
116 VDE PG48 PA	Pg 48	Light grey	70	78	8	200	25	1.830	2048 48 5

PA Polyamide

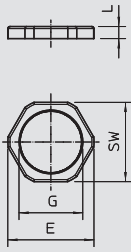
/100 pc.

Locknut DIN 46320, with PG thread DIN 40430.



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## Locknut, metric thread



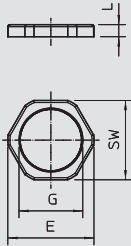
Type	Thread	Colour	SW	Dimension E	Dimension L	Shipping box	Pack.	Weight	Item No.
			mm	mm	mm	pcs	pcs	kg/100 pcs.	
<b>116 M12 LGR PS</b>	M12 x 1,5	Light grey	17	19	5	2000	100	0.100	<b>2049 50 3</b>
<b>116 M16 LGR PS</b>	M16 x 1,5	Light grey	22	25	5	1000	100	0.160	<b>2049 51 1</b>
<b>116 M20 LGR PS</b>	M20 x 1,5	Light grey	26	29	6	1200	100	0.250	<b>2049 53 8</b>
<b>116 M25 LGR PS</b>	M25 x 1,5	Light grey	32	36	6,5	1000	100	0.350	<b>2049 54 6</b>
<b>116 M32 LGR PS</b>	M32 x 1,5	Light grey	41	46	7	500	50	0.610	<b>2049 55 4</b>
<b>116 M40 LGR PS</b>	M40 x 1,5	Light grey	50	56	7,5	250	25	1.680	<b>2049 56 2</b>
<b>116 M50 LGR PS</b>	M50 x 1,5	Light grey	60	68	8	250	25	0.650	<b>2049 57 0</b>
<b>116 M63 LGR PS</b>	M63 x 1,5	Light grey	75	83	8,5	200	25	1.830	<b>2049 58 9</b>



PS Polystyrene

/100 pc.

Locknut DIN 46319, with metric thread IEC 423.



## Locknut, PG thread



Type	Thread	Colour	SW	Dimension E	Dimension L	Shipping box	Pack.	Weight	Item No.
			mm	mm	mm	pcs	pcs	kg/100 pcs.	
<b>116 PG 7</b>	Pg 7	Light grey	19	21	5	2000	100	0.080	<b>2043 07 6</b>
<b>116 PG 9</b>	Pg 9	Light grey	22	24	5	2400	100	0.110	<b>2043 09 2</b>
<b>116 PG11</b>	Pg 11	Light grey	24	26	5	2400	100	0.150	<b>2043 11 4</b>
<b>116 PG13.5</b>	Pg 13,5	Light grey	27	29	6	2000	100	0.210	<b>2043 13 0</b>
<b>116 PG16</b>	Pg 16	Light grey	30	33	6	2000	100	0.280	<b>2043 16 5</b>
<b>116 PG21</b>	Pg 21	Light grey	36	39	7	1200	100	0.340	<b>2043 21 1</b>
<b>116 PG29</b>	Pg 29	Light grey	46	50	7	500	50	0.660	<b>2043 29 7</b>
<b>116 PG36</b>	Pg 36	Light grey	60	66	8	250	25	1.380	<b>2043 35 1</b>
<b>116 PG42</b>	Pg 42	Light grey	65	73	8	250	25	1.440	<b>2043 42 4</b>
<b>116 PG48</b>	Pg 48	Light grey	70	78	8	200	25	1.500	<b>2043 48 3</b>



PS Polystyrene

/100 pc.

Locknut DIN 46320, with PG thread DIN 40430.



# Cable gland, system accessories

Cable gland systems, plastic



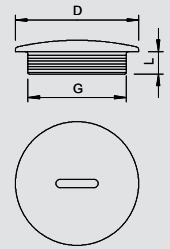
## Screw plug, metric thread

Type	Colour	Shipping box pcs	Thread	Dimension D mm	Dimension L mm	Pack. pcs	Weight kg/100 pcs.	Item No.
108 M12 PS	Light grey	3000	M12 x 1,5	15	6	100	0.150	2033 00 3
108 M16 PS	Light grey	1800	M16 x 1,5	20	6	100	0.160	2033 00 7
108 M20 PS	Light grey	1200	M20 x 1,5	24	6	100	0.210	2033 01 1
108 M25 PS	Light grey	1000	M25 x 1,5	30	8	100	0.360	2033 01 6
108 M32 PS	Light grey	500	M32 x 1,5	37	8	50	0.350	2033 02 1
108 M40 PS	Light grey	300	M40 x 1,5	46	8	25	1.280	2033 02 6
108 M50 PS	Light grey	300	M50 x 1,5	56	10	25	1.400	2033 03 2
108 M63 PS	Light grey	300	M63 x 1,5	70	12	25	1.850	2033 03 8

PS Polystyrene

/100 pcs.

Screw plug in accordance with DIN 46320, with metric thread to IEC 423.



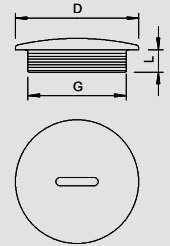
## Screw plug, PG thread

Type	Colour	Shipping box pcs	Thread	Dimension D mm	Dimension L mm	Pack. pcs	Weight kg/100 pcs.	Item No.
108 PG 7	Light grey	2400	Pg 7	14	6	100	0.150	2033 07 0
108 PG 9	Light grey	1800	Pg 9	19	6	100	0.160	2033 09 7
108 PG11	Light grey	2000	Pg 11	22	6	100	0.180	2033 11 9
108 PG13.5	Light grey	1200	Pg 13.5	25	6.5	100	0.210	2033 13 5
108 PG16	Light grey	1000	Pg 16	27	6.5	100	0.240	2033 15 1
108 PG21	Light grey	1200	Pg 21	34	8	100	0.360	2033 21 6
108 PG29	Light grey	600	Pg 29	44	8	50	0.790	2033 29 1
108 PG36	Light grey	200	Pg 36	58	10	25	1.280	2033 36 4
108 PG42	Light grey	300	Pg 42	67	10	25	1.400	2033 42 9
108 PG48	Light grey	300	Pg 48	73	12	25	1.850	2033 48 8

PS Polystyrene

/100 pcs.

Screw plug in accordance with DIN 46320, with PG thread to DIN 40430.



## Pressure screw, PG thread

Type	Thread	Colour	Dimension D mm	SW mm	Dimension E mm	Dimension L1 mm	Dimension L2 mm	Pack. pcs	Weight kg/100 pcs.	Item No.
107 E PG7 PS	Pg 7	Light grey	7	13	14.7	8.5	5	100	0.120	2025 07 8
107 E PG9 PS	Pg 9	Light grey	10.2	16	18	9	5	100	0.170	2025 09 4
107 E PG11 PS	Pg 11	Light grey	11.3	19	21.5	10	5	100	0.180	2025 11 6
107 E PG13.5 PS	Pg 13.5	Light grey	13.4	21	23.8	10.5	5	100	0.330	2025 13 2
107 E PG16 PS	Pg 16	Light grey	15.8	23	26	12	6	100	0.400	2025 16 7
107 E PG21 PS	Pg 21	Light grey	21.2	30	34	17	7	50	0.700	2025 21 3
107 E PG29 PS	Pg 29	Light grey	30	40	45	18	8	25	1.300	2025 29 9
107 E PG36 PS	Pg 36	Light grey	38.2	50	56.5	17	8	25	2.510	2025 36 1
107 E PG42 PS	Pg 42	Light grey	44.5	55	62	18.5	9	10	4.540	2025 42 6
107 E PG48 PS	Pg 48	Light grey	50	60	68	18.5	9	10	5.580	2025 48 5

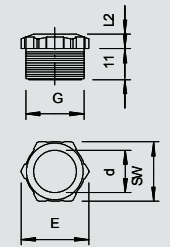
PS Polystyrene

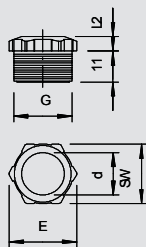
/100 pcs.

Pressure screw (Part 1) to DIN 46320, with Pg thread DIN 40430.

### Important dimensions, pressure screw

G	D	SW	E	L1	L2
mm					
Pg 7	7	13	14.7	8.5	5
Pg 9	10.2	16	18	9	5
Pg 11	11.3	19	21.5	10	5
Pg 13.5	13.4	21	23.8	10.5	5
Pg 16	15.8	23	26	12	6
Pg 21	21.2	30	34	17	7
Pg 29	30	40	45	18	8
Pg 36	38.2	50	56.5	17	8
Pg 42	44.5	55	62	18.5	9
Pg 48	50	60	68	18.5	9





## Pressure screw, PG thread



Type	Thread	Colour	Dimension D mm	SW mm	Dimension L1 mm	Dimension L2 mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>107 E PG11 PA</b>	Pg 11	Light grey	11.3	19	10	5	100	0.230	<b>2025 53 1</b>
<b>107 E PG13.5 PA</b>	Pg 13.5	Light grey	13.4	21	10.5	5	100	0.350	<b>2025 56 6</b>
<b>107 E PG21 PA</b>	Pg 21	Light grey	21.2	30	17	7	50	0.780	<b>2025 60 4</b>
<b>107 E PG36 PA</b>	Pg 36	Light grey	38.2	50	17	8	25	2.830	<b>2025 64 7</b>

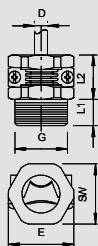
**PA** Polyamide

/100 pc.

Pressure screw, Part 1, to DIN 46320, fibre-glass reinforced.

### Important dimensions, pressure screw

G	D	SW	E	L1	L2
	mm	mm	mm	mm	mm
Pg 11	11.3	19	21.5	10	5
Pg 13.5	13.4	21	23.8	10.5	5
Pg 21	21.2	30	34	17	7
Pg 36	38.2	50	56.5	17	8



## Pressure screw, PG strain relief



Type	Thread	Colour	Dimension D mm	Clamping range mm	Dimension L1 mm	Dimension L2 mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>107 Z PG 9 PA</b>	Pg 9	Light grey	—	3.5-11.3	8.5	14.5	100	0.400	<b>2023 09 1</b>
<b>107 Z PG11 PA</b>	Pg 11	Light grey	—	4-13.3	9	16	100	0.600	<b>2023 11 3</b>
<b>107 Z PG13.5 PA</b>	Pg 13.5	Light grey	—	4.1-14.3	10	17	100	0.680	<b>2023 12 1</b>
<b>107 Z PG16 PA</b>	Pg 16	Light grey	—	5-16.2	10	19	50	0.900	<b>2023 16 4</b>
<b>107 Z PG21 PA</b>	Pg 21	Light grey	—	5.9-21.2	12.5	23.5	25	1.800	<b>2023 21 0</b>
<b>107 Z PG29 PA</b>	Pg 29	Light grey	—	7.1-29	16	30	25	3.000	<b>2023 29 6</b>

**PA** Polyamide

/100 pc.

Pressure screw with transverse clip strain relief, electrogalvanised steel screws, PG thread to DIN 40430.

### Important dimensions, pressure screw

G	D	SW	E	L1	L2
	mm	mm	mm	mm	mm
Pg 9	3.5-11.3	19	21	8.5	14.5
Pg 11	4-13.3	21	23	9	16
Pg 13.5	4.1-14.3	23	25	10	17
Pg 16	5-16.2	25	27	10	19
Pg 21	5.9-21.2	32	35	12.5	23.5
Pg 29	7.1-29	42	45	16	30



# Cable gland, system accessories



## Reduction, metric thread

Type	External thread	Internal thread	Colour	SW	Shipping box	Pack.	Weight	Item No.
				mm	pcs	pcs	kg/100 pcs.	
107 R M20-12 PA	M20	M12	Light grey	24	1200	100	0.500	2030 61 6
107 R M20-16 PA	M20	M16	Light grey	24	1200	100	0.700	2030 61 9
107 R M25-12 PA	M25	M12	Light grey	32	1200	100	0.850	2030 62 4
107 R M25-16 PA	M25	M16	Light grey	32	1200	100	0.850	2030 62 6
107 R M25-20 PA	M25	M20	Light grey	32	1200	100	0.650	2030 62 8
107 R M32-12 PA	M32	M12	Light grey	36	600	50	1.200	2030 63 2
107 R M32-16 PA	M32	M16	Light grey	36	600	50	1.100	2030 63 4
107 R M32-20 PA	M32	M20	Light grey	36	600	50	1.050	2030 63 7
107 R M32-25 PA	M32	M25	Light grey	36	600	50	1.000	2030 64 0
107 R M40-16 PA	M40	M16	Light grey	46	600	50	2.000	2030 64 3
107 R M40-20 PA	M40	M20	Light grey	46	600	50	1.850	2030 64 6
107 R M40-25 PA	M40	M25	Light grey	46	600	50	1.950	2030 64 9
107 R M40-32 PA	M40	M32	Light grey	46	600	50	1.400	2030 65 2
107 R M50-20 PA	M50	M20	Light grey	55	300	25	2.300	2030 65 5
107 R M50-25 PA	M50	M25	Light grey	55	300	25	2.250	2030 65 9
107 R M50-32 PA	M50	M32	Light grey	55	300	25	2.200	2030 66 1
107 R M50-40 PA	M50	M40	Light grey	55	300	25	2.050	2030 66 4
107 R M63-25 PA	M63	M25	Light grey	68	300	25	3.050	2030 66 7
107 R M63-32 PA	M63	M32	Light grey	68	300	25	3.070	2030 67 0
107 R M63-40 PA	M63	M40	Light grey	68	300	25	3.100	2030 67 3
107 R M63-50 PA	M63	M50	Light grey	68	300	25	3.000	2030 67 5

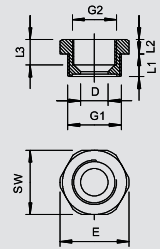
PA Polyamide

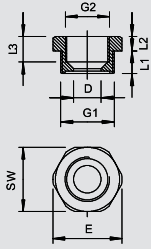
/100 pc.

Reduction, with metric internal and external thread.

### Important dimensions, reduction

G1	G2	SW	E	L1	L3
		mm	mm	mm	mm
M20	M12	24	26.6	8	12
M20	M16	24	26.6	8	12
M25	M12	32	32	8	14
M25	M16	32	32	8	14
M25	M20	32	32	8	14
M32	M12	36	40	10	16
M32	M16	36	40	10	16
M32	M20	36	40	10	16
M32	M25	36	40	10	16
M40	M16	46	50.5	10	16
M40	M20	46	50.5	10	16
M40	M25	46	50.5	10	16
M40	M32	46	50.5	10	16
M50	M20	55	60	12	18
M50	M25	55	60	12	18
M50	M32	55	60	12	18
M50	M40	55	60	12	18
M63	M25	68	75	12	18
M63	M32	68	75	12	18
M63	M40	68	75	12	18
M63	M50	68	75	12	18





## Reduction, PG thread



Type	External thread	Internal thread	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
107 R PG11- 7 PA	Pg 11	Pg 7	Light grey	500	50	0.400	2030 70 5
107 R PG13- 9 PA	Pg 13,5	Pg 9	Light grey	1200	50	0.450	2030 71 3
107 R PG16- 9 PA	Pg 16	Pg 9	Light grey	1000	50	0.600	2030 74 8
107 R PG16-11 PA	Pg 16	Pg 11	Light grey	1000	50	0.480	2030 75 6
107 R PG21-11 PA	Pg 21	Pg 11	Light grey	1000	50	0.910	2030 76 4
107 R PG21-13 PA	Pg 21	Pg 13,5	Light grey	500	50	0.800	2030 77 2
107 R PG21-16 PA	Pg 21	Pg 16	Light grey	500	50	0.650	2030 78 0
107 R PG29-16 PA	Pg 29	Pg 16	Light grey	600	50	1.460	2030 79 9
107 R PG29-21 PA	Pg 29	Pg 21	Light grey	250	25	1.500	2030 80 2
107 R PG36-21 PA	Pg 36	Pg 21	Light grey	300	25	2.350	2030 82 9
107 R PG36-29 PA	Pg 36	Pg 29	Light grey	300	25	2.200	2030 81 0
107 R PG42-29 PA	Pg 42	Pg 29	Light grey	300	25	2.350	2030 83 7



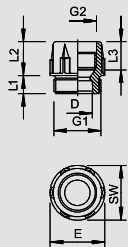
PA Polyamide

/100 pc.

Reduction, Pg internal and external thread to DIN 40430.

### Important dimensions, reduction

G1	G2	D	SW	E	L1	L2	L3
Pg 11	Pg 7	7.5	22	24	8	6	9.5
Pg 13.5	Pg 9	9.5	24	26	8.5	6	9.5
Pg 16	Pg 9	9.5	27	29	9.5	6	11.5
Pg 16	Pg 11	11.5	27	29	9.5	6	11
Pg 21	Pg 11	11.5	32	35.5	10.5	5	11
Pg 21	Pg 13.5	13.5	32	35.5	10.5	5	11
Pg 21	Pg 16	16.5	32	35.5	10.5	5	11
Pg 29	Pg 16	16.5	40	43	12	6	12.5
Pg 29	Pg 21	21.5	39	43	12.5	6	13.5
Pg 36	Pg 21	21	50	54	13	6	13.5
Pg 36	Pg 29	28.5	50	54	18	6	18
Pg 42	Pg 29	27.5	55	59	16	6	17



## Reducing intermediate connector, PG thread



Type	External thread	Internal thread	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
107 RZ PG 9-7	Pg 9	Pg 7	Light grey	1000	100	0.400	2031 30 2
107 RZ PG11-9	Pg 11	Pg 9	Light grey	800	100	0.380	2031 32 9
107 RZ PG13-11	Pg 13,5	Pg 11	Light grey	800	100	0.480	2031 34 5
107 RZ PG16-13	Pg 16	Pg 13,5	Light grey	500	50	0.620	2031 38 8
107 RZ PG21-16	Pg 21	Pg 16	Light grey	600	50	0.780	2031 41 8
107 RZ PG29-21	Pg 29	Pg 21	Light grey	300	25	1.380	2031 44 2



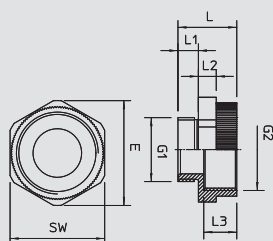
PA Polyamide

/100 pc.

Reducing intermediate connector, PG internal and external thread to DIN 40430.

### Important dimensions, reducing intermediate connector

G1	G2	D	SW	E	L1	L2	L3
Pg 9	Pg 7	7.5	19	21	7.5	12.5	10
Pg 11	Pg 9	10	19	23	9	14	11.7
Pg 13.5	Pg 11	12	19	25	9	14.5	11.7
Pg 16	Pg 13.5	14	24	28	11	16.5	12.9
Pg 21	Pg 16	15.5	27	34	11	17	13.5
Pg 29	Pg 21	21	33	44	12	21	17.4



## Intermediate expansion connector, metric thread



Type	External thread	Internal thread	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
107 E M 12-16 PA	M12	M16	Light grey	500	50	0.300	2031 45 0
107 E M 16-20 PA	M16	M20	Light grey	600	50	0.380	2031 45 1
107 E M 20-25 PA	M20	M25	Light grey	500	50	0.630	2031 45 2
107 E M 25-32 PA	M25	M32	Light grey	400	50	0.970	2031 45 3
107 E M 32-40 PA	M32	M40	Light grey	200	25	1.300	2031 45 4



PA Polyamide

/100 pc.

Intermediate expansion connector, metric internal and external thread.

### Important dimensions, intermediate expansion connector

G1	G2	SW	E	L	L1	L2	L3	D
M12	M16	20	22	20.6	8	5	11.2	7.2
M16	M20	24	26.6	20.6	8	5	11	11.3
M20	M25	30	33	21	8	6	10.8	15
M25	M32	37	41	22.7	8	7	12.5	19
M32	M40	45	49.5	25	10	7	12.5	26.4

# Cable gland, system accessories

Cable gland systems, plastic



## Intermediate expansion connector, PG thread

Type	External thread	Internal thread	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
107 EZ PG9-11 PA	Pg 9	Pg 11	Light grey	800	100	0.400	2030 89 6
107 EZ PG11-13PA	Pg 11	Pg 13,5	Light grey	800	100	0.420	2030 93 4
107 EZ PG13-16PA	Pg 13,5	Pg 16	Light grey	1200	100	0.620	2030 95 0
107 EZ PG16-21PA	Pg 16	Pg 21	Light grey	600	50	0.940	2030 97 7
107 EZ PG21-29PA	Pg 21	Pg 29	Light grey	400	50	1.650	2030 99 3
107 EP PG29-36PA	Pg 29	Pg 36	Light grey	200	25	2.600	2030 98 5

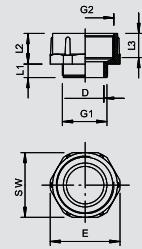
PA Polyamide

/100 pc.

Intermediate expansion connector, Pg internal and external thread to DIN 40430.

### Important dimensions, intermediate expansion connector

G1	G2	D	SW	E	L1	L2	L3
Pg 9	Pg 11	10	22	25	9	16	11.5
Pg 11	Pg 13.5	13.5	24	26	8	15	12
Pg 13.5	Pg 16	15	27	29.5	9	16.5	13.5
Pg 16	Pg 21	16	32	35.5	9	20	14.5
Pg 21	Pg 29	22	42	45.5	10	22	16.5
Pg 29	Pg 36	30.5	53	57	11	25	20



## Adapter M-PG

Type	External thread	Internal thread	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
107 ADA M12-PG9	M12	PG9	Light grey	300	20	0.280	2031 45 6
107 ADA M16-PG9	M16	PG9	Light grey	200	20	0.400	2031 45 7
107 ADA M20-PG11	M20	PG11	Light grey	200	20	0.550	2031 45 8
107 ADA M20-PG13	M20	PG13.5	Light grey	200	20	0.470	2031 45 9
107 ADA M25-PG16	M25	PG16	Light grey	240	20	0.870	2031 46 0
107 ADA M32-PG29	M32	PG29	Light grey	120	10	1.540	2031 46 1
107 ADA M40-PG29	M40	PG29	Light grey	100	10	1.870	2031 46 2
107 ADA M50-PG36	M50	PG36	Light grey	50	5	2.980	2031 46 3

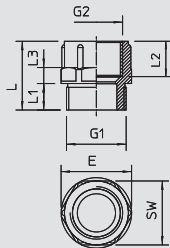
PA Polyamide

/100 pc.

Adapter for converting a metric threaded drill hole to a Pg threaded drill hole.

### Important dimensions, adapter

G1	G2	SW	E	L	L1	L2	L3	D
M12	PG 9	19	21	24.2	11.4	10	5	8
M16	PG 9	19	21	25.6	11	10	6	9.8
M20	PG11	22	24.8	26.6	10.8	11.8	6	13.4
M20	PG13.5	24	26.1	26.2	10.8	13.3	7	15
M25	PG16	27	29.6	28.8	10.6	14	7	17
M32	PG29	42	45.5	33	11	17.2	7	26.4
M40	PG29	42	45.5	33.7	10.5	18	8	33
M50	PG36	53	56.5	36.7	11	21	8.5	43



## Adapter PG-M

Type	External thread	Internal thread	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
107 ADA PG7-M12	PG7	M12	Light grey	300	20	0.190	2031 46 5
107 ADA PG9-M12	PG9	M12	Light grey	300	20	0.370	2031 46 6
107 ADA PG11-M16	PG11	M16	Light grey	240	20	0.410	2031 46 7
107 ADA PG13-M20	PG13.5	M20	Light grey	240	20	0.420	2031 46 8
107 ADA PG16-M20	PG16	M20	Light grey	200	20	0.630	2031 46 9
107 ADA PG21-M25	PG21	M25	Light grey	100	10	0.940	2031 47 0
107 ADA PG29-M32	PG29	M32	Light grey	120	10	1.610	2031 47 1

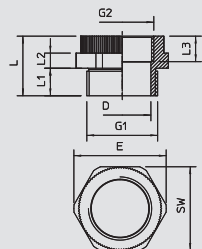
PA Polyamide

/100 pc.

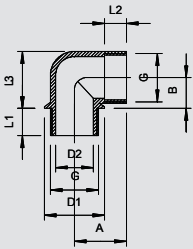
Adapter for converting a Pg threaded drill hole to a metric threaded drill hole.

### Important dimensions, adapter

G1	G2	SW	E	L	L1	L2	L3	D
PG 7	M12	15	16.5	20.3	7.9	5	10.4	7.7
PG 9	M12	19	21	20	5	10	10.5	
PG11	M16	22	24.5	20.3	8	5	10	13.6
PG13.5	M20	24	26.7	21.3	9.1	5	10	15.2
PG16	M20	27	30	22	10	6	10	17.6
PG21	M25	33	36.5	23.6	10.9	6	10	22.7
PG29	M32	42	46.7	25.5	11.2	7	10.4	30.8



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## 90° elbow socket, PG thread



Type	External thread	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>107 W PG 9 PA</b>	Pg 9	Light grey	600	50	0.390	<b>2029 90 1</b>
<b>107 W PG11 PA</b>	Pg 11	Light grey	500	50	0.620	<b>2029 92 8</b>
<b>107 W PG13.5 PA</b>	Pg 13.5	Light grey	600	50	0.750	<b>2029 93 6</b>
<b>107 W PG16 PA</b>	Pg 16	Light grey	600	50	0.950	<b>2029 94 4</b>
<b>107 W PG21 PA</b>	Pg 21	Light grey	300	25	1.470	<b>2029 95 2</b>



**PA** Polyamide

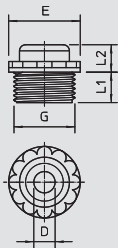
/100 pc.

Elbow socket with PG internal and external thread to DIN 40430.

The elbow socket can be turned into an angular gland with two steel pressure rings 107/D, a sealing ring 107/A or 107/B and a pressure screw 107/E.

### Important dimensions, 90° elbow socket

G	D1	D2	A	B	L1	L2	L3
	mm	mm	mm	mm	mm	mm	mm
Pg 9	19.5	11.5	18.5	10.5	11	9	19
Pg 11	23.5	15	20	12	11	9.5	22
Pg 13.5	25.5	16	22	13	11.5	10	24
Pg 16	27.5	18.5	24	15	11.5	11	27
Pg 21	34	24	28	18	13	13	33



## Screw-in nipple, metric thread



Type	Thread	Colour	Dimension D mm	SW mm	Dimension E mm	Dimension L1 mm	Dimension L2 mm	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>90 M12 OF</b>	M12 x 1,5	Light grey	3.5	13	17	8	6	3000	100	0.170	<b>2032 00 7</b>
<b>90 M16 OF</b>	M16 x 1,5	Light grey	5	16	20	8	6	2600	100	0.190	<b>2032 01 1</b>
<b>90 M20 OF</b>	M20 x 1,5	Light grey	7	21	24	10	6	1600	100	0.270	<b>2032 01 5</b>
<b>90 M25 OF</b>	M25 x 1,5	Light grey	8.5	30	32	12	6	500	50	0.510	<b>2032 01 9</b>
<b>90 M32 OF</b>	M32 x 1,5	Light grey	13	34	39	14	8	250	25	0.690	<b>2032 02 3</b>
<b>90 M40 OF</b>	M40 x 1,5	Light grey	22	44	48	16	8	120	10	0.880	<b>2032 03 1</b>



**PE** Polyethylene

/100 pc.

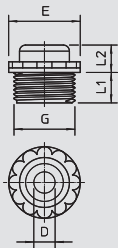
With open cable entry.

Grip seal to screw into metric thread end to IEC 423.

With self-sealing cone at the end of the thread, therefore no connection thread sealing ring required.

Protection rating achievable with careful mounting: IP54.

With open cable entry.



## Screw-in nipple, metric thread



Type	Thread	Colour	Dimension D mm	SW mm	Dimension E mm	Dimension L1 mm	Dimension L2 mm	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>90 M12 GE</b>	M12 x 1,5	Light grey	3.5	13	17	8	6	3000	100	0.170	<b>2032 37 8</b>
<b>90 M16 GE</b>	M16 x 1,5	Light grey	5	16	20	8	6	2600	100	0.190	<b>2032 38 0</b>
<b>90 M20 GE</b>	M20 x 1,5	Light grey	7	21	24	10	6	1600	100	0.270	<b>2032 38 2</b>
<b>90 M25 GE</b>	M25 x 1,5	Light grey	8.5	30	32	12	6	500	50	0.510	<b>2032 38 4</b>
<b>90 M32 GE</b>	M32 x 1,5	Light grey	13	34	39	14	8	250	25	0.690	<b>2032 38 6</b>
<b>90 M40 GE</b>	M40 x 1,5	Light grey	16	44	48	16	8	120	10	0.880	<b>2032 38 8</b>



**PE** Polyethylene

/100 pc.

With perforation membranes, the opening D is pre-marked, but closed.

Grip seal to screw into metric thread to IEC 423.

With self-sealing cone at the end of the thread, therefore no connection thread sealing ring required.

Protection rating achievable with careful mounting: IP54.

With perforation membranes, the opening D is pre-marked, but closed.

# Cable gland, system accessories



## Screw-in nipple, PG thread with opening

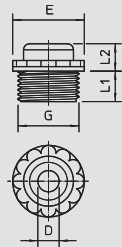
Type	Thread	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
90 PG 9 OF	Pg 9	Light grey	2700	100	0.190	2032 09 0
90 PG11 OF	Pg 11	Light grey	2700	100	0.200	2032 11 2
90 PG13.5 OF	Pg 13.5	Light grey	1800	100	0.270	2032 13 9
90 PG16 OF	Pg 16	Light grey	1800	100	0.290	2032 16 3
90 PG21 OF	Pg 21	Light grey	900	50	0.510	2032 20 1

PE Polyethylene /100 pc.

With open cable entry.  
 Grip seal to screw into PG thread end to DIN 40430.  
 With self-sealing cone at the end of the thread, therefore no connection thread sealing ring required.  
 Protection rating achievable with careful mounting: IP54.  
 With open cable entry.

### Important dimensions, screw-in nipple

G	D	SW	E	L1	L2
	mm	mm	mm	mm	mm
Pg 9	4	17	19	9.5	6
Pg 11	5	19	21	9.5	6
Pg 13.5	7	22	24	9.5	6
Pg 16	7	24	26	9.5	6
Pg 21	9	30	33	11.5	6



## Screw-in nipple, PG thread with perforation membrane

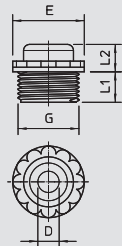
Type	Thread	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
90 PG 9 DSMB	Pg 9	Light grey	2700	100	0.190	2032 50 3
90 PG11 DSMB	Pg 11	Light grey	2700	100	0.200	2032 51 1
90 PG13.5 DSMB	Pg 13.5	Light grey	1800	100	0.270	2032 53 8
90 PG16 DSMB	Pg 16	Light grey	1800	100	0.330	2032 54 6
90 PG21 DSMB	Pg 21	Light grey	500	50	0.510	2032 55 4
90 PG29 DSMB	Pg 29	Light grey	300	25	0.690	2032 56 2

PE Polyethylene /100 pc.

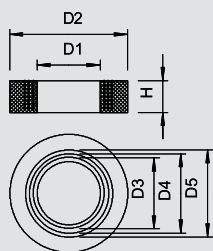
With perforation membrane, the opening D is pre-marked, but closed.  
 Grip seal to screw into PG thread to DIN 40430.  
 With self-sealing cone at the end of the thread, therefore no connection thread sealing ring required. Protection rating achievable with careful mounting: IP54.

### Important dimensions, screw-in nipple

G	D	SW	E	L1	L2
	mm	mm	mm	mm	mm
Pg 9	4	17	19	9.5	6
Pg 11	5	19	21	9.5	6
Pg 13.5	7	22	24	9.5	6
Pg 16	7	24	26	9.5	6
Pg 21	9	30	33	11.5	6
Pg 29	15	37	40	11.5	6







## Cutting ring

Pg

Type	Size	Size	Dimension D1	Dimension D2	Dimension D3	Dimension D4	Dimension D5	Dimension H	Pack.	Weight	Item No.
	mm		mm	mm	mm	mm	mm	mm	pcs	kg/100 pcs.	
<b>107 B PG9</b>	Pg 9	M16	5	13.3	7.5	10	0	5.5	100	0.240	<b>2029 10 3</b>
<b>107 B PG11</b>	Pg 11	-	7.5	16.5	10	12.5	0	6	100	0.230	<b>2029 11 1</b>
<b>107 B PG13.5</b>	Pg 13.5	M20	7.5	18.3	10	12.5	0	6	100	0.230	<b>2029 13 8</b>
<b>107 B PG16</b>	Pg 16	M25	7.5	20.4	10	12.5	15	7	100	0.320	<b>2029 16 2</b>
<b>107 B PG21</b>	Pg 21	-	10	25.9	13	16	19	8	100	0.590	<b>2029 21 9</b>
<b>107 B PG29</b>	Pg 29	M32	18	34.7	21	24	27	9.5	100	1.160	<b>2029 29 4</b>
<b>107 B PG36</b>	Pg 36	M40	24	44.7	27	30	33	12	50	1.940	<b>2029 36 7</b>
<b>107 B PG42</b>	Pg 42	M50	30	51.7	33	36	39	14	50	2.710	<b>2029 42 1</b>
<b>107 B PG48</b>	Pg 48	M63	36	56.9	39	42	45	14	50	3.490	<b>2029 48 0</b>



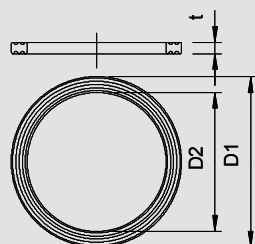
**NBR-SBR** Rubber mixture

/100 pc.

Rubber cutting ring (cuttable sealing ring) to DIN 46320 for cone cable gland.

### Important dimensions, cutting ring

G	D1	D2	D3	D4	D5	H	M
	mm	mm	mm	mm	mm	mm	
Pg 9	5	13.3	7.5	10	0	5.5	M16
Pg 11	7.5	16.5	10	12.5	0	6	-
Pg 13.5	7.5	18.3	10	12.5	0	6	M20
Pg 16	7.5	20.4	10	12.5	15	7	M25
Pg 21	10	25.9	13	16	19	8	-
Pg 29	18	34.7	21	24	27	9.5	M32
Pg 36	24	44.7	27	30	33	12	M40
Pg 42	30	51.7	33	36	39	14	M50
Pg 48	36	56.9	39	42	45	14	M63



## Connection thread sealing ring, metric

M

Type	Size	Dimension D1	Dimension D2	Dimension t	Shipping box	Pack.	Weight	Item No.
		mm	mm	mm	pcs	pcs	kg/100 pcs.	
<b>107 F M12 PE</b>	M12	16.3	12	1	12000	100	0.020	<b>2030 00 4</b>
<b>107 F M16 PE</b>	M16	20.9	16	1.1	2600	100	0.020	<b>2030 00 8</b>
<b>107 F M20 PE</b>	M20	25.1	20	1.1	1500	100	0.030	<b>2030 01 2</b>
<b>107 F M25 PE</b>	M25	31.3	25	1.4	1200	100	0.060	<b>2030 01 6</b>
<b>107 F M32 PE</b>	M32	37.6	32	1.7	1200	100	0.110	<b>2030 02 0</b>
<b>107 F M40 PE</b>	M40	49.1	40	1.7	1000	100	0.200	<b>2030 02 4</b>
<b>107 F M50 PE</b>	M50	60.1	50	2	1200	100	0.250	<b>2030 02 8</b>
<b>107 F M63 PE</b>	M63	73.8	63	2	1200	100	0.290	<b>2030 03 2</b>

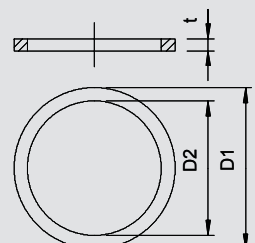


**PE** Polyethylene

/100 pc.

Connection thread sealing ring, suitable for all plastic cable glands with metric connection thread to

DIN EN 60423 or ISO 68. The internal diameters of the sealing rings are designed in such a way that they can be premounted in a captive manner.



Type	Size	Dimension D1	Dimension D2	Dimension t	Shipping box	Pack.	Weight	Item No.
		mm	mm	mm	pcs	pcs	kg/100 pcs.	
<b>170 M16</b>	M16	19.9	16	2	10000	100	0.040	<b>2088 42 8</b>
<b>170 M20</b>	M20	24	20	2	12000	100	0.070	<b>2088 43 6</b>
<b>170 M25</b>	M25	30	25	3	1800	100	0.170	<b>2088 44 4</b>
<b>170 M32</b>	M32	38	32	3	1200	100	0.270	<b>2088 45 2</b>
<b>170 M40</b>	M40	47	40	3	600	50	0.330	<b>2088 46 0</b>
<b>170 M50</b>	M50	57	50	3	600	50	0.440	<b>2088 47 9</b>

M



**FA** Fibre-proof material DIN 28091

/100 pc.

Asbestos-free material.

Connection thread sealing ring, Part 9, to DIN 46320, suitable for all brass cable glands with metric connection thread to DIN EN 60423 or ISO 68.

Colour: green, graphited on one side.



# Cable gland, system accessories

Cable gland systems, plastic

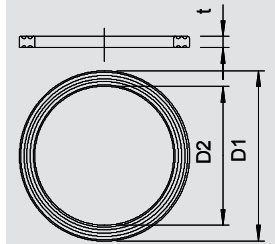


## Connection thread sealing ring, PG

Type	Size	Dimension D1	Dimension D2	Dimension t	Shipping box	Pack.	Weight	Item No.
	mm	mm	mm	mm	pcs	pcs	kg/100 pcs.	
<b>107 F PG7 PE</b>	Pg 7	16.5	12.1	1.6	2600	100	0.020	<b>2030 07 1</b>
<b>107 F PG9 PE</b>	Pg 9	19	14.7	1.6	2600	100	0.020	<b>2030 09 8</b>
<b>107 F PG11 PE</b>	Pg 11	23	18	1.8	1500	100	0.030	<b>2030 10 1</b>
<b>107 F PG13.5 PE</b>	Pg 13.5	25	19.8	1.8	1500	100	0.030	<b>2030 13 6</b>
<b>107 F PG16 PE</b>	Pg 16	27	21.8	1.8	1000	100	0.040	<b>2030 16 0</b>
<b>107 F PG21 PE</b>	Pg 21	34	27.5	2.2	1000	100	0.060	<b>2030 21 7</b>
<b>107 F PG29 PE</b>	Pg 29	44	36.2	2.2	1200	100	0.110	<b>2030 29 2</b>
<b>107 F PG36 PE</b>	Pg 36	55.5	46.2	2.7	1000	100	0.200	<b>2030 36 5</b>
<b>107 F PG42 PE</b>	Pg 42	63.5	53.2	3.2	1200	100	0.250	<b>2030 41 1</b>
<b>107 F PG48 PE</b>	Pg 48	69.5	58.5	3.2	1200	100	0.290	<b>2030 48 9</b>

**PE** Polyethylene /100 pc.

Connection thread sealing ring, in accordance with Part 9 to DIN 46320, however, dimensions may, according to material or function, deviate, suitable for all plastic cable glands with PG connection thread to DIN EN 40430, the internal diameter of the sealing rings are designed so that they can be captively pre-mounted.

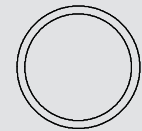
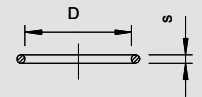


## O sealing ring for metric connection thread

Type	Shipping box	Size	Dimension D	Dimension S	Pack.	Weight	Item No.
	pcs	mm	mm	mm	pcs	kg/100 pcs.	
<b>171 M12</b>	12000	M12	10	1.5	100	0.010	<b>2088 70 3</b>
<b>171 M16</b>	12000	M16	13	1.5	100	0.010	<b>2088 71 1</b>
<b>171 M20</b>	12000	M20	18	1.5	100	0.010	<b>2088 73 8</b>
<b>171 M25</b>	10000	M25	22	1.5	100	0.010	<b>2088 74 6</b>
<b>171 M32</b>	12000	M32	29	2	100	0.040	<b>2088 75 4</b>
<b>171 M40</b>	500	M40	36	2	50	0.050	<b>2088 76 2</b>
<b>171 M50</b>	500	M50	46	2	50	0.050	<b>2088 77 0</b>
<b>171 M63</b>	250	M63	59	2	25	0.060	<b>2088 78 9</b>

**NBR** Nitrile rubber /100 pc.

O sealing rings, suitable as connection thread sealing rings for all plastic and brass cable glands with metric connection thread to DIN EN 60423 or ISO 68. The rings can be captively pre-mounted.

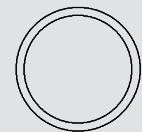
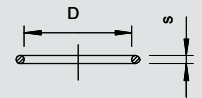


## O sealing ring for PG connection thread

Type	Shipping box	Size	Dimension D	Dimension S	Pack.	Weight	Item No.
	pcs	mm	mm	mm	pcs	kg/100 pcs.	
<b>171 PG 9</b>	12000	Pg 9	13	1.5	100	0.010	<b>2088 81 9</b>
<b>171 PG11</b>	12000	Pg 11	16	1.5	100	0.010	<b>2088 82 7</b>
<b>171 PG13.5</b>	12000	Pg 13.5	18	1.5	100	0.010	<b>2088 83 5</b>
<b>171 PG16</b>	10000	Pg 16	20	1.5	100	0.010	<b>2088 84 3</b>
<b>171 PG21</b>	12000	Pg 21	25	2	100	0.030	<b>2088 85 1</b>
<b>171 PG29</b>	12000	Pg 29	33	2	100	0.040	<b>2088 87 8</b>
<b>171 PG36</b>	750	Pg 36	43	2	50	0.050	<b>2088 88 6</b>
<b>171 PG42</b>	500	Pg 42	50	2	50	0.050	<b>2088 89 4</b>

**NBR** Nitrile rubber /100 pc.

O sealing rings, suitable as connection thread sealing rings for all plastic and brass cable glands with PG connection thread to DIN EN 60423 or ISO 68. The rings can be captively pre-mounted.



## Dust protection plate, metric

Type	Size	Dimension D	Dimension t	Shipping box	Pack.	Weight	Item No.
	mm	mm	mm	pcs	pcs	kg/100 pcs.	
<b>107 S VTEC M12</b>	M12	12	1.5	12000	100	0.000	<b>2028 87 0</b>
<b>107 S VTEC M16</b>	M16	16	1.5	10000	100	0.000	<b>2028 87 3</b>
<b>107 S VTEC M20</b>	M20	20	1.5	12000	100	0.000	<b>2028 87 5</b>
<b>107 S VTEC M25</b>	M25	25	1.5	1500	100	0.010	<b>2028 87 7</b>
<b>107 S VTEC M32</b>	M32	32	1.5	1000	100	0.010	<b>2028 88 0</b>
<b>107 S VTEC M40</b>	M40	40	1.5	1200	100	0.020	<b>2028 88 3</b>
<b>107 S VTEC M50</b>	M50	50	1.5	1000	100	0.040	<b>2028 88 5</b>

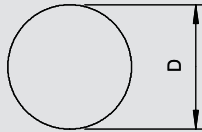
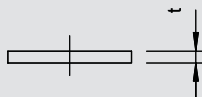
**ZPE** Cellular polyethylene /100 pc.

Cellular polyethylene.

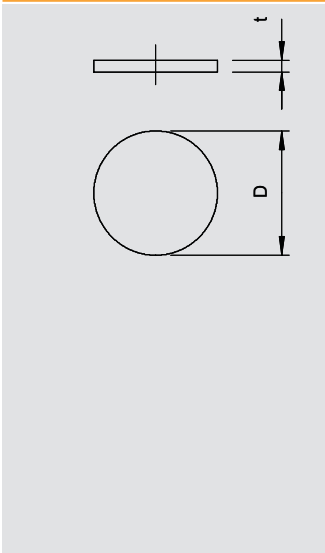
Small protective disc to protect the V-TEC VM and V-TEC VM MS cable glands against dust before the cable is installed.

Application: the discs are pre-mounted between the cap nut and the seal. They do not need to be removed when the cable is installed, but are simply passed through to the interior with the cable.

Note: the discs do not provide any mechanical protection.



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## Dust protection plate, PG

Pg

Type	Shipping box pcs	Size mm	Dimension D mm	Dimension t mm	Pack. pcs	Weight kg/100 pcs.	Item No.
107 S VTEC PG7	12000	Pg 7	11	1.5	100	0.000	2028 89 1
107 S VTEC PG9	12000	Pg 9	14	1.5	100	0.000	2028 90 5
107 S VTEC PG11	12000	Pg 11	16.5	1.5	100	0.000	2028 91 3
107 S VTEC PG13	10000	Pg 13.5	18.5	2	100	0.000	2028 92 1
107 S VTEC PG16	8000	Pg 16	21	2	100	0.010	2028 94 8
107 S VTEC PG21	12000	Pg 21	26.5	2	100	0.010	2028 95 6
107 S VTEC PG29	1000	Pg 29	34.5	2	100	0.020	2028 96 4
107 S VTEC PG36	1200	Pg 36	44	3	100	0.040	2028 97 2
107 S VTEC PG42	1200	Pg 42	50	3	100	0.050	2028 98 0
107 S VTEC PG48	1200	Pg 48	56	3	100	0.060	2028 99 9



**ZPE** Cellular polyethylene

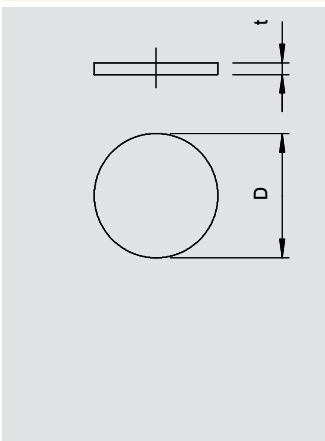
/100 pc.

Cellular polyethylene.

Small protective disc to protect the V-TEC and V-TEC MS cable glands against dust before the cable is installed.

Application: the discs are pre-mounted between the cap nut and the seal. They do not need to be removed when the cable is installed, but are simply passed through to the interior with the cable.

Note: the discs do not provide any mechanical protection.



## Sealing plate, PG

Pg

Type	Dimension t mm	Shipping box pcs	Size mm	Dimension D mm	Pack. pcs	Weight kg/100 pcs.	Item No.
107 V PG 7 PVC	0.5	12000	Pg 7	11	100	0.010	2029 70 7
107 V PG 9 PVC	0.5	12000	Pg 9	13.5	100	0.020	2029 71 5
107 V PG11 PVC	0.5	10000	Pg 11	16.5	100	0.030	2029 72 3
107 V PG13.5 PVC	0.5	10000	Pg 13.5	18.5	100	0.040	2029 73 1
107 V PG16 PVC	0.5	8000	Pg 16	20.5	100	0.050	2029 75 8
107 V PG21 PVC	0.5	12000	Pg 21	26	100	0.080	2029 76 6
107 V PG29 PVC	1	1000	Pg 29	35	100	0.140	2029 77 4

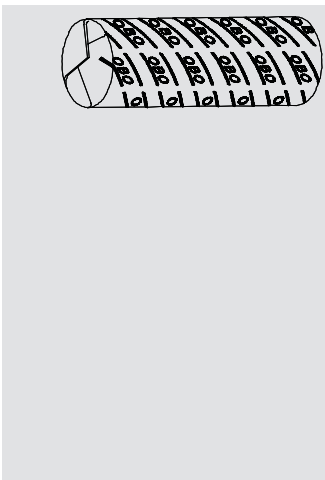


**PVC** Polyvinylchloride

/100 pc.

The sealing plate offers both mechanical protection and the maintenance of the protection rating of plastic and metal cable glands to DIN 46320 before cable installation.

Application: the discs are placed between the pressure screw and the pressure ring. If the safe maintenance of IP65 is required, we recommend placing the discs between the pressure ring and the sealing ring. To mount the cable, remove the discs – they can be reused.



## Electrical insulating and sealing compound

Type	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
115 GR-GN	Natural	90	10	11.020	2340 03 8

/100 pc.

In rods.

Permanently elastic, fibre-free sealing kit on a polymer and a mineral basis to fill cavities in installations, e.g. cable glands or similar components, to prevent the entry of dirt and water, Colour: Natural



Characteristics of the sealing kit:

- Halogen-, acid- and silicone-free
- Can also be processed at low temperatures
- Permanent heat resistance to +80 °C
- Corrosion-resistant
- Low water consumption
- Good insulation properties
- Puncture strength 16 kV/mm to VDE 0291 Part 2
- Can be stored almost indefinitely





## Cable fastening systems, brass

	Cap nut cable gland	Metric thread	246
		PG thread	247
		EMC metric EMC spring contact, metric	248 248
	Cone cable gland	Metric thread	249
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		Reduction	259
		Adapter	260
		Cutting ring	262
		Pressure ring	262
		O sealing ring	263
		Dust protection plate	263
		Sealing plate	264



# Cap nut cable gland



## Cable gland, metric thread

Type	Thread	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
V-TEC VM12 MS	M12 x 1,5	500	50	1.200	2086 01 8
V-TEC VM16 MS	M16 x 1,5	600	50	1.640	2086 02 4
V-TEC VM20 MS	M20 x 1,5	250	25	3.140	2086 03 0
V-TEC VM25 MS	M25 x 1,5	250	25	4.260	2086 03 6
V-TEC VM32 MS	M32 x 1,5	160	20	7.160	2086 04 2
V-TEC VM40 MS	M40 x 1,5	60	5	12.240	2086 04 8
V-TEC VM50 MS	M50 x 1,5	45	5	22.700	2086 05 4
V-TEC VM63 MS	M63 x 1,5	40	5	30.300	2086 06 0

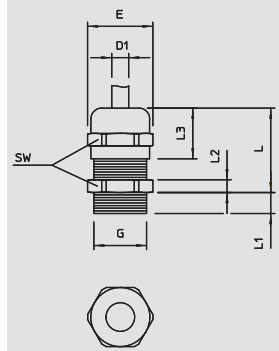
CuZn Brass N Nickel-plated /100 pc.

With metric connecting thread to IEC 423 robust cap-nut cable gland with large sealing area. Strain relief, wringing protection and tightness over the whole clamping area. Neoprene sealing ring. Polyamide terminal insert. With pre-mounted sealing ring on connection thread, VDE-tested to DIN EN 50262, protection rating IP 68 at 5 bar for 1 hr.

\* Prices according to DEL notation.

### Important dimensions, brass cable gland

G	D1	SW	E	L max.	L1
M12 x 1.5	3-6	14	15.5	20	5
M16 x 1.5	5-9	17	19	24	5
M20 x 1.5	9-13	22	24	27	6
M25 x 1.5	11-16	27	30	29.5	7
M32 x 1.5	14-21	34	36	30	8
M40 x 1.5	19-27	43	46	33	8
M50 x 1.5	24-35	55	60	38.5	9
M63 x 1.5	32-42	65	70	44.5	10



Cable gland systems, brass



## Cable gland, long metric thread

Type	Thread	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
V-TEC VM LM12 MS	M12 x 1,5	500	50	1.300	2086 11 1
V-TEC VM LM16 MS	M16 x 1,5	600	50	1.940	2086 11 7
V-TEC VM LM20 MS	M20 x 1,5	300	25	3.360	2086 12 3
V-TEC VM LM25 MS	M25 x 1,5	250	25	4.800	2086 12 9
V-TEC VM LM32 MS	M32 x 1,5	120	10	7.840	2086 13 5
V-TEC VM LM40 MS	M40 x 1,5	60	5	13.400	2086 14 1
V-TEC VM LM50 MS	M50 x 1,5	45	5	24.000	2086 14 7
V-TEC VM LM63 MS	M63 x 1,5	40	5	32.100	2086 15 3
V-TEC VM LM75MS1	M75 x 1,5	3	3	112.300	2086 15 6
V-TEC VM LM75MS2	M75 x 1,5	3	3	98.200	2086 15 9

CuZn Brass N Nickel-plated /100 pc.

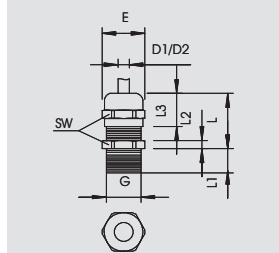
With metric connecting thread to IEC 423 robust cap-nut cable gland with large sealing area. Strain relief, wringing protection and tightness over the whole clamping area. For thicker housing wall thicknesses in conjunction with locknuts. Neoprene sealing ring. Polyamide terminal insert. With pre-mounted sealing ring on connection thread, VDE-tested to DIN EN 50262, protection rating IP 68 at 5 bar for 1 hr.

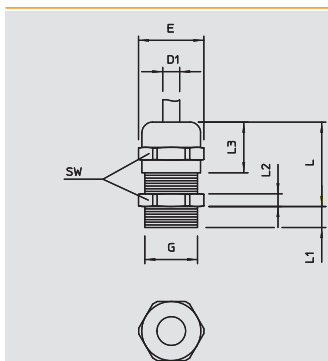
With long connection thread.

\* Prices according to DEL notation.

### Important dimensions, brass cable gland

G	D1	SW	E	L max.	L1
M12 x 1.5	3-6	14	15.5	20	10
M16 x 1.5	5-9	17	19	24	10
M20 x 1.5	9-13	22	24	27	10
M25 x 1.5	11-16	27	30	29.5	11
M32 x 1.5	14-21	34	36	30	13
M40 x 1.5	19-27	43	46	33	13
M50 x 1.5	24-35	55	60	38.5	14
M63 x 1.5	32-42	65	65	44.5	14
M75 x 1.5	48 - 55	90	97	42	18
M75 x 1.5	53 - 60	90	97	42	18





## Cable gland, PG thread



Type	Thread	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
V-TEC PG7 MS	Pg 7	500	50	1.000	2085 60 7
V-TEC PG9 MS	Pg 9	600	50	1.600	2085 61 5
V-TEC PG11 MS	Pg 11	600	50	2.300	2085 62 3
V-TEC PG13 MS	Pg 13,5	500	50	2.800	2085 63 1
V-TEC PG16 MS	Pg 16	300	25	3.400	2085 65 8
V-TEC PG21 MS	Pg 21	200	25	6.000	2085 66 6
V-TEC PG29 MS	Pg 29	120	20	13.000	2085 67 4
V-TEC PG36 MS	Pg 36	60	10	21.000	2085 68 2
V-TEC PG42 MS	Pg 42	15	5	23.500	2085 69 0
V-TEC PG48 MS	Pg 48	40	5	31.500	2085 70 4



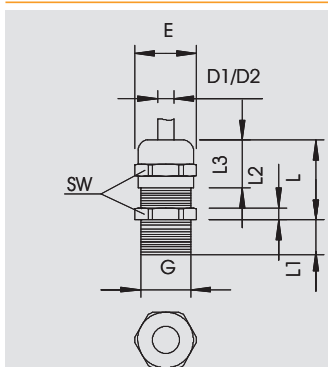
**CuZn** Brass      **N** Nickel-plated      /100 pc.

Cable gland of cap-nut design with large sealing area, and strain relief and torsion protection for high sealing demands with Pg connection thread to DIN 40430, polyamide terminal insert, sealing ring of chloroprene/nitrile rubber, with pre-mounted O ring on the connection thread.

Protection rating IP 68 at 5 bar: 1 hr, tested to VDE 0619.  
 \*Normal" connection thread length, according to DIN 46320.  
 \* Prices according to DEL notation.

### Important dimensions, brass cable gland

G	D1	D2	SW	E	L max.	L1	L2	L3
Pg 7	2.5-6.5	3-6.5	14	15.5	20	5	3	12
Pg 9	2.5-8	3.5-8	17	18.9	22	6	3	14
Pg 11	3.5-10	4.5-10	20	22.2	24	6	3	15
Pg 13.5	5-12	6-12	22	24.4	25	6.5	3.5	15
Pg 16	7-14	7-14	24	26.7	27	6.5	4	17
Pg 21	9-18	12-18	30	33.5	33	7	4.5	20
Pg 29	14-25	17-25	40	43.5	39	8	5	23.5
Pg 36	18-32	20-32	50	54	49	9	5.5	29
Pg 42	24-38	26-38	57	61	52	10	6	31
Pg 48	30-44	30-44	64	69	52.5	10	6.5	31



## Cable gland, long PG thread



Type	Thread	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
V-TEC L PG7 MS	Pg 7	600	50	1.130	2085 72 0
V-TEC L PG9 MS	Pg 9	600	50	1.740	2085 73 9
V-TEC L PG11 MS	Pg 11	600	50	2.550	2085 74 7
V-TEC L PG13 MS	Pg 13,5	200	50	3.030	2085 75 5
V-TEC L PG16 MS	Pg 16	300	25	3.660	2085 76 3
V-TEC L PG21 MS	Pg 21	200	25	6.580	2085 77 1
V-TEC L PG29 MS	Pg 29	100	10	13.660	2085 79 8
V-TEC L PG48 MS	Pg 48	40	5	37.900	2085 83 6



**CuZn** Brass      **N** Nickel-plated      /100 pc.

Cable gland of cap-nut design with large sealing area, and strain relief and torsion protection for high sealing demands with long Pg connection thread to DIN 40430, for thicker housing wall thicknesses in connection with locknut.

Polyamide terminal insert.  
 Sealing ring of chloroprene/nitrile rubber.  
 O ring pre-mounted on connection thread.  
 Protection rating IP 68 at 5 bar: 1 hr.  
 Tested to VDE 0619.

With long connection thread.  
 \* Prices according to DEL notation.

### Important dimensions, brass cable gland

G	D1	D2	SW	E	L max.	L1	L2	L3
Pg 7	2.5-6.5	3-6.5	14	15.5	20	10	3	12
Pg 9	2.5-8	3.5-8	17	18.9	22	10	3	14
Pg 11	3.5-10	4.5-10	20	22.2	24	10	3	15
Pg 13.5	5-12	6-12	22	24.4	25	10	3.5	16
Pg 16	7-14	7-14	24	26.7	27	10	4	17
Pg 21	9-18	12-18	30	33.5	33	12	4.5	20
Pg 29	14-25	17-25	40	43.5	39	12	5	23
Pg 48	30-44	30-44	64	69	52.5	15	6.5	31



# Cap nut cable gland



## Cable gland, EMC, metric

Type	Thread	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
V-TEC VM12 EMV	M12 x 1.5	600	50	1.360	2086 20 3
V-TEC VM16 EMV	M16 x 1.5	600	50	1.850	2086 20 7
V-TEC VM20 EMV	M20 x 1.5	250	25	3.470	2086 21 1
V-TEC VM25 EMV	M25 x 1.5	250	25	5.280	2086 21 5
V-TEC VM32 EMV	M32 x 1.5	160	20	7.470	2086 21 9
V-TEC VM40 EMV	M40 x 1.5	60	5	12.880	2086 22 3
V-TEC VM50 EMV	M50 x 1.5	45	5	26.170	2086 22 7
V-TEC VM63 EMV	M63 x 1.5	45	5	33.990	2086 23 1

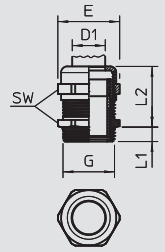
CuZn Brass      N Nickel-plated      /100 pc.

With metric connecting thread to IEC 423 robust EMV cap-nut cable gland with large sealing area. Strain relief, wringing protection and tightness over the whole clamping area. Neoprene sealing ring. Polyamide terminal insert. With pre-mounted O sealing ring on connection thread, VDE-tested to DIN EN 50262, protection rating IP 68 at 5 bar for 1 hr.

\* Prices according to DEL notation.

### Important dimensions, EMV brass cable gland

G	D1	SW	E	L max.	L1
M12 x 1.5	3-6	14	15.5	25	5
M16 x 1.5	5-9	17	19	30	5
M20 x 1.5	9-13	22	24	33.5	6
M25 x 1.5	11-16	17	30	36.5	7
M32 x 1.5	14-21	34	36	38	8
M40 x 1.5	19-27	43	46	49.5	8
M50 x 1.5	24-35	55	60	49.5	9
M63 x 1.5	32-42	65	70	52.5	10



Cable gland systems, brass



## Cable gland, EMC spring contact, metric

Type	Thread	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
V-TEC VM16 EMV-K	M16x1,5	600	50	2.040	2086 16 5
V-TEC VM20 EMV-K	M20x1,5	250	25	3.560	2086 16 9
V-TEC VM25 EMV-K	M25x1,5	250	25	5.920	2086 17 3
V-TEC VM32 EMV-K	M32x1,5	160	20	9.880	2086 17 7
V-TEC VM40 EMV-K	M40x1,5	60	5	17.200	2086 18 1
V-TEC VM50 EMV-K	M50x1,5	45	5	13.740	2086 18 5
V-TEC VM63 EMV-K	M63x1,5	45	5	16.780	2086 18 9

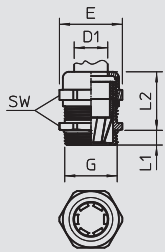
CuZn Brass      N Nickel-plated      /100 pc.

With metric connecting thread to IEC 423 robust EMV cap-nut cable gland with large sealing area. The contacting between the gland and braided shield is made using a contact spring. Strain relief, wringing protection and tightness over the whole clamping area. Neoprene sealing ring. Polyamide terminal insert. With pre-mounted O sealing ring on connection thread, VDE-tested to DIN EN 50262, protection rating IP 68 at 5 bar for 1 hr.

\* Prices according to DEL notation.

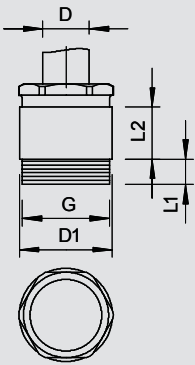
### Important dimensions, EMV brass cable gland

G	D1	SW	E	L max.	L1
M16 x 1.5	5-9	17	19	30	5
M20 x 1.5	9-13	22	24	33.5	6
M25 x 1.5	11-16	27	30	36.5	7
M32 x 1.5	14-21	34	36	38	8
M40 x 1.5	19-27	43	46	41	8
M50 x 1.5	24-35	55	60	49.5	9
M63 x 1.5	38-48	65	65	52.5	10





# Cone cable gland



## Cable gland, metric thread

IP 54 IP 65 M

Type	Thread	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
160 MS M12	M12 x 1,5	1600	50	1.060	2079 80 1
160 MS M16	M16 x 1,5	1500	50	1.810	2079 82 8
160 MS M20	M20 x 1,5	600	50	2.530	2079 83 6
160 MS M25	M25 x 1,5	300	25	3.390	2079 84 4
160 MS M32	M32 x 1,5	250	25	5.000	2079 85 2
160 MS M40	M40 x 1,5	120	10	8.720	2079 86 0
160 MS M50	M50 x 1,5	80	10	15.800	2079 87 9
160 MS M63	M63 x 1,5	50	5	21.600	2079 88 7



**CuZn** Brass **N** Nickel-plated /100 pc.

Cable gland with round intermediate connector, shape C5, to DIN 46320 with metric connection thread to DIN EN 60423 and ISO 68. Pressure rings made of electrogalvanised and transparently passivated steel.

NR/SBR sealing ring.

Protection rating: with connection thread sealing ring IP 65, without connection thread sealing ring IP 54.

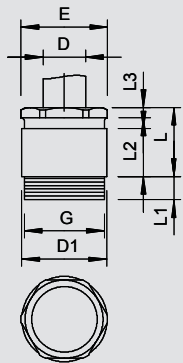
With simple sealing ring, with small nominal diameter.

\* Prices according to DEL notation.

### Important dimensions, brass cable gland

G	D	D1	SW	E	L1	L2
	mm	mm	mm	mm	mm	mm
M12 x 1.5	5-7	14	13	14.3	7	10
M16 x 1.5	6-8	17	15	16.6	7	10.5
M20 x 1.5	8-10	22	20	22.2	7	12.5
M25 x 1.5	8-10	26	22	24.2	7	12.5
M32 x 1.5	17-19	34	28	31.2	8.5	15
M40 x 1.5	24-26	41	37	41	8.5	16.5
M50 x 1.5	31-33	54	47	50.5	9.5	19.5
M63 x 1.5	37-39	64	59	59	10.5	16.5

Cable gland systems, brass



## Cable gland, PG thread

IP 54 IP 65 Pg

Type	Thread	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
160 MS PG 7	Pg 7	1600	50	0.770	2080 07 9
160 MS PG 9	Pg 9	1500	50	1.270	2080 09 5
160 MS PG 11	Pg 11	600	25	1.820	2080 11 7
160 MS PG 13.5	Pg 13.5	600	50	2.240	2080 13 3
160 MS PG 16	Pg 16	450	25	2.850	2080 16 8
160 MS PG 21	Pg 21	250	25	4.320	2080 21 4
160 MS PG 29	Pg 29	200	10	7.610	2080 28 1
160 MS PG 36	Pg 36	120	10	14.400	2080 36 2
160 MS PG 42	Pg 42	50	5	20.100	2080 42 7
160 MS PG 48	Pg 48	50	5	28.650	2080 48 6



**CuZn** Brass **N** Nickel-plated /100 pc.

Cable gland with round intermediate connector, shape C5, to DIN 46320 with Pg connection thread to DIN 40430.

Pressure rings made of electrogalvanised and transparently passivated steel.

NR/SBR sealing ring.

With simple sealing ring, with small nominal diameter.

Protection rating: with connection thread sealing ring IP 65, without connection thread sealing ring IP 54.

\* Prices according to DEL notation.

### Important dimensions, brass cable gland

G	D	D1	SW	E	L max.	L1	L2	L3
	mm	mm	mm	mm	mm	mm	mm	mm
Pg 7	5-7	14	13	14.3	15	5	10	2.5
Pg 9	6-8	17	15	16.6	16	6	10.5	2.5
Pg 11	8-10	20	18	20	17	6	11	3
Pg 13.5	8-10	22	20	22.2	18	6.5	12.5	3
Pg 16	8-10	24	22	24.4	19	6.5	13.5	3
Pg 21	17-19	30	28	31.2	22	7	15	3.5
Pg 29	24-26	39	37	41	24	8	16.5	4
Pg 36	31-33	50	47	50.5	29	9	19.5	4.5
Pg 42	37-39	57	54	59.5	33	10	22	6
Pg 48	43-45	64	60	65	34	10	23	6

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# Cone cable gland

IP 54 IP 65 Pg



## Cable gland, long PG thread

Type	Thread	Shipping box	Pack.	Weight	Item No.
		pcs	pcs	kg/100 pcs.	
<b>160 L MS PG21</b>	Pg 21	250	25	5.000	<b>2081 21 0</b>

CuZn Brass N Nickel-plated /100 pc.

Cable gland with round intermediate connector, shape C5, to DIN 46320 with 15 mm long Pg connection thread to DIN 40430.

Pressure rings made of electrogalvanised and transparently passivated steel.

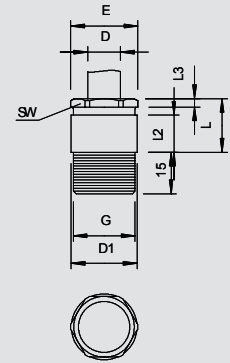
NR/SBR sealing ring.

Protection rating: with connection thread sealing ring IP 65, without connection thread sealing ring IP 54.

\* Prices according to DEL notation.

### Important dimensions, brass cable gland

G	D	D1	SW	E	L max.	L2	L3
	mm	mm	mm	mm	mm	mm	mm
Pg 21	17-19	30	28	31.2	22	15	3.5



IP 54 IP 65 Pg



## Cable gland, large sealing ring, PG

Type	Thread	Shipping box	Pack.	Weight	Item No.
		pcs	pcs	kg/100 pcs.	
<b>160 G MS PG 9</b>	Pg 9	1500	50	1.060	<b>2080 70 2</b>
<b>160 G MS PG13.5</b>	Pg 13.5	600	50	2.350	<b>2080 74 5</b>

CuZn Brass N Nickel-plated /100 pc.

Cable gland with round intermediate connector, shape C5, to DIN 46320 with Pg connection thread to DIN 40430.

Pressure rings made of electrogalvanised and transparently passivated steel.

NR/SBR sealing ring.

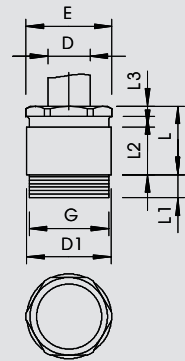
Protection rating: with connection thread sealing ring IP 65, without connection thread sealing ring IP 54.

With simple, large sealing ring, with larger internal diameter.

\* Prices according to DEL notation.

### Important dimensions, brass cable gland

G	D	D1	SW	E	L max.	L1	L2	L3
	mm	mm	mm	mm	mm	mm	mm	mm
Pg 9	8-9.5	17	15	14.3	16	6	10.5	2.5
Pg 13.5	10-11.5	22	20	22.2	18	6.5	12.5	3



IP 54 IP 65 M



## Cable gland, M cutting ring

Type	Thread	Shipping box	Pack.	Weight	Item No.
		pcs	pcs	kg/100 pcs.	
<b>161 MS M16</b>	M16 x 1.5	1500	50	1.810	<b>2079 90 5</b>
<b>161 MS M32</b>	M32 x 1.5	200	25	5.000	<b>2079 91 7</b>
<b>161 MS M63</b>	M63 x 1.5	50	5	21.600	<b>2079 92 9</b>

CuZn Brass N Nickel-plated /100 pc.

Cable gland with round intermediate connector, shape C5, to DIN 46320 with metric connection thread to DIN EN 60423 and ISO 68. Pressure rings made of electrogalvanised and transparently passivated steel, NR/SBR sealing ring.

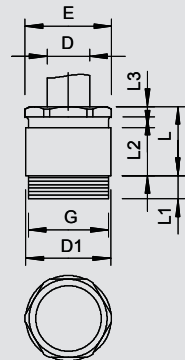
Protection rating: with connection thread sealing ring IP 65, without connection thread sealing ring IP 54.

With cutting ring.

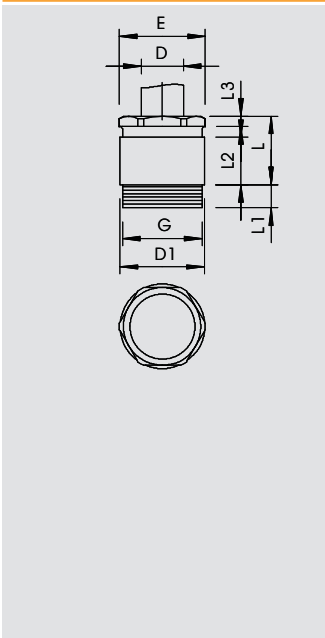
\* Prices according to DEL notation.

### Important dimensions, brass cable gland

G	D	D1	SW	E	L1	L2
	mm	mm	mm	mm	mm	mm
M16 x 1.5	5-9.5	17	15	16.6	7	17
M32 x 1.5	10-20.5	34	28	31.2	8.5	23.5
M63 x 1.5	30-42	64	54	59	10.5	35



# Cone cable gland



## Cable gland, PG cutting ring

IP 54 IP 65 Pg

Type	Thread	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
161 MS PG13.5	Pg 13.5	600	50	2.580	2080 52 4
161 MS PG16	Pg 16	450	25	3.010	2080 54 0
161 MS PG21	Pg 21	250	25	5.150	2080 56 7
161 MS PG29	Pg 29	200	10	8.960	2080 58 3

**CuZn** Brass **N** Nickel-plated /100 pc.

Cable gland with round intermediate connector, shape C5, to DIN 46320 with Pg connection thread to DIN 40430.

Pressure rings made of electrogalvanised and transparently passivated steel.

NR/SBR sealing ring.

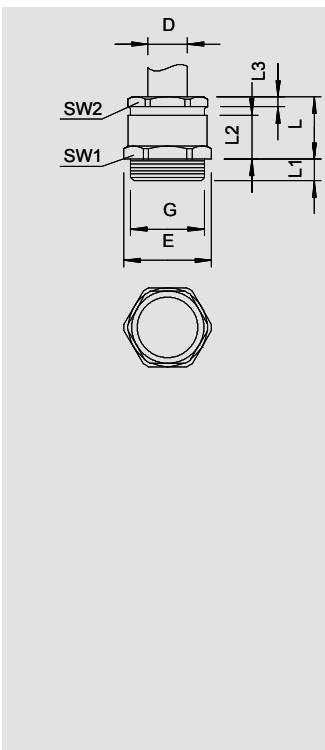
Protection rating: with connection thread sealing ring IP 65, without connection thread sealing ring IP 54.

With cutting ring.

\* Prices according to DEL notation.

### Important dimensions, brass cable gland

G	D	D1	SW	E	L max.	L1	L2	L3
Pg 13.5	7.5-11.5	22	20	22.2	18	6.5	12.5	3
Pg 16	7.5-13.5	24	22	24.4	19	6.5	13.5	3
Pg 21	10-20.5	30	28	31.2	22	7	15	3.5
Pg 29	18-29	39	37	41	24	8	16.5	4



## Cable gland, M cutting ring

IP 54 IP 65 M

Type	Thread	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
162 MS M16	M16 x 1,5	1500	50	1.810	2083 71 2
162 MS M20	M20 x 1,5	450	25	2.520	2083 71 6
162 MS M25	M25 x 1,5	250	25	3.390	2083 72 0
162 MS M32	M32 x 1,5	200	10	5.000	2083 72 4
162 MS M40	M40 x 1,5	120	10	8.720	2083 72 8
162 MS M50	M50 x 1,5	50	5	15.800	2083 73 2
162 MS M63	M63 x 1,5	50	5	21.600	2083 73 6

**CuZn** Brass **N** Nickel-plated /100 pc.

Cable gland with hexagonal intermediate connector, shape C4, to DIN 46320 with metric connection thread to DIN EN 60423 and ISO 68. Pressure rings made of electrogalvanised and transparently passivated steel. NR/SBR sealing ring.

Protection rating: with connection thread sealing ring IP 65, without connection thread sealing ring IP 54.

With cutting ring.

\* Prices according to DEL notation.

### Important dimensions, brass cable gland

G	D	SW1	SW2	E	L1	L2
M16 x 1.5	5-9.5	17	15	18.9	7	16
M20 x 1.5	7.5-13.5	22	20	24.4	7	18
M25 x 1.5	10-20.5	32	28	35.5	8	22
M32 x 1.5	18-29	40	37	43.5	8.5	24
M40 x 1.5	24-31	50	47	54	8.5	29
M50 x 1.5	30-42	58	54	62.1	9.5	33
M63 x 1.5	36-47	65	60	69	10	10



Cable gland systems, brass



# Cone cable gland

IP 54 IP 65 Pg



## Cable gland, PG cutting ring

Type	Thread	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
162 MS PG 9	Pg 9	1500	50	1.250	2082 51 9
162 MS PG 11	Pg 11	600	50	1.960	2082 50 0
162 MS PG 13.5	Pg 13,5	600	50	2.630	2082 52 7
162 MS PG 16	Pg 16	450	25	3.190	2082 54 3
162 MS PG 21	Pg 21	250	25	5.240	2082 57 8
162 MS PG 29	Pg 29	200	10	9.260	2082 59 4
162 MS PG 36	Pg 36	80	10	16.490	2082 61 6

CuZn Brass N Nickel-plated /100 pc.

Cable gland with hexagonal intermediate connector, shape C4, to DIN 46320 with Pg connection thread to DIN 40430.

Pressure rings made of electrogalvanised and transparently passivated steel.

NR/SBR sealing ring.

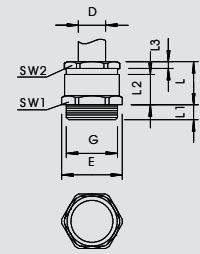
Protection rating: with connection thread sealing ring IP 65, without connection thread sealing ring IP 54.

With cutting ring.

\* Prices according to DEL notation.

### Important dimensions, brass cable gland

G	D	SW1	SW2	E	L max.	L1	L2	L3
Pg 9	5-9.5	17	15	18.9	16	6	10.5	2.5
Pg 11	7.5-11.5	20	18	22.2	17	6	11	3
Pg 13.5	7.5-13.5	22	20	24.4	18	6.5	12.5	3
Pg 16	7.5-15.5	24	22	26.7	19	6.5	13.5	3
Pg 21	10-20.5	30	28	33.5	22	7	15	3.5
Pg 29	18-29	40	37	43.5	24	8	16.5	4
Pg 36	24-37	50	47	54	29	9	19.5	4.5



Cable gland systems, brass

IP 54 IP 65 M



## Cable gland, small sealing ring, M

Type	Thread	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
163 MS M12	M12 x 1.5	1600	50	0.850	2083 61 2
163 MS M16	M16 x 1.5	900	50	1.160	2083 62 0
163 MS M20	M20 x 1.5	450	25	2.210	2083 63 9
163 MS M25	M25 x 1.5	250	25	4.550	2083 64 7
163 MS M32	M32 x 1.5	200	10	8.210	2083 65 5
163 MS M40	M40 x 1.5	120	10	14.230	2083 66 3
163 MS M50	M50 x 1.5	50	5	20.540	2083 67 1
163 MS M63	M63 x 1.5	50	5	30.000	2083 69 8

CuZn Brass N Nickel-plated /100 pc.

Cable gland with hexagonal intermediate connector, shape C4, to DIN 46320 with metric connection thread to DIN EN 60423 and ISO 68. Pressure rings made of electrogalvanised and transparently passivated steel.

NR/SBR sealing ring.

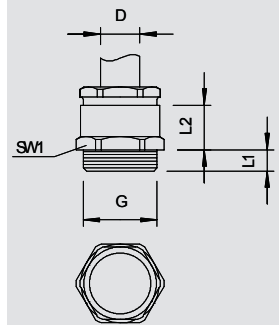
Protection rating: with connection thread sealing ring IP 65, without connection thread sealing ring IP 54.

With simple sealing ring, with small internal diameter.

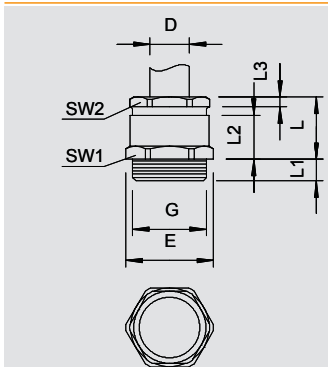
\* Prices according to DEL notation.

### Important dimensions, brass cable gland

G	D	SW1	SW2	E	L1	L2
M12 x 1.5	5-7	14	13	15.5	7	10
M16 x 1.5	6-8	17	15	18.9	7	10.5
M20 x 1.5	8-10	22	20	24.4	7	12.5
M25 x 1.5	17-19	34	28	35.5	8	15
M32 x 1.5	24-26	42	37	43.5	8.5	16.5
M40 x 1.5	31-33	52	47	54	8.5	19.5
M50 x 1.5	37-39	57	54	62.1	10.5	23
M63 x 1.5	43-45	65	60	69	10.5	23



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## Cable gland, small sealing ring, PG

IP 54 IP 65 Pg

Type	Thread	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
163 MS PG 7	Pg 7	1600	50	0.850	2082 07 1
163 MS PG 9	Pg 9	1500	50	1.160	2082 09 8
163 MS PG 11	Pg 11	500	25	1.690	2082 10 1
163 MS PG 13.5	Pg 13.5	450	25	2.210	2082 13 6
163 MS PG 16	Pg 16	450	25	2.960	2082 16 0
163 MS PG 21	Pg 21	250	25	4.550	2082 21 7
163 MS PG 29	Pg 29	200	10	8.210	2082 29 2
163 MS PG 36	Pg 36	120	10	14.230	2082 36 5
163 MS PG 42	Pg 42	50	5	20.540	2082 41 1
163 MS PG 48	Pg 48	50	5	30.050	2082 48 9



**CuZn** Brass **N** Nickel-plated /100 pc.

Cable gland with hexagonal intermediate connector, shape C4, to DIN 46320 with Pg connection thread to DIN 40430.

Pressure rings made of electrogalvanised and transparently passivated steel.

NR/SBR sealing ring.

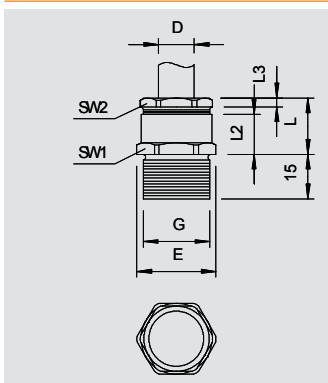
Protection rating: with connection thread sealing ring IP 65, without connection thread sealing ring IP 54.

With simple sealing ring, with small internal diameter.

\* Prices according to DEL notation.

### Important dimensions, brass cable gland

G	D	SW1	SW2	E	L max.	L1	L2	L3
Pg 7	5-7	14	13	15.5	15	5	10	2.5
Pg 9	6-8	17	15	18.9	16	6	10.5	2.5
Pg 11	8-10	20	18	22.2	17	6	11	3
Pg 13.5	8-10	22	20	24.4	18	6.5	12	3
Pg 16	8-10	24	22	26.7	19	6.5	13.5	3
Pg 21	17-19	30	28	33.5	22	7	15	3.5
Pg 29	24-26	40	37	43.5	24	8	16.5	4
Pg 36	31-33	50	47	54	29	9	19.5	4.5
Pg 42	37-39	57	54	61	33	10	22	6
Pg 48	43-45	64	60	69	34	10	23	6



## Cable gland, long PG thread

IP 54 IP 65 Pg

Type	Thread	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
163 L MS PG 9	Pg 9	1200	50	1.420	2083 09 4
163 L MS PG 11	Pg 11	500	50	2.100	2083 11 6
163 L MS PG 13	Pg 13.5	500	50	2.580	2083 13 2
163 L MS PG 16	Pg 16	300	25	3.010	2083 16 7
163 L MS PG 21	Pg 21	250	25	5.310	2083 21 3
163 L MS PG 29	Pg 29	200	10	10.120	2083 29 9



**CuZn** Brass **N** Nickel-plated /100 pc.

Cable gland with hexagonal intermediate connector, shape C4, to DIN 46320 with 15 mm long Pg connection thread to DIN 40430.

Pressure rings made of electrogalvanised and transparently passivated steel.

NR/SBR sealing ring.

Protection rating: with connection thread sealing ring IP 65, without connection thread sealing ring IP 54.

\* Prices according to DEL notation.

### Important dimensions, brass cable gland

G	D	SW1	SW2	E	L max.	L2	L3
Pg 9	6-8	17	15	18.9	16	10.5	2.5
Pg 11	8-10	20	18	22.2	17	11	3
Pg 13.5	8-10	22	20	24.4	18	12.5	3
Pg 16	8-10	24	22	26.7	19	13.5	3
Pg 21	17-19	30	28	33.5	22	15	3.5
Pg 29	24-26	40	37	43.5	24	16.5	4

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Cable gland systems, brass

# Cone cable gland

IP 54 IP 65 Pg



## Cable gland, large sealing ring, PG

Type	Thread	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
163 G MS PG 9	Pg 9	1500	50	1.250	2082 70 5
163 G MS PG13.5	Pg 13.5	450	25	2.400	2082 72 1

CuZn Brass N Nickel-plated /100 pc.

Cable gland with hexagonal intermediate connector, shape C4, to DIN 46320 with Pg connection thread to DIN 40430.

Pressure rings made of electrogalvanised and transparently passivated steel. NR/SBR sealing ring.

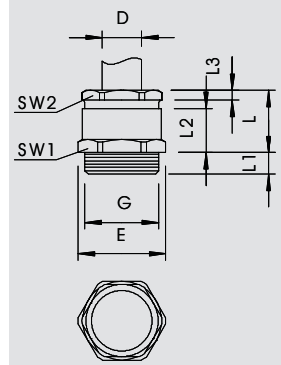
Protection rating: with connection thread sealing ring IP 65, without connection thread sealing ring IP 54.

With simple sealing ring, with larger internal diameter.

\* Prices according to DEL notation.

### Important dimensions, brass cable gland

G	D	SW1	SW2	E	L max.	L1	L2	L3
Pg 9	8-9.5	17	15	18.9	16	6	10.5	2.5
Pg 13.5	11-13	22	20	24.4	18	6.5	12.5	3



IP 54 IP 65 Pg



## Cable gland, PG strain relief

Type	Thread	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
158 MS PG11	Pg 11	200	50	3.200	2045 11 7
158 MS PG16	Pg 16	250	25	5.480	2045 16 8
158 MS PG29	Pg 29	100	10	11.480	2045 28 1
158 MS PG36	Pg 36	50	5	21.780	2045 36 2

CuZn Brass N Nickel-plated /100 pc.

Cable gland with centrally acting transverse clip strain relief in the pressure screw, bend protection of movable cables through strongly rounded pressure screw with Pg connection thread to DIN 40430.

Pressure rings made of electrogalvanised and transparently passivated steel. NR/SBR sealing ring.

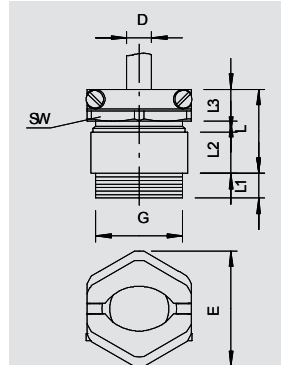
Protection rating: with connection thread sealing ring IP 65, without connection thread sealing ring IP 54.

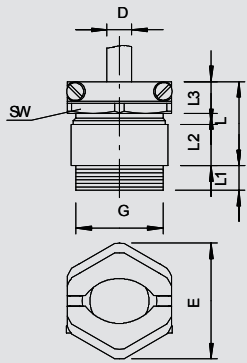
With round intermediate connector (similar to shape C 5 to DIN 46320).

\* Prices according to DEL notation.

### Important dimensions, brass cable gland

G	D	SW	E	L max.	L1	L2	L3
Pg 11	8-10	22	24	25	6	11	11.3
Pg 16	8-10	26	29	28	6.5	13.5	11.8
Pg 29	24-26	42	46	34	8	16.5	13.8
Pg 36	31-33	52	57	40	9	19.5	15.8





## Cable gland, PG strain relief

IP 54 IP 65 Pg

Type	Thread	Surface finish	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
159 MS PG 7	Pg 7	Nickel-plated	900	50	1.960	2046 07 5
159 MS PG 9	Pg 9	Nickel-plated	600	50	2.460	2046 09 1
159 MS PG11	Pg 11	Nickel-plated	200	50	3.250	2046 11 3
159 MS PG13.5	Pg 13.5	Nickel-plated	200	50	3.830	2046 12 1
159 MS PG16	Pg 16	Nickel-plated	250	25	5.700	2046 16 4
159 MS PG21	Pg 21	Nickel-plated	100	25	7.590	2046 21 0
159 MS PG29	Pg 29	Nickel-plated	100	10	14.970	2046 29 6
159 MS PG36	Pg 36	Nickel-plated	50	5	22.030	2046 36 9
159 MS PG42	Pg 42	Nickel-plated	15	5	41.070	2046 42 3
159 MS PG48	Pg 48	Nickel-plated	40	4	46.250	2046 48 2



CuZn Brass N Nickel-plated /100 pc.

Cable gland with centrally acting transverse clip strain relief in the pressure screw, bend protection of movable cables through strongly rounded pressure screw.

With Pg connection thread to DIN 40430.

Pressure rings made of electrogalvanised and transparently passivated steel.

NR/SBR sealing ring.

Protection rating: with connection thread sealing ring IP 65, without connection thread sealing ring IP 54.

With hexagonal intermediate support (similar to shape C 4 to DIN 46320).

\* Prices according to DEL notation.

### Important dimensions, brass cable gland

G	D	SW1	SW2	E	L max.	L1	L2	L3
Pg 7	5-7	14	16	17.5	22	5	10	9.3
Pg 9	6-8	17	19	20.5	24	6	10.5	10.6
Pg 11	8-10	20	22	24.5	25	6	11	11.3
Pg 13.5	8-10	22	24	27	26	6.5	12.5	11.3
Pg 16	8-10	24	26	29	28	6.5	13.5	11.8
Pg 21	17-19	30	33	37	32	7	15	13.3
Pg 29	24-26	40	42	46.5	34	8	16.5	13.8
Pg 36	31-33	50	52	57	40	9	19.5	15.8
Pg 42	37-39	57	59	65	43	10	22	16.3
Pg 48	43-45	64	64	70	44	10	23	16.3



# Locknuts

**M**

## Locknut, metric thread

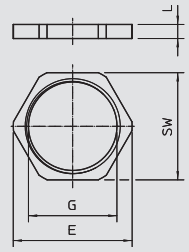


Type	Thread	SW	Dimension E	Dimension L	Pack.	Weight	Item No.
		mm	mm	mm	pcs	kg/100 pcs.	
169 MS M12	M12 x 1,5	15	16.6	3	100	0.220	2091 60 7
169 MS M16	M16 x 1,5	20	22.1	2.8	100	0.310	2091 61 5
169 MS M20	M20 x 1,5	24	25.6	3	100	0.580	2091 62 3
169 MS M25	M25 x 1,5	30	33.2	3.5	100	0.880	2091 63 1
169 MS M32	M32 x 1,5	35	38.7	4	100	1.120	2091 65 8
169 MS M40	M40 x 1,5	45	49.8	4.5	50	1.920	2091 66 6
169 MS M50	M50 x 1,5	55	66.4	5.5	50	3.070	2091 67 4
169 MS M63	M63 x 1,5	70	77.6	6	25	5.720	2091 68 2
169 MS M75	M75 x 1,5	90	100	8	5	16.800	2091 68 5

**CuZn** Brass      **N** Nickel-plated      /100 pc.

Locknuts DIN 46319 with metric thread IEC 423.

\* Price according to DEL notation.



**M**

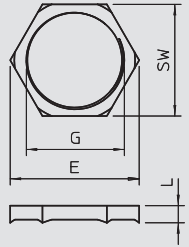
## Locknut, metric thread with cutting teeth



Type	Thread	SW	Dimension E	Dimension L	Pack.	Weight	Item No.
		mm	mm	mm	pcs	kg/100 pcs.	
169 MSS M12	M 12x1,5	15	17.3	4.5	50	—	2091 70 5
169 MSS M16	M 16x1,5	19	21.9	4.5	50	—	2091 70 9
169 MSS M20	M 20x1,5	24	27.7	4.5	50	—	2091 71 3
169 MSS M25	M 25x1,5	30	34.6	4.5	50	—	2091 71 7
169 MSS M32	M 32x1,5	36	41.5	4.5	50	—	2091 72 1
169 MSS M40	M 40x1,5	46	53.1	5	25	—	2091 72 5
169 MSS M50	M 50x1,5	60	69.2	5	25	—	2091 72 9
169 MSS M63	M 63x1,5	70	80.8	6	25	—	2091 73 3

**CuZn** Brass      **N** Nickel-plated      /100 pc.

Locknuts, part M to DIN 46320 with Pg thread to DIN 40430. \* Price according to DEL notation.



**Pg**

## Locknut, PG thread

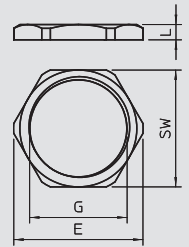


Type	Thread	SW	Dimension E	Dimension L	Pack.	Weight	Item No.
		mm	mm	mm	pcs	kg/100 pcs.	
169 MS PG 7	Pg 7	15	16.6	2.8	100	0.180	2091 07 0
169 MS PG 9	Pg 9	18	20	2.8	100	0.260	2091 09 7
169 MS PG11	Pg 11	21	23.5	3	100	0.290	2091 11 9
169 MS PG13.5	Pg 13,5	23	25.5	3	100	0.360	2091 13 5
169 MS PG16	Pg 16	26	29	3	100	0.460	2091 15 1
169 MS PG21	Pg 21	32	35.5	3.5	100	0.720	2091 21 6
169 MS PG29	Pg 29	41	45	4	100	1.320	2091 29 1
169 MS PG36	Pg 36	51	56	5	50	2.100	2091 36 4
169 MS PG42	Pg 42	60	65	5	50	3.260	2091 42 9
169 MS PG48	Pg 48	64	69	5.5	25	3.270	2091 48 8

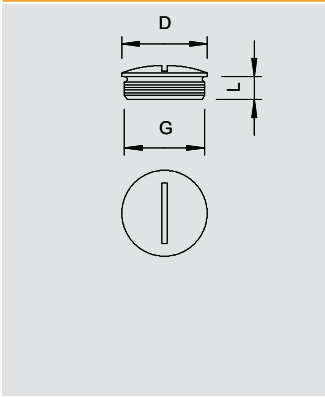
**CuZn** Brass      **N** Nickel-plated      /100 pc.

Locknuts, part M to DIN 46320 with Pg thread to DIN 40430. \* Price according to DEL notation.

**Important dimensions, brass locknut**







## Screw plug, metric thread

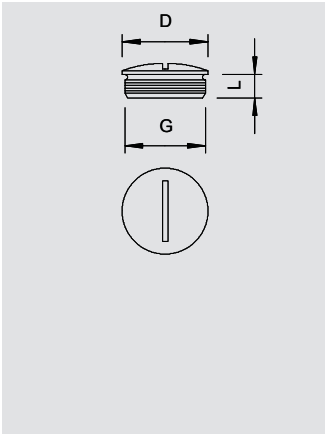
**M**

Type	Shipping box pcs	Thread	Dimension D mm	Dimension L mm	Pack. pcs	Weight kg/100 pcs.	Item No.
168 MS M12	3000	M12 x 1,5	16	5	100	0.390	2090 51 1
168 MS M16	2000	M16 x 1,5	20	6	100	0.640	2090 53 8
168 MS M20	1000	M20 x 1,5	22	6,5	100	0.930	2090 54 6
168 MS M25	500	M25 x 1,5	28	7	50	1.850	2090 55 4
168 MS M32	200	M32 x 1,5	35	8	50	2.810	2090 56 2
168 MS M40	100	M40 x 1,5	45	8	50	5.290	2090 57 0
168 MS M50	100	M50 x 1,5	55	9	25	6.310	2090 58 9
168 MS M63	50	M63 x 1,5	68	10	25	12.570	2090 59 7

**CuZn** Brass **N** Nickel-plated /100 pc.

Screw plug in accordance with DIN 46320, with metric thread to DIN EN 60423 or ISO 68.

\* Prices according to DEL notation.



## Screw plug, PG thread

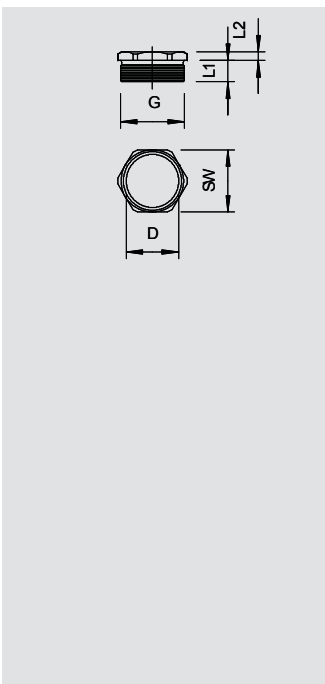
**Pg**

Type	Shipping box pcs	Thread	Dimension D mm	Dimension L mm	Pack. pcs	Weight kg/100 pcs.	Item No.
168 MS PG 7	3000	Pg 7	14	5	100	0.410	2090 07 4
168 MS PG 9	2000	Pg 9	17	6	100	0.530	2090 09 0
168 MS PG 11	1000	Pg 11	20	6	100	0.840	2090 11 2
168 MS PG 13	1000	Pg 13,5	22	6,5	100	0.930	2090 13 9
168 MS PG 16	1000	Pg 16	24	6,5	100	1.300	2090 16 3
168 MS PG 21	500	Pg 21	30	7	50	2.420	2090 20 1
168 MS PG 29	200	Pg 29	39	8	50	4.310	2090 29 5
168 MS PG 36	100	Pg 36	50	9	50	7.800	2090 36 8
168 MS PG 42	100	Pg 42	57	10	25	11.710	2090 42 2
168 MS PG 48	50	Pg 48	64	10	25	15.260	2090 48 1

**CuZn** Brass **N** Nickel-plated /100 pc.

Screw plug in accordance with DIN 46320, with Pg thread to DIN EN 40430.

\* Prices according to DEL notation.



## Pressure screw, PG thread

**Pg**

Type	Thread	Dimension D mm	SW mm	Dimension E mm	Dimension L1 mm	Dimension L2 mm	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
164 MS PG 11	Pg 11	15	18	20	6	3	3000	100	0.590	2084 11 2
164 MS PG 13	Pg 13,5	17	20	22,2	7,5	3	1200	100	0.770	2084 13 9
164 MS PG 16	Pg 16	18,5	22	24,4	7,5	3	1200	100	0.910	2084 16 3
164 MS PG 21	Pg 21	24	28	31,2	8	3,5	600	50	1.560	2084 20 1
164 MS PG 29	Pg 29	32	37	41	8	4	450	25	3.130	2084 29 5
164 MS PG 36	Pg 36	42	47	50,5	9,5	4,5	300	25	4.520	2084 36 8
164 MS PG 42	Pg 42	48	54	59	10	6	120	10	6.930	2084 42 2
164 MS PG 48	Pg 48	52,5	60	65	11,5	6	120	10	10.050	2084 48 1

**CuZn** Brass **N** Nickel-plated /100 pc.

Pressure screw (Part 3) in accordance with DIN 46320, with Pg thread to DIN EN 40430.

\* Prices according to DEL notation.

### Important dimensions, brass pressure screw

G	D	SW	E	L1	L2
mm					
Pg 11	15	18	20	6	3
Pg 13,5	17	20	22,2	7,5	3
Pg 16	18,5	22	24,4	7,5	3
Pg 21	24	28	31,2	8	3,5
Pg 29	32	37	41	8	4
Pg 36	42	47	50,5	9,5	4,5
Pg 42	48	54	59	10	6
Pg 48	52,5	60	65	11,5	6



# Cable gland, system accessories

Pg



## Pressure screw PG strain relief

Type	Thread	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
157 MS PG 7	Pg 7	1000	100	1.200	2013 06 1
157 MS PG 9	Pg 9	1200	100	1.500	2013 09 6
157 MS PG 11	Pg 11	1000	100	2.100	2013 11 8
157 MS PG 13.5	Pg 13.5	1000	100	2.200	2013 13 4
157 MS PG 16	Pg 16	300	50	3.400	2013 16 9
157 MS PG 21	Pg 21	200	50	4.500	2013 21 5
157 MS PG 29	Pg 29	100	25	6.800	2013 29 0

**CuZn** Brass **N** Nickel-plated /100 pc.

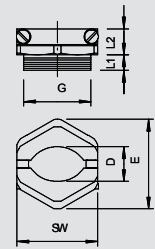
Pressure screw with centrally acting transverse clip strain relief, rust-proof stainless steel screws.

With bend protection and strain relief.

\* Prices according to DEL notation.

### Important dimensions, brass pressure screw

G	D	SW	E	L1	L2
	mm	mm	mm	mm	mm
Pg 7	6-7.5	16	17.5	5.5	9.3
Pg 9	7-9.5	19	20.5	6	10.6
Pg 11	8.5-11.5	22	24	6	11.3
Pg 13.5	10-13.5	24	27	6.5	11.3
Pg 16	11-15.5	26	30	6.5	11.8
Pg 21	14-20.5	33	38	7.5	13.3
Pg 29	20-29	42	46.5	8	13.8



Cable gland systems, brass

M

## Expansion piece, metric thread

Type	External thread	Internal thread	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
165 ADA M12-16	M12	M16	600	50	1.030	2088 28 0
165 ADA M16-20	M16	M20	500	50	1.430	2088 28 1
165 ADA M20-25	M20	M25	600	50	2.090	2088 28 2
165 ADA M25-32	M25	M32	400	50	2.710	2088 28 3
165 ADA M32-40	M32	M40	200	25	5.180	2088 28 4
165 ADA M40-50	M40	M50	100	10	10.150	2088 28 5
165 ADA M 50-63	M50	M63	60	5	13.060	2088 28 6

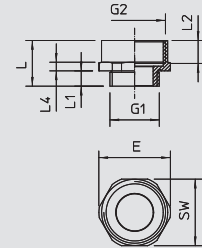
**CuZn** Brass **N** Nickel-plated /100 pc.

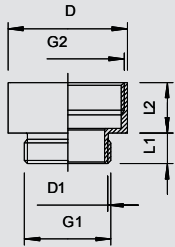
The areas of application for brass cable glands range from junction boxes as a distribution/connection box up to large industrial applications for safe floor routing to switchgear cabinets with a control and distribution function. For high mechanical requirements, OBO can offer the entire family of extensions (Part K) to DIN 46320.

\* Prices according to DEL notation.

### Important dimensions, expansion

G1	G2	SW	E	L	L1	L2	D
		mm	mm	mm	mm	mm	mm
M12	M16	18	20	16	5	7	8
M16	M20	22	24.5	16.7	5	8	12
M20	M25	27	29	18.5	6.4	9	15
M25	M32	34	35.8	20.7	7.4	8	20.8
M32	M40	42	45.5	23.8	8	10	26
M40	M50	52	58	30.5	8.2	12.5	33.8
M50	M63	65	69.9	33	9.2	16	43.4





## Expansion piece, PG thread

Pg

Type	External thread	Internal thread	Thread length	Shipping box	Pack.	Weight	Item No.
			mm	pcs	pcs	kg/100 pcs.	
165 MS EZ PG7-9	Pg 7	Pg 9	5	1000	100	0.690	2088 02 9
165 MS EZPG9-11	Pg 9	Pg 11	6	1200	100	0.860	2088 04 5
165 MS EZPG9-13	Pg 9	Pg 13,5	6	1000	100	1.110	2088 06 1
165 MS EZPG11-13	Pg 11	Pg 13,5	6	1000	100	1.140	2088 09 6
165 MS EZPG11-16	Pg 11	Pg 16	6	1000	100	1.520	2088 12 6
165 MS EZPG13-16	Pg 13,5	Pg 16	6,5	1000	100	1.590	2088 14 2
165 MS EZPG13-21	Pg 13,5	Pg 21	6,5	500	50	2.170	2088 16 9
165 MS EZPG16-21	Pg 16	Pg 21	6,5	500	50	2.150	2088 18 5
165 MS EZPG21-29	Pg 21	Pg 29	7	400	50	3.530	2088 20 7
165 MS EZPG29-36	Pg 29	Pg 36	8	50	25	7.110	2088 22 3
165 MS EZPG36-42	Pg 36	Pg 42	9	50	25	8.750	2088 25 8
165 MS EZPG42-48	Pg 42	Pg 48	10	80	10	14.560	2088 27 4



**CuZn** Brass      **N** Nickel-plated      /100 pc.

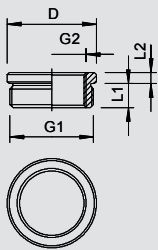
The areas of application for brass cable glands range from junction boxes as a distribution/connection box up to large industrial applications for safe floor routing to switchgear cabinets with a control and distribution function. For high mechanical requirements, OBO can offer the entire family of extensions (Part K) to DIN 46320.

\* Prices according to DEL notation.

### Important dimensions, expansion

G1	G2	D	D1	L1	L2
		mm	mm	mm	mm
Pg 7	Pg 9	17	10	5	10
Pg 9	Pg 11	20	12,5	6	10,5
Pg 9	Pg 13,5	22	12,5	6	11,5
Pg 11	Pg 13,5	22	15	6	11,5
Pg 11	Pg 16	24	15	6	12,5
Pg 13,5	Pg 16	24	17	6,5	12,5
Pg 13,5	Pg 21	30	17	6,5	14,5
Pg 16	Pg 21	30	18,5	6,5	14,5
Pg 21	Pg 29	39	24	7	16
Pg 29	Pg 36	50	32	8	19,5
Pg 36	Pg 42	57	42	9	22
Pg 42	Pg 48	64	48	10	23

Cable gland systems, brass



## Reduction, metric thread

M

Type	External thread	Internal thread	Dimension D	Thread length	Dimension L2	Shipping box	Pack.	Weight	Item No.
			mm	mm	mm	pcs	pcs	kg/100 pcs.	
167 R MS M16-12	M16	M12	20	6	8,5	2100	50	0.880	2089 50 5
167 R MS M20-12	M20	M12	24	6,5	9	1000	50	1.340	2089 51 3
167 R MS M20-16	M20	M16	24	6,5	9	1000	50	1.480	2089 52 1
167 R MS M25-16	M25	M16	30	7	10	500	50	3.220	2089 54 8
167 R MS M25-20	M25	M20	30	7	10	500	50	2.700	2089 55 6
167 R MS M32-20	M32	M20	39	8	11,5	200	50	6.120	2089 56 4
167 R MS M32-25	M32	M25	39	8	11,5	200	50	4.500	2089 57 2
167 R MS M40-25	M40	M25	50	6	12,5	100	25	9.960	2089 58 0
167 R MS M40-32	M40	M32	50	9	12,5	100	25	6.840	2089 59 9
167 R MS M50-32	M50	M32	57	10	14	100	25	16.300	2089 60 2
167 R MS M50-40	M50	M40	57	10	14	100	25	10.250	2089 61 0
167 R MS M63-40	M63	M40	64	10	14	40	10	30.080	2089 62 9
167 R MS M63-50	M63	M50	64	10	14	40	10	10.090	2089 63 7



**CuZn** Brass      **N** Nickel-plated      /100 pc.

Reduction (Part H) in accordance with DIN 46320, with metric thread to DIN EN 60423 or ISO 68.

\* Prices according to DEL notation.

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# Cable gland, system accessories

Pg



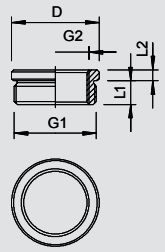
## Reduction, PG thread

Type	External thread	Internal thread	Dimension D	Thread length	Dimension L2	Shipping box	Pack.	Weight	Item No.
			mm	mm	mm	pcs	pcs	kg/100 pcs.	
167 R MS PG9-7	Pg 9	Pg 7	17	6	2.5	1800	50	0.430	2089 02 5
167 R MS PG11-7	Pg 11	Pg 7	20	6	2.5	2100	50	1.030	2089 04 1
167 R MS PG11-9	Pg 11	Pg 9	20	6	2.5	1800	50	0.650	2089 07 6
167 R MS PG13-7	Pg 13,5	Pg 7	22	6.5	2.5	1000	50	1.520	2089 09 2
167 R MS PG13-9	Pg 13,5	Pg 9	22	6.5	2.5	1000	50	1.120	2089 11 4
167 R MS PG13-11	Pg 13,5	Pg 11	22	6.5	2.5	2100	50	0.470	2089 13 0
167 R MS PG16-9	Pg 16	Pg 9	24	6.5	3	1000	50	1.730	2089 15 7
167 R MS PG16-11	Pg 16	Pg 11	24	6.5	3	1000	50	1.050	2089 17 3
167 R MS PG16-13	Pg 16	Pg 13,5	24	6.5	3	900	50	0.660	2089 20 3
167 R MS PG21-11	Pg 21	Pg 11	30	7	3	500	50	2.960	2089 23 8
167 R MS PG21-13	Pg 21	Pg 13,5	30	7	3	500	50	2.520	2089 25 4
167 R MS PG21-16	Pg 21	Pg 16	30	7	3	600	50	1.960	2089 27 0
167 R MS PG29-16	Pg 29	Pg 16	39	8	3.5	200	50	6.560	2089 29 7
167 R MS PG29-21	Pg 29	Pg 21	39	8	3.5	200	50	4.270	2089 31 9
167 R MS PG36-21	Pg 36	Pg 21	50	9	3.5	100	25	11.660	2089 33 5
167 R MS PG36-29	Pg 36	Pg 29	50	9	3.5	100	25	6.980	2089 35 1
167 R MS PG42-36	Pg 42	Pg 36	57	10	4	100	25	6.750	2089 40 8
167 R MS PG48-36	Pg 48	Pg 36	64	10	4	50	25	12.840	2089 42 4
167 R MS PG48-42	Pg 48	Pg 42	64	10	4	50	25	6.230	2089 44 0

**CuZn** Brass      **N** Nickel-plated      /100 pc.

Reduction (Part H) to DIN 46320, with Pg thread to DIN 40430, as a transition from a PG thread hole to a smaller cable gland.

\* Prices according to DEL notation.



Cable gland systems, brass

M Pg



## Adapter expansion M - PG

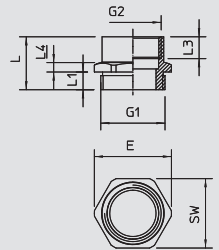
Type	External thread	Internal thread	Shipping box	Surface finish	Pack.	Weight	Item No.
			pcs		pcs	kg/100 pcs.	
165 ADA M12-PG7	M12	PG7	240	—	20	0.590	2088 30 1
165 ADA M16-PG9	M16	PG9	300	—	20	9.110	2088 31 2
165 ADA M16-PG11	M16	PG11	300	—	20	2.220	2088 30 2
165 ADA M20-PG11	M20	PG11	200	—	20	1.760	2088 31 6
165 ADA M20-PG13	M20	PG13,5	200	—	20	1.320	2088 30 3
165 ADA M20-PG16	M20	PG16	200	Nickel-plated	20	1.650	2088 31 8
165 ADA M25-PG16	M25	PG16	200	—	20	2.540	2088 30 4
165 ADA M25-PG21	M25	PG21	200	—	20	2.330	2088 32 4
165 ADA M32-PG29	M32	PG29	100	—	10	4.850	2088 33 0
165 ADA M40-PG29	M40	PG29	120	—	10	7.150	2088 30 6
165 ADA M50-PG42	M50	PG42	100	—	10	10.110	2088 30 7
165 ADA M63-PG48	M63	PG48	48	—	4	20.080	2088 34 8

**CuZn** Brass      **N** Nickel-plated      /100 pc.

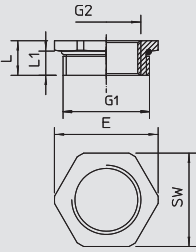
Adapter for converting a metric threaded drill hole to a Pg threaded drill hole.

### Important dimensions, adapter

G1	G2	SW	E	L	L1	L3	D
		mm	mm	mm	mm	mm	mm
M12	PG 7	14	15.5	16	6	9	8
M16	PG 9	-	-	-	-	-	-
M16	PG11	22	24.5	16	6	7.9	12.5
M20	PG11	22	24.5	17.6	6.5	10.2	15
M20	PG13.5	22	24.5	19	6.5	11.5	16
M20	PG16	14.9	23.9	19.6	6	9	11.5
M25	PG16	27	30	20.5	7	12.5	18.3
M25	PG21	30	33.5	22.2	7	13.5	20.5
M40	PG29	43	46.2	24.4	8	15	31.8
M50	PG42	57	60.8	31	9	20	44
M32	PG29	40	44	24.4	8	15	27.5
M63	PG48	65	69.8	33	10	21	52.2



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## Adapter reduction M - PG

**M Pg**

Type	External thread	Internal thread	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
165 ADA M16-PG7	M16	PG7	240	20	5.130	2088 31 0
165 ADA M20-PG9	M20	PG9	240	20	1.100	2088 31 4
165 ADA M25-PG11	M25	PG11	300	20	1.940	2088 32 0
165 ADA M25-PG13	M25	PG13,5	300	20	1.610	2088 32 2
165 ADA M32-PG16	M32	PG16	150	10	3.790	2088 32 8
165 ADA M32-PG21	M32	PG21	150	10	1.730	2088 30 5
165 ADA M40-PG21	M40	PG21	120	10	6.980	2088 33 4
165 ADA M50-PG29	M50	PG29	60	5	11.220	2088 34 0
165 ADA M63-PG36	M63	PG36	60	5	16.950	2088 34 4
165 ADA M63-PG42	M63	PG42	60	5	10.460	2088 34 6

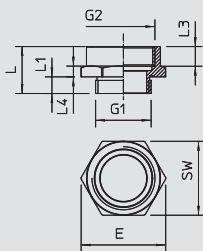


**CuZn** Brass      **N** Nickel-plated      /100 pc.

Adapter for reducing a metric threaded drill hole to a smaller Pg threaded drill hole.

### Important dimensions, adapter

G1	G2	SW	E	L	L1
mm					
M16	PG 7	17	19	8	5
M20	PG 9	22	24,5	9	6
M25	PG11	27	30	10	7
M25	PG13.5	27	30	10	7
M32	PG16	34	36	11	8
M32	PG21	34	36	11	8
M40	PG21	43	46	12	8
M50	PG29	55	60	13	9
M63	PG36	65	69	14.2	10
M63	PG42	65	70	14.2	10



## Adapter expansion PG - M

**M Pg**

Type	External thread	Internal thread	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
165 ADA PG7-M12	PG7	M12	240	20	0.700	2088 29 0
165 ADA PG9-M16	PG9	M16	300	20	1.160	2088 29 1
165 ADA PG11-M16	PG11	M16	300	20	1.000	2088 29 2
165 ADA PG13-M20	PG13,5	M20	200	20	2.040	2088 29 3
165 ADA PG16-M20	PG16	M20	200	20	3.080	2088 29 4
165 ADA PG16-M25	PG16	M25	200	20	3.320	2088 29 5
165 ADA PG21-M25	PG21	M25	100	10	4.490	2088 29 6
165 ADA PG21-M32	PG21	M32	100	10	4.310	2088 29 7
165 ADA PG29-M40	PG29	M40	100	10	4.830	2088 29 8
165 ADA PG36-M50	PG36	M50	50	5	9.250	2088 29 9



**CuZn** Brass      **N** Nickel-plated      /100 pc.

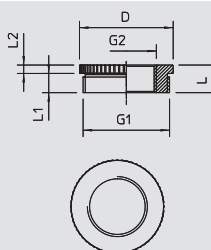
Adapter for converting a Pg threaded drill hole to a larger metric threaded drill hole.

### Important dimensions, adapter

G1	G2	SW	E	L	L1	L3	D
mm							
PG 7	M12	14	15	15	5	7.5	9
PG 9	M16	19	21	16	6	7.5	12
PG11	M16	20	22	17	6	10	12
PG13.5	M20	24	26	17.5	6.5	8.5	16
PG16	M20	27	29	17.5	6.5	8.3	18.4
PG16	M25	30	33.5	18.5	6.6	9.5	18.4
PG21	M25	32	35.5	19	7	10	23
PG21	M32	36	39	20	7	10.5	22.7
PG29	M40	43	46	21	8	10.8	32
PG36	M50	55	60	23	9	10.5	42

## Adapter reduction PG - M

**M Pg**



Type	External thread	Internal thread	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
165 ADA PG29-M25	PG29	M25	200	20	5.730	2088 28 9



**CuZn** Brass      **N** Nickel-plated      /100 pc.

Adapter for converting a Pg threaded drill hole to a metric threaded drill hole.

### Important dimensions, adapter

G1	G2	SW	E	L	L1	D
mm						
PG29	M25	-	-	11.5	8	39

# Cable gland, system accessories

Pg



## Cutting ring

Type	Size	Size	Dimension D1	Dimension D2	Dimension D3	Dimension D4	Dimension D5	Dimension H	Pack.	Weight	Item No.
	mm		mm	mm	mm	mm	mm	mm	pcs	kg/100 pcs.	
<b>107 B PG9</b>	Pg 9	M16	5	13.3	7.5	10	0	5.5	100	0.240	<b>2029 10 3</b>
<b>107 B PG11</b>	Pg 11	-	7.5	16.5	10	12.5	0	6	100	0.230	<b>2029 11 1</b>
<b>107 B PG13.5</b>	Pg 13.5	M20	7.5	18.3	10	12.5	0	6	100	0.230	<b>2029 13 8</b>
<b>107 B PG16</b>	Pg 16	M25	7.5	20.4	10	12.5	15	7	100	0.320	<b>2029 16 2</b>
<b>107 B PG21</b>	Pg 21	-	10	25.9	13	16	19	8	100	0.590	<b>2029 21 9</b>
<b>107 B PG29</b>	Pg 29	M32	18	34.7	21	24	27	9.5	100	1.160	<b>2029 29 4</b>
<b>107 B PG36</b>	Pg 36	M40	24	44.7	27	30	33	12	50	1.940	<b>2029 36 7</b>
<b>107 B PG42</b>	Pg 42	M50	30	51.7	33	36	39	14	50	2.710	<b>2029 42 1</b>
<b>107 B PG48</b>	Pg 48	M63	36	56.9	39	42	45	14	50	3.490	<b>2029 48 0</b>

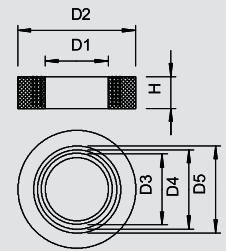
**NBR-SBR** Rubber mixture

/100 pc.

Rubber cutting ring (cuttable sealing ring) to DIN 46320 for cone cable gland.

### Important dimensions, cutting ring

G	D1	D2	D3	D4	D5	H	M
	mm	mm	mm	mm	mm	mm	
Pg 9	5	13.3	7.5	10	0	5.5	M16
Pg 11	7.5	16.5	10	12.5	0	6	-
Pg 13.5	7.5	18.3	10	12.5	0	6	M20
Pg 16	7.5	20.4	10	12.5	15	7	M25
Pg 21	10	25.9	13	16	19	8	-
Pg 29	18	34.7	21	24	27	9.5	M32
Pg 36	24	44.7	27	30	33	12	M40
Pg 42	30	51.7	33	36	39	14	M50
Pg 48	36	56.9	39	42	45	14	M63



Cable gland systems, brass

Pg



## Pressure ring, PG thread

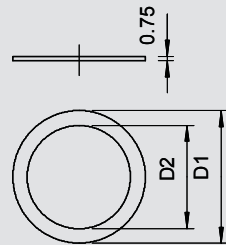
Type	Shipping box	Size	Dimension D1	Dimension D2	Pack.	Weight	Item No.
	pcs	mm	mm	mm	pcs	kg/100 pcs.	
<b>107 D PG7 GTP</b>	12000	Pg 7	11	8	100	0.020	<b>2027 07 0</b>
<b>107 D PG9 GTP</b>	10000	Pg 9	13.5	10	100	0.040	<b>2027 09 7</b>
<b>107 D PG11 GTP</b>	10000	Pg 11	16.5	12	100	0.060	<b>2027 11 9</b>
<b>107 D PG13.5 GTP</b>	12000	Pg 13.5	18.5	14	100	0.070	<b>2027 13 5</b>
<b>107 D PG16 GTP</b>	12000	Pg 16	20.5	16	100	0.070	<b>2027 15 1</b>
<b>107 D PG21 GTP</b>	5000	Pg 21	26	21	50	0.100	<b>2027 21 6</b>
<b>107 D PG29 GTP</b>	2500	Pg 29	35	30	25	0.140	<b>2027 29 1</b>

**St** Steel

**GTP** Electrogalvanised, transparently passivated

/100 pc.

Pressure ring, Part 7, to DIN 46320, suitable for plastic and brass glands to DIN 46320.



M



## Connection thread sealing ring, metric

Type	Size	Dimension D1	Dimension D2	Dimension t	Shipping box	Pack.	Weight	Item No.
	mm	mm	mm	mm	pcs	pcs	kg/100 pcs.	
<b>107 F M12 PE</b>	M12	16.3	12	1	12000	100	0.020	<b>2030 00 4</b>
<b>107 F M16 PE</b>	M16	20.9	16	1.1	2600	100	0.020	<b>2030 00 8</b>
<b>107 F M20 PE</b>	M20	25.1	20	1.1	1500	100	0.030	<b>2030 01 2</b>
<b>107 F M25 PE</b>	M25	31.3	25	1.4	1200	100	0.060	<b>2030 01 6</b>
<b>107 F M32 PE</b>	M32	37.6	32	1.7	1200	100	0.110	<b>2030 02 0</b>
<b>107 F M40 PE</b>	M40	49.1	40	1.7	1000	100	0.200	<b>2030 02 4</b>
<b>107 F M50 PE</b>	M50	60.1	50	2	1200	100	0.250	<b>2030 02 8</b>
<b>107 F M63 PE</b>	M63	73.8	63	2	1200	100	0.290	<b>2030 03 2</b>

**PE** Polyethylene

/100 pc.

Connection thread sealing ring, suitable for all plastic cable glands with metric connection thread to

DIN EN 60423 or ISO 68. The internal diameters of the sealing rings are designed in such a way that they can be premounted in a captive manner.

M



Type	Size	Dimension D1	Dimension D2	Dimension t	Shipping box	Pack.	Weight	Item No.
	mm	mm	mm	mm	pcs	pcs	kg/100 pcs.	
<b>170 M16</b>	M16	19.9	16	2	10000	100	0.040	<b>2088 42 8</b>
<b>170 M20</b>	M20	24	20	2	12000	100	0.070	<b>2088 43 6</b>
<b>170 M25</b>	M25	30	25	3	1800	100	0.170	<b>2088 44 4</b>
<b>170 M32</b>	M32	38	32	3	1200	100	0.270	<b>2088 45 2</b>
<b>170 M40</b>	M40	47	40	3	600	50	0.330	<b>2088 46 0</b>
<b>170 M50</b>	M50	57	50	3	600	50	0.440	<b>2088 47 9</b>

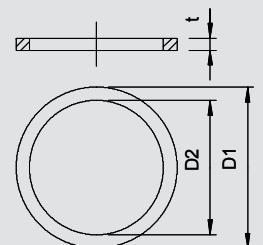
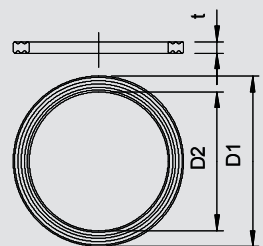
**FA** Fibre-proof material DIN 28091

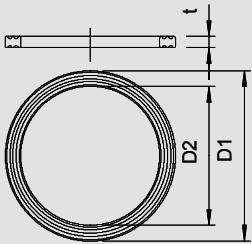
/100 pc.

Asbestos-free material.

Connection thread sealing ring, Part 9, to DIN 46320, suitable for all brass cable glands with metric connection thread to DIN EN 60423 or ISO 68.

Colour: green, graphited on one side.





## Connection thread sealing ring, PG

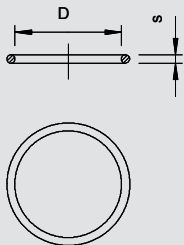


Type	Size	Dimension D1	Dimension D2	Dimension t	Shipping box	Pack.	Weight	Item No.
	mm	mm	mm	mm	pcs	pcs	kg/100 pcs.	
<b>107 F PG7 PE</b>	Pg 7	16.5	12.1	1.6	2600	100	0.020	<b>2030 07 1</b>
<b>107 F PG9 PE</b>	Pg 9	19	14.7	1.6	2600	100	0.020	<b>2030 09 8</b>
<b>107 F PG11 PE</b>	Pg 11	23	18	1.8	1500	100	0.030	<b>2030 10 1</b>
<b>107 F PG13.5 PE</b>	Pg 13.5	25	19.8	1.8	1500	100	0.030	<b>2030 13 6</b>
<b>107 F PG16 PE</b>	Pg 16	27	21.8	1.8	1000	100	0.040	<b>2030 16 0</b>
<b>107 F PG21 PE</b>	Pg 21	34	27.5	2.2	1000	100	0.060	<b>2030 21 7</b>
<b>107 F PG29 PE</b>	Pg 29	44	36.2	2.2	1200	100	0.110	<b>2030 29 2</b>
<b>107 F PG36 PE</b>	Pg 36	55.5	46.2	2.7	1000	100	0.200	<b>2030 36 5</b>
<b>107 F PG42 PE</b>	Pg 42	63.5	53.2	3.2	1200	100	0.250	<b>2030 41 1</b>
<b>107 F PG48 PE</b>	Pg 48	69.5	58.5	3.2	1200	100	0.290	<b>2030 48 9</b>



**PE** Polyethylene /100 pc.

Connection thread sealing ring, in accordance with Part 9 to DIN 46320, however, dimensions may, according to material or function, deviate, suitable for all plastic cable glands with PG connection thread to DIN EN 40430, the internal diameter of the sealing rings are designed so that they can be captively pre-mounted.



## O sealing ring for metric connection thread

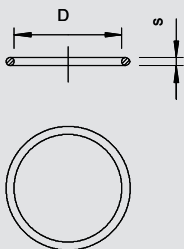


Type	Shipping box	Size	Dimension D	Dimension S	Pack.	Weight	Item No.
	pcs	mm	mm	mm	pcs	kg/100 pcs.	
<b>171 M12</b>	12000	M12	10	1.5	100	0.010	<b>2088 70 3</b>
<b>171 M16</b>	12000	M16	13	1.5	100	0.010	<b>2088 71 1</b>
<b>171 M20</b>	12000	M20	18	1.5	100	0.010	<b>2088 73 8</b>
<b>171 M25</b>	10000	M25	22	1.5	100	0.010	<b>2088 74 6</b>
<b>171 M32</b>	12000	M32	29	2	100	0.040	<b>2088 75 4</b>
<b>171 M40</b>	500	M40	36	2	50	0.050	<b>2088 76 2</b>
<b>171 M50</b>	500	M50	46	2	50	0.050	<b>2088 77 0</b>
<b>171 M63</b>	250	M63	59	2	25	0.060	<b>2088 78 9</b>



**NBR** Nitrile rubber /100 pc.

O sealing rings, suitable as connection thread sealing rings for all plastic and brass cable glands with metric connection thread to DIN EN 60423 or ISO 68. The rings can be captively pre-mounted.



## O sealing ring for PG connection thread

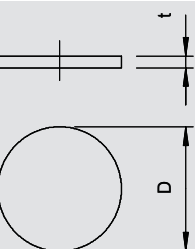


Type	Shipping box	Size	Dimension D	Dimension S	Pack.	Weight	Item No.
	pcs	mm	mm	mm	pcs	kg/100 pcs.	
<b>171 PG 9</b>	12000	Pg 9	13	1.5	100	0.010	<b>2088 81 9</b>
<b>171 PG11</b>	12000	Pg 11	16	1.5	100	0.010	<b>2088 82 7</b>
<b>171 PG13.5</b>	12000	Pg 13.5	18	1.5	100	0.010	<b>2088 83 5</b>
<b>171 PG16</b>	10000	Pg 16	20	1.5	100	0.010	<b>2088 84 3</b>
<b>171 PG21</b>	12000	Pg 21	25	2	100	0.030	<b>2088 85 1</b>
<b>171 PG29</b>	12000	Pg 29	33	2	100	0.040	<b>2088 87 8</b>
<b>171 PG36</b>	750	Pg 36	43	2	50	0.050	<b>2088 88 6</b>
<b>171 PG42</b>	500	Pg 42	50	2	50	0.050	<b>2088 89 4</b>



**NBR** Nitrile rubber /100 pc.

O sealing rings, suitable as connection thread sealing rings for all plastic and brass cable glands with PG connection thread to DIN EN 60423 or ISO 68. The rings can be captively pre-mounted.



## Dust protection plate, metric



Type	Size	Dimension D	Dimension t	Shipping box	Pack.	Weight	Item No.
	mm	mm	mm	pcs	pcs	kg/100 pcs.	
<b>107 S VTEC M12</b>	M12	12	1.5	12000	100	0.000	<b>2028 87 0</b>
<b>107 S VTEC M16</b>	M16	16	1.5	10000	100	0.000	<b>2028 87 3</b>
<b>107 S VTEC M20</b>	M20	20	1.5	12000	100	0.000	<b>2028 87 5</b>
<b>107 S VTEC M25</b>	M25	25	1.5	1500	100	0.010	<b>2028 87 7</b>
<b>107 S VTEC M32</b>	M32	32	1.5	1000	100	0.010	<b>2028 88 0</b>
<b>107 S VTEC M40</b>	M40	40	1.5	1200	100	0.020	<b>2028 88 3</b>
<b>107 S VTEC M50</b>	M50	50	1.5	1000	100	0.040	<b>2028 88 5</b>



**ZPE** Cellular polyethylene /100 pc.

Cellular polyethylene. Small protective disc to protect the V-TEC VM and V-TEC VM MS cable glands against dust before the cable is installed.

Application: the discs are pre-mounted between the cap nut and the seal. They do not need to be removed when the cable is installed, but are simply passed through to the interior with the cable.

Note: the discs do not provide any mechanical protection.

# Cable gland, system accessories

Pg



## Dust protection plate, PG

Type	Shipping box	Size	Dimension D	Dimension t	Pack.	Weight	Item No.
	pcs	mm	mm	mm	pcs	kg/100 pcs.	
<b>107 S VTEC PG7</b>	12000	Pg 7	11	1.5	100	0.000	<b>2028 89 1</b>
<b>107 S VTEC PG9</b>	12000	Pg 9	14	1.5	100	0.000	<b>2028 90 5</b>
<b>107 S VTEC PG11</b>	12000	Pg 11	16.5	1.5	100	0.000	<b>2028 91 3</b>
<b>107 S VTEC PG13</b>	10000	Pg 13.5	18.5	2	100	0.000	<b>2028 92 1</b>
<b>107 S VTEC PG16</b>	8000	Pg 16	21	2	100	0.010	<b>2028 94 8</b>
<b>107 S VTEC PG21</b>	12000	Pg 21	26.5	2	100	0.010	<b>2028 95 6</b>
<b>107 S VTEC PG29</b>	1000	Pg 29	34.5	2	100	0.020	<b>2028 96 4</b>
<b>107 S VTEC PG36</b>	1200	Pg 36	44	3	100	0.040	<b>2028 97 2</b>
<b>107 S VTEC PG42</b>	1200	Pg 42	50	3	100	0.050	<b>2028 98 0</b>
<b>107 S VTEC PG48</b>	1200	Pg 48	56	3	100	0.060	<b>2028 99 9</b>

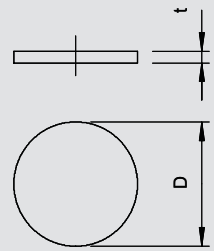
**ZPE** Cellular polyethylene /100 pc.

Cellular polyethylene.

Small protective disc to protect the V-TEC and V-TEC MS cable glands against dust before the cable is installed.

Application: the discs are pre-mounted between the cap nut and the seal. They do not need to be removed when the cable is installed, but are simply passed through to the interior with the cable.

Note: the discs do not provide any mechanical protection.



Pg



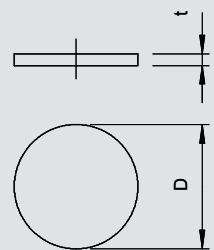
## Sealing plate, PG

Type	Dimension t	Shipping box	Size	Dimension D	Pack.	Weight	Item No.
	mm	pcs	mm	mm	pcs	kg/100 pcs.	
<b>107 V PG 7 PVC</b>	0.5	12000	Pg 7	11	100	0.010	<b>2029 70 7</b>
<b>107 V PG 9 PVC</b>	0.5	12000	Pg 9	13.5	100	0.020	<b>2029 71 5</b>
<b>107 V PG11 PVC</b>	0.5	10000	Pg 11	16.5	100	0.030	<b>2029 72 3</b>
<b>107 V PG13.5 PVC</b>	0.5	10000	Pg 13.5	18.5	100	0.040	<b>2029 73 1</b>
<b>107 V PG16 PVC</b>	0.5	8000	Pg 16	20.5	100	0.050	<b>2029 75 8</b>
<b>107 V PG21 PVC</b>	0.5	12000	Pg 21	26	100	0.080	<b>2029 76 6</b>
<b>107 V PG29 PVC</b>	1	1000	Pg 29	35	100	0.140	<b>2029 77 4</b>

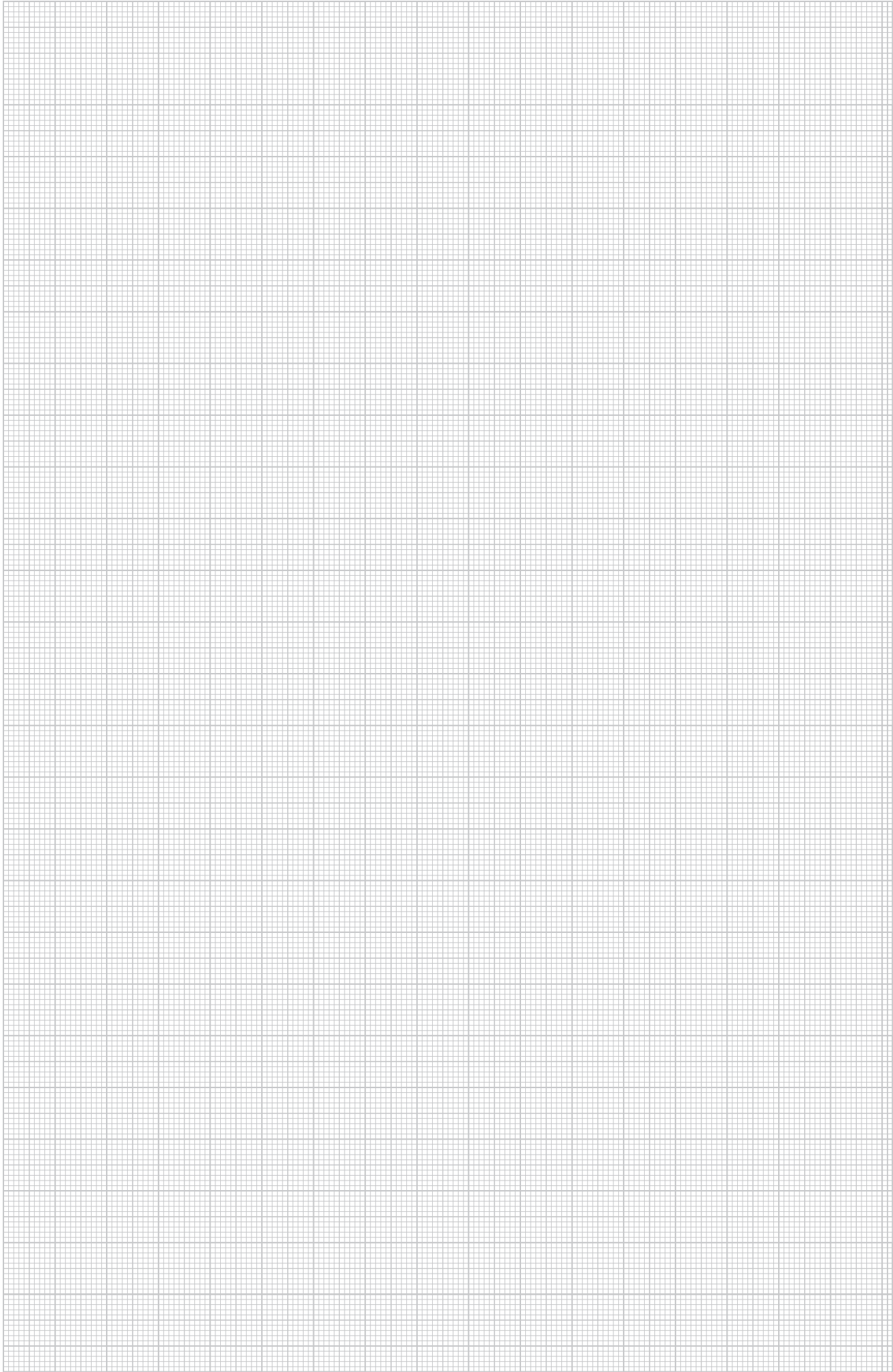
**PVC** Polyvinylchloride /100 pc.

The sealing plate offers both mechanical protection and the maintenance of the protection rating of plastic and metal cable glands to DIN 46320 before cable installation.

Application: the discs are placed between the pressure screw and the pressure ring. If the safe maintenance of IP65 is required, we recommend placing the discs between the pressure ring and the sealing ring. To mount the cable, remove the discs – they can be reused.




















## Cable/pipe fastening systems, plastic

	OBO Quick Family	Quick clip Quick clip, flame-resistant Quick Clip, for push-fit anchor	268 268 269
		Multi-Quick clip	269
		starQuick clip	270
	Push-fit anchors	BKS clamp clip Snap clip Push-fit clip	271 271 271
		Push-fit anchors	272
	Cable tidy	GRIP 10 GRIP 20 GRIP 40	273 273
	Pressure clip	For 8 cables For 16 cables For 10 cables	274 274 274
		With knock-in anchor	275
		With push-fit anchor	275
	Fastening clip	Series pressure clip Pressure ISO clip Grip ISO clip	276 276 277
		SOM clip ISO base clip Lightning ISO clip	277 278 279
		Base clamp clip Fastening clip	279 280
	Nail clip	ISO nail clip Double ISO nail clip Nail-Fix	281 281 281
		Adhesive clip ISO nail clip Cable clip	282 282 284
	Clip cable ties	1 chamber 2 chambers	284 284

# OBO Quick Family



## Quick clip

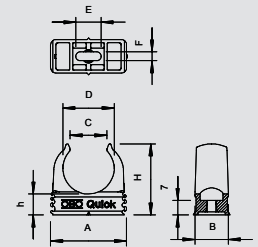
Type	Nominal size	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
2955 M16	M16	Light grey	1200	100	0.250	2149 00 4
2955 M20	M20	Light grey	1200	100	0.330	2149 01 0
2955 M25	M25	Light grey	1200	100	0.430	2149 01 6
2955 M32	M32	Light grey	600	50	0.630	2149 02 2
2955 M40	M40	Light grey	600	50	0.840	2149 02 8
2955 M50	M50	Light grey	300	25	1.450	2149 03 4
2955 M63	M63	Light grey	240	20	2.200	2149 04 0
2955 M16 SW	M16	Jet black	1200	100	0.250	2149 55 9
2955 M20 SW	M20	Jet black	1200	100	0.330	2149 56 3
2955 M25 SW	M25	Jet black	1200	100	0.430	2149 56 7
2955 M32 SW	M32	Jet black	600	50	0.630	2149 57 1
2955 M40 SW	M40	Jet black	600	50	0.840	2149 57 5
2955 M50 SW	M50	Jet black	300	25	1.450	2149 57 9
2955 M63 SW	M63	Jet black	240	20	2.200	2149 58 3

PP Polypropylene /100 pc.

OBO Quick clip, type 2955/...: for all metric steel armoured pipes, as well as light-duty and heavy-duty metric insulation pipes. Suitable for mounting the OBO Quick pipe.  
 Pipe centring aids allow optimum attachment of the pipe and automatically turn the clip into the correct position.  
 Universal fastening option; can be arranged with the OBO Multi-quick and starQuick clip.  
 Slot for side alignment during mounting with wood screw or knock-in anchor.  
 Size M16-M32 can be screwed onto an M6 thread.  
 Recommended fastening spacing 50–60 cm, for max. extraction values F at a room temperature of 20 °C, see the table.

### Important dimensions, Quick clip

G	A	B	C	D	E	F	H	h	F <sub>20°C</sub>
	mm	mm	mm	mm	mm	mm	mm	mm	N
M16	25.3	16	11.5	15.5	7	4.2	25	10	75
M20	30.3	16	14	19.4	9	4.2	29.5	10	90
M25	36.3	16	17.5	24.3	12	4.2	34	10	100
M32	46.3	16	22.4	31.4	12	4.2	42	11	120
M40	57.3	16	26	39.2	11	4.6	51	12	140
M50	70.3	18	32	49	12	6	63	14	165
M63	87.3	20	43	61.5	12	6	74.5	15	230



## Quick clip, flame-resistant

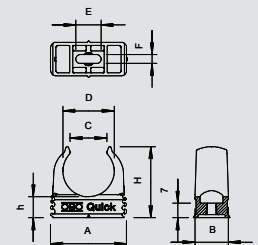
Type	Nominal size	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
2955 F M16 STGR	M16	Stone grey	1200	100	0.250	2149 30 3
2955 F M20 STGR	M20	Stone grey	1200	100	0.330	2149 30 9
2955 F M25 STGR	M25	Stone grey	1200	100	0.430	2149 31 5
2955 F M32 STGR	M32	Stone grey	600	50	0.630	2149 32 1
2955 F M40 STGR	M40	Stone grey	600	50	0.840	2149 32 7
2955 F M50 STGR	M50	Stone grey	300	25	1.450	2149 33 3
2955 F M63 STGR	M63	Stone grey	240	20	2.200	2149 33 9
2955 F M16 RW	M16	Pure white	1200	100	0.250	2149 35 1
2955 F M20 RW	M20	Pure white	1200	100	0.330	2149 35 7
2955 F M25 RW	M25	Pure white	1200	100	0.430	2149 36 3
2955 F M32 RW	M32	Pure white	600	50	0.630	2149 36 9
2955 F M40 RW	M40	Pure white	600	50	0.840	2149 37 5
2955 F M50 RW	M50	Pure white	300	25	1.450	2149 38 1

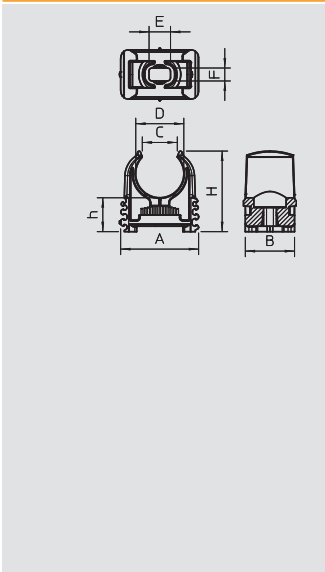
PP Polypropylene /100 pc.

OBO Quick clip, type 2955/...: for all metric steel armoured pipes, as well as light-duty and heavy-duty metric insulation pipes. Suitable for mounting the OBO Quick pipe.  
 Pipe centring aids allow optimum attachment of the pipe and automatically turn the clip into the correct position.  
 Universal fastening option; can be arranged with the OBO Multi-quick and starQuick clip.  
 Slot for side alignment during mounting with wood screw or knock-in anchor.  
 Size M16-M32 can be screwed onto an M6 thread.  
 Recommended fastening spacing 50–60 cm, for max. extraction values F at a room temperature of 20 °C, see the table.

### Important dimensions, Quick clip

G	A	B	C	D	E	F	H	h	F <sub>20°C</sub>
	mm	mm	mm	mm	mm	mm	mm	mm	N
M16	25.3	16	11.5	15.5	7	4.2	25	10	75
M20	30.3	16	14	19.4	9	4.2	29.5	10	90
M25	36.3	16	17.5	24.3	12	4.2	34	10	100
M32	46.3	16	22.4	31.4	12	4.2	42	11	120
M40	57.3	16	26	39.2	11	4.6	51	12	140
M50	70.3	18	32	49	12	6	63	14	165
M63	87.3	20	43	61.5	12	6	74.5	15	230





Quick clip, for push-fit anchor



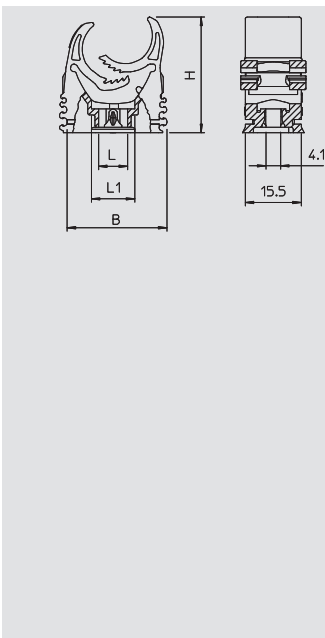
Type	Nominal size	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
2957 M16	M16	Light grey	—	1	0.330	2149 70 1
2957 M19-20	M19-20	Light grey	—	1	0.420	2149 71 0

ABS/ASA Acrylonitrile butadiene styrene /100 pc.

OBO Quick clip, type 2955/...: for all metric steel armoured pipes, as well as light-duty and heavy-duty metric insulation pipes. Suitable for mounting the OBO Quick pipe. Pipe centring aids allow optimum attachment of the pipe and automatically turn the clip into the correct position. Universal fastening option; can be arranged with the OBO Multi-quick and starQuick clip. Slot for side alignment during mounting with wood screw or knock-in anchor. Sizes M16–M32 can be screwed onto M6 thread. Recommended fastening spacing 50–60 cm. For max. extraction values F at a room temperature of 20 °C, see the table.

Important dimensions, Quick clip

G	A	B	C	D	E	F	H	h	F <sub>1</sub> (20 °C)
M16	25.3	16	11.4	15.6	7	4.2	26	11	N
M16	25.3	16	11.4	15.6	7	4.2	26	11	N



Multi-Quick clip



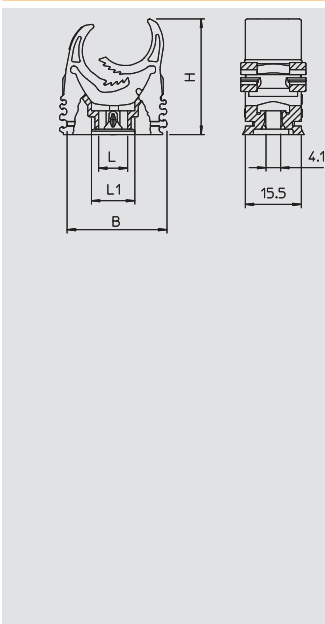
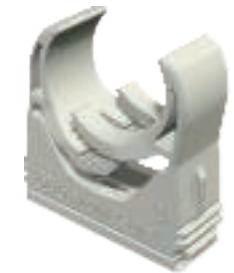
Type	Clamping range D mm	Pull-out value N	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
M-Quick 15-19LGR	15-19	40	Light grey	1200	100	0.550	2153 10 6
M-Quick 18-22LGR	18.5-22.5	50	Light grey	1200	100	0.750	2153 11 4
M-Quick 25-28LGR	25-28.5	60	Light grey	600	50	1.120	2153 13 0
M-Quick 31-37LGR	31-37	65	Light grey	300	25	1.780	2153 15 7

PA Polyamide /100 pc.

Pg and metric. Simple fastening. Secure locking. Radial arrangement. Simplified storage. Clamping ranges from 15–37 mm. Universally applicable. Fastening in rails, types 2060 and 2061.

Important dimensions, Multi-Quick clip

D	B	H	L	L1
mm	mm	mm	mm	mm
15 - 19	27.5	32	8	12
18.5 - 22.5	33	37	9	13
25 - 28.5	43	46	12	16
31 - 37	55	58	14	18



Multi-Quick clip, metric



Type	Clamping range D mm	Pull-out value N	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
M-Quick M20 LGR	16-20	40	Light grey	1200	100	0.600	2153 71 8
M-Quick M25 LGR	20-25	50	Light grey	600	50	0.930	2153 72 6
M-Quick M32 LGR	25-32	60	Light grey	600	50	1.400	2153 73 4
M-Quick M20 SW	16-20	40	Jet black	1200	100	0.600	2153 78 5
M-Quick M25 SW	20-25	50	Jet black	600	50	0.930	2153 78 7
M-Quick M32 SW	25-32	60	Jet black	600	50	1.400	2153 78 9

PA Polyamide /100 pc.

Multi-quick metric. Simple fastening. Secure locking. Radial arrangement. Simplified storage. Universally applicable.

Important dimensions, Multi-Quick clip

D	B	H	L	L1
mm	mm	mm	mm	mm
16–20	29	34	8	12
20–25	36	42	9	13
25–32	46	52	13	17



# OBO Quick Family



## starQuick clip



Type	Size	Clamping range D mm	Breaking load kN	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
SQ-10 LGR	10	9.5-12	0.5	Light grey	1200	100	0.560	2146 05 3
SQ-12 LGR	12-14	11.5-15	0.55	Light grey	1200	100	0.540	2146 06 1
SQ-15 LGR	15-16	14-16.5	0.6	Light grey	1200	100	0.580	2146 09 6
SQ-17 LGR	17-19	16-20	0.7	Light grey	800	100	0.640	2146 11 8
SQ-20 LGR	20-23	19.5-23.5	0.8	Light grey	600	50	0.670	2146 13 4
SQ-25 LGR	25-28	24-28	0.85	Light grey	600	50	0.970	2146 20 7
SQ-28 LGR	28-32	27.5-32	0.9	Light grey	400	50	1.070	2146 21 5
SQ-32 LGR	32-35	31.2-35.8	1	Light grey	400	50	1.230	2146 25 8
SQ-36 LGR	35-40	35-40.1	1.1	Light grey	300	25	1.510	2146 29 0
SQ-40 LGR	40-44	39.3-44.5	1.2	Light grey	200	25	1.710	2146 32 0
SQ-47 LGR	45-50	44-50	1.2	Light grey	200	25	1.980	2146 36 3
SQ-51 LGR	50-54	48-55	1.4	Light grey	180	15	2.250	2146 44 4
SQ-59 LGR	59-65	58.5-65	1.5	Light grey	180	15	3.300	2146 48 7

PA Polyamide

/100 pc.

Can be arranged next to each other to size SQ-28.

Break load: with bolt DIN 96; diameter 4.5 mm, minimum break load at 20°.

starQuick clip Type SQ... a comprehensive programme of quality clips ideal for the use in outside areas such as parking garages, under bridges and on the exterior of steel structures. Climate conditions have no chance: the starQuick clips are made from UV weather-resistant polyamide.

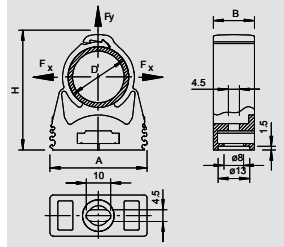
The starQuick clips are available in 13 different sizes with a clamping range of 10–65 mm, allowing a problem-free installation on different pipe systems. starQuick is suitable for plastic and metal pipes, as well as electrical and sanitary installations. The clips can be installed on the wall and ceiling. Mounting is amazingly fast and uncomplicated, without the use of tools. Mounting of multiple pipes is also really easy:

- By arranging the single clips.
- By using the double bracket, allowing a firm hold and spacing by heavy loads.
- A rail system allows for an open spacing and numbering of the clips.

starQuick is reliable and can support heavy loads. A patented safety system guarantees that the pipes stay where they are. The pipe is secure in the all around closed clip.

### Important dimensions, starQuick clip

G	A	B	D	H	Fx	Fy
mm	mm	mm	mm	mm	N	N
10	29	17	9.5 - 12	31.6	500	500
12-14	29	17	11.5 - 15	34.5	550	550
15-16	29	17	14 - 16.5	35.7	600	600
17-19	29	17	16 - 20	39.8	700	700
20-23	29	17	19.5 - 23.5	49.5	800	800
25-28	40	17	24 - 28	49.5	850	850
28-32	40	17	27.5 - 32	52.8	900	900
32-35	43	17	31.2 - 35.8	65.8	1000	1000
35-40	47	17	35 - 40.1	65.8	1100	1100
40-44	52	17	39.3 - 44.5	69.5	1200	1200
45-50	57	17	44 - 50	75.5	1200	1200
50-54	63	17	48 - 55	81	1400	1400
59-65	74	20	58.5 - 65	94.3	1500	1500



## starQuick nut

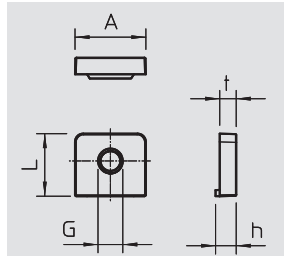


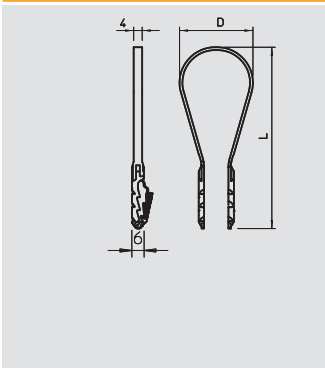
Type	Thread	Dimension L mm	Dimension h mm	Dimension t mm	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
SQ M6	M6	15	5	4	Light grey	12000	100	0.070	2146 50 9

PC Polycarbonate

/100 pc.

The starQuick nut was developed especially for the starQuick clip. Simply push into the intended opening of the starQuick. The starQuick nut is captive in the clip. Suitable for M6/M8 threads.





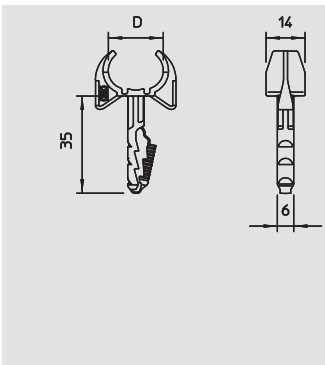
## BKS clamp clip



Type	Pull-out value N	Colour	Dimension L mm	Dimension D mm	Clamping range D mm	Pack. pcs	Weight kg/100 pcs.	Item No.
1973 3-13 LGR	500	Light grey	52	13	3-13	100	0.110	2148 80 3
1973 8-28 LGR	500	Light grey	70	27	8-28	100	0.150	2148 84 6
1973 20-40 LGR	500	Light grey	89	36	20-40	100	0.160	2148 86 2

PA Polyamide /100 pc.

For cables, flexible pipes and all kinds of insulating and armoured steel pipes, suitable for concrete, calcareous limestone and full brick. Use in gas concrete masonry is possible, but reduced load capacities must be expected.



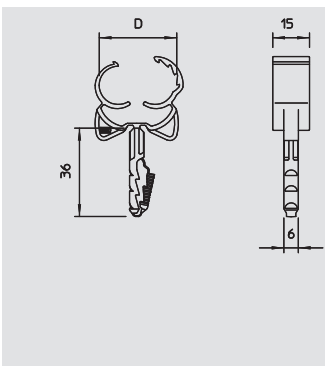
## Snap clip



Type	Clamping range D mm	Bore hole depth mm	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
1975 12-15	12-15	40	Light grey	1300	100	0.240	2148 02 1
1975 16-19	16-19	40	Light grey	1200	100	0.360	2148 04 8
1975 19-22	19-22.5	40	Light grey	1200	100	0.520	2148 05 6

PA Polyamide /100 pc.

With moulded-on push-fit plug for rapid mounting in concrete walls and masonry. Push plug into hole until the clip makes contact with the surface. When the pipe is pressed into the clip, the arms of the clip grip it.



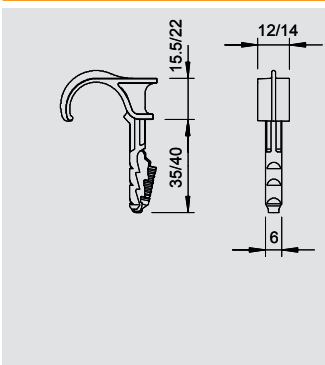
## Click-snap clip



Type	Clamping range D mm	Breaking load for concrete B25	Colour	Pack. pcs	Weight kg/100 pcs.	Item No.
1976 12-15	12-15.5	190 N	Light grey	100	0.250	2148 50 1
1976 16-21	16-21.5	500 N	Light grey	100	0.470	2148 52 8
1976 22-28	22.5-28.5	500 N	Light grey	100	0.780	2148 53 6

PA Polyamide /100 pc.

With moulded-on push-fit plug for rapid mounting in concrete walls and masonry. Push plug into hole until the clip makes contact with the surface. When the pipe is pressed into the clip, the arms of the clip grip it.



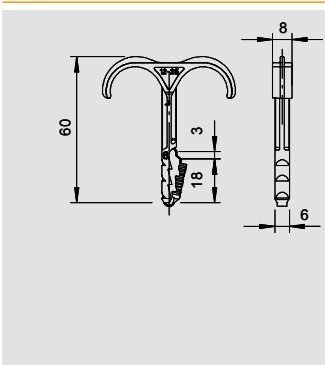
## Single push-fit clip



Type	Clamping range D mm	Bore hole Ø mm	Bore hole depth mm	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
1974 16-23	16-23	6	40	Light grey	1200	100	0.260	2197 80 4
1974 22-30	22-30	6	40	Light grey	1200	100	0.440	2197 81 2

PA Polyamide /100 pc.

These push-fit clips are used when installing cables and pipes on walls and ceilings and when running flexible pipes on concrete and in the screed. The single push-fit clips can be used instead of nail clips in concrete and aerated concrete. The advantage of the push-fit clips is that they only have to be pushed into the drilled hole. Anchors and bolts are not needed.



## Double push-fit clip



Type	Clamping range D mm	Bore hole Ø mm	Bore hole depth mm	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
1974 2X4-12	4-12	6	40	Light grey	1200	100	0.130	2197 85 5
1974 2X12-25	12-25	6	40	Light grey	1200	100	0.290	2197 86 3

PA Polyamide /100 pc.

These push-fit clips are used when installing cables and pipes on walls and ceilings and when running flexible pipes on concrete and in the screed. The double push-fit clips can be used instead of nail clips in concrete and aerated concrete. The advantage of the push-fit clips is that they only have to be pushed into the drilled hole. Anchors and bolts are not needed.



# Push-fit anchor

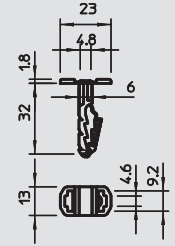


## Push-fit anchors for cable ties

Type	Bore hole depth mm	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>910 STK 6x30</b>	35	Light grey	1200	100	0.130	<b>2351 60 9</b>

**PA** Polyamide /100 pc.

The push-fit anchor can accept a cable tie (type 550 or 555) up to 9 mm wide, which can be used to install several cables and pipes. Suitable for concrete, lime sand and brickwork as solid brick. Use in gas concrete masonry is possible, but reduced load capacities must be expected.

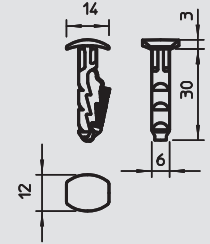


## Push-fit anchor with mushroom head

Type	Dowel Ø mm	Length mm	Bore hole depth mm	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>910 STP 6x30</b>	6	30	35	4000	100	0.100	<b>2351 41 2</b>

**PA** Polyamide /100 pc.

The push-fit anchor allows simple mounting, e.g. of labelling panels or small WDK ducts. Suitable for concrete, lime sandstone and brickwork as solid brick. Use in gas concrete masonry is possible, but reduced load capacities must be expected.



Ø6

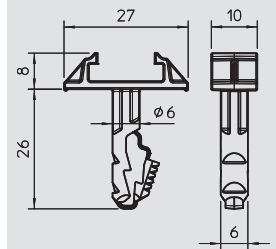


## Push-fit anchor for Quick clip, type 2957

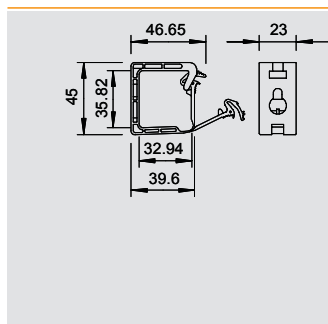
Type	Dowel Ø mm	Length mm	Bore hole depth mm	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>910 STQS 6x26</b>	6	26	30	-	1	0.130	<b>2351 65 0</b>

**ABS/ASA** Acrylonitrile butadiene styrene /100 pc.

Push-fit anchor suitable for Quick clip, type 2957. The anchor is fixed to the Quick clip by a locking mechanism. Suitable for rapid mounting in concrete walls and masonry. The anchor is pushed into the hole until the clip makes contact with the surface.







## GRIP 10



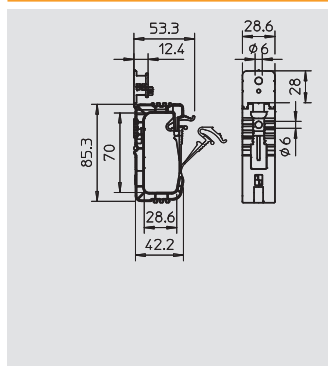
Type	No. of conductors NYM 3 x 1.5	Colour	Pack. pcs	Weight kg/100 pcs.	Item No.
2031 10	10	Light grey	50	0.760	2205 39 8
2031 F 10	10	Stone grey	50	0.760	2205 40 0



PP Polypropylene /100 pc.

Light grey version: Standard version for general use, suitable for wall and ceiling mounting. Fastening holes 6 mm Ø. Recommended fastening spacing when full: 50–60 cm.

Capacity:  
2031/ 10 max. 10 cables NYM 3 x 1.5 mm<sup>2</sup>



## GRIP 20



Type	No. of conductors NYM 3 x 1.5	Colour	Pack. pcs	Weight kg/100 pcs.	Item No.
2031 20	20	Light grey	50	1.920	2205 40 4
2031 F 20	20	Stone grey	50	1.920	2205 41 2

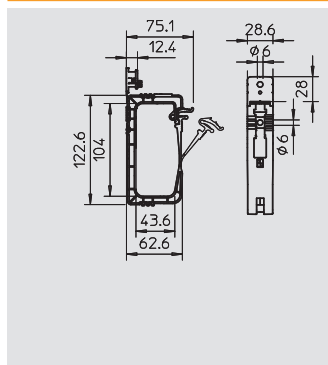


PP Polypropylene /100 pc.

Cable tidy for general use, suitable for wall and ceiling mounting. The moulded fastening element can be fastened using knock-in anchors or a gas pressure nail gun.

Fastening holes 6 mm Ø, recommended fastening spacing when full: 50–60 cm. Flame-resistant version, stone grey, to DIN VDE 0471/DIN IEC 695 Part 2-1, test temperature 960 °C.

With multifunctional fastening element



## GRIP 40



Type	No. of conductors NYM 3 x 1.5	Colour	Pack. pcs	Weight kg/100 pcs.	Item No.
2031 40	40	Light grey	25	3.280	2205 41 6
2031 F 40	40	Stone grey	25	4.000	2205 42 3



PP Polypropylene /100 pc.

Cable tidy for general use, suitable for wall and ceiling mounting. The moulded fastening element can be fastened using knock-in anchors or a gas pressure nail gun.

Fastening holes 6 mm Ø, recommended fastening spacing when full: 50–60 cm. Flame-resistant version, stone grey, to DIN VDE 0471/DIN IEC 695 Part 2-1, test temperature 960 °C.

With multifunctional fastening element



# Pressure clip

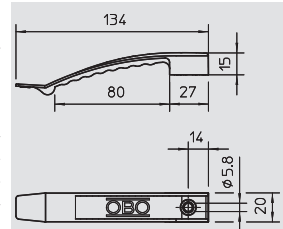


## Pressure clip for 8 cables

Type	No. of conductors NYM 3 x 1.5	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
2032	8	Light grey	400	50	1.300	2205 01 7
2032 SP	8	Light grey	100	100	0.840	2204 97 5
2032 F	8	Stone grey	400	50	1.410	2204 90 8

PA Polyamide PBPT Polybutylene terephthalate /100 pc.

Standard version for general use, e.g. on intermediate ceilings and partition walls.  
Clamping height 9 mm – with spacer 13 mm.  
Fastening hole: 6 mm Ø.



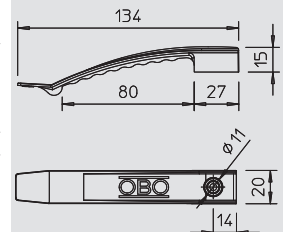
## Pressure clip for 8 cables, connectable

Type	No. of conductors NYM 3 x 1.5	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
2032 AS	8	Light grey	400	50	1.300	2205 05 2

PA Polyamide /100 pc.

Version suitable for fixing with gas pressure nail gun (i.e. by SPIT), for example for use on intermediate ceilings and partition walls.  
Clamping height: 9 mm, with spacer 13 mm.  
Fastening hole: 7 mm Ø.

2032 for max. 8 cables NYM 3 x 1.5 mm<sup>2</sup>

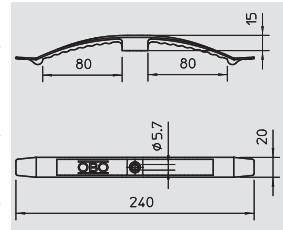


## Pressure clip for 16 cables

Type	No. of conductors NYM 3 x 1.5	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
2033	16	Light grey	25	25	2.080	2205 03 3
2033 SP	16	Light grey	100	100	1.920	2204 98 3
2033 F	16	Stone grey	25	25	2.060	2204 91 6

PA Polyamide PBPT Polybutylene terephthalate /100 pc.

Standard version for general use, e.g. on intermediate ceilings and partition walls.  
Clamping height 9 mm – with spacer 13 mm.  
Fastening hole: 6 mm Ø.

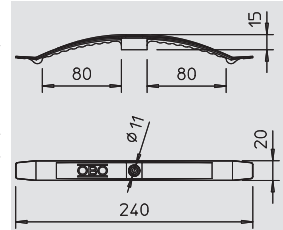


## Pressure clip for 16 cables, connectable

Type	No. of conductors NYM 3 x 1.5	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
2033 AS	16	Light grey	25	25	2.100	2205 05 3

PA Polyamide /100 pc.

Version suitable for fixing with gas pressure nail gun (i.e. by SPIT), for example for use on intermediate ceilings and partition walls.  
Clamping height: 9 mm, with spacer 13 mm.  
Fastening hole: 7 mm Ø.

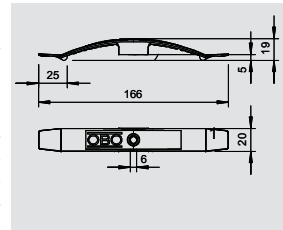


## Pressure clip for 10 cables

Type	No. of conductors NYM 3 x 1.5	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
2034	10	Light grey	400	50	1.180	2205 04 1
2034 SP	10	Light grey	100	100	0.810	2204 99 1
2034 F	10	Stone grey	400	50	0.810	2204 92 4

PA Polyamide PBPT Polybutylene terephthalate /100 pc.

Standard version for general use, e.g. on intermediate ceilings and partition walls.  
Clamping height 9 mm – with spacer 13 mm.  
Fastening hole: 6 mm Ø.

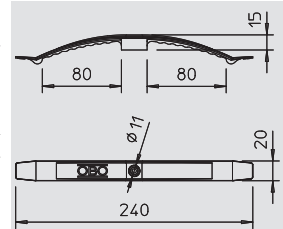


## Pressure clip for 10 cables, connectable

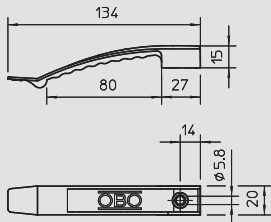
Type	No. of conductors NYM 3 x 1.5	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
2034 AS	10	Light grey	400	50	1.130	2205 05 4

PA Polyamide /100 pc.

Version suitable for fixing with gas pressure nail gun (i.e. by SPIT), for example for use on intermediate ceilings and partition walls.  
Clamping height: 9 mm, with spacer 13 mm.  
Fastening hole: 7 mm Ø.



Pressure clip with knock-in anchor, for 8 cables

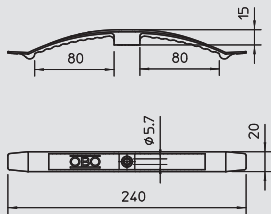


Type	No. of conductors NYM 3 x 1.5	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
2032 SD	8	Light grey	50	50	1.660	2204 80 0
2032 SD SP	8	Light grey	100	100	1.660	2204 85 1

**PA** Polyamide /100 pc.  
 With pre-mounted knock-in anchor, 6 mm Ø.  
 Required drill hole depth 50 mm.  
 Clamping height 9 mm – with spacer 13 mm.  
 Fastening hole 6 mm Ø.



Pressure clip with knock-in anchor, for 16 cables

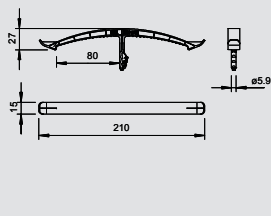


Type	No. of conductors NYM 3 x 1.5	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
2033 SD	16	Light grey	25	25	2.440	2204 81 9
2033 SD SP	16	Light grey	100	100	2.440	2204 87 8

**PA** Polyamide /100 pc.  
 With pre-mounted knock-in anchor, 6 mm Ø.  
 Required drill hole depth 50 mm.  
 Clamping height 9 mm – with spacer 13 mm.  
 Fastening hole 6 mm Ø.



Pressure clip with push-fit anchor

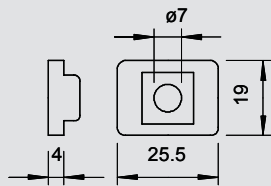


Type	No. of conductors NYM 3 x 1.5	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
2033 STD	16	Light grey	25	25	1.200	2204 54 1

**PA** Polyamide /100 pc.  
 With moulded push fit plug, 6 mm Ø.



Spacer

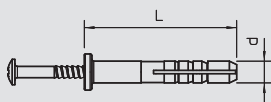


Type	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
2033 D 25x19	Light grey	2400	100	0.220	2205 09 2

**PS** Polystyrene /100 pc.  
 To increase the clamping height of pressure clips from 10 to 13 mm for thicker cables, impact-resistant polystyrene.



Knock-in anchor



Type	Dowel Ø mm	Length mm	Pull-out force N min/concrete	Pack. pcs	Weight kg/100 pcs.	Item No.
910 SD 6X35	6	35	260	100	0.310	2351 05 6
910 SD 6X40	6	40	260	100	0.560	2351 06 4

**PA** Polyamide /100 pc.  
 Knock-in anchor: steel, electrogalvanised and transparently passivated.



# Fastening clip



## Series pressure clip

Type	Clamping range D mm	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
2037 3-7 LGR	3-7	Light grey	1000	100	0.260	2250 07 1
2037 6-13 LGR	6-13	Light grey	1200	100	0.370	2250 13 6
2037 12-20 LGR	12-20	Light grey	500	50	0.640	2250 20 9
2037 16-24 LGR	16-24	Light grey	600	50	0.840	2250 24 1
2037 18-30 LGR	18-30	Light grey	300	25	1.230	2250 30 6
2037 27-43 LGR	27-43	Light grey	300	25	1.810	2250 43 8

PA Polyamide /100 pc.

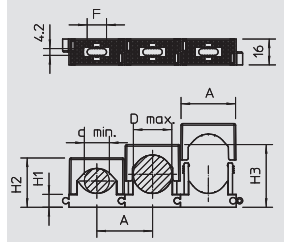
Universal clip for the single fastening of cables and pipes, all sizes can be seamlessly expanded among each other, with adhesive foot, slot and for screwing to M6 thread.

To stick the polyamide clips to masonry and concrete, use Impu-Fix ribbon conductor quick adhesive, type 509.

\*Sizes 3-7 are not suitable for nail guns.

### Important dimensions, series pressure clip

D	A	H1	H2	H3	d min.	D max.	F
mm	mm	mm	mm	mm	mm	mm	mm
3-7	14.5	7.5	15.5	19.5	3	7	6
6-13	20	8.5	20	27	6	13	13
12-20	28	8.5	26	34	12	20	14
16-24	34.5	8.5	31	39	16	24	12
18-30	40	9	34	46	18	30	12
27-43	55	10.5	46	62	27	43	15



## Pressure ISO clip, single

Type	Clamping range D mm	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
3050 LGR	6-16	Light grey	800	100	0.480	2101 01 7
3051 LGR	14-24	Light grey	600	50	0.880	2101 03 3
3052 LGR	24-34	Light grey	300	25	1.560	2101 06 8

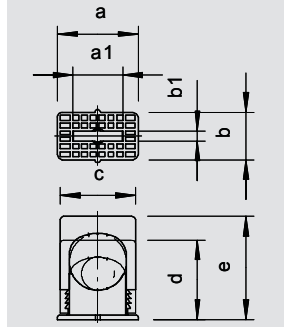
PS Polystyrene /100 pc.

With adhesive base, slot and for screwing to M6 thread.

Use the Impu-Fix ribbon conductor quick adhesive, type 509, to stick the polystyrene clips to masonry and concrete.

### Important dimensions, pressure ISO clip

D	a1	b1	a	b	c	d	e
mm	mm	mm	mm	mm	mm	mm	mm
6-16	13	4	28	18	22.5	25	34
14-24	21	4.2	34	20	32	33	43
24-34	16	4.2	45	24	43	43	57



## Pressure ISO clip, double

Type	Clamping range D mm	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
3050 2 6-16	6-16	Light grey	250	25	1.040	2115 01 8

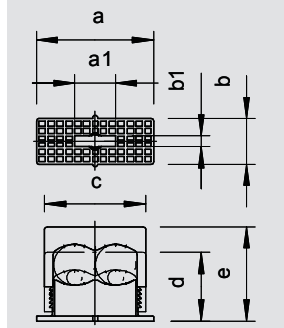
PS Polystyrene /100 pc.

For two cables, with adhesive base, slot and for screwing to M6 thread.

Use the Impu-Fix ribbon conductor quick adhesive, type 509, to stick the polystyrene clips to masonry and concrete.

### Important dimensions, pressure ISO clip

D	a1	b1	a	b	c	d	e
mm	mm	mm	mm	mm	mm	mm	mm
6-16	26	3.8	46	18	40	26	35



## Pressure ISO clip, double

Type	Clamping range D mm	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
3050 2 6-16	6-16	Light grey	250	25	1.040	2115 01 8

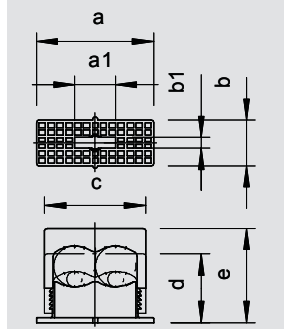
PS Polystyrene /100 pc.

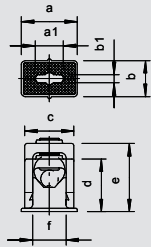
For two cables, with adhesive base, slot and for screwing to M6 thread.

Use the Impu-Fix ribbon conductor quick adhesive, type 509, to stick the polystyrene clips to masonry and concrete.

### Important dimensions, pressure ISO clip

D	a1	b1	a	b	c	d	e
mm	mm	mm	mm	mm	mm	mm	mm
6-16	26	3.8	46	18	40	26	35





## Grip ISO clip, single



Type	Clamping range D	Colour	Shipping box	Pack.	Weight	Item No.
	mm		pcs	pcs	kg/100 pcs.	
<b>3040 LGR</b>	6-16	Light grey	1200	100	0.740	<b>2105 01 2</b>
<b>3041 LGR</b>	16-24	Light grey	600	50	1.350	<b>2105 03 9</b>
<b>3042 LGR</b>	24-34	Light grey	300	25	2.490	<b>2105 05 5</b>

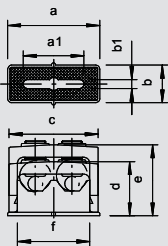
**PS** Polystyrene /100 pc.

Solid cable fastening through clamping screws, with adhesive base, slot and for screwing to M6 thread.

Use the Impu-Fix ribbon conductor quick adhesive, type 509, to stick the polystyrene clips to masonry and concrete.

### Important dimensions, Grip ISO clip

D	a1	b1	a	b	c	d	e	f
mm	mm	mm	mm	mm	mm	mm	mm	mm
6-16	13.5	4	28	18	24.5	28	35	20
16-24	20	4.2	35	22	37	36	44	31
24-34	14	4.2	50	22	48	49	59	40



## Grip ISO clip, double



Type	Clamping range D	Colour	Shipping box	Pack.	Weight	Item No.
	mm		pcs	pcs	kg/100 pcs.	
<b>3040 2</b>	6-16	Light grey	250	25	1.180	<b>2107 01 5</b>
<b>3041 2</b>	16-24	Light grey	300	25	2.290	<b>2107 03 1</b>

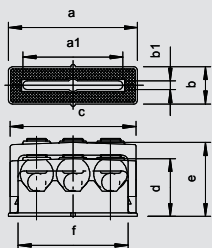
**PS** Polystyrene /100 pc.

Solid cable fastening through clamping screws, with adhesive base, slot and for screwing to M6 thread.

Use the Impu-Fix ribbon conductor quick adhesive, type 509, to stick the polystyrene clips to masonry and concrete.

### Important dimensions, Grip ISO clip

D	a1	b1	a	b	c	d	e	f
mm	mm	mm	mm	mm	mm	mm	mm	mm
6-16	29	4.2	44	18	43	28	35	38
16-24	46	4.5	63	22	61	37	46	55



## Grip ISO clip, triple



Type	Clamping range D	Colour	Shipping box	Pack.	Weight	Item No.
	mm		pcs	pcs	kg/100 pcs.	
<b>3040 3</b>	6-16	Light grey	200	25	1.750	<b>2109 01 8</b>

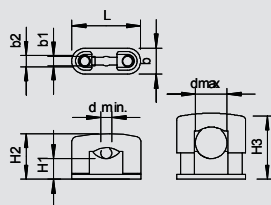
**PS** Polystyrene /100 pc.

Solid cable fastening through clamping screws, with adhesive base, slot and for screwing to M6 thread.

Use the Impu-Fix ribbon conductor quick adhesive, type 509, to stick the polystyrene clips to masonry and concrete.

### Important dimensions, Grip ISO clip

D	a1	b1	a	b	c	d	e	f
mm	mm	mm	mm	mm	mm	mm	mm	mm
6-16	48	4	62	18	61	31	38	55



## SOM clip, single



Type	Clamping range D	Bolt	Colour	Shipping box	Pack.	Weight	Item No.
	mm			pcs	pcs	kg/100 pcs.	
<b>3079 LGR</b>	5-14	M5 x 14	Light grey	500	50	0.520	<b>2124 14 9</b>
<b>3080 LGR</b>	6-17	M6 x 18	Light grey	600	50	0.930	<b>2124 17 3</b>
<b>3081 LGR</b>	15-25	M8 x 23	Light grey	300	25	1.860	<b>2124 25 4</b>
<b>3082 LGR</b>	24-34	M8 x 23	Light grey	300	25	2.540	<b>2124 34 3</b>

**PS** Polystyrene /100 pc.

With plastic screws, so corrosion-protected, with slot for fastening with wood screws or 5 mm knock-in anchors.

### Important dimensions, SOM clip

D	L	d min.	d max.	H1	H2	H3	b	b1	b2
mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
5-14	31	5	14	10.5	20	29	12	4.2	5
6-17	37	6	17	11	24.5	35.5	14	4	5.2
15-25	51	14	25	11.5	33	44	17	5	
24-34	62	22	34	11	40	52	18	5.2	



# Fastening clip



## SOM clip, double

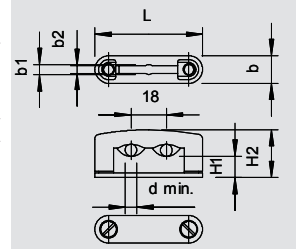
Type	Clamping range D	Bolt	Colour	Shipping box	Pack.	Weight	Item No.
	mm			pcs	pcs	kg/100 pcs.	
<b>3080 2 LGR</b>	6-17	M6 x 18	Light grey	300	25	1.230	<b>2124 49 1</b>

**PS** Polystyrene /100 pc.

With plastic screws, so corrosion-protected, with slot for fastening with wood screws or 5 mm knock-in anchors.

### Important dimensions, SOM clip

D	L	d min.	d max.	H1	H2	H3	b	b1	b2
mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
6-17	55	6	17	11	24.5	35.5	14	4	5.2



## SOM clip, hardly flammable

Type	Clamping range D	Bolt	Colour	Shipping box	Pack.	Weight	Item No.
	mm			pcs	pcs	kg/100 pcs.	
<b>3083 LGR</b>	32-45	M8 x 40	Light grey	240	20	5.840	<b>2124 45 9</b>

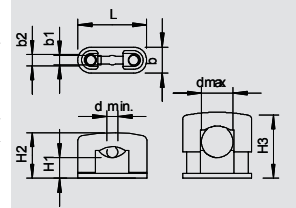
**UF** Duroplast, Aminoplast, type 131.5 /100 pc.

With plastic screws, so corrosion-protected, with slot for fastening with wood screws or 5 mm knock-in anchors.

Hardly inflammable.

### Important dimensions, SOM clip

D	L	d min.	d max.	H1	H2	H3	b	b1	b2
mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
32-45	77	32	45	12	54	57	21	6.5	



## ISO base clip

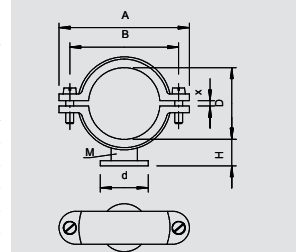
Type	Clamping range D	Colour	Shipping box	Pack.	Weight	Item No.
	mm		pcs	pcs	kg/100 pcs.	
<b>2960 11 M6 LGR</b>	9-11	Light grey	600	50	0.470	<b>2130 11 4</b>
<b>2960 12 M6 LGR</b>	12-13	Light grey	600	50	0.480	<b>2130 12 2</b>
<b>2960 15 M6 LGR</b>	15-17	Light grey	500	50	0.510	<b>2130 15 7</b>
<b>2960 18 M6 LGR</b>	16.5-18	Light grey	600	50	0.790	<b>2130 18 1</b>
<b>2960 22 M6 LGR</b>	20.5-22	Light grey	600	50	0.950	<b>2130 21 1</b>
<b>2960 25 M6 LGR</b>	22.5-25	Light grey	250	25	1.220	<b>2130 25 4</b>
<b>2960 28 M6 LGR</b>	25.5-28	Light grey	300	25	1.340	<b>2130 28 9</b>
<b>2960 35 M6 LGR</b>	31.5-35	Light grey	300	25	1.760	<b>2130 35 1</b>
<b>2960 40 M6 LGR</b>	36.5-40	Light grey	240	20	2.920	<b>2130 40 8</b>
<b>2960 43 M6 LGR</b>	40.5-43	Light grey	240	20	3.100	<b>2130 43 2</b>
<b>2960 47 M6 LGR</b>	45.5-47	Light grey	180	15	4.240	<b>2130 47 5</b>
<b>2960 54 M6 LGR</b>	50.5-54	Light grey	180	15	4.280	<b>2130 54 8</b>

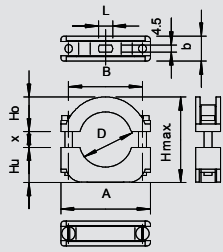
**PS** Polystyrene /100 pc.

Can be screwed onto M6 thread.

### Important dimensions, ISO base clip

D	A	B	x	H	d	M
mm	mm	mm	mm	mm	mm	
9-11	35	25	2.2	11.6	17	M6
12-13	35	25	1	10	17	M6
15-17	38	28	2	12	20	M6
16.5-18	46	34	2	12	20	M6
20.5-22	50	38	2	14	21	M6
22.5-25	55	43	3	16	23	M6
25.5-28	58	46	3	17.5	24	M6
31.5-35	66	54	4	23	34	M6
36.5-40	80	66	4	23	34	M6
40.5-43	80	66	3	21	34	M6
45.5-47	98	82	2	22.5	36	M6
50.5-54	98	82	4	20	36	M6





## Lightning ISO clip



Type	Clamping range D mm	Bolt	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>3015 12 LGR</b>	6-12	M4 x 22	Light grey	600	50	1.600	<b>2157 12 8</b>
<b>3015 17 LGR</b>	10-17	M4 x 25	Light grey	500	50	1.740	<b>2157 17 9</b>
<b>3015 24 LGR</b>	17-24	M4 x 30	Light grey	600	50	2.540	<b>2157 24 1</b>
<b>3015 34 LGR</b>	24-34	M5 x 35	Light grey	300	25	3.390	<b>2157 34 9</b>

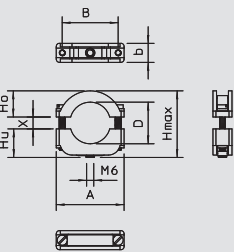
**PS** Polystyrene /100 pc.

Lightning ISO clips: plastic clip with metal insert, therefore also suitable for heavy-duty applications; metal parts made of electrogalvanised steel.

3015 with 4.5 mm slot.  
\*Sizes 6-12 and 10-17 not suitable for bolt-firing device.

### Important dimensions, lightning ISO clip

D	A	B	H max.	Ho	Hu	L	b	M
mm	mm	mm	mm	mm	mm	mm	mm	
6-12	34	24	30	9.5	13.5	7.5	14	M4 x 22
10-17	38	28	36.5	12	14	7.5	14	M4 x 25
17-24	47.5	37	43	16	18	10	15	M4 x 30
24-34	57	47	54.5	22	22	9	16	M5 x 35



## Lightning ISO clip, screw-on



Type	Clamping range D mm	Bolt	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>3019 M6 LGR</b>	6-12	M4 x 22	Light grey	600	50	1.560	<b>2158 12 4</b>
<b>3020 LGR</b>	10-17	M4 x 25	Light grey	500	50	1.590	<b>2158 17 5</b>
<b>3021 LGR</b>	17-24	M4 x 30	Light grey	250	25	2.630	<b>2158 24 8</b>
<b>3022 LGR</b>	24-34	M5 x 35	Light grey	300	25	4.180	<b>2158 34 5</b>

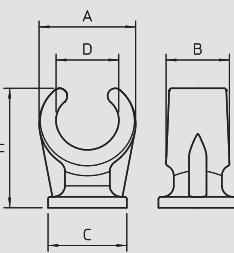
**PS** Polystyrene /100 pc.

Lightning ISO clips: plastic clip with metal insert, therefore also suitable for heavy-duty applications; metal parts made of electrogalvanised steel.

Can be screwed onto M6 thread.  
\*Sizes 6-12 and 10-17 not suitable for bolt-firing device.

### Important dimensions, lightning ISO clip

D	A	b	B	H max.	Ho	Hu	x	M
mm	mm	mm	mm	mm	mm	mm		
6-12	34	14	24	32.5	9.5	13.5	9.5	M4 x 22
10-17	38	14	28	36	12	14	10	M4 x 25
17-24	47.5	15	37	44	16	18	10	M4 x 30
24-34	57	16	47	56	22	22	12	M5 x 35



## Base clamp clip, single



Type	Size	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>2962 6 LGR</b>	6	Light grey	1200	100	0.100	<b>2140 06 3</b>
<b>2962 8 LGR</b>	8	Light grey	2000	100	0.150	<b>2140 07 1</b>
<b>2962 10 LGR</b>	10	Light grey	2400	100	0.170	<b>2140 10 1</b>
<b>2962 12 LGR</b>	12	Light grey	1200	100	0.240	<b>2140 12 8</b>
<b>2962 15 LGR</b>	14-15	Light grey	1000	100	0.360	<b>2140 15 2</b>
<b>2962 18 LGR</b>	16-18	Light grey	1200	100	0.450	<b>2140 18 7</b>
<b>2962 22 LGR</b>	19-22	Light grey	500	50	0.550	<b>2140 23 3</b>
<b>2962 28 LGR</b>	25-28	Light grey	250	25	1.110	<b>2140 28 4</b>
<b>2962 35 LGR</b>	32-35	Light grey	300	25	1.480	<b>2140 35 7</b>
<b>2962 42 LGR</b>	40-42	Light grey	300	25	1.880	<b>2140 41 1</b>

**PP** Polypropylene /100 pc.

Can be screwed onto M6 thread.

### Important dimensions, base clamp clip

D	A	B	C	H
mm	mm	mm	mm	mm
6	11.5	10	13.5	17
8	14	11	14	19
10	16.5	12	15	20.5
12	19	13	16	23
14-15	22	14.5	18	28
16-18	24.5	15.5	20	30
19-22	29.2	17	22	34
25-28	38.8	20	25	41
32-35	47	22	29	51
40-42	54	23	32	58



# Fastening clip



## Base clamp clip, double

Type	Size	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
2962 2X10	10 + 10	Light grey	1000	100	0.350	2140 60 8
2962 2x15	14/15 + 14/15	Light grey	600	50	0.740	2140 65 9
2962 2x16	15/16 + 15/16	Light grey	600	50	0.980	2140 68 3
2962 2x22	18/22 + 18/22	Light grey	300	25	1.410	2140 72 1

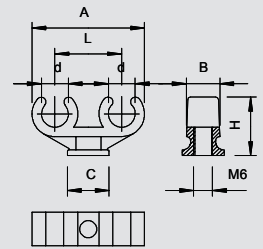
PP Polypropylene

/100 pc.

Can be screwed onto M6 thread.

### Important dimensions, base clamp clip

d	A	B	C	L	H
mm	mm	mm	mm	mm	mm
10 + 10	40.5	12	Ø 15	24	21
14/15 + 14/15	52	14.5	18 x 30	30	28
15/16 + 15/16	57.5	15.5	20 x 33	33	30
18/22 + 18/22	67	17	22 x 38	38	34



## Fastening clip

Type	For cable Ø mm	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
255 3.2 LGR	3.2	Light grey	9000	100	0.040	2222 03 5
255 5.2 LGR	5.2	Light grey	9000	100	0.040	2222 05 1
255 6.5 LGR	6.5	Light grey	7500	100	0.050	2222 07 8
255 8 LGR	8	Light grey	5000	100	0.050	2222 08 6
255 9.5 LGR	9.5	Light grey	5000	100	0.060	2222 09 4
255 11 LGR	11	Light grey	4000	100	0.070	2222 11 6
255 12.5 LGR	12.5	Light grey	3000	100	0.080	2222 12 4
255 14 LGR	14	Light grey	3000	100	0.110	2222 14 0
255 16 LGR	16	Light grey	2700	100	0.120	2222 16 7
255 17.5 LGR	17.5	Light grey	2700	100	0.130	2222 17 5

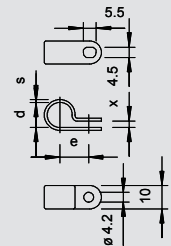
PA Polyamide

/100 pc.

Fastening clip for secure all-round fixing of cables.

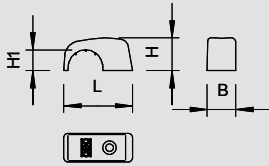
### Important dimensions, fastening clip

Ø	d	e	s	x
mm	mm	mm	mm	mm
3.2	3	8.5	1	1.8
5.2	5	9.5	1	1.8
6.5	6.3	10	1	2.2
8	7.8	10	1.2	2.2
9.5	9.3	11	1.2	2.2
11	10.8	13	1.2	2.8
12.5	12.3	14	1.2	2.8
14	13.8	15	1.5	3.2
16	15.8	16	1.5	3.2
17.5	17.2	17	1.5	3.2





## ISO nail clamp



Type	For cable Ø mm	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
4028	2-4	Light grey	10000	100	0.030	2215 04 7
4029	4-7	Light grey	9000	100	0.040	2215 07 1
4030	7-11	Light grey	5000	100	0.050	2215 10 1
4031 10-14	10-14	Light grey	3000	100	0.100	2215 14 4
4031 14-17	14-17	Light grey	2700	100	0.220	2215 17 9
4032	16-20	Light grey	1800	100	0.280	2215 20 9



PP Polypropylene

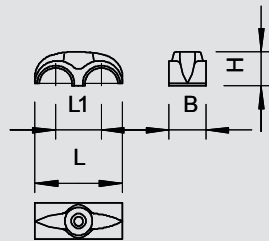
/100 pc.

"Standard" nail clips, suitable for steel nails 2 mm.

### Important dimensions, ISO nail clip

D	B	L	H	H1
mm	mm	mm	mm	mm
2-4	7	14.5	4.5	1.5
4-7	7.2	15	7	3.7
7-11	8.3	20	9.5	6
10-14	10	27	12.5	7.6
14-17	11	33	15.8	11
16-20	12	37	17.5	12

## Double ISO nail clip



Type	For cable Ø mm	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
3030 2	7-11	Light grey	5000	100	0.100	2213 11 7

PS Polystyrene

/100 pc.

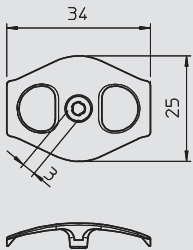
Nail clips to fasten two cables.

### Important dimensions, double ISO nail clip

D	B	L	L1	H
mm	mm	mm	mm	mm
7-11	9	27	14	10.5



## Nail-Fix, without nail



Type	For nail Ø x l mm	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
1996 O	3,0 - 3,5	Transparent	3000	100	0.060	2222 80 9

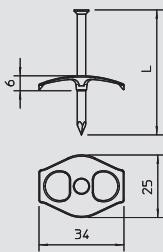
PP Polypropylene

/100 pc.

Without nails for refitting Ø 3 mm and 3.5 mm steel nails to fix cables in masonry slots and on masonry for one or two cables NYM 3 x 1.5/2.5 mm<sup>2</sup> or one or two cables NYM 5 x 1.5/2.5 mm<sup>2</sup>.



## Nail-Fix



Type	For nail Ø x l mm	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
1996 40	3 x 40	Transparent	1200	100	0.180	2222 83 3
1996 50	3,5 x 50	Transparent	1200	100	0.450	2222 84 1
1996 60	3,5 x 60	Transparent	1200	100	0.550	2222 86 8
1996 70	3,5 x 70	Transparent	1200	100	0.210	2222 87 6

PP Polypropylene

/100 pc.

With pre-mounted, galvanised steel nail Ø 3 mm or 3.5 mm to fix cables in masonry slots and on masonry for one or two cables NYM 3 x 1.5/2.5 mm<sup>2</sup> or one or two cables NYM 5 x 1.5/2.5 mm<sup>2</sup>.

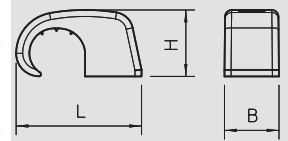


# Nail clamp



## Adhesive clip, no nail

Type	For nail Ø x l mm	For cable Ø mm	Colour	Dimen- sion L mm	Dimen- sion B mm	Dimen- sion H mm	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
4039	2	4-7	Light grey	14.4	7.2	7.1	9000	100	0.040	2215 30 6
4039 SP	2	4-7	Light grey	14.4	7.2	7.1	10000	200	0.040	2214 87 3
4040	2	7-12	Light grey	19.1	8.3	10.1	5000	100	0.080	2215 31 4
4040 SP	2	7-12	Light grey	19.1	8.3	10.1	6000	200	0.080	2214 88 1
4041	2	10-14	Light grey	26	10	13.3	3000	100	0.130	2215 34 9
4042	2	14-17	Light grey	32	12	17.8	1800	100	0.240	2215 32 2
4043	2	17-21	Light grey	38	14	21.6	1200	100	0.340	2215 33 0
4044	2	21-25	Light grey	45	15	26.7	600	50	0.290	2215 35 7



PP Polypropylene

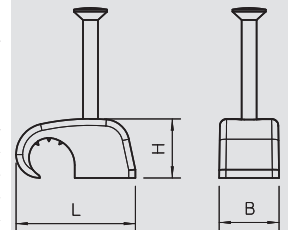
/100 pc.

Adhesive clip, for clamping to the cable, suitable for steel nails 2 mm.



## Adhesive clip

Type	For nail Ø x l mm	For cable Ø mm	Colour	Dimen- sion L mm	Dimen- sion B mm	Dimen- sion H mm	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
2025 18 LGR	2 x 18	4-7	Light grey	14.5	7.2	7.1	7500	100	0.070	2228 61 0
2025 25 LGR	2 x 25	4-7	Light grey	14.5	7.2	7.1	7500	100	0.090	2228 62 9
2026 18 LGR	2 x 18	7-12	Light grey	19.1	8.3	10.1	5000	100	0.100	2228 71 8
2026 25 LGR	2 x 25	7-12	Light grey	19.1	8.3	10.1	5000	100	0.110	2228 72 6
2026 25 LGR SP	2 x 25	7-12	Light grey	19.1	8.3	10.1	2400	200	0.110	2228 43 2
2026 35 LGR	2 x 35	7-12	Light grey	19.1	8.3	10.1	4000	100	0.140	2228 73 4
2026 35 LGR SP	2 x 35	7-12	Light grey	19.1	8.3	10.1	2400	200	0.140	2228 44 0
2026 45 LGR	2 x 45	7-12	Light grey	19.1	8.3	10.1	3000	100	0.160	2228 75 0
2027 25 LGR	2 x 25	10-14	Light grey	26	10	13.3	2700	100	0.170	2228 82 3
2027 30 LGR	2 x 30	10-14	Light grey	26	10	13.3	2700	100	0.180	2228 83 1
2027 40 LGR	2 x 40	10-14	Light grey	26	10	13.3	2700	100	0.200	2228 85 8
2028 40 LGR	2 x 40	14-17	Light grey	32	12	17.8	1000	100	0.300	2228 90 4
2025 18 RW	2,0 x 18	4-7	Pure white	14.5	7.2	7.1	7500	100	0.070	2228 68 6
2025 25 RW	2,0 x 25	4-7	Pure white	14.5	7.2	7.1	7500	100	0.100	2228 68 8
2026 18 RW	2,0 x 18	7-12	Pure white	19.1	8.3	10.1	5000	100	0.100	2228 42 0
2026 25 RW	2,0 x 25	7-12	Pure white	19.1	8.3	10.1	5000	100	0.140	2228 42 2



PP Polypropylene

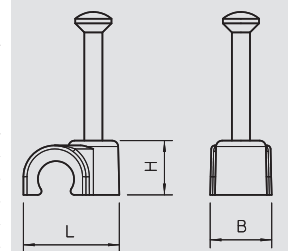
/100 pc.

Adhesive clip, for clamping to the cable.



## ISO nail clip, light grey

Type	For cable Ø mm	For nail Ø x l mm	Dimen- sion L mm	Dimen- sion B mm	Dimen- sion H mm	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
2004 18 LGR	4	2,0 x 18	9.6	6	6.1	Light grey	18000	200	0.060	2227 22 3
2004 25 LGR	4	2,0 x 25	9.6	6	6.1	Light grey	15000	200	0.080	2227 23 1
2005 18 LGR	5	2,0 x 18	10.8	7.1	7.1	Light grey	9000	100	0.070	2227 34 7
2005 25 LGR	5	2,0 x 25	10.8	7.1	7.1	Light grey	9000	100	0.080	2227 33 9
2006 25 LGR	6	2,0 x 25	12.5	8	8.1	Light grey	7500	100	0.090	2227 42 8
2006 35 LGR	6	2,0 x 35	12.5	8	8.1	Light grey	5000	100	0.110	2227 43 6
2007 25 LGR	7	2,0 x 25	13.7	8	9.4	Light grey	7500	100	0.100	2227 51 7
2007 35 LGR	7	2,0 x 35	13.7	8	9.4	Light grey	5000	100	0.120	2227 52 5
2008 25 LGR	8	2,0 x 25	15	8	10.6	Light grey	5000	100	0.110	2227 61 4
2008 35 LGR	8	2,0 x 35	15	8	10.6	Light grey	5000	100	0.130	2227 62 2
2008 45 LGR	8	2,0 x 45	15	8	10.6	Light grey	4000	100	0.160	2227 63 0
2009 25 LGR	9	2,0 x 25	16.1	8	11.6	Light grey	5000	100	0.110	2227 71 1
2009 35 LGR	9	2,0 x 35	16.1	8	11.6	Light grey	4000	100	0.130	2227 73 8
2009 35 LGR SP	9	2,0 x 35	16.1	8	11.6	Light grey	2400	200	0.130	2227 76 2
2009 45 LGR	9	2,0 x 45	16.1	8	11.6	Light grey	3000	100	0.150	2227 74 6
2009 45 LGR SP	9	2,0 x 45	16.1	8	11.6	Light grey	2400	200	0.150	2227 79 7
2010 25 LGR	10	2,0 x 25	17.7	8	12.7	Light grey	5000	100	0.170	2227 80 0
2010 35 LGR	10	2,0 x 35	17.7	8	12.7	Light grey	4000	100	0.150	2227 81 9
2010 45 LGR	10	2,0 x 45	17.7	8	12.7	Light grey	3000	100	0.170	2227 82 7
2011 35 LGR	11	2,0 x 35	19	9	14	Light grey	3000	100	0.250	2227 91 6
2011 45 LGR	11	2,0 x 45	19	9	14	Light grey	3000	100	0.270	2227 92 4
2012 35 LGR	12	2,0 x 35	19.8	9	14.8	Light grey	3000	100	0.170	2228 02 5
2012 45 LGR	12	2,0 x 45	19.8	9	14.8	Light grey	3000	100	0.190	2228 03 3
2014 40 LGR	14	2,5 x 40	24	11	18	Light grey	1500	50	0.470	2228 11 4
2014 50 LGR	14	2,5 x 50	24	11	18	Light grey	1500	50	0.540	2228 12 2
2016 40 LGR	16	2,5 x 40	26	12	20	Light grey	1500	50	0.400	2228 21 1
2016 50 LGR	16	2,5 x 50	26	12	20	Light grey	1500	50	0.530	2228 23 8
2018 40 LGR	18	2,5 x 40	28	13	22	Light grey	1000	25	0.550	2228 30 0
2018 50 LGR	18	2,5 x 50	28	13	22	Light grey	750	25	0.700	2228 31 9
2020 40 LGR	20	2,5 x 40	31	14	24.5	Light grey	750	25	0.740	2228 40 8
2020 50 LGR	20	2,5 x 50	31	14	24.5	Light grey	750	25	0.780	2228 41 6

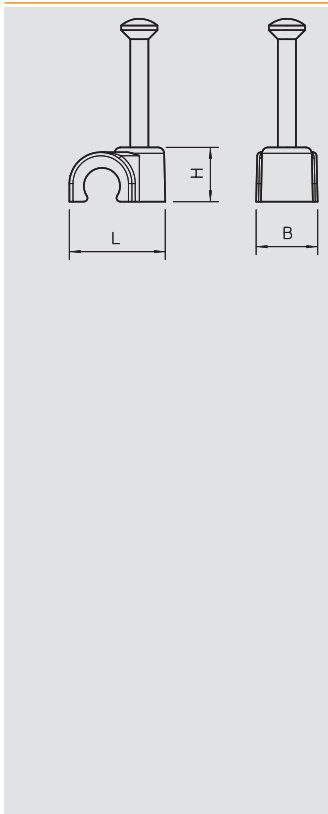


PP Polypropylene

/100 pc.

ISO nail clip, short design.



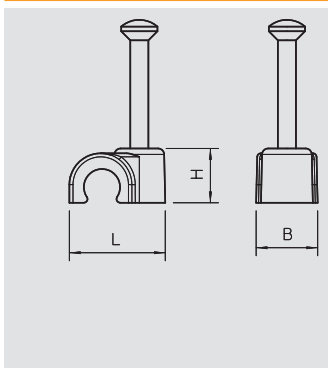


## ISO nail clip, white



Type	For cable Ø mm	For nail Ø x l mm	Dimension L mm	Dimension B mm	Dimension H mm	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
2004 18 RW	4	2,0 x 18	9,6	6	6,1	Pure white	18000	200	0.060	2225 22 0
2004 25 RW	4	2,0 x 25	9,6	6	6,1	Pure white	15000	200	0.080	2225 23 9
2005 18 RW	5	2,0 x 18	10,8	7,1	7,1	Pure white	9000	100	0.070	2225 37 9
2005 25 RW	5	2,0 x 25	10,8	7,1	7,1	Pure white	9000	100	0.080	2225 34 4
2006 18 RW	6	2,0 x 18	12,5	8	8,1	Pure white	7500	100	0.070	2225 40 9
2006 25 RW	6	2,0 x 25	12,5	8	8,1	Pure white	7500	100	0.090	2225 41 7
2006 35 RW	6	2,0 x 35	12,5	8	8,1	Pure white	5000	100	0.110	2225 42 5
2007 18 RW	7	2,0 x 18	13,7	8	9,4	Pure white	7500	100	0.080	2225 50 6
2007 25 RW	7	2,0 x 25	13,7	8	9,4	Pure white	7500	100	0.100	2225 51 4
2007 35 RW	7	2,0 x 35	13,7	8	9,4	Pure white	5000	100	0.120	2225 52 2
2008 25 RW	8	2,0 x 25	15	8	10,6	Pure white	5000	100	0.110	2225 61 1
2008 35 RW	8	2,0 x 35	15	8	10,6	Pure white	5000	100	0.130	2225 63 8
2009 20 RW	9	2,0 x 20	16,1	8	11,6	Pure white	5000	100	0.100	2225 70 0
2009 25 RW	9	2,0 x 25	16,1	8	11,6	Pure white	5000	100	0.110	2225 71 9
2009 35 RW	9	2,0 x 35	16,1	8	11,6	Pure white	4000	100	0.130	2225 72 7
2010 25 RW	10	2,0 x 25	17,7	8	12,7	Pure white	5000	100	0.130	2225 80 8
2010 35 RW	10	2,0 x 35	17,7	8	12,7	Pure white	4000	100	0.150	2225 81 6
2011 25 RW	11	2,0 x 25	19	9	14	Pure white	4000	100	0.140	2225 90 5
2011 35 RW	11	2,0 x 35	19	9	14	Pure white	3000	100	0.250	2225 91 3
2012 25 RW	12	2,0 x 25	19,8	9	14,8	Pure white	4000	100	0.150	2226 01 4
2012 35 RW	12	2,0 x 35	19,8	9	14,8	Pure white	3000	100	0.170	2226 02 2
2014 30 RW	14	2,5 x 30	24	11	18	Pure white	1500	50	0.430	2226 10 3
2014 40 RW	14	2,5 x 40	24	11	18	Pure white	1500	50	0.470	2226 11 1
2016 40 RW	16	2,5 x 40	26	12	20	Pure white	1500	50	0.490	2226 21 9
2016 50 RW	16	2,5 x 50	26	12	20	Pure white	1500	50	0.530	2226 22 7
2018 40 RW	18	2,5 x 40	28	13	22	Pure white	1000	25	0.550	2226 30 8
2020 40 RW	20	2,5 x 40	31	14	24,5	Pure white	750	25	0.740	2226 40 5

PP Polypropylene /100 pc.  
ISO nail clip, short design.



## ISO nail clip, black



Type	For cable Ø mm	For nail Ø x l mm	Dimension L mm	Dimension B mm	Dimension H mm	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
2007 25 SW	7	2,0 x 25	13,7	8	9,4	Jet black	7500	100	0.100	2232 14 6
2008 25 SW	8	2,0 x 25	15	8	10,6	Jet black	5000	100	0.110	2232 17 0
2009 25 SW	9	2,0 x 25	16,1	8	11,6	Jet black	5000	100	0.160	2232 21 9
2010 25 SW	10	2,0 x 25	17,7	8	12,7	Jet black	5000	100	0.170	2232 23 5
2012 35 SW	12	2,0 x 35	19,8	9	14,8	Jet black	3000	100	0.170	2232 31 6

PP Polypropylene /100 pc.  
ISO nail clip, short design.



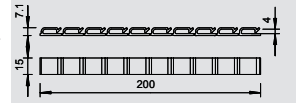
# Cable clip



## Cable clip

Type	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
507	Light grey	100	100	1.200	2327 10 4

**PS** Polystyrene /100 pc.  
Self-adhesive



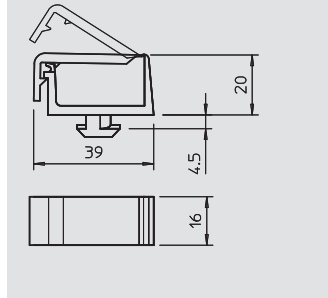
## Clip cable tie, 1 chamber

Type	Dimension mm	Colour	Pack. pcs	Weight kg/100 pcs.	Item No.
935 CKB4,5NUT8	39 x 16 x 20	Black	10	0.700	1124 49 2

**PA** Polyamide /100 pc.

1 chamber, individual hammer, for cable fastening without additional cable ties, closeable; mounting in a groove with a quarter-turn. For profiles / frames with 8 mm groove. (PV frames)

Capacity: 2x12 mm



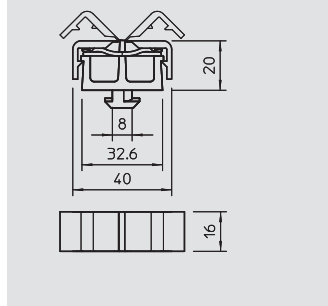
## Clip cable tie, 2 chambers

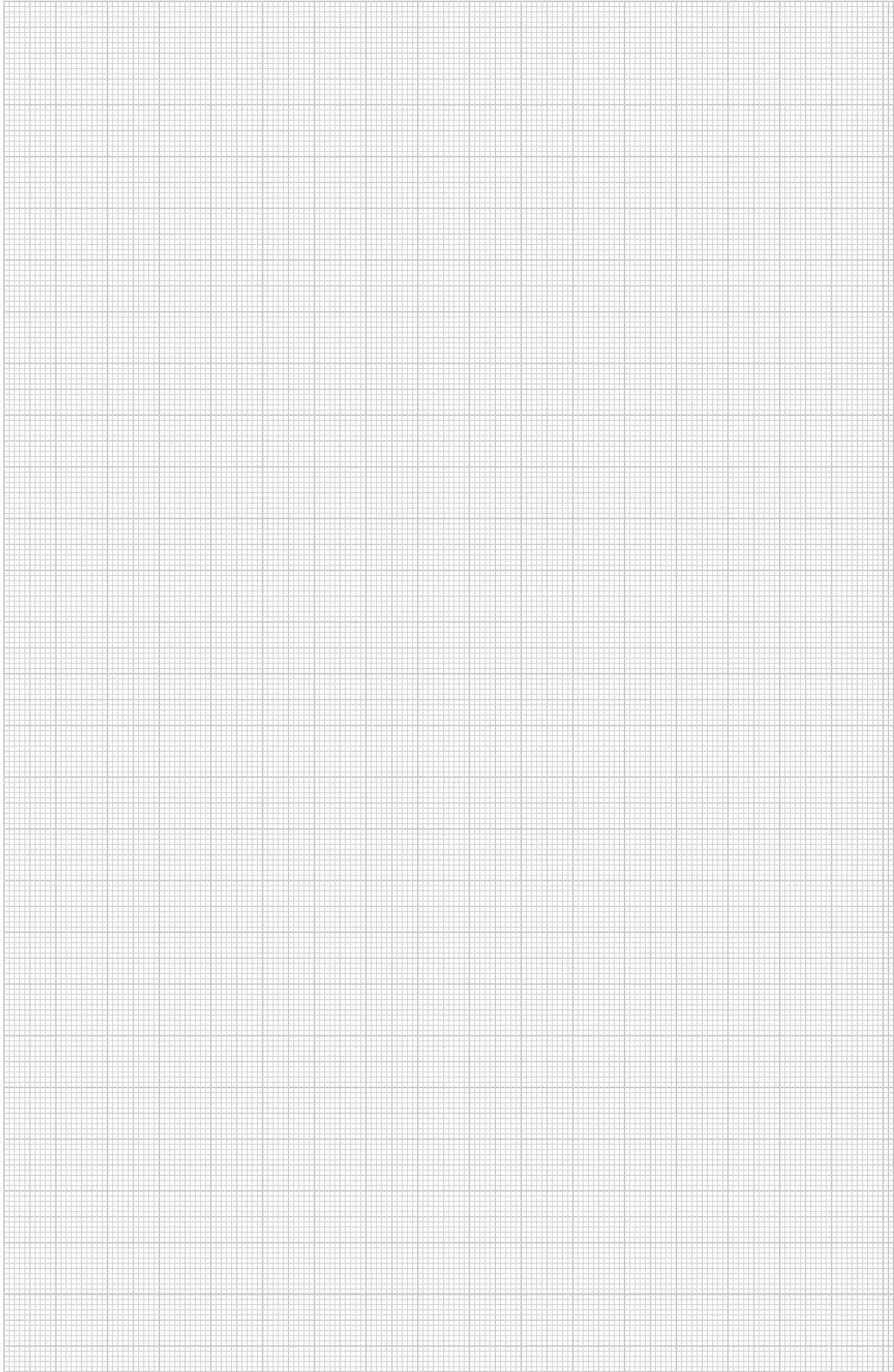
Type	Dimension mm	Colour	Pack. pcs	Weight kg/100 pcs.	Item No.
934 CKB4,5NUT8	40 x 16 x 20	Black	10	0.700	1124 49 0

**PA** Polyamide /100 pc.

2 chambers, individual hammer, for cable fastening without additional cable ties, closeable; mounting in a groove with a quarter-turn. For profiles / frames with 8 mm groove. (PV technology)

Capacity: 12 mm each







## Cable/pipe fastening systems, metal

	Quick Clip, aluminium		288
	Cable tidy	GRIP "M" 15 GRIP "M" 30 GRIP "M" 70	289 289 290
	Pressure clip	For 16 cables For 10 cables	291 291
	Fastening clip	Cable and pipe spacer clip	292
		Screw-in spacer clips	296
		Post crosspiece	299
		Fastening clip	300
		Heavy-duty cable clip	304
		Strain relief clip	307



# OBO Quick Family



## Quick clip, aluminium

Type	Nominal size	Shipping box	Pack.	Weight	Item No.
		pcs	pcs	kg/100 pcs.	
2029 M16 ALU	M16	—	1	0.560	2149 85 0
2029 M25 ALU	M25	—	1	0.930	2149 85 8
2029 M32 ALU	M32	—	1	1.100	2149 86 2
2029 M40 ALU	M40	—	1	1.730	2149 86 6
2029 M50 ALU	M50	—	1	2.090	2149 87 0
2029 M63 ALU	M63	—	1	2.920	2149 87 4

Al Aluminium /100 pc.

OBO Quick clip, type 2029/... for all metric ALU pipe systems, as well as light-duty and heavy-duty metric insulation pipes. Suitable for mounting the OBO pipe system, material: aluminium.

Pipe centring aids allow optimum attachment of the pipe and automatically turn the clip into the correct position.

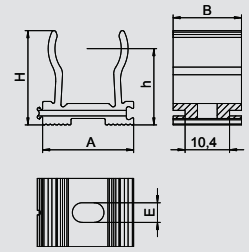
Universal fastening option; can be arranged.

Can be mounted on the profile rail, slot width 11 mm (type 2060 and 2061). Slot for side alignment during mounting with wood screw or knock-in anchor.

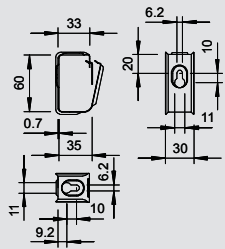
Size M16-M32 can be screwed onto an M6 thread.

Recommended fastening spacing 50–60 cm

G	A	B	E	H	h
	mm	mm	mm	mm	mm
M16	21	16	4.6	22	18
M16	21	16	4.6	22	18
M16	21	16	4.6	22	18
M16	21	16	4.6	22	18
M16	21	16	4.6	22	18
M16	21	16	4.6	22	18







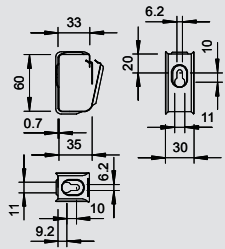
**GRIP "M" 15**



Type	No. of conductors NYM 3 x 1.5	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>2031 M 15 FS</b>	15	50	50	3.700	<b>2207 02 8</b>

**St** Steel **FS** Strip-galvanised /100 pc.

Metal cable tidy for high mechanical stability, even in case of fire. Halogen-free, fire load-free. Suitable for secure mounting above fire protection ceilings. Also approved as a cable-specific variant for electrical function maintenance to DIN 4102 Part 12. For wall and ceiling mounting. Lock can be opened without tools. Type 2031 M 70 FS incl. fire protection screw tie MMS 6x50. Detailed information on the approved routing variants can be found in the appropriate testing documentation.



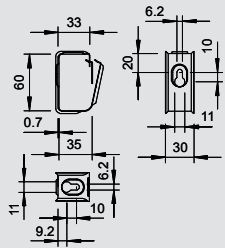
**GRIP "M" 15 V2A**



Type	No. of conductors NYM 3 x 1.5	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>2031 M 15 VA</b>	15	50	50	3.000	<b>2207 08 0</b>

**V2A** Stainless steel, grade 304 /100 pc.

Metal cable tidy for high mechanical stability, even in case of fire. Halogen-free, fire load-free. Suitable for secure mounting above fire protection ceilings. Also approved as a cable-specific variant for electrical function maintenance to DIN 4102 Part 12. For wall and ceiling mounting. Lock can be opened without tools. Type 2031 M 70 FS incl. fire protection screw tie MMS 6x50. Detailed information on the approved routing variants can be found in the appropriate testing documentation.



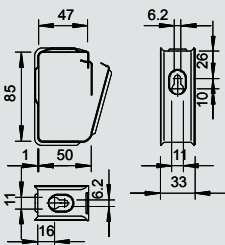
**GRIP "M" 15 V4A**



Type	No. of conductors NYM 3 x 1.5	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>2031 M 15 V4A</b>	15	50	50	3.000	<b>2207 13 2</b>

**V4A** Stainless steel, grade 316 Ti /100 pc.

Metal cable tidy for high mechanical stability, even in case of fire. Halogen-free, fire load-free. Suitable for secure mounting above fire protection ceilings. Also approved as a cable-specific variant for electrical function maintenance to DIN 4102 Part 12. For wall and ceiling mounting. Lock can be opened without tools. Type 2031 M 70 FS incl. fire protection screw tie MMS 6x50. Detailed information on the approved routing variants can be found in the appropriate testing documentation.



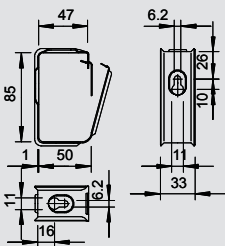
**GRIP "M" 30**



Type	No. of conductors NYM 3 x 1.5	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>2031 M 30 FS</b>	30	25	25	6.200	<b>2207 03 6</b>

**St** Steel **FS** Strip-galvanised /100 pc.

Metal cable tidy for high mechanical stability, even in case of fire. Halogen-free, fire load-free. Suitable for secure mounting above fire protection ceilings. Also approved as a cable-specific variant for electrical function maintenance to DIN 4102 Part 12. For wall and ceiling mounting. Lock can be opened without tools. Type 2031 M 70 FS incl. fire protection screw tie MMS 6x50. Detailed information on the approved routing variants can be found in the appropriate testing documentation.



**GRIP "M" 30 V2A**



Type	No. of conductors NYM 3 x 1.5	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>2031 M 30 VA</b>	30	25	25	6.500	<b>2207 08 8</b>

**V2A** Stainless steel, grade 304 /100 pc.

Metal cable tidy for high mechanical stability, even in case of fire. Halogen-free, fire load-free. Suitable for secure mounting above fire protection ceilings. Also approved as a cable-specific variant for electrical function maintenance to DIN 4102 Part 12. For wall and ceiling mounting. Lock can be opened without tools. Type 2031 M 70 FS incl. fire protection screw tie MMS 6x50. Detailed information on the approved routing variants can be found in the appropriate testing documentation.



# Cable tidy

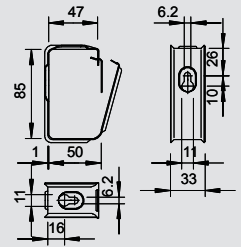


## GRIP "M" 30 V4A

Type	No. of conductors NYM 3 x 1.5	Shipping box	Pack.	Weight	Item No.
		pcs	pcs	kg/100 pcs.	
<b>2031 M 30 V4A</b>	<b>30</b>	<b>25</b>	<b>25</b>	<b>6.500</b>	<b>2207 14 0</b>

**V4A** Stainless steel, grade 316 Ti /100 pc.

Metal cable tidy for high mechanical stability, even in case of fire. Halogen-free, fire load-free. Suitable for secure mounting above fire protection ceilings. Also approved as a cable-specific variant for electrical function maintenance to DIN 4102 Part 12. For wall and ceiling mounting. Lock can be opened without tools. Type 2031 M 70 FS incl. fire protection screw tie MMS 6x50. Detailed information on the approved routing variants can be found in the appropriate testing documentation.



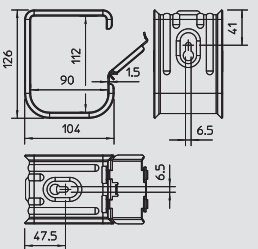
## GRIP "M" 70

Type	No. of conductors NYM 3 x 1.5	Shipping box	Pack.	Weight	Item No.
		pcs	pcs	kg/100 pcs.	
<b>2031 M 70 FS</b>	<b>70</b>	<b>10</b>	<b>10</b>	<b>34.500</b>	<b>2207 06 0</b>

**St** Steel **FS** Strip-galvanised /100 pc.

Metal cable tidy for high mechanical stability, even in case of fire. Halogen-free, fire load-free. Suitable for secure mounting above fire protection ceilings. Also approved as a cable-specific variant for electrical function maintenance to DIN 4102 Part 12. For wall and ceiling mounting. Lock can be opened without tools. Type 2031 M 70 FS incl. fire protection screw tie MMS 6x50. Detailed information on the approved routing variants can be found in the appropriate testing documentation.

Including fire protection bolt tie MMS 6 type MMS 6 x 50.

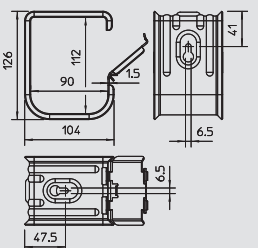


## GRIP "M" 70 V2A

Type	No. of conductors NYM 3 x 1.5	Shipping box	Pack.	Weight	Item No.
		pcs	pcs	kg/100 pcs.	
<b>2031 M 70 VA</b>	<b>70</b>	<b>10</b>	<b>10</b>	<b>37.000</b>	<b>2207 11 2</b>

**V2A** Stainless steel, grade 304 /100 pc.

Metal cable tidy for high mechanical stability, even in case of fire. Halogen-free, fire load-free. Suitable for secure mounting above fire protection ceilings. Also approved as a cable-specific variant for electrical function maintenance to DIN 4102 Part 12. For wall and ceiling mounting. Lock can be opened without tools. Type 2031 M 70 FS incl. fire protection screw tie MMS 6x50. Detailed information on the approved routing variants can be found in the appropriate testing documentation.

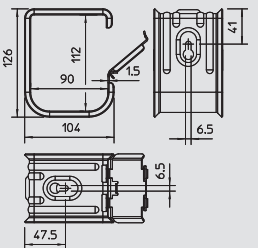


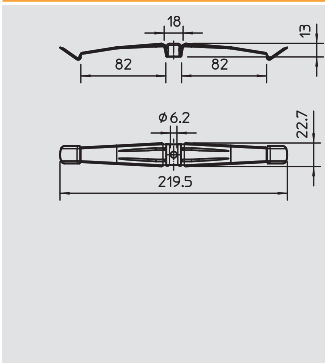
## GRIP "M" 70 V4A

Type	No. of conductors NYM 3 x 1.5	Shipping box	Pack.	Weight	Item No.
		pcs	pcs	kg/100 pcs.	
<b>2031 M 70 V4A</b>	<b>70</b>	<b>10</b>	<b>10</b>	<b>37.000</b>	<b>2207 16 4</b>

**V4A** Stainless steel, grade 316 Ti /100 pc.

Metal cable tidy for high mechanical stability, even in case of fire. Halogen-free, fire load-free. Suitable for secure mounting above fire protection ceilings. Also approved as a cable-specific variant for electrical function maintenance to DIN 4102 Part 12. For wall and ceiling mounting. Lock can be opened without tools. Type 2031 M 70 FS incl. fire protection screw tie MMS 6x50. Detailed information on the approved routing variants can be found in the appropriate testing documentation.





## Pressure clip for 16 cables



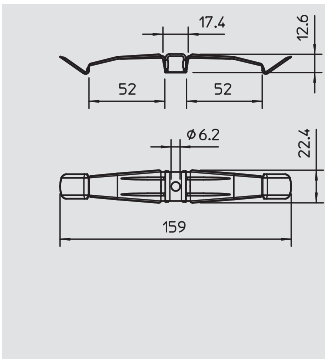
Type	No. of conductors NYM 3 x 1.5	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>2033 M</b>	16	25	25	2.310	<b>2204 00 0</b>



**V2A** Stainless steel, grade 301 /100 pc.

Metal pressure clip for space-saving mounting with high mechanical stability, even in case of fire. Halogen-free, fire load-free. Also suitable for secure mounting above fire protection ceilings. Tested and approved as a cable-specific variant for electrical function maintenance to DIN 4102 Part 12. For ceiling mounting. Clamping height 10 mm – extendable to 13 mm with spacer. Fastening hole  $\varnothing$  6 mm.

Detailed information on the approved routing variants can be found in the appropriate testing documentation.



## Pressure clip for 10 cables



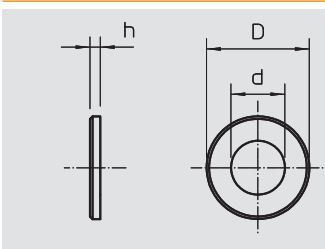
Type	No. of conductors NYM 3 x 1.5	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>2034 M</b>	10	50	50	1.860	<b>2204 01 0</b>



**V2A** Stainless steel, grade 301 /100 pc.

Metal pressure clip for space-saving mounting with high mechanical stability, even in case of fire. Halogen-free, fire load-free. Also suitable for secure mounting above fire protection ceilings. Tested and approved as a cable-specific variant for electrical function maintenance to DIN 4102 Part 12. For ceiling mounting. Clamping height 10 mm – extendable to 13 mm with spacer. Fastening hole  $\varnothing$  6 mm.

Detailed information on the approved routing variants can be found in the appropriate testing documentation.



## Spacer



Type	Dimension D mm	Dimension d mm	Dimension h mm	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>2033 D 15x3 G</b>	15	6.4	3	3000	50	0.340	<b>2205 09 7</b>



**St** Steel **G** Electrogalvanised /100 pc.

To increase the clamping height of pressure clips from 10 to 13 mm for large cable cross-sections.



# Spacer fastening clip



## Cable and pipe spacer clip

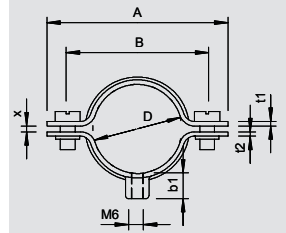
Type	Clamping range D	Hole size	Material thickness	Size	Bolt	Shipping box	Pack.	Weight	Item No.
	mm	mm	mm			pcs	pcs	kg/100 pcs.	
<b>732 6 GTP</b>	5-6	M6	1	-	M5 x 10	1200	100	1.160	<b>1360 05 1</b>
<b>732 8 GTP</b>	7-8	M6	1	-	M5 x 10	1200	100	1.310	<b>1360 08 6</b>
<b>732 10 GTP</b>	9-10	M6	1	-	M5 x 12	1000	100	1.360	<b>1360 10 8</b>
<b>732 12 GTP</b>	10.5-12	M6	1	M12	M5 x 12	1000	100	1.460	<b>1360 12 4</b>
<b>732 14 GTP</b>	12.5-14	M6	1	PG7	M5 x 12	1000	100	1.480	<b>1360 14 0</b>
<b>732 15 GTP</b>	13.5-15	M6	1	PG9	M5 x 12	1000	100	1.530	<b>1360 15 9</b>
<b>732 16 GTP</b>	14.5-16	M6	1	M16	M5 x 12	1000	100	1.590	<b>1360 16 7</b>
<b>732 18 GTP</b>	16.5-18	M6	1	PG11	M5 x 12	1000	100	1.620	<b>1360 18 3</b>
<b>732 20 GTP</b>	18.5-20	M6	1	M20	M5 x 12	600	50	1.730	<b>1360 20 5</b>
<b>732 22 GTP</b>	20-22	M6	1	PG13,5	M5 x 12	500	50	1.780	<b>1360 22 1</b>
<b>732 24 GTP</b>	22-24	M6	1	PG16	M5 x 12	500	50	1.840	<b>1360 24 8</b>
<b>732 26 GTP</b>	24-26	M6	1	M25	M5 x 12	500	50	1.920	<b>1360 26 4</b>
<b>732 28 GTP</b>	26-28	M6	1.5	PG21	M5 x 12	500	50	2.840	<b>1360 28 0</b>
<b>732 30 GTP</b>	28-30	M6	1.5	PG21	M5 x 12	400	50	3.040	<b>1360 30 2</b>
<b>732 33 GTP</b>	31-33	M6	1.5	M32	M5 x 12	250	25	3.120	<b>1360 33 7</b>
<b>732 35 GTP</b>	33-35	M6	1.5	-	M5 x 12	250	25	3.280	<b>1360 35 3</b>
<b>732 38 GTP</b>	36-38	M6	1.5	PG29	M5 x 12	250	25	3.490	<b>1360 38 8</b>
<b>732 40 GTP</b>	38-40	M6	1.5	M40	M5 x 12	250	25	3.600	<b>1360 39 6</b>
<b>732 42 GTP</b>	40-42	M6	1.5	M40	M5 x 12	250	25	3.840	<b>1360 42 6</b>
<b>732 45 GTP</b>	43-45	M6	1.5	-	M5 x 12	250	25	3.990	<b>1360 45 0</b>
<b>732 48 GTP</b>	46-48	M6	1.5	PG36	M5 x 12	250	25	4.040	<b>1360 48 5</b>
<b>732 50 GTP</b>	48-50	M6	1.5	M50	M5 x 14	200	25	4.160	<b>1360 50 7</b>
<b>732 60 GTP</b>	58-60	M6	1.5	PG48	M5 x 14	200	25	4.960	<b>1360 60 4</b>
<b>732 63 GTP</b>	61-63	M6	1.5	M63	M5 x 14	200	25	5.000	<b>1360 63 9</b>

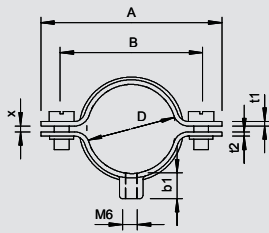
St Steel      GTP Electrogalvanised, transparently passivated      /100 pc.

With M6 thread.

### Important dimensions, cable and pipe spacer clip

D	A	B	x	b1	t1	t2	M
mm	mm	mm	mm	mm	mm	mm	
5-6	35	23	1	15	1	1.25	M5 x 10
7-8	34	22	1	18	1	1.25	M5 x 10
9-10	36	24	1	18	1	1.25	M5 x 12
10.5-12	38	26	1.5	18	1	1.25	M5 x 12
12.5-14	40	28	1.5	18	1	1.25	M5 x 12
13.5-15	41	29	1.5	18	1	1.25	M5 x 12
14.5-16	42	30	1.5	18	1	1.25	M5 x 12
16.5-18	44	22	1	18	1	1.25	M5 x 12
18.5-20	46	34	1.5	18	1	1.25	M5 x 12
20-22	48	36	2	18	1	1.25	M5 x 12
22-24	50	38	2	18	1	1.25	M5 x 12
24-26	52	40	2	18	1	1.25	M5 x 12
26-28	59	45	2	18	1.5	1.5	M5 x 12
28-30	61	47	2	18	1.5	1.5	M5 x 12
31-33	64	50	2	18	1.5	1.5	M5 x 12
33-35	66	52	2	18	1.5	1.5	M5 x 12
36-38	69	55	2	18	1.5	1.5	M5 x 12
38-40	71	57	2	18	1.5	1.5	M5 x 12
40-42	73	59	2	18	1.5	1.5	M5 x 12
43-45	76	62	2	18	1.5	1.5	M5 x 12
46-48	79	65	2	18	1.5	1.5	M5 x 12
48-50	81	67	2	18	1.5	1.5	M5 x 14
58-60	91	77	2	18	1.5	1.5	M5 x 14
61-63	94	80	2	18	1.5	1.5	M5 x 14





## Cable and pipe spacer clip, V4A

Type	Clamping range D	Hole size	Material thickness	Size	Bolt	Shipping box	Pack.	Weight	Item No.
	mm	mm	mm			pcs	pcs	kg/100 pcs.	
732 6 V4A	5-6	M6	1	-	M5 x 10	-	1	-	1360 64 4
732 8 V4A	7-8	M6	1	-	M5 x 10	-	1	-	1360 64 6
732 10 V4A	9-10	M6	1	-	M5 x 12	-	1	-	1360 64 8
732 12 V4A	10.5-12	M6	1	M12	M5 x 12	-	1	-	1360 65 0
732 14 V4A	12.5-14	M6	1	PG7	M5 x 12	-	1	-	1360 65 2
732 15 V4A	13.5-15	M6	1	PG9	M5 x 12	-	1	-	1360 65 4
732 16 V4A	14.5-16	M6	1	M16	M5 x 12	-	1	-	1360 65 6
732 18 V4A	16.5-18	M6	1	PG11	M5 x 12	-	1	-	1360 65 8
732 20 V4A	18.5-20	M6	1	M20	M5 x 12	-	1	-	1360 66 0
732 22 V4A	20-22	M6	1	PG13,5	M5 x 12	-	1	-	1360 66 2
732 24 V4A	22-24	M6	1	PG16	M5 x 12	-	1	-	1360 66 4
732 26 V4A	24-26	M6	1	M25	M5 x 12	-	1	-	1360 66 6
732 28 V4A	26-28	M6	1.5	PG21	M5 x 12	-	1	-	1360 66 8
732 30 V4A	28-30	M6	1.5	PG21	M5 x 12	-	1	-	1360 67 0
732 33 V4A	31-33	M6	1.5	M32	M5 x 12	-	1	-	1360 67 2
732 35 V4A	33-35	M6	1.5	-	M5 x 12	-	1	-	1360 67 4
732 38 V4A	36-38	M6	1.5	PG29	M5 x 12	-	1	-	1360 67 6
732 40 V4A	38-40	M6	1.5	M40	M5 x 12	-	1	-	1360 67 8
732 42 V4A	40-42	M6	1.5	M40	M5 x 12	-	1	-	1360 68 0
732 45 V4A	43-45	M6	1.5	-	M5 x 12	-	1	-	1360 68 2
732 48 V4A	46-48	M6	1.5	PG36	M5 x 12	-	1	-	1360 68 4
732 50 V4A	48-50	M6	1.5	M50	M5 x 14	-	1	-	1360 68 6
732 60 V4A	58-60	M6	1.5	PG48	M5 x 14	-	1	-	1360 68 8
732 63 V4A	61-63	M6	1.5	M63	M5 x 14	-	1	-	1360 69 0



V4A Stainless steel, grade 316 Ti

/100 pc.

With thread M6.

D	A	B	x	b1	t1	t2	M
mm	mm	mm	mm	mm	mm	mm	
5-6	35	23	1	15	1	1.25	M5 x 10
7-8	34	22	1	18	1	1.25	M5 x 10
9-10	36	24	1	18	1	1.25	M5 x 12
10.5-12	38	26	1.5	18	1	1.25	M5 x 12
12.5-14	40	28	1.5	18	1	1.25	M5 x 12
13.5-15	41	29	1.5	18	1	1.25	M5 x 12
14.5-16	42	30	1.5	18	1	1.25	M5 x 12
16.5-18	44	22	1	18	1	1.25	M5 x 12
18.5-20	46	34	1.5	18	1	1.25	M5 x 12
20-22	48	36	2	18	1	1.25	M5 x 12
22-24	50	38	2	18	1	1.25	M5 x 12
24-26	52	40	2	18	1	1.25	M5 x 12
26-28	59	45	2	18	1.5	1.5	M5 x 12
28-30	61	47	2	18	1.5	1.5	M5 x 12
31-33	64	50	2	18	1.5	1.5	M5 x 12
33-35	66	52	2	18	1.5	1.5	M5 x 12
36-38	69	55	2	18	1.5	1.5	M5 x 12
38-40	71	57	2	18	1.5	1.5	M5 x 12
40-42	73	59	2	18	1.5	1.5	M5 x 12
43-45	76	62	2	18	1.5	1.5	M5 x 12
46-48	79	65	2	18	1.5	1.5	M5 x 12
48-50	81	67	2	18	1.5	1.5	M5 x 14
58-60	91	77	2	18	1.5	1.5	M5 x 14
61-63	94	80	2	18	1.5	1.5	M5 x 14



# Spacer fastening clip



## Cable and pipe spacer clip

Type	Clamping range D mm	Hole size mm	Material thickness mm	Size	Bolt	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>733 13 G</b>	11-13	6,5 x 10	1,5	M12	M5 x 12	600	50	2.310	<b>1361 13 9</b>
<b>733 16 G</b>	14-16	6,5 x 10	1,5	M16	M5 x 14	500	50	2.430	<b>1361 16 3</b>
<b>733 19 G</b>	17-19	6,5 x 10	1,5	Pg11	M5 x 14	500	50	2.500	<b>1361 19 8</b>
<b>733 21 G</b>	19-21	6,5 x 10	1,5	M20	M5 x 14	500	50	2.730	<b>1361 20 1</b>
<b>733 23 G</b>	21-23	6,5 x 10	1,5	Pg16	M5 x 14	500	50	2.870	<b>1361 23 6</b>
<b>733 29 G</b>	24-29	6,5 x 10	1,5	M25	M5 x 18	450	50	3.480	<b>1361 29 5</b>
<b>733 38 G</b>	30-38	6,5 x 10	1,5	M32	M5 x 18	250	25	4.040	<b>1361 38 4</b>
<b>733 48 G</b>	39-48	6,5 x 10	1,5	M40	M5 x 18	300	25	4.810	<b>1361 48 1</b>
<b>733 54 G</b>	48-54	6,5 x 14	1,5	M50	M5 x 18	300	25	5.800	<b>1361 51 1</b>
<b>733 61 G</b>	53-61	6,5 x 14	1,5	Pg48	M5 x 18	240	20	6.370	<b>1361 61 9</b>
<b>733 63 G</b>	63	8 x 18	2	M63	M5 x 18	160	20	6.940	<b>1361 63 5</b>

**St** Steel

**G** Electrogalvanised

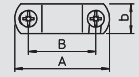
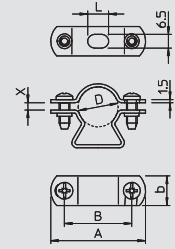
/100 pc.

Steel bolt material. \* Size M16 are not suitable for nail device.

\* Sizes M16 to PG16 not suitable for bolt-firing tool.

### Important dimensions, cable and pipe spacer clip

D	A	B	L	b	x
mm	mm	mm	mm	mm	mm
11-13	39	26	10	14	2,5
14-16	43	30	10	14	3
17-19	45	32	10	14	3,5
19-21	50	37	10	14	2
21-23	52	39	10	14	2,5
24-29	58	42	10	16	7
30-38	70	54	10	16	10
39-48	80	64	14	16	12,5
48-54	86	68	14	18	7,5
53-61	96	78	14	18	10
63	101	83	18	16	3



## Cable and pipe spacer clip

Type	Hole size mm	Material thickness mm	Size	Bolt	Shipping box pcs	Clamping range D mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>733 13 FT</b>	6,5 x 10	1,5	M 12	M5 x 12	600	11-13	50	2.310	<b>1361 09 1</b>
<b>733 16 FT</b>	6,5 x 10	1,5	M 16	M5 x 14	500	14-16	50	2.430	<b>1361 09 4</b>
<b>733 19 FT</b>	6,5 x 10	1,5	Pg 11	M5 x 14	500	17-19	50	2.500	<b>1361 09 7</b>
<b>733 21 FT</b>	6,5 x 10	1,5	M 20	M5 x 14	500	19-21	50	2.730	<b>1361 10 0</b>
<b>733 23 FT</b>	6,5 x 10	1,5	Pg 16	M5 x 14	500	21-23	50	2.870	<b>1361 10 3</b>
<b>733 29 FT</b>	6,5 x 10	1,5	M 25	M5 x 18	450	24-29	50	3.480	<b>1361 10 6</b>
<b>733 38 FT</b>	6,5 x 10	1,5	M 32	M5 x 18	250	30-38	25	4.040	<b>1361 10 9</b>
<b>733 48 FT</b>	6,5 x 10	1,5	M 40	M5 x 18	300	39-48	25	4.810	<b>1361 11 2</b>
<b>733 54 FT</b>	6,5 x 10	1,5	M 50	M5 x 18	300	48-54	25	5.400	<b>1361 11 7</b>
<b>733 61 FT</b>	6,5 x 10	1,5	Pg48	M5 x 18	240	53-61	20	6.100	<b>1361 11 5</b>
<b>733 63 FT</b>	6,5 x 10	2	M 63	M5 x 18	160	63	20	7.250	<b>1361 11 8</b>

**St** Steel

**FT** Hot-dip galvanised

/100 pc.

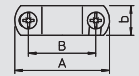
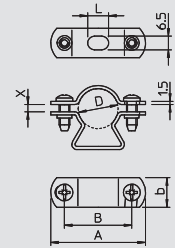
Bolt material: steel.

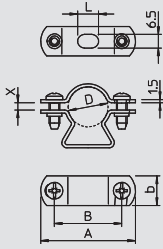
\* Size M16 not suitable for nail device.

\* Sizes M16 to PG16 not suitable for bolt-firing tool and nail device.

### Important dimensions, cable and pipe spacer clip

D	A	B	L	b	x
mm	mm	mm	mm	mm	mm
11 - 13	39	26	10	14	2,5
14 - 16	43	30	10	14	3
17 - 19	45	32	10	14	3,5
19 - 21	50	37	10	14	2
21 - 23	52	39	10	14	2,5
24 - 29	58	42	10	16	7
30 - 38	70	54	10	16	10
39 - 48	80	64	14	16	12,5
53-61	96	78	14	18	10
63	101	83	18	16	3
48-54	86	68	14	18	7,5





## Cable and pipe spacer clip, aluminium



Type	Clamping range D	Hole size	Material thickness	Size	Bolt	Shipping box	Pack.	Weight	Item No.
	mm	mm	mm			pcs	pcs	kg/100 pcs.	
<b>733 16 ALU</b>	14-16	6,5 x 10	1.5	M16	M5 x 12	500	50	0.980	<b>1362 52 6</b>
<b>733 19 ALU</b>	17-19	6,5 x 10	1.5	Pg11	M5 x 16	500	50	1.020	<b>1362 53 4</b>
<b>733 21 ALU</b>	19-21	6,5 x 10	1.5	M20	M5 x 16	500	50	1.100	<b>1362 54 2</b>
<b>733 29 ALU</b>	24-29	6,5 x 10	1.5	M25	M5 x 16	450	50	1.390	<b>1362 56 9</b>
<b>733 38 ALU</b>	30-38	6,5 x 10	1.5	M32	M5 x 18	250	25	1.620	<b>1362 57 7</b>
<b>733 48 ALU</b>	39-48	6,5 x 10	1.5	M40	M5 x 18	300	25	1.950	<b>1362 58 5</b>
<b>733 54 ALU</b>	48-54	6,5 x 14	1.5	M50	M5 x 18	300	25	2.320	<b>1362 59 3</b>
<b>733 63 ALU</b>	63	8 x 18	2	M63	M5 x 18	160	20	2.990	<b>1362 61 5</b>



Al Aluminium

/100 pc.

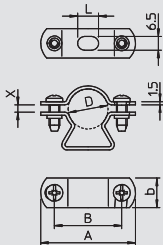
Bolt material: VA

\* Size M16 not suitable for nail device.

\* Sizes M16 to PG16 not suitable for bolt-firing tool and nail device.

### Important dimensions, cable and pipe spacer clip

D	A	B	L	b	x
mm	mm	mm	mm	mm	mm
14-16	43	30	10	14	3
17-19	45	32	10	14	3.5
19-21	50	37	10	14	2
24-29	58	42	10	16	7
30-38	70	54	10	16	10
39-48	80	64	14	16	12.5
48-54	86	68	14	18	7.5
63	101	83	18	16	3



## Cable and pipe spacer clip, V2A



Type	Clamping range D	Hole size	Material thickness	Size	Bolt	Shipping box	Pack.	Weight	Item No.
	mm	mm	mm			pcs	pcs	kg/100 pcs.	
<b>733 16 VA</b>	14-16	6,5 x 10	1.5	M16	M5 x 12	500	50	2.430	<b>1362 01 1</b>
<b>733 19 VA</b>	17-19	6,5 x 10	1.5	Pg11	M5 x 16	500	50	2.800	<b>1362 03 8</b>
<b>733 21 VA</b>	19-21	6,5 x 10	1.5	M20	M5 x 16	500	50	2.740	<b>1362 04 6</b>
<b>733 23 VA</b>	21-23	6,5 x 10	1.5	Pg16	M5 x 16	500	50	2.800	<b>1362 05 4</b>
<b>733 29 VA</b>	24-29	6,5 x 10	1.5	M25	M5 x 16	450	50	3.480	<b>1362 06 2</b>
<b>733 38 VA</b>	30-38	6,5 x 10	1.5	M32	M5 x 18	250	25	4.500	<b>1362 07 0</b>
<b>733 48 VA</b>	39-48	6,5 x 10	1.5	M40	M5 x 18	300	25	5.200	<b>1362 08 9</b>
<b>733 54 VA</b>	48-54	6,5 x 14	1.5	M50	M5 x 18	300	25	5.800	<b>1362 09 7</b>
<b>733 61 VA</b>	53-61	6,5 x 14	1.5	Pg48	M5 x 18	240	20	6.800	<b>1362 10 0</b>
<b>733 63 VA</b>	63	8 x 18	2	M63	M5 x 18	160	20	6.940	<b>1362 12 7</b>



V2A Stainless steel, grade 304

/100 pc.

Bolt material: VA

\* Size M16 not suitable for nail device.

\* Sizes M16 to PG16 not suitable for bolt-firing tool.

### Important dimensions, cable and pipe spacer clip

D	A	B	L	b	x
mm	mm	mm	mm	mm	mm
14-16	43	30	10	14	3
17-19	45	32	10	14	3.5
19-21	50	37	10	14	2
21-23	52	39	10	14	2.5
24-29	58	42	10	16	7
30-38	70	54	10	16	10
39-48	80	64	14	16	12.5
48-54	86	68	14	18	7.5
53-61	96	78	14	18	10
63	101	83	18	16	3



# Spacer fastening clip



## Cable and pipe spacer clip, V4A

Type	Hole size	Material	Size	Bolt	Shipping box	Clamping range D	Pack.	Weight	Item No.
	mm	mm			pcs	mm	pcs	kg/100 pcs.	
<b>733 13 V4A</b>	6,5 x 10	1.5	M 12	M5 x 12	—	11-13	1	2.310	<b>1361 64 3</b>
<b>733 16 V4A</b>	6,5 x 10	1.5	M 16	M5 x 14	—	14-16	1	2.430	<b>1361 64 7</b>
<b>733 19 V4A</b>	6,5 x 10	1.5	Pg 11	M5 x 14	—	17-19	1	2.500	<b>1361 65 1</b>
<b>733 21 V4A</b>	6,5 x 10	1.5	M 20	M5 x 14	—	19-21	1	2.730	<b>1361 65 5</b>
<b>733 23 V4A</b>	6,5 x 10	1.5	Pg 16	M5 x 14	—	21-23	1	2.710	<b>1361 65 9</b>
<b>733 29 V4A</b>	6,5 x 10	1.5	M 25	M5 x 18	—	24-29	1	3.420	<b>1361 66 3</b>
<b>733 38 V4A</b>	6,5 x 10	1.5	M 32	M5 x 18	—	30-38	1	4.040	<b>1361 66 7</b>
<b>733 48 V4A</b>	6,5 x 10	1.5	M 40	M5 x 18	—	39-48	1	4.810	<b>1361 67 1</b>
<b>733 54 V4A</b>	6,5 x 10	1.5	M 50	M5 x 18	—	48-54	1	5.800	<b>1361 67 5</b>
<b>733 61 V4A</b>	6,5 x 10	1.5	Pg 48	M5 x 18	—	53-61	1	6.370	<b>1361 67 9</b>
<b>733 63 V4A</b>	6,5 x 10	2	M 63	M5 x 18	—	63	1	6.940	<b>1361 68 3</b>

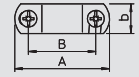
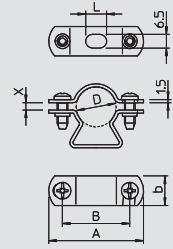
**V4A** Stainless steel, grade 316 Ti

/100 pc.

Steel bolt material. \* Size M16 are not suitable for nail device.

\* Sizes M16 to PG16 not suitable for bolt-firing tool.

D	A	B	L	b	x
mm	mm	mm	mm	mm	mm
11 - 13	39	26	10	14	2.5
14 - 16	43	30	10	14	3
17 - 19	45	32	10	14	3.5
19 - 21	50	37	10	14	2
21 - 23	52	39	10	14	2.5
24 - 29	58	42	10	16	7
30 - 38	70	54	10	16	10
39 - 48	80	64	14	16	12.5
48 - 54	86	68	14	18	7.5
53 - 61	96	78	14	18	10
63	101	83	18	16	3



## Screw-in spacer clip

Type	Clamping range D	Bolt	Shipping box	Pack.	Weight	Item No.
	mm		pcs	pcs	kg/100 pcs.	
<b>731 W 12 G</b>	8-12	M5 x 12	600	50	2.470	<b>1366 12 2</b>
<b>731 W 16 G</b>	12-16	M5 x 12	500	50	2.820	<b>1366 16 5</b>
<b>731 W 20 G</b>	16-20	M5 x 14	500	50	3.120	<b>1366 20 3</b>
<b>731 W 25 G</b>	20-25	M5 x 14	500	50	3.480	<b>1366 25 4</b>
<b>731 W 30 G</b>	25-30	M5 x 14	250	25	4.060	<b>1366 30 0</b>
<b>731 W 35 G</b>	30-35	M5 x 18	250	25	4.340	<b>1366 35 1</b>

**St** Steel

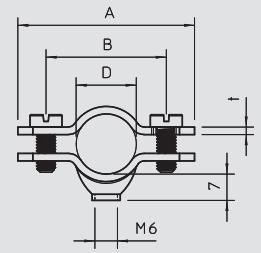
**G** Electrogalvanised

/100 pc.

With M6 thread.

### Important dimensions, screw-in spacer clip

D	A	B	t
mm	mm	mm	mm
8-12	43	28	2
12-16	47	32	2
16-20	51	36	2
20-25	58	43	2
25-30	64	49	2
30-35	65	50	18



## Screw-in spacer clip, copper-plated

Type	Clamping range D	Bolt	Shipping box	Pack.	Weight	Item No.
	mm		pcs	pcs	kg/100 pcs.	
<b>731 W 12 CU</b>	8-12	M5 x 12	600	50	2.470	<b>1366 62 9</b>
<b>731 W 16 CU</b>	12-16	M5 x 14	500	50	2.820	<b>1366 66 1</b>

**St** Steel

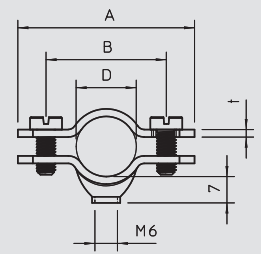
**Cu** Copper-plated

/100 pc.

With M6 thread.

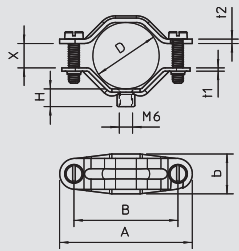
### Important dimensions, screw-in spacer clip

D	A	B	t
mm	mm	mm	mm
8-12	43	28	2
12-16	47	32	2





# Spacer fastening clip



## Screw-in spacer clip, universal

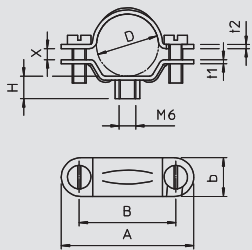
Type	Clamping range D	Bolt	Shipping box	Pack.	Weight	Item No.
	mm		pcs	pcs	kg/100 pcs.	
<b>2070 M6 G</b>	12-20	M5 x 14	500	50	2.300	<b>1380 02 8</b>
<b>2071 M6 G</b>	20-30	M5 x 20	600	50	3.310	<b>1380 22 2</b>
<b>2072 M6 G</b>	30-44	M5 x 22	300	25	5.990	<b>1380 42 7</b>
<b>2073 M6 G</b>	44-60	M6 x 25	240	20	9.660	<b>1380 72 9</b>

**St** Steel **G** Electrogalvanised /100 pc.

With M6 thread.  
Universal clip with large tensioning area.

### Important dimensions, screw-in spacer clip

D	A	B	b	t1	t2	H	x	M
mm	mm	mm	mm	mm	mm	mm	mm	
12-20	48	35	14	1.5	1.5	9	9	M5 x 14
20-30	60	47	14	1.5	2	7.5	11	M5 x 20
30-44	79	64	16	2	2	8	15	M5 x 22
44-60	102	86	18	2	2	8	18	M6 x 25



## Screw-in spacer clip, universal

Type	Bolt	Shipping box	Size	Clamping range D	Pack.	Weight	Item No.
		pcs		mm	pcs	kg/100 pcs.	
<b>2900 M6 13-16 G</b>	M5 x 14	500	M 16	13.5-16	50	2.280	<b>1383 09 4</b>
<b>2900 M6 16-19 G</b>	M5 x 14	500	Pg 11	16.5-19	50	2.320	<b>1383 11 6</b>
<b>2900 M6 18-21 G</b>	M5 x 14	500	M 20	18-21	50	2.340	<b>1383 13 2</b>
<b>2900 M6 19-23 G</b>	M5 x 14	500	Pg 16	19-23	50	2.400	<b>1383 16 7</b>
<b>2900 M6 24-29 G</b>	M5 x 14	400	M 25	24-29	50	3.320	<b>1383 21 3</b>
<b>2900 M6 33-38 G</b>	M5 x 14	400	M 32	30-34	50	4.950	<b>1383 31 0</b>
<b>2900 M6 30-34 G</b>	M5 x 14	300	Pg 29	33-38	25	5.830	<b>1383 29 9</b>
<b>2900 M6 39-42 G</b>	M5 x 16	300	M 40	39-42	25	5.490	<b>1383 41 8</b>
<b>2900 M6 43-48 G</b>	M5 x 14	240	Pg 36	43-48	20	6.330	<b>1383 36 1</b>
<b>2900 M6 49-55 G</b>	M6 x 15	240	M 50	49-55	20	9.300	<b>1383 42 6</b>
<b>2900 M6 54-60 G</b>	M6 x 15	240	Pg 48	54-60	20	8.970	<b>1383 48 5</b>
<b>2900 M6 61-64 G</b>	M6 x 16	240	M 63	61-64	20	8.090	<b>1383 50 7</b>

**St** Steel **G** Electrogalvanised /100 pc.

With M6 thread.  
Important dimensions, screw-in spacer clip

G	D	A	B	b	t1	t2	H	x	M
	mm	mm	mm	mm	mm	mm	mm	mm	
M 16	13.5-16	48	35	14	1.5	1.5	9	2.2	M5 x 14
Pg 11	16.5-19	48	35	14	1.5	1.5	9	2.6	M5 x 14
M 20	18-21	48	35	14	1.5	1.5	9	2.9	M5 x 14
Pg 16	19-23	48	35	14	1.5	1.5	9	4	M5 x 14
M 25	24-29	60	47	14	1.5	2	7.5	4.6	M5 x 14
M 32	30-34	68	54	16	2	2	8	5	M5 x 14
Pg 29	33-38	79	64	16	2	2	8	5	M5 x 14
M 40	39-42	79	64	16	2	2	8	5	M5 x 16
Pg 36	43-48	79	64	16	2	2	8	5	M5 x 14
M 50	49-55	102	86	18	2	2	8	5.5	M6 x 15
Pg 48	54-60	102	86	18	2	2	8	6.3	M6 x 15
M 63	61-64	106.5	90.5	18	2	2	6.5	6	M6 x 16



Cable/pipe fastening systems, metal



# Spacer fastening clip



## Screw-in spacer clip, heavy-duty version M6

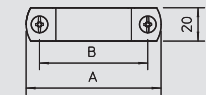
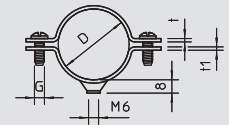
Type	Clamping range D mm	Size	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
2900WM6 13.5 FT	12.5-13.5	1/4"	300	25	2.860	1385 00 3
2900WM6 17 FT	16-17	3/8"	300	25	4.910	1385 01 1
2900WM6 21.5 FT	19-21.5	1/2"	250	25	5.100	1385 03 8
2900WM6 27 FT	24.5-27	3/4"	250	25	5.600	1385 05 4
2900WM6 33.5 FT	30.5-33.5	1"	200	25	6.140	1385 06 2
2900WM6 42.5 FT	39.5-42.5	1 1/4"	175	25	7.640	1385 08 9
2900WM6 48.5 FT	45.5-48.5	1 1/2"	175	25	8.870	1385 11 9
2900WM6 54 FT	51-54	1 3/4"	180	20	10.400	1385 12 7
2900WM6 60 FT	56-60	2"	135	15	11.720	1385 13 5

**St** Steel **FT** Hot-dip galvanised /100 pc.

Can be screwed onto M6 thread.

### Important dimensions, screw-in spacer clip

D	A	B	t	t1	x	G
mm	mm	mm	mm	mm	mm	
12.5-13.5	48	32	2	2	1	M6 x 16
16.0-17.0	52	36	2	2	1	M6 x 16
19.0-21.5	56	40	2	2	2.5	M6 x 16
24.5-27.0	62	46	2	2	2.5	M6 x 16
30.5-33.5	70	54	2	2	3	M6 x 16
39.5-42.5	81	65	2	2	3	M6 x 18
45.5-48.5	88	72	2	2.5	3	M6 x 18
51.0-54.0	96	80	2.5	2.5	3	M6 x 18
56.0-60.0	105	89	2.5	2.5	4	M6 x 18



## Screw-in spacer clip, heavy-duty version M8

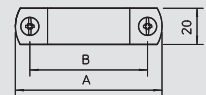
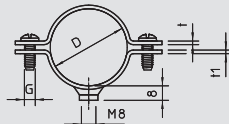
Type	Clamping range D mm	Size	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
2900WM8 17 FT	16-17	3/8"	300	25	5.040	1387 01 4
2900WM8 21.5 FT	19-21.5	1/2"	250	25	5.770	1387 03 0
2900WM8 27 FT	24.5-27	3/4"	250	25	6.140	1387 05 7
2900WM8 33.5 FT	30.5-33.5	1"	200	25	6.860	1387 06 5
2900WM8 42.5 FT	39.5-42.5	1 1/4"	175	25	9.000	1387 08 1
2900WM8 48.5 FT	45.5-48.5	1 1/2"	175	25	9.280	1387 11 1
2900WM8 60 FT	56-60	2"	135	15	11.350	1387 13 8
2900WM8 75.5 FT	71.5-75.5	2 1/2"	50	50	21.000	1387 15 4
2900WM8 88 FT	83-88	3"	50	50	23.800	1387 17 0

**St** Steel **FT** Hot-dip galvanised /100 pc.

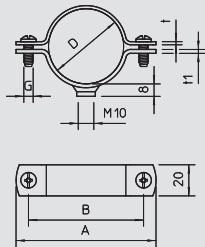
Can be screwed onto M8 thread.

### Important dimensions, screw-in spacer clip

D	A	B	t	t1	x	M
mm	mm	mm	mm	mm	mm	
16.0-17.0	52	36	2	2.5	1	M6 x 16
19.0-21.5	56	40	2	2.5	2.5	M6 x 16
24.5-27.0	62	46	2	2.5	2.5	M6 x 16
30.5-33.5	70	54	2	2.5	3	M6 x 16
39.5-42.5	81	65	2	2.5	3	M6 x 18
45.5-48.5	88	72	2	2.5	3	M6 x 18
56.0-60.0	105	89	2.5	2.5	4	M6 x 18
71.5-75.5	125	105	3	3	4	M6 x 20
83.0-88.0	138	118	3	3	5	M6 x 20



# Spacer fastening clip



## Screw-in spacer clip, heavy-duty version M10

Type	Clamping range D	Shipping box	Size	Pack.	Weight	Item No.
	mm	pcs		pcs	kg/100 pcs.	
<b>2900WM10 21.5 FT</b>	19-21.5	250	1/2"	25	5.770	<b>1388 03 7</b>
<b>2900WM10 27 FT</b>	24.5-27	250	3/4"	25	6.140	<b>1388 05 3</b>
<b>2900WM10 33.5 FT</b>	30.5-33.5	200	1"	25	6.860	<b>1388 06 1</b>
<b>2900WM10 48.5 FT</b>	45.5-48.5	175	1 1/2"	25	9.280	<b>1388 11 8</b>
<b>2900WM10 60 FT</b>	56-60	135	2"	15	11.350	<b>1388 13 4</b>
<b>2900WM10 75 FTSO</b>	71.5-75.5	50	2 1/2"	50	22.160	<b>1388 37 1</b>
<b>2900WM10 88 FTSO</b>	83-88	50	3"	50	24.450	<b>1388 39 8</b>
<b>2900WM10 139FTSO</b>	130-140	25	5"	25	32.500	<b>1388 42 8</b>



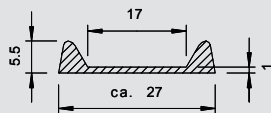
**St** Steel **FT** Hot-dip galvanised /100 pc.

Can be screwed onto M10 thread.

### Important dimensions, screw-in spacer clip

D	A	B	t	t1	x	G
mm	mm	mm	mm	mm	mm	
19.0-21.5	56	40	2	2.5	2.5	M6 x 16
24.5-27.0	62	46	2	2.5	2.5	M6 x 16
30.5-33.5	70	54	2	2.5	3	M6 x 16
45.5-48.5	88	72	2	2.5	3	M6 x 18
56.0-60.0	105	89	2.5	2.5	4	M6 x 18
71.5-75.5	125	105	3	3	4	M6 x 20
83.0-88.0	138	118	3	3	5	M6 x 20
130-140	190	170	3	3	10	M6 x 25

## Inlay strip

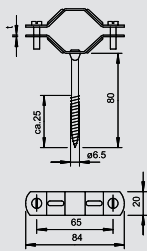


Type	Pack.	Weight	Item No.
	m	kg/100 m	
<b>2985 GR</b>	25	6.000	<b>2357 05 4</b>



/100 m

For clips of up to 25 mm material width.  
Inlay strip for pipe clamps and screw-in spacer clips to create fixed points.



## Post crosspiece

Type	Clamping range D	Bolt	Shipping box	Pack.	Weight	Item No.
	mm		pcs	pcs	kg/100 pcs.	
<b>1060 26-45 FT</b>	26-45	M5 x 30	100	100	10.500	<b>1310 61 5</b>
<b>1060 45-68 FT</b>	45-68	M6 x 35	100	100	14.300	<b>1310 65 8</b>

**St** Steel **FT** Hot-dip galvanised /100 pc.

With wood screw thread 6.5 x 80 mm (thread length approx. 25 mm).  
Screws made of electrogalvanised steel.

### Important dimensions, post crosspiece

D	A	B	b	t	M
mm	mm	mm	mm	mm	
26-45	84	65	20	1.5	M5 x 30
45-68	115	95	20	1.5	M6 x 35



# Fastening clip



## Fastening clip, light-duty

Type	For Ø	Shipping box	Pack.	Weight	Item No.
604 3 G	3	12000	100	0.050	1003 03 8
604 4 G	4	12000	100	0.070	1003 04 6
604 5 G	5	5000	100	0.080	1003 05 4
604 6 G	6	5000	100	0.100	1003 06 2
604 7 G	7	5000	100	0.120	1003 07 0
604 8 G	8	5000	100	0.120	1003 08 9
604 9 G	9	5000	100	0.140	1003 09 7
604 10 G	10	4800	100	0.150	1003 10 0
604 11 G	11	4800	100	0.270	1003 11 9
604 12 G	12	5000	100	0.240	1003 12 7
604 13 G	13	5000	100	0.280	1003 13 5
604 16 G	16	3900	100	0.350	1003 17 8
604 19 G	19	1800	100	0.410	1003 19 4
604 20 G	20	1800	100	0.430	1003 20 8
604 21 G	21	3000	100	0.450	1003 21 6
604 23 G	23	2400	100	0.490	1003 23 2
604 25 G	25	1000	100	0.560	1003 25 9
604 28 G	28	1000	100	0.870	1003 28 3
604 32 G	32	800	100	1.420	1003 32 1
604 35 G	35	800	100	1.360	1003 35 6
604 37 G	37	800	100	1.570	1003 37 2
604 40 G	40	1200	100	1.860	1003 40 2
604 47 G	47	500	50	2.480	1003 46 1

**St** Steel

**G** Electrogalvanised

/100 pc.

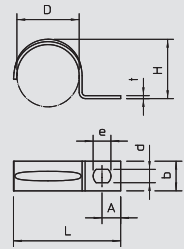
Single-lobe fastening clip for cables and pipes.

\* Sizes 3 and 4 not suitable for nail device.

\* Sizes 3 to 21 not suitable for bolt-firing tool.

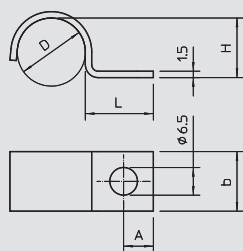
### Important dimensions, fastening clip

D	L	H	b	t	d	e	A
mm	mm	mm	mm	mm	mm	mm	mm
3	12	2.4	7	0.7	4.5	6	4
4	14	3.3	7	0.7	4.5	6	4
5	16.5	4.5	7	0.7	4.5	6	5
6	17.5	5.2	8	0.7	4.5	6	5
7	19.5	6.5	8	0.7	4.5	6	5
8	21	7	8	0.7	4.5	6	5.5
9	21.5	8	8	0.7	4.5	6	5.75
10	22	9	8	0.7	4.5	6	5
11	24	10	10	1	4.5	6	5.5
12	27	11	10	0.7	4.5	6	6.5
13	27	11.5	10	1	4.5	6	6
16	31	14.5	10	1	4.5	6	6.5
19	33	17	10	1	4.5	6	6.5
20	35	18	10	1	4.5	6	6.3
21	36	19	10	1	4.5	6	6.3
23	39	21.5	10	1	4.5	6	7
28	45	24.8	15	1	4.5	6	7
35	54	30	14	1.5	5.5	7	8.75
37	56	34	14	1.5	5.5	7	7.5
40	63	38	14	1.5	5.5	7	10.5
47	69	43.8	14	1.5	5.5	7	10
25	41.3	23	15	1	4.5	6	7
32	48.8	30	15	1.5	5.5	7	8





## Fastening clip, medium-duty 5–18 mm



Type	For Ø	Shipping box	Pack.	Weight	Item No.
1015 5 G	5	3000	100	0.330	1009 02 8
1015 6 G	6	2400	100	0.390	1009 03 6
1015 7 G	7	2000	100	0.420	1009 04 4
1015 8 G	8	2000	100	0.430	1009 05 2
1015 9 G	9	2000	100	0.470	1009 06 0
1015 10 G	10	2000	100	0.560	1009 07 9
1015 11 G	11	1800	100	0.630	1009 08 7
1015 12 G	12	1000	100	0.670	1009 10 9
1015 13 G	13	1800	100	0.680	1009 11 7
1015 14 G	14	1200	100	0.710	1009 16 8
1015 15 G	15	1200	100	0.740	1009 18 4
1015 16 G	16	1200	100	0.750	1009 19 2
1015 17 G	17	1200	100	0.760	1009 20 6
1015 18 G	18	1200	100	0.840	1009 21 4

St Steel

G Electrogalvanised

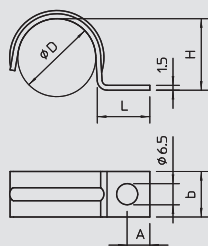
/100 pc.

Single-lobe fastening clip for cables and pipes.  
Beading from size 20.

## Important dimensions, fastening clip

D	L	H	b	A
mm	mm	mm	mm	mm
5	16	4	12	7
6	16	5	12	7
7	16	6	12	7
8	16	7	12	7
9	16	8	12	7
10	16	9	12	7
11	16	10	14	7
12	16	11	14	7
13	16	12	14	7
14	16	12.5	14	7
15	16	13.5	14	7
16	16	14	14	7
17	16	15	14	7
18	16	16	14	7

## Fastening clip, medium-duty 20–28 mm



Type	For Ø	Shipping box	Pack.	Weight	Item No.
1015 20 G	20	1200	100	0.920	1009 23 0
1015 25 G	25	1000	100	1.150	1009 42 7
1015 28 G	28	1000	100	1.250	1009 36 2

St Steel

G Electrogalvanised

/100 pc.

Single-lobe fastening clip for cables and pipes.  
Beading from size 20.

## Important dimensions, fastening clip

D	L	H	b	A
mm	mm	mm	mm	mm
20	16	18	14	7
25	16	22.5	14	7
28	16	25	14	7



# Fastening clip



## Fastening clip, heavy-duty

Type	For Ø	Size	Shipping box	Pack.	Weight	Item No.
	mm		pcs	pcs	kg/100 pcs.	
822 6 FT	6	—	1000	100	0.890	1014 00 5
822 10 FT	10	—	1200	100	1.080	1014 01 3
822 12 FT	12	M12	400	100	1.450	1014 02 1
822 14 FT	14	—	400	100	1.600	1014 04 8
822 16 FT	15.2	M16	400	100	1.730	1014 09 9
822 18 FT	18.6	PG11	400	100	1.950	1014 11 0
822 20 FT	20	M20	600	100	2.130	1014 13 7
822 22.5 FT	22.5	PG16	500	50	2.340	1014 16 1
822 25 FT	25	M25	500	50	2.400	1014 50 1
822 28.3 FT	28.3	PG21	200	50	4.420	1014 21 8
822 32 FT	32	M32	100	100	5.490	1014 52 8
822 37 FT	37	PG29	100	100	7.100	1014 29 3
822 40 FT	40	M40	100	100	6.590	1014 53 6
822 47 FT	47	PG36	100	100	8.500	1014 36 6
822 50 FT	50	M50	100	100	7.690	1014 54 4
822 63 FT	63	M63	100	100	9.260	1014 55 2

**St** Steel

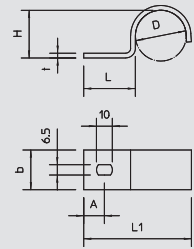
**FT** Hot-dip galvanised

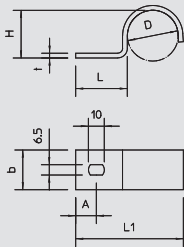
/100 pc.

Single-lobe fastening clip for cables and pipes.

### Important dimensions, fastening clip

D	L	L1	H	b	t	A
mm	mm	mm	mm	mm	mm	mm
6	23.5	32	5	20	2	10
10	23.5	36	9	20	2	10
12	23.5	38.5	11	20	2	10
14	23.5	40.5	13	20	2	10
15.2	23.5	42	14	20	2	10
18.6	23.5	45	17	20	2	10
20	23.5	48	19.5	20	2	10
22.5	23.5	49	21	20	2	11
28.3	27	60	26.5	20	3	11
37	30	70	35	25	3	13
47	30	81	45	25	3	13
32	32.5	68	30	25	3	13
40	32.5	76	38	25	3	13
50	32.5	86	47	25	3	15
63	33.5	100	60	25	3	15
25	25.5	53	23.5	20	2	11





Fastening clip, heavy-duty V4A



Type	For Ø	Size	Shipping box	Pack.	Weight	Item No.
	mm		pcs	pcs	kg/100 pcs.	
822 6 V4A	6	—	—	1	0.890	1013 86 1
822 10 V4A	10	—	—	1	1.080	1013 86 5
822 12 V4A	12	M12	—	1	1.450	1013 86 9
822 14 V4A	14	—	—	1	1.600	1013 87 3
822 16 V4A	15.2	M16	—	1	1.730	1013 87 7
822 18 V4A	18.6	PG11	—	1	1.950	1013 88 1
822 20 V4A	20	M20	—	1	2.130	1013 88 5
822 22.5 V4A	22.5	PG16	—	1	2.340	1013 88 9
822 25 V4A	25	M25	—	1	2.400	1013 89 3
822 28.3 V4A	28.3	PG21	—	1	4.420	1013 89 7
822 32 V4A	32	M32	—	1	5.490	1013 90 3
822 37 V4A	37	PG29	—	1	7.100	1013 90 7
822 40 V4A	40	M40	—	1	6.590	1013 91 1
822 47 V4A	47	PG36	—	1	8.500	1013 91 7
822 50 V4A	50	M50	—	1	7.690	1013 92 1
822 63 V4A	63	M63	—	1	9.260	1013 92 5



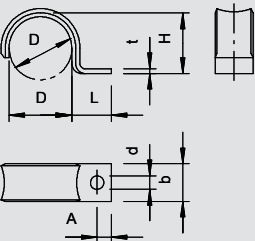
V4A Stainless steel, grade 316 Ti /100 pc.

Single-lobe fastening clip for cables and pipes.

Important dimensions, fastening clip

D	L	L1	H	b	t	A
mm	mm	mm	mm	mm	mm	mm
6	23.5	32	5	20	2	10
10	23.5	36	9	20	2	10
12	23.5	38.5	11	20	2	10
14	23.5	40.5	13	20	2	10
15.2	23.5	42	14	20	2	10
18.6	23.5	45	17	20	2	10
20	23.5	48	19.5	20	2	10
22.5	23.5	49	21	20	2	11
25	25.5	53	23.5	20	2	11
28.3	27	60	26.5	20	3	11
32	32.5	68	30	25	3	13
37	30	70	35	25	3	13
40	32.5	76	38	25	3	13
47	30	81	45	25	3	13
50	32.5	86	47	25	3	15
63	33.5	100	60	25	3	15

Fastening clip, plant standard, single lobe



Type	For Ø	Shipping box	Pack.	Weight	Item No.
	mm	pcs	pcs	kg/100 pcs.	
WN 7855 A 2	2	4000	100	0.040	1043 01 3
WN 7855 A 2.5	2.5	4000	100	0.040	1043 02 1
WN 7855 A 4	4	4000	100	0.060	1043 06 4
WN 7855 A 4.5	4.5	4000	100	0.080	1043 07 2
WN 7855 A 5	5	4000	100	0.090	1043 08 0
WN 7855 A 6	6	4000	100	0.100	1043 10 2
WN 7855 A 7	7	4000	100	0.120	1043 12 9
WN 7855 A 8	8	4000	100	0.160	1043 14 5
WN 7855 A 9	9	4000	100	0.170	1043 16 1
WN 7855 A 10	10	4000	100	0.170	1043 19 6
WN 7855 A 12	12	2000	100	0.530	1043 22 6
WN 7855 A 14	14	2000	100	0.580	1043 24 2



St Steel GTP Electrogalvanised, transparently passivated /100 pc.

Dimensions to Siemens standard SN 78550, shape A, with strongly rounded edges, thus particularly suitable for sensitive cables.

\* Sizes 2 to 10 not suitable for bolt-firing tool and nail device.

Important dimensions, fastening clip

D	L	H	b	t	d	A
mm	mm	mm	mm	mm	mm	mm
2	8.5	1.5	6	0.8	3.2	3
2.5	5.25	2	6	0.8	3.2	3
4	7.5	3.5	6	0.8	3.2	3
4.5	8.25	4	6	1	3.2	3
5	8	4.5	6	1	3.2	3
6	7.5	5.5	6	1	3.2	3
7	10	6	8	1	3.2	4
8	9.5	7	8	1	3.2	4
9	9	8	8	1	3.2	4
10	8.5	9	8	1	3.2	4
12	13.5	10	12	1.5	4.3	4.5
14	12.5	12	12	1.5	4.3	4.5



# Fastening clip



## Fastening clip, plant standard, double lobe

Type	For Ø	Shipping box	Pack.	Weight	Item No.
WN 7855 B 3	3	5000	100	0.080	1044 04 4
WN 7855 B 4	4	5000	100	0.080	1044 06 0
WN 7855 B 4.5	4.5	5000	100	0.100	1044 07 9
WN 7855 B 5	5	5000	100	0.120	1044 08 7
WN 7855 B 6	6	5000	100	0.130	1044 10 9
WN 7855 B 7	7	4800	100	0.200	1044 12 5
WN 7855 B 8	8	4800	100	0.220	1044 14 1
WN 7855 B 9	9	2400	100	0.220	1044 17 6
WN 7855 B 10	10	2400	100	0.220	1044 19 2
WN 7855 B 12	12	1800	100	0.680	1044 21 4
WN 7855 B 14	14	1200	100	0.730	1044 23 0
WN 7855 B 16	16	1200	100	0.740	1044 25 7

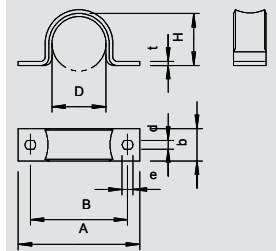
**St** Steel **GTP** Electrogalvanised, transparently passivated /100 pc.

Dimensions to Siemens standard SN 78550, shape B, with strongly rounded edges, thus particularly suitable for sensitive cables.

\* Sizes 3 to 10 not suitable for nail device.

### Important dimensions, fastening clip

D	A	B	H	b	t	d	e
mm	mm	mm	mm	mm	mm	mm	mm
3	21	14	2.5	6	0.8	3.2	4
4	21	14	3.5	6	1	3.2	4
4.5	24	16	4	6	1	3.2	4
5	24	16	4.5	6	1	3.2	4
6	24	16	5.5	6	1	3.2	4
7	28	20	6	8	1	3.2	4
8	28	20	7	8	1	3.2	4
9	28	20	8	8	1	3.2	4
10	28	20	9	8	1	3.2	4
12	39	30	10	12	1.5	4.3	5
14	39	30	12	12	1.5	4.3	5
16	39	30	14	12	1.5	4.3	5



## Heavy-duty cable clip

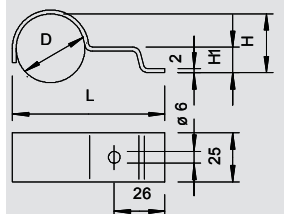
Type	For cable size	Hole size	Material thickness	Colour	Shipping box	Pack.	Weight	Item No.
	Ø	mm	mm		pcs	pcs	kg/100 pcs.	
1594 22 G	22	6	2	Stone grey	200	100	3.300	1310 92 5

**St** Steel **G** Electrogalvanised /100 pc.

For earthing cable fastening to house connection boxes. Levanisit coated.

### Important dimensions, cable clip

D	L	H	H1
mm	mm	mm	mm
22	65	18	11



## Fastening clip, medium-duty

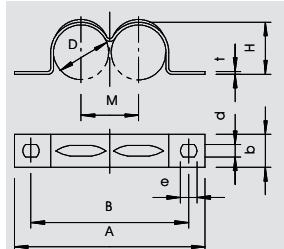
Type	For Ø	Shipping box	Pack.	Weight	Item No.
	mm	pcs	pcs	kg/100 pcs.	
604 2X16	2 x 16	1000	100	0.740	1004 16 6
604 2X19	2 x 19	1000	100	0.850	1004 19 0
604 2X21	2 x 21	1000	100	0.940	1004 21 2
604 2X28	2 x 28	600	50	1.460	1004 29 8

**St** Steel **G** Electrogalvanised /100 pc.

Two lobe fastening clips for cables and pipes.

### Important dimensions, fastening clip

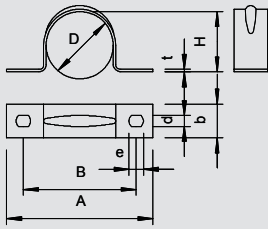
D	A	B	M	b	t	d	H	e
mm	mm	mm	mm	mm	mm	mm	mm	mm
16	60.5	48.5	16.5	12	1	4.5	14.5	6
19	66	54	19.5	12	1	4.5	17	6
21	69.5	57.5	22	12	1	4.5	18.3	6
28	91	79	29	14	1	4.5	26	6







Fastening clip, medium-duty



Type	For Ø	Hole size	Material thickness	Shipping box	Pack.	Weight	Item No.
	mm	mm	mm	pcs	pcs	kg/100 pcs.	
605 7 G	7	4,5 x 6	1	4800	100	0.180	1018 07 8
605 8 G	8	4,5 x 6	1	5000	100	0.200	1018 08 6
605 9 G	9	4,5 x 6	1	5000	100	0.250	1018 09 4
605 10 G	10	4,5 x 6	1	1800	100	0.430	1018 10 8
605 11 G	11	4,5 x 6	1	1800	100	0.460	1018 11 6
605 12 G	12	4,5 x 6	1	2000	100	0.490	1018 12 4
605 13 G	13	4,5 x 6	1	2400	100	0.530	1018 13 2
605 14 G	14	4,5 x 6	1	2400	100	0.560	1018 14 0
605 15 G	15	4,5 x 6	1	2000	100	0.580	1018 15 9
605 16 G	16	4,5 x 6	1	1200	100	0.590	1018 16 7
605 17 G	17	4,5 x 6	1	1500	100	0.600	1018 17 5
605 18 G	18	4,5 x 6	1	1200	100	0.640	1018 18 3
605 19 G	19	4,5 x 6	1	1200	100	0.670	1018 19 1
605 20 G	20	4,5 x 6	1	1000	100	0.660	1018 20 5
605 21 G	21	4,5 x 6	1	1000	100	0.680	1018 21 3
605 23 G	23	4,5 x 6	1	1000	100	0.830	1018 22 1
605 25 G	25	4,5 x 6	1	1200	100	0.960	1018 25 6
605 26 G	26	4,5 x 6	1	1000	100	0.980	1018 26 4
605 28 G	28	4,5 x 6	1	1200	100	1.070	1018 28 0
605 30 G	30	4,5 x 6	1	1200	100	1.150	1018 30 2
605 32 G	32	4,5 x 6	1	1200	100	1.260	1018 33 7
605 35 G	35	5,5 x 7	1	1200	100	1.920	1018 35 3
605 37 G	37	5,5 x 7	1	1200	100	2.010	1018 36 1
605 40 G	40	5,5 x 7	1,5	600	50	1.900	1018 39 6
605 43 G	43	5,5 x 7	1,5	600	50	2.320	1018 43 4
605 47 G	47	5,5 x 7	1,5	600	50	2.370	1018 47 7
605 50 G	50	5,5 x 7	1,5	300	25	2.770	1018 50 7
605 55 G	55	5,5 x 7	1,5	300	25	3.840	1018 55 8
605 60 G	60	5,5 x 7	1,5	300	25	3.800	1018 60 4
605 63 G	63	5,5 x 7	1,5	300	25	3.670	1018 63 9

St Steel G Electrogalvanised /100 pc.

Two lobe fastening clips for cables and pipes.  
\* Sizes 7 to 12 not suitable for bolt-firing tool.

Important dimensions, fastening clip

D	A	B	H	b	t	d	e
mm	mm	mm	mm	mm	mm	mm	mm
7	32	21	6	10	1	4,5	6
8	33	22	7	10	1	4,5	6
9	34	23	8	10	1	4,5	6
10	37	25	9	12	1	4,5	6
11	38	26	10	12	1	4,5	6
12	39	27	11	12	1	4,5	6
13	41	29	12	12	1	4,5	6
14	42	30	13	12	1	4,5	6
15	43	31	13,5	12	1	4,5	6
16	44	32	14,5	12	1	4,5	6
17	45	33	15,5	12	1	4,5	6
18	46	34	16,5	12	1	4,5	5
19	47	35	17,5	12	1	4,5	6
20	49	37	18,5	12	1	4,5	6
21	50	38	19,5	12	1	4,5	6
23	52	40	21	12	1	4,5	6
25	58	44	23	14	1	4,5	6
26	59	45	24	14	1	4,5	6
28	61	47	26	14	1	4,5	6
30	63	49	28	14	1	4,5	6
33	66	52	30	14	1	4,5	6
35	70	56	32	14	1,5	5,5	7
37	72	58	34	14	1,5	5,5	7
40	75	61	37	14	1,5	5,5	7
43	78	64	40	14	1,5	5,5	7
47	82	68	44	14	1,5	5,5	7
55	94	78	51	16	1,5	5,5	7
60	99	83	56	16	1,5	5,5	7
50	88	74	46	16	1,5	5,5	7
63	112	98	59	16	1,5	5,5	7

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Cable/pipe fastening systems, metal



# Fastening clip



## Fastening clip, medium-duty

Type	For Ø	Hole size	Material thickness	Shipping box	Pack.	Weight	Item No.
	mm	mm	mm	pcs	pcs	kg/100 pcs.	
605 16 ALU	16	4,5 x 6	1	2000	100	0.220	1017 79 9
605 20 ALU	20	4,5 x 6	1	1200	100	0.230	1017 83 7
605 25 ALU	25	4,5 x 6	1	1000	100	0.330	1017 86 1
605 32 ALU	32	4,5 x 6	1	1200	100	0.430	1017 92 6
605 40 ALU	40	5,5 x 7	1	600	50	0.650	1017 95 0
605 50 ALU	50	5,5 x 7	1.5	300	25	0.950	1017 98 0
605 63 ALU	63	5,5 x 7	1.5	300	25	1.260	1017 99 7

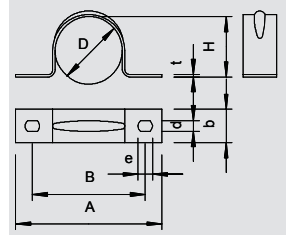
**Al** Aluminium

/100 pc.

Two lobe fastening clips for cables and pipes.

### Important dimensions, fastening clip

D	A	B	H	b	t	d	e
mm	mm	mm	mm	mm	mm	mm	mm
16	44	32	14.5	12	1	4.5	6
20	49	37	18.5	12	1	4.5	6
25	58	44	23	14	1	4.5	6
32	95	71	29	25	1	4.5	6
40	75	61	37	14	1.5	5.5	7
50	110	86	46	25	1.5	5.5	7
63	120	96	59	25	1.5	5.5	7



## Fastening clip, medium-duty V4A

Type	For Ø	Hole size	Material thickness	Shipping box	Pack.	Weight	Item No.
	mm	mm	mm	pcs	pcs	kg/100 pcs.	
605 12 V4A	12	4,5 x 6	1	—	1	0.490	1018 65 3
605 16 V4A	16	4,5 x 6	1	—	1	0.590	1018 66 1
605 20 V4A	20	4,5 x 6	1	—	1	0.660	1018 66 9
605 25 V4A	25	4,5 x 6	1	—	1	0.990	1018 67 9
605 32 V4A	32	4,5 x 6	1	—	1	1.260	1018 69 3
605 40 V4A	40	5,5 x 7	1.5	—	1	1.900	1018 70 5
605 50 V4A	50	5,5 x 7	1.5	—	1	2.770	1018 71 7
605 63 V4A	63	5,5 x 7	1.5	—	1	3.670	1018 72 9

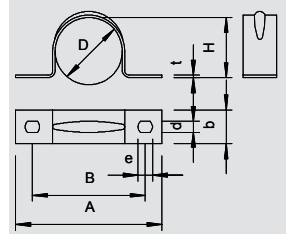
**V4A** Stainless steel, grade 316 Ti

/100 pc.

Two lobe fastening clips for cables and pipes.

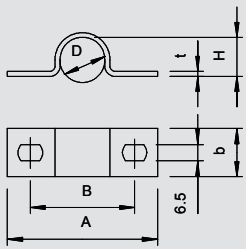
### Important dimensions, fastening clip

D	A	B	H	b	t	d	e
mm	mm	mm	mm	mm	mm	mm	mm
12	39	27	11	12	1	4.5	6
16	44	32	14.5	12	1	4.5	6
20	49	37	18.5	12	1	4.5	6
25	58	44	23	14	1	4.5	6
32	66	52	30	14	1	4.5	6
40	75	61	37	14	1.5	5.5	7
50	88	74	46	16	1.5	5.5	7
63	112	98	59	16	1.5	5.5	7





Fastening clip, heavy-duty



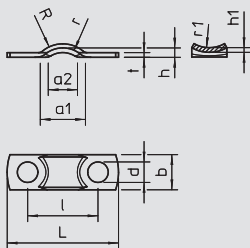
Type	For Ø	Hole size	Material thickness	Shipping box	Pack.	Weight	Item No.
	mm	mm	mm	pcs	pcs	kg/100 pcs.	
823 16 FT	16	6,5 x 10	2	500	50	2.260	1015 09 5
823 18.3 FT	18.6	6,5 x 10	2	500	50	2.450	1015 11 7
823 20 FT	20	6,5 x 10	2	500	50	2.660	1015 13 3
823 22.5 FT	22.5	6,5 x 10	2	400	50	2.990	1015 16 8
823 25 FT	25	6,5 x 10	3	250	25	6.770	1015 49 4
823 28.3 FT	28.3	6,5 x 10	3	250	25	5.210	1015 21 4
823 32 FT	32	6,5 x 10	3	100	100	7.470	1015 49 6
823 37 FT	37	6,5 x 10	3	100	100	8.700	1015 30 3
823 40 FT	40	6,5 x 10	3	100	100	8.460	1015 49 8
823 47 FT	47	6,5 x 10	3	100	100	10.120	1015 36 2
823 54 FT	54	6,5 x 10	3	100	100	10.760	1015 42 7
823 59.3 FT	59.3	6,5 x 10	3	100	100	11.800	1015 48 6
823 50 FT	50	6,5 x 10	3	100	100	9.810	1015 50 0
823 63 FT	63	6,5 x 10	3	100	100	11.550	1015 50 8

St Steel FT Hot-dip galvanised /100 pc.

Two lobe fastening clips for cables and pipes.

Important dimensions, fastening clip

D	A	B	H	b	t	e
mm	mm	mm	mm	mm	mm	mm
15.2	59	40	13	20	2	10
18.6	62	43	16	20	2	10
20.4	64	45	18	20	2	10
22.5	67	48	20	20	2	10
25	79	60	23.5	25	3	10
28.3	75	56	25.5	20	3	10
32	95	71	29	25	3	10
37	93	69	34	25	3	10
47	103	79	43	25	3	10
54	110	86	50	25	3	10
59.3	116	92	55	25	3	10
40	100	76	36	25	3	10
63	120	96	59	25	3	10
50	110	86	46	25	3	10



Strain relief clip



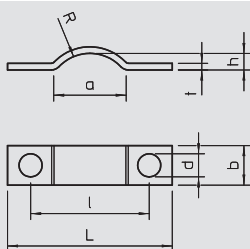
Type	For cable Ø	Shipping box	Pack.	Weight	Item No.
	mm	pcs	pcs	kg/100 pcs.	
7901 5 G	5	4000	100	0.060	1435 01 9
7901 6.5 G	6.5	4000	100	0.120	1435 02 7

St Steel G Electrogalvanised /100 pc.

Fastening clip for strain relief of cables.

Important dimensions, strain relief clip

R	h	L	l	b	t	d	a1	a2	r	r1	h1
mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
5	1.6	19	12	6	0.8	3.5	6.5	4	4	5	0.8
6.5	1.6	23	16	7	1	3.2	8	4	8	5	1.2



Strain relief clip



Type	For cable Ø	Shipping box	Pack.	Weight	Item No.
	mm	pcs	pcs	kg/100 pcs.	
7902 6 G	6.5	4000	100	0.100	1436 01 5
7902 8 G	8	5000	100	0.160	1436 02 3

St Steel G Electrogalvanised /100 pc.

Fastening clip for strain relief of cables.

Important dimensions, strain relief clip

R	h	L	l	b	t	d	a
mm	mm	mm	mm	mm	mm	mm	mm
6.5	2.5	25	18	6	1	3.5	11
8	4.5	30	23	8	1	4	12

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Cable/pipe fastening systems, metal

# Fastening clip



## Strain relief clip

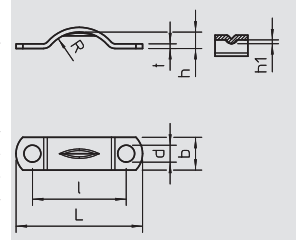
Type	For cable Ø mm	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
7903 6 G	6	4000	100	0.110	1437 00 3
7903 8 G	8	4000	100	0.130	1437 01 1
7903 9 G	9	4000	100	0.270	1437 03 8

**St** Steel      **G** Electrogalvanised      /100 pc.

Fastening clip for strain relief of cables.

### Important dimensions, strain relief clip

R	h	L	l	b	t	d	h1	h1
mm	mm	mm	mm	mm	mm	mm	mm	mm
6	1.5	23	16.5	6	1	2.5	0.5	
8	3.5	27	20	7	1	3.6	0.8	
9	4	31	23	8	1.5	4.5	1	



## Strain relief clip

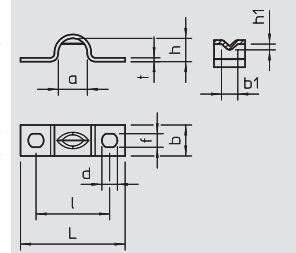
Type	For cable Ø mm	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
7904 6 G	6	4800	100	0.190	1438 01 8

**St** Steel      **G** Electrogalvanised      /100 pc.

Fastening clip for strain relief of cables.

### Important dimensions, strain relief clip

h	a	L	l	d	f	b	t	h1
mm	mm	mm	mm	mm	mm	mm	mm	mm
6	7.5	27.5	19	4	3.5	8	1	1.5



## Strain relief clip

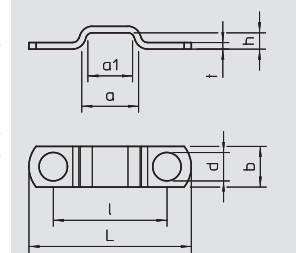
Type	For cable Ø mm	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
7905 5 G	5	3600	100	0.050	1439 01 4

**St** Steel      **G** Electrogalvanised      /100 pc.

Fastening clip for strain relief of cables.

### Important dimensions, strain relief clip

h	a	a1	L	l	b	t	d
mm	mm	mm	mm	mm	mm	mm	mm
2	7	5.5	20	14	5	0.8	3.5

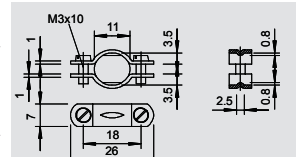


## Strain relief clip

Type	For cable Ø mm	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
7908 11 G	11	2400	100	0.430	1442 01 5

**St** Steel      **G** Electrogalvanised      /100 pc.

Fastening clip for strain relief of cables.

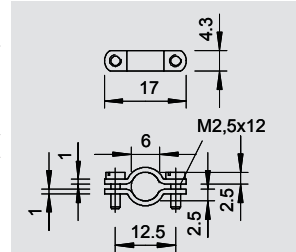


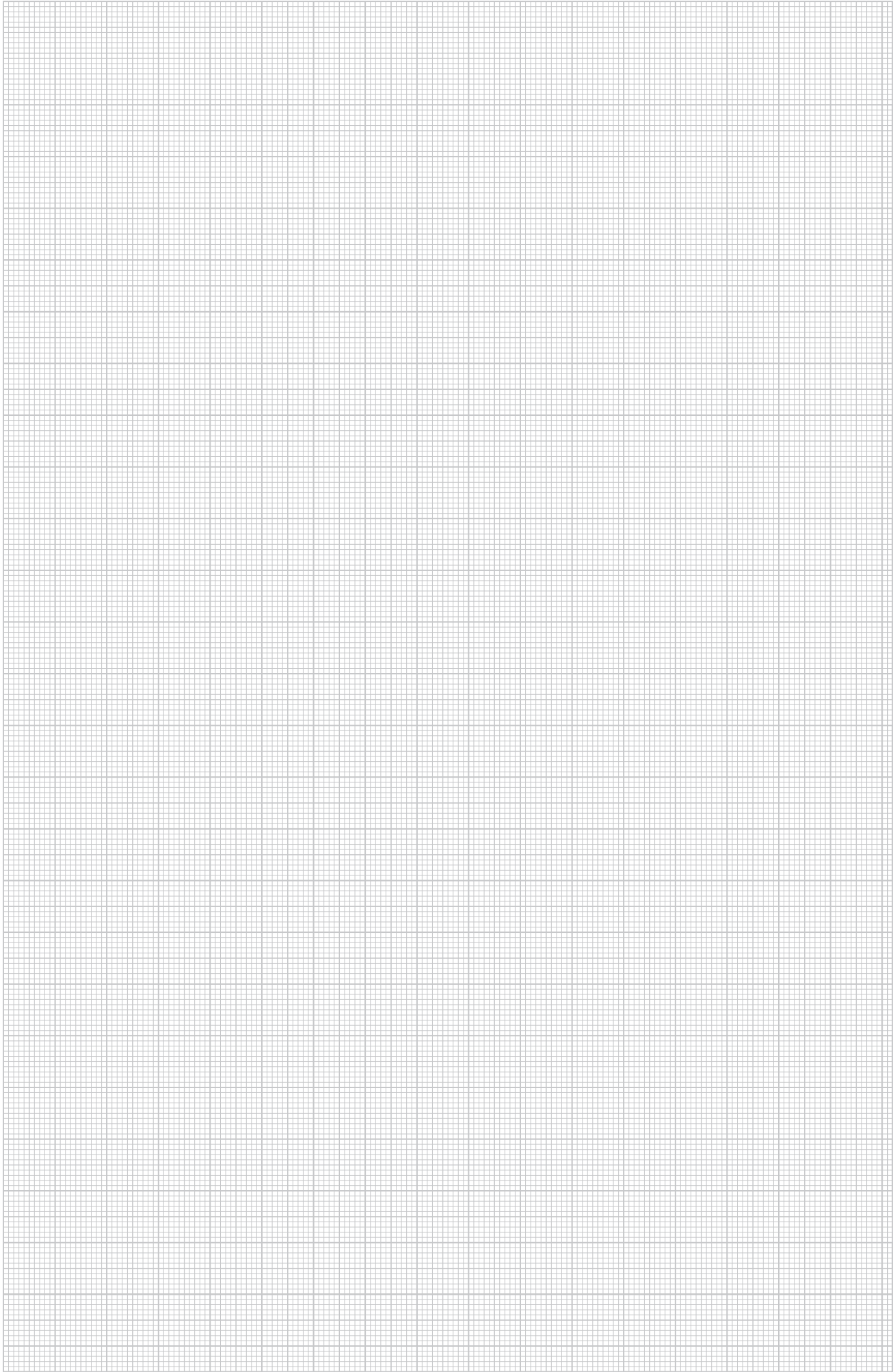
## Strain relief clip

Type	For cable Ø mm	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
7909 6 G	6	4000	100	0.200	1443 01 1

**St** Steel      **G** Electrogalvanised      /100 pc.

Fastening clip for strain relief of cables.







## Special cable/pipe fastening systems

	Fastening strip	Cable ties	312
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	Sticking and releasing	Impu-Fix ribbon conductor quick adhesive	316
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		Tension jack	317
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		Tensioning wire clip	318
		Wire cable clamp	319
	Installation strip	Metal	321
		Plastic covered	322

# Fastening strip



## Cable ties

Type	Dimension	Max. bundle Ø	Minimum breaking load kN	Colour	Shipping box	Pack.	Weight	Item No.
	mm	mm			pcs	pcs	kg/100 pcs.	
555 2.4x75 WS	2.4 x 75	15	0.08	White	1000	100	0.050	2332 02 7
555 2.5x100 WS	2.5 x 100	18	0.08	White	1000	100	0.070	2332 05 1
555 2.5x165 WS	2.5 x 165	40	0.08	White	1000	100	0.080	2332 09 4
555 2.5x200 WS	2.5 x 200	50	0.08	White	1000	100	0.100	2332 10 8
555 3.6x150 WS	3.6 x 140	35	0.18	White	1000	100	0.130	2332 17 5
555 3.6x200 WS	3.6 x 200	50	0.18	White	1000	100	0.150	2332 18 3
555 3.6x290 WS	3.6 x 290	76	0.18	White	1000	100	0.180	2332 21 3
555 4.8x200 WS	4.8 x 200	47	0.22	White	1000	100	0.200	2332 33 7
555 4.8x310 WS	4.8 x 300	76	0.22	White	1000	100	0.250	2332 36 1
555 4.8x370 WS	4.8 x 370	102	0.22	White	1000	100	0.300	2332 38 8
555 7.6x200 WS	7.6 x 200	50	0.55	White	1000	100	0.350	2332 50 7
555 7.6x300 WS	7.6 x 300	76	0.55	White	1000	100	0.450	2332 55 8
555 7.6x380 WS	7.6 x 380	102	0.55	White	1000	100	0.500	2332 57 4
555 2.5x100 SW	2.5 x 100	18	0.08	Black	1000	100	0.070	2332 62 0
555 3.6x150 SW	3.6 x 140	35	0.18	Black	1000	100	0.130	2332 65 5
555 3.6x200 SW	3.6 x 200	50	0.18	Black	1000	100	0.150	2332 66 3
555 4.8x200 SW	4.8 x 200	47	0.22	Black	1000	100	0.200	2332 69 8
555 4.8x310 SW	4.8 x 300	76	0.22	Black	1000	100	0.250	2332 70 1
555 4.8x370 SW	4.8 x 370	102	0.22	Black	1000	100	0.300	2332 72 8
555 7.6x380 SW	7.6 x 380	102	0.55	Black	1000	100	0.500	2332 75 2

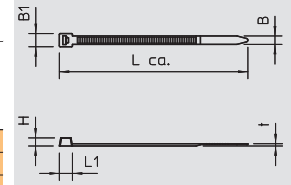
PA Polyamide

/100 pc.

For quick fixing.

### Important dimensions, cable tie

G	L	B	B1	t	H	L1
mm	mm	mm	mm	mm	mm	mm
2.4 x 75	78	2.4	4.4	1	2.9	4.4
2.5 x 100	102	2.5	4.5	1.1	3.3	4.4
2.5 x 165	166	2.5	4.5	1.1	3.7	4.4
2.5 x 200	202	2.5	4.5	1.1	3.7	4.4
3.6 x 140	142	3.6	6	1.2	3.8	6.5
3.6 x 200	201	3.6	6.2	1.2	4.4	5.8
3.6 x 290	294	3.6	6	1.2	4.5	6
4.8 x 200	200	4.8	7.5	1.3	4.6	7.2
4.8 x 300	300	4.8	8.5	1.6	5.7	7.7
4.8 x 370	366	4.8	8.5	1.6	5.7	7.7
7.6 x 200	200	7.6	11.6	1.8	7.2	11
7.6 x 300	300	7.6	11.8	1.8	6.9	11
7.6 x 380	376	7.6	12	1.8	6.4	11



Cable/pipe fastening systems, special



## Cable tie, UV and weather-resistant

Type	Dimension	Max. bundle Ø	Minimum breaking load kN	Colour	Shipping box	Pack.	Weight	Item No.
	mm	mm			pcs	pcs	kg/100 pcs.	
555 2.5x100 SWUV	2.5 x 100	18	0.08	Black	1000	100	0.040	2332 76 0
555 3.6x150 SWUV	3.6 x 140	35	0.18	Black	1000	100	0.070	2332 76 4
555 3.6x200 SWUV	3.6 x 200	50	0.18	Black	1000	100	0.110	2332 76 8
555 4.8x200 SWUV	4.8 x 200	47	0.22	Black	1000	100	0.150	2332 77 2
555 4.8x310 SWUV	4.8 x 300	76	0.22	Black	1000	100	0.240	2332 77 6
555 4.8x370 SWUV	4.8 x 370	102	0.22	Black	1000	100	0.610	2332 78 0
555 7.6x380 SWUV	7.6 x 380	102	0.55	Black	1000	100	0.610	2332 78 4

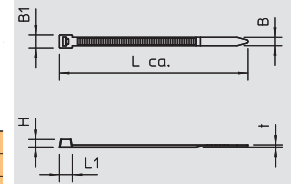
PA Polyamide

/100 pc.

For quick fixing.

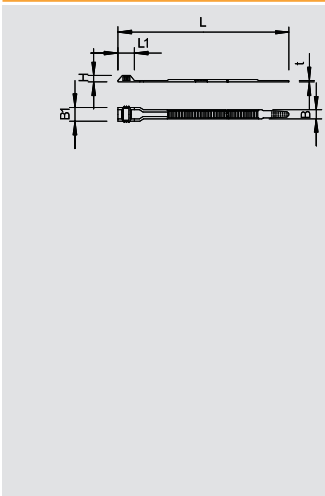
### Important dimensions, cable tie

G	L	B	B1	t	H	L1
mm	mm	mm	mm	mm	mm	mm
2.5 x 100	102	2.5	4.5	1.1	3.3	4.4
3.6 x 140	142	3.6	6	1.2	3.8	6.5
3.6 x 200	201	3.6	6.2	1.2	4.4	5.8
4.8 x 200	200	4.8	7.5	1.3	4.6	7.2
4.8 x 310	310	4.8	8.5	1.6	5.7	7.7
4.8 x 370	366	4.8	8.5	1.6	5.7	7.7
7.6 x 380	376	7.6	12	1.8	6.4	11



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## Ribbon clip, 6 mm-wide



Type	Dimension	Max. bundle Ø	Minimum breaking load	Colour	Shipping box	Pack.	Weight	Item No.
	mm	mm	kN		pcs	pcs	kg/100 pcs.	
<b>550 6X180 SW</b>	6 x 180	45	0.25	Black	1500	100	0.180	<b>2330 05 9</b>
<b>550 6X290 SW</b>	6 x 290	78	0.25	Black	1200	100	0.300	<b>2330 07 5</b>
<b>550 6X360 SW</b>	6 x 360	100	0.25	Black	2200	100	0.380	<b>2330 09 1</b>
<b>550 9X180 SW</b>	9 x 180	40	0.35	Black	1000	100	0.270	<b>2330 22 9</b>



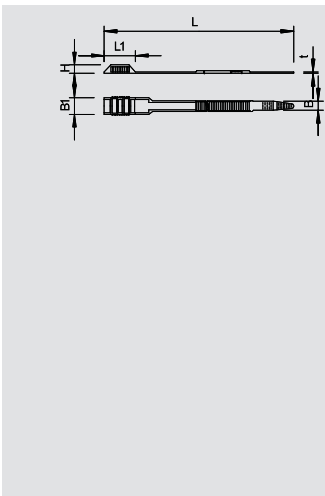
PA Polyamide

/100 pc.

Design E, single lock, UV and weather-resistant.

### Important dimensions, ribbon clip

W x L	L	B	B1	t	H	L1
mm	mm	mm	mm	mm	mm	mm
6 x 180	180	6	10	1.2	5	20
6 x 290	290	6	10	1.7	5	20
6 x 360	360	6	10	1.7	5	20
9 x 180	180	9	14	1.4	6	24



## Ribbon clip, 9 mm-wide



Type	Dimension	Max. bundle Ø	Minimum breaking load	Colour	Shipping box	Pack.	Weight	Item No.
	mm	mm	kN		pcs	pcs	kg/100 pcs.	
<b>550 9X265 SW</b>	9 x 260	65	0.51	Black	2200	100	0.420	<b>2330 24 5</b>
<b>550 9X360 SW</b>	9 x 360	93	0.51	Black	2200	100	0.560	<b>2330 29 6</b>
<b>550 9X510 SW</b>	9 x 510	140	0.55	Black	100	100	0.930	<b>2330 32 6</b>
<b>550 9X760 SW</b>	9 x 760	220	0.55	Black	100	100	1.350	<b>2330 34 2</b>



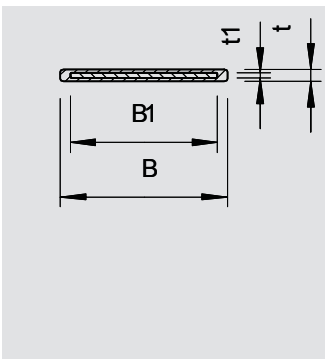
PA Polyamide

/100 pc.

Design D, double lock, UV and weather-resistant.

### Important dimensions, ribbon clip

W x L	L	B	B1	t	H	L1
mm	mm	mm	mm	mm	mm	mm
9 x 260	260	9	15	1.4	7	39
9 x 360	360	9	15	1.4	7	39
9 x 510	510	9	15	2	7.2	39
9 x 760	760	9	15	2	7.2	40



## Tightening strap

Type	Dimension	Minimum breaking load	Colour	Shipping box	Pack.	Weight	Item No.
	mm	kN		m	m	kg/100 m	
<b>574 G STGR</b>	17 x 1.0	1.35	Stone grey	250	25	5.880	<b>6490 01 8</b>

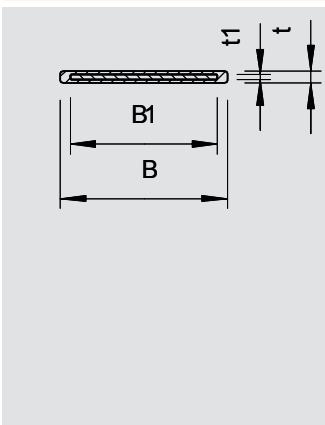
St Steel G Electrogalvanised

/100 m

Galvanised tightening strap and with plastic covering for fastening on cable trays and ladders.

### Important dimensions, tightening strap

B	t	B1	t1
mm	mm	mm	mm
17	1	15.5	0.3



## Tightening strap V2A

Type	Dimension	Minimum breaking load	Colour	Shipping box	Pack.	Weight	Item No.
	mm	kN		m	m	kg/100 m	
<b>574 03 BA</b>	17 x 1.0	2.25	Blue anthracite	250	25	6.950	<b>6490 03 4</b>
<b>574 05 GNBG</b>	16.5 x 1.2	3.5	Green-beige	250	25	6.950	<b>6490 05 0</b>

V2A Stainless steel, grade 301

/100 m

Tightening strap made of rustproof steel and with plastic covering for fastening on cable trays and ladders.

### Important dimensions, tightening strap

B	t	B1	t1
mm	mm	mm	mm
17	1	15.5	0.3
16.5	1.2	14.5	0.5



# Fastening strip

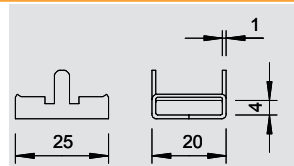


## Tightening strap lock

Type	Shipping box	Pack.	Weight	Item No.
	pcs	pcs	kg/100 pcs.	
192	1200	100	0.900	6490 90 5

**St** Steel **DD** Zinc-aluminium coated, double-dip /100 pc.

Tightening strap lock for mounting under the ceiling.

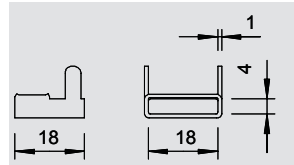


## Tightening strap lock V2A

Type	Shipping box	Pack.	Weight	Item No.
	pcs	pcs	kg/100 pcs.	
197 VA4301	1800	100	0.560	6490 96 4

**V2A** Stainless steel, grade 304 /100 pc.

Tightening strap lock for single-sided locking of tightening strap in problematic areas.

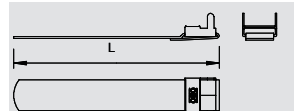


## Tightening strap in fixed lengths

Type	Dimension	Length	Colour	Shipping box	Pack.	Weight	Item No.
	mm	mm		pcs	pcs	kg/100 pcs.	
574 03 30 BA	17 x 1.0	300	Blue anthracite	500	25	2.410	6490 10 7
574 03 45 BA	17 x 1.0	450	Blue anthracite	250	25	3.260	6490 12 3
574 05 55 GNBG	16.5 x 1.2	550	Green-beige	250	25	4.660	6490 15 8
574 05 65 GNBG	16.5 x 1.2	650	Green-beige	250	25	5.370	6490 17 4

**V2A** Stainless steel, grade 304 /100 pc.

Tightening strap, 574/03/VA and 574/05/VA, completely preterminated with tightening strap lock.



## Spring chuck

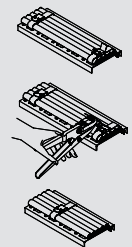
Type	Pack.	Weight	Item No.
	pcs	kg/100 pcs.	
575	1	29.700	6498 01 9

**St** Steel /pc.

For tightening strap 574/...

Mounting of the tightening strap:

1. Cut the strap to the right length, push it through the lock and turn it over.
2. Loop the strap around the cable, push the loose end through the lock.
3. Tighten the end of the strap with the pliers.
4. Turn the end of the taut strap with the pliers. Remove the pliers.
5. Completely turnover the turned end of the strap with the hammer, secure the end of the strap by hitting the two standing lobes of the lock.

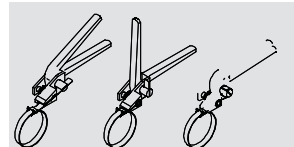


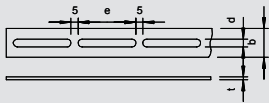
## Spring chuck

Type	Pack.	Weight	Item No.
	pcs	kg/100 pcs.	
576	1	132.000	6498 02 7

**St** Steel /pc.

For tightening strap 574/...





## Slotted steel strap, rods



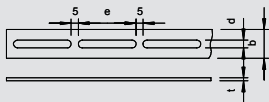
Type	Dimension mm	Per bundle m	Weight kg/100 m	Item No.
5050 20X3 3M FT	20 x 3	60	36.800	1465 76 7
5050 25X3 3M FT	25 x 3	60	48.900	1465 77 5
5050 30X3 3M FT	30 x 3	60	64.000	1465 79 1
5050 SB30x3 FT	30 x 3	60	54.000	1466 26 7
5050 30X4 3M FT	30 x 4	30	71.600	1465 80 5
5050 40X4 3M FT	40 x 4	30	103.800	1465 82 1

**St** Steel **FT** Hot-dip galvanised /100 m

Perforated slotted steel strap in strips.  
Length: 3,000 mm.

### Important dimensions, slotted steel strap

w x d	d	e
mm	mm	mm
20 x 3	6.5	40
25 x 3	6.5	40
30 x 3	6.5	40
30 x 3	8.5	40
30 x 4	8.5	60
40 x 4	8.5	70



## Slotted steel strap, rings



Type	Dimension mm	Normal ring ca. m	Weight kg/100 m	Item No.
5050 25X3 FT	25 x 3	120	48.900	1465 10 4
5050 30X3 FT	30 x 3	120	64.000	1465 14 7
5050 30X4 FT	30 x 4	100	71.600	1465 16 3
5050 40X4 FT	40 x 4	80	103.000	1465 19 8
5050 20x1.5 BK	20 x 1.5	200	18.200	1465 60 0

**St** Steel **Bright** **FT** Hot-dip galvanised /100 m

In rings.

### Important dimensions, slotted steel strap

w x d	d	e
mm	mm	mm
25 x 3	6.5	40
30 x 3	6.5	40
30 x 4	8.5	60
40 x 4	8.5	70



# Sticking

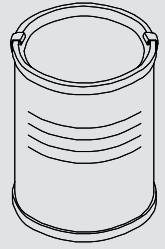


## Solvent mixture

Type	Contents	Pack.	Weight	Item No.
	ml	pcs	kg/100 pcs.	
508	1000	1	105.000	2341 10 7

/pc.

Thinning.  
Solvent mixture to create an optimum processing consistency of Impu-Fix ribbon conductor quick adhesive and to clean the working material.

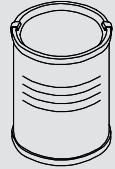


## Impu-Fix ribbon conductor quick adhesive

Type	Contents	Pack.	Weight	Item No.
	kg	pcs	kg/100 pcs.	
509	0.65	1	70.000	2341 01 8

/pc.

Impu-Fix ribbon conductor bonding agent to stick clips and ribbon conductors to masonry and concrete.



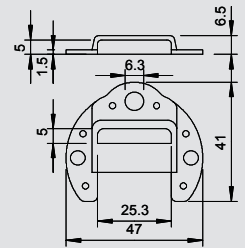
## Ceiling outlet

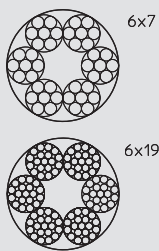
Type	Colour	Pack.	Weight	Item No.
		pcs	kg/100 pcs.	
510	Light grey	100	0.290	2236 02 8

PS Polystyrene

/100 pc.

To fasten ribbon conductors.





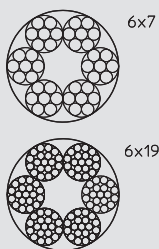
## Steel wire tensioning rope

Type	Cable diameter mm	Breaking load kN	In rings m	Weight kg/100 m	Item No.
957 2 G	2	2.35	50	1.430	5303 20 2
957 3 G	3	5.29	50	3.220	5303 20 6
957 4 G	4	9.41	50	5.720	5303 21 4
957 5 G	5	14.7	50	8.940	5303 22 2
957 6 G	6	21.1	50	12.900	5303 23 0
957 8 G	8	34.8	50	22.900	5303 25 7
957 10 G	10	54.4	50	35.700	5303 26 5

**St** Steel **G** Electrogalvanised /100 m

Steel wire tensioning rope, galvanised with fibre inlay (hemp core).  
Cable Ø 2 - 6 mm: round-stranded cable 6 x 7 according to DIN 3055.  
Cable Ø 8 - 10 mm: round-stranded cable 6 x 19 according to DIN 3060.  
Minimum break force 1770 N/mm<sup>2</sup>.

## Application for interior areas! ##



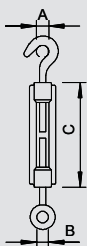
## Steel wire tensioning rope V4A

Type	Cable diameter mm	Breaking load kN	In rings m	Weight kg/100 m	Item No.
957 2 V4A	2	2.35	50	1.430	5303 17 9
957 3 V4A	3	5.29	50	3.220	5303 18 2
957 4 V4A	4	9.41	50	5.720	5303 18 5
957 5 V4A	5	14.7	50	8.940	5303 18 8
957 6 V4A	6	21.1	50	12.900	5303 19 1
957 8 V4A	8	34.8	50	22.900	5303 19 4
957 10 V4A	10	54.4	50	35.700	5303 19 7

**V4A** Stainless steel, grade 316 /100 m

Cable Ø 2 - 6 mm: round-stranded cable 6 x 7 according to DIN 3055.  
Cable Ø 8 - 10 mm: round-stranded cable 6 x 19 according to DIN 3060.  
Minimum break force 1770 N/mm<sup>2</sup>.

## Application for exterior areas! ##



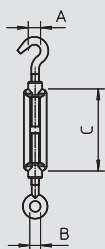
## Tension jack

Type	Dimension A mm	Dimension B mm	Dimension C mm	Thread	Breaking load kN	Pack. pcs	Weight kg/100 pcs.	Item No.
945 M6 G	9	8.5	110	M6	2.25	5	13.050	5300 03 7
945 M10 G	14	13.5	125	M10	7	5	33.650	5300 05 3
945 M12 G	16	15.5	125	M12	7.5	5	53.000	5300 06 1
945 M16 G	22	19	170	M16	12	5	84.000	5300 08 8

**St** Steel **G** Electrogalvanised /100 pc.

With hook and eye, to DIN 1480.

## Application for interior areas! ##



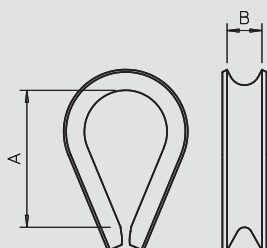
## Tension jack V4A

Type	Dimension A mm	Dimension B mm	Dimension C mm	Thread	Breaking load kN	Pack. pcs	Weight kg/100 pcs.	Item No.
945 M6 V4A	9	8.5	110	M6	2.25	5	10.500	5300 12 0
945 M10 V4A	14	13.5	125	M10	7	5	28.000	5300 12 4
945 M12 V4A	16	15.5	125	M12	7.5	5	42.000	5300 12 7
945 M16 V4A	22	19	170	M16	12	5	100.000	5300 13 2

**V4A** Stainless steel, grade 316 /100 pc.

With hook and eye, to DIN 1480.

## Application for exterior areas! ##



## Cable eye stiffener

Type	For rope Ø mm	Dimension A mm	Dimension B mm	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
946 3 G	3	21.5	4	1250	25	0.350	5301 03 3
946 4 G	4	26.5	5.5	750	25	0.410	5301 04 1
946 5 G	5	28.5	6.5	600	25	0.500	5301 00 9
946 6 G	6	30	8	500	25	0.760	5301 06 8
946 8 G	8	35	10	360	10	1.230	5301 08 4
946 10 FT	10	43	12.5	200	10	2.320	5301 10 6

**St** Steel **G** Electrogalvanised **FT** Hot-dip galvanised /100 pc.

Cable eye stiffener according to DIN 65457.

## Application for interior areas! ##



# Steel wire range



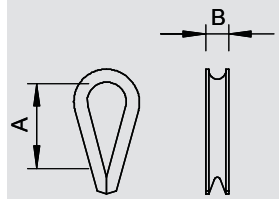
## Cable eye stiffener V4A

Type	For rope-Ø	Dimension A	Dimension B	Shipping box	Pack.	Weight	Item No.
	mm	mm	mm	pcs	pcs	kg/100 pcs.	
946 3 V4A	3	21.5	4	1250	25	0.210	5301 17 0
946 4 V4A	4	26.5	5.5	750	25	0.390	5301 17 2
946 5 V4A	5	28.5	6.5	600	25	0.620	5301 17 4
946 6 V4A	6	30	8	500	25	0.840	5301 17 6
946 8 V4A	8	35	10	360	10	1.880	5301 18 0
946 10 V4A	10	43	12.5	200	10	3.560	5301 18 4

V4A Stainless steel, grade 316

/100 pc.

Cable eye stiffener according to DIN 65457. ## Application for exterior areas! ##



## Tensioning wire clip

Type	Bolt	Shipping box	Pack.	Weight	Item No.
		pcs	pcs	kg/100 pcs.	
1020 11-16 G	M4 x 13	1200	100	1.420	1404 16 4
1020 14-18 G	M4 x 13	1000	100	1.650	1404 18 0
1020 18-28 G	M4 x 13	600	100	2.000	1404 28 8

St Steel G Electrogalvanised

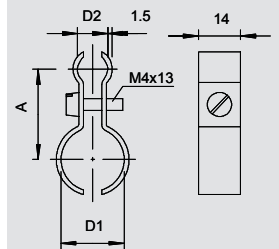
/100 pc.

To fasten cables to tensioning cables.

## Application for interior areas! ##

### Important dimensions, tensioning wire clip

D1	D2	A
mm	mm	mm
11-16	4-9	22
14-18	4-9	26
19-28	4-9	34



## Tensioning wire clip V4A

Type	Bolt	Shipping box	Pack.	Weight	Item No.
		pcs	pcs	kg/100 pcs.	
1020 11-16 V4A	M4 x 13	100	100	1.420	1404 16 8
1020 14-18 V4A	M4 x 13	100	100	1.650	1404 18 4
1020 18-28 V4A	M4 x 13	100	100	2.000	1404 29 2

V4A Stainless steel, grade 316 Ti

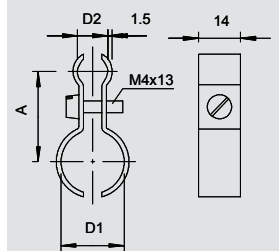
/100 pc.

To fasten cables to tensioning cables.

## Application for exterior areas! ##

### Important dimensions, tensioning wire clip

D1	D2	A
mm	mm	mm
11-16	4-9	22
14-18	4-9	26
19-28	4-9	34



## Tensioning wire clip, polystyrene

Type	Clamping range D	For rope-Ø	Bolt	Shipping box	Pack.	Weight	Item No.
	mm	mm		pcs	pcs	kg/100 pcs.	
4024 9-16	9-16	3-8	M4 x 13	1200	100	0.550	2305 15 1
4024 16-23	16-23	5-10	M5 x 20	500	50	0.930	2305 23 2

PS Polystyrene

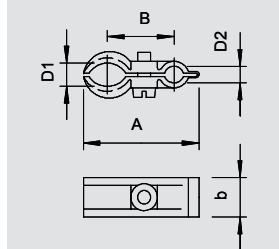
/100 pc.

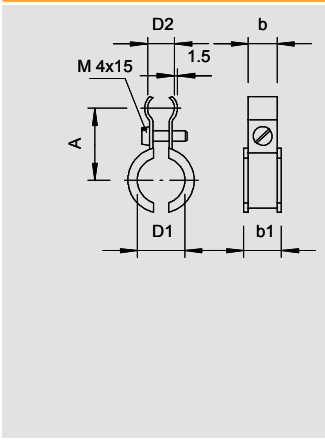
Bolt, steel, electrogalvanised, light grey.

## Application for interior areas! ##

### Important dimensions, tensioning wire clip

D1	D2	A	B	b	M
mm	mm	mm	mm	mm	
9-16	3- 8	41	24	14	M4 x 13
16-23	5-10	55	31.5	15	M5 x 20





## Fix ISO tensioning wire clip



Type	Clamping range D	For rope-Ø	Bolt	Shipping box	Pack.	Weight	Item No.
	mm	mm		pcs	pcs	kg/100 pcs.	
<b>4021 K 6-13</b>	6-13	4-9	M4 x 15	1000	100	1.300	<b>2307 61 8</b>
<b>4021 K 9-16</b>	9-16	4-9	M4 x 15	1200	100	1.460	<b>2307 63 4</b>

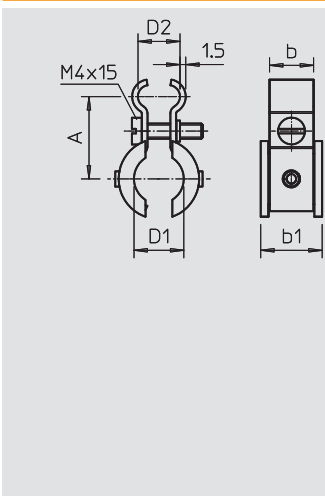
**St** Steel **FS** Strip-galvanised /100 pc.

Metal clip with plastic insert, steel, electrogalvanised, polyethylene inserts

## Application for interior areas! ##

### Important dimensions, tensioning wire clip

D1	D2	A	b	b1
mm	mm	mm	mm	mm
6-13	4-9	21.5	11.5	16
9-16	4-9	26	14	18.3



## Fix ISO tensioning wire clip V4A



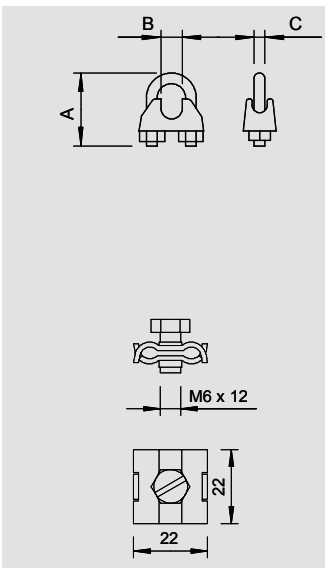
Type	Clamping range D	For rope-Ø	Bolt	Shipping box	Pack.	Weight	Item No.
	mm	mm		pcs	pcs	kg/100 pcs.	
<b>4021 K 6-13 V4A</b>	6-13	4-9	M4 x 15	100	100	1.300	<b>2307 62 2</b>
<b>4021 K 9-16 V4A</b>	9-16	4-9	M4 x 15	100	100	1.460	<b>2307 63 8</b>

**V4A** Stainless steel, grade 316 Ti /100 pc.

The cable and pipe fastenings of the special system include cable ties, fastening straps and installation strips, with which cable and pipe installations can be fastened to cable support systems such as cable or mesh cable trays or other mounting constructions. A complete tensioning wire system to suspend and catch cable weights is also a component part of the special system.

## Application for exterior areas! ##

D1	D2	A	b	b1
mm	mm	mm	mm	mm
6-13	4-9	21.5	11.5	16
9-16	4-9	26	14	18.3



## Wire cable clamp

Type	For rope-Ø	Dimension A	Dimension B	Dimension C	Shipping box	Pack.	Weight	Item No.
	mm	mm	mm	mm	pcs	pcs	kg/100 pcs.	
<b>947 3 F</b>	3	20	4	4	1000	25	1.060	<b>5302 02 1</b>
<b>947 5 F</b>	5	24	6	5	900	25	1.400	<b>5302 05 6</b>
<b>947 6 F</b>	6	28	8	5	750	25	1.700	<b>5302 06 4</b>
<b>947 8 F</b>	8	34	9	6	360	10	3.100	<b>5302 08 0</b>
<b>947 10 F</b>	10	42	11	8	200	10	6.500	<b>5302 10 2</b>

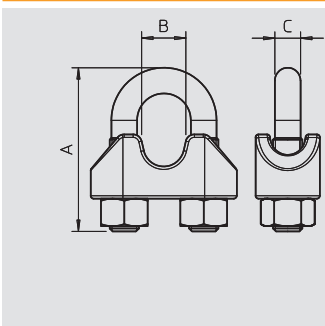
**TG** Cast iron **F** Hot-dip galvanised /100 pc.

Wire cable clamp for fastening steel wire tensioning cables. ## Application for interior areas! ##

Type	For rope-Ø	Bolt	Shipping box	Pack.	Weight	Item No.
	mm		pcs	pcs	kg/100 pcs.	
<b>261 3-6 G</b>	3-6	M6 x 12	600	100	1.500	<b>5305 01 2</b>

**St** Steel **G** Electrogalvanised /100 pc.

Wire cable clamp for fastening steel wire tensioning cables. ## Application for interior areas! ##



## Wire cable clamp, V4A

Type	For rope-Ø	Dimension A	Dimension B	Dimension C	Shipping box	Pack.	Weight	Item No.
	mm	mm	mm	mm	pcs	pcs	kg/100 pcs.	
<b>947 3 V4A</b>	3	20	4	4	1000	25	0.700	<b>5302 17 0</b>
<b>947 5 V4A</b>	5	24	6	5	900	25	1.500	<b>5302 17 4</b>
<b>947 6 V4A</b>	6	28	8	5	750	25	1.900	<b>5302 17 8</b>
<b>947 8 V4A</b>	8	34	9	6	360	10	3.200	<b>5302 18 2</b>
<b>947 10 V4A</b>	10	42	11	8	200	10	6.600	<b>5302 18 8</b>

**V4A** Stainless steel, grade 316 /100 pc.

Wire cable clamp for fastening steel wire tensioning cables. ## Application for exterior areas! ##

##



# Steel wire range



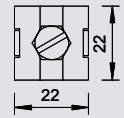
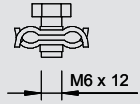
## Wire cable clamp, V4A

Type	For rope-Ø mm	Bolt M6 x 12	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>261 3-6 V4A</b>	3-6	M6 x 12	100	100	1.500	<b>5305 01 6</b>

V4A Stainless steel, grade 316 Ti /100 pc.

The cable and pipe fastenings of the special system include cable ties, fastening straps and installation strips, with which cable and pipe installations can be fastened to cable support systems such as cable or mesh cable trays or other mounting constructions. A complete tensioning wire system to suspend and catch cable weights is also a component part of the special system.

## Application for exterior areas! ##

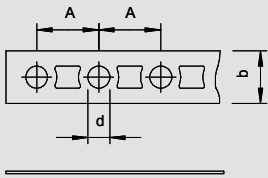




# Perforated steel strap



## Perforated steel strap



Type	Dimension mm	Per roll m	Weight kg/100 pcs.	Item No.
5055 II12 FS	12 x 1	10	73.000	1470 12 4
5055 II17 FS	17 x 1	10	106.000	1470 17 5
5055 III26 FS	26 x 1.2	10	204.500	1470 26 4
5055 LI12 FS	12 x 0.75	10	59.000	1471 12 0
5055 LII17 FS	17 x 0.75	10	84.200	1471 17 1
5055 LIII26 26	26 x 1	10	172.300	1471 26 0

**St** Steel **FS** Strip-galvanised

/pc.

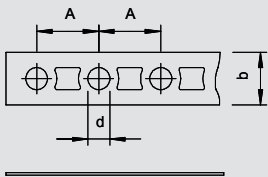
Perforated steel strap, in practical uncoiling box.

### Important dimensions, installation strip

Dimension	d	A	b
mm	mm	mm	mm
12 x 1	5.2	14.4	12
17 x 1	6.5	20	17
26 x 1.2	8.5	25	26
12 x 0.75	5.2	14.4	12
17 x 0.75	6.5	20	17
26 x 1	8.5	25	26



## Perforated steel strap, V4A



Type	Dimension mm	Per roll m	Weight kg/100 pcs.	Item No.
5055 II12 V4A	12 x 1	10	73.000	1470 12 9
5055 II17 V4A	17 x 1	10	106.000	1470 18 0
5055 III26 V4A	26 x 1.2	10	204.500	1470 27 0
5055 LI12 V4A	12 x 0.75	10	59.000	1471 12 6
5055 LII17 V4A	17 x 0.75	10	84.200	1471 17 7
5055 LIII26 V4A	26 x 1	10	172.300	1471 26 6

**V4A** Stainless steel, grade 316 Ti

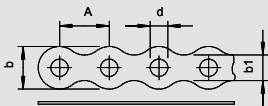
/pc.

Perforated steel strap, in practical uncoiling box.

Dimension	d	A	b
mm	mm	mm	mm
12 x 1	5.2	14.4	12
17 x 1	6.5	20	17
26 x 1.2	8.5	25	26
12 x 0.75	5.2	14.4	12
17 x 0.75	6.5	20	17
26 x 1	8.5	25	26



## Perforated steel strap, ridged



Type	Dimension mm	Per roll m	Weight kg/100 pcs.	Item No.
5062 II12 FS	12 x 1	10	69.000	1475 12 6
5062 II17 FS	17 x 1	10	98.500	1475 17 7
5062 III26 FS	26 x 1.2	10	183.000	1475 26 6
5062 LI12 12	12 x 0.75	10	57.000	1475 62 2
5062 LII17 FS	17 x 0.75	10	73.000	1475 67 3
5062 LIII26 FS	26 x 1	10	153.000	1475 76 2

**St** Steel **FS** Strip-galvanised

/pc.

Perforated strap with wavy edges, in practical uncoiling box.

### Important dimensions, installation strip

Dimension	d	A	b	b1
mm	mm	mm	mm	mm
12 x 1	5	14	12	7.4
17 x 1	7	20	17	10.4
26 x 1.2	9	25	26	17.2
12 x 0.75	5	14	12	7.4
17 x 0.75	7	20	17	10.4
26 x 1	9	25	26	17.2



# Perforated steel strap



## Perforated steel strap, ridged, V4A

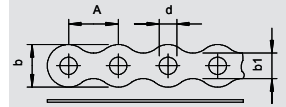
Type	Dimension mm	Per roll m	Weight kg/100 pcs.	Item No.
5062 II12 V4A	12 x 1	10	69.000	1475 13 2
5062 II17 V4A	17 x 1	10	98.500	1475 18 3
5062 III26 V4A	26 x 1.2	10	183.000	1475 27 2
5062 LI12 V4A	12 x 0.75	10	57.000	1475 62 8
5062 LII17 V4A	17 x 0.75	10	—	1475 67 9
5062 LIII26 V4A	26 x 1	10	153.000	1475 76 8

V4A Stainless steel, grade 316 Ti

/pc.

Perforated strap with wavy edges, in practical uncoiling box.

Dimension	d	A	b	b1
mm	mm	mm	mm	mm
12 x 1	5	14	12	7.4
17 x 1	7	20	17	10.4
26 x 1.2	9	25	26	17.2
12 x 0.75	5	14	12	7.4
17 x 0.75	7	20	17	10.4
26 x 1	9	25	26	17.2



## Perforated steel strap, plastic-coated

Type	Dimension mm	Per roll m	Weight kg/100 pcs.	Item No.
5055 L PE I 14	13 x 3	10	70.000	1473 22 0
5055 L PE II 19	19 x 3	10	100.500	1473 27 1
5055 L PE III 28	28 x 3.7	10	167.500	1473 36 0

St Steel

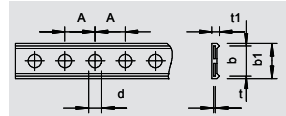
FS Strip-galvanised

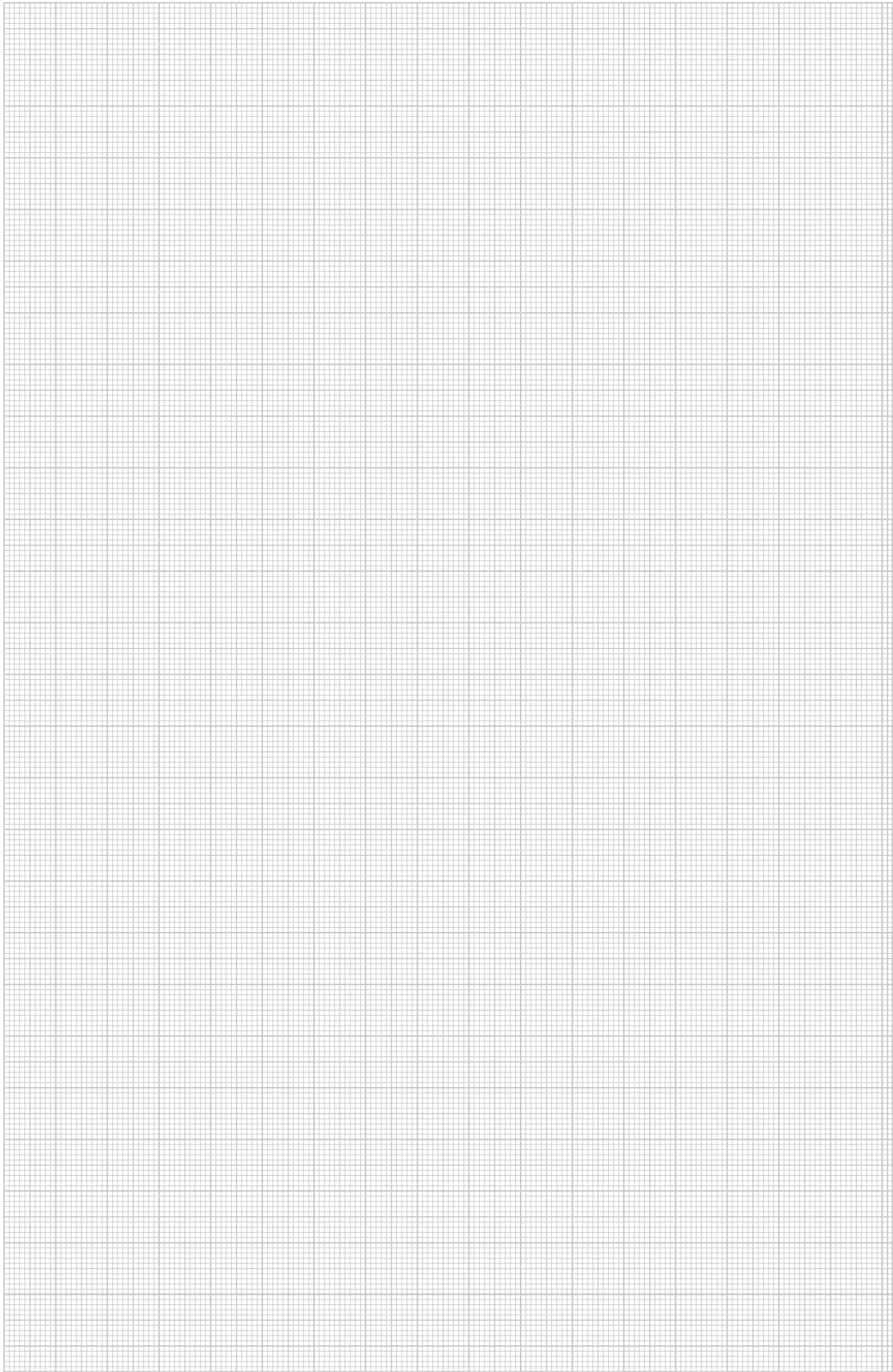
/pc.

Perforated steel strap with PE plastic jacketing.

### Important dimensions, installation strip








Dimension	d	A	b	b1	t	t1
mm	mm	mm	mm	mm	mm	mm
12 x 0.75	5.2	12	12	14	0.75	3
17 x 0.75	6.5	15	17	19	0.75	3
26 x 1	8.5	20	26	28	1	3.7







## Pipe systems

	Steel armoured pipes and accessories	Electrogalvanised	326 326
	Steel armoured pipes and accessories	System Repeat, painted black	326 327
	Steel armoured pipes and accessories	System Repeat, hot galvanised	326 327
	Stainless steel pipes and accessories	V2A, V4A	331 332
	Aluminium pipes and accessories		331 332
	System accessories	End socket, metric End socket, PG Connection sleeve with thread	333 333
	Quick pipe system	Quick pipe Quick pipe system accessories, T piece Quick pipe system accessories, bend	334 335 334

# Metal pipes and accessories

M

## Steel armoured pipe, with thread

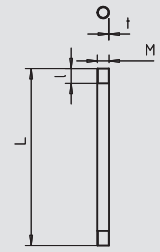


Type	Dimension M	Dimension L	Dimension t	Pack.	Weight	Item No.
	mm	mm	mm	m	kg/100 m	
<b>SM16 W G</b>	M16	3000	1.4	30	50.000	<b>2046 86 1</b>
<b>SM20 W G</b>	M20	3000	1.6	30	73.400	<b>2046 86 2</b>
<b>SM25 W G</b>	M25	3000	1.6	30	93.400	<b>2046 86 3</b>
<b>SM32 W G</b>	M32	3000	1.6	21	120.000	<b>2046 86 4</b>
<b>SM40 W G</b>	M40	3000	1.6	15	150.000	<b>2046 86 5</b>
<b>SM50 W G</b>	M50	3000	1.6	15	190.000	<b>2046 86 6</b>
<b>SM63 W G</b>	M63	3000	1.8	9	283.400	<b>2046 86 7</b>

**St** Steel **G** Electrogalvanised /100 m

Electrical installation pipe to EN 61386-1 with threaded ends to DIN EN 60423 for mechanical protection of cables. With burr-free inner wall. One connection sleeve is already screwed onto each pipe.

5 | 5 | 5 | 7 | 1



M

## Armoured steel pipe bend, with thread

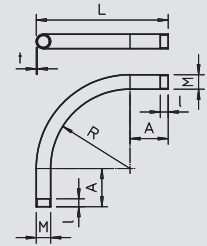


Type	Dimension M	Dimension L	Dimension t	Dimension R	Pack.	Weight	Item No.
	mm	mm	mm	mm	pcs	kg/100 pcs.	
<b>SBM16 W G</b>	M16	113	1.4	47	15	8.000	<b>2046 86 8</b>
<b>SBM20 W G</b>	M20	160	1.6	80	25	10.000	<b>2046 86 9</b>
<b>SBM25 W G</b>	M25	182.5	1.6	77.5	25	30.000	<b>2046 87 0</b>
<b>SBM32 W G</b>	M32	206	1.6	114	20	40.000	<b>2046 87 1</b>
<b>SBM40 W G</b>	M40	300	1.6	180	15	80.000	<b>2046 87 2</b>
<b>SBM50 W G</b>	M50	325	1.6	175	5	100.000	<b>2046 87 3</b>
<b>SBM63 W G</b>	M63	411.5	1.8	218.5	3	190.000	<b>2046 87 4</b>

**St** Steel **G** Electrogalvanised /100 pc.

Accessory part: 90° bend for electrical installation pipes according to EN 61386-1 with threaded ends to DIN EN 60423. With burr-free inner wall. One connection sleeve is already screwed onto each pipe bend.

5 | 5 | 5 | 7 | 1



M

## Armoured steel pipe connection sleeve, with thread

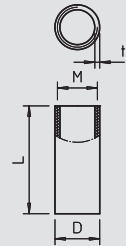


Type	Dimension M	Dimension L	Dimension D	Dimension t	Pack.	Weight	Item No.
	mm	mm	mm	mm	pcs	kg/100 pcs.	
<b>SVM16 W G</b>	M16	26	18.5	2	25	2.000	<b>2046 87 5</b>
<b>SVM20 W G</b>	M20	30	22.5	2	50	2.000	<b>2046 87 6</b>
<b>SVM25 W G</b>	M25	40	27.5	2	50	5.000	<b>2046 87 7</b>
<b>SVM32 W G</b>	M32	40	35.5	2.5	50	8.000	<b>2046 87 8</b>
<b>SVM40 W G</b>	M40	45	43.5	2.5	25	11.000	<b>2046 87 9</b>
<b>SVM50 W G</b>	M50	54	53.5	2.5	10	16.000	<b>2046 88 0</b>
<b>SVM63 W G</b>	M63	60	68	3.2	5	30.000	<b>2046 88 1</b>

**St** Steel **G** Electrogalvanised /100 pc.

Accessory part: Pipe connection sleeve with thread to DIN EN 60423 to connect electrical installation pipes and 90° bends. With burr-free inner wall.

5 | 5 | 5 | 7 | 1



## Steel armoured pipe, without thread

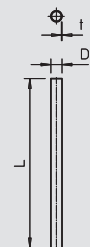


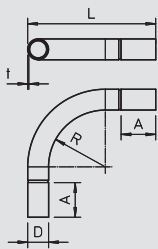
Type	Dimension M	Dimension L	Dimension t	Pack.	Weight	Item No.
	mm	mm	mm	m	kg/100 m	
<b>S16 W G</b>	M16	3000	1	30	37.000	<b>2046 84 0</b>
<b>S20 W G</b>	M20	3000	1	30	38.000	<b>2046 84 1</b>
<b>S25 W G</b>	M25	3000	1.2	30	70.000	<b>2046 84 2</b>
<b>S32 W G</b>	M32	3000	1.2	21	90.000	<b>2046 84 3</b>
<b>S40 W G</b>	M40	3000	1.2	15	113.400	<b>2046 84 4</b>
<b>S50 W G</b>	M50	3000	1.2	15	143.400	<b>2046 84 5</b>
<b>S63 W G</b>	M63	3000	1.2	9	183.400	<b>2046 84 6</b>

**St** Steel **G** Electrogalvanised /100 m

Electrical installation pipe without threaded ends to EN 61386-1 for mechanical protection of cables. With burr-free inner wall.

4 | 4 | 5 | 7 | 1





## Armoured steel pipe bend, without thread

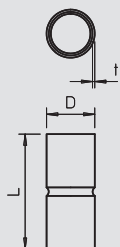
Type	Dimension M	Dimension L	Dimension t	Dimension R	Pack.	Weight	Item No.
	mm	mm	mm	mm	pcs	kg/100 pcs.	
<b>SB16 W G</b>	M16	114.3	1	50.7	15	8.000	<b>2046 84 7</b>
<b>SB20 W G</b>	M20	116.55	1.2	58.45	25	12.000	<b>2046 84 8</b>
<b>SB25 W G</b>	M25	144.05	1.2	65.95	25	18.000	<b>2046 84 9</b>
<b>SB32 W G</b>	M32	172.6	1.2	62.4	20	29.000	<b>2046 85 0</b>
<b>SB40 W G</b>	M40	271.9	1.5	148.1	15	71.000	<b>2046 85 1</b>
<b>SB63 W G</b>	M63	418.5	1.5	216.55	3	173.000	<b>2046 85 3</b>
<b>SB50 W G</b>	M50	320	1.5	173.05	5	108.000	<b>2046 85 2</b>

**St** Steel **G** Electrogalvanised /100 pc.

Accessory part: 90° bend with moulded sleeves, for electrical installation pipes according to EN 61386-1. With burr-free inner wall.



4 | 4 | 5 | 7 | 1



## Armoured steel pipe connection sleeve, without thread

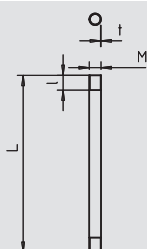
Type	Dimension M	Dimension L	Dimension D	Dimension t	Pack.	Weight	Item No.
	mm	mm	mm	mm	pcs	kg/100 pcs.	
<b>SV16 W G</b>	M16	50	18.6	1	25	2.000	<b>2046 85 4</b>
<b>SV20 W G</b>	M20	60	23.1	1.2	50	4.000	<b>2046 85 5</b>
<b>SV25 W G</b>	M25	60	28.1	1.2	50	5.000	<b>2046 85 6</b>
<b>SV32 W G</b>	M32	70	35.2	1.2	50	7.000	<b>2046 85 7</b>
<b>SV40 W G</b>	M40	80	43.8	1.5	25	13.000	<b>2046 85 8</b>
<b>SV50 W G</b>	M50	100	54	1.5	10	20.000	<b>2046 85 9</b>
<b>SV63 W G</b>	M63	100	67	1.5	5	26.000	<b>2046 86 0</b>

**St** Steel **G** Electrogalvanised /100 pc.

Accessory part: plug-in sleeve for the connections between electrical installation pipes. With burr-free inner wall.



4 | 4 | 5 | 7 | 1



## Steel armoured pipe, with thread

Type	Dimension M	Dimension L	Dimension t	Colour	Pack.	Weight	Item No.
	mm	mm	mm		m	kg/100 m	
<b>SM16W SW</b>	M16	3000	1.4	Black	30	50.000	<b>2046 50 0</b>
<b>SM20W SW</b>	M20	3000	1.6	Black	30	73.000	<b>2046 50 1</b>
<b>SM25W SW</b>	M25	3000	1.6	Black	30	92.000	<b>2046 50 2</b>
<b>SM32W SW</b>	M32	3000	1.6	Black	21	120.000	<b>2046 50 3</b>
<b>SM40W SW</b>	M40	3000	1.6	Black	15	152.000	<b>2046 50 5</b>
<b>SM50W SW</b>	M50	3000	1.6	Black	15	190.700	<b>2046 50 6</b>
<b>SM63W SW</b>	M63	3000	1.8	Black	9	272.000	<b>2046 50 7</b>

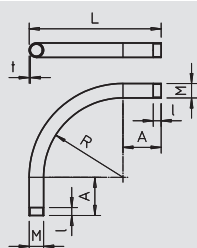
**St** Steel **L** Painted /100 m

Electrical installation pipe to EN 61386-1 with threaded ends to DIN EN 60423 for mechanical protection of cables.

With burr-free inner wall. One connection sleeve is already screwed onto each pipe.



5 | 5 | 5 | 6 | 1



## Armoured steel pipe bend, with thread

Type	Dimension M	Dimension L	Dimension t	Dimension R	Colour	Pack.	Weight	Item No.
	mm	mm	mm	mm		pcs	kg/100 pcs.	
<b>SBM16W SW</b>	M16	113	1.4	47	Black	15	9.600	<b>2046 51 1</b>
<b>SBM20W SW</b>	M20	160	1.6	80	Black	25	14.400	<b>2046 51 3</b>
<b>SBM25W SW</b>	M25	182.5	1.6	77.5	Black	25	22.800	<b>2046 51 4</b>
<b>SBM32W SW</b>	M32	206	1.6	114	Black	20	35.700	<b>2046 51 5</b>
<b>SBM40W SW</b>	M40	300	1.6	180	Black	15	80.670	<b>2046 51 6</b>
<b>SBM50W SW</b>	M50	325	1.6	175	Black	5	123.000	<b>2046 51 7</b>
<b>SBM63W SW</b>	M63	411.5	1.8	218.5	Black	3	201.330	<b>2046 51 8</b>

**St** Steel **L** Painted /100 pc.

Accessory part: 90° bend for electrical installation pipes according to EN 61386-1 with threaded ends to DIN EN 60423. With burr-free inner wall.

One connection sleeve is already screwed onto each pipe bend.



5 | 5 | 5 | 6 | 1



# Metal pipes and accessories



## Armoured steel pipe connection sleeve, with thread

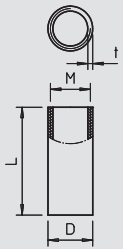


Type	Dimension M	Dimension L	Dimension D	Dimension t	Pack.	Weight	Item No.
	mm	mm	mm	mm	pcs	kg/100 pcs.	
<b>SVM16W SW</b>	M16	26	18.5	2	25	1.600	<b>2046 52 2</b>
<b>SVM20W SW</b>	M20	30	22.5	2	50	2.400	<b>2046 52 3</b>
<b>SVM25W SW</b>	M25	40	27.5	2	50	4.400	<b>2046 52 4</b>
<b>SVM32W SW</b>	M32	40	35.5	2.5	50	7.200	<b>2046 52 5</b>
<b>SVM40W SW</b>	M40	45	43.5	2.5	25	10.000	<b>2046 52 6</b>
<b>SVM50W SW</b>	M50	54	53.5	2.5	10	15.000	<b>2046 52 7</b>
<b>SVM63W SW</b>	M63	60	68	3.2	5	28.000	<b>2046 52 8</b>

**St** Steel **L** Painted /100 pc.

Accessory part: Pipe connection sleeve with thread to DIN EN 60423 to connect electrical installation pipes and 90° bends. With burr-free inner wall.

5 | 5 | 5 | 6 | 1



## Steel armoured pipe, without thread

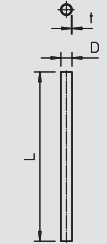


Type	Dimension M	Dimension D	Dimension L	Dimension t	Colour	Pack.	Weight	Item No.
	mm	mm	mm	mm		m	kg/100 m	
<b>S16W SW</b>	M16	16	3000	1	Black	30	37.000	<b>2046 56 5</b>
<b>S20W SW</b>	M20	20	3000	1	Black	30	47.000	<b>2046 56 6</b>
<b>S25W SW</b>	M25	25	3000	1.2	Black	30	70.000	<b>2046 56 7</b>
<b>S32W SW</b>	M32	32	3000	1.2	Black	21	91.000	<b>2046 56 8</b>
<b>S40W SW</b>	M40	40	3000	1.2	Black	15	114.700	<b>2046 56 9</b>
<b>S50W SW</b>	M50	50	3000	1.2	Black	15	144.000	<b>2046 57 0</b>
<b>S63W SW</b>	M63	63	3000	1.2	Black	9	182.700	<b>2046 57 1</b>

**St** Steel **L** Painted /100 m

Electrical installation pipe without threaded ends to EN 61386-1 for mechanical protection of cables. With burr-free inner wall.

4 | 4 | 5 | 6 | 1



## Armoured steel pipe bend, without thread

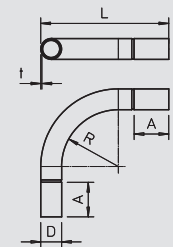


Type	Dimension M	Dimension L	Dimension t	Dimension R	Colour	Pack.	Weight	Item No.
	mm	mm	mm	mm		pcs	kg/100 pcs.	
<b>SB16W SW</b>	M16	114.3	1	50.7	Black	15	8.000	<b>2046 57 5</b>
<b>SB20W SW</b>	M20	116.55	1.2	58.45	Black	25	12.000	<b>2046 57 6</b>
<b>SB25W SW</b>	M25	144.05	1.2	65.95	Black	25	18.400	<b>2046 57 7</b>
<b>SB32W SW</b>	M32	172.6	1.2	62.4	Black	20	28.500	<b>2046 57 8</b>
<b>SB40W SW</b>	M40	271.9	1.5	148.1	Black	15	70.670	<b>2046 57 9</b>
<b>SB50W SW</b>	M50	320	1.5	173.05	Black	5	108.000	<b>2046 58 0</b>
<b>SB63W SW</b>	M63	418.5	1.5	216.55	Black	3	173.340	<b>2046 58 1</b>

**St** Steel **L** Painted /100 pc.

Accessory part: 90° bend with moulded sleeves, for electrical installation pipes according to EN 61386-1. With burr-free inner wall.

4 | 4 | 5 | 6 | 1



## Armoured steel pipe connection sleeve, without thread

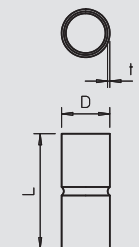


Type	Dimension M	Dimension L	Dimension D	Dimension t	Colour	Pack.	Weight	Item No.
	mm	mm	mm	mm		pcs	kg/100 pcs.	
<b>SV16W SW</b>	M16	50	18.6	1	Black	25	2.400	<b>2046 58 2</b>
<b>SV20W SW</b>	M20	60	23.1	1.2	Black	50	4.000	<b>2046 58 3</b>
<b>SV25W SW</b>	M25	60	28.1	1.2	Black	50	5.200	<b>2046 58 4</b>
<b>SV32W SW</b>	M32	70	35.2	1.2	Black	50	7.200	<b>2046 58 5</b>
<b>SV40W SW</b>	M40	80	43.8	1.5	Black	25	13.200	<b>2046 58 6</b>
<b>SV50W SW</b>	M50	100	54	1.5	Black	10	20.000	<b>2046 58 7</b>
<b>SV63W SW</b>	M63	100	67	1.5	Black	5	26.000	<b>2046 58 8</b>

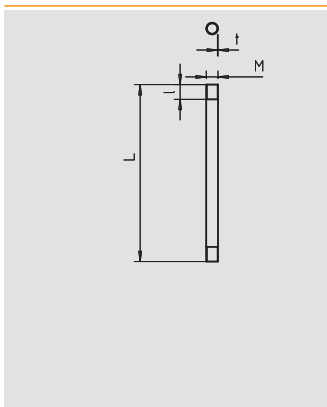
**St** Steel **L** Painted /100 pc.

Accessory part: plug-in sleeve for the connections between electrical installation pipes. With burr-free inner wall.

4 | 4 | 5 | 6 | 1







## Steel armoured pipe, with thread



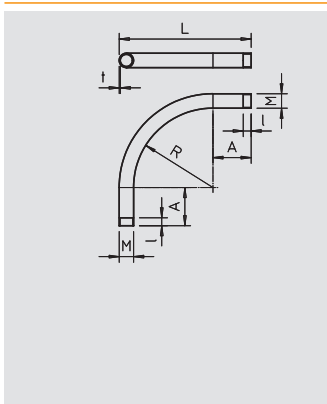
Type	Dimension M	Dimension L	Dimension t	Pack.	Weight	Item No.
	mm	mm	mm	m	kg/100 m	
<b>SM16W FT</b>	M16	3000	1.4	30	54.000	<b>2046 53 3</b>
<b>SM20W FT</b>	M20	3000	1.6	30	79.000	<b>2046 53 4</b>
<b>SM25W FT</b>	M25	3000	1.6	30	99.000	<b>2046 53 5</b>
<b>SM32W FT</b>	M32	3000	1.6	21	130.000	<b>2046 53 6</b>
<b>SM40W FT</b>	M40	3000	1.6	15	164.000	<b>2046 53 7</b>
<b>SM50W FT</b>	M50	3000	1.6	15	206.000	<b>2046 53 8</b>
<b>SM63W FT</b>	M63	3000	1.8	9	294.000	<b>2046 54 0</b>

**St** Steel **FT** Hot-dip galvanised /100 m

Electrical installation pipe to EN 61386-1 with threaded ends to DIN EN 60423 for mechanical protection of cables. With burr-free inner wall. One connection sleeve is already screwed onto each pipe.



5 | 5 | 5 | 7 | 1



## Armoured steel pipe bend, with thread



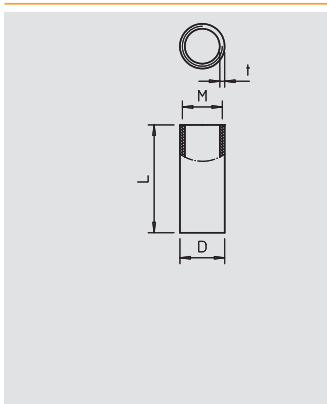
Type	Dimension M	Dimension L	Dimension t	Dimension R	Pack.	Weight	Item No.
	mm	mm	mm	mm	pcs	kg/100 pcs.	
<b>SBM16W FT</b>	M16	113	1.4	47	15	10.000	<b>2046 54 5</b>
<b>SBM20W FT</b>	M20	160	1.6	80	25	21.000	<b>2046 54 6</b>
<b>SBM25W FT</b>	M25	182.5	1.6	77.5	25	37.600	<b>2046 54 8</b>
<b>SBM32W FT</b>	M32	206	1.6	114	20	42.000	<b>2046 54 9</b>
<b>SBM40W FT</b>	M40	300	1.6	180	15	78.000	<b>2046 55 0</b>
<b>SBM50W FT</b>	M50	325	1.6	175	5	106.000	<b>2046 55 1</b>
<b>SBM63W FT</b>	M63	411.5	1.8	218.5	3	223.330	<b>2046 55 2</b>

**St** Steel **FT** Hot-dip galvanised /100 pc.

Accessory part: 90° bend for electrical installation pipes according to EN 61386-1 with threaded ends to DIN EN 60423. With burr-free inner wall. One connection sleeve is already screwed onto each pipe bend.



5 | 5 | 5 | 7 | 1



## Armoured steel pipe connection sleeve, with thread



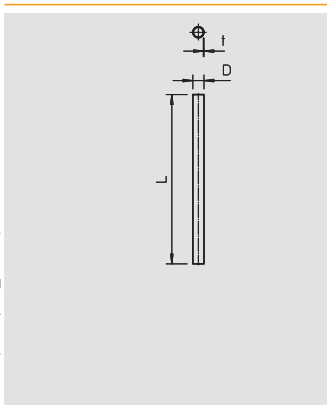
Type	Dimension M	Dimension L	Dimension D	Dimension t	Pack.	Weight	Item No.
	mm	mm	mm	mm	pcs	kg/100 pcs.	
<b>SVM16W FT</b>	M16	26	18.5	2	25	2.000	<b>2046 55 3</b>
<b>SVM20W FT</b>	M20	30	22.5	2	50	3.000	<b>2046 55 4</b>
<b>SVM25W FT</b>	M25	40	27.5	2	50	5.000	<b>2046 55 6</b>
<b>SVM32W FT</b>	M32	40	35.5	2.5	50	9.000	<b>2046 55 7</b>
<b>SVM40W FT</b>	M40	45	43.5	2.5	25	12.000	<b>2046 55 8</b>
<b>SVM50W FT</b>	M50	54	53.5	2.5	10	18.000	<b>2046 55 9</b>
<b>SVM63W FT</b>	M63	60	68	3.2	5	32.000	<b>2046 56 0</b>

**St** Steel **FT** Hot-dip galvanised /100 pc.

Accessory part: Pipe connection sleeve with thread to DIN EN 60423 to connect electrical installation pipes and 90° bends. With burr-free inner wall.



5 | 5 | 5 | 7 | 1



## Steel armoured pipe, without thread



Type	Dimension M	Dimension L	Dimension t	Pack.	Weight	Item No.
	mm	mm	mm	m	kg/100 m	
<b>S16W FT</b>	M16	3000	1	30	40.000	<b>2046 59 3</b>
<b>S20W FT</b>	M20	3000	1	30	51.000	<b>2046 59 4</b>
<b>S25W FT</b>	M25	3000	1.2	30	76.000	<b>2046 59 5</b>
<b>S32W FT</b>	M32	3000	1.2	21	98.000	<b>2046 59 6</b>
<b>S40W FT</b>	M40	3000	1.2	15	124.000	<b>2046 59 7</b>
<b>S50W FT</b>	M50	3000	1.2	15	156.000	<b>2046 59 8</b>
<b>S63W FT</b>	M63	3000	1.2	9	198.000	<b>2046 59 9</b>

**St** Steel **FT** Hot-dip galvanised /100 m

Electrical installation pipe without threaded ends according to EN 61386-1 for mechanical protection of cables. With burr-free interior wall.



4 | 4 | 5 | 7 | 1



# Metal pipes and accessories



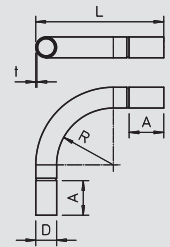
4 | 4 | 5 | 7 | 1

## Armoured steel pipe bend, without thread

Type	Dimension M	Dimension L	Dimension t	Dimension R	Pack.	Weight	Item No.
	mm	mm	mm	mm	pcs	kg/100 pcs.	
SB16W FT	M16	114.3	1	50.7	15	9.000	2046 60 4
SB20W FT	M20	116.55	1.2	58.45	25	13.000	2046 60 5
SB25W FT	M25	144.05	1.2	65.95	25	20.000	2046 60 6
SB32W FT	M32	172.6	1.2	62.4	20	31.000	2046 61 0
SB40W FT	M40	301.9	1.5	148.1	15	73.000	2046 61 4
SB50W FT	M50	320	1.5	173.05	5	105.000	2046 61 5
SB63W FT	M63	418.5	1.5	216.55	3	174.000	2046 61 6

**St** Steel **FT** Hot-dip galvanised /100 pc.

Accessory part: 90° bend with moulded sleeves, for electrical installation pipes according to EN 61386-1. With burr-free inner wall.



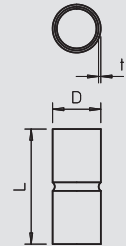
4 | 4 | 5 | 7 | 1

## Armoured steel pipe connection sleeve, without thread

Type	Dimension M	Dimension L	Dimension D	Dimension t	Pack.	Weight	Item No.
	mm	mm	mm	mm	pcs	kg/100 pcs.	
SV16W FT	M16	50	18.6	1	25	2.000	2046 62 0
SV20W FT	M20	60	23.1	1.2	50	4.000	2046 62 1
SV25W FT	M25	60	28.1	1.2	50	5.000	2046 62 2
SV32W FT	M32	70	35.2	1.2	50	8.000	2046 62 3
SV40W FT	M40	80	43.8	1.5	25	14.000	2046 62 4
SV50W FT	M50	100	54	1.5	10	21.000	2046 62 5
SV63W FT	M63	100	67	1.5	5	28.000	2046 62 6

**St** Steel **FT** Hot-dip galvanised /100 pc.

Accessory part: plug-in sleeve for the connections between electrical installation pipes. With burr-free inner wall.



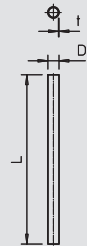
## Stainless steel pipe, V2A

5 | 5 | 5 | 7 | 1

Type	Dimension M	Dimension L	Dimension t	Pack.	Weight	Item No.
	mm	mm	mm	m	kg/100 m	
S16 W V2A	M16	3000	1	30	36.700	2046 72 0
S20 W V2A	M20	3000	1	30	46.700	2046 72 1
S25 W V2A	M25	3000	1	30	60.000	2046 72 2
S32 W V2A	M32	3000	1.2	21	93.400	2046 72 3
S40 W V2A	M40	3000	1.2	15	116.700	2046 72 4
S50 W V2A	M50	3000	1.5	15	180.000	2046 72 5
S63 W V2A	M63	3000	1.5	9	230.000	2046 72 6

**V2A** Stainless steel, 1.4307 /100 m

Electrical installation pipe without threaded ends to EN 61386-1 for mechanical protection of cables. With burr-free inner wall.



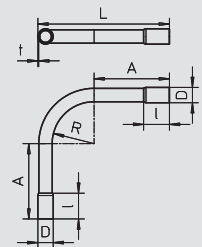
## Stainless steel pipe bend, V2A

5 | 5 | 5 | 7 | 1

Type	Dimension M	Dimension L	Dimension t	Dimension R	Pack.	Weight	Item No.
	mm	mm	mm	mm	pcs	kg/100 pcs.	
SB16 W V2A	M16	153	1	46	15	10.000	2046 73 0
SB20 W V2A	M20	183	1	67	25	10.000	2046 73 1
SB25 W V2A	M25	208	1	82	25	20.000	2046 73 2
SB32 W V2A	M32	258	1.2	120	20	30.000	2046 73 3
SB40 W V2A	M40	276	1.2	130	15	50.000	2046 73 4
SB50 W V2A	M50	317	1.5	150	5	90.000	2046 73 5
SB63 W V2A	M63	376	1.5	191	3	120.000	2046 73 6

**V2A** Stainless steel, 1.4307 /100 pc.

Accessory part: 90° bend with moulded sleeves, for electrical installation pipes according to EN 61386-1. With burr-free inner wall.



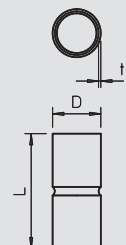
## Stainless steel pipe connection sleeve, V2A

5 | 5 | 5 | 7 | 1

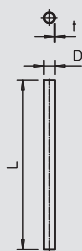
Type	Dimension M	Dimension L	Dimension D	Dimension t	Pack.	Weight	Item No.
	mm	mm	mm	mm	pcs	kg/100 pcs.	
SV16 W V2A	M16	45	18.2	1.6	25	2.000	2046 74 0
SV20 W V2A	M20	50	22.2	1.6	50	2.000	2046 74 1
SV25 W V2A	M25	60	27.2	1.6	50	4.000	2046 74 2
SV32 W V2A	M32	70	34.6	1.8	50	10.000	2046 74 3
SV40 W V2A	M40	80	42.6	1.8	25	10.000	2046 74 4
SV50 W V2A	M50	100	53.2	2.1	10	20.000	2046 74 5
SV63 W V2A	M63	110	66.3	2.15	5	30.000	2046 74 6

**V2A** Stainless steel, 1.4307 /100 pc.

Accessory part: plug-in sleeve for the connections between electrical installation pipes. With burr-free inner wall.



## Stainless steel pipe, V4A



Type	Dimension M	Dimension L	Dimension t	Pack.	Weight	Item No.
		mm	mm	m	kg/100 m	
S16 W V4A	M16	3000	1	15	36.700	2046 75 0
S20 W V4A	M20	3000	1	15	46.700	2046 75 1
S25 W V4A	M25	3000	1	15	60.000	2046 75 2
S32 W V4A	M32	3000	1.2	15	93.400	2046 75 3
S40 W V4A	M40	3000	1.2	9	116.700	2046 75 4
S50 W V4A	M50	3000	1.5	9	180.000	2046 75 5
S63 W V4A	M63	3000	1.5	9	230.000	2046 75 6

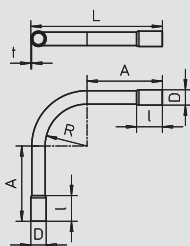
V4A Stainless steel, grade 316 Ti /100 m

Electrical installation pipe without threaded ends to EN 61386-1 for mechanical protection of cables. With burr-free inner wall.



5 | 5 | 5 | 7 | 1

## Stainless steel pipe bend, V4A



Type	Dimension M	Dimension L	Dimension t	Dimension R	Pack.	Weight	Item No.
		mm	mm	mm	pcs	kg/100 pcs.	
SB16 W V4A	M16	153	1	46	5	10.000	2046 76 0
SB20 W V4A	M20	183	1	67	10	10.000	2046 76 1
SB25 W V4A	M25	208	1	82	10	20.000	2046 76 2
SB32 W V4A	M32	258	1.2	120	10	30.000	2046 76 3
SB40 W V4A	M40	276	1.2	130	5	50.000	2046 76 4
SB50 W V4A	M50	317	1.5	150	5	90.000	2046 76 5
SB63 W V4A	M63	376	1.5	191	3	120.000	2046 76 6

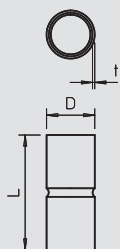
V4A Stainless steel, grade 316 Ti /100 pc.

Accessory part: 90° bend with moulded sleeves, for electrical installation pipes according to EN 61386-1. With burr-free inner wall.



5 | 5 | 5 | 7 | 1

## Stainless steel pipe connection sleeve, V4A



Type	Dimension M	Dimension L	Dimension D	Dimension t	Pack.	Weight	Item No.
		mm	mm	mm	pcs	kg/100 pcs.	
SV16 W V4A	M16	45	18.2	1.6	10	2.000	2046 77 0
SV20 W V4A	M20	50	22.2	1.6	15	2.000	2046 77 1
SV25 W V4A	M25	60	27.2	1.6	15	4.000	2046 77 2
SV32 W V4A	M32	70	34.6	1.8	15	10.000	2046 77 3
SV40 W V4A	M40	80	42.6	1.8	10	10.000	2046 77 4
SV50 W V4A	M50	100	53.2	2.1	5	20.000	2046 77 5
SV63 W V4A	M63	110	66.3	2.15	3	30.000	2046 77 6

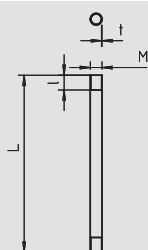
V4A Stainless steel, grade 316 Ti /100 pc.

Accessory part: plug-in sleeve for the connections between electrical installation pipes. With burr-free inner wall.



5 | 5 | 5 | 7 | 1

## Aluminium pipe, with thread



Type	Dimension M	Dimension L	Dimension t	Pack.	Weight	Item No.
		mm	mm	m	kg/100 m	
SM16 W ALU	M16	3000	1.6	30	20.000	2046 03 2
SM20 W ALU	M20	3000	1.9	30	90.000	2046 03 3
SM25 W ALU	M25	3000	1.9	30	110.000	2046 03 4
SM32 W ALU	M32	3000	1.9	30	150.000	2046 03 5
SM40 W ALU	M40	3000	1.9	15	180.000	2046 03 6
SM50 W ALU	M50	3000	2.1	15	260.000	2046 03 7
SM63 W ALU	M63	3000	2.1	15	330.000	2046 03 8

Al Aluminium /100 m

Electrical installation pipe to EN 61386-1 with threaded ends to DIN EN 60423 for mechanical protection of cables.

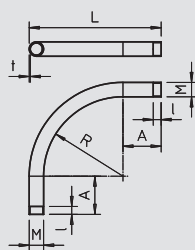
With burr-free inner wall. One connection sleeve is already screwed onto each pipe.

M



5 | 5 | 5 | 6 | 1

## Aluminium pipe bend, with thread



Type	Dimension M	Dimension L	Dimension t	Dimension R	Pack.	Weight	Item No.
		mm	mm	mm	pcs	kg/100 pcs.	
SBM16 W ALU	M16	131	1.6	50	15	4.000	2046 04 2
SBM20 W ALU	M20	145	1.9	60	25	7.000	2046 04 3
SBM25 W ALU	M25	170	1.9	70	25	10.000	2046 04 4
SBM32 W ALU	M32	187	1.9	80	20	15.000	2046 04 5
SBM40 W ALU	M40	235	1.9	100	15	23.000	2046 04 6
SBM50 W ALU	M50	275	2.1	130	5	37.000	2046 04 7
SBM63 W ALU	M63	343	2.1	160	3	59.000	2046 04 8

Al Aluminium /100 pc.

Accessory part: 90° bend for electrical installation pipes according to EN 61386-1 with threaded ends to DIN EN 60423. With burr-free inner wall.

One connection sleeve is already screwed onto each pipe bend.

M



5 | 5 | 5 | 6 | 1

# Metal pipes and accessories

M

## Aluminium pipe connection sleeve, with thread



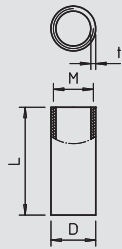
5 | 5 | 5 | 6 | 1

Type	Dimension M	Dimension L	Dimension D	Dimension t	Pack.	Weight	Item No.
	mm	mm	mm	mm	pcs	kg/100 pcs.	
SVM16 W ALU	M16	35	18.5	2.25	50	1.000	2046 05 2
SVM20 W ALU	M20	35	22.5	2.25	50	1.000	2046 05 3
SVM25 W ALU	M25	45	28	2.5	50	2.000	2046 05 4
SVM32 W ALU	M32	45	35	2.5	50	3.000	2046 05 5
SVM40 W ALU	M40	45	43.5	2.75	20	4.000	2046 05 6
SVM50 W ALU	M50	55	53.5	2.75	20	6.000	2046 05 7
SVM63 W ALU	M63	55	66.5	2.8	20	7.000	2046 05 8

Al Aluminium

/100 pc.

Accessory part: Pipe connection sleeve with thread to DIN EN 60423 to connect electrical installation pipes and 90° bends. With burr-free inner wall.



## Aluminium pipe, without thread



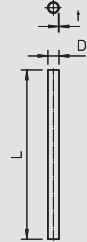
4 | 4 | 5 | 6 | 1

Type	Dimension M	Dimension L	Dimension t	Pack.	Weight	Item No.
	mm	mm	mm	m	kg/100 m	
S16 W ALU	M16	3000	1.2	30	15.000	2046 00 2
S20 W ALU	M20	3000	1.2	30	19.000	2046 00 3
S25 W ALU	M25	3000	1.3	30	26.000	2046 00 4
S32 W ALU	M32	3000	1.3	30	34.000	2046 00 5
S40 W ALU	M40	3000	1.4	15	45.700	2046 00 6
S50 W ALU	M50	3000	1.4	15	57.700	2046 00 7
S63 W ALU	M63	3000	1.7	15	83.400	2046 00 8

Al Aluminium

/100 m

Electrical installation pipe without threaded ends to EN 61386-1 for mechanical protection of cables. With burr-free inner wall.



## Aluminium pipe bend, without thread



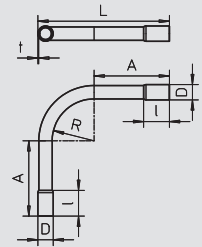
4 | 4 | 5 | 6 | 1

Type	Dimension M	Dimension L	Dimension t	Dimension R	Pack.	Weight	Item No.
	mm	mm	mm	mm	pcs	kg/100 pcs.	
SB16 W ALU	M16	157	1.2	50	15	4.000	2046 01 2
SB20 W ALU	M20	176	1.2	60	25	6.000	2046 01 3
SB25 W ALU	M25	196	1.3	70	25	9.000	2046 01 4
SB32 W ALU	M32	218	1.3	80	20	12.000	2046 01 5
SB40 W ALU	M40	247	1.4	100	15	20.000	2046 01 6
SB50 W ALU	M50	297	1.4	130	5	31.000	2046 01 7
SB63 W ALU	M63	340	1.7	160	3	45.000	2046 01 8

Al Aluminium

/100 pc.

Accessory part: 90° bend with moulded sleeves, for electrical installation pipes according to EN 61386-1. With burr-free inner wall.



## Aluminium pipe connection sleeve, without thread



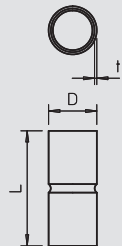
4 | 4 | 5 | 6 | 1

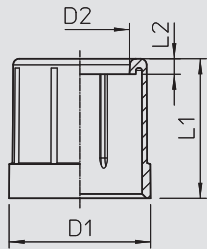
Type	Dimension M	Dimension L	Dimension D	Dimension t	Pack.	Weight	Item No.
	mm	mm	mm	mm	pcs	kg/100 pcs.	
SV16 W ALU	16	40	16.2	1.2	50	1.000	2046 02 2
SV20 W ALU	20	50	20.2	1.2	50	1.000	2046 02 3
SV25 W ALU	25	60	25.2	1.2	50	2.000	2046 02 4
SV32 W ALU	32	70	32.2	1.2	50	2.000	2046 02 5
SV40 W ALU	40	70	40.2	1.4	20	3.000	2046 02 6
SV50 W ALU	50	90	50.2	1.4	20	5.000	2046 02 7
SV63 W ALU	63	110	63.2	1.5	20	9.000	2046 02 8

Al Aluminium

/100 pc.

Accessory part: plug-in sleeve for the connections between electrical installation pipes. With burr-free inner wall.





## Pipe end cap, metric



Type	Size	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
129 M16	M16	Light grey	1000	100	0.240	2047 81 0
129 M20	M20	Light grey	1200	100	0.330	2047 82 9
129 M25	M25	Light grey	600	50	0.610	2047 83 7
129 M32	M32	Light grey	600	50	1.070	2047 85 3
129 M40	M40	Light grey	50	50	1.440	2047 86 1
129 M50	M50	Light grey	25	25	2.180	2047 88 8
129 M63	M63	Light grey	25	25	2.810	2047 89 6

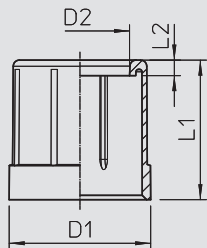
PE Polyethylene

/100 pc.

Cable protection sleeve for attachment on electrical installation pipes.

### Important dimensions, pipe end socket

G	D1	D2	L1	L2
	mm	mm	mm	mm
M16	19.4	12.5	18	2
M20	23.4	16	22.5	2.5
M25	28.4	21	27.5	2.5
M32	35.4	27.5	34	3
M40	43.4	35	41	3
M50	53.4	44.5	48	3
M63	66.4	55	59	4



## Pipe end cap, metric



Type	Size	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
129 M16 SW	M16	Black	1000	100	0.240	2047 93 4
129 M20 SW	M20	Black	1200	100	0.330	2047 94 2
129 M25 SW	M25	Black	600	50	0.610	2047 95 0
129 M32 SW	M32	Black	600	50	1.070	2047 96 9
129 M40 SW	M40	Black	50	50	1.440	2047 97 7
129 M50 SW	M50	Black	25	25	2.180	2047 98 5
129 M63 SW	M63	Black	25	25	2.810	2047 99 3

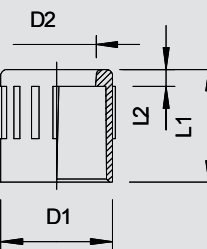
PE Polyethylene

/100 pc.

Cable protection sleeve for attachment on electrical installation pipes.

### Important dimensions, pipe end socket

G	D1	D2	L1	L2
	mm	mm	mm	mm
M16	19.4	12.5	18	2
M20	23.4	16	22.5	2.5
M25	28.4	21	27.5	2.5
M32	35.4	27.5	34	3
M40	43.4	35	41	3
M50	53.4	44.5	48	3
M63	66.4	55	59	4



## Pipe end cap, PG



Type	Size	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
129 PG 9	Pg 9	Light grey	1200	100	0.240	2044 09 9
129 PG11	Pg 11	Light grey	1000	100	0.280	2044 11 0
129 PG13.5	Pg 13.5	Light grey	1200	100	0.330	2044 13 7
129 PG16	Pg 16	Light grey	1200	100	0.400	2044 16 1
129 PG21	Pg 21	Light grey	600	50	0.610	2044 21 8
129 PG29	Pg 29	Light grey	50	50	1.070	2044 29 3
129 PG36	Pg 36	Light grey	50	50	1.440	2044 36 6
129 PG42	Pg 42	Light grey	25	25	2.180	2044 42 0
129 PG48	Pg 48	Light grey	25	25	2.810	2044 47 1

PE Polyethylene

/100 pc.

Cable protection sleeve for attachment on PG pipes.

### Important dimensions, pipe end socket, PG

G	D1	D2	L1	L2
	mm	mm	mm	mm
Pg 9	18.3	12	20	4
Pg 11	21.7	15	22	4
Pg 13.5	23.5	16	24	4
Pg 16	25.6	18	26	4
Pg 21	31.6	24	30	4
Pg 29	40.3	32.5	38	4
Pg 36	50.8	40	44	4
Pg 42	58.2	46	50	4
Pg 48	63.9	50	56	4



# Quick pipe system



## Quick pipe

Type	Size	Colour	Length mm	Pack.	Weight	Item No.
				m	kg/100 m	
2953 M16 LGR	M16	Light grey	2000	50	7.000	2153 90 4
2953 M20 LGR	M20	Light grey	2000	40	11.500	2153 91 2
2953 M25 LGR	M25	Light grey	2000	30	16.000	2153 92 0
2953 M32 LGR	M32	Light grey	2000	20	21.500	2153 93 9
2953 M16 RW	M16	Pure white	2000	50	7.700	2153 96 0
2953 M20 RW	M20	Pure white	2000	40	11.500	2153 96 3
2953 M25 RW	M25	Pure white	2000	30	16.000	2153 96 6
2953 M32 RW	M32	Pure white	2000	20	21.500	2153 96 9

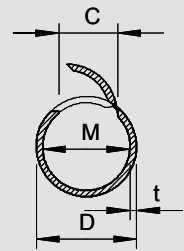
PVC Polyvinylchloride /100 m

Smallest shipped quantity is shipping box.

The Quick pipe combines the advantages of a cable duct and an installation pipe into an intelligent system. It allows tidy and safe surface-mounted installation of all kinds of cables – even in a pipe. Quick pipe is available in four metric sizes: M16, M20, M25 and M32. The stock length is 2 m. The system is VDE-tested and achieves a protection rating of IP44. The fittings are a component part of the system.

### Important dimensions, Quick pipe

G	D	M	C	t
	mm	mm	mm	mm
M16	15.6	13.2	8.2	1.2
M20	20	17	10	1.5
M25	25	21.8	13.6	1.6
M32	32	28.6	17	1.6



## 90° Quick pipe bend

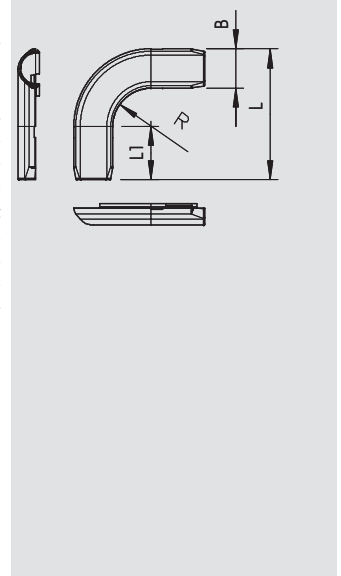
Type	Size	Colour	Shipping box pcs	Pack.	Weight	Item No.
				pcs	kg/100 pcs.	
2953 B M16 LGR	M16	Light grey	60	5	1.810	2153 86 4
2953 B M20 LGR	M20	Light grey	50	5	1.900	2153 86 6
2953 B M25 LGR	M25	Light grey	50	5	2.020	2153 86 8
2953 B M32 LGR	M32	Light grey	60	5	2.140	2153 87 0
2953 B M16 RW	M16	Pure white	60	5	1.810	2153 98 0
2953 B M20 RW	M20	Pure white	50	5	1.900	2153 98 2
2953 B M25 RW	M25	Pure white	50	5	2.020	2153 98 4
2953 B M32 RW	M32	Pure white	60	5	2.140	2153 98 6

PVC Polyvinylchloride /pc.

90° bends are tested to VDE 0604 (system consists of: Quick pipe + fittings + 2955 F/...).

### Important dimensions, 90° bend

G	B	L	L1	R
	mm	mm	mm	mm
M16	20.4	68.4	28	20
M20	25.5	82.5	35	22
M25	31.2	91.2	38	22
M32	38.7	102.7	42	22



## Quick pipe connecting sleeve

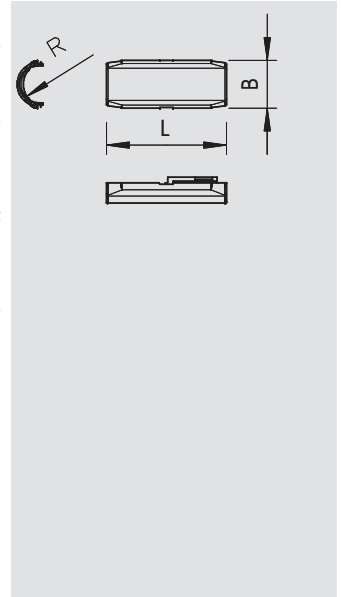
Type	Size	Colour	Shipping box pcs	Pack.	Weight	Item No.
				pcs	kg/100 pcs.	
2953 M M16 LGR	M16	Light grey	150	10	0.910	2153 82 9
2953 M M20 LGR	M20	Light grey	100	10	1.020	2153 83 1
2953 M M25 LGR	M25	Light grey	120	10	1.130	2153 83 3
2953 M M32 LGR	M32	Light grey	100	10	1.250	2153 83 5
2953 M M16 RW	M16	Pure white	150	10	0.910	2153 97 1
2953 M M20 RW	M20	Pure white	100	10	1.020	2153 97 3
2953 M M25 RW	M25	Pure white	120	10	1.130	2153 97 5
2953 M M32 RW	M32	Pure white	100	10	1.250	2153 97 7

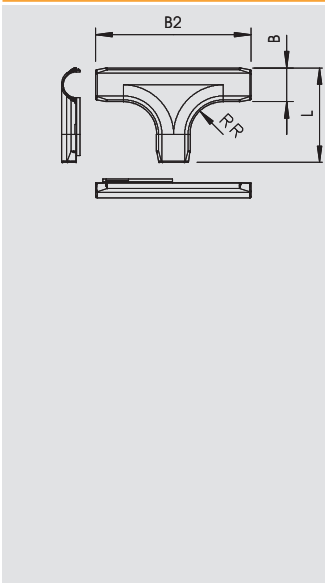
PVC Polyvinylchloride /pc.

Connection sleeves are tested to VDE 0604 (system consists of: Quick pipe + fittings + 2955 F/...).

### Important dimensions, connection sleeve

G	R	B	L
	mm	mm	mm
M16	8	20.4	52
M20	10	25.5	65
M25	12.5	31.2	72
M32	16	38.7	80





## Quick pipe T piece



Type	Size	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
2953 T M16 LGR	M16	Light grey	60	5	2.210	2153 87 2
2953 T M20 LGR	M20	Light grey	50	5	2.320	2153 87 4
2953 T M25 LGR	M25	Light grey	50	5	2.440	2153 87 6
2953 T M32 LGR	M32	Light grey	50	5	2.560	2153 87 8
2953 T M16 RW	M16	Pure white	60	5	2.210	2153 99 2
2953 T M20 RW	M20	Pure white	50	5	2.320	2153 99 4
2953 T M25 RW	M25	Pure white	50	5	2.440	2153 99 6
2953 T M32 RW	M32	Pure white	50	5	2.560	2153 99 8



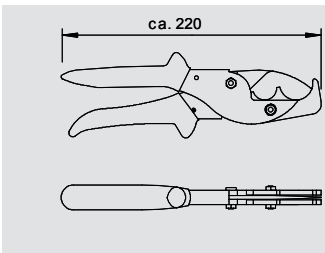
**PVC** Polyvinylchloride

/pc.

T pieces are tested to VDE 0604 (system consists of: Quick pipe + fittings + 2955 F/...).

### Important dimensions, T piece

G	L	B	B2	R
	mm	mm	mm	mm
M16	57.4	20.4	94.4	20
M20	67.5	25.5	109.5	22
M25	77.2	31.2	123.2	22
M32	86.7	38.7	134.7	22



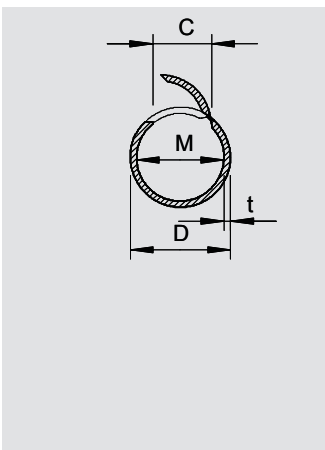
## Quick duct shears



Type	Cutting area mm	Pack. pcs	Weight kg/100 pcs.	Item No.
SQ 1632	16-32	1	40.000	2153 57 2

/pc.

For exact, burr-free cutting of the Quick ducts and Quick pipe of Ø 16–32 mm.



## Set made of Quick clip and Quick pipe



Type	Size	Colour	Set consisting of	Pack. pcs	Weight kg/100 pcs.	Item No.
2954 M16 LGR	M16	Light grey	50 m Quick pipe and 156x OBO Quick clip	1	444.000	2154 50 1
2954 M20 LGR	M20	Light grey	40 m Quick pipe and 120x OBO Quick clip	1	508.000	2154 52 8
2954 M25 LGR	M25	Light grey	30 m Quick pipe and 96x OBO Quick clip	1	517.000	2154 53 6
2954 M32 LGR	M32	Light grey	20 m Quick pipe and 60x OBO Quick clip	1	479.000	2154 54 4

**PVC** Polyvinylchloride

/pc.













The Quick pipe combines the advantages of a cable duct and an installation pipe into an intelligent system. It allows tidy and safe surface-mounted installation of all kinds of cables – even in a pipe. Quick pipe is available in four metric sizes: M16, M20, M25 and M32. The stock length is 2 m. The system is VDE-tested and achieves a protection rating of IP 44. The fittings are a component part of the system.







## Beam clamp systems

	Beam clamps for knocking-in	Gland hole With threaded bolt For pipes	338 338 339
	Beam clamps for screwing-in	Gland hole With thread For pipes	342 342 342
	Special beam bracket systems	Visible rail terminal Locknut	344 344
		Profile ceiling suspensions Beam clamp Beam clamp, Profile 1268	344 344 346
		Profile rails	346
	Self-build profile system	Self-build profile	348
		Head plate	348
		Triangular node	348
		90° mounting bracket	348
		Suspension chain	348
		S hook	348
		Hammer-head bolt	349

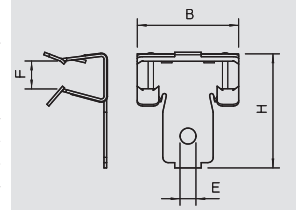
# Beam clamps for knocking in



## Beam clamp, gland hole

Type	Dimension B mm	Dimension H mm	Breaking load kN	Flange thickness mm	Dimension E mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>TK 6-0</b>	33.3	30	0.9	2-6	6.5	100	1.350	<b>1481 01 0</b>
<b>TK 13-0</b>	33.3	37	0.9	5-13	7	100	1.550	<b>1481 02 9</b>
<b>TK 19-0</b>	33.3	43	0.9	14-19	7	100	2.490	<b>1481 04 5</b>

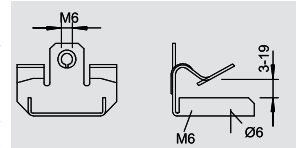
**St** Steel **ZD** Galvanised, Deltatone 500 /100 pc.  
With drill hole to accept S hooks or bolt with nut.



## Beam clamp, with female thread

Type	Breaking load kN	Flange thickness mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>TKI 7-6</b>	0.45	3-6.5	100	2.350	<b>1483 57 9</b>
<b>TKI 13-6</b>	0.45	7-13	100	2.350	<b>1483 58 7</b>
<b>TKI 19-6</b>	0.45	14-19	100	3.050	<b>1483 59 5</b>

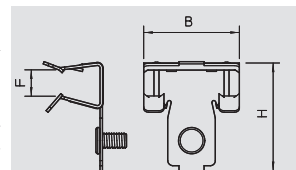
**St** Steel **ZD** Galvanised, Deltatone 500 /100 pc.  
With female thread M6.



## Beam clamp, with threaded bolt

Type	Flange thickness mm	Dimension B mm	Dimension H mm	Thread	Breaking load kN	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>TK-G 4</b>	2-4	28	28	M6 x 9	0.45	100	0.900	<b>1481 10 2</b>
<b>TK-G 9</b>	5-9	38	32	M6 x 9	0.45	100	1.600	<b>1481 10 8</b>
<b>TK-G 16</b>	10-16	38	42	M6 x 9	0.45	100	1.830	<b>1481 11 4</b>
<b>TK-G 20</b>	17-20	38	49	M6 x 9	0.45	100	2.000	<b>1481 12 0</b>

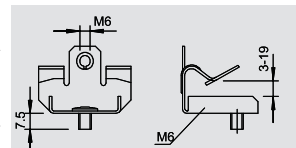
**St** Steel **ZD** Galvanised, Deltatone 500 /100 pc.  
With M6 x 9 mm threaded rod for fastening clips or other components.



## Beam clamp, with threaded bolt

Type	Breaking load kN	Flange thickness mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>TKG 7-6</b>	0.45	3-6.5	100	2.400	<b>1483 44 7</b>
<b>TKG 13-6</b>	0.45	7-13	100	2.400	<b>1483 45 5</b>
<b>TKG 19-6</b>	0.45	14-19	100	3.100	<b>1483 46 3</b>

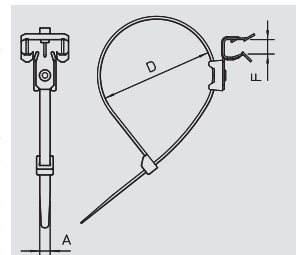
**St** Steel **ZD** Galvanised, Deltatone 500 /100 pc.  
With threaded bolt M6 x 7.5 mm.



## Beam clamp, with cable tie

Type	Dimension A mm	Breaking load kN	Flange thickness mm	Cable strip length mm	Max. D Ø	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>TKK 6-240</b>	7.6	0.8	2-6	240	70	100	2.200	<b>1481 40 1</b>
<b>TKK 6-365</b>	7.6	0.8	2-6	365	110	100	1.300	<b>1481 42 8</b>
<b>TKK 13-240</b>	7.6	0.8	5-13	240	70	100	2.500	<b>1481 45 2</b>
<b>TKK 13-365</b>	7.6	0.8	5-13	365	110	100	2.000	<b>1481 46 0</b>
<b>TKK 19-240</b>	7.6	0.8	14-19	240	70	100	2.300	<b>1481 53 3</b>
<b>TKK 19-365</b>	7.6	0.8	14-19	365	110	100	2.400	<b>1481 54 1</b>

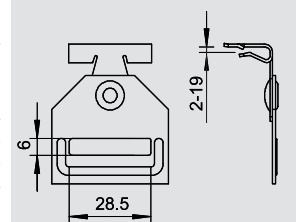
**St** Steel **ZD** Galvanised, Deltatone 500 /100 pc.  
With cable ties to fix cable bundles.



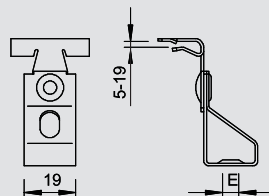
## Beam clamp, for installation strip

Type	Breaking load kN	Flange thickness mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>TKR 6</b>	0.9	2-6	100	1.800	<b>1481 70 3</b>
<b>TKR 9</b>	0.9	5-9	100	2.400	<b>1481 71 1</b>
<b>TKR 19</b>	0.9	14-19	100	3.400	<b>1481 74 6</b>

**St** Steel **ZD** Galvanised, Deltatone 500 /100 pc.  
With seat for installation strip.



## Beam clamps for knocking in



### Beam clamp, for threaded rod

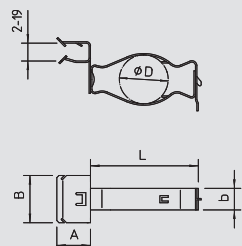
Type	For threaded rod	Dimension A mm	Breaking load kN	Flange thickness mm	Dimension E mm	Pack. pcs	Weight kg/100 pcs.	Item No.
TKR 13-6	M6	52	0.9	5-13	6	100	3.040	1482 06 8
TKR 13-8	M8	52	0.9	5-13	8	100	3.040	1482 07 6
TKR 13-10	M10	52	0.9	5-13	10	100	3.040	1482 08 4
TKR 19-6	M6	59	0.9	14-19	6	100	3.180	1482 11 4
TKR 19-8	M8	59	0.9	14-19	8	100	3.180	1482 12 2

St Steel

ZD Galvanised, Deltatone 500

/100 pc.

With rotating seat for threaded rod.



### Beam clamp, for pipes

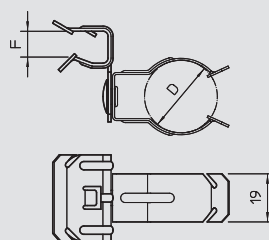
Type	Breaking load kN	Flange thickness mm	Clamping range D mm	Pack. pcs	Weight kg/100 pcs.	Item No.
TKS 6-25	0.45	2-6	18-25	100	2.490	1483 01 3
TKS 6-32	0.45	2-6	28-32	100	3.180	1483 02 1
TKS 6-37	0.45	2-6	35-37	100	3.450	1483 04 8
TKS 6-42	0.45	2-6	37-42	100	3.900	1483 05 6
TKS 13-25	0.45	5-13	18-25	100	2.720	1483 10 2
TKS 13-32	0.45	5-13	28-32	50	3.080	1483 11 0
TKS 13-37	0.45	5-13	35-37	50	3.540	1483 12 9
TKS 13-42	0.45	5-13	37-42	50	4.600	1483 13 7
TKS 19-25	0.45	14-19	18-25	50	4.500	1483 30 7
TKS 19-32	0.45	14-19	28-32	50	4.700	1483 31 5
TKS 19-37	0.45	14-19	35-37	50	4.850	1483 32 3

St Steel

ZD Galvanised, Deltatone 500

/100 pc.

With rotating clip to accept pipes, lockable.



### Beam clamp, for pipes

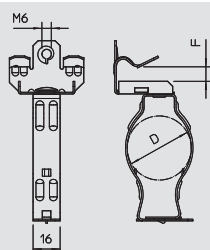
Type	Clamping range D mm	Breaking load kN	Flange thickness mm	Pack. pcs	Weight kg/100 pcs.	Item No.
TKC 6-20	17-20	0.11	2-6	100	2.220	1482 40 8
TKC 6-25	23-25	0.11	2-6	100	2.720	1482 41 6
TKC 13-20	17-20	0.11	5-13	100	1.500	1482 46 7
TKC 13-25	23-25	0.11	5-13	100	1.770	1482 47 5
TKC 13-32	25-32	0.11	5-13	100	1.900	1482 48 3
TKC 19-20	17-20	0.11	14-19	50	1.770	1482 60 2
TKC 19-25	23-25	0.11	14-19	50	1.810	1482 61 0
TKC 19-32	25-32	0.11	14-19	50	2.130	1482 62 9

St Steel

ZD Galvanised, Deltatone 500

/100 pc.

With rotating clip to accept pipes.



### Beam clamp, for pipes

Type	Breaking load kN	Flange thickness mm	Clamping range D mm	Pack. pcs	Weight kg/100 pcs.	Item No.
TKSU 7-25	0.11	3-6.5	18-25	50	3.700	1484 30 3
TKSU 7-32	0.11	3-6.5	28-32	50	4.050	1484 31 1
TKSU 7-37	0.11	3-6.5	35-37	50	4.400	1484 33 8
TKSU 7-42	0.11	3-6.5	37-42	25	4.800	1484 34 6
TKSU 13-25	0.11	7-13	18-25	50	4.150	1484 40 0
TKSU 13-32	0.11	7-13	28-32	50	4.450	1484 41 9
TKSU 13-37	0.11	7-13	35-37	50	4.750	1484 42 7
TKSU 13-42	0.11	7-13	37-42	25	5.520	1484 43 5
TKSU 19-25	0.11	14-19	18-25	50	4.550	1484 50 8
TKSU 19-32	0.11	14-19	28-32	50	4.900	1484 51 6
TKSU 19-37	0.11	14-19	35-37	25	5.450	1484 52 4

St Steel

ZD Galvanised, Deltatone 500

/100 pc.

With rotating clip to accept pipes, lockable.



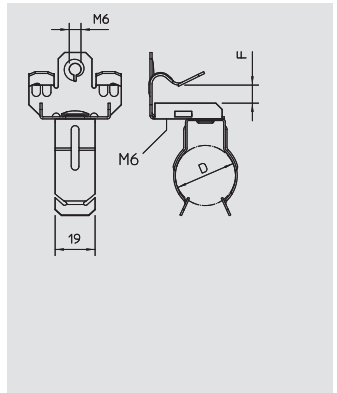
# Beam clamps for knocking in



## Beam clamp, for pipes

Type	Breaking load kN	Flange thickness mm	Clamping range D mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>TKCU 7-20</b>	0.11	3-6.5	17-20	50	3.760	<b>1484 00 1</b>
<b>TKCU 7-25</b>	0.11	3-6.5	23-25	50	3.900	<b>1484 02 8</b>
<b>TKCU 7-32</b>	0.11	3-6.5	25-32	50	4.350	<b>1484 03 6</b>
<b>TKCU 13-20</b>	0.11	7-13	17-20	50	4.220	<b>1484 07 9</b>
<b>TKCU 13-25</b>	0.11	7-13	23-25	50	4.350	<b>1484 08 7</b>
<b>TKCU 13-32</b>	0.11	7-13	25-32	50	4.800	<b>1484 09 5</b>
<b>TKCU 19-20</b>	0.11	14-19	17-20	50	4.450	<b>1484 13 3</b>
<b>TKCU 19-25</b>	0.11	14-19	23-25	50	4.550	<b>1484 14 1</b>
<b>TKCU 19-32</b>	0.11	14-19	25-32	50	5.350	<b>1484 16 8</b>

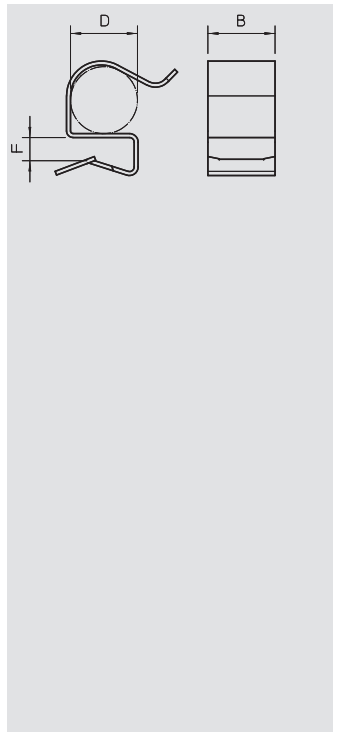
**St** Steel **ZD** Galvanised, Deltatone 500 /100 pc.  
With rotating clip to accept pipes.



## Beam clamp, for pipes

Type	Flange thickness mm	Dimension D mm	Dimension B mm	Cable Ø mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>TKCI 4-5 N</b>	2-4	4.5-5.5	13.5	4.5-5.5	100	0.300	<b>1487 50 0</b>
<b>TKCI 4-7 N</b>	2-4	6-7	13.5	6-7	100	0.300	<b>1487 50 2</b>
<b>TKCI 4-9 N</b>	2-4	7-9	13.5	7-9	100	0.400	<b>1487 50 4</b>
<b>TKCI 4-12 N</b>	2-4	10-12	13.5	10-12	100	0.400	<b>1487 50 6</b>
<b>TKCI 4-14 N</b>	2-4	12-14	13.5	12-14	100	0.600	<b>1487 50 8</b>
<b>TKCI 4-18 N</b>	2-4	15-18	13.5	15-18	100	0.500	<b>1487 51 0</b>
<b>TKCI 4-24 N</b>	2-4	19-24	13.5	19-24	100	0.700	<b>1487 51 2</b>
<b>TKCI 4-30 N</b>	2-4	25-30	13.5	25-30	100	0.400	<b>1487 51 4</b>
<b>TKCI 7-5 N</b>	4-7	4.5-5.5	13.5	4.5-5.5	100	0.400	<b>1487 53 0</b>
<b>TKCI 7-7 N</b>	4-7	6-7	13.5	6-7	100	0.400	<b>1487 53 2</b>
<b>TKCI 7-9 N</b>	4-7	7-9	13.5	7-9	100	0.400	<b>1487 53 4</b>
<b>TKCI 7-12 N</b>	4-7	10-12	13.5	10-12	100	0.400	<b>1487 53 6</b>
<b>TKCI 7-14 N</b>	4-7	12-14	13.5	12-14	100	0.500	<b>1487 53 8</b>
<b>TKCI 7-18 N</b>	4-7	15-18	13.5	15-18	100	0.700	<b>1487 54 0</b>
<b>TKCI 7-24 N</b>	4-7	19-24	13.5	19-24	100	0.400	<b>1487 54 2</b>
<b>TKCI 7-30 N</b>	4-7	25-30	13.5	25-30	100	0.400	<b>1487 54 4</b>
<b>TKCI 12-5 N</b>	8-12	4.5-5.5	13.5	4.5-5.5	100	0.400	<b>1487 56 0</b>
<b>TKCI 12-7 N</b>	8-12	6-7	13.5	6-7	100	0.400	<b>1487 56 2</b>
<b>TKCI 12-9 N</b>	8-12	7-9	13.5	7-9	100	0.500	<b>1487 56 4</b>
<b>TKCI 12-12 N</b>	8-12	10-12	13.5	10-12	100	0.600	<b>1487 56 6</b>
<b>TKCI 12-14 N</b>	8-12	12-14	13.5	12-14	100	0.700	<b>1487 56 8</b>
<b>TKCI 12-18 N</b>	8-12	15-18	13.5	15-18	100	0.800	<b>1487 57 0</b>
<b>TKCI 12-24 N</b>	8-12	19-24	13.5	19-24	100	0.900	<b>1487 57 2</b>
<b>TKCI 12-30 N</b>	8-12	25-30	13.5	25-30	100	1.000	<b>1487 57 4</b>

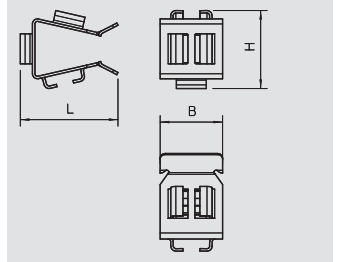
**St** Steel **ZD** Galvanised, Deltatone 500 /100 pc.  
With internal pipe clip.



## Beam clamp, for pipes

Type	Flange thickness mm	Dimension L mm	Dimension B mm	Dimension H mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>TKCI-A</b>	12-20	37	25	32	50	1.700	<b>1487 49 6</b>

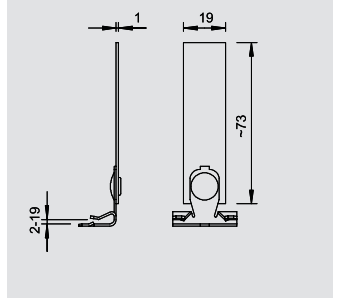
**St** Steel **ZD** Galvanised, Deltatone 500 /100 pc.  
Beam clamp adapter for flange thicknesses of 12 to 20 mm, with three seats for the beam clamps TKCI 5.



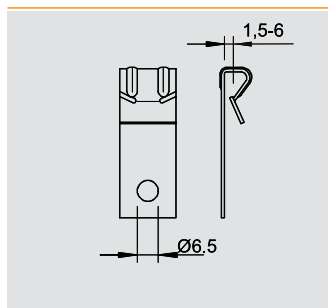
## Beam clamp, with strap

Type	Breaking load kN	Flange thickness mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>TKB 6</b>	0.8	2-6	100	2.100	<b>1481 20 7</b>
<b>TKB 13</b>	0.8	5-13	100	2.800	<b>1481 21 5</b>
<b>TKB 19</b>	0.8	14-19	50	3.200	<b>1481 23 1</b>

**St** Steel **ZD** Galvanised, Deltatone 500 /100 pc.  
With flexible strap to fix individual cables or bundles.



## Beam clamps for knocking in

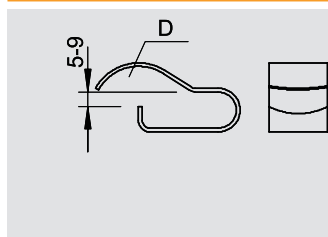


### Profile suspensions

Type	Dimension H mm	Dimension L mm	Breaking load kN	Flange thickness mm	Pack.	Weight	Item No.
					pcs	kg/100 pcs.	
<b>TKL 4</b>	52	10	0.72	1.5-4	100	0.860	<b>1485 10 5</b>
<b>TKL 6</b>	54	12	0.72	4-6	100	1.090	<b>1485 11 3</b>

**St** Steel **ZD** Galvanised, Deltatone 500 /100 pc.

Profile suspension with drill hole to accept S hooks.

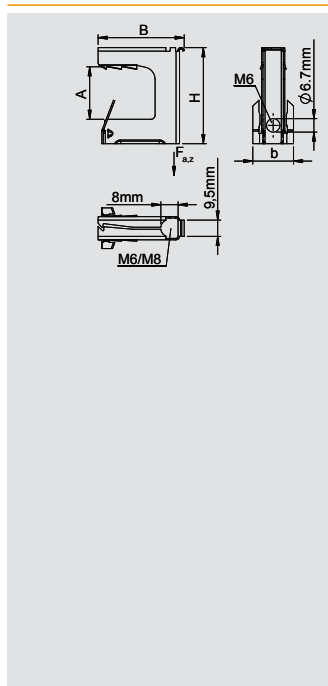


### Support clip

Type	Flange thickness mm	Clamping range D mm	Pack.	Weight	Item No.
			pcs	kg/100 pcs.	
<b>TC 7-10 ZD</b>	5-7	3-10	100	0.750	<b>1487 70 1</b>
<b>TC 9-20 ZD</b>	8-9	7-20	100	0.880	<b>1487 72 8</b>

**St** Steel **ZD** Galvanised, Deltatone 500 /100 pc.

With internal pipe clip.



### Beam clamp, multifunctional

Type	Breaking load kN	Dimension B mm	Dimension H mm	Flange thickness mm	Pack.	Weight	Item No.
					pcs	kg/100 pcs.	
<b>TK MULTI 8</b>	1.2	30	30	2-8	100	—	<b>1485 14 0</b>
<b>TK MULTI 16</b>	1.2	32	38	8-16	100	—	<b>1485 14 4</b>
<b>TK MULTI 24</b>	1.2	42	48	16-24	50	—	<b>1485 14 8</b>

**St** Steel **ZDM** Galvanised, MAGNI 565 /100 pc.

Different fastening options are possible, meaning one clip for any application.

- Multifunctional sprung steel clamp for steel girders
- Unifies the application of multiple products, e.g. S-hooks, wire cable, threaded rod (M6 or M8), cable tie
- For static loads, usable once, immovable
- No welding, no drilling, knocking in or attachment by hand
- Efficient and quick
- For fastening of cables, protection pipes, cable sections, etc.
- High load capacity (tested by CSTB - FR)
- Also suitable for outdoor use
- Material: hardened steel, Magni-coated surface (600-hour corrosion resistance)
- Incl. ICP threaded plate for wood screws of 4.0 to 4.5 mm

Properties:

- Opening for cable tie/strap of up to 9 mm width, M6-M8 threaded rod, wire cable etc.
- 6.7 mm hole diameter for M6 threaded rod, S-hook, acoustic ceiling hook etc.
- ICP clip for fastening with wood screws, diameter 4.0 - 4.5 mm



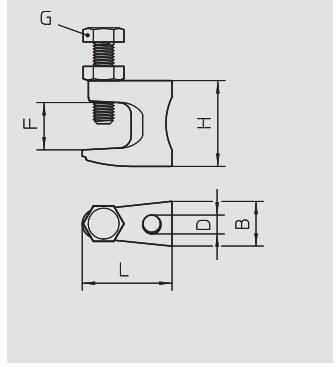
# Beam clamps for screwing in



## Screw-in beam clamp, with gland hole

Type	Dimension H mm	Dimension B mm	Dimension L mm	Dimension G mm	Dimension D mm	Breaking load kN	Flange thickness mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>FL 1 TG</b>	35	19	38	M8	9	1.2	0-18	50	8.500	<b>1488 01 5</b>
<b>FL 2 TG</b>	42	21	44	M10	11	2.5	0-20	50	14.000	<b>1488 02 3</b>
<b>FL 3 TG</b>	54	23.5	58	M10	13	3.5	0-26	25	18.000	<b>1488 03 1</b>

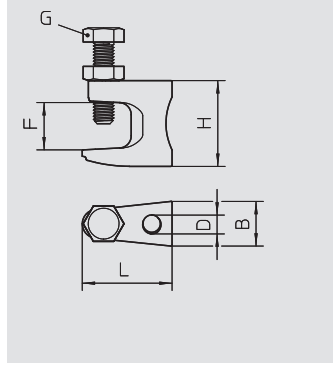
**TG** Cast iron /100 pc.  
With gland hole.



## Screw-in beam clamp, with thread

Type	Dimension H mm	Dimension B mm	Dimension L mm	Dimension G mm	For threaded rod	Breaking load kN	Flange thickness mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>FL1-G M8 TG</b>	35	19	38	M8	M8	1.2	0-18	50	8.500	<b>1488 07 4</b>
<b>FL2-G M10 TG</b>	42	21	44	M10	M10	2.5	0-20	50	14.000	<b>1488 08 2</b>
<b>FL3-G M12 TG</b>	54	23.5	58	M10	M12	3.5	0-26	25	18.000	<b>1488 09 0</b>

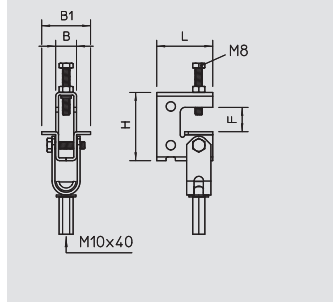
**TG** Cast iron /100 pc.  
With thread.



## Screw-in beam clamp, with hinge

Type	Flange thickness mm	For threaded rod	Breaking load kN	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>TK FL G</b>	0-24	M10	0.9-2.8	10	34.000	<b>1488 11 1</b>

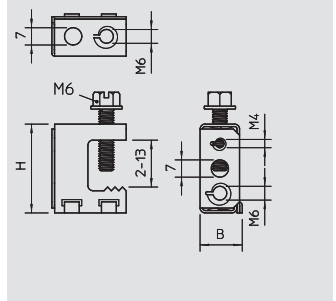
**St** Steel **ZD** Galvanised, Deltatone 500 /100 pc.  
Two-hinge beam clamp for fastening on beams without welding and drilling. The maximum load is dependent on the load direction.



## Screw-in beam clamp, universal

Type	Breaking load kN	Dimension B mm	Dimension H mm	Flange thickness mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>TK 213</b>	1.35	15.8	35	2-13	100	2.720	<b>1484 70 2</b>

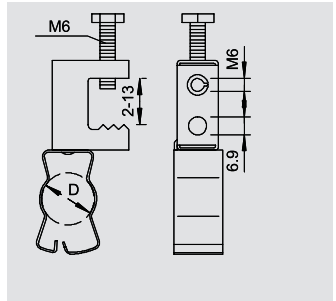
**St** Steel **ZD** Galvanised, Deltatone 500 /100 pc.  
Various fastening options (horizontal and vertical).



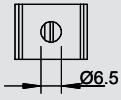
## Screw-in beam clamp, for pipes

Type	Clamping range D mm	Breaking load kN	Flange thickness mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>TKS 213-25</b>	18-25	0.45	2-13	50	3.990	<b>1484 81 8</b>
<b>TKS 213-32</b>	28-32	0.45	2-13	50	4.170	<b>1484 82 6</b>
<b>TKS 213-37</b>	35-37	0.45	2-13	50	6.300	<b>1484 83 4</b>
<b>TKS 213-42</b>	37-42	0.45	2-13	50	7.300	<b>1484 84 2</b>

**St** Steel **ZD** Galvanised, Deltatone 500 /100 pc.  
With rotating clip to accept pipes and cables, lockable.



## Beam clamps for screwing in



### Pipe clamp

Type	Clamping range D mm	Breaking load kN	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>S 25 ZD</b>	18-25	0.45	100	1.420	<b>1486 30 6</b>
<b>S 32 ZD</b>	28-32	0.45	100	1.550	<b>1486 31 4</b>
<b>S 37 ZD</b>	35-37	0.45	100	2.180	<b>1486 32 2</b>

**St** Steel      **ZD** Galvanised, Deltatone 500

To accept pipes and cables, lockable.

/100 pc.



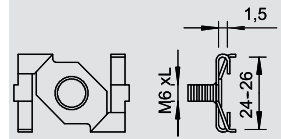
# Special beam clamp systems



## Visible rail terminal

Type	Thread	Breaking load kN	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>TKD 9</b>	M6x9	0.22	100	1.100	<b>1486 60 8</b>
<b>TKD 16</b>	M6x16	0.22	100	1.200	<b>1486 61 6</b>
<b>TKD 25</b>	M6x25	0.22	100	1.400	<b>1486 62 4</b>
<b>TKD 38</b>	M6x38	0.22	100	1.700	<b>1486 63 2</b>

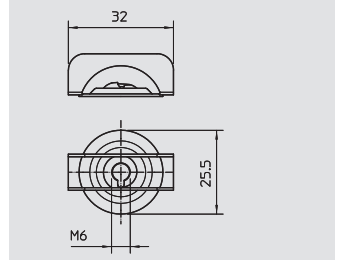
**St** Steel **ZD** Galvanised, Deltatone 500 /100 pc.  
Rotary clamp fastening to ceiling profiles with threaded connection.



## Locknut

Type	Thread	Breaking load kN	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>TKD G</b>	M6	0.22	100	0.540	<b>1486 67 5</b>

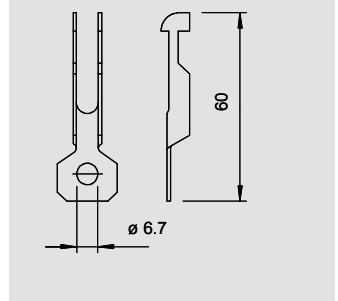
**St** Steel **ZD** Galvanised, Deltatone 500 /100 pc.  
Disc nut for toolless, manual mounting.



## Profile ceiling suspensions

Type	Bore hole Ø mm	Breaking load kN	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>TKT 7</b>	7	0.45	100	0.900	<b>1486 86 1</b>

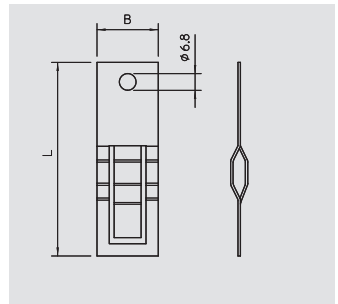
**St** Steel **ZD** Galvanised, Deltatone 500 /100 pc.  
Push-through fastening for 7 mm drill holes and plate thicknesses of 0.8 to 2 mm, with opening to accept S hooks or bolt and nut.



## Plug-on bracket for ceiling profiles

Type	Dimension B mm	Dimension L mm	with type	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>TKA 25</b>	25	79	-	100	1.300	<b>1486 68 2</b>

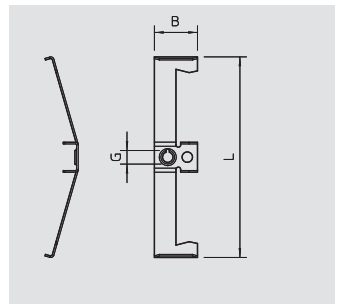
**St** Steel **ZD** Galvanised, Deltatone 500 /100 pc.  
Plug-on bracket for ceiling profiles, with drill hole for universal connection.



## Mounting bracket on threaded rods

Type	For threaded rod	Dimension B mm	Dimension L mm	with type	Dimension G mm	Breaking load kN	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>TK GS M4 M8</b>	M4 - M8	19	82	-	M6	0.22	100	0.890	<b>1486 69 4</b>
<b>TK GS M10 M12</b>	M10 - M12	26	120	-	M6	0.22	100	1.810	<b>1486 69 8</b>

**St** Steel **ZD** Galvanised, Deltatone 500 /100 pc.  
Sprung steel clamp for quick fastening to threaded rods or beams without welding or drilling.

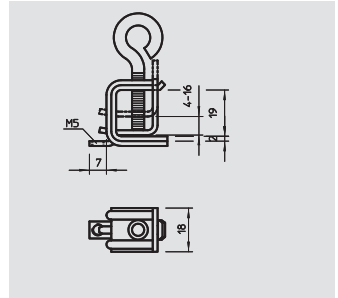


## Beam clamp

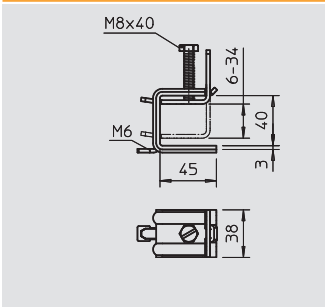
Type	Flange thickness mm	Shipping box pair	Pack. pair	Weight kg/100 pairs	Item No.
<b>339 1</b>	4-16	100	5	6.200	<b>1408 51 8</b>

**St** Steel /100 pairs

For rapid fastening on steel profiles during the mounting of cable tracks, clamp clips, luminaire suspensions, etc. A complete system consists of two beam clamps and a piece of C profile rail of any length, as well as two protective caps.





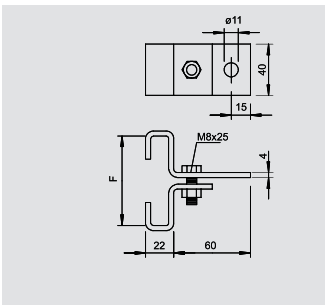


## Beam clamp

Type	Flange thickness mm	Shipping box pair	Pack. pair	Weight kg/100 pairs	Item No.
<b>339 2</b>	6-34	40	5	37.000	<b>1408 53 4</b>

**St** Steel /100 pairs

For rapid fastening on steel profiles during the mounting of cable tracks, clamp clips, luminaire suspensions, etc. A complete system consists of two beam clamps and a piece of C profile rail of any length, as well as two protective caps.

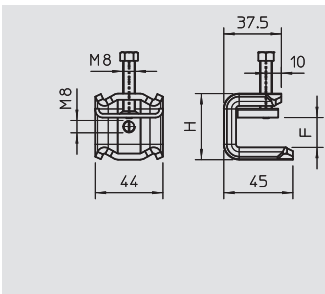


## Support clamp

Type	Flange thickness mm	Breaking load kN	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>325 70 FT</b>	70	10	25	25	27.900	<b>5327 07 5</b>
<b>325 80 FT</b>	80	10	25	25	32.000	<b>5327 08 3</b>
<b>325 100 FT</b>	100	9	25	25	33.500	<b>5327 10 5</b>
<b>325 130 FT</b>	130	8	25	25	36.500	<b>5327 12 1</b>

**St** Steel **FT** Hot-dip galvanised /100 pc.

The two brackets are clamped to the flange. For individual component suspension.

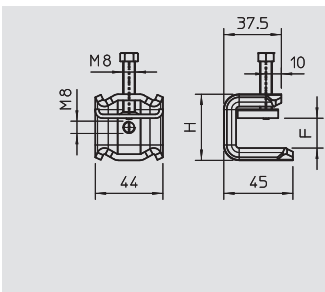
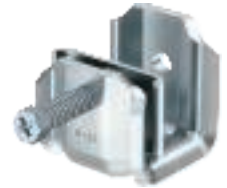


## Beam clamp

Type	Dimension H mm	Dimension B mm	Dimension L mm	For threaded rod mm	Flange thickness mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>SPP 6-21 FT</b>	43	44	45	M8	6-21	50	17.700	<b>1486 25 0</b>

**St** Steel **FT** Hot-dip galvanised /100 pc.

This type of beam clamp is pushed onto the support and fixed to the girder or flat iron using a pressure trough and bolt (M8). The hexagonal bolt has a WAF of 10 mm and is tightened using the appropriate tool. If necessary, the double nipple, type 3100 M8, or an M8 threaded rod can be used on the clip element.

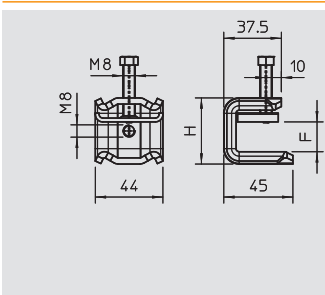


## Beam clamp, V2A

Type	Dimension H mm	Dimension B mm	Dimension L mm	For threaded rod mm	Flange thickness mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>SPP 6-21 VA</b>	43	44	45	M8	6-21	50	18.200	<b>1486 25 4</b>

**V2A** Stainless steel, grade 304 /100 pc.

This type of beam clamp is pushed onto the support and fixed to the girder or flat iron using a pressure trough and bolt (M8). The hexagonal bolt has a WAF of 10 mm and is tightened using the appropriate tool. If necessary, the double nipple, type 3100 M8, or an M8 threaded rod can be used on the clip element.

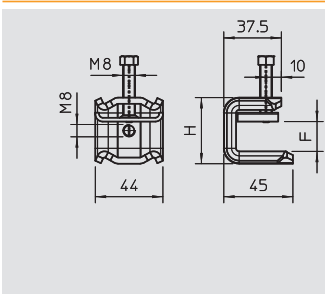


## Beam clamp, V4A

Type	Dimension H mm	Dimension B mm	Dimension L mm	For threaded rod mm	Flange thickness mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>SPP 6-21 V4A</b>	43	44	45	M8	6-21	50	18.200	<b>1486 25 8</b>

**V4A** Stainless steel, grade 316 L /100 pc.

This type of beam clamp is pushed onto the support and fixed to the girder or flat iron using a pressure trough and bolt (M8). The hexagonal bolt has a WAF of 10 mm and is tightened using the appropriate tool. If necessary, the double nipple, type 3100 M8, or an M8 threaded rod can be used on the clip element.



## Beam clamp

Type	Dimension H mm	Dimension B mm	Dimension L mm	For threaded rod mm	Flange thickness mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>SPP 20-40 FT</b>	63	44	45	M8	20-40	50	20.500	<b>1486 27 0</b>

**St** Steel **FT** Hot-dip galvanised /100 pc.

This type of beam clamp is pushed onto the support and fixed to the girder or flat iron using a pressure trough and bolt (M8). The hexagonal bolt has a WAF of 10 mm and is tightened using the appropriate tool. If necessary, the double nipple, type 3100 M8, or an M8 threaded rod can be used on the clip element.



# Special beam clamp systems



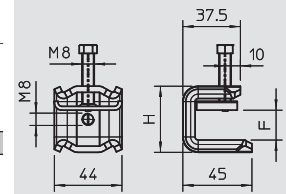
## Beam clamp, V2A

Type	Dimension H	Dimension B	Dimension L	For threaded rod	Flange thickness	Pack.	Weight	Item No.
	mm	mm	mm		mm	pcs	kg/100 pcs.	
<b>SPP 20-40 VA</b>	63	44	45	M8	20-40	50	21.200	<b>1486 27 4</b>

V2A Stainless steel, grade 304

/100 pc.

This type of beam clamp is pushed onto the support and fixed to the girder or flat iron using a pressure trough and bolt (M8). The hexagonal bolt has a WAF of 10 mm and is tightened using the appropriate tool. If necessary, the double nipple, type 3100 M8, or an M8 threaded rod can be used on the clip element.



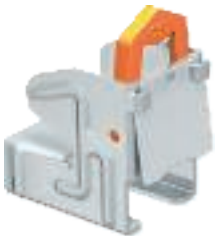
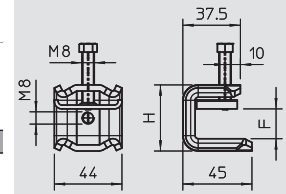
## Beam clamp, V4A

Type	Dimension H	Dimension B	Dimension L	For threaded rod	Flange thickness	Pack.	Weight	Item No.
	mm	mm	mm		mm	pcs	kg/100 pcs.	
<b>SPP 20-40 V4A</b>	63	44	45	M8	20-40	50	21.200	<b>1486 27 8</b>

V4A Stainless steel, grade 316 L

/100 pc.

This type of beam clamp is pushed onto the support and fixed to the girder or flat iron using a pressure trough and bolt (M8). The hexagonal bolt has a WAF of 10 mm and is tightened using the appropriate tool. If necessary, the double nipple, type 3100 M8, or an M8 threaded rod can be used on the clip element.



## Beam clamp, profile 1268

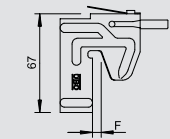
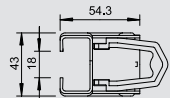
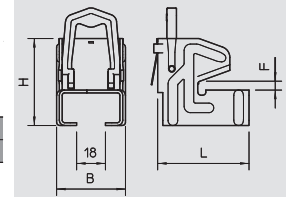
Type	Flange thickness	Dimension L	Dimension B	Dimension H	Pack.	Weight	Item No.
	mm	mm	mm	mm	pcs	kg/100 pcs.	
<b>328 1</b>	5-11	57	39.5	54.3	50	10.800	<b>1408 01 1</b>
<b>328 2</b>	10-19	67	39.5	54.3	50	12.500	<b>1408 04 6</b>

St Steel

ZD Galvanised, Deltatone 500

/100 pc.

Screwless rustproof coated beam clamp, with blocking spring, suitable for profile rail, type 1268 SL and 1268 S/SL. For rapid fastening on steel profiles during the mounting of cable tracks, clamp clips, luminaire suspensions, etc. A complete system consists of two beam clamps and a piece of C profile rail of any length, as well as two protective caps.



## Profile rail, 1.25 mm material thickness

Type	Version	Dimension b x h	Material thickness	Length	Pack.	Weight	Item No.
		mm	mm	mm	pcs	kg/100 pcs.	
<b>1268 L 150 FS</b>	Perforated	35 x 18	1.25	150	25	10.600	<b>1104 24 1</b>
<b>1268 L 200 FS</b>	Perforated	35 x 18	1.25	200	25	14.200	<b>1104 26 8</b>
<b>1268 L 300 FS</b>	Perforated	35 x 18	1.25	300	25	21.300	<b>1104 28 4</b>
<b>1268 L 400 FS</b>	Perforated	35 x 18	1.25	400	10	28.400	<b>1104 29 2</b>
<b>1268 L 500 FS</b>	Perforated	35 x 18	1.25	500	10	35.500	<b>1104 30 6</b>
<b>1268 L 600 FS</b>	Perforated	35 x 18	1.25	600	10	42.600	<b>1104 31 0</b>
<b>1268 L 700 FS</b>	Perforated	35 x 18	1.25	700	10	49.700	<b>1104 31 5</b>
<b>1268 L 800 FS</b>	Perforated	35 x 18	1.25	800	10	56.800	<b>1104 32 0</b>
<b>1268 L 900 FS</b>	Perforated	35 x 18	1.25	900	10	63.900	<b>1104 32 5</b>
<b>1268 L 1M FS</b>	Perforated	35 x 18	1.25	1000	10	71.000	<b>1104 49 7</b>
<b>1268 L 2M FS</b>	Perforated	35 x 18	1.25	2000	20	71.000	<b>1104 50 0</b>

St Steel

FS Strip-galvanised

/100 m /100 pc.

Light-duty profile rail, perforated, slot width 17 mm.

Static values:

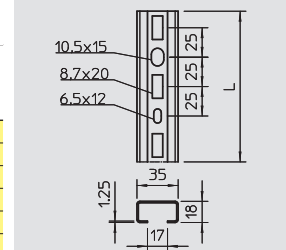
A = 0,876 cm<sup>2</sup>

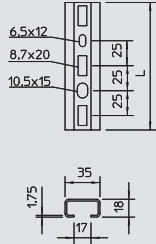
I<sub>y</sub> = 0,406 cm<sup>4</sup>

I<sub>z</sub> = 1,807 cm<sup>4</sup>

W<sub>y</sub> = 0,413 cm<sup>3</sup>

W<sub>z</sub> = 1,033 cm<sup>3</sup>





## Profile rail, 1.75 mm material thickness



Type	Version	Dimension b x h mm	Material thickness mm	Length mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>1268 SL 150 FS</b>	Perforated	35 x 18	1.75	150	25	15.000	<b>1104 34 9</b>
<b>1268 SL 200 FS</b>	Perforated	35 x 18	1.75	200	25	20.000	<b>1104 35 7</b>
<b>1268 SL 300 FS</b>	Perforated	35 x 18	1.75	300	25	30.000	<b>1104 37 3</b>
<b>1268 SL 400 FS</b>	Perforated	35 x 18	1.75	400	10	40.000	<b>1104 39 1</b>
<b>1268 SL 500 FS</b>	Perforated	35 x 18	1.75	500	10	50.000	<b>1104 40 3</b>
<b>1268 SL 600 FS</b>	Perforated	35 x 18	1.75	600	10	60.000	<b>1104 41 1</b>
<b>1268 SL 800 FS</b>	Perforated	35 x 18	1.75	800	10	80.000	<b>1104 42 7</b>
<b>1268 SL 900 FS</b>	Perforated	35 x 18	1.75	900	10	90.000	<b>1104 43 5</b>
<b>1268 SL 1M FS</b>	Perforated	35 x 18	1.75	1000	10	100.000	<b>1104 44 5</b>
<b>1268 SL 2M FS</b>	Perforated	35 x 18	1.75	2000	20	100.000	<b>1104 45 4</b>



**St** Steel **FS** Strip-galvanised /100 m /100 pc.

Profile rail, perforated, slot width 17 mm.

Static values:

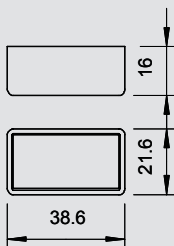
A = 1,172 cm<sup>2</sup>

I<sub>y</sub> = 0,515 cm<sup>4</sup>

I<sub>z</sub> = 0,526 cm<sup>4</sup>

W<sub>y</sub> = 2,333 cm<sup>3</sup>

W<sub>z</sub> = 1,333 cm<sup>3</sup>



## Protective cap



Type	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>1268 SK OR</b>	Pastel orange	800	50	0.420	<b>1124 50 2</b>



**PE** Polyethylene /100 pc.

End cap for profile rail types 1268; 1268 S; 2063 and 2068.



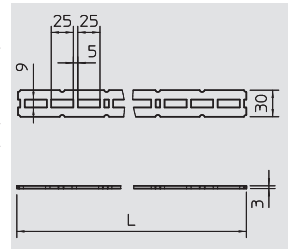
# Self-build profile system



## Self-build profile

Type	Length mm	Weight kg/100 m	Item No.
1268 SP 3M FT	3000	55.000	6350 20 8

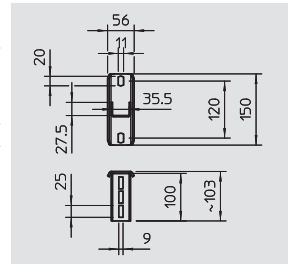
**St** Steel **FT** Hot-dip galvanised /m  
Flat iron with slots for individual mounting.



## Head plate

Type	Pack. pcs	Weight kg/100 pcs.	Item No.
1268 KP FT	25	42.000	6350 05 4

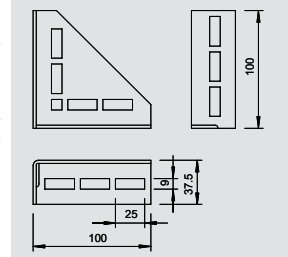
**St** Steel **FT** Hot-dip galvanised /pc.  
For wall and ceiling fastening of individual mountings.



## Triangular node

Type	Weight kg/100 pcs.	Item No.
1268 KD FT	22.000	6350 10 0

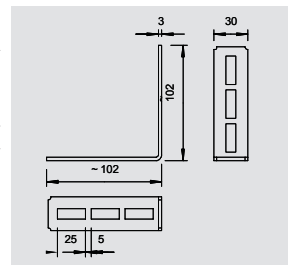
**St** Steel **FT** Hot-dip galvanised /pc.  
For stable corner fastening of individual mountings.



## 90° mounting bracket

Type	Pack. pcs	Weight kg/100 pcs.	Item No.
1268 W 90 G	25	11.000	6350 15 1

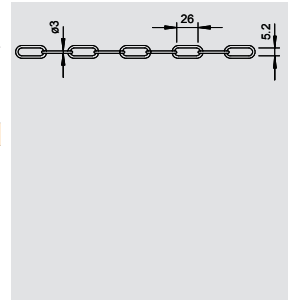
**St** Steel **G** Electrogalvanised /pc.  
For stable 90° angle fastening of individual mountings.



## Suspension chain

Type	Breaking load kN	Shipping box m	Pack. m	Weight kg/100 m	Item No.
K-C30 G	0.7	25	25	10.000	1488 20 1

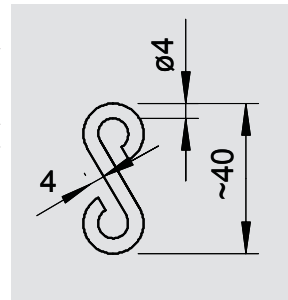
**St** Steel **G** Electrogalvanised /100 m  
To suspend luminaire supports or other components.

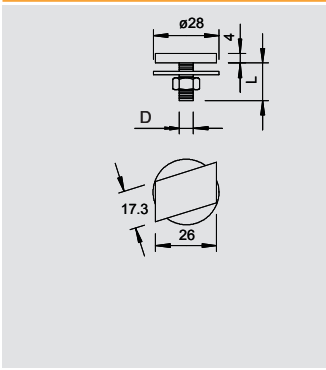


## S hook

Type	Breaking load kN	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
SH 40 G	0.5	1200	100	0.800	1488 25 2

**St** Steel **G** Electrogalvanised /100 pc.  
Connecting hook of beam clamps and suspension chains.



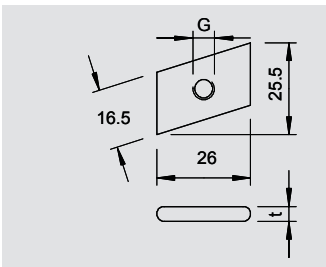


## Hammer-head bolt



Type	Thread	Dimension L	Dimension D	Washer Ø	Grade	Shipping box	Pack.	Weight	Item No.
		mm	mm	mm		pcs	pcs	kg/100 pcs.	
5026 M6X20 G	M6	20	6	28	–	300	50	2.870	1151 70 3
5026 M8X25 G	M8	25	8	28	–	300	50	3.320	1151 71 1

**St** Steel **G** Electrogalvanised /100 pc.  
 Hammer-head bolt with washer and nut for profile rails with slot width 16–17 mm.

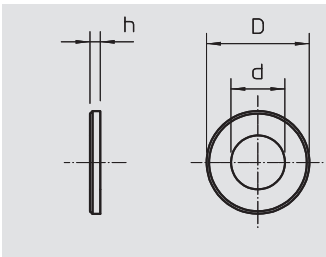
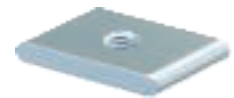


## Slide nut



Type	Thread	Dimension G	Dimension t	Version	Shipping box	Pack.	Weight	Item No.
		mm	mm		pcs	pcs	kg/100 pcs.	
5019 M6 OS G	M6	6	4	No bolt	1200	100	1.150	1144 10 3
5019 M8 OS G	M8	8	5	No bolt	600	100	1.450	1144 11 1
5019 M10 OS G	M10	10	6	No bolt	600	100	1.650	1144 13 8

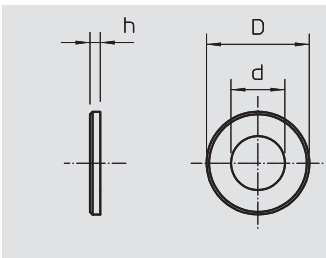
**St** Steel **G** Electrogalvanised /100 pc.  
 Slide nut for profile rails with a slot width of 16–17 mm.



## Washer, large diameter

Type	Thread	Dimension d	Dimension D	Dimension h	Shipping box	Pack.	Weight	Item No.
		mm	mm	mm	pcs	pcs	kg/100 pcs.	
967 M6 G	M6	6.5	28	2.5	1000	100	1.150	3402 20 7
967 M8 G	M8	8.5	28	2.5	1400	100	1.100	3402 21 5
967 M10 G	M10	11	28	2.5	1400	100	1.020	3402 22 3

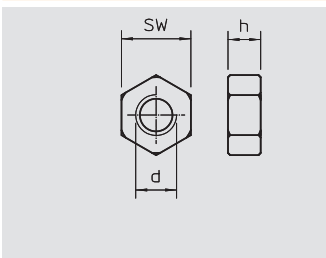
**St** Steel **G** Electrogalvanised /100 pc.  
 Washer of large outer diameter for universal use.



## Washer, DIN 125 Shape A

Type	Thread	Dimension d	Dimension D	Dimension h	Shipping box	Pack.	Weight	Item No.
		mm	mm	mm	pcs	pcs	kg/100 pcs.	
966 M6 G	M6	6.4	12	1.6	12000	100	0.110	3402 06 1
966 M8 G	M8	8.4	16	1.6	5000	100	0.210	3402 08 8
966 M10 G	M10	10.5	20	2	3000	100	0.410	3402 09 6

**St** Steel **G** Electrogalvanised /100 pc.  
 Washer according to DIN 125, shape A, for universal use.



## Hexagonal nut

Type	Thread	SW	Dimension h	Dimension d	Shipping box	Pack.	Weight	Item No.
		mm	mm	mm	pcs	pcs	kg/100 pcs.	
DIN 934 M6 G	M6	10	5.2	6	2600	100	0.230	3400 06 9
DIN 934 M8 G	M8	13	6.8	8	2400	100	0.470	3400 08 5
DIN 934 M10 G	M10	17	8.4	10	1000	100	1.080	3400 10 7

**St** Steel **G** Electrogalvanised /100 pc.  
 Hexagonal nut to DIN 934 with metric thread.



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Beam clamp systems



## Rail systems

	Profile rails	Slot width 7.5 mm	352
		Slot width 11 mm	352
		Slot width 12 mm	353
		Slot width 16 mm	354
		Slot width 16.5 mm	355
		Slot width 17 mm	356
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		Slot width 22 mm	358
	Mounting rail	Mounting rail, MS 21 Mounting rail, MS 41 Mounting rail, MS 41	360 363
	System accessories	Slide nuts	369
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		Series clip	375
	Mounting systems	Connection plates Fastening clip Mounting bracket	377 378 379
	Hat profile rail	Hat profile rail Support rail	389 390

# Profile rail



## Profile rail, slot 7.5 mm

Type	Version	Dimension b x h mm	Material thickness mm	Length mm	Bundle m	Weight kg/100 m	Item No.
2059 2M FS	Unperforated	14 x 7,5	0.75	2000	50	18.050	1103 12 1

**St** Steel **FS** Strip-galvanised /100 m

Profile rail with 7.5 mm slot width.

Static values:

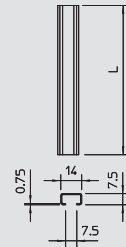
A = 0,23 cm<sup>2</sup>

I<sub>y</sub> = 0,0169 cm<sup>4</sup>

I<sub>z</sub> = 0,0646 cm<sup>4</sup>

W<sub>y</sub> = 0,0361 cm<sup>3</sup>

W<sub>z</sub> = 0,0908 cm<sup>3</sup>



## Profile rail, slot 11 mm, dividable

Type	Version	Dimension b x h mm	Material thickness mm	Length mm	Bundle m	Weight kg/100 m	Item No.
2060 2M AB BK	Perforated	20 x 8	0.75	2000	50	20.000	1106 02 3
2060 2M AB FS	Perforated	20 x 8	0.75	2000	20	21.100	1106 12 0

**St** Steel **FS** Strip-galvanised Bright /100 m

Profile rail with 11 mm slot width.

Static values:

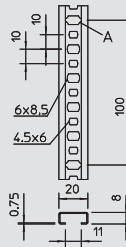
A = 0.2400 cm<sup>2</sup>

I<sub>y</sub> = 0.0218 cm<sup>4</sup>

I<sub>z</sub> = 0.1673 cm<sup>4</sup>

W<sub>y</sub> = 0.0510 cm<sup>3</sup>

W<sub>z</sub> = 0.1673 cm<sup>3</sup>



## Profile rail, slot 11 mm, perforated

Type	Version	Dimension b x h mm	Material thickness mm	Length mm	Bundle m	Weight kg/100 m	Item No.
2060 L 2M FS	Perforated	20 x 8	0.75	2000	50	20.000	1106 62 7

**St** Steel **FS** Strip-galvanised /100 m

Profile rail with 11 mm slot width.

Static values:

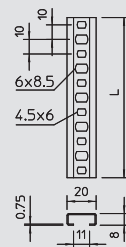
A = 0,24 cm<sup>2</sup>

I<sub>y</sub> = 0,0218 cm<sup>4</sup>

I<sub>z</sub> = 0,1673 cm<sup>4</sup>

W<sub>y</sub> = 0,051 cm<sup>3</sup>

W<sub>z</sub> = 0,1673 cm<sup>3</sup>



## Profile rail, slot 11 mm, unperforated

Type	Version	Dimension b x h mm	Material thickness mm	Length mm	Bundle m	Weight kg/100 m	Item No.
2060 2M FS	Unperforated	20 x 8	0.75	2000	50	20.000	1105 12 4

**St** Steel **FS** Strip-galvanised /100 m

Profile rail with 11 mm slot width.

Static values:

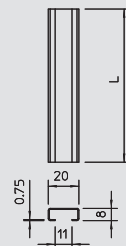
A = 0,303 cm<sup>2</sup>

I<sub>y</sub> = 0,0275 cm<sup>4</sup>

I<sub>z</sub> = 0,1711 cm<sup>4</sup>

W<sub>y</sub> = 0,028 cm<sup>3</sup>

W<sub>z</sub> = 0,1711 cm<sup>3</sup>



## Profile rail, slot 11 mm, V2A, perforated

Type	Version	Dimension b x h mm	Material thickness mm	Length mm	Bundle m	Weight kg/100 m	Item No.
2060 L 2M VA	Perforated	20 x 8	0.75	2000	20	21.400	1106 62 8

**V2A** Stainless steel, grade 304 Bright /100 m

Profile rail with 11 mm slot width.

Static values:

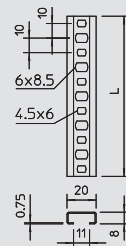
A = 0,24 cm<sup>2</sup>

I<sub>y</sub> = 0,0218 cm<sup>4</sup>

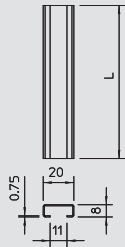
I<sub>z</sub> = 0,1673 cm<sup>4</sup>

W<sub>y</sub> = 0,051 cm<sup>3</sup>

W<sub>z</sub> = 0,1673 cm<sup>3</sup>







**Profile rail, slot 11 mm, V2A, unperforated**



Type	Version	Dimension b x h mm	Material thickness mm	Length mm	Bundle m	Weight kg/100 m	Item No.
<b>2060 2M VA</b>	Unperforated	20 x 8	0.75	2000	20	23.550	<b>1105 12 5</b>

**V2A** Stainless steel, grade 304 Bright /100 m

Profile rail with 11 mm slot width.

Static values:

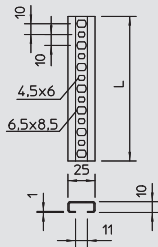
A = 0,303 cm<sup>2</sup>

ly = 0,0275 cm<sup>4</sup>

lz = 0,1711 cm<sup>4</sup>

Wy = 0,028 cm<sup>3</sup>

Wz = 0,1711 cm<sup>3</sup>



**Profile rail, slot 11 mm, perforated**



Type	Version	Dimension b x h mm	Material thickness mm	Length mm	Bundle m	Weight kg/100 m	Item No.
<b>2061 L 2M FS</b>	Perforated	25 x 10	1	2000	50	36.800	<b>1108 12 3</b>

**St** Steel **FS** Strip-galvanised /100 m

Profile rail with 11 mm slot width.

Static values:

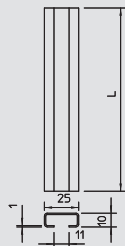
A = 0,439 cm<sup>2</sup>

ly = 0,0643 cm<sup>4</sup>

lz = 0,4357 cm<sup>4</sup>

Wy = 0,1223 cm<sup>3</sup>

Wz = 0,3485 cm<sup>3</sup>



**Profile rail, slot 11 mm, unperforated**



Type	Version	Dimension b x h mm	Material thickness mm	Length mm	Bundle m	Weight kg/100 m	Item No.
<b>2061 2M FS</b>	Unperforated	25 x 10	1	2000	50	36.000	<b>1107 12 7</b>

**St** Steel **FS** Strip-galvanised /100 m

Profile rail with 11 mm slot width.

Static values:

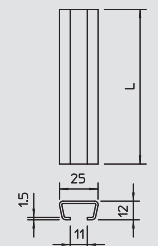
A = 0,524 cm<sup>2</sup>

ly = 0,0772 cm<sup>4</sup>

lz = 0,4408 cm<sup>4</sup>

Wy = 0,1299 cm<sup>3</sup>

Wz = 0,3526 cm<sup>3</sup>



**Profile rail, slot 11 mm**



Type	Version	Dimension b x h mm	Material thickness mm	Length mm	Bundle m	Weight kg/100 m	Item No.
<b>2066 2M F</b>	Unperforated	25 x 12	1.5	2000	20	65.000	<b>1117 02 5</b>
<b>2066 2M FS</b>	Unperforated	25 x 12	1.5	2000	20	58.300	<b>1117 03 3</b>
<b>2066 2M VA</b>	Unperforated	25 x 12	1.5	2000	20	58.300	<b>1117 06 8</b>

**St** Steel **V2A** Stainless steel, grade 304 **FS** Strip-galvanised **F** Hot-dip galvanised /100 m

Profile rail, unperforated, slot width 11 mm.

Static values:

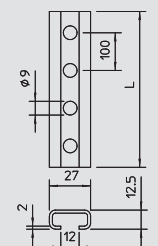
A = cm<sup>2</sup>

ly = 0,1389 cm<sup>4</sup>

lz = 0,5908 cm<sup>4</sup>

Wy = 0,1867 cm<sup>3</sup>

Wz = 0,4726 cm<sup>3</sup>



**Profile rail, slot 12 mm, perforated**



Type	Version	Dimension b x h mm	Material thickness mm	Length mm	Bundle m	Weight kg/100 m	Item No.
<b>2062 L 2M FT</b>	Perforated	27 x 12,5	2	2000	20	89.500	<b>1109 52 9</b>

**St** Steel **FT** Hot-dip galvanised /100 m

Profile rail with 12 mm slot width.

Static values:

A = 0,887 cm<sup>2</sup>

ly = 0,1659 cm<sup>4</sup>

lz = 0,9683 cm<sup>4</sup>

Wy = 0,2534 cm<sup>3</sup>

Wz = 0,7173 cm<sup>3</sup>



# Profile rail



## Profile rail, slot 12 mm, unperforated

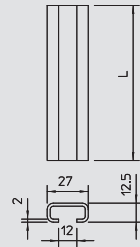
Type	Version	Dimension b x h mm	Material thickness mm	Length mm	Bundle m	Weight kg/100 m	Item No.
<b>2062 2M FT</b>	Unperforated	27 x 12,5	2	2000	20	90.000	<b>1109 02 2</b>
<b>2062 2M BK</b>	Unperforated	27 x 12,5	—	2000	20	90.000	<b>1109 01 4</b>

**St** Steel      Bright      **FT** Hot-dip galvanised

Profile rail with 12 mm slot width.

Static values:

A = 1,077 cm<sup>2</sup>  
 I<sub>y</sub> = 0,2048 cm<sup>4</sup>  
 I<sub>z</sub> = 0,9826 cm<sup>4</sup>  
 W<sub>y</sub> = 0,2761 cm<sup>3</sup>  
 W<sub>z</sub> = 0,7278 cm<sup>3</sup>



## Profile rail, slot 16 mm

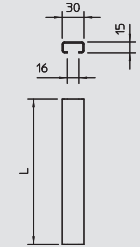
Type	Version	Dimension b x h mm	Material thickness mm	Length mm	Pack. m	Weight kg/100 m	Item No.
<b>C30 2M FS</b>	Unperforated	30 x 15	1.5	2000	20	74.200	<b>1110 00 4</b>

**St** Steel      **FS** Strip-galvanised

Profile rail with 16 mm slot width.

Static values:

A = 0,9621 cm<sup>2</sup>  
 I<sub>y</sub> = 0,2878 cm<sup>4</sup>  
 I<sub>z</sub> = 1,2301 cm<sup>4</sup>  
 W<sub>y</sub> = 0,3138 cm<sup>3</sup>  
 W<sub>z</sub> = 0,8201 cm<sup>3</sup>



## Profile rail, slot 16 mm

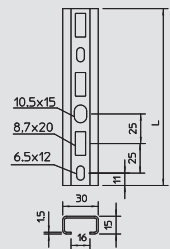
Type	Version	Dimension b x h mm	Material thickness mm	Length mm	Pack. m	Weight kg/100 m	Item No.
<b>C30 L 2M FS</b>	Perforated	30 x 15	1.5	2000	20	70.200	<b>1110 00 2</b>

**St** Steel      **FS** Strip-galvanised

Profile rail, perforated, slot width 16 mm.

Static values:

A = 0,804 cm<sup>2</sup>  
 I<sub>y</sub> = 0,2392 cm<sup>4</sup>  
 I<sub>z</sub> = 1,2156 cm<sup>4</sup>  
 W<sub>y</sub> = 0,2919 cm<sup>3</sup>  
 W<sub>z</sub> = 0,8104 cm<sup>3</sup>



## Profile rail, slot 16 mm

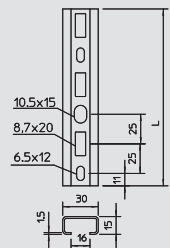
Type	Version	Dimension b x h mm	Material thickness mm	Length mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>C30 L 200 FT</b>	Perforated	30 x 15	1.5	200	25	14.040	<b>1109 78 2</b>
<b>C30 L 300 FT</b>	Perforated	30 x 15	1.5	300	25	21.060	<b>1109 79 0</b>
<b>C30 L 400 FT</b>	Perforated	30 x 15	1.5	400	10	28.080	<b>1109 80 4</b>
<b>C30 L 500 FT</b>	Perforated	30 x 15	1.5	500	10	35.100	<b>1109 81 2</b>
<b>C30 L 600 FT</b>	Perforated	30 x 15	1.5	600	10	42.120	<b>1109 82 0</b>
<b>C30 L 700 FT</b>	Perforated	30 x 15	1.5	700	10	49.140	<b>1109 83 9</b>
<b>C30 L 800 FT</b>	Perforated	30 x 15	1.5	800	10	56.160	<b>1109 84 7</b>

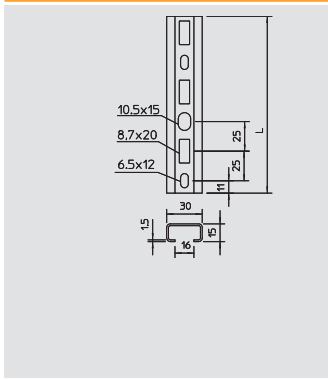
**St** Steel      **FT** Hot-dip galvanised

Profile rail, perforated, slot width 16 mm.

Static values:

A = 0,804 cm<sup>2</sup>  
 I<sub>y</sub> = 0,2392 cm<sup>4</sup>  
 I<sub>z</sub> = 1,2156 cm<sup>4</sup>  
 W<sub>y</sub> = 0,2919 cm<sup>3</sup>  
 W<sub>z</sub> = 0,8104 cm<sup>3</sup>





Profile rail, slot 16 mm



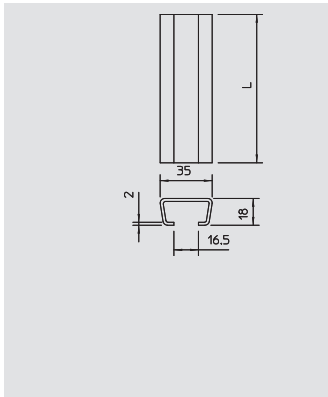
Type	Version	Dimension b x h mm	Material thickness mm	Length mm	Pack. m	Weight kg/100 m	Item No.
<b>C30 L 1M FT</b>	Perforated	30 x 15	1.5	1000	10	70.200	<b>1109 86 3</b>
<b>C30 L 2M FT</b>	Perforated	30 x 15	1.5	2000	20	70.200	<b>1109 87 1</b>

**St** Steel **FT** Hot-dip galvanised /100 m

Profile rail, perforated, slot width 16 mm.

Static values:

A = 0,804 cm<sup>2</sup>  
 ly = 0,2392 cm<sup>4</sup>  
 lz = 1,2156 cm<sup>4</sup>  
 Wy = 0,2919 cm<sup>3</sup>  
 Wz = 0,8104 cm<sup>3</sup>



Profile rail, slot 16.5 mm



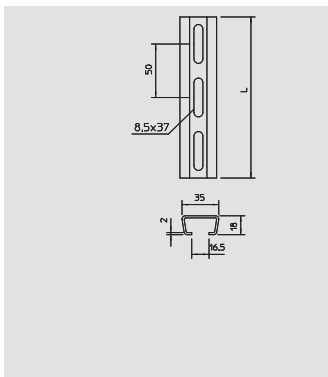
Type	Version	Dimension b x h mm	Material thickness mm	Length mm	Bundle m	Weight kg/100 m	Item No.
<b>2063 2M BK</b>	Unperforated	35 x 18	2	2000	20	116.000	<b>1112 02 3</b>
<b>2063 2M FS</b>	Unperforated	35 x 18	2	2000	20	116.000	<b>1112 12 0</b>
<b>2063 2M FT</b>	Unperforated	35 x 18	2	2000	20	121.350	<b>1112 22 8</b>

**St** Steel **FS** Strip-galvanised Bright **FT** Hot-dip galvanised /100 m

Profile rail, unperforated, slot width 16.5 mm.

Static values:

A = 1,48 cm<sup>2</sup>  
 ly = 0,6036 cm<sup>4</sup>  
 lz = 2,3252 cm<sup>4</sup>  
 Wy = 0,54 cm<sup>3</sup>  
 Wz = 1,328 cm<sup>3</sup>



Profile rail, slot 16.5 mm



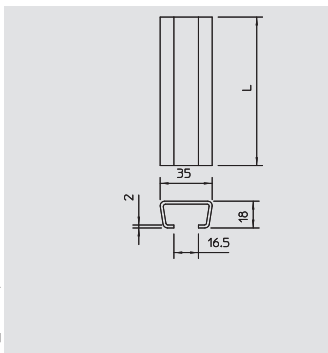
Type	Version	Dimension b x h mm	Material thickness mm	Length mm	Bundle m	Weight kg/100 m	Item No.
<b>2063 L 2M FS</b>	Perforated	35 x 18	2	2000	20	108.000	<b>1112 70 8</b>
<b>2063 L 2M FT</b>	Perforated	35 x 18	2	2000	20	110.000	<b>1112 75 9</b>

**St** Steel **FS** Strip-galvanised **FT** Hot-dip galvanised /100 m

Profile rail, perforated, slot width 16.5 mm.

Static values:

A = 1,31 cm<sup>2</sup>  
 ly = 0,5377 cm<sup>4</sup>  
 lz = 2,3149 cm<sup>4</sup>  
 Wy = 0,516 cm<sup>3</sup>  
 Wz = 1,322 cm<sup>3</sup>



Profile rail, slot 16.5 mm, V2A, unperforated



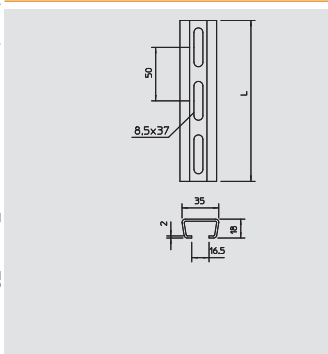
Type	Version	Dimension b x h mm	Material thickness mm	Length mm	Bundle m	Weight kg/100 m	Item No.
<b>2063 2M VA</b>	Unperforated	35 x 18	2	2000	20	116.000	<b>1110 00 5</b>

**V2A** Stainless steel, grade 304 Bright /100 m

Profile rail with 16.5 mm slot width.

Static values:

A = 1,48 cm<sup>2</sup>  
 ly = 0,6036 cm<sup>4</sup>  
 lz = 2,3252 cm<sup>4</sup>  
 Wy = 0,54 cm<sup>3</sup>  
 Wz = 1,328 cm<sup>3</sup>



Profile rail, slot 16.5 mm, V2A, perforated



Type	Version	Dimension b x h mm	Material thickness mm	Length mm	Bundle m	Weight kg/100 m	Item No.
<b>2063 L 2M VA</b>	Perforated	35 x 18	2	2000	20	108.000	<b>1112 70 9</b>

**V2A** Stainless steel, grade 304 Bright /100 m

Profile rail with 16.5 mm slot width.

Static values:

A = 1,31 cm<sup>2</sup>  
 ly = 0,5377 cm<sup>4</sup>  
 lz = 2,3149 cm<sup>4</sup>  
 Wy = 0,516 cm<sup>3</sup>  
 Wz = 1,322 cm<sup>3</sup>



# Profile rail



## Profile rail, slot 16.5 mm

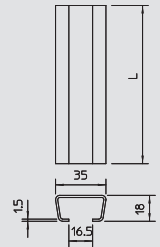
Type	Version	Dimension b x h mm	Material thickness mm	Length mm	Bundle m	Weight kg/100 m	Item No.
2068 2M BK	Unperforated	35 x 18	1.5	2000	20	90.000	1118 02 1
2068 2M FT	Unperforated	35 x 18	1.5	2000	20	89.400	1118 12 9
2068 2M FS	Unperforated	35 x 18	1.5	2000	20	90.000	1118 22 6

St Steel FS Strip-galvanised Bright FT Hot-dip galvanised /100 m

Profile rail, unperforated, slot width 16.5 mm.

Static values:

A = 1,14 cm<sup>2</sup>  
 I<sub>y</sub> = 0,4945 cm<sup>4</sup>  
 I<sub>z</sub> = 0,8461 cm<sup>4</sup>  
 W<sub>y</sub> = 0,441 cm<sup>3</sup>  
 W<sub>z</sub> = 1,0549 cm<sup>3</sup>



## Profile rail, slot 16.5 mm

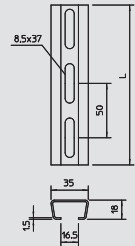
Type	Version	Dimension b x h mm	Material thickness mm	Length mm	Bundle m	Pack. m	Weight kg/100 m	Item No.
2068 L 2M FS	Perforated	35 x 18	1.5	2000	—	20	82.500	1119 64 8
2068 L 200 FT	Perforated	35 x 18	1.5	200	—	25	17.800	1119 69 6
2068 L 300 FT	Perforated	35 x 18	1.5	300	—	25	26.700	1119 69 3
2068 L 400 FT	Perforated	35 x 18	1.5	400	—	10	35.600	1119 69 0
2068 L 500 FT	Perforated	35 x 18	1.5	500	—	10	44.500	1119 68 7
2068 L 600 FT	Perforated	35 x 18	1.5	600	—	10	53.400	1119 68 4
2068 L 700 FT	Perforated	35 x 18	1.5	700	—	10	62.300	1119 68 1
2068 L 800 FT	Perforated	35 x 18	1.5	800	—	10	71.200	1119 67 8
2068 L 1M FT	Perforated	35 x 18	1.5	1000	—	10	89.000	1119 67 2
2068 L 2M FT	Perforated	35 x 18	1.5	2000	—	20	89.000	1119 65 6
2068 L 2M FTSO	Perforated	35 x 18	1.5	2000	10	—	80.000	1119 67 0

St Steel FS Strip-galvanised FT Hot-dip galvanised FT Hot-dip galvanised/SOMY /100 m /100 pc.

Profile rail, perforated, slot width 16.5 mm.

Static values:

A = 1,01 cm<sup>2</sup>  
 I<sub>y</sub> = 0,4418 cm<sup>4</sup>  
 I<sub>z</sub> = 1,8384 cm<sup>4</sup>  
 W<sub>y</sub> = 0,423 cm<sup>3</sup>  
 W<sub>z</sub> = 1,0505 cm<sup>3</sup>



## Profile rail, slot 16.5 mm

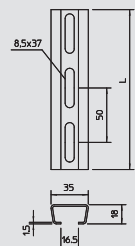
Type	Version	Dimension b x h mm	Material thickness mm	Length mm	Bundle m	Item No.
2068 L 2M VA	Perforated	35 x 18	1.5	2000	20	1119 70 2
2068 L 6M VA	Perforated	35 x 18	1.5	6000	60	1119 72 9

V2A Stainless steel, grade 304 /100 m

Profile rail, perforated, slot width 16.5 mm.

Static values:

A = 1,01 cm<sup>2</sup>  
 I<sub>y</sub> = 0,4418 cm<sup>4</sup>  
 I<sub>z</sub> = 1,8384 cm<sup>4</sup>  
 W<sub>y</sub> = 0,423 cm<sup>3</sup>  
 W<sub>z</sub> = 1,0505 cm<sup>3</sup>



## Profile rail, slot 17 mm

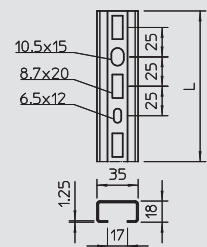
Type	Version	Dimension b x h mm	Material thickness mm	Length mm	Bundle m	Pack. pcs	Weight kg/100 pcs.	Item No.
1268 L 150 FS	Perforated	35 x 18	1.25	150	—	25	10.600	1104 24 1
1268 L 200 FS	Perforated	35 x 18	1.25	200	—	25	14.200	1104 26 8
1268 L 300 FS	Perforated	35 x 18	1.25	300	—	25	21.300	1104 28 4
1268 L 400 FS	Perforated	35 x 18	1.25	400	—	10	28.400	1104 29 2
1268 L 500 FS	Perforated	35 x 18	1.25	500	—	10	35.500	1104 30 6
1268 L 600 FS	Perforated	35 x 18	1.25	600	—	10	42.600	1104 31 0
1268 L 700 FS	Perforated	35 x 18	1.25	700	—	10	49.700	1104 31 5
1268 L 800 FS	Perforated	35 x 18	1.25	800	—	10	56.800	1104 32 0
1268 L 900 FS	Perforated	35 x 18	1.25	900	—	10	63.900	1104 32 5
1268 L 1M FS	Perforated	35 x 18	1.25	1000	—	10	71.000	1104 49 7
1268 L 2M FS	Perforated	35 x 18	1.25	2000	—	20	71.000	1104 50 0

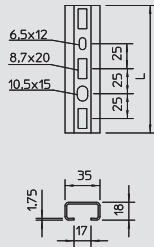
St Steel FS Strip-galvanised /100 m /100 pc.

Light-duty profile rail, perforated, slot width 17 mm.

Static values:

A = 0,876 cm<sup>2</sup>  
 I<sub>y</sub> = 0,406 cm<sup>4</sup>  
 I<sub>z</sub> = 1,807 cm<sup>4</sup>  
 W<sub>y</sub> = 0,413 cm<sup>3</sup>  
 W<sub>z</sub> = 1,033 cm<sup>3</sup>





Profile rail, slot 17 mm



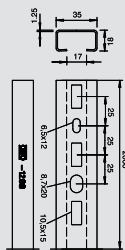
Type	Version	Dimension b x h	Material thickness	Length	Pack.	Weight	Item No.
		mm	mm	mm	pcs	kg/100 pcs.	
1268 SL 150 FS	Perforated	35 x 18	1.75	150	25	15.000	1104 34 9
1268 SL 200 FS	Perforated	35 x 18	1.75	200	25	20.000	1104 35 7
1268 SL 300 FS	Perforated	35 x 18	1.75	300	25	30.000	1104 37 3
1268 SL 400 FS	Perforated	35 x 18	1.75	400	10	40.000	1104 39 1
1268 SL 500 FS	Perforated	35 x 18	1.75	500	10	50.000	1104 40 3
1268 SL 600 FS	Perforated	35 x 18	1.75	600	10	60.000	1104 41 1
1268 SL 800 FS	Perforated	35 x 18	1.75	800	10	80.000	1104 42 7
1268 SL 900 FS	Perforated	35 x 18	1.75	900	10	90.000	1104 43 5
1268 SL 1M FS	Perforated	35 x 18	1.75	1000	10	100.000	1104 44 5
1268 SL 2M FS	Perforated	35 x 18	1.75	2000	20	100.000	1104 45 4

St Steel FS Strip-galvanised /100 m /100 pc.

Profile rail, perforated, slot width 17 mm.

Static values:

A = 1,172 cm<sup>2</sup>  
 I<sub>y</sub> = 0,515 cm<sup>4</sup>  
 I<sub>z</sub> = 0,526 cm<sup>4</sup>  
 W<sub>y</sub> = 2,333 cm<sup>3</sup>  
 W<sub>z</sub> = 1,333 cm<sup>3</sup>



Profile rail, slot 17 mm



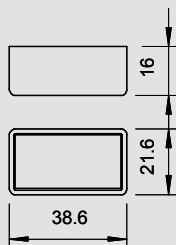
Type	Version	Dimension b x h	Material thickness	Length	Pack.	Weight	Item No.
		mm	mm	mm	m	kg/100 m	
1268 L 1M VA	Perforated	35 x 18	1.25	1000	10	71.000	1104 49 8
1268 L 2M VA	Perforated	35 x 18	1.25	2000	20	71.000	1104 50 1

V2A Stainless steel, grade 304 /100 m

Light-duty profile rail, perforated, slot width 17 mm.

Static values:

A = 0,876 cm<sup>2</sup>  
 I<sub>y</sub> = 0,406 cm<sup>4</sup>  
 I<sub>z</sub> = 0,413 cm<sup>4</sup>  
 W<sub>y</sub> = 1,807 cm<sup>3</sup>  
 W<sub>z</sub> = 1,033 cm<sup>3</sup>



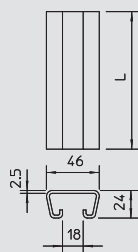
Protective cap, 1268



Type	Colour	Shipping box	Pack.	Weight	Item No.
		pcs	pcs	kg/100 pcs.	
1268 SK OR	Pastel orange	800	50	0.420	1124 50 2

PE Polyethylene /100 pc.

End cap for profile rail types 1268; 1268 S; 2063 and 2068.



Profile rail, slot 18 mm



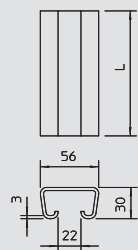
Type	Version	Dimension b x h	Material thickness	Length	Pack.	Weight	Item No.
		mm	mm	mm	m	kg/100 m	
2100 FT	Unperforated	46 x 24	2.5	2000	10	220.000	1120 20 4

St Steel FT Hot-dip galvanised /100 m

Heavyweight profile rail, unperforated, slot width 18 mm.

Static values:

A = 2,68 cm<sup>2</sup>  
 I<sub>y</sub> = 2,009 cm<sup>4</sup>  
 I<sub>z</sub> = 6,7648 cm<sup>4</sup>  
 W<sub>y</sub> = 1,437 cm<sup>3</sup>  
 W<sub>z</sub> = 2,941 cm<sup>3</sup>



Profile rail, slot 18 mm



Type	Version	Dimension b x h	Material thickness	Length	Bundle	Weight	Item No.
		mm	mm	mm	m	kg/100 m	
2110 FT	unperforated	56 x 30	3	2000	10	300.000	1121 22 7

St Steel FT Hot-dip galvanised /100 m

Heavy-duty rail, unperforated, slot width 22 mm.

Static values:

A = 3,8754 cm<sup>2</sup>  
 I<sub>y</sub> = 4,5617 cm<sup>4</sup>  
 I<sub>z</sub> = 15,1591 cm<sup>4</sup>  
 W<sub>y</sub> = 2,5764 cm<sup>3</sup>  
 W<sub>z</sub> = 5,413 cm<sup>3</sup>



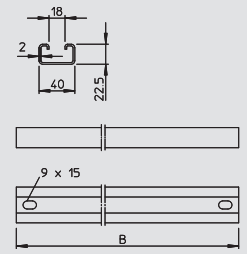
# Profile rail



## Profile rail, slot 18 mm

Type	Version	Inter- face	Dimension b x h mm	Material thickness mm	Length mm	Pack. pcs	Weight kg/100 pcs.	Item No.
CPS 4 SPR 492 FT	—	FT	40 x 22,5	2	—	10	81.500	6007 24 4
CPS 4 SPR 592 FT	—	FT	40 x 22,5	2	592	10	96.000	6007 25 2
CPS 4 SPR 692 FT	—	FT	40 x 22,5	2	692	10	113.000	6007 26 0
CPS 4 SPR 792 FT	—	FT	40 x 22,5	2	792	10	130.000	6007 27 9
CPS 4 SPR 892 FT	—	FT	40 x 22,5	2	892	10	145.000	6007 28 7
CPS 4 SPR 992 FT	—	FT	40 x 22,5	2	992	10	162.000	6007 29 5
CPS 4 SPR1092 FT	—	FT	40 x 22,5	2	1092	10	178.000	6007 30 9
CPS 4 SPR1192 FT	—	FT	40 x 22,5	2	1192	10	194.000	6007 31 7

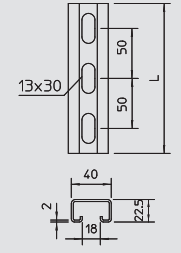
St Steel FT Hot-dip galvanised /pc.  
CPS 4 rung for use in heavy-duty vertical ladders.



## Profile rail, slot 18 mm

Type	Version	Dimension b x h mm	Material thickness mm	Length mm	Pack. m	Weight kg/100 m	Item No.
CPS 4L 2M FT	perforated	40 x 22,5	2	2000	10	160.000	1121 97 9
CPS 4L 6M FT	perforated	40 x 22,5	2	6000	1	160.000	1121 89 8

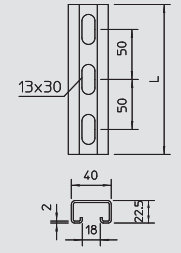
St Steel FT Hot-dip galvanised /100 m  
Heavy-duty profile rail, perforated, slot width 18 mm.  
Static values:  
A = 1,7398 cm<sup>2</sup>  
I<sub>y</sub> = 1,1835 cm<sup>4</sup>  
I<sub>z</sub> = 4,4539 cm<sup>4</sup>  
W<sub>y</sub> = 1,0462 cm<sup>3</sup>  
W<sub>z</sub> = 2,2276 cm<sup>3</sup>



## Profile rail, slot 18 mm, V2A

Type	Version	Dimension b x h mm	Material thickness mm	Length mm	Pack. m	Weight kg/100 m	Item No.
CPS 4L 2M VA	Perforated	40 x 22,5	2	2000	10	152.500	1121 96 0
CPS 4L 6M VA	Perforated	40 x 22,5	2	6000	1	152.500	1121 90 1

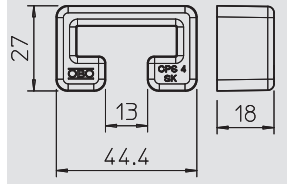
V2A Stainless steel, grade 304 /100 m  
Heavy-duty profile rail, perforated, slot width 18 mm.  
Static values:  
A = 1,7398 cm<sup>2</sup>  
I<sub>y</sub> = 1,1835 cm<sup>4</sup>  
I<sub>z</sub> = 4,4539 cm<sup>4</sup>  
W<sub>y</sub> = 1,0462 cm<sup>3</sup>  
W<sub>z</sub> = 2,2276 cm<sup>3</sup>



## Protective cap, CPS 4

Type	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
CPS 4 SK OR SP	Pastel orange	300	25	0.680	1124 55 5

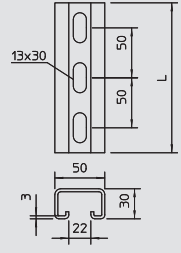
PE Polyethylene /100 pc.  
End cap for profile rail, types CPS 4 and MS 22.

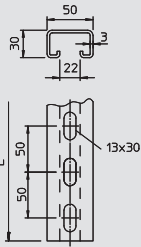


## Profile rail, slot 22 mm

Type	Version	Dimension b x h mm	Material thickness mm	Length mm	Pack. pcs	Weight kg/100 pcs.	Item No.
CPS 5 L 200 FT	Perforated	50 x 30	3	200	1	57.000	1121 39 1
CPS 5 L 300 FT	Perforated	50 x 30	3	300	5	85.000	1121 24 3
CPS 5 L 400 FT	Perforated	50 x 30	3	400	1	113.000	1121 27 8
CPS 5 L 500 FT	Perforated	50 x 30	3	500	1	141.000	1121 40 5
CPS 5 L 600 FT	Perforated	50 x 30	3	600	1	170.000	1121 29 4
CPS 5 L 700 FT	Perforated	50 x 30	3	700	5	198.000	1121 33 2
CPS 5 L 800 FT	Perforated	50 x 30	3	800	5	235.000	1121 30 8
CPS 5 L 900 FT	Perforated	50 x 30	3	900	1	255.000	1121 33 6
CPS 5 L 1.5M FT	Perforated	50 x 30	3	1500	1	440.000	1121 36 3

St Steel FT Hot-dip galvanised /pc.  
Heavy-duty profile rail with continuous perforation, slot width 22 mm.  
Static values:  
A = 3,3854 cm<sup>2</sup>  
I<sub>y</sub> = 3,9943 cm<sup>4</sup>  
I<sub>z</sub> = 13,1098 cm<sup>4</sup>  
W<sub>y</sub> = 3,9512 cm<sup>3</sup>  
W<sub>z</sub> = 6,3751 cm<sup>3</sup>





Profile rail, slot 22 mm



Type	Version	Dimension b x h mm	Material thickness mm	Length mm	Pack. m	Weight kg/100 m	Item No.
CPS 5 L 1M FT	Perforated	50 x 30	3	1000	1	282.500	1121 44 8
CPS 5 L 2M FT	Perforated	50 x 30	3	2000	2	282.500	1121 46 4
CPS 5 L 3M FT	Perforated	50 x 30	3	3000	1	282.500	1121 46 6
CPS 5 L 6M FT	Perforated	50 x 30	3	6000	6	282.500	1121 47 2

St Steel FT Hot-dip galvanised /100 m

Heavy-duty profile rail with continuous perforation, slot width 22 mm.

Static values:

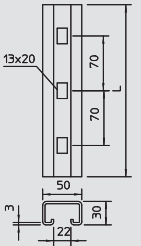
A = 3,3854 cm<sup>2</sup>

ly = 3,9943 cm<sup>4</sup>

lz = 13,1098 cm<sup>4</sup>

Wy = 3,9512 cm<sup>3</sup>

Wz = 6,3751 cm<sup>3</sup>



Profile rail, slot 22 mm



Type	Version	Dimension b x h mm	Material thickness mm	Length mm	Pack. pcs	Weight kg/100 pcs.	Item No.
CPS 5 G 220 FT	Perforated	50 x 30	3	220	1	69.000	6349 40 4
CPS 5 G 260 FT	Perforated	50 x 30	3	260	1	81.500	6349 41 2
CPS 5 G 300 FT	Perforated	50 x 30	3	300	10	94.000	6349 43 9
CPS 5 G 340 FT	Perforated	50 x 30	3	340	1	107.000	6349 44 7
CPS 5 G 380 FT	Perforated	50 x 30	3	380	1	119.000	6349 46 3

St Steel FT Hot-dip galvanised /pc.

Heavy-duty profile rail. In fixed lengths, with rectangular perforation and a slot width of 22 mm.

Static values:

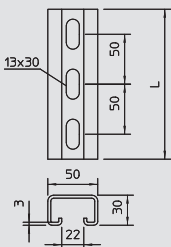
A = 3,3854 cm<sup>2</sup>

ly = 3,9943 cm<sup>4</sup>

lz = 13,1098 cm<sup>4</sup>

Wy = 3,9512 cm<sup>3</sup>

Wz = 6,3751 cm<sup>3</sup>



Profile rail, slot 22 mm, V2A



Type	Version	Dimension b x h mm	Material thickness mm	Length mm	Pack. m	Weight kg/100 m	Item No.
CPS 5 L 2M VA	Perforated	50 x 30	3	2000	2	282.500	1121 48 0
CPS 5 L 6M VA	Perforated	50 x 30	3	6000	6	282.500	1121 49 9

V2A Stainless steel, grade 304 /100 m

Heavy-weight profile rail with continuous perforation, slot width 22 mm.

Static values:

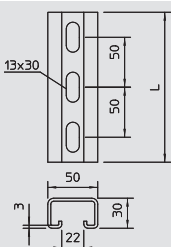
A = 3,3854 cm<sup>2</sup>

ly = 3,9943 cm<sup>4</sup>

lz = 13,1098 cm<sup>4</sup>

Wy = 3,9512 cm<sup>3</sup>

Wz = 6,3751 cm<sup>3</sup>



Profile rail, slot 22 mm, V4A



Type	Version	Dimension b x h mm	Material thickness mm	Length mm	Pack. pcs	Weight kg/100 pcs.	Item No.
CPS 5 L 200 V4A	Perforated	50 x 30	3	200	1	57.000	1121 39 3
CPS 5 L 300 V4A	Perforated	50 x 30	3	300	5	85.500	1121 24 5
CPS 5 L 400 V4A	Perforated	50 x 30	3	400	1	114.000	1121 28 0
CPS 5 L 500 V4A	Perforated	50 x 30	3	500	1	142.500	1121 40 7
CPS 5 L 600 V4A	Perforated	50 x 30	3	600	1	171.000	1121 29 6
CPS 5 L 700 V4A	Perforated	50 x 30	3	700	5	199.500	1121 33 4
CPS 5 L 800 V4A	Perforated	50 x 30	3	800	5	228.000	1121 31 0
CPS 5 L 900 V4A	Perforated	50 x 30	3	900	1	256.500	1121 33 8

V4A Stainless steel, grade 316 Ti /100 pc.

Heavy-duty profile rail with continuous lengthwise perforation, slot width 22 mm.

Static values:

A = 3,3854 cm<sup>2</sup>

ly = 3,9943 cm<sup>4</sup>

lz = 13,1098 cm<sup>4</sup>

Wy = 3,9512 cm<sup>3</sup>

Wz = 6,3751 cm<sup>3</sup>



# Profile rail



## Profile rail, slot 22 mm, V4A

Type	Version	Dimension b x h mm	Material thickness mm	Length mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>CPS 5 L 1.5M V4A</b>	Perforated	50 x 30	3	1500	1	427.500	<b>1121 36 5</b>
<b>CPS 5 L 2M V4A</b>	Perforated	50 x 30	3	2000	2	285.000	<b>1121 46 5</b>
<b>CPS 5 L 3M V4A</b>	Perforated	50 x 30	3	3000	1	285.000	<b>1121 46 9</b>
<b>CPS 5 L 6M V4A</b>	Perforated	50 x 30	3	6000	6	285.000	<b>1121 47 3</b>

**V4A** Stainless steel, grade 316 Ti /100 m /100 pc.

Heavy-duty profile rail with continuous lengthwise perforation, slot width 22 mm.

Static values:

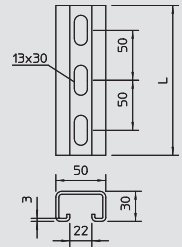
A = 3,3854 cm<sup>2</sup>

I<sub>y</sub> = 3,9943 cm<sup>4</sup>

I<sub>z</sub> = 13,1098 cm<sup>4</sup>

Wy = 3,9512 cm<sup>3</sup>

Wz = 6,3751 cm<sup>3</sup>

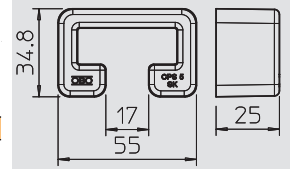


## Protective cap, CPS 5

Type	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>CPS 5 SK OR SP</b>	Pastel orange	300	25	1.260	<b>1124 56 3</b>

**PE** Polyethylene /100 pc.

End caps for profile rail, types CPS 5 and CPS 5G.

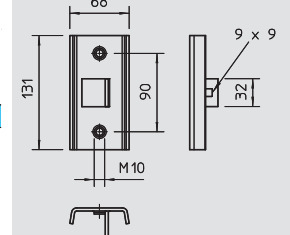


## Rung seat for steel supports

Type	Pack. pair	Weight kg/100 pairs	Item No.
<b>SAA CPS 4 FT</b>	5	82.600	<b>6007 49 8</b>

**St** Steel **FT** Hot-dip galvanised /pair

Rung seat for fastening rungs of type CPS 4 in steel girders.



## Mounting rail, MS 21

Type	Version	Dimension b x h mm	Material thickness mm	Length mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>MS 21 L 800 FS</b>	Perforated	41x21	2	800	1	113.500	<b>1122 95 7</b>

**St** Steel **FS** Strip-galvanised /100 pc.

Static values:

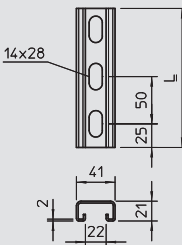
A = 1,64837 cm<sup>2</sup>

I<sub>y</sub> = 0,952339 cm<sup>4</sup>

I<sub>z</sub> = 4,5113 cm<sup>4</sup>

Wy = 0,888299 cm<sup>3</sup>

Wz = 2,20087 cm<sup>3</sup>



## Mounting rail, MS 21

Type	Version	Dimension b x h mm	Material thickness mm	Length mm	Pack. m	Weight kg/100 m	Item No.
<b>MS 21 L 2M FS</b>	Perforated	41x21	2	2000	10	141.900	<b>1122 91 8</b>
<b>MS 21 L 3M FS</b>	Perforated	41x21	2	3000	1	141.900	<b>1122 92 0</b>
<b>MS 21 L 6M FS</b>	Perforated	41x21	2	6000	1	141.900	<b>1122 92 2</b>

**St** Steel **FS** Strip-galvanised /100 m

Heavy-duty profile/mounting rail with continuous perforation in base, slot width 22 mm.

Static values:

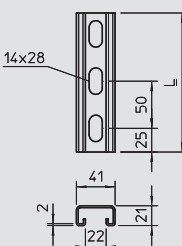
A = 1,64837 cm<sup>2</sup>

I<sub>y</sub> = 0,952339 cm<sup>4</sup>

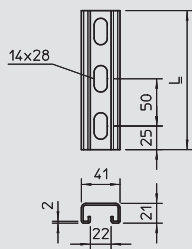
I<sub>z</sub> = 4,5113 cm<sup>4</sup>

Wy = 0,888299 cm<sup>3</sup>

Wz = 2,20087 cm<sup>3</sup>







## Mounting rail, MS 21



Type	Version	Dimension b x h mm	Material thickness mm	Length mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>MS 21 L 200 FT</b>	Perforated	41x21	2	200	30	30.300	<b>1122 93 3</b>
<b>MS 21 L 300 FT</b>	Perforated	41x21	2	300	25	45.500	<b>1122 93 4</b>
<b>MS 21 L 400 FT</b>	Perforated	41x21	2	400	10	60.600	<b>1122 93 5</b>
<b>MS 21 L 500 FT</b>	Perforated	41x21	2	500	1	75.800	<b>1122 93 6</b>
<b>MS 21 L 600 FT</b>	Perforated	41x21	2	600	1	90.900	<b>1122 93 7</b>
<b>MS 21 L 700 FT</b>	Perforated	41x21	2	700	1	106.100	<b>1122 93 8</b>
<b>MS 21 L 800 FT</b>	Perforated	41x21	2	800	1	121.200	<b>1122 93 9</b>
<b>MS 21 L 900 FT</b>	Perforated	41x21	2	900	1	136.400	<b>1122 94 0</b>

**St** Steel **FT** Hot-dip galvanised /100 pc.

Heavy-duty profile/mounting rail with continuous perforation in base, slot width 22 mm.

Static values:

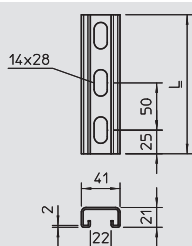
A = 1,64837 cm<sup>2</sup>

I<sub>y</sub> = 0,952339 cm<sup>4</sup>

I<sub>z</sub> = 4,5113 cm<sup>4</sup>

W<sub>y</sub> = 0,888299 cm<sup>3</sup>

W<sub>z</sub> = 2,20087 cm<sup>3</sup>



## Mounting rail, MS 21



Type	Version	Dimension b x h mm	Material thickness mm	Length mm	Pack. m	Weight kg/100 m	Item No.
<b>MS 21 L 2M FT</b>	Perforated	41x21	2	2000	10	151.500	<b>1122 92 3</b>
<b>MS 21 L 3M FT</b>	Perforated	41x21	2	3000	1	151.500	<b>1122 92 4</b>
<b>MS 21 L 6M FT</b>	Perforated	41x21	2	6000	1	151.500	<b>1122 92 6</b>

**St** Steel **FT** Hot-dip galvanised /100 m

Heavy-duty profile/mounting rail with continuous perforation in base, slot width 22 mm.

Static values:

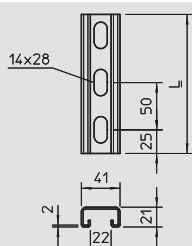
A = 1,64837 cm<sup>2</sup>

I<sub>y</sub> = 0,952339 cm<sup>4</sup>

I<sub>z</sub> = 4,5113 cm<sup>4</sup>

W<sub>y</sub> = 0,888299 cm<sup>3</sup>

W<sub>z</sub> = 2,20087 cm<sup>3</sup>



## Mounting rail, MS 21 V2A



Type	Version	Dimension b x h mm	Material thickness mm	Length mm	Pack. m	Weight kg/100 m	Item No.
<b>MS 21 L 3M V2A</b>	Perforated	41x21	2	3000	1	141.900	<b>1122 92 8</b>
<b>MS 21 L 6M V2A</b>	Perforated	41x21	2	6000	1	141.900	<b>1122 92 9</b>

**V2A** Stainless steel, grade 304 /100 m

Heavy-duty profile/mounting rail with continuous perforation in base, slot width 22 mm.

Static values:

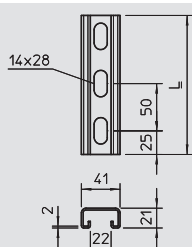
A = 1,64837 cm<sup>2</sup>

I<sub>y</sub> = 0,952339 cm<sup>4</sup>

I<sub>z</sub> = 4,5113 cm<sup>4</sup>

W<sub>y</sub> = 0,888299 cm<sup>3</sup>

W<sub>z</sub> = 2,20087 cm<sup>3</sup>



## Mounting rail, MS 21 V4A



Type	Version	Dimension b x h mm	Material thickness mm	Length mm	Pack. m	Weight kg/100 m	Item No.
<b>MS 21 L 2M V4A</b>	Perforated	41x21	2	2000	10	141.900	<b>1122 47 6</b>
<b>MS 21 L 3M V4A</b>	Perforated	41x21	2	3000	1	141.900	<b>1122 93 1</b>
<b>MS 21 L 6M V4A</b>	Perforated	41x21	2	6000	1	141.900	<b>1122 93 2</b>

**V4A** Stainless steel, grade 316 Ti /100 m

Heavy-duty profile/mounting rail with continuous perforation in base, slot width 22 mm.

Static values:

A = 1,64837 cm<sup>2</sup>

I<sub>y</sub> = 0,952339 cm<sup>4</sup>

I<sub>z</sub> = 4,5113 cm<sup>4</sup>

W<sub>y</sub> = 0,888299 cm<sup>3</sup>

W<sub>z</sub> = 2,20087 cm<sup>3</sup>



# Profile rail



## Mounting rail, MS 21 V4A

Type	Version	Dimension b x h mm	Material thickness mm	Length mm	Pack. pcs	Weight kg/100 pcs.	Item No.
MS 21 L 200 V4A	Perforated	41x21	2	200	30	28.380	1122 46 8
MS 21 L 300 V4A	Perforated	41x21	2	300	25	42.570	1122 46 9
MS 21 L 400 V4A	Perforated	41x21	2	400	10	56.760	1122 47 0
MS 21 L 500 V4A	Perforated	41x21	2	500	1	70.950	1122 47 1
MS 21 L 600 V4A	Perforated	41x21	2	600	1	85.140	1122 47 2
MS 21 L 700 V4A	Perforated	41x21	2	700	1	99.330	1122 47 3
MS 21 L 800 V4A	Perforated	41x21	2	800	1	113.520	1122 47 4
MS 21 L 900 V4A	Perforated	41x21	2	900	1	127.710	1122 47 5

V4A Stainless steel, grade 316 Ti

/100 pc.

Heavy-duty profile/mounting rail with continuous perforation in base, slot width 22 mm.

Static values:

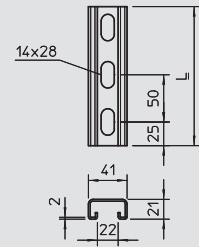
A = 1,64837 cm<sup>2</sup>

I<sub>y</sub> = 0,952339 cm<sup>4</sup>

I<sub>z</sub> = 4,5113 cm<sup>4</sup>

W<sub>y</sub> = 0,888299 cm<sup>2</sup>

W<sub>z</sub> = 2,20087 cm<sup>3</sup>



## Mounting rail, MS 21, double version

Type	Version	Dimension b x h mm	Material thickness mm	Length mm	Pack. m	Weight kg/100 m	Item No.
MS 21 D L 3M FS	Perforated	41x21	2	3000	1	—	1122 94 7
MS 21 D L 6M FS	Perforated	41x21	2	6000	1	—	1122 94 8

St Steel FS Strip-galvanised

/100 m

Heavy-duty profile/mounting rail with continuous perforation in base, slot width 22 mm. Double version, i.e. two profile rails are interconnected on the base (clinched).

Static values:

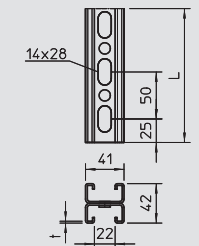
A = 3,2968 cm<sup>2</sup>

I<sub>y</sub> = 5,3802 cm<sup>4</sup>

I<sub>z</sub> = 9,0227 cm<sup>4</sup>

W<sub>y</sub> = 1,281 cm<sup>2</sup>

W<sub>z</sub> = 0,2524 cm<sup>3</sup>



## Mounting rail, MS 21, double version

Type	Version	Dimension b x h mm	Material thickness mm	Length mm	Pack. m	Weight kg/100 m	Item No.
MS 21 D L 3M FT	Perforated	41x21	2	3000	1	—	1122 94 4
MS 21 D L 6M FT	Perforated	41x21	2	6000	1	—	1122 94 5

St Steel FT Hot-dip galvanised

/100 m

Heavy-duty profile/mounting rail with continuous perforation in base, slot width 22 mm. Double version, i.e. two profile rails are interconnected on the base (clinched).

Static values:

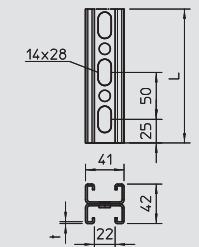
A = 3,2968 cm<sup>2</sup>

I<sub>y</sub> = 5,3802 cm<sup>4</sup>

I<sub>z</sub> = 9,0227 cm<sup>4</sup>

W<sub>y</sub> = 1,281 cm<sup>2</sup>

W<sub>z</sub> = 0,2524 cm<sup>3</sup>



## Mounting rail, MS 21, double version, V2A

Type	Version	Dimension b x h mm	Material thickness mm	Length mm	Pack. m	Weight kg/100 m	Item No.
MS 21 D L3M 2V2A	Perforated	41x21	2	3000	1	—	1122 95 2
MS 21 D L6M 2V2A	Perforated	41x21	2	6000	1	—	1122 95 4

V2A Stainless steel, grade 304

/100 m

Heavy-duty profile/mounting rail with continuous perforation in base, slot width 22 mm. Double version, i.e. two profile rails are interconnected on the base (welded).

Static values:

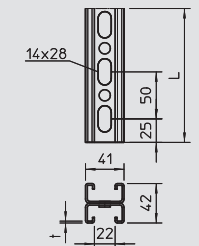
A = 3,2968 cm<sup>2</sup>

I<sub>y</sub> = 5,3802 cm<sup>4</sup>

I<sub>z</sub> = 9,0227 cm<sup>4</sup>

W<sub>y</sub> = 1,281 cm<sup>2</sup>

W<sub>z</sub> = 0,2524 cm<sup>3</sup>



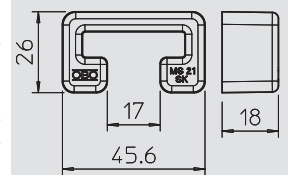
## Protective cap MS21

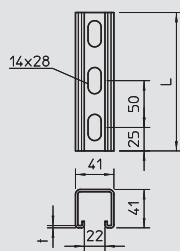
Type	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
MS 21 SK OR SP	Pastel orange	300	25	0.650	1122 90 2

PE Polyethylene

/100 pc.

Protective caps for profile rail, types MS 21.





## Mounting rail, MS41



Type	Version	Dimension b x h mm	Material thickness mm	Length mm	Pack. m	Weight kg/100 m	Item No.
<b>MS 41 L 1M 2 FS</b>	Perforated	41x41	2	1000	5	201.100	<b>1122 97 0</b>
<b>MS 41 L 3M 2 FS</b>	Perforated	41x41	2	3000	1	201.100	<b>1122 97 2</b>
<b>MS 41 L 6M 2 FS</b>	Perforated	41x41	2	6000	1	201.100	<b>1122 97 4</b>

**St** Steel **FS** Strip-galvanised /100 m

Stable profile/mounting rail with continuous perforation in base, slot width 22 mm.

Static values:

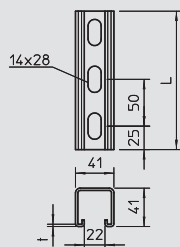
A = 2,44837 cm<sup>2</sup>

ly = 5,17636 cm<sup>4</sup>

lz = 7,556 cm<sup>4</sup>

Wy = 2,51257 cm<sup>3</sup>

Wz = 2,68608 cm<sup>3</sup>



## Mounting rail, MS41



Type	Version	Dimension b x h mm	Material thickness mm	Length mm	Pack. m	Weight kg/100 m	Item No.
<b>MS 41 L 1M FS</b>	Perforated	41x41	2.5	1000	5	247.500	<b>1122 90 8</b>
<b>MS 41 L 3M FS</b>	Perforated	41x41	2.5	3000	1	247.500	<b>1122 91 0</b>
<b>MS 41 L 6M FS</b>	Perforated	41x41	2.5	6000	1	247.500	<b>1122 91 2</b>

**St** Steel **FS** Strip-galvanised /100 m

Heavyweight profile/mounting rail with continuous perforation in base, slot width 22 mm.

Static values:

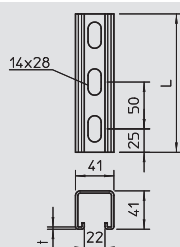
A = 2,96937 cm<sup>2</sup>

ly = 6,05302 cm<sup>4</sup>

lz = 9,01392 cm<sup>4</sup>

Wy = 2,91256 cm<sup>3</sup>

Wz = 4,39726 cm<sup>3</sup>



## Mounting rail, MS41



Type	Version	Dimension b x h mm	Material thickness mm	Length mm	Pack. m	Weight kg/100 m	Item No.
<b>MS 41 LS 1M 2 FS</b>	Perforated	41x41	2	1000	5	179.400	<b>1123 00 8</b>
<b>MS 41 LS 3M 2 FS</b>	Perforated	41x41	2	3000	1	179.400	<b>1123 01 0</b>
<b>MS 41 LS 6M 2 FS</b>	Perforated	41x41	2	6000	1	179.400	<b>1123 01 2</b>

**St** Steel **FS** Strip-galvanised /100 m

Stable profile/mounting rail with continuous, three-sided perforation, slot width 22 mm.

Static values:

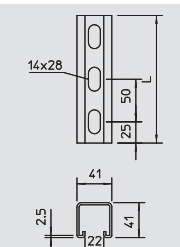
A = 2,44837 cm<sup>2</sup>

ly = 5,17636 cm<sup>4</sup>

lz = 7,556 cm<sup>4</sup>

Wy = 2,51257 cm<sup>3</sup>

Wz = 2,68608 cm<sup>3</sup>



## Mounting rail, MS41



Type	Version	Dimension b x h mm	Material thickness mm	Length mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>MS 41 L 200 FT</b>	Perforated	41x41	2.5	200	6	52.400	<b>1122 50 9</b>
<b>MS 41 L 300 FT</b>	Perforated	41x41	2.5	300	6	78.500	<b>1122 51 7</b>
<b>MS 41 L 400 FT</b>	Perforated	41x41	2.5	400	6	104.700	<b>1122 52 5</b>
<b>MS 41 L 500 FT</b>	Perforated	41x41	2.5	500	6	130.800	<b>1122 53 3</b>
<b>MS 41 L 600 FT</b>	Perforated	41x41	2.5	600	6	156.900	<b>1122 54 1</b>
<b>MS 41 L 700 FT</b>	Perforated	41x41	2.5	700	6	183.000	<b>1122 56 8</b>
<b>MS 41 L 800 FT</b>	Perforated	41x41	2.5	800	6	209.200	<b>1122 57 6</b>
<b>MS 41 L 900 FT</b>	Perforated	41x41	2.5	900	6	235.300	<b>1122 58 4</b>

**St** Steel **FT** Hot-dip galvanised /100 pc.

Heavy-duty profile/mounting rail with continuous perforation in base, slot width 22 mm.

Static values:

A = 2,96937 cm<sup>2</sup>

ly = 6,05302 cm<sup>4</sup>

lz = 9,01392 cm<sup>4</sup>

Wy = 2,91256 cm<sup>3</sup>

Wz = 4,39726 cm<sup>3</sup>



# Profile rail



## Mounting rail, MS41

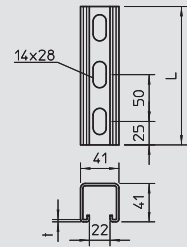
Type	Version	Dimension b x h mm	Material thickness mm	Length mm	Pack. m	Weight kg/100 m	Item No.
<b>MS 41 L 1M 2 FT</b>	Perforated	41x41	2	1000	5	214.700	<b>1122 96 2</b>
<b>MS 41 L 3M 2 FT</b>	Perforated	41x41	2	3000	1	214.700	<b>1122 96 4</b>
<b>MS 41 L 6M 2 FT</b>	Perforated	41x41	2	6000	1	214.700	<b>1122 96 6</b>

**St** Steel **FT** Hot-dip galvanised /100 m

Heavy-duty profile/mounting rail with continuous perforation in base, slot width 22 mm.

Static values:

A = 2,44837 cm<sup>2</sup>  
 I<sub>y</sub> = 5,17636 cm<sup>4</sup>  
 I<sub>z</sub> = 7,556 cm<sup>4</sup>  
 W<sub>y</sub> = 2,51257 cm<sup>3</sup>  
 W<sub>z</sub> = 2,68608 cm<sup>3</sup>



## Mounting rail, MS41

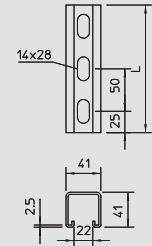
Type	Version	Dimension b x h mm	Material thickness mm	Length mm	Pack. m	Weight kg/100 m	Item No.
<b>MS 41 L 1M FT</b>	Perforated	41x41	2.5	1000	6	261.400	<b>1122 60 6</b>
<b>MS 41 L 3M FT</b>	Perforated	41x41	2.5	3000	3	261.400	<b>1122 62 2</b>
<b>MS 41 L 6M FT</b>	Perforated	41x41	2.5	6000	6	261.400	<b>1122 65 7</b>

**St** Steel **FT** Hot-dip galvanised /100 m

Heavy-duty profile/mounting rail with continuous perforation in base, slot width 22 mm.

Static values:

A = 2,96937 cm<sup>2</sup>  
 I<sub>y</sub> = 6,05302 cm<sup>4</sup>  
 I<sub>z</sub> = 9,01392 cm<sup>4</sup>  
 W<sub>y</sub> = 2,91256 cm<sup>3</sup>  
 W<sub>z</sub> = 4,39726 cm<sup>3</sup>



## Mounting rail, MS 41 V2A

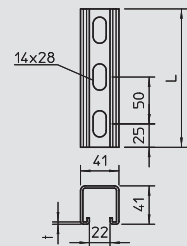
Type	Version	Dimension b x h mm	Material thickness mm	Length mm	Pack. m	Weight kg/100 m	Item No.
<b>MS 41 L 1M 2 V2A</b>	Perforated	41x41	2	1000	5	201.100	<b>1122 97 8</b>
<b>MS 41 L 3M 2 V2A</b>	Perforated	41x41	2	3000	1	201.100	<b>1122 98 0</b>
<b>MS 41 L 6M 2 V2A</b>	Perforated	41x41	2	6000	1	201.100	<b>1122 98 2</b>

**V2A** Stainless steel, grade 304 /100 m

Heavy-duty profile rail with continuous perforation in base, slot width 22 mm.

Static values:

A = 2,44837 cm<sup>2</sup>  
 I<sub>y</sub> = 5,17636 cm<sup>4</sup>  
 I<sub>z</sub> = 7,556 cm<sup>4</sup>  
 W<sub>y</sub> = 2,51257 cm<sup>3</sup>  
 W<sub>z</sub> = 2,68608 cm<sup>3</sup>



## Mounting rail, MS 41 V4A

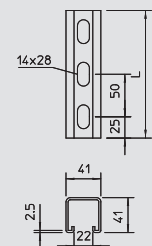
Type	Version	Dimension b x h mm	Material thickness mm	Length mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>MS 41 L 200 V4A</b>	Perforated	41x41	2.5	200	6	49.500	<b>1123 03 1</b>
<b>MS 41 L 300 V4A</b>	Perforated	41x41	2.5	300	6	74.300	<b>1123 03 3</b>
<b>MS 41 L 400 V4A</b>	Perforated	41x41	2.5	400	6	99.000	<b>1123 03 5</b>
<b>MS 41 L 500 V4A</b>	Perforated	41x41	2.5	500	6	123.800	<b>1123 03 7</b>
<b>MS 41 L 600 V4A</b>	Perforated	41x41	2.5	600	6	148.500	<b>1123 03 9</b>
<b>MS 41 L 700 V4A</b>	Perforated	41x41	2.5	700	6	173.300	<b>1123 04 1</b>
<b>MS 41 L 800 V4A</b>	Perforated	41x41	2.5	800	6	198.000	<b>1123 04 3</b>
<b>MS 41 L 900 V4A</b>	Perforated	41x41	2.5	900	6	222.800	<b>1123 04 5</b>

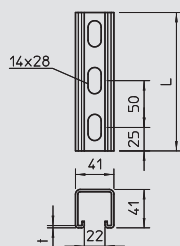
**V4A** Stainless steel, grade 316 Ti /100 pc.

Heavy-duty profile/mounting rail with continuous perforation in base, slot width 22 mm.

Static values:

A = 2,96937 cm<sup>2</sup>  
 I<sub>y</sub> = 6,05302 cm<sup>4</sup>  
 I<sub>z</sub> = 9,01392 cm<sup>4</sup>  
 W<sub>y</sub> = 2,91256 cm<sup>3</sup>  
 W<sub>z</sub> = 4,39726 cm<sup>3</sup>





### Mounting rail, MS 41 V4A



Type	Version	Dimension b x h mm	Material thickness mm	Length mm	Pack. m	Weight kg/100 m	Item No.
<b>MS 41 L 1M 2 V4A</b>	Perforated	41x41	2	1000	5	201.100	<b>1122 98 8</b>
<b>MS 41 L 3M 2 V4A</b>	Perforated	41x41	2	3000	1	201.100	<b>1122 99 0</b>
<b>MS 41 L 6M 2 V4A</b>	Perforated	41x41	2	6000	1	201.100	<b>1122 99 2</b>

**V4A** Stainless steel, grade 316 Ti /100 m

Heavy-duty profile rail with continuous perforation in base, slot width 22 mm.

Static values:

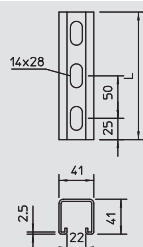
A = 2,44837 cm<sup>2</sup>

I<sub>y</sub> = 5,17636 cm<sup>4</sup>

I<sub>z</sub> = 7,556 cm<sup>4</sup>

W<sub>y</sub> = 2,51257 cm<sup>3</sup>

W<sub>z</sub> = 2,68608 cm<sup>3</sup>



### Mounting rail, MS 41 V4A



Type	Version	Dimension b x h mm	Material thickness mm	Length mm	Pack. m	Weight kg/100 m	Item No.
<b>MS 41 L 1M V4A</b>	Perforated	41x41	2.5	1000	6	247.500	<b>1123 04 7</b>
<b>MS 41 L 3M V4A</b>	Perforated	41x41	2.5	3000	3	247.500	<b>1123 04 9</b>
<b>MS 41 L 6M V4A</b>	Perforated	41x41	2.5	6000	6	2.480	<b>1123 05 1</b>

**V4A** Stainless steel, grade 316 Ti /100 m

Heavy-duty profile rail with continuous perforation in base, slot width 22 mm.

Static values:

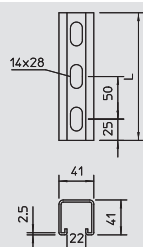
A = 2,96937 cm<sup>2</sup>

I<sub>y</sub> = 6,05302 cm<sup>4</sup>

I<sub>z</sub> = 9,01392 cm<sup>4</sup>

W<sub>y</sub> = 2,91256 cm<sup>3</sup>

W<sub>z</sub> = 4,39726 cm<sup>3</sup>



### Mounting rail, MS41



Type	Version	Dimension b x h mm	Material thickness mm	Length mm	Pack. m	Weight kg/100 m	Item No.
<b>MS 41 LS 1M FS</b>	Perforated	41x41	2.5	1000	1	225.500	<b>1122 48 1</b>
<b>MS 41 LS 3M FS</b>	Perforated	41x41	2.5	3000	1	225.500	<b>1122 91 4</b>
<b>MS 41 LS 6M FS</b>	Perforated	41x41	2.5	6000	1	225.500	<b>1122 91 6</b>

**St** Steel **FS** Strip-galvanised /100 m

Heavyweight profile/mounting rail with continuous, three-sided perforation, slot width 22 mm.

Static values:

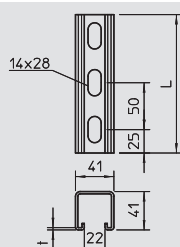
A = 2,4195 cm<sup>2</sup>

I<sub>y</sub> = 5,9974 cm<sup>4</sup>

I<sub>z</sub> = 6,9732 cm<sup>4</sup>

W<sub>y</sub> = 2,91256 cm<sup>3</sup>

W<sub>z</sub> = 4,39726 cm<sup>3</sup>



### Mounting rail, MS41



Type	Version	Dimension b x h mm	Material thickness mm	Length mm	Pack. m	Weight kg/100 m	Item No.
<b>MS 41 LS 1M FT</b>	Perforated	41x41	2.5	1000	1	238.300	<b>1122 47 9</b>
<b>MS 41 LS 3M FT</b>	Perforated	41x41	2.5	3000	3	238.300	<b>1122 48 3</b>
<b>MS 41 LS 6M FT</b>	Perforated	41x41	2.5	6000	6	238.300	<b>1122 48 7</b>

**St** Steel **FT** Hot-dip galvanised /100 m

Heavy-duty profile/mounting rail with continuous, three-sided perforation, slot width 22 mm.

Static values:

A = 2,4195 cm<sup>2</sup>

I<sub>y</sub> = 5,9974 cm<sup>4</sup>

I<sub>z</sub> = 6,9732 cm<sup>4</sup>

W<sub>y</sub> = 2,4875 cm<sup>3</sup>

W<sub>z</sub> = 2,8774 cm<sup>3</sup>



# Profile rail



## Mounting rail, MS 41 V2A

Type	Version	Dimension b x h mm	Material thickness mm	Length mm	Pack. m	Weight kg/100 m	Item No.
<b>MS 41 LS1M 2 V2A</b>	Perforated	41x41	2	1000	5	179.400	<b>1123 01 4</b>
<b>MS 41 LS3M 2 V2A</b>	Perforated	41x41	2	3000	1	179.400	<b>1123 01 6</b>
<b>MS 41 LS6M 2 V2A</b>	Perforated	41x41	2	6000	1	179.400	<b>1123 01 8</b>

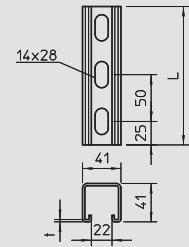
**V2A** Stainless steel, grade 304

/100 m

Heavy-duty profile rail with continuous, three-sided perforation, slot width 22 mm.

Static values:

A = 2,0085 cm<sup>2</sup>  
 I<sub>y</sub> = 5,1323 cm<sup>4</sup>  
 I<sub>z</sub> = 5,8816 cm<sup>4</sup>  
 W<sub>y</sub> = 2,51257 cm<sup>3</sup>  
 W<sub>z</sub> = 2,68608 cm<sup>3</sup>



## Mounting rail, MS41

Type	Version	Material thickness mm	Length mm	Pack. m	Weight kg/100 m	Item No.
<b>MS 41 LS 1M 2 FT</b>	Perforated	2	1000	5	191.500	<b>1123 00 1</b>
<b>MS 41 LS 3M 2 FT</b>	Perforated	2	3000	1	191.500	<b>1123 00 3</b>
<b>MS 41 LS 6M 2 FT</b>	Perforated	2	6000	1	191.500	<b>1123 00 5</b>

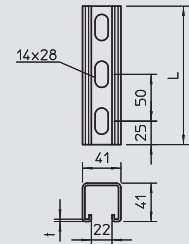
**St** Steel **FT** Hot-dip galvanised

/100 m

Heavy-duty profile/mounting rail with continuous, three-sided perforation, slot width 22 mm.

Static values:

A = 2,0085 cm<sup>2</sup>  
 I<sub>y</sub> = 5,1323 cm<sup>4</sup>  
 I<sub>z</sub> = 5,8816 cm<sup>4</sup>  
 W<sub>y</sub> = 2,4875 cm<sup>3</sup>  
 W<sub>z</sub> = 2,8774 cm<sup>3</sup>



## Mounting rail, MS 41 V4A

Type	Version	Dimension b x h mm	Material thickness mm	Length mm	Pack. m	Weight kg/100 m	Item No.
<b>MS 41 LS1M 2 V4A</b>	Perforated	41x41	2	1000	5	179.400	<b>1123 02 1</b>
<b>MS 41 LS3M 2 V4A</b>	Perforated	41x41	2	3000	1	179.400	<b>1123 02 3</b>
<b>MS 41 LS6M 2 V4A</b>	Perforated	41x41	2	6000	1	179.400	<b>1123 02 5</b>

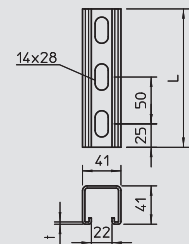
**V4A** Stainless steel, grade 316 Ti

/100 m

Heavy-duty profile rail with continuous, three-sided perforation, slot width 22 mm.

Static values:

A = 2,0085 cm<sup>2</sup>  
 I<sub>y</sub> = 5,1323 cm<sup>4</sup>  
 I<sub>z</sub> = 5,8816 cm<sup>4</sup>  
 W<sub>y</sub> = 2,51257 cm<sup>3</sup>  
 W<sub>z</sub> = 2,68608 cm<sup>3</sup>



## Mounting rail, MS41

Type	Version	Dimension b x h mm	Material thickness mm	Length mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>MS 41 LS 300 FT</b>	Perforated	41x41	2.5	300	6	71.500	<b>1122 50 0</b>
<b>MS 41 LS 400 FT</b>	Perforated	41x41	2.5	400	6	95.300	<b>1122 50 1</b>

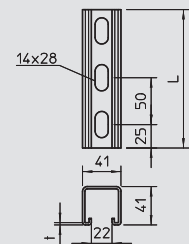
**St** Steel **FT** Hot-dip galvanised

/100 pc.

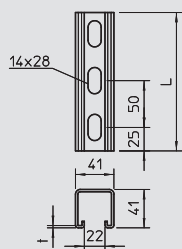
Heavyweight profile/mounting rail with continuous, three-sided perforation, slot width 22 mm.

Static values:

A = 2,4195 cm<sup>2</sup>  
 I<sub>y</sub> = 5,9974 cm<sup>4</sup>  
 I<sub>z</sub> = 6,9732 cm<sup>4</sup>  
 W<sub>y</sub> = 2,4875 cm<sup>3</sup>  
 W<sub>z</sub> = 2,8774 cm<sup>3</sup>



## Mounting rail, MS 41 V4A



Type	Version	Dimension b x h mm	Material thickness mm	Length mm	Pack. m	Weight kg/100 m	Item No.
<b>MS 41 LS 1M V4A</b>	Perforated	41x41	2.5	1000	1	225.500	<b>1123 07 7</b>
<b>MS 41 LS 6M V4A</b>	Perforated	41x41	2.5	6000	6	225.500	<b>1123 07 9</b>

**V4A** Stainless steel, grade 316 Ti /100 m

Heavy-duty profile rail with continuous, three-sided perforation, slot width 22 mm.

Static values:

A = 2,4195 cm<sup>2</sup>

ly = 5,9974 cm<sup>4</sup>

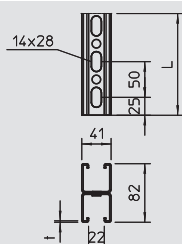
lz = 6,9732 cm<sup>4</sup>

Wy = 2,4875 cm<sup>3</sup>

Wz = 2,8774 cm<sup>3</sup>



## Mounting rail, MS 41, double version



Type	Version	Dimension b x h mm	Material thickness mm	Length mm	Pack. m	Weight kg/100 m	Item No.
<b>MS 41D L 3M 2 FS</b>	Perforated	41x82	2	2000	1	—	<b>1122 67 6</b>
<b>MS 41D L 6M 2 FS</b>	Perforated	41x82	2	6000	1	—	<b>1122 67 8</b>

**St** Steel **FS** Strip-galvanised /100 m

Heavy-duty profile/mounting rail with continuous perforation in base, slot width 22 mm. Double version, i.e. two profile rails are interconnected on the base (clinched).

Static values:

A = 4,8569 cm<sup>2</sup>

ly = 30,6909 cm<sup>4</sup>

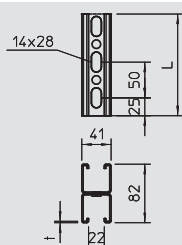
lz = 15,1124 cm<sup>4</sup>

Wy = 2,51257 cm<sup>3</sup>

Wz = 2,68608 cm<sup>3</sup>



## Mounting rail, MS 41, double version



Type	Version	Dimension b x h mm	Material thickness mm	Length mm	Pack. m	Weight kg/100 m	Item No.
<b>MS 41D L 3M 2 FT</b>	Perforated	41x82	2	2000	1	—	<b>1122 67 1</b>
<b>MS 41D L 6M 2 FT</b>	Perforated	41x82	2	6000	1	—	<b>1122 67 3</b>

**St** Steel **FT** Hot-dip galvanised /100 m

Heavy-duty profile/mounting rail with continuous perforation in base, slot width 22 mm. Double version, i.e. two profile rails are interconnected on the base (clinched).

Static values:

A = 4,8969 cm<sup>2</sup>

ly = 30,6909 cm<sup>4</sup>

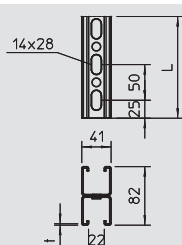
lz = 15,1124 cm<sup>4</sup>

Wy = 2,51257 cm<sup>3</sup>

Wz = 2,68608 cm<sup>3</sup>



## Mounting rail, MS 41, double version, V2A



Type	Version	Dimension b x h mm	Material thickness mm	Length mm	Pack. m	Weight kg/100 m	Item No.
<b>MS 41 D L3M 2V2A</b>	Perforated	41x82	2	2000	1	—	<b>1122 68 2</b>
<b>MS 41 D L6M 2V2A</b>	Perforated	41x82	2	6000	1	—	<b>1122 68 4</b>

**V2A** Stainless steel, grade 304 /100 m

Heavy-duty profile/mounting rail with continuous perforation in base, slot width 22 mm. Double version, i.e. two profile rails are interconnected on the base (welded).

Static values:

A = 4,8969 cm<sup>2</sup>

ly = 30,6909 cm<sup>4</sup>

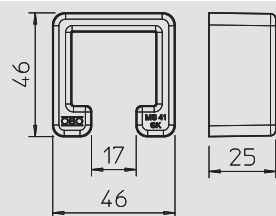
lz = 15,1124 cm<sup>4</sup>

Wy = 2,51257 cm<sup>3</sup>

Wz = 2,68608 cm<sup>3</sup>



## Protective cap MS41



Type	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>MS 41 SK OR SP</b>	Pastel orange	300	25	1.320	<b>1122 90 0</b>

**PE** Polyethylene /100 pc.

Protective caps for profile rail, types MS 41.



# Profile rail



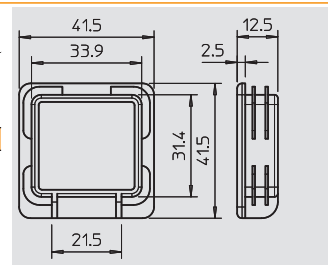
## End cap MS 41

Type	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>MS 41 EDK OR</b>	Pastel orange	50	50	0.650	<b>1122 90 6</b>

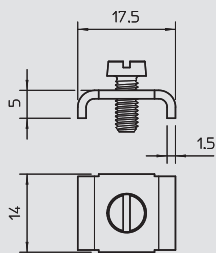
PE Polyethylene

/100 pc.

End cap for profile rail, type MS 41.







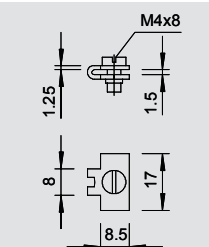
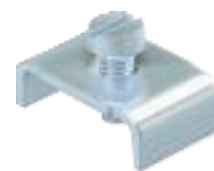
## Slide nut, 11 mm slot width



Type	Thread	Version	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>T4012 M4x10 G</b>	M4	With bolt M4 x 10	2400	100	0.740	<b>1134 05 1</b>
<b>T4012 O.S. M4 G</b>	M4	No bolt	4000	100	0.250	<b>1134 26 4</b>

**St** Steel **G** Electrogalvanised /100 pc.

Slide nut for profile rail 2060 with 11 mm slot width.



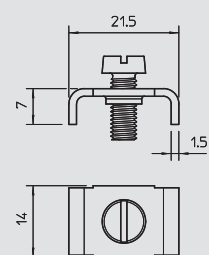
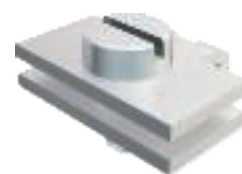
## Slide nut, 11–12 mm slot width



Type	Thread	Version	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>2065 N M4 G</b>	M4	With bolt M4 x 8	3000	100	0.410	<b>1133 02 0</b>

**St** Steel **G** Electrogalvanised /100 pc.

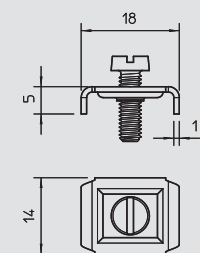
Slide nut for profile rails with a slot width of 11–12 mm.



Type	Thread	Version	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>T4012G M5x13 G</b>	M5	With bolt M5 x 13	2000	100	0.720	<b>1134 04 3</b>
<b>T4012G O.S. M5 G</b>	M5	No bolt	2000	100	0.460	<b>1134 25 6</b>

**St** Steel **G** Electrogalvanised /100 pc.

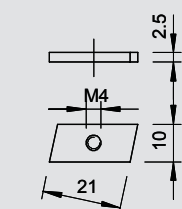
Slide nut for profile rails with a slot width of 11–12 mm.



Type	Thread	Version	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>T4012N M4x10 G</b>	M4	With bolt M4 x 10	3600	100	0.370	<b>1134 02 7</b>
<b>T4012N M4x8 G</b>	M4	With bolt M4 x 8	3600	100	0.380	<b>1134 30 2</b>

**St** Steel **G** Electrogalvanised /100 pc.

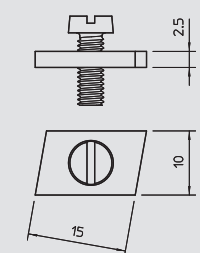
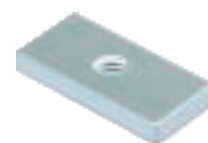
Slide nut for profile rails with a slot width of 11–12 mm.



Type	Thread	Version	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>4014 G</b>	M4	No bolt	4000	100	0.460	<b>1137 22 0</b>

**St** Steel **G** Electrogalvanised /100 pc.

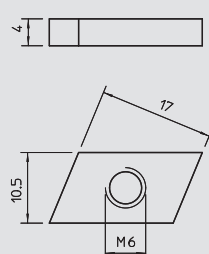
Slide nut for profile rails with a slot width of 11–12 mm.



Type	Thread	Version	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>4014 N M.S. G</b>	M4	With bolt M4 x 8	4000	100	0.320	<b>1137 01 8</b>
<b>4014 N G</b>	M4	No bolt	4000	100	0.320	<b>1137 21 2</b>

**St** Steel **G** Electrogalvanised /100 pc.

Slide nut for profile rails with a slot width of 11–12 mm.



Type	Thread	Version	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>5015 M5 OS G</b>	M5	No bolt	2600	100	0.460	<b>1141 05 8</b>
<b>5015 M6 OS G</b>	M6	No bolt	2600	100	0.440	<b>1141 06 6</b>
<b>5015 M6 OS VA</b>	M6	No bolt	2600	100	0.440	<b>1141 10 4</b>

**St** Steel **V2A** Stainless steel, grade 304 **G** Electrogalvanised /100 pc.

Slide nut for profile rails with a slot width of 11–12 mm.  
For NS rung, mountable from above.



# Profile rails, system accessory

11-12

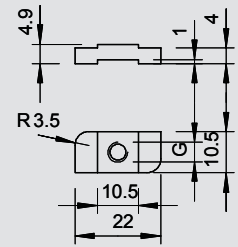


## Slide nut, 11–12 mm slot width

Type	Thread	Version	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
5016 M5 OS G	M5	No bolt	2400	100	0.620	1142 05 4
5016 M6 OS G	M6	No bolt	2400	100	0.610	1142 06 2

St Steel G Electrogalvanised /100 pc.

Slide nut for profile rails with a slot width of 11–12 mm. Mounted from top.



16-17

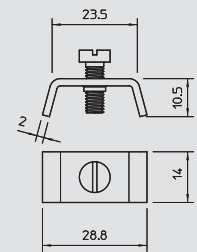


## Slide nut, 16–17 mm slot width

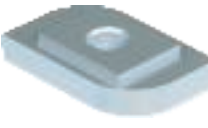
Type	Thread	Version	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
T5012 M5x13 G	M5	With bolt M5 x 13	1000	100	1.150	1140 01 9
T5012 O.S. M5 G	M5	No bolt	1000	100	0.900	1140 21 3

St Steel G Electrogalvanised /100 pc.

Slide nut for profile rails with a slot width of 16–17 mm.



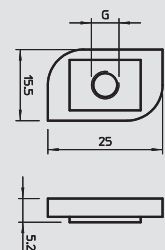
16-17



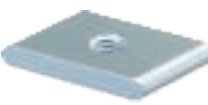
Type	Thread	Version	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
5017 M6 OS G	M6	No bolt	1000	100	0.990	1143 06 9
5017 M6 OS VA	M6	No bolt	1000	100	0.990	1143 12 3
5017 M8 OS VA	M8	No bolt	600	100	1.430	1143 12 5
5017 M10 OS VA	M10	No bolt	600	100	1.310	1143 12 7

St Steel V4A Stainless steel, grade 316 Ti G Electrogalvanised /100 pc.

Slide nut for profile rails with a slot width of 16–17 mm. For VS rung, mountable from above.



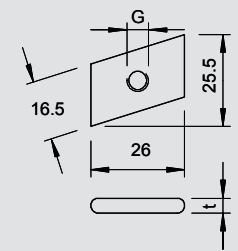
16-17



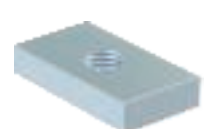
Type	Thread	Dimension G mm	Dimension t mm	Version	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
5019 M6 OS G	M6	6	4	No bolt	1200	100	1.150	1144 10 3
5019 M8 OS G	M8	8	5	No bolt	600	100	1.450	1144 11 1
5019 M10 OS G	M10	10	6	No bolt	600	100	1.650	1144 13 8

St Steel G Electrogalvanised /100 pc.

Slide nut for profile rails with a slot width of 16–17 mm.



18

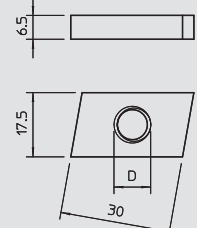


## Slide nut, 18 mm slot width

Type	Thread	Dimension D mm	Recommended load capacity kN	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
GMH18 M6 G	M6	6	1.94	500	50	2.400	1146 50 5
GMH18 M8 G	M8	8	3.57	500	50	2.300	1146 51 3
GMH18 M10 G	M10	10	5.7	500	50	2.300	1146 52 1
GMH18 M6 VA	M6	6	1.94	500	50	2.400	1146 55 6
GMH18 M8 VA	M8	8	3.57	500	50	2.300	1146 55 8
GMH18 M10 VA	M10	10	5.7	500	50	2.300	1146 56 0
GMH18 M12 VA	M12	12	8.32	500	50	2.000	1146 56 2

St Steel V4A Stainless steel, grade 316 G Electrogalvanised /100 pc.

Slide nut for profile rails with a slot width of 18 mm.



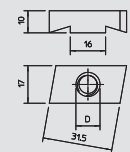
18

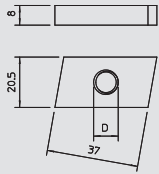


Type	Thread	Dimension D mm	Recommended load capacity kN	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
HGMH18 M6 G	M6	6	1.94	300	50	3.600	1146 71 8
HGMH18 M8 G	M8	8	3.57	300	50	2.300	1146 72 6
HGMH18 M10 G	M10	10	5.7	300	50	2.300	1146 73 4
HGMH18 M12 G	M12	12	8.32	300	50	2.000	1146 74 2

St Steel G Electrogalvanised /100 pc.

Slide nut for profile rails with a slot width of 18 mm.





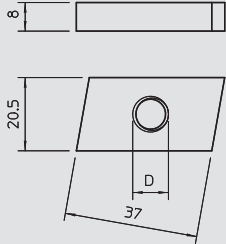
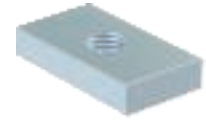
## Slide nut, 22 mm slot width



Type	Thread	Dimension D mm	Recommended load capacity kN	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>GMH22 M6 G</b>	M6	6	1.94	300	50	4.500	<b>1146 60 2</b>
<b>GMH22 M8 G</b>	M8	8	3.57	300	50	4.300	<b>1146 61 0</b>
<b>GMH22 M10 G</b>	M10	10	5.7	300	50	4.300	<b>1146 62 9</b>
<b>GMH22 M12 G</b>	M12	12	8.32	300	50	4.200	<b>1146 63 7</b>

**St** Steel **G** Electrogalvanised /100 pc.

Slide nut for profile rails with a slot width of 22 mm. Cannot be used for the mounting rail MS21 and MS41.



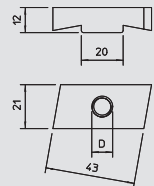
## Slide nut, 22 mm slot width, V4A



Type	Thread	Dimension D mm	Recommended load capacity kN	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>GMH22 M6 VA</b>	M6	6	1.94	300	50	4.500	<b>1146 64 6</b>
<b>GMH22 M8 VA</b>	M8	8	3.57	300	50	4.300	<b>1146 64 8</b>
<b>GMH22 M10 VA</b>	M10	10	5.7	300	50	4.300	<b>1146 65 0</b>
<b>GMH22 M12 VA</b>	M12	12	8.32	300	50	4.200	<b>1146 65 2</b>

**V4A** Stainless steel, grade 316 /100 pc.

Slide nut for profile rails with a slot width of 22 mm. Cannot be used for the mounting rail MS21 and MS41.



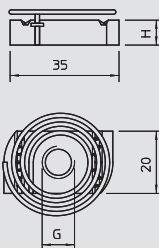
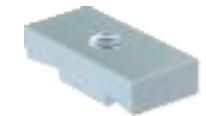
## Slide nut, 22 mm slot width



Type	Thread	Dimension D mm	Recommended load capacity kN	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>HGMH22 M8 G</b>	M8	8	3.57	300	50	4.300	<b>1146 80 7</b>
<b>HGMH22 M10 G</b>	M10	10	5.7	300	50	4.200	<b>1146 81 5</b>
<b>HGMH22 M12 G</b>	M12	12	8.32	200	50	4.100	<b>1146 82 3</b>

**St** Steel **G** Electrogalvanised /100 pc.

Slide nut for profile rails with a slot width of 22 mm. Cannot be used for the mounting rail MS21 and MS41.



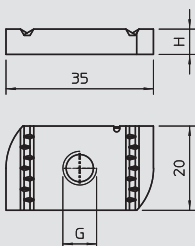
## Slide nut, 22 mm slot width, for MS 21 / 41



Type	Thread	Dimension H mm	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>GMF22 M6 G</b>	M6	6	300	50	4.300	<b>1146 45 1</b>
<b>GMF22 M8 G</b>	M8	6	300	50	4.200	<b>1146 45 5</b>
<b>GMF22 M10 G</b>	M10	8	200	50	4.100	<b>1146 45 9</b>
<b>GMF22 M12 G</b>	M12	9.5	200	50	3.900	<b>1146 46 3</b>

**St** Steel **G** Electrogalvanised /100 pc.

Slide nut for profile rail MS 21 / 41, with tensioning spring and tothing, fixing by 90° rotation.



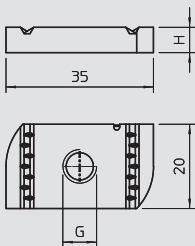
## Slide nut, 22 mm slot width, for MS 21 / 41



Type	Thread	Dimension H mm	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>G22 M6 G</b>	M6	6	300	50	2.700	<b>1146 39 0</b>
<b>G22 M8 G</b>	M8	6	300	50	2.470	<b>1146 39 2</b>
<b>G22 M10 G</b>	M10	8	300	50	3.200	<b>1146 39 4</b>
<b>G22 M12 G</b>	M12	9.5	300	50	3.700	<b>1146 39 6</b>

**St** Steel **G** Electrogalvanised /100 pc.

Slide nut for profile rail MS 21 / 41, without tensioning spring with tothing, fixing by 90° rotation.



## Slide nut, 22 mm slot width, for MS 21 / 41, V4A



Type	Thread	Dimension H mm	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>G22 M6 V4A</b>	M6	6	300	50	2.700	<b>1146 40 1</b>
<b>G22 M8 V4A</b>	M8	6	300	50	2.470	<b>1146 40 3</b>
<b>G22 M10 V4A</b>	M10	8	300	50	3.200	<b>1146 40 6</b>
<b>G22 M12 V4A</b>	M12	9.5	300	50	3.700	<b>1146 40 8</b>

**V4A** Stainless steel, grade 316 /100 pc.

Slide nut for profile rail MS 21 / 41, without tensioning spring with tothing, fixing by 90° rotation.



# Profile rails, system accessory

22

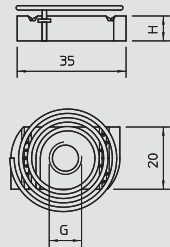
## Slide nut, 22 mm slot width, for MS 21 / 41, V4A



Type	Thread	Dimension H	Shipping box	Pack.	Weight	Item No.
		mm	pcs	pcs	kg/100 pcs.	
GMF22 M6 V4A	M6	6	300	50	2.930	1146 43 0
GMF22 M8 V4A	M8	6	300	50	2.870	1146 43 4
GMF22 M10 V4A	M10	8	200	50	3.470	1146 43 8
GMF22 M12 V4A	M12	9.5	200	50	4.110	1146 44 2

V4A Stainless steel, grade 316 /100 pc.

Slide nut for profile rail MS 21 / 41, with tensioning spring and tothing, fixing by 90° rotation.



11-12

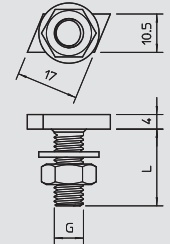
## Hammer-head bolt, 11–12 mm slot width



Type	Thread	Dimension L	Dimension D	Washer Ø	Grade	Shipping box	Pack.	Weight	Item No.
		mm	mm	mm		pcs	pcs	kg/100 pcs.	
5020 M6X20 FT	M6	20	6	12	–	500	50	1.260	1149 00 8
5020 M6X25 FT	M6	25	6	12	–	500	50	1.340	1149 01 6
5020 M8X25 FT	M8	25	8	16	–	300	50	2.030	1149 21 0
5020 M10x40 FT	M10	40	10	20	–	300	50	3.950	1149 45 8

St Steel FT Hot-dip galvanised /100 pc.

Hammer-head bolt with washer and nut for profile rails with slot width 11–12 mm.



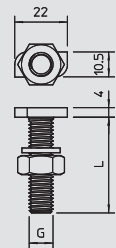
11-12



Type	Thread	Dimension L	Dimension D	Washer Ø	Grade	Shipping box	Pack.	Weight	Item No.
		mm	mm	mm		pcs	pcs	kg/100 pcs.	
5021 M6X25 FT	M6	25	6	12	–	500	50	1.500	1150 01 4
5021 M8X20 FT	M8	20	8	16	–	500	50	1.910	1150 20 0
5021 M8X25 FT	M8	25	8	16	–	500	50	2.110	1150 21 9
5021 M8X40 FT	M8	40	8	16	–	300	50	2.540	1150 24 3
5021 M10x40 FT	M10	40	10	20	–	300	50	4.090	1150 45 6

St Steel FT Hot-dip galvanised /100 pc.

Hammer-head bolt with washer and nut for profile rails with slot width 11–12 mm.



16-17

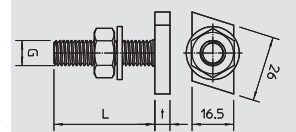
## Hammer-head bolt, 16–17 mm slot width



Type	Thread	Dimension L	Dimension D	Dimension t	Washer Ø	Grade	Shipping box	Pack.	Weight	Item No.
		mm	mm	mm	mm		pcs	pcs	kg/100 pcs.	
5022 M6X25 F	M6	25	6	5	12	–	500	50	1.960	1151 01 0
5022 M6X30 F	M6	30	6	5	12	–	500	50	1.990	1151 02 9
5022 M8X25 F	M8	25	8	5	16	–	300	50	2.120	1151 21 5
5022 M8X30 F	M8	30	8	5	16	–	300	50	2.990	1151 22 3
5022 M8X40 F	M8	40	8	5	16	–	200	50	3.600	1151 25 8
5022 M10x25 F	M10	25	10	6	20	–	300	50	4.360	1151 40 1
5022 M10x30 F	M10	30	10	6	20	–	200	50	4.580	1151 42 8
5022 M10x40 F	M10	40	10	6	20	–	200	50	5.070	1151 44 4
5022 M12x30 G	M12	30	12	6	24	–	250	25	6.130	1151 62 2
5022 M12x40 G	M12	40	12	6	24	–	150	25	6.900	1151 64 9

St Steel F Hot-dip galvanised G Electrogalvanised /100 pc.

Hammer-head bolt with washer and nut for profile rails with slot width 16–17 mm.



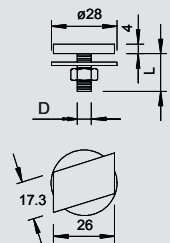
16-17

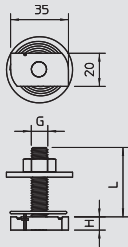


Type	Thread	Dimension L	Dimension D	Washer Ø	Grade	Shipping box	Pack.	Weight	Item No.
		mm	mm	mm		pcs	pcs	kg/100 pcs.	
5026 M6X20 G	M6	20	6	28	–	300	50	2.870	1151 70 3
5026 M8X25 G	M8	25	8	28	–	300	50	3.320	1151 71 1

St Steel G Electrogalvanised /100 pc.

Hammer-head bolt with washer and nut for profile rails with slot width 16–17 mm.





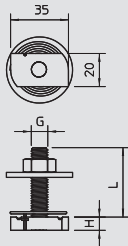
## Hammer-head bolt, for MS 21 / 41



Type	Thread	Dimension L mm	Dimension H mm	Washer Ø mm	Grade	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>HKF22 M8x30 G</b>	M8	30	6	40	—	100	25	9.100	<b>1148 95 0</b>
<b>HKF22 M8x50 G</b>	M8	50	6	40	—	100	25	9.600	<b>1148 95 5</b>
<b>HKF22 M10x30 G</b>	M10	30	8	40	—	100	25	10.300	<b>1148 96 1</b>
<b>HKF22 M10x50 G</b>	M10	50	8	40	—	100	25	11.500	<b>1148 96 6</b>
<b>HKF22 M12x30 G</b>	M12	30	9.5	40	—	100	25	11.800	<b>1148 97 2</b>

**St** Steel **G** Electrogalvanised /100 pc.

Hammer-head bolt for profile rail MS 21 / 41, with tensioning spring and tothing, fixing by 90° rotation



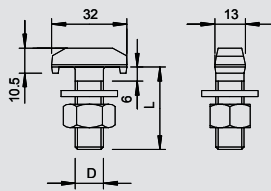
## Hammer-head bolt, for MS 21 / 41 V4A



Type	Thread	Dimension L mm	Dimension H mm	Washer Ø mm	Grade	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>HKF22 M8x30 V4A</b>	M8	30	6	40	1.4401	100	25	7.290	<b>1148 99 0</b>
<b>HKF22 M8x50 V4A</b>	M8	50	6	40	1.4401	100	25	8.130	<b>1148 99 2</b>
<b>HKF22 M10x30 V4A</b>	M10	30	8	40	1.4401	100	25	9.190	<b>1148 99 6</b>
<b>HKF22 M10x50 V4A</b>	M10	50	8	40	1.4401	100	25	10.190	<b>1148 99 8</b>
<b>HKF22 M12x30 V4A</b>	M12	30	9.5	40	1.4401	100	25	10.570	<b>1149 00 2</b>

**V4A** Stainless steel, grade 316 /100 pc.

V4A hammer-head bolt for profile rail MS 21 / 41, with tensioning spring and tothing, fixing by 90° rotation



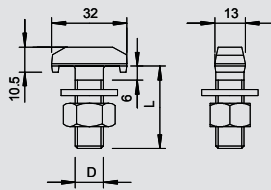
## Hook-head bolt, 18 mm slot width



Type	Thread	Dimension L mm	Dimension D mm	Washer Ø mm	Grade	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>5023 M10x30 G</b>	M10	30	10	20	—	300	50	4.130	<b>1153 41 2</b>
<b>5023 M10x35 G</b>	M10	35	10	20	—	200	50	4.690	<b>1153 42 0</b>
<b>5023 M10x40 G</b>	M10	40	10	20	—	250	25	4.970	<b>1153 43 9</b>
<b>5023 M12x30 G</b>	M12	30	12	24	—	150	25	6.450	<b>1153 61 7</b>
<b>5023 M12x35 G</b>	M12	35	12	24	—	150	25	6.800	<b>1153 62 5</b>
<b>5023 M12x40 G</b>	M12	40	12	24	—	150	25	7.200	<b>1153 63 3</b>
<b>5023 M12x50 G</b>	M12	50	12	24	—	150	25	7.840	<b>1153 64 1</b>

**St** Steel **G** Electrogalvanised /100 pc.

Hook-head bolt with washer and nut for profile rails with slot width 18 mm.



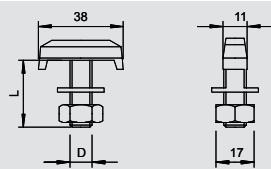
## Hook-head bolt, 18 mm slot width V4A



Type	Thread	Dimension L mm	Dimension D mm	Washer Ø mm	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>5023 M10x30 V4A</b>	M10	30	10	20	300	50	4.130	<b>1153 46 2</b>
<b>5023 M10x35 V4A</b>	M10	35	10	20	200	50	4.690	<b>1153 46 5</b>
<b>5023 M10x40 V4A</b>	M10	40	10	20	250	25	4.970	<b>1153 54 3</b>
<b>5023 M12x30 V4A</b>	M12	30	12	24	150	25	6.450	<b>1153 71 3</b>
<b>5023 M12x35 V4A</b>	M12	35	12	24	150	25	6.800	<b>1153 72 0</b>
<b>5023 M12x40 V4A</b>	M12	40	12	24	150	25	7.200	<b>1153 74 8</b>
<b>5023 M12x50 V4A</b>	M12	50	12	24	150	25	7.840	<b>1153 75 3</b>

**V4A** Stainless steel, grade 316 Ti /100 pc.

Hook-head bolt with washer and nut for profile rails with slot width 18 mm.



## Hook-head bolt, 22 mm slot width



Type	Thread	Dimension L mm	Dimension D mm	Washer Ø mm	Grade	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>5024 M6x30 FT</b>	M6	30	6	16	—	500	50	0.500	<b>1154 40 3</b>
<b>5024 M10x30 G</b>	M10	30	10	20	—	200	50	5.540	<b>1154 41 9</b>
<b>5024 M10x35 G</b>	M10	35	10	20	—	200	50	5.710	<b>1154 42 7</b>
<b>5024 M10x40 G</b>	M10	40	10	20	—	250	25	5.980	<b>1154 43 5</b>
<b>5024 M12x30 G</b>	M12	30	12	24	—	150	25	7.610	<b>1154 60 5</b>
<b>5024 M12x35 G</b>	M12	35	12	24	—	150	25	7.940	<b>1154 61 3</b>
<b>5024 M12x40 G</b>	M12	40	12	24	—	150	25	8.160	<b>1154 62 1</b>
<b>5024 M12x50 G</b>	M12	50	12	24	—	150	25	8.840	<b>1154 64 8</b>

**St** Steel **G** Electrogalvanised **FT** Hot-dip galvanised /100 pc.

Hook-head bolt with washer and nut for profile rails with slot width 22 mm. Cannot be used for the mounting rail MS21 and MS41.



# Profile rails, system accessory



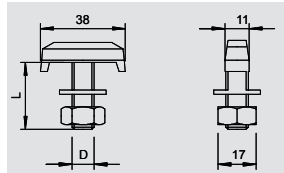
## Hook-head bolt, 22 mm slot width V4A

Type	Thread	Dimension L mm	Dimension D mm	Washer Ø mm	Grade	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
5024 M6x30 V4A	M6	30	6	16	1.4571	500	50	2.450	1154 40 9
5024 M10x30 V4A	M10	30	10	20	1.4571	200	50	5.540	1154 50 7
5024 M10x35 V4A	M10	35	10	20	1.4571	200	50	5.710	1154 51 6
5024 M10x40 V4A	M10	40	10	20	1.4571	250	25	7.980	1154 52 3
5024 M12x30 V4A	M12	30	12	24	1.4571	150	25	7.610	1154 70 1
5024 M12x35 V4A	M12	35	12	24	1.4571	150	25	7.940	1154 71 5
5024 M12x40 V4A	M12	40	12	24	1.4571	150	25	8.160	1154 72 8
5024 M12x50 V4A	M12	50	12	24	1.4571	150	25	8.340	1154 73 6

V4A Stainless steel, grade 316 Ti

/100 pc.

Hook-head bolt with washer and nut for profile rails with slot width 22 mm. Cannot be used for the mounting rail MS21 and MS41.



## Clamping lug for clamp fastening system

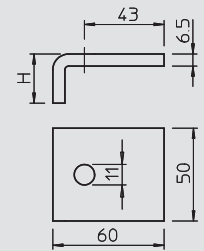


Type	Height mm	Pack. pcs	Weight kg/100 pcs.	Item No.
KL1 10 S FT	10	10	22.500	6354 10 6
KL1 15 S FT	15	10	24.000	6354 11 4
KL1 20 S FT	20	10	25.000	6354 12 2

St Steel FT Hot-dip galvanised

/pc.

Clamping lug, type KL1, to fasten light support structures to steel girder flanges.



## Clamping angle KWS

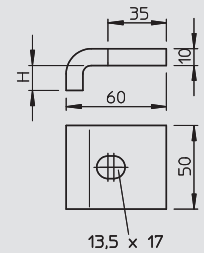


Type	Height mm	F in kN kN	Pack. pair	Weight kg/100 pairs	Item No.
KWS 5 FT	5	5.7	10	63.000	6355 21 8
KWS 10 FT	10	5.7	10	68.000	6355 22 6
KWS 15 FT	15	5.7	10	70.000	6355 23 4
KWS 20 FT	20	5.7	10	76.000	6355 24 2
KWS 25 FT	25	5.7	10	80.000	6355 25 0

St Steel FT Hot-dip galvanised

/pair

Clamping angle, with hexagonal bolt, type KWS, for direct fixing of constructions to steel girder flanges.



## Clamping profile KWH for CPS 5, 22 mm slot width

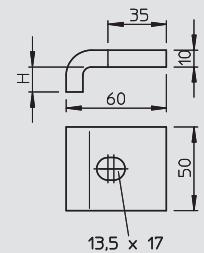


Type	Height mm	F in kN kN	Pack. pair	Weight kg/100 pairs	Item No.
KWH 5 FT	5	5.7	10	63.000	6355 02 1
KWH 10 FT	10	5.7	10	68.000	6355 04 8
KWH 15 FT	15	5.7	10	70.000	6355 05 6
KWH 20 FT	20	5.7	10	76.000	6355 06 4
KWH 25 FT	25	5.7	10	80.000	6355 07 2

St Steel FT Hot-dip galvanised

/pair

Clamping angle, with hammer-head bolt, type KWH, for fixing in the mounting rail, type CPS 5.



## Chuck jaw, light-duty TKS

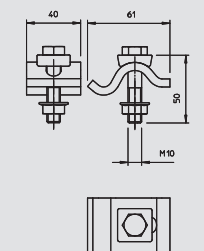


Type	Height mm	F in kN kN	Pack. pair	Weight kg/100 pairs	Item No.
TKS-L-25 FT	25	10	10	39.000	6355 80 8

St Steel FT Hot-dip galvanised

/pair

Chuck jaw with hexagonal nut for direct fastening of structures to steel girders.



## Chuck jaw, heavy-duty TKS

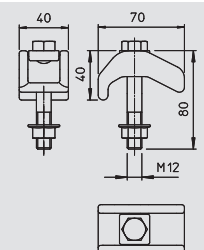


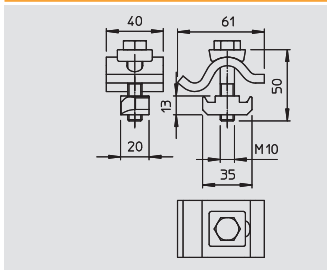
Type	Height mm	F in kN kN	Pack. pair	Weight kg/100 pairs	Item No.
TKS-S-30 FT	30	21	10	82.000	6355 80 0

St Steel FT Hot-dip galvanised

/pair

Heavy-duty chuck jaw with hexagonal nut for direct fastening of structures to steel girders.

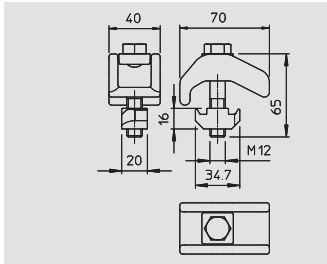
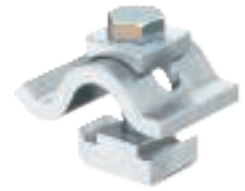




**Chuck jaw, light-duty TKH, for CPS 4 and MS 41 18,- 22 mm slot**

Type	Height mm	F in kN kN	Pack. pair	Weight kg/100 pairs	width
					Item No.
<b>TKH-L-25 FT</b>	25	10	10	46.000	<b>6355 81 2</b>

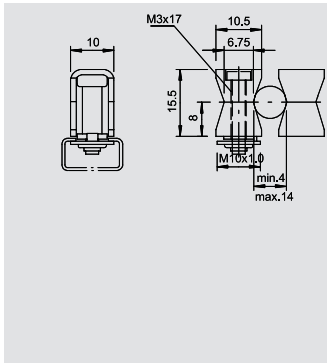
**St** Steel **FT** Hot-dip galvanised /pair  
Light duty tensioning claw with slide nut for fixing mounting rails to steel girder flanges.



**Chuck jaw, heavy-duty TKH, for CPS 5 and MS 41 18,- 22 mm slot**

Type	Height mm	F in kN kN	Pack. pair	Weight kg/100 pairs	width
					Item No.
<b>TKH-S-30 FT</b>	30	21	10	81.000	<b>6355 80 4</b>

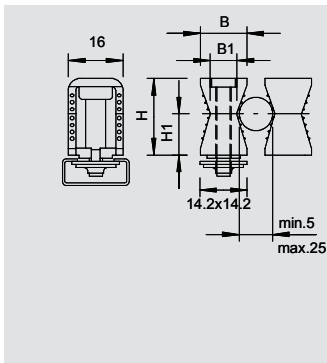
**St** Steel **FT** Hot-dip galvanised /pair  
Heavy-duty chuck jaw with slide nut for fastening profile rails to steel girders.



**Series clip, slot 7.5 mm**

Type	Clamping range D mm	Bolt	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>2049 4-14 LGR</b>	4-14	M3 x 17	Light grey	2000	100	0.240	<b>2254 01 8</b>

**PS** Polystyrene /100 pc.  
Also suitable for C rails of 7.5 mm slot width; polystyrene clip element, impact resistant, halogen-free, light grey RAL 7035; metal parts: electrogalvanised steel.



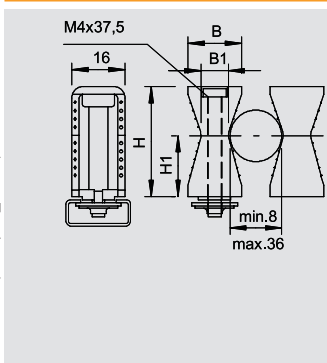
**Series clip, slot 11-12 mm**

Type	Clamping range D mm	Bolt	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>2050 5-25 LGR</b>	5-25	M4 x 27	Light grey	1000	100	0.660	<b>2254 02 6</b>

**PS** Polystyrene /100 pc.  
Also suitable for rails of 11 - 12 mm slot width; polystyrene clip element, impact resistant, halogen-free, light grey RAL 7035; metal parts: electrogalvanised steel.

**Important dimensions, series clip**

D	B	B1	H	H1
mm	mm	mm	mm	mm
5-25	14	8.5	23	12.5



**Series clip, slot 11-12 mm**

Type	Clamping range D mm	Bolt	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>2051 8-36 LGR</b>	8-36	M4 x 37.5	Light grey	800	100	0.970	<b>2254 03 4</b>

**PS** Polystyrene /100 pc.  
Also suitable for rails of 11 - 12 mm slot width; polystyrene clip element, impact resistant, halogen-free, light grey RAL 7035; metal parts: electrogalvanised steel.

**Important dimensions, series clip**

D	B	B1	H
mm	mm	mm	mm
8-36	16.5	8.5	34



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Rail systems

# Profile rails, system accessory



## Series clip, slot 16–17 mm

Type	Clamping range D mm	Bolt	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
2054 14-48 LGR	14-48	M8 x 55	Light grey	300	25	5.120	2255 01 4
2055 24-72 LGR	24-72	M8 x 75	Light grey	240	20	7.970	2255 02 2

PA Polyamide

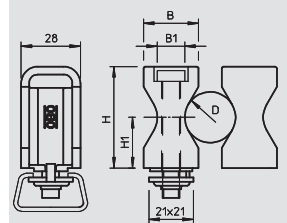
/100 pc.

Heavy-duty version, also suitable for rails of 16 - 17 mm slot width; polyamide clip element, light grey RAL 7035;

Metal parts: electrogalvanised steel.

### Important dimensions, series clip

D	B	B1	H	H1
mm	mm	mm	mm	mm
14-48	26	13	48	24
24-72	38	15	70	35



## Series clip, slot 16–17 mm

Type	Clamping range D mm	Bolt	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
2054 14-48 PA	14-48	M8 x 55	Light grey	300	25	4.300	2255 40 5

PA Polyamide

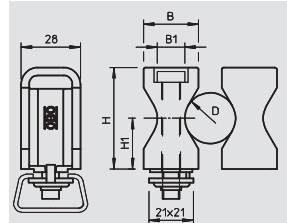
/100 pc.

Heavy-duty version, also suitable for rails of 16 - 17 mm slot width; polyamide clip element, light grey RAL 7035;

Metal parts: electrogalvanised steel.

### Important dimensions, series clip

D	B	B1	H	H1
mm	mm	mm	mm	mm
14-48	26	13	48	24



## Impact clip, slot 11–12 mm

Type	Clamping range D mm	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
2047 5-25 LGR	5-25	Light grey	1000	100	0.390	2251 25 6

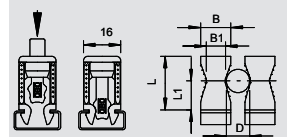
PS Polystyrene

/100 pc.

Series clip without metallic parts, thus protected against corrosion;  
Use: lock the clip in the profile rail and fix it by hitting it with a hammer.

### Important dimensions, impact clip

D	A	B	B1	L	L1
mm	mm	mm	mm	mm	mm
5-25	16	13	8	23	12.5



## Series terminal clip, slot 11–12 mm

Type	Clamping range D mm	Colour	Number of clips per strip	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
2036 4-7 LGR	4-7	Light grey	4	300	25	0.160	2259 07 9
2036 10-15 LGR	10-15	Light grey	4	250	25	1.700	2259 14 1
2036 18-23 LGR	18-23	Light grey	3	200	25	2.400	2259 23 0
2036 22-28 LGR	22-28	Light grey	1	250	25	1.050	2259 28 1

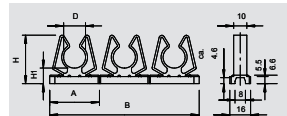
PE Polyethylene

/100 pc.

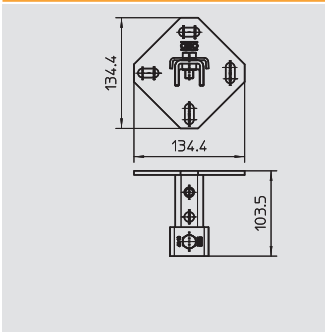
Individually separable, for pushing into profile rails.

### Important dimensions, series terminal clip

D	A	B	H	H1
mm	mm	mm	mm	mm
4-7	12.75	51	18.5	11
10-15	25	100	26.5	9.5
18-23	38.5	115.5	37	12
22-28	51	51	44.5	13.5







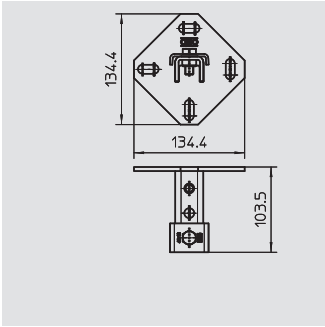
## Wall, floor and ceiling bracket with 3 holes



Type	Version	Dimension b x h mm	Material thickness mm	Length mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>WBDHE 41 G</b>	Perforated	134,35x110	5	102	10	77.370	<b>1123 19 3</b>
<b>WBDHE 41 FT</b>	Perforated	134,35x110	5	102	10	77.370	<b>1123 19 1</b>

**St** Steel **G** Electrogalvanised **FT** Hot-dip galvanised /100 pc.

The wall, floor and ceiling bracket can ideally be used as a panel for wall, floor and ceiling mounting. Also suitable for stand and frame construction in conjunction with the MS 41 mounting rails.



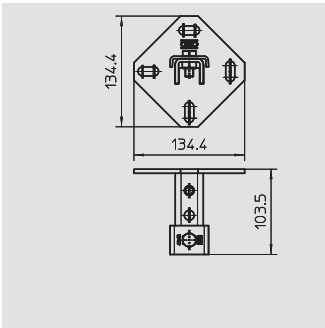
## Wall, floor and ceiling bracket with 3 holes V2A



Type	Version	Dimension b x h mm	Material thickness mm	Length mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>WBDHE 41 V2A</b>	Perforated	134,35x110	5	102	10	77.370	<b>1123 19 5</b>

**V2A** Stainless steel, grade 304 /100 pc.

The wall, floor and ceiling bracket can ideally be used as a panel for wall, floor and ceiling mounting. Also suitable for stand and frame construction in conjunction with the MS 41 mounting rails.



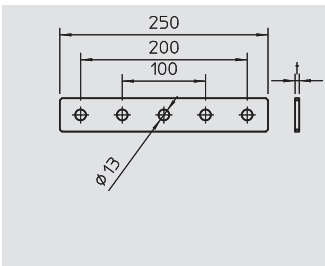
## Wall, floor and ceiling bracket with 3 holes V4A



Type	Version	Dimension b x h mm	Material thickness mm	Length mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>WBDHE 41 V4A</b>	Perforated	134,35x110	5	102	10	47.070	<b>1123 19 7</b>

**V4A** Stainless steel, grade 316 Ti /100 pc.

The wall, floor and ceiling bracket can ideally be used as a panel for wall, floor and ceiling mounting. Also suitable for stand and frame construction in conjunction with the MS 41 mounting rails.

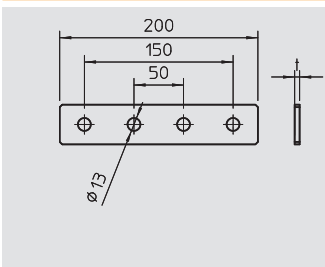


## Connection plate with 5 holes

Type	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>GMS 5 VP FT</b>	10	10	40.000	<b>1124 65 1</b>
<b>GMS 5 VP G</b>	10	10	38.810	<b>1124 61 1</b>

**St** Steel **G** Electrogalvanised **FT** Hot-dip galvanised /100 pc.

Connection plate with five holes for straight connection of profile rails 41 x 41 mm and 41 x 21 mm.

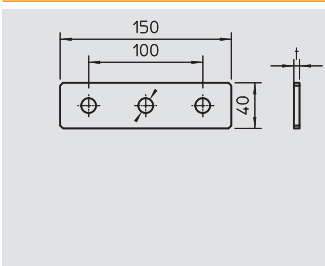


## Connection plate with 4 holes

Type	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>GMS 4 VP FT</b>	40	10	35.580	<b>1124 64 9</b>
<b>GMS 4 VP G</b>	40	10	32.340	<b>1124 60 9</b>

**St** Steel **G** Electrogalvanised **FT** Hot-dip galvanised /100 pc.

Connection plate with four holes for straight connection of profile rails 41 x 41 mm and 41 x 21 mm.



## Connection plate with 3 holes

Type	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>GMS 3 VP FT</b>	80	20	24.010	<b>1124 64 7</b>
<b>GMS 3 VP G</b>	80	20	21.200	<b>1124 60 7</b>

**St** Steel **G** Electrogalvanised **FT** Hot-dip galvanised /100 pc.

Connection plate with three holes for straight connection of profile rails 41 x 41 mm and 41 x 21 mm.



# Rail mounting system, MS 41

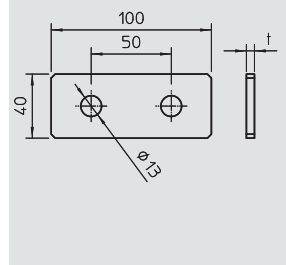
## Connection plate with 2 holes



Type	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
GMS 2 VP FT	40	10	14.000	1124 64 5
GMS 2 VP G	40	10	16.170	1124 60 5

St Steel G Electrogalvanised FT Hot-dip galvanised /100 pc.

Connection plate with two holes for straight connection of profile rails 41 x 41 mm and 41 x 21 mm.



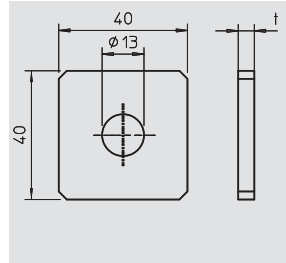
## Connection plate with 1 hole



Type	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
GMS 1 VP FT	150	10	7.120	1124 64 3
GMS 1 VP G	150	10	6.470	1124 60 3

St Steel G Electrogalvanised FT Hot-dip galvanised /100 pc.

Connection plate with lengthwise slot, for example for mounting threaded rods to profile rails 41 x 41 mm and 41 x 21 mm.



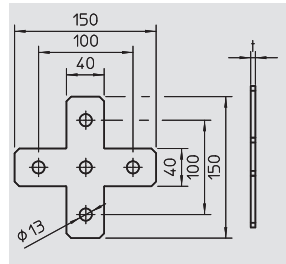
## Connection plate, X-shaped



Type	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
GMS 5 VP X G	10	10	39.000	1124 61 7
GMS 5 VP X FT	10	10	48.000	1124 65 7

St Steel G Electrogalvanised FT Hot-dip galvanised /100 pc.

Connection plate with five holes for cross connection of profile rails 41 x 41 mm and 41 x 21 mm.



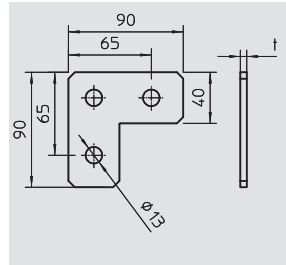
## Connection plate, L-shaped



Type	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
GMS 3 VP L G	40	10	20.000	1124 61 3
GMS 3 VP L FT	40	10	25.000	1124 65 3

St Steel G Electrogalvanised FT Hot-dip galvanised /100 pc.

Connection plate with three holes for angled connection of profile rails 41 x 41 mm and 41 x 21 mm.



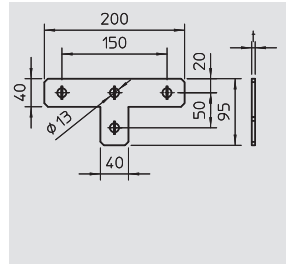
## Connection plate, T-shaped



Type	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
GMS 4 VP T G	10	10	40.000	1124 61 5
GMS 4 VP T FT	10	10	41.000	1124 65 5

St Steel G Electrogalvanised FT Hot-dip galvanised /100 pc.

Connection plate with four holes for T-shaped connection of profile rails 41 x 41 mm and 41 x 21 mm.

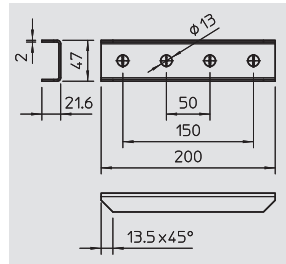


## Connector

Type	Version	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
GVMS 4 ASV FT	With continuous perforation 13 mm	20	10	44.040	1124 64 1
GVMS 4 ASV G	With continuous perforation 13 mm	20	10	44.040	1124 60 1

St Steel G Electrogalvanised FT Hot-dip galvanised /100 pc.

Connector gripping from outside with four holes for straight connection of profile rails 41 x 41 mm and 41 x 21 mm.



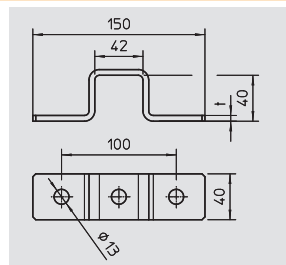
## Omega clamp

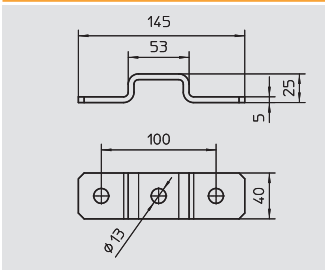


Type	Version	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
GMS 3 O 4141 G	With continuous perforation 13 mm	10	10	29.830	1124 63 3
GMS 3 O 4141 FT	With continuous perforation 13 mm	10	10	35.000	1124 67 3

St Steel G Electrogalvanised FT Hot-dip galvanised /100 pc.

Fastening clip with 3 holes for cross-wise connection of profile rails 41 x 41 mm.

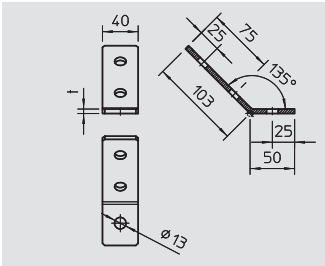




## Omega clamp

Type	Version	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>GMS 3 O 4121 G</b>	With continuous perforation 13 mm	40	10	23.550	<b>1124 63 1</b>
<b>GMS 3 O 4121 FT</b>	With continuous perforation 13 mm	40	10	26.680	<b>1124 67 1</b>

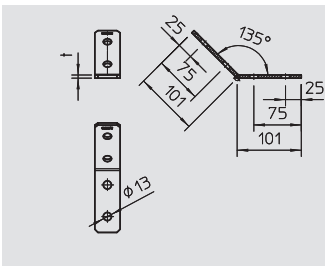
**St** Steel **G** Electrogalvanised **FT** Hot-dip galvanised /100 pc.  
Fastening clip with 3 holes for cross-wise connection of profile rails 41 x 21 mm.



## Mounting bracket, 45° with 3 holes

Type	Version	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>GMS 3 VW 45 G</b>	45° bracket	40	10	21.200	<b>1124 62 7</b>
<b>GMS 3 VW 45 FT</b>	45° bracket	40	10	24.010	<b>1124 66 7</b>

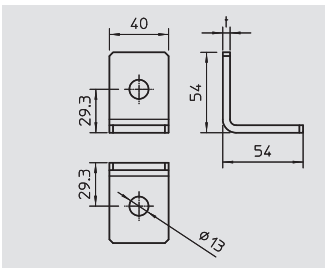
**St** Steel **G** Electrogalvanised **FT** Hot-dip galvanised /100 pc.  
Mounting bracket with three holes to connect profile rails 41 x 41 mm and 41 x 21 mm at an angle of 45°.



## Mounting bracket, 45° with 4 holes

Type	Version	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>GMS 4 VW 45 G</b>	45° bracket	40	10	31.400	<b>1124 62 9</b>
<b>GMS 4 VW 45 FT</b>	45° bracket	40	10	32.000	<b>1124 66 9</b>

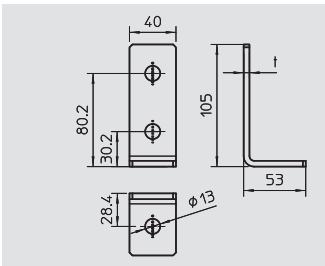
**St** Steel **G** Electrogalvanised **FT** Hot-dip galvanised /100 pc.  
Mounting bracket with four holes to connect profile rails 41 x 41 mm and 41 x 21 mm at an angle of 45°.



## Mounting bracket, 90° with 2 holes

Type	Version	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>GMS 2 VW 90 G</b>	90° bracket	60	10	16.170	<b>1124 61 9</b>
<b>GMS 2 VW 90 FT</b>	90° bracket	60	10	14.000	<b>1124 65 9</b>

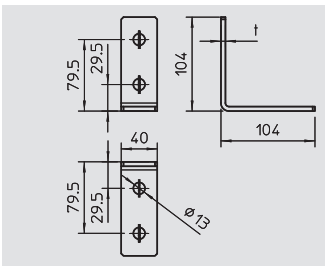
**St** Steel **G** Electrogalvanised **FT** Hot-dip galvanised /100 pc.  
Mounting bracket with two holes to connect profile rails 41 x 41 mm and 41 x 21 mm at an angle of 90°.



## Mounting bracket, 90° with 3 holes

Type	Version	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>GMS 3 VW 90 G</b>	90° bracket	40	10	23.550	<b>1124 62 1</b>
<b>GMS 3 VW 90 FT</b>	90° bracket	40	10	25.910	<b>1124 66 1</b>

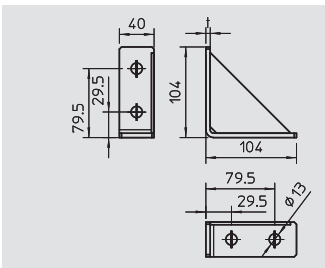
**St** Steel **G** Electrogalvanised **FT** Hot-dip galvanised /100 pc.  
Installation profile with three holes to connect profile rails 41 x 41 mm and 41 x 21 mm at an angle of 90°.



## Mounting bracket, 90° with 4 holes

Type	Version	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>GMS 4 VW 90 G</b>	90° bracket	30	10	32.660	<b>1124 62 3</b>
<b>GMS 4 VW 90 FT</b>	90° bracket	30	10	32.000	<b>1124 66 3</b>

**St** Steel **G** Electrogalvanised **FT** Hot-dip galvanised /100 pc.  
Installation profile with two holes to connect profile rails 41 x 41 mm and 41 x 21 mm at an angle of 90°.



## Triangular node

Type	Version	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>GMS 4 KD 90 FT</b>	90° bracket	10	10	48.000	<b>1124 66 5</b>
<b>GMS 4 KD 90 G</b>	90° bracket	10	10	42.000	<b>1124 62 5</b>

**St** Steel **G** Electrogalvanised **FT** Hot-dip galvanised /100 pc.  
Reinforced mounting bracket with four holes to connect profile rails 41 x 41 mm and 41 x 21 mm at an angle of 90°.



# Rail mounting system, MS 41



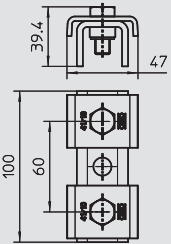
## Rail connector SV with 3 holes

Type	Version	Dimension b x h mm	Material thickness mm	Length mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>SVE 41 G</b>	Perforated	47x39,4	4	100	10	37.870	<b>1123 12 4</b>
<b>SVE 41 FT</b>	Perforated	47x39,4	4	100	10	37.870	<b>1123 12 1</b>

**St** Steel **G** Electrogalvanised **FT** Hot-dip galvanised /100 pc.

The rail connector is used to extend the mounting rail MS 41. The connection can be made simply and securely on the construction site or prefabricated in the workshop. There is a guarantee that there is no weakpoint in the area of the rail coupling. The static values of the mounting rail apply here.

Scope of delivery:  
Retaining plates, type 41, and matching hexagonal bolts included loosely.



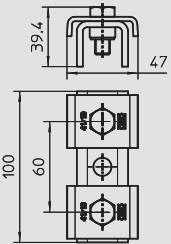
## Rail connector SV with 3 holes, V2A

Type	Version	Dimension b x h mm	Material thickness mm	Length mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>SVE 41 V2A</b>	Perforated	47x39,4	4	100	10	37.870	<b>1123 12 6</b>

**V2A** Stainless steel, grade 304 /100 pc.

The rail connector is used to extend the mounting rail MS 41. The connection can be made simply and securely on the construction site or prefabricated in the workshop. There is a guarantee that there is no weakpoint in the area of the rail coupling. The static values of the mounting rail apply here.

Scope of delivery:  
Retaining plates, type 41, and matching hexagonal bolts included loosely.



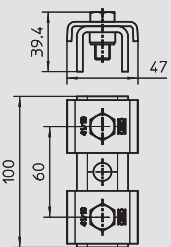
## Rail connector SV with 3 holes, V4A

Type	Version	Dimension b x h mm	Material thickness mm	Length mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>SVE 41 V4A</b>	Perforated	47x39,4	4	100	10	37.870	<b>1123 12 8</b>

**V4A** Stainless steel, grade 316 Ti /100 pc.

The rail connector is used to extend the mounting rail MS 41. The connection can be made simply and securely on the construction site or prefabricated in the workshop. There is a guarantee that there is no weakpoint in the area of the rail coupling. The static values of the mounting rail apply here.

Scope of delivery:  
Retaining plates, type 41, and matching hexagonal bolts included loosely.

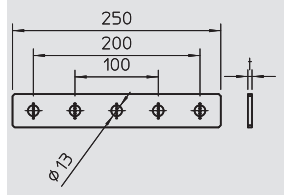


## Connection plate with 5 holes V2A

Type	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>GMS 5 VP V2A</b>	10	10	28.900	<b>1124 69 1</b>

**V2A** Stainless steel, grade 304 /100 pc.

Connection plate with five holes for straight connection of profile rails 41 x 41 mm and 41 x 21 mm.

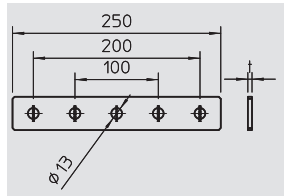


## Connection plate with 5 holes V4A

Type	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>GMS 5 VP V4A</b>	10	10	28.900	<b>1124 73 1</b>

**V4A** Stainless steel, grade 316 Ti /100 pc.

Connection plate with five holes for straight connection of profile rails 41 x 41 mm and 41 x 21 mm.

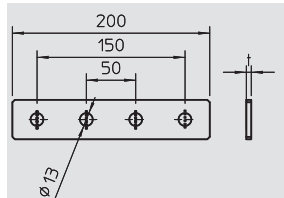


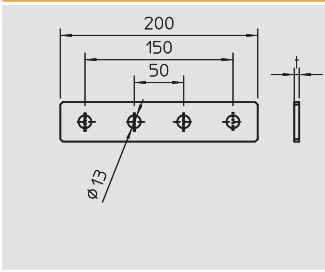
## Connection plate with 4 holes V2A

Type	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>GMS 4 VP V2A</b>	40	10	23.300	<b>1124 68 9</b>

**V2A** Stainless steel, grade 304 /100 pc.

Connection plate with four holes for straight connection of profile rails 41 x 41 mm and 41 x 21 mm.

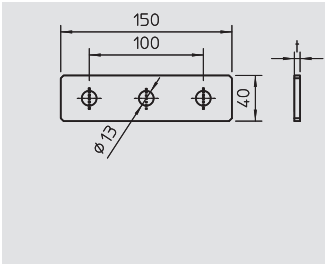




## Connection plate with 4 holes V4A

Type	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>GMS 4 VP V4A</b>	40	10	23.300	<b>1124 72 9</b>

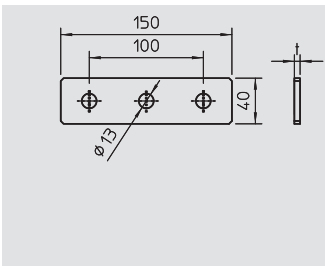
**V4A** Stainless steel, grade 316 Ti /100 pc.  
 Connection plate with four holes for straight connection of profile rails 41 x 41 mm and 41 x 21 mm.



## Connection plate with 3 holes V2A

Type	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>GMS 3 VP V2A</b>	80	20	17.200	<b>1124 68 7</b>

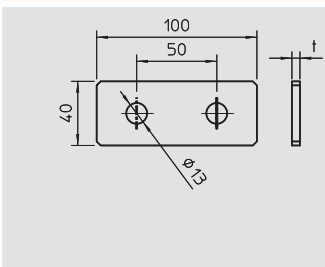
**V2A** Stainless steel, grade 304 /100 pc.  
 Connection plate with three holes for straight connection of profile rails 41 x 41 mm and 41 x 21 mm.



## Connection plate with 3 holes V4A

Type	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>GMS 3 VP V4A</b>	80	20	17.200	<b>1124 72 7</b>

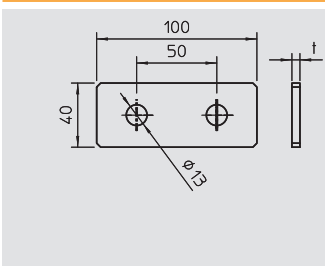
**V4A** Stainless steel, grade 316 Ti /100 pc.  
 Connection plate with three holes for straight connection of profile rails 41 x 41 mm and 41 x 21 mm.



## Connection plate with 2 holes V2A

Type	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>GMS 2 VP V2A</b>	40	10	11.500	<b>1124 68 5</b>

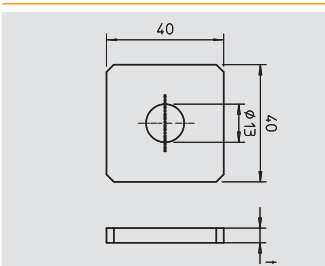
**V2A** Stainless steel, grade 304 /100 pc.  
 Connection plate with two holes for straight connection of profile rails 41 x 41 mm and 41 x 21 mm.



## Connection plate with 2 holes V4A

Type	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>GMS 2 VP V4A</b>	40	10	11.500	<b>1124 72 5</b>

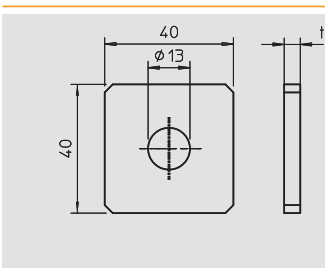
**V4A** Stainless steel, grade 316 Ti /100 pc.  
 Connection plate with two holes for straight connection of profile rails 41 x 41 mm and 41 x 21 mm.



## Connection plate with 1 hole V2A

Type	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>GMS 1 VP V2A</b>	150	10	4.450	<b>1124 68 3</b>

**V2A** Stainless steel, grade 304 /100 pc.  
 Connection plate with lengthwise slot, for example for mounting threaded rods to profile rails 41 x 41 mm and 41 x 21 mm.



## Connection plate with 1 hole V4A

Type	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>GMS 1 VP V4A</b>	150	10	4.450	<b>1124 72 3</b>

**V4A** Stainless steel, grade 316 Ti /100 pc.  
 Connection plate with lengthwise slot, for example for mounting threaded rods to profile rails 41 x 41 mm and 41 x 21 mm.



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Rail systems

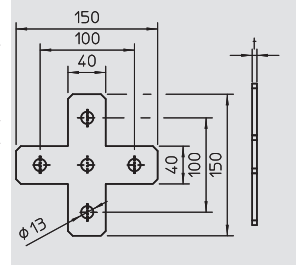
# Rail mounting system, MS 41

## Connection plate, X-shaped V2A



Type	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>GMS 5 VP X V2A</b>	10	10	29.600	<b>1124 69 7</b>

V2A Stainless steel, grade 304 /100 pc.  
 Connection plate with five holes for cross connection of profile rails 41 x 41 mm and 41 x 21 mm.

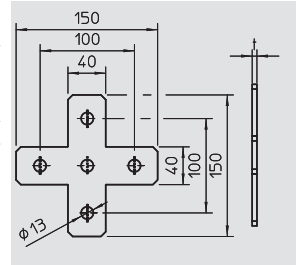


## Connection plate, X-shaped V4A



Type	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>GMS 5 VP X V4A</b>	10	10	29.600	<b>1124 73 7</b>

V4A Stainless steel, grade 316 Ti /100 pc.  
 Connection plate with five holes for cross connection of profile rails 41 x 41 mm and 41 x 21 mm.

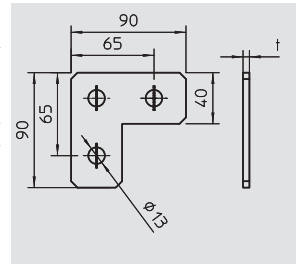


## Connection plate, L-shaped V2A



Type	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>GMS 3 VP L V2A</b>	40	10	15.900	<b>1124 69 3</b>

V2A Stainless steel, grade 304 /100 pc.  
 Connection plate with three holes for angled connection of profile rails 41 x 41 mm and 41 x 21 mm.

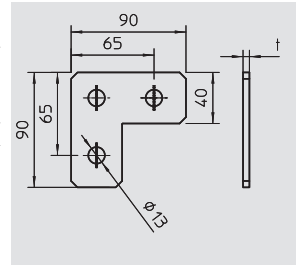


## Connection plate, L-shaped V4A



Type	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>GMS 3 VP L V4A</b>	40	10	15.900	<b>1124 73 3</b>

V4A Stainless steel, grade 316 Ti /100 pc.  
 Connection plate with three holes for angled connection of profile rails 41 x 41 mm and 41 x 21 mm.

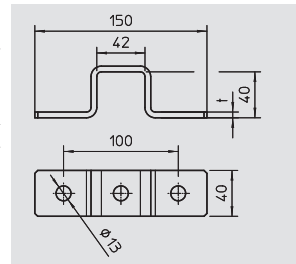


## Omega clamp 41 21 V2A



Type	Version	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>GMS 3 O 41 21 V2A</b>	With continuous perforation 13 mm	10	10	25.400	<b>1124 71 3</b>

V2A Stainless steel, grade 304 /100 pc.  
 Fastening clip with 3 holes for cross-wise connection of profile rails 41 x 41 mm.

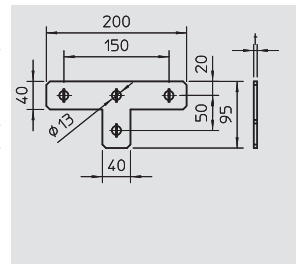


## Connection plate, T-shaped V2A



Type	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>GMS 4 VP T V2A</b>	10	10	30.200	<b>1124 69 5</b>

V2A Stainless steel, grade 304 /100 pc.  
 Connection plate with four holes for T-shaped connection of profile rails 41 x 41 mm and 41 x 21 mm.

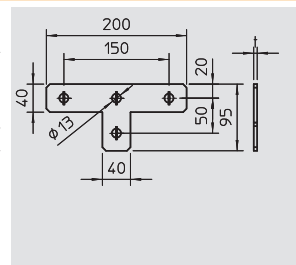


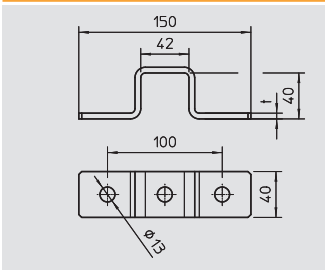
## Connection plate, T-shaped V4A



Type	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>GMS 4 VP T V4A</b>	10	10	30.200	<b>1124 73 5</b>

V4A Stainless steel, grade 316 Ti /100 pc.  
 Connection plate with four holes for T-shaped connection of profile rails 41 x 41 mm and 41 x 21 mm.

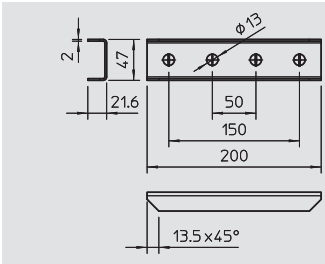




## Omega clamp 41 41 V4A

Type	Version	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>GMS 3 O 4141 V4A</b>	With continuous perforation 13 mm	10	10	25.400	<b>1124 75 3</b>

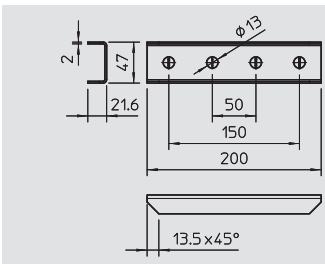
**V4A** Stainless steel, grade 316 Ti /100 pc.  
Fastening clip with 3 holes for cross-wise connection of profile rails 41 x 41 mm.



## U-shaped connector V2A

Type	Version	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>GVMS 4 ASV V2A</b>	With continuous perforation 13 mm	60	10	24.900	<b>1124 68 1</b>

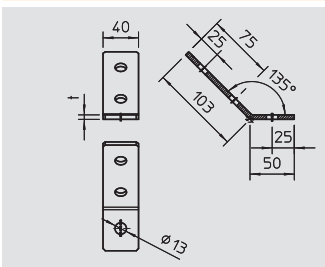
**V2A** Stainless steel, grade 304 /100 pc.  
Connector gripping from outside with four holes for straight connection of profile rails 41 x 41 mm and 41 x 21 mm.



## U-shaped connector V4A

Type	Version	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>GVMS 4 ASV V4A</b>	With continuous perforation 13 mm	60	10	24.900	<b>1124 71 5</b>

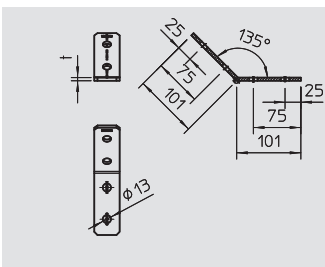
**V4A** Stainless steel, grade 316 Ti /100 pc.  
Connector gripping from outside with four holes for straight connection of profile rails 41 x 41 mm and 41 x 21 mm.



## Mounting bracket, 45°, with 3 holes, V2A

Type	Version	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>GMS 3 VW 45 V2A</b>	45° angle	40	10	17.200	<b>1124 70 7</b>

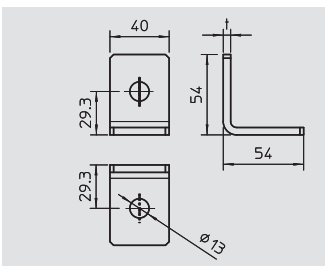
**V2A** Stainless steel, grade 304 /100 pc.  
Mounting bracket with three holes to connect profile rails 41 x 41 mm and 41 x 21 mm at an angle of 45°.



## Mounting bracket, 45°, with 4 holes, V2A

Type	Version	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>GMS 4 VW 45 V2A</b>	45° angle	40	10	23.300	<b>1124 70 9</b>

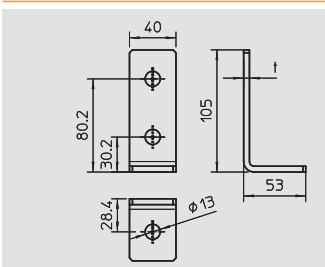
**V2A** Stainless steel, grade 304 /100 pc.  
Mounting bracket with four holes to connect profile rails 41 x 41 mm and 41 x 21 mm at an angle of 45°.



## Mounting bracket, 90°, with 2 holes, V2A

Type	Version	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>GMS 2 VW 90 V2A</b>	90° angle	60	10	11.500	<b>1124 69 9</b>

**V2A** Stainless steel, grade 304 /100 pc.  
Mounting bracket with two holes to connect profile rails 41 x 41 mm and 41 x 21 mm at an angle of 90°.



## Mounting bracket, 90°, with 3 holes, V2A

Type	Version	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>GMS 3 VW 90 V2A</b>	90° angle	40	10	17.200	<b>1124 70 1</b>

**V2A** Stainless steel, grade 304 /100 pc.  
Mounting bracket with three holes to connect profile rails 41 x 41 mm and 41 x 21 mm at an angle of 90°.



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Rail systems

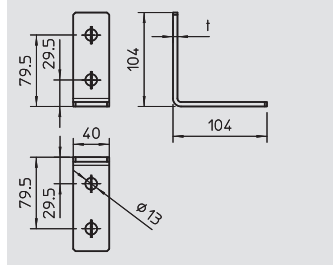
# Rail mounting system, MS 41



## Mounting bracket, 90°, with 4 holes, V2A

Type	Version	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>GMS 4 VW 90 V2A</b>	90° angle	30	10	23.300	<b>1124 70 3</b>

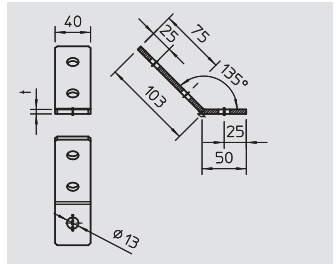
**V2A** Stainless steel, grade 304 /100 pc.  
Mounting bracket with two holes to connect profile rails 41 x 41 mm and 41 x 21 mm at an angle of 90°.



## Mounting bracket, 45°, with 3 holes, V4A

Type	Version	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>GMS 3 VW 45 V4A</b>	45° angle	40	10	17.200	<b>1124 74 7</b>

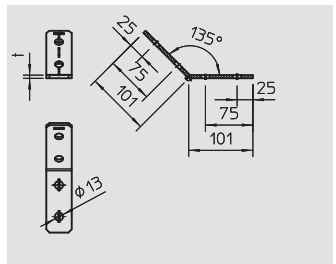
**V4A** Stainless steel, grade 316 Ti /100 pc.  
Mounting bracket with three holes to connect profile rails 41 x 41 mm and 41 x 21 mm at an angle of 45°.



## Mounting bracket, 45°, with 4 holes, V4A

Type	Version	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>GMS 4 VW 45 V4A</b>	45° angle	40	10	23.300	<b>1124 74 9</b>

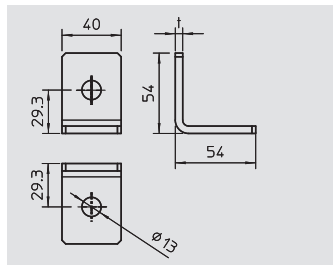
**V4A** Stainless steel, grade 316 Ti /100 pc.  
Mounting bracket with four holes to connect profile rails 41 x 41 mm and 41 x 21 mm at an angle of 45°.



## Mounting bracket, 90°, with 2 holes, V4A

Type	Version	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>GMS 2 VW 90 V4A</b>	90° angle	60	10	11.500	<b>1124 73 9</b>

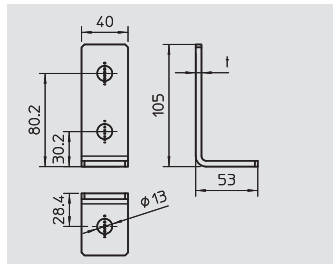
**V4A** Stainless steel, grade 316 Ti /100 pc.  
Mounting bracket with two holes to connect profile rails 41 x 41 mm and 41 x 21 mm at an angle of 90°.



## Mounting bracket, 90°, with 3 holes, V4A

Type	Version	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>GMS 3 VW 90 V4A</b>	90° angle	40	10	17.200	<b>1124 74 1</b>

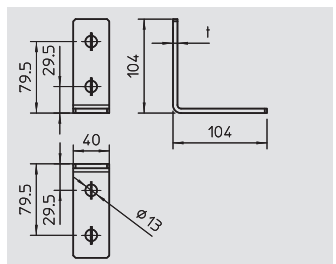
**V4A** Stainless steel, grade 316 Ti /100 pc.  
Mounting bracket with three holes to connect profile rails 41 x 41 mm and 41 x 21 mm at an angle of 90°.



## Mounting bracket, 90°, with 4 holes, V4A

Type	Version	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>GMS 4 VW 90 V4A</b>	90° angle	30	10	23.300	<b>1124 74 3</b>

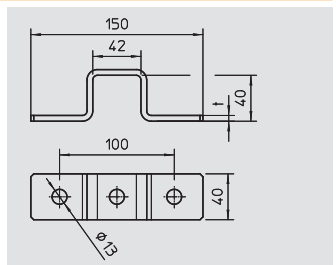
**V4A** Stainless steel, grade 316 Ti /100 pc.  
Mounting bracket with two holes to connect profile rails 41 x 41 mm and 41 x 21 mm at an angle of 90°.



## Omega clamp 41 41 V2A

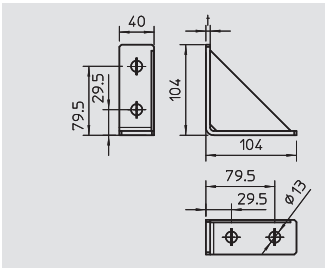
Type	Version	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>GMS 3 O 4141 V2A</b>	With continuous perforation 13 mm	10	10	25.400	<b>1124 71 3</b>

**V2A** Stainless steel, grade 304 /100 pc.  
Fastening clip with 3 holes for cross-wise connection of profile rails 41 x 41 mm.





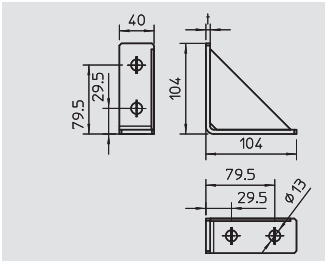
# Rail mounting system, MS 41



## Triangular node, V2A

Type	Version	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>GMS 4 KD 90 V2A</b>	90° bracket	10	10	35.000	<b>1124 70 5</b>

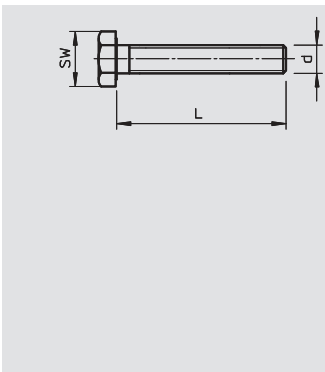
**V2A** Stainless steel, grade 304 /100 pc.  
Reinforced mounting bracket with four holes to connect profile rails 41 x 41 mm and 41 x 21 mm at an angle of 90°.



## Triangular node, V4A

Type	Version	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>GMS 4 KD 90 V4A</b>	90° bracket	10	10	35.000	<b>1124 74 5</b>

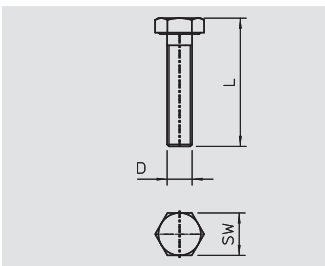
**V4A** Stainless steel, grade 316 Ti /100 pc.  
Reinforced mounting bracket with four holes to connect profile rails 41 x 41 mm and 41 x 21 mm at an angle of 90°.



## Hexagonal bolt ISO 4017

Type	Dimension mm	Dimension L mm	Dimension d mm	SW mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>342 M10X20 G</b>	M10 x 20	20	10	17	100	2.320	<b>3160 20 3</b>
<b>342 M10X30 G</b>	M10 x 30	30	10	17	100	2.820	<b>3160 30 0</b>
<b>342 M10X40 G</b>	M10 x 40	40	10	17	50	3.240	<b>3160 40 8</b>
<b>342 M10X50 G</b>	M10 x 50	50	10	17	50	3.820	<b>3160 50 5</b>
<b>342 M10X60 G</b>	M10 x 60	60	10	17	50	4.330	<b>3160 60 2</b>
<b>342 M12X30 G</b>	M12 x 30	30	12	19	50	4.020	<b>3162 30 3</b>
<b>342 M12X40 G</b>	M12 x 40	40	12	19	50	4.740	<b>3162 40 0</b>
<b>342 M12X50 G</b>	M12 x 50	50	12	19	50	5.450	<b>3162 50 8</b>

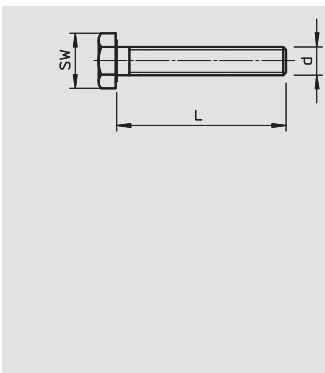
**St** Steel **G** Electrogalvanised /100 pc.  
Hexagonal bolt to ISO 4017 with metric thread



## Hexagonal bolt DIN 933 V2A

Type	Dimension L mm	Dimension D mm	SW mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>DIN 933 M10x45VA</b>	45	10	17	1	3.370	<b>3156 04 0</b>
<b>DIN 933 M12x45VA</b>	45	10	19	1	4.850	<b>3156 04 2</b>
<b>DIN 933 M16x50VA</b>	50	16	—	1	10.300	<b>3156 04 4</b>

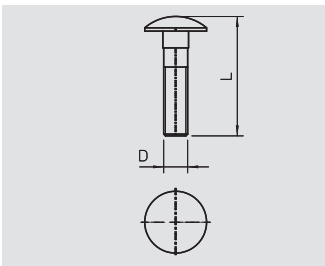
**V2A** Stainless steel, grade 304 /100 pc.  
Hexagonal bolt according to DIN 933 with metric thread.



## Hexagonal bolt DIN 933 V4A

Type	Dimension mm	Dimension L mm	Dimension d mm	SW mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>933 M10x20 V4A</b>	M10 x 20	20	10	17	100	2.320	<b>3156 03 1</b>
<b>933 M10x30 V4A</b>	M10 x 30	30	10	17	100	2.620	<b>3156 03 2</b>
<b>933 M10x40 V4A</b>	M10 x 40	40	10	17	50	3.120	<b>3156 03 3</b>
<b>933 M10x50 V4A</b>	M10 x 50	50	10	17	50	3.620	<b>3156 03 4</b>
<b>933 M10x60 V4A</b>	M10 x 60	60	10	17	50	4.130	<b>3156 03 5</b>
<b>933 M12x30 V4A</b>	M12 x 30	30	12	19	50	3.770	<b>3156 03 6</b>
<b>933 M12x40 V4A</b>	M12 x 40	40	—	19	50	4.740	<b>3156 02 9</b>
<b>933 M12x50 V4A</b>	M12 x 50	50	—	19	50	5.200	<b>3156 03 7</b>

**V4A** Stainless steel, grade 316 Ti /100 pc.  
Hexagonal bolt M6 x 16 mm.



## Truss-head bolt with combination nut, V2A

Type	Thread	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>FRSB 10x20 VA</b>	M10	1	—	<b>3175 62 0</b>
<b>FRSB 10x25 VA</b>	M10	1	—	<b>3175 62 5</b>

**V2A** Stainless steel, grade 304 /100 pc.  
Truss-head bolt with square neck and combination nut.



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Rail systems

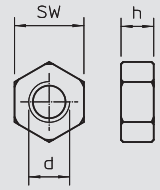
# Rail mounting system, MS 41



## Hexagonal nut DIN 934

Type	Thread	SW	Dimension h	Dimension d	Shipping box	Pack.	Weight	Item No.
		mm	mm	mm	pcs	pcs	kg/100 pcs.	
<b>DIN 934 M10 G</b>	M10	17	8.4	10	1000	100	1.080	<b>3400 10 7</b>
<b>DIN 934 M12 G</b>	M12	19	10.8	12	600	100	1.730	<b>3400 12 3</b>

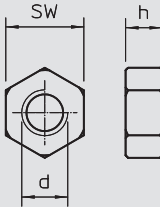
**St** Steel **G** Electrogalvanised /100 pc.  
Hexagonal nut to DIN 934 with metric thread.



## Hexagonal nut DIN 934 V2A

Type	Thread	SW	Dimension h	Dimension d	Shipping box	Pack.	Weight	Item No.
		mm	mm	mm	pcs	pcs	kg/100 pcs.	
<b>DIN 934 M10 VA</b>	M10	17	8.4	10	1000	100	1.160	<b>3397 10 6</b>
<b>DIN 934 M12 VA</b>	M12	19	10.8	12	600	100	1.730	<b>3397 11 4</b>

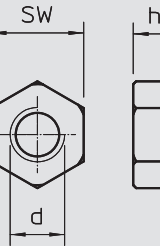
**V2A** Stainless steel, grade 304 /100 pc.  
Hexagonal nut to DIN 934 with metric thread.



## Hexagonal nut DIN 934 V4A

Type	Thread	SW	Dimension h	Dimension d	Shipping box	Pack.	Weight	Item No.
		mm	mm	mm	pcs	pcs	kg/100 pcs.	
<b>DIN 934 M10 V4A</b>	M10	17	8.4	10	1000	100	1.080	<b>3400 17 7</b>
<b>DIN 934 M12 V4A</b>	M12	19	10.8	12	600	100	1.730	<b>3397 14 5</b>

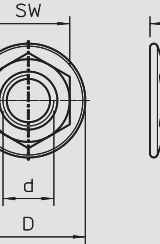
**V4A** Stainless steel, grade 316 Ti /100 pc.  
Hexagonal nut to DIN 934 with metric thread.



## Hexagonal nut with underhead tothing DIN 6923 V2A

Type	Dimension d	SW	Pack.	Weight	Item No.
	mm	mm	pcs	kg/100 pcs.	
<b>DIN 6923 M10 VA</b>	10	17	1	—	<b>3156 12 2</b>
<b>DIN 6923 M12 VA</b>	12	19	1	—	<b>3156 12 6</b>

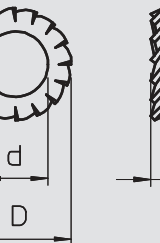
**V2A** Stainless steel, grade 304 /100 pc.  
Combination nut with pressed washer.



## Serrated washer DIN 6798

Type	Dimension d	Dimension D	Dimension h	Pack.	Weight	Item No.
	mm	mm	mm	pcs	kg/100 pcs.	
<b>DIN 6798 A M10 G</b>	10.5	18	2.7	100	0.130	<b>3404 10 2</b>
<b>DIN 6798 A M12 G</b>	13	20.5	3	100	0.160	<b>3404 12 9</b>

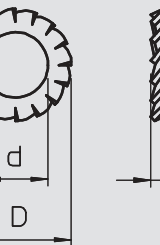
**St** Steel **G** Electrogalvanised /100 pc.  
Serrated washer to DIN 6798, shape A.



## Serrated washer DIN 6798 V4A

Type	Dimension d	Dimension D	Dimension h	Pack.	Weight	Item No.
	mm	mm	mm	pcs	kg/100 pcs.	
<b>DIN 6798 M10 V4A</b>	10.5	18	2.7	100	0.130	<b>3404 38 2</b>
<b>DIN 6798 M12 V4A</b>	13	20.5	3	100	0.170	<b>3404 38 6</b>

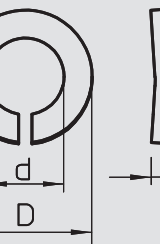
**V4A** Stainless steel, grade 316 Ti /100 pc.  
Serrated washer to DIN 6798, shape A.

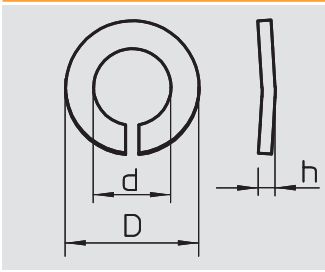


## Lock washer

Type	Thread	Dimension d	Dimension D	Dimension h	Pack.	Weight	Item No.
		mm	mm	mm	pcs	kg/100 pcs.	
<b>DIN 128 A M10 G</b>	M10	10.5	18.1	3	100	0.210	<b>3405 10 9</b>
<b>DIN 128 A M12 G</b>	M12	12.5	21.1	3.5	100	0.320	<b>3405 12 5</b>

**St** Steel **G** Electrogalvanised /100 pc.  
Lock washer according to DIN 128, shape A.





## Lock washer V4A

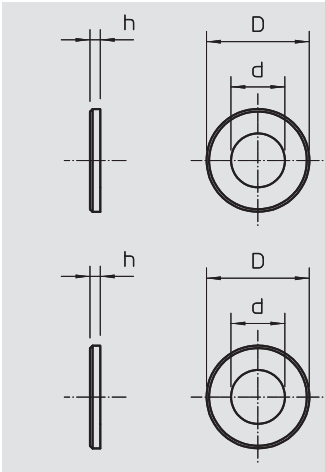
Type	Thread	Dimension d mm	Dimension D mm	Dimension h mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>DIN 128 A M10V4A</b>	M10	10.5	18.1	3	100	0.210	<b>3405 11 1</b>
<b>DIN 128 A M12V4A</b>	M12	12.5	21.1	3.5	100	0.320	<b>3405 12 7</b>

**V4A** Stainless steel, grade 316 Ti

Lock washer according to DIN 128, shape A.



/100 pc.



## Washer

Type	Thread	Dimension d mm	Dimension D mm	Dimension h mm	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>966 M10 G</b>	M10	10.5	20	2	3000	100	0.410	<b>3402 09 6</b>
<b>966 M12 G</b>	M12	13	24	2.5	2400	100	0.630	<b>3402 12 6</b>

**St** Steel **G** Electrogalvanised

Washer according to DIN 125, shape A, for universal use.



/100 pc.

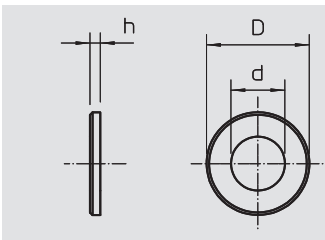
Type	Thread	Dimension d mm	Dimension D mm	Dimension h mm	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>967 M10 G</b>	M10	11	28	2.5	1400	100	1.020	<b>3402 22 3</b>

**St** Steel **G** Electrogalvanised

Washer of large outer diameter for universal use.



/100 pc.



## Washer V2A

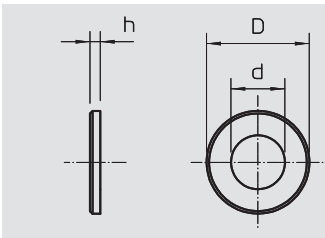
Type	Thread	Dimension d mm	Dimension D mm	Dimension h mm	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>966 M10 VA</b>	M10	10.5	20	2	3000	100	0.410	<b>3402 32 0</b>
<b>966 M12 VA</b>	M12	13	24	2.5	2400	100	0.630	<b>3402 33 9</b>

**V2A** Stainless steel, grade 304

Washer according to DIN 125, shape A, for universal use.



/100 pc.



## Washer V4A

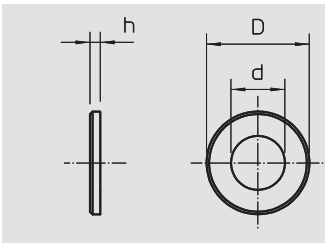
Type	Thread	Dimension d mm	Dimension D mm	Dimension h mm	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>966 M10 V4A</b>	M10	10.5	20	2	3000	100	0.410	<b>3402 32 2</b>
<b>966 M12 V4A</b>	M12	13	24	2.5	2400	100	0.630	<b>3402 34 5</b>

**V4A** Stainless steel, grade 316 Ti

Washer according to DIN 125, shape A, for universal use.



/100 pc.



## Large washer

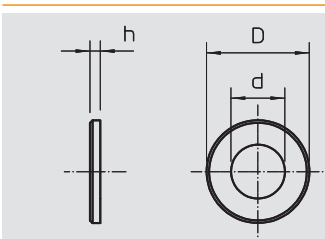
Type	Thread	Dimension d mm	Dimension D mm	Dimension h mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>964 M8 G20 G</b>	M8	8.4	20	1.5	100	0.240	<b>3403 12 2</b>
<b>964 M8 G25 G</b>	M8	8.4	25	1.2	100	0.370	<b>3403 13 0</b>
<b>964 M10 G30 G</b>	M10	10.5	30	1.5	100	0.590	<b>3403 16 5</b>

**St** Steel **G** Electrogalvanised

Washer of particularly large outer diameter.



/100 pc.



## Large washer, V2A

Type	Thread	Dimension d mm	Dimension D mm	Dimension h mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>964 M8 G20 V2A</b>	M8	8.4	20	1.5	100	0.240	<b>3403 12 5</b>
<b>964 M8 G25 V2A</b>	M8	8.4	25	1.2	100	0.370	<b>3403 13 5</b>
<b>964 M8 G40 V2A</b>	M8	8.5	40	1.5	100	0.370	<b>3403 14 5</b>
<b>964 M10 G30 V2A</b>	M10	10.5	30	1.5	100	0.590	<b>3403 15 5</b>
<b>964 M10 G40 V2A</b>	M10	10.5	40	1.5	100	0.590	<b>3403 17 5</b>

**V2A** Stainless steel, grade 304

Washer of particularly large outer diameter. In the case of connections on the MS 41 mounting rail, we recommend the external diameter of 40 mm.



/100 pc.

# Rail mounting system, MS 41



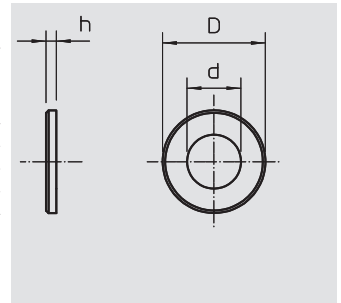
## Large washer, V4A

Type	Thread	Dimension d mm	Dimension D mm	Dimension h mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>964 M8 G20 V4A</b>	M8	8.4	20	1.5	100	0.240	<b>3403 12 7</b>
<b>964 M8 G25 V4A</b>	M8	8.4	25	1.2	100	0.370	<b>3403 13 7</b>
<b>964 M10 G30 V4A</b>	M10	10.5	30	1.5	100	0.590	<b>3403 16 3</b>
<b>964 M10 G40 V4A</b>	M10	10.5	40	1.5	100	0.590	<b>3403 17 7</b>

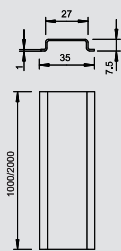
**V4A** Stainless steel, grade 316 Ti

/100 pc.

Washer of particularly large outer diameter. In the case of connections on the MS 41 mounting rail, we recommend the external diameter of 40 mm.



# Hat profile and support rail

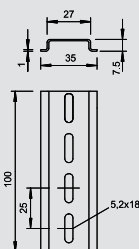


## Hat profile rail, unperforated



Type	Version	Material thickness		Length	Bundle	Weight	Item No.
		mm	mm				
2069 2M BK	Unperforated	1	2000	50		34.000	1115 61 8
2069 3M BK	Unperforated	1	3000	—		34.400	1115 85 5
2069 1M FS	Unperforated	1	1000	25		34.000	1115 67 7
2069 2M FS	Unperforated	1	2000	50		34.000	1115 62 6
2069 1M GTP	Unperforated	1	1000	25		34.000	1115 68 5
2069 2M GTP	Unperforated	1	2000	50		34.000	1115 65 0

**St** Steel **FS** Strip-galvanised Bright **GTP** Electrogalvanised, transparently passivated /100 m  
 Hat profile rail 35 x 7.5 mm to DIN EN 60715 (formerly DIN EN 50022).

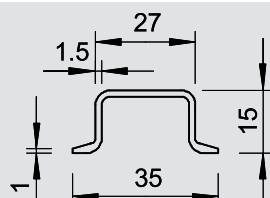


## Hat profile rail, perforated



Type	Version	Material thickness		Length	Bundle	Weight	Item No.
		mm	mm				
2069 2M GTPL	Perforated	1	2000	50		33.000	1115 66 9
2069 L 2M FS	Perforated	1	2000	—		34.000	1115 80 4

**St** Steel **FS** Strip-galvanised **GTP** Electrogalvanised, transparently passivated /100 m  
 Hat profile rail 35 x 7.5 mm to DIN EN 60715 (formerly DIN EN 50022).

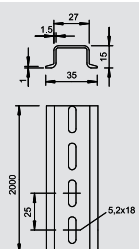


## Hat profile rail, unperforated



Type	Version	Material thickness		Length	Bundle	Weight	Item No.
		mm	mm				
2069 15 1.5 GTP	Unperforated	1.5	2000	20		66.000	1115 42 1

**St** Steel **GTP** Electrogalvanised, transparently passivated /100 m  
 Hat profile rail 35 x 15 mm similar to DIN EN 60715 (formerly DIN EN 50022), but with material thickness 1.5 mm.

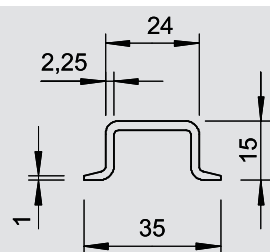


## Hat profile rail, perforated



Type	Version	Material thickness		Length	Bundle	Weight	Item No.
		mm	mm				
2069 15 1.5 GTPL	Perforated	1.5	2000	20		66.000	1115 45 6

**St** Steel **GTP** Electrogalvanised, transparently passivated /100 m  
 Hat profile rail 35 x 15 mm similar to DIN EN 60715 (formerly DIN EN 50022), but with material thickness 1.5 mm.

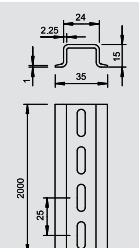


## Hat profile rail, unperforated



Type	Version	Material thickness		Length	Bundle	Weight	Item No.
		mm	mm				
2069 15 2.2 GTP	Unperforated	2.25	2000	20		97.000	1115 55 3

**St** Steel **GTP** Electrogalvanised, transparently passivated /100 m  
 Hat profile rail 35 x 15 mm to DIN EN 60715 (formerly DIN EN 50022).

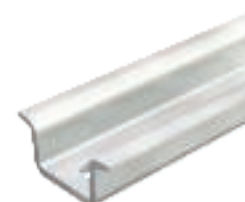


## Hat profile rail, perforated



Type	Version	Material thickness		Length	Bundle	Weight	Item No.
		mm	mm				
2069 15 2.2 GTPL	Perforated	2.25	2000	20		97.000	1115 59 6

**St** Steel **GTP** Electrogalvanised, transparently passivated /100 m  
 Hat profile rail 35 x 15 mm to DIN EN 60715 (formerly DIN EN 50022).



# Hat profile and support rail

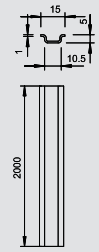


## Hat profile rail

Type	Version	Material thickness	Length		Bundle	Weight	Item No.
			mm	m			
46277 GTP	Unperforated	1	2000	50		12.400	1115 33 2
46277 GTPL	Perforated	1	2000	50		12.400	1115 35 9



**St** Steel **GTP** Electrogalvanised, transparently passivated /100 m  
 Hat profile rail 15 x 5 mm to DIN EN 60715 (formerly DIN EN 50045).

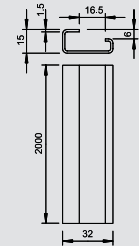


## Support rail

Type	Version	Material thickness	Length		Bundle	Weight	Item No.
			mm	m			
2064 GTP 2M	Unperforated	1.5	2000	20		70.000	1115 05 7



**St** Steel **GTP** Electrogalvanised, transparently passivated /100 m  
 G rail G32 to DIN EN 60715 (previously DIN EN 50035).

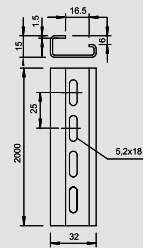


## Support rail

Type	Version	Material thickness	Length		Bundle	Weight	Item No.
			mm	m			
2064 GTPL 2M	Perforated	1.5	2000	20		69.000	1115 06 5



**St** Steel **GTP** Electrogalvanised, transparently passivated /100 m  
 G rail G32 to DIN EN 60715 (previously DIN EN 50035).

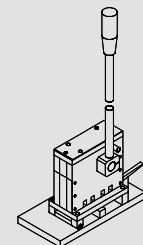


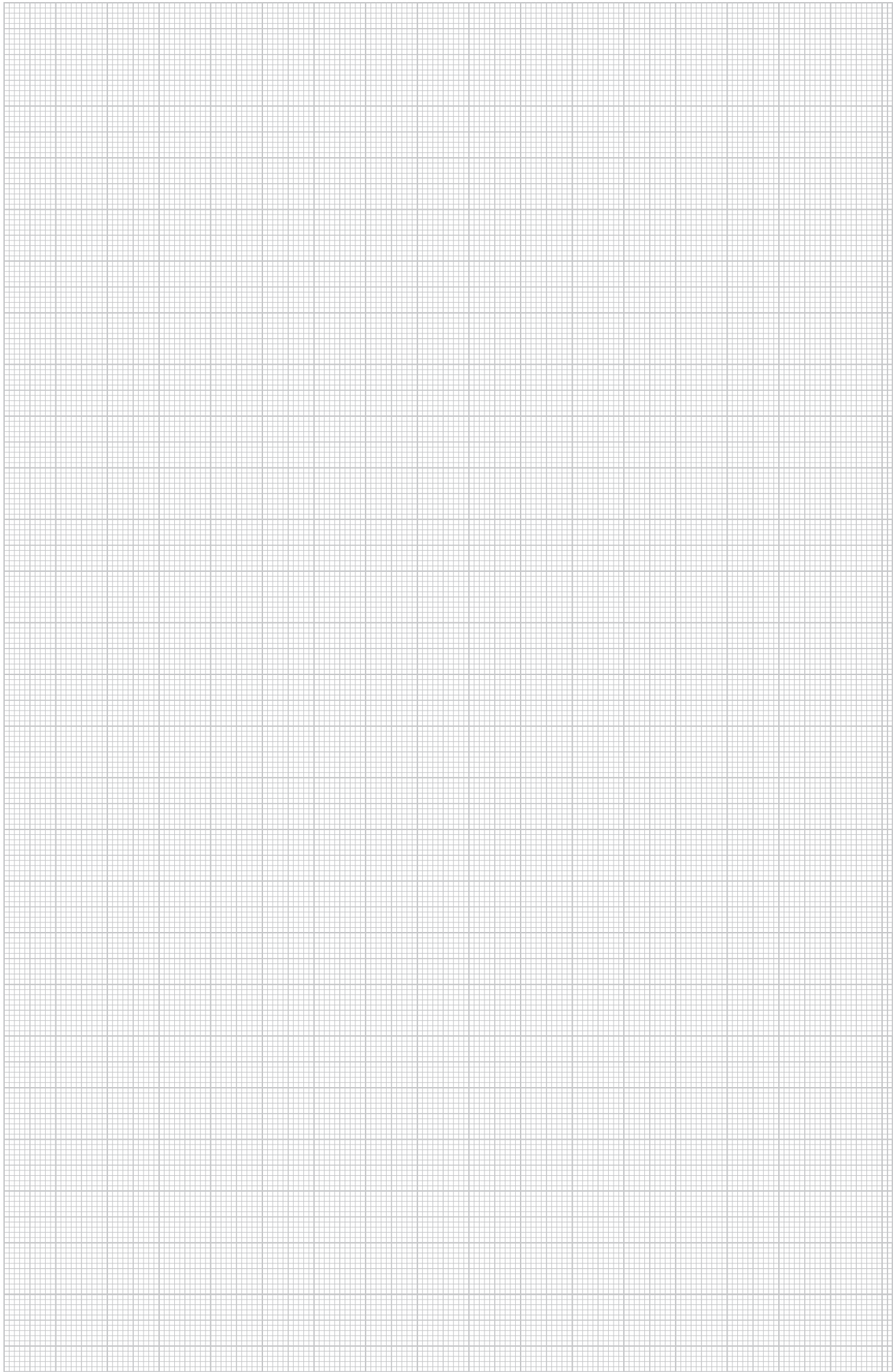
## Hat and support rail cutting unit

Type	Pack.	Weight	Item No.
HTS 35	1	2000.000	1125 03 6



With the HTS 35 hat and support rail cutting device, you can cut the four most common hat and support rail profiles (types 2069..., 46277... and 2064...) to fit and without burring in accordance with DIN 50022 and DIN 50035.
















## BBS clamp clip systems

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# Clamp clips, N base



## Clamp clip, single, plastic pressure trough

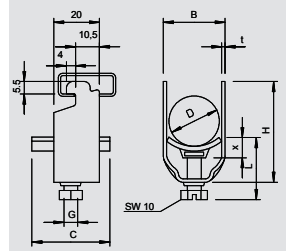
Type	Clamping range D mm	Pack. pcs	Weight kg/100 pcs.	Item No.
2056N 12 FT	8-12	100	2.500	1163 12 4
2056N 16 FT	12-16	100	2.750	1163 16 7
2056N 22 FT	16-22	100	3.100	1163 22 1
2056N 28 FT	22-28	100	4.600	1163 28 0
2056N 34 FT	28-34	100	5.900	1163 34 5
2056N 40 FT	34-40	100	6.300	1163 39 6
2056N 46 FT	40-46	100	7.650	1163 46 9
2056N 52 FT	46-52	100	8.750	1163 52 3
2056N 58 FT	52-58	100	11.000	1163 58 2
2056N 64 FT	58-64	100	12.100	1163 64 7
2056N 70 FT	64-70	50	13.550	1163 70 1

**St** Steel **FT** Hot-dip galvanised /100 pc.

Suitable for all C profile rails with slot width 11–12 mm; at least 6.5 mm clear internal height and at least 18.5 mm clear internal width.  
 Clip and bolt made of hot-dip galvanised steel.  
 Polypropylene pressure trough, halogen-free, colour light grey RAL 7035.  
 Version with welding and/or locknuts for use under difficult circumstances and for shake protection on request.

### Important dimensions, clamp clip

D	A	B	C	G	t	x	H	L
mm	mm	mm	mm	mm	mm	mm	mm	mm
8 - 12	20	16	34	M6	1.5	5	34	34
12 - 16	20	20	34	M6	1.5	5	38	34
16 - 22	20	27	34	M6	1.5	5	44	34
22 - 28	20	33	34	M6	2	5	51	34
28 - 34	20	39	34	M8	2	5.5	59	37.5
34 - 40	20	45	34	M8	2	5.5	66	37.5
40 - 46	20	51	40	M8	2	5.5	72	37.5
46 - 52	20	57	40	M8	2	6.5	79	37.5
58 - 64	23	70	40	M8	2.5	6.5	92	45.5
52 - 58	23	64	40	M8	2.5	6.5	86	45.5
64 - 70	23	76	40	M8	2.5	6.5	99	45.5



## Clamp clip, double, plastic pressure trough

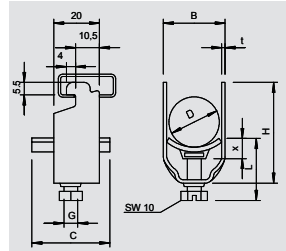
Type	Clamping range D mm	Pack. pcs	Weight kg/100 pcs.	Item No.
2056N 2 12 FT	8-12	50	3.500	1164 12 0
2056N 2 16 FT	12-16	50	3.850	1164 16 3
2056N 2 22 FT	16-22	50	4.650	1164 22 8
2056N 2 28 FT	22-28	50	7.500	1164 28 7
2056N 2 34 FT	28-34	50	10.050	1164 34 1
2056N 2 40 FT	34-40	50	10.050	1164 40 6
2056N 2 46 FT	40-46	50	11.050	1164 46 5
2056N 2 52 FT	46-52	50	12.400	1164 51 1
2056N 2 58 FT	52-58	50	15.600	1164 58 9

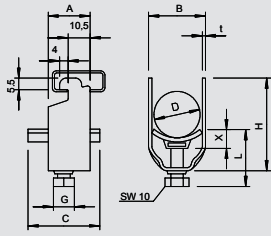
**St** Steel **FT** Hot-dip galvanised /100 pc.

Suitable for all C profile rails with slot width 11–12 mm; at least 6.5 mm clear internal height and at least 18.5 mm clear internal width.  
 Clip and bolt made of hot-dip galvanised steel.  
 Polypropylene pressure trough, halogen-free, colour light grey RAL 7035.  
 Version with welding and/or locknuts for use under difficult circumstances and for shake protection on request.

### Important dimensions, clamp clip

D	A	B	C	G	t	x	H	L
mm	mm	mm	mm	mm	mm	mm	mm	mm
8 - 12	20	16	34	M6	1.5	5	49	47
12 - 16	20	20	34	M6	1.5	5	57	47
16 - 22	20	27	34	M6	1.5	5	70	59
22 - 28	20	33	34	M6	2	5	84	47
28 - 34	20	39	34	M8	2	5.5	97	56.5
34 - 40	20	45	34	M8	2	5.5	110	56.5
40 - 46	20	51	40	M8	2	5.5	124	56.5
46 - 52	20	57	40	M8	2	6.5	137	57.5
52 - 58	23	64	40	M8	2.5	6.5	150	57.5





## Clamp clip, single, plastic pressure trough



Type	Clamping range D mm	Pack.	Weight	Item No.
		pcs	kg/100 pcs.	
2056N 12 VA	8-12	100	2.700	1166 01 8
2056N 16 VA	12-16	100	3.800	1166 02 6
2056N 22 VA	16-22	100	4.400	1166 03 4
2056N 28 VA	22-28	100	6.500	1166 04 2
2056N 34 VA	28-34	100	8.000	1166 05 0
2056N 40 VA	34-40	100	8.300	1166 06 9
2056N 46 VA	40-46	100	11.700	1166 07 7
2056N 52 VA	46-52	100	11.150	1166 08 5
2056N 58 VA	52-58	100	15.200	1166 09 3
2056N 64 VA	58-64	100	15.250	1166 10 7



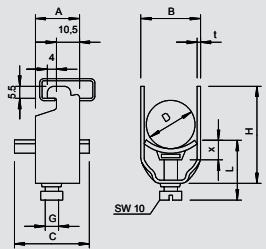
V2A Stainless steel, grade 304

/100 pc.

Suitable for all C profile rails with slot width 11–12 mm; at least 6.5 mm clear internal height and at least 18.5 mm clear internal width; stainless steel clip and bolt, polypropylene pressure trough, halogen-free, light grey RAL 7035. (VA pressure troughs on request).

### Important dimensions, clamp clip

D	A	B	C	G	t	x	H	L
mm	mm	mm	mm	mm	mm	mm	mm	mm
8-12	20	16	34	M6	1.5	5	34	34
12-16	20	20	34	M6	1.5	5	38	34
16-22	20	27	34	M6	1.5	5	44	34
22-28	20	33	34	M6	2	5	51	34
28-34	20	39	34	M8	2	5.5	59	37.5
34-40	20	45	34	M8	2	5.5	66	37.5
40-46	20	51	40	M8	2	5.5	72	37.5
46-52	20	57	34	M8	2	6.5	79	38.5
58-64	23	70	40	M8	2.5	6.5	92	45.5
52-58	23	64	40	M8	2.5	6.5	86	45.5



## Clamp clip, single, plastic pressure trough



Type	Clamping range D mm	Pack.	Weight	Item No.
		pcs	kg/100 pcs.	
2056N 12 ALU	8-12	100	0.900	1183 60 5
2056N 16 ALU	12-16	100	1.050	1183 61 3
2056N 22 ALU	16-22	100	1.200	1183 62 1
2056N 28 ALU	22-28	100	1.700	1183 64 8
2056N 34 ALU	28-34	100	2.200	1183 65 6
2056N 40 ALU	34-40	100	2.350	1183 66 4
2056N 46 ALU	40-46	100	2.850	1183 67 2
2056N 52 ALU	46-52	100	3.300	1183 68 0
2056N 58 ALU	52-58	100	4.100	1183 69 9



Al Aluminium

/100 pc.

Suitable for all profile rails with slot width 11–12 mm; at least 6.5 mm clear internal height and at least 18.5 mm clear internal width; aluminium ALMg3 clip and bolt, polypropylene pressure trough, halogen-free, light grey RAL 7035. (Metal pressure troughs on request).

### Important dimensions, clamp clip

D	A	B	C	G	t	x	H	L
mm	mm	mm	mm	mm	mm	mm	mm	mm
8-16	20	16	34	M6	1.5	5	34	34
12-16	20	20	34	M6	1.5	5	38	34
16-22	20	27	34	M6	1.5	5	44	34
22-28	20	33	34	M6	2	5	51	34
28-34	20	39	34	M8	2	5.5	59	37.5
34-40	20	45	34	M8	2	5.5	66	37.5
40-46	20	51	40	M8	2	5.5	72	37.5
46-52	20	57	40	M8	2	6.5	79	38.5
52-58	23	64	40	M8	2.5	6.5	86	45.5

# Clamp clips, N base



## Clamp clip, single, metal pressure trough

Type	Clamping range D mm	Pack. pcs	Weight kg/100 pcs.	Item No.
2056N M 12 FT	8-12	100	2.450	1155 40 7
2056N M 16 FT	12-16	100	2.800	1155 41 5
2056N M 22 FT	16-22	100	3.150	1155 42 3
2056N M 28 FT	22-28	100	4.900	1155 43 1
2056N M 34 FT	28-34	100	6.400	1155 45 8
2056N M 40 FT	34-40	100	7.000	1155 46 6
2056N M 46 FT	40-46	100	8.500	1155 47 4
2056N M 52 FT	46-52	100	9.150	1155 48 2
2056N M 58 FT	52-58	100	12.100	1155 49 0

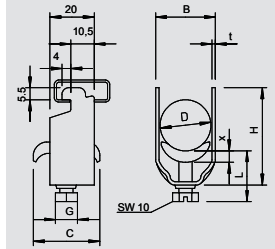
**St** Steel **FT** Hot-dip galvanised /100 pc.

Suitable for all C profile rails with slot width 11–12 mm; at least 6.5 mm clear internal height and at least 18.5 mm clear internal width; metal troughs have strongly rounded edges on all sides, so that there is no risk of cable damage.

Version with welding and/or locknuts for use under difficult circumstances and for shake protection on request.

### Important dimensions, clamp clip

D	A	B	C	G	t	x	H	L
mm	mm	mm	mm		mm	mm	mm	mm
8-12	20	16	30	M6	1.5	3.5	34	32.5
12-16	20	20	30	M6	1.5	3.5	38	32.5
16-22	20	27	30	M6	1.5	4.5	44	33.5
22-28	20	33	30	M6	2	4.5	51	33.5
28-34	20	39	35	M8	2	4.5	59	37
34-40	20	45	35	M8	2	5	66	37
40-46	20	51	35	M8	2	5	72	37
46-52	20	57	35	M8	2	5	79	37
52-58	23	64	35	M8	2.5	5	86	37



## Clamp clip, screen connection

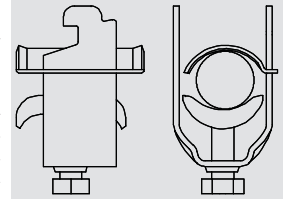
Type	Clamping range D mm	Pack. pcs	Weight kg/100 pcs.	Item No.
2056N SAS 8 VA	4-8	100	2.900	1167 00 6
2056N SAS 12 VA	8-12	100	3.700	1167 01 4
2056N SAS 16 VA	12-16	100	4.200	1167 02 2
2056N SAS 22 VA	16-22	100	4.850	1167 03 0
2056N SAS 28 VA	22-28	100	6.600	1167 04 9

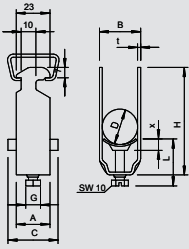
**V2A** Stainless steel, grade 304 /100 pc.

For electrical connection of the braided shield of stripped cables. Delivery complete with counter-trough; pressure trough and VA counter-trough.

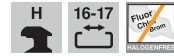
A cable screen for protection against electromagnetic influences, can also contribute towards equipotential bonding as both ends are connected to the reference potential.

D	A	B	C	G	t	x	H	L
mm	mm	mm	mm		mm	mm	mm	mm
4-8	20	12	28	M6	1.5	3.25	30	32.5
8-12	20	16	34	M6	1.5	5	34	34
12-16	20	20	34	M6	1.5	5	38	34
16-22	20	27	34	M6	1.5	5	44	34
22-28	20	33	34	M6	2	5	51	34





## Clamp clip, single, plastic pressure trough



Type	Clamping range D mm	Pack.	Weight	Item No.
		pcs	kg/100 pcs.	
2056 12 FT	8-12	100	3.540	1160 12 5
2056 16 FT	12-16	100	3.820	1160 16 8
2056 22 FT	16-22	100	4.510	1160 22 2
2056 28 FT	22-28	100	6.240	1160 28 1
2056 34 FT	28-34	100	7.680	1160 34 6
2056 40 FT	34-40	100	8.260	1160 40 0
2056 46 FT	40-46	100	10.900	1160 45 1
2056 52 FT	46-52	100	11.900	1160 52 4
2056 58 FT	52-58	100	14.300	1160 58 3
2056 64 FT	58-64	100	15.600	1160 64 8
2056 70 FT	64-70	50	18.200	1160 70 2
2056 76 FT	70-76	25	20.600	1160 76 1
2056 82 FT	76-82	25	22.000	1160 82 6
2056 90 FT	82-90	25	26.200	1160 90 7
2056 100 FT	90-100	25	27.800	1160 99 0



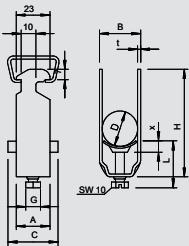
**St** Steel **FT** Hot-dip galvanised /100 pc.

Suitable for all C profile rails with slot width 16–17 mm.  
Hot-dip galvanised steel clip and bolt, polypropylene pressure trough, halogen-free, colour light grey RAL 7035.

Version with welding and/or locknuts for use under difficult circumstances and for shake protection on request.

### Important dimensions, clamp clip

D	A	B	C	G	t	x	H	L
mm	mm	mm	mm	mm	mm	mm	mm	mm
8 - 12	23	16	34	M6	1.2	5	40	34
12 - 16	23	20	34	M6	1.5	5	44	34
16 - 22	23	27	34	M6	1.5	5	50	34
22 - 28	23	33	34	M6	2	5	58	34
28 - 34	23	33	34	M8	2	5	58	34
34 - 40	23	45	34	M8	2	5.5	72	37.5
40 - 46	23	51	40	M8	2	5.5	79	44.5
46 - 52	23	57	40	M8	2	5.5	79	44.5
64 - 70	25	76	40	M8	2.5	6.5	106	45.5
52 - 58	23	64	40	M8	2.5	6.5	93	45.5
70 - 76	25	82	40	M8	2.5	6.5	114	45.5
76 - 82	25	88	40	M8	2.5	6.5	121	45.5
82 - 90	25	97	40	M8	3	6.5	130	57.5
58 - 64	23	70	40	M8	2.5	6.5	99	45.5
90 - 100	25	107	40	M8	3	6.5	140	57.5



## Clamp clip, double, plastic pressure trough



Type	Clamping range D mm	Pack.	Weight	Item No.
		pcs	kg/100 pcs.	
2056 2 12 FT	8-12	50	4.100	1161 12 1
2056 2 16 FT	12-16	50	4.650	1161 16 4
2056 2 22 FT	16-22	50	5.150	1161 22 9
2056 2 28 FT	22-28	50	7.700	1161 28 8
2056 2 34 FT	28-34	50	10.200	1161 34 2
2056 2 40 FT	34-40	50	11.450	1161 40 7
2056 2 46 FT	40-46	50	14.950	1161 46 6
2056 2 52 FT	46-52	50	16.700	1161 52 0
2056 2 58 FT	52-58	50	21.400	1161 57 1
2056 2 64 FT	58-64	50	24.250	1161 64 4



**St** Steel **FT** Hot-dip galvanised /100 pc.

Suitable for all C profile rails with slot width 16–17 mm.  
Hot-dip galvanised steel clip and bolt, polypropylene pressure trough, halogen-free, colour light grey RAL 7035.

Version with welding and/or locknuts for use under difficult circumstances and for shake protection on request.

### Important dimensions, clamp clip

D	A	B	C	G	t	x	H	L
mm	mm	mm	mm	mm	mm	mm	mm	mm
8 - 12	23	16	34	M6	1.5	5	52	34
12 - 16	23	20	34	M6	1.5	5	61	34
16 - 22	23	27	34	M6	1.5	5	73	47
22 - 28	23	33	34	M6	2	5	87	47
28 - 34	23	39	34	M8	2	5.5	101	44.5
34 - 40	23	45	34	M8	2	5.5	114	44.5
40 - 46	23	51	34	M8	2	5.5	129	44.5
46 - 52	23	57	34	M8	2	6.5	142	45.5
58 - 64	23	70	40	M8	2.5	6.5	167	45.5
52 - 58	23	64	34	M8	2.5	6.5	154	45.5

# Clamp clips, hammer head base



## Clamp clip, triple, plastic pressure trough

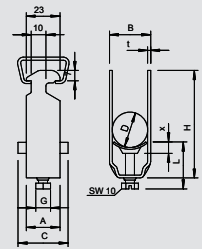
Type	Clamping range D mm	Pack. pcs	Weight kg/100 pcs.	Item No.
2056 3 16 FT	12-16	50	6.200	1162 16 0
2056 3 22 FT	16-22	50	7.100	1162 22 5
2056 3 28 FT	22-28	50	10.650	1162 28 4
2056 3 34 FT	28-34	50	13.100	1162 34 9
2056 3 40 FT	34-40	50	14.350	1162 40 3
2056 3 46 FT	40-46	50	19.800	1162 46 2

**St** Steel **FT** Hot-dip galvanised /100 pc.

Suitable for all C profile rails with slot width 16–17 mm.  
Hot-dip galvanised steel clip and bolt, polypropylene pressure trough, halogen-free, colour light grey RAL 7035.  
Version with welding and/or locknuts for use under difficult circumstances and for shake protection on request.

### Important dimensions, clamp clip

D	A	B	C	G	t	x	H	L
mm	mm	mm	mm	mm	mm	mm	mm	mm
8 - 12	23	16	34	M6	1.2	5	70	47
12 - 16	23	20	34	M6	1.5	5	82	47
16 - 22	23	27	34	M6	1.5	5	101	47
22 - 28	23	33	34	M6	2	5	121	47
28 - 34	23	39	34	M8	2	5.5	142	56.5
34 - 40	23	45	34	M8	2	5.5	162	56.5
40 - 46	23	51	40	M8	2	5.5	184	56.5



## Clamp clip, single, plastic pressure trough

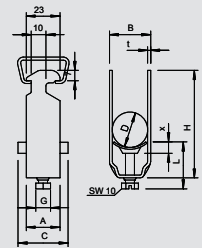
Type	Clamping range D mm	Pack. pcs	Weight kg/100 pcs.	Item No.
2056 16 ALU	12-16	100	0.900	1183 21 4
2056 22 ALU	16-22	100	1.050	1183 22 2
2056 28 ALU	22-28	100	1.500	1183 23 0
2056 34 ALU	28-34	100	2.300	1183 24 9
2056 40 ALU	34-40	100	2.700	1183 25 7
2056 46 ALU	40-46	100	3.600	1183 26 5
2056 52 ALU	46-52	100	3.900	1183 27 3
2056 58 ALU	52-58	100	4.200	1183 28 1
2056 64 ALU	58-64	100	4.500	1183 30 3
2056 70 ALU	64-70	50	5.400	1183 31 1
2056 76 ALU	70-76	25	5.850	1183 33 8

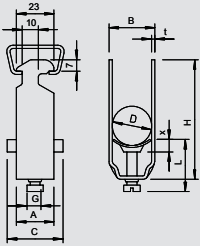
**Al** Aluminium /100 pc.

Suitable for all C profile rails with 16–17 mm slot width; aluminium ALMg 3 clamp and bolt, polypropylene pressure sleeve, halogen-free, colour light grey RAL 7035.  
(Metal pressure troughs on request.)

### Important dimensions, clamp clip

D	A	B	C	G	t	x	H	L
mm	mm	mm	mm	mm	mm	mm	mm	mm
8 - 12	23	16	34	M6	1.5	5	40	34
12 - 16	23	20	34	M6	1.5	5	44	34
16 - 22	23	27	34	M6	1.5	5	50	34
22 - 28	23	33	34	M6	2	5	58	34
28 - 34	23	39	34	M8	2	5.5	66	37.5
34 - 40	23	45	34	M8	2	5.5	72	37.5
40 - 46	23	51	40	M8	2	5.5	79	44.5
46 - 52	23	57	40	M8	2	6.5	86	45.5
64 - 70	25	76	40	M8	2.5	6.5	106	45.5
58 - 64	23	70	40	M8	2.5	6.5	99	45.5
70 - 76	23	82	40	M8	2.5	6.5	114	45.5
52 - 58	23	64	40	M8	2.5	6.5	93	45.5





## Clamp clip, double, plastic pressure trough



Type	Clamping range D mm	Pack.	Weight	Item No.
		pcs	kg/100 pcs.	
2056 2 12 ALU	8-12	50	1.000	1183 38 9
2056 2 16 ALU	12-16	50	1.250	1183 39 7
2056 2 22 ALU	16-22	50	1.500	1183 40 0
2056 2 28 ALU	22-28	50	2.000	1183 41 9
2056 2 34 ALU	28-34	50	3.200	1183 42 7
2056 2 40 ALU	34-40	50	3.750	1183 43 5
2056 2 46 ALU	40-46	50	4.850	1183 44 3
2056 2 52 ALU	46-52	50	5.300	1183 45 1
2056 2 58 ALU	52-58	50	6.000	1183 47 8



Al Aluminium

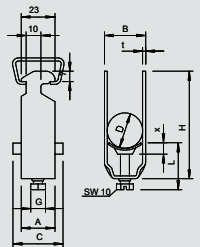
/100 pc.

Suitable for all C profile rails with 16–17 mm slot width; aluminium ALMg 3 clamp and bolt, polypropylene pressure sleeve, halogen-free, colour light grey RAL 7035.

(Metal pressure troughs on request.)

### Important dimensions, clamp clip

D	A	B	C	G	t	x	H	L
mm	mm	mm	mm	mm	mm	mm	mm	mm
8 - 12	23	16	34	M6	1.5	5	52	34
12 - 16	23	20	34	M6	1.5	5	61	34
16 - 22	23	27	34	M6	1.5	5	73	47
22 - 28	23	33	34	M6	2	5	87	47
28 - 34	23	39	34	M8	2	5.5	101	44.5
34 - 40	23	45	34	M8	2	5.5	114	44.5
40 - 46	23	51	40	M8	2	5.5	129	44.5
46 - 52	23	57	40	M8	2	6.5	142	45.5
52 - 58	23	64	40	M8	2.5	6.5	93	45.5



## Clamp clip, triple, plastic pressure trough



Type	Clamping range D mm	Pack.	Weight	Item No.
		pcs	kg/100 pcs.	
2056 3 22 ALU	16-22	50	2.050	1183 52 4
2056 3 28 ALU	22-28	50	2.900	1183 53 2
2056 3 34 ALU	28-34	50	4.200	1183 54 0



Al Aluminium

/100 pc.

Suitable for all C profile rails with 16–17 mm slot width; aluminium ALMg 3 clamp and bolt, polypropylene pressure sleeve, halogen-free, colour light grey RAL 7035.

(Metal pressure troughs on request.)

### Important dimensions, clamp clip

D	A	B	C	G	t	x	H	L
mm	mm	mm	mm	mm	mm	mm	mm	mm
16–22	23	27	34	M6	1.5	5	101	34
22–28	23	33	34	M6	2	5	121	47
28–34	23	39	34	M8	2	5.5	142	56.5



# Clamp clips, hammer head base



## Clamp clip, single, plastic pressure trough

Type	Clamping range D mm	Pack. pcs	Weight kg/100 pcs.	Item No.
2056 12 VA	8-12	100	3.300	1159 51 8
2056 16 VA	12-16	100	3.600	1159 52 6
2056 22 VA	16-22	100	4.200	1159 53 4
2056 28 VA	22-28	100	6.500	1159 54 2
2056 34 VA	28-34	100	7.400	1159 55 0
2056 40 VA	34-40	100	8.000	1159 56 9
2056 46 VA	40-46	100	10.900	1159 57 7
2056 52 VA	46-52	100	11.400	1159 58 5
2056 58 VA	52-58	100	14.500	1159 59 3
2056 64 VA	58-64	100	15.600	1159 60 7
2056 70 VA	64-70	50	18.200	1159 61 5
2056 76 VA	70-76	25	20.800	1159 62 3

V2A Stainless steel, grade 304

/100 pc.

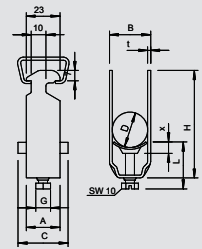
Suitable for all C profile rails with slot width 16–17 mm.

Clip and bolt.

Polypropylene pressure sleeve, halogen-free, colour light grey RAL 7035.

### Important dimensions, clamp clip

D	A	B	C	G	t	x	H	L
mm	mm	mm	mm	mm	mm	mm	mm	mm
8 - 12	23	16	34	M6	1.5	5	40	34
12 - 16	23	20	34	M6	1.5	5	44	34
16 - 22	23	27	34	M6	1.5	5	50	34
22 - 28	23	33	34	M6	2	5	58	34
28 - 34	23	39	34	M8	2	5.5	66	37.5
34 - 40	23	45	34	M8	2	5.5	72	37.5
40 - 46	23	51	34	M8	2	5.5	79	44.5
46 - 52	23	57	40	M8	2	6.5	86	45.5
52 - 58	23	64	40	M8	2.5	6.5	93	45.5
70 - 76	25	82	40	M8	2.5	6.5	114	45.5
58 - 64	23	70	40	M8	2.5	6.5	99	45.5
64 - 70	25	76	40	M8	2.5	6.5	106	45.5



## Clamp clip, double, plastic pressure trough

Type	Clamping range D mm	Pack. pcs	Weight kg/100 pcs.	Item No.
2056 2 22 VA	16-22	50	5.150	1161 82 2
2056 2 28 VA	22-28	50	7.700	1161 83 0
2056 2 34 VA	28-34	50	10.200	1161 84 9
2056 2 40 VA	34-40	50	11.450	1161 85 7
2056 2 46 VA	40-46	50	14.950	1161 86 5
2056 2 52 VA	46-52	50	16.700	1161 87 3
2056 2 58 VA	52-58	50	21.400	1161 88 1
2056 2 64 VA	58-64	50	24.250	1161 90 3

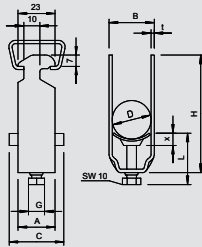
V2A Stainless steel, grade 304

/100 pc.

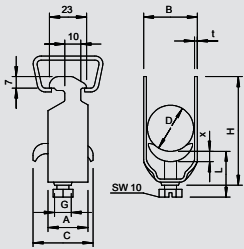
Suitable for all C profile rails with slot width 16–17 mm; stainless steel clip and bolt, polypropylene pressure trough, halogen-free, light grey RAL 7035.

### Important dimensions, clamp clip

D	A	B	C	G	t	x	H	L
mm	mm	mm	mm	mm	mm	mm	mm	mm
16-22	23	27	34	M6	1.5	5	73	47
22-28	23	33	34	M6	2	5	87	47
28-34	23	39	34	M8	2	5.5	101	44.5
34-40	23	45	34	M8	2	5.5	114	44.5
40-46	23	51	40	M8	2	5.5	129	44.5
46-52	23	57	40	M8	2	6.5	142	45.5
52-58	23	64	40	M8	2.5	6.5	154	45.5
58-64	23	70	40	M8	2.5	6.5	167	45.5







## Clamp clip, single, metal pressure trough



Type	Clamping range D mm	Pack.	Weight	Item No.
		pcs	kg/100 pcs.	
2056 M 12 FT	8-12	100	3.200	1156 00 4
2056 M 16 FT	12-16	100	3.500	1156 01 2
2056 M 22 FT	16-22	100	4.400	1156 02 0
2056 M 28 FT	22-28	100	6.100	1156 03 9
2056 M 34 FT	28-34	100	7.700	1156 04 7
2056 M 40 FT	34-40	100	8.600	1156 05 5
2056 M 46 FT	40-46	100	9.600	1156 06 3
2056 M 52 FT	46-52	100	10.400	1156 07 1
2056 M 58 FT	52-58	100	13.100	1156 09 8
2056 M 64 FT	58-64	100	14.500	1156 10 1
2056 M 70 FT	64-70	50	16.100	1156 12 8
2056 M 76 FT	70-76	25	18.300	1156 13 6
2056 M 82 FT	76-82	25	19.100	1156 14 4
2056 M 90 FT	82-90	25	23.300	1156 15 2
2056 M 100 FT	90-100	25	25.400	1156 16 0



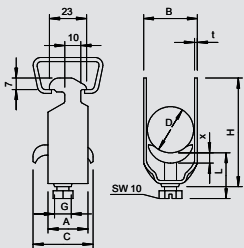
**St** Steel **FT** Hot-dip galvanised /100 pc.

Suitable for all C profile rails with slot width 16–17 mm.  
Clip, bolt and pressure trough made of hot-dip galvanised steel.

Version with welding and/or locknuts for use under difficult circumstances and for shake protection on request.

### Important dimensions, clamp clip

D	A	B	C	G	t	x	H	L
mm	mm	mm	mm	mm	mm	mm	mm	mm
8 - 12	23	16	30	M6	1.5	3.5	40	32.5
12 - 16	23	20	30	M6	1.5	3.5	44	32.5
16 - 22	23	27	30	M6	1.5	4.5	50	46.5
22 - 28	23	33	30	M6	2	4.5	58	46.5
28 - 34	23	39	35	M8	2	5	66	44
34 - 40	23	45	35	M8	2	5	72	44
40 - 46	23	51	35	M8	2	5	79	44
46 - 52	23	57	35	M8	2	5	86	44
52 - 58	23	64	35	M8	2.5	5	93	44
58 - 64	23	70	35	M8	2.5	5	99	56
64 - 70	25	76	35	M8	2.5	5	106	56
70 - 76	25	82	40	M8	2.5	5	114	56
76 - 82	25	88	40	M8	2.5	5	121	56
82 - 90	25	97	40	M8	3	5	130	56
90 - 100	25	107	40	M8	3	5	140	56



## Clamp clip, double, metal pressure trough



Type	Clamping range D mm	Pack.	Weight	Item No.
		pcs	kg/100 pcs.	
2056 M2 12 FT	8-12	50	3.980	1156 17 9
2056 M2 16 FT	12-16	50	4.750	1156 18 7
2056 M2 22 FT	16-22	50	6.900	1156 19 5
2056 M2 28 FT	22-28	50	7.800	1156 20 9



**St** Steel **FT** Hot-dip galvanised /100 pc.

Suitable for all C profile rails with slot width 16–17 mm.  
Clip, bolt and pressure trough made of hot-dip galvanised steel.

D	A	B	C	G	t	x	H	L
mm	mm	mm	mm	mm	mm	mm	mm	mm
8-12	23	16	34	M6	1.5	5	52	34
12-16	23	20	34	M6	1.5	5	61	34
16-22	23	27	34	M6	1.5	5	73	47
22-28	23	33	34	M6	2	5	87	47

# Clamp clips, hammer head base



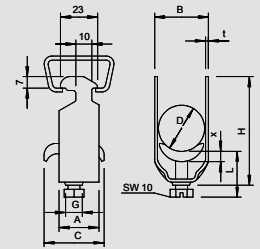
## Clamp clip, triple, metal pressure trough

Type	Clamping range D mm	Pack. pcs	Weight kg/100 pcs.	Item No.
2056 M3 12 FT	8-12	50	4.050	1156 24 1
2056 M3 16 FT	12-16	50	5.800	1156 26 8
2056 M3 22 FT	16-22	50	6.500	1156 27 6
2056 M3 28 FT	22-28	50	9.500	1156 28 4

**St** Steel **FT** Hot-dip galvanised /100 pc.

Suitable for all C profile rails with slot width 16–17 mm.  
Clip, bolt and pressure trough made of hot-dip galvanised steel.

D	A	B	C	G	t	x	H	L
mm	mm	mm	mm	mm	mm	mm	mm	mm
8-12	23	16	34	M6	1.2	5	70	47
12-16	23	20	34	M6	1.5	5	82	47
16-22	23	27	34	M6	1.5	5	101	47
22-28	23	33	34	M6	2	5	121	47



## Clamp clip, single, metal pressure trough

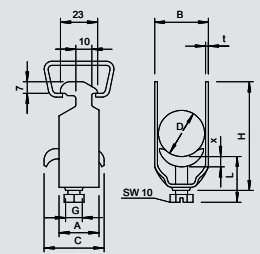
Type	Clamping range D mm	Pack. pcs	Weight kg/100 pcs.	Item No.
2056 M 12 VA	8-12	50	3.200	1159 71 2
2056 M 16 VA	12-16	50	3.500	1159 71 6
2056 M 22 VA	16-22	50	4.400	1159 72 2
2056 M 28 VA	22-28	50	6.100	1159 72 8
2056 M 34 VA	28-34	50	7.700	1159 73 4
2056 M 40 VA	34-40	25	8.600	1159 74 0
2056 M 46 VA	40-46	25	9.600	1159 74 6
2056 M 52 VA	46-52	25	10.400	1159 75 2
2056 M 58 VA	52-58	15	13.100	1159 75 8
2056 M 64 VA	58-64	15	14.500	1159 76 4
2056 M 70 VA	64-70	15	16.100	1159 77 0
2056 M 76 VA	70-76	10	18.300	1159 77 6

**V2A** Stainless steel, grade 304 /100 pc.

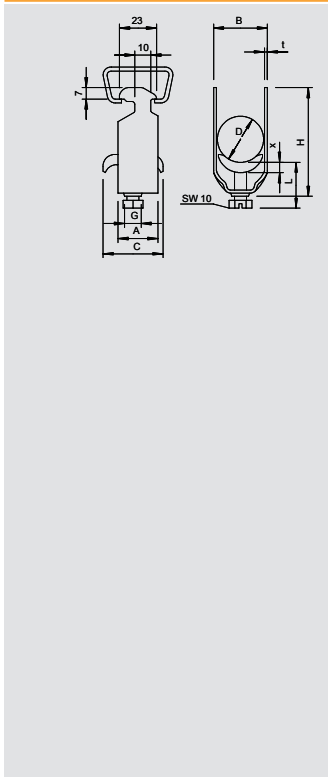
Suitable for all C profile rails with slot width 16–17 mm.  
Clip, bolt and pressure trough all made of rust-proof stainless steel.

### Important clamp clip dimensions

D	A	B	C	G	t	x	H	L
mm	mm	mm	mm	mm	mm	mm	mm	mm
8-12	23	16	30	M6	1.5	3.5	44	32.5
12-16	23	20	30	M6	1.5	3.5	44	32.5
16-22	23	27	30	M6	1.5	4.5	60	46.5
22-28	23	33	30	M6	2	4.5	58	46.5
28-34	23	39	35	M8	2	5	66	44
	23	45	35	M8	2	5	72	44
40-46	23	51	35	M8	2	5	79	44
46-52	23	57	35	M8	2	5	86	44
52-58	23	64	35	M8	2.5	5	93	44
58-64	23	70	35	M8	2.5	5	99	56
64-70	25	76	35	M8	2.5	5	106	56
70-76	25	82	40	M8	2.5	5	114	56



# Clamp clips, hammer head base



## Clamp clip, double, metal pressure trough



Type	Clamping range D mm	Pack.	Weight	Item No.
		pcs	kg/100 pcs.	
2056 M2 12 VA	8-12	50	3.980	1161 91 2
2056 M2 16 VA	12-16	50	4.750	1161 91 6
2056 M2 22 VA	16-22	50	6.900	1161 92 2
2056 M2 28 VA	22-28	50	7.800	1161 92 8
2056 M2 34 VA	28-34	50	10.030	1161 93 4
2056 M2 40 VA	34-40	25	11.210	1161 94 0
2056 M2 46 VA	40-46	25	13.300	1161 94 6
2056 M2 52 VA	46-52	25	14.400	1161 95 2
2056 M2 58 VA	52-58	25	18.550	1161 95 8
2056 M2 64 VA	58-64	15	20.010	1161 96 4



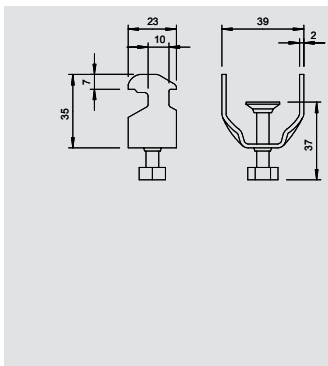
V2A Stainless steel, grade 304

/100 pc.

Suitable for all C profile rails with slot width 16–17 mm.  
Clip, bolt and pressure trough all made of rust-proof stainless steel.

### Important clamp clip dimensions

D	A	B	C	G	t	x	H	L
mm	mm	mm	mm	mm	mm	mm	mm	mm
8-12	23	16	34	M6	1.5	5	52	34
12-16	23	20	34	M6	1.5	5	61	34
16-22	23	27	34	M6	1.5	5	73	47
20-28	23	33	34	M6	2	5	87	47
28-34	23	39	33	M8	2	5	101	45
34-40	23	45	33	M8	2	5	114	45
40-46	23	51	33	M8	2	5	129	47
46-52	23	57	33	M8	2.5	5	142	47
52-58	23	64	33	M8	2.5	5	154	47
58-64	23	70	33	M8	2.5	5	167	47



## Clamp clip, fastening earthing strips

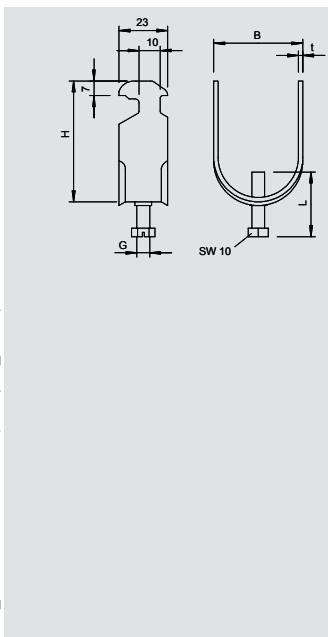


Type	For rail with slot width mm	Pack.	Weight	Item No.
		pcs	kg/100 pcs.	
2056 BE FT	16-17	100	4.700	1174 05 3

St Steel FT Hot-dip galvanised

/100 pc.

To fasten earthing strips with widths of up to 30 mm to profile rails, suitable for all C profile rails with 16–17 mm slot width.



## Clamp clip, fastening pipes



Type	Size	Pack.	Weight	Item No.
		pcs	kg/100 pcs.	
2057 M16 FT	M16	100	3.500	1193 70 8
2057 M20 FT	M20	100	4.400	1193 71 6
2057 M25 FT	M25	100	6.100	1193 72 4
2057 M32 FT	M32	100	7.700	1193 73 2
2057 M40 FT	M40	100	8.600	1193 74 0
2057 M50 FT	M50	100	10.400	1193 75 9
2057 M63 FT	M63	100	14.500	1193 76 7

St Steel FT Hot-dip galvanised

/100 pc.

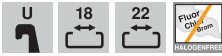
To fasten metric steel armoured pipes to profile rails, also suitable for all C profile rails with 16–17 mm slot width.

### Important dimensions, clamp clip

Size	B	H	t	G	L
	mm	mm	mm	mm	mm
M16	20	44	1.5	M6	34
M20	27	50	1.5	M6	34
M25	33	58	2	M6	34
M32	39	66	2	M8	36
M40	45	72	2	M8	36
M50	57	86	2	M8	39
M63	70	99	2.5	M8	39



# Clamp clips, U base



## Clamp clip, single, plastic pressure trough

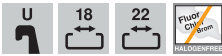
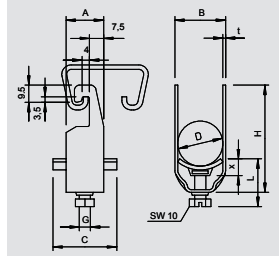
Type	Clamping range D mm	Pack. pcs	Weight kg/100 pcs.	Item No.
2056U 12 FT	8-12	100	3.150	1175 12 2
2056U 16 FT	12-16	100	3.600	1175 16 5
2056U 22 FT	16-22	100	4.200	1175 21 1
2056U 28 FT	22-28	100	5.800	1175 28 9
2056U 34 FT	28-34	100	7.500	1175 34 3
2056U 40 FT	34-40	100	8.100	1175 40 8
2056U 46 FT	40-46	100	10.000	1175 46 7
2056U 52 FT	46-52	100	11.200	1175 52 1
2056U 58 FT	52-58	100	13.400	1175 58 0
2056U 64 FT	58-64	100	14.300	1175 64 5
2056U 70 FT	64-70	50	15.250	1175 69 6
2056U 76 FT	70-76	25	20.600	1175 76 9
2056U 82 FT	76-82	25	22.000	1175 82 3
2056U 90 FT	82-90	25	26.200	1175 90 4
2056U 100 FT	90-100	25	30.000	1175 99 8

St Steel FT Hot-dip galvanised /100 pc.

Suitable for all C profile rails with slot width 18 and 22 mm. Also suitable for flat, angle and U steel of 4 - 12 mm material thickness.  
BBS clamp and bolt made of hot-dip galvanised steel. Polypropylene pressure sleeve, halogen-free, colour light grey RAL 7035.

### Important dimensions, clamp clip

D	A	B	C	G	t	x	H	L
mm	mm	mm	mm	mm	mm	mm	mm	mm
8 - 12	20	16	34	M6	1.5	5	42	34
12 - 16	20	20	34	M6	1.5	5	46	34
16 - 22	20	27	34	M6	1.5	5	53	34
22 - 28	20	33	34	M6	2	5	59	34
28 - 34	20	39	34	M8	2	5.5	67	37.5
34 - 40	20	45	34	M8	2	5.5	73	37.5
40 - 46	20	51	40	M8	2	5.5	79	37.5
46 - 52	20	57	40	M8	2	6.5	85	38.5
90 - 100	25	107	40	M8	3	6.5	135	45.5
58 - 64	23	70	40	M8	2.5	6.5	97	38.5
52 - 58	23	64	40	M8	2.5	6.5	91	38.5
64 - 70	23	76	40	M8	2.5	6.5	103	38.5
70 - 76	25	82	40	M8	2.5	6.5	110	45.5
76 - 82	25	88	40	M8	2.5	6.5	116	45.5
82 - 90	25	97	40	M8	3	6.5	125	45.5



## Clamp clip, double, plastic pressure trough

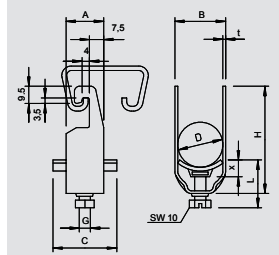
Type	Clamping range D mm	Pack. pcs	Weight kg/100 pcs.	Item No.
2056U 2 12 FT	8-12	50	2.850	1176 12 9
2056U 2 16 FT	12-16	50	3.050	1176 16 1
2056U 2 22 FT	16-22	50	4.950	1176 22 6
2056U 2 28 FT	22-28	50	6.940	1176 28 5
2056U 2 34 FT	28-34	50	9.500	1176 33 1
2056U 2 40 FT	34-40	50	11.350	1176 40 4
2056U 2 46 FT	40-46	50	11.350	1176 46 3
2056U 2 52 FT	46-52	50	15.050	1176 52 8
2056U 2 58 FT	52-58	50	19.800	1176 58 7

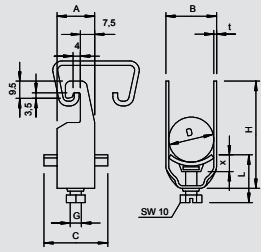
St Steel FT Hot-dip galvanised /100 pc.

Suitable for all C profile rails with slot width 18 and 22 mm. Also suitable for flat, angle and U steel of 4 - 12 mm material thickness.  
BBS clamp and bolt made of hot-dip galvanised steel. Polypropylene pressure sleeve, halogen-free, colour light grey RAL 7035.

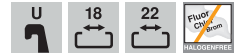
### Important dimensions, clamp clip

D	A	B	C	G	t	x	H	L
mm	mm	mm	mm	mm	mm	mm	mm	mm
8 - 12	20	16	34	M6	1.5	5	56	34
12 - 16	20	20	34	M6	1.5	5	64	34
16 - 22	20	27	34	M6	1.5	5	77	47
22 - 28	20	33	34	M6	2	5	89	47
28 - 34	20	39	34	M8	2	5.5	103	44.5
34 - 40	20	45	34	M8	2	5.5	115	44.5
40 - 46	20	51	40	M8	2	5.5	128	44.5
46 - 52	20	57	40	M8	2	6.5	140	45.5
52 - 58	20	64	40	M8	2.5	6.5	152	45.5





## Clamp clip, triple, plastic pressure trough



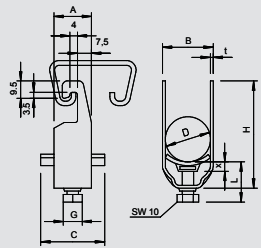
Type	Clamping range D mm	Pack. pcs	Weight kg/100 pcs.	Item No.
2056U 3 16 FT	12-16	50	4.850	1177 16 8
2056U 3 22 FT	16-22	50	6.600	1177 22 2
2056U 3 28 FT	22-28	50	10.500	1177 28 1
2056U 3 34 FT	28-34	50	13.250	1177 34 6
2056U 3 40 FT	34-40	50	14.400	1177 40 0
2056U 3 46 FT	40-46	50	18.950	1177 45 1

**St** Steel **FT** Hot-dip galvanised /100 pc.

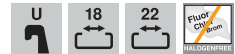
Suitable for all C profile rails with slot width 18 and 22 mm. Also suitable for flat, angle and U steel of 4 - 12 mm material thickness. BBS clamp and bolt made of hot-dip galvanised steel. Polypropylene pressure sleeve, halogen-free, colour light grey RAL 7035.

### Important dimensions, clamp clip

D	A	B	C	G	t	x	H	L
mm	mm	mm	mm	mm	mm	mm	mm	mm
8 - 12	20	16	34	M6	1.5	5	70	47
12 - 16	20	20	34	M6	1.5	5	82	47
16 - 22	20	27	34	M6	1.5	5	101	47
22 - 28	20	33	34	M6	2	5	119	47
28 - 34	20	39	34	M6	2	5.5	139	44.5
34 - 40	20	45	34	M8	2	5.5	157	44.5
40 - 46	20	51	40	M8	2	5.5	177	56.5



## Clamp clip, single, plastic pressure trough



Type	Clamping range D mm	Pack. pcs	Weight kg/100 pcs.	Item No.
2056U 16 VA	12-16	100	3.200	1178 51 2
2056U 22 VA	16-22	100	3.800	1178 52 0
2056U 28 VA	22-28	100	5.350	1178 53 9
2056U 34 VA	28-34	100	7.200	1178 54 7
2056U 40 VA	34-40	100	8.100	1178 55 5
2056U 46 VA	40-46	100	9.900	1178 56 3
2056U 52 VA	46-52	100	11.200	1178 57 1
2056U 58 VA	52-58	100	13.400	1178 59 8
2056U 64 VA	58-64	100	14.300	1178 60 1
2056U 70 VA	64-70	50	20.500	1178 62 8
2056U 76 VA	70-76	25	19.100	1178 63 6

**V2A** Stainless steel, grade 304 /100 pc.

Suitable for all C profile rails with slot width 18 and 22 mm. Also suitable for flat, angle and U steel of 4 - 12 mm material thickness. Stainless steel clip and bolt.

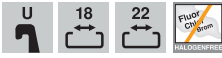
Polypropylene pressure sleeve, halogen-free, colour light grey RAL 7035.

### Important dimensions, clamp clip

D	A	B	C	G	t	x	H	L
mm	mm	mm	mm	mm	mm	mm	mm	mm
8 - 12	20	16	34	M6	1.5	5	42	34
12 - 16	20	20	34	M6	1.5	5	46	34
16 - 22	20	27	34	M6	1.5	5	53	34
22 - 28	20	33	34	M6	2	5	59	34
28 - 34	20	39	34	M8	2	5.5	67	37.5
34 - 40	20	45	34	M8	2	5.5	73	37.5
40 - 46	20	51	40	M8	2	5.5	79	37.5
46 - 52	20	57	40	M8	2	6.5	85	38.5
58 - 64	23	70	40	M8	2.5	6.5	97	38.5
52 - 58	23	64	40	M8	2.5	6.5	91	38.5
64 - 70	23	76	40	M8	2.5	6.5	103	38.5
70 - 76	25	82	40	M8	2.5	6.5	110	45.5



# Clamp clips, U base



## Clamp clip, single, plastic pressure trough

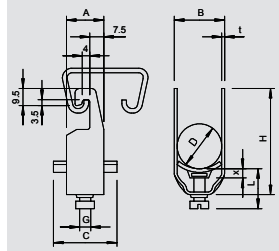
Type	Clamping range D mm	Pack. pcs	Weight kg/100 pcs.	Item No.
2056U 12 ALU	8-12	100	1.100	1184 40 7
2056U 16 ALU	12-16	100	1.200	1184 41 5
2056U 22 ALU	16-22	100	1.350	1184 42 3
2056U 28 ALU	22-28	100	1.950	1184 43 1
2056U 34 ALU	28-34	100	2.550	1184 45 8
2056U 40 ALU	34-40	100	2.800	1184 46 6
2056U 46 ALU	40-46	100	3.600	1184 47 4
2056U 52 ALU	46-52	100	3.950	1184 48 2
2056U 58 ALU	52-58	100	4.900	1184 49 0
2056U 64 ALU	58-64	100	5.250	1184 50 4
2056U 70 ALU	64-70	50	5.600	1184 53 9
2056U 76 ALU	70-76	25	7.050	1184 51 2

**Al** Aluminium /100 pc.

Suitable for all C profile rails with slot width 18 and 22 mm. Also suitable for flat, angle and U steel of 4 - 12 mm material thickness. Aluminium ALMg3 U clamp and bolt, polypropylene pressure sleeve, halogen-free, colour light grey RAL 7035.

### Important dimensions, clamp clip

D	A	B	C	G	t	x	H	L
mm	mm	mm	mm		mm	mm	mm	mm
8-12	20	16	34	M6	1.5	5	42	34
12-16	20	20	34	M6	1.5	5	46	34
16-22	20	27	34	M6	1.5	5	53	34
22-28	20	33	34	M6	2	5	59	34
28-34	20	39	34	M8	2	5.5	67	37.5
34-40	20	45	34	M8	2	5.5	73	37.5
40-46	20	51	40	M8	2	5.5	79	37.5
46-52	20	57	40	M8	2	6.5	85	38.5
52-58	23	64	40	M8	2.5	6.5	91	38.5
70-76	23	82	40	M8	2.5	6.5	110	45.5
64-70	23	76	40	M8	2.5	6.5	103	38.5
58-64	23	70	40	M8	2.5	6.5	97	38.5



## Clamp clip, single, metal pressure trough

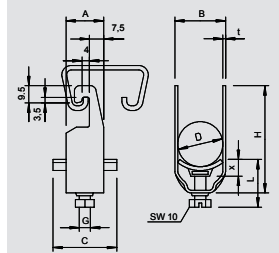
Type	Clamping range D mm	Pack. pcs	Weight kg/100 pcs.	Item No.
2056U M 12 FT	8-12	100	3.300	1158 00 7
2056U M 16 FT	12-16	100	3.520	1158 01 5
2056U M 22 FT	16-22	100	3.960	1158 02 3
2056U M 28 FT	22-28	100	5.890	1158 03 1
2056U M 34 FT	28-34	100	7.650	1158 05 8
2056U M 40 FT	34-40	100	8.360	1158 06 6
2056U M 46 FT	40-46	100	10.890	1158 07 4
2056U M 52 FT	46-52	100	11.660	1158 08 2
2056U M 58 FT	52-58	100	14.740	1158 09 0
2056U M 64 FT	58-64	100	15.730	1158 10 4
2056U M 70 FT	64-70	50	18.200	1158 11 2
2056U M 76 FT	70-76	25	20.600	1158 12 0

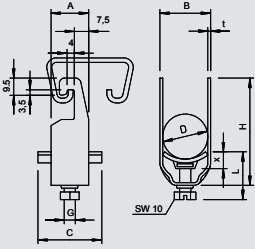
**St** Steel **FT** Hot-dip galvanised /100 pc.

Suitable for all C profile rails with slot width 18 and 22 mm. Also suitable for flat, angle and U steel of 4 - 12 mm material thickness.

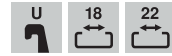
U clamp, bolt and pressure sleeve made of hot-dip galvanised steel.

D	A	B	C	G	t	x	H	L
mm	mm	mm	mm		mm	mm	mm	mm
8-12	20	16	34	M6	1.5	5	42	34
12-16	20	20	34	M6	1.5	5	46	34
16-22	20	27	34	M6	1.5	5	53	34
22-28	20	33	34	M6	2	5	59	34
28-34	20	39	34	M8	2	5.5	67	37.5
34-40	20	45	34	M8	2	5.5	73	37.5
40-46	20	51	40	M8	2	5.5	79	37.5
46-52	20	57	40	M8	2	6.5	85	38.5
52-58	23	64	40	M8	2.5	6.5	91	38.5
58-64	23	70	40	M8	2.5	6.5	97	38.5
64-70	23	76	40	M8	2.5	6.5	103	38.5
70-76	25	82	40	M8	2.5	6.5	110	45.5





## Clamp clip, single, metal pressure trough V4A



Type	Clamping range D mm	Pack. pcs	Weight kg/100 pcs.	Item No.
2056U M 12 V4A	8-12	1	3.300	1158 20 7
2056U M 16 V4A	12-16	1	3.520	1158 21 1
2056U M 22 V4A	16-22	1	3.960	1158 21 5
2056U M 28 V4A	22-28	1	5.890	1158 21 9
2056U M 34 V4A	28-34	1	7.650	1158 22 3
2056U M 40 V4A	34-40	1	8.360	1158 22 7
2056U M 46 V4A	40-46	1	10.890	1158 23 1
2056U M 52 V4A	46-52	1	11.660	1158 23 5
2056U M 58 V4A	52-58	1	14.740	1158 23 9
2056U M 64 V4A	58-64	1	15.730	1158 24 3
2056U M 70 V4A	64-70	1	18.200	1158 24 7
2056U M 76 V4A	70-76	1	20.600	1158 25 1



V4A Stainless steel, grade 316 Ti

/100 pc.

Suitable for all C profile rails with slot width 18 and 22 mm. Also suitable for flat, angle and U steel of 4 - 12 mm material thickness.

Clip, screw and pressure trough all made of rust-proof stainless steel.

D	A	B	C	G	t	x	H	L
mm	mm	mm	mm	mm	mm	mm	mm	mm
8-12	20	16	34	M6	1.5	5	42	34
12-16	20	20	34	M6	1.5	5	46	34
16-22	20	27	34	M6	1.5	5	53	34
22-28	20	33	34	M6	2	5	59	34
28-34	20	39	34	M8	2	5.5	67	37.5
34-40	20	45	34	M8	2	5.5	73	37.5
40-46	20	51	40	M8	2	5.5	79	37.5
46-52	20	57	40	M8	2	6.5	85	38.5
52-58	23	64	40	M8	2.5	6.5	91	38.5
58-64	23	40	40	M8	2.5	6.5	97	38.5
64-70	23	76	40	M8	2.5	6.5	103	38.5
70-76	25	82	40	M8	2.5	6.5	110	45.5



# Clamp clips, fastening to flat iron



## Clamp clip, single, plastic pressure trough

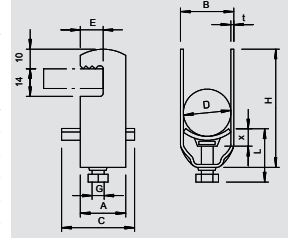
Type	Clamping range D mm	Pack. pcs	Weight kg/100 pcs.	Item No.
2056F 12 FT	8-12	100	3.700	1169 12 2
2056F 16 FT	12-16	100	3.900	1169 16 5
2056F 22 FT	16-22	100	4.500	1169 21 1
2056F 28 FT	22-28	100	6.000	1169 28 9
2056F 34 FT	28-34	100	8.000	1169 34 3
2056F 40 FT	34-40	100	8.500	1169 40 8
2056F 46 FT	40-46	100	10.600	1169 46 7
2056F 52 FT	46-52	100	11.700	1169 52 1
2056F 58 FT	52-58	100	13.050	1169 58 0
2056F 64 FT	58-64	100	14.800	1169 64 5
2056F 70 FT	64-70	50	17.700	1169 69 6
2056F 76 FT	70-76	25	20.600	1169 76 9
2056F 82 FT	76-82	25	22.000	1169 82 3
2056F 90 FT	82-90	25	26.200	1169 90 4

**St** Steel **FT** Hot-dip galvanised /100 pc.

Suitable for flat, bracket and U irons of 4–12 mm material thickness.  
 Clip and bolt made of hot-dip galvanised steel.  
 Polypropylene pressure trough, halogen-free, colour light grey RAL 7035.  
 Version with welding and/or locknuts for use under difficult circumstances and for shake protection on request.

### Important dimensions, clamp clip

D	A	B	C	G	t	x	H	L
mm	mm	mm	mm	mm	mm	mm	mm	mm
8 - 12	23	16	34	M6	1.5	5	43	34
12 - 16	23	20	34	M6	1.5	5	47	34
16 - 22	23	27	34	M6	1.5	5	54	34
22 - 28	23	33	34	M6	2	5	60	34
28 - 34	23	39	34	M8	2	5.5	68	37.5
34 - 40	23	45	34	M8	2	5.5	74	37.5
40 - 46	25	51	40	M8	2	5.5	80	37.5
46 - 52	25	57	40	M8	2	6.5	86	38.5
52 - 58	25	64	40	M8	2.5	6.5	92	38.5
58 - 64	25	70	40	M8	2.5	6.5	98	38.5
64 - 70	25	76	40	M8	2.5	6.5	104	38.5
70 - 76	25	82	40	M8	2.5	6.5	111	45.5
76 - 82	25	88	40	M8	2.5	6.5	117	45.5
82 - 90	25	97	40	M8	3	6.5	126	45.5



## Clamp clip, double, plastic pressure trough

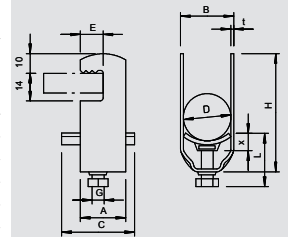
Type	Clamping range D mm	Pack. pcs	Weight kg/100 pcs.	Item No.
2056F 2 12 FT	8-12	50	4.250	1170 12 0
2056F 2 16 FT	12-16	50	4.550	1170 16 3
2056F 2 22 FT	16-22	50	5.200	1170 22 8
2056F 2 28 FT	22-28	50	7.900	1170 28 7
2056F 2 34 FT	28-34	50	9.900	1170 34 1
2056F 2 40 FT	34-40	50	11.200	1170 40 6
2056F 2 46 FT	40-46	50	12.000	1170 46 5
2056F 2 52 FT	46-52	50	16.600	1170 51 1

**St** Steel **FT** Hot-dip galvanised /100 pc.

Suitable for flat, bracket and U irons of 4–12 mm material thickness.  
 Clip and bolt made of hot-dip galvanised steel.  
 Polypropylene pressure trough, halogen-free, colour light grey RAL 7035.  
 Version with welding and/or locknuts for use under difficult circumstances and for shake protection on request.

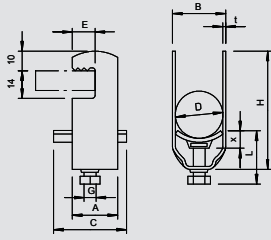
### Important dimensions, clamp clip

D	A	B	C	G	t	x	H	L
mm	mm	mm	mm	mm	mm	mm	mm	mm
8 - 12	23	16	34	M6	1.5	4.5	57	25
12 - 16	23	20	34	M6	1.5	4.5	65	25
16 - 22	23	27	34	M6	1.5	5	78	38
22 - 28	23	33	34	M6	2	5	90	47
28 - 34	23	39	34	M8	2	6	104	33
34 - 40	23	45	34	M8	2	6	116	33
40 - 46	25	51	40	M8	2	6	128	33
46 - 52	25	57	40	M8	2	6.5	140	33





# Clamp clips, fastening to flat iron



## Clamp clip, single, plastic pressure trough



Type	Clamping range D mm	Pack. pcs	Weight kg/100 pcs.	Item No.
2056F 16 VA	12-16	100	3.900	1185 01 2
2056F 22 VA	16-22	100	4.500	1185 02 0
2056F 28 VA	22-28	100	6.000	1185 03 9
2056F 34 VA	28-34	100	8.000	1185 04 7
2056F 40 VA	34-40	100	8.500	1185 05 5
2056F 46 VA	40-46	100	10.600	1185 06 3
2056F 52 VA	46-52	100	11.700	1185 07 1
2056F 58 VA	52-58	100	13.050	1185 09 8
2056F 64 VA	58-64	100	14.800	1185 10 1



V2A Stainless steel, grade 304

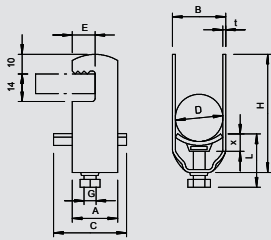
/100 pc.

For flat, angular and U irons of 4–12 mm thickness; rust-proof stainless steel clip and bolt, polypropylene pressure trough, halogen-free, colour light grey RAL 7035.

(VA pressure trough on request.)

### Important dimensions, clamp clip

D	A	B	C	E	G	t	x	H	L
mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
8–12	23	16	34	13	M6	1.5	5	43	34
12–16	23	20	34	13	M6	1.5	5	47	34
16–22	23	27	34	13	M6	1.5	5	54	34
22–28	23	33	34	13	M6	2	5	60	34
28–34	23	39	34	13	M8	2	5.5	68	37.5
34–40	23	45	34	13	M8	2	5.5	74	37.5
40–46	25	51	40	13	M8	2	5.5	80	37.5
46–52	25	57	40	13	M8	2	6.5	86	38.5
52–58	25	64	40	13	M8	2.5	6.5	92	38.5
58–64	25	70	40	13	M8	2.5	6.5	98	38.5



## Clamp clip, single, plastic pressure trough



Type	Clamping range D mm	Pack. pcs	Weight kg/100 pcs.	Item No.
2056F 16 ALU	12-16	100	1.250	1184 71 7
2056F 22 ALU	16-22	100	1.450	1184 72 5
2056F 28 ALU	22-28	100	2.050	1184 73 3
2056F 34 ALU	28-34	100	2.650	1184 74 1
2056F 40 ALU	34-40	100	2.850	1184 76 8
2056F 46ALU	40-46	100	3.650	1184 77 6



Al Aluminium

/100 pc.

For flat, angular and U irons of 4–12 mm thickness; aluminium ALMg3 clip and bolt, polypropylene pressure trough, halogen-free, colour light grey RAL 7035.

(Metal pressure trough on request.)

### Important dimensions, clamp clip

D	A	B	C	E	G	t	x	H	L
mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
8–12	23	16	34	13	M6	1.5	5	43	34
12–16	23	20	34	13	M6	1.5	5	47	34
16–22	23	27	34	13	M6	1.5	5	54	34
22–28	23	33	34	13	M6	2	5	60	34
28–34	23	39	34	13	M8	2	5.5	68	37.5
34–40	23	45	34	13	M6	2	5.5	74	37.5
40–46	25	51	40	13	M6	2	5.5	80	37.5

# Clamp clips, fastening to flat iron



## Clamp clip, single, metal pressure trough

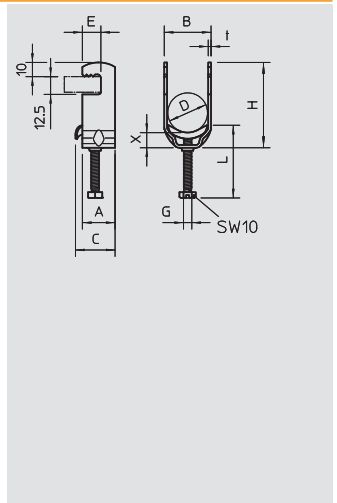
Type	Clamping range D mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>2056F M 12 FT</b>	8-12	100	3.700	<b>1156 80 2</b>
<b>2056F M 16 FT</b>	12-16	100	3.900	<b>1156 81 0</b>
<b>2056F M 22 FT</b>	16-22	100	4.550	<b>1156 82 9</b>
<b>2056F M 28 FT</b>	22-28	100	6.000	<b>1156 83 7</b>

**St** Steel      **FT** Hot-dip galvanised      /100 pc.

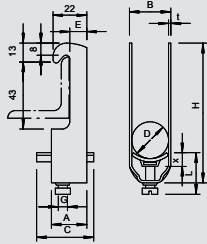
Also suitable for all C profile rails with slot width 16–17 mm; metal troughs have strongly rounded edges on all sides, so that there is no risk of cable damage.

### Important clamp clip dimensions

D	A	B	C	E	G	t	x	H	L
mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
8–12	23	16	28	13	M6	1.5	3.25	43	26
12–16	23	20	28	13	M6	1.5	3.5	47	26
16–22	23	27	28	13	M6	1.5	4	54	38
22–28	23	33	28	13	M6	2	4	60	38



# Clamp clips, fastening to angular steel



## Clamp clip, single, plastic pressure trough



Type	Clamping range D mm	Pack. pcs	Weight kg/100 pcs.	Item No.
2056W 16 FT	12-16	100	4.890	1180 16 9
2056W 22 FT	16-22	100	5.700	1180 22 3
2056W 28 FT	22-28	100	7.800	1180 28 2
2056W 34 FT	28-34	100	9.400	1180 34 7
2056W 40 FT	34-40	100	10.000	1180 40 1
2056W 46 FT	40-46	100	12.800	1180 46 0
2056W 52 FT	46-52	100	13.600	1180 52 5
2056W 58 FT	52-58	50	17.100	1180 58 4
2056W 64 FT	58-64	50	18.600	1180 64 9
2056W 70 FT	64-70	50	18.500	1180 68 1
2056W 76 FT	70-76	25	20.600	1180 76 2
2056W 82 FT	76-82	25	22.000	1180 82 7
2056W 90 FT	82-90	25	26.200	1180 90 8

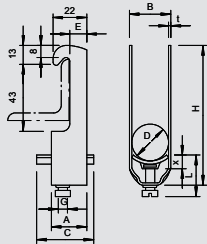


**St** Steel **FT** Hot-dip galvanised /100 pc.

Suitable for angular steel of 40 mm limb length.  
Clip and bolt made of hot-dip galvanised steel.  
Polypropylene pressure trough, halogen-free, colour light grey RAL 7035.

### Important dimensions, clamp clip

D	A	B	C	G	t	x	H	L
mm	mm	mm	mm	mm	mm	mm	mm	mm
8 - 12	23	16	34	M6	1.5	5	74	27
12 - 16	23	20	34	M6	1.5	5	78	27
16 - 22	23	27	34	M6	1.5	5	85	27
22 - 28	23	33	34	M6	2	5	91	27
28 - 34	23	39	34	M8	2	5.5	99	31.5
34 - 40	23	45	34	M8	2	5.5	105	31.5
40 - 46	25	51	40	M8	2	5.5	111	31.5
46 - 52	25	57	40	M8	2	6.5	117	32.5
58 - 64	25	70	40	M8	2.5	6.5	130	32.5
82 - 90	25	97	40	M8	3	6.5	158	38.5
52 - 58	25	64	40	M8	2.5	6.5	123	32.5
76 - 82	25	88	40	M8	2.5	6.5	149	38.5
70 - 76	25	82	40	M8	2.5	6.5	143	38.5
64 - 70	25	76	40	M8	2.5	6.5	136	32.5



## Clamp clip, double, plastic pressure trough



Type	Clamping range D mm	Pack. pcs	Weight kg/100 pcs.	Item No.
2056W 2 16 FT	12-16	50	5.700	1181 16 5
2056W 2 22 FT	16-22	50	7.050	1181 21 1
2056W 2 28 FT	22-28	50	10.350	1181 28 9
2056W 2 34 FT	28-34	50	11.600	1181 34 3
2056W 2 40 FT	34-40	50	12.700	1181 40 8
2056W 2 46 FT	40-46	50	16.750	1181 46 7
2056W 2 52 FT	46-52	50	18.200	1181 52 1
2056W 2 58 FT	52-58	50	23.000	1181 58 0



**St** Steel **FT** Hot-dip galvanised /100 pc.

Suitable for angular steel of 40 mm limb length.  
Clip and bolt made of hot-dip galvanised steel.  
Polypropylene pressure trough, halogen-free, colour light grey RAL 7035.

### Important dimensions, clamp clip

D	A	B	C	G	t	x	H	L
mm	mm	mm	mm	mm	mm	mm	mm	mm
8 - 12	23	16	34	M6	1.5	5	88	34
12 - 16	23	20	34	M6	1.5	5	96	34
16 - 22	23	27	34	M6	1.5	5	109	34
22 - 28	23	33	34	M6	2	5	121	34
28 - 34	23	39	34	M8	2	5.5	135	37.5
34 - 40	23	45	34	M8	2	5.5	147	37.5
40 - 46	25	51	40	M8	2	5.5	160	37.5
46 - 52	25	57	40	M8	2	6.5	172	38.5
52 - 58	25	64	40	M8	2.5	6.5	185	38.5

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BBS clamp clip systems

# Clamp clips, fastening to angular steel



## Clamp clip, single, plastic pressure trough

Type	Clamping range D mm	Pack. pcs	Weight kg/100 pcs.	Item No.
2056W 28 VA	22-28	100	7.800	1185 44 6
2056W 34 VA	28-34	100	9.400	1185 45 4
2056W 40 VA	34-40	100	10.000	1185 46 2
2056W 46 VA	40-46	100	12.800	1185 47 0
2056W 52 VA	46-52	100	13.600	1185 48 9
2056W 58 VA	52-58	50	17.100	1185 49 7

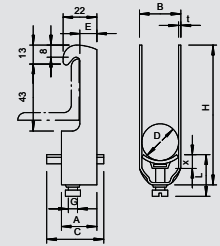
V2A Stainless steel, grade 304

/100 pc.

Also suitable for angular steels of 40 mm shaft length; stainless steel clip and bolt, polypropylene pressure trough, halogen-free, colour light grey RAL 7035.

### Important dimensions, clamp clip

D	A	B	C	G	t	x	H	L
mm	mm	mm	mm		mm	mm	mm	mm
16-22	23	27	34	M6	1.5	5	85	27
22-28	23	33	34	M6	2	5	91	27
28-34	23	39	34	M8	2	5.5	99	31.5
34-40	23	45	34	M8	2	5.5	105	31.5
40-46	25	51	40	M8	2	5.5	111	31.5
46-52	25	57	40	M8	2	6.5	117	32.5
52-58	25	64	40	M8	2.5	6.5	123	32.5



## Clamp clip, single, plastic pressure trough

Type	Clamping range D mm	Pack. pcs	Weight kg/100 pcs.	Item No.
2056W 16 ALU	12-16	100	1.800	1184 01 6
2056W 22 ALU	16-22	100	1.900	1184 02 4
2056W 28 ALU	22-28	100	2.550	1184 03 2
2056W 34 ALU	28-34	100	3.200	1184 04 0
2056W 40 ALU	34-40	100	3.500	1184 05 9
2056W 46 ALU	40-46	100	4.550	1184 06 7
2056W 52 ALU	46-52	100	4.800	1184 07 5
2056W 58 ALU	52-58	50	5.850	1184 08 3
2056W 64 ALU	58-64	50	6.450	1184 09 1

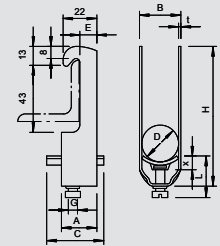
Al Aluminium

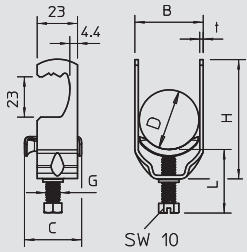
/100 pc.

Also suitable for angular steel of 40 mm shaft length; aluminium ALMg3 clip and bolt, polypropylene pressure trough, halogen-free, colour light grey RAL 7035.

### Important dimensions, clamp clip

D	A	B	C	G	t	x	H	L
mm	mm	mm	mm		mm	mm	mm	mm
8-12	23	16	34	M6	1.5	5	74	27
12-16	23	20	34	M6	1.5	5	78	27
16-22	23	27	34	M6	1.5	5	85	27
22-28	23	33	34	M6	2	5	91	27
28-34	23	39	34	M8	2	5.5	99	31.5
34-40	23	46	34	M8	2	5.5	105	31.5
40-46	25	51	40	M8	2	5.5	111	31.5
46-52	25	57	40	M8	2	6.5	117	32.5
52-58	23	64	40	M8	2.5	6.5	123	32.5
58-64	23	70	40	M8	2.5	6.5	130	32.5





## Clamp clip, round profiles/pipes



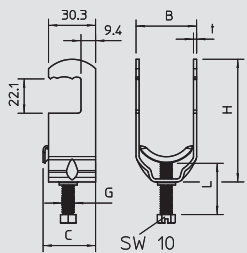
Type	Clamping range D mm	Pack.	Weight	Item No.
		pcs	kg/100 pcs.	
2056R M 22 FS	16-22	100	5.240	1158 41 0
2056R M 28 FS	22-28	100	7.410	1158 41 4
2056R M 34 FS	28-34	100	8.810	1158 41 8
2056R M 40 FS	34-40	100	9.790	1158 42 2

**St** Steel **FS** Strip-galvanised /100 pc.

Suitable for all round profile irons or pipes of diameters to 22 mm; clip, pressure trough and bolt made of steel, hot-dip galvanised; the metal troughs have strongly rounded edges on all sides, so that no damage to the cables need be feared.

### Important dimensions, clamp clip

D	B	C	G	t	H	L
mm	mm	mm	mm	mm	mm	mm
16-22	27	28	M6	1.5	64	26
22-28	33	28	M6	2.0	71	30
28-34	39	33	M6	2.0	78	33
34-40	45	33	M6	2.0	87	33



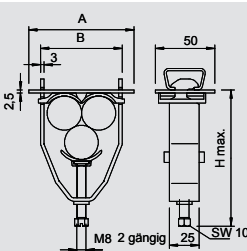
Type	Clamping range D mm	Pack.	Weight	Item No.
		pcs	kg/100 pcs.	
2056RS M 16 FT	12-16	100	4.000	1158 30 5
2056RS M 22 FT	16-22	100	5.200	1158 30 9
2056RS M 28 FT	22-28	100	7.500	1158 31 3
2056RS M 34 FT	28-34	100	9.000	1158 31 7
2056RS M 40 FT	34-40	100	10.000	1158 32 1
2056RS M 46 FT	40-46	100	10.900	1158 32 5
2056RS M 52 FT	46-52	100	12.200	1158 32 9
2056RS M 58 FT	52-58	100	15.000	1158 33 3
2056RS M 64 FT	58-64	100	16.500	1158 33 7

**St** Steel **FT** Hot-dip galvanised /100 pc.

Suitable for all round profile irons or pipes of diameters to 22 mm; clip, pressure trough and bolt made of steel, hot-dip galvanised; the metal troughs have strongly rounded edges on all sides, so that no damage to the cables need be feared.

### Important dimensions, clamp clip

D	B	C	G	t	H	L
mm	mm	mm	mm	mm	mm	mm
12-16	20	28	M6	1.5	57	26
16-22	27	28	M6	1.5	69	30
22-28	33	28	M6	2.0	73	38
28-34	39	33	M8	2.0	79	33
34-40	45	33	M8	2.0	86	33
40-46	51	33	M8	2.0	92	33
46-52	57	33	M8	2.0	97	33
52-58	64	33	M8	2.5	103	33
58-64	70	33	M8	2.5	112	33



## Clamp clip, hammer-head base, 3x single-wire connection



Type	Cable Ø mm	Pack.	Weight	Item No.
		pcs	kg/100 pcs.	
2056 E 31 FT	28-31	25	19.500	1174 60 6
2056 E 37 FT	34-37	25	24.600	1174 61 4
2056 E 44 FT	40-44	25	28.300	1174 63 0

**St** Steel **FT** Hot-dip galvanised /100 pc.

Clip element, bolt and lock plate made of hot-dip galvanised steel, pressure and counter-trough made of polypropylene, halogen-free, light grey RAL 7035. Delivered complete with lock plate and counter-troughs.

### Important dimensions, clamp clip

D	A	B	H
mm	mm	mm	mm
28-31	83	69	107
34-37	95	81	118
40-44	109	95	143



# Clamp clips, special application



## Clamp clip, U base, 3x single-wire connection



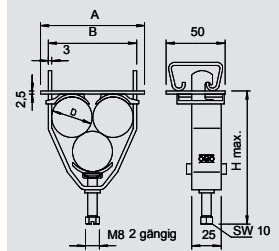
Type	Cable Ø	Pack.	Weight	Item No.
	mm	pcs	kg/100 pcs.	
2056U-E28 FT	25-28	25	20.000	1174 50 9
2056U-E31 FT	28-31	25	19.500	1174 54 1
2056U-E34 FT	31-34	25	23.000	1174 51 7
2056U-E37 FT	34-37	25	24.600	1174 56 8
2056U-E40 FT	37-40	25	26.000	1174 52 5
2056U-E44 FT	40-44	25	28.300	1174 57 6

**St** Steel **FT** Hot-dip galvanised /100 pc.

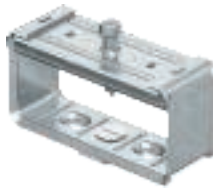
Clip element, bolt and lock plate made of hot-dip galvanised steel, pressure and counter-trough made of polypropylene, halogen-free, light grey RAL 7035. Delivered complete with lock plate and counter-troughs.

### Important dimensions, clamp clip

D	A	B	H
mm	mm	mm	mm
25-28	77	63	101
28-31	83	69	107
31-34	89	75	112
34-37	95	81	118
37-40	101	87	123
40-44	109	95	143



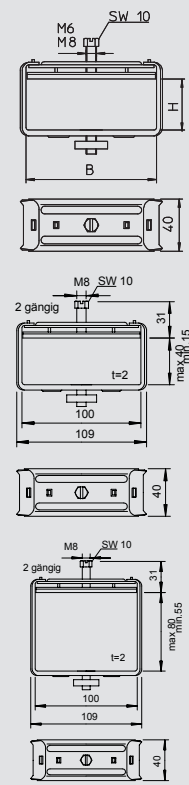
## Bundle clip

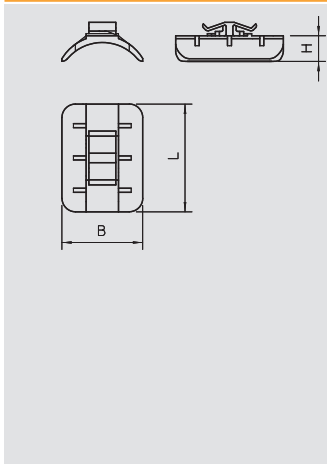


Type	Height x Width	Dimension H	Dimension B	Pack.	Weight	Item No.
	mm	mm	mm	pcs	kg/100 pcs.	
2056 B 35 FT	35 x 50	35	50	100	16.000	1194 05 4
2056 B 40 FT	40 x 100	40	100	50	32.700	1194 04 6
2056 B 80 FT	80 x 100	80	100	25	38.300	1194 08 9
2056 B 80 VA	80 x 100	80	100	25	38.300	1194 37 2

**St** Steel **V2A** Stainless steel, grade 304 **FT** Hot-dip galvanised /100 pc.

Clip and bolt made of hot-dip galvanised steel, countersunk head bolt made of rustproof stainless steel, slide nut made of electrogalvanised stainless steel.





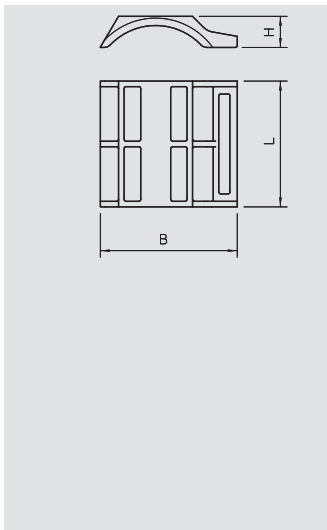
## Counter-trough, plastic 16-17 mm slot width



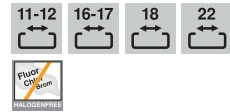
Type	Clamping range D	Dimension L	Dimension B	Dimension H	Colour	Shipping box	Pack.	Weight	Item No.
	mm	mm	mm	mm		pcs	pcs	kg/100 pcs.	
2058 12 LGR	8-12	34	12	5.4	Light grey	2700	100	0.180	1195 12 3
2058 16 LGR	12-16	34	15.5	6	Light grey	2700	100	0.190	1195 16 6
2058 22 LGR	16-22	34	20	6.7	Light grey	2700	100	0.190	1195 22 0
2058 28 LGR	22-28	34	25	8.1	Light grey	1800	100	0.240	1195 27 1
2058 34 LGR	28-34	40	30	9.5	Light grey	1200	100	0.300	1195 34 4
2058 40 LGR	34-40	40	35	10.8	Light grey	1200	100	0.330	1195 40 9
2058 46 LGR	40-46	40	40	12.2	Light grey	1200	100	0.410	1195 46 8
2058 52 LGR	46-52	40	42	11	Light grey	1200	100	0.440	1195 52 2
2058 58 LGR	52-58	40	45	11.5	Light grey	1200	100	0.490	1195 58 1
2058 64 LGR	58-64	40	48	11.8	Light grey	500	50	0.540	1195 64 6
2058 70 LGR	64-70	40	50	11.5	Light grey	500	50	0.550	1195 70 0

PP Polypropylene /100 pc.

Area of use rails with slot width 16-17 mm. Counter-trough is clamped into the slot width as protection between the cable and rail.



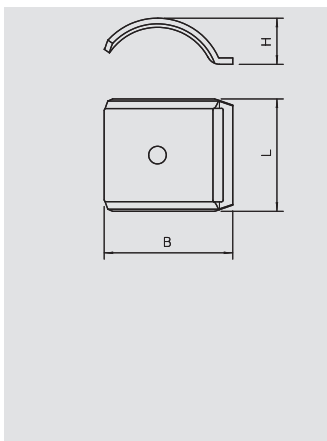
## Counter-trough, plastic, universal



Type	Clamping range D	Dimension L	Dimension B	Dimension H	Colour	Shipping box	Pack.	Weight	Item No.
	mm	mm	mm	mm		pcs	pcs	kg/100 pcs.	
2058FW 12 LGR	8-12	34	16.5	5	Light grey	2700	100	0.100	1197 12 6
2058FW 16 LGR	12-16	34	20	5	Light grey	2700	100	0.130	1197 16 9
2058FW 22 LGR	16-22	34	25.5	5.8	Light grey	2700	100	1.700	1197 22 3
2058FW 28 LGR	22-28	34	31.5	7.2	Light grey	1800	100	0.220	1197 28 2
2058FW 34 LGR	28-34	34	37	8.4	Light grey	1200	100	0.280	1197 34 7
2058FW 40 LGR	34-40	34	42.5	9.7	Light grey	1200	100	0.320	1197 40 1
2058FW 46 LGR	40-46	40	48	11	Light grey	1200	100	0.420	1197 46 0
2058FW 52 LGR	46-52	40	51.5	9.8	Light grey	1600	100	0.430	1197 52 5
2058FW 58 LGR	52-58	40	57	10.6	Light grey	1600	100	0.460	1197 58 4
2058FW 64 LGR	58-64	40	61.2	10.4	Light grey	600	50	0.530	1197 64 9
2058FW 70 LGR	64-70	40	67.2	10.4	Light grey	400	50	0.570	1197 70 3
2058FW 76 LGR	70-76	40	71.4	11	Light grey	500	25	0.920	1197 76 2
2058FW 82 LGR	76-82	40	75.6	11	Light grey	500	25	1.000	1197 82 7
2058FW 90 LGR	82-90	40	82.6	12	Light grey	500	25	1.070	1197 90 8
2058FW 100 LGR	90-100	40	89.5	12	Light grey	500	25	1.150	1197 99 1

PP Polypropylene /100 pc.

Irrespective of the rail, universally applicable by pushing onto a limb of the BBS clamp clip.



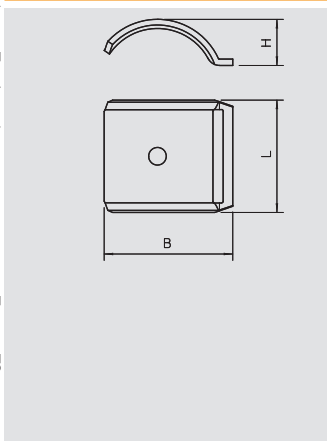
## Counter-trough, metal, universal



Type	Clamping range D	Dimension L	Dimension B	Dimension H	Shipping box	Pack.	Weight	Item No.
	mm	mm	mm	mm	pcs	pcs	kg/100 pcs.	
2058FW M 12 FT	8-12	35	17.5	6.5	1000	100	0.940	1199 84 6
2058FW M 16 FT	12-16	35	21.5	7.7	1200	100	1.100	1199 85 4
2058FW M 22 FT	16-22	35	28	8.8	1200	100	1.200	1199 86 2
2058FW M 28 FT	22-28	35	34	10.4	1000	100	1.400	1199 87 0
2058FW M 34 FT	28-34	35	40	13.5	400	100	2.160	1199 88 9
2058FW M 40 FT	34-40	35	46	15.1	200	100	2.490	1199 89 7
2058FW M 46 FT	40-46	35	52	17.2	200	100	3.270	1199 90 0
2058FW M 52 FT	46-52	35	58	19.2	200	50	3.460	1199 91 9
2058FW M 58 FT	52-58	35	40	13.5	200	50	3.620	1199 92 7
2058FW M 64 FT	58-64	35	70	22.4	300	50	4.280	1199 93 5
2058FW M 70 FT	64-70	35	76	24.5	200	50	4.590	1199 94 3

St Steel FT Hot-dip galvanised /100 pc.

Irrespective of the rail, universally applicable by pushing onto a limb of the BBS clamp clip.



## Counter-trough, metal V2A, universal



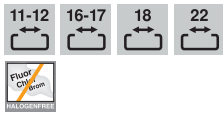
Type	Clamping range D	Dimension L	Dimension B	Dimension H	Shipping box	Pack.	Weight	Item No.
	mm	mm	mm	mm	pcs	pcs	kg/100 pcs.	
2058FW M 8 V2A	4-8	35	13	2.25	1500	100	0.130	1197 09 6
2058FW M 12 V2A	8-12	35	17.5	6.5	1200	100	0.160	1197 13 4
2058FW M 16 V2A	12-16	35	21.5	7.7	1000	100	0.180	1197 17 7
2058FW M 22 V2A	16-22	35	28	8.8	1200	100	0.200	1197 23 1
2058FW M 28 V2A	22-28	35	34	10.4	1000	100	0.230	1197 29 0
2058FW M 34 V2A	28-34	35	40	13.5	400	100	2.160	1197 35 5
2058FW M 40 V2A	34-40	35	46	15.1	300	100	2.490	1197 42 8
2058FW M 46 V2A	40-46	35	52	17.2	200	100	3.270	1197 47 9
2058FW M 52 V2A	46-52	35	58	19.2	200	50	3.460	1197 53 3
2058FW M 58 V2A	52-58	35	40	13.5	200	50	3.620	1197 59 2
2058FW M 64 V2A	58-64	35	70	24.5	600	50	4.280	1197 60 6

V2A Stainless steel, grade 304 /100 pc.

Irrespective of the rail, universally applicable by pushing onto a limb of the BBS clamp clip.



# Clamp clips, system accessories

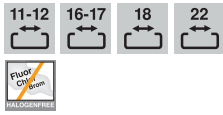
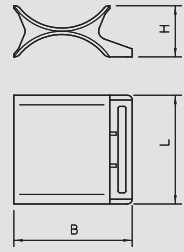


## Double trough, plastic

Type	Clamping range D mm	Dimension L mm	Dimension B mm	Dimension H mm	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
2058 2 12 LGR	8-12	34	16.5	7	Light grey	2000	50	0.170	1196 11 1
2058 2 16 LGR	12-16	34	20	9	Light grey	1350	50	0.230	1196 16 2
2058 2 22 LGR	16-22	34	25.5	11	Light grey	1350	50	0.290	1196 22 7
2058 2 28 LGR	22-28	34	31.5	14	Light grey	900	50	0.380	1196 28 6
2058 2 34 LGR	28-34	34	37	16	Light grey	600	50	0.470	1196 34 0
2058 2 40 LGR	34-40	34	42	18	Light grey	600	50	0.700	1196 40 5
2058 2 46 LGR	40-46	40	47.5	20	Light grey	800	50	0.890	1196 46 4
2058 2 52 LGR	46-52	40	53	22	Light grey	600	50	1.110	1196 52 9
2058 2 58 LGR	52-58	40	58	24	Light grey	600	50	1.160	1196 58 8

PP Polypropylene /100 pc.

Double trough as intermediate layer between two or three cables within a BBS clamp clip.

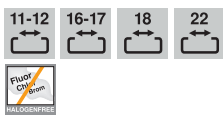
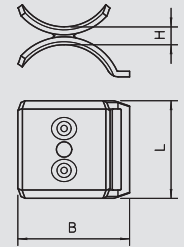


## Double trough, metal

Type	Clamping range D mm	Dimension L mm	Dimension B mm	Dimension H mm	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
2058 M2 12 FT	8-12	35	17.6	5.4	600	100	1.360	1199 70 6
2058 M2 16 FT	12-16	35	21.5	5.4	600	50	1.800	1199 71 4
2058 M2 22 FT	16-22	35	28	5.4	500	50	2.300	1199 72 2
2058 M2 28 FT	22-28	35	34	5.4	600	50	3.100	1199 73 0
2058 M2 34 FT	28-34	35	40	6.4	300	50	3.760	1199 74 9
2058 M2 40 FT	34-40	35	46	6.4	100	50	5.600	1199 75 7

St Steel FT Hot-dip galvanised /100 pc.

Double trough as intermediate layer between two or three cables within a BBS clamp clip.

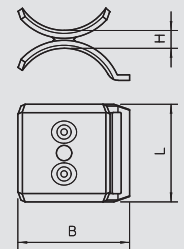


## Double trough, V2A

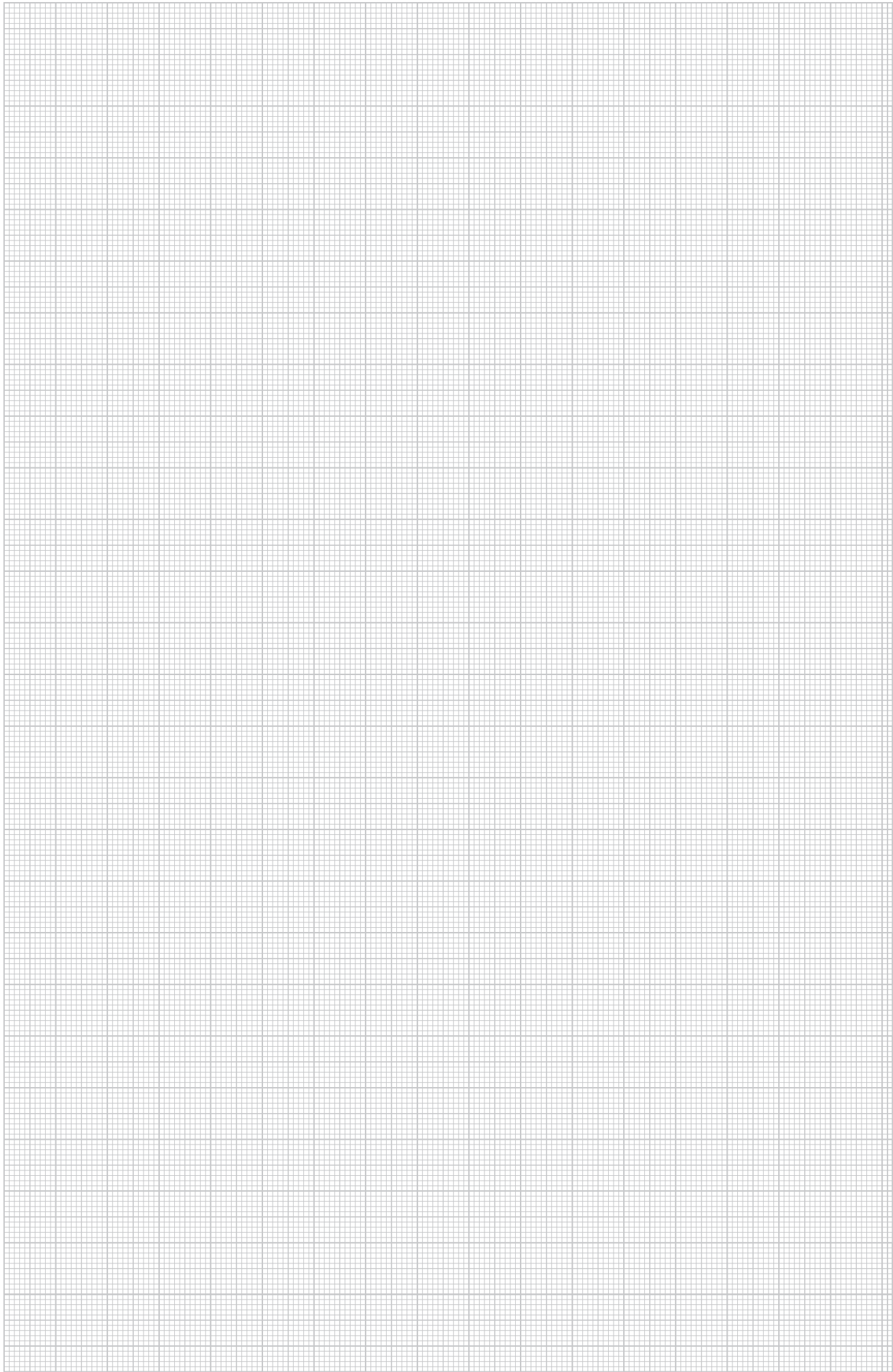
Type	Clamping range D mm	Dimension L mm	Dimension B mm	Dimension H mm	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
2058 M2 22 V2A	16-22	35	28	5.4	500	50	2.300	1196 59 7
2058 M2 28 V2A	22-28	35	34	5.4	600	50	3.100	1196 59 9
2058 M2 34 V2A	28-34	35	40	6.4	300	50	3.760	1196 60 1
2058 M2 40 V2A	34-40	35	46	6.4	100	50	5.600	1196 60 3

V2A Stainless steel, grade 304 /100 pc.

Clamp clips allows both cables and pipes to be fastened to profile rails. The clamp clips are hooked into the appropriate slot widths of the profile rails and the component to be fastened is pressed onto the profile rail with the pressure trough of the clamp clip and held in place.









## Screw-in and knock-in systems

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# Nails



## Steel nail

Type	Dimension L mm	Dimension d mm	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>362 16 BK</b>	16	2	20000	100	0.040	<b>3353 16 8</b>
<b>362 18 BK</b>	18	2	20000	100	0.050	<b>3353 18 4</b>
<b>362 23 BK</b>	23	2	20000	100	0.060	<b>3353 23 0</b>
<b>362 30 BK</b>	30	2	20000	100	0.080	<b>3353 30 3</b>
<b>362 40 BK</b>	40	2	10000	100	0.100	<b>3353 40 0</b>
<b>362 50 BK</b>	50	2	10000	100	0.130	<b>3353 50 8</b>
<b>362 60 BK</b>	60	2	8000	100	0.150	<b>3353 60 5</b>

**St** Steel **Bright** /100 pc.

Hardened steel, blue tempered, with bead head.

Type	Dimension L mm	Dimension d mm	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>362 Z 16 G</b>	16	2	20000	100	0.040	<b>3354 16 4</b>
<b>362 Z 18 G</b>	18	2	20000	100	0.050	<b>3354 18 0</b>
<b>362 Z 23 G</b>	23	2	20000	100	0.060	<b>3354 23 7</b>
<b>362 Z 30 G</b>	30	2	20000	100	0.080	<b>3354 29 6</b>
<b>362 Z 40 G</b>	40	2	10000	100	0.100	<b>3354 40 7</b>
<b>362 Z 50 G</b>	50	2	10000	100	0.130	<b>3354 50 4</b>
<b>362 Z 60 G</b>	60	2	8000	100	0.150	<b>3354 60 1</b>

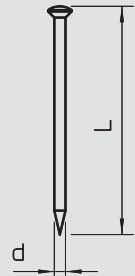
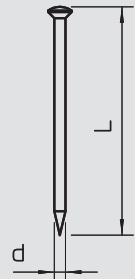
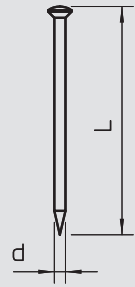
**St** Steel **G** Electrogalvanised /100 pc.

Hardened steel, electrogalvanised, with bead head.

Type	Dimension L mm	Dimension d mm	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>1996 N 25</b>	25	3	10000	100	0.120	<b>3369 00 3</b>
<b>1996 N 40</b>	40	3	4000	100	0.220	<b>3369 00 5</b>
<b>1996 N 60</b>	60	3.5	1000	100	0.400	<b>3369 02 1</b>

**St** Steel **G** Electrogalvanised /100 pc.

Hardened steel with bead head.



## Impu steel nail

Type	Dimension L mm	Dimension d mm	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>500 12</b>	12	2	20000	100	0.040	<b>3360 12 1</b>
<b>500 16</b>	16	2	20000	100	0.050	<b>3360 16 4</b>
<b>500 18</b>	18	2	20000	100	0.060	<b>3360 18 0</b>
<b>500 23</b>	23	2	10000	100	0.060	<b>3360 23 7</b>
<b>500 30</b>	30	2	10000	100	0.080	<b>3360 29 6</b>
<b>500 40</b>	40	2	12000	100	0.110	<b>3360 40 7</b>
<b>500 50</b>	50	2	9000	100	0.130	<b>3360 50 4</b>
<b>500 60</b>	60	2	9000	100	0.150	<b>3360 60 1</b>

**St** Steel **Bright** /100 pc.

Hardened steel, blue tempered, with vulcanised fibre disc.

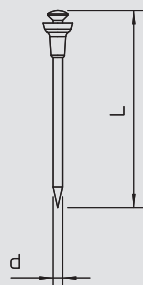
Type	Dimension L mm	Dimension d mm	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>500 Z 12</b>	12	2	20000	100	0.040	<b>3361 12 8</b>
<b>500 Z 16</b>	16	2	20000	100	0.050	<b>3361 16 0</b>
<b>500 Z 18</b>	18	2	20000	100	0.060	<b>3361 18 7</b>
<b>500 Z 23</b>	23	2	10000	100	0.070	<b>3361 23 3</b>
<b>500 Z 30</b>	30	2	10000	100	0.090	<b>3361 30 6</b>
<b>500 Z 40</b>	40	2	12000	100	0.110	<b>3361 40 3</b>
<b>500 Z 50</b>	50	2	9000	100	0.130	<b>3361 50 0</b>
<b>500 Z 60</b>	60	2	9000	100	0.150	<b>3361 60 8</b>

**St** Steel **G** Electrogalvanised /100 pc.

Hardened steel, electrogalvanised, with vulcanised fibre disc.



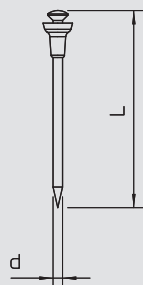
## Siko nail



Type	Dimension L	Dimension d	Shipping box	Pack.	Weight	Item No.
	mm	mm	pcs	pcs	kg/100 pcs.	
511 12	12	2	20000	100	0.040	3366 11 1
511 16	16	2	20000	100	0.050	3366 16 2
511 18	18	2	20000	100	0.050	3366 18 9
511 23	23	2	10000	100	0.060	3366 23 5
511 30	30	2	10000	100	0.080	3366 30 8
511 40	40	2	12000	100	0.100	3366 40 5
511 50	50	2	8000	100	0.130	3366 50 2
511 60	60	2	9000	100	0.150	3366 59 6

**St** Steel Bright /100 pc.

Hardened steel, blue tempered, with polyethylene safety head.



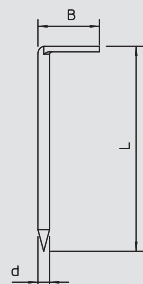
Type	Dimension L	Dimension d	Shipping box	Pack.	Weight	Item No.
	mm	mm	pcs	pcs	kg/100 pcs.	
511 Z 12	12	2	20000	100	0.040	3367 12 6
511 Z 16	16	2	20000	100	0.050	3367 16 9
511 Z 18	18	2	20000	100	0.050	3367 18 5
511 Z 23	23	2	10000	100	0.060	3367 23 1
511 Z 30	30	2	10000	100	0.080	3367 30 4
511 Z 40	40	2	12000	100	0.100	3367 40 1

**St** Steel **G** Electrogalvanised /100 pc.

Hardened steel, electrogalvanised, with polyethylene safety head.



## Hook nail



Type	Dimension L	Dimension d	Dimension B	Shipping box	Pack.	Weight	Item No.
	mm	mm	mm	pcs	pcs	kg/100 pcs.	
1101 3x40	40	3	18	4000	250	0.290	3341 04 6
1101 3x50	50	3	18	4000	250	0.340	3341 05 4
1101 3x60	60	3	18	3000	250	0.400	3341 06 2
1101 3x70	70	3	18	3000	250	0.470	3341 07 0
1101 3.4x50	50	3.4	18	3000	250	0.450	3341 49 6
1101 3.4x60	60	3.4	18	3000	250	0.550	3341 60 7
1101 3.4x70	70	3.4	18	3000	250	0.670	3341 70 4
1101 3.4x80	80	3.4	18	2500	250	0.680	3341 80 1
1101 3.4x90	90	3.4	18	2500	250	0.760	3341 90 9
1101 3.4x100	100	3.4	18	2000	250	0.820	3341 99 2

**St** Steel Bright /100 pc.

Hardened steel, blue tempered, with 18 mm hook on the head.



Type	Dimension L	Dimension d	Dimension B	Shipping box	Pack.	Weight	Item No.
	mm	mm	mm	pcs	pcs	kg/100 pcs.	
1101 Z 40 G	40	3	18	4000	250	0.290	3342 04 2
1101 Z 50 G	50	3	18	4000	250	0.360	3342 05 0
1101 Z 60 G	60	3	18	3000	250	0.400	3342 06 9
1101 Z 70 G	70	3	18	3000	250	0.470	3342 07 7
1101 Z3.4x50 G	50	3.4	18	3000	250	0.460	3342 50 6
1101 Z3.4x60 G	60	3.4	18	3000	250	0.550	3342 60 3
1101 Z3.4x70 G	70	3.4	18	3000	250	0.600	3342 70 0
1101 Z3.4x80 G	80	3.4	18	2500	250	0.670	3342 80 8

**St** Steel **G** Electrogalvanised /100 pc.

Steel, galvanised, with 18 mm hook on the head.



## Steel wall hook



Type	Dimension L	Dimension d	Dimension B	Shipping box	Pack.	Weight	Item No.
	mm	mm	mm	pcs	pcs	kg/100 pcs.	
716 3X50 BK	50	3	18	2400	100	0.420	3347 05 2
716 3X60 BK	60	3	18	2000	100	0.490	3347 06 0
716 3X70 BK	70	3	18	2000	100	0.550	3347 07 9

**St** Steel Bright /100 pc.

Steel, bright (St), hardened, blue tempered, made of square bar steel.



# Knock-in anchor system



## OBO anchor

Type	Shank length mm	Dimension L mm	Dimension D Ø mm	Dimension G mm	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>904 A 15 FS</b>	15	22	3.35	M4	6000	50	0.180	<b>3116 15 8</b>

**St** Steel **G** Electrogalvanised /100 pc.  
 Hardened steel, electrogalvanised with M4 x 7 mm thread.



Type	Shank length mm	Dimension L mm	Dimension D Ø mm	Dimension G mm	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>904 B 15 FS</b>	15	26	3.35	M4	5000	50	0.200	<b>3117 15 4</b>
<b>904 B 18 FS</b>	18	29	3.35	M4	5000	50	0.220	<b>3117 18 9</b>

**St** Steel **G** Electrogalvanised /100 pc.  
 Hardened steel, electrogalvanised with M4 x 11 mm thread.



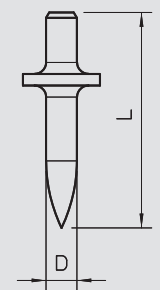
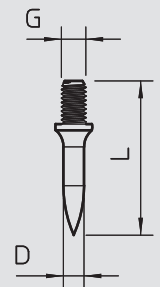
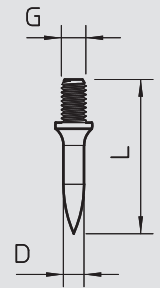
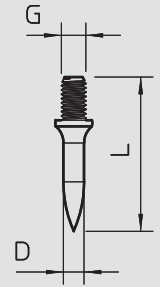
Type	Shank length mm	Dimension L mm	Dimension D Ø mm	Dimension G mm	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>903 15 G</b>	15	23	4	M6	3000	100	0.330	<b>3100 15 4</b>
<b>903 18 G</b>	18	26	4	M6	3000	100	0.360	<b>3100 18 9</b>
<b>903 25 G</b>	25	33	4	M6	3000	100	0.400	<b>3100 25 1</b>
<b>903 30 G</b>	30	38	4	M6	2000	100	0.470	<b>3100 30 8</b>
<b>903 40 G</b>	40	48	4	M6	2000	100	0.570	<b>3100 40 5</b>
<b>903 55 G</b>	55	63	4	M6	1800	100	0.720	<b>3100 55 3</b>

**St** Steel **G** Electrogalvanised /100 pc.  
 Hardened steel, electrogalvanised with M6 x 8 mm thread.



Type	Shank length mm	Dimension L mm	Dimension D Ø mm	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>903 RB 15</b>	15	21	4	6000	200	0.300	<b>3105 01 6</b>
<b>903 RB 18</b>	18	24	4	4000	200	0.350	<b>3105 02 4</b>
<b>903 RB 22</b>	22	30	4	4000	200	0.330	<b>3105 03 2</b>

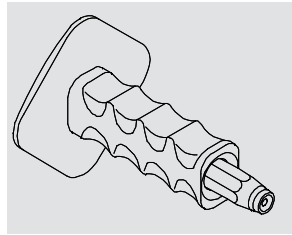
**St** Steel /100 pc.  
 Hardened steel, shiny without thread.



## Flattener with hand protection

Type	Suitable for	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>915 RBS M4</b>	903/RB anchors	12	1	50.000	<b>3031 50 0</b>

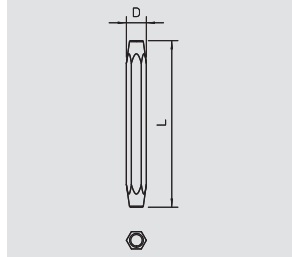
**St** Steel /pc.  
 Flattener with hand protection for OBO anchors 903/RB Ø 4 mm and also for OBO anchors 904 with M4 thread.

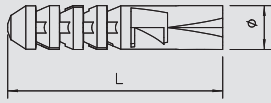


## Flattener

Type	Dimension L mm	Dimension D mm	Suitable for	Size	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>915 S M6</b>	135	14	Anchor 903	M6	120	20	17.000	<b>3031 01 2</b>

**St** Steel /pc.  
 Flattener for OBO anchors 903 with M6 thread.





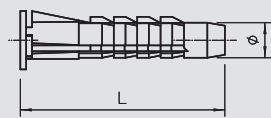
## Angler spreading anchor



Type	Dimension L	Bore hole depth	Bore hole Ø	Wood screws	Dowel Ø	Pull-out force	Pack.	Weight	Item No.
	mm	mm	mm	Ø mm	mm	N min/concrete	pcs	kg/100 pcs.	
<b>910 N 5x25 GRW</b>	25	30	5	2,5-4	5	300	100	0.050	<b>2349 04 3</b>
<b>910 N 6x30 GRW</b>	30	35	6	3,5-5	6	550	100	0.050	<b>2349 05 1</b>
<b>910 N 6x60 GRW</b>	60	65	6	3,5-5	6	550	100	0.080	<b>2349 07 8</b>
<b>910 N 8x40 GRW</b>	40	45	8	4,5-6	8	800	100	0.140	<b>2349 08 6</b>
<b>910 N 10x50 GRW</b>	50	55	10	6-8	10	1150	50	0.310	<b>2349 10 8</b>
<b>910 N 12x60 GRW</b>	60	65	12	8-10	12	1900	25	0.460	<b>2349 12 4</b>

PA Polyamide /100 pc.

Required minimum screw length = anchor length + component thickness + 1 x screw Ø.  
Withdrawal force applies to wood screws of the largest screw diameter, required safety values must be taken into account.



## Multipurpose anchor

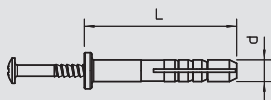


Type	Dowel Ø	Dimension L	Bore hole depth	Bore hole Ø	Wood screws	Pull-out force	Pack.	Weight	Item No.
	mm	mm	mm	mm	Ø mm	N min/concrete	pcs	kg/100 pcs.	
<b>910 MZ 5x30</b>	5	30	45	5	2,5-4	300	100	0.040	<b>2347 52 3</b>
<b>910 MZ 6x35</b>	6	35	50	6	4-5	400	100	0.060	<b>2347 53 9</b>
<b>910 MZ 8x50</b>	8	50	60	8	5-6	500	100	0.160	<b>2347 54 7</b>
<b>910 MZ 10x60</b>	10	60	70	10	6-8	1000	50	0.280	<b>2347 55 5</b>
<b>910 MZ 12x70</b>	12	70	80	12	8-10	1530	25	0.430	<b>2347 57 0</b>

PA Polyamide /100 pc.

Also suitable as a cavity anchor, with collars to prevent slipping (not for 12 mm anchor). Four tabs take up the torque.

Required minimum screw length = anchor length + component thickness + 1 x screw Ø.  
Withdrawal force applies to wood screws of the largest screw diameter, required safety values must be taken into account.



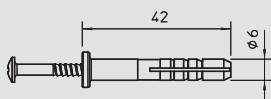
## Knock-in anchor



Type	Dowel Ø	Length	Pull-out force	Pack.	Weight	Item No.
	mm	mm	N min/concrete	pcs	kg/100 pcs.	
<b>910 SD 5X35</b>	5	35	220	100	0.360	<b>2351 02 1</b>
<b>910 SD 6X35</b>	6	35	260	100	0.310	<b>2351 05 6</b>
<b>910 SD 6X40</b>	6	40	260	100	0.560	<b>2351 06 4</b>
<b>910 SD 8X55</b>	8	55	350	50	1.070	<b>2351 09 9</b>

PA Polyamide /100 pc.

Knock-in anchor: steel, electrogalvanised and transparently passivated.

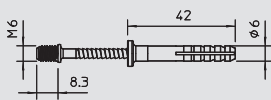


Type	Dowel Ø	Length	Pack.	Weight	Item No.
	mm	mm	pcs	kg/100 pcs.	
<b>910 SD-Q 6x40</b>	6	40	100	0.480	<b>2351 21 8</b>

PA Polyamide /100 pc.

Knock-in anchor for Quick clips type 2955.

Knock-in anchor: steel, tempered, electrogalvanised and transparently passivated.



Type	Thread	Dowel Ø	Length	Pull-out force	Pack.	Weight	Item No.
		mm	mm	N min/concrete	pcs	kg/100 pcs.	
<b>910 SDM M6</b>	M6	6	40	260	100	0.480	<b>2350 80 7</b>

PA Polyamide /100 pc.

With M6 thread.

Knock-in anchor: steel, tempered, electrogalvanised and transparently passivated.



# Anchors

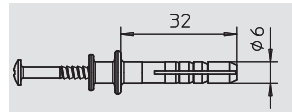


## Double-flange anchor

Type	Dowel Ø	Length	Bore hole depth	Shipping box	Pack.	Weight	Item No.
	mm	mm	mm	pcs	pcs	kg/100 pcs.	
<b>910 DF 6x35</b>	6	35	40	1200	100	0.430	<b>2347 40 7</b>

**PA** Polyamide /100 pc.

Knock-in anchor: steel, tempered, electrogalvanised and transparently passivated.

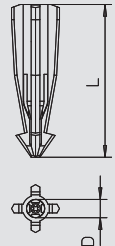


## Gas concrete anchor

Type	Dimension D	Dimension L	Colour	Pack.	Weight	Item No.
	mm	mm		pcs	kg/100 pcs.	
<b>910 GD 6x35</b>	6	35	Light grey	100	0.100	<b>2347 22 9</b>
<b>910 GD 8x50</b>	8	50	Light grey	50	0.310	<b>2347 26 1</b>

**PA** Polyamide /100 pc.

The anchor can be knocked directly into the porous concrete (gas concrete resistance class G2). With a resistance class of G4 or greater, a 5 or 6 mm hole should be predrilled. Screw length: Component thickness + 40 mm (6 mm) / 55 mm (8 mm).

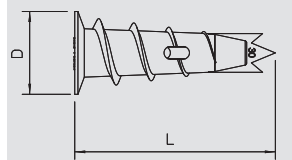


## Plasterboard anchor

Type	Dimension D	Dimension L	For screw diameter	Perm. load range, tension zone	Pack.	Weight	Item No.
	mm	mm	Ø	kN	pcs	kg/100 pcs.	
<b>910 GKDM 12x30</b>	12	30	4.5	0.04	100	0.400	<b>3483 21 4</b>

**Zn** Die-cast zinc /100 pc.

To fasten components to plasterboard or fibre composite plates. Minimum plate thickness: 12 mm for Ø 4.5 Golden Sprint or Sprint screws.

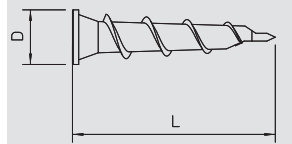


## Plasterboard anchor

Type	Dimension D	Dimension L	Perm. load range, tension zone	Pack.	Weight	Item No.
	mm	mm	kN	pcs	kg/100 pcs.	
<b>910 GKSM 6x25</b>	7.5	26.4	0.04	100	0.160	<b>3483 23 9</b>

**Zn** Die-cast zinc /100 pc.

To fasten components to plasterboard or fibre composite plates. Min. plate thickness: 5 mm.

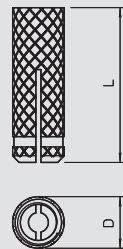


## Brass spreading anchor

Type	Bore hole depth	Shipping box	Thread	Length	Pull-out value	Pack.	Weight	Item No.
	mm	pcs		mm	N	pcs	kg/100 pcs.	
<b>865 M6x24</b>	32	2400	M6	24	6000	100	0.440	<b>3483 06 1</b>
<b>865 M8x30</b>	41	1000	M8	30	7000	100	0.870	<b>3483 08 8</b>
<b>865 M10x34</b>	53	600	M10	34	9000	100	1.320	<b>3483 09 6</b>

**CuZn** Brass /100 pc.

Areas of application: full brick, concrete, wood. Ideally suited for areas exposed to high temperatures.

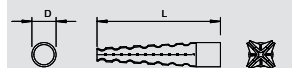


## Metal spreading anchor

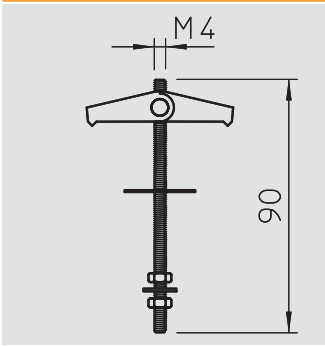
Type	Dimension D	Dimension L	Shipping box	Bore hole Ø	Pack.	Weight	Item No.
	mm	mm	pcs	mm	pcs	kg/100 pcs.	
<b>MD 5 GTP</b>	5	30	2400	5-7	200	0.190	<b>3484 60 2</b>
<b>MD 6 GTP</b>	6	32	1400	7-9	100	0.250	<b>3484 62 9</b>

**St** Steel **GTP** Electrogalvanised, transparently passivated /100 pc.

Areas of application: gas concrete, lightweight concrete, Poroton, pumice, plaster, hollow brick and full brick. Can be knocked into porous concrete (gas concrete) of low resistance without drilling. Superbly suited for areas subjected to high temperatures.



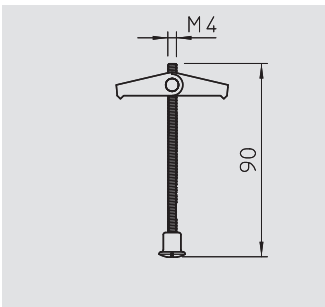




## Sprung hinged anchor

Type	Shipping box pcs	Thread	Length mm	Bore hole Ø mm	Minimum cavity depth mm	Breaking load kN	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>450 M4x95 G</b>	500	M4	95	14	35	0.2	50	1.750	<b>3481 61 1</b>

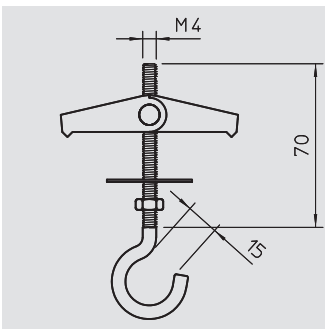
**St** Steel **G** Electrogalvanised /100 pc.  
With threaded rod, washer and hexagonal nut; brass axle.



## Sprung hinged anchor

Type	Shipping box pcs	Thread	Length mm	Minimum cavity depth mm	Breaking load kN	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>451 M4x95 G</b>	500	M4	95	35	0.2	50	1.700	<b>3481 66 2</b>

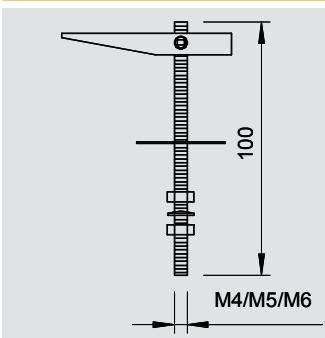
**St** Steel **G** Electrogalvanised /100 pc.  
With threaded rod and slotted brass nut; brass axle.



## Sprung hinged anchor

Type	Shipping box pcs	Thread	Length mm	Bore hole Ø mm	Minimum cavity depth mm	Breaking load kN	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>452 M4x70 G</b>	500	M4	70	14	35	0.4	50	1.950	<b>3481 77 8</b>

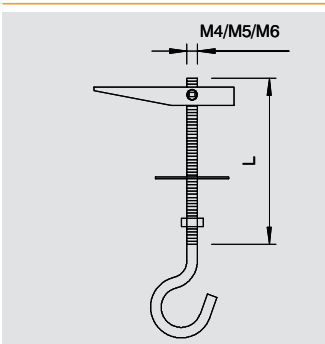
**St** Steel **G** Electrogalvanised /100 pc.  
With ceiling hook, washer and hexagonal nut; brass axle.



## Tilting anchor

Type	Bore hole Ø mm	Shipping box pcs	Thread	Length mm	Breaking load kN	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>458 M4x100 G</b>	13	400	M4	100	0.5	50	3.310	<b>3482 15 4</b>
<b>456 M5x100 G</b>	13	400	M5	100	0.8	50	3.810	<b>3482 10 3</b>
<b>453 M6x100 G</b>	16	300	M6	100	1.3	50	5.250	<b>3482 01 4</b>

**St** Steel **G** Electrogalvanised /100 pc.  
Two washers and two hexagonal nuts, with threaded shank.



## Tilting anchor

Type	Dimension L mm	Bore hole Ø mm	Shipping box pcs	Hook-Ø mm	Thread	Breaking load kN	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>457 M4x55 G</b>	55	13	400	14	M4	0.25	50	3.250	<b>3482 13 8</b>
<b>455 M5x65 G</b>	65	13	300	16	M5	0.4	50	3.850	<b>3482 05 7</b>
<b>455 M5x100 G</b>	100	13	300	16	M5	0.4	50	4.250	<b>3482 07 3</b>
<b>454 M6x100 G</b>	100	16	150	16	M6	0.8	25	6.000	<b>3482 03 0</b>

**St** Steel **G** Electrogalvanised /100 pc.  
One washer and one hexagonal nut, with ceiling hook.  
Note: Reckon with 5x safety for luminaire suspensions.



# Anchors

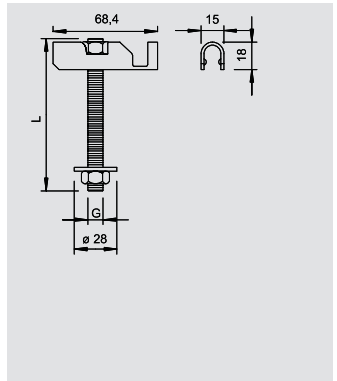


## Tilting anchor

Type	Thread	Dimension L	Bore hole Ø	Tensile load	Minimum cavity depth	Shipping box	Pack.	Weight	Item No.
		mm	mm	kN	mm	pcs	pcs	kg/100 pcs.	
<b>KD 8 100</b>	M8	100	22	2.4	75	25	25	11.200	<b>3482 70 7</b>
<b>KD 10 100</b>	M10	100	25	2.4	75	25	25	11.200	<b>3482 75 8</b>
<b>KD 10 150</b>	M10	150	25	2.4	75	25	25	13.500	<b>3482 76 6</b>

**St** Steel **G** Electrogalvanised /100 pc.

Including nut and large washer.  
The universal heavy-duty fastening for stressed concrete, hollow steel profiles, metal sheets and plates.  
Use: heating, ventilation and air conditioning technology, cooling systems, sprinkler systems, pipes, cable tracks, etc.  
\* Dependent on the thickness of the ceiling profile.

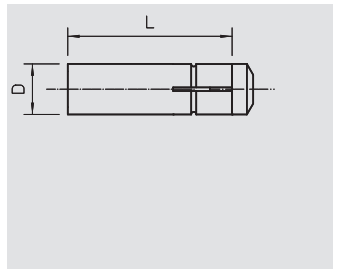


## Impact tie

Type	Thread	Dimension D	Dimension L	Screw-in depth min.-max.	Perm. load range, tension zone	Shipping box	Pack.	Weight	Item No.
		mm	mm	mm	kN	pcs	pcs	kg/100 pcs.	
<b>FZEA II 10X40 G</b>	M8	10	40	11-17	1.6	500	100	1.550	<b>3492 03 6</b>
<b>FZEA II 12X40 G</b>	M10	12	40	13-19	3	500	100	2.080	<b>3492 06 0</b>
<b>FZEA II 14X40 G</b>	M12	14	40	15-21	3.6	250	50	2.750	<b>3492 09 5</b>

**St** Steel **G** Electrogalvanised /100 pc.

Undercut steel anchor with internal thread.

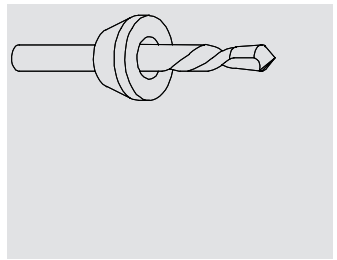


## Universal drill

Type	Bore hole Ø	Shipping box	Pack.	Weight	Item No.
	mm	pcs	pcs	kg/100 pcs.	
<b>FZUB 10X40</b>	10	10	1	11.800	<b>3492 33 8</b>
<b>FZUB 12X40</b>	12	10	1	12.200	<b>3492 36 2</b>
<b>FZUB 14X40</b>	14	10	1	12.500	<b>3492 39 7</b>

**St** Steel **Bright** /pc.

The universal drill for SDS seats guarantees correct, approved mounting of the FZEA tie.

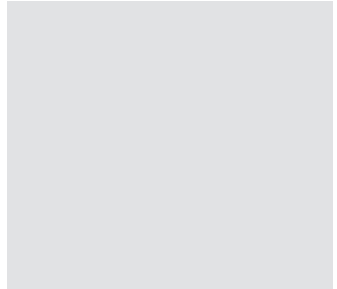


## Impact mandrel

Type	Shipping box	Pack.	Weight	Item No.
	pcs	pcs	kg/100 pcs.	
<b>FZED 10X40 G 5</b>	5	5	10.500	<b>3492 62 1</b>
<b>FZED 12X40 G 5</b>	5	5	17.800	<b>3492 66 4</b>
<b>FZED 14X40 G 5</b>	5	5	25.000	<b>3492 69 9</b>

**St** Steel **G** Electrogalvanised /pc.

The impact mandrel guarantees correct, approved mounting of the FZEA tie.

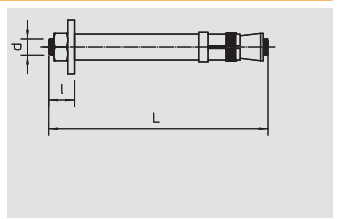


## Heavy-duty anchor

Type	Thread	Dimension L	Dimension d	Clamping range	Perm. load range, tension zone	Shipping box	Pack.	Weight	Item No.
		mm	mm	mm	kN	pcs	pcs	kg/100 pcs.	
<b>FH II 18X80</b>	M12	120	18	10	9.91	10	10	20.000	<b>3498 74 3</b>

**St** Steel **G** Electrogalvanised /100 pc.

Heavy-duty anchor for fastening components with large loads.

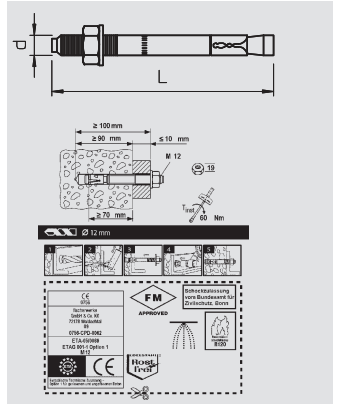


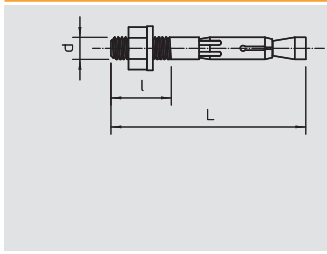
## Bolt tie

Type	Thread	Dimension L	Dimension d	Clamping range	Perm. load range, tension zone	Shipping box	Pack.	Weight	Item No.
		mm	mm	mm	kN	pcs	pcs	kg/100 pcs.	
<b>FAZ II 8 10 GS</b>	M8	75	8	10	2.4	250	50	3.720	<b>3498 50 6</b>
<b>FAZ II 10 10 GS</b>	M10	95	10	10	4.3	50	50	7.680	<b>3498 54 9</b>
<b>FAZ II 10 30</b>	M10	115	10	30	4.3	25	25	7.520	<b>3498 58 1</b>
<b>FAZ II 12 10</b>	M12	110	12	10	7.6	20	20	10.400	<b>3498 65 4</b>

**St** Steel **G** Electrogalvanised /100 pc.

Bolt tie for fastening high loads. Matches OBO mounting systems and wall support brackets and supports.





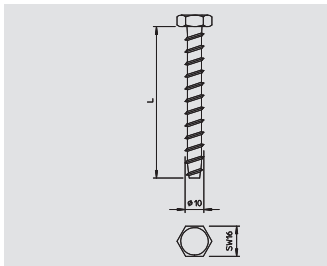
## Bolt tie



Type	Thread	Dimension d	Dimension l	Bore hole depth	Dimension L	Pack.	Weight	Item No.
		mm	mm	mm	mm	pcs	kg/100 pcs.	
<b>FNA II 6X30 M6/5</b>	M6	6	13	40	53	100	1.400	<b>3498 42 5</b>

**St** Steel **G** Electrogalvanised /100 pc.

Bolt tie with M6 thread. European technical approval for concrete. Fire resistance class to F120 according to fire protection testing report.



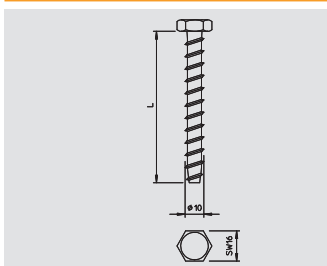
## Bolt tie



Type	Dimension	Dimension L	Anchor length	Pack.	Weight	Item No.
	mm	mm	mm	pcs	kg/100 pcs.	
<b>MMS10X80</b>	10 x 80	80	80	50	3.800	<b>3498 12 3</b>

**St** Steel **G** Electrogalvanised /100 pc.

Fire protection concrete bolt with hexagonal head for direct mounting without additional anchor. WAF 16. Drill hole 8 mm. Fire protection tested according to DIN 4102 for concrete and masonry. Fire resistance class to F90.



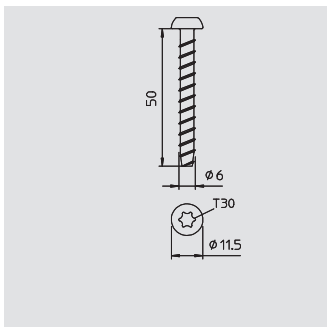
## Bolt tie



Type	Dimension	Dimension L	Anchor length	Pack.	Weight	Item No.
	mm	mm	mm	pcs	kg/100 pcs.	
<b>MMS10X100</b>	10 x 100	100	100	50	4.600	<b>3498 15 8</b>

**St** Steel **G** Electrogalvanised /100 pc.

Fire protection concrete bolt with hexagonal head for direct mounting without additional anchor. WAF 16. Drill hole 8 mm. Fire protection tested according to DIN 4102 for concrete and masonry. Fire resistance class to F90.



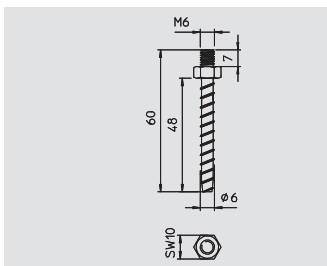
## Bolt tie



Type	Dimension	Dimension L	Anchor length	Pack.	Weight	Item No.
	mm	mm	mm	pcs	kg/100 pcs.	
<b>MMS6X50</b>	6 x 50	50	50	100	0.960	<b>3498 10 7</b>

**St** Steel **GC** Electrogalvanised, yellow-chromated /100 pc.

Fire protection bolt tie with panhead for direct installation without additional anchors. Drive T30, drill hole 5 mm. Fire protection tested according to DIN 4102 for concrete and masonry.



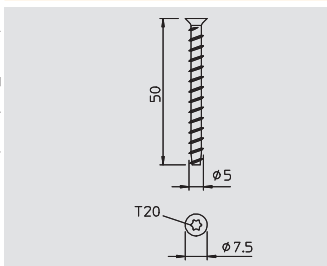
## Bolt tie



Type	Dimension	Dimension L	Anchor length	Pack.	Weight	Item No.
	mm	mm	mm	pcs	kg/100 pcs.	
<b>MMS-ST6X60</b>	6 x 60	60	60	100	1.400	<b>3498 26 3</b>

**St** Steel **G** Electrogalvanised /100 pc.

Fire protection bolt tie with M6 thread and hexagonal head for direct mounting without additional anchors. WAF 10, drill hole 5 mm. Fire protection tested according to DIN 4102 for concrete and masonry. Fire resistance class to F90.



## Bolt tie



Type	Dimension	Dimension L	Anchor length	Pack.	Weight	Item No.
	mm	mm	mm	pcs	kg/100 pcs.	
<b>HMS-KS5X50</b>	5 x 50	50	50	200	0.460	<b>3498 20 4</b>

**St** Steel **G** Electrogalvanised /100 pc.

Fire protection bolt tie with countersunk cone head for direct installation without additional anchors. Drive T20, drill hole 4 mm. Fire protection tested according to DIN 4102 for concrete and masonry. Fire resistance class to F90.



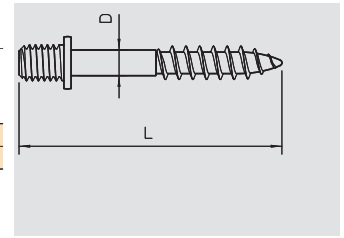
# Bolts and hooks



## Screw-in anchor M6

Type	Thread length	Dimension D	Dimension L	Shipping box	Pack.	Weight	Item No.
	mm	mm	mm	pcs	pcs	kg/100 pcs.	
985 M6 25 8	8	4.3	25	3000	100	0.410	3133 02 8
985 M6 35 8	8	4.3	35	2000	100	0.530	3133 03 6

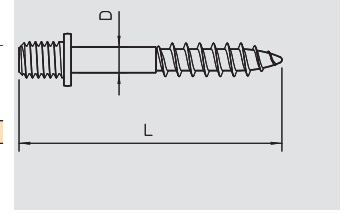
**St** Steel **G** Electrogalvanised /100 pc.  
With wood screw shank and M6 thread.



## Screw-in anchor M8

Type	Thread length	Dimension D	Dimension L	Shipping box	Pack.	Weight	Item No.
	mm	mm	mm	pcs	pcs	kg/100 pcs.	
985 M8 35 10	10	5.2	35	1200	100	1.290	3133 23 0

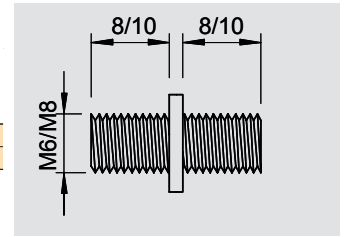
**St** Steel **G** Electrogalvanised /100 pc.  
With wood screw shank and M8 thread.



## Double nipple

Type	Thread	Thread length	Shipping box	Pack.	Weight	Item No.
		mm	pcs	pcs	kg/100 pcs.	
3100 M6 G	M6	8	3000	100	0.360	3131 06 8
3100 M8 G	M8	10	2000	100	0.680	3131 08 4

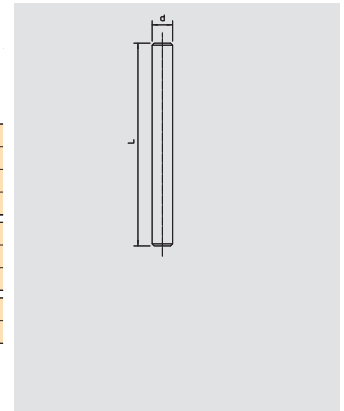
**St** Steel **G** Electrogalvanised /100 pc.  
Double nipple with metric thread.



## Threaded rod

Type	Thread	Dimension d	Dimension L	Breaking load	Pack.	Weight	Item No.
		mm	mm	kN	pcs	kg/100 pcs.	
2078 M6 1M G	M6	6	1000	8.04	100	18.300	3141 04 7
2078 M8 1M G	M8	8	1000	14.6	50	30.000	3141 12 8
2078 M10 1M G	M10	10	1000	23.2	25	49.000	3141 20 9
2078 M12 1M G	M12	12	1000	33.7	20	100.000	3141 30 6
2078 M8 2M G	M8	8	2000	14.6	25	60.000	3141 13 6
2078 M10 2M G	M10	10	2000	23.2	25	98.000	3141 14 0
2078 M12 2M G	M12	12	2000	33.7	20	140.000	3141 14 4
2078 M8 3M G	M8	8	3000	14.6	25	90.000	3141 13 8
2078 M10 3M G	M10	10	3000	23.2	20	147.000	3141 23 3

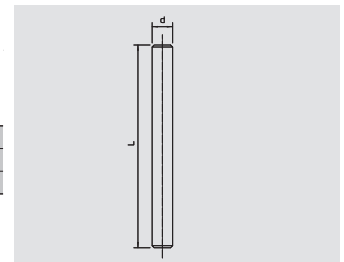
**St** Steel **G** Electrogalvanised /100 pc.  
Threaded rod to DIN 976.



## Threaded rod V2A

Type	Thread	Dimension d	Dimension L	Breaking load	Pack.	Weight	Item No.
		mm	mm	kN	pcs	kg/100 pcs.	
2078 M8 1M V2A	M8	8	1000	18.3	50	30.000	3141 31 0
2078 M10 1M V2A	M10	10	1000	29	25	49.000	3141 31 2
2078 M12 1M V2A	M12	12	1000	42.2	20	70.000	3141 31 4

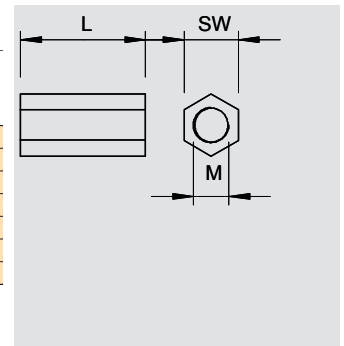
**V2A** Stainless steel, grade 304 /100 pc.  
Threaded rod to DIN 976.

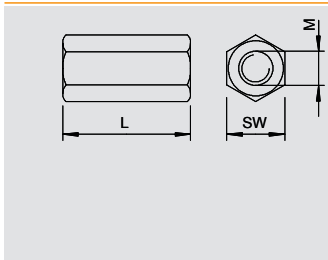


## Spacer sleeve

Type	Dimension M	Dimension L	Shipping box	Thread	SW	Pack.	Weight	Item No.
	mm	mm	pcs		mm	pcs	kg/100 pcs.	
965 M6X20 G	M6	20	1000	M6	10	100	0.900	3415 03 1
965 M6X25 G	M6	25	1000	M6	10	100	1.000	3415 06 6
965 M6X30 G	M6	30	1000	M6	10	100	1.200	3415 08 2
965 M6X40 G	M6	40	600	M6	10	100	1.500	3415 10 4
965 M6X50 G	M6	50	600	M6	10	100	2.000	3415 12 0
965 M8X20 G	M8	20	1000	M8	13	100	1.200	3415 14 7
965 M8X30 G	M8	30	600	M8	13	100	1.800	3415 16 3

**Zn** Die-cast zinc **G** Electrogalvanised /100 pc.  
Continuous internal thread.



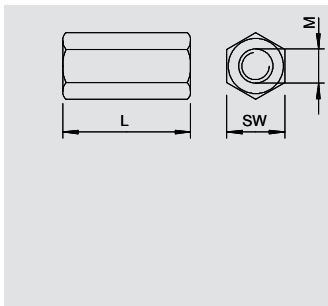


## Connection sleeve

Type	Thread	Dimension M	Dimension L	SW	Shipping box	Pack.	Weight	Item No.
		mm	mm	mm	pcs	pcs	kg/100 pcs.	
<b>12005 M8 G</b>	M8	8	30	13	600	50	2.000	<b>6410 08 1</b>
<b>12005 M10 G</b>	M10	M10	40	17	200	50	6.000	<b>6410 10 3</b>
<b>12005 M12 G</b>	M12	M12	40	19	150	25	7.000	<b>6410 11 1</b>

**St** Steel **G** Electrogalvanised /100 pc.

Connection sleeve with continuous internal thread.

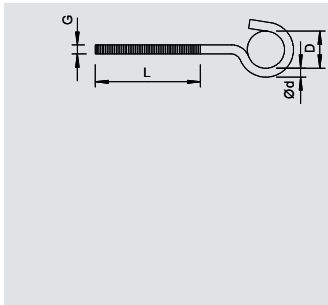


## Connection sleeve V2A

Type	Thread	Dimension M	Dimension L	SW	Shipping box	Pack.	Weight	Item No.
		mm	mm	mm	pcs	pcs	kg/100 pcs.	
<b>12005 M8 V2A</b>	M8	M8	30	13	600	50	2.000	<b>6410 15 4</b>
<b>12005 M10 V2A</b>	M10	M10	40	17	200	50	6.000	<b>6410 16 2</b>

**V2A** Stainless steel, grade 304 /100 pc.

Connection sleeve with continuous internal thread.

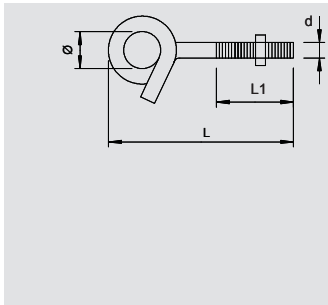


## Ceiling hook

Type	Dimension L	Dimension D	Shipping box	Length	Thread	Dimension d Ø	Breaking load	Pack.	Weight	Item No.
	mm	mm	pcs	mm		mm	kN	pcs	kg/100 pcs.	
<b>867 M5X125 G</b>	90	16	1000	125	M5	4.3	0.4	100	1.730	<b>3470 14 8</b>
<b>867 M6X 95 G</b>	55	16	1000	95	M6	5.2	0.8	100	2.100	<b>3470 21 0</b>
<b>867 M6X125 G</b>	85	16	400	125	M6	5.2	0.8	100	2.760	<b>3470 23 7</b>

**St** Steel **G** Electrogalvanised /100 pc.

Ceiling hook with long metric thread.

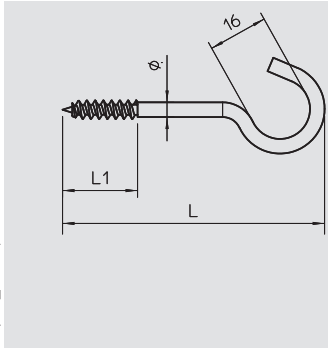


## Ceiling hook

Type	Thread	Dimension d	Dimension L	Dimension L1	Dimension d Ø	Washer Ø	Breaking load	Shipping box	Pack.	Weight	Item No.
		mm	mm	mm	mm	mm	kN	pcs	pcs	kg/100 pcs.	
<b>948 TG6</b>	M6	6	70	46	13	28	1	150	25	5.000	<b>3453 82 0</b>

**St** Steel **G** Electrogalvanised /100 pc.

Tightly wound ceiling hook. Including two large washers and nuts.

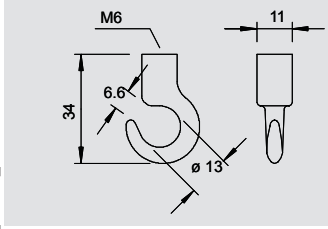


## Ceiling hook

Type	Dimension L	Dimension L1	Shipping box	Material Ø	Breaking load	Pack.	Weight	Item No.
	mm	mm	pcs	mm	kN	pcs	kg/100 pcs.	
<b>915 3.9x50 G</b>	50	20	1200	3.9	0.15	100	0.720	<b>3450 05 8</b>
<b>915 3.9x60 G</b>	60	20	1200	3.9	0.15	100	0.800	<b>3450 06 6</b>
<b>915 3.9x70 G</b>	70	20	1200	3.9	0.15	100	0.880	<b>3450 07 4</b>
<b>915 3.9x80 G</b>	80	20	1200	3.9	0.15	100	0.910	<b>3450 08 2</b>
<b>915 3.9x90 G</b>	90	20	1200	3.9	0.15	100	1.080	<b>3450 09 0</b>
<b>915 3.9x100 G</b>	100	20	1000	3.9	0.15	100	1.190	<b>3450 10 4</b>
<b>915 4.3x120 G</b>	120	24	1000	4.3	0.2	100	1.660	<b>3450 12 0</b>

**St** Steel **G** Electrogalvanised /100 pc.

Ceiling hook with rolled wood screw thread.



## Ceiling hook

Type	Shipping box	Thread	Breaking load	Pack.	Weight	Item No.
	pcs		kN	pcs	kg/100 pcs.	
<b>2081 M6 G</b>	600	M6	1.35	100	1.260	<b>3460 16 9</b>

**St** Steel **G** Electrogalvanised /100 pc.

Ceiling hook with metric internal thread.



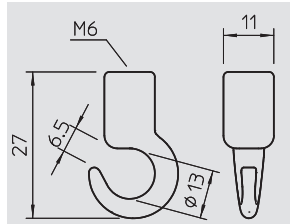
# Bolts and hooks



## Ceiling hook

Type	Shipping box pcs	Thread	Breaking load kN	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>2081 K M6</b>	1200	M6	1.6	100	0.900	<b>3460 06 1</b>

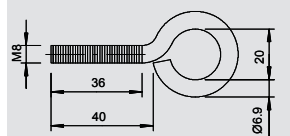
**St** Steel **G** Electrogalvanised /100 pc.  
Ceiling hook with internal metric thread.



## Frame eyelet

Type	Shipping box pcs	Length mm	Thread	Breaking load kN	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>869 M8X40 G</b>	250	70	M8	2	25	3.540	<b>3472 08 6</b>

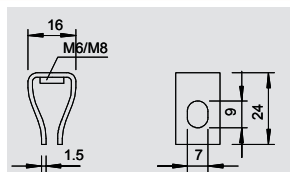
**St** Steel **G** Electrogalvanised /100 pc.  
Frame eyelet M8 x 40 mm.



## Rabitz coupler

Type	Shipping box pcs	Thread	Breaking load kN	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>2083 M6 G</b>	1200	M6	4.5	100	1.090	<b>3462 06 4</b>
<b>2083 M8 G</b>	1200	M8	5.5	100	1.090	<b>3462 08 0</b>

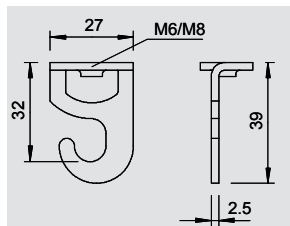
**St** Steel **G** Electrogalvanised /100 pc.  
Rabitz coupler with metric thread.



## TS ceiling hook

Type	Thread	Shipping box pcs	Breaking load kN	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>2989 M6 G</b>	M6	900	1.5	50	2.540	<b>3460 76 2</b>
<b>2989 M8 G</b>	M8	900	1.5	50	2.540	<b>3460 78 9</b>

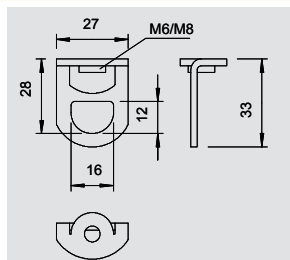
**St** Steel **G** Electrogalvanised /100 pc.  
TS ceiling hook with metric thread.



## TS suspension eyelet

Type	Thread	Breaking load kN	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>2990 M6 G</b>	M6	3.5	500	50	2.320	<b>3462 86 2</b>
<b>2990 M8 G</b>	M8	3.5	500	50	2.320	<b>3462 88 9</b>

**St** Steel **G** Electrogalvanised /100 pc.  
Suspension eyelet with interior thread.



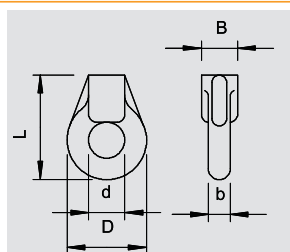
## Ring eyelet

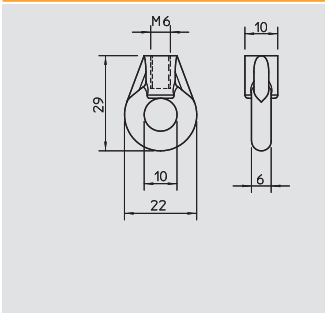
Type	Shipping box pcs	Thread	Breaking load kN	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>2084 M6 G</b>	400	M6	1.15	100	2.200	<b>3463 56 7</b>
<b>2084 M8 G</b>	400	M8	1.15	100	2.100	<b>3463 58 3</b>

**Zn** Die-cast zinc **G** Electrogalvanised /100 pc.  
Ring eyelet with metric internal thread.

### Important dimensions, ring eyelet

G	L	D	d	B	b
M6	37.8	28.6	15	12	6.8
M8	37.8	28.6	15	12	6.8





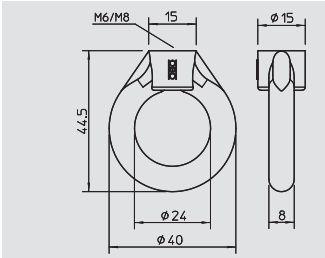
Ring eyelet

Type	Shipping box pcs	Thread	Breaking load kN	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>2084 K M6</b>	1000	M6	1.15	100	1.500	<b>3463 06 0</b>

Zn Die-cast zinc G Electrogalvanised /100 pc.

Ring eyelet with metric internal thread.

G	L	D	d	B	b
mm	mm	mm	mm	mm	mm
M6	29	22	10	10	6

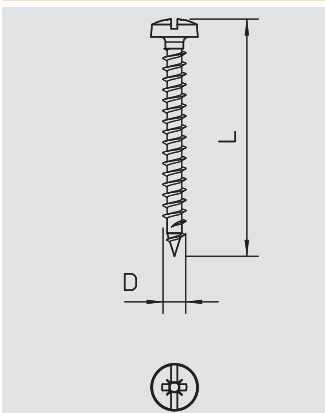


Suspension eyelet

Type	Shipping box pcs	Thread	Breaking load kN	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>2085 M6 G</b>	200	M6	1.1	50	3.900	<b>3464 06 7</b>
<b>2085 M8 G</b>	200	M8	1.1	50	3.700	<b>3464 08 3</b>

Zn Die-cast zinc G Electrogalvanised /100 pc.

Suspension eyelet with metric thread.



GOLDEN SPRINT, with Philips screw

Type	Dimension L mm	Dimension D mm	Head Ø mm	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>4758 3.5x15</b>	15	3.5	6.5	6000	200	0.070	<b>3195 00 7</b>
<b>4758 3.5x20</b>	20	3.5	6.5	6000	200	0.090	<b>3195 01 5</b>
<b>4758 3.5x25</b>	25	3.5	6.5	6000	200	0.120	<b>3195 02 3</b>
<b>4758 3.5x30</b>	30	3.5	6.5	6000	200	0.160	<b>3195 03 1</b>
<b>4758 3.5x35</b>	35	3.5	6.5	4000	200	0.170	<b>3195 05 8</b>
<b>4758 3.5x40</b>	40	3.5	6.5	3200	200	0.210	<b>3195 06 6</b>
<b>4758 3.5x45</b>	45	3.5	6.5	3200	200	0.220	<b>3195 07 4</b>
<b>4758 3.5x50</b>	50	3.5	6.5	3200	200	0.240	<b>3195 08 2</b>
<b>4758 4.0X15</b>	15	4	7.5	6000	200	0.100	<b>3195 20 1</b>
<b>4758 4.0X20</b>	20	4	7.5	6000	200	0.140	<b>3195 22 8</b>
<b>4758 4.0X25</b>	25	4	7.5	6000	200	0.180	<b>3195 23 6</b>
<b>4758 4.0X30</b>	30	4	7.5	4000	200	0.220	<b>3195 24 4</b>
<b>4758 4.0X35</b>	35	4	7.5	3200	200	0.250	<b>3195 25 2</b>
<b>4758 4.0X40</b>	40	4	7.5	3200	200	0.270	<b>3195 26 0</b>
<b>4758 4.0X45</b>	45	4	7.5	3200	200	0.280	<b>3195 27 9</b>
<b>4758 4.0X50</b>	50	4	7.5	2400	200	0.310	<b>3195 28 7</b>
<b>4758 4.5x25</b>	25	4.5	8.2	4000	200	0.240	<b>3195 42 2</b>
<b>4758 4.5x30</b>	30	4.5	8.2	4000	200	0.290	<b>3195 43 0</b>
<b>4758 4.5x35</b>	35	4.5	8.2	3200	200	0.300	<b>3195 44 9</b>
<b>4758 4.5x40</b>	40	4.5	8.2	3200	200	0.310	<b>3195 45 7</b>
<b>4758 4.5x45</b>	45	4.5	8.2	3200	200	0.350	<b>3195 46 5</b>
<b>4758 4.5x50</b>	50	4.5	8.2	2400	200	0.390	<b>3195 47 3</b>
<b>4758 5.0X30</b>	30	5	9.5	3200	200	0.380	<b>3195 63 5</b>
<b>4758 5.0X35</b>	35	5	9.5	3200	200	0.420	<b>3195 64 3</b>
<b>4758 5.0X40</b>	40	5	9.5	3200	200	0.450	<b>3195 65 1</b>
<b>4758 5.0X45</b>	45	5	9.5	2400	200	0.490	<b>3195 67 8</b>
<b>4758 5.0X50</b>	50	5	9.5	2400	200	0.530	<b>3195 68 6</b>
<b>4758 5.0X60</b>	60	5	9.5	2400	200	0.600	<b>3195 69 4</b>
<b>4758 6.0X30</b>	30	6	12	3200	200	0.600	<b>3195 91 0</b>
<b>4758 6.0X40</b>	40	6	12	2400	200	0.720	<b>3195 92 9</b>
<b>4758 6.0X50</b>	50	6	12	2400	200	0.830	<b>3195 93 7</b>
<b>4758 6.0X60</b>	60	6	12	2400	200	0.960	<b>3195 94 5</b>

St Steel GGP Electrogalvanised, yellow passivated /100 pc.

Hardened steel, electrogalvanised and yellow passivated, as well as Hostafion-coated, panhead with combined Philips and slotted head (Pozidrive size 2 except Ø 6 mm Pozidrive size 3).

The use of Sprint screws leads to considerably reduced screw-in times compared with standard screws. This noticeable advantage comes from the point with the first thread, which leads on to the double thread beyond.

Areas of use: wood, chipboard, Rigips panels, plastic anchors.



## Bolts and hooks



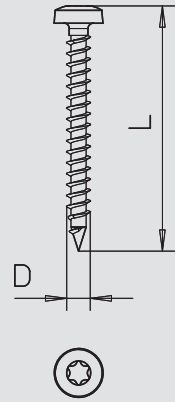
### GOLDEN SPRINT, with Torx

Type	Dimension L mm	Dimension D mm	Head Ø mm	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
4758T 3.5x15	15	3.5	6.5	6000	200	0.070	3198 01 6
4758T 3.5x20	20	3.5	6.5	6000	200	0.110	3198 01 8
4758T 3.5x25	25	3.5	6.5	6000	200	0.130	3198 02 0
4758T 3.5x30	30	3.5	6.5	6000	200	0.160	3198 02 2
4758T 3.5x35	35	3.5	6.5	4000	200	0.170	3198 02 4
4758T 3.5x40	40	3.5	6.5	3200	200	0.210	3198 02 6
4758T 4.0x15	15	4	7.5	6000	200	0.120	3198 03 0
4758T 4.0x20	20	4	7.5	6000	200	0.160	3198 03 2
4758T 4.0x25	25	4	7.5	6000	200	0.190	3198 03 4
4758T 4.0x30	30	4	7.5	4000	200	0.210	3198 03 6
4758T 4.0x35	35	4	7.5	3200	200	0.250	3198 03 8
4758T 4.0x40	40	4	7.5	3200	200	0.270	3198 04 0
4758T 4.0x45	45	4	7.5	3200	200	0.290	3198 04 2
4758T 4.0x50	50	4	7.5	2400	200	0.320	3198 04 4
4758T 4.5x30	30	4.5	8.2	4000	200	0.260	3198 05 4
4758T 4.5x35	35	4.5	8.2	3200	200	0.300	3198 05 6
4758T 4.5x40	40	4.5	8.2	3200	200	0.330	3198 05 8
4758T 4.5x45	45	4.5	8.2	3200	200	0.360	3198 06 0
4758T 4.5x50	50	4.5	8.2	2400	200	0.390	3198 06 2
4758T 5.0x30	30	5	9.5	3200	200	0.370	3198 07 3
4758T 5.0x35	35	5	9.5	3200	200	0.410	3198 07 5
4758T 5.0x40	40	5	9.5	3200	200	0.450	3198 07 7
4758T 5.0x45	45	5	9.5	2400	200	0.490	3198 07 9
4758T 5.0x50	50	5	9.5	2400	200	0.530	3198 08 1

St Steel GGP Electrogalvanised, yellow passivated /100 pc.

Hardened steel, electrogalvanised and yellow passivated, as well as Hostafion-coated, panhead with T bit (Allen head), sizes Ø 3 mm T10, Ø 3.5 mm T15, Ø 4 and 4.5 mm T20, Ø 5 mm T25. The use of Sprint screws leads to considerably reduced screw-in times compared with standard screws. This noticeable advantage comes from the point with the first thread, which leads on to the double thread beyond.

Areas of use: wood, chipboard, Rigips panels, plastic anchors.



### Sprint screw, with Philips slot

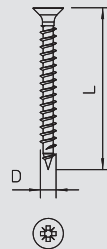
Type	Dimension L mm	Dimension D mm	Head Ø mm	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
4759 3.5x25	25	3.5	6.5	6000	200	0.110	3192 11 3
4759 3.5x30	30	3.5	6.5	6000	200	0.120	3192 12 1
4759 3.5x35	35	3.5	6.5	4000	200	0.140	3192 14 8
4759 3.5x40	40	3.5	6.5	3200	200	0.160	3192 15 6
4759 3.5x45	45	3.5	6.5	3200	200	0.180	3192 16 4
4759 3.5x50	50	3.5	6.5	3200	200	0.210	3192 17 2
4759 4.0x25	25	4	7.5	6000	200	0.150	3192 21 0
4759 4.0x30	30	4	7.5	4000	200	0.170	3192 22 9
4759 4.0x35	35	4	7.5	3200	200	0.190	3192 23 7
4759 4.0x40	40	4	7.5	3200	200	0.210	3192 24 5
4759 4.0x45	45	4	7.5	3200	200	0.240	3192 25 3
4759 4.0x50	50	4	7.5	2400	200	0.260	3192 26 1
4759 4.5x30	30	4.5	8.3	4000	200	0.240	3192 33 4
4759 4.5x35	35	4.5	8.3	3200	200	0.270	3192 34 2
4759 4.5x40	40	4.5	8.3	3200	200	0.300	3192 35 0
4759 4.5x45	45	4.5	8.3	3200	200	0.320	3192 36 9
4759 4.5x50	50	4.5	8.3	2400	200	0.360	3192 37 7
4759 5.0x30	30	5	9.2	3200	200	0.300	3192 41 5
4759 5.0x35	35	5	9.2	3200	200	0.360	3192 42 3
4759 5.0x40	40	5	9.2	3200	200	0.380	3192 43 1
4759 5.0x45	45	5	9.2	2400	200	0.430	3192 45 8
4759 5.0x50	50	5	9.2	2400	200	0.480	3192 46 6
4759 6.0x40	40	6	11	2400	200	0.570	3192 62 8
4759 6.0x50	50	6	11	2400	200	0.680	3192 63 6
4759 6.0x60	60	6	11	2400	200	0.790	3192 64 4

St Steel GGP Electrogalvanised, yellow passivated /100 pc.

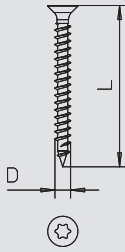
Hardened steel, electrogalvanised and yellow passivated, as well as Hostafion-coated, counter-sunk head with Philips head (Pozidrive size 2 except Ø 6 mm Pozidrive size 3).

The use of Sprint screws leads to considerably reduced screw-in times compared with standard screws. This noticeable benefit is achieved by the point with the first thread, which leads onto the double thread beyond.

Areas of use: wood, chipboard, Rigips panels, plastic anchors.







Sprint screw, with Torx



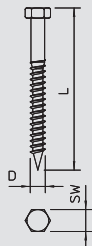
Type	Dimension L mm	Dimension D mm	Head Ø mm	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
4759T 3.0x15	15	3	5.6	6000	200	0.050	3198 19 3
4759T 3.0x25	25	3	5.6	6000	200	0.090	3198 19 7
4759T 3.0x30	30	3	5.6	6000	200	0.100	3198 19 9
4759T 3.5x15	15	3.5	6.5	6000	200	0.070	3198 21 9
4759T 3.5x20	20	3.5	6.5	6000	200	0.090	3198 22 1
4759T 3.5x25	25	3.5	6.5	6000	200	0.110	3198 22 3
4759T 3.5x30	30	3.5	6.5	6000	200	0.130	3198 22 5
4759T 3.5x35	35	3.5	6.5	4000	200	0.140	3198 22 7
4759T 3.5x40	40	3.5	6.5	3200	200	0.160	3198 22 9
4759T 3.5x50	50	3.5	6.5	3200	200	0.210	3198 23 1
4759T 4.0x15	15	4	7.5	6000	200	0.120	3198 23 7
4759T 4.0x20	20	4	7.5	6000	200	0.130	3198 23 9
4759T 4.0x25	25	4	7.5	6000	200	0.150	3198 24 1
4759T 4.0x30	30	4	7.5	4000	200	0.180	3198 24 3
4759T 4.0x35	35	4	7.5	3200	200	0.200	3198 24 5
4759T 4.0x40	40	4	7.5	3200	200	0.230	3198 24 7
4759T 4.0x45	45	4	7.5	3200	200	0.240	3198 24 9
4759T 4.0x50	50	4	7.5	2400	200	0.280	3198 25 1
4759T 4.5x30	30	4.5	8.2	4000	200	0.210	3198 26 0
4759T 4.5x35	35	4.5	8.2	3200	200	0.270	3198 26 2
4759T 4.5x40	40	4.5	8.2	3200	200	0.270	3198 26 4
4759T 4.5x45	45	4.5	8.2	3200	200	0.310	3198 26 6
4759T 4.5x50	50	4.5	8.2	2400	200	0.340	3198 26 8
4759T 5.0x30	30	5	9.5	3200	200	0.300	3198 27 6
4759T 5.0x35	35	5	9.5	3200	200	0.330	3198 27 8
4759T 5.0x40	40	5	9.5	3200	200	0.380	3198 28 0
4759T 5.0x45	45	5	9.5	2400	200	0.430	3198 28 2
4759T 5.0x50	50	5	9.5	2400	200	0.480	3198 28 4

**St** Steel **GGP** Electrogalvanised, yellow passivated /100 pc.

Hardened steel, electrogalvanised and yellow passivated, as well as Hostafion-coated, counter-sunk head with T bit (Allen head), sizes Ø 3 mm T10, Ø 3.5 mm T15, Ø 4 and 4.5 mm T20, Ø 5 mm T25.

The use of Sprint screws leads to considerably reduced screw-in times compared with standard screws. This noticeable benefit is achieved by the point with the first thread, which leads onto the double thread.

Areas of use: wood, chipboard, Rigips panels, plastic anchors.

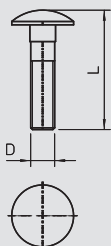


Hexagonal wood screw DIN 571

Type	Dimension L mm	Dimension D mm	SW mm	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
12400 6x40 G	40	6	10	1200	50	0.830	3188 04 3
12400 6x50 G	50	6	10	1000	50	0.960	3188 05 1
12400 6x60 G	60	6	10	1000	50	1.120	3188 07 8
12400 6x80 G	80	6	10	900	50	1.380	3188 09 4
12400 8x40 G	40	8	13	300	50	1.560	3188 14 0
12400 8x50 G	50	8	13	300	50	1.820	3188 15 9
12400 8x60 G	60	8	13	600	50	2.100	3188 16 7
12400 8x70 G	70	8	13	600	50	2.360	3188 17 5
12400 8x80 G	80	8	13	600	50	2.650	3188 18 3
12400 8x100 G	100	8	13	300	50	3.200	3188 20 5
12400 10x60 G	60	10	17	300	25	3.650	3188 25 6
12400 10x70 G	70	10	17	250	25	4.050	3188 27 2
12400 10x80 G	80	10	17	300	25	4.510	3188 28 0
12400 10x100 G	100	10	17	250	25	5.400	3188 30 2
12400 12x70 G	70	12	19	240	20	5.750	3188 36 1
12400 12x80 G	80	12	19	240	20	6.430	3188 38 8

**St** Steel **G** Electrogalvanised /100 pc.

Hexagonal screw to DIN 571 with wood thread. Suitable for anchors, type 910.



Truss-head bolt with combination nut, V2A

Type	Thread	Pack. pcs	Weight kg/100 pcs.	Item No.
FRSB 8x35 VA	M8	1	—	3175 60 8
FRSB 10x20 VA	M10	1	—	3175 62 0
FRSB 10x25 VA	M10	1	—	3175 62 5

**V2A** Stainless steel, grade 304 /100 pc.

Truss-head bolt with square neck and combination nut.



01\_VBS\_Masterkatalog\_Länder\_2012 / en / 29/05/2012 (LLEXP01\_01445) / 29/05/2012

Screw-in and knock-in systems

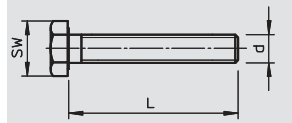
# Bolts and hooks



## Hexagonal bolt ISO 4017

Type	Dimension	Dimension L	Dimension d	SW	Pack.	Weight	Item No.
	mm	mm	mm	mm	pcs	kg/100 pcs.	
342 M6X16 G	M6 x 16	16	6	10	100	0.490	3156 14 1
342 M6X20 G	M6 x 20	20	6	10	100	0.580	3156 20 6
342 M6X25 G	M6 x 25	25	6	10	100	0.670	3156 25 7
342 M6X30 G	M6 x 30	30	6	10	100	0.750	3156 30 3
342 M6X35 G	M6 x 35	35	6	10	100	0.840	3156 35 4
342 M6X40 G	M6 x 40	40	6	10	100	0.920	3156 40 0
342 M8X20 G	M8 x 20	20	8	13	100	1.230	3158 20 9
342 M8X25 G	M8 x 25	25	8	13	100	1.390	3158 24 1
342 M8X30 G	M8 x 30	30	8	13	100	1.550	3158 30 6
342 M8X40 G	M8 x 40	40	8	13	100	1.870	3158 40 3
342 M8X50 G	M8 x 50	50	8	13	100	2.180	3158 50 0
342 M10X20 G	M10 x 20	20	10	17	100	2.320	3160 20 3
342 M10X30 G	M10 x 30	30	10	17	100	2.820	3160 30 0
342 M10X40 G	M10 x 40	40	10	17	50	3.240	3160 40 8
342 M10X50 G	M10 x 50	50	10	17	50	3.820	3160 50 5
342 M10X60 G	M10 x 60	60	10	17	50	4.330	3160 60 2
342 M12X30 G	M12 x 30	30	12	19	50	4.020	3162 30 3
342 M12X40 G	M12 x 40	40	12	19	50	4.740	3162 40 0
342 M12X50 G	M12 x 50	50	12	19	50	5.450	3162 50 8

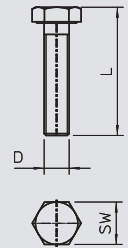
**St** Steel **G** Electrogalvanised /100 pc.  
Hexagonal bolt to ISO 4017 with metric thread



## Hexagonal bolt DIN 933 V2A

Type	Dimension L	Dimension D	SW	Pack.	Weight	Item No.
	mm	mm	mm	pcs	kg/100 pcs.	
DIN 933 M10x45VA	45	10	17	1	3.370	3156 04 0
DIN 933 M12x45VA	45	10	19	1	4.850	3156 04 2
DIN 933 M16x50VA	50	16	—	1	10.300	3156 04 4

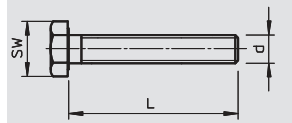
**V2A** Stainless steel, grade 304 /100 pc.  
Hexagonal bolt according to DIN 933 with metric thread.



## Hexagonal bolt DIN 933 V4A

Type	Dimension	Dimension L	Dimension d	SW	Pack.	Weight	Item No.
	mm	mm	mm	mm	pcs	kg/100 pcs.	
933 M6x16 V4A	M6 x 16	16	6	10	100	0.490	3156 01 6
933 M6x20 V4A	M6 x 20	20	6	10	100	0.580	3156 01 8
933 M6x25 V4A	M6 x 25	25	6	10	100	0.670	3156 01 9
933 M6x30 V4A	M6 x 30	30	6	10	100	0.750	3156 02 0
933 M6x35 V4A	M6 x 35	35	6	10	100	0.840	3156 02 1
933 M6x40 V4A	M6 x 40	40	6	10	100	0.920	3156 02 2
933 M8x20 V4A	M8 x 20	20	8	13	100	1.230	3156 02 4
933 M8x25 V4A	M8 x 25	25	8	13	100	1.390	3156 02 5
933 M8x30 V4A	M8 x 30	30	8	13	100	1.550	3156 02 6
933 M8x40 V4A	M8 x 40	40	8	13	600	1.870	3156 02 7
933 M8x50 V4A	M8 x 50	50	8	13	100	2.180	3156 02 8
933 M10x20 V4A	M10 x 20	20	10	17	100	2.320	3156 03 1
933 M10x30 V4A	M10 x 30	30	10	17	100	2.620	3156 03 2
933 M10x40 V4A	M10 x 40	40	10	17	50	3.120	3156 03 3
933 M10x50 V4A	M10 x 50	50	10	17	50	3.620	3156 03 4
933 M10x60 V4A	M10 x 60	60	10	17	50	4.130	3156 03 5
933 M12x30 V4A	M12 x 30	30	12	19	50	3.770	3156 03 6
933 M12x40 V4A	M12 x 40	40	—	19	50	4.740	3156 02 9
933 M12x50 V4A	M12 x 50	50	—	19	50	5.200	3156 03 7

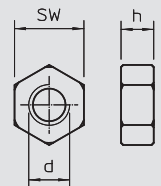
**V4A** Stainless steel, grade 316 Ti /100 pc.  
Hexagonal bolt M6 x 16 mm.

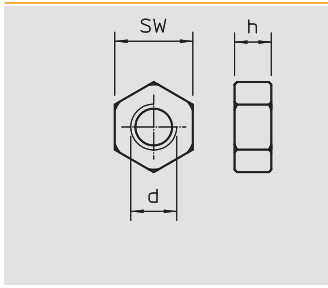


## Hexagonal nut DIN 934

Type	Thread	SW	Dimension h	Dimension d	Shipping box	Pack.	Weight	Item No.
		mm	mm	mm	pcs	pcs	kg/100 pcs.	
DIN 934 M4 G	M4	7	3.2	4	10000	100	0.080	3400 04 2
DIN 934 M5 G	M5	8	4.7	5	5000	100	0.120	3400 05 0
DIN 934 M6 G	M6	10	5.2	6	2600	100	0.230	3400 06 9
DIN 934 M8 G	M8	13	6.8	8	2400	100	0.470	3400 08 5
DIN 934 M10 G	M10	17	8.4	10	1000	100	1.080	3400 10 7
DIN 934 M12 G	M12	19	10.8	12	600	100	1.730	3400 12 3

**St** Steel **G** Electrogalvanised /100 pc.  
Hexagonal nut to DIN 934 with metric thread.





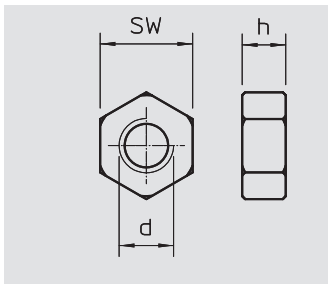
## Hexagonal nut DIN 934 V2A

Type	Thread	SW	Dimension h	Dimension d	Shipping box	Pack.	Weight	Item No.
		mm	mm	mm	pcs	pcs	kg/100 pcs.	
DIN 934 M6 VA	M6	10	5.2	6	4000	100	0.250	3397 06 8
DIN 934 M8 VA	M8	13	6.8	8	2400	100	0.520	3397 08 4
DIN 934 M10 VA	M10	17	8.4	10	1000	100	1.160	3397 10 6
DIN 934 M12 VA	M12	19	10.8	12	600	100	1.730	3397 11 4

V2A Stainless steel, grade 304

/100 pc.

Hexagonal nut to DIN 934 with metric thread.



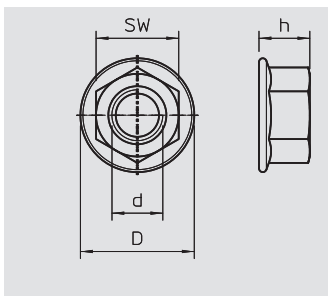
## Hexagonal nut DIN 934 V4A

Type	Thread	SW	Dimension h	Dimension d	Shipping box	Pack.	Weight	Item No.
		mm	mm	mm	pcs	pcs	kg/100 pcs.	
DIN 934 M6 V4A	M6	10	5.2	6	4000	100	0.250	3400 17 3
DIN 934 M8 V4A	M8	13	6.8	8	2400	100	0.520	3400 17 5
DIN 934 M10 V4A	M10	17	8.4	10	1000	100	1.080	3400 17 7
DIN 934 M12 V4A	M12	19	10.8	12	600	100	1.730	3397 14 5

V4A Stainless steel, grade 316 Ti

/100 pc.

Hexagonal nut to DIN 934 with metric thread.



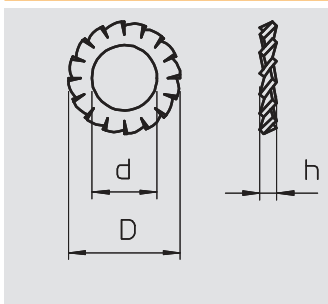
## Hexagonal nut with underhead tothing DIN 6923 V2A

Type	Dimension d	SW	Pack.	Weight	Item No.
	mm	mm	pcs	kg/100 pcs.	
DIN 6923 M8 VA	8	13	1	—	3156 12 0
DIN 6923 M10 VA	10	17	1	—	3156 12 2
DIN 6923 M12 VA	12	19	1	—	3156 12 6

V2A Stainless steel, grade 304

/100 pc.

Combination nut with pressed washer.



## Serrated washer DIN 6798

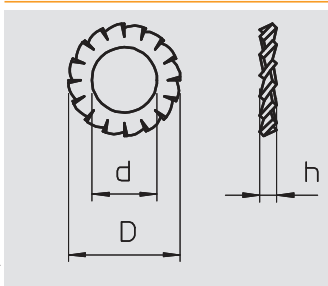
Type	Dimension d	Dimension D	Dimension h	Pack.	Weight	Item No.
	mm	mm	mm	pcs	kg/100 pcs.	
DIN 6798 A M5 G	5.3	10	1.8	100	0.020	3404 05 6
DIN 6798 A M6 G	6.4	11	2.1	100	0.040	3404 06 4
DIN 6798 A M8 G	8.4	15	2.4	100	0.080	3404 08 0
DIN 6798 A M10 G	10.5	18	2.7	100	0.130	3404 10 2
DIN 6798 A M12 G	13	20.5	3	100	0.160	3404 12 9

St Steel

G Electrogalvanised

/100 pc.

Serrated washer to DIN 6798, shape A.



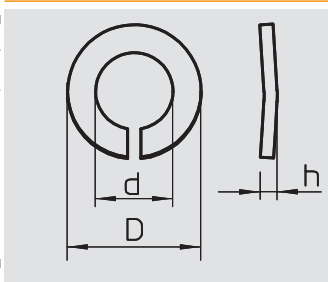
## Serrated washer DIN 6798 V4A

Type	Dimension d	Dimension D	Dimension h	Pack.	Weight	Item No.
	mm	mm	mm	pcs	kg/100 pcs.	
DIN 6798 M6 V4A	6.4	11	2.1	100	0.040	3404 37 3
DIN 6798 M8 V4A	8.4	15	2.4	100	0.080	3404 37 8
DIN 6798 M10 V4A	10.5	18	2.7	100	0.130	3404 38 2
DIN 6798 M12 V4A	13	20.5	3	100	0.170	3404 38 6

V4A Stainless steel, grade 316 Ti

/100 pc.

Serrated washer to DIN 6798, shape A.



## Lock washer

Type	Thread	Dimension d	Dimension D	Dimension h	Pack.	Weight	Item No.
		mm	mm	mm	pcs	kg/100 pcs.	
DIN 128 A M6 G	M6	6.3	11.8	2.1	100	0.070	3405 06 0
DIN 128 A M8 G	M8	8.3	14.8	2.6	100	0.130	3405 08 7
DIN 128 A M10 G	M10	10.5	18.1	3	100	0.210	3405 10 9
DIN 128 A M12 G	M12	12.5	21.1	3.5	100	0.320	3405 12 5

St Steel

G Electrogalvanised

/100 pc.

Lock washer according to DIN 128, shape A.



# Bolts and hooks



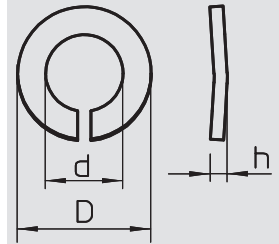
## Lock washer V4A

Type	Thread	Dimension d mm	Dimension D mm	Dimension h mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>DIN 128 A M6 V4A</b>	M6	6.3	11.8	2.1	100	0.070	<b>3405 06 2</b>
<b>DIN 128 A M8 V4A</b>	M8	8.3	14.8	2.6	100	0.130	<b>3405 08 9</b>
<b>DIN 128 A M10V4A</b>	M10	10.5	18.1	3	100	0.210	<b>3405 11 1</b>
<b>DIN 128 A M12V4A</b>	M12	12.5	21.1	3.5	100	0.320	<b>3405 12 7</b>

**V4A** Stainless steel, grade 316 Ti

/100 pc.

Lock washer according to DIN 128, shape A.



## Washer

Type	Thread	Dimension d mm	Dimension D mm	Dimension h mm	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>966 M4 G</b>	M4	4.3	9	0.8	10000	100	0.030	<b>3402 04 5</b>
<b>966 M6 G</b>	M6	6.4	12	1.6	12000	100	0.110	<b>3402 06 1</b>
<b>966 M8 G</b>	M8	8.4	16	1.6	5000	100	0.210	<b>3402 08 8</b>
<b>966 M10 G</b>	M10	10.5	20	2	3000	100	0.410	<b>3402 09 6</b>
<b>966 M12 G</b>	M12	13	24	2.5	2400	100	0.630	<b>3402 12 6</b>

**St** Steel

**G** Electrogalvanised

/100 pc.

Washer according to DIN 125, shape A, for universal use.

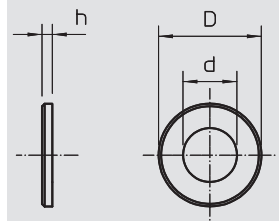
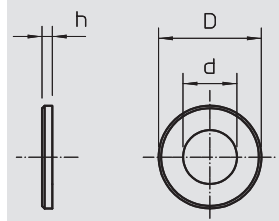
Type	Thread	Dimension d mm	Dimension D mm	Dimension h mm	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>967 M6 G</b>	M6	6.5	28	2.5	1000	100	1.150	<b>3402 20 7</b>
<b>967 M8 G</b>	M8	8.5	28	2.5	1400	100	1.100	<b>3402 21 5</b>
<b>967 M10 G</b>	M10	11	28	2.5	1400	100	1.020	<b>3402 22 3</b>

**St** Steel

**G** Electrogalvanised

/100 pc.

Washer of large outer diameter for universal use.



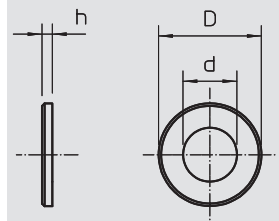
## Washer V2A

Type	Thread	Dimension d mm	Dimension D mm	Dimension h mm	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>966 M6 VA</b>	M6	6.4	12	1.6	10000	100	0.110	<b>3402 30 4</b>
<b>966 M8 VA</b>	M8	8.4	16	1.6	5000	100	0.210	<b>3402 31 2</b>
<b>966 M10 VA</b>	M10	10.5	20	2	3000	100	0.410	<b>3402 32 0</b>
<b>966 M12 VA</b>	M12	13	24	2.5	2400	100	0.630	<b>3402 33 9</b>

**V2A** Stainless steel, grade 304

/100 pc.

Washer according to DIN 125, shape A, for universal use.



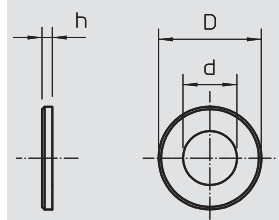
## Washer V4A

Type	Thread	Dimension d mm	Dimension D mm	Dimension h mm	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>966 M6 V4A</b>	M6	6.4	12	1.6	1000	100	0.110	<b>3402 30 6</b>
<b>966 M8 V4A</b>	M8	8.4	16	1.6	5000	100	0.210	<b>3402 31 4</b>
<b>966 M10 V4A</b>	M10	10.5	20	2	3000	100	0.410	<b>3402 32 2</b>
<b>966 M12 V4A</b>	M12	13	24	2.5	2400	100	0.630	<b>3402 34 5</b>

**V4A** Stainless steel, grade 316 Ti

/100 pc.

Washer according to DIN 125, shape A, for universal use.



## Large washer

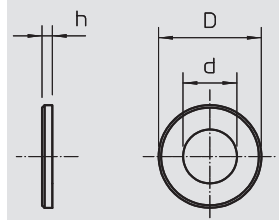
Type	Thread	Dimension d mm	Dimension D mm	Dimension h mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>964 M4 G15 G</b>	M4	4.3	15	1.2	100	0.160	<b>3403 02 5</b>
<b>964 M5 G20 G</b>	M5	5.3	20	1.2	100	0.270	<b>3403 04 1</b>
<b>964 M6 G25 G</b>	M6	6.4	25	1.2	100	0.420	<b>3403 08 4</b>
<b>964 M6 G30 G</b>	M6	6.4	30	1.3	100	0.680	<b>3403 09 2</b>
<b>964 M6 G20 G</b>	M6	6.4	20	1.5	100	0.260	<b>3403 07 6</b>
<b>964 M8 G20 G</b>	M8	8.4	20	1.5	100	0.240	<b>3403 12 2</b>
<b>964 M8 G25 G</b>	M8	8.4	25	1.2	100	0.370	<b>3403 13 0</b>
<b>964 M10 G30 G</b>	M10	10.5	30	1.5	100	0.590	<b>3403 16 5</b>

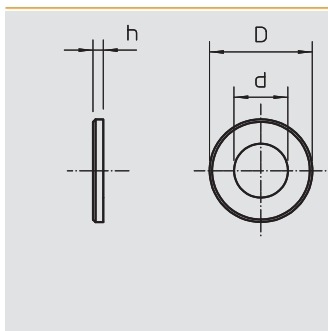
**St** Steel

**G** Electrogalvanised

/100 pc.

Washer of particularly large outer diameter.





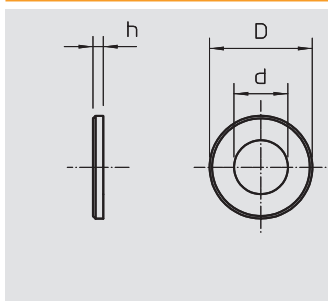
## Large washer, V2A

Type	Thread	Dimension d mm	Dimension D mm	Dimension h mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>964 M8 G20 V2A</b>	M8	8.4	20	1.5	100	0.240	<b>3403 12 5</b>
<b>964 M8 G25 V2A</b>	M8	8.4	25	1.2	100	0.370	<b>3403 13 5</b>
<b>964 M8 G40 V2A</b>	M8	8.5	40	1.5	100	0.370	<b>3403 14 5</b>
<b>964 M10 G30 V2A</b>	M10	10.5	30	1.5	100	0.590	<b>3403 15 5</b>
<b>964 M10 G40 V2A</b>	M10	10.5	40	1.5	100	0.590	<b>3403 17 5</b>

**V2A** Stainless steel, grade 304

/100 pc.

Washer of particularly large outer diameter. In the case of connections on the MS 41 mounting rail, we recommend the external diameter of 40 mm.



## Large washer, V4A

Type	Thread	Dimension d mm	Dimension D mm	Dimension h mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>964 M8 G20 V4A</b>	M8	8.4	20	1.5	100	0.240	<b>3403 12 7</b>
<b>964 M8 G25 V4A</b>	M8	8.4	25	1.2	100	0.370	<b>3403 13 7</b>
<b>964 M10 G30 V4A</b>	M10	10.5	30	1.5	100	0.590	<b>3403 16 3</b>
<b>964 M10 G40 V4A</b>	M10	10.5	40	1.5	100	0.590	<b>3403 17 7</b>

**V4A** Stainless steel, grade 316 Ti





/100 pc.

Washer of particularly large outer diameter. In the case of connections on the MS 41 mounting rail, we recommend the external diameter of 40 mm.





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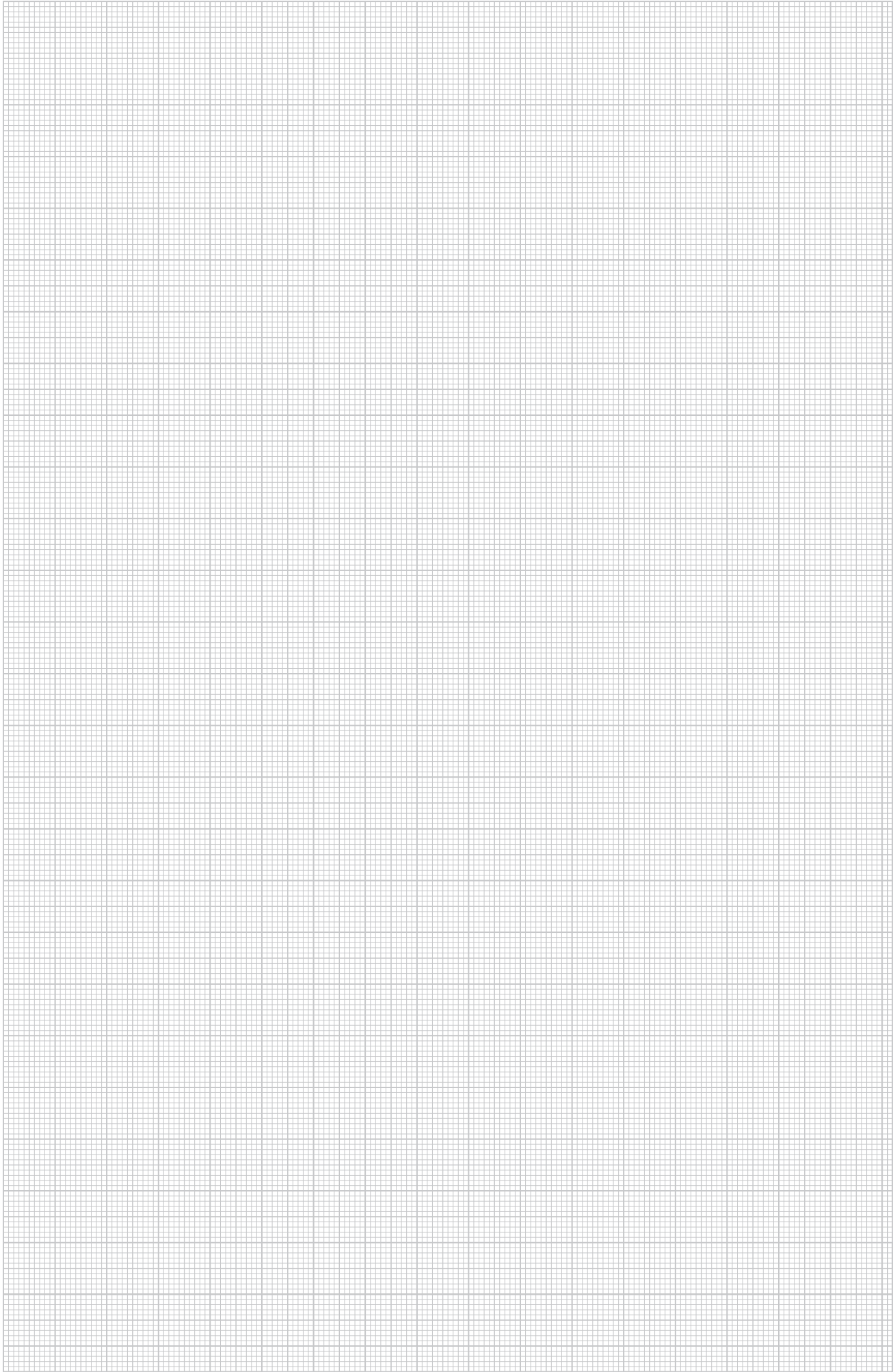
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500115	<b>1003 09 7</b>		300	556779	<b>1015 49 8</b>		307	503673	<b>1104 31 5</b>		346	587145	<b>1115 85 5</b>		389
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500127	<b>1003 11 9</b>		300	556791	<b>1015 50 8</b>		307	503685	<b>1104 32 5</b>		346	504651	<b>1117 02 5</b>		353
500133	<b>1003 12 7</b>		300					503847	<b>1104 34 9</b>		347	504657	<b>1117 03 3</b>		353
500139	<b>1003 13 5</b>		300	544953	<b>1017 79 9</b>		306	503853	<b>1104 35 7</b>		347	504663	<b>1117 06 8</b>		353
500145	<b>1003 17 8</b>		300	544965	<b>1017 83 7</b>		306	503859	<b>1104 37 3</b>		347				
500151	<b>1003 19 4</b>		300	544983	<b>1017 86 1</b>		306	505281	<b>1104 39 1</b>		347	504693	<b>1118 02 1</b>		356
500157	<b>1003 20 8</b>		300	559017	<b>1017 92 6</b>		306	503865	<b>1104 40 3</b>		347	504705	<b>1118 12 9</b>		356
500163	<b>1003 21 6</b>		300	545001	<b>1017 95 0</b>		306	548619	<b>1104 41 1</b>		347	504717	<b>1118 22 6</b>		356
500169	<b>1003 23 2</b>		300	558993	<b>1017 98 0</b>		306	505173	<b>1104 42 7</b>		347				
556689	<b>1003 25 9</b>		300	559005	<b>1017 99 7</b>		306	505263	<b>1104 43 5</b>		347	586431	<b>1119 64 8</b>		356
500175	<b>1003 28 3</b>		300									504759	<b>1119 65 6</b>		356
556695	<b>1003 32 1</b>		300	501627	<b>1018 07 8</b>		305	505269	<b>1104 44 5</b>	/100 m	347	520413	<b>1119 67 0</b>		356
500181	<b>1003 35 6</b>		300	501633	<b>1018 08 6</b>		305	503871	<b>1104 45 4</b>		347	505395	<b>1119 67 2</b>		356
500187	<b>1003 37 2</b>		300	501639	<b>1018 09 4</b>		305	569445	<b>1104 49 7</b>		346				
500193	<b>1003 40 2</b>		300	501645	<b>1018 10 8</b>		305	562707	<b>1104 49 8</b>		357	505929	<b>1119 67 8</b>	/100 pc.	356
500205	<b>1003 46 1</b>		300	501651	<b>1018 11 6</b>		305	503877	<b>1104 50 0</b>		346	505935	<b>1119 68 1</b>		356
				501657	<b>1018 12 4</b>		305	562708	<b>1104 50 1</b>		357	505941	<b>1119 68 4</b>		356
500283	<b>1004 16 6</b>		304	501663	<b>1018 13 2</b>		305					506025	<b>1119 68 7</b>		356
500289	<b>1004 19 0</b>		304	501669	<b>1018 14 0</b>		305	503943	<b>1105 12 4</b>		352	506037	<b>1119 69 0</b>		356
500301	<b>1004 21 2</b>		304	501675	<b>1018 15 9</b>		305	562709	<b>1105 12 5</b>		353	506061	<b>1119 69 3</b>		356
500313	<b>1004 29 8</b>		304	501681	<b>1018 16 7</b>		305					506067	<b>1119 69 6</b>		356
				501687	<b>1018 17 5</b>		305	503961	<b>1106 02 3</b>		352				
500745	<b>1009 02 8</b>		301	501693	<b>1018 18 3</b>		305	503973	<b>1106 12 0</b>		352	504765	<b>1119 70 2</b>	/100 m	356
500751	<b>1009 03 6</b>		301	501699	<b>1018 19 1</b>		305	504009	<b>1106 62 7</b>		352	504771	<b>1119 72 9</b>		356
500757	<b>1009 04 4</b>		301	501705	<b>1018 20 5</b>		305	562710	<b>1106 62 8</b>		352				
500763	<b>1009 05 2</b>		301	501711	<b>1018 21 3</b>		305					504777	<b>1120 20 4</b>		357
500769	<b>1009 06 0</b>		301	501717	<b>1018 22 1</b>		305	504045	<b>1107 12 7</b>		353				
500775	<b>1009 07 9</b>		301	501723	<b>1018 25 6</b>		305					504873	<b>1121 22 7</b>		357
500781	<b>1009 08 7</b>		301	501729	<b>1018 26 4</b>		305	504081	<b>1108 12 3</b>		353				
500787	<b>1009 10 9</b>		301	501735	<b>1018 28 0</b>		305					567297	<b>1121 24 3</b>	/pc.	358
500793	<b>1009 11 7</b>		301	501741	<b>1018 30 2</b>		305	504141	<b>1109 01 4</b>		354				
500799	<b>1009 16 8</b>		301	501747	<b>1018 33 7</b>		305	504147	<b>1109 02 2</b>		354	590690	<b>1121 24 5</b>	/100 pc.	359
500805	<b>1009 18 4</b>		301	501753	<b>1018 35 3</b>		305	504189	<b>1109 52 9</b>		353				
500811	<b>1009 19 2</b>		301	501759	<b>1018 36 1</b>		305					567255	<b>1121 27 8</b>	/pc.	358
500817	<b>1009 20 6</b>		301	501765	<b>1018 39 6</b>		305	503697	<b>1109 78 2</b>	/100 pc.	354				
500823	<b>1009 21 4</b>		301	501771	<b>1018 43 4</b>		305	503703	<b>1109 79 0</b>		354	590691	<b>1121 28 0</b>	/100 pc.	359
500835	<b>1009 23 0</b>		301	501777	<b>1018 47 7</b>		305	503709	<b>1109 80 4</b>		354				
500871	<b>1009 36 2</b>		301	556833	<b>1018 50 7</b>		305	503715	<b>1109 81 2</b>		354	567249	<b>1121 29 4</b>	/pc.	358
500907	<b>1009 42 7</b>		301	501783	<b>1018 55 8</b>		305	503721	<b>1109 82 0</b>		354				
				501789	<b>1018 60 4</b>		305	503727	<b>1109 83 9</b>		354	590692	<b>1121 29 6</b>	/100 pc.	359
591174	<b>1013 86 1</b>		303	556851	<b>1018 63 9</b>		305	503733	<b>1109 84 7</b>		354				
591175	<b>1013 86 5</b>		303	591200	<b>1018 65 3</b>		306					588225	<b>1121 30 8</b>	/pc.	358
591176	<b>1013 86 9</b>		303	591206	<b>1018 66 1</b>		306	503793	<b>1109 86 3</b>	/100 m	355				
591180	<b>1013 87 3</b>		303	591210	<b>1018 66 9</b>		306	504177	<b>1109 87 1</b>		355	590693	<b>1121 31 0</b>	/100 pc.	359
591181	<b>1013 87 7</b>		303	591213	<b>1018 67 9</b>		306								
591182	<b>1013 88 1</b>		303	591217	<b>1018 69 3</b>		306	505389	<b>1110 00 2</b>		354	567261	<b>1121 33 2</b>	/pc.	358
591183	<b>1013 88 5</b>		303	591223	<b>1018 70 5</b>		306	504207	<b>1110 00 4</b>		354				
591184	<b>1013 88 9</b>		303	590647	<b>1018 71 7</b>		306	562711	<b>1110 00 5</b>		355	590694	<b>1121 33 4</b>	/100 pc.	359
591185	<b>1013 89 3</b>		303	590650	<b>1018 72 9</b>		306								
591186	<b>1013 89 7</b>		303					504315	<b>1112 02 3</b>		355	506831	<b>1121 33 6</b>	/pc.	358
591187	<b>1013 90 3</b>		303	502845	<b>1043 01 3</b>		303	504327	<b>1112 12 0</b>		355				
591188	<b>1013 90 7</b>		303	502851	<b>1043 02 1</b>		303	504339	<b>1112 22 8</b>		355	590695	<b>1121 33 8</b>	/100 pc.	359
591189	<b>1013 91 1</b>		303	502869	<b>1043 06 4</b>		303	563259	<b>1112 70 8</b>		355				
591190	<b>1013 91 7</b>		303	502875	<b>1043 07 2</b>		303	562712	<b>1112 70 9</b>		355	551457	<b>1121 36 3</b>	/pc.	358
591191	<b>1013 92 1</b>		303	502881	<b>1043 08 0</b>		303	563253	<b>1112 75 9</b>		355				
591192	<b>1013 92 5</b>		303	502887	<b>1043 10 2</b>		303					590696	<b>1121 36 5</b>	/100 pc.	360
				502893	<b>1043 12 9</b>		303	504429	<b>1115 05 7</b>		390				
501363	<b>1014 00 5</b>		302	502899	<b>1043 14 5</b>		303	504435	<b>1115 06 5</b>		390	574503	<b>1121 39 1</b>	/pc.	358
501369	<b>1014 01 3</b>		302	502905	<b>1043 16 1</b>		303								
501375	<b>1014 02 1</b>		302	502911	<b>1043 19 6</b>		303	589795	<b>1115 27 0</b>	/100 pc.	170	590697	<b>1121 39 3</b>	/100 pc.	359
501381	<b>1014 04 8</b>		302	502917	<b>1043 22 6</b>		303	589796	<b>1115 27 4</b>		170				
501387	<b>1014 09 9</b>		302	502923	<b>1043 24 2</b>		303	589799	<b>1115 27 8</b>		170	588633	<b>1121 40 5</b>	/pc.	358
501393	<b>1014 11 0</b>		302					589800	<b>1115 28 2</b>		170				
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590704	<b>1122 46 9</b>		362	569790	<b>1123 00 3</b>		366	580501	<b>1124 70 3</b>		384	505497	<b>1146 63 7</b>		371
590705	<b>1122 47 0</b>		362	569791	<b>1123 00 5</b>		366	580502	<b>1124 70 5</b>		385	508417	<b>1146 64 6</b>		371
590706	<b>1122 47 1</b>		362	569792	<b>1123 00 8</b>		363	580505	<b>1124 70 7</b>		383	508418	<b>1146 64 8</b>		371
590707	<b>1122 47 2</b>		362	569831	<b>1123 01 0</b>		363	580506	<b>1124 70 9</b>		383	508421	<b>1146 65 0</b>		371
590708	<b>1122 47 3</b>		362	569832	<b>1123 01 2</b>		363	580508	<b>1124 71 3</b>		382	508422	<b>1146 65 2</b>		371
590709	<b>1122 47 4</b>		362	569833	<b>1123 01 4</b>		366	580512	<b>1124 71 5</b>		383	505503	<b>1146 71 8</b>		370
590710	<b>1122 47 5</b>		362	569834	<b>1123 01 6</b>		366	580513	<b>1124 72 3</b>		381	505509	<b>1146 72 6</b>		370
		/100 m		569838	<b>1123 01 8</b>		366	580514	<b>1124 72 5</b>		381	505515	<b>1146 73 4</b>		370
590711	<b>1122 47 6</b>		361	569839	<b>1123 02 1</b>		366	580517	<b>1124 72 7</b>		381	505521	<b>1146 74 2</b>		370
569796	<b>1122 47 9</b>		365	569840	<b>1123 02 3</b>		366	580518	<b>1124 72 9</b>		381	505527	<b>1146 80 7</b>		371
569797	<b>1122 48 1</b>		365	569843	<b>1123 02 5</b>		366	580519	<b>1124 73 1</b>		380	505533	<b>1146 81 5</b>		371
505073	<b>1122 48 3</b>		365			/100 pc.		580520	<b>1124 73 3</b>		382	505539	<b>1146 82 3</b>		371
505074	<b>1122 48 7</b>		365	590712	<b>1123 03 1</b>		364	580521	<b>1124 73 5</b>		382				
		/100 pc.		590713	<b>1123 03 3</b>		364	580522	<b>1124 73 7</b>		382	544568	<b>1148 95 0</b>		373
535632	<b>1122 50 0</b>		366	590714	<b>1123 03 5</b>		364	580523	<b>1124 73 9</b>		384	544572	<b>1148 95 5</b>		373
535633	<b>1122 50 1</b>		366	590715	<b>1123 03 7</b>		364	580524	<b>1124 74 1</b>		384	544573	<b>1148 96 1</b>		373
548451	<b>1122 50 9</b>		363	590716	<b>1123 03 9</b>		364	580525	<b>1124 74 3</b>		384	544574	<b>1148 96 6</b>		373
548589	<b>1122 51 7</b>		363	590717	<b>1123 04 1</b>		364	580526	<b>1124 74 5</b>		385	544578	<b>1148 97 2</b>		373
548625	<b>1122 52 5</b>		363	590718	<b>1123 04 3</b>		364	580527	<b>1124 74 7</b>		384	594191	<b>1148 99 0</b>		373
548679	<b>1122 53 3</b>		363	590719	<b>1123 04 5</b>		364	580528	<b>1124 74 9</b>		384	594192	<b>1148 99 2</b>		373
548691	<b>1122 54 1</b>		363			/100 m		580530	<b>1124 75 3</b>		383	594193	<b>1148 99 6</b>		373
548703	<b>1122 56 8</b>		363	590720	<b>1123 04 7</b>		365					594194	<b>1148 99 8</b>		373
548709	<b>1122 57 6</b>		363	590721	<b>1123 04 9</b>		365								
548715	<b>1122 58 4</b>		363	590722	<b>1123 05 1</b>		365			/pc.		594197	<b>1149 00 2</b>		373
		/100 m		590723	<b>1123 07 7</b>		367	547725	<b>1125 03 6</b>		390	505545	<b>1149 00 8</b>		372
548727	<b>1122 60 6</b>		364	590724	<b>1123 07 9</b>		367					505551	<b>1149 01 6</b>		372
548787	<b>1122 62 2</b>		364			/100 pc.						505575	<b>1149 21 0</b>		372
548817	<b>1122 65 7</b>		364	593921	<b>1123 12 1</b>		380			/100 pc.		505617	<b>1149 45 8</b>		372
569798	<b>1122 67 1</b>		367	593922	<b>1123 12 4</b>		380	505149	<b>1133 02 0</b>		369				
569802	<b>1122 67 3</b>		367	593923	<b>1123 12 6</b>		380					505623	<b>1150 01 4</b>		372
569803	<b>1122 67 6</b>		367	593924	<b>1123 12 8</b>		380	505185	<b>1134 02 7</b>		369	505647	<b>1150 20 0</b>		372
569804	<b>1122 67 8</b>		367	593927	<b>1123 19 1</b>		377	505197	<b>1134 04 3</b>		369	505653	<b>1150 21 9</b>		372
593802	<b>1122 68 2</b>		367	593928	<b>1123 19 3</b>		377	505203	<b>1134 05 1</b>		369	505671	<b>1150 24 3</b>		372
593803	<b>1122 68 4</b>		367	593929	<b>1123 19 5</b>		377	505227	<b>1134 25 6</b>		369	505695	<b>1150 45 6</b>		372
		/100 pc.		593930	<b>1123 19 7</b>		377	505233	<b>1134 26 4</b>		369				
568620	<b>1122 90 0</b>		367					549171	<b>1134 30 2</b>		369	505701	<b>1151 01 0</b>		372
568621	<b>1122 90 2</b>		362	585940	<b>1124 49 0</b>		284					505707	<b>1151 02 9</b>		372
589411	<b>1122 90 6</b>		368	585941	<b>1124 49 2</b>		284	505239	<b>1137 01 8</b>		369	505725	<b>1151 21 5</b>		372
		/100 m		566811	<b>1124 50 2</b>		347	505251	<b>1137 21 2</b>		369	505731	<b>1151 22 3</b>		372
569750	<b>1122 90 8</b>		363	578531	<b>1124 55 5</b>		358	505257	<b>1137 22 0</b>		369	505743	<b>1151 25 8</b>		372
568622	<b>1122 91 0</b>		363	578532	<b>1124 56 3</b>		360					505749	<b>1151 40 1</b>		372
568623	<b>1122 91 2</b>		363	548574	<b>1124 60 1</b>		378	505299	<b>1140 01 9</b>		370	505755	<b>1151 42 8</b>		372
568624	<b>1122 91 4</b>		365	548575	<b>1124 60 3</b>		378	505305	<b>1140 21 3</b>		370	505767	<b>1151 44 4</b>		372
568625	<b>1122 91 6</b>		365	548576	<b>1124 60 5</b>		378					505779	<b>1151 62 2</b>		372
568626	<b>1122 91 8</b>		360	548580	<b>1124 60 7</b>		377	505311	<b>1141 05 8</b>		369	505791	<b>1151 64 9</b>		372
568627	<b>1122 92 0</b>		360	548581	<b>1124 60 9</b>		377	505317	<b>1141 06 6</b>		369	505797	<b>1151 70 3</b>		349
568628	<b>1122 92 2</b>		360	548582	<b>1124 61 1</b>		377	505323	<b>1141 10 4</b>		369	505803	<b>1151 71 1</b>		349
569754	<b>1122 92 3</b>		361	548586	<b>1124 61 3</b>		378								
568629	<b>1122 92 4</b>		361	548587	<b>1124 61 5</b>		378	505329	<b>1142 05 4</b>		370	505833	<b>1153 41 2</b>		373
568630	<b>1122 92 6</b>		361	548588	<b>1124 61 7</b>		378	505335	<b>1142 06 2</b>		370	505839	<b>1153 42 0</b>		373
569755	<b>1122 92 8</b>		361	548591	<b>1124 61 9</b>		379					505845	<b>1153 43 9</b>		373
569756	<b>1122 92 9</b>		361	548592	<b>1124 62 1</b>		379	505341	<b>1143 06 9</b>		370	590790	<b>1153 46 2</b>		373
569760	<b>1122 93 1</b>		361	548593	<b>1124 62 3</b>		379	511992	<b>1143 12 3</b>		370	590791	<b>1153 46 5</b>		373
569761	<b>1122 93 2</b>		361	548594	<b>1124 62 5</b>		379	508598	<b>1143 12 5</b>		370	590792	<b>1153 54 3</b>		373
		/100 pc.		548595	<b>1124 62 7</b>		379	508601	<b>1143 12 7</b>		370	505875	<b>1153 61 7</b>		373
569762	<b>1122 93 3</b>		361	548596	<b>1124 62 9</b>		379					505881	<b>1153 62 5</b>		373
569766	<b>1122 93 4</b>		361	548597	<b>1124 63 1</b>		379	505371	<b>1144 10 3</b>		349	505887	<b>1153 63 3</b>		373
569767	<b>1122 93 5</b>		361	548598	<b>1124 63 3</b>		378	505377	<b>1144 11 1</b>		349	505893	<b>1153 64 1</b>		373
569768	<b>1122 93 6</b>		361	548600	<b>1124 64 1</b>		378	505383	<b>1144 13 8</b>		349	590796	<b>1153 71 3</b>		373
569772	<b>1122 93 7</b>		361	548601	<b>1124 64 3</b>		378					590797	<b>1153 72 0</b>		373
569773	<b>1122 93 8</b>		361	548602	<b>1124 64 5</b>		378	589699	<b>1146 39 0</b>		371	590798	<b>1153 74 8</b>		373
569774	<b>1122 93 9</b>		361	548603	<b>1124 64 7</b>		377	589700	<b>1146 39 2</b>		371	590799	<b>1153 75 3</b>		373
569778	<b>1122 94 0</b>		361	548604	<b>1124 64 9</b>		377	589704	<b>1146 39 4</b>		371				
		/100 m		548605	<b>1124 65 1</b>		377	589705	<b>1146 39 6</b>		371	548369	<b>1154 40 3</b>		373
569779	<b>1122 94 4</b>		362	548606	<b>1124 65 3</b>		378	594198	<b>1146 40 1</b>		371	590804	<b>1154 40 9</b>		374
569780	<b>1122 94 5</b>		362	548607	<b>1124 65 5</b>		378	594199	<b>1146 40 3</b>		371	505971	<b>1154 41 9</b>		373
569784	<b>1122 94 7</b>		362	548608	<b>1124 65 7</b>		378	594200	<b>1146 40 6</b>		371	505977	<b>1154 42 7</b>		373
569785	<b>1122 94 8</b>		362	548609	<b>1124 65 9</b>		379	594203	<b>1146 40 8</b>		371	505			

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506115	<b>1155 46 6</b>	/100 pc.	396	566822	<b>1159 72 8</b>	/100 pc.	402	506931	<b>1166 02 6</b>	/100 pc.	395	507465	<b>1178 51 2</b>	/100 pc.	405
506121	<b>1155 47 4</b>		396	566826	<b>1159 73 4</b>		402	506937	<b>1166 03 4</b>		395	507471	<b>1178 52 0</b>		405
506127	<b>1155 48 2</b>		396	566827	<b>1159 74 0</b>		402	506943	<b>1166 04 2</b>		395	507477	<b>1178 53 9</b>		405
506133	<b>1155 49 0</b>		396	566828	<b>1159 74 6</b>		402	506949	<b>1166 05 0</b>		395	507483	<b>1178 54 7</b>		405
				566829	<b>1159 75 2</b>		402	506955	<b>1166 06 9</b>		395	507489	<b>1178 55 5</b>		405
506271	<b>1156 00 4</b>		401	566830	<b>1159 75 8</b>		402	506961	<b>1166 07 7</b>		395	507495	<b>1178 56 3</b>		405
506277	<b>1156 01 2</b>		401	566831	<b>1159 76 4</b>		402	506967	<b>1166 08 5</b>		395	507501	<b>1178 57 1</b>		405
506283	<b>1156 02 0</b>		401	566832	<b>1159 77 0</b>		402	506973	<b>1166 09 3</b>		395	507507	<b>1178 59 8</b>		405
506289	<b>1156 03 9</b>		401	566833	<b>1159 77 6</b>		402	506979	<b>1166 10 7</b>		395	507513	<b>1178 60 1</b>		405
506295	<b>1156 04 7</b>		401									507519	<b>1178 62 8</b>		405
506301	<b>1156 05 5</b>		401	506445	<b>1160 12 5</b>		397	543237	<b>1167 00 6</b>		396	507525	<b>1178 63 6</b>		405
506307	<b>1156 06 3</b>		401	506451	<b>1160 16 8</b>		397	543243	<b>1167 01 4</b>		396				
506313	<b>1156 07 1</b>		401	506457	<b>1160 22 2</b>		397	543249	<b>1167 02 2</b>		396	507543	<b>1180 12 6</b>		411
506319	<b>1156 09 8</b>		401	506463	<b>1160 28 1</b>		397	543255	<b>1167 03 0</b>		396	507549	<b>1180 16 9</b>		411
506325	<b>1156 10 1</b>		401	506469	<b>1160 34 6</b>		397	543261	<b>1167 04 9</b>		396	507555	<b>1180 22 3</b>		411
506331	<b>1156 12 8</b>		401	506475	<b>1160 40 0</b>		397					507561	<b>1180 28 2</b>		411
506337	<b>1156 13 6</b>		401	506481	<b>1160 45 1</b>		397	507063	<b>1169 12 2</b>		408	507567	<b>1180 34 7</b>		411
506343	<b>1156 14 4</b>		401	506487	<b>1160 52 4</b>		397	507069	<b>1169 16 5</b>		408	507573	<b>1180 40 1</b>		411
506349	<b>1156 15 2</b>		401	506493	<b>1160 58 3</b>		397	507075	<b>1169 21 1</b>		408	507579	<b>1180 46 0</b>		411
506355	<b>1156 16 0</b>		401	506499	<b>1160 64 8</b>		397	507081	<b>1169 28 9</b>		408	507585	<b>1180 52 5</b>		411
549483	<b>1156 17 9</b>		401	506505	<b>1160 70 2</b>		397	507087	<b>1169 34 3</b>		408	507591	<b>1180 58 4</b>		411
549489	<b>1156 18 7</b>		401	506511	<b>1160 76 1</b>		397	507093	<b>1169 40 8</b>		408	507597	<b>1180 64 9</b>		411
549495	<b>1156 19 5</b>		401	506517	<b>1160 82 6</b>		397	507099	<b>1169 46 7</b>		408	507603	<b>1180 68 1</b>		411
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595876	<b>1156 24 1</b>		402	506529	<b>1160 99 0</b>		397	507111	<b>1169 58 0</b>		408	507615	<b>1180 82 7</b>		411
595882	<b>1156 26 8</b>		402					507117	<b>1169 64 5</b>		408	507621	<b>1180 90 8</b>		411
595888	<b>1156 27 6</b>		402	506535	<b>1161 12 1</b>		397	507123	<b>1169 69 6</b>		408				
595894	<b>1156 28 4</b>		402	506541	<b>1161 16 4</b>		397	507129	<b>1169 76 9</b>		408	507633	<b>1181 12 2</b>		411
549519	<b>1156 80 2</b>		410	506547	<b>1161 22 9</b>		397	507135	<b>1169 82 3</b>		408	507639	<b>1181 16 5</b>		411
549525	<b>1156 81 0</b>		410	506553	<b>1161 28 8</b>		397	507141	<b>1169 90 4</b>		408	507645	<b>1181 21 1</b>		411
549531	<b>1156 82 9</b>		410	506559	<b>1161 34 2</b>		397					507651	<b>1181 28 9</b>		411
549537	<b>1156 83 7</b>		410	506565	<b>1161 40 7</b>		397	507153	<b>1170 12 0</b>		408	507657	<b>1181 34 3</b>		411
				506571	<b>1161 46 6</b>		397	507159	<b>1170 16 3</b>		408	507663	<b>1181 40 8</b>		411
549825	<b>1158 00 7</b>		406	506577	<b>1161 52 0</b>		397	507165	<b>1170 22 8</b>		408	507669	<b>1181 46 7</b>		411
549831	<b>1158 01 5</b>		406	506583	<b>1161 57 1</b>		397	507171	<b>1170 28 7</b>		408	507675	<b>1181 52 1</b>		411
549837	<b>1158 02 3</b>		406	506589	<b>1161 64 4</b>		397	507177	<b>1170 34 1</b>		408	507681	<b>1181 58 0</b>		411
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549849	<b>1158 05 8</b>		406	506613	<b>1161 83 0</b>		400	507189	<b>1170 46 5</b>		408	507729	<b>1183 20 6</b>		398
549855	<b>1158 06 6</b>		406	506619	<b>1161 84 9</b>		400	507195	<b>1170 51 1</b>		408	507735	<b>1183 21 4</b>		398
549861	<b>1158 07 4</b>		406	506625	<b>1161 85 7</b>		400					507741	<b>1183 22 2</b>		398
549867	<b>1158 08 2</b>		406	506631	<b>1161 86 5</b>		400	507249	<b>1174 05 3</b>		403	507747	<b>1183 23 0</b>		398
549873	<b>1158 09 0</b>		406	506637	<b>1161 87 3</b>		400	545121	<b>1174 50 9</b>		414	507753	<b>1183 24 9</b>		398
549879	<b>1158 10 4</b>		406	506643	<b>1161 88 1</b>		400	545127	<b>1174 51 7</b>		414	507759	<b>1183 25 7</b>		398
549885	<b>1158 11 2</b>		406	506649	<b>1161 90 3</b>		400	545133	<b>1174 52 5</b>		414	507765	<b>1183 26 5</b>		398
549891	<b>1158 12 0</b>		406	566834	<b>1161 91 2</b>		403	507255	<b>1174 54 1</b>		414	507771	<b>1183 27 3</b>		398
591225	<b>1158 20 7</b>		407	566838	<b>1161 91 6</b>		403	507261	<b>1174 56 8</b>		414	507777	<b>1183 28 1</b>		398
591226	<b>1158 21 1</b>		407	566839	<b>1161 92 2</b>		403	507267	<b>1174 57 6</b>		414	507783	<b>1183 30 3</b>		398
591227	<b>1158 21 5</b>		407	566840	<b>1161 92 8</b>		403	550035	<b>1174 60 6</b>		413	543531	<b>1183 31 1</b>		398
591228	<b>1158 21 9</b>		407	566844	<b>1161 93 4</b>		403	550041	<b>1174 61 4</b>		413	543537	<b>1183 33 8</b>		398
591229	<b>1158 22 3</b>		407	566845	<b>1161 94 0</b>		403	550047	<b>1174 63 0</b>		413	543549	<b>1183 38 9</b>		399
591230	<b>1158 22 7</b>		407	566846	<b>1161 94 6</b>		403					543555	<b>1183 39 7</b>		399
591231	<b>1158 23 1</b>		407	566850	<b>1161 95 2</b>		403	507273	<b>1175 12 2</b>		404	543561	<b>1183 40 0</b>		399
591232	<b>1158 23 5</b>		407	566851	<b>1161 95 8</b>		403	507279	<b>1175 16 5</b>		404	543567	<b>1183 41 9</b>		399
591233	<b>1158 23 9</b>		407	566852	<b>1161 96 4</b>		403	507285	<b>1175 21 1</b>		404	543573	<b>1183 42 7</b>		399
591234	<b>1158 24 3</b>		407					507291	<b>1175 28 9</b>		404	543579	<b>1183 43 5</b>		399
591235	<b>1158 24 7</b>		407	506697	<b>1162 12 8</b>		398	507297	<b>1175 34 3</b>		404	543585	<b>1183 44 3</b>		399
591236	<b>1158 25 1</b>		407	506703	<b>1162 16 0</b>		398	507303	<b>1175 40 8</b>		404	543591	<b>1183 45 1</b>		399
535841	<b>1158 30 5</b>		413	506709	<b>1162 22 5</b>		398	507309	<b>1175 46 7</b>		404	543597	<b>1183 47 8</b>		399
535842	<b>1158 30 9</b>		413	506715	<b>1162 28 4</b>		398	507315	<b>1175 52 1</b>		404	543621	<b>1183 52 4</b>		399
535843	<b>1158 31 3</b>		413	506721	<b>1162 34 9</b>		398	507321	<b>1175 58 0</b>		404	543627	<b>1183 53 2</b>		399
535844	<b>1158 31 7</b>		413	506727	<b>1162 40 3</b>		398	507327	<b>1175 64 5</b>		404	543633	<b>1183 54 0</b>		399
535847	<b>1158 32 1</b>		413	506733	<b>1162 46 2</b>		398	507333	<b>1175 69 6</b>		404	543651	<b>1183 60 5</b>		395
535848	<b>1158 32 5</b>		413					507339	<b>1175 76 9</b>		404	543657	<b>1183 61 3</b>		395
535849	<b>1158 32 9</b>		413	506739	<b>1163 12 4</b>		394	507345	<b>1175 82 3</b>		404	543663	<b>1183 62 1</b>		395
535850	<b>1158 33 3</b>		413	506745	<b>1163 16 7</b>		394	507351	<b>1175 90 4</b>		404	543669	<b>1183 64 8</b>		395
535853	<b>1158 33 7</b>		413	506751	<b>1163 22 1</b>		394	507357	<b>1175 99 8</b>		404	543675	<b>1183 65 6</b>		395
523659	<b>1158 41 0</b>		413	506757	<b>1163 28 0</b>										



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		/100 pc.				/100 pc.				/100 pc.				/100 pc.	
543933	<b>1184 46 6</b>		406	584433	<b>1197 47 9</b>		415	502980	<b>1361 09 7</b>		294	512331	<b>1385 13 5</b>		298
543939	<b>1184 47 4</b>		406	508353	<b>1197 52 5</b>		415	502981	<b>1361 10 0</b>		294				
543945	<b>1184 48 2</b>		406	582189	<b>1197 53 3</b>		415	502982	<b>1361 10 3</b>		294	512367	<b>1387 01 4</b>		298
543951	<b>1184 49 0</b>		406	508359	<b>1197 58 4</b>		415	502986	<b>1361 10 6</b>		294	512373	<b>1387 03 0</b>		298
543957	<b>1184 50 4</b>		406	584763	<b>1197 59 2</b>		415	502987	<b>1361 10 9</b>		294	512379	<b>1387 05 7</b>		298
543963	<b>1184 51 2</b>		406	586599	<b>1197 60 6</b>		415	502988	<b>1361 11 2</b>		294	512385	<b>1387 06 5</b>		298
543975	<b>1184 53 9</b>		406	508365	<b>1197 64 9</b>		415	525434	<b>1361 11 5</b>		294	512391	<b>1387 08 1</b>		298
544023	<b>1184 70 9</b>		409	508371	<b>1197 70 3</b>		415	561565	<b>1361 11 7</b>		294	512397	<b>1387 11 1</b>		298
544029	<b>1184 71 7</b>		409	508377	<b>1197 76 2</b>		415	525438	<b>1361 11 8</b>		294	512403	<b>1387 13 8</b>		298
544035	<b>1184 72 5</b>		409	508383	<b>1197 82 7</b>		415	511593	<b>1361 13 9</b>		294	512409	<b>1387 15 4</b>		298
544041	<b>1184 73 3</b>		409	508389	<b>1197 90 8</b>		415	511599	<b>1361 16 3</b>		294	512415	<b>1387 17 0</b>		298
544047	<b>1184 74 1</b>		409	508395	<b>1197 99 1</b>		415	511605	<b>1361 19 8</b>		294				
544053	<b>1184 76 8</b>		409					511611	<b>1361 20 1</b>		294	512445	<b>1388 03 7</b>		299
544059	<b>1184 77 6</b>		409	544143	<b>1199 70 6</b>		416	511617	<b>1361 23 6</b>		294	512451	<b>1388 05 3</b>		299
				544149	<b>1199 71 4</b>		416	511623	<b>1361 29 5</b>		294	512457	<b>1388 06 1</b>		299
507789	<b>1185 00 4</b>		409	544155	<b>1199 72 2</b>		416	511629	<b>1361 38 4</b>		294	512469	<b>1388 11 8</b>		299
507795	<b>1185 01 2</b>		409	544161	<b>1199 73 0</b>		416	511635	<b>1361 48 1</b>		294	512475	<b>1388 13 4</b>		299
507801	<b>1185 02 0</b>		409	544167	<b>1199 74 9</b>		416	511641	<b>1361 51 1</b>		294	554481	<b>1388 37 1</b>		299
507807	<b>1185 03 9</b>		409	544173	<b>1199 75 7</b>		416	511647	<b>1361 61 9</b>		294	554487	<b>1388 39 8</b>		299
507813	<b>1185 04 7</b>		409	544203	<b>1199 84 6</b>		415	511653	<b>1361 63 5</b>		294	554493	<b>1388 42 8</b>		299
507819	<b>1185 05 5</b>		409	544209	<b>1199 85 4</b>		415	591266	<b>1361 64 3</b>		296				
507825	<b>1185 06 3</b>		409	544215	<b>1199 86 2</b>		415	591270	<b>1361 64 7</b>		296	512589	<b>1404 16 4</b>		318
507831	<b>1185 07 1</b>		409	544221	<b>1199 87 0</b>		415	591271	<b>1361 65 1</b>		296	590179	<b>1404 16 8</b>		318
507837	<b>1185 09 8</b>		409	544227	<b>1199 88 9</b>		415	591272	<b>1361 65 5</b>		296	512595	<b>1404 18 0</b>		318
507843	<b>1185 10 1</b>		409	544233	<b>1199 89 7</b>		415	591275	<b>1361 65 9</b>		296	590180	<b>1404 18 4</b>		318
507939	<b>1185 43 8</b>		412	544239	<b>1199 90 0</b>		415	591276	<b>1361 66 3</b>		296	512601	<b>1404 28 8</b>		318
507945	<b>1185 44 6</b>		412	544245	<b>1199 91 9</b>		415	591277	<b>1361 66 7</b>		296	590181	<b>1404 29 2</b>		318
507951	<b>1185 45 4</b>		412	544251	<b>1199 92 7</b>		415	591278	<b>1361 67 1</b>		296				
507957	<b>1185 46 2</b>		412	544257	<b>1199 93 5</b>		415	591282	<b>1361 67 5</b>		296	512679	<b>1408 01 1</b>		346
507963	<b>1185 47 0</b>		412	544263	<b>1199 94 3</b>		415	591283	<b>1361 67 9</b>		296	512685	<b>1408 04 6</b>		346
507969	<b>1185 48 9</b>		412					591284	<b>1361 68 3</b>		296			/100	
507975	<b>1185 49 7</b>		412	510597	<b>1310 61 5</b>		299					512697	<b>1408 51 8</b>		344
				510603	<b>1310 65 8</b>		299	511671	<b>1362 01 1</b>		295	512703	<b>1408 53 4</b>		345
503307	<b>1193 70 8</b>		403	510615	<b>1310 92 5</b>		304	511677	<b>1362 03 8</b>		295			/100 pc.	
503313	<b>1193 71 6</b>		403					511683	<b>1362 04 6</b>		295				
503319	<b>1193 72 4</b>		403	511449	<b>1360 05 1</b>		292	511689	<b>1362 05 4</b>		295	513483	<b>1435 01 9</b>		307
503325	<b>1193 73 2</b>		403	511455	<b>1360 08 6</b>		292	511695	<b>1362 06 2</b>		295	513489	<b>1435 02 7</b>		307
503331	<b>1193 74 0</b>		403	511461	<b>1360 10 8</b>		292	511701	<b>1362 07 0</b>		295				
503337	<b>1193 75 9</b>		403	511467	<b>1360 12 4</b>		292	511707	<b>1362 08 9</b>		295	513495	<b>1436 01 5</b>		307
503343	<b>1193 76 7</b>		403	511473	<b>1360 14 0</b>		292	511713	<b>1362 09 7</b>		295	513501	<b>1436 02 3</b>		307
				511479	<b>1360 15 9</b>		292	511719	<b>1362 10 0</b>		295				
508119	<b>1194 04 6</b>		414	511485	<b>1360 16 7</b>		292	511725	<b>1362 12 7</b>		295	513507	<b>1437 00 3</b>		308
508125	<b>1194 05 4</b>		414	511491	<b>1360 18 3</b>		292	545025	<b>1362 52 6</b>		295	513513	<b>1437 01 1</b>		308
508131	<b>1194 08 9</b>		414	511497	<b>1360 20 5</b>		292	545031	<b>1362 53 4</b>		295	513519	<b>1437 03 8</b>		308
547677	<b>1194 37 2</b>		414	511503	<b>1360 22 1</b>		292	545037	<b>1362 54 2</b>		295				
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508137	<b>1195 12 3</b>		415	511515	<b>1360 26 4</b>		292	545055	<b>1362 57 7</b>		295				
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515715	<b>2012 84 7</b>		231	553305	<b>2022 85 5</b>		212								
515721	<b>2012 85 5</b>		231	553311	<b>2022 85 7</b>		212	508863	<b>2024 06 3</b>		230	516705	<b>2029 10 3</b>		241
515733	<b>2012 87 1</b>		231	553317	<b>2022 86 2</b>		212	516285	<b>2024 13 6</b>		229	516711	<b>2029 11 1</b>		241
515745	<b>2012 92 8</b>		231	553323	<b>2022 86 4</b>		212	516291	<b>2024 16 0</b>		229	516717	<b>2029 13 8</b>		241
				553365	<b>2022 86 6</b>		212					516723	<b>2029 16 2</b>		241
551517	<b>2013 00 2</b>		230	553371	<b>2022 86 8</b>		212	584289	<b>2024 17 9</b>		219	516729	<b>2029 21 9</b>		241
551523	<b>2013 00 6</b>		230	553377	<b>2022 87 0</b>		212	584295	<b>2024 18 7</b>		219	516735	<b>2029 29 4</b>		241
551529	<b>2013 00 7</b>		230	553383	<b>2022 87 2</b>		212	584301	<b>2024 19 5</b>		219	516741	<b>2029 36 7</b>		241
551535	<b>2013 00 8</b>		230	553389	<b>2022 87 4</b>		212	584307	<b>2024 20 9</b>		219	516747	<b>2029 42 1</b>		241
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551565	<b>2013 01 3</b>		230	553575	<b>2022 88 9</b>		212	583953	<b>2024 28 4</b>		219	538998	<b>2029 52 0</b>		223
551571	<b>2013 01 5</b>		230	553821	<b>2022 89 1</b>		212	583959	<b>2024 29 2</b>		219	538999	<b>2029 52 3</b>		223
551577	<b>2013 01 6</b>		230	553833	<b>2022 89 3</b>		212	583965	<b>2024 30 6</b>		219	536058	<b>2029 56 0</b>		222
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551589	<b>2013 01 8</b>		230	553851	<b>2022 89 7</b>		212	583977	<b>2024 32 2</b>		219	536060	<b>2029 56 6</b>		222
551595	<b>2013 01 9</b>		230	589669	<b>2022 90 0</b>		214	583983	<b>2024 33 0</b>		219	536063	<b>2029 56 9</b>		222
551601	<b>2013 02 0</b>		230	589670	<b>2022 90 1</b>		214	583989	<b>2024 34 9</b>		219	536064	<b>2029 57 2</b>		222
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551613	<b>2013 02 2</b>		230	589674	<b>2022 90 3</b>		214	584001	<b>2024 36 5</b>		219	536066	<b>2029 57 8</b>		222
551619	<b>2013 02 5</b>		230	589675	<b>2022 90 4</b>		214	584007	<b>2024 37 3</b>		219	536069	<b>2029 58 1</b>		222
551625	<b>2013 02 6</b>		230	589676	<b>2022 90 5</b>		214	586100	<b>2024 65 5</b>		217	582459	<b>2029 61 8</b>		222
551631	<b>2013 02 7</b>		230	589677	<b>2022 90 6</b>		214	586104	<b>2024 65 7</b>		217	582465	<b>2029 62 6</b>		222
551637	<b>2013 02 8</b>		230					586105	<b>2024 65 9</b>		217	582471	<b>2029 63 4</b>		222
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551655	<b>2013 03 1</b>		230	500378	<b>2022 92 1</b>		215	586108	<b>2024 66 5</b>		217	582489	<b>2029 66 9</b>		222
551661	<b>2013 03 2</b>		230	500382	<b>2022 92 4</b>		215	586109	<b>2024 66 7</b>		217	503583	<b>2029 67 2</b>		222
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515781	<b>2013 09 6</b>		258	500394	<b>2022 93 0</b>		215	586112	<b>2024 67 3</b>		217	503601	<b>2029 67 9</b>		222
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				500415	<b>2022 94 7</b>		215	544707	<b>2024 76 4</b>		218	503637	<b>2029 69 6</b>		222
				500420	<b>2022 94 9</b>		215	544713	<b>2024 77 2</b>		218	516759	<b>2029 70 7</b>		243
515859	<b>2016 12 5</b>		185	500424	<b>2022 95 1</b>		215	544719	<b>2024 78 0</b>		218	516765	<b>2029 71 5</b>		243
594282	<b>2016 18 0</b>		169	500425	<b>2022 95 3</b>		215	544725	<b>2024 79 9</b>						

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516831	<b>2030 10 1</b>		242	548145	<b>2032 37 8</b>		239	517581	<b>2039 04 4</b>		226	518187	<b>2046 09 1</b>		255
516837	<b>2030 13 6</b>		242	548151	<b>2032 38 0</b>		239	517587	<b>2039 06 0</b>		226	518193	<b>2046 11 3</b>		255
516843	<b>2030 16 0</b>		242	548157	<b>2032 38 2</b>		239	517593	<b>2039 08 7</b>		226	518199	<b>2046 12 1</b>		255
516849	<b>2030 21 7</b>		242	548163	<b>2032 38 4</b>		239	517599	<b>2039 10 9</b>		226	518205	<b>2046 16 4</b>		255
516855	<b>2030 29 2</b>		242	548169	<b>2032 38 6</b>		239					518211	<b>2046 21 0</b>		255
516861	<b>2030 36 5</b>		242	548181	<b>2032 38 8</b>		239	517689	<b>2040 04 2</b>		228	518217	<b>2046 29 6</b>		255
516867	<b>2030 41 1</b>		242	516981	<b>2032 50 3</b>		240	517695	<b>2040 06 9</b>		228	518223	<b>2046 36 9</b>		255
516873	<b>2030 48 9</b>		242	516987	<b>2032 51 1</b>		240	517707	<b>2040 10 7</b>		228	518229	<b>2046 42 3</b>		255
537741	<b>2030 61 6</b>		236	516993	<b>2032 53 8</b>		240					518235	<b>2046 48 2</b>		255
538335	<b>2030 61 9</b>		236	516999	<b>2032 54 6</b>		240	517881	<b>2043 07 6</b>		233				
538407	<b>2030 62 4</b>		236	517005	<b>2032 55 4</b>		240	517887	<b>2043 09 2</b>		233			/100 m	
538911	<b>2030 62 6</b>		236	517011	<b>2032 56 2</b>		240	517893	<b>2043 11 4</b>		233	578102	<b>2046 50 0</b>		327
538917	<b>2030 62 8</b>		236					517899	<b>2043 13 0</b>		233	578106	<b>2046 50 1</b>		327
539451	<b>2030 63 2</b>		236	540927	<b>2033 00 3</b>		234	517905	<b>2043 16 5</b>		233	578107	<b>2046 50 2</b>		327
540171	<b>2030 63 4</b>		236	542403	<b>2033 00 7</b>		234	517911	<b>2043 21 1</b>		233	578108	<b>2046 50 3</b>		327
540249	<b>2030 63 7</b>		236	542655	<b>2033 01 1</b>		234	517917	<b>2043 29 7</b>		233	578112	<b>2046 50 5</b>		327
540255	<b>2030 64 0</b>		236	542661	<b>2033 01 6</b>		234	517923	<b>2043 35 1</b>		233	578113	<b>2046 50 6</b>		327
540261	<b>2030 64 3</b>		236	543129	<b>2033 02 1</b>		234	517929	<b>2043 42 4</b>		233	578114	<b>2046 50 7</b>		327
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540279	<b>2030 65 2</b>		236	546477	<b>2033 03 8</b>		234					578119	<b>2046 51 3</b>		327
540297	<b>2030 65 5</b>		236	517023	<b>2033 07 0</b>		234	518007	<b>2044 09 9</b>		333	578120	<b>2046 51 4</b>		327
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540411	<b>2030 66 4</b>		236	517041	<b>2033 13 5</b>		234	518025	<b>2044 16 1</b>		333	578125	<b>2046 51 7</b>		327
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540585	<b>2030 67 3</b>		236	517059	<b>2033 29 1</b>		234	518043	<b>2044 36 6</b>		333	578130	<b>2046 52 3</b>		328
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582435	<b>2030 70 5</b>		237	517071	<b>2033 42 9</b>		234	518055	<b>2044 47 1</b>		333	578132	<b>2046 52 5</b>		328
543423	<b>2030 71 3</b>		237	517077	<b>2033 48 8</b>		234					578136	<b>2046 52 6</b>		328
543435	<b>2030 74 8</b>		237									578137	<b>2046 52 7</b>		328
543441	<b>2030 75 6</b>		237	546495	<b>2035 31 6</b>		225	518133	<b>2045 11 7</b>		254	578138	<b>2046 52 8</b>		328
590751	<b>2030 76 4</b>		237	546507	<b>2035 32 4</b>		225	518145	<b>2045 16 8</b>		254			/100 m	
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582441	<b>2030 79 9</b>		237	546741	<b>2035 35 9</b>		225					578144	<b>2046 53 5</b>		329
543465	<b>2030 80 2</b>		237	546747	<b>2035 36 7</b>		225					578148	<b>2046 53 6</b>		329
543471	<b>2030 81 0</b>		237	546795	<b>2035 37 5</b>		225			/100 m		578149	<b>2046 53 7</b>		329
582447	<b>2030 82 9</b>		237	546801	<b>2035 38 3</b>		225	592574	<b>2046 00 2</b>		332	578150	<b>2046 53 8</b>		329
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543399	<b>2030 95 0</b>		238	546849	<b>2035 45 6</b>		224	592583	<b>2046 00 6</b>		332	578156	<b>2046 54 6</b>		329
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582501	<b>2030 98 5</b>		238	546861	<b>2035 47 2</b>		224	592585	<b>2046 00 8</b>		332	578160	<b>2046 54 9</b>		329
543411	<b>2030 99 3</b>		238	546867	<b>2035 48 0</b>		224			/100 pc.		578161	<b>2046 55 0</b>		329
				546873	<b>2035 49 9</b>		224	592586	<b>2046 01 2</b>		332	578162	<b>2046 55 1</b>		329
544575	<b>2031 30 2</b>		237	552027	<b>2035 51 0</b>		227	592589	<b>2046 01 3</b>		332	578190	<b>2046 55 2</b>		329
544581	<b>2031 32 9</b>		237	552033	<b>2035 51 2</b>		227	592590	<b>2046 01 4</b>		332	578191	<b>2046 55 3</b>		329
544593	<b>2031 34 5</b>		237	552039	<b>2035 51 4</b>		227	592591	<b>2046 01 5</b>		332	578192	<b>2046 55 4</b>		329
544605	<b>2031 38 8</b>		237	552045	<b>2035 51 6</b>		227	592592	<b>2046 01 6</b>		332	578196	<b>2046 55 6</b>		329
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544617	<b>2031 44 2</b>		237	552057	<b>2035 52 0</b>		227	592597	<b>2046 01 8</b>		332	578198	<b>2046 55 8</b>		329
537187	<b>2031 45 0</b>		237	552063	<b>2035 52 2</b>		227	592598	<b>2046 02 2</b>		332	578201	<b>2046 55 9</b>		329
537188	<b>2031 45 1</b>		237					592601	<b>2046 02 3</b>		332	578202	<b>2046 56 0</b>		329
537191	<b>2031 45 2</b>		237	517209	<b>2036 06 1</b>		226	592602	<b>2046 02 4</b>		332			/100 m	
537192	<b>2031 45 3</b>		237	517215	<b>2036 08 8</b>		227	592603	<b>2046 02 5</b>		332	578203	<b>2046 56 5</b>		328
537193	<b>2031 45 4</b>		237	517221	<b>2036 09 6</b>		226	592604	<b>2046 02 6</b>		332	578204	<b>2046 56 6</b>		328
537194	<b>2031 45 6</b>		238	517227	<b>2036 11 8</b>		226	592607	<b>2046 02 7</b>		332	578207	<b>2046 56 7</b>		328
537197	<b>2031 45 7</b>		238	517233	<b>2036 12 6</b>		227	592608	<b>2046 02 8</b>		332	578208	<b>2046 56 8</b>		328
537198	<b>2031 45 8</b>		238	517239	<b>2036 13 4</b>		226			/100 m		578209	<b>2046 56 9</b>		328
537199	<b>2031 45 9</b>		238	517245	<b>2036 14 2</b>		227	592609	<b>2046 03 2</b>		331	578210	<b>2046 57 0</b>		328
537200	<b>2031 46 0</b>		238	517251	<b>2036 15 0</b>		227	592610	<b>2046 03 3</b>		331	578213	<b>2046 57 1</b>		328
537201	<b>2031 46 1</b>		238	517257	<b>2036 16 9</b>		226	592613	<b>2046 03 4</b>		331			/100 pc.	
537202	<b>2031 46 2</b>		238	517263	<b>2036 21 5</b>		226	592614	<b>2046 03 5</b>		331	578165	<b>2046 57 5</b>		328
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578226	<b>2046 59 9</b>		329	592486	<b>2046 86 2</b>		326	583029	<b>2050 04 8</b>		220	518709	<b>2082 10 1</b>		253
		/100 pc.		592487	<b>2046 86 3</b>		326	562209	<b>2050 05 6</b>		220	518715	<b>2082 13 6</b>		253
578227	<b>2046 60 4</b>		330	592488	<b>2046 86 4</b>		326	562095	<b>2050 06 4</b>		220	518721	<b>2082 16 0</b>		253
578228	<b>2046 60 5</b>		330	592489	<b>2046 86 5</b>		326	561897	<b>2050 07 2</b>		220	518727	<b>2082 21 7</b>		253
578231	<b>2046 60 6</b>		330	592490	<b>2046 86 6</b>		326	561507	<b>2050 08 0</b>		220	518733	<b>2082 29 2</b>		253
578232	<b>2046 61 0</b>		330	592491	<b>2046 86 7</b>		326	561249	<b>2050 09 9</b>		220	518739	<b>2082 36 5</b>		253
578233	<b>2046 61 4</b>		330			/100 pc.		560601	<b>2050 10 2</b>		220	518745	<b>2082 41 1</b>		253
578234	<b>2046 61 5</b>		330	592492	<b>2046 86 8</b>		326	582999	<b>2050 14 5</b>		221	518751	<b>2082 48 9</b>		253
578237	<b>2046 61 6</b>		330	592493	<b>2046 86 9</b>		326	560121	<b>2050 15 3</b>		221	518757	<b>2082 50 0</b>		252
578238	<b>2046 62 0</b>		330	592494	<b>2046 87 0</b>		326	560085	<b>2050 16 1</b>		221	558267	<b>2082 51 9</b>		252
578239	<b>2046 62 1</b>		330	592495	<b>2046 87 1</b>		326	521223	<b>2050 18 8</b>		221	518763	<b>2082 52 7</b>		252
578240	<b>2046 62 2</b>		330	592496	<b>2046 87 2</b>		326	520863	<b>2050 19 6</b>		221	518769	<b>2082 54 3</b>		252
578244	<b>2046 62 3</b>		330	592497	<b>2046 87 3</b>		326	559629	<b>2050 30 7</b>		220	518775	<b>2082 57 8</b>		252
578245	<b>2046 62 4</b>		330	592498	<b>2046 87 4</b>		326	559485	<b>2050 31 5</b>		220	518781	<b>2082 59 4</b>		252
578246	<b>2046 62 5</b>		330	592499	<b>2046 87 5</b>		326	559473	<b>2050 32 3</b>		220	518787	<b>2082 61 6</b>		252
578249	<b>2046 62 6</b>		330	592500	<b>2046 87 6</b>		326	559467	<b>2050 33 1</b>		220	518793	<b>2082 70 5</b>		254
		/100 m		592501	<b>2046 87 7</b>		326	559461	<b>2050 35 8</b>		220	518805	<b>2082 72 1</b>		254
592364	<b>2046 72 0</b>		330	592502	<b>2046 87 8</b>		326	531513	<b>2050 36 6</b>		220				
592365	<b>2046 72 1</b>		330	592503	<b>2046 87 9</b>		326	531669	<b>2050 37 4</b>		220	518829	<b>2083 09 4</b>		253
592366	<b>2046 72 2</b>		330	592504	<b>2046 88 0</b>		326	537339	<b>2050 38 2</b>		220	518835	<b>2083 11 6</b>		253
592367	<b>2046 72 3</b>		330	592505	<b>2046 88 1</b>		326					518841	<b>2083 13 2</b>		253
592368	<b>2046 72 4</b>		330									518847	<b>2083 16 7</b>		253
592369	<b>2046 72 5</b>		330									518853	<b>2083 21 3</b>		253
592370	<b>2046 72 6</b>		330	549075	<b>2047 81 0</b>		333	518319	<b>2054 00 0</b>		204	518859	<b>2083 29 9</b>		253
		/100 pc.		549069	<b>2047 82 9</b>		333	518325	<b>2054 01 9</b>		204	518859	<b>2083 29 9</b>		253
592371	<b>2046 73 0</b>		330	549063	<b>2047 83 7</b>		333	518331	<b>2054 08 6</b>		204	548133	<b>2083 61 2</b>		252
592372	<b>2046 73 1</b>		330	548769	<b>2047 85 3</b>		333	518337	<b>2054 09 4</b>		204	548139	<b>2083 62 0</b>		252
592373	<b>2046 73 2</b>		330	503769	<b>2047 86 1</b>		333	587991	<b>2054 48 5</b>		208	548187	<b>2083 63 9</b>		252
592374	<b>2046 73 3</b>		330	503763	<b>2047 88 8</b>		333	582531	<b>2054 50 7</b>		208	548199	<b>2083 64 7</b>		252
592375	<b>2046 73 4</b>		330	503757	<b>2047 89 6</b>		333	547797	<b>2054 52 3</b>		208	548205	<b>2083 65 5</b>		252
592376	<b>2046 73 5</b>		330	546885	<b>2047 93 4</b>		333	584934	<b>2054 75 0</b>		208	548211	<b>2083 66 3</b>		252
592377	<b>2046 73 6</b>		330	546891	<b>2047 94 2</b>		333	584935	<b>2054 75 5</b>		208	548217	<b>2083 67 1</b>		252
592378	<b>2046 74 0</b>		330	546897	<b>2047 95 0</b>		333					548223	<b>2083 69 8</b>		252
592379	<b>2046 74 1</b>		330	546915	<b>2047 96 9</b>		333	518343	<b>2055 02 3</b>		204	551769	<b>2083 71 2</b>		251
592380	<b>2046 74 2</b>		330	546921	<b>2047 97 7</b>		333	518385	<b>2055 20 3</b>		204	551775	<b>2083 71 6</b>		251
592382	<b>2046 74 3</b>		330	546927	<b>2047 98 5</b>		333	518391	<b>2055 50 3</b>		204	551781	<b>2083 72 0</b>		251
592385	<b>2046 74 4</b>		330	546933	<b>2047 99 3</b>		333	543225	<b>2055 92 9</b>		205	551787	<b>2083 72 4</b>		251
592386	<b>2046 74 5</b>		330									551793	<b>2083 72 8</b>		251
592387	<b>2046 74 6</b>		330					570261	<b>2056 07 0</b>		205	551799	<b>2083 73 2</b>		251
		/100 m		518241	<b>2048 07 8</b>		232	587925	<b>2056 08 9</b>		205	551805	<b>2083 73 6</b>		251
592388	<b>2046 75 0</b>		331	518247	<b>2048 09 4</b>		232	518433	<b>2056 14 3</b>		205				
592392	<b>2046 75 1</b>		331	518253	<b>2048 11 6</b>		232	518439	<b>2056 17 8</b>		205	518883	<b>2084 11 2</b>		257
592394	<b>2046 75 2</b>		331	518259	<b>2048 13 2</b>		232	570255	<b>2056 22 4</b>		206	518889	<b>2084 13 9</b>		257
592397	<b>2046 75 3</b>		331	518265	<b>2048 16 7</b>		232	587931	<b>2056 23 2</b>		206	518895	<b>2084 16 3</b>		257
592398	<b>2046 75 4</b>		331	518271	<b>2048 22 1</b>		232	570249	<b>2056 37 2</b>		206	518901	<b>2084 20 1</b>		257
592399	<b>2046 75 5</b>		331	518277	<b>2048 29 9</b>		232	587937	<b>2056 38 0</b>		206	518907	<b>2084 29 5</b>		257
592403	<b>2046 75 6</b>		331	518283	<b>2048 36 1</b>		232	570243	<b>2056 55 0</b>		206	518913	<b>2084 36 8</b>		257
		/100 pc.		518289	<b>2048 42 6</b>		232	587943	<b>2056 56 9</b>		206	518919	<b>2084 42 2</b>		257
592405	<b>2046 76 0</b>		331	518295	<b>2048 48 5</b>		232	587949	<b>2056 57 7</b>		206	518925	<b>2084 48 1</b>		257
592410	<b>2046 76 1</b>		331	544647	<b>2048 75 2</b>		232	587955	<b>2056 58 5</b>		206				
592411	<b>2046 76 2</b>		331	544653	<b>2048 76 0</b>		232	530006	<b>2056 59 0</b>		207	518991	<b>2085 60 7</b>		247
592417	<b>2046 76 3</b>		331	544659	<b>2048 77 9</b>		232	530010	<b>2056 59 3</b>		207	518997	<b>2085 61 5</b>		247
592418	<b>2046 76 4</b>		331	544665	<b>2048 78 7</b>		232					519003	<b>2085 62 3</b>		247
592419	<b>2046 76 5</b>		331	544671	<b>2048 79 5</b>		232					519009	<b>2085 63 1</b>		247
592420	<b>2046 76 6</b>		331	508875	<b>2048 80 9</b>		232	547821	<b>2079 80 1</b>		249	519015	<b>2085 65 8</b>		247
592421	<b>2046 77 0</b>		331	508887	<b>2048 81 7</b>		232	547893	<b>2079 82 8</b>		249	544863	<b>2085 66 6</b>		247
592425	<b>2046 77 1</b>		331	508893	<b>2048 82 5</b>		232	547899	<b>2079 83 6</b>		249	544869	<b>2085 67 4</b>		247
592427	<b>2046 77 2</b>		331	587415	<b>2048 90 6</b>		232	547905	<b>2079 84 4</b>		249	544875	<b>2085 68 2</b>		247
592429	<b>2046 77 3</b>		331	587421	<b>2048 91 4</b>		232	547917	<b>2079 85 2</b>		249	544881	<b>2085 69 0</b>		247
592430	<b>2046 77 4</b>		331	594453	<b>2048 92 2</b>		232	547923	<b>2079 86 0</b>		249	544887	<b>2085 70 4</b>		247
592433	<b>2046 77 5</b>		331	594459	<b>2048 93 0</b>		232	547929	<b>2079 87 9</b>		249	584073	<b>2085 72 0</b>		247
592434	<b>2046 77 6</b>		331	594465	<b>2048 94 9</b>		232	547935	<b>2079 88 7</b>		249	584079	<b>2085 73 9</b>		247
		/100 m		508899	<b>2048 95 7</b>		232	520455	<b>2079 90 5</b>		250	584085	<b>2085 74 7</b>		247
592464	<b>2046 84 0</b>		326	508905	<b>2048 96 5</b>		232	520383	<b>2079 91 7</b>		250	584091	<b>2085 75 5</b>		247
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592466	<b>2046 84 2</b>		326									584103	<b>2085 77 1</b>		247
592467	<b>2046 84 3</b>		326	508917	<b>2049 06 6</b>		232	518505	<b>2080 07 9</b>		249	584109	<b>2085 7</b>		

# Numeric directory

Structure of the GTIN: Country code **40**      Manufacturer code **1219**      Individual GTIN **5647589**

GTIN	Art. no.	Price	Page	GTIN	Art. no.	Price	Page	GTIN	Art. no.	Price	Page	GTIN	Art. no.	Price	Page
		/100 pc.				/100 pc.				/100 pc.				/100 pc.	
585826	<b>2086 15 9</b>		246	519237	<b>2088 84 3</b>		242	519525	<b>2101 01 7</b>		276	558543	<b>2149 32 1</b>		268
565543	<b>2086 16 5</b>		248	519243	<b>2088 85 1</b>		242	519531	<b>2101 03 3</b>		276	558549	<b>2149 32 7</b>		268
565548	<b>2086 16 9</b>		248	519249	<b>2088 87 8</b>		242	519537	<b>2101 06 8</b>		276	558555	<b>2149 33 3</b>		268
565549	<b>2086 17 3</b>		248	519255	<b>2088 88 6</b>		242					558561	<b>2149 33 9</b>		268
565550	<b>2086 17 7</b>		248	519261	<b>2088 89 4</b>		242	519543	<b>2105 01 2</b>		277	558567	<b>2149 35 1</b>		268
565553	<b>2086 18 1</b>		248					519549	<b>2105 03 9</b>		277	558603	<b>2149 35 7</b>		268
565554	<b>2086 18 5</b>		248	519273	<b>2089 02 5</b>		260	519555	<b>2105 05 5</b>		277	558615	<b>2149 36 3</b>		268
565555	<b>2086 18 9</b>		248	519279	<b>2089 04 1</b>		260					558639	<b>2149 36 9</b>		268
565556	<b>2086 20 3</b>		248	519285	<b>2089 07 6</b>		260	519561	<b>2107 01 5</b>		277	558645	<b>2149 37 5</b>		268
565557	<b>2086 20 7</b>		248	519291	<b>2089 09 2</b>		260	519567	<b>2107 03 1</b>		277	558783	<b>2149 38 1</b>		268
565558	<b>2086 21 1</b>		248	519297	<b>2089 11 4</b>		260					561627	<b>2149 55 9</b>		268
565559	<b>2086 21 5</b>		248	519303	<b>2089 13 0</b>		260	519579	<b>2109 01 8</b>		277	561633	<b>2149 56 3</b>		268
565560	<b>2086 21 9</b>		248	519309	<b>2089 15 7</b>		260					561639	<b>2149 56 7</b>		268
565561	<b>2086 22 3</b>		248	519315	<b>2089 17 3</b>		260	519621	<b>2115 01 8</b>		276	561645	<b>2149 57 1</b>		268
565562	<b>2086 22 7</b>		248	519321	<b>2089 20 3</b>		260					561651	<b>2149 57 5</b>		268
565565	<b>2086 23 1</b>		248	519327	<b>2089 23 8</b>		260	519657	<b>2124 14 9</b>		277	561699	<b>2149 57 9</b>		268
				519333	<b>2089 25 4</b>		260	519663	<b>2124 17 3</b>		277	561705	<b>2149 58 3</b>		268
519081	<b>2088 02 9</b>		259	519339	<b>2089 27 0</b>		260	519669	<b>2124 25 4</b>		277	593191	<b>2149 70 1</b>		269
519087	<b>2088 04 5</b>		259	519345	<b>2089 29 7</b>		260	519675	<b>2124 34 3</b>		277	593192	<b>2149 71 0</b>		269
519093	<b>2088 06 1</b>		259	519351	<b>2089 31 9</b>		260	519681	<b>2124 45 9</b>		278				
519099	<b>2088 09 6</b>		259	519357	<b>2089 33 5</b>		260	519687	<b>2124 49 1</b>		278	593271	<b>2149 85 0</b>		288
519105	<b>2088 12 6</b>		259	519363	<b>2089 35 1</b>		260					593272	<b>2149 85 8</b>		288
519111	<b>2088 14 2</b>		259	519375	<b>2089 40 8</b>		260	519699	<b>2130 11 4</b>		278	593273	<b>2149 86 2</b>		288
519117	<b>2088 16 9</b>		259	519381	<b>2089 42 4</b>		260	519705	<b>2130 12 2</b>		278	593274	<b>2149 86 6</b>		288
519123	<b>2088 18 5</b>		259	519387	<b>2089 44 0</b>		260	519711	<b>2130 15 7</b>		278	593275	<b>2149 87 0</b>		288
519129	<b>2088 20 7</b>		259	547539	<b>2089 50 5</b>		259	519717	<b>2130 18 1</b>		278	593276	<b>2149 87 4</b>		288
519135	<b>2088 22 3</b>		259	547545	<b>2089 51 3</b>		259	519723	<b>2130 21 1</b>		278				
519141	<b>2088 25 8</b>		259	547551	<b>2089 52 1</b>		259	519729	<b>2130 25 4</b>		278				
519147	<b>2088 27 4</b>		259	547557	<b>2089 54 8</b>		259	519735	<b>2130 28 9</b>		278	588093	<b>2153 10 6</b>		269
537215	<b>2088 28 0</b>		258	547563	<b>2089 55 6</b>		259	519741	<b>2130 35 1</b>		278	588099	<b>2153 11 4</b>		269
537216	<b>2088 28 1</b>		258	547569	<b>2089 56 4</b>		259	519747	<b>2130 40 8</b>		278	588105	<b>2153 13 0</b>		269
537217	<b>2088 28 2</b>		258	547575	<b>2089 57 2</b>		259	519753	<b>2130 43 2</b>		278	588111	<b>2153 15 7</b>		269
537218	<b>2088 28 3</b>		258	547581	<b>2089 58 0</b>		259	519759	<b>2130 47 5</b>		278			/pc.	
537219	<b>2088 28 4</b>		258	547587	<b>2089 59 9</b>		259	519765	<b>2130 54 8</b>		278	502815	<b>2153 57 2</b>		335
537220	<b>2088 28 5</b>		258	547641	<b>2089 60 2</b>		259							/100 pc.	
537221	<b>2088 28 6</b>		258	547647	<b>2089 61 0</b>		259	519897	<b>2140 06 3</b>		279	574239	<b>2153 71 8</b>		269
539091	<b>2088 28 9</b>		261	547653	<b>2089 62 9</b>		259	519903	<b>2140 07 1</b>		279	574173	<b>2153 72 6</b>		269
537222	<b>2088 29 0</b>		261	547659	<b>2089 63 7</b>		259	519909	<b>2140 10 1</b>		279	574167	<b>2153 73 4</b>		269
537223	<b>2088 29 1</b>		261					519915	<b>2140 12 8</b>		279	550533	<b>2153 78 5</b>		269
537224	<b>2088 29 2</b>		261	519393	<b>2090 07 4</b>		257	519921	<b>2140 15 2</b>		279	550539	<b>2153 78 7</b>		269
537225	<b>2088 29 3</b>		261	519399	<b>2090 09 0</b>		257	519927	<b>2140 18 7</b>		279	550545	<b>2153 78 9</b>		269
537226	<b>2088 29 4</b>		261	519405	<b>2090 11 2</b>		257	519933	<b>2140 23 3</b>		279			/pc.	
537227	<b>2088 29 5</b>		261	519411	<b>2090 13 9</b>		257	519939	<b>2140 28 4</b>		279	550995	<b>2153 82 9</b>		334
537228	<b>2088 29 6</b>		261	519417	<b>2090 16 3</b>		257	519945	<b>2140 35 7</b>		279	546939	<b>2153 83 1</b>		334
537229	<b>2088 29 7</b>		261	519423	<b>2090 20 1</b>		257	519951	<b>2140 41 1</b>		279	551001	<b>2153 83 3</b>		334
537230	<b>2088 29 8</b>		261	519429	<b>2090 29 5</b>		257	519969	<b>2140 60 8</b>		280	551007	<b>2153 83 5</b>		334
537231	<b>2088 29 9</b>		261	519435	<b>2090 36 8</b>		257	519987	<b>2140 65 9</b>		280	551013	<b>2153 86 4</b>		334
537232	<b>2088 30 1</b>		260	519441	<b>2090 42 2</b>		257	519993	<b>2140 68 3</b>		280	546945	<b>2153 86 6</b>		334
537233	<b>2088 30 2</b>		260	519447	<b>2090 48 1</b>		257	519999	<b>2140 72 1</b>		280	551019	<b>2153 86 8</b>		334
537234	<b>2088 30 3</b>		260	547173	<b>2090 51 1</b>		257					551025	<b>2153 87 0</b>		334
537235	<b>2088 30 4</b>		260	547179	<b>2090 53 8</b>		257	559535	<b>2146 05 3</b>		270	551031	<b>2153 87 2</b>		335
537236	<b>2088 30 5</b>		261	547281	<b>2090 54 6</b>		257	559541	<b>2146 06 1</b>		270	546957	<b>2153 87 4</b>		335
537240	<b>2088 30 6</b>		260	547293	<b>2090 55 4</b>		257	559547	<b>2146 09 6</b>		270	551037	<b>2153 87 6</b>		335
537241	<b>2088 30 7</b>		260	547299	<b>2090 56 2</b>		257	559553	<b>2146 11 8</b>		270	551043	<b>2153 87 8</b>		335
539092	<b>2088 31 0</b>		261	547341	<b>2090 57 0</b>		257	559565	<b>2146 13 4</b>		270			/100 m	
539093	<b>2088 31 2</b>		260	547401	<b>2090 58 9</b>		257	559571	<b>2146 20 7</b>		270	502809	<b>2153 90 4</b>		334
539094	<b>2088 31 4</b>		261	547407	<b>2090 59 7</b>		257	559577	<b>2146 21 5</b>		270	502779	<b>2153 91 2</b>		334
539095	<b>2088 31 6</b>		260					559583	<b>2146 25 8</b>		270	502521	<b>2153 92 0</b>		334
539096	<b>2088 31 8</b>		260	519453	<b>2091 07 0</b>		256	520427	<b>2146 29 0</b>		270	502515	<b>2153 93 9</b>		334
539100	<b>2088 32 0</b>		261	519459	<b>2091 09 7</b>		256	559589	<b>2146 32 0</b>		270	553857	<b>2153 96 0</b>		334
539101	<b>2088 32 2</b>		261	519465	<b>2091 11 9</b>		256	520439	<b>2146 36 3</b>		270	553863	<b>2153 96 3</b>		334
539102	<b>2088 32 4</b>		260	519471	<b>2091 13 5</b>		256	559595	<b>2146 44 4</b>		270	553173	<b>2153 96 6</b>		334
539106	<b>2088 32 8</b>		261	519477	<b>2091 15 1</b>		256	520451	<b>2146 48 7</b>		270	553869	<b>2153 96 9</b>		334
539107	<b>2088 33 0</b>		260	519483	<b>2091 21 6</b>		256	501606	<b>2146 50 9</b>		270			/pc.	
539108	<b>2088 33 4</b>		261	519489	<b>2091 29 1</b>		256					553875	<b>2153 97 1</b>		334
539113	<b>2088 34 0</b>		261	519495	<b>2091 36 4</b>		256	584451	<b>2148 02 1</b>		271	553881	<b>2153 97 3</b>		334
539114	<b>2088 34 4</b>		261	519501	<b>2091 42 9</b>		256	584457	<b>2148 04 8</b>		271	553887</			

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520701	<b>2157 24 1</b>	/100 pc.	279	521487	<b>2225 22 0</b>	/100 pc.	283	522129	<b>2250 07 1</b>	/100 pc.	276	522891	<b>2349 05 1</b>	/100 pc.	423
520707	<b>2157 34 9</b>		279	521493	<b>2225 23 9</b>		283	522135	<b>2250 13 6</b>		276	522897	<b>2349 07 8</b>		423
				521499	<b>2225 34 4</b>		283	522141	<b>2250 20 9</b>		276	522903	<b>2349 08 6</b>		423
520713	<b>2158 12 4</b>		279	521505	<b>2225 37 9</b>		283	522147	<b>2250 24 1</b>		276	522915	<b>2349 10 8</b>		423
520719	<b>2158 17 5</b>		279	521511	<b>2225 40 9</b>		283	522153	<b>2250 30 6</b>		276	522921	<b>2349 12 4</b>		423
520725	<b>2158 24 8</b>		279	521517	<b>2225 41 7</b>		283	522159	<b>2250 43 8</b>		276				
520731	<b>2158 34 5</b>		279	521523	<b>2225 42 5</b>		283					587445	<b>2350 80 7</b>		423
				521529	<b>2225 50 6</b>		283	522165	<b>2251 25 6</b>		376				
574299	<b>2197 80 4</b>		271	521535	<b>2225 51 4</b>		283					522945	<b>2351 02 1</b>		423
574293	<b>2197 81 2</b>		271	521541	<b>2225 52 2</b>		283	522207	<b>2254 01 8</b>		375	566919	<b>2351 05 6</b>		275
574263	<b>2197 85 5</b>		271	521553	<b>2225 61 1</b>		283	522213	<b>2254 02 6</b>		375	522951	<b>2351 06 4</b>		275
574257	<b>2197 86 3</b>		271	521559	<b>2225 63 8</b>		283	522219	<b>2254 03 4</b>		375	522957	<b>2351 09 9</b>		423
				521571	<b>2225 70 0</b>		283					522963	<b>2351 21 8</b>		423
503661	<b>2204 00 0</b>		291	521577	<b>2225 71 9</b>		283	522279	<b>2255 01 4</b>		376	524235	<b>2351 41 2</b>		272
521067	<b>2204 01 0</b>		291	521583	<b>2225 72 7</b>		283	522285	<b>2255 02 2</b>		376	570897	<b>2351 60 9</b>		272
569325	<b>2204 54 1</b>		275	521589	<b>2225 80 8</b>		283	590559	<b>2255 40 5</b>		376	593193	<b>2351 65 0</b>		272
521091	<b>2204 80 0</b>		275	521595	<b>2225 81 6</b>		283								
521097	<b>2204 81 9</b>		275	521607	<b>2225 90 5</b>		283	522297	<b>2259 07 9</b>		376			/100 m	
559749	<b>2204 85 1</b>		275	521613	<b>2225 91 3</b>		283	522309	<b>2259 14 1</b>		376	523011	<b>2357 05 4</b>		299
559755	<b>2204 87 8</b>		275					522321	<b>2259 23 0</b>		376				
521109	<b>2204 90 8</b>		274	521625	<b>2226 01 4</b>		283	522327	<b>2259 28 1</b>		376			/pc.	
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521121	<b>2204 92 4</b>		274	521643	<b>2226 10 3</b>		283	522429	<b>2305 15 1</b>		318			/VPE	
559767	<b>2204 97 5</b>		274	521649	<b>2226 11 1</b>		283	522435	<b>2305 23 2</b>		318	568635	<b>2363 01 5</b>		188
559773	<b>2204 98 3</b>		274	521667	<b>2226 21 9</b>		283							/pc.	
559779	<b>2204 99 1</b>		274	521673	<b>2226 22 7</b>		283	522441	<b>2307 61 8</b>		319	568777	<b>2363 01 9</b>		188
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521127	<b>2205 01 7</b>		274	521691	<b>2226 40 5</b>		283	522447	<b>2307 63 4</b>		319	586497	<b>3010 10 4</b>		221
521133	<b>2205 03 3</b>		274					590186	<b>2307 63 8</b>		319	503391	<b>3010 20 1</b>		221
521139	<b>2205 04 1</b>		274	521727	<b>2227 22 3</b>		282					503403	<b>3010 23 6</b>		221
571002	<b>2205 05 2</b>		274	521733	<b>2227 23 1</b>		282	522591	<b>2327 10 4</b>		284	503409	<b>3010 24 4</b>		221
571003	<b>2205 05 3</b>		274	521739	<b>2227 33 9</b>		282					503415	<b>3010 25 2</b>		221
571004	<b>2205 05 4</b>		274	521745	<b>2227 34 7</b>		282	545499	<b>2330 05 9</b>		313	503421	<b>3010 26 0</b>		221
521145	<b>2205 09 2</b>		275	521757	<b>2227 42 8</b>		282	545505	<b>2330 07 5</b>		313	503427	<b>3010 27 5</b>		221
504497	<b>2205 09 7</b>		291	521763	<b>2227 43 6</b>		282	545511	<b>2330 09 1</b>		313				
572695	<b>2205 39 8</b>		273	521775	<b>2227 51 7</b>		282	545541	<b>2330 22 9</b>		313	524169	<b>3031 01 2</b>		422
572696	<b>2205 40 0</b>		273	521781	<b>2227 52 5</b>		282	545547	<b>2330 24 5</b>		313	585141	<b>3031 50 0</b>		422
565163	<b>2205 40 4</b>		273	521793	<b>2227 61 4</b>		282	545559	<b>2330 29 6</b>		313				
565165	<b>2205 41 2</b>		273	521799	<b>2227 62 2</b>		282	545565	<b>2330 32 6</b>		313			/100 pc.	
565166	<b>2205 41 6</b>		273	521805	<b>2227 63 0</b>		282	545571	<b>2330 34 2</b>		313	524577	<b>3100 15 4</b>		422
565171	<b>2205 42 3</b>		273	521817	<b>2227 71 1</b>		282					524583	<b>3100 18 9</b>		422
				521823	<b>2227 73 8</b>		282	522699	<b>2332 02 7</b>		312	524589	<b>3100 25 1</b>		422
586395	<b>2207 02 8</b>		289	521829	<b>2227 74 6</b>		282	522705	<b>2332 05 1</b>		312	524595	<b>3100 30 8</b>		422
579879	<b>2207 03 6</b>		289	560769	<b>2227 76 2</b>		282	522711	<b>2332 09 4</b>		312	524601	<b>3100 40 5</b>		422
502249	<b>2207 06 0</b>		290	560787	<b>2227 79 7</b>		282	522717	<b>2332 10 8</b>		312	524607	<b>3100 55 3</b>		422
580939	<b>2207 08 0</b>		289	521835	<b>2227 80 0</b>		282	522723	<b>2332 17 5</b>		312				
580940	<b>2207 08 8</b>		289	521841	<b>2227 81 9</b>		282	522729	<b>2332 18 3</b>		312	585105	<b>3105 01 6</b>		422
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580945	<b>2207 13 2</b>		289	521859	<b>2227 91 6</b>		282	522741	<b>2332 33 7</b>		312	585117	<b>3105 03 2</b>		422
580946	<b>2207 14 0</b>		290	521865	<b>2227 92 4</b>		282	522747	<b>2332 36 1</b>		312				
580947	<b>2207 16 4</b>		290					522753	<b>2332 38 8</b>		312	524775	<b>3116 15 8</b>		422
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				521895	<b>2228 11 4</b>		282	522771	<b>2332 57 4</b>		312	524823	<b>3117 18 9</b>		422
559977	<b>2214 87 3</b>		282	521901	<b>2228 12 2</b>		282	581985	<b>2332 62 0</b>		312				
559983	<b>2214 88 1</b>		282	521913	<b>2228 21 1</b>		282	581991	<b>2332 65 5</b>		312	525027	<b>3131 06 8</b>		428
				521919	<b>2228 23 8</b>		282	581997	<b>2332 66 3</b>		312	525033	<b>3131 08 4</b>		428
521313	<b>2215 04 7</b>		281	521925	<b>2228 30 0</b>		282	582003	<b>2332 69 8</b>		312				
521319	<b>2215 07 1</b>		281	521931	<b>2228 31 9</b>		282	582009	<b>2332 70 1</b>		312	525039	<b>3133 02 8</b>		428
521325	<b>2215 10 1</b>		281	521937	<b>2228 40 8</b>		282	582015	<b>2332 72 8</b>		312	525045	<b>3133 03 6</b>		428
521331	<b>2215 14 4</b>		281	521943	<b>2228 41 6</b>		282	582021	<b>2332 75 2</b>		312	525057	<b>3133 23 0</b>		428
521337	<b>2215 17 9</b>		281	549639	<b>2228 42 0</b>		282	589686	<b>2332 76 0</b>		312				
521343	<b>2215 20 9</b>		281	549645	<b>2228 42 2</b>		282	589687	<b>2332 76 4</b>		312	525321	<b>3141 04 7</b>		428
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521361	<b>2215 31 4</b>		282	560817	<b>2228 44 0</b>		282	589689	<b>2332 77 2</b>		312	511998	<b>3141 13 6</b>		428
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521379	<b>2215 34 9</b>		282	549651	<b>2228 68 6</b>		282	589692	<b>2332 78 4</b>		312	512364	<b>3141 14 4</b>		428
521385	<b>2215 35 7</b>		282	582855	<b>2228 68 8</b>		282					525339	<b>3141 20 9</b>		428
				521967	<b>2228 71 8</b>		282	522801	<b>2340 03 8</b>		243	589515	<b>3141 23 3</b>		428
521403	<b>2222 03 5</b>														

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594050	<b>3156 02 8</b>	/100 pc.	434	527481	<b>3195 01 5</b>	/100 pc.	431	528753	<b>3341 04 6</b>	/100 pc.	421	529797	<b>3400 04 2</b>	/100 pc.	434
589199	<b>3156 02 9</b>		385	527487	<b>3195 02 3</b>		431	528759	<b>3341 05 4</b>		421	529803	<b>3400 05 0</b>		434
594054	<b>3156 03 1</b>		385	527493	<b>3195 03 1</b>		431	528765	<b>3341 06 2</b>		421	529809	<b>3400 06 9</b>		349
594055	<b>3156 03 2</b>		385	527499	<b>3195 05 8</b>		431	528771	<b>3341 07 0</b>		421	529815	<b>3400 08 5</b>		349
594056	<b>3156 03 3</b>		385	527505	<b>3195 06 6</b>		431	528777	<b>3341 49 6</b>		421	529821	<b>3400 10 7</b>		349
594060	<b>3156 03 4</b>		385	527511	<b>3195 07 4</b>		431	528783	<b>3341 60 7</b>		421	529827	<b>3400 12 3</b>		386
594061	<b>3156 03 5</b>		385	527517	<b>3195 08 2</b>		431	528789	<b>3341 70 4</b>		421	590929	<b>3400 17 3</b>		435
594062	<b>3156 03 6</b>		385	527523	<b>3195 20 1</b>		431	528795	<b>3341 80 1</b>		421	590930	<b>3400 17 5</b>		435
594066	<b>3156 03 7</b>		385	527529	<b>3195 22 8</b>		431	528801	<b>3341 90 9</b>		421	561807	<b>3400 17 7</b>		386
584949	<b>3156 04 0</b>		385	527535	<b>3195 23 6</b>		431	528807	<b>3341 99 2</b>		421				
584951	<b>3156 04 2</b>		385	527541	<b>3195 24 4</b>		431					529989	<b>3402 04 5</b>		436
584958	<b>3156 04 4</b>		385	527547	<b>3195 25 2</b>		431	528813	<b>3342 04 2</b>		421	530001	<b>3402 06 1</b>		349
584964	<b>3156 12 0</b>		435	527553	<b>3195 26 0</b>		431	528819	<b>3342 05 0</b>		421	530007	<b>3402 08 8</b>		349
584971	<b>3156 12 2</b>		386	527559	<b>3195 27 9</b>		431	528825	<b>3342 06 9</b>		421	530013	<b>3402 09 6</b>		349
584972	<b>3156 12 6</b>		386	527565	<b>3195 28 7</b>		431	528831	<b>3342 07 7</b>		421	530019	<b>3402 12 6</b>		387
525543	<b>3156 14 1</b>		434	527571	<b>3195 42 2</b>		431	528837	<b>3342 50 6</b>		421	530031	<b>3402 20 7</b>		349
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525555	<b>3156 25 7</b>		434	527583	<b>3195 44 9</b>		431	528849	<b>3342 70 0</b>		421	530043	<b>3402 22 3</b>		349
525561	<b>3156 30 3</b>		434	527589	<b>3195 45 7</b>		431	528855	<b>3342 80 8</b>		421	530049	<b>3402 30 4</b>		436
525567	<b>3156 35 4</b>		434	527595	<b>3195 46 5</b>		431					590941	<b>3402 30 6</b>		436
525573	<b>3156 40 0</b>		434	527601	<b>3195 47 3</b>		431	528927	<b>3347 05 2</b>		421	530055	<b>3402 31 2</b>		436
				527607	<b>3195 63 5</b>		431	528933	<b>3347 06 0</b>		421	590947	<b>3402 31 4</b>		436
525621	<b>3158 20 9</b>		434	527613	<b>3195 64 3</b>		431	528939	<b>3347 07 9</b>		421	530061	<b>3402 32 0</b>		387
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525633	<b>3158 30 6</b>		434	527625	<b>3195 67 8</b>		431					530067	<b>3402 33 9</b>		387
525645	<b>3158 40 3</b>		434	527631	<b>3195 68 6</b>		431	529137	<b>3353 16 8</b>		420	589478	<b>3402 34 5</b>		387
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525705	<b>3160 40 8</b>		385	568269	<b>3195 94 5</b>		431	529167	<b>3353 50 8</b>		420	586809	<b>3403 08 4</b>		436
525711	<b>3160 50 5</b>		385					529173	<b>3353 60 5</b>		420	586815	<b>3403 09 2</b>		436
525717	<b>3160 60 2</b>		385	555201	<b>3198 01 6</b>		432					586821	<b>3403 12 2</b>		387
				555207	<b>3198 01 8</b>		432	529191	<b>3354 16 4</b>		420	594434	<b>3403 12 5</b>		387
525759	<b>3162 30 3</b>		385	555213	<b>3198 02 0</b>		432	529197	<b>3354 18 0</b>		420	594440	<b>3403 12 7</b>		388
525771	<b>3162 40 0</b>		385	555219	<b>3198 02 2</b>		432	529203	<b>3354 23 7</b>		420	586827	<b>3403 13 0</b>		387
525777	<b>3162 50 8</b>		385	555225	<b>3198 02 4</b>		432	529209	<b>3354 29 6</b>		420	594438	<b>3403 13 5</b>		387
				555231	<b>3198 02 6</b>		432	529215	<b>3354 40 7</b>		420	594444	<b>3403 13 7</b>		388
584952	<b>3175 60 8</b>		433	555237	<b>3198 03 0</b>		432	529221	<b>3354 50 4</b>		420	594625	<b>3403 14 5</b>		387
584953	<b>3175 62 0</b>		385	555243	<b>3198 03 2</b>		432	529227	<b>3354 60 1</b>		420	594439	<b>3403 15 5</b>		387
584954	<b>3175 62 5</b>		385	555543	<b>3198 03 4</b>		432					594445	<b>3403 16 3</b>		388
				555555	<b>3198 03 6</b>		432	529299	<b>3360 12 1</b>		420	586833	<b>3403 16 5</b>		387
586671	<b>3188 04 3</b>		433	555711	<b>3198 03 8</b>		432	529311	<b>3360 16 4</b>		420	594629	<b>3403 17 5</b>		387
527019	<b>3188 05 1</b>		433	555741	<b>3198 04 0</b>		432	529317	<b>3360 18 0</b>		420	594630	<b>3403 17 7</b>		388
527025	<b>3188 07 8</b>		433	555813	<b>3198 04 2</b>		432	529323	<b>3360 23 7</b>		420				
586677	<b>3188 09 4</b>		433	555837	<b>3198 04 4</b>		432	529329	<b>3360 29 6</b>		420	530157	<b>3404 05 6</b>		435
586683	<b>3188 14 0</b>		433	555849	<b>3198 05 4</b>		432	529335	<b>3360 40 7</b>		420	530163	<b>3404 06 4</b>		435
586689	<b>3188 15 9</b>		433	555897	<b>3198 05 6</b>		432	529341	<b>3360 50 4</b>		420	530169	<b>3404 08 0</b>		435
527031	<b>3188 16 7</b>		433	555903	<b>3198 05 8</b>		432	529347	<b>3360 60 1</b>		420	530175	<b>3404 10 2</b>		386
527037	<b>3188 17 5</b>		433	556029	<b>3198 06 0</b>		432					530181	<b>3404 12 9</b>		386
586695	<b>3188 18 3</b>		433	556035	<b>3198 06 2</b>		432	529365	<b>3361 12 8</b>		420	591328	<b>3404 37 3</b>		435
586701	<b>3188 20 5</b>		433	562875	<b>3198 07 3</b>		432	529377	<b>3361 16 0</b>		420	590959	<b>3404 37 8</b>		435
586707	<b>3188 25 6</b>		433	562887	<b>3198 07 5</b>		432	529383	<b>3361 18 7</b>		420	561809	<b>3404 38 2</b>		386
527043	<b>3188 27 2</b>		433	562899	<b>3198 07 7</b>		432	529389	<b>3361 23 3</b>		420	590963	<b>3404 38 6</b>		386
527049	<b>3188 28 0</b>		433	578583	<b>3198 07 9</b>		432	529395	<b>3361 30 6</b>		420				
586713	<b>3188 30 2</b>		433	578589	<b>3198 08 1</b>		432	529407	<b>3361 40 3</b>		420	530229	<b>3405 06 0</b>		435
527055	<b>3188 36 1</b>		433	579759	<b>3198 19 3</b>		433	529413	<b>3361 50 0</b>		420	590965	<b>3405 06 2</b>		436
527061	<b>3188 38 8</b>		433	579777	<b>3198 19 7</b>		433	529419	<b>3361 60 8</b>		420	530235	<b>3405 08 7</b>		435
				579795	<b>3198 19 9</b>		433					590971	<b>3405 08 9</b>		436
527193	<b>3192 11 3</b>		432	556047	<b>3198 21 9</b>		433	529431	<b>3366 11 1</b>		421	530241	<b>3405 10 9</b>		386
527199	<b>3192 12 1</b>		432	556053	<b>3198 22 1</b>		433	529443	<b>3366 16 2</b>		421	590975	<b>3405 11 1</b>		387
527205	<b>3192 14 8</b>		432	556113	<b>3198 22 3</b>		433	529449	<b>3366 18 9</b>		421	530247	<b>3405 12 5</b>		386
527211	<b>3192 15 6</b>		432	556137	<b>3198 22 5</b>		433	529455	<b>3366 23 5</b>		421	590977	<b>3405 12 7</b>		387
527217	<b>3192 16 4</b>		432	556143	<b>3198 22 7</b>		433	529461	<b>3366 30 8</b>		421				
527223	<b>3192 17 2</b>		432	556155	<b>3198 22 9</b>		433	529473	<b>3366 40 5</b>		421				
527229	<b>3192 21 0</b>		432	556197	<b>3198 23 1</b>		433	529479	<b>3366 50 2</b>		421	530355	<b>3415 03 1</b>		428
527235	<b>3192 22 9</b>		432	578595	<b>3198 23 7</b>		433	529485	<b>3366 59 6</b>		421	530361	<b>3415 06 6</b>		428
527241	<b>3192 23 7</b>		432	556251	<b>3198 23 9</b>		433					530367	<b>3415 08 2</b>		428
527247	<b>3192 24 5</b>		432	556257	<b>3198 24 1</b>		433	529491	<b>3367 12 6</b>		421	530373	<b>3415 10 4</b>		428
527253	<b>3192 25 3</b>		432	556311	<b>3198 24 3</b>		433	529503	<b>3367 16 9</b>		421	530379	<b>3415 12 0</b>		428
527259	<b>3192 26 1</b>		432	578601	<b>3198 24 5</b>		433	529509	<b>3367 18 5</b>		421	530385	<b>3415 14 7</b>		428
527271	<b>3192 33 4</b>		432	578607	<b>3198 24 7</b>		433	529515	<b>3367 23 1</b>		421	530391	<b>3415 16 3</b>		428
527277	<b>3192 34 2</b>		432	578745	<b>3198 24 9</b>		433	529521	<b>3367 30 4</b>		421				
527283	<b>3192 35 0</b>		432	578787	<b>3198 25 1</b>		433	529533	<b>3367 40 1</b>		421	530433	<b>3450 05 8</b>		429
527289	<b>3192 36 9</b>		432	579003	<b>3198 26 0</b>		433					530439	<b>3450 06 6</b>		429
52729															



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530625	<b>3460 78 9</b>	/100 pc.	430	590108	<b>5301 17 6</b>	/100 pc.	318	619429	<b>6354 10 6</b>	/pc.	374
				590109	<b>5301 18 0</b>		318	619435	<b>6354 11 4</b>		374
530649	<b>3462 06 4</b>		430	590110	<b>5301 18 4</b>		318	619441	<b>6354 12 2</b>		374
530655	<b>3462 08 0</b>		430								
530697	<b>3462 86 2</b>		430	541455	<b>5302 02 1</b>		319			/pair	
530703	<b>3462 88 9</b>		430	541461	<b>5302 05 6</b>		319	619447	<b>6355 02 1</b>		374
				541467	<b>5302 06 4</b>		319	619453	<b>6355 04 8</b>		374
530715	<b>3463 06 0</b>		431	541473	<b>5302 08 0</b>		319	619459	<b>6355 05 6</b>		374
530721	<b>3463 56 7</b>		430	541479	<b>5302 10 2</b>		319	619465	<b>6355 06 4</b>		374
530727	<b>3463 58 3</b>		430	590132	<b>5302 17 0</b>		319	619471	<b>6355 07 2</b>		374
				590135	<b>5302 17 4</b>		319	619477	<b>6355 21 8</b>		374
530733	<b>3464 06 7</b>		431	590136	<b>5302 17 8</b>		319	619483	<b>6355 22 6</b>		374
530739	<b>3464 08 3</b>		431	590137	<b>5302 18 2</b>		319	619489	<b>6355 23 4</b>		374
				590138	<b>5302 18 8</b>		319	619495	<b>6355 24 2</b>		374
530925	<b>3470 14 8</b>		429					619501	<b>6355 25 0</b>		374
530931	<b>3470 21 0</b>		429					611449	<b>6355 80 0</b>		374
530937	<b>3470 23 7</b>		429	590065	<b>5303 17 9</b>	/100 m	317	611461	<b>6355 80 4</b>		375
				590066	<b>5303 18 2</b>		317	657907	<b>6355 80 8</b>		374
530955	<b>3472 08 6</b>		430	590069	<b>5303 18 5</b>		317	657925	<b>6355 81 2</b>		375
				590070	<b>5303 18 8</b>		317				
544293	<b>3481 61 1</b>		425	590071	<b>5303 19 1</b>		317				
543285	<b>3481 66 2</b>		425	590072	<b>5303 19 4</b>		317			/100 pc.	
543297	<b>3481 77 8</b>		425	590076	<b>5303 19 7</b>		317	620221	<b>6410 08 1</b>		429
				546427	<b>5303 20 2</b>		317	620227	<b>6410 10 3</b>		429
531063	<b>3482 01 4</b>		425	541497	<b>5303 20 6</b>		317	620233	<b>6410 11 1</b>		429
531069	<b>3482 03 0</b>		425	541503	<b>5303 21 4</b>		317	604356	<b>6410 15 4</b>		429
531075	<b>3482 05 7</b>		425	541509	<b>5303 22 2</b>		317	604368	<b>6410 16 2</b>		429
531081	<b>3482 07 3</b>		425	541515	<b>5303 23 0</b>		317				
531087	<b>3482 10 3</b>		425	541527	<b>5303 25 7</b>		317				
531093	<b>3482 13 8</b>		425	541533	<b>5303 26 5</b>		317			/100 m	
531099	<b>3482 15 4</b>		425					620935	<b>6490 01 8</b>		313
523947	<b>3482 70 7</b>		426					620941	<b>6490 03 4</b>		313
523935	<b>3482 75 8</b>		426	541713	<b>5305 01 2</b>	/100 pc.	319	620947	<b>6490 05 0</b>		313
523929	<b>3482 76 6</b>		426	590178	<b>5305 01 6</b>		320			/100 pc.	
								620953	<b>6490 10 7</b>		314
531117	<b>3483 06 1</b>		424	542259	<b>5327 07 5</b>		345	620959	<b>6490 12 3</b>		314
531123	<b>3483 08 8</b>		424	542265	<b>5327 08 3</b>		345	620965	<b>6490 15 8</b>		314
531129	<b>3483 09 6</b>		424	542271	<b>5327 10 5</b>		345	620971	<b>6490 17 4</b>		314
541819	<b>3483 21 4</b>		424	542277	<b>5327 12 1</b>		345	620977	<b>6490 90 5</b>		314
541820	<b>3483 23 9</b>		424					620983	<b>6490 96 4</b>		314
568341	<b>3484 60 2</b>		424							/pc.	
568335	<b>3484 62 9</b>		424	693325	<b>6006 48 6</b>		169	620989	<b>6498 01 9</b>		314
								620995	<b>6498 02 7</b>		314
545403	<b>3492 03 6</b>		426								
545409	<b>3492 06 0</b>		426	600601	<b>6007 24 4</b>		358				
545415	<b>3492 09 5</b>		426	600607	<b>6007 25 2</b>		358	614683	<b>7084 76 5</b>		168
		/pc.		600613	<b>6007 26 0</b>		358	614689	<b>7084 77 3</b>		169
545439	<b>3492 33 8</b>		426	600619	<b>6007 27 9</b>		358				
545445	<b>3492 36 2</b>		426	600625	<b>6007 28 7</b>		358	516330	<b>7085 11 1</b>		168
545451	<b>3492 39 7</b>		426	600631	<b>6007 29 5</b>		358				
545421	<b>3492 62 1</b>		426	600637	<b>6007 30 9</b>		358				
545427	<b>3492 66 4</b>		426	600643	<b>6007 31 7</b>		358	593014	<b>7205 51 0</b>		181
545433	<b>3492 69 9</b>		426					593015	<b>7205 52 0</b>		181
								593016	<b>7205 52 4</b>		181
								593017	<b>7205 52 8</b>		181
596392	<b>3498 10 7</b>	/100 pc.	427	543947	<b>6007 49 8</b>		360			/100 pc.	
596398	<b>3498 12 3</b>		427					587529	<b>7205 59 4</b>		182
596404	<b>3498 15 8</b>		427					587530	<b>7205 59 7</b>		182
596410	<b>3498 20 4</b>		427	602713	<b>6024 00 9</b>		197	581082	<b>7205 60 0</b>		182
596416	<b>3498 26 3</b>		427	602743	<b>6024 10 6</b>		197	581083	<b>7205 60 3</b>		182
546189	<b>3498 42 5</b>		427					587531	<b>7205 64 4</b>		182
588843	<b>3498 50 6</b>		426					587532	<b>7205 64 7</b>		182
588849	<b>3498 54 9</b>		426	540607	<b>6119 94 0</b>		198	581084	<b>7205 65 0</b>		182
588855	<b>3498 58 1</b>		426	540608	<b>6119 94 1</b>		198	581088	<b>7205 65 3</b>		182
588861	<b>3498 65 4</b>		426	540611	<b>6119 94 3</b>		198				
548913	<b>3498 74 3</b>		426	540626	<b>6119 94 5</b>		198				
				540629	<b>6119 94 6</b>		198				
541353	<b>5300 03 7</b>		317	540630	<b>6119 94 7</b>		198				
541359	<b>5300 05 3</b>		317	540631	<b>6119 95 0</b>		201				
541365	<b>5300 06 1</b>		317	540632	<b>6119 95 1</b>		201				
541371	<b>5300 08 8</b>		317	540633	<b>6119 95 2</b>		201				
590117	<b>5300 12 0</b>		317								
590118	<b>5300 12 4</b>		317								
590119	<b>5300 12 7</b>		317	619171	<b>6349 40 4</b>		359				
590120	<b>5300 13 2</b>		317	619177	<b>6349 41 2</b>		359				
				619183	<b>6349 43 9</b>		359				
541389	<b>5301 00 9</b>		317	619189	<b>6349 44 7</b>		359				
541395	<b>5301 03 3</b>		317	619195	<b>6349 46 3</b>		359				
541401	<b>5301 04 1</b>		317								
541407	<b>5301 06 8</b>		317								
541419	<b>5301 08 4</b>		317	619231	<b>6350 05 4</b>		348				
541431	<b>5301 10 6</b>		317	619237	<b>6350 10 0</b>		348				
590102	<b>5301 17 0</b>		318	619249	<b>6350 15 1</b>		348				
590106	<b>5301 17 2</b>		318								
590107	<b>5301 17 4</b>		318	619255	<b>6350 20 8</b>	/m	348				

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# Type listing

Structure of the GTIN: Country code **40** Manufacturer code **1219** Individual GTIN **5647589**

Type	Dimensions/Colour/Div.	GTIN	Art. no.	Price	Page	Type	Dimensions/Colour/Div.	GTIN	Art. no.	Price	Page
10 6FL M40 10 31	M40 8,5-10,5 / PE	5516491	2013 03 0	/100 pc.	230	106 B PG36 PS	Pg 36 Light grey / PS	5172932	2036 37 1	/100 pc.	227
60 N 12x16 BL	Blue 200 / PA	5183310	2054 08 6		204	106 B PG42 PS	Pg 42 Light grey / PS	5173052	2036 43 6		227
60 N 7x16 BL	Blue 100 / PA	5183198	2054 00 0		204	106 B PG9 PS	Pg 9 Light grey / PS	5172154	2036 08 8		227
60 S 12x16 GBGN	Yellow green 200 / PA	5183372	2054 09 4		204	106 FL 16 8 19	Pg 16 6-8 / PE	5156734	2012 75 8		231
60 S 7x16 GBGN	Yellow green 100 / PA	5183259	2054 01 9		204	106 FL 21 10 29	Pg 21 8-10 / PE	5157090	2012 83 9		231
61 1/1 25 GR	Grey 2000 / PA	5849346	2054 75 0		208	106 FL 21 10 31	Pg 21 8,5-10,5 / PE	5157335	2012 87 1		231
61 2/1 25 WS	White 2000 / PA	5849353	2054 75 5		208	106 FL 21 12 35	Pg 21 9-12 / PE	5157151	2012 84 7		231
61 325 LGR	Light grey 2000 / PA	5879916	2054 48 5		208	106 FL 21 14 40	Pg 21 11-14 / PE	5157458	2012 92 8		231
61 525 LGR	Light grey 2000 / PA	5825319	2054 50 7		208	106 FL 21 6 30	Pg 21 4-6 / PE	5157212	2012 85 5		231
61 825 LGR	Light grey 1000 / PA	5477976	2054 52 3		208	106 FL 21 8 33	Pg 21 6-8 / PE	5156918	2012 78 2		231
70 S	(sorted) 180 / PA	5183853	2055 20 1		204	106 FL 21 9 22	Pg 21 7-9 / PE	5157038	2012 82 0		231
70 VDE	(sorted) 400 / PA	5183433	2055 02 3		204	106 FL 21 9 39	Pg 21 7-9 / PE	5156970	2012 80 4		231
71	Black 120 / PP	5183914	2055 50 3		204	106 FL 29 14 40	Pg 29 11-14 / PE	5156857	2012 77 4		231
72 CE SW	Black 500 / PP	5879251	2056 08 9		205	106 FL M20 8 19	M20 6-8 / PE	5515173	2013 00 2		230
72 CE WS	White 500 / PP	5702610	2056 07 0		205	106 FL M25 10 29	M25 8-10 / PE	5515470	2013 01 0		230
72 VDE	Transparent 500 / PA	5432258	2055 92 9		205	106 FL M25 10 31	M25 8,5-10,5 / PE	5515531	2013 01 1		230
74 CE SW	Black 200 / PP	5879312	2056 23 2		206	106 FL M25 12 35	M25 9-12 / PE	5515593	2013 01 2		230
74 CE WS	White 200 / PP	5702559	2056 22 4		206	106 FL M25 14 40	M25 11-14 / PE	5515654	2013 01 3		230
74 D	Transparent 200 / PA	5184393	2056 17 8		205	106 FL M25 6 30	M25 4-6 / PE	5515234	2013 00 6		230
74 VDE	Transparent 200 / PA	5184331	2056 14 3		205	106 FL M25 8 33	M25 6-8 / PE	5515296	2013 00 7		230
76 CE SW	Black 100 / PP	5879374	2056 38 0		206	106 FL M25 9 22	M25 7-9 / PE	5515357	2013 00 8		230
76 CE WS	White 100 / PP	5702498	2056 37 2		206	106 FL M25 9 39	M25 7-9 / PE	5515418	2013 00 9		230
78 CE SW	Black 100 / PP	5879435	2056 56 9		206	106 FL M32 10 29	M32 8-10 / PE	5515951	2013 01 9		230
78 CE WS	White 100 / PP	5702436	2056 55 0		206	106 FL M32 10 31	M32 8,5-10,5 / PE	5516019	2013 02 0		230
79 CE SW	Black 50 / PP	5879558	2056 58 5		206	106 FL M32 12 35	M32 9-12 / PE	5516071	2013 02 1		230
79 CE WS	White 50 / PP	5879497	2056 57 7		206	106 FL M32 14 40	M32 11-14 / PE	5516132	2013 02 2		230
80 CE SW	Black 50 / PP	5300106	2056 59 3		207	106 FL M32 6 30	M32 4-6 / PE	5515715	2013 01 5		230
80 CE WS	White 50 / PP	5300069	2056 59 0		207	106 FL M32 8 33	M32 6-8 / PE	5515777	2013 01 6		230
90 M12 GE	M12 x 1,5 Light grey / PE	5481454	2032 37 8		239	106 FL M32 9 22	M32 7-9 / PE	5515838	2013 01 7		230
90 M12 OF	M12 x 1,5 Light grey / PE	5477556	2032 00 7		239	106 FL M32 9 39	M32 7-9 / PE	5515890	2013 01 8		230
90 M16 GE	M16 x 1,5 Light grey / PE	5481515	2032 38 0		239	106 FL M40 10 29	M40 8-10 / PE	5516439	2013 02 9		230
90 M16 OF	M16 x 1,5 Light grey / PE	5477617	2032 01 1		239	106 FL M40 12 35	M40 9-12 / PE	5516552	2013 03 1		230
90 M20 GE	M20 x 1,5 Light grey / PE	5481577	2032 38 2		239	106 FL M40 14 40	M40 11-14 / PE	5516613	2013 03 2		230
90 M20 OF	M20 x 1,5 Light grey / PE	5477730	2032 01 5		239	106 FL M40 6 30	M40 4-6 / PE	5516194	2013 02 5		230
90 M25 GE	M25 x 1,5 Light grey / PE	5481638	2032 38 4		239	106 FL M40 8 33	M40 6-8 / PE	5516255	2013 02 6		230
90 M25 OF	M25 x 1,5 Light grey / PE	5477792	2032 01 9		239	106 FL M40 9 22	M40 7-9 / PE	5516316	2013 02 7		230
90 M32 GE	M32 x 1,5 Light grey / PE	5481690	2032 38 6		239	106 FL M40 9 39	M40 7-9 / PE	5516378	2013 02 8		230
90 M32 OF	M32 x 1,5 Light grey / PE	5477853	2032 02 3		239	106 K M20 PS	M20 x 1,5 Light grey / PS	5469636	2038 07 2		225
90 M40 GE	M40 x 1,5 Light grey / PE	5481812	2032 38 8		239	106 K PG16 PS	Pg 16 Light grey / PS	5175216	2038 04 8		226
90 M40 OF	M40 x 1,5 Light grey / PE	5477914	2032 03 1		239	106 L PG11 PS	Pg 11 Light grey / PS	5175810	2039 04 4		226
90 PG 9 DSMB	Pg 9 Light grey / PE	5169819	2032 50 3		240	106 L PG13.5 PS	Pg 13,5 Light grey / PS	5175872	2039 06 0		226
90 PG 9 OF	Pg 9 Light grey / PE	5168973	2032 09 0		240	106 L PG16 PS	Pg 16 Light grey / PS	5175933	2039 08 7		226
90 PG11 DSMB	Pg 11 Light grey / PE	5169871	2032 51 1		240	106 L PG21 PS	Pg 21 Light grey / PS	5175995	2039 10 9		226
90 PG11 OF	Pg 11 Light grey / PE	5169031	2032 11 2		240	106 L PG9 PS	Pg 9 Light grey / PS	5175759	2039 02 8		226
90 PG13.5 DSMB	Pg 13,5 Light grey / PE	5169932	2032 53 8		240	106 M 12 PA	M12 x 1,5 Light grey / PA	5468134	2035 41 3		224
90 PG13.5 OF	Pg 13,5 Light grey / PE	5169093	2032 13 9		240	106 M 16 PA	M16 x 1,5 Light grey / PA	5468370	2035 42 1		224
90 PG16 DSMB	Pg 16 Light grey / PE	5169994	2032 54 6		240	106 M 20 PA	M20 x 1,5 Light grey / PA	5468431	2035 44 8		224
90 PG16 OF	Pg 16 Light grey / PE	5169154	2032 16 3		240	106 M 20 PS	M20 x 1,5 Light grey / PS	5465256	2035 33 2		225
90 PG21 DSMB	Pg 21 Light grey / PE	5170051	2032 55 4		240	106 M 25 PA	M25 x 1,5 Light grey / PA	5468493	2035 45 6		224
90 PG21 OF	Pg 21 Light grey / PE	5169215	2032 20 1		240	106 M 25 PS	M25 x 1,5 Light grey / PS	5465317	2035 34 0		225
90 PG29 DSMB	Pg 29 Light grey / PE	5170112	2032 56 2		240	106 M 32 PA	M32 x 1,5 Light grey / PA	5468554	2035 46 4		224
106 B M16 PS	M16 x 1,5 Light grey / PS	5520276	2035 51 0		227	106 M 32 PS	M32 x 1,5 Light grey / PS	5467410	2035 35 9		225
106 B M20 PS	M20 x 1,5 Light grey / PS	5520337	2035 51 2		227	106 M 40 PA	M40 x 1,5 Light grey / PA	5468615	2035 47 2		224
106 B M25 PS	M25 x 1,5 Light grey / PS	5520399	2035 51 4		227	106 M 40 PS	M40 x 1,5 Light grey / PS	5467472	2035 36 7		225
106 B M32 PS	M32 x 1,5 Light grey / PS	5520450	2035 51 6		227	106 M 50 PA	M50 x 1,5 Light grey / PA	5468677	2035 48 0		224
106 B M40 PS	M40 x 1,5 Light grey / PS	5520511	2035 51 8		227	106 M 50 PS	M50 x 1,5 Light grey / PS	5467953	2035 37 5		225
106 B M50 PS	M50 x 1,5 Light grey / PS	5520573	2035 52 0		227	106 M 63 PA	M63 x 1,5 Light grey / PA	5468738	2035 49 9		224
106 B M63 PS	M63 x 1,5 Light grey / PS	5520634	2035 52 2		227	106 M 63 PS	M63 x 1,5 Light grey / PS	5468011	2035 38 3		225
106 B PG11 PS	Pg 11 Light grey / PS	5172338	2036 12 6		227	106 M12 PS	M12 x 1,5 Light grey / PS	5464952	2035 31 6		225
106 B PG13.5 PS	Pg 13,5 Light grey / PS	5172451	2036 14 2		227	106 M16 PS	M16 x 1,5 Light grey / PS	5465072	2035 32 4		225
106 B PG16 PS	Pg 16 Light grey / PS	5172512	2036 15 0		227	106 PG11	Pg 11 Light grey / PS	5172277	2036 11 8		226
106 B PG21 PS	Pg 21 Light grey / PS	5172697	2036 22 3		227	106 PG13.5	Pg 13,5 Light grey / PS	5172390	2036 13 4		226
106 B PG29 PS	Pg 29 Light grey / PS	5172819	2036 30 4		227	106 PG16	Pg 16 Light grey / PS	5172574	2036 16 9		226
						106 PG21	Pg 21 Light grey / PS	5172635	2036 21 5		226
						106 PG29	Pg 29 Light grey / PS	5172758	2036 29 0		226
						106 PG36	Pg 36 Light grey / PS	5172871	2036 36 3		226
						106 PG42	Pg 42 Light grey / PS	5172994	2036 42 8		226
						106 PG48	Pg 48 Light grey / PS	5173113	2036 48 7		226
						106 PG7	Pg 7 Light grey / PS	5172093	2036 06 1		226
						106 PG9	Pg 9 Light grey / PS	5172215	2036 09 6		226
						106 R PG13-11 PSpG	Pg 13,5 Light grey / PS	5176954	2040 06 9		228
						106 R PG13-9 PS	Pg 13,5 Light grey / PS	5176893	2040 04 2		228
						106 R PG16-13 PS	Pg 16 Light grey / PS	5177074	2040 10 7		228
						106 VDE PG11 PA	Pg 11 Light grey / PA	5173359	2036 53 3		224
						106 VDE PG13 PA	Pg 13,5 Light grey / PA	5173410	2036 57 6		224
						106 VDE PG16 PA	Pg 16 Light grey / PA	5173472	2036 59 2		224
						106 VDE PG21 PA	Pg 21 Light grey / PA	5173533	2036 61 4		224
						106 VDE PG29 PA	Pg 29 Light grey / PA	5173595	2036 63 0		224
						106 VDE PG36 PA	Pg 36 Light grey / PA	5173656	2036 65 7		224
						106 VDE PG9 PA	Pg 9 Light grey / PA	5173298	2036 51 7		224
						106 Z PG11 PC	Pg 11 Light grey / PC	5162070	2023 51 2		229
						106 Z PG13.5 PC	Pg 13,5 Light grey / PC	5162131	2023 52 0		229
						106 Z PG16 PC	Pg 16 Light grey / PC	5162193	2023 53 9		229
						106 Z PG21 PC	Pg 21 Light grey / PC	5162254	2023 54 7		229

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106 Z PG9 PC	Pg 9 Light grey/ PC	5162018	2023 50 4	/100 pc.	229	107 EZ PG13-16PA	Pg 13,5 Pg 16/ PA	5433996	2030 95 0	/100 pc.	238
106 ZB PG11 PC	Pg 11 Light grey/ PC	5162438	2023 71 7		229	107 EZ PG16-21PA	Pg 16 Pg 21/ PA	5434054	2030 97 7		238
106 ZB PG16 PC	Pg 16 Light grey/ PC	5162551	2023 73 3		229	107 EZ PG21-29PA	Pg 21 Pg 29/ PA	5434115	2030 99 3		238
106 ZB PG21 PC	Pg 21 Light grey/ PC	5162612	2023 74 1		229	107 EZ PG9-11 PA	Pg 9 Pg 11/ PA	5433873	2030 89 6		238
106 ZB PG29 PC	Pg 29 Light grey/ PC	5162674	2023 76 8		229	107 F M12 PE	M12 16,3/ PE	5374299	2030 00 4		241
106 ZB PG9 PC	Pg 9 Light grey/ PC	5162377	2023 70 9		229	107 F M12 PE	M12 16,3/ PE	5374299	2030 00 4		262
						107 F M16 PE	M16 20,9/ PE	5374350	2030 00 8		241
106ZB PG13.5 PC	Pg 13,5 Light grey/ PC	5162490	2023 72 5		229	107 F M16 PE	M16 20,9/ PE	5374350	2030 00 8		262
						107 F M20 PE	M20 25,1/ PE	5375678	2030 01 2		241
107 ADA M12-PG9	M12 PG9/ PA	5371946	2031 45 6		238	107 F M20 PE	M20 25,1/ PE	5375678	2030 01 2		262
107 ADA M16-PG9	M16 PG9/ PA	5371977	2031 45 7		238	107 F M25 PE	M25 31,3/ PE	5375913	2030 01 6		241
107 ADA M20-PG11	M20 PG11/ PA	5371984	2031 45 8		238	107 F M25 PE	M25 31,3/ PE	5375913	2030 01 6		262
107 ADA M20-PG13	M20 PG13,5/ PA	5371991	2031 45 9		238	107 F M32 PE	M32 37,6/ PE	5376156	2030 02 0		241
107 ADA M25-PG16	M25 PG16/ PA	5372004	2031 46 0		238	107 F M32 PE	M32 37,6/ PE	5376156	2030 02 0		262
107 ADA M32-PG29	M32 PG29/ PA	5372011	2031 46 1		238	107 F M40 PE	M40 49,1/ PE	5376514	2030 02 4		241
107 ADA M40-PG29	M40 PG29/ PA	5372028	2031 46 2		238	107 F M40 PE	M40 49,1/ PE	5376514	2030 02 4		262
107 ADA M50-PG36	M50 PG36/ PA	5372035	2031 46 3		238	107 F M50 PE	M50 60,1/ PE	5376576	2030 02 8		241
107 ADA PG11-M16	PG11 M16/ PA	5372066	2031 46 7		238	107 F M50 PE	M50 60,1/ PE	5376576	2030 02 8		262
107 ADA PG13-M20	PG13,5 M20/ PA	5372073	2031 46 8		238	107 F M63 PE	M63 73,8/ PE	5377290	2030 03 2		241
107 ADA PG16-M20	PG16 M20/ PA	5372080	2031 46 9		238	107 F M63 PE	M63 73,8/ PE	5377290	2030 03 2		262
107 ADA PG21-M25	PG21 M25/ PA	5372097	2031 47 0		238	107 F PG11 PE	Pg 11 23/ PE	5168317	2030 10 1		242
107 ADA PG29-M32	PG29 M32/ PA	5372103	2031 47 1		238	107 F PG11 PE	Pg 11 23/ PE	5168317	2030 10 1		263
107 ADA PG7-M12	PG7 M12/ PA	5372042	2031 46 5		238	107 F PG13.5 PE	Pg 13,5 25/ PE	5168379	2030 13 6		242
107 ADA PG9-M12	PG9 M12/ PA	5372059	2031 46 6		238	107 F PG13.5 PE	Pg 13,5 25/ PE	5168379	2030 13 6		263
107 B PG11	Pg 11/ NBR-SBR	5167112	2029 11 1		241	107 F PG16 PE	Pg 16 27/ PE	5168430	2030 16 0		242
107 B PG11	Pg 11/ NBR-SBR	5167112	2029 11 1		262	107 F PG16 PE	Pg 16 27/ PE	5168430	2030 16 0		263
107 B PG13.5	Pg 13,5 M20/ NBR-SBR	5167174	2029 13 8		241	107 F PG21 PE	Pg 21 34/ PE	5168492	2030 21 7		242
107 B PG13.5	Pg 13,5 M20/ NBR-SBR	5167174	2029 13 8		262	107 F PG21 PE	Pg 21 34/ PE	5168492	2030 21 7		263
107 B PG16	Pg 16 M25/ NBR-SBR	5167235	2029 16 2		241	107 F PG29 PE	Pg 29 44/ PE	5168553	2030 29 2		242
107 B PG16	Pg 16 M25/ NBR-SBR	5167235	2029 16 2		262	107 F PG29 PE	Pg 29 44/ PE	5168553	2030 29 2		263
107 B PG21	Pg 21/ NBR-SBR	5167297	2029 21 9		241	107 F PG36 PE	Pg 36 55,5/ PE	5168614	2030 36 5		242
107 B PG21	Pg 21/ NBR-SBR	5167297	2029 21 9		262	107 F PG36 PE	Pg 36 55,5/ PE	5168614	2030 36 5		263
107 B PG29	Pg 29 M32/ NBR-SBR	5167358	2029 29 4		241	107 F PG42 PE	Pg 42 63,5/ PE	5168676	2030 41 1		242
107 B PG29	Pg 29 M32/ NBR-SBR	5167358	2029 29 4		262	107 F PG42 PE	Pg 42 63,5/ PE	5168676	2030 41 1		263
107 B PG36	Pg 36 M40/ NBR-SBR	5167419	2029 36 7		241	107 F PG48 PE	Pg 48 69,5/ PE	5168737	2030 48 9		242
107 B PG36	Pg 36 M40/ NBR-SBR	5167419	2029 36 7		262	107 F PG48 PE	Pg 48 69,5/ PE	5168737	2030 48 9		263
107 B PG42	Pg 42 M50/ NBR-SBR	5167471	2029 42 1		241	107 F PG7 PE	Pg 7 16,5/ PE	5168195	2030 07 1		242
107 B PG42	Pg 42 M50/ NBR-SBR	5167471	2029 42 1		262	107 F PG7 PE	Pg 7 16,5/ PE	5168195	2030 07 1		263
107 B PG48	Pg 48 M63/ NBR-SBR	5167532	2029 48 0		241	107 F PG9 PE	Pg 9 19/ PE	5168256	2030 09 8		242
107 B PG48	Pg 48 M63/ NBR-SBR	5167532	2029 48 0		262	107 F PG9 PE	Pg 9 19/ PE	5168256	2030 09 8		263
107 B PG9	Pg 9 M16/ NBR-SBR	5167051	2029 10 3		241	107 R M20-12 PA	M20 M12/ PA	5377412	2030 61 6		236
107 B PG9	Pg 9 M16/ NBR-SBR	5167051	2029 10 3		262	107 R M20-16 PA	M20 M16/ PA	5383352	2030 61 9		236
107 C V 16 2x6	Pg 16 6/ NBR-SBR	5824718	2029 63 4		222	107 R M25-12 PA	M25 M12/ PA	5384076	2030 62 4		236
107 C V 16 3x5	Pg 16 5/ NBR-SBR	5824657	2029 62 6		222	107 R M25-16 PA	M25 M16/ PA	5389118	2030 62 6		236
107 C V 16 3x6	Pg 16 6,5/ NBR-SBR	5824770	2029 64 2		222	107 R M25-20 PA	M25 M20/ PA	5389170	2030 62 8		236
107 C V 16 5x4	Pg 16 4/ NBR-SBR	5824596	2029 61 8		222	107 R M32-12 PA	M32 M12/ PA	5394518	2030 63 2		236
107 C V 21 2x8	Pg 21 8/ NBR-SBR	5824893	2029 66 9		222	107 R M32-16 PA	M32 M16/ PA	5401711	2030 63 4		236
107 C V 21 3x7	Pg 21 7/ NBR-SBR	5824831	2029 65 0		222	107 R M32-20 PA	M32 M20/ PA	5402497	2030 63 7		236
107 C VM 20 2x4	M20 4/ NBR-SBR	5035831	2029 67 2		222	107 R M32-25 PA	M32 M25/ PA	5402558	2030 64 0		236
107 C VM 20 2x6	M20 6/ NBR-SBR	5035954	2029 67 7		222	107 R M40-16 PA	M40 M16/ PA	5402619	2030 64 3		236
107 C VM 20 4x5	M20 5/ NBR-SBR	5035893	2029 67 5		222	107 R M40-20 PA	M40 M20/ PA	5402671	2030 64 6		236
107 C VM 25 2x6	M25 6/ NBR-SBR	5036135	2029 68 5		222	107 R M40-25 PA	M40 M25/ PA	5402732	2030 64 9		236
107 C VM 25 2x8	M25 8/ NBR-SBR	5036258	2029 69 0		222	107 R M40-32 PA	M40 M32/ PA	5402794	2030 65 2		236
107 C VM 25 3x6	M25 6/ NBR-SBR	5036074	2029 68 2		222	107 R M50-20 PA	M50 M20/ PA	5402978	2030 65 5		236
107 C VM 25 3x7	M25 7/ NBR-SBR	5036197	2029 68 8		222	107 R M50-25 PA	M50 M25/ PA	5403517	2030 65 9		236
107 C VM 25 5x4	M25 4/ NBR-SBR	5036012	2029 67 9		222	107 R M50-32 PA	M50 M32/ PA	5403999	2030 66 1		236
107 C VM 32 2x8	M32 8/ NBR-SBR	5036319	2029 69 3		222	107 R M50-40 PA	M50 M40/ PA	5404118	2030 66 4		236
107 C VM 32 4x8	M32 8/ NBR-SBR	5036371	2029 69 6		222	107 R M63-25 PA	M63 M25/ PA	5405610	2030 66 7		236
107 D PG11 GTP	Pg 11 16,5/ st / GTP	5164890	2027 11 9		262	107 R M63-32 PA	M63 M32/ PA	5405795	2030 67 0		236
107 D PG13.5 GTP	Pg 13,5 18,5/ st / GTP	5164951	2027 13 5		262	107 R M63-40 PA	M63 M40/ PA	5405856	2030 67 3		236
107 D PG16 GTP	Pg 16 20,5/ st / GTP	5165019	2027 15 1		262	107 R M63-50 PA	M63 M50/ PA	5407713	2030 67 5		236
107 D PG21 GTP	Pg 21 26/ st / GTP	5165071	2027 21 6		262	107 R PG11-7 PA	Pg 11 Pg 7/ PA	5824350	2030 70 5		237
107 D PG29 GTP	Pg 29 35/ st / GTP	5165132	2027 29 1		262	107 R PG13-9 PA	Pg 13,5 Pg 9/ PA	5434238	2030 71 3		237
107 D PG7 GTP	Pg 7 11/ st / GTP	5164777	2027 07 0		262	107 R PG16-9 PA	Pg 16 Pg 9/ PA	5434351	2030 74 8		237
107 D PG9 GTP	Pg 9 13,5/ st / GTP	5164838	2027 09 7		262	107 R PG16-11 PA	Pg 16 Pg 11/ PA	5434412	2030 75 6		237
107 E M 12-16 PA	M12 M16/ PA	5371878	2031 45 0		237	107 R PG21-11 PA	Pg 21 Pg 11/ PA	5907510	2030 76 4		237
107 E M 16-20 PA	M16 M20/ PA	5371885	2031 45 1		237	107 R PG21-13 PA	Pg 21 Pg 13,5/ PA	5434535	2030 77 2		237
107 E M 20-25 PA	M20 M25/ PA	5371915	2031 45 2		237	107 R PG21-16 PA	Pg 21 Pg 16/ PA	5434597	2030 78 0		237
107 E M 25-32 PA	M25 M32/ PA	5371922	2031 45 3		237	107 R PG29-16 PA	Pg 29 Pg 16/ PA	5824411	2030 79 9		237
107 E M 32-40 PA	M32 M40/ PA	5371939	2031 45 4		237	107 R PG29-21 PA	Pg 29 Pg 21/ PA	5434658	2030 80 2		237
107 E PG11 PA	Pg 11 Light grey/ PA	5163695	2025 53 1		235	107 R PG36-21 PA	Pg 36 Pg 21/ PA	5824473	2030 82 9		237
107 E PG11 PS	Pg 11 Light grey/ PS	5163091	2025 11 6		234	107 R PG36-29 PA	Pg 36 Pg 29/ PA	5434719	2030 81 0		237
107 E PG13.5 PA	Pg 13,5 Light grey/ PA	5163756	2025 56 6		235	107 R PG42-29 PA	Pg 42 Pg 29/ PA	5824534	2030 83 7		237
107 E PG13.5 PS	Pg 13,5 Light grey/ PS	5163152	2025 13 2		234	107 RZ PG 9-7	Pg 9 Pg 7/ PA	5445753	2031 30 2		237
107 E PG16 PS	Pg 16 Light grey/ PS	5163213	2025 16 7		234	107 RZ PG11-9	Pg 11 Pg 9/ PA	5445814	2031 32 9		237
107 E PG21 PA	Pg 21 Light grey/ PA	5163879	2025 60 4		235	107 RZ PG13-11	Pg 13,5 Pg 11/ PA	5445937	2031 34 5		237
107 E PG21 PS	Pg 21 Light grey/ PS	5163275	2025 21 3		234	107 RZ PG16-13	Pg 16 Pg 13,5/ PA	5446057	2031 38 8		237
107 E PG29 PS	Pg 29 Light grey/ PS	5163336	2025 29 9		234	107 RZ PG21-16	Pg 21 Pg 16/ PA	5446118	2031 41 8		237
107 E PG36 PA	Pg 36 Light grey/ PA	5163992	2025 64 7		235	107 RZ PG29-21	Pg 29 Pg 21/ PA	5446170	2031 44 2		237
107 E PG36 PS	Pg 36 Light grey/ PS	5163398	2025 36 1		234	107 S VTEC M12	M12 12/ ZPE	5035299	2028 87 0		222
107 E PG42 PS	Pg 42 Light grey/ PS	5163459	2025 42 6		234						



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116 VDE PG13.5PA	Pg 13,5Light grey/ PA	5182597	2048 13 2	/100 pc.	232	161 MS M63	M63x1,550/ CuZn / N	5517634	2079 92 9	/100 pc.	250
116 VDE PG16 PA	Pg 16Light grey/ PA	5182658	2048 16 7		232	161 MS PG13.5	Pg 13,5600/ CuZn / N	5185710	2080 52 4		251
116 VDE PG21 PA	Pg 21Light grey/ PA	5182719	2048 22 1		232	161 MS PG16	Pg 16450/ CuZn / N	5185772	2080 54 0		251
116 VDE PG29 PA	Pg 29Light grey/ PA	5182771	2048 29 9		232	161 MS PG21	Pg 21 250/ CuZn / N	5185833	2080 56 7		251
116 VDE PG36 PA	Pg 36Light grey/ PA	5182832	2048 36 1		232	161 MS PG29	Pg 29200/ CuZn / N	5185895	2080 58 3		251
116 VDE PG42 PA	Pg 42Light grey/ PA	5182894	2048 42 6		232						
116 VDE PG48 PA	Pg 48Light grey/ PA	5182955	2048 48 5		232	162 MS M16	M16 x 1,51500/ CuZn / N	5517696	2083 71 2		251
116 VDE PG7 PA	Pg 7Light grey/ PA	5182412	2048 07 8		232	162 MS M20	M20 x 1,5450/ CuZn / N	5517757	2083 71 6		251
						162 MS M25	M25 x 1,5250/ CuZn / N	5517818	2083 72 0		251
						162 MS M32	M32 x 1,5200/ CuZn / N	5517870	2083 72 4		251
117 5x2.5	28/ PS	5159858	2022 02 8		187	162 MS M40	M40 x 1,5120/ CuZn / N	5517931	2083 72 8		251
117 5x6	33,5/ PS	5159919	2022 06 0		187	162 MS M50	M50 x 1,550/ CuZn / N	5517993	2083 73 2		251
						162 MS M63	M63 x 1,550/ CuZn / N	5518051	2083 73 6		251
129 M16	M16Light grey/ PE	5490753	2047 81 0		333	162 MS PG 9	Pg 91500/ CuZn / N	5582670	2082 51 9		252
129 M16 SW	M16Black/ PE	5468851	2047 93 4		333	162 MS PG11	Pg 11 600/ CuZn / N	5187578	2082 50 0		252
129 M20	M20Light grey/ PE	5490692	2047 82 9		333	162 MS PG13.5	Pg 13,5600/ CuZn / N	5187639	2082 52 7		252
129 M20 SW	M20Black/ PE	5468912	2047 94 2		333	162 MS PG16	Pg 16450/ CuZn / N	5187691	2082 54 3		252
129 M25	M25Light grey/ PE	5490630	2047 83 7		333	162 MS PG21	Pg 21 250/ CuZn / N	5187752	2082 57 8		252
129 M25 SW	M25Black/ PE	5468974	2047 95 0		333	162 MS PG29	Pg 29200/ CuZn / N	5187813	2082 59 4		252
129 M32	M32Light grey/ PE	5487692	2047 85 3		333	162 MS PG36	Pg 3680/ CuZn / N	5187875	2082 61 6		252
129 M32 SW	M32Black/ PE	5469155	2047 96 9		333						
129 M40	M40Light grey/ PE	5037699	2047 86 1		333	163 G MS PG 9	Pg 91500/ CuZn / N	5187936	2082 70 5		254
129 M40 SW	M40Black/ PE	5469216	2047 97 7		333	163 G MS PG13.5	Pg 13,5450/ CuZn / N	5188056	2082 72 1		254
129 M50	M50Light grey/ PE	5037637	2047 88 8		333	163 L MS PG 9	Pg 91200/ CuZn / N	5188292	2083 09 4		253
129 M50 SW	M50Black/ PE	5469278	2047 98 5		333	163 L MS PG11	Pg 11 500/ CuZn / N	5188353	2083 11 6		253
129 M63	M63Light grey/ PE	5037576	2047 89 6		333	163 L MS PG13	Pg 13,5500/ CuZn / N	5188414	2083 13 2		253
129 M63 SW	M63Black/ PE	5469339	2047 99 3		333	163 L MS PG16	Pg 16300/ CuZn / N	5188476	2083 16 7		253
129 PG 9	Pg 9Light grey/ PE	5180074	2044 09 9		333	163 L MS PG21	Pg 21 250/ CuZn / N	5188537	2083 21 3		253
129 PG11	Pg 11Light grey/ PE	5180135	2044 11 0		333	163 L MS PG29	Pg 29200/ CuZn / N	5188599	2083 29 9		253
129 PG13.5	Pg 13,5Light grey/ PE	5180197	2044 13 7		333	163 MS M12	M12 x 1,51600/ CuZn / N	5481331	2083 61 2		252
129 PG16	Pg 16Light grey/ PE	5180258	2044 16 1		333	163 MS M16	M16 x 1,5900/ CuZn / N	5481393	2083 62 0		252
129 PG21	Pg 21Light grey/ PE	5180319	2044 21 8		333	163 MS M20	M20 x 1,5450/ CuZn / N	5481874	2083 63 9		252
129 PG29	Pg 29Light grey/ PE	5180371	2044 29 3		333	163 MS M25	M25 x 1,5250/ CuZn / N	5481997	2083 64 7		252
129 PG36	Pg 36Light grey/ PE	5180432	2044 36 6		333	163 MS M32	M32 x 1,5200/ CuZn / N	5482055	2083 65 5		252
129 PG42	Pg 42Light grey/ PE	5180494	2044 42 0		333	163 MS M40	M40 x 1,5120/ CuZn / N	5482116	2083 66 3		252
129 PG48	Pg 48Light grey/ PE	5180555	2044 47 1		333	163 MS M50	M50 x 1,550/ CuZn / N	5482178	2083 67 1		252
						163 MS M63	M63 x 1,550/ CuZn / N	5482239	2083 69 8		252
						163 MS PG 7	Pg 71600/ CuZn / N	5186977	2082 07 1		253
157 MS PG 7	Pg 7 1000/ CuZn / N	5157755	2013 06 1		258	163 MS PG 9	Pg 91500/ CuZn / N	5187035	2082 09 8		253
157 MS PG 9	Pg 9 1200/ CuZn / N	5157816	2013 09 6		258	163 MS PG11	Pg 11 500/ CuZn / N	5187097	2082 10 1		253
157 MS PG11	Pg 11 1000/ CuZn / N	5157878	2013 11 8		258	163 MS PG13.5	Pg 13,5450/ CuZn / N	5187158	2082 13 6		253
157 MS PG13.5	Pg 13,5 1000/ CuZn / N	5157939	2013 13 4		258	163 MS PG16	Pg 16450/ CuZn / N	5187219	2082 16 0		253
157 MS PG16	Pg 16300/ CuZn / N	5157991	2013 16 9		258	163 MS PG21	Pg 21 250/ CuZn / N	5187271	2082 21 7		253
157 MS PG21	Pg 21 200/ CuZn / N	5158059	2013 21 5		258	163 MS PG29	Pg 29200/ CuZn / N	5187332	2082 29 2		253
157 MS PG29	Pg 29 100/ CuZn / N	5158110	2013 29 0		258	163 MS PG36	Pg 36 120/ CuZn / N	5187394	2082 36 5		253
						163 MS PG42	Pg 42 50/ CuZn / N	5187455	2082 41 1		253
						163 MS PG48	Pg 48 50/ CuZn / N	5187516	2082 48 9		253
158 MS PG11	Pg 11 200/ CuZn / N	5181330	2045 11 7		254						
158 MS PG16	Pg 16 250/ CuZn / N	5181453	2045 16 8		254	164 MS PG11	Pg 11 15/ CuZn / N	5188834	2084 11 2		257
158 MS PG29	Pg 29 100/ CuZn / N	5181576	2045 28 1		254	164 MS PG13	Pg 13,517/ CuZn / N	5188896	2084 13 9		257
158 MS PG36	Pg 36 50/ CuZn / N	5181637	2045 36 2		254	164 MS PG16	Pg 16 18,5/ CuZn / N	5188957	2084 16 3		257
						164 MS PG21	Pg 21 24/ CuZn / N	5189015	2084 20 1		257
159 MS PG 7	Pg 7 / CuZn / N	5181811	2046 07 5		255	164 MS PG29	Pg 29 32/ CuZn / N	5189077	2084 29 5		257
159 MS PG 9	Pg 9 / CuZn / N	5181873	2046 09 1		255	164 MS PG36	Pg 36 42/ CuZn / N	5189138	2084 36 8		257
159 MS PG11	Pg 11 / CuZn / N	5181934	2046 11 3		255	164 MS PG42	Pg 42 48/ CuZn / N	5189190	2084 42 2		257
159 MS PG13.5	Pg 13,5 / CuZn / N	5181996	2046 12 1		255	164 MS PG48	Pg 48 52,5/ CuZn / N	5189251	2084 48 1		257
159 MS PG16	Pg 16 / CuZn / N	5182054	2046 16 4		255						
159 MS PG21	Pg 21 / CuZn / N	5182115	2046 21 0		255	165 ADA M 50-63	M50 M63/ CuZn / N	5372219	2088 28 6		258
159 MS PG29	Pg 29 / CuZn / N	5182177	2046 29 6		255	165 ADA M12-16	M12 M16/ CuZn / N	5372158	2088 28 0		258
159 MS PG36	Pg 36 / CuZn / N	5182238	2046 36 9		255	165 ADA M12-PG7	M12 PG7/ CuZn / N	5372325	2088 30 1		260
159 MS PG42	Pg 42 / CuZn / N	5182290	2046 42 3		255	165 ADA M16-20	M16 M20/ CuZn / N	5372165	2088 28 1		258
159 MS PG48	Pg 48 / CuZn / N	5182351	2046 48 2		255	165 ADA M16-PG11	M16 PG11/ CuZn / N	5372332	2088 30 2		260
160 G MS PG 9	Pg 9 1500/ CuZn / N	5186014	2080 70 2		250	165 ADA M16-PG7	M16 PG7/ CuZn / N	5390923	2088 31 0		261
160 G MS PG13.5	Pg 13,5600/ CuZn / N	5186137	2080 74 5		250	165 ADA M16-PG9	M16 PG9/ CuZn / N	5390930	2088 31 2		260
160 L MS PG21	Pg 21 250/ CuZn / N	5186670	2081 21 0		250	165 ADA M20-25	M20 M25/ CuZn / N	5372172	2088 28 2		258
160 MS M12	M12 x 1,51600/ CuZn / N	5478218	2079 80 1		249	165 ADA M20-PG11	M20 PG11/ CuZn / N	5390954	2088 31 6		260
160 MS M16	M16 x 1,51500/ CuZn / N	5478935	2079 82 8		249	165 ADA M20-PG13.5	M20 PG13,5/ CuZn / N	5372349	2088 30 3		260
160 MS M20	M20 x 1,5600/ CuZn / N	5478997	2079 83 6		249	165 ADA M20-PG16	M20 PG16/ CuZn / N	5390961	2088 31 8		260
160 MS M25	M25 x 1,5300/ CuZn / N	5479055	2079 84 4		249	165 ADA M20-PG18	M20 PG18/ CuZn / N	5390947	2088 31 4		261
160 MS M32	M32 x 1,5250/ CuZn / N	5479178	2079 85 2		249	165 ADA M25-32	M25 M32/ CuZn / N	5372189	2088 28 3		258
160 MS M40	M40 x 1,5120/ CuZn / N	5479239	2079 86 0		249	165 ADA M25-PG11	M25 PG11/ CuZn / N	5391005	2088 32 0		261
160 MS M50	M50 x 1,580/ CuZn / N	5479291	2079 87 9		249	165 ADA M25-PG13.5	M25 PG13,5/ CuZn / N	5391012	2088 32 2		261
160 MS M63	M63 x 1,550/ CuZn / N	5479352	2079 88 7		249	165 ADA M25-PG16	M25 PG16/ CuZn / N	5372356	2088 30 4		260
160 MS PG 7	Pg 7 1600/ CuZn / N	5185055	2080 07 9		249	165 ADA M25-PG21	M25 PG21/ CuZn / N	5391029	2088 32 4		260
160 MS PG 9	Pg 9 1500/ CuZn / N	5185116	2080 09 5		249	165 ADA M32-40	M32 M40/ CuZn / N	5372196	2088 28 4		258
160 MS PG11	Pg 11 600/ CuZn / N	5185178	2080 11 7		249	165 ADA M32-PG16	M32 PG16/ CuZn / N	5391067	2088 32 8		261
160 MS PG13.5	Pg 13,5600/ CuZn / N	5185239	2080 13 3		249	165 ADA M32-PG21	M32 PG21/ CuZn / N	5372363	2088 30 5		261
160 MS PG16	Pg 16 450/ CuZn / N	5185291	2080 16 8		249	165 ADA M32-PG29	M32 PG29/ CuZn / N	5391074	2088 33 0		260
160 MS PG21	Pg 21 250/ CuZn / N	5185352	2080 21 4		249	165 ADA M40-50	M40 M50/ CuZn / N	5372202	2088 28 5		258
160 MS PG29	Pg 29 200/ CuZn / N	5185413	2080 28 1		249	165 ADA M40-PG21	M40 PG21/ CuZn / N	5391081	2088 33 4		261
160 MS PG36	Pg 36 120/ CuZn / N	5185475	2080 36 2		249	165 ADA M40-PG29	M40 PG29/ CuZn / N	5372400	2088 30 6		260
160 MS PG42	Pg 42 50/ CuZn / N	5185536	2080 42 7		249	165 ADA M50-PG29	M50 PG29/ CuZn / N	5391135	2088 34 0		261
160 MS PG48	Pg 48 50/ CuZn / N	5185598									

# Type listing

Structure of the GTIN: Country code **40**      Manufacturer code **1219**      Individual GTIN **5647589**

Type	Dimensions/Colour/Div.	GTIN	Art. no.	Price	Page	Type	Dimensions/Colour/Div.	GTIN	Art. no.	Price	Page
165 ADA PG11-M10PG11	M16/ CuZn / N	5372240	2088 29 2	/100 pc.	261	169 MS PG 9	Pg 918/ CuZn / N	5194590	2091 09 7	/100 pc.	256
165 ADA PG13-M20PG13.5	M20/ CuZn / N	5372257	2088 29 3		261	169 MS PG11	Pg 1121/ CuZn / N	5194651	2091 11 9		256
165 ADA PG16-M20PG16	M20/ CuZn / N	5372264	2088 29 4		261	169 MS PG13.5	Pg 13,523/ CuZn / N	5194712	2091 13 5		256
165 ADA PG16-M25PG16	M25/ CuZn / N	5372271	2088 29 5		261	169 MS PG16	Pg 1626/ CuZn / N	5194774	2091 15 1		256
165 ADA PG21-M25PG21	M25/ CuZn / N	5372288	2088 29 6		261	169 MS PG21	Pg 2132/ CuZn / N	5194835	2091 21 6		256
165 ADA PG21-M32PG21	M32/ CuZn / N	5372295	2088 29 7		261	169 MS PG29	Pg 2941/ CuZn / N	5194897	2091 29 1		256
165 ADA PG29-M25PG29	M25/ CuZn / N	5390916	2088 28 9		261	169 MS PG36	Pg 3651/ CuZn / N	5194958	2091 36 4		256
165 ADA PG29-M40PG29	M40/ CuZn / N	5372301	2088 29 8		261	169 MS PG42	Pg 4260/ CuZn / N	5195016	2091 42 9		256
165 ADA PG36-M50PG36	M50/ CuZn / N	5372318	2088 29 9		261	169 MS PG48	Pg 4864/ CuZn / N	5195078	2091 48 8		256
165 ADA PG7-M12	PG7 M12/ CuZn / N	5372226	2088 29 0		261	169 MSS M12	M 12x1,515/ CuZn / N	5903710	2091 70 5		256
165 ADA PG9-M16	PG9 M16/ CuZn / N	5372233	2088 29 1		261	169 MSS M16	M 16x1,519/ CuZn / N	5903727	2091 70 9		256
165 MS EZ PG7-9	Pg 7 Pg 9/ CuZn / N	5190813	2088 02 9		259	169 MSS M20	M 20x1,524/ CuZn / N	5903758	2091 71 3		256
165 MS EZ PG11-13	Pg 11 Pg 13,5/ CuZn / N	5190998	2088 09 6		259	169 MSS M25	M 25x1,530/ CuZn / N	5903765	2091 71 7		256
165 MS EZ PG11-16	Pg 11 Pg 16/ CuZn / N	5191056	2088 12 6		259	169 MSS M32	M 32x1,536/ CuZn / N	5903772	2091 72 1		256
165 MS EZ PG13-16	Pg 13,5 Pg 16/ CuZn / N	5191117	2088 14 2		259	169 MSS M40	M 40x1,546/ CuZn / N	5903789	2091 72 5		256
165 MS EZ PG13-21	Pg 13,5 Pg 21/ CuZn / N	5191179	2088 16 9		259	169 MSS M50	M 50x1,560/ CuZn / N	5903819	2091 72 9		256
165 MS EZ PG16-21	Pg 16 Pg 21/ CuZn / N	5191230	2088 18 5		259	169 MSS M63	M 63x1,570/ CuZn / N	5903826	2091 73 3		256
165 MS EZ PG21-29	Pg 21 Pg 29/ CuZn / N	5191292	2088 20 7		259						
165 MS EZ PG29-36	Pg 29 Pg 36/ CuZn / N	5191353	2088 22 3		259	170 M16	M16 19,9/ FA	5469810	2088 42 8		241
165 MS EZ PG36-42	Pg 36 Pg 42/ CuZn / N	5191414	2088 25 8		259	170 M16	M16 19,9/ FA	5469810	2088 42 8		262
165 MS EZ PG42-48	Pg 42 Pg 48/ CuZn / N	5191476	2088 27 4		259	170 M20	M2024/ FA	5469933	2088 43 6		241
165 MS EZ PG9-11	Pg 9 Pg 11/ CuZn / N	5190875	2088 04 5		259	170 M20	M2024/ FA	5469933	2088 43 6		262
165 MS EZ PG9-13	Pg 9 Pg 13,5/ CuZn / N	5190936	2088 06 1		259	170 M25	M2530/ FA	5469995	2088 44 4		241
						170 M25	M2530/ FA	5469995	2088 44 4		262
167 R MS M16-12	M16 M12/ CuZn / N	5475392	2089 50 5		259	170 M32	M3238/ FA	5470052	2088 45 2		241
167 R MS M20-12	M20 M12/ CuZn / N	5475453	2089 51 3		259	170 M32	M3238/ FA	5470052	2088 45 2		262
167 R MS M20-16	M20 M16/ CuZn / N	5475514	2089 52 1		259	170 M40	M4047/ FA	5470533	2088 46 0		241
167 R MS M25-16	M25 M16/ CuZn / N	5475576	2089 54 8		259	170 M40	M4047/ FA	5470533	2088 46 0		262
167 R MS M25-20	M25 M20/ CuZn / N	5475637	2089 55 6		259	170 M50	M5057/ FA	5470595	2088 47 9		241
167 R MS M32-20	M32 M20/ CuZn / N	5475699	2089 56 4		259	170 M50	M5057/ FA	5470595	2088 47 9		262
167 R MS M32-25	M32 M25/ CuZn / N	5475750	2089 57 2		259						
167 R MS M40-25	M40 M25/ CuZn / N	5475811	2089 58 0		259	171 M12	M1210/ NBR	5470953	2088 70 3		242
167 R MS M40-32	M40 M32/ CuZn / N	5475873	2089 59 9		259	171 M12	M1210/ NBR	5470953	2088 70 3		263
167 R MS M50-32	M50 M32/ CuZn / N	5476412	2089 60 2		259	171 M16	M1613/ NBR	5471011	2088 71 1		242
167 R MS M50-40	M50 M40/ CuZn / N	5476474	2089 61 0		259	171 M16	M1613/ NBR	5471011	2088 71 1		263
167 R MS M63-40	M63 M40/ CuZn / N	5476535	2089 62 9		259	171 M20	M2018/ NBR	5471257	2088 73 8		242
167 R MS M63-50	M63 M50/ CuZn / N	5476597	2089 63 7		259	171 M20	M2018/ NBR	5471257	2088 73 8		263
167 R MS PG11-7	Pg 11 Pg 7/ CuZn / N	5192794	2089 04 1		260	171 M25	M2522/ NBR	5471318	2088 74 6		242
167 R MS PG11-9	Pg 11 Pg 9/ CuZn / N	5192855	2089 07 6		260	171 M25	M2522/ NBR	5471318	2088 74 6		263
167 R MS PG13-11	Pg 13,5 Pg 11/ CuZn / N	5193036	2089 13 0		260	171 M32	M3229/ NBR	5471370	2088 75 4		242
167 R MS PG13-7Pg	Pg 13,5 Pg 7/ CuZn / N	5192916	2089 09 2		260	171 M32	M3229/ NBR	5471370	2088 75 4		263
167 R MS PG13-9Pg	Pg 13,5 Pg 9/ CuZn / N	5192978	2089 11 4		260	171 M40	M4036/ NBR	5471554	2088 76 2		242
167 R MS PG16-1Pg	Pg 16 Pg 11/ CuZn / N	5193159	2089 17 3		260	171 M40	M4036/ NBR	5471554	2088 76 2		263
167 R MS PG16-16	Pg 16 Pg 13,5/ CuZn / N	5193210	2089 20 3		260	171 M50	M5046/ NBR	5471615	2088 77 0		242
167 R MS PG16-9	Pg 16 Pg 9/ CuZn / N	5193098	2089 15 7		260	171 M50	M5046/ NBR	5471615	2088 77 0		263
167 R MS PG21-1Pg	Pg 21 Pg 11/ CuZn / N	5193272	2089 23 8		260	171 M63	M6359/ NBR	5471677	2088 78 9		242
167 R MS PG21-1Pg	Pg 21 Pg 13,5/ CuZn / N	5193333	2089 25 4		260	171 M63	M6359/ NBR	5471677	2088 78 9		263
167 R MS PG21-1Pg	Pg 21 Pg 16/ CuZn / N	5193395	2089 27 0		260	171 PG 9	Pg 913/ NBR	5192190	2088 81 9		242
167 R MS PG29-1Pg	Pg 29 Pg 16/ CuZn / N	5193456	2089 29 7		260	171 PG 9	Pg 913/ NBR	5192190	2088 81 9		263
167 R MS PG29-2Pg	Pg 29 Pg 21/ CuZn / N	5193517	2089 31 9		260	171 PG11	Pg 1116/ NBR	5192251	2088 82 7		242
167 R MS PG36-2Pg	Pg 36 Pg 21/ CuZn / N	5193579	2089 33 5		260	171 PG11	Pg 1116/ NBR	5192251	2088 82 7		263
167 R MS PG36-2Pg	Pg 36 Pg 29/ CuZn / N	5193630	2089 35 1		260	171 PG13.5	Pg 13,518/ NBR	5192312	2088 83 5		242
167 R MS PG42-3Pg	Pg 42 Pg 36/ CuZn / N	5193753	2089 40 8		260	171 PG13.5	Pg 13,518/ NBR	5192312	2088 83 5		263
167 R MS PG48-3Pg	Pg 48 Pg 36/ CuZn / N	5193814	2089 42 4		260	171 PG16	Pg 1620/ NBR	5192374	2088 84 3		242
167 R MS PG48-4Pg	Pg 48 Pg 42/ CuZn / N	5193876	2089 44 0		260	171 PG16	Pg 1620/ NBR	5192374	2088 84 3		263
167 R MS PG9-7	Pg 9 Pg 7/ CuZn / N	5192732	2089 02 5		260	171 PG21	Pg 2125/ NBR	5192435	2088 85 1		242
						171 PG21	Pg 2125/ NBR	5192435	2088 85 1		263
168 MS M12	M12 x 1,516/ CuZn / N	5471738	2090 51 1		257	171 PG29	Pg 2933/ NBR	5192497	2088 87 8		242
168 MS M16	M16 x 1,520/ CuZn / N	5471790	2090 53 8		257	171 PG29	Pg 2933/ NBR	5192497	2088 87 8		263
168 MS M20	M20 x 1,522/ CuZn / N	5472810	2090 54 6		257	171 PG36	Pg 3643/ NBR	5192558	2088 88 6		242
168 MS M25	M25 x 1,528/ CuZn / N	5472933	2090 55 4		257	171 PG36	Pg 3643/ NBR	5192558	2088 88 6		263
168 MS M32	M32 x 1,535/ CuZn / N	5472995	2090 56 2		257	171 PG42	Pg 4250/ NBR	5192619	2088 89 4		242
168 MS M40	M40 x 1,545/ CuZn / N	5473411	2090 57 0		257	171 PG42	Pg 4250/ NBR	5192619	2088 89 4		263
168 MS M50	M50 x 1,555/ CuZn / N	5474012	2090 58 9		257						
168 MS M63	M63 x 1,568/ CuZn / N	5474074	2090 59 7		257						
168 MS PG 7	Pg 7 14/ CuZn / N	5193937	2090 07 4		257						
168 MS PG 9	Pg 9 17/ CuZn / N	5193999	2090 09 0		257	186	25	5864974	3010 10 4	/pc.	221
168 MS PG11	Pg 11 20/ CuZn / N	5194057	2090 11 2		257						
168 MS PG13	Pg 13,522/ CuZn / N	5194118	2090 13 9		257						
168 MS PG16	Pg 1624/ CuZn / N	5194170	2090 16 3		257						
168 MS PG21	Pg 2130/ CuZn / N	5194231	2090 20 1		257	192	1200/ St / DD	6209774	6490 90 5	/100 pc.	314
168 MS PG29	Pg 2939/ CuZn / N	5194293	2090 29 5		257						
168 MS PG36	Pg 3650/ CuZn / N	5194354	2090 36 8		257	197 VA4301	1800/ v2A	6209835	6490 96 4		314
168 MS PG42	Pg 4257/ CuZn / N	5194415	2090 42 2		257						
168 MS PG48	Pg 4864/ CuZn / N	5194477	2090 48 1		257						
169 MS M12	M12 x 1,515/ CuZn / N	5474135	2091 60 7		256	255 11 LGR	11 Light grey/ PA	5214335	2222 11 6		280
169 MS M16	M16 x 1,520/ CuZn / N	5931690	2091 61 5		256	255 12.5 LGR	12,5 Light grey/ PA	5214397	2222 12 4		280
169 MS M20	M20 x 1,524/ CuZn / N	5931751	2091 62 3		256	255 14 LGR	14 Light grey/ PA	5214458	2222 14 0		280
169 MS M25	M25 x 1,530/ CuZn / N	5931812	2091 63 1		256	255 16 LGR	16 Light grey/ PA	5214519	2222 16 7		280
169 MS M32	M32 x 1,535/ CuZn / N	5931874	2091 65 8		256	255 17.5 LGR	17,5 Light grey/ PA	5214571	2222 17 5		280
169 MS M40	M40 x 1,545/ CuZn / N	5474197	2091 66 6		256	255 3.2 LGR	3,2 Light grey/ PA	5214038	2222 03 5		280
169 MS M50	M50 x 1,555/ CuZn / N	5474791	2091 67 4		256	255 5.2 LGR	5,2 Light grey/ PA	5214090	2222 05 1		280
169 MS M63	M63 x 1,570/ CuZn / N	5474852	2091 68 2								

Type	Dimensions/Colour/Div.	GTIN	Art. no.	Price	Page	Type	Dimensions/Colour/Div.	GTIN	Art. no.	Price	Page
261 3-6 G	3-6 M6 x 12/ St / G	5417132	5305 01 2	/100 pc.	319	500 30	302/ St	5293293	3360 29 6	/100 pc.	420
261 3-6 V4A	3-6 M6 x 12/ V4A	5901785	5305 01 6		320	500 40	402/ St	5293354	3360 40 7		420
						500 50	502/ St	5293415	3360 50 4		420
325 100 FT	1009/ St / FT	5422716	5327 10 5		345	500 60	602/ St	5293477	3360 60 1		420
325 130 FT	1308/ St / FT	5422778	5327 12 1		345	500 Z 12	122/ St / G	5293651	3361 12 8		420
325 70 FT	70 10/ St / FT	5422594	5327 07 5		345	500 Z 16	162/ St / G	5293774	3361 16 0		420
325 80 FT	80 10/ St / FT	5422655	5327 08 3		345	500 Z 18	182/ St / G	5293835	3361 18 7		420
						500 Z 23	232/ St / G	5293897	3361 23 3		420
328 1	5-11 57/ St / ZD	5126799	1408 01 1		346	500 Z 30	302/ St / G	5293958	3361 30 6		420
328 2	10-19 67/ St / ZD	5126850	1408 04 6		346	500 Z 40	402/ St / G	5294078	3361 40 3		420
				/100 pairs		500 Z 50	502/ St / G	5294139	3361 50 0		420
						500 Z 60	602/ St / G	5294191	3361 60 8		420
339 1	4-16 100/ St	5126973	1408 51 8		344						
339 2	6-34 40/ St	5127031	1408 53 4		345						
				/100 pc.		507	Light grey 100/ PS	5225911	2327 10 4		284
342 M10X20 G	M10 x 20/20/ St / G	5256816	3160 20 3		385	508		5228196	2341 10 7	/pc.	316
342 M10X20 G	M10 x 20/20/ St / G	5256816	3160 20 3		434						
342 M10X30 G	M10 x 30/30/ St / G	5256939	3160 30 0		385	509		5228073	2341 01 8		316
342 M10X30 G	M10 x 30/30/ St / G	5256939	3160 30 0		434						
342 M10X40 G	M10 x 40/40/ St / G	5257059	3160 40 8		385					/100 pc.	
342 M10X40 G	M10 x 40/40/ St / G	5257059	3160 40 8		434	510	Light grey/ PS	5221173	2236 02 8		316
342 M10X50 G	M10 x 50/50/ St / G	5257110	3160 50 5		385						
342 M10X50 G	M10 x 50/50/ St / G	5257110	3160 50 5		434						
342 M10X60 G	M10 x 60/60/ St / G	5257172	3160 60 2		385	511 12	122/ St	5294313	3366 11 1		421
342 M10X60 G	M10 x 60/60/ St / G	5257172	3160 60 2		434	511 16	162/ St	5294436	3366 16 2		421
342 M12X30 G	M12 x 30/30/ St / G	5257592	3162 30 3		385	511 18	182/ St	5294498	3366 18 9		421
342 M12X30 G	M12 x 30/30/ St / G	5257592	3162 30 3		434	511 23	232/ St	5294559	3366 23 5		421
342 M12X40 G	M12 x 40/40/ St / G	5257714	3162 40 0		385	511 30	302/ St	5294610	3366 30 8		421
342 M12X40 G	M12 x 40/40/ St / G	5257714	3162 40 0		434	511 40	402/ St	5294733	3366 40 5		421
342 M12X50 G	M12 x 50/50/ St / G	5257776	3162 50 8		385	511 50	502/ St	5294795	3366 50 2		421
342 M12X50 G	M12 x 50/50/ St / G	5257776	3162 50 8		434	511 60	602/ St	5294856	3366 59 6		421
342 M6X16 G	M6 x 16 16/ St / G	5255437	3156 14 1		434	511 Z 12	122/ St / G	5294917	3367 12 6		421
342 M6X20 G	M6 x 20/20/ St / G	5255499	3156 20 6		434	511 Z 16	162/ St / G	5295037	3367 16 9		421
342 M6X25 G	M6 x 25 25/ St / G	5255550	3156 25 7		434	511 Z 18	182/ St / G	5295099	3367 18 5		421
342 M6X30 G	M6 x 30/30/ St / G	5255611	3156 30 3		434	511 Z 23	232/ St / G	5295150	3367 23 1		421
342 M6X35 G	M6 x 35 35/ St / G	5255673	3156 35 4		434	511 Z 30	302/ St / G	5295211	3367 30 4		421
342 M6X40 G	M6 x 40/40/ St / G	5255734	3156 40 0		434	511 Z 40	402/ St / G	5295334	3367 40 1		421
342 M8X20 G	M8 x 20/20/ St / G	5256212	3158 20 9		434						
342 M8X25 G	M8 x 25 25/ St / G	5256274	3158 24 1		434						
342 M8X30 G	M8 x 30/30/ St / G	5256335	3158 30 6		434	550 6X180 SW	6 x 180 45/ PA	5454991	2330 05 9		313
342 M8X40 G	M8 x 40/40/ St / G	5256458	3158 40 3		434	550 6X290 SW	6 x 290 78/ PA	5455059	2330 07 5		313
342 M8X50 G	M8 x 50/50/ St / G	5256519	3158 50 0		434	550 6X360 SW	6 x 360 100/ PA	5455110	2330 09 1		313
						550 9X180 SW	9 x 180 40/ PA	5455417	2330 22 9		313
						550 9X265 SW	9 x 260 65/ PA	5455479	2330 24 5		313
362 16 BK	162/ St	5291374	3353 16 8		420	550 9X360 SW	9 x 360 93/ PA	5455592	2330 29 6		313
362 18 BK	182/ St	5291435	3353 18 4		420	550 9X510 SW	9 x 510 140/ PA	5455653	2330 32 6		313
362 23 BK	232/ St	5291497	3353 23 0		420	550 9X760 SW	9 x 760 220/ PA	5455714	2330 34 2		313
362 30 BK	302/ St	5291558	3353 30 3		420						
362 40 BK	402/ St	5291619	3353 40 0		420	555 2.4x75 WS	2.4 x 75 15/ PA	5226994	2332 02 7		312
362 50 BK	502/ St	5291671	3353 50 8		420	555 2.5x100 SW	2.5 x 100 18/ PA	5819851	2332 62 0		312
362 60 BK	602/ St	5291732	3353 60 5		420	555 2.5x100 SWUV	2.5 x 100 18/ PA	5896869	2332 76 0		312
362 Z 16 G	162/ St / G	5291916	3354 16 4		420	555 2.5x100 WS	2.5 x 100 18/ PA	5227052	2332 05 1		312
362 Z 18 G	182/ St / G	5291978	3354 18 0		420	555 2.5x165 WS	2.5 x 165 40/ PA	5227113	2332 09 4		312
362 Z 23 G	232/ St / G	5292036	3354 23 7		420	555 2.5x200 WS	2.5 x 200 50/ PA	5227175	2332 10 8		312
362 Z 30 G	302/ St / G	5292098	3354 29 6		420	555 3.6x150 SW	3.6 x 140 35/ PA	5819912	2332 65 5		312
362 Z 40 G	402/ St / G	5292159	3354 40 7		420	555 3.6x150 SWUV	3.6 x 140 35/ PA	5896876	2332 76 4		312
362 Z 50 G	502/ St / G	5292210	3354 50 4		420	555 3.6x150 WS	3.6 x 140 35/ PA	5227236	2332 17 5		312
362 Z 60 G	602/ St / G	5292272	3354 60 1		420	555 3.6x200 SW	3.6 x 200 50/ PA	5819974	2332 66 3		312
						555 3.6x200 SWUV	3.6 x 200 50/ PA	5896883	2332 76 8		312
						555 3.6x200 WS	3.6 x 200 50/ PA	5227298	2332 18 3		312
450 M4x95 G	M495/ St / G	5442936	3481 61 1		425	555 3.6x290 WS	3.6 x 290 76/ PA	5227359	2332 21 3		312
451 M4x95 G	M495/ St / G	5432852	3481 66 2		425	555 4.8x200 SW	4.8 x 200 47/ PA	5820031	2332 69 8		312
452 M4x70 G	M470/ St / G	5432975	3481 77 8		425	555 4.8x200 SWUV	4.8 x 200 47/ PA	5896890	2332 77 2		312
						555 4.8x200 WS	4.8 x 200 47/ PA	5227410	2332 33 7		312
453 M6x100 G	M6100/ St / G	5310631	3482 01 4		425	555 4.8x310 SW	4.8 x 300 76/ PA	5820093	2332 70 1		312
454 M6x100 G	M6100/ St / G	5310693	3482 03 0		425	555 4.8x310 SWUV	4.8 x 300 76/ PA	5896906	2332 77 6		312
						555 4.8x310 WS	4.8 x 300 76/ PA	5227472	2332 36 1		312
455 M5x100 G	M5100/ St / G	5310815	3482 07 3		425	555 4.8x370 SW	4.8 x 370 102/ PA	5820154	2332 72 8		312
455 M5x65 G	M565/ St / G	5310754	3482 05 7		425	555 4.8x370 WS	4.8 x 370 102/ PA	5227533	2332 38 8		312
						555 7.6x200 WS	7.6 x 200 50/ PA	5227595	2332 50 7		312
456 M5x100 G	M5100/ St / G	5310877	3482 10 3		425	555 7.6x300 WS	7.6 x 300 76/ PA	5227656	2332 55 8		312
457 M4x55 G	M455/ St / G	5310938	3482 13 8		425	555 7.6x380 SW	7.6 x 380 102/ PA	5820215	2332 75 2		312
						555 7.6x380 SWUV	7.6 x 380 102/ PA	5896920	2332 78 4		312
						555 7.6x380 WS	7.6 x 380 102/ PA	5227717	2332 57 4		312
458 M4x100 G	M4100/ St / G	5310990	3482 15 4		425	574 03 30 BA	17 x 1.0 300/ V2A	6209538	6490 10 7		314
						574 03 45 BA	17 x 1.0 450/ V2A	6209590	6490 12 3		314
500 12	122/ St	5292999	3360 12 1		420	574 03 BA	17 x 1.0 2,25/ V2A	6209415	6490 03 4	/100 m	313
500 16	162/ St	5293118	3360 16 4		420					/100 pc.	
500 18	182/ St	5293170	3360 18 0		420	574 05 55 GNBG	16.5 x 1.2 550/ V2A	6209651	6490 15 8		314
500 23	232/ St	5293231	3360 23 7		420	574 05 65 GNBG	16.5 x 1.2 650/ V2A	6209712	6490 17 4		314





# Type listing

Type	Dimensions/Colour/Div.	GTIN	Art. no.	Price	Page	Type	Dimensions/Colour/Div.	GTIN	Art. no.	Price	Page
733 29 ALU	24-29 6,5 x 10/ Al	5450498	1362 56 9	/100 pc.	295	869 M8X40 G	M870/ st / G	5309550	3472 08 6	/100 pc.	430
733 29 FT	24-29 6,5 x 10/ st / FT	5029861	1361 10 6		294						
733 29 G	24-29 6,5 x 10/ st / G	5116233	1361 29 5		294	903 15 G	1523/ st / G	5245773	3100 15 4		422
733 29 V4A	24-29 6,5 x 10/ V4A	5912767	1361 66 3		296	903 18 G	1826/ st / G	5245834	3100 18 9		422
733 29 VA	24-29 6,5 x 10/ V2A	5116950	1362 06 2		295	903 25 G	2533/ st / G	5245896	3100 25 1		422
733 38 ALU	30-38 6,5 x 10/ Al	5450559	1362 57 7		295	903 30 G	3038/ st / G	5245957	3100 30 8		422
733 38 FT	30-38 6,5 x 10/ st / FT	5029878	1361 10 9		294	903 40 G	4048/ st / G	5246015	3100 40 5		422
733 38 G	30-38 6,5 x 10/ st / G	5116295	1361 38 4		294	903 55 G	5563/ st / G	5246077	3100 55 3		422
733 38 V4A	30-38 6,5 x 10/ V4A	5912774	1361 66 7		296	903 RB 15	1521/ st	5851059	3105 01 6		422
733 38 VA	30-38 6,5 x 10/ V2A	5117018	1362 07 0		295	903 RB 18	1824/ st	5851110	3105 02 4		422
733 48 ALU	39-48 6,5 x 10/ Al	5450610	1362 58 5		295	903 RB 22	2230/ st	5851172	3105 03 2		422
733 48 FT	39-48 6,5 x 10/ st / FT	5029885	1361 11 2		294						
733 48 G	39-48 6,5 x 10/ st / G	5116356	1361 48 1		294	904 A 15 FS	1522/ st / G	5247753	3116 15 8		422
733 48 V4A	39-48 6,5 x 10/ V4A	5912781	1361 67 1		296	904 B 15 FS	1526/ st / G	5248170	3117 15 4		422
733 48 VA	39-48 6,5 x 10/ V2A	5117070	1362 08 9		295	904 B 18 FS	1829/ st / G	5248231	3117 18 9		422
733 54 ALU	48-54 6,5 x 14/ Al	5450672	1362 59 3		295						
733 54 FT	48-54 6,5 x 10/ st / FT	5615651	1361 11 7		294	910 DF 6x35	635/ PA	5448099	2347 40 7		424
733 54 G	48-54 6,5 x 14/ st / G	5116417	1361 51 1		294	910 GD 6x35	635/ PA	5828198	2347 22 9		424
733 54 V4A	48-54 6,5 x 10/ V4A	5912828	1361 67 5		296	910 GD 8x50	850/ PA	5828259	2347 26 1		424
733 54 VA	48-54 6,5 x 14/ V2A	5117131	1362 09 7		295	910 GKDM 12x30	1230/ Zn	5418191	3483 21 4		424
733 61 FT	53-61 6,5 x 10/ st / FT	5254348	1361 11 5		294	910 GKSM 6x25	7,526,4/ Zn	5418207	3483 23 9		424
733 61 G	53-61 6,5 x 14/ st / G	5116479	1361 61 9		294	910 MZ 10x60	1060/ PA	5084990	2347 55 5		423
733 61 V4A	53-61 6,5 x 10/ V4A	5912835	1361 67 9		296	910 MZ 12x70	1270/ PA	5625667	2347 57 0		423
733 61 VA	53-61 6,5 x 14/ V2A	5117193	1362 10 0		295	910 MZ 5x30	530/ PA	5625650	2347 52 3		423
733 63 ALU	63-63 8 x 18/ Al	5590293	1362 61 5		295	910 MZ 6x35	635/ PA	5228738	2347 53 9		423
733 63 FT	63-63 6,5 x 10/ st / FT	5254386	1361 11 8		294	910 MZ 8x50	850/ PA	5084969	2347 54 7		423
733 63 G	63-63 8 x 18/ st / G	5116530	1361 63 5		294	910 N 10x50 GRW	1050/ PA	5229155	2349 10 8		423
733 63 V4A	63-63 6,5 x 10/ V4A	5912842	1361 68 3		296	910 N 12x60 GRW	1260/ PA	5229216	2349 12 4		423
733 63 VA	63-63 8 x 18/ V2A	5117254	1362 12 7		295	910 N 5x25 GRW	525/ PA	5228851	2349 04 3		423
						910 N 6x30 GRW	630/ PA	5228912	2349 05 1		423
822 10 FT	10/ st / FT	5013693	1014 01 3		302	910 N 6x60 GRW	660/ PA	5228974	2349 07 8		423
822 10 V4A	10/ V4A	5911753	1013 86 5		303	910 N 8x40 GRW	840/ PA	5229032	2349 08 6		423
822 12 FT	12 M12/ st / FT	5013754	1014 02 1		302	910 SD 5X35	535/ PA	5229452	2351 02 1		423
822 12 V4A	12 M12/ V4A	5911760	1013 86 9		303	910 SD 6X35	635/ PA	5669197	2351 05 6		275
822 14 FT	14/ st / FT	5013815	1014 04 8		302	910 SD 6X35	635/ PA	5669197	2351 05 6		423
822 14 V4A	14/ V4A	5911807	1013 87 3		303	910 SD 6X40	640/ PA	5229513	2351 06 4		275
822 16 FT	15,2 M16/ st / FT	5013877	1014 09 9		302	910 SD 6X40	640/ PA	5229513	2351 06 4		423
822 16 V4A	15,2 M16/ V4A	5911814	1013 87 7		303	910 SD 8X55	855/ PA	5229575	2351 09 9		423
822 18 FT	18,6 PG11/ st / FT	5013938	1014 11 0		302	910 SDM M6	M66/ PA	5874454	2350 80 7		423
822 18 V4A	18,6 PG11/ V4A	5911821	1013 88 1		303	910 SD-Q 6x40	640/ PA	5229636	2351 21 8		423
822 20 FT	20 M20/ st / FT	5013990	1014 13 7		302	910 STK 6x30	35/ PA	5708971	2351 60 9		272
822 20 V4A	20 M20/ V4A	5911838	1013 88 5		303	910 STP 6x30	630/ PA	5242352	2351 41 2		272
822 22.5 FT	22,5 PG16/ st / FT	5014058	1014 16 1		302	910 STQS 6x26	626/ ABS/ASA	5931935	2351 65 0		272
822 22.5 V4A	22,5 PG16/ V4A	5911845	1013 88 9		303						
822 25 FT	25 M25/ st / FT	5567011	1014 50 1		302	915 3.9x100 G	3,9100/ st / G	5304630	3450 10 4		429
822 25 V4A	25 M25/ V4A	5911852	1013 89 3		303	915 3.9x50 G	3,950/ st / G	5304333	3450 05 8		429
822 28.3 FT	28,3 PG21/ st / FT	5014119	1014 21 8		302	915 3.9x60 G	3,960/ st / G	5304395	3450 06 6		429
822 28.3 V4A	28,3 PG21/ V4A	5911869	1013 89 7		303	915 3.9x70 G	3,970/ st / G	5304456	3450 07 4		429
822 32 FT	32 M32/ st / FT	5567073	1014 52 8		302	915 3.9x80 G	3,980/ st / G	5304517	3450 08 2		429
822 32 V4A	32 M32/ V4A	5911876	1013 90 3		303	915 3.9x90 G	3,990/ st / G	5304579	3450 09 0		429
822 37 FT	37 PG29/ st / FT	5014171	1014 29 3		302	915 4.3x120 G	4,3120/ st / G	5304692	3450 12 0		429
822 37 V4A	37 PG29/ V4A	5911883	1013 90 7		303						
822 40 FT	40 M40/ st / FT	5567134	1014 53 6		302	915 RBS M4	12/ st	5851417	3031 50 0	/pc.	422
822 40 V4A	40 M40/ V4A	5911890	1013 91 1		303	915 S M6	13514/ st	5241690	3031 01 2		422
822 47 FT	47 PG36/ st / FT	5014232	1014 36 6		302						
822 47 V4A	47 PG36/ V4A	5911906	1013 91 7		303						
822 50 FT	50 M50/ st / FT	5567493	1014 54 4		302						
822 50 V4A	50 M50/ V4A	5911913	1013 92 1		303	933 M10x20 V4A	M10 x 2020/ V4A	5940548	3156 03 1	/100 pc.	385
822 6 FT	6/ st / FT	5013631	1014 00 5		302	933 M10x20 V4A	M10 x 2020/ V4A	5940548	3156 03 1		434
822 6 V4A	6/ V4A	5911746	1013 86 1		303	933 M10x30 V4A	M10 x 3030/ V4A	5940555	3156 03 2		385
822 63 FT	63 M63/ st / FT	5567554	1014 55 2		302	933 M10x30 V4A	M10 x 3030/ V4A	5940555	3156 03 2		434
822 63 V4A	63 M63/ V4A	5911920	1013 92 5		303	933 M10x40 V4A	M10 x 4040/ V4A	5940562	3156 03 3		385
						933 M10x40 V4A	M10 x 4040/ V4A	5940562	3156 03 3		434
823 16 FT	16 6,5 x 10/ st / FT	5015130	1015 09 5		307	933 M10x50 V4A	M10 x 5050/ V4A	5940609	3156 03 4		385
823 18.3 FT	18,6 6,5 x 10/ st / FT	5015192	1015 11 7		307	933 M10x50 V4A	M10 x 5050/ V4A	5940609	3156 03 4		434
823 20 FT	20 6,5 x 10/ st / FT	5015253	1015 13 3		307	933 M10x60 V4A	M10 x 6060/ V4A	5940616	3156 03 5		385
823 22.5 FT	22,5 6,5 x 10/ st / FT	5015314	1015 16 8		307	933 M10x60 V4A	M10 x 6060/ V4A	5940616	3156 03 5		434
823 25 FT	25 6,5 x 10/ st / FT	5567615	1015 49 4		307	933 M12x30 V4A	M12 x 3030/ V4A	5940623	3156 03 6		385
823 28.3 FT	28,3 6,5 x 10/ st / FT	5015376	1015 21 4		307	933 M12x30 V4A	M12 x 3030/ V4A	5940623	3156 03 6		434
823 32 FT	32 6,5 x 10/ st / FT	5567738	1015 49 6		307	933 M12x40 V4A	M12 x 4040/ V4A	5891994	3156 02 9		385
823 37 FT	37 6,5 x 10/ st / FT	5015437	1015 30 3		307	933 M12x40 V4A	M12 x 4040/ V4A	5891994	3156 02 9		434
823 40 FT	40 6,5 x 10/ st / FT	5567790	1015 49 8		307	933 M12x50 V4A	M12 x 5050/ V4A	5940661	3156 03 7		385
823 47 FT	47 6,5 x 10/ st / FT	5015499	1015 36 2		307	933 M12x50 V4A	M12 x 5050/ V4A	5940661	3156 03 7		434
823 50 FT	50 6,5 x 10/ st / FT	5567851	1015 50 0		307	933 M6x16 V4A	M6 x 1616/ V4A	5940371	3156 01 6		434
823 54 FT	54 6,5 x 10/ st / FT	5015550	1015 42 7		307	933 M6x20 V4A	M6 x 2020/ V4A	5940388	3156 01 8		434
823 59.3 FT	59,3 6,5 x 10/ st / FT	5015611	1015 48 6		307	933 M6x25 V4A	M6 x 2525/ V4A	5940395	3156 01 9		434
823 63 FT	63 6,5 x 10/ st / FT	5567912	1015 50 8		307	933 M6x30 V4A	M6 x 3030/ V4A	5940401	3156 02 0		434
						933 M6x35 V4A	M6 x 3535/ V4A	5940418	3156 02 1		434
865 M10x34	M1053/ CuZn	5311294	3483 09 6		424	933 M6x40 V4A	M6 x 4040/ V4A	5940425	3156 02 2		434
865 M6x24	M632/ CuZn	5311171	3483 06 1		424	933 M8x20 V4A	M8 x 2020/ V4A	5940432	3156 02 4		434
865 M8x30	M841/ CuZn	5311232	3483 08 8		424	933 M8x25 V4A	M8 x 2525/ V4A	5940449	3156 02 5		434
						933 M8x30 V4A	M8 x 3030/ V4A	5940487	3156 02 6		434
867 M5X125 G	M5125/ st / G	5309253	3470 14 8		429						

# Type listing

Structure of the GTIN: Country code **40** Manufacturer code **1219** Individual GTIN **5647589**

Type	Dimensions/Colour/Div.	GTIN	Art. no.	Price	Page	Type	Dimensions/Colour/Div.	GTIN	Art. no.	Price	Page
934 CKB4,5NUT8 40 x 16 x 20Black/ PA		5859406	1124 49 0	/100 pc.	284	965 M6X20 G	M6 M6/ Zn / G	5303558	3415 03 1	/100 pc.	428
						965 M6X25 G	M6 M6/ Zn / G	5303619	3415 06 6		428
935 CKB4,5NUT8 39 x 16 x 20Black/ PA		5859413	1124 49 2		284	965 M6X30 G	M6 M6/ Zn / G	5303671	3415 08 2		428
						965 M6X40 G	M6 M6/ Zn / G	5303732	3415 10 4		428
945 M10 G	M10 14/ St / G	5413592	5300 05 3		317	965 M6X50 G	M6 M6/ Zn / G	5303794	3415 12 0		428
945 M10 V4A	M10 14/ V4A	5901181	5300 12 4		317	965 M8X20 G	M8 8/ Zn / G	5303855	3415 14 7		428
945 M12 G	M12 16/ St / G	5413653	5300 06 1		317	965 M8X30 G	M8 M8/ Zn / G	5303916	3415 16 3		428
945 M12 V4A	M12 16/ V4A	5901198	5300 12 7		317						
945 M16 G	M16 22/ St / G	5413714	5300 08 8		317						
945 M16 V4A	M16 22/ V4A	5901204	5300 13 2		317	966 M10 G	M10 10,5/ ST / G	5300137	3402 09 6		349
945 M6 G	M6 9/ St / G	5413530	5300 03 7		317	966 M10 G	M10 10,5/ ST / G	5300137	3402 09 6		387
945 M6 V4A	M6 9/ V4A	5901174	5300 12 0		317	966 M10 G	M10 10,5/ ST / G	5300137	3402 09 6		436
						966 M10 V4A	M10 10,5/ V4A	5618089	3402 32 2		387
946 10 FT	10 43/ St / FT	5414315	5301 10 6		317	966 M10 V4A	M10 10,5/ V4A	5618089	3402 32 2		436
946 10 V4A	10 43/ V4A	5901105	5301 18 4		318	966 M10 VA	M10 10,5/ V2A	5300618	3402 32 0		387
946 3 G	3 21,5/ St / G	5413950	5301 03 3		317	966 M10 VA	M10 10,5/ V2A	5300618	3402 32 0		436
946 3 V4A	3 21,5/ V4A	5901020	5301 17 0		318	966 M12 G	M12 13/ ST / G	5300199	3402 12 6		387
946 4 G	4 26,5/ St / G	5414018	5301 04 1		317	966 M12 G	M12 13/ ST / G	5300199	3402 12 6		436
946 4 V4A	4 26,5/ V4A	5901068	5301 17 2		318	966 M12 V4A	M12 13/ V4A	5894780	3402 34 5		387
946 5 G	5 28,5/ St / G	5413899	5301 00 9		317	966 M12 V4A	M12 13/ V4A	5894780	3402 34 5		436
946 5 V4A	5 28,5/ V4A	5901075	5301 17 4		318	966 M12 VA	M12 13/ V2A	5300670	3402 33 9		387
946 6 G	6 30/ St / G	5414070	5301 06 8		317	966 M12 VA	M12 13/ V2A	5300670	3402 33 9		436
946 6 V4A	6 30/ V4A	5901082	5301 17 6		318	966 M4 G	M4 4,3/ ST / G	5299899	3402 04 5		436
946 8 G	8 35/ St / G	5414193	5301 08 4		317	966 M6 G	M6 6,4/ ST / G	5300014	3402 06 1		349
946 8 V4A	8 35/ V4A	5901099	5301 18 0		318	966 M6 G	M6 6,4/ ST / G	5300014	3402 06 1		436
						966 M6 V4A	M6 6,4/ V4A	5909415	3402 30 6		436
947 10 F	10 42/ TG / F	5414797	5302 10 2		319	966 M6 VA	M6 6,4/ V2A	5300496	3402 30 4		436
947 10 V4A	10 42/ V4A	5901389	5302 18 8		319	966 M8 G	M8 8,4/ ST / G	5300076	3402 08 8		349
947 3 F	3 20/ TG / F	5414551	5302 02 1		319	966 M8 G	M8 8,4/ ST / G	5300076	3402 08 8		436
947 3 V4A	3 20/ V4A	5901327	5302 17 0		319	966 M8 V4A	M8 8,4/ V4A	5909477	3402 31 4		436
947 5 F	5 24/ TG / F	5414612	5302 05 6		319	966 M8 VA	M8 8,4/ V2A	5300557	3402 31 2		436
947 5 V4A	5 24/ V4A	5901358	5302 17 4		319						
947 6 F	6 28/ TG / F	5414674	5302 06 4		319	967 M10 G	M10 11/ St / G	5300434	3402 22 3		349
947 6 V4A	6 28/ V4A	5901365	5302 17 8		319	967 M10 G	M10 11/ St / G	5300434	3402 22 3		387
947 8 F	8 34/ TG / F	5414735	5302 08 0		319	967 M10 G	M10 11/ St / G	5300434	3402 22 3		436
947 8 V4A	8 34/ V4A	5901372	5302 18 2		319	967 M6 G	M6 6,5/ St / G	5300311	3402 20 7		349
						967 M6 G	M6 6,5/ St / G	5300311	3402 20 7		436
948 TG6	M6 6/ ST / G	5513315	3453 82 0		429	967 M8 G	M8 8,5/ St / G	5300373	3402 21 5		349
						967 M8 G	M8 8,5/ St / G	5300373	3402 21 5		436
				/100 m							
957 10 G	54,4/ St / G	5415336	5303 26 5		317						
957 10 V4A	54,4/ V4A	5900764	5303 19 7		317	985 M6 25	84,3/ St / G	5250395	3133 02 8		428
957 2 G	2,35/ St / G	5464273	5303 20 2		317	985 M6 35	84,3/ St / G	5250456	3133 03 6		428
957 2 V4A	2,35/ V4A	5900658	5303 17 9		317	985 M8 35	105,2/ St / G	5250579	3133 23 0		428
957 3 G	5,29/ St / G	5414971	5303 20 6		317						
957 3 V4A	5,29/ V4A	5900665	5303 18 2		317	1015 10 G	10 2000/ St / G	5007753	1009 07 9		301
957 4 G	9,41/ St / G	5415039	5303 21 4		317	1015 11 G	11 1800/ St / G	5007814	1009 08 7		301
957 4 V4A	9,41/ V4A	5900696	5303 18 5		317	1015 12 G	12 1000/ St / G	5007876	1009 10 9		301
957 5 G	14,7/ St / G	5415091	5303 22 2		317	1015 13 G	13 1800/ St / G	5007937	1009 11 7		301
957 5 V4A	14,7/ V4A	5900702	5303 18 8		317	1015 14 G	14 1200/ St / G	5007999	1009 16 8		301
957 6 G	21,1/ St / G	5415152	5303 23 0		317	1015 15 G	15 1200/ St / G	5008057	1009 18 4		301
957 6 V4A	21,1/ V4A	5900719	5303 19 1		317	1015 16 G	16 1200/ St / G	5008118	1009 19 2		301
957 8 G	34,8/ St / G	5415275	5303 25 7		317	1015 17 G	17 1200/ St / G	5008170	1009 20 6		301
957 8 V4A	34,8/ V4A	5900726	5303 19 4		317	1015 18 G	18 1200/ St / G	5008231	1009 21 4		301
						1015 20 G	20 1200/ St / G	5008354	1009 23 0		301
						1015 25 G	25 1000/ St / G	5009078	1009 42 7		301
				/100 pc.		1015 28 G	28 1000/ St / G	5008712	1009 36 2		301
964 M10 G30 G	M10 10,5/ ST / G	5868330	3403 16 5		387	1015 5 G	5 3000/ St / G	5007456	1009 02 8		301
964 M10 G30 G	M10 10,5/ ST / G	5868330	3403 16 5		436	1015 6 G	6 2400/ St / G	5007517	1009 03 6		301
964 M10 G30 V2A	M10 10,5/ V2A	5944393	3403 15 5		387	1015 7 G	7 2000/ St / G	5007579	1009 04 4		301
964 M10 G30 V2A	M10 10,5/ V2A	5944393	3403 15 5		437	1015 8 G	8 2000/ St / G	5007630	1009 05 2		301
964 M10 G30 V4A	M10 10,5/ V4A	5944454	3403 16 3		388	1015 9 G	9 2000/ St / G	5007692	1009 06 0		301
964 M10 G30 V4A	M10 10,5/ V4A	5944454	3403 16 3		437						
964 M10 G40 V2A	M10 10,5/ V2A	5946298	3403 17 5		387	1020 11-16 G	M4 x 13 1200/ St / G	5125891	1404 16 4		318
964 M10 G40 V2A	M10 10,5/ V2A	5946298	3403 17 5		437	1020 11-16 V4A	M4 x 13 100/ V4A	5901792	1404 16 8		318
964 M10 G40 V4A	M10 10,5/ V4A	5946304	3403 17 7		388	1020 14-18 G	M4 x 13 1000/ St / G	5125952	1404 18 0		318
964 M10 G40 V4A	M10 10,5/ V4A	5946304	3403 17 7		437	1020 14-18 V4A	M4 x 13 100/ V4A	5901808	1404 18 4		318
964 M4 G15 G	M4 4,3/ ST / G	5867913	3403 02 5		436	1020 18-28 G	M4 x 13 600/ St / G	5126010	1404 28 8		318
964 M5 G20 G	M5 5,3/ ST / G	5867975	3403 04 1		436	1020 18-28 V4A	M4 x 13 100/ V4A	5901815	1404 29 2		318
964 M6 G20 G	M6 6,4/ ST / G	5868033	3403 07 6		436						
964 M6 G25 G	M6 6,4/ ST / G	5868095	3403 08 4		436	1060 26-45 FT	26-45 M5 x 30/ St / FT	5105978	1310 61 5		299
964 M6 G30 G	M6 6,4/ ST / G	5868156	3403 09 2		436	1060 45-68 FT	45-68 M6 x 35/ St / FT	5106036	1310 65 8		299
964 M8 G20 G	M8 8,4/ ST / G	5868217	3403 12 2		387						
964 M8 G20 G	M8 8,4/ ST / G	5868217	3403 12 2		436	1101 3,4x100	100 3,4/ St	5288077	3341 99 2		421
964 M8 G20 V2A	M8 8,4/ V2A	5944348	3403 12 5		387	1101 3,4x50	50 3,4/ St	5287773	3341 49 6		421
964 M8 G20 V2A	M8 8,4/ V2A	5944348	3403 12 5		437	1101 3,4x60	60 3,4/ St	5287834	3341 60 7		421
964 M8 G20 V4A	M8 8,4/ V4A	5944409	3403 12 7		388	1101 3,4x70	70 3,4/ St	5287896	3341 70 4		421
964 M8 G20 V4A	M8 8,4/ V4A	5944409	3403 12 7		437	1101 3,4x80	80 3,4/ St	5287957	3341 80 1		421
964 M8 G25 G	M8 8,4/ ST / G	5868279	3403 13 0		387	1101 3,4x90	90 3,4/ St	5288015	3341 90 9		421
964 M8 G25 G	M8 8,4/ ST / G	5868279	3403 13 0		436	1101 3x40	40 3/ St	5287537	3341 04 6		421
964 M8 G25 V2A	M8 8,4/ V2A	5944386	3403 13 5		387	1101 3x50	50 3/ St	5287599	3341 05 4		421
964 M8 G25 V2A	M8 8,4/ V2A	5944386	3403 13 5		437	1101 3x60	60 3/ St	5287650	3341 06 2		421
964 M8 G25 V4A	M8 8,4/ V4A	5944447	3403 13 7		388	1101 3x70	70 3/ St	5287711	3341 07 0		421
964 M8 G25 V4A	M8 8,4/ V4A	5944447	3403 13 7		437	1101 Z 40 G	40 3/ St / G	5288138	3342 04 2		421
964 M8 G40 V2A	M8 8,5/ V2A	5946250	3403 14 5		387	1101 Z 50 G	50 3/ St / G	5288190	3342 05 0		421
964 M8 G40 V2A	M8 8,5/ V2A	5946250	3403 14 5		437	1101 Z 60 G	60				

Type	Dimensions/Colour/Div.	GTIN	Art. no.	Price	Page	Type	Dimensions/Colour/Div.	GTIN	Art. no.	Price	Page
1101 Z 70 G	703/ St / G	5288312	3342 07 7	/100 pc.	421	1975 16-19	16-19 / PA	5844570	2148 04 8	/100 pc.	271
1101 Z3.4x50 G	503,4/ St / G	5288374	3342 50 6		421	1975 19-22	19-22,5 / PA	5844631	2148 05 6		271
1101 Z3.4x60 G	603,4/ St / G	5288435	3342 60 3		421						
1101 Z3.4x70 G	703,4/ St / G	5288497	3342 70 0		421	1976 12-15	12-15,5 190 N/ PA	5863779	2148 50 1		271
1101 Z3.4x80 G	803,4/ St / G	5288558	3342 80 8		421	1976 16-21	16-21,5 500 N/ PA	5863830	2148 52 8		271
						1976 22-28	22,5-28,5 500 N/ PA	5863892	2148 53 6		271
				/pc.		1996 40	3 x 40 Transparent/ PP	5705796	2222 83 3		281
1268 KD FT	/ St / FT	6192373	6350 10 0		348	1996 50	3,5 x 50 Transparent/ PP	5705734	2222 84 1		281
1268 KP FT	/ St / FT	6192311	6350 05 4		348	1996 60	3,5 x 60 Transparent/ PP	5707837	2222 86 8		281
						1996 70	3,5 x 70 Transparent/ PP	5509837	2222 87 6		281
				/100 pc.		1996 N 25	253/ St / G	5545590	3369 00 3		420
1268 L 150 FS	35 x 18/ ST / FS	5038238	1104 24 1		356	1996 N 40	403/ St / G	5545774	3369 00 5		420
1268 L 150 FS	35 x 18/ ST / FS	5038238	1104 24 1		356	1996 N 60	603,5/ St / G	5545897	3369 02 1		420
				/100 m		1996 0	3,0-3,5 Transparent/ PP	5698357	2222 80 9		281
1268 L 1M FS	35 x 18/ ST / FS	5694458	1104 49 7		346						
1268 L 1M FS	35 x 18/ ST / FS	5694458	1104 49 7		356						
1268 L 1M VA	35 x 18/ V2A	5627074	1104 49 8		357						
				/100 pc.		2004 18 LGR	4 2,0 x 18/ PP	5217275	2227 22 3		282
1268 L 200 FS	35 x 18/ ST / FS	5038290	1104 26 8		346	2004 18 RW	4 2,0 x 18/ PP	5214878	2225 22 0		283
1268 L 200 FS	35 x 18/ ST / FS	5038290	1104 26 8		356	2004 25 LGR	4 2,0 x 25/ PP	5217336	2227 23 1		282
				/100 m		2004 25 RW	4 2,0 x 25/ PP	5214939	2225 23 9		283
						2005 18 LGR	5 2,0 x 18/ PP	5217459	2227 34 7		282
1268 L 2M FS	35 x 18/ ST / FS	5038771	1104 50 0		346	2005 18 RW	5 2,0 x 18/ PP	5215059	2225 37 9		283
1268 L 2M FS	35 x 18/ ST / FS	5038771	1104 50 0		356	2005 25 LGR	5 2,0 x 25/ PP	5217398	2227 33 9		282
1268 L 2M VA	35 x 18/ V2A	5627081	1104 50 1		357	2005 25 RW	5 2,0 x 25/ PP	5214991	2225 34 4		283
				/100 pc.		2006 18 RW	6 2,0 x 18/ PP	5215110	2225 40 9		283
1268 L 300 FS	35 x 18/ ST / FS	5038351	1104 28 4		346	2006 25 LGR	6 2,0 x 25/ PP	5217572	2227 42 8		282
1268 L 300 FS	35 x 18/ ST / FS	5038351	1104 28 4		356	2006 25 RW	6 2,0 x 25/ PP	5215172	2225 41 7		283
1268 L 400 FS	35 x 18/ ST / FS	5836353	1104 29 2		346	2006 35 LGR	6 2,0 x 35/ PP	5217633	2227 43 6		282
1268 L 400 FS	35 x 18/ ST / FS	5836353	1104 29 2		356	2006 35 RW	6 2,0 x 35/ PP	5215233	2225 42 5		283
1268 L 500 FS	35 x 18/ ST / FS	5038412	1104 30 6		346						
1268 L 500 FS	35 x 18/ ST / FS	5038412	1104 30 6		356						
1268 L 600 FS	35 x 18/ ST / FS	5036678	1104 31 0		346						
1268 L 600 FS	35 x 18/ ST / FS	5036678	1104 31 0		356						
1268 L 700 FS	35 x 18/ ST / FS	5036739	1104 31 5		346	2007 18 RW	7 2,0 x 18/ PP	5215295	2225 50 6		283
1268 L 700 FS	35 x 18/ ST / FS	5036739	1104 31 5		356	2007 25 LGR	7 2,0 x 25/ PP	5217756	2227 51 7		282
1268 L 800 FS	35 x 18/ ST / FS	5036791	1104 32 0		346	2007 25 RW	7 2,0 x 25/ PP	5215356	2225 51 4		283
1268 L 800 FS	35 x 18/ ST / FS	5036791	1104 32 0		356	2007 25 SW	7 2,0 x 25/ PP	5336372	2232 14 6		283
1268 L 900 FS	35 x 18/ ST / FS	5036852	1104 32 5		346	2007 35 LGR	7 2,0 x 35/ PP	5217817	2227 52 5		282
1268 L 900 FS	35 x 18/ ST / FS	5036852	1104 32 5		356	2007 35 RW	7 2,0 x 35/ PP	5215417	2225 52 2		283
1268 SK OR	Pastel orange 800/ PE	5668114	1124 50 2		347						
1268 SK OR	Pastel orange 800/ PE	5668114	1124 50 2		357	2008 25 LGR	8 2,0 x 25/ PP	5217930	2227 61 4		282
1268 SL 150 FS	35 x 18/ ST / FS	5038474	1104 34 9		347	2008 25 RW	8 2,0 x 25/ PP	5215530	2225 61 1		283
1268 SL 150 FS	35 x 18/ ST / FS	5038474	1104 34 9		357	2008 25 SW	8 2,0 x 25/ PP	5336310	2232 17 0		283
				/100 m		2008 35 LGR	8 2,0 x 35/ PP	5217992	2227 62 2		282
1268 SL 1M FS	35 x 18/ ST / FS	5052692	1104 44 5		347	2008 35 RW	8 2,0 x 35/ PP	5215592	2225 63 8		283
1268 SL 1M FS	35 x 18/ ST / FS	5052692	1104 44 5		357	2008 45 LGR	8 2,0 x 45/ PP	5218050	2227 63 0		282
				/100 pc.		2009 20 RW	9 2,0 x 20/ PP	5215714	2225 70 0		283
1268 SL 200 FS	35 x 18/ ST / FS	5038535	1104 35 7		347	2009 25 LGR	9 2,0 x 25/ PP	5218173	2227 71 1		282
1268 SL 200 FS	35 x 18/ ST / FS	5038535	1104 35 7		357	2009 25 RW	9 2,0 x 25/ PP	5215776	2225 71 9		283
				/100 m		2009 25 SW	9 2,0 x 25/ PP	5336198	2232 21 9		283
1268 SL 2M FS	35 x 18/ ST / FS	5038719	1104 45 4		347	2009 35 LGR	9 2,0 x 35/ PP	5218234	2227 73 8		282
1268 SL 2M FS	35 x 18/ ST / FS	5038719	1104 45 4		357	2009 35 LGR SP	9 2,0 x 35/ PP	5607694	2227 76 2		282
				/100 pc.		2009 35 RW	9 2,0 x 35/ PP	5215837	2225 72 7		283
1268 SL 300 FS	35 x 18/ ST / FS	5038597	1104 37 3		347	2009 45 LGR	9 2,0 x 45/ PP	5218296	2227 74 6		282
1268 SL 300 FS	35 x 18/ ST / FS	5038597	1104 37 3		357	2009 45 LGR SP	9 2,0 x 45/ PP	5607878	2227 79 7		282
1268 SL 400 FS	35 x 18/ ST / FS	5052814	1104 39 1		347						
1268 SL 400 FS	35 x 18/ ST / FS	5052814	1104 39 1		357						
1268 SL 500 FS	35 x 18/ ST / FS	5038658	1104 40 3		347	2010 25 LGR	10 2,0 x 25/ PP	5218357	2227 80 0		282
1268 SL 500 FS	35 x 18/ ST / FS	5038658	1104 40 3		357	2010 25 RW	10 2,0 x 25/ PP	5215899	2225 80 8		283
1268 SL 600 FS	35 x 18/ ST / FS	5486190	1104 41 1		347	2010 25 SW	10 2,0 x 25/ PP	5336136	2232 23 5		283
1268 SL 600 FS	35 x 18/ ST / FS	5486190	1104 41 1		357	2010 35 LGR	10 2,0 x 35/ PP	5218418	2227 81 9		282
1268 SL 800 FS	35 x 18/ ST / FS	5051732	1104 42 7		347	2010 35 RW	10 2,0 x 35/ PP	5215950	2225 81 6		283
1268 SL 800 FS	35 x 18/ ST / FS	5051732	1104 42 7		357	2010 45 LGR	10 2,0 x 45/ PP	5218470	2227 82 7		282
1268 SL 900 FS	35 x 18/ ST / FS	5052630	1104 43 5		347						
1268 SL 900 FS	35 x 18/ ST / FS	5052630	1104 43 5		357	2011 25 RW	11 2,0 x 25/ PP	5216070	2225 90 5		283
				/m		2011 35 LGR	11 2,0 x 35/ PP	5218593	2227 91 6		282
1268 SP 3M FT	3000/ St / FT	6192557	6350 20 8		348	2011 35 RW	11 2,0 x 35/ PP	5216131	2225 91 3		283
				/pc.		2011 45 LGR	11 2,0 x 45/ PP	5218654	2227 92 4		282
1268 W 90 G	/ St / G	6192496	6350 15 1		348	2012 25 RW	12 2,0 x 25/ PP	5216254	2226 01 4		283
						2012 35 LGR	12 2,0 x 35/ PP	5218777	2228 02 5		282
						2012 35 RW	12 2,0 x 35/ PP	5216315	2226 02 2		283
				/100 pc.		2012 35 SW	12 2,0 x 35/ PP	5335955	2232 31 6		283
1594 22 G	22 6/ St / G	5106159	1310 92 5		304	2012 45 LGR	12 2,0 x 45/ PP	5218838	2228 03 3		282
						2014 30 RW	14 2,5 x 30/ PP	5216438	2226 10 3		283
1973 20-40 LGR	20-40 89/ PA	5640035	2148 86 2		271	2014 40 LGR	14 2,5 x 40/ PP	5218951	2228 11 4		282
1973 3-13 LGR	3-13 52/ PA	5947899	2148 80 3		271	2014 40 RW	14 2,5 x 40/ PP	5216490	2226 11 1		283
1973 8-28 LGR	8-28 70/ PA	5877691	2148 84 6		271	2014 50 LGR	14 2,5 x 50/ PP	5219019	2228 12 2		282
1974 16-23	16-23 6/ PA	5742999	2197 80 4		271						
1974 22-30	22-30 6/ PA	5742937	2197 81 2		271	2016 40 LGR	16 2,5 x 40/ PP	5219132	2228 21 1		282
1974 2X12-25	12-25 6/ PA	5742579	2197 86 3		271	2016 40 RW	16 2,5 x 40/ PP	5216674	2226 21 9		283
1974 2X4-12	4-12 6/ PA	5742630	2197 85 5		271	2016 50 LGR	16 2,5 x 50/ PP	5219194	2228 23 8		282
						2016 50 RW	16 2,5 x 50/ PP	5216735	2226 22 7		283
1975 12-15	12-15 / PA	5844518	2148 02 1		271						

# Type listing

Structure of the GTIN: Country code **40** Manufacturer code **1219** Individual GTIN **5647589**

Type	Dimensions/Colour/Div.	GTIN	Art. no.	Price	Page	Type	Dimensions/Colour/Div.	GTIN	Art. no.	Price	Page		
2018 40 LGR	18 2,5 x 40/ PP	5219255	2228 30 0	/100 pc.	282	2047 5-25 LGR	5-25 Light grey/ PS	5221654	2251 25 6	/100 pc.	376		
2018 40 RW	18 2,5 x 40/ PP	5216797	2226 30 8			283							
2018 50 LGR	18 2,5 x 50/ PP	5219316	2228 31 9			282	2049 4-14 LGR	4-14 M3 x 17/ PS	5222071			2254 01 8	375
2020 40 LGR	20 2,5 x 40/ PP	5219378	2228 40 8	282	283	2050 5-25 LGR	5-25 M4 x 27/ PS	5222132	2254 02 6	375			
2020 40 RW	20 2,5 x 40/ PP	5216919	2226 40 5										
2020 50 LGR	20 2,5 x 50/ PP	5219439	2228 41 6			282	2051 8-36 LGR	8-36 M4 x 37.5/ PS	5222194			2254 03 4	375
2025 18 LGR	2 x 184-7 / PP	5219552	2228 61 0	282	282	2054 14-48 LGR	14-48 M8 x 55/ PA	5222798	2255 01 4	376	376		
2025 18 RW	2,0 x 184-7 / PP	5496519	2228 68 6					2054 14-48 PA	14-48 M8 x 55/ PA			5905592	2255 40 5
2025 25 LGR	2 x 254-7 / PP	5219613	2228 62 9										
2025 25 RW	2,0 x 254-7 / PP	5828556	2228 68 8	282	2055 24-72 LGR	24-72 M8 x 75/ PA	5222859	2255 02 2	376				
2026 18 LGR	2 x 187-12 / PP	5219675	2228 71 8	282	282	2056 100 FT	90-100 / ST / FT	5065296	1160 99 0	397	398		
2026 18 RW	2,0 x 187-12 / PP	5496397	2228 42 0					2056 12 ALU	8-12 / AI			5077299	1183 20 6
2026 25 LGR	2 x 257-12 / PP	5219736	2228 72 6					2056 12 FT	8-12 / ST / FT			5064459	1160 12 5
2026 25 LGR SP	2 x 257-12 / PP	5608110	2228 43 2	282	282	2056 12 VA	8-12 / V2A	5063612	1159 51 8	400	398		
2026 25 RW	2,0 x 257-12 / PP	5496458	2228 42 2					2056 16 ALU	12-16 / AI			5077350	1183 21 4
2026 35 LGR	2 x 357-12 / PP	5219798	2228 73 4					2056 16 FT	12-16 / ST / FT			5064510	1160 16 8
2026 35 LGR SP	2 x 357-12 / PP	5608172	2228 44 0	282	282	2056 16 VA	12-16 / V2A	5063674	1159 52 6	400	399		
2026 45 LGR	2 x 457-12 / PP	5608837	2228 75 0					2056 2 12 ALU	8-12 / AI			5435495	1183 38 9
								2056 2 12 FT	8-12 / ST / FT			5065357	1161 12 1
2027 25 LGR	2 x 2510-14 / PP	5219859	2228 82 3	282	282	2056 2 16 ALU	12-16 / AI	5435556	1183 39 7	399	397		
2027 30 LGR	2 x 3010-14 / PP	5219910	2228 83 1					2056 2 16 FT	12-16 / ST / FT			5065418	1161 16 4
2027 40 LGR	2 x 4010-14 / PP	5219972	2228 85 8					2056 2 22 ALU	16-22 / AI			5435617	1183 40 0
2028 40 LGR	2 x 4014-17 / PP	5220039	2228 90 4	282	282	2056 2 22 FT	16-22 / ST / FT	5065470	1161 22 9	397	400		
								2056 2 22 VA	16-22 / V2A			5066071	1161 82 2
								2056 2 28 ALU	22-28 / AI			5435679	1183 41 9
2029 M16 ALU	M16/ AI	5932710	2149 85 0	288	288	2056 2 28 FT	22-28 / ST / FT	5065531	1161 28 8	397	400		
2029 M25 ALU	M25/ AI	5932727	2149 85 8					2056 2 28 VA	22-28 / V2A			5066132	1161 83 0
2029 M32 ALU	M32/ AI	5932734	2149 86 2					2056 2 34 ALU	28-34 / AI			5435730	1183 42 7
2029 M40 ALU	M40/ AI	5932741	2149 86 6	288	288	2056 2 34 FT	28-34 / ST / FT	5065593	1161 34 2	399	400		
2029 M50 ALU	M50/ AI	5932758	2149 87 0					2056 2 34 VA	28-34 / V2A			5066194	1161 84 9
2029 M63 ALU	M63/ AI	5932765	2149 87 4					2056 2 40 ALU	34-40 / AI			5435792	1183 43 5
2031 10	10Light grey/ PP	5726951	2205 39 8	273	273	2056 2 40 FT	34-40 / ST / FT	5065654	1161 40 7	400	397		
2031 20	20Light grey/ PP	5651635	2205 40 4					2056 2 40 VA	34-40 / V2A			5066255	1161 85 7
2031 40	40Light grey/ PP	5651666	2205 41 6					2056 2 46 ALU	40-46 / AI			5435853	1183 44 3
2031 F 10	10Stone grey/ PP	5726968	2205 40 0	273	273	2056 2 46 FT	40-46 / ST / FT	5065715	1161 46 6	400	397		
2031 F 20	20Stone grey/ PP	5651659	2205 41 2					2056 2 46 VA	40-46 / V2A			5066316	1161 86 5
2031 F 40	40Stone grey/ PP	5651710	2205 42 3					2056 2 52 ALU	46-52 / AI			5435914	1183 45 1
2031 M 15 FS	1550/ St / FS	5863953	2207 02 8	289	289	2056 2 52 FT	46-52 / ST / FT	5065777	1161 52 0	400	397		
2031 M 15 V4A	1550/ V4A	5809456	2207 13 2					2056 2 52 VA	46-52 / V2A			5066378	1161 87 3
2031 M 15 VA	1550/ V2A	5809395	2207 08 0					2056 2 58 ALU	52-58 / AI			5435976	1183 47 8
2031 M 30 FS	3025/ St / FS	5798798	2207 03 6	289	289	2056 2 58 FT	52-58 / ST / FT	5065838	1161 57 1	400	397		
2031 M 30 V4A	3025/ V4A	5809463	2207 14 0					2056 2 58 VA	52-58 / V2A			5066439	1161 88 1
2031 M 30 VA	3025/ V2A	5809401	2207 08 8					2056 2 64 FT	58-64 / ST / FT			5065890	1161 64 4
2031 M 70 FS	7010/ St / FS	5022497	2207 06 0	290	290	2056 2 64 VA	58-64 / V2A	5066491	1161 90 3	400	398		
2031 M 70 V4A	7010/ V4A	5809470	2207 16 4					2056 22 ALU	16-22 / AI			5077411	1183 22 2
2031 M 70 VA	7010/ V2A	5809449	2207 11 2					2056 22 FT	16-22 / ST / FT			5064572	1160 22 2
2032	8Light grey/ PA	5211273	2205 01 7	274	274	2056 22 VA	16-22 / V2A	5063735	1159 53 4	400	398		
2032 AS	8Light grey/ PA	5710028	2205 05 2					2056 28 ALU	22-28 / AI			5077473	1183 23 0
2032 F	8Stone grey/ PBPT	5211099	2204 90 8					2056 28 FT	22-28 / ST / FT			5064633	1160 28 1
2032 SD	8Light grey/ PA	5210917	2204 80 0	275	275	2056 28 VA	22-28 / V2A	5063797	1159 54 2	398	398		
2032 SD SP	8Light grey/ PA	5597490	2204 85 1					2056 3 12 FT	8-12 / ST / FT			5066972	1162 12 8
2032 SP	8Light grey/ PA	5597674	2204 97 5					2056 3 16 FT	12-16 / ST / FT			5067030	1162 16 0
2033	16Light grey/ PA	5211334	2205 03 3	274	274	2056 3 22 ALU	16-22 / AI	5436218	1183 52 4	399	398		
2033 AS	16Light grey/ PA	5710035	2205 05 3					2056 3 22 FT	16-22 / ST / FT			5067092	1162 22 5
2033 D 15x3 G	15,6/4/ St / G	5044970	2205 09 7					2056 3 28 ALU	22-28 / AI			5436270	1183 53 2
2033 D 25x19	Light grey 2400/ PS	5211457	2205 09 2	275	275	2056 3 28 FT	22-28 / ST / FT	5067153	1162 28 4	398	399		
2033 F	16Stone grey/ PBPT	5211150	2204 91 6					2056 3 34 ALU	28-34 / AI			5436331	1183 54 0
2033 M	1625/ V2A	5036616	2204 00 0					2056 3 34 FT	28-34 / ST / FT			5067214	1162 34 9
2033 SD	16Light grey/ PA	5210979	2204 81 9	275	275	2056 3 40 FT	34-40 / ST / FT	5067276	1162 40 3	398	398		
2033 SD SP	16Light grey/ PA	5597551	2204 87 8					2056 3 46 FT	40-46 / ST / FT			5067337	1162 46 2
2033 SP	16Light grey/ PA	5597735	2204 98 3					2056 34 ALU	28-34 / AI			5077534	1183 24 9
2033 STD	16Light grey/ PA	5693253	2204 54 1	275	275	2056 34 FT	28-34 / ST / FT	5064695	1160 34 6	397	400		
								2056 34 VA	28-34 / V2A			5063858	1159 55 0
								2056 40 ALU	34-40 / AI			5077596	1183 25 7
2034	10Light grey/ PA	5211396	2205 04 1	274	274	2056 40 FT	34-40 / ST / FT	5064756	1160 40 0	397	400		
2034 AS	10Light grey/ PA	5710042	2205 05 4					2056 40 VA	34-40 / V2A			5063919	1159 56 9
2034 F	10Stone grey/ PBPT	5211211	2204 92 4					2056 46 ALU	40-46 / AI			5077657	1183 26 5
2034 M	1050/ V2A	5210672	2204 01 0	291	291	2056 46 FT	40-46 / ST / FT	5064817	1160 45 1	397	400		
2034 SP	10Light grey/ PA	5597797	2204 99 1					2056 46 VA	40-46 / V2A			5063971	1159 57 7
								2056 52 ALU	46-52 / AI			5077718	1183 27 3
2036 10-15 LGR	10-15 Light grey/ PE	5223092	2259 14 1	376	376	2056 52 FT	46-52 / ST / FT	5064879	1160 52 4	397	400		
2036 18-23 LGR	18-23 Light grey/ PE	5223214	2259 23 0					2056 52 VA	46-52 / V2A			5064039	1159 58 5
2036 22-28 LGR	22-28 Light grey/ PE	5223276	2259 28 1					2056 58 ALU	52-58 / AI			5077770	1183 28 1
2036 4-7 LGR	4-7 Light grey/ PE	5222972	2259 07 9	376	376	2056 58 FT	52-58 / ST / FT	5064930	1160 58 3	400	398		
								2056 58 VA	52-58 / V2A			5064091	1159 59 3
								2056 64 ALU	58-64 / AI			5077831	1183 30 3
2037 12-20 LGR	12-20 Light grey/ PA	5221418	2250 20 9	276	276	2056 64 FT	58-64 / ST / FT	5064992	1160 64 8	397	400		
2037 16-24 LGR	16-24 Light grey/ PA	5221470	2250 24 1					2056 64 VA	58-64 / V2A			5064152	1159 60 7
2037 18-30 LGR	18-30 Light grey/ PA	5221531	2250 30 6					2056 70 ALU	64-70 / AI			5435310	1183 31 1
2037 27-43 LGR	27-43 Light grey/ PA	5221593	2250 43 8	276	276	2056 70 FT	64-70 / ST / FT	5065050	1160 70 2	397	400		
2037 3-7 LGR	3-7 Light grey/ PA	5221296	2250 07 1					2056 70 VA	64-70 / V2A			5064213	1159 61 5
2037 6-13 LGR	6-13 Light grey/ PA	5221357	2250 13 6					2056 76 ALU	70-76 / AI			5435372	1183 33 8
				276	276	2056 76 FT	70-76 / ST / FT	5065111	1160 76 1	397			

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Type	Dimensions/Colour/Div.	GTIN	Art. no.	Price	Page	Type	Dimensions/Colour/Div.	GTIN	Art. no.	Price	Page
2056 76 VA	70-76 / V2A	5064275	1159 62 3	/100 pc.	400	2056F 52 VA	46-52 / V2A	5078319	1185 07 1	/100 pc.	409
2056 82 FT	76-82 / ST / FT	5065173	1160 82 6		397	2056F 58 FT	52-58 / ST / FT	5071112	1169 58 0		408
2056 90 FT	82-90 / ST / FT	5065234	1160 90 7		397	2056F 58 VA	52-58 / V2A	5078371	1185 09 8		409
2056 B 35 FT	35 x 50 35/ st / FT	5081258	1194 05 4		414	2056F 64 FT	58-64 / ST / FT	5071174	1169 64 5		408
2056 B 40 FT	40 x 100 40/ st / FT	5081197	1194 04 6		414	2056F 64 VA	58-64 / V2A	5078432	1185 10 1		409
2056 B 80 FT	80 x 100 80/ st / FT	5081319	1194 08 9		414	2056F 70 FT	64-70 / ST / FT	5071235	1169 69 6		408
2056 B 80 VA	80 x 100 80/ V2A	5476771	1194 37 2		414	2056F 76 FT	70-76 / ST / FT	5071297	1169 76 9		408
2056 BE FT	/ st / FT	5072492	1174 05 3		403	2056F 82 FT	76-82 / ST / FT	5071358	1169 82 3		408
2056 E 31 FT	28-31 / st / FT	5500353	1174 60 6		413	2056F 90 FT	82-90 / ST / FT	5071419	1169 90 2		408
2056 E 37 FT	34-37 / st / FT	5500414	1174 61 4		413	2056F M 12 FT	8-12 / st / FT	5495192	1156 80 4		410
2056 E 44 FT	40-44 / st / FT	5500476	1174 63 0		413	2056F M 16 FT	12-16 / st / FT	5495253	1156 81 0		410
2056 M 100 FT	90-100 / ST / FT	5063551	1156 16 0		401	2056F M 22 FT	16-22 / st / FT	5495314	1156 82 9		410
2056 M 12 FT	8-12 / st / FT	5062714	1156 00 4		401	2056F M 28 FT	22-28 / st / FT	5495376	1156 83 7		410
2056 M 12 VA	8-12 / V2A	5668190	1159 71 2		402	2056N 12 ALU	8-12 / AI	5436515	1183 60 5		395
2056 M 16 FT	12-16 / st / FT	5062776	1156 01 2		401	2056N 12 FT	8-12 / ST / FT	5067399	1163 12 4		394
2056 M 16 VA	12-16 / V2A	5668206	1159 71 6		402	2056N 12 VA	8-12 / V2A	5069256	1166 01 8		395
2056 M 22 FT	16-22 / st / FT	5062837	1156 02 0		401	2056N 16 ALU	12-16 / AI	5436577	1183 61 3		395
2056 M 22 VA	16-22 / V2A	5668213	1159 72 2		402	2056N 16 FT	12-16 / ST / FT	5067450	1163 16 7		394
2056 M 28 FT	22-28 / ST / FT	5062899	1156 03 9		401	2056N 16 VA	12-16 / V2A	5069317	1166 02 6		395
2056 M 28 VA	22-28 / V2A	5668220	1159 72 8		402	2056N 2 12 FT	8-12 / ST / FT	5068297	1164 12 0		394
2056 M 34 FT	28-34 / ST / FT	5062950	1156 04 7		401	2056N 2 16 FT	12-16 / ST / FT	5068358	1164 16 3		394
2056 M 34 VA	28-34 / V2A	5668268	1159 73 4		402	2056N 2 22 FT	16-22 / ST / FT	5068419	1164 22 8		394
2056 M 40 FT	34-40 / ST / FT	5063018	1156 05 5		401	2056N 2 28 FT	22-28 / ST / FT	5068471	1164 28 7		394
2056 M 40 VA	34-40 / V2A	5668275	1159 74 0		402	2056N 2 34 FT	28-34 / ST / FT	5068532	1164 34 1		394
2056 M 46 FT	40-46 / ST / FT	5063070	1156 06 3		401	2056N 2 40 FT	34-40 / ST / FT	5068594	1164 40 6		394
2056 M 46 VA	40-46 / V2A	5668282	1159 74 6		402	2056N 2 46 FT	40-46 / ST / FT	5068655	1164 46 5		394
2056 M 52 FT	46-52 / ST / FT	5063131	1156 07 1		401	2056N 2 52 FT	46-52 / ST / FT	5068716	1164 51 1		394
2056 M 52 VA	46-52 / V2A	5668299	1159 75 2		402	2056N 2 58 FT	52-58 / ST / FT	5068778	1164 58 9		394
2056 M 58 FT	52-58 / ST / FT	5063193	1156 09 8		401	2056N 22 ALU	16-22 / AI	5436638	1183 62 1		395
2056 M 58 VA	52-58 / V2A	5668305	1159 75 8		402	2056N 22 FT	16-22 / ST / FT	5067511	1163 22 1		394
2056 M 64 FT	58-64 / ST / FT	5063254	1156 10 1		401	2056N 22 VA	16-22 / V2A	5069379	1166 03 4		395
2056 M 64 VA	58-64 / V2A	5668312	1159 76 4		402	2056N 28 ALU	22-28 / AI	5436690	1183 64 8		395
2056 M 70 FT	64-70 / ST / FT	5063315	1156 12 8		401	2056N 28 FT	22-28 / ST / FT	5067573	1163 28 0		394
2056 M 70 VA	64-70 / V2A	5668329	1159 77 0		402	2056N 28 VA	22-28 / V2A	5069430	1166 04 2		395
2056 M 76 FT	70-76 / ST / FT	5063377	1156 13 6		401	2056N 34 ALU	28-34 / AI	5436751	1183 65 6		395
2056 M 76 VA	70-76 / V2A	5668336	1159 77 6		402	2056N 34 FT	28-34 / ST / FT	5067634	1163 34 5		394
2056 M 82 FT	76-82 / ST / FT	5063438	1156 14 4		401	2056N 34 VA	28-34 / V2A	5069492	1166 05 0		395
2056 M 90 FT	82-90 / ST / FT	5063490	1156 15 2		401	2056N 40 ALU	34-40 / AI	5436812	1183 66 4		395
2056 M2 12 FT	8-12 / st / FT	5494836	1156 17 9		401	2056N 40 FT	34-40 / ST / FT	5067696	1163 39 6		394
2056 M2 12 VA	8-12 / V2A	5668343	1161 91 2		403	2056N 40 VA	34-40 / V2A	5069553	1166 06 9		395
2056 M2 16 FT	12-16 / st / FT	5494898	1156 18 7		401	2056N 46 ALU	40-46 / AI	5436874	1183 67 2		395
2056 M2 16 VA	12-16 / V2A	5668381	1161 91 6		403	2056N 46 FT	40-46 / ST / FT	5067757	1163 46 9		394
2056 M2 22 FT	16-22 / st / FT	5494959	1156 19 5		401	2056N 46 VA	40-46 / V2A	5069614	1166 07 7		395
2056 M2 22 VA	16-22 / V2A	5668398	1161 92 2		403	2056N 52 ALU	46-52 / AI	5436935	1183 68 0		395
2056 M2 28 FT	22-28 / st / FT	5958703	1156 20 9		401	2056N 52 FT	46-52 / ST / FT	5067818	1163 52 3		394
2056 M2 28 VA	22-28 / V2A	5668404	1161 92 8		403	2056N 52 VA	46-52 / V2A	5069676	1166 08 5		395
2056 M2 34 VA	28-34 / V2A	5668442	1161 93 4		403	2056N 58 FT	52-58 / ST / FT	5067870	1163 58 2		394
2056 M2 40 VA	34-40 / V2A	5668459	1161 94 0		403	2056N 58 VA	52-58 / V2A	5069737	1166 09 3		395
2056 M2 46 VA	40-46 / V2A	5668466	1161 94 6		403	2056N 58ALU	52-58 / AI	5436997	1183 69 9		395
2056 M2 52 VA	46-52 / V2A	5668503	1161 95 2		403	2056N 64 FT	58-64 / ST / FT	5067931	1163 64 7		394
2056 M2 58 VA	52-58 / V2A	5668510	1161 95 8		403	2056N 64 VA	58-64 / V2A	5069799	1166 10 7		395
2056 M2 64 VA	58-64 / V2A	5668527	1161 96 4		403	2056N 70 FT	64-70 / ST / FT	5067993	1163 70 1		394
2056 M3 12 FT	8-12 / st / FT	5958765	1156 24 1		402	2056N M 12 FT	8-12 / st / FT	5060857	1155 40 7		396
2056 M3 16 FT	12-16 / st / FT	5958826	1156 26 8		402	2056N M 16 FT	12-16 / st / FT	5060918	1155 41 5		396
2056 M3 22 FT	16-22 / st / FT	5958888	1156 27 6		402	2056N M 22 FT	16-22 / st / FT	5060970	1155 42 3		396
2056 M3 28 FT	22-28 / st / FT	5958949	1156 28 4		402	2056N M 28 FT	22-28 / st / FT	5061038	1155 43 1		396
2056F 12 ALU	8-12 / AI	5440239	1184 70 9		409	2056N M 34 FT	28-34 / st / FT	5061090	1155 45 8		396
2056F 12 FT	8-12 / ST / FT	5070634	1169 12 2		408	2056N M 40 FT	34-40 / st / FT	5061151	1155 46 6		396
2056F 12 VA	8-12 / V2A	5077893	1185 00 4		409	2056N M 46 FT	40-46 / st / FT	5061212	1155 47 4		396
2056F 16 ALU	12-16 / AI	5440291	1184 71 7		409	2056N M 52 FT	46-52 / st / FT	5061274	1155 48 2		396
2056F 16 FT	12-16 / ST / FT	5070696	1169 16 5		408	2056N M 58 FT	52-58 / st / FT	5061335	1155 49 0		396
2056F 16 VA	12-16 / V2A	5077954	1185 01 2		409	2056N SAS 12 VA	8-12 / V2A	5432432	1167 01 4		396
2056F 2 12 FT	8-12 / ST / FT	5071532	1170 12 0		408	2056N SAS 16 VA	12-16 / V2A	5432494	1167 02 2		396
2056F 2 16 FT	12-16 / ST / FT	5071594	1170 16 3		408	2056N SAS 22 VA	16-22 / V2A	5432555	1167 03 0		396
2056F 2 22 FT	16-22 / ST / FT	5071655	1170 22 8		408	2056N SAS 28 VA	22-28 / V2A	5432616	1167 04 9		396
2056F 2 28 FT	22-28 / ST / FT	5071716	1170 28 7		408	2056N SAS 8 VA	4-8 / V2A	5432371	1167 00 6		396
2056F 2 34 FT	28-34 / ST / FT	5071778	1170 34 1		408	2056R M 22 FS	16-22 / st / FS	5236597	1158 41 0		413
2056F 2 40 FT	34-40 / ST / FT	5071839	1170 40 6		408	2056R M 28 FS	22-28 / st / FS	5236603	1158 41 4		413
2056F 2 46 FT	40-46 / ST / FT	5071891	1170 46 5		408	2056R M 34 FS	28-34 / st / FS	5236610	1158 41 8		413
2056F 2 52 FT	46-52 / ST / FT	5071952	1170 51 1		408	2056R M 40 FS	34-40 / st / FS	5236627	1158 42 2		413
2056F 22 ALU	16-22 / AI	5440352	1184 72 5		409	2056RS M 16 FT	12-16 / st / FT	5358411	1158 30 5		413
2056F 22 FT	16-22 / ST / FT	5070757	1169 21 1		408	2056RS M 22 FT	16-22 / st / FT	5358428	1158 30 9		413
2056F 22 VA	16-22 / V2A	5078012	1185 02 0		409	2056RS M 28 FT	22-28 / st / FT	5358435	1158 31 3		413
2056F 28 ALU	22-28 / AI	5440413	1184 73 3		409	2056RS M 34 FT	28-34 / st / FT	5358442	1158 31 7		413
2056F 28 FT	22-28 / ST / FT	5070818	1169 28 9		408	2056RS M 40 FT	34-40 / st / FT	5358473	1158 32 1		413
2056F 28 VA	22-28 / V2A	5078074	1185 03 9		409	2056RS M 46 FT	40-46 / st / FT	5358480	1158 32 5		413
2056F 34 ALU	28-34 / AI	5440475	1184 74 1		409	2056RS M 52 FT	46-52 / st / FT	5358497	1158 32 9		413
2056F 34 FT	28-34 / ST / FT	5070870	1169 34 3		408	2056RS M 58 FT	52-58 / st / FT	5358503	1158 33 3		413
2056F 34 VA	28-34 / V2A	5078135	1185 04 7		409	2056RS M 64 FT	58-64 / st / FT	5358534	1158 33 7		413
2056F 40 ALU	34-40 / AI	5440536	1184 76 8		409	2056U 100 FT	90-100 / ST / FT	5073574	1175 99 8		404
2056F 40 FT	34-40 / ST / FT	5070931	1169 4								

# Type listing

Structure of the GTIN: Country code **40**

Manufacturer code **1219**

Individual GTIN **5647589**

Type	Dimensions/Colour/Div.	GTIN	Art. no.	Price	Page	Type	Dimensions/Colour/Div.	GTIN	Art. no.	Price	Page
2056U 2 12 FT	8-12 / ST / FT	5073635	1176 12 9	/100 pc.	404	2056W 2 34 FT	28-34 / ST / FT	5076575	1181 34 3	/100 pc.	411
2056U 2 16 FT	12-16 / ST / FT	5073697	1176 16 1		404	2056W 2 40 FT	34-40 / ST / FT	5076636	1181 40 8		411
2056U 2 22 FT	16-22 / ST / FT	5073758	1176 22 6		404	2056W 2 46 FT	40-46 / ST / FT	5076698	1181 46 7		411
2056U 2 28 FT	22-28 / ST / FT	5073819	1176 28 5		404	2056W 2 52 FT	46-52 / ST / FT	5076759	1181 52 1		411
2056U 2 34 FT	28-34 / ST / FT	5073871	1176 33 1		404	2056W 2 58 FT	52-58 / ST / FT	5076810	1181 58 0		411
2056U 2 40 FT	34-40 / ST / FT	5073932	1176 40 4		404	2056W 22 ALU	16-22 / AI	5446354	1184 02 4		412
2056U 2 46 FT	40-46 / ST / FT	5073994	1176 46 3		404	2056W 22 FT	16-22 / ST / FT	5075554	1180 22 3		411
2056U 2 52 FT	46-52 / ST / FT	5074052	1176 52 8		404	2056W 22 VA	16-22 / V2A	5079392	1185 43 8		412
2056U 2 58 FT	52-58 / ST / FT	5074113	1176 58 7		404	2056W 28 ALU	22-28 / AI	5437833	1184 03 2		412
2056U 22 ALU	16-22 / AI	5439158	1184 42 3		406	2056W 28 FT	22-28 / ST / FT	5075615	1180 28 2		411
2056U 22 FT	16-22 / ST / FT	5072850	1175 21 1		404	2056W 28 VA	22-28 / V2A	5079453	1185 44 6		412
2056U 22 VA	16-22 / V2A	5074717	1178 52 0		405	2056W 34 ALU	28-34 / AI	5437895	1184 04 0		412
2056U 28 ALU	22-28 / AI	5439219	1184 43 1		406	2056W 34 FT	28-34 / ST / FT	5075677	1180 34 7		411
2056U 28 FT	22-28 / ST / FT	5072911	1175 28 9		404	2056W 34 VA	28-34 / V2A	5079514	1185 45 4		412
2056U 28 VA	22-28 / V2A	5074779	1178 53 9		405	2056W 40 ALU	34-40 / AI	5437956	1184 05 9		412
2056U 3 12 FT	8-12 / ST / FT	5074175	1177 12 5		405	2056W 40 FT	34-40 / ST / FT	5075738	1180 40 1		411
2056U 3 16 FT	12-16 / ST / FT	5074236	1177 16 8		405	2056W 40 VA	34-40 / V2A	5079576	1185 46 2		412
2056U 3 22 FT	16-22 / ST / FT	5074298	1177 22 2		405	2056W 46 ALU	40-46 / AI	5438014	1184 06 7		412
2056U 3 28 FT	22-28 / ST / FT	5074359	1177 28 1		405	2056W 46 FT	40-46 / ST / FT	5075790	1180 46 0		411
2056U 3 34 FT	28-34 / ST / FT	5074410	1177 34 6		405	2056W 46 VA	40-46 / V2A	5079637	1185 47 0		412
2056U 3 40 FT	34-40 / ST / FT	5074472	1177 40 0		405	2056W 52 ALU	46-52 / AI	5438076	1184 07 5		412
2056U 3 46 FT	40-46 / ST / FT	5074533	1177 45 1		405	2056W 52 FT	46-52 / ST / FT	5075851	1180 52 5		411
2056U 34 ALU	28-34 / AI	5439271	1184 45 8		406	2056W 52 VA	46-52 / V2A	5079699	1185 48 9		412
2056U 34 FT	28-34 / ST / FT	5072973	1175 34 3		404	2056W 58 ALU	52-58 / AI	5438137	1184 08 3		412
2056U 34 VA	28-34 / V2A	5074830	1178 54 7		405	2056W 58 FT	52-58 / ST / FT	5075912	1180 58 4		411
2056U 40 ALU	34-40 / AI	5439332	1184 46 6		406	2056W 58 VA	52-58 / V2A	5079750	1185 49 7		412
2056U 40 FT	34-40 / ST / FT	5073031	1175 40 8		404	2056W 64 ALU	58-64 / AI	5438199	1184 09 1		412
2056U 40 VA	34-40 / V2A	5074892	1178 55 5		405	2056W 64 FT	58-64 / ST / FT	5075974	1180 64 9		411
2056U 46 ALU	40-46 / AI	5439394	1184 47 4		406	2056W 70 FT	64-70 / ST / FT	5076032	1180 68 1		411
2056U 46 FT	40-46 / ST / FT	5073093	1175 46 7		404	2056W 76 FT	70-76 / ST / FT	5076094	1180 76 2		411
2056U 46 VA	40-46 / V2A	5074953	1178 56 3		405	2056W 82 FT	76-82 / ST / FT	5076155	1180 82 7		411
2056U 52 ALU	46-52 / AI	5439455	1184 48 2		406	2056W 90 FT	82-90 / ST / FT	5076216	1180 90 8		411
2056U 52 FT	46-52 / ST / FT	5073154	1175 52 1		404						
2056U 52 VA	46-52 / V2A	5075011	1178 57 1		405	2057 M16 FT	M16/ St / FT	5033073	1193 70 8		403
2056U 58 ALU	52-58 / AI	5439516	1184 49 0		406	2057 M20 FT	M20/ St / FT	5033134	1193 71 6		403
2056U 58 FT	52-58 / ST / FT	5073215	1175 58 0		404	2057 M25 FT	M25/ St / FT	5033196	1193 72 4		403
2056U 58 VA	52-58 / V2A	5075073	1178 59 8		405	2057 M32 FT	M32/ St / FT	5033257	1193 73 2		403
2056U 64 ALU	58-64 / AI	5439578	1184 50 4		406	2057 M40 FT	M40/ St / FT	5033318	1193 74 0		403
2056U 64 FT	58-64 / ST / FT	5073277	1175 64 5		404	2057 M50 FT	M50/ St / FT	5033370	1193 75 9		403
2056U 64 VA	58-64 / V2A	5075134	1178 60 1		405	2057 M63 FT	M63/ St / FT	5033431	1193 76 7		403
2056U 70 ALU	64-70 / AI	5439752	1184 53 9		406						
2056U 70 FT	64-70 / ST / FT	5073338	1175 69 6		404	2058 12 LGR	8-12 34/ PP	5081371	1195 12 3		415
2056U 70 VA	64-70 / V2A	5075196	1178 62 8		405	2058 16 LGR	12-16 34/ PP	5081432	1195 16 6		415
2056U 76 ALU	70-76 / AI	5439639	1184 51 2		406	2058 2 12 LGR	8-12 34/ PP	5082576	1196 11 1		416
2056U 76 FT	70-76 / ST / FT	5073390	1175 76 9		404	2058 2 16 LGR	12-16 34/ PP	5082637	1196 16 2		416
2056U 76 VA	70-76 / V2A	5075257	1178 63 6		405	2058 2 22 LGR	16-22 34/ PP	5082699	1196 22 7		416
2056U 82 FT	76-82 / ST / FT	5073451	1175 82 3		404	2058 2 28 LGR	22-28 34/ PP	5082750	1196 28 6		416
2056U 90 FT	82-90 / ST / FT	5073512	1175 90 4		404	2058 2 34 LGR	28-34 34/ PP	5082811	1196 34 0		416
2056U M 12 FT	8-12 / St / FT	5498254	1158 00 7		406	2058 2 40 LGR	34-40 34/ PP	5082873	1196 40 5		416
2056U M 12 V4A	8-12 / V4A	5912255	1158 20 7		407	2058 2 46 LGR	40-46 40/ PP	5082934	1196 46 4		416
2056U M 16 FT	12-16 / St / FT	5498315	1158 01 5		406	2058 2 52 LGR	46-52 40/ PP	5082996	1196 52 9		416
2056U M 16 V4A	12-16 / V4A	5912262	1158 21 1		407	2058 2 58 LGR	52-58 40/ PP	5083054	1196 58 8		416
2056U M 22 FT	16-22 / St / FT	5498377	1158 02 3		406	2058 22 LGR	16-22 34/ PP	5081494	1195 22 0		415
2056U M 22 V4A	16-22 / V4A	5912279	1158 21 5		407	2058 28 LGR	22-28 34/ PP	5081555	1195 27 1		415
2056U M 28 FT	22-28 / St / FT	5498438	1158 03 1		406	2058 34 LGR	28-34 40/ PP	5081616	1195 34 4		415
2056U M 28 V4A	22-28 / V4A	5912286	1158 21 9		407	2058 40 LGR	34-40 40/ PP	5081678	1195 40 9		415
2056U M 34 FT	28-34 / St / FT	5498490	1158 05 8		406	2058 46 LGR	40-46 40/ PP	5081739	1195 46 8		415
2056U M 34 V4A	28-34 / V4A	5912293	1158 22 3		407	2058 52 LGR	46-52 40/ PP	5081791	1195 52 2		415
2056U M 40 FT	34-40 / St / FT	5498551	1158 06 6		406	2058 58 LGR	52-58 40/ PP	5081852	1195 58 1		415
2056U M 40 V4A	34-40 / V4A	5912309	1158 22 7		407	2058 64 LGR	58-64 40/ PP	5081913	1195 64 6		415
2056U M 46 FT	40-46 / St / FT	5498612	1158 07 4		406	2058 70 LGR	64-70 40/ PP	5081975	1195 70 0		415
2056U M 46 V4A	40-46 / V4A	5912316	1158 23 1		407	2058 M2 12 FT	8-12 35/ St / FT	5441434	1199 70 6		416
2056U M 52 FT	46-52 / St / FT	5498674	1158 08 2		406	2058 M2 16 FT	12-16 35/ St / FT	5441496	1199 71 4		416
2056U M 52 V4A	46-52 / V4A	5912323	1158 23 5		407	2058 M2 22 FT	16-22 35/ St / FT	5441557	1199 72 2		416
2056U M 58 FT	52-58 / St / FT	5498735	1158 09 0		406	2058 M2 22 V2A	16-22 35/ V2A	5847649	1196 59 7		416
2056U M 58 V4A	52-58 / V4A	5912330	1158 23 9		407	2058 M2 28 FT	22-28 35/ St / FT	5441618	1199 73 0		416
2056U M 64 FT	58-64 / St / FT	5498797	1158 10 4		406	2058 M2 28 V2A	22-28 35/ V2A	5847656	1196 59 9		416
2056U M 64 V4A	58-64 / V4A	5912347	1158 24 3		407	2058 M2 34 FT	28-34 35/ St / FT	5441670	1199 74 9		416
2056U M 70 FT	64-70 / St / FT	5498858	1158 11 2		406	2058 M2 34 V2A	28-34 35/ V2A	5847663	1196 60 1		416
2056U M 70 V4A	64-70 / V4A	5912354	1158 24 7		407	2058 M2 40 FT	34-40 35/ St / FT	5441731	1199 75 7		416
2056U M 76 FT	70-76 / St / FT	5498919	1158 12 0		406	2058 M2 40 V2A	34-40 35/ V2A	5847670	1196 60 3		416
2056U M 76 V4A	70-76 / V4A	5912361	1158 25 1		407	2058FW 100 LGR	90-100 40/ PP	5083955	1197 99 1		415
2056U-E28 FT	25-28 / St / FT	5451211	1174 50 9		414	2058FW 12 LGR	8-12 34/ PP	5083115	1197 12 6		415
2056U-E31 FT	28-31 / St / FT	5072553	1174 54 1		414	2058FW 16 LGR	12-16 34/ PP	5083177	1197 16 9		415
2056U-E34 FT	31-34 / St / FT	5451273	1174 51 7		414	2058FW 22 LGR	16-22 34/ PP	5083298	1197 22 3		415
2056U-E37 FT	34-37 / St / FT	5072614	1174 56 8		414	2058FW 28 LGR	22-28 34/ PP	5083290	1197 28 2		415
2056U-E40 FT	37-40 / St / FT	5451334	1174 52 5		414	2058FW 34 LGR	28-34 34/ PP	5083351	1197 34 7		415
2056U-E44 FT	40-44 / St / FT	5072676	1174 57 6		414	2058FW 40 LGR	34-40 34/ PP	5083412	1197 40 1		415
2056W 12 ALU	8-12 / AI	5437710	1184 00 8		412	2058FW 46 LGR	40-46 40/ PP	5083474	1197 46 0		415
2056W 12 FT	8-12 / ST / FT	5075431	1180 12 6								

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2058FW M 12 FT	8-12 35/ st / FT	5442035	1199 84 6	/100 pc.	415	2069 1M FS	1/ St / FS	5045557	1115 67 7	/100 m	389
2058FW M 12 V2A	8-12 35/ v2A	5514091	1197 13 4		415	2069 1M GTP	1/ St / GTP	5045618	1115 68 5		389
2058FW M 16 FT	12-16 35/ st / FT	5442097	1199 85 4		415	2069 2M BK	1/ St	5045250	1115 61 8		389
2058FW M 16 V2A	12-16 35/ v2A	5514152	1197 17 7		415	2069 2M FS	1/ St / FS	5045311	1115 62 6		389
2058FW M 22 FT	16-22 35/ st / FT	5442158	1199 86 2		415	2069 2M GTP	1/ St / GTP	5045434	1115 65 0		389
2058FW M 22 V2A	16-22 35/ v2A	5514213	1197 23 1		415	2069 2M GTPL	1/ ST / GTP	5045496	1115 66 9		389
2058FW M 28 FT	22-28 35/ st / FT	5442219	1199 87 0		415	2069 3M BK	1/ St	5871453	1115 85 5		389
2058FW M 28 V2A	22-28 35/ v2A	5514275	1197 29 0		415	2069 L 2M FS	1/ St / FS	5045977	1115 80 4		389
2058FW M 34 FT	28-34 35/ st / FT	5442271	1199 88 9		415					/100 pc.	
2058FW M 34 V2A	28-34 35/ v2A	5514336	1197 35 5		415	2069 T100 GTP	118/ St / GTP	5440994	1115 38 2		170
2058FW M 40 FT	34-40 35/ st / FT	5442332	1199 89 7		415	2069 T160 GTP	157/ St / GTP	5441007	1115 38 4		170
2058FW M 40 V2A	34-40 35/ v2A	5860297	1197 42 8		415	2069 T250 GTP	206/ St / GTP	5441038	1115 38 6		170
2058FW M 46 FT	40-46 35/ st / FT	5442394	1199 90 0		415	2069 T350 GTP	245/ St / GTP	5441045	1115 38 8		170
2058FW M 46 V2A	40-46 35/ v2A	5844334	1197 47 9		415	2069 T60 GTP	89/ St / GTP	5440987	1115 38 0		170
2058FW M 52 FT	46-52 35/ st / FT	5442455	1199 91 9		415						
2058FW M 52 V2A	46-52 35/ v2A	5821892	1197 53 3		415	2070 M6 G	12-20 M5x14/ St / G	5120735	1380 02 8		297
2058FW M 58 FT	52-58 35/ st / FT	5442516	1199 92 7		415						
2058FW M 58 V2A	52-58 35/ v2A	5847632	1197 59 2		415	2071 M6 G	20-30 M5x20/ St / G	5120858	1380 22 2		297
2058FW M 64 FT	58-64 35/ st / FT	5442578	1199 93 5		415						
2058FW M 64 V2A	58-64 35/ v2A	5865995	1197 60 6		415	2072 M6 G	30-44 M5x22/ St / G	5120971	1380 42 7		297
2058FW M 70 FT	64-70 35/ st / FT	5442639	1199 94 3		415						
2058FW M 8 V2A	4-8 35/ v2A	5514039	1197 09 6		415	2073 M6 G	44-60 M6x25/ St / G	5121152	1380 72 9		297
				/100 m		2078 M10 1M G	M1010/ St / G	5253396	3141 20 9		428
2059 2M FS	14 x 7,5/ st / FS	5037873	1103 12 1		352	2078 M10 1M V2A	M1010/ v2A	5023579	3141 31 2		428
						2078 M10 2M G	M1010/ St / G	5123583	3141 14 0		428
2060 2M AB BK	20 x 8/ St	5039617	1106 02 3		352	2078 M10 3M G	M1010/ St / G	5895152	3141 23 3		428
2060 2M AB FS	20 x 8/ st / FS	5039730	1106 12 0		352	2078 M12 1M G	M1212/ St / G	5253457	3141 30 6		428
2060 2M FS	20 x 8/ st / FS	5039433	1105 12 4		352	2078 M12 1M V2A	M1212/ v2A	5594437	3141 31 4		428
2060 2M VA	20 x 8/ v2A	5627098	1105 12 5		353	2078 M12 2M G	M1212/ St / G	5123644	3141 14 4		428
2060 L 2M FS	20 x 8/ st / FS	5040095	1106 62 7		352	2078 M6 1M G	M66/ St / G	5253211	3141 04 7		428
2060 L 2M VA	20 x 8/ v2A	5627104	1106 62 8		352	2078 M8 1M G	M88/ St / G	5253334	3141 12 8		428
						2078 M8 1M V2A	M88/ v2A	5023456	3141 31 0		428
2061 2M FS	25 x 10/ st / FS	5040453	1107 12 7		353	2078 M8 2M G	M88/ St / G	5119982	3141 13 6		428
2061 L 2M FS	25 x 10/ st / FS	5040811	1108 12 3		353	2078 M8 3M G	M88/ St / G	5374671	3141 13 8		428
						2081 K M6	M61,6/ St / G	5305958	3460 06 1		430
2062 2M BK	27 x 12,5/ St	5041412	1109 01 4		354	2081 M6 G	M61,35/ St / G	5306078	3460 16 9		429
2062 2M FT	27 x 12,5/ St / FT	5041474	1109 02 2		354						
2062 L 2M FT	27 x 12,5/ St / FT	5041894	1109 52 9		353						
						2083 M6 G	M64,5/ St / G	5306498	3462 06 4		430
2063 2M BK	35 x 18/ ST	5043157	1112 02 3		355	2083 M8 G	M85,5/ St / G	5306559	3462 08 0		430
2063 2M FS	35 x 18/ st / FS	5043270	1112 12 0		355						
2063 2M FT	35 x 18/ st / FT	5043393	1112 22 8		355	2084 K M6	M61,15/ Zn / G	5307150	3463 06 0		431
2063 2M VA	35 x 18/ v2A	5627111	1110 00 5		355	2084 M6 G	M61,15/ Zn / G	5307211	3463 56 7		430
2063 L 2M FS	35 x 18/ st / FS	5632597	1112 70 8		355	2084 M8 G	M81,15/ Zn / G	5307273	3463 58 3		430
2063 L 2M FT	35 x 18/ st / FT	5632535	1112 75 9		355						
2063 L 2M VA	35 x 18/ v2A	5627128	1112 70 9		355	2085 M6 G	M61,1/ Zn / G	5307334	3464 06 7		431
						2085 M8 G	M81,1/ Zn / G	5307396	3464 08 3		431
2064 GTP 2M	1,5/ St / GTP	5044291	1115 05 7		390						
2064 GTPL 2M	1,5/ St / GTP	5044352	1115 06 5		390						
				/100 pc.		2100 FT	46 x 24/ St / FT	5047773	1120 20 4	/100 m	357
2065 N M4 G	M4/ St / G	5051497	1133 02 0		369	2110 FT	56 x 30/ St / FT	5048732	1121 22 7		357
				/100 m						/pc.	
2066 2M F	25 x 12/ St / F	5046516	1117 02 5		353						
2066 2M FS	25 x 12/ st / FS	5046578	1117 03 3		353	2392	Light grey/ PA/GF	6027132	6024 00 9		197
2066 2M VA	25 x 12/ v2A	5046639	1117 06 8		353						
						2393 UP	Light grey/ PA	6027439	6024 10 6		197
2068 2M BK	35 x 18/ ST	5046936	1118 02 1		356						
2068 2M FS	35 x 18/ st / FS	5047179	1118 22 6		356						
2068 2M FT	35 x 18/ st / FT	5047056	1118 12 9		356						
2068 L 1M FT	35 x 18/ st / FT	5053958	1119 67 2		356	2900 M6 13-16 G	13,5-16 M 16/ St / G	5121336	1383 09 4	/100 pc.	297
				/100 pc.		2900 M6 16-19 G	16,5-19 Pg 11/ St / G	5121398	1383 11 6		297
2068 L 200 FT	35 x 18/ St / FT	5060673	1119 69 6		356	2900 M6 18-21 G	18-21 M 20/ St / G	5121459	1383 13 2		297
				/100 m		2900 M6 19-23 G	19-23 PG 16/ St / G	5121510	1383 16 7		297
2068 L 2M FS	35 x 18/ st / FS	5864318	1119 64 8		356	2900 M6 24-29 G	24-29 M 25/ St / G	5121572	1383 21 3		297
2068 L 2M FT	35 x 18/ st / FT	5047599	1119 65 6		356	2900 M6 30-34 G	33-38 Pg 29/ St / G	5121633	1383 29 9		297
2068 L 2M FTSO	35 x 18/ st / FT	5204138	1119 67 0		356	2900 M6 33-38 G	30-34 M 32/ St / G	5569176	1383 31 0		297
2068 L 2M VA	35 x 18/ v2A	5047650	1119 70 2		356	2900 M6 39-42 G	39-42 M 40/ St / G	5569237	1383 41 8		297
				/100 pc.		2900 M6 43-48 G	43-48 Pg 36/ St / G	5121695	1383 36 1		297
2068 L 300 FT	35 x 18/ St / FT	5060611	1119 69 3		356	2900 M6 49-55 G	49-55 M 50/ St / G	5121756	1383 42 6		297
2068 L 400 FT	35 x 18/ St / FT	5060376	1119 69 0		356	2900 M6 54-60 G	54-60 Pg 48/ St / G	5121817	1383 48 5		297
2068 L 500 FT	35 x 18/ St / FT	5060253	1119 68 7		356	2900 M6 61-64 G	61-64 M 63/ St / G	5569299	1383 50 7		297
2068 L 600 FT	35 x 18/ St / FT	5059417	1119 68 4		356	2900WM10 139FTSO80-140 5"/ St / FT		5544937	1388 42 8		299
				/100 m		2900WM10 21.5 FT9-21,5 1/2"/ St / FT		5124450	1388 03 7		299
2068 L 6M VA	35 x 18/ v2A	5047711	1119 72 9		356	2900WM10 27 FT 24,5-27 3/4"/ St / FT		5124511	1388 05 3		299
				/100 pc.		2900WM10 33.5 FBO,5-33,5 1"/ St / FT		5124573	1388 06 1		299
2068 L 700 FT	35 x 18/ St / FT	5059356	1119 68 1		356	2900WM10 48,5 FT50,5 1 1/2"/ St / FT		5124696	1388 11 8		299
2068 L 800 FT	35 x 18/ St / FT	5059295	1119 67 8		356	2900WM10 60 FT 56-60 2"/ St / FT		5124757	1388 13 4		299
				/100 m		2900WM10 75 FT50,5 2 1/2"/ St / FT		5544814	1388 37 1		299
						2900WM10 88 FTSO 83-88 3"/ St / FT		5544876	1388 39 8		299
2069 15 1.5 GTP	1,5/ St / GTP	5044833	1115 42 1		389	2900WM6 13.5 FT2,5-13,5 1/4"/ St / FT		5122838	1385 00 3		298
2069 15 1.5 GTPL	1,5/ St / GTP	5044895	1115 45 6		389	2900WM6 17 FT 16-17 3/8"/ St / FT		5122890	1385 01 1		298
2069 15 2.2 GTP	2,25/ St / GTP	5045076	1115 55 3		389	2900WM6 21.5 FT19-21,5 1/2"/ St / FT		5122951	1385 03 8		298
2069 15 2.2 GTPL	2,25/ St / GTP	5045199	1115 59 6		389	2900WM6 27 FT 24,5-27 3/4"/ St / FT		5123019	1385 05 4		298





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3100 M8 G	M8 10/ St / G	5250333	3131 08 4	/100 pc.	428	4758T 4.5x30	304,5/ ST / GGP	5558491	3198 05 4	/100 pc.	432
						4758T 4.5x35	354,5/ ST / GGP	5558972	3198 05 6		432
4014 G	M4/ St / G	5052579	1137 22 0		369	4758T 4.5x40	404,5/ ST / GGP	5559030	3198 05 8		432
4014 N G	M4/ St / G	5052517	1137 21 2		369	4758T 4.5x45	454,5/ ST / GGP	5560296	3198 06 0		432
4014 N.M.S. G	M4/ St / G	5052395	1137 01 8		369	4758T 4.5x50	504,5/ ST / GGP	5560357	3198 06 2		432
						4758T 5.0x30	305/ ST / GGP	5628750	3198 07 3		432
4021 K 6-13	6-13 4-9 / St / FS	5224419	2307 61 8		319	4758T 5.0x35	355/ ST / GGP	5628873	3198 07 5		432
4021 K 6-13 V4A	6-13 4-9 / V4A	5901853	2307 62 2		319	4758T 5.0x40	405/ ST / GGP	5628996	3198 07 7		432
4021 K 9-16	9-16 4-9 / St / FS	5224471	2307 63 4		319	4758T 5.0x45	455/ ST / GGP	5785835	3198 07 9		432
4021 K 9-16 V4A	9-16 4-9 / V4A	5901860	2307 63 8		319	4758T 5.0x50	505/ ST / GGP	5785897	3198 08 1		432
						4759 3.5x25	253,5/ St / GGP	5271932	3192 11 3		432
4024 16-23	16-23 5-10 / PS	5224358	2305 23 2		318	4759 3.5x30	303,5/ St / GGP	5271994	3192 12 1		432
4024 9-16	9-16 3-8 / PS	5224297	2305 15 1		318	4759 3.5x35	353,5/ St / GGP	5272052	3192 14 8		432
						4759 3.5x40	403,5/ St / GGP	5272113	3192 15 6		432
4028	2-4 Light grey/ PP	5213130	2215 04 7		281	4759 3.5x45	453,5/ St / GGP	5272175	3192 16 4		432
						4759 3.5x50	503,5/ St / GGP	5272236	3192 17 2		432
4029	4-7 Light grey/ PP	5213192	2215 07 1		281	4759 4.0x25	254/ St / GGP	5272298	3192 21 0		432
						4759 4.0x30	304/ St / GGP	5272359	3192 22 9		432
4030	7-11 Light grey/ PP	5213253	2215 10 1		281	4759 4.0x35	354/ St / GGP	5272410	3192 23 7		432
						4759 4.0x40	404/ St / GGP	5272472	3192 24 5		432
4031 10-14	10-14 Light grey/ PP	5213314	2215 14 4		281	4759 4.0x45	454/ St / GGP	5272533	3192 25 3		432
4031 14-17	14-17 Light grey/ PP	5213376	2215 17 9		281	4759 4.0x50	504/ St / GGP	5272595	3192 26 1		432
						4759 4.5x30	304,5/ St / GGP	5272717	3192 33 4		432
4032	16-20 Light grey/ PP	5213437	2215 20 9		281	4759 4.5x35	354,5/ St / GGP	5272779	3192 34 2		432
						4759 4.5x40	404,5/ St / GGP	5272830	3192 35 0		432
4039	2-4 / PP	5213550	2215 30 6		282	4759 4.5x45	454,5/ St / GGP	5272892	3192 36 9		432
4039 SP	2-4 / PP	5599777	2214 87 3		282	4759 4.5x50	504,5/ St / GGP	5272953	3192 37 7		432
						4759 5.0x30	305/ St / GGP	5273011	3192 41 5		432
4040	27-12 / PP	5213611	2215 31 4		282	4759 5.0x35	355/ St / GGP	5273073	3192 42 3		432
4040 SP	27-12 / PP	5599838	2214 88 1		282	4759 5.0x40	405/ St / GGP	5273134	3192 43 1		432
						4759 5.0x45	455/ St / GGP	5273196	3192 45 8		432
4041	210-14 / PP	5213796	2215 34 9		282	4759 5.0x50	505/ St / GGP	5273257	3192 46 6		432
						4759 6.0x40	406/ St / GGP	5682578	3192 62 8		432
4042	214-17 / PP	5213673	2215 32 2		282	4759 6.0x50	506/ St / GGP	5682516	3192 63 6		432
						4759 6.0x60	606/ St / GGP	5682455	3192 64 4		432
4043	217-21 / PP	5213734	2215 33 0		282	4759T 3.0x15	153/ St / GGP	5797593	3198 19 3		433
						4759T 3.0x25	253/ St / GGP	5797777	3198 19 7		433
4044	221-25 / PP	5213857	2215 35 7		282	4759T 3.0x30	303/ St / GGP	5797951	3198 19 9		433
						4759T 3.5x15	153,5/ St / GGP	5560470	3198 21 9		433
4758 3.5x15	153,5/ ST / GGP	5274759	3195 00 7		431	4759T 3.5x20	203,5/ St / GGP	5560531	3198 22 1		433
4758 3.5x20	203,5/ ST / GGP	5274810	3195 01 5		431	4759T 3.5x25	253,5/ ST / GGP	5561132	3198 22 3		433
4758 3.5x25	253,5/ ST / GGP	5274872	3195 02 3		431	4759T 3.5x30	303,5/ ST / GGP	5561378	3198 22 5		433
4758 3.5x30	303,5/ ST / GGP	5274933	3195 03 1		431	4759T 3.5x35	353,5/ ST / GGP	5561439	3198 22 7		433
4758 3.5x35	353,5/ ST / GGP	5274995	3195 05 8		431	4759T 3.5x40	403,5/ ST / GGP	5561552	3198 22 9		433
4758 3.5x40	403,5/ ST / GGP	5275053	3195 06 6		431	4759T 3.5x50	503,5/ ST / GGP	5561972	3198 23 1		433
4758 3.5x45	453,5/ ST / GGP	5275114	3195 07 4		431	4759T 4.0x15	154/ ST / GGP	5785958	3198 23 7		433
4758 3.5x50	503,5/ ST / GGP	5275176	3195 08 2		431	4759T 4.0x20	204/ ST / GGP	5562511	3198 23 9		433
4758 4.0x15	154/ ST / GGP	5275237	3195 20 1		431	4759T 4.0x25	254/ ST / GGP	5562573	3198 24 1		433
4758 4.0x20	204/ ST / GGP	5275299	3195 22 8		431	4759T 4.0x30	304/ ST / GGP	5563112	3198 24 3		433
4758 4.0x25	254/ ST / GGP	5275350	3195 23 6		431	4759T 4.0x35	354/ ST / GGP	5786016	3198 24 5		433
4758 4.0x30	304/ ST / GGP	5275411	3195 24 4		431	4759T 4.0x40	404/ ST / GGP	5786078	3198 24 7		433
4758 4.0x35	354/ ST / GGP	5275473	3195 25 2		431	4759T 4.0x45	454/ ST / GGP	5787457	3198 24 9		433
4758 4.0x40	404/ ST / GGP	5275534	3195 26 0		431	4759T 4.0x50	504/ ST / GGP	5787877	3198 25 1		433
4758 4.0x45	454/ ST / GGP	5275596	3195 27 9		431	4759T 4.5x30	304,5/ ST / GGP	5790037	3198 26 0		433
4758 4.0x50	504/ ST / GGP	5275657	3195 28 7		431	4759T 4.5x35	354,5/ ST / GGP	5791232	3198 26 2		433
4758 4.5x25	254,5/ ST / GGP	5275718	3195 42 2		431	4759T 4.5x40	404,5/ ST / GGP	5791294	3198 26 4		433
4758 4.5x30	304,5/ ST / GGP	5275770	3195 43 0		431	4759T 4.5x45	454,5/ ST / GGP	5791539	3198 26 6		433
4758 4.5x35	354,5/ ST / GGP	5275831	3195 44 9		431	4759T 4.5x50	504,5/ ST / GGP	5791713	3198 26 8		433
4758 4.5x40	404,5/ ST / GGP	5275893	3195 45 7		431	4759T 5.0x30	305/ ST / GGP	5792192	3198 27 6		433
4758 4.5x45	454,5/ ST / GGP	5275954	3195 46 5		431	4759T 5.0x35	355/ ST / GGP	5792253	3198 27 8		433
4758 4.5x50	504,5/ ST / GGP	5276012	3195 47 3		431	4759T 5.0x40	405/ ST / GGP	5792437	3198 28 0		433
4758 5.0x30	305/ ST / GGP	5276074	3195 63 5		431	4759T 5.0x45	455/ ST / GGP	5792499	3198 28 2		433
4758 5.0x35	355/ ST / GGP	5276135	3195 64 3		431	4759T 5.0x50	505/ ST / GGP	5792550	3198 28 4		433
4758 5.0x40	405/ ST / GGP	5276197	3195 65 1		431						
4758 5.0x45	455/ ST / GGP	5276258	3195 67 8		431						
4758 5.0x50	505/ ST / GGP	5276319	3195 68 6		431	5015 M5 OS G	M5/ St / G	5053118	1141 05 8		369
4758 5.0x60	605/ ST / GGP	5321019	3195 69 4		431	5015 M6 OS G	M6/ St / G	5053170	1141 06 6		369
4758 6.0x30	306/ ST / GGP	5682875	3195 91 0		431	5015 M6 OS VA	M6/ V2A	5053231	1141 10 4		369
4758 6.0x40	406/ ST / GGP	5682813	3195 92 9		431						
4758 6.0x50	506/ ST / GGP	5682752	3195 93 7		431	5016 M5 OS G	M5/ St / G	5053293	1142 05 4		370
4758 6.0x60	606/ ST / GGP	5682691	3195 94 5		431	5016 M6 OS G	M6/ St / G	5053354	1142 06 2		370
4758T 3.5x15	153,5/ ST / GGP	5552017	3198 01 6		432						
4758T 3.5x20	203,5/ ST / GGP	5552079	3198 01 8		432	5017 M10 OS VA	M10/ V4A	5086017	1143 12 7		370
4758T 3.5x25	253,5/ ST / GGP	5552130	3198 02 0		432	5017 M6 OS G	M6/ ST / G	5053415	1143 06 9		370
4758T 3.5x30	303,5/ ST / GGP	5552192	3198 02 2		432	5017 M6 OS VA	M6/ V4A	5119920	1143 12 3		370
4758T 3.5x35	353,5/ ST / GGP	5552253	3198 02 4		432	5017 M8 OS VA	M8/ V4A	5085980	1143 12 5		370
4758T 3.5x40	403,5/ ST / GGP	5552314	3198 02 6		432						
4758T 4.0x15	154/ ST / GGP	5552376	3198 03 0		432	5019 M10 OS G	M10 10/ ST / G	5053835	1144 13 8		349
4758T 4.0x20	204/ ST / GGP	5552437	3198 03 2		432	5019 M10 OS G	M10 10/ ST / G	5053835	1144 13 8		370
4758T 4.0x25	254/ ST / GGP	5555438	3198 03 4		432	5019 M6 OS G	M6 6/ ST / G	5053712	1144 10 3		349
4758T 4.0x30	304/ ST / GGP	5555551	3198 03 6		432	5019 M6 OS G	M6 6/ ST / G	5053712	1144 10 3		370
4758T 4.0x35	354/ ST / GGP	5557111	3198 03 8		432	5019 M8 OS G	M8 8/ ST / G	5053774	1144 11 1		349
4758T 4.0x40	404/ ST / GGP	5557418	3198 04 0		432	5019 M8 OS G	M8 8/ ST / G	5053774	1144 11 1		370
4758T 4.0x45	454/ ST / GGP	5558132	3198 04 2		432						
4758T 4.0x50	504/ ST / GGP	5558378	3198 04 4		432	5020 M10x40 FT	M1040/ St / FT	5056171	1149 45 8		372

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# Type listing

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5020 M6X20 FT	M620/ st / FT	5055457	1149 00 8	/100 pc.	372	5055 LIII26 V4A	26 x 1 / V4A	5900955	1471 26 6	/pc.	321
5020 M6X25 FT	M625/ st / FT	5055518	1149 01 6		372	5062 II12 FS	12 x 1 / St / FS	5139935	1475 12 6		321
5020 M8X25 FT	M825/ st / FT	5055754	1149 21 0		372	5062 II2 V4A	12 x 1 / V4A	5900962	1475 13 2		322
5021 M10x40 FT	M1040/ st / FT	5056959	1150 45 6	372	5062 II17 FS	17 x 1 / St / FS	5139997	1475 17 7	321		
5021 M6X25 FT	M625/ st / FT	5056232	1150 01 4	372	5062 II17 V4A	17 x 1 / V4A	5900979	1475 18 3	322		
5021 M8X20 FT	M820/ st / FT	5056478	1150 20 0	372	5062 III26 FS	26 x 1.2 / St / FS	5140054	1475 26 6	321		
5021 M8X25 FT	M825/ st / FT	5056539	1150 21 9	372	5062 III26 V4A	26 x 1.2 / V4A	5900986	1475 27 2	322		
5021 M8X40 FT	M840/ st / FT	5056713	1150 24 3	372	5062 LI12 12	12 x 0.75 / St / FS	5140115	1475 62 2	321		
						5062 LI12 V4A	12 x 0.75 / V4A	5900993	1475 62 8	322	
5022 M10x25 F	M1025/ st / F	5057499	1151 40 1	372	5062 LIII17 FS	17 x 0.75 / St / FS	5140177	1475 67 3	321		
5022 M10x30 F	M1030/ st / F	5057550	1151 42 8	372	5062 LIII17 V4A	17 x 0.75 / V4A	5901006	1475 67 9	322		
5022 M10x40 F	M1040/ st / F	5057673	1151 44 4	372	5062 LIII26 FS	26 x 1 / St / FS	5140238	1475 76 2	321		
5022 M12x30 G	M1230/ st / G	5057796	1151 62 2	372	5062 LIII26 V4A	26 x 1 / V4A	5901013	1475 76 8	322		
5022 M12x40 G	M1240/ st / G	5057918	1151 64 9	372							
5022 M6X25 F	M625/ st / F	5057017	1151 01 0	372							
5022 M6X30 F	M630/ st / F	5057079	1151 02 9	372	7901 5 G	54000 / st / G	5134831	1435 01 9	/100 pc.	307	
5022 M8X25 F	M825/ st / F	5057253	1151 21 5	372	7901 6.5 G	6,54000 / st / G	5134893	1435 02 7		307	
5022 M8X30 F	M830/ st / F	5057314	1151 22 3	372							
5022 M8X40 F	M840/ st / F	5057437	1151 25 8	372	7902 6 G	6,54000 / st / G	5134954	1436 01 5	307		
					7902 8 G	85000 / st / G	5135012	1436 02 3	307		
5023 M10x30 G	M1030/ st / G	5058335	1153 41 2	373							
5023 M10x30 V4A	M1030/ V4A	5907909	1153 46 2	373	7903 6 G	64000 / st / G	5135074	1437 00 3	308		
5023 M10x35 G	M1035/ st / G	5058397	1153 42 0	373	7903 8 G	84000 / st / G	5135135	1437 01 1	308		
5023 M10x35 V4A	M1035/ V4A	5907916	1153 46 5	373	7903 9 G	94000 / st / G	5135197	1437 03 8	308		
5023 M10x40 G	M1040/ st / G	5058458	1153 43 9	373							
5023 M10x40 V4A	M1040/ V4A	5907923	1153 54 3	373	7904 6 G	64800 / st / G	5135258	1438 01 8	308		
5023 M12x30 G	M1230/ st / G	5058755	1153 61 7	373							
5023 M12x30 V4A	M1230/ V4A	5907961	1153 71 3	373	7905 5 G	53600 / st / G	5135319	1439 01 4	308		
5023 M12x35 G	M1235/ st / G	5058816	1153 62 5	373							
5023 M12x35 V4A	M1235/ V4A	5907978	1153 72 0	373	7908 11 G	112400 / st / G	5135555	1442 01 5	308		
5023 M12x40 G	M1240/ st / G	5058878	1153 63 3	373							
5023 M12x40 V4A	M1240/ V4A	5907985	1153 74 8	373	7909 6 G	64000 / st / G	5135616	1443 01 1	308		
5023 M12x50 G	M1250/ st / G	5058939	1153 64 1	373							
5023 M12x50 V4A	M1250/ V4A	5907992	1153 75 3	373	12005 M10 G	M10 M10 / st / G	6202270	6410 10 3	429		
					12005 M10 V2A	M10 M10 / V2A	6043682	6410 16 2	429		
5024 M10x30 G	M1030/ st / G	5059714	1154 41 9	373	12005 M12 G	M12 M12 / st / G	6202331	6410 11 1	429		
5024 M10x30 V4A	M1030/ V4A	5908081	1154 50 7	374	12005 M8 G	M8 8 / st / G	6202218	6410 08 1	429		
5024 M10x35 G	M1035/ st / G	5059776	1154 42 7	373	12005 M8 V2A	M8 M8 / V2A	6043569	6410 15 4	429		
5024 M10x35 V4A	M1035/ V4A	5908098	1154 51 6	374							
5024 M10x40 G	M1040/ st / G	5059837	1154 43 5	373							
5024 M10x40 V4A	M1040/ V4A	5908104	1154 52 3	374	12400 10x100 G	10010 / st / G	5867135	3188 30 2	433		
5024 M12x30 G	M1230/ st / G	5060017	1154 60 5	373	12400 10x60 G	6010 / st / G	5867074	3188 25 6	433		
5024 M12x30 V4A	M1230/ V4A	5908203	1154 70 1	374	12400 10x70 G	7010 / st / G	5270430	3188 27 2	433		
5024 M12x35 G	M1235/ st / G	5060079	1154 61 3	373	12400 10x80 G	8010 / st / G	5270492	3188 28 0	433		
5024 M12x35 V4A	M1235/ V4A	5908210	1154 71 5	374	12400 12x70 G	7012 / st / G	5270553	3188 36 1	433		
5024 M12x40 G	M1240/ st / G	5060130	1154 62 1	373	12400 12x80 G	8012 / st / G	5270614	3188 38 8	433		
5024 M12x40 V4A	M1240/ V4A	5908227	1154 72 8	374	12400 6x40 G	406 / st / G	5866718	3188 04 3	433		
5024 M12x50 G	M1250/ st / G	5060192	1154 64 8	373	12400 6x50 G	506 / st / G	5270195	3188 05 1	433		
5024 M12x50 V4A	M1250/ V4A	5908265	1154 73 6	374	12400 6x60 G	606 / st / G	5270256	3188 07 8	433		
5024 M6x30 FT	M630/ st / FT	5483694	1154 40 3	373	12400 6x80 G	806 / st / G	5866770	3188 09 4	433		
5024 M6x30 V4A	M630/ V4A	5908043	1154 40 9	374	12400 8x100 G	1008 / st / G	5867012	3188 20 5	433		
					12400 8x40 G	408 / st / G	5866831	3188 14 0	433		
5026 M6X20 G	M620/ st / G	5057970	1151 70 3	349	12400 8x50 G	508 / st / G	5866893	3188 15 9	433		
5026 M6X20 G	M620/ st / G	5057970	1151 70 3	372	12400 8x60 G	608 / st / G	5270317	3188 16 7	433		
5026 M8X25 G	M825/ st / G	5058038	1151 71 1	349	12400 8x70 G	708 / st / G	5270379	3188 17 5	433		
5026 M8X25 G	M825/ st / G	5058038	1151 71 1	372	12400 8x80 G	808 / st / G	5866954	3188 18 3	433		
5050 20x1.5 BK	20 x 1.5 200 / st	5549079	1465 60 0	/100 m	315					/100 m	
5050 20X3 3MFT	20 x 3 / st / FT	5137597	1465 76 7		315	46277 GTP	1 / st / GTP	5044598	1115 33 2		390
5050 25X3 3MFT	25 x 3 / st / FT	5137658	1465 77 5		315	46277 GTPL	1 / st / GTP	5044659	1115 35 9		390
5050 25X3 FT	25 x 3 120 / st / FT	5136811	1465 10 4		315						
5050 30X3 3MFT	30 x 3 / st / FT	5137719	1465 79 1		315	46277 T160 Q GTP	99 / st / GTP	5897958	1115 27 0		170
5050 30X3 FT	30 x 3 120 / st / FT	5136934	1465 14 7		315	46277 T160 Q GTP	99 / st / GTP	5897958	1115 27 0		209
5050 30X4 3MFT	30 x 4 / st / FT	5137771	1465 80 5		315	46277 T250 L GTP	189 / st / GTP	5897996	1115 27 8		170
5050 30X4 FT	30 x 4 100 / st / FT	5136996	1465 16 3		315	46277 T250 L GTP	189 / st / GTP	5897996	1115 27 8		209
5050 40X4 3MFT	40 x 4 / st / FT	5137832	1465 82 1		315	46277 T250 Q GTP	139 / st / GTP	5897965	1115 27 4		170
5050 40X4 FT	40 x 4 80 / st / FT	5137054	1465 19 8		315	46277 T250 Q GTP	139 / st / GTP	5897965	1115 27 4		209
5050 SB30x3 FT	30 x 3 / st / FT	5137955	1466 26 7		315	46277 T350 L GTP	168 / st / GTP	5898016	1115 28 6		170
						46277 T350 L GTP	168 / st / GTP	5898016	1115 28 6		209
						46277 T350 Q GTP	161 / st / GTP	5898009	1115 28 2		170
					46277 T350 Q GTP	161 / st / GTP	5898009	1115 28 2	209		
5055 II2 FS	12 x 1 / St / FS	5138310	1470 12 4	/pc.	321	A 11	Light grey / PE	5152170	2000 34 2	162	
5055 II2 V4A	12 x 1 / V4A	5900887	1470 12 9		321	A 11 5	Light grey / PE	5152057	2000 32 6	162	
5055 II17 FS	17 x 1 / St / FS	5138372	1470 17 5		321						
5055 II17 V4A	17 x 1 / V4A	5900894	1470 18 0		321	A 14	Light grey / PE	5917090	2000 37 8	162	
5055 III26 FS	26 x 1.2 / St / FS	5138433	1470 26 4		321	A 14 5	Light grey / PE	5917106	2000 38 2	162	
5055 III26 V4A	26 x 1.2 / V4A	5900900	1470 27 0		321	A 14 HF RO	Red / PE	5917113	2000 38 6	162	
5055 L PE I 14	13 x 3 / St / FS	5139393	1473 22 0		322	A 14 HF RW	Pure white / PE	5917120	2000 39 0	162	
5055 L PE II 19	19 x 3 / St / FS	5139454	1473 27 1		322						
5055 L PE III 28	28 x 3.7 / St / FS	5139515	1473 36 0		322						
5055 LI12 FS	12 x 0.75 / St / FS	5138679	1471 12 0		321						
5055 LI12 V4A	12 x 0.75 / V4A	5900931	1471 12 6		321	A 18	Light grey / PE	5917137	2000 41 0	163	
5055 LII17 FS	17 x 0.75 / St / FS	5138730	1471 17 1		321	A 18 5	Light grey / PE	5917144	2000 41 4	163	
5055 LII17 V4A	17 x 0.75 / V4A	5900948	1471 17 7		321	A 18 HF RO	Red / PE	5917151	2000 41 8	163	
5055 LIII26 26	26 x 1 / St / FS	5138792	1471 26 0		321	A 18 HF RW	Pure white / PE	5917168	2000 42 2	163	

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A 6 HF RO	Red 10/ PE	5917076	2000 00 3		162	CPS 5 G 300 FT	50 x 30/ ST / FT	6191833	6349 43 9		359
A 6 HF RW	Pure white 10/ PE	5917083	2000 00 5		162	CPS 5 G 340 FT	50 x 30/ ST / FT	6191895	6349 44 7		359
A 8	Light grey/ PE	5151395	2000 01 6		162	CPS 5 G 380 FT	50 x 30/ ST / FT	6191956	6349 46 3		359
A 8 5	Light grey/ PE	5151456	2000 02 4		162	CPS 5 L 1.5M FT	50 x 30/ ST / FT	5514572	1121 36 3		358
A11 HF RO	Red/ PE	5820390	2000 16 4		162	CPS 5 L 1.5M V4A	50 x 30/ V4A	5906964	1121 36 5	/100 pc.	360
A11 HF RW	Pure white/ PE	5707899	2000 18 0		162	CPS 5 L 1M FT	50 x 30/ St / FT	5886211	1121 44 8	/100 m	359
A8 HF RO	Red/ PE	5239598	2000 05 9		162	CPS 5 L 200 FT	50 x 30/ St / FT	5745037	1121 39 1	/pc.	358
A8 HF RW	Pure white/ PE	5313090	2000 07 5		162	CPS 5 L 200 V4A	50 x 30/ V4A	5906971	1121 39 3	/100 pc.	359
B 10 M	Light grey/ UF	5107651	2002 16 7		186	CPS 5 L 2M FT	50 x 30/ St / FT	5049210	1121 46 4	/100 m	359
B 10 M 5	Light grey/ UF	5107712	2002 14 0		186	CPS 5 L 2M V4A	50 x 30/ V4A	5906995	1121 46 5		360
B 100 M	Light grey/ UF	5542537	2001 26 8		184	CPS 5 L 2M VA	50 x 30/ V2A	5049272	1121 48 0		359
B 100 M 5	Light grey/ UF	5117735	2001 24 1		184	CPS 5 L 300 FT	50 x 30/ St / FT	5672975	1121 24 3	/pc.	358
B 11 M	Light grey/ UF	5105435	2002 34 5		186	CPS 5 L 300 V4A	50 x 30/ V4A	5906902	1121 24 5	/100 pc.	359
B 11 M 5	Light grey/ UF	5107590	2002 32 9		186	CPS 5 L 3M FT	50 x 30/ St / FT	5419686	1121 46 6	/100 m	359
B 12 M	Light grey/ UF	5105312	2002 52 3		187	CPS 5 L 3M V4A	50 x 30/ V4A	5907008	1121 46 9		360
B 12 M 5	Light grey/ UF	5105374	2002 50 7		187	CPS 5 L 400 FT	50 x 30/ St / FT	5672555	1121 27 8	/pc.	358
B 160 M	Light grey/ UF	5542414	2001 30 6		185	CPS 5 L 400 V4A	50 x 30/ V4A	5906919	1121 28 0	/100 pc.	359
B 160 M 5	Light grey/ UF	5542476	2001 29 2		185	CPS 5 L 500 FT	50 x 30/ St / FT	5886334	1121 40 5	/pc.	358
B 25 M	Light grey/ UF	5545415	2001 13 6		184	CPS 5 L 500 V4A	50 x 30/ V4A	5906988	1121 40 7	/100 pc.	359
B 25 M 5	Light grey/ UF	5125655	2001 12 8		184	CPS 5 L 600 FT	50 x 30/ St / FT	5672494	1121 29 4	/pc.	358
B 250 M	Light grey/ UF	5542292	2001 34 9		185	CPS 5 L 600 V4A	50 x 30/ V4A	5906926	1121 29 6	/100 pc.	359
B 40 M	Light grey/ UF	5545170	2001 17 9		184	CPS 5 L 6M FT	50 x 30/ St / FT	5462491	1121 47 2	/100 m	359
B 40 M 5	Light grey/ UF	5545231	2001 16 0		184	CPS 5 L 6M V4A	50 x 30/ V4A	5907015	1121 47 3		360
B 60 M	Light grey/ UF	5119838	2001 21 7		184	CPS 5 L 6M VA	50 x 30/ V2A	5049333	1121 49 9		359
B 60 M 5	Light grey/ UF	5545118	2001 20 9		184	CPS 5 L 700 FT	50 x 30/ St / FT	5672616	1121 33 2	/pc.	358
B 9 B M	Light grey/ UF	5536178	2001 63 2		186	CPS 5 L 700 V4A	50 x 30/ V4A	5906940	1121 33 4	/100 pc.	359
B 9 B M 5	Light grey/ UF	5536239	2001 61 6		186	CPS 5 L 800 FT	50 x 30/ St / FT	5882251	1121 30 8	/pc.	358
B 9 K M	Light grey/ UF	5536116	2001 94 2		186	CPS 5 L 800 V4A	50 x 30/ V4A	5906933	1121 31 0	/100 pc.	359
B 9 T 5	Light grey/ PP	5879671	2001 80 2		183	CPS 5 L 900 FT	50 x 30/ St / FT	5068310	1121 33 6	/pc.	358
B 9 T M	Light grey/ PP	5540076	2001 85 3		183	CPS 5 L 900 V4A	50 x 30/ V4A	5906957	1121 33 8	/100 pc.	359
B 9 T M 5	Light grey/ PP	5541936	2001 84 5		183	CPS 5 SK OR SP	Pastel orange 300/ PE	5785323	1124 56 3		360
B 9 T M NL	Light grey/ PP	5539896	2001 86 1		183	C30 2M FS	30 x 15/ St / FS	5042075	1110 00 4	/100 m	354
B 9 T M RO	Red grey/ PP	5110477	2001 88 8		183	C30 L 1M FT	30 x 15/ St / FT	5037934	1109 86 3	/100 pc.	355
BE TS GR	10/ PC	5840602	2007 83 3		169	C30 L 200 FT	30 x 15/ St / FT	5036975	1109 78 2	/100 m	354
BE TS GR	10/ PC	5840602	2007 83 3		180	C30 L 2M FS	30 x 15/ St / FS	5053897	1110 00 2	/100 pc.	354
BE TS KR	10/ PC	5840640	2007 83 5		169	C30 L 2M FT	30 x 15/ St / FT	5041771	1109 87 1	/100 pc.	355
BE TS KR	10/ PC	5840640	2007 83 5		180	C30 L 300 FT	30 x 15/ St / FT	5037033	1109 79 0	/100 pc.	354
CPS 4 SK OR SP	Pastel orange 300/ PE	5785316	1124 55 5		358	C30 L 400 FT	30 x 15/ St / FT	5037095	1109 80 4		354
CPS 4 SPR 492 FT	/ ST / FT	6006014	6007 24 4		358	C30 L 500 FT	30 x 15/ St / FT	5037156	1109 81 2		354
CPS 4 SPR 592 FT	/ ST / FT	6006076	6007 25 2		358	C30 L 600 FT	30 x 15/ St / FT	5037217	1109 82 0		354
CPS 4 SPR 692 FT	/ ST / FT	6006137	6007 26 0		358	C30 L 700 FT	30 x 15/ St / FT	5037279	1109 83 9		354
CPS 4 SPR 792 FT	/ ST / FT	6006199	6007 27 9		358	C30 L 800 FT	30 x 15/ St / FT	5037330	1109 84 7		354
CPS 4 SPR 892 FT	/ ST / FT	6006250	6007 28 7		358	CPS 4 SK OR SP	Pastel orange 300/ PE	5785316	1124 55 5	/pc.	358
CPS 4 SPR 992 FT	/ ST / FT	6006311	6007 29 5		358	CPS 4 SPR 492 FT	/ ST / FT	6006014	6007 24 4		358
CPS 4 SPR1092 FT	/ ST / FT	6006373	6007 30 9		358	CPS 4 SPR 592 FT	/ ST / FT	6006076	6007 25 2		358
CPS 4 SPR1192 FT	/ ST / FT	6006434	6007 31 7		358	CPS 4 SPR 692 FT	/ ST / FT	6006137	6007 26 0		358
CPS 4L 2M FT	40 x 22,5/ St / FT	5050230	1121 97 9		358	CPS 4 SPR 792 FT	/ ST / FT	6006199	6007 27 9		358
CPS 4L 2M VA	40 x 22,5/ V2A	5050179	1121 96 0		358	CPS 4 SPR 892 FT	/ ST / FT	6006250	6007 28 7		358
CPS 4L 6M FT	40 x 22,5/ St / FT	5049937	1121 89 8		358	CPS 4 SPR 992 FT	/ ST / FT	6006311	6007 29 5		358
CPS 4L 6M VA	40 x 22,5/ V2A	5049999	1121 90 1		358	CPS 4 SPR1092 FT	/ ST / FT	6006373	6007 30 9		358
CPS 5 G 220 FT	50 x 30/ ST / FT	6191710	6349 40 4		359	CPS 4 SPR1192 FT	/ ST / FT	6006434	6007 31 7	/100 m	358
						CPS 5 G 260 FT	50 x 30/ ST / FT	6191772	6349 41 2	/pc.	359
						CPS 5 G 300 FT	50 x 30/ ST / FT	6191833	6349 43 9		359
						CPS 5 G 340 FT	50 x 30/ ST / FT	6191895	6349 44 7		359
						CPS 5 G 380 FT	50 x 30/ ST / FT	6191956	6349 46 3		359
						CPS 5 L 1.5M FT	50 x 30/ ST / FT	5514572	1121 36 3		358
						CPS 5 L 1.5M V4A	50 x 30/ V4A	5906964	1121 36 5	/100 pc.	360
						CPS 5 L 1M FT	50 x 30/ St / FT	5886211	1121 44 8	/100 m	359
						CPS 5 L 200 FT	50 x 30/ St / FT	5745037	1121 39 1	/pc.	358
						CPS 5 L 200 V4A	50 x 30/ V4A	5906971	1121 39 3	/100 pc.	359
						CPS 5 L 2M FT	50 x 30/ St / FT	5049210	1121 46 4	/100 m	359
						CPS 5 L 2M V4A	50 x 30/ V4A	5906995	1121 46 5		360
						CPS 5 L 2M VA	50 x 30/ V2A	5049272	1121 48 0		359
						CPS 5 L 300 FT	50 x 30/ St / FT	5672975	1121 24 3	/pc.	358
						CPS 5 L 300 V4A	50 x 30/ V4A	5906902	1121 24 5	/100 pc.	359
						CPS 5 L 3M FT	50 x 30/ St / FT	5419686	1121 46 6	/100 m	359
						CPS 5 L 3M V4A	50 x 30/ V4A	5907008	1121 46 9		360
						CPS 5 L 400 FT	50 x 30/ St / FT	5672555	1121 27 8	/pc.	358
						CPS 5 L 400 V4A	50 x 30/ V4A	5906919	1121 28 0	/100 pc.	359
						CPS 5 L 500 FT	50 x 30/ St / FT	5886334	1121 40 5	/pc.	358
						CPS 5 L 500 V4A	50 x 30/ V4A	5906988	1121 40 7	/100 pc.	359
						CPS 5 L 600 FT	50 x 30/ St / FT	5672494	1121 29 4	/pc.	358
						CPS 5 L 600 V4A	50 x 30/ V4A	5906926	1121 29 6	/100 pc.	359
						CPS 5 L 6M FT	50 x 30/ St / FT	5462491	1121 47 2	/100 m	359
						CPS 5 L 6M V4A	50 x 30/ V4A	5907015	1121 47 3		360
						CPS 5 L 6M VA	50 x 30/ V2A	5049333	1121 49 9		359
						CPS 5 L 700 FT	50 x 30/ St / FT	5672616	1121 33 2	/pc.	358
						CPS 5 L 700 V4A	50 x 30/ V4A	5906940	1121 33 4	/100 pc.	359
						CPS 5 L 800 FT	50 x 30/ St / FT	5882251	1121 30 8	/pc.	358
						CPS 5 L 800 V4A	50 x 30/ V4A	5906933	1121 31 0	/100 pc.	359
						CPS 5 L 900 FT	50 x 30/ St / FT	5068310	1121 33 6	/pc.	358
						CPS 5 L 900 V4A	50 x 30/ V4A	5906957	1121 33 8	/100 pc.	359
						CPS 5 SK OR SP	Pastel orange 300/ PE	5785323	1124 56 3		360
						DIN 128 A M10 G	M10 10,5/ ST / G	5302414	3405 10 9		386
						DIN 128 A M10 G	M10 10,5/ ST / G	5302414	3405 10 9		435
						DIN 128 A M10V4A	M10 10,5/ V4A	5909750	3405 11 1		387
						DIN 128 A M10V4A	M10 10,5/ V4A	5909750	3405 11 1		436
						DIN 128 A M12 G	M12 12,5/ ST / G	5302476	3405 12 5		386
						DIN 128 A M12 G	M12 12,5/ ST / G	5302476	3405 12 5		435
						DIN 128 A M12V4A	M12 12,5/ V4A	5909774	3405 12 7		387
						DIN 128 A M12V4A	M12 12,5/ V4A	5909774	3405 12 7		436
						DIN 128 A M6 G	M66,3/ ST / G	5302292	3405 06 0		435

# Type listing

Structure of the GTIN: Country code **40** Manufacturer code **1219** Individual GTIN **5647589**

Type	Dimensions/Colour/Div.	GTIN	Art. no.	Price	Page	Type	Dimensions/Colour/Div.	GTIN	Art. no.	Price	Page
				/100 pc.						/pc.	
DIN 933 M10x45VA	45 10 / V2A	5849490	3156 04 0		434	FZED 12X40 G	5 / ST / G	5454274	3492 66 4		426
DIN 933 M12x45VA	45 10 / V2A	5849513	3156 04 2		385	FZED 14X40 G	5 / ST / G	5454335	3492 69 9		426
DIN 933 M12x45VA	45 10 / V2A	5849513	3156 04 2		434						
DIN 933 M16x50VA	50 16 / V2A	5849582	3156 04 4		385	FZUB 10X40	10 10 / ST	5454397	3492 33 8		426
DIN 933 M16x50VA	50 16 / V2A	5849582	3156 04 4		434	FZUB 12X40	12 10 / ST	5454458	3492 36 2		426
DIN 934 M10 G	M10 17 / ST / G	5298212	3400 10 7		349	FZUB 14X40	14 10 / ST	5454519	3492 39 7		426
DIN 934 M10 G	M10 17 / ST / G	5298212	3400 10 7		386						
DIN 934 M10 G	M10 17 / ST / G	5298212	3400 10 7		434					/100 pc.	
DIN 934 M10 V4A	M10 17 / V4A	5618072	3400 17 7		386	G22 M10 G	M108 / St / G	5897040	1146 39 4		371
DIN 934 M10 V4A	M10 17 / V4A	5618072	3400 17 7		435	G22 M10 V4A	M108 / V4A	5942009	1146 40 6		371
DIN 934 M10 VA	M10 17 / V2A	5297796	3397 10 6		386	G22 M12 G	M129,5 / St / G	5897057	1146 39 6		371
DIN 934 M10 VA	M10 17 / V2A	5297796	3397 10 6		435	G22 M12 V4A	M129,5 / V4A	5942030	1146 40 8		371
DIN 934 M12 G	M12 19 / ST / G	5298274	3400 12 3		386	G22 M6 G	M66 / St / G	5896999	1146 39 0		371
DIN 934 M12 G	M12 19 / ST / G	5298274	3400 12 3		434	G22 M6 V4A	M66 / V4A	5941989	1146 40 1		371
DIN 934 M12 V4A	M12 19 / V4A	5894810	3397 14 5		386	G22 M8 G	M86 / St / G	5897002	1146 39 2		371
DIN 934 M12 V4A	M12 19 / V4A	5894810	3397 14 5		435	G22 M8 V4A	M86 / V4A	5941996	1146 40 3		371
DIN 934 M12 VA	M12 19 / V2A	5297857	3397 11 4		386						
DIN 934 M12 VA	M12 19 / V2A	5297857	3397 11 4		435	GMF22 M10 G	M108 / St / G	5445661	1146 45 9		371
DIN 934 M4 G	M47 / ST / G	5297970	3400 04 2		434	GMF22 M10 V4A	M108 / V4A	5890478	1146 43 8		372
DIN 934 M5 G	M58 / ST / G	5298038	3400 05 0		434	GMF22 M12 G	M129,5 / St / G	5445678	1146 46 3		371
DIN 934 M6 G	M6 10 / ST / G	5298090	3400 06 9		349	GMF22 M12 V4A	M129,5 / V4A	5890485	1146 44 2		372
DIN 934 M6 G	M6 10 / ST / G	5298090	3400 06 9		434	GMF22 M6 G	M66 / St / G	5445616	1146 45 1		371
DIN 934 M6 V4A	M6 10 / V4A	5909293	3400 17 3		435	GMF22 M6 V4A	M66 / V4A	5890454	1146 43 0		372
DIN 934 M6 VA	M6 10 / V2A	5297673	3397 06 8		435	GMF22 M8 G	M86 / St / G	5445623	1146 45 5		371
DIN 934 M8 G	M8 13 / ST / G	5298151	3400 08 5		349	GMF22 M8 V4A	M86 / V4A	5890461	1146 43 4		372
DIN 934 M8 G	M8 13 / ST / G	5298151	3400 08 5		434						
DIN 934 M8 V4A	M8 13 / V4A	5909309	3400 17 5		435	GMH18 M10 G	M10 10-10 / ST / G	5054672	1146 52 1		370
DIN 934 M8 VA	M8 13 / V2A	5297734	3397 08 4		435	GMH18 M10 VA	M10 10-10 / V4A	5084907	1146 56 0		370
						GMH18 M12 VA	M12 12-12 / V4A	5084167	1146 56 2		370
						GMH18 M6 G	M66-6 / ST / G	5054559	1146 50 5		370
EDK 25 LGR	M25 / EVA	5246961	2011 63 8		168	GMH18 M6 VA	M66-6 / V4A	5084129	1146 55 6		370
EDK 25 RW	M25 / EVA	5303206	2011 68 9		168	GMH18 M8 G	M88-8 / ST / G	5054610	1146 51 3		370
EDK 32 LGR	M32 / EVA	5246978	2011 64 6		168	GMH18 M8 VA	M88-8 / V4A	5084150	1146 55 8		370
EDK 32 RW	M32 / EVA	5303213	2011 69 7		168						
EDK 40 LGR	M40 / EVA	5246985	2011 65 4		168	GMH22 M10 G	M10 10-10 / ST / G	5054917	1146 62 9		371
EDK 40 RW	M40 / EVA	5303220	2011 70 0		168	GMH22 M10 VA	M10 10-10 / V4A	5084211	1146 65 0		371
						GMH22 M12 G	M12 12-12 / ST / G	5054979	1146 63 7		371
EDR 25 16-20 LGR	M25 16 & 20 / PVC	5246909	2011 50 6		168	GMH22 M12 VA	M12 12-12 / V4A	5084228	1146 65 2		371
EDR 25 20-25 LGR	M25 20 & 25 / PVC	5246916	2011 51 4		168	GMH22 M6 G	M66-6 / ST / G	5054795	1146 60 2		371
EDR 32 20-25 LGR	M32 20 & 25 / PVC	5246923	2011 52 2		168	GMH22 M6 VA	M66-6 / V4A	5084174	1146 64 6		371
EDR 32 25-32 LGR	M32 25 & 32 / PVC	5246930	2011 53 0		168	GMH22 M8 G	M88-8 / ST / G	5054856	1146 61 0		371
EDR 40 25-32 LGR	M40 25 & 32 / PVC	5246947	2011 53 8		168	GMH22 M8 VA	M88-8 / V4A	5084181	1146 64 8		371
EDR 40 32-40 LGR	M40 32 & 40 / PVC	5246954	2011 54 6		168						
EDVS M20 LGR	M 20 / PE	5105251	2012 37 5		171	GMS 1 VP FT	150 / St / FT	5486015	1124 64 3		378
EDVS M20 LGR	M 20 / PE	5105251	2012 37 5		185	GMS 1 VP G	150 / St / G	5485759	1124 60 3		378
EDVS M25 LGR	M 25 / PE	5105190	2012 38 3		185	GMS 1 VP V2A	150 / V2A	5804895	1124 68 3		381
EDVS M32 LGR	M 32 / PE	5105138	2012 39 1		185	GMS 1 VP V4A	150 / V4A	5805137	1124 72 3		381
						GMS 2 VP FT	40 / St / FT	5486022	1124 64 5		378
FAZ II 10 10 GS	M1095 / ST / G	5888499	3498 54 9		426	GMS 2 VP G	40 / St / G	5485766	1124 60 5		378
FAZ II 10 30	M10 115 / ST / G	5888550	3498 58 1		426	GMS 2 VP V2A	40 / V2A	5804901	1124 68 5		381
FAZ II 12 10	M12 110 / ST / G	5888611	3498 65 4		426	GMS 2 VP V4A	40 / V4A	5805144	1124 72 5		381
FAZ II 8 10 GS	M875 / ST / G	5888437	3498 50 6		426	GMS 2 VW 90 FT	60 / St / FT	5486091	1124 65 9		379
						GMS 2 VW 90 G	60 / St / G	5485919	1124 61 9		379
						GMS 2 VW 90 V2A	60 / V2A	5804994	1124 69 9		383
FH II 18X80	M12 120 / ST / G	5489139	3498 74 3		426	GMS 2 VW 90 V4A	60 / V4A	5805236	1124 73 9		384
						GMS 3 O 4121 FT	40 / St / FT	5486152	1124 67 1		379
						GMS 3 O 4121 G	40 / St / G	5485971	1124 63 1		379
FL 1 TG	0-18 35 / TG	5150855	1488 01 5		342	GMS 3 O 4141 FT	10 / St / FT	5486169	1124 67 3		378
						GMS 3 O 4141 G	10 / St / G	5485988	1124 63 3		378
FL 2 TG	0-20 42 / TG	5150916	1488 02 3		342	GMS 3 O 4141 V2A	10 / V2A	5805083	1124 71 3		382
						GMS 3 O 4141 V2A	10 / V2A	5805083	1124 71 3		384
FL 3 TG	0-26 54 / TG	5150978	1488 03 1		342	GMS 3 O 4141 V4A	10 / V4A	5805304	1124 75 3		383
						GMS 3 VP FT	80 / St / FT	5486039	1124 64 7		377
FL1-G M8 TG	0-18 35 / TG	5151036	1488 07 4		342	GMS 3 VP G	80 / St / G	5485803	1124 60 7		377
						GMS 3 VP L FT	40 / St / FT	5486060	1124 65 3		378
FL2-G M10 TG	0-20 42 / TG	5151098	1488 08 2		342	GMS 3 VP L G	40 / St / G	5485865	1124 61 3		378
						GMS 3 VP L V2A	40 / V2A	5804949	1124 69 3		382
FL3-G M12 TG	0-26 54 / TG	5151159	1488 09 0		342	GMS 3 VP L V4A	40 / V4A	5805205	1124 73 3		382
						GMS 3 VP V2A	80 / V2A	5804918	1124 68 7		381
						GMS 3 VP V4A	80 / V4A	5805175	1124 72 7		381
FNA II 6X30 M6/5	M66 / ST / G	5461890	3498 42 5		427	GMS 3 VW 45 FT	40 / St / FT	5486138	1124 66 7		379
						GMS 3 VW 45 G	40 / St / G	5485957	1124 62 7		379
						GMS 3 VW 45 V2A	40 / V2A	5805052	1124 70 7		383
FRSB 10x20 VA	M10 / V2A	5849537	3175 62 0		385	GMS 3 VW 45 V4A	40 / V4A	5805274	1124 74 7		384
FRSB 10x20 VA	M10 / V2A	5849537	3175 62 0		433	GMS 3 VW 90 FT	40 / St / FT	5486107	1124 66 1		379
FRSB 10x25 VA	M10 / V2A	5849544	3175 62 5		385	GMS 3 VW 90 G	40 / St / G	5485926	1124 62 1		379
FRSB 10x25 VA	M10 / V2A	5849544	3175 62 5		433	GMS 3 VW 90 V2A	40 / V2A	5805007	1124 70 1		383
FRSB 8x35 VA	M8 / V2A	5849520	3175 60 8		433	GMS 3 VW 90 V4A	40 / V4A	5805243	1124 74 1		384
						GMS 4 KD 90 FT	10 / St / FT	5486121	1124 66 5		379
						GMS 4 KD 90 G	10 / St / G	5485940	1124 62 5		379
FZEA II 10X40 G	M8 10 / ST / G	5454038	3492 03 6		426	GMS 4 KD 90 V2A	10 / V2A	5805021	1124 70 5		385
FZEA II 12X40 G	M10 12 / ST / G	5454090	3492 06 0		426	GMS 4 KD 90 V4A	10 / V4A	5805267	1124 74 5		385
FZEA II 14X40 G	M12 14 / ST / G	5454151	3492 09 5		426	GMS 4 VP FT	40 / St / FT	5486046	1124 64 9		377
						GMS 4 VP G	40 / St / G	5485810	1124 60 9		377
						GMS 4 VP T FT	10 / St / FT	5486077	1124 65 5		378
FZED 10X40 G	5 / ST / G	5454212	3492 62 1		426	GMS 4 VP T G	10 / St / G	5485872	1124 61 5		378

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GMS 4 VP T V2A	10/ V2A	5804956	1124 69 5	/100 pc.	382	KL 100	/ MF	5158592	2016 12 5	/100 pc.	185
GMS 4 VP T V4A	10/ V4A	5805212	1124 73 5		382						
GMS 4 VP V2A	40/ V2A	5804925	1124 68 9		380						
GMS 4 VP V4A	40/ V4A	5805182	1124 72 9		381					/pc.	
GMS 4 VW 45 FT	40/ St / FT	5486145	1124 66 9		379	KL1 10 S FT	10/ ST / FT	6194292	6354 10 6		374
GMS 4 VW 45 G	40/ St / G	5485964	1124 62 9		379	KL1 15 S FT	15/ ST / FT	6194353	6354 11 4		374
GMS 4 VW 45 V2A	40/ V2A	5805069	1124 70 9		383	KL1 20 S FT	20/ ST / FT	6194414	6354 12 2		374
GMS 4 VW 45 V4A	40/ V4A	5805281	1124 74 9		384						
GMS 4 VW 90 FT	30/ St / FT	5486114	1124 66 3		379						
GMS 4 VW 90 G	30/ St / G	5485933	1124 62 3		379					/100 pc.	
GMS 4 VW 90 V2A	30/ V2A	5805014	1124 70 3		384	KL-T 01-04	Light grey/ PA	5942825	2016 18 0		209
GMS 4 VW 90 V4A	30/ V4A	5805250	1124 74 3		384	KL-T 01-04	Light grey/ PA	5942825	2016 18 0		169
GMS 5 VP FT	10/ St / FT	5486053	1124 65 1		377	KL-T 02-06	Light grey/ PA	5942832	2016 18 5		170
GMS 5 VP G	10/ St / G	5485827	1124 61 1		377	KL-T 02-06	Light grey/ PA	5942832	2016 18 5		183
GMS 5 VP V2A	10/ V2A	5804932	1124 69 1		380	KL-T 02-06	Light grey/ PA	5942832	2016 18 5		209
GMS 5 VP V4A	10/ V4A	5805199	1124 73 1		380	KL-T 06-16	Light grey/ PA	5896951	2016 19 0		170
GMS 5 VP X FT	10/ St / FT	5486084	1124 65 7		378	KL-T 06-16	Light grey/ PA	5896951	2016 19 0		209
GMS 5 VP X G	10/ St / G	5485889	1124 61 7		378	KL-T 16-35	Light grey/ PA	5896968	2016 19 5		170
GMS 5 VP X V2A	10/ V2A	5804963	1124 69 7		382	KL-T 16-35	Light grey/ PA	5896968	2016 19 5		209
GMS 5 VP X V4A	10/ V4A	5805229	1124 73 7		382						
GVMS 4 ASV FT	20/ St / FT	5486008	1124 64 1		378	KVM		5577768	2363 01 0	/pc.	188
GVMS 4 ASV G	20/ St / G	5485742	1124 60 1		378						
GVMS 4 ASV V2A	60/ V2A	5804888	1124 68 1		383					/VPE	
GVMS 4 ASV V4A	60/ V4A	5805120	1124 71 5		383	KVM-M		5686354	2363 01 5		188
						KVMP		5687771	2363 01 9	/pc.	188
HG 60	Orange 68/ PP	5032779	2003 41 4		199						
HG 60 2	Orange 100/ PP	5032830	2003 42 2		199						
HG 60 MW	Orange 68/ PP	5246732	2003 61 1		199						
HG 60-35	Orange 68/ PP	5051350	2003 42 6		199	KWH 10 FT	10/ ST / FT	6194537	6355 04 8	/pair	374
HG 60-35 MW	Orange 68/ PP	5246725	2003 60 3		199	KWH 15 FT	15/ ST / FT	6194599	6355 05 6		374
						KWH 20 FT	20/ ST / FT	6194650	6355 06 4		374
						KWH 25 FT	25/ ST / FT	6194711	6355 07 2		374
						KWH 5 FT	5/ ST / FT	6194476	6355 02 1		374
HGMH18 M10 G	M1010-10 / ST / G	5055150	1146 73 4		370						
HGMH18 M12 G	M1212-12 / ST / G	5055211	1146 74 2		370						
HGMH18 M6 G	M66-6 / ST / G	5055037	1146 71 8		370	KWS 10 FT	10/ ST / FT	6194834	6355 22 6		374
HGMH18 M8 G	M88-8 / ST / G	5055099	1146 72 6		370	KWS 15 FT	15/ ST / FT	6194896	6355 23 4		374
HGMH22 M10 G	M1010-10 / ST / G	5055334	1146 81 5		371	KWS 20 FT	20/ ST / FT	6194957	6355 24 2		374
HGMH22 M12 G	M1212-12 / ST / G	5055396	1146 82 3		371	KWS 25 FT	25/ ST / FT	6195015	6355 25 0		374
HGMH22 M8 G	M88-8 / ST / G	5055273	1146 80 7		371	KWS 5 FT	5/ ST / FT	6194773	6355 21 8		374
HG-UPM1	Blue	5406310	6119 95 0	/pc.	201	MD 5 GTP	530/ ST / GTP	5683414	3484 60 2	/100 pc.	424
HG-UPM2	Blue	5406327	6119 95 1		201						
HG-UPM3	Blue	5406334	6119 95 2		201	MD 6 GTP	632/ ST / GTP	5683353	3484 62 9		424
HKF22 M10x30 G	M1030/ St / G	5445739	1148 96 1		373	MMS10X100	10 x 100 100/ ST / G	5964049	3498 15 8		427
HKF22 M10x30 V4A	M1030/ V4A	5941934	1148 99 6	/100 pc.	373	MMS10X80	10 x 80 80/ ST / G	5963981	3498 12 3		427
HKF22 M10x50 G	M1050/ St / G	5445746	1148 96 6		373	MMS6X50	6 x 50 50/ ST / GC	5963929	3498 10 7		427
HKF22 M10x50 V4A	M1050/ V4A	5941941	1148 99 8		373	MMS-ST6X60	6 x 60 60/ St / G	5964162	3498 26 3		427
HKF22 M12x30 G	M1230/ St / G	5445784	1148 97 2		373						
HKF22 M12x30 V4A	M1230/ V4A	5941972	1149 00 2		373						
HKF22 M8x30 G	M830/ St / G	5445685	1148 95 0		373					/pc.	
HKF22 M8x30 V4A	M830/ V4A	5941910	1148 99 0		373	MP UNI FS	115170/ ST / FS	6146895	7084 77 3		169
HKF22 M8x50 G	M850/ St / G	5445722	1148 95 5		373						
HKF22 M8x50 V4A	M850/ V4A	5941927	1148 99 2		373	MP WI KL DD	210120/ ST / DD	5163305	7085 11 1		168
						MP WI KL DD	210120/ ST / DD	5163305	7085 11 1		183
HMS-KS5X50	5 x 50 50/ ST / G	5964100	3498 20 4		427	MP WI KL FS	210120/ ST / FS	6146833	7084 76 5		168
						MP WI KL FS	210120/ ST / FS	6146833	7084 76 5		183
HTS 35		5477259	1125 03 6	/pc.	390	MPG 65 FT	8165/ ST / FT	6933259	6006 48 6		169
HV 100 KD	Orange 50/ PP	5033011	2003 44 9	/100 pc.	200	M-Quick 15-19LGR	15-19 / PA	5880936	2153 10 6	/100 pc.	269
						M-Quick 18-22LGR	18,5-22,5 / PA	5880998	2153 11 4		269
						M-Quick 25-28LGR	25-28,5 / PA	5881056	2153 13 0		269
HV 60	Orange 68/ PP	5032953	2003 44 2		200	M-Quick 31-37LGR	31-37 / PA	5881117	2153 15 7		269
HV 60 MW	Orange 68/ PP	5246749	2003 61 9		200	M-Quick M20 LGR	16-20 / PA	5742395	2153 71 8		269
						M-Quick M20 SW	16-20 / PA	5505334	2153 78 5		269
HV 70 D	Orange 74/ PP	5032892	2003 43 0		200	M-Quick M25 LGR	20-25 / PA	5741732	2153 72 6		269
						M-Quick M25 SW	20-25 / PA	5505396	2153 78 7		269
						M-Quick M32 LGR	25-32 / PA	5741671	2153 73 4		269
						M-Quick M32 SW	25-32 / PA	5505457	2153 78 9		269
K-C30 G	0,725/ St / G	5151210	1488 20 1	/100 m	348						
KD 10 100	M10100/ St / G	5239352	3482 75 8	/100 pc.	426	MS 21 D L 3M FS	41x21/ St / FS	5697848	1122 94 7	/100 m	362
KD 10 150	M10150/ St / G	5239291	3482 76 6		426	MS 21 D L 3M FT	41x21/ St / FT	5697794	1122 94 4		362
						MS 21 D L 6M FS	41x21/ St / FS	5697855	1122 94 8		362
						MS 21 D L 6M FT	41x21/ St / FT	5697800	1122 94 5		362
KD 8 100	M8100/ St / G	5239475	3482 70 7		426	MS 21 D L 3M 2V2A	41x21/ V2A	5938002	1122 95 2		362

# Type listing

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Type	Dimensions/Colour/Div.	GTIN	Art. no.	Price	Page	Type	Dimensions/Colour/Div.	GTIN	Art. no.	Price	Page
MS 21 D L6M 2V2A	41x21/ V2A	5938019	1122 95 4	/100 m	362	MS 41 LS 1M 2 FS	41x41/ St / FS	5697923	1123 00 8	/100 m	363
MS 21 L 200 FT	41x21/ St / FT	5697626	1122 93 3	/100 pc.	361	MS 41 LS 1M 2 FT	/ St / FT	5697862	1123 00 1		366
MS 21 L 200 V4A	41x21/ V4A	5907039	1122 46 8		362	MS 41 LS 1M FS	41x41/ St / FS	5697978	1122 48 1		365
MS 21 L 2M FS	41x21/ St / FS	5686262	1122 91 8	/100 m	360	MS 41 LS 1M FT	41x41/ St / FT	5697961	1122 47 9		365
MS 21 L 2M FT	41x21/ St / FT	5697541	1122 92 3		361	MS 41 LS 1M V4A	41x41/ V4A	5907237	1123 07 7		367
MS 21 L 2M V4A	41x21/ V4A	5907114	1122 47 6		361	MS 41 LS 300 FT	41x41/ St / FT	5356325	1122 50 0	/100 pc.	366
MS 21 L 300 FT	41x21/ St / FT	5697664	1122 93 4	/100 pc.	361	MS 41 LS 3M 2 FS	41x41/ St / FS	5698319	1123 01 0	/100 m	363
MS 21 L 300 V4A	41x21/ V4A	5907046	1122 46 9		362	MS 41 LS 3M 2 FT	/ St / FT	5697909	1123 00 3		366
MS 21 L 3M FS	41x21/ St / FS	5686279	1122 92 0	/100 m	360	MS 41 LS 3M FS	41x41/ St / FS	5686248	1122 91 4		365
MS 21 L 3M FT	41x21/ St / FT	5686293	1122 92 4		361	MS 41 LS 3M FT	41x41/ St / FT	5050735	1122 48 3		365
MS 21 L 3M V2A	41x21/ V2A	5697558	1122 92 8		361	MS 41 LS 400 FT	41x41/ St / FT	5356332	1122 50 1	/100 pc.	366
MS 21 L 3M V4A	41x21/ V4A	5697602	1122 93 1		361	MS 41 LS 6M 2 FS	41x41/ St / FS	5698326	1123 01 2	/100 m	363
MS 21 L 400 FT	41x21/ St / FT	5697671	1122 93 5	/100 pc.	361	MS 41 LS 6M 2 FT	/ St / FT	5697916	1123 00 5		366
MS 21 L 400 V4A	41x21/ V4A	5907053	1122 47 0		362	MS 41 LS 6M FS	41x41/ St / FS	5686255	1122 91 6		365
MS 21 L 500 FT	41x21/ St / FT	5697688	1122 93 6		361	MS 41 LS 6M FT	41x41/ St / FT	5050742	1122 48 7		365
MS 21 L 500 V4A	41x21/ V4A	5907060	1122 47 1		362	MS 41 LS 6M V4A	41x41/ V4A	5907244	1123 07 9		367
MS 21 L 600 FT	41x21/ St / FT	5697725	1122 93 7		361	MS 41 LS1M 2 V2A	41x41/ V2A	5698333	1123 01 4		366
MS 21 L 600 V4A	41x21/ V4A	5907077	1122 47 2		362	MS 41 LS1M 2 V4A	41x41/ V4A	5698395	1123 02 1		366
MS 21 L 6M FS	41x21/ St / FS	5686286	1122 92 2	/100 m	360	MS 41 LS3M 2 V2A	41x41/ V2A	5698340	1123 01 6		366
MS 21 L 6M FT	41x21/ St / FT	5686309	1122 92 6		361	MS 41 LS3M 2 V4A	41x41/ V4A	5698401	1123 02 3		366
MS 21 L 6M V2A	41x21/ V2A	5697565	1122 92 9		361	MS 41 LS6M 2 V2A	41x41/ V2A	5698388	1123 01 8		366
MS 21 L 6M V4A	41x21/ V4A	5697619	1122 93 2		361	MS 41 LS6M 2 V4A	41x41/ V4A	5698432	1123 02 5		366
MS 21 L 700 FT	41x21/ St / FT	5697732	1122 93 8	/100 pc.	361	MS 41 SK OR SP	Pastel orange 300/ PE	5686200	1122 90 0	/100 pc.	367
MS 21 L 700 V4A	41x21/ V4A	5907084	1122 47 3		362	MS 41D L 3M 2 FS	41x82/ St / FS	5698036	1122 67 6	/100 m	367
MS 21 L 800 FS	41x21/ St / FS	5848042	1122 95 7		360	MS 41D L 3M 2 FT	41x82/ St / FT	5697985	1122 67 1		367
MS 21 L 800 FT	41x21/ St / FT	5697749	1122 93 9		361	MS 41D L 6M 2 FS	41x82/ St / FS	5698043	1122 67 8		367
MS 21 L 800 V4A	41x21/ V4A	5907091	1122 47 4		362	MS 41D L 6M 2 FT	41x82/ St / FT	5698029	1122 67 3		367
MS 21 L 900 FT	41x21/ St / FT	5697787	1122 94 0		361					/pc.	198
MS 21 L 900 V4A	41x21/ V4A	5907107	1122 47 5		362	PD-UPM1	Red	5406266	6119 94 5		198
MS 21 SK OR SP	Pastel orange 300/ PE	5686217	1122 90 2		362	PD-UPM2	Red	5406297	6119 94 6		198
MS 41 D L3M 2V2A	41x82/ V2A	5938026	1122 68 2	/100 m	367	PD-UPM3	Red	5406303	6119 94 7		198
MS 41 D L6M 2V2A	41x82/ V2A	5938033	1122 68 4		367						
MS 41 EDK OR	Pastel orange 50/ PE	5894117	1122 90 6	/100 pc.	368	S 25 ZD	18-25 0,45/ St / ZD	5148210	1486 30 6	/100 pc.	343
MS 41 L 1M 2 FS	41x41/ St / FS	5698142	1122 97 0	/100 m	363	S 32 ZD	28-32 0,45/ St / ZD	5148272	1486 31 4		343
MS 41 L 1M 2 FT	41x41/ St / FT	5698081	1122 96 2		364	S 37 ZD	35-37 0,45/ St / ZD	5148333	1486 32 2		343
MS 41 L 1M 2 V2A	41x41/ V2A	5698203	1122 97 8		364						
MS 41 L 1M 2 V4A	41x41/ V4A	5698265	1122 98 8		365						
MS 41 L 1M FS	41x41/ St / FS	5697503	1122 90 8		363	S16 W ALU	M16 3000/ Al	5925743	2046 00 2	/100 m	332
MS 41 L 1M FT	41x41/ St / FT	5487272	1122 60 6		364	S16 W G	M16 3000/ St / G	5924647	2046 84 0		326
MS 41 L 1M V4A	41x41/ V4A	5907206	1123 04 7		365	S16 W V2A	M16 3000/ V2A	5923640	2046 72 0		330
MS 41 L 200 FT	41x41/ St / FT	5484516	1122 50 9	/100 pc.	363	S16 W V4A	M16 3000/ V4A	5923886	2046 75 0		331
MS 41 L 200 V4A	41x41/ V4A	5907121	1123 03 1		364	S16W FT	M16 3000/ St / FT	5782148	2046 59 3		329
MS 41 L 300 FT	41x41/ St / FT	5485896	1122 51 7		363	S16W SW	M16 16/ St / L	5782032	2046 56 5	/100 m	328
MS 41 L 300 V4A	41x41/ V4A	5907138	1123 03 3		364	S20 W ALU	M20 3000/ Al	5925774	2046 00 3		332
MS 41 L 3M 2 FS	41x41/ St / FS	5698159	1122 97 2		363	S20 W G	M20 3000/ St / G	5924654	2046 84 1		326
MS 41 L 3M 2 FT	41x41/ St / FT	5698098	1122 96 4		364	S20 W V2A	M20 3000/ V2A	5923657	2046 72 1		330
MS 41 L 3M 2 V2A	41x41/ V2A	5698210	1122 98 0		364	S20 W V4A	M20 3000/ V4A	5923923	2046 75 1		331
MS 41 L 3M 2 V4A	41x41/ V4A	5698272	1122 99 0		365	S20W FT	M20 3000/ St / FT	5782155	2046 59 4	/100 pc.	329
MS 41 L 3M FS	41x41/ St / FS	5686224	1122 91 0		363	S20W SW	M20 20/ St / L	5782049	2046 56 6		328
MS 41 L 3M FT	41x41/ St / FT	5487876	1122 62 2		364	S25 W ALU	M25 3000/ Al	5925781	2046 00 4		332
MS 41 L 3M V4A	41x41/ V4A	5907213	1123 04 9		365	S25 W G	M25 3000/ St / G	5924661	2046 84 2		326
MS 41 L 400 FT	41x41/ St / FT	5486251	1122 52 5	/100 pc.	363	S25 W V2A	M25 3000/ V2A	5923664	2046 72 2		330
MS 41 L 400 V4A	41x41/ V4A	5907145	1123 03 5		364	S25 W V4A	M25 3000/ V4A	5923947	2046 75 2		331
MS 41 L 500 FT	41x41/ St / FT	5486794	1122 53 3		363	S25W FT	M25 3000/ St / FT	5782162	2046 59 5	/100 m	329
MS 41 L 500 V4A	41x41/ V4A	5907152	1123 03 7		364	S25W SW	M25 25/ St / L	5782070	2046 56 7		328
MS 41 L 600 FT	41x41/ St / FT	5486916	1122 54 1		363	S32 W ALU	M32 3000/ Al	5925804	2046 00 5		332
MS 41 L 600 V4A	41x41/ V4A	5907169	1123 03 9		364	S32 W G	M32 3000/ St / G	5924678	2046 84 3		326
MS 41 L 6M 2 FS	41x41/ St / FS	5698166	1122 97 4	/100 m	363	S32 W V2A	M32 3000/ V2A	5923671	2046 72 3		330
MS 41 L 6M 2 FT	41x41/ St / FT	5698104	1122 96 6		364	S32 W V4A	M32 3000/ V4A	5923978	2046 75 3		331
MS 41 L 6M 2 V2A	41x41/ V2A	5698227	1122 98 2		364	S32W FT	M32 3000/ St / FT	5782209	2046 59 6	/100 pc.	329
MS 41 L 6M 2 V4A	41x41/ V4A	5698289	1122 99 2		365	S32W SW	M32 32/ St / L	5782087	2046 56 8		328
MS 41 L 6M FS	41x41/ St / FS	5686231	1122 91 2		363	S40 W ALU	M40 3000/ Al	5925835	2046 00 6		332
MS 41 L 6M FT	41x41/ St / FT	5488170	1122 65 7		364	S40 W G	M40 3000/ St / G	5924685	2046 84 4		326
MS 41 L 6M V4A	41x41/ V4A	5907220	1123 05 1		365	S40 W V2A	M40 3000/ V2A	5923688	2046 72 4		330
MS 41 L 700 FT	41x41/ St / FT	5487036	1122 56 8	/100 pc.	363	S40 W V4A	M40 3000/ V4A	5923985	2046 75 4		331
MS 41 L 700 V4A	41x41/ V4A	5907176	1123 04 1		364						
MS 41 L 800 FT	41x41/ St / FT	5487098	1122 57 6		363						
MS 41 L 800 V4A	41x41/ V4A	5907183	1123 04 3		364						
MS 41 L 900 FT	41x41/ St / FT	5487159	1122 58 4		363						
MS 41 L 900 V4A	41x41/ V4A	5907190	1123 04 5		364						

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Type	Dimensions/Colour/Div.	GTIN	Art. no.	Price	Page	Type	Dimensions/Colour/Div.	GTIN	Art. no.	Price	Page
S40W FT	M403000/ st / FT	5782216	2046 59 7	/100 m	329	SBM25W SW	M25182,5/ st / L	5781202	2046 51 4	/100 pc.	327
S40W SW	M4040/ st / L	5782094	2046 56 9		328	SBM32 W ALU	M32 187/ Al	5926214	2046 04 5		331
S50 W ALU	M503000/ Al	5925842	2046 00 7		332	SBM32 W G	M32206/ st / G	5924951	2046 87 1		326
S50 W G	M503000/ st / G	5924692	2046 84 5		326	SBM32W FT	M32206/ st / FT	5781608	2046 54 9		329
S50 W V2A	M503000/ v2A	5923695	2046 72 5		330	SBM32W SW	M32206/ st / L	5781233	2046 51 5		327
S50 W V4A	M503000/ v4A	5923992	2046 75 5		331	SBM40 W ALU	M40235/ Al	5926221	2046 04 6		331
S50W FT	M503000/ st / FT	5782223	2046 59 8		329	SBM40 W G	M40300/ st / G	5924968	2046 87 2		326
S50W SW	M5050/ st / L	5782100	2046 57 0		328	SBM40W FT	M40300/ st / FT	5781615	2046 55 0		329
S63 W ALU	M633000/ Al	5925859	2046 00 8		332	SBM40W SW	M40300/ st / L	5781240	2046 51 6		327
S63 W G	M633000/ st / G	5924708	2046 84 6		326	SBM50 W ALU	M50275/ Al	5926238	2046 04 7		331
S63 W V2A	M633000/ v2A	5923701	2046 72 6		330	SBM50 W G	M50325/ st / G	5924975	2046 87 3		326
S63 W V4A	M633000/ v4A	5924036	2046 75 6		331	SBM50W FT	M50325/ st / FT	5781622	2046 55 1		329
S63W FT	M633000/ st / FT	5782261	2046 59 9		329	SBM50W SW	M50325/ st / L	5781257	2046 51 7		327
S63W SW	M6363/ st / L	5782131	2046 57 1		328	SBM63 W ALU	M63343/ Al	5926245	2046 04 8		331
SAA CPS 4 FT	/ st / FT	5439479	6007 49 8	/pair	360	SBM63 W G	M63411,5/ st / G	5924982	2046 87 4		326
SB16 W ALU	M16 157/ Al	5925866	2046 01 2		332	SBM63W FT	M63411,5/ st / FT	5781905	2046 55 2		329
SB16 W G	M16114,3/ st / G	5924715	2046 84 7		327	SBM63W SW	M63411,5/ st / L	5781264	2046 51 8		327
SB16 W V2A	M16 153/ v2A	5923718	2046 73 0	/100 pc.	330	SH 40 G	0,51200/ st / G	5151272	1488 25 2		348
SB16 W V4A	M16 153/ v4A	5924050	2046 76 0		331	SM16 W ALU	M163000/ Al	5926092	2046 03 2	/100 m	331
SB16W FT	M16114,3/ st / FT	5782278	2046 60 4		330	SM16 W G	M163000/ st / G	5924852	2046 86 1		326
SB16W SW	M16114,3/ st / L	5781653	2046 57 5		328	SM16W FT	M163000/ st / FT	5781424	2046 53 3		329
SB20 W ALU	M20176/ Al	5925897	2046 01 3		332	SM16W SW	M163000/ st / L	5781028	2046 50 0		327
SB20 W G	M20116,55/ st / G	5924722	2046 84 8		327	SM20 W ALU	M203000/ Al	5926108	2046 03 3		331
SB20 W V2A	M20183/ v2A	5923725	2046 73 1		330	SM20 W G	M203000/ st / G	5924869	2046 86 2		326
SB20 W V4A	M20183/ v4A	5924104	2046 76 1		331	SM20W FT	M203000/ st / FT	5781431	2046 53 4		329
SB20W FT	M20116,55/ st / FT	5782285	2046 60 5		330	SM20W SW	M203000/ st / L	5781066	2046 50 1		327
SB20W SW	M20116,55/ st / L	5781660	2046 57 6		328	SM25 W ALU	M253000/ Al	5926139	2046 03 4		331
SB25 W ALU	M25196/ Al	5925903	2046 01 4		332	SM25 W G	M253000/ st / G	5924876	2046 86 3		326
SB25 W G	M25144,05/ st / G	5924739	2046 84 9		327	SM25W FT	M253000/ st / FT	5781448	2046 53 5		329
SB25 W V2A	M25208/ v2A	5923732	2046 73 2		330	SM25W SW	M253000/ st / L	5781073	2046 50 2		327
SB25 W V4A	M25208/ v4A	5924111	2046 76 2		331	SM32 W ALU	M323000/ Al	5926146	2046 03 5		331
SB25W FT	M25144,05/ st / FT	5782315	2046 60 6		330	SM32 W G	M323000/ st / G	5924883	2046 86 4		326
SB25W SW	M25144,05/ st / L	5781677	2046 57 7		328	SM32W FT	M323000/ st / FT	5781486	2046 53 6		329
SB32 W ALU	M32218/ Al	5925910	2046 01 5		332	SM32W SW	M323000/ st / L	5781080	2046 50 3		327
SB32 W G	M32172,6/ st / G	5924746	2046 85 0		327	SM40 W ALU	M403000/ Al	5926153	2046 03 6		331
SB32 W V2A	M32258/ v2A	5923749	2046 73 3		330	SM40 W G	M403000/ st / G	5924890	2046 86 5		326
SB32 W V4A	M32258/ v4A	5924173	2046 76 3		331	SM40W FT	M403000/ st / FT	5781493	2046 53 7		329
SB32W FT	M32172,6/ st / FT	5782322	2046 61 0		330	SM40W SW	M403000/ st / L	5781127	2046 50 5		327
SB32W SW	M32172,6/ st / L	5781684	2046 57 8		328	SM50 W ALU	M503000/ Al	5926160	2046 03 7		331
SB40 W ALU	M40247/ Al	5925927	2046 01 6		332	SM50 W G	M503000/ st / G	5924906	2046 86 6		326
SB40 W G	M40271,9/ st / G	5924753	2046 85 1		327	SM50W FT	M503000/ st / FT	5781509	2046 53 8		329
SB40 W V2A	M40276/ v2A	5923756	2046 73 4		330	SM50W SW	M503000/ st / L	5781134	2046 50 6		327
SB40 W V4A	M40276/ v4A	5924180	2046 76 4		331	SM63 W ALU	M633000/ Al	5926177	2046 03 8		331
SB40W FT	M40301,9/ st / FT	5782339	2046 61 4		330	SM63 W G	M633000/ st / G	5924913	2046 86 7		326
SB40W SW	M40271,9/ st / L	5781721	2046 57 9		328	SM63W FT	M633000/ st / FT	5781547	2046 54 0		329
SB50 W ALU	M50297/ Al	5925965	2046 01 7		332	SM63W SW	M633000/ st / L	5781141	2046 50 7		327
SB50 W G	M50320/ st / G	5924760	2046 85 2		327	SPP 20-40 FT	20-40 63/ st / FT	5859529	1486 27 0	/100 pc.	345
SB50 W V2A	M50317/ v2A	5923763	2046 73 5		330	SPP 20-40 V4A	20-40 63/ v4A	5859543	1486 27 8		346
SB50 W V4A	M50317/ v4A	5924197	2046 76 5		331	SPP 20-40 VA	20-40 63/ v2A	5859536	1486 27 4		346
SB50W FT	M50320/ st / FT	5782346	2046 61 5		330	SPP 6-21 FT	6-21 43/ st / FT	5859499	1486 25 0		345
SB50W SW	M50320/ st / L	5781738	2046 58 0		328	SPP 6-21 V4A	6-21 43/ v4A	5859512	1486 25 8		345
SB63 W ALU	M63340/ Al	5925972	2046 01 8		332	SPP 6-21 VA	6-21 43/ v2A	5859505	1486 25 4		345
SB63 W G	M63418,5/ st / G	5924777	2046 85 3		327	SQ 1632	16	5028154	2153 57 2	/pc.	335
SB63 W V2A	M63376/ v2A	5923770	2046 73 6		330	SBM16 W ALU	M16131/ Al	5926184	2046 04 2		331
SB63 W V4A	M63376/ v4A	5924203	2046 76 6		331	SBM16 W G	M16113/ st / G	5924920	2046 86 8		326
SB63W FT	M63418,5/ st / FT	5782377	2046 61 6		330	SBM16W FT	M16113/ st / FT	5781554	2046 54 5		329
SB63W SW	M63418,5/ st / L	5781745	2046 58 1		328	SBM16W SW	M16113/ st / L	5781189	2046 51 1		327
SBM16 W ALU	M16131/ Al	5926184	2046 04 2		331	SBM20 W ALU	M20145/ Al	5926191	2046 04 3		331
SBM16 W G	M16113/ st / G	5924920	2046 86 8		326	SBM20 W G	M20160/ st / G	5924937	2046 86 9		326
SBM16W FT	M16113/ st / FT	5781554	2046 54 5		329	SBM20W FT	M20160/ st / FT	5781561	2046 54 6		329
SBM16W SW	M16113/ st / L	5781189	2046 51 1		327	SBM20W SW	M20160/ st / L	5781196	2046 51 3		327
SBM20 W ALU	M20145/ Al	5926191	2046 04 3		331	SBM25 W ALU	M25170/ Al	5926207	2046 04 4		331
SBM20 W G	M20160/ st / G	5924937	2046 86 9		326	SBM25 W G	M25182,5/ st / G	5924944	2046 87 0		326
SBM20W FT	M20160/ st / FT	5781561	2046 54 6		329	SBM25W FT	M25182,5/ st / FT	5781592	2046 54 8		329
SBM20W SW	M20160/ st / L	5781196	2046 51 3		327	SQ-10 LGR	109,5-12 / PA	5595359	2146 05 3		270
SBM25 W ALU	M25170/ Al	5926207	2046 04 4		331	SQ-12 LGR	12-14 11,5-15 / PA	5595410	2146 06 1		270
SBM25 W G	M25182,5/ st / G	5924944	2046 87 0		326	SQ-15 LGR	15-16 14-16,5 / PA	5595472	2146 09 6		270
SBM25W FT	M25182,5/ st / FT	5781592	2046 54 8		329	SQ-17 LGR	17-19 16-20 / PA	5595533	2146 11 8		270
						SQ-20 LGR	20-23 19,5-23,5 / PA	5595656	2146 13 4		270
						SQ-25 LGR	25-28 24-28 / PA	5595717	2146 20 7		270

# Type listing

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SQ-32 LGR	32-3531,2-35,8 / PA	5595830	2146 25 8		270	SVM40 W G	M40 45/ St / G	5925033	2046 87 9		326
SQ-36 LGR	35-4035-40,1 / PA	5204275	2146 29 0		270	SVM40W FT	M40 45/ St / FT	5781981	2046 55 8		329
					270	SVM40W SW	M40 45/ St / L	5781363	2046 52 6		328
SQ-40 LGR	40-4439,3-44,5 / PA	5595892	2146 32 0		270	SVM50 W ALU	M50 55/ AI	5926306	2046 05 7		332
SQ-47 LGR	45-5044-50 / PA	5204398	2146 36 3		270	SVM50 W G	M50 54/ St / G	5925040	2046 88 0		326
					270	SVM50W FT	M50 54/ St / FT	5782018	2046 55 9		329
SQ-51 LGR	50-5448-55 / PA	5595953	2146 44 4		270	SVM50W SW	M50 54/ St / L	5781370	2046 52 7		328
SQ-59 LGR	59-6558,5-65 / PA	5204510	2146 48 7		270						
						SVM63 W ALU	M63 55/ AI	5926313	2046 05 8		332
						SVM63 W G	M63 60/ St / G	5925057	2046 88 1		326
SV16 W ALU	1640/ AI	5925989	2046 02 2		332	SVM63W FT	M63 60/ St / FT	5782025	2046 56 0		329
SV16 W G	M16 50/ St / G	5924784	2046 85 4		327	SVM63W SW	M63 60/ St / L	5781387	2046 52 8		328
SV16 W V2A	M16 45/ V2A	5923787	2046 74 0		330						
SV16 W V4A	M16 45/ V4A	5924210	2046 77 0		331						
SV16W FT	M16 50/ St / FT	5782384	2046 62 0		330	T 100	/ PP	5246794	2007 07 7		165
SV16W SW	M16 50/ St / L	5781776	2046 58 2		328					/pc.	
						T 100 2MSD RO	/ PP	5615897	2007 82 3		178
SV20 W ALU	2050/ AI	5926016	2046 02 3		332	T 100 2MSD WS	/ PP	5615880	2007 82 1		178
SV20 W G	M20 60/ St / G	5924791	2046 85 5		327	T 100 4MSD WS	/ PP	5615903	2007 82 5		179
SV20 W V2A	M20 50/ V2A	5923794	2046 74 1		330	T 100 D 2MSD RO	/ PP	5654575	2007 82 4		179
SV20 W V4A	M20 50/ V4A	5924258	2046 77 1		331	T 100 D 4MSD WS	/ PP	5654643	2007 82 9		180
SV20W FT	M20 60/ St / FT	5782391	2046 62 1		330	T 100 D MSD2A	/ PP	5654582	2007 82 6		179
SV20W SW	M20 60/ St / L	5781783	2046 58 3		328						
						T 100 E 4-5	Pastel orange 17/ PP	5930143	7205 51 0		181
SV25 W ALU	2560/ AI	5926023	2046 02 4		332					/100 pc.	
SV25 W G	M25 60/ St / G	5924807	2046 85 6		327	T 100 F	/ PP	5286547	2007 34 7		165
SV25 W V2A	M25 60/ V2A	5923800	2046 74 2		330	T 100 HEB	/ PP	5392828	2007 59 0		165
SV25 W V4A	M25 60/ V4A	5924272	2046 77 2		331	T 100 KL	/ PP	5441212	2007 43 6		165
SV25W FT	M25 60/ St / FT	5782407	2046 62 2		330	T 100 M25-M32	/ PP	5470632	2007 08 1		165
SV25W SW	M25 60/ St / L	5781790	2046 58 4		328	T 100 OE	/ PP	5246855	2007 25 5		166
						T 100 RO-LGR	/ PP	5303282	2007 64 4		165
SV32 W ALU	3270/ AI	5926030	2046 02 5		332	T 100 RW	/ PP	5286677	2007 53 3		165
SV32 W G	M32 70/ St / G	5924814	2046 85 7		327					/pc.	
SV32 W V2A	M32 70/ V2A	5923824	2046 74 3		330	T 100 WB 1W3 1S3	/ PP	5615859	2007 81 5		174
SV32 W V4A	M32 70/ V4A	5924296	2046 77 3		331	T 100 WB 1W3 2S3	/ PP	5615866	2007 81 7		174
SV32W FT	M32 70/ St / FT	5782445	2046 62 3		330	T 100 WB 2S3	/ PP	5615828	2007 80 9		173
SV32W SW	M32 70/ St / L	5781806	2046 58 5		328	T 100 WB 2s4	/ PP	5847533	2007 84 8		176
						T 100 WB 2s5	/ PP	5847540	2007 85 2		176
SV40 W ALU	4070/ AI	5926047	2046 02 6		332	T 100 WB 2W3 2S3	/ PP	5615873	2007 81 9		175
SV40 W G	M40 80/ St / G	5924821	2046 85 8		327	T 100 WB 2W3 4S3	/ PP	5654551	2007 82 0		175
SV40 W V2A	M40 80/ V2A	5923855	2046 74 4		330	T 100 WB 3S3	/ PP	5615842	2007 81 3		173
SV40 W V4A	M40 80/ V4A	5924302	2046 77 4		331	T 100 WB 3S3 1S4	/ PP	5847526	2007 84 4		176
SV40W FT	M40 80/ St / FT	5782452	2046 62 4		330	T 100 WB 4S3	/ PP	5615835	2007 81 1		173
SV40W SW	M40 80/ St / L	5781844	2046 58 6		328	T 100 WB 4s5	/ PP	5847557	2007 85 6		177
						T 100 WB 6S 3x2	/ PP	5854203	2007 81 4		174
SV50 W ALU	5090/ AI	5926078	2046 02 7		332	T 100 WB 6S3	/ PP	5654568	2007 82 2		175
SV50 W G	M50 100/ St / G	5924838	2046 85 9		327	T 100 WB3	/ PP	5615811	2007 80 7		172
SV50 W V2A	M50 100/ V2A	5923862	2046 74 5		330	T 100 WB5	/ PP	5847519	2007 84 0		172
SV50 W V4A	M50 100/ V4A	5924333	2046 77 5		331	T 100 ZE IP30	/ PP	5615781	2007 80 5		172
SV50W FT	M50 100/ St / FT	5782469	2046 62 5		330					/100 pc.	
SV50W SW	M50 100/ St / L	5781851	2046 58 7		328	T 160	/ PP/GF	5246800	2007 09 3		165
										/pc.	
SV63 W ALU	63 110/ AI	5926085	2046 02 8		332	T 160 E 10-5	Pastel orange 5/ PP	5930167	7205 52 4		181
SV63 W G	M63 100/ St / G	5924845	2046 86 0		327	T 160 E 16-5	Pastel orange 5/ PP	5930174	7205 52 8		181
SV63 W V2A	M63 110/ V2A	5923879	2046 74 6		330	T 160 E 4-8D	Pastel orange 5/ PP	5930150	7205 52 0		181
SV63 W V4A	M63 110/ V4A	5924340	2046 77 6		331					/100 pc.	
SV63W FT	M63 100/ St / FT	5782490	2046 62 6		330						
SV63W SW	M63 100/ St / L	5781868	2046 58 8		328						
SVE 41 FT	47x39,4/ St / FT	5939214	1123 12 1		380	T 160 F	/ PP/GF	5286554	2007 35 5		165
SVE 41 G	47x39,4/ St / G	5939221	1123 12 4		380	T 160 HEB	/ PP/GF	5392859	2007 59 3		165
SVE 41 V2A	47x39,4/ V2A	5939238	1123 12 6		380	T 160 KL	/ PP/GF	5682189	2007 44 0		165
SVE 41 V4A	47x39,4/ V4A	5939245	1123 12 8		380	T 160 M32	/ PP/GF	5470649	2007 09 7		165
						T 160 OE	/ PP/GF	5246862	2007 27 1		167
						T 160 RO-LGR	/ PP/GF	5303299	2007 64 9		165
SVM16 W ALU	M16 35/ AI	5926252	2046 05 2		332	T 160 RW	/ PP/GF	5286684	2007 54 1		165
SVM16 W G	M16 20/ St / G	5924999	2046 87 5		326						
SVM16W FT	M16 26/ St / FT	5781912	2046 55 3		329	T 25	/ PP	5246770	2007 02 9		164
SVM16W SW	M16 26/ St / L	5781295	2046 52 2		328	T 25 F	/ PP	5286486	2007 31 2		164
						T 25 HEB	/ PP	5392743	2007 58 1		164
SVM20 W ALU	M20 35/ AI	5926269	2046 05 3		332	T 25 KL	/ PP	5441168	2007 43 0		164
SVM20 W G	M20 30/ St / G	5925002	2046 87 6		326	T 25 RO-LGR	/ PP	5303237	2007 62 2		164
SVM20W FT	M20 30/ St / FT	5781929	2046 55 4		329	T 25 RW	/ PP	5286615	2007 50 9		164
SVM20W SW	M20 30/ St / L	5781301	2046 52 3		328	T 250	/ PP/GF	5246817	2007 10 9		165
SVM25 W ALU	M25 45/ AI	5926276	2046 05 4		332	T 250 F	/ PP/GF	5286561	2007 36 3		165
SVM25 W G	M25 40/ St / G	5925019	2046 87 7		326	T 250 HEB	/ PP/GF	5392866	2007 59 6		165
SVM25W FT	M25 40/ St / FT	5781967	2046 55 6		329	T 250 KL	/ PP/GF	5682196	2007 44 4		165
SVM25W SW	M25 40/ St / L	5781318	2046 52 4		328	T 250 OE	/ PP/GF	5246879	2007 28 7		167
						T 250 RO-LGR	/ PP/GF	5303305	2007 65 7		165
SVM32 W ALU	M32 45/ AI	5926283	2046 05 5		332	T 250 RW	/ PP/GF	5286721	2007 55 4		165
SVM32 W G	M32 40/ St / G	5925026	2046 87 8		326						
SVM32W FT	M32 40/ St / FT	5781974	2046 55 7		329	T 350	/ PP/GF	5246824	2007 12 5		166
SVM32W SW	M32 40/ St / L	5781325	2046 52 5		328	T 350 F	/ PP/GF	5286608	2007 37 1		166

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T 350 HEB	/ PP/GF	5392873	2007 59 9	/100 pc.	166	TKCI 12-30 N	8-12 25-30 / St / ZD	5862963	1487 57 4	/100 pc.	340
T 350 KL	/ PP/GF	5682202	2007 44 8		166	TKCI 12-5 N	8-12 4,5-5,5 / St / ZD	5862840	1487 56 0		340
T 350 OE	/ PP/GF	5246886	2007 30 3		167	TKCI 12-7 N	8-12 6-7 / St / ZD	5862857	1487 56 2		340
T 350 RO-LGR	/ PP/GF	5303312	2007 66 5		166	TKCI 12-9 N	8-12 7-9 / St / ZD	5862864	1487 56 4		340
T 350 RW	/ PP/GF	5286738	2007 56 8		166	TKCI 4-12 N	2-4 10-12 / St / ZD	5862710	1487 50 6		340
						TKCI 4-14 N	2-4 12-14 / St / ZD	5862727	1487 50 8		340
T 40	/ PP	5246756	2007 04 5		164	TKCI 4-18 N	2-4 15-18 / St / ZD	5862734	1487 51 0		340
T 40 F	/ PP	5286493	2007 32 0		164	TKCI 4-24 N	2-4 19-24 / St / ZD	5862741	1487 51 2		340
T 40 HEB	/ PP	5392804	2007 58 4		164	TKCI 4-30 N	2-4 25-30 / St / ZD	5862758	1487 51 4		340
T 40 KL	/ PP	5441175	2007 43 2		164	TKCI 4-5 N	2-4 4,5-5,5 / St / ZD	5862666	1487 50 0		340
T 40 M20	/ PP	5885375	2007 90 0		167	TKCI 4-7 N	2-4 6-7 / St / ZD	5862673	1487 50 2		340
T 40 M20 KL	/ PP	5885382	2007 90 4		167	TKCI 4-9 N	2-4 7-9 / St / ZD	5862680	1487 50 4		340
T 40 OE	/ PP	5246831	2007 22 3		166	TKCI 7-12 N	4-7 10-12 / St / ZD	5862796	1487 53 6		340
T 40 RO-LGR	/ PP	5303244	2007 63 0		164	TKCI 7-14 N	4-7 12-14 / St / ZD	5862802	1487 53 8		340
T 40 RW	/ PP	5286622	2007 51 7		164	TKCI 7-18 N	4-7 15-18 / St / ZD	5862819	1487 54 0		340
				/pc.		TKCI 7-24 N	4-7 19-24 / St / ZD	5862826	1487 54 2		340
T 40 ZE IP30	/ PP	5615767	2007 80 1		172	TKCI 7-30 N	4-7 25-30 / St / ZD	5862833	1487 54 4		340
				/100 pc.		TKCI 7-5 N	4-7 4,5-5,5 / St / ZD	5862765	1487 53 0		340
						TKCI 7-7 N	4-7 6-7 / St / ZD	5862772	1487 53 2		340
T 60	/ PP	5246787	2007 06 1		164	TKCI 7-9 N	4-7 7-9 / St / ZD	5862789	1487 53 4		340
T 60 F	/ PP	5286509	2007 33 9		164	TKCI-A	12-20 37/ St / ZD	5407133	1487 49 6		340
T 60 HEB	/ PP	5392811	2007 58 7		164						
T 60 KL	/ PP	5441182	2007 43 4		164	TKCU 13-20	7-13 17-20 / St / ZD	5144854	1484 07 9		340
T 60 M20	/ PP	5885399	2007 91 0		168	TKCU 13-25	7-13 23-25 / St / ZD	5144915	1484 08 7		340
T 60 M20 KL	/ PP	5885405	2007 91 4		168	TKCU 13-32	7-13 25-32 / St / ZD	5144977	1484 09 5		340
T 60 OE	/ PP	5246848	2007 23 9		166	TKCU 19-20	14-19 17-20 / St / ZD	5145035	1484 13 3		340
T 60 RO-LGR	/ PP	5303275	2007 63 8		164	TKCU 19-25	14-19 23-25 / St / ZD	5145097	1484 14 1		340
T 60 RW	/ PP	5286660	2007 52 5		164	TKCU 19-32	14-19 25-32 / St / ZD	5145158	1484 16 8		340
				/pc.		TKCU 7-20	3-6,5 17-20 / St / ZD	5144670	1484 00 1		340
T 60 ZE IP30	/ PP	5615774	2007 80 3		172	TKCU 7-25	3-6,5 23-25 / St / ZD	5144731	1484 02 8		340
						TKCU 7-32	3-6,5 25-32 / St / ZD	5144793	1484 03 6		340
T100 WS 1S3 2S3D	/ PP	5903697	2007 87 6		177						
T100 WS 1S3 3S3A	/ PP	5903642	2007 87 0		177	TKD 16	M6x16/ St / ZD	5148814	1486 61 6		344
T100 WS 1S4 2S3C	/ PP	5903666	2007 87 4		178	TKD 25	M6x25/ St / ZD	5148876	1486 62 4		344
				/100 pc.		TKD 38	M6x38/ St / ZD	5148937	1486 63 2		344
						TKD 9	M6x9/ St / ZD	5148753	1486 60 8		344
T4012 M4x10 G	M4/ St / G	5052036	1134 05 1		369	TKD G	M6,0,22/ St / ZD	5148999	1486 67 5		344
T4012 O.S. M4 G	M4/ St / G	5052333	1134 26 4		369						
T4012G M5x13 G	M5/ St / G	5051978	1134 04 3		369	TKG 13-6	7-13 0,45/ St / ZD	5144373	1483 45 5		338
T4012G O.S. M5 G	M5/ St / G	5052272	1134 25 6		369						
T4012N M4x10 G	M4/ St / G	5051855	1134 02 7		369	TK-G 16	10-16 38/ St / ZD	5407041	1481 11 4		338
T4012N M4x8 G	M4/ St / G	5491712	1134 30 2		369						
						TKG 19-6	14-19 0,45/ St / ZD	5144434	1483 46 3		338
T5012 M5x13 G	M5/ St / G	5052999	1140 01 9		370						
T5012 O.S. M5 G	M5/ St / G	5053057	1140 21 3		370	TK-G 20	17-20 38/ St / ZD	5407072	1481 12 0		338
						TK-G 4	2-4 28/ St / ZD	5407027	1481 10 2		338
TC 7-10 ZD	5-7 3-10 / St / ZD	5150732	1487 70 1		341	TKG 7-6	3-6,5 0,45/ St / ZD	5144311	1483 44 7		338
TC 9-20 ZD	8-9 7-20 / St / ZD	5150794	1487 72 8		341	TK-G 9	5-9 38/ St / ZD	5407034	1481 10 8		338
TK 13-0	5-13 33,3/ St / ZD	5140535	1481 02 9		338						
TK 19-0	14-19 33,3/ St / ZD	5140658	1481 04 5		338					/pair	
						TKHL-25 FT	25/ St / FT	6579259	6355 81 2		375
TK 213	2-13 1,35/ St / ZD	5145936	1484 70 2		342	TKH-S-30 FT	30/ St / FT	6114610	6355 80 4		375
TK 6-0	2-6 33,3/ St / ZD	5140474	1481 01 0		338					/100 pc.	
TK FL G	0-24 M10/ St / ZD	5407140	1488 11 1		342	TKI 13-6	7-13 0,45/ St / ZD	5144557	1483 58 7		338
						TKI 19-6	14-19 0,45/ St / ZD	5144618	1483 59 5		338
TK GS M10 M12	M10- M1226/ St / ZD	5407102	1486 69 8		344	TKI 7-6	3-6,5 0,45/ St / ZD	5144496	1483 57 9		338
TK GS M4 M8	M4- M8 19/ St / ZD	5407096	1486 69 4		344						
TK MULTI 16	8-16 1,2/ St / ZDM	5928133	1485 14 4		341	TKK 6-240	2-6 240/ St / ZD	5140955	1481 40 1		338
TK MULTI 24	16-24 1,2/ St / ZDM	5928140	1485 14 8		341	TKK 6-365	2-6 365/ St / ZD	5141013	1481 42 8		338
TK MULTI 8	2-8 1,2/ St / ZDM	5928126	1485 14 0		341	TKK13-240	5-13 240/ St / ZD	5141075	1481 45 2		338
						TKK13-365	5-13 365/ St / ZD	5141136	1481 46 0		338
TKA	2579/ St / ZD	5407089	1486 68 2		344	TKK19-240	14-19 240/ St / ZD	5141310	1481 53 3		338
						TKK19-365	14-19 365/ St / ZD	5141372	1481 54 1		338
TKB 13	5-13 0,8/ St / ZD	5140771	1481 21 5		340						
TKB 19	14-19 0,8/ St / ZD	5140894	1481 23 1		340	TKL 4	1,5-4 52/ St / ZD	5146353	1485 10 5		341
TKB 6	2-6 0,8/ St / ZD	5140719	1481 20 7		340	TKL 6	4-6 54/ St / ZD	5146414	1485 11 3		341
TKC 13-20	5-13 17-20 / St / ZD	5142812	1482 46 7		339	TKR 13-10	5-13 M10/ St / ZD	5142218	1482 08 4		339
TKC 13-25	5-13 23-25 / St / ZD	5142874	1482 47 5		339	TKR 13-6	5-13 M6/ St / ZD	5142096	1482 06 8		339
TKC 13-32	5-13 25-32 / St / ZD	5142935	1482 48 3		339	TKR 13-8	5-13 M8/ St / ZD	5142157	1482 07 6		339
TKC 19-20	14-19 17-20 / St / ZD	5143178	1482 60 2		339	TKR 19	14-19 0,9/ St / ZD	5141617	1481 74 6		338
TKC 19-25	14-19 23-25 / St / ZD	5143239	1482 61 0		339	TKR 19-6	14-19 M6/ St / ZD	5142270	1482 11 4		339
TKC 19-32	14-19 25-32 / St / ZD	5143291	1482 62 9		339	TKR 19-8	14-19 M8/ St / ZD	5142331	1482 12 2		339
TKC 6-20	2-6 17-20 / St / ZD	5142638	1482 40 8		339	TKR 6	2-6 0,9/ St / ZD	5141433	1481 70 3		338
TKC 6-25	2-6 23-25 / St / ZD	5142690	1482 41 6		339	TKR 9	5-9 0,9/ St / ZD	5141495	1481 71 1		338
TKCI 12-12 N	8-12 10-12 / St / ZD	5862901	1487 56 6		340	TKS 13-25	5-13 18-25 / St / ZD	5143598	1483 10 2		339
TKCI 12-14 N	8-12 12-14 / St / ZD	5862918	1487 56 8		340	TKS 13-32	5-13 28-32 / St / ZD	5143659	1483 11 0		339
TKCI 12-18 N	8-12 15-18 / St / ZD	5862925	1487 57 0		340	TKS 13-37	5-13 35-37 / St / ZD	5143710	1483 12 9		339
TKCI 12-24 N	8-12 19-24 / St / ZD	5862956	1487 57 2		340	TKS 13-42	5-13 37-42 / St / ZD	5143772	1483 13 7		339

# Type listing

Structure of the GTIN: Country code **40** Manufacturer code **1219** Individual GTIN **5647589**

Type	Dimensions/Colour/Div.	GTIN	Art. no.	Price	Page	Type	Dimensions/Colour/Div.	GTIN	Art. no.	Price	Page
TKS 19-25	14-19 18-25 / St / ZD	5144076	1483 30 7	/100 pc.	339	UV 70 D	Black 36/ PS	5013518	2003 04 3	/100 pc.	193
TKS 19-32	14-19 28-32 / St / ZD	5144137	1483 31 5		339	UV 70 D NL	Concealed Black/ PS	5013570	2003 04 7		193
TKS 19-37	14-19 35-37 / St / ZD	5144199	1483 32 3		339	UV 70 FD	White/ PS	5024255	2003 22 7		194
TKS 213-25	2-13 18-25 / St / ZD	5145998	1484 81 8		342	UV 70 PA 12	Concealed Red/ PS	5027973	2003 29 1		196
TKS 213-32	2-13 28-32 / St / ZD	5146056	1484 82 6		342	UV 70 PA 24	Concealed Red/ PS	5028390	2003 29 9		196
TKS 213-37	2-13 35-37 / St / ZD	5146117	1484 83 4		342	UV 70 SD	Concealed Red/ PE	5032533	2003 32 1		196
TKS 213-42	2-13 37-42 / St / ZD	5146179	1484 84 2		342						
TKS 6-25	2-6 18-25 / St / ZD	5143352	1483 01 3		339	UV 80 D	Concealed 102/ PS	5024378	2003 24 0		195
TKS 6-32	2-6 28-32 / St / ZD	5143413	1483 02 1		339	UV 80 FD	White/ PS	5291909	2004 63 4		195
TKS 6-37	2-6 35-37 / St / ZD	5143475	1483 04 8		339	UV 80 K	Concealed Black/ PS	5020479	2003 11 2		194
TKS 6-42	2-6 37-42 / St / ZD	5143536	1483 05 6		339						
				/pair		UW AD	Concealed White/ PS	5024132	2003 21 8		194
						UW ASD	Concealed Red/ PE	5032595	2003 32 5		197
TKS-L-25 FT	25/ ST / FT	6579075	6355 80 8		374	UWA	Concealed Cream/ PS	5022633	2003 08 2		194
TKS-S-30 FT	30/ ST / FT	6114498	6355 80 0		374						
				/100 pc.		VTEC EX M12 SW	M12 x 1,5 Black/ PA	5596295	2050 30 7		220
TKSU 13-25	7-13 18-25 / St / ZD	5145455	1484 40 0		339	VTEC EX M16 SW	M16 x 1,5 Black/ PA	5594857	2050 31 5		220
TKSU 13-32	7-13 28-32 / St / ZD	5145516	1484 41 9		339	VTEC EX M20 SW	M20 x 1,5 Black/ PA	5594734	2050 32 3		220
TKSU 13-37	7-13 35-37 / St / ZD	5145578	1484 42 7		339	VTEC EX M25 SW	M25 x 1,5 Black/ PA	5594673	2050 33 1		220
TKSU 13-42	7-13 37-42 / St / ZD	5145639	1484 43 5		339	VTEC EX M32 SW	M32 x 1,5 Black/ PA	5594611	2050 35 8		220
TKSU 19-25	14-19 18-25 / St / ZD	5145691	1484 50 8		339	VTEC EX M40 SW	M40 x 1,5 Black/ PA	5315131	2050 36 6		220
TKSU 19-32	14-19 28-32 / St / ZD	5145752	1484 51 6		339	VTEC EX M50 SW	M50 x 1,5 Black/ PA	5316695	2050 37 4		220
TKSU 19-37	14-19 35-37 / St / ZD	5145813	1484 52 4		339	VTEC EX M63 SW	M63 x 1,5 Black/ PA	5373391	2050 38 2		220
TKSU 7-25	3-6,5 18-25 / St / ZD	5145219	1484 30 3		339	VTEC EX PG11 SW	Pg 11 Black/ PA	5907572	2050 02 1		220
TKSU 7-32	3-6,5 28-32 / St / ZD	5145271	1484 31 1		339	VTEC EX PG13.5SW	Pg 13,5 Black/ PA	5830290	2050 04 8		220
TKSU 7-37	3-6,5 35-37 / St / ZD	5145332	1484 33 8		339	VTEC EX PG16 SW	Pg 16 Black/ PA	5622093	2050 05 6		220
TKSU 7-42	3-6,5 37-42 / St / ZD	5145394	1484 34 6		339	VTEC EX PG21 SW	Pg 21 Black/ PA	5620952	2050 06 4		220
				/pc.		VTEC EX PG29 SW	Pg 29 Black/ PA	5618973	2050 07 2		220
TKT	70,45/ St / ZD	5149231	1486 86 1		344	VTEC EX PG36 SW	Pg 36 Black/ PA	5615071	2050 08 0		220
						VTEC EX PG42 SW	Pg 42 Black/ PA	5612490	2050 09 9		220
						VTEC EX PG48 SW	Pg 48 Black/ PA	5606017	2050 10 2		220
TV WB SW	/ PA	5784784	2007 86 0		178	VTEC EX PG7 SW	Pg 7 Black/ PA	5622819	2050 00 5		220
TV WB WS	/ PA	5784791	2007 86 5		178	VTEC EX PG9 SW	Pg 9 Black/ PA	5907633	2050 01 3		220
				/100 pc.		VTEC EXL PG11 SW	Pg 11 Black/ PA	5601210	2050 15 3		221
						VTEC EXL PG13 SW	Pg 13,5 Black/ PA	5600855	2050 16 1		221
						VTEC EXL PG16 SW	Pg 16 Black/ PA	5212232	2050 18 8		221
						VTEC EXL PG21 SW	Pg 21 Black/ PA	5208631	2050 19 6		221
						VTEC EXL PG9 SW	Pg 9 Black/ PA	5829997	2050 14 5		221
U 15 GS	153000/ St / G	5025399	2003 26 5		195	V-TEC KA PG16LGR	Pg 16 Light grey/ PA	5313458	2024 86 1		219
U 20 GS	202500/ St / G	5292319	2004 67 6		195	V-TEC L PG11 LGR	Pg 11 Light grey/ PA	5839651	2024 30 6		219
U 25 GS	252000/ St / G	5025450	2003 26 9		195	V-TEC L PG11 MS	Pg 11 600/ CuZn / N	5840855	2085 74 7		247
U 30 GS	302000/ St / G	5292371	2004 68 0		195	V-TEC L PG11 SGR	Pg 11 Silver grey/ PA	5843016	2024 19 5		219
U 35 GS	351500/ St / G	5027676	2003 27 3		195	V-TEC L PG13 LGR	Pg 13,5 Light grey/ PA	5839712	2024 31 4		219
U 40 GS	401000/ St / G	5027737	2003 27 7		195	V-TEC L PG13 MS	Pg 13,5 200/ CuZn / N	5840916	2085 75 5		247
UG 60 D	Concealed Black/ PS	5000204	2003 01 5		192	V-TEC L PG13 SGFP	Pg 13,5 Silver grey/ PA	5843078	2024 20 9		219
UG 60 D NL	Concealed Black/ PS	5003694	2003 03 1		192	V-TEC L PG16 LGR	Pg 16 Light grey/ PA	5839774	2024 32 2		219
UG 60 DOS	Concealed Black/ PS	5018254	2003 05 8		193	V-TEC L PG16 MS	Pg 16 300/ CuZn / N	5840978	2085 76 3		247
UG 60 FD	White/ PS	5024194	2003 22 3		194						
UG 60 PA 12	Concealed Red/ PS	5027911	2003 28 7		195	V-TEC L PG16 SGR	Pg 16 Silver grey/ PA	5843139	2024 21 7		219
UG 60 PA 24	Concealed Red/ PS	5028031	2003 29 5		196	V-TEC L PG21 LGR	Pg 21 Light grey/ PA	5839835	2024 33 0		219
UG 60 SD	Concealed Red/ PE	5029298	2003 31 7		196						
UG 60 VD	Concealed Black/ PS	5002314	2003 01 9		192	V-TEC L PG21 MS	Pg 21 200/ CuZn / N	5841036	2085 77 1		247
UG 60 VD NL	Black 62/ PS	5013457	2003 03 5		193						
UG 60 VK	Concealed Black/ PS	5003571	2003 02 3		192	V-TEC L PG21 SGR	Pg 21 Silver grey/ PA	5843191	2024 22 5		219
						V-TEC L PG29 LGR	Pg 29 Light grey/ PA	5839897	2024 34 9		219
UG AS	Concealed Black/ PS	5021377	2003 21 2		192	V-TEC L PG29 MS	Pg 29 100/ CuZn / N	5841098	2085 79 8		247
UG UD	White/ PS	5024316	2003 23 6		195						
UG UD	White/ PS	5024316	2003 23 6		200	V-TEC L PG29 SGR	Pg 29 Silver grey/ PA	5843252	2024 23 3		219
				/pc.		V-TEC L PG36 LGR	Pg 36 Light grey/ PA	5839958	2024 35 7		219
						V-TEC L PG36 SGR	Pg 36 Silver grey/ PA	5843313	2024 24 1		219
UG-UPM1	Natural	5406075	6119 94 0		198	V-TEC L PG42 LGR	Pg 42 Light grey/ PA	5840015	2024 36 5		219
UG-UPM2	Natural	5406082	6119 94 1		198	V-TEC L PG48 LGR	Pg 48 Light grey/ PA	5840077	2024 37 3		219
UG-UPM3	Natural	5406112	6119 94 3		198	V-TEC L PG48 MS	Pg 48 40/ CuZn / N	5841210	2085 83 6		247
				/100 pc.		V-TEC L PG7 LGR	Pg 7 Light grey/ PA	5839538	2024 28 4		219
UV 100 D	Concealed 130/ PS	5024439	2003 24 4		195	V-TEC L PG7 MS	Pg 7 600/ CuZn / N	5840732	2085 72 0		247
UV 100 K	Concealed Black/ PS	5023715	2003 11 8		194						
UV 150 D	Concealed 200/ PS	5024491	2003 24 8		195	V-TEC L PG7 SGR	Pg 7 Silver grey/ PA	5842897	2024 17 9		219
UV 150 K	Concealed Black/ PS	5023777	2003 12 4		194	V-TEC L PG9 LGR	Pg 9 Light grey/ PA	5839590	2024 29 2		219
UV 200 D	Concealed 260/ PS	5025276	2003 25 2		195	V-TEC L PG9 MS	Pg 9 600/ CuZn / N	5840794	2085 73 9		247
UV 200 K	Concealed Black/ PS	5023951	2003 13 0		194						
UV 250 D	Concealed 328/ PS	5025337	2003 25 6		195	V-TEC L PG9 SGR	Pg 9 Silver grey/ PA	5842958	2024 18 7		219
UV 250 K	Concealed Black/ PS	5024071	2003 13 6		194	V-TEC M KA M20	M20x1,5 Light grey/ PA	5502456	2024 82 9		215
						V-TEC PG11 LGR	Pg 11 Light grey/ PA	5446897	2024 72 1		218

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Type	Dimensions/Colour/Div.	GTIN	Art. no.	Price	Page	Type	Dimensions/Colour/Div.	GTIN	Art. no.	Price	Page
V-TEC PG11 MS	Pg 11600/ CuZn / N	5190035	2085 62 3	/100 pc.	247	V-TEC VM L50 LGM50x1,5 Light grey/ PA	5004264	2022 95 5	/100 pc.	215	
V-TEC PG11 SGR	Pg 11 Silver grey/ PA	5160816	2022 62 1		218	V-TEC VM L50 SGR50x1,5 Silver grey/ PA	5004028	2022 93 5		215	
V-TEC PG11+ LGR	Pg 11 Light grey/ PA	5861058	2024 65 9		217	V-TEC VM L50 SW M50x1,5 Black/ PA	5004509	2022 97 6		215	
V-TEC PG13 LGR	Pg 13,5 Light grey/ PA	5446958	2024 74 8		218	V-TEC VM L63 LGM63x1,5 Light grey/ PA	5004301	2022 95 7		215	
V-TEC PG13 MS	Pg 13,5500/ CuZn / N	5190097	2085 63 1		218	V-TEC VM L63 SGR63x1,5 Silver grey/ PA	5004066	2022 93 7		215	
V-TEC PG13,5+LGR	Pg 13,5 Light grey/ PA	5861065	2024 66 1		247	V-TEC VM L63 SW M63x1,5 Black/ PA	5004547	2022 97 8		215	
V-TEC PG13,5 SGR	Pg 13,5 Silver grey/ PA	5160878	2022 64 8		217	V-TEC VM LL16 SW M16x1,5 Black/ PA	5812166	2022 98 5		216	
V-TEC PG16 LGR	Pg 16 Light grey/ PA	5447016	2024 75 6		218	V-TEC VM LL20 SW M20x1,5 Black/ PA	5812173	2022 98 7		216	
V-TEC PG16 MS	Pg 16300/ CuZn / N	5190158	2085 65 8		217	V-TEC VM LL25 SW M25x1,5 Black/ PA	5812180	2022 98 9		216	
V-TEC PG16 SGR	Pg 16 Silver grey/ PA	5160939	2022 65 6		218	V-TEC VM LL32 SW M32x1,5 Black/ PA	5812197	2022 99 1		216	
V-TEC PG16+ LGR	Pg 16 Light grey/ PA	5861072	2024 66 3		218	V-TEC VM LL40 SW M40x1,5 Black/ PA	5812203	2022 99 3		216	
V-TEC PG21 LGR	Pg 21 Light grey/ PA	5447078	2024 76 4		247	V-TEC VM LL50 SW M50x1,5 Black/ PA	5812210	2022 99 5		216	
V-TEC PG21 MS	Pg 21200/ CuZn / N	5448631	2085 66 6		218	V-TEC VM LL63 SW M63x1,5 Black/ PA	5812227	2022 99 7		216	
V-TEC PG21 SGR	Pg 21 Silver grey/ PA	5160991	2022 66 4		218	V-TEC VM LM12 MS2 x 1,5500/ CuZn / N	5810254	2086 11 1		246	
V-TEC PG21+ LGR	Pg 21 Light grey/ PA	5861089	2024 66 5		217	V-TEC VM LM16 MS6 x 1,5600/ CuZn / N	5810377	2086 11 7		246	
V-TEC PG29 LGR	Pg 29 Light grey/ PA	5447139	2024 77 2		218	V-TEC VM LM20 MS0 x 1,5300/ CuZn / N	5810438	2086 12 3		246	
V-TEC PG29 MS	Pg 29120/ CuZn / N	5448693	2085 67 4		247	V-TEC VM LM25 MS5 x 1,5250/ CuZn / N	5810735	2086 12 9		246	
V-TEC PG29 SGR	Pg 29 Silver grey/ PA	5161059	2022 67 2		218	V-TEC VM LM32 MS2 x 1,5120/ CuZn / N	5810858	2086 13 5		246	
V-TEC PG29+ LGR	Pg 29 Light grey/ PA	5861096	2024 66 7		218	V-TEC VM LM40 MS40 x 1,560/ CuZn / N	5810971	2086 14 1		246	
V-TEC PG36 LGR	Pg 36 Light grey/ PA	5447191	2024 78 0		217	V-TEC VM LM50 MS50 x 1,545/ CuZn / N	5811152	2086 14 7		246	
V-TEC PG36 MS	Pg 3660/ CuZn / N	5448754	2085 68 2		217	V-TEC VM LM63 MS63 x 1,540/ CuZn / N	5811213	2086 15 3		246	
V-TEC PG36 SGR	Pg 36 Silver grey/ PA	5161110	2022 68 0		218	V-TEC VM LM75 MSM75 x 1,53/ CuZn / N	5858256	2086 15 6		246	
V-TEC PG36+ LGR	Pg 36 Light grey/ PA	5861102	2024 66 9		247	V-TEC VM LM75 MS75 x 1,53/ CuZn / N	5858263	2086 15 9		246	
V-TEC PG42 LGR	Pg 42 Light grey/ PA	5447252	2024 79 9		218	V-TEC VM LM12 EMV12 x 1,5500/ CuZn / N	5655565	2086 20 3		248	
V-TEC PG42 MS	Pg 4215/ CuZn / N	5448815	2085 69 0		218	V-TEC VM12 LGRM12 x 1,5 Light grey/ PA	5533177	2022 86 2		212	
V-TEC PG42 SGR	Pg 42 Silver grey/ PA	5161172	2022 69 9		217	V-TEC VM12 MSM12 x 1,5500/ CuZn / N	5808992	2086 01 8		246	
V-TEC PG42+ LGR	Pg 42 Light grey/ PA	5861119	2024 67 1		247	V-TEC VM12 SGRM12 x 1,5 Silver grey/ PA	5532637	2022 84 3		212	
V-TEC PG48 LGR	Pg 48 Light grey/ PA	5447313	2024 80 2		218	V-TEC VM12 SW M12 x 1,5 Black/ PA	5534013	2022 88 3		212	
V-TEC PG48 MS	Pg 4840/ CuZn / N	5448877	2085 70 4		218	V-TEC VM12+ LGRM12 x 1,5 Light grey/ PA	5860921	2022 76 2		213	
V-TEC PG48 SGR	Pg 48 Silver grey/ PA	5161233	2022 70 2		217	V-TEC VM12RD LGR2 x 1,5 Light grey/ PA	5870968	2023 00 8		213	
V-TEC PG48+ LGR	Pg 48 Light grey/ PA	5861126	2024 67 3		218	V-TEC VM12UV LGR2 x 1,5 Light grey/ PA	5896692	2022 90 0		214	
V-TEC PG7 LGR	Pg 7 Light grey/ PA	5446774	2024 70 5		247	V-TEC VM16 EMV16 x 1,5600/ CuZn / N	5655572	2086 20 7		248	
V-TEC PG7 MS	Pg 7500/ CuZn / N	5189916	2085 60 7		218	V-TEC VM16 EMV16x1,5600/ CuZn / N	5655435	2086 16 5		248	
V-TEC PG7 SGR	Pg 7 Silver grey/ PA	5160694	2022 60 5		217	V-TEC VM16 LGRM16 x 1,5 Light grey/ PA	5533238	2022 86 4		212	
V-TEC PG7+ LGR	Pg 7 Light grey/ PA	5861003	2024 65 5		218	V-TEC VM16 MSM16 x 1,5600/ CuZn / N	5809234	2086 02 4		246	
V-TEC PG9 LGR	Pg 9 Light grey/ PA	5446835	2024 71 3		247	V-TEC VM16 SGRM16 x 1,5 Silver grey/ PA	5532699	2022 84 5		212	
V-TEC PG9 MS	Pg 9600/ CuZn / N	5189978	2085 61 5		218	V-TEC VM16 SW M16 x 1,5 Black/ PA	5535638	2022 88 5		212	
V-TEC PG9 SGR	Pg 9 Silver grey/ PA	5160755	2022 61 3		217	V-TEC VM16+ LGRM16 x 1,5 Light grey/ PA	5860938	2022 76 4		213	
V-TEC PG9+ LGR	Pg 9 Light grey/ PA	5861041	2024 65 7		218	V-TEC VM16RD LGR6 x 1,5 Light grey/ PA	5871002	2023 01 0		213	
V-TEC RA		5033912	3010 20 1	/pc.	221	V-TEC VM16UV LGR6 x 1,5 Light grey/ PA	5896708	2022 90 1		214	
V-TEC RA SET		5034278	3010 27 5		247	V-TEC VM20 LGR6 x 1,5 Light grey/ PA	5896517	2022 11 0		214	
V-TEC ST15	M1215	5034032	3010 23 6		218	V-TEC VM20 2x4M20 x 1,5 Light grey/ PA	5896562	2022 11 4		214	
V-TEC ST20	M1620	5034094	3010 24 4		217	V-TEC VM20 4x5M20 x 1,5 Light grey/ PA	5896524	2022 11 2		214	
V-TEC ST24	M2024	5034155	3010 25 2		218	V-TEC VM20 EMV20 x 1,5250/ CuZn / N	5655589	2086 21 1		248	
V-TEC ST29	M2529	5034216	3010 26 0		218	V-TEC VM20 EMV20x1,5250/ CuZn / N	5655480	2086 16 9		248	
V-TEC VM L12 LGM12x1,5 Light grey/ PA		5004127	2022 94 3	/100 pc.	247	V-TEC VM20 LGRM20 x 1,5 Light grey/ PA	5533658	2022 86 6		212	
V-TEC VM L12 SGR12 x 1,5 Silver grey/ PA		5003786	2022 92 1		218	V-TEC VM20 MSM20 x 1,5250/ CuZn / N	5809418	2086 03 0		246	
V-TEC VM L12 SW M12x1,5 Black/ PA		5004363	2022 96 4		218	V-TEC VM20 OR20 x 1,5 Pastel orange/ PA	5875291	7205 59 4		182	
V-TEC VM L16 LGM16x1,5 Light grey/ PA		5004141	2022 94 5		221	V-TEC VM20 OR20 x 1,5 Pastel orange/ PA	5875291	7205 59 4		216	
V-TEC VM L16 SGR16 x 1,5 Silver grey/ PA		5003823	2022 92 4		221	V-TEC VM20 SGRM20 x 1,5 Silver grey/ PA	5532750	2022 84 7		212	
V-TEC VM L16 SW M16x1,5 Black/ PA		5004370	2022 96 6		221	V-TEC VM20 SW M20 x 1,5 Black/ PA	5535690	2022 88 7		212	
V-TEC VM L20 LGM20x1,5 Light grey/ PA		5004158	2022 94 7		221	V-TEC VM20+ LGRM20 x 1,5 Light grey/ PA	5860945	2022 76 6		213	
V-TEC VM L20 SGR20 x 1,5 Silver grey/ PA		5003885	2022 92 6		221	V-TEC VM20RD LGR20 x 1,5 Light grey/ PA	5871019	2023 01 2		213	
V-TEC VM L20 SW M20x1,5 Black/ PA		5004387	2022 96 8		218	V-TEC VM20UV LGR20 x 1,5 Light grey/ PA	5896739	2022 90 2		214	
V-TEC VM L25 LGM25x1,5 Light grey/ PA		5004202	2022 94 9		218	V-TEC VM25 2x6M25 x 1,5 Light grey/ PA	5896616	2022 12 4		214	
V-TEC VM L25 SGR25 x 1,5 Silver grey/ PA		5003908	2022 92 8		215	V-TEC VM25 2x8M25 x 1,5 Light grey/ PA	5896630	2022 12 8		214	
V-TEC VM L25 SW M25x1,5 Black/ PA		5004424	2022 97 0		215	V-TEC VM25 3x6M25 x 1,5 Light grey/ PA	5896586	2022 12 2		214	
V-TEC VM L32 LGM32x1,5 Light grey/ PA		5004240	2022 95 1		215	V-TEC VM25 3x7M25 x 1,5 Light grey/ PA	5896623	2022 12 6		214	
V-TEC VM L32 SGR32 x 1,5 Silver grey/ PA		5003946	2022 93 0		215	V-TEC VM25 5x4M25 x 1,5 Light grey/ PA	5896579	2022 12 0		214	
V-TEC VM L32 SW M32x1,5 Black/ PA		5004486	2022 97 2		215	V-TEC VM25 EMV25 x 1,5250/ CuZn / N	5655596	2086 21 5		248	
V-TEC VM L40 LGM40x1,5 Light grey/ PA		5004257	2022 95 3		215	V-TEC VM25 EMV25x1,5250/ CuZn / N	5655497	2086 17 3		248	
V-TEC VM L40 SGR40x1,5 Silver grey/ PA		5004004	2022 93 3		215	V-TEC VM25 LGRM25 x 1,5 Light grey/ PA	5533719	2022 86 8		212	
V-TEC VM L40 SW M40x1,5 Black/ PA		5004493	2022 97 4		215	V-TEC VM25 MSM25 x 1,5250/ CuZn / N	5809593	2086 03 6		246	
					215	V-TEC VM25 OR25 x 1,5 Pastel orange/ PA	5875307	7205 59 7		182	
					215	V-TEC VM25 OR25 x 1,5 Pastel orange/ PA	5875307	7205 59 7		216	
					215	V-TEC VM25 SGRM25 x 1,5 Silver grey/ PA	5532811	2022 84 9		212	
					215	V-TEC VM25 SW M25 x 1,5 Black/ PA	5535751	2022 88 9		212	
					215	V-TEC VM25+ LGRM25 x 1,5 Light grey/ PA	5860952	2022 76 8		213	

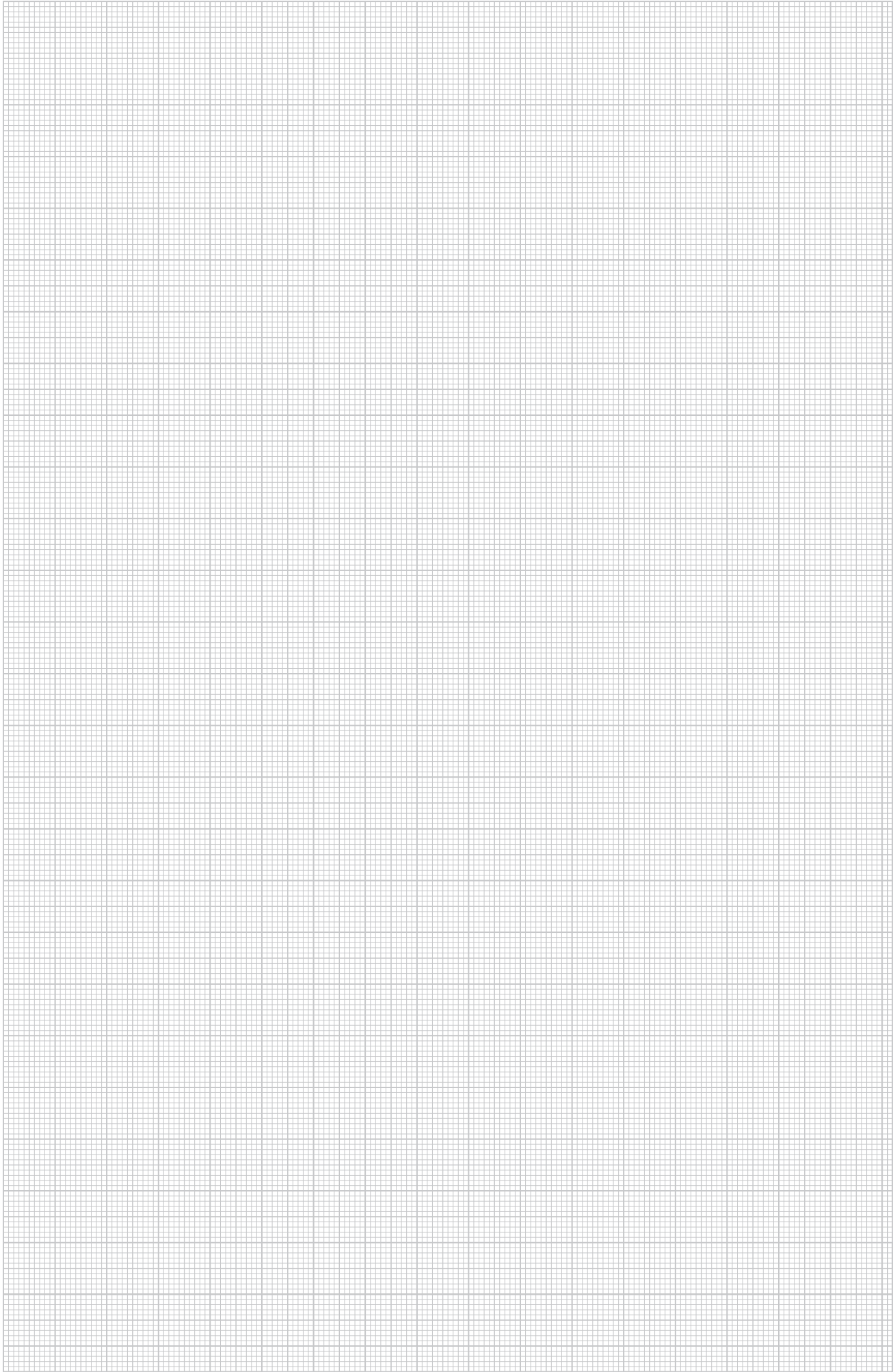
# Type listing

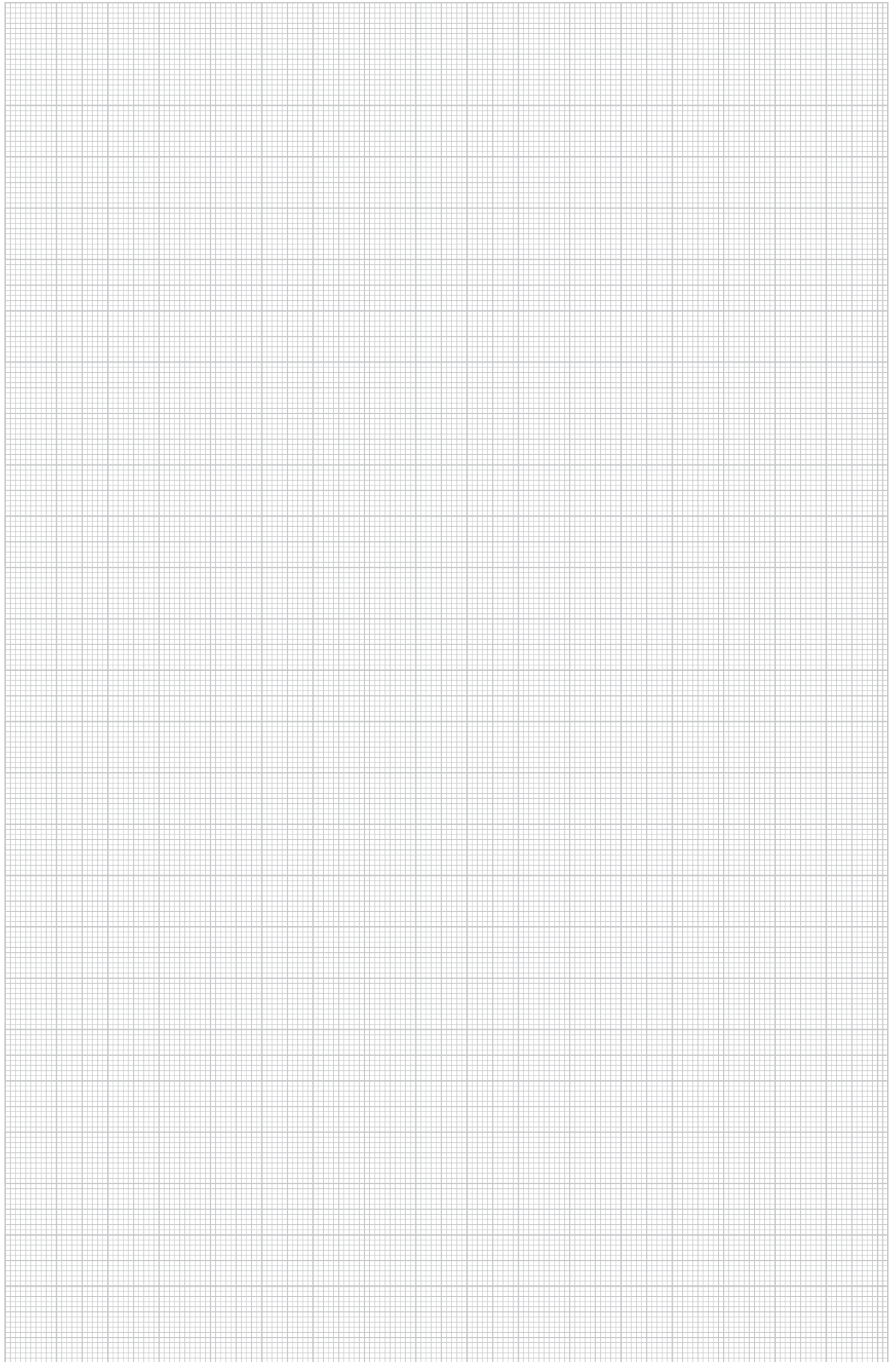
Structure of the GTIN: Country code **40**

Manufacturer code **1219**

Individual GTIN **5647589**

Type	Dimensions/Colour/Div.	GTIN	Art. no.	Price	Page	Type	Dimensions/Colour/Div.	GTIN	Art. no.	Price	Page
V-TEC VM25RD L1825 x 1,5	Light grey/ PA	5871026	2023 01 4	/100 pc.	213	WN 7855 B 3	35000/ St / GTP	5029595	1044 04 4	/100 pc.	304
V-TEC VM25UV L1825 x 1,5	Light grey/ PA	5896746	2022 90 3		214	WN 7855 B 4	45000/ St / GTP	5029717	1044 06 0		304
V-TEC VM32 2x8M32 x 1,5	Light grey/ PA	5896647	2022 13 6		214	WN 7855 B 4.5	4,55000/ St / GTP	5029779	1044 07 9		304
V-TEC VM32 4x8M32 x 1,5	Light grey/ PA	5896685	2022 13 8		214	WN 7855 B 5	55000/ St / GTP	5029830	1044 08 7		304
V-TEC VM32 EMVM32 x1,5 160/ CuZn / N		5655602	2086 21 9		248	WN 7855 B 6	65000/ St / GTP	5029892	1044 10 9		304
		5655503	2086 17 7		248	WN 7855 B 7	74800/ St / GTP	5029953	1044 12 5		304
V-TEC VM32 EMVM32x1,5 160/ CuZn / N		5655503	2086 17 7		248	WN 7855 B 8	84800/ St / GTP	5030010	1044 14 1		304
V-TEC VM32 LGRM32 x 1,5	Light grey/ PA	5533771	2022 87 0		212	WN 7855 B 9	92400/ St / GTP	5030072	1044 17 6		304
V-TEC VM32 MSM32 x 1,5 160/ CuZn / N		5809777	2086 04 2		246						
V-TEC VM32 M32 x 1,5	Pastel orange/ PA	5810827	7205 60 0		182						
V-TEC VM32 M32 x 1,5	Pastel orange/ PA	5810827	7205 60 0		216						
V-TEC VM32 SGRM32 x 1,5	Silver grey/ PA	5532934	2022 85 1		212						
V-TEC VM32 SW M32 x 1,5	Black/ PA	5538219	2022 89 1		212						
V-TEC VM32+ LGRM32 x 1,5	Light grey/ PA	5860969	2022 77 0		213						
V-TEC VM32RD L1822 x 1,5	Light grey/ PA	5871064	2023 01 6		213						
V-TEC VM32UV L1822 x 1,5	Light grey/ PA	5896753	2022 90 4		214						
V-TEC VM40 EMVM40 x 1,5 60/ CuZn / N		5655619	2086 22 3		248						
V-TEC VM40 EMVM40x1,5 60/ CuZn / N		5655534	2086 18 1		248						
V-TEC VM40 LGRM40 x 1,5	Light grey/ PA	5533832	2022 87 2		212						
V-TEC VM40 MS M40 x 1,5 60/ CuZn / N		5809890	2086 04 8		246						
V-TEC VM40 M40 x 1,5	Pastel orange/ PA	5810834	7205 60 3		182						
V-TEC VM40 M40 x 1,5	Pastel orange/ PA	5810834	7205 60 3		216						
V-TEC VM40 SGRM40 x 1,5	Silver grey/ PA	5532996	2022 85 3		212						
V-TEC VM40 SW M40 x 1,5	Black/ PA	5538332	2022 89 3		212						
V-TEC VM40+ LGRM40 x 1,5	Light grey/ PA	5860976	2022 77 2	213							
V-TEC VM40RD L1840 x 1,5	Light grey/ PA	5871071	2023 01 8	213							
V-TEC VM40UV L1840 x 1,5	Light grey/ PA	5896760	2022 90 5	214							
V-TEC VM50 EMVM50 x 1,5 45/ CuZn / N		5655626	2086 22 7	248							
V-TEC VM50 EMVM50x1,5 45/ CuZn / N		5655541	2086 18 5	248							
V-TEC VM50 LGRM50 x 1,5	Light grey/ PA	5533894	2022 87 4	212							
V-TEC VM50 MS M50 x 1,5 45/ CuZn / N		5810070	2086 05 4	246							
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V-TEC VM50 SW M50 x 1,5	Black/ PA	5538455	2022 89 5	212							
V-TEC VM50+ LGRM50 x 1,5	Light grey/ PA	5860983	2022 77 4	213							
V-TEC VM50RD L1860 x 1,5	Light grey/ PA	5871088	2023 02 0	213							
V-TEC VM50UV L1860 x 1,5	Light grey/ PA	5896777	2022 90 6	214							
V-TEC VM63 EMVM63 x 1,5 45/ CuZn / N		5655657	2086 23 1	248							
V-TEC VM63 EMVM63x1,5 45/ CuZn / N		5655558	2086 18 9	248							
V-TEC VM63 LGRM63 x 1,5	Light grey/ PA	5533955	2022 87 6	212							
V-TEC VM63 MS M63 x 1,5 40/ CuZn / N		5810131	2086 06 0	246							
V-TEC VM63 SGRM63 x 1,5	Silver grey/ PA	5533115	2022 85 7	212							
V-TEC VM63 SW M63 x 1,5	Black/ PA	5538516	2022 89 7	212							
V-TEC VM63+ LGRM63 x 1,5	Light grey/ PA	5860990	2022 77 6	213							
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V-TEC VM63UV L1863 x 1,5	Light grey/ PA	5896784	2022 90 7	214							
WBDHE 41 FT 134,35x110/ St / FT		5939276	1123 19 1	377							
WBDHE 41 G 134,35x110/ St / G		5939283	1123 19 3	377							
WBDHE 41 V2A 134,35x110/ V2A		5939290	1123 19 5	377							
WBDHE 41 V4A 134,35x110/ V4A		5939306	1123 19 7	377							
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WN 7855 A 5 54000/ St / GTP		5028819	1043 08 0	303							
WN 7855 A 6 64000/ St / GTP		5028871	1043 10 2	303							
WN 7855 A 7 74000/ St / GTP		5028932	1043 12 9	303							
WN 7855 A 8 84000/ St / GTP		5028994	1043 14 5	303							
WN 7855 A 9 94000/ St / GTP		5029052	1043 16 1	303							
WN 7855 B 10 102400/ St / GTP		5030133	1044 19 2	304							
WN 7855 B 12 121800/ St / GTP		5030195	1044 21 4	304							
WN 7855 B 14 141200/ St / GTP		5030256	1044 23 0	304							
WN 7855 B 16 161200/ St / GTP		5030317	1044 25 7	304							





**Terms and conditions of sale and delivery**  
of OBO BETTERMANN GmbH & Co. KG, OBO BETTERMANN Projekt und Systemtechnik GmbH  
and OBO Befestigungselemente GmbH, Menden.

1. All our supplies and services shall be governed exclusively by the following terms and conditions, including our additional terms and conditions for cable tray business transactions. Any terms and conditions of business and purchasing of the customer shall be valid only if we have acknowledged them in writing. Our quotations are without engagement; they are mere invitations to submit contract offers. Any and all transactions and agreements, including those entered into by our employees and agents shall only be binding upon our written confirmation or invoicing. The foregoing provision shall also apply to any modifications of the agreed formal requirements.

2. The documents and data pertaining to the quotation, such as illustrations, brochures, drawings, dimensions, loading capacity values and weight details are approximate only, unless they are expressly stipulated to be binding.

Samples are non-binding samples for inspection. Any purchase according to sample will be subject to customary deviations and deviations resulting from normal production processes. The properties of the sample shall be no guaranteed quality of the purchase object unless expressly stated otherwise in the confirmation of order. Samples must be returned to us at the latest within four weeks in perfect condition. If they are not returned within this period in proper condition, we shall be entitled to charge the purchase price for the sample in accordance with our current price list. All information on our products, in particular the illustrations, drawings, weight, dimension and performance data included in our quotations and printed matter shall be regarded as approximate average values and shall not represent any quality guarantee.

With regard to products made according to customer drawings, samples and other instructions of the customer, we will not provide any warranty nor assume any liability for the due and proper functioning of the product or for any other defects if and to the extent they are based upon the customer's specifications. The customer shall indemnify us from any third party claims, including claims for product liability as may be asserted against us for damages resulting from the products unless we have caused such damages by intent or gross negligence. The customer shall warrant that the manufacture and supply of products made in accordance with his instructions will not infringe any proprietary rights of third parties. Should any proprietary rights be asserted against us, we shall be entitled, without any legal review of the third party claims, to withdraw from the contract after hearing the customer, unless the third party withdraws the claims asserted against us under its proprietary rights within eight days by written declaration. The customer shall compensate us for any damage sustained as a result of the assertion of proprietary rights. In case of withdrawal, the work we have carried out so far shall be remunerated. Further rights under the statutory provisions shall not be affected thereby.

Any moulds, tools and design data produced by us for the execution of the order shall be our exclusive property. Unless expressly agreed otherwise, the customer shall not have any claims thereto, even if he has contributed to the costs of producing any such moulds, tools and design data.

3. The packing, shipping route and means of transportation shall be left to our discretion in the absence of any other agreements. They shall be charged at their cost price. We will take back undamaged cases, when being returned carriage paid, at 2/3 of the amount invoiced. The one-way or pool pallets used for transport shall be either exchanged upon taking delivery or returned. The smallest packing units stocked and listed may not be broken up for rationalisation reasons. In case of orders for different quantities, the nearest packing unit will be supplied.

We reserve the right to deviate from the agreed delivery quantity, in particular in the case of custom-made products, to a customary extent or in conformity with national or international standards. In case of a demand for adhering to a precise quantity, an express reference is necessary and subject to confirmation.

Master and call orders shall oblige the customer to accept the total quantity on which the master/call order is based. Where no particular call orders are specified in the contract, the total quantity of the master call order must be called within twelve months. If the customer fails to adhere to call deadlines, we shall be entitled to deliver and charge the total quantity in full after four weeks from written notice with reference to the consequences of any failure to call. Our rights arising from any default of the customer shall not be affected thereby.

4. Unless otherwise agreed, our prices are quoted ex works and do not include packing and insurance. The value added tax at the rate applicable on the date of dispatch will be added to our prices. The purchaser shall ensure the correctness of his VAT identification number, which he must notify to us immediately without being asked. He shall undertake to inform both us and the competent domestic tax authority without delay of any change in his name, address and VAT identification number.

Delivery shall be franco domicile within Germany, i.e. carriage and packing prepaid, if the net order value is in excess of € 1,200. For small orders below € 100 (net excluding value added tax), we shall invoice a lower quantity surcharge of € 10 (net) per order. Upon transfer of our supplies and services to a carrier or forwarding agent, at the latest upon their leaving our warehouse or supply plant, the risk shall pass to the recipient, even in case of deliveries free place of destination.

5. Delivery periods and delivery deadlines shall be approximate only unless we have expressly stated in writing that they are binding. Delivery periods shall commence upon receipt of our confirmation of order, but not before clarification of all execution details, ex place of delivery. The customer shall only be entitled to withdraw from the contract after having granted a reasonable extension of time. We reserve the right to make partial deliveries. Claims for damages and reimbursement of expenses - for any reason whatsoever - shall be subject to the provisions set out in article 10.

In the event of any circumstances that are beyond our control within the scope of normal operating risks and obstruct or make impracticable any delivery, we shall be entitled to suspend delivery by the duration of such obstruction plus a reasonable start-up period or to withdraw from the contract for the part not yet fulfilled. The purchaser can demand a statement from us as to whether we wish to deliver within a reasonable period or withdraw. If we fail to make such a statement, the purchaser may withdraw. Our notice to the purchaser shall be deemed to be sufficient evidence that we have been prevented from delivering.

Delivery time is extended in case of such events as labour disputes, strikes and lockouts, orders from the authorities, difficulties with the procurement of materials, spoiled work or post-processing, shutdowns and staff shortage as well as shortage of means of transport, and general occurrence of unforeseen events beyond our scope of influence, by the length of duration of these events.

6. Payments shall be made upon receipt of invoice less a 3% cash discount for payment within 10 days or net after 30 days from date of invoice. Erection work and all paid labour work must be paid within 10 days without deduction of any cash discount. In case of non-cash payments, the date of the credit note will be deemed to be the date of receipt of payment. Payments received shall always be credited first against costs, then against interest and then against the earliest liability. Cheques and bills of exchange shall only be accepted as means of payment.

Any payment by bill of exchange shall be subject to a prior separate and written agreement, whereby all bill costs shall be borne by the customer and no discount can be granted. The customer shall have no right to refuse performance and no right of retention - for any legal reason whatsoever - unless we have acknowledged his claim beforehand in writing or his claim has the force of law.

The customer shall only be entitled to set off claims which have the force of law, are undisputed or acknowledged by us in writing.

7. We shall retain title to the goods supplied by us until all our claims arising from our business transactions with the customer have been satisfied - current account clause - and all bills of exchange or cheques submitted for payment by the customer have been honoured.

Any treatment or processing of goods subject to our retention of title (reserved goods) shall be carried out for us as the manufacturer in accordance with § 950 BGB (German Civil Code) without any obligation on our part. If our reserved goods are to be regarded as the main item or the main item is owned by the customer, full title to the new item shall pass to us when it is created. In other cases, we shall acquire a co-ownership interest in the new item in the proportion of the sales value of our reserved goods to the other goods used for the new item at the time of processing, intermingling, joining or mixing. The customer shall take custody of our ownership or co-ownership interest free of charge; it shall be treated as reserved goods.

Before transfer of title, our goods shall be neither pledged nor assigned as collateral without our prior consent. In addition, any third party rights or pledges shall be notified to us immediately and we shall be given all details and provided all documents necessary for intervention; otherwise the customer must bear our loss. In the latter case, our total claims against the customer shall also be immediately payable.

The customer shall be entitled to sell or to use our reserved goods in the ordinary course of business subject to the condition that the relevant claims are transferred in accordance with article 8 below. This right shall lapse upon the customer's failure to promptly meet his payment obligations towards us or in the event of any cheque or bill protests or his suspension of payments. In such cases, we shall be entitled to take back the goods provisionally at

the customer's expense and to sell them at our duly exercised discretion after a corresponding reminder has been sent to the customer. We will then pass the due amount to the customer's credit.

8. If our goods are sold before payment of our claim, the customer shall be obliged to retain our title against his purchaser until the goods have been paid for in full by the purchaser. The claim arising against the purchaser from such resale as well as any other ancillary rights or security interests of the customer resulting from the sale and any claims for compensation in case of damage to or destruction of our reserved property, including the relevant insurance sum shall hereby be assigned to us. We hereby accept this assignment. Where our co-ownership interest is sold, the relevant claims shall be assigned in the amount corresponding to the value of our interest.

The customer shall, at our request, inform us of his purchasers, notify them of the assignment made and provide us with any and all documents required to assert our rights.

As long as the customer meets his contractual obligations without delay, he shall be authorised to collect the claims assigned. He shall keep the amounts collected on our behalf separately and remit them to us immediately as soon and as far as our claims become due. The authorisation shall lapse in case of any cheque or bill protest of the customer or his definite suspension of payments. The customer shall bear the costs incurred for any action taken against third parties and shall advance them upon request.

If the security provided to us by the retention of title and the anticipatory assignment should exceed the claims to be secured by more than 20%, we shall, at the customer's request, release paid supplies of our choice. Upon payment of all our claims by the customer, assigned claims shall pass to the customer.

9. Any complaints for obvious defects regarding the quantity or quality of our supplies and services that are identifiable upon careful inspection shall without delay, but at the latest within the period of limitation of eight days from arrival of the goods at the address of the customer or the person appointed by him, be notified in writing to us, not to our representatives. Slight deviations in dimensions and designs within the scope of defined technical tolerances shall not give rise to any right of complaint. Any rejected goods may only be returned to us with our prior written authorisation.

In case of justified complaints within the prescribed period, we shall, at our option, take remedial action by way of subsequent performance, by rectifying the defect, supplying non-defective goods or providing a credit note for the lower value calculated.

We shall be entitled to refuse subsequent performance in accordance with the statutory provisions. If we refuse subsequent performance, if any subsequent performance remains unsuccessful or if the customer cannot be reasonably expected to accept any subsequent performance, the latter shall be entitled to withdraw from the contract in compliance with the provisions of the following sentences. The customer shall only be entitled to withdraw from the contract - where a withdrawal is not excluded by law - upon the unsuccessful expiry of a reasonable period for subsequent performance set by him, unless this period was not required under the statutory provisions (§§ 281 para. 2, 323 para. 2, 440, 441 para. 1 BGB (German Civil Code)).

In case of his withdrawal, the customer shall be liable for any deterioration, destruction or loss of use resulting from any negligence or intent on his part. Any claims for damages or reimbursement of expenses of the customer shall be subject to the provisions set out in article 10.

In the case of any fraudulent concealment of a defect or in the case of any provision of a quality guarantee for the goods sold at the time of the passing of risk within the meaning of § 444 BGB (German Civil Code) (seller's declaration that the object sold has a specific property at the time of the passing of risk and that the seller, regardless of any fault on his part, intends to be answerable for any and all consequences resulting from its absence), the customer's rights shall be exclusively governed by the statutory provisions.

We shall - in addition to the statutory grounds for refusal - also be entitled to refuse subsequent performance if and as long as the customer fails to send us, at our request, the rejected goods or a sample thereof; the customer shall have no right of withdrawal for any such refusal. We may further refuse any subsequent performance if the goods concerned have been altered or modified without our consent unless the customer can prove that the defect was not caused by such alteration or modification.

The limitation period for any claims arising from defects shall be one year; in the case of goods which have been used in accordance with their intended purpose for a building and have caused its defectiveness, the limitation period shall be two years. The provisions of §§ 478, 479 BGB (German Civil Code) on recourse in the chain of suppliers shall not be affected thereby.

10. In the case of a pre-contractual, contractual or non-contractual breach of duty, including unsatisfactory delivery, tortious conduct and producer's liability, we shall only be liable for compensatory damages and reimbursement of expenses - subject to further contractual or statutory liability requirements - in the case of intent, gross negligence or slightly negligent breach of a material contractual duty (contractual duty the infringement of which jeopardises the fulfilment of the object of the contract). However - except in the case of intent - our liability shall be limited to the typical contractual damage that was foreseeable at the time the contract was entered into.

The purchaser shall not be permitted to make a claim for expenses incurred in vain. Except for any breach of material duties, our liability for slight negligence shall be excluded, but in any case be limited to the amount of the purchase price.

Any claim asserted by the customer or a third party for payment of a contractual penalty shall be excluded.

With regard to damages caused by delay, we shall only be liable for slight negligence up to the amount of 5% of the purchase price agreed with us.

The exclusions and limitations of liability set forth above shall not apply in the event that a guarantee is given with respect to the quality of the object sold within the meaning of § 444 BGB (German Civil Code) if a defect is fraudulently concealed or in the event of injury to life, physical injury or injury to health, or strict liability under the German Product Liability Act.

Any and all claims for damages against us, for any legal reason whatsoever, shall become statute-barred at the latest after one year from delivery of the goods to the customer, in the case of tortious liability from the time of knowledge, or grossly negligent ignorance, of the circumstances giving rise to the claim and the person liable to pay damages. This provision shall not apply in the case of liability for intent and in the event that a guarantee is given for the quality of the object sold, in the case of fraudulent concealment of a defect or in the event of injury to life, physical injury or injury to health, or strict liability under the German Product Liability Act. Any shorter limitation periods shall take precedence.

11. We shall be entitled to process and store any customer data obtained with regard to or in connection with the business relationship in accordance with the German Federal Data Protection Act, irrespective of whether such data is provided by the purchaser himself or by any third parties.

12. Place of performance for delivery and payment is Menden/Sauerland. The court of competent jurisdiction for any and all disputes, including disputes with regard to bills of exchange and cheques, is the Local Court (Amtsgericht) of Menden or, at our option, the District Court (Landgericht) of Arnsberg, irrespective of the value of the object in dispute. We shall, however, also be entitled to take legal proceedings against the customer at the place of his registered office.

German law shall be exclusively applicable. The application of international purchase laws is hereby excluded.

Should, for any reason whatsoever, individual provisions of our terms and conditions of sale and delivery be invalid, the validity and binding nature of the other provisions shall not be affected thereby. The customer agrees, that the invalid provision shall be replaced by a valid provision that comes as close as possible to the economic meaning of the invalid provision.

13. The prices of products made of brass and copper are subject to certain fluctuations that are based on the relevant DEL listings. The prices of our brass articles are based on a DEL listing of € 150 for Ms 58, those of our copper products on a DEL value for electrolyte copper of € 200.

In case of any increase or reduction in these prices by more than € 15, a five per cent surcharge or deduction shall be made for each 15 points. The calculation of any such surcharges or deductions shall be based on the DEL listing of the date of our receipt of the order.

Valid from January 2010





#### **QR-Code**

With the QR Code you have direct access to our products on the Internet.

You can find further information on the QR Code at [www.obo-bettermann.com](http://www.obo-bettermann.com).

#### **OBO BETTERMANN GmbH & Co. KG**

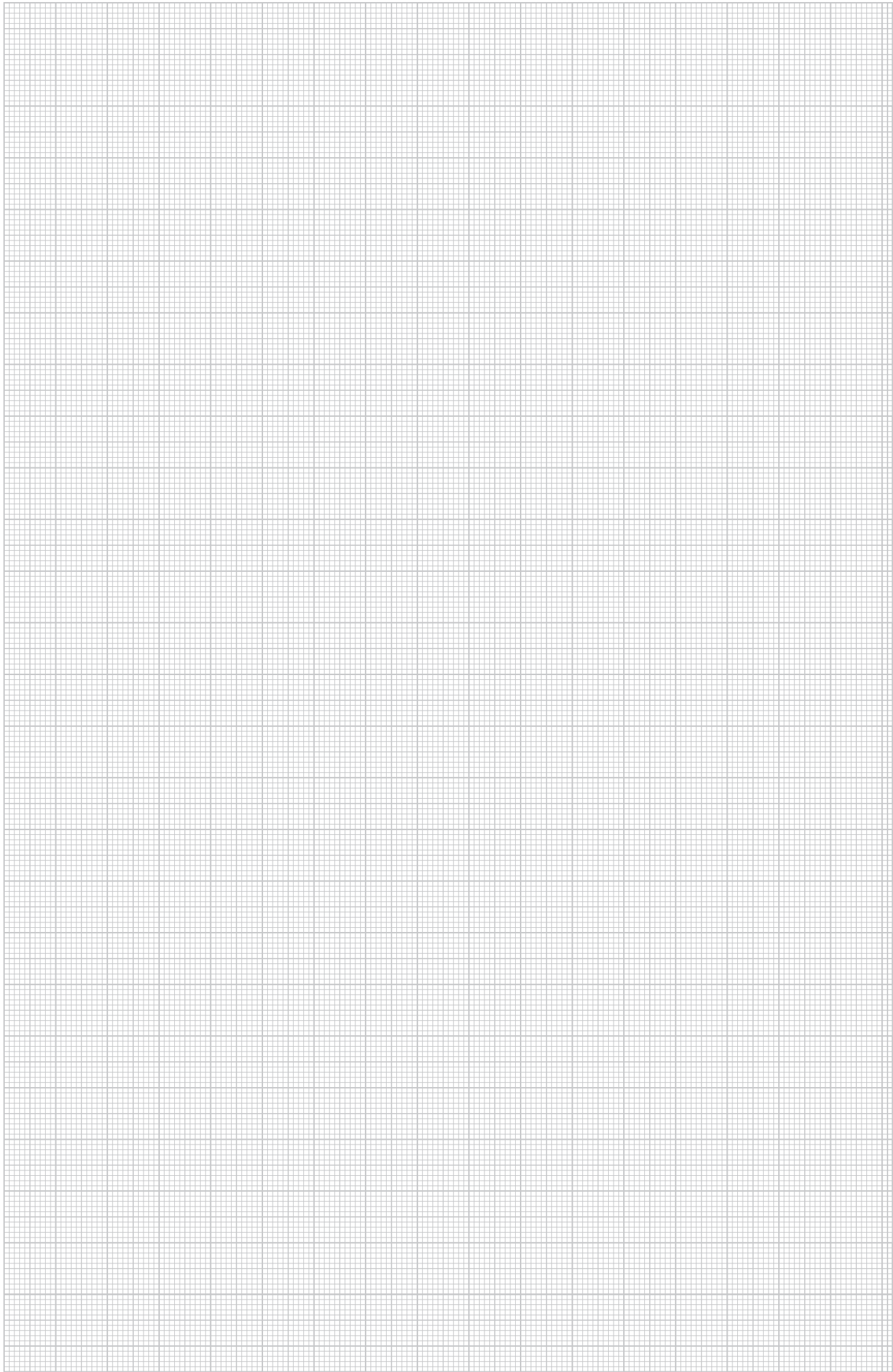
P.O. Box 1120  
58694 Menden, Germany

#### **Customer Service Germany**

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E-mail: [info@obo.de](mailto:info@obo.de)

[www.obo-bettermann.com](http://www.obo-bettermann.com)





2012/2013 EN

## Connection and fastening systems | VBS





# 01\_VBS\_Master\_Catalogue\_Countries\_2012

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Bund

Bundle

Stand: 31/5/2012

LLExport\_01445

Wenn LAGERLISTE:

Dann in Leaflet die Variabel "Lagerliste\_JaNein"

auf Ja

und

Alle Variablen:

5_Lagerliste_JaNein.....	Nein
Belastungsdiagramm_JaNein.....	Nein
Foto_MaxHoehe.....	0
MassBilder_JaNein.....	Ja
Massbilder_MaxHoehe.....	35
MasstabelleBestellteil_Ja=0_Nein=100000.....	100000
Masstabelle_Excel_JaNein.....	Ja
Prodbilder_Strich_Grafik.....	Grafik
Produktbilder_MaxHoehe.....	40
Rabattgruppen_JaNein.....	Nein
StandardVPE.....	1
SystemLogo.....	
ThinkConnBack_schwarz_weiss.....	schwarz
ThinkConnTitel_schwarz_weiss.....	weiss
ZeileWerkstoffRabattJaNein.....	Ja
ZusAttrib_ProdText_U_Einsatzgeb_L6_Vorbelegung_721.....	0
ZusText_Grau_L7_ArtNr_Ausnahmeliste_Vorbelg_0.....	0
ZusText_GrauerHintergrund_ProdBeschrGes_Vorbelg_37.....	37
ZusText_ProdukZusatzTextHinweis_L6_Vorbelegung_222.....	66
ZusatzAttribut_L6_Wahlfrei_Vorbelegung_0.....	17036
ZusatzAttribut_L7_Wahlfrei_Vorbelegung_0.....	0
ZusatzText_FussNote_L6_Vorbelegung_86.....	0
_PrüfzeichenJaNein.....	Ja
_QualitätszeichenJaNein.....	Ja
_SchnittmarkenJaNein.....	Ja
_SpezifischeProduktsymboleJaNein.....	Ja

Katalogdatei:

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