

Solutions for the food industry



THINK CONNECTED.

OBO solutions for top quality and freshness

Scarcely any other industry places quite so much emphasis on product quality as the food industry – for many customers, only the best is good enough here. Foodstuffs are subject to strict regulations, compliance with which must be guaranteed continuously – from raw material growing and production, through transport, right up to the shelves. For this, a robust, perfectly hygienic and reliable electrical infrastructure is essential.

Think connected

OBO stands for networked thinking – all over the world our systems provide a reliable backbone for building and system technology for industry, commerce and infrastructure systems.



Comprehensive solutions for all areas of food production

The name OBO standard for complete solutions for the electrical equipment in the food industry – e.g. in the areas:

- Meat, poultry, fish
- Gourmet foods, ready meals
- Drinks
- Fruit, vegetables
- Milk, cheese, curd cheese
- Bakery & confectionery goods

We use only materials which can meet the high hygienic requirements of this industry.

Our selection for your project

This solutions“ brochure contains a selection of our products for your food industry project. You can find over 30,000 additional products for all areas of electrical installations in our seven main catalogues or on the Internet.

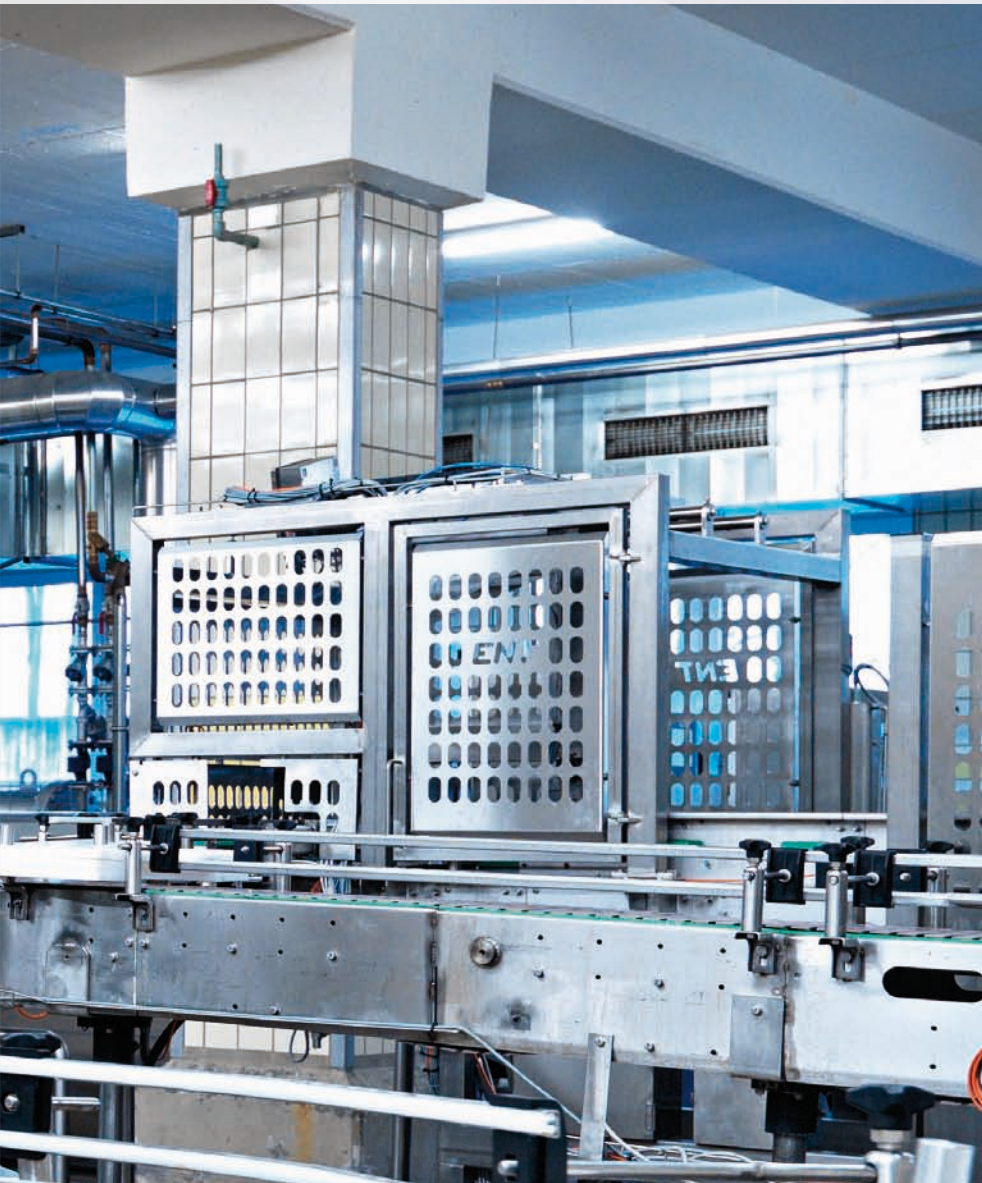
Cable routing

Distributing and connecting

Industrial and special connector systems

Lightning and surge protection

Directories



Stainless steel – ideal for use under the hardest conditions



The ideal material: Stainless steel

As a manufacturer of products for electrical infrastructure, we know precisely what the food industry needs.

Alongside high-quality plastic – stainless steel has proved its worth in many areas, in which hygiene is of key importance. Even aggressive chemical cleaning agents cannot attack the taste-neutral material. OBO is one of the leading manufacturers of high-quality VA systems for the electrical industry.

System properties

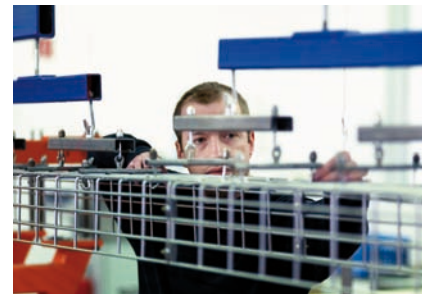
For each requirement, we have the right system with the right properties such as

- Perfect materials from a contamination-free environment
- Easy to clean surfaces
- Hygienic design for optimum liquid draining and avoidance of dirt build-up

Industry-specific solutions

The selection of the right equipment is strongly dependent on the basic material to be processed and the production equipment. From the start, OBO consultants and developers include the demanding requirements for hygiene and quality of the different areas of the food industry into the planning and construction of the electrical equipment.

Our motto: Always do it better



Tested quality

Our standard products and project-specific special solutions are tested in our excellently equipped testing centre. The perfect quality is confirmed regularly through BET test reports and QS certificates. The modern, flexible production facility permits constant availability of OBO products.

Help and advice

We like short routes – in any phase of a project. This is why, at OBO, everything comes from one source. This ranges from personal on-site consultancy, through planning and highly modern production, right up to quality assurance and logistics. With comprehensive in-house storage capacities and an extremely high availability in specialist wholesalers, OBO products are always available quickly and anywhere in the world. And the OBO Customer Service is available to offer help and advice for special requirements.

We want to be the best. Therefore, we always take a critical look at our services and products – without any compromises.

Our open systems are immune to impurities

Easy maintenance of cleanliness plays a key role for our systems, which supply power and data. Open mesh cable tray systems for cable routing and luminaire mounting ensure a very low build-up of dirt and unimpeded liquid draining.

A range of different dimensions and qualities of stainless steel permits flawless networking of the main support up to individual machine feeds. And the intelligent, toolless quick connection of the GR-Magic® ensures quick and thus low-cost mounting.





Our closed systems protect the inner values

Closed systems are essential in some areas of food production, in particular the processing of liquids. Their smooth surfaces can be cleaned very easily, meaning that dirt does not build up directly on cables. Together with the appropriate fittings and covers, our versatile cable trays form a completely closed system.

Should there be fewer cables to be routed, then OBO stainless steel pipe systems are the ideal choice. With their 90° bends and fastening units of the same material quality, they form a completely closed system







Safety and fault-free operation – no matter what

Fault-free processes

Food production is subject to high quality requirements. With fresh food, the cooling chain may never be interrupted. OBO systems help to maintain reliable fault-free production and sales – from the harvest to the chilled cabinet.

Reliable protection

Our lightning and surge protection systems reliably protect electrical devices and systems against faults. In conjunction with well-thought-out protection against foreign bodies and moisture, interruption-free production and storage is guaranteed, along with maximum safety. We will gladly support you in the design of efficient internal and external lightning and surge protection.

Tested safety

OBO products fulfil all the key preconditions for consumer protection. An independent testing and certification institute confirms the perfect characteristics according to the IP protection standard. Independent VDE tests and certificates also document the quality of our junction boxes and glands.






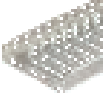






For quick and targeted cable routing

No matter whether for individual cable routing or routing of cable bundles. OBO has tackled the challenge of being able to offer the right system for your application. The following pages will give you an insight into the varied options for cable routing. We can recommend our mesh cable tray system for open routing, which can be cleaned without leaving residues behind. These stand out due to particularly quick, economic and toolless connection mounting. The unperforated cable tray and pipe systems are ideal for closed systems as they do not allow the dirt ingress into the interior.

Quality makes the difference.

The following pages contain a small overview of our product range for cable routing, specifically for the requirements of the food industry. When selecting the articles, we prioritised the taste-neutral articles made of stainless steel. Of course, all the systems listed here as well as others are available in other materials and surfaces. The main catalogues of the different product units contain a detailed overview of our complete product range.

Cable routing

	Mesh cable tray systems	Mesh cable tray GR-Magic® G mesh cable tray Magic Luminaire support wire mesh tray
	Cable tray systems	Cable tray Fittings Covers
	Cable ladder and ladder systems	Cable ladder LG 60 Wall strap Clamp clip
	Wide span systems	Wide span cable ladder
	AZ small duct and accessories	AZ small duct
	Mounting systems	US 3 suspended support US 5 suspended support Wall and support bracket
	Rail and clamp clips	Profile rails VA Clamp clips VA
	VA pipe system	Stainless steel pipe systems System accessories, pipe systems



Mesh cable tray systems

Cable routing



Mesh cable tray GR-Magic®

Type	Width mm	Wire Ø mm	Length mm	Useful cross- section cm ²	Weight kg/100 m	Item No.
GRM 35 50VA4301	50	3.9	3000	17,5	45.000	6000 05 4
GRM 35 100VA4301	100	3.9	3000	35	49.000	6000 05 5
GRM 35 150VA4301	150	3.9	3000	52,5	62.600	6000 05 6
GRM 35 200VA4301	200	3.9	3000	70	76.300	6000 05 7
GRM 35 300VA4301	300	4.8	3000	105	157.900	6000 05 9
GRM 35 100VA4401	100	3.9	3000	35	49.000	6000 08 7
GRM 35 150VA4401	150	3.9	3000	52,5	62.600	6000 08 9
GRM 35 200VA4401	200	3.9	3000	70	76.300	6000 09 0
GRM 35 300VA4401	300	4.8	3000	105	157.900	6000 09 1

V2A Stainless steel, 1.4301 V4A Stainless steel 1.4401 /m

Mesh cable tray with shaped connector of side height 35 mm.
Magnetic shield insulation without cover 15 dB, with cover 25 dB.

Type	Width mm	Wire Ø mm	Length mm	Useful cross- section cm ²	Weight kg/100 m	Item No.
GRM 55 50VA4301	50	3.9	3000	16	67.000	6001 07 0
GRM 55 100VA4301	100	3.9	3000	40	75.000	6001 07 2
GRM 55 150VA4301	150	3.9	3000	63	88.000	6001 07 4
GRM 55 200VA4301	200	3.9	3000	87	97.000	6001 07 6
GRM 55 300VA4301	300	4.8	3000	129	200.000	6001 07 8
GRM 55 400VA4301	400	4.8	3000	175	243.000	6001 08 0
GRM 55 500VA4301	500	4.8	3000	220	287.000	6001 08 2
GRM 55 600VA4301	600	4.8	3000	265	331.000	6001 08 5

V2A Stainless steel, 1.4301 Stained /m

Mesh cable tray with shaped connector of side height 55 mm.
Magnetic shield insulation without cover 15 dB, with cover 25 dB.

Type	Width mm	Wire Ø mm	Length mm	Useful cross- section cm ²	Weight kg/100 m	Item No.
GRM 55 50VA4401	50	3.9	3000	16	67.000	6001 08 7
GRM 55 100VA4401	100	3.9	3000	40	75.000	6001 08 8
GRM 55 150VA4401	150	3.9	3000	63	88.000	6001 09 0
GRM 55 200VA4401	200	3.9	3000	87	97.000	6001 09 1
GRM 55 300VA4401	300	4.8	3000	129	200.000	6001 09 3
GRM 55 400VA4401	400	4.8	3000	175	243.000	6001 09 5
GRM 55 500VA4401	500	4.8	3000	220	287.000	6001 09 7
GRM 55 600VA4401	600	4.8	3000	265	331.000	6001 09 9

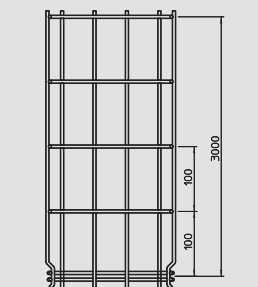
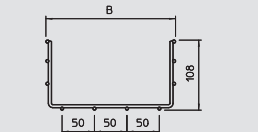
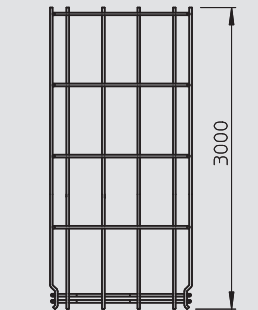
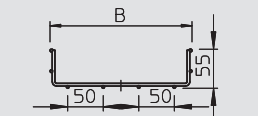
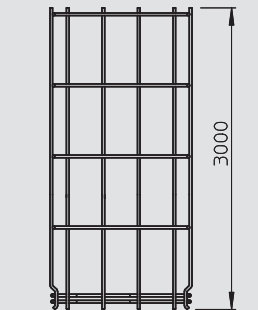
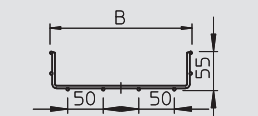
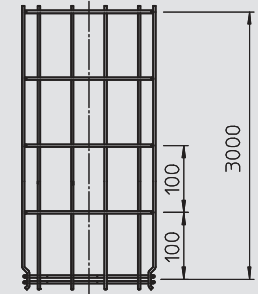
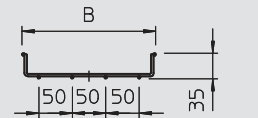
V4A Stainless steel 1.4401 Stained /m

Mesh cable tray with shaped connector of side height 55 mm.
Magnetic shield insulation without cover 15 dB, with cover 25 dB.

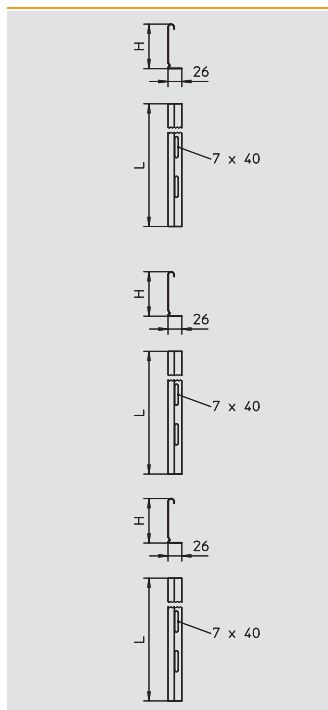
Type	Width mm	Wire Ø mm	Length mm	Useful cross- section cm ²	Weight kg/100 m	Item No.
GRM105 100VA4301	100	3.9	3000	82	99.000	6002 45 1
GRM105 200VA4301	200	4.8	3000	175	193.200	6002 45 7
GRM105 300VA4301	300	4.8	3000	268	235.100	6002 46 0
GRM105 400VA4301	400	4.8	3000	363	277.100	6002 46 3
GRM105 500VA4301	500	4.8	3000	459	319.100	6002 46 6

V2A Stainless steel, 1.4301 Stained /m

Mesh cable tray with shaped connector of side height 105 mm.
Magnetic shield insulation without cover 15 dB, with cover 25 dB.



Mesh cable tray systems



Separating retainer

Type	Dimension H mm	Dimension L mm	Pack. m	Weight kg/100 m	Item No.
TSG 30 VA4301	30	3000	45	0.000	6062 05 2
TSG 30 VA4571	30	3000	45	0.000	6062 05 4

V2A Stainless steel, 1.4301 V4A Stainless steel, 1.4571 /m

Barrier strip for separation of cables of different voltages or functions.

Type	Dimension H mm	Dimension L mm	Pack. m	Weight kg/100 m	Item No.
TSG 45 VA4301	45	3000	45	0.000	6062 02 5
TSG 45 VA4571	45	3000	45	0.000	6062 02 8

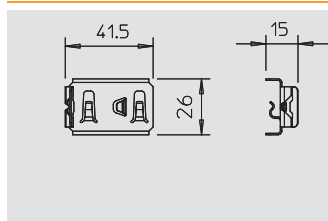
V2A Stainless steel, 1.4301 V4A Stainless steel, 1.4571 /m

Barrier strip for separation of cables of different voltages or functions.

Type	Dimension H mm	Dimension L mm	Pack. m	Weight kg/100 m	Item No.
TSG 85 VA4301	85	3000	45	0.000	6062 17 3

V2A Stainless steel, 1.4301 /m

Barrier strip for separation of cables of different voltages or functions.

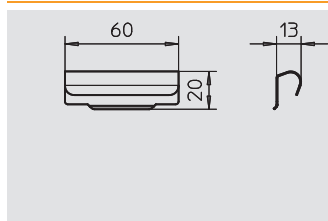


Clamping piece for separating retainer fastening

Type	Pack. pcs	Weight kg/100 pcs.	Item No.
KS GR VA4310	30	0.830	6062 28 2

V2A Stainless steel 1.4310 /100 pc.

Clamping piece for fastening barrier strips in mesh cable trays.

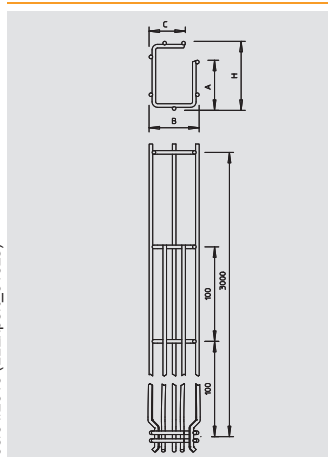


Connector for divider strip

Type	Pack. pcs	Weight kg/100 pcs.	Item No.
TSGV VA4310	10	1.000	6067 97 0

V2A Stainless steel 1.4310 /pc.

Barrier strip connector for screwless connection of the TSG barrier strip in all side heights.

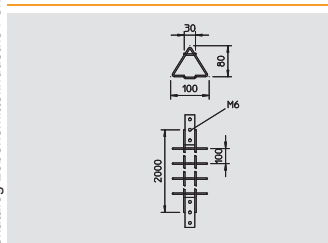
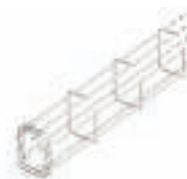


G mesh cable tray Magic

Type	Dimension B mm	Dimension H mm	Dimension C mm	Dimension A mm	Length mm	Weight kg/100 m	Item No.
G-GRM 50 50 VA	55	55	33	40	3000	67.100	6005 55 0
G-GRM 75 50 VA	53	73	40	53	3000	79.900	6005 55 3
G-GRM 125 75 VA	75	125	40	96	3000	109.000	6005 55 6
G-GRM 150 100 VA	100	155	70	120	3000	128.000	6005 55 9

V2A Stainless steel, 1.4301 /m

G-shaped mesh cable tray made of spot-welded steel wire with different side heights and widths.



Luminaire support wire mesh tray

Type	Width mm	Length mm	Weight kg/100 m	Item No.
LTG 100	100	2080	62.650	6003 83 0

V2A Stainless steel, 1.4301 Stained /m

Luminaire support grid for luminaire suspension. With this system, the design avoids larger build-ups of dirt.



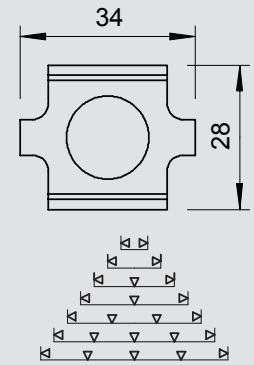
Mesh cable tray systems



Joint connector

Type	Pack.	Weight	Item No.
	pcs	kg/100 pcs.	
GSV 34 VA4301	25	3.000	6016 64 2
GSV 34 VA4401	10	3.000	6016 64 8
V2A Stainless steel, 1.4301 V4A Stainless steel 1.4401			/pc.

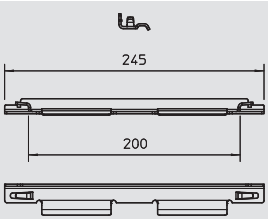
Screwed version of joint connector for mesh cable trays.



Quick connector

Type	Width mm	Pack.	Weight	Item No.
		pcs	kg/100 pcs.	
GRV 245 VA4404	245	50	13.500	6016 68 8
V4A Stainless steel, 1.4404				/pc.

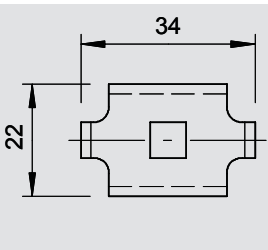
Long mesh cable tray connection for screwless straight connection of mesh cable trays.



Clamping piece

Type	Pack.	Weight	Item No.
	pcs	kg/100 pcs.	
GKS 34 VA4301	100	2.000	6016 83 9
GKS 34 VA4401 SP	10	2.000	6016 85 9
V2A Stainless steel, 1.4301 V4A Stainless steel 1.4401			/pc.

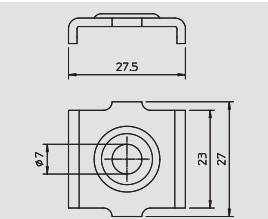
Clamp for fixing mesh cable trays to wall or support brackets.



Clamping piece

Type	Pack.	Weight	Item No.
	pcs	kg/100 pcs.	
GKB 34 VA	50	1.000	6016 67 6
V2A Stainless steel, 1.4301			/pc.

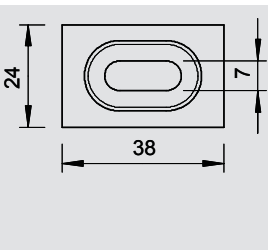
Clamping piece for fastening mesh cable trays of width 50 mm to the floor.



Clamping piece

Type	Pack.	Weight	Item No.
	pcs	kg/100 pcs.	
GKT 38 VA4301	100	2.200	6017 04 5
GKT 38 VA4401 SP	10	2.200	6017 09 2
V2A Stainless steel, 1.4301 V4A Stainless steel 1.4401			/pc.

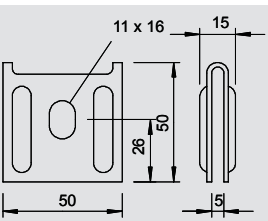
Clamp for fastening barrier strip in mesh cable trays.



Wall and floor fastener

Type	Pack.	Weight	Item No.
	pcs	kg/100 pcs.	
K12 1818 VA4301	25	7.600	6016 42 1
V2A Stainless steel, 1.4301			/pc.

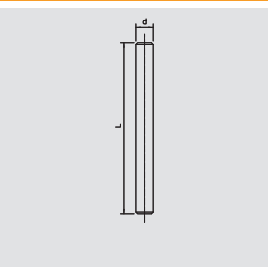
Wall and floor fastener for mesh cable trays.



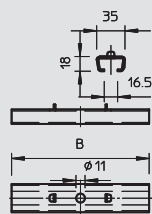
Threaded rod

Type	Thread	Dimen- sion d mm	Dimen- sion L mm	Breaking load kN	Pack.	Weight	Item No.
					pcs	kg/100 pcs.	
2078 M8 VA	M8	8	1000	18.3	50	30.000	3141 31 0
2078 M10 VA	M10	10	1000	29	25	49.000	3141 31 2
2078 M12 VA	M12	12	1000	42.2	20	70.000	3141 31 4
V2A Stainless steel, 1.4301							/100 pc.

Threaded rod to DIN 976.



Mesh cable tray systems

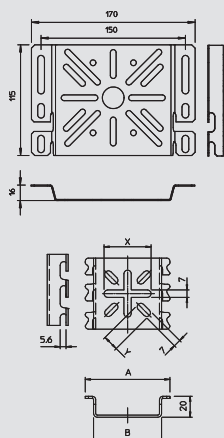
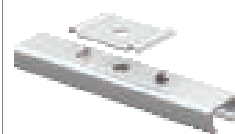


Central suspension

Type	Dimension B mm	Pack.	Weight	Item No.
		pcs	kg/100 pcs.	
GMS 170 VA4401	170	25	20.000	6015 41 8
GMS 270 VA4401	270	25	32.000	6015 41 9
GMS 370 VA4401	370	25	43.000	6015 42 0
GMS 470 VA4401	470	10	55.000	6015 42 1
GMS 570 VA4401	570	10	67.000	6015 42 2

V4A Stainless steel, 1.4401 /pc.

Central suspension including clamp for mesh cable tray suspensions.



Mounting plate

Type	Height mm	Width mm	Pack.	Weight	Item No.
			pcs	kg/100 pcs.	
MP UNI VA4301	115	170	40	13.300	7085 13 3

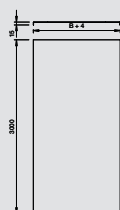
V2A Stainless steel, 1.4301 /pc.

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

Type	Dimension A mm	Dimension B mm	Dimension x mm	Dimension y mm	Pack.	Weight	Item No.
					pcs	kg/100 pcs.	
MPG 65 VA4404	81	65	45	15	30	8.800	6006 48 8
MPG 90 VA4404	111	95	45	38	30	16.100	6006 48 9

V4A Stainless steel, 1.4404 /pc.

Mounting plate for screwless fastening on mesh cable trays.



Unperforated cover

Type	Width mm	Plate thickness mm	Length mm	Weight	Item No.
				kg/100 m	
DRLU 050 VA4301	50	1	3000	60.000	6052 82 1
DRLU 100 VA4301	100	1	3000	104.000	6052 82 4
DRLU 150 VA4301	150	1	3000	138.200	6052 82 8
DRLU 200 VA4301	200	1	3000	178.000	6052 83 1
DRLU 300 VA4301	300	1	3000	256.000	6052 83 4
DRLU 400 VA4301	400	1	3000	334.400	6052 83 7
DRLU 500 VA4301	500	1.25	3000	516.100	6052 84 1
DRLU 600 VA4301	600	1.25	3000	614.300	6052 84 4

V2A Stainless steel, 1.4301 /m

Cover for cable trays and mesh cable trays.

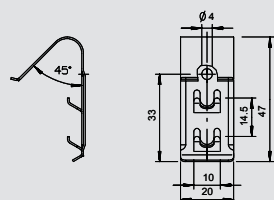
Take appropriate constructive protection measures if there are high wind speeds.

Type	Width mm	Plate thickness mm	Length mm	Weight	Item No.
				kg/100 m	
DRLU 100 VA4571	100	1	3000	99.000	6052 99 1
DRLU 200 VA4571	200	1	3000	178.000	6052 99 3
DRLU 300 VA4571	300	1	3000	256.000	6052 99 4
DRLU 400 VA4571	400	1	3000	334.400	6052 99 5
DRLU 500 VA4571	500	1.25	3000	516.100	6052 99 6
DRLU 600 VA4571	600	1.25	3000	614.300	6052 99 8

V4A Stainless steel, 1.4571 /m

Cover for cable trays and mesh cable trays.

Take appropriate constructive protection measures if there are high wind speeds.



Cover clamp

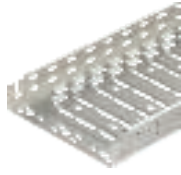
Type	Pack.	Weight	Item No.
	pcs	kg/100 pcs.	
DKU 60 VA4310	60	0.650	6065 60 0
DKU 120 VA4310	120	0.650	6065 61 0

V2A Stainless steel 1.4310 /100 pc.

Cover clamp for universal fastening of covers on cable trays, mesh cable trays and AZ small ducts.



Cable tray systems

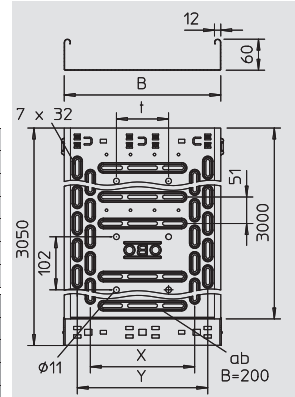


RKSM cable tray

Type	Width mm	Plate thickness mm	Length mm	Useful cross- section cm ²	Dimen- sion x mm	Dimen- sion y mm	Dimen- sion t mm	Weight kg/100 m	Item No.
RKSM 610 VA4301	100	0.75	3050	58	—	50	—	134.300	6047 61 3
RKSM 615 VA4301	150	0.75	3050	88	50	100	—	157.700	6047 63 2
RKSM 620 VA4301	200	0.75	3050	118	100	150	—	183.000	6047 64 0
RKSM 630 VA4301	300	0.75	3050	178	200	250	100	239.000	6047 65 6
RKSM 640 VA4301	400	0.9	3050	238	300	350	200	331.300	6047 69 1
RKSM 650 VA4301	500	0.9	3050	298	400	450	300	392.300	6047 72 1
RKSM 660 VA4301	600	0.9	3050	358	450	550	400	453.330	6047 73 7
RKSM 610 VA4571	100	0.75	3050	58	—	50	—	134.300	6047 61 4
RKSM 615 VA4571	150	0.75	3050	88	50	100	—	157.700	6047 63 3
RKSM 620 VA4571	200	0.75	3050	118	100	150	—	183.000	6047 64 1
RKSM 630 VA4571	300	0.75	3050	178	200	250	100	239.000	6047 65 7
RKSM 640 VA4571	400	0.9	3050	238	300	350	200	331.300	6047 69 2
RKSM 650 VA4571	500	0.9	3050	298	400	450	300	392.300	6047 72 2
RKSM 660 VA4571	600	0.9	3050	358	450	550	400	453.330	6047 73 8

V2A Stainless steel, 1.4301 V4A Stainless steel, 1.4571 Stained /m

RKSM 60 = efficient magic cable tray system with 60 mm side height.
Magnetic shield insulation without cover 20 dB, with cover 50 dB.

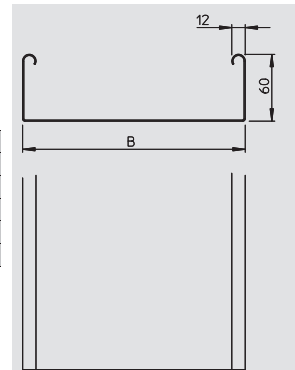


MKSU cable tray

Type	Width mm	Plate thickness mm	Length mm	Useful cross- section cm ²	Weight kg/100 m	Item No.
MKSU 610 VA4301	100	0.8	3000	58	154.000	6063 77 2
MKSU 620 VA4301	200	0.8	3000	118	217.000	6063 78 0
MKSU 630 VA4301	300	0.8	3000	178	280.000	6063 79 9
MKSU 640 VA4301	400	1	3000	238	426.000	6063 84 5
MKSU 650 VA4301	500	1	3000	298	520.000	6063 86 1
MKSU 660 VA4301	600	1	3000	358	601.000	6063 88 8

V2A Stainless steel, 1.4301 /m

MKSU 60 = Medium-duty cable tray system, unperforated, with a side height of 60 mm.
Magnetic shield insulation without cover 20 dB, with cover 50 dB.

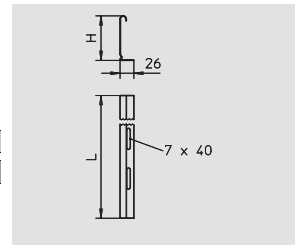


Separating retainer

Type	Dimen- sion H mm	Dimen- sion L mm	Pack. m	Weight kg/100 m	Item No.
TSG 60 VA4301	60	3000	45	0.000	6062 08 4
TSG 60 VA4571	60	3000	45	0.000	6062 08 6

V2A Stainless steel, 1.4301 V4A Stainless steel, 1.4571 /m

Barrier strip for separation of cables of different voltages or functions.



Connector for divider strip

Type	Pack. pcs	Weight kg/100 pcs.	Item No.
TSGV VA4310	10	1.000	6067 97 0

V2A Stainless steel 1.4310 /pc.

Barrier strip connector for screwless connection of the TSG barrier strip in all side heights.

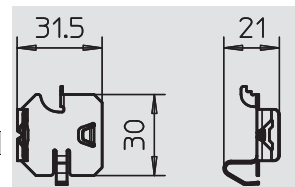


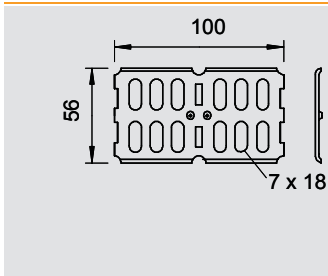
Clamping piece for separating retainer fastening

Type	Pack. pcs	Weight kg/100 pcs.	Item No.
KS KR VA4310	30	0.580	6062 28 0

V2A Stainless steel 1.4310 /100 pc.

Clamping piece for screwless fastening of barrier strips in the cable tray types RKSM, MKS and SKS.

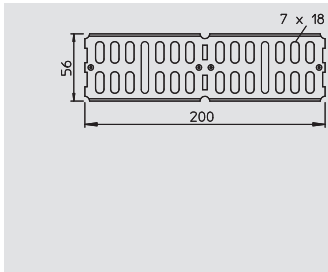
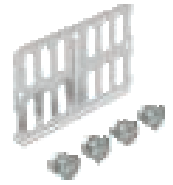




Straight connector

Type	Side height mm	Pack.	Weight	Item No.
		pcs	kg/100 pcs.	
RLVK 60 VA4301	60	10	8.800	6067 65 4
RLVK 60 VA4571	60	10	9.000	6067 67 5

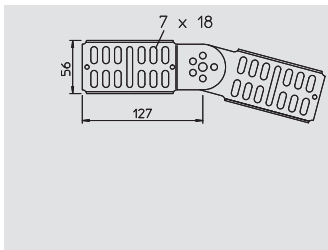
V2A Stainless steel, 1.4301 V4A Stainless steel, 1.4571 /pc.
Straight connector for connections of cable trays, fittings and barrier strips with a side height of 60 mm.



Angle connector

Type	Side height mm	Pack.	Weight	Item No.
		pcs	kg/100 pcs.	
RWVL 60 VA4301	60	10	17.500	6067 66 2
RWVL 60 VA4571	60	10	17.500	6067 66 4

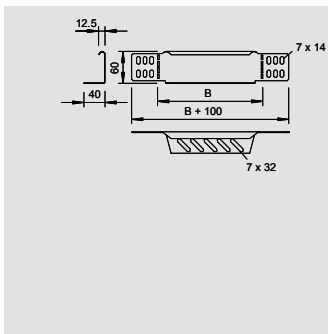
V2A Stainless steel, 1.4301 V4A Stainless steel, 1.4571 /pc.
Straight and angle connector for cable trays, fittings and barrier strips with a side height of 60 mm.



Articulated connector

Type	Side height mm	Pack.	Weight	Item No.
		pcs	kg/100 pcs.	
RGV 60 VA4301	60	10	24.000	7082 25 8
RGV 60 VA4571	60	10	25.000	7082 26 5

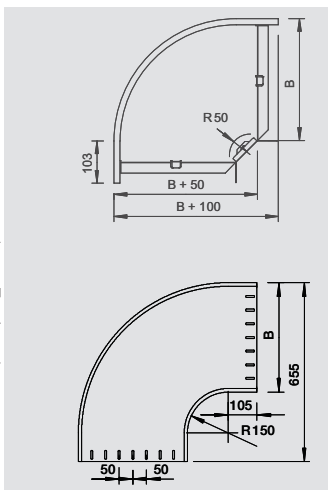
V2A Stainless steel, 1.4301 V4A Stainless steel, 1.4571 /pc.
Adjustable connector for cable trays and barrier strips with a side height of 60 mm.



Reducer bracket and end closure

Type	Width mm	Pack.	Weight	Item No.
		pcs	kg/100 pcs.	
RWEB 610 VA4301	100	1	9.000	7109 81 4
RWEB 620 VA4301	200	1	18.000	7109 83 0
RWEB 630 VA4301	300	1	26.000	7109 85 7
RWEB 640 VA4301	400	1	34.000	7109 87 3
RWEB 650 VA4301	500	1	42.000	7109 90 3
RWEB 660 VA4301	600	1	49.000	7109 93 8

V2A Stainless steel, 1.4301 /pc.
Reducer / stop-end for cable trays with side height 60 mm.



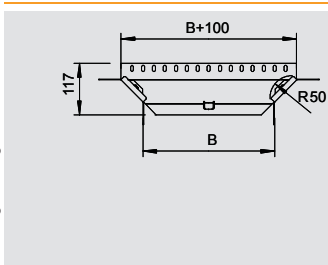
90° bends

Type	Width mm	Pack.	Weight	Item No.
		pcs	kg/100 pcs.	
RB90 610 VA4301	100	1	125.000	7134 12 2
RB90 620 VA4301	200	1	95.000	7134 13 0
RB90 630 VA4301	300	1	150.000	7134 13 8

V2A Stainless steel, 1.4301 /pc.
90° bend, horizontal, for all cable tray types of 60 mm side height.

Type	Width mm	Pack.	Weight	Item No.
		pcs	kg/100 pcs.	
RB90 640VA4301	400	1	500.000	7134 23 1
RB90 650VA4301	500	1	650.000	7134 25 8
RB90 660VA4301	600	1	825.000	7134 26 6

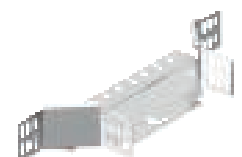
V2A Stainless steel, 1.4301 /pc.
90° bend, horizontal and unperforated, for all cable tray types of 60 mm side height.



Mounting/branch piece

Type	Width mm	Pack.	Weight	Item No.
		pcs	kg/100 pcs.	
RAA 610 VA4301	100	1	43.000	7136 12 0
RAA 620 VA4301	200	1	40.000	7136 13 3
RAA 630 VA4301	300	1	50.000	7136 14 1

V2A Stainless steel, 1.4301 /pc.
Add-on tee for horizontal and vertical use. For all cable tray types of 60 mm side height.



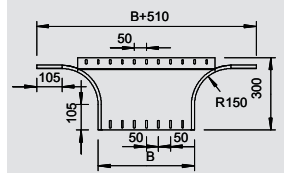
Cable tray systems



Mounting/branch piece

Type	Width mm	Pack. pcs	Weight kg/100 pcs.	Item No.
RAAU 650 VA4301	500	1	255.000	7136 25 0
RAAU 660 VA4301	600	1	285.000	7136 26 9

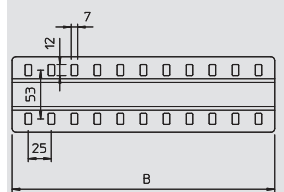
V2A Stainless steel, 1.4301 /pc.
Add-on tee, unperforated, for horizontal and vertical use. For all cable tray types of 60 mm side height.



Joint plate

Type	Width mm	Quantity of bolts pc.	Pack. pcs	Weight kg/100 pcs.	Item No.
SSLB 200 VA4301	185	2	20	16.700	7070 36 1
SSLB 300 VA4301	285	3	20	25.700	7070 36 5
SSLB 400 VA4301	385	4	20	34.700	7070 36 9
SSLB 500 VA4301	485	5	20	43.700	7070 37 3
SSLB 600 VA4301	585	6	20	52.700	7070 38 1
SSLB 100 VA4571	85	2	20	7.700	7070 39 0
SSLB 200 VA4571	185	2	20	16.700	7070 39 2
SSLB 300 VA4571	285	3	20	25.700	7070 39 4
SSLB 400 VA4571	385	4	20	34.700	7070 39 6
SSLB 500 VA4571	485	5	20	43.700	7070 39 8
SSLB 600 VA4571	585	6	20	52.700	7070 40 0

V2A Stainless steel, 1.4301 V4A Stainless steel, 1.4571 /pc.
Wide joint plate for use in all cable trays and wide span cable trays.



Unperforated cover

Type	Width mm	Plate thickness mm	Length mm	Weight kg/100 m	Item No.
DRLU 100 VA4301	100	1	3000	104.000	6052 82 4
DRLU 150 VA4301	150	1	3000	138.200	6052 82 8
DRLU 200 VA4301	200	1	3000	178.000	6052 83 1
DRLU 300 VA4301	300	1	3000	256.000	6052 83 4
DRLU 400 VA4301	400	1	3000	334.400	6052 83 7
DRLU 500 VA4301	500	1.25	3000	516.100	6052 84 1
DRLU 600 VA4301	600	1.25	3000	614.300	6052 84 4

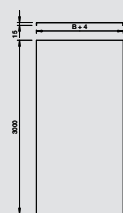
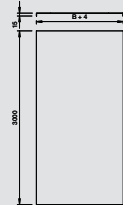
V2A Stainless steel, 1.4301 /m
Cover for cable trays and mesh cable trays.

Take appropriate constructive protection measures if there are high wind speeds.

Type	Width mm	Plate thickness mm	Length mm	Weight kg/100 m	Item No.
DRLU 200 VA4571	200	1	3000	178.000	6052 99 3
DRLU 300 VA4571	300	1	3000	256.000	6052 99 4
DRLU 400 VA4571	400	1	3000	334.400	6052 99 5
DRLU 500 VA4571	500	1.25	3000	516.100	6052 99 6
DRLU 600 VA4571	600	1.25	3000	614.300	6052 99 8

V4A Stainless steel, 1.4571 /m
Cover for cable trays and mesh cable trays.

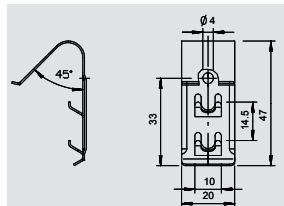
Take appropriate constructive protection measures if there are high wind speeds.

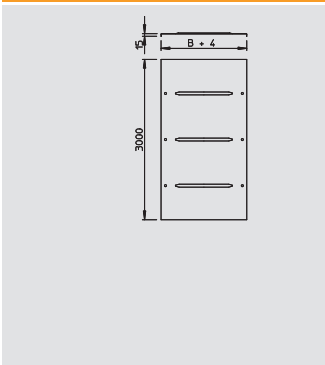


Cover clamp, universal

Type	Pack. pcs	Weight kg/100 pcs.	Item No.
DKU 120 VA4310	120	0.650	6065 61 0

V2A Stainless steel 1.4310 /100 pc.
Cover clamp for universal fastening of covers on cable trays, mesh cable trays and AZ small ducts.



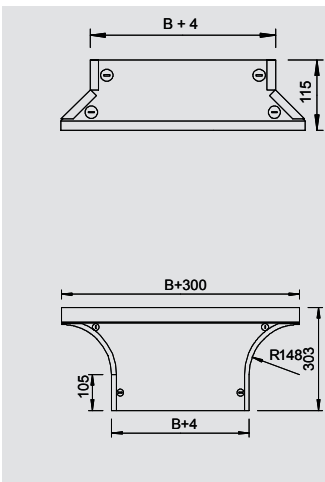


Cover with sash lock

Type	Width mm	Plate thickness mm	Length mm	Weight kg/100 m	Item No.
DRL 100 VA4301	100	1	3000	105.000	6052 87 8
DRL 200 VA4301	200	1	3000	185.000	6052 89 4
DRL 300 VA4301	300	1	3000	264.000	6052 90 8
DRL 400 VA4301	400	1	3000	340.000	6052 93 2
DRL 500 VA4301	500	1.25	3000	625.000	6052 95 9
DRL 600 VA4301	600	1.25	3000	745.000	6052 97 5

V2A Stainless steel, 1.4301 /m

Cover for cable trays and cable ladders with three pairs of turn-buckles.
Ensure protective measures for construction if there are high wind speeds.



Cover for mounting/branch piece

Type	Width mm	Plate thickness mm	Pack. pcs	Weight kg/100 pcs.	Item No.
DFAA 100 VA4301	100	1	1	52.500	7136 90 0
DFAA 200 VA4301	200	1	1	72.000	7136 91 9
DFAA 300 VA4301	300	1	1	92.000	7136 92 7

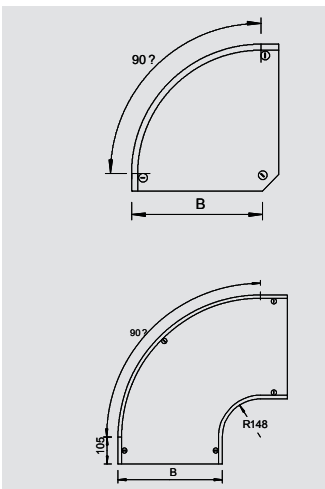
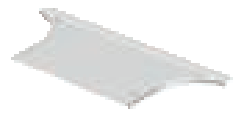
V2A Stainless steel, 1.4301 /pc.

Cover for add-on tee with pre-mounted turn-buckles.

Type	Width mm	Plate thickness mm	Pack. pcs	Weight kg/100 pcs.	Item No.
DFAA 400 VA4301	400	1.25	1	111.500	7136 93 5
DFAA 500 VA4301	500	1.25	1	159.000	7136 94 3
DFAA 600 VA4301	600	1.25	1	183.500	7136 97 8

V2A Stainless steel, 1.4301 /pc.

Cover for add-on tee with pre-mounted turn-buckles.



Cover for 90° bend

Type	Width mm	Plate thickness mm	Pack. pcs	Weight kg/100 pcs.	Item No.
DFB 90 100VA4301	100	1	1	70.000	7134 90 8
DFB 90 200VA4301	200	1	1	130.000	7134 91 6
DFB 90 300VA4301	300	1	1	195.000	7134 92 4

V2A Stainless steel, 1.4301 /pc.

Cover for 90° bend with pre-mounted turn-buckles.

Type	Width mm	Plate thickness mm	Pack. pcs	Weight kg/100 pcs.	Item No.
DFB 90 400VA4301	400	1.25	1	275.000	7134 93 2
DFB 90 500VA4301	500	1.25	1	470.000	7134 94 0
DFB 90 600VA4301	600	1.25	1	607.000	7134 96 7

V2A Stainless steel, 1.4301 /pc.

Cover for 90° bend with pre-mounted turn-buckles.



Cable ladder and ladder systems



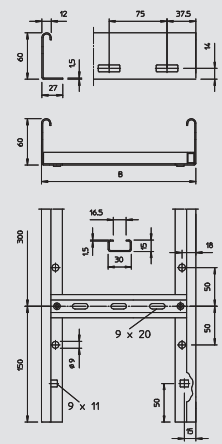
Cable ladder LG 60

Type	Width mm	Rail thickness mm	Length mm	Weight kg/100 m	Item No.
LG 620 VS VA4301	200	1.5	6000	273.800	6208 70 0
LG 630 VS VA4301	300	1.5	6000	298.000	6208 70 3
LG 640 VS VA4301	400	1.5	6000	322.200	6208 70 6
LG 650 VS VA4301	500	1.5	6000	346.300	6208 70 9
LG 660 VS VA4301	600	1.5	6000	378.300	6208 71 2
LG 620 VS VA4571	200	1.5	6000	273.800	6101 20 0
LG 630 VS VA4571	300	1.5	6000	298.000	6101 20 8
LG 640 VS VA4571	400	1.5	6000	322.200	6101 21 6
LG 650 VS VA4571	500	1.5	6000	346.300	6101 22 3
LG 660 VS VA4571	600	1.5	6000	378.300	6101 23 2

V2A Stainless steel, 1.4301 V4A Stainless steel, 1.4571 /m

Cable ladder with perforated side rail of side height 60 mm with riveted C profile rungs, open in an upwards direction (VS version).

Magnetic shield insulation without cover 10 dB, with cover 15 dB.

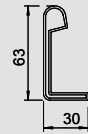


Protective cap

Type	Colour	Pack. pair	Weight kg/100 pairs	Item No.
SKH 60 OR	Pastel orange	40	1.100	6222 53 7

PE Polyethylene /pair

Protective cap to cover cable ladder ends of side height 60 mm.

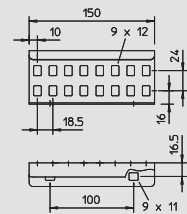


Straight connector

Type	Side height mm	Pack. pcs	Weight kg/100 pcs.	Item No.
LVG 60 VA4301	60	20	22.000	6208 84 6
LVG 60 VA4571	60	20	22.000	6208 83 5

V2A Stainless steel, 1.4301 V4A Stainless steel, 1.4571 Bright /pc.

Straight connector as external connector to connect cable ladders and fittings with a side height of 60 mm and continuous rail perforation.

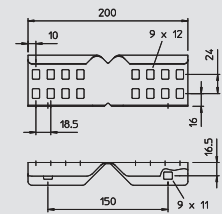


Angle connector

Type	Side height mm	Pack. pcs	Weight kg/100 pcs.	Item No.
LWVG 60 VA4301	60	20	24.000	6208 89 8
LWVG 60 VA4571	60	20	22.000	6208 89 1

V2A Stainless steel, 1.4301 V4A Stainless steel, 1.4571 Bright /pc.

Angle connector as external connector to join cable ladders and fittings with a side height of 60 mm and continuous rail perforation.

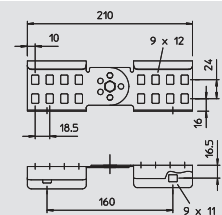


Articulated connector

Type	Side height mm	Pack. pcs	Weight kg/100 pcs.	Item No.
LGVG 60 VA4301	60	10	29.000	6208 94 7
LGVG 60 VA4571	60	10	29.000	6208 93 2

V2A Stainless steel, 1.4301 V4A Stainless steel, 1.4571 Bright /pc.

Adjustable connector as external connector to join cable ladders and fittings with a side height of 60 mm and continuous rail perforation. Angle can be adjusted vertically.

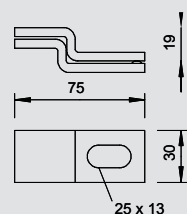


Wall strap

Type	Pack. pcs	Weight kg/100 pcs.	Item No.
WB 30 75 VA4301	10	20.000	6019 66 8

V2A Stainless steel, 1.4301 /pc.

Wall bracket for fastening vertical ladders, type LG 60, to concrete walls and masonry.



Wide span systems

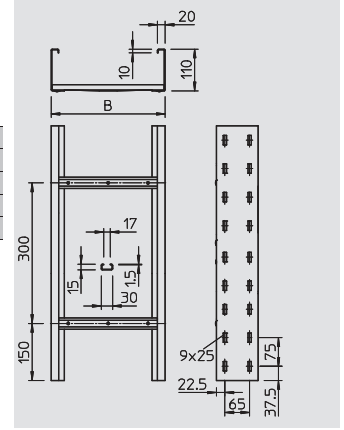


Wide span cable ladder

Type	Width mm	Plate thickness mm	Length mm	Useful cross- section cm ²	Weight kg/100 m	Item No.
WKLG 1120 VA4301	200	2	6000	186	567.000	6311 20 2
WKLG 1130 VA4301	300	2	6000	281	593.000	6311 20 6
WKLG 1140 VA4301	400	2	6000	376	620.000	6311 21 0
WKLG 1150 VA4301	500	2	6000	471	630.000	6311 21 4
WKLG 1160 VA4301	600	2	6000	566	674.000	6311 21 8

V2A Stainless steel, 1.4301 /m

WKLG 110 = wide span cable ladder with perforated side rails of side height of 110 mm.
Magnetic shield insulation without cover 10 dB, with cover 15 dB.

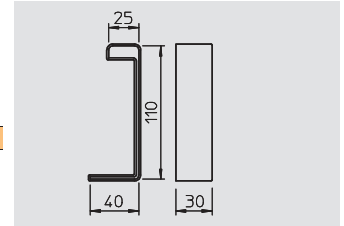


Protective cap

Type	Colour	Pack. pair	Weight kg/100 pairs	Item No.
SKHW 110 OR	Pastel orange	20	4.400	6310 39 8

PE Polyethylene /pair

Protective cap to cover the ends of wide span cable ladders.

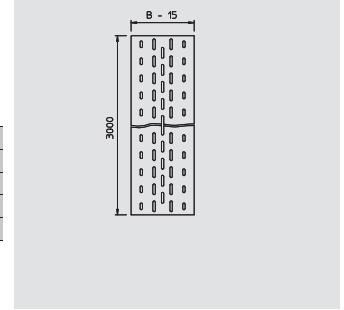


Insert plate

Type	Width mm	Length mm	Weight kg/100 m	Item No.
ELB-L20 VA4301	200	3000	132.000	6103 61 4
ELB-L30 VA4301	300	3000	199.000	6103 61 8
ELB-L40 VA4301	400	3000	264.000	6103 62 2
ELB-L50 VA4301	500	3000	330.000	6103 62 6
ELB-L60 VA4301	600	3000	395.000	6103 63 0

V2A Stainless steel, 1.4301 /m

Insert plate for use in cable ladders.

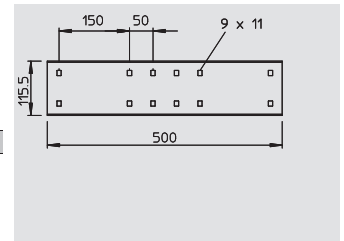


Straight connector

Type	Side height mm	Pack. pcs	Weight kg/100 pcs.	Item No.
WRVL 110 VA4301	110	2	143.000	6091 22 9

V2A Stainless steel, 1.4301 /pc.

Straight connector for connections of cable trays, wide span cable trays and ladders with a side height of 110 mm.

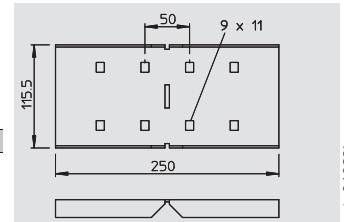


Angle connector

Type	Side height mm	Pack. pcs	Weight kg/100 pcs.	Item No.
WRWVK 110 VA4301	110	2	90.000	6091 39 3

V2A Stainless steel, 1.4301 /pc.

Angle connector for wide span cable trays and ladders with a side height of 110 mm.

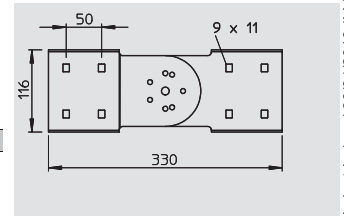


Articulated connector

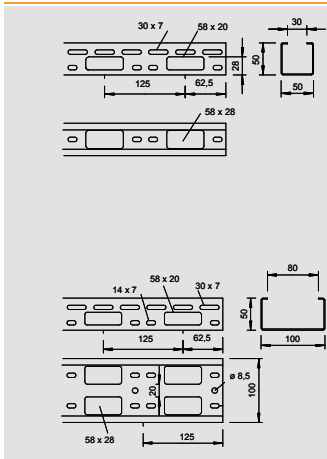
Type	Side height mm	Pack. pcs	Weight kg/100 pcs.	Item No.
WRGV 110 VA4301	110	2	120.000	6091 33 8

V2A Stainless steel, 1.4301 /pc.

Adjustable connector for wide span cable trays and ladders with a side height of 110 mm.



AZ small duct and accessories



AZ small duct

Type	Width mm	Plate thickness mm	Length mm	Weight kg/100 m	Item No.
AZK 050 VA4301	50	1.5	3000	148.000	6075 15 0

V2A Stainless steel, 1.4301 /m

AZ channel with a side height of 50 mm.

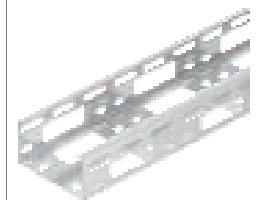
Magnetic shield insulation without cover 20 dB, with cover 50 dB.

Type	Width mm	Plate thickness mm	Length mm	Weight kg/100 m	Item No.
AZK 100 VA4301	100	1.5	3000	180.000	6075 30 4

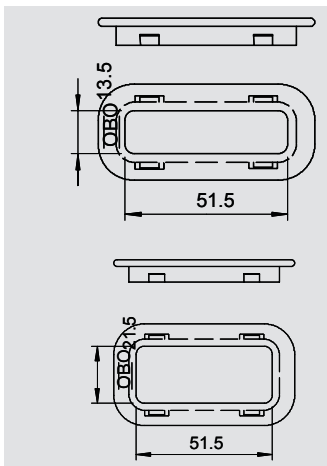
V2A Stainless steel, 1.4301 /m

AZ channel with a side height of 50 mm.

Magnetic shield insulation without cover 20 dB, with cover 50 dB.



Cable routing



Cable protection ring

Type	Colour	For perforation mm	Pack. pcs	Weight kg/100 pcs.	Item No.
KSR-910 PE	Light grey	20 x 58	25	0.450	6066 71 2

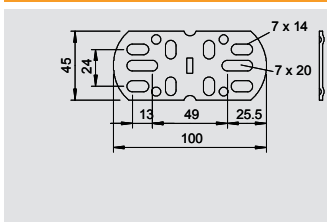
PE Polyethylene /pc.

Cable protection ring for bottom penetrations in cable trays of type DKS, IKS and for side penetrations in AZ channels and luminaire support trays.

Type	Colour	For perforation mm	Pack. pcs	Weight kg/100 pcs.	Item No.
KSR-915 PE	Light grey	28 x 58	25	0.460	6066 70 4

PE Polyethylene /pc.

Cable protection ring for bottom penetrations in AZ channels and luminaire support trays.

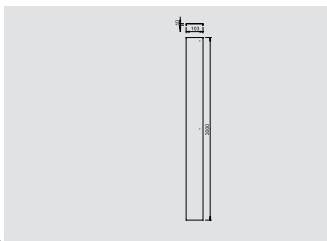


Straight and angle connector

Type	Pack. pcs	Weight kg/100 pcs.	Item No.
VF AZK VA4301	10	7.500	6066 56 9

V2A Stainless steel, 1.4301 /pc.

Straight and angle connector for connection of AZ channels.



Cover with sash lock

Type	Width mm	Dimension H mm	Length mm	Weight kg/100 m	Item No.
AZDMD 50 VA4301	53	10	3000	57.300	6080 19 7
AZDMD 100 VA4301	103	10	3000	115.000	6080 29 4

V2A Stainless steel, 1.4301 /m

Cover with turn-buckle for AZ channel.



Mounting systems

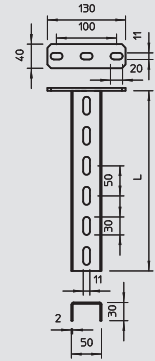
Cable routing



US 3 suspended support

Type	Length mm	Material thickness mm	Tensile load kN	Pack. pcs	Weight kg/100 pcs.	Item No.
US 3 K 20VA4301	200	2	5	1	44.000	6342 40 1
US 3 K 30VA4301	300	2	5	1	58.000	6342 40 3
US 3 K 40VA4301	400	2	5	4	71.000	6342 40 5
US 3 K 50VA4301	500	2	5	1	84.000	6342 40 7
US 3 K 60VA4301	600	2	5	1	97.000	6342 40 9
US 3 K 70VA4301	700	2	5	1	110.000	6342 41 1
US 3 K 80VA4301	800	2	5	1	123.000	6342 41 3
US 3 K 90VA4301	900	2	5	1	137.000	6342 41 5
US 3 K 100VA4301	1000	2	5	1	150.000	6342 41 7
US 3 K 20VA4571	200	2	5	1	44.000	6342 37 5
US 3 K 30VA4571	300	2	5	1	58.000	6342 53 0
US 3 K 40VA4571	400	2	5	4	71.000	6342 37 9
US 3 K 50VA4571	500	2	5	1	84.000	6342 38 1
US 3 K 60VA4571	600	2	5	1	97.000	6342 38 9
US 3 K 70VA4571	700	2	5	1	110.000	6342 39 1
US 3 K 80VA4571	800	2	5	1	123.000	6342 39 3
US 3 K 90VA4571	900	2	5	1	137.000	6342 39 5
US 3 K 100VA4571	1000	2	5	1	150.000	6342 39 7

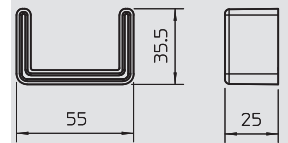
V2A Stainless steel, 1.4301 V4A Stainless steel, 1.4571 Stained /pc.
Suspended support (U profile) of dimensions 50 x 30 mm with welded head plate.



Protective cap

Type	Colour	Pack. pcs	Weight kg/100 pcs.	Item No.
US 3 KS OR	Pastel orange	20	1.070	6338 45 8

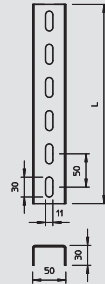
PE Polyethylene /pc.
Protective cap to cover the ends of US 3 supports.



US 3 support

Type	Length mm	Material thickness mm	Pack. pcs	Weight kg/100 pcs.	Item No.
US 3 30 VA4301	300	2	1	39.500	6342 45 5
US 3 50 VA4301	500	2	1	65.800	6342 45 7
US 3 100 VA4301	1000	2	1	131.700	6342 46 0
US 3 150 VA4301	1500	2	1	197.500	6342 46 3
US 3 200 VA4301	2000	2	1	263.300	6342 46 6
US 3 600 VA4301	6000	2	1	789.900	6342 46 8
US 3 30 VA4571	300	2	1	39.500	6342 48 5
US 3 50 VA4571	500	2	1	65.800	6342 48 8
US 3 100 VA4571	1000	2	1	131.700	6342 49 1
US 3 150 VA4571	1500	2	1	197.500	6342 49 4
US 3 200 VA4571	2000	2	1	263.300	6342 49 7
US 3 600 VA4571	6000	2	1	789.900	6342 50 5

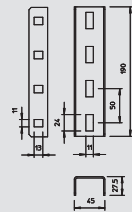
V2A Stainless steel, 1.4301 V4A Stainless steel, 1.4571 Stained /pc.
U support in fixed lengths. Dimensions 30 x 50 mm.



U support connector

Type	Pack. pcs	Weight kg/100 pcs.	Item No.
VUS 3 VA4301	10	25.600	6018 51 7
VUS 3 VA4571	10	48.000	6018 52 0

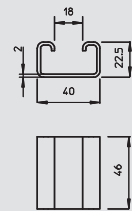
V2A Stainless steel, 1.4301 V4A Stainless steel, 1.4571 Stained /pc.
U support connector to connect US 3 supports.

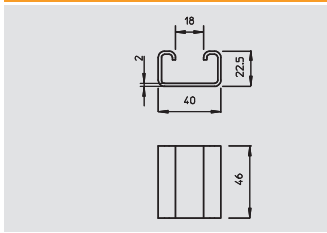


Spacer

Type	Box quantity pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
DSK 25 VA4301	25	25	7.500	6416 44 8

V2A Stainless steel, 1.4301 Stained /pc.
Spacer for use in U 3 supports.

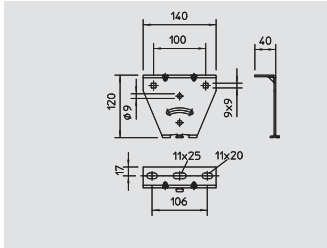




Spacer

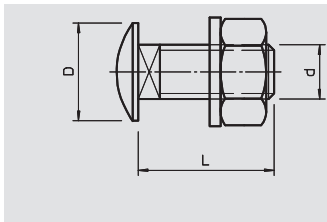
Type	Box quantity pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
DSK 25 VA4571	25	25	7.500	6416 45 0
V4A Stainless steel, 1.4571				/pc.

Spacer for use in U supports.



Head plate, variable

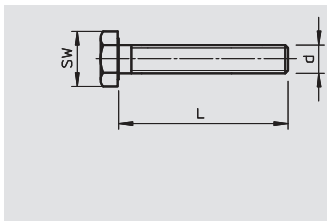
Type	Pack. pcs	Weight kg/100 pcs.	Item No.
KU 3 V VA4301	20	26.700	6348 88 4
KU 3 V VA4571	20	26.700	6348 88 5
V2A Stainless steel, 1.4301		V4A Stainless steel, 1.4571	Stained
Head plate for installation on US 3 supports and profile rails, type 2068.			



Truss-head bolt

Type	Dimension mm	Dimension L mm	Dimension d mm	Dimension D mm	Pack. pcs	Weight kg/100 pcs.	Item No.
FRS 10X25 VA4301	M10 x 25	25	10	24	50	4.500	6406 71 8
V2A Stainless steel, 1.4301							/100 pc.

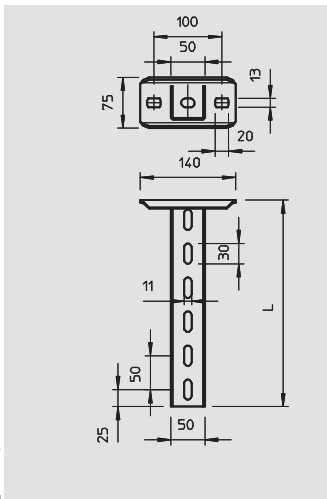
Truss-head bolt with square neck including washer and hexagonal nut.



Hexagonal bolt

Type	Dimension mm	Dimension L mm	Dimension d mm	SW mm	Pack. pcs	Weight kg/100 pcs.	Item No.
SKS 10X80 VA4401	M10 x 80	80	10	17	20	7.800	6418 24 8
V4A Stainless steel 1.4401							/pc.

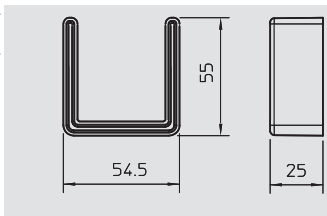
Hexagonal bolt for universal fastening of construction components.



US 5 suspended support

Type	Length mm	Material thickness mm	Pack. pcs	Weight kg/100 pcs.	Item No.
US 5 K 20 VA4301	200	2.5	1	82.000	6341 35 8
US 5 K 30 VA4301	300	2.5	2	106.000	6341 36 2
US 5 K 40 VA4301	400	2.5	1	131.000	6341 36 6
US 5 K 50 VA4301	500	2.5	1	155.000	6341 37 0
US 5 K 100VA4301	1000	2.5	1	279.000	6341 39 0
US 5 K 120VA4301	1200	2.5	1	328.000	6341 39 8
US 5 K 20 VA4571	200	2.5	1	82.000	6341 20 9
US 5 K 30 VA4571	300	2.5	2	106.000	6341 21 3
US 5 K 40 VA4571	400	2.5	1	131.000	6341 21 7
US 5 K 50 VA4571	500	2.5	1	155.000	6341 22 1
US 5 K 100VA4571	1000	2.5	1	279.000	6341 24 1
US 5 K 120VA4571	1200	2.5	1	328.000	6341 24 9
V2A Stainless steel, 1.4301		V4A Stainless steel, 1.4571	Stained		/pc.

U support with welded head plate.
For fastening to horizontal concrete ceilings and steel girders.



Protective cap

Type	Colour	Pack. pcs	Weight kg/100 pcs.	Item No.
US 5 KS OR	Pastel orange	20	1.300	6338 46 2
PE Polyethylene				/pc.

Protective cap for end covering of US 5 supports.



Mounting systems

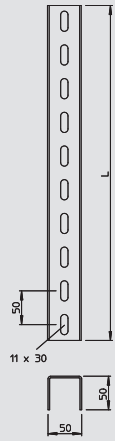
Cable routing



US 5 support

Type	Length	Material thickness	Pack.	Weight	Item No.
	mm	mm		kg/100 pcs.	
US 5 20 VA4301	200	2.5	1	48.000	6341 10 1
US 5 30 VA4301	300	2.5	1	72.000	6341 10 5
US 5 40 VA4301	400	2.5	1	97.000	6341 10 9
US 5 50 VA4301	500	2.5	1	121.000	6341 11 3
US 5 70 VA4301	700	2.5	1	169.000	6341 12 1
US 5 80 VA4301	800	2.5	1	193.000	6341 12 5
US 5 90 VA4301	900	2.5	1	217.000	6341 12 9
US 5 100 VA4301	1000	2.5	1	242.000	6341 13 3
US 5 110 VA4301	1100	2.5	1	266.000	6341 13 7
US 5 120 VA4301	1200	2.5	1	290.000	6341 14 1
US 5 300 VA4301	3000	2.5	1	726.000	6341 15 2
US 5 30 VA4571	300	2.5	1	73.000	6341 05 3
US 5 40 VA4571	400	2.5	1	97.000	6341 05 5
US 5 50 VA4571	500	2.5	1	121.000	6341 05 7
US 5 60 VA4571	600	2.5	1	145.000	6341 05 9
US 5 80 VA4571	800	2.5	1	193.000	6341 06 3
US 5 90 VA4571	900	2.5	1	217.000	6341 06 5
US 5 300 VA4571	3000	2.5	1	726.000	6341 07 3

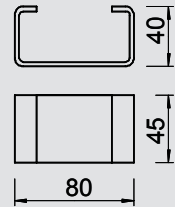
V2A Stainless steel, 1.4301 V4A Stainless steel, 1.4571 /pc.
U support in fixed lengths. Dimensions 50 x 50 mm.



Spacer

Type	Box quantity	Pack.	Weight	Item No.
	pcs	pcs	kg/100 pcs.	
DSK 45 VA4301	25	25	15.000	6416 48 9
DSK 45 VA4571	25	25	15.000	6416 46 2

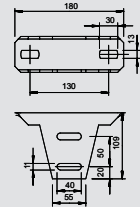
V2A Stainless steel, 1.4301 V4A Stainless steel, 1.4571 /pc.
Spacer for use in U 5 supports.



Head plate

Type	Pack.	Weight	Item No.
	pcs	kg/100 pcs.	
KU 5 V VA4301	1	81.000	6348 92 5
KU 5 V VA4571	1	81.000	6348 92 7

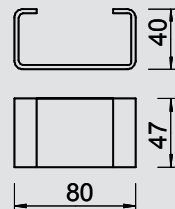
V2A Stainless steel, 1.4301 V4A Stainless steel, 1.4571 Stained /pc.
Variable head plate for installation on US 5 support.



Spacer

Type	Box quantity	Pack.	Weight	Item No.
	pcs	pcs	kg/100 pcs.	
DSK 47 VA4301	25	25	16.000	6416 50 7
DSK 47 VA4571	25	25	16.000	6416 51 1

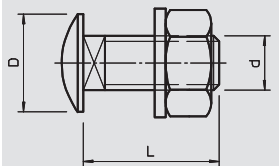
V2A Stainless steel, 1.4301 V4A Stainless steel, 1.4571 /pc.
Spacer for use in head plate, type KU 5 V.



Truss-head bolt

Type	Dimension	Dimension L	Dimension d	Dimension D	Pack.	Weight	Item No.
	mm	mm	mm	mm	pcs	kg/100 pcs.	
FRS 10X25 VA4301	M10 x 25	25	10	24	50	4.500	6406 71 8

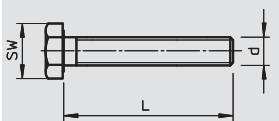
V2A Stainless steel, 1.4301 /100 pc.
Truss-head bolt with square neck including washer and hexagonal nut.



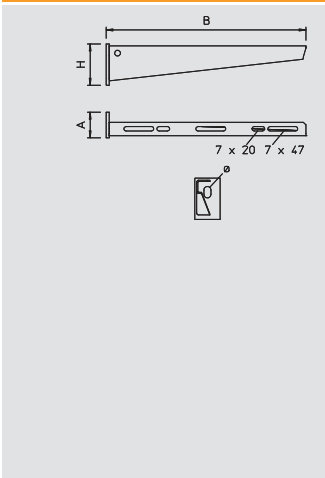
Hexagonal bolt

Type	Dimension	Dimension L	Dimension d	SW	Pack.	Weight	Item No.
	mm	mm	mm	mm	pcs	kg/100 pcs.	
SKS 10X80 VA4401	M10 x 80	80	10	17	20	7.800	6418 24 8

V4A Stainless steel 1.4401 /pc.
Hexagonal bolt for universal fastening of construction components.



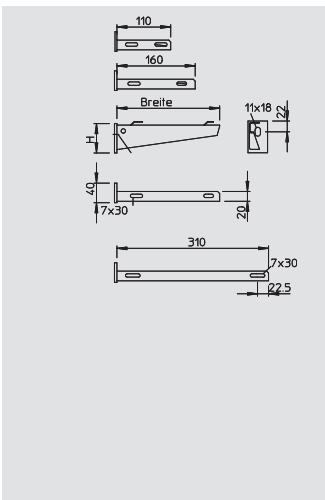
12 LLI Lösungskatalog Lebensmittelindustrie / en / 06/04/2010 (LLExpert_01023)



Wall and support bracket AW 15

Type	Width mm	Dimen- sion H mm	Dimen- sion A mm	Hole Ø mm	F in kN kN	Pack. pcs	Weight kg/100 pcs.	Item No.
AW 15 21 VA4301	210	60	40	11	1.5	30	25.600	6421 02 4
AW 15 31 VA4301	310	65	40	11	1.5	30	32.500	6421 03 2
AW 15 41 VA4301	410	70	40	11	1.5	30	55.000	6421 03 6
AW 15 51 VA4301	510	75	40	11	1.5	20	68.000	6421 04 0
AW 15 61 VA4301	610	80	40	11	1.5	20	85.000	6421 04 4
AW 15 11 VA4571	110	50	40	11	1.5	30	14.100	6392 00 8
AW 15 21 VA4571	210	60	40	11	1.5	30	25.600	6392 01 6
AW 15 31 VA4571	310	65	40	11	1.5	30	35.200	6392 02 4
AW 15 41 VA4571	410	70	40	11	1.5	30	55.000	6392 03 2
AW 15 51 VA4571	510	75	40	11	1.5	20	68.000	6392 04 0
AW 15 61 VA4571	610	80	40	11	1.5	20	85.000	6392 05 9

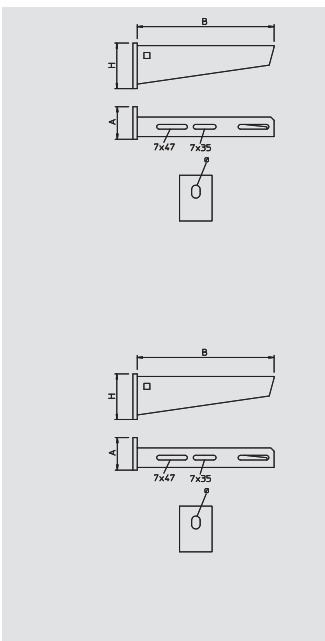
V2A Stainless steel, 1.4301 V4A Stainless steel, 1.4571 Stained /pc.
Light-duty wall and support bracket with welded head plate.



Wall and support bracket AWG 15

Type	Width mm	Dimen- sion H mm	Dimen- sion A mm	Hole Ø mm	F in kN kN	Pack. pcs	Weight kg/100 pcs.	Item No.
AWG 15 21VA4301	210	60	40	11	1.5	30	25.000	6420 62 8
AWG 15 31VA4301	310	65	40	11	1.5	30	33.000	6420 63 1
AWG 15 41VA4301	410	70	40	11	1.5	30	53.000	6420 63 4
AWG 15 51VA4301	510	75	40	11	1.5	20	65.000	6420 63 7
AWG 15 61VA4301	610	80	40	11	1.5	20	80.000	6420 64 0
AWG 15 11 VA4571	110	65	40	11	1.5	30	13.000	6420 64 2
AWG 15 21 VA4571	210	65	40	11	1.5	30	25.000	6420 64 4
AWG 15 31VA4571	310	65	40	11	1.5	30	33.000	6420 64 6
AWG 15 41 VA4571	410	65	40	11	1.5	30	53.000	6420 64 8
AWG 15 51 VA4571	510	65	40	11	1.5	20	65.000	6420 65 0
AWG 15 61 VA4571	610	65	40	11	1.5	20	80.000	6420 65 2

V2A Stainless steel, 1.4301 V4A Stainless steel, 1.4571 Stained /pc.
Light-duty wall and support bracket with welded head plate for screwless mesh cable tray fastening.



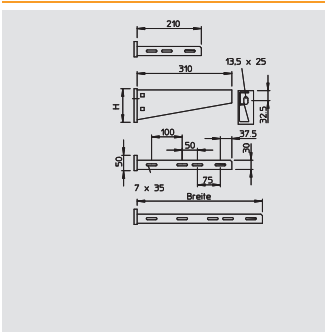
Wall and support bracket AW 30

Type	Width mm	Dimen- sion H mm	Dimen- sion A mm	Hole Ø mm	F in kN kN	Pack. pcs	Weight kg/100 pcs.	Item No.
AW 30 21 VA4301	210	70	50	13	3.0	25	38.200	6442 83 8
AW 30 31 VA4301	310	80	50	13	3.0	25	61.000	6442 85 4
AW 30 41 VA4301	410	80	50	13	3.0	20	86.200	6442 87 0
AW 30 51 VA4301	510	90	50	13	3.0	10	126.000	6442 89 7
AW 30 61 VA4301	610	100	50	13	3.0	10	154.000	6442 91 9

V2A Stainless steel, 1.4301 Stained /pc.
Medium-duty wall and support bracket with welded head plate.

Type	Width mm	Dimen- sion H mm	Dimen- sion A mm	Hole Ø mm	F in kN kN	Pack. pcs	Weight kg/100 pcs.	Item No.
AW 30 21 VA4571	210	70	50	13	3.0	25	38.000	6443 31 1
AW 30 31 VA4571	310	80	50	13	3.0	25	61.000	6443 62 1
AW 30 41 VA4571	410	80	50	13	3.0	20	86.000	6443 34 6
AW 30 51 VA4571	510	90	50	13	3.0	10	126.000	6443 62 5
AW30 56 VA4571	560	100	50	13	3.0	10	142.000	6443 62 6
AW 30 61 VA4571	610	100	50	13	3.0	10	154.000	6443 62 7

V4A Stainless steel, 1.4571 Stained /pc.
Medium-duty wall and support bracket with welded head plate.



Wall and support bracket AW 55

Type	Width mm	Dimen- sion H mm	Dimen- sion A mm	Hole Ø mm	F in kN kN	Pack. pcs	Weight kg/100 pcs.	Item No.
AW 55 31 VA4301	310	110	50	13.5	5.5	1	123.000	6443 06 7
AW 55 41 VA4301	410	130	50	13.5	5.5	1	167.000	6443 07 1
AW 55 51 VA4301	510	145	60	13.5	5.5	1	249.000	6443 07 5
AW 55 61 VA4301	610	165	60	13.5	5.5	1	305.000	6443 07 9
AW 55 71 VA4301	710	195	60	13.5	5.5	1	445.000	6443 08 3

V2A Stainless steel, 1.4301 Stained /pc.
Heavy-duty wall and support bracket with welded head plate.



Mounting systems

Cable routing

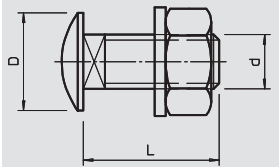


Truss-head bolt

Type	Dimension mm	Dimension L mm	Dimension d mm	Dimension D mm	Pack. pcs	Weight kg/100 pcs.	Item No.
FRSB 6X12 VA4301	M6 x 12	12	6	13.5	100	0.760	6406 52 1
FRSB 6X16 VA4301	M6 x 16	15	6	13.5	100	0.900	6406 55 6
FRSB 6X20 VA4301	M6 x 20	20	6	13.5	100	1.000	6406 60 2
FRS 8X16 VA4301	M8 x 16	16	8	20	50	2.200	6406 69 6
FRS 8X20 VA4301	M8 x 20	20	8	20	50	2.100	6406 80 7
FRS 8X25 VA4301	M8 x 25	25	8	20	50	2.300	6406 81 5
FRS 8X35 VA4301	M8 x 35	35	8	20	50	2.700	6406 82 3
FRS 10X20 VA4301	M10 x 20	20	10	24	50	3.900	6406 86 6
FRS 10X25 VA4301	M10 x 25	25	10	24	50	4.500	6406 71 8
FRS 10X30 VA4301	M10 x 30	30	10	24	50	4.500	6406 72 6
FRS 12X25 VA4301	M12 x 25	25	12	30	25	6.400	6406 75 0
FRS 12X30 VA4301	M12 x 30	30	12	30	25	6.800	6406 76 9
FRS 6X12 VA4401	M6 x 12	12	6	16	100	0.820	6406 56 4
FRS 6X16 VA4401	M6 x 16	16	6	16	100	0.900	6406 58 0
FRS 6X20 VA4401	M6 x 20	20	6	16	100	1.000	6406 61 0
FRS 10X20 VA4401	M10 x 20	20	10	24	50	4.000	6406 87 0
FRS 10X20SVA4401	M10 x 20	20	10	24	50	4.100	6406 87 2
FRS 12X25 VA4401	M12 x 25	25	12	30	25	6.400	6406 78 5

V2A Stainless steel, 1.4301 V4A Stainless steel 1.4401 /100 pc.

Truss-head bolt with square neck including washer and hexagonal nut.

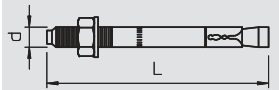


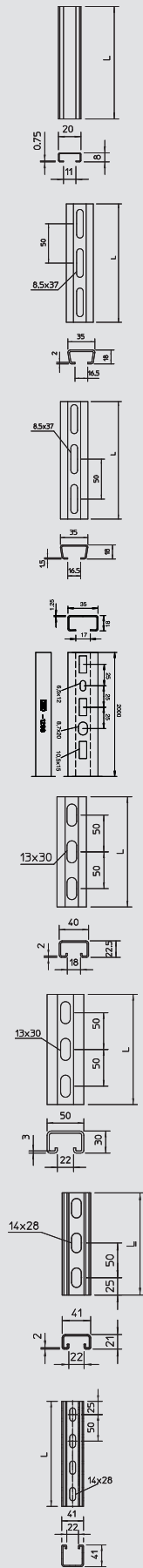
Bolt tie

Type	Thread	Dimension L mm	Dimension d mm	Clamping range mm	Perm. load range, tension zone kN	Pack. pcs	Weight kg/100 pcs.	Item No.
FAZ II 10/10GS V	M 10	90	10	10	3.57	50	7.680	3498 82 4
FAZ II 12/10 VA	M12	103	12	10	4.76	20	10.400	3498 85 9

V4A Stainless steel 1.4401 /100 pc.

Anchor bolt for fastening high loads. Matches OBO mounting systems and wall support brackets and supports.





Profile rails VA

Type	Version	Surface finish	Dimension b x h mm	Material thickness mm	Length mm	Bundle m	Weight kg/100 m	Item No.
2060 2M VA	Unperforated	Bright	20 x 8	0.75	2000	20	23.550	1105 12 5

V2A Stainless steel, 1.4301 Bright /100 m
Profile rail with 11 mm slot width.

Type	Version	Surface finish	Dimension b x h mm	Material thickness mm	Length mm	Bundle m	Weight kg/100 m	Item No.
2063 L 2M VA	Perforated	Bright	35 x 18	2	2000	20	108.000	1112 70 9

V2A Stainless steel, 1.4301 Bright /100 m
Profile rail with 16.5 mm slot width.

Type	Pack.	Weight kg/100 m	Item No.
2068 L 2M VA	20	80.000	1119 70 2
2068 L 6M VA	6	80.000	1119 72 9

V2A Stainless steel, 1.4301 /100 m
Profile rail, perforated, slot width 16.5 mm.

Type	Version	Surface finish	Dimension b x h mm	Material thickness mm	Length mm	Bundle m	Weight kg/100 m	Item No.
1268 L 1M VA	Perforated	Bright	35 x 18	1.25	1000	10	71.000	1104 49 8
1268 L 2M VA	Perforated	Bright	35 x 18	1.25	2000	20	71.000	1104 50 1

V2A Stainless steel, 1.4301 /100 m
Lightweight profile rail, perforated, slot width 17 mm.

Type	Version	Surface finish	Dimension b x h mm	Material thickness mm	Length mm	Pack. m	Weight kg/100 m	Item No.
CPS 4L 2M VA	Perforated	Bright	40 x 22,5	2	2000	10	152.500	1121 96 0
CPS 4L 6M VA	Perforated	Bright	40 x 22,5	2	6000	1	152.500	1121 90 1

V2A Stainless steel, 1.4301 /100 m
Heavy-duty profile rail, perforated, slot width 18 mm.

Type	Version	Surface finish	Dimension b x h mm	Material thickness mm	Length mm	Pack. m	Weight kg/100 m	Item No.
CPS 5 L 2M VA	Perforated	Bright	50 x 30	3	2000	2	282.500	1121 48 0
CPS 5 L 6M VA	Perforated	Bright	50 x 30	3	6000	6	282.500	1121 49 9

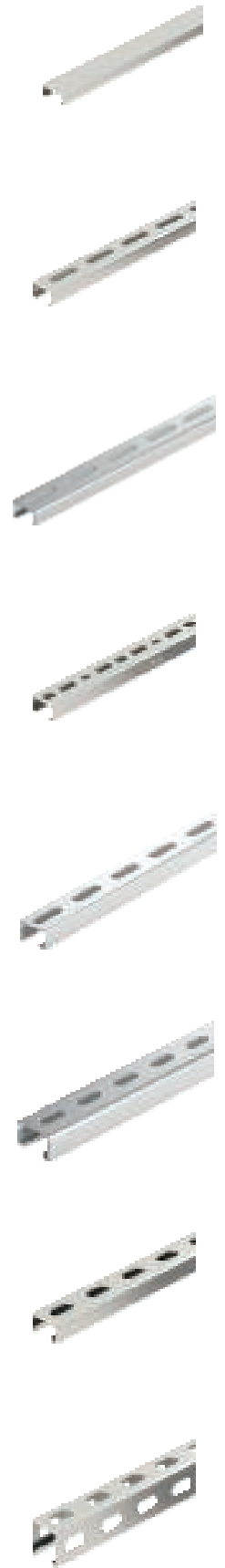
V2A Stainless steel, 1.4301 /100 m
Heavy-weight profile rail with continuous perforation, slot width 22 mm.

Type	Version	Surface finish	Dimension b x h mm	Material thickness mm	Length mm	Pack. m	Weight kg/100 m	Item No.
MS 21 L 3M V2A	Perforated	Bright	41x21	2	3000	1	201.488	1122 92 8
MS 21 L 6M V2A	Perforated	Bright	41x21	2	6000	1	201.488	1122 92 9

V2A Stainless steel, 1.4301 /100 m

Type	Version	Surface finish	Dimension b x h mm	Material thickness mm	Length mm	Pack. m	Weight kg/100 m	Item No.
MS 41 LS1M 2 V2A	Perforated	Bright	41x41	2	1000	1	183.888	1123 01 4
MS 41 LS3M 2 V2A	Perforated	Bright	41x41	2	3000	1	183.888	1123 01 6
MS 41 LS6M 2 V2A	Perforated	Bright	41x41	2	6000	1	183.888	1123 01 8

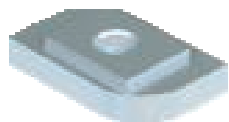
V2A Stainless steel, 1.4301 /100 m



Cable routing

Rail and clamp clips

Cable routing



Slide nuts

Type	Thread	Version	Box quantity pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
5017 M6 OS VA	M6	No bolt	1000	100	0.985	1143 12 3
5017 M8 OS VA	M8	No bolt	600	100	1.432	1143 12 5
5017 M10 OS VA	M10	No bolt	600	100	1.310	1143 12 7

V4A Stainless steel, 1.4571 /100 pc.

Slide nut for profile rails with a slot width of 16–17 mm.
For VS rung, mountable from above.

Type	Thread	Dimension D mm	Recommended load capacity kN	Box quantity pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
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

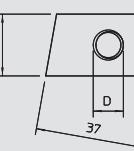
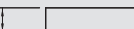
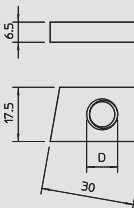
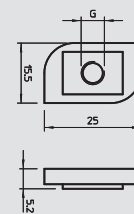
V4A Stainless steel 1.4401 /100 pc.

Slide nut for profile rails with a slot width of 18 mm.

Type	Thread	Dimension D mm	Recommended load capacity kN	Box quantity pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
GMH22 M6 VA	M6	6	1.94	300	50	4.500	1146 64 6
GMH22 M8 VA	M8	8	3.57	300	50	4.300	1146 64 8
GMH22 M10 VA	M10	10	5.7	300	50	4.300	1146 65 0
GMH22 M12 VA	M12	12	8.32	300	50	4.200	1146 65 2

V4A Stainless steel 1.4401 /100 pc.

Slide nut for profile rails with a slot width of 22 mm.



Clamp clips VA

Type	Clamping range D mm	Dimension A mm	Dimension B mm	Dimension C mm	Dimension G mm	Dimension t mm	Dimension H mm	Dimension L mm	Pack. pcs	Weight kg/100 pcs.	Item No.
2056 M 12 VA	8-12	23	16	30	M6	1.5	44	32.5	50	3.200	1159 71 2
2056 M 16 VA	12-16	23	20	30	M6	1.5	44	32.5	50	3.500	1159 71 6
2056 M 22 VA	16-22	23	27	30	M6	1.5	60	32.5	50	4.400	1159 72 2
2056 M 28 VA	22-28	23	33	30	M6	2	58	44	50	6.100	1159 72 8
2056 M 34 VA	28-34	23	39	35	M8	2	66	44	50	7.700	1159 73 4
2056 M 40 VA	34-40	23	45	35	M8	2	72	44	25	8.600	1159 74 0
2056 M 46 VA	40-46	23	51	35	M8	2	79	44	25	9.600	1159 74 6
2056 M 52 VA	46-52	23	57	35	M8	2	86	44	25	10.400	1159 75 2
2056 M 58 VA	52-58	23	64	35	M8	2	93	44	15	13.100	1159 75 8
2056 M 64 VA	58-64	23	70	35	M8	2.5	99	56	15	14.500	1159 76 4
2056 M 70 VA	64-70	25	76	35	M8	2.5	106	56	15	16.100	1159 77 0
2056 M 76 VA	70-76	25	82	40	M8	2.5	114	56	10	18.300	1159 77 6

V2A Stainless steel, 1.4301 /100 pc.

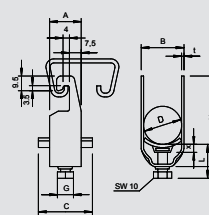
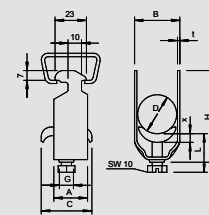
Suitable for all C profile rails with slot width 16–17 mm.
Clip, bolt and pressure trough all made of rust-proof stainless steel.

Type	Clamping range D mm	Dimension A mm	Dimension B mm	Dimension C mm	Dimension G mm	Dimension t mm	Dimension H mm	Dimension L mm	Pack. pcs	Weight kg/100 pcs.	Item No.
2056U 12 VA	8-12	20	16	34	M6	1.5	42	34	100	3.000	1178 50 4
2056U 22 VA	16-22	20	27	34	M6	1.5	53	34	100	3.800	1178 52 0
2056U 28 VA	22-28	20	33	34	M6	2	59	34	100	5.350	1178 53 9
2056U 34 VA	28-34	20	39	34	M8	2	67	37.5	100	7.200	1178 54 7
2056U 40 VA	34-40	20	45	34	M8	2	73	37.5	100	8.100	1178 55 5
2056U 46 VA	40-46	20	51	40	M8	2	79	37.5	100	9.900	1178 56 3
2056U 52 VA	46-52	20	57	40	M8	2	85	38.5	100	11.200	1178 57 1
2056U 64 VA	58-64	23	70	40	M8	2.5	97	38.5	100	14.300	1178 60 1
2056U 70 VA	64-70	23	76	40	M8	2.5	103	38.5	50	20.500	1178 62 8
2056U 76 VA	70-76	25	82	40	M8	2.5	110	45.5	25	19.100	1178 63 6

V2A Stainless steel, 1.4301 /100 pc.

Suitable for all C profile rails with slot width 18 mm. Also suitable for flat, angular and U irons of 4–12 mm material thickness.

Stainless steel clip and bolt.
Polypropylene pressure trough, halogen-free, colour light grey RAL 7035.





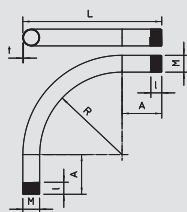
Electrical installation pipe

Type	Dimension M	Dimension L	Dimension I	Dimension t	Pack.	Weight	Item No.
		mm	mm	mm	m	kg/100 m	
SM16 VA	M16x1,5	3000	13	1.5	51	53.600	2047 65 7
SM20 VA	M20x1,5	3000	14	1.5	51	68.400	2047 65 8
SM25 VA	M25x1,5	3000	19	1.5	30	86.900	2047 66 0
SM32 VA	M32x1,5	3000	19	1.5	21	112.800	2047 66 1
SM40 VA	M40x1,5	3000	19	1.5	15	142.400	2047 66 2

V2A Stainless steel, 1.4301 /100 m

Stainless steel electrical installation pipe with threaded ends to EN 61386 (Code: 5557) for mechanical protection of cables.

One connection sleeve is already screwed onto each pipe.



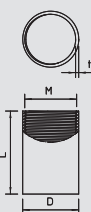
90° bend

Type	Dimension M	Dimension L	Dimension I	Dimension A	Dimension R	Dimension t	Pack.	Weight	Item No.
		mm	mm	mm	mm	mm	pcs	kg/100 pcs.	
SBM16 VA	M16x1,5	178	13	65	97	1.5	10	8.000	2047 69 0
SBM20 VA	M20x1,5	183	14	53	110	1.5	25	10.500	2047 69 2
SBM25 VA	M25x1,5	207	17	59	123	1.5	25	25.000	2047 69 3
SBM32 VA	M40x1,5	245	19	69	144	1.5	25	42.000	2047 69 4
SBM40 VA	M40x1,5	288	19	83	165	1.5	10	65.000	2047 69 5

V2A Stainless steel, 1.4301 /100 pc.

Accessory part: 90° bend, stainless steel, for electrical installation pipes with threaded ends to EN 61386 (Code: 5557).

One connection sleeve is already screwed onto each pipe bend.

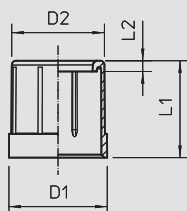


Pipe connection sleeve

Type	Dimension M	Dimension L	Dimension D	Dimension t	Pack.	Weight	Item No.
		mm	mm	mm	pcs	kg/100 pcs.	
SVM16 VA	M16x1,5	32	18.1	1.5	50	2.000	2047 67 3
SVM20 VA	M20x1,5	40	27.1	1.5	50	2.600	2047 67 4
SVM25 VA	M25x1,5	40	27.1	1.5	50	3.800	2047 67 6
SVM32 VA	M32x1,5	44	33.1	1.5	25	5.300	2047 67 7
SVM40 VA	M40x1,5	50	43.3	1.5	25	7.700	2047 67 8

V2A Stainless steel, 1.4301 /100 pc.

Accessory part: Stainless steel pipe connection sleeve with thread to EN 61386 (Code: 5557) to connect electrical installation pipes and 90° bends.

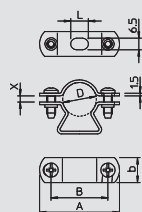


Cable protection sleeve

Type	Size	Colour	Dimension D1	Dimension D2	Dimension L1	Dimension L2	Box quantity	Pack.	Weight	Item No.
			mm	mm	mm	mm	pcs	pcs	kg/100 pcs.	
129 M16	M16	Light grey	19.4	12.5	18	2	1000	100	0.235	2047 81 0
129 M20	M20	Light grey	23.4	16	22.5	2.5	1200	100	0.326	2047 82 9
129 M25	M25	Light grey	28.4	21	27.5	2.5	600	50	0.614	2047 83 7
129 M32	M32	Light grey	35.4	27.5	34	3	600	50	1.070	2047 85 3
129 M40	M40	Light grey	43.4	35	41	3	50	50	1.444	2047 86 1

PE Polyethylene /100 pc.

Cable protection connector for attachment to electrical installation pipes to DIN EN 60423 or IEC 423 and other pipes of the same external diameters.



Cable and pipe spacer clip

Type	Clamping range D	Hole size	Material thickness	Size	Bolt	Box quantity	Pack.	Weight	Item No.
	mm	mm	mm			pcs	pcs	kg/100 pcs.	
733 16 VA	14-16	6,5 x 10	1.5	M16	M5 x 12	500	50	2.430	1362 01 1
733 19 VA	17-19	6,5 x 10	1.5	Pg11	M5 x 16	500	50	2.800	1362 03 8
733 21 VA	19-21	6,5 x 10	1.5	M20	M5 x 16	500	50	2.740	1362 04 6
733 23 VA	21-23	6,5 x 10	1.5	Pg16	M5 x 16	500	50	2.800	1362 05 4
733 29 VA	24-29	6,5 x 10	1.5	M25	M5 x 16	450	50	3.475	1362 06 2
733 38 VA	30-38	6,5 x 10	1.5	M32	M5 x 18	250	25	4.500	1362 07 0
733 48 VA	39-48	6,5 x 10	1.5	M40	M5 x 18	300	25	5.200	1362 08 9
733 54 VA	48-54	6,5 x 14	1.5	M50	M5 x 18	300	25	5.800	1362 09 7
733 61 VA	53-61	6,5 x 14	1.5	Pg48	M5 x 18	240	20	6.800	1362 10 0
733 63 VA	63	8 x 18	2	M63	M5 x 18	160	20	6.940	1362 12 7

V2A Stainless steel, 1.4301 /100 pc.

Bolt material: VA

* Size M16 not suitable for nail device.

* Sizes M16 to PG16 not suitable for bolt-firing tool.








It's all about making the right connection

Junction boxes for classic surface mounting are used to connect cables and to distribute electrical power. The perfectly matched systems, made up of junction box, glands and terminals can offer maximum IP protection against contact and foreign bodies, as well as against the ingress of water.

Much more versatile

The following pages contain a small overview of our product range for distributing and connecting cables, specifically for the requirements of the food industry. This selection is simply an extract from our main VBS connection and fastening systems catalogue. That can provide you with a detailed overview of our complete product range for connection and fastening systems.

Distributing and connecting

	Junction box systems	T series B9T System accessories
	Cable gland systems	Cap nut cable glands
	Terminal systems	Screwless terminals



Junction box systems

Distributing and connecting



Junction boxes, T series

Type	Version	Entries	Colour	Box quantity 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 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 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.

Type	Version	Entries	Colour	Box quantity pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
T 100	Standard	10 x M25	Light grey	40	1	16.270	2007 07 7
T 100 F	960 °C flame-resistant	10 x M25	Light grey	40	1	16.270	2007 34 7
T 100 RO-LGR	With red lid	10 x M25	Red grey	40	1	16.270	2007 64 4
T 100 KL	With terminal strip	10 x M25	Light grey	40	1	40.000	2007 43 6

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.

Type	Version	Entries	Colour	Box quantity pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
T 160	Standard	7 x M25 5 x M32	Light grey	20	1	30.000	2007 09 3
T 160 RW	—	7 x M25 5 x M32	Pure white	20	1	30.000	2007 54 1
T 160 F	960 °C flame-resistant	7 x M25 5 x M32	Light grey	20	1	30.000	2007 35 5
T 160 KL	With terminal strip	7 x M25 5 x M32	Light grey	20	1	64.200	2007 44 0

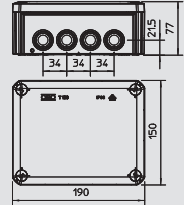
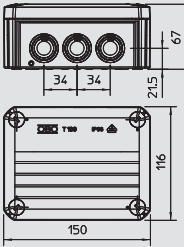
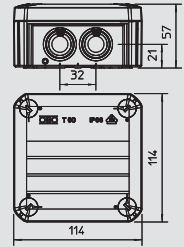
PP/GF Polypropylene, Glass-fibre reinforced /100 pc.

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 boxes, B9T

Type	Accessories	Colour	Box quantity pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
B 9 T M 5	1 terminal strip	Light grey	40	5	17.500	2001 84 5
B 9 T M	—	Light grey	40	5	13.100	2001 85 3

PP Polypropylene /100 pc.

The wet-room junction boxes comprise 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).

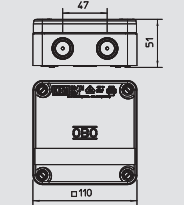
Where cable glands are used (giving additional strain relief) there is no need to remove the membrane (this saves time). Protection IP 67 with cable gland and for the perforation membrane.

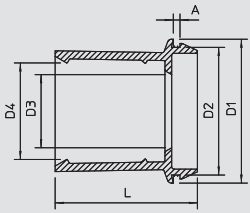
Rated voltage 400 V; nominal cross-section 4 - 6 mm².

The cover is sealed with 4 pre-fitted rapid fastenings (180°). The fastening holes are additionally moulded with a soft plastic component for a bolt diameter of 5 mm (spacing 75 mm).

2 fastening bolt caps and 1 fastening bolt.

Clear internal dimensions: 98 x 98 x 40 mm.





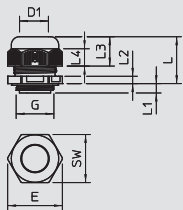
Plug-in seal

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



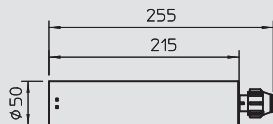
Cable gland

Type	Thread	Colour	Box quantity	Pack.	Weight	Item No.
			pcs	pcs	kg/100 pcs.	
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.



AQUASIT casting compound

Type	Contents	Pack.	Weight	Item No.
		pcs	kg/100 pcs.	
KVM	0.25	1	42.000	2363 01 0

/pc.

Aquasit is a two-component casting compound in a cartridge for applications in areas with extremely high, continuous moisture. It can also be used for mechanical shock and vibrations. The cartridge is suitable for use in standard cartridge pistols. The unopened aluminium packaging can be stored for up to a year at room temperature. After opening the cartridge, the material must 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
 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



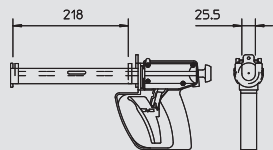
Mixer pipe

Type	Pack.	Weight	Item No.
	PU	kg/100 PUs	
KVM-M	1	17.000	2363 01 5

/VPE

10 mixer pipes in the set.

Simple, automatic mixing of OBO AQUASIT when pressing out the compound from the cartridge.



Cartridge pistol

Type	Pack.	Weight	Item No.
	pcs	kg/100 pcs.	
KVM-P	2	100.000	2363 01 9

/pc.

High-quality 1-K cartridge for use with the AQUASIT cold casting compound. The cartridge pistol can also be used with normal 300 mm cartridges.



Cable gland systems



Cap nut cable glands, plastic

Type	Thread	Colour	Box quantity pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
V-TEC VM12 LGR	M12 x 1,5	Light grey	500	50	0.318	2022 86 2
V-TEC VM16 LGR	M16 x 1,5	Light grey	500	50	0.638	2022 86 4
V-TEC VM20 LGR	M20 x 1,5	Light grey	600	50	0.861	2022 86 6
V-TEC VM25 LGR	M25 x 1,5	Light grey	300	25	1.344	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	3.467	2022 87 2
V-TEC VM50 LGR	M50 x 1,5	Light grey	60	5	5.466	2022 87 4
V-TEC VM63 LGR	M63 x 1,5	Light grey	60	5	8.306	2022 87 6

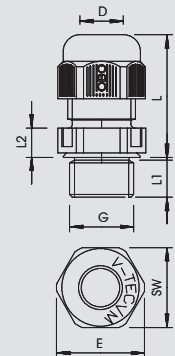
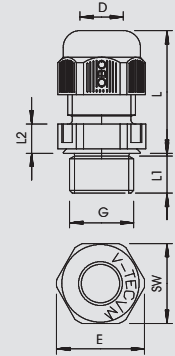
PA Polyamide /100 pc.

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. Sealing ring of chloroprene/nitrile rubber. Moulded sealing on the intermediate support, so no connection thread sealing ring needed, tested to VDE DIN EN 50262, protection rating IP 68 at 5 bar/1 hr. Max. permitted ambient temperature -20 °C to +65 °C.

Type	Thread	Colour	Box quantity pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
V-TEC VM L12 LGR	M12x1,5	Light grey	500	50	0.392	2022 94 3
V-TEC VM L16 LGR	M16x1,5	Light grey	500	50	0.727	2022 94 5
V-TEC VM L20 LGR	M20x1,5	Light grey	600	50	0.883	2022 94 7
V-TEC VM L25 LGR	M25x1,5	Light grey	300	25	1.597	2022 94 9
V-TEC VM L32 LGR	M32x1,5	Light grey	240	20	2.047	2022 95 1
V-TEC VM L40 LGR	M40x1,5	Light grey	120	10	3.168	2022 95 3
V-TEC VM L50 LGR	M50x1,5	Light grey	60	5	5.010	2022 95 5
V-TEC VM L63 LGR	M63x1,5	Light grey	60	5	7.390	2022 95 7

PA Polyamide /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. Sealing ring of chloroprene/nitrile rubber. Moulded sealing on the intermediate support, so no connection thread sealing ring needed, tested to VDE DIN EN 50262, protection rating IP 68 at 5 bar/1 hr. Max. permitted ambient temperature -20 °C to +65 °C.



Cap nut cable glands, brass

Type	Thread	Surface finish	Box quantity pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
V-TEC VM12 MS	M12 x 1,5	Nickel-plated	500	50	1.200	2086 01 8
V-TEC VM16 MS	M16 x 1,5	Nickel-plated	600	50	1.640	2086 02 4
V-TEC VM20 MS	M20 x 1,5	Nickel-plated	250	25	3.140	2086 03 0
V-TEC VM25 MS	M25 x 1,5	Nickel-plated	300	25	4.260	2086 03 6
V-TEC VM32 MS	M32 x 1,5	Nickel-plated	160	20	7.160	2086 04 2
V-TEC VM40 MS	M40 x 1,5	Nickel-plated	60	5	12.240	2086 04 8
V-TEC VM50 MS	M50 x 1,5	Nickel-plated	45	5	22.700	2086 05 4
V-TEC VM63 MS	M63 x 1,5	Nickel-plated	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.

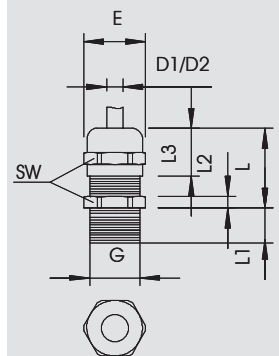
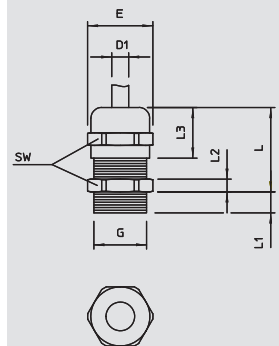
Type	Thread	Surface finish	Box quantity pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
V-TEC VM LM12 MS	M12 x 1,5	Nickel-plated	500	50	1.300	2086 11 1
V-TEC VM LM16 MS	M16 x 1,5	Nickel-plated	600	50	1.940	2086 11 7
V-TEC VM LM20 MS	M20 x 1,5	Nickel-plated	300	25	3.360	2086 12 3
V-TEC VM LM25 MS	M25 x 1,5	Nickel-plated	250	25	4.800	2086 12 9
V-TEC VM LM32 MS	M32 x 1,5	Nickel-plated	120	10	7.840	2086 13 5
V-TEC VM LM40 MS	M40 x 1,5	Nickel-plated	60	5	13.400	2086 14 1
V-TEC VM LM50 MS	M50 x 1,5	Nickel-plated	45	5	24.000	2086 14 7
V-TEC VM LM63 MS	M63 x 1,5	Nickel-plated	40	5	32.100	2086 15 3

CuZn Brass N Nickel-plated /100 pc.

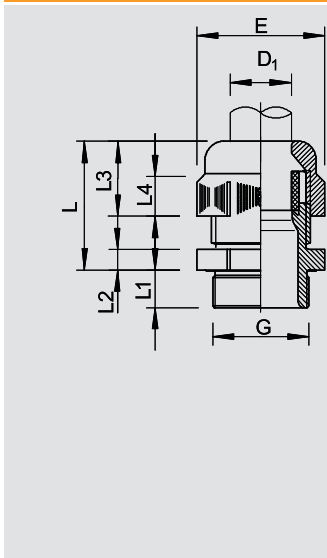
With metric connecting thread to IEC 423 robust cap-nut cable gland with large sealing area. Strain relief, wringing protection and tightness over the whole clamping area. For thicker housing wall thicknesses in conjunction with locknuts. Neoprene sealing ring. Polyamide terminal insert. With pre-mounted 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.



Cap nut cable glands for Ex applications; plastic



Type	Thread	Colour	Box quantity	Pack.	Weight	Item No.
			pcs	pcs	kg/100 pcs.	
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 areas. 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 made of chloroprene/nitrile rubber, moulded sealing lips, thus no connection thread sealing ring required, VDE-tested

Protection rating IP 68 at 5 bar.



Terminal systems

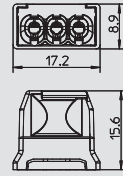
Screwless terminals



Type	Colour	Box quantity pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
61 325 LGR	Light grey	2000	100	0.135	2054 48 5

PA Polyamide /100 pc.

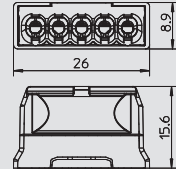
Screwless terminal to connect single-strand cables.
 Nominal cross-section:
 3 x 0.5 mm² to 2.5 mm² single-wire cable.
 3 x 1.5 mm² to 2.5 mm² rigid, multi-wire cable.
 Rated voltage 450 V
 Rated current 24 A
 Stripping length: 8–9 mm
 Inspection opening: Phase tester and testing pin (max. Ø 2 mm)



Type	Colour	Box quantity 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.

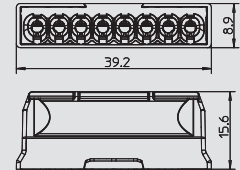
Screwless terminal to connect single-strand cables.
 Nominal cross-section:
 5 x 0.5 mm² to 2.5 mm² single-wire cable
 5 x 1.5 mm² to 2.5 mm² rigid, multi-wire cable
 Rated voltage 450 V
 Rated current 24 A
 Stripping length: 8–9 mm
 Inspection opening: phase tester and testing pin (max. Ø 2 mm)



Type	Colour	Box quantity pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
61 825 LGR	Light grey	1000	50	0.490	2054 52 3

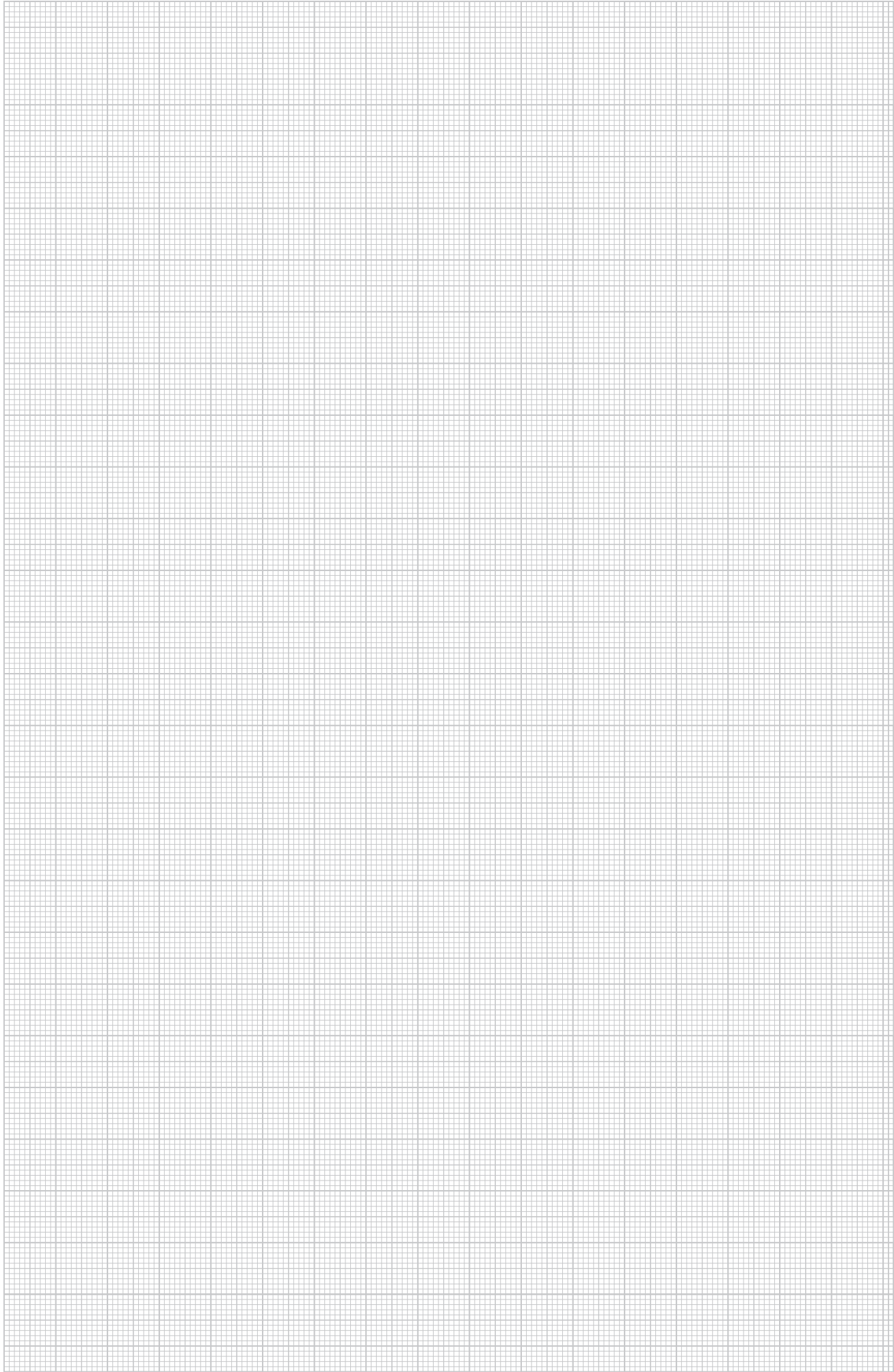
PA Polyamide /100 pc.

Screwless terminal to connect single-strand cables.
 Nominal cross-section:
 8 x 0.5 mm² to 2.5 mm² single-wire cable.
 8 x 1.5 mm² to 2.5 mm² 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)



Distributing and connecting







Flexible connection option

In damp and wet areas, the requirements for industrial and special connection systems are very high. They are suspended from the ceiling, offering connection options for heavy current, data technology and compressed air. OBO has developed special supply units to be able to use connections flexibly in the food industry. These industrial and special connection systems excel particularly through use in damp and wet areas. The modular construction allows individual equipment, appropriate to the practical case.



VHF power supply units

- VHF-8 power supply unit, IP44
- VH-8 power supply unit, IP44 compressed-air connection
- Partition
- Cover plate
- Installation of protective equipment



VHF power supply units

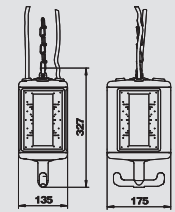


VHF-8 power supply unit, IP44

Type	Colour	Pack.	Weight	Item No.
		pcs	kg/100 pcs.	
VHF-8 LG	Graphite black	1	105.000	6109 82 2

PA Polyamide /pc.

Empty housing with suspension lug and grip hook, for the installation of electrical resources, with included partition. Without cover plates to supply workplaces in wet areas. Protection rating: IP 44.

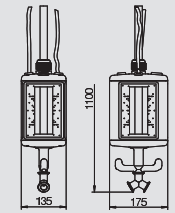


VH-8 power supply unit, IP44 compressed-air connection

Type	Colour	Pack.	Weight	Item No.
		pcs	kg/100 pcs.	
VHF-8L LG	Graphite black	1	400.000	6109 82 7

PA Polyamide /pc.

Empty housing with 1 m pipe 1/2" and connection for compressed air hose 13 x 3.5 mm and 2-way distributor 1/2". With suspension lug and grip hook, for the installation of electrical resources, with included partition. Without cover plates to supply workplaces in wet areas. Protection rating: IP 44.



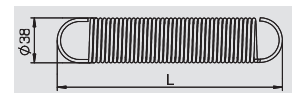
Tension spring VHF-8

Type	Pack.	Weight	Item No.
	pcs	kg/100 pcs.	
VHF-F100	1	34.710	6109 83 0

ST Steel /pc.

Tension spring for VHF-8 with German eyelet.

Fmax = 100 N
L0 = 200 mm
Ln = 500 mm (for Fmax.)
Material: Sprung steel \varnothing 3.2 mm



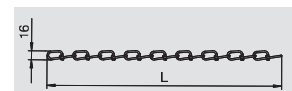
Knotted chain

Type	Designation	Pack.	Weight	Item No.
		m	kg/100 m	
VH-K800	sold by the metre	1	20.000	6109 87 0

ST Steel /m

Knotted chain made of pre-copper-plated steel, nickel-plated, according to DIN 5686. Max. tensile force: 800 N.

Note: Specify the required chain length during ordering.

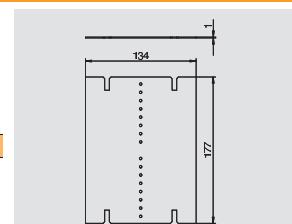


Partition VHF-8 without compressed-air connection

Type	Colour	Pack.	Weight	Item No.
		pcs	kg/100 pcs.	
VHF-TW	Graphite black	1	3.520	6109 86 0

PVC Polyvinylchloride /pc.

Additional partition wall for reciprocal insulation of three different power circuits and types.

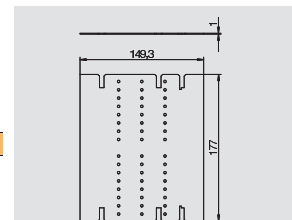


Partition VHF-8 with compressed-air connection

Type	Colour	Pack.	Weight	Item No.
		pcs	kg/100 pcs.	
VHF-TW L	Graphite black	1	3.900	6109 86 1

PVC Polyvinylchloride /pc.

Additional partition wall for reciprocal insulation of three different power circuits and types.

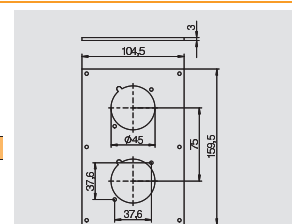


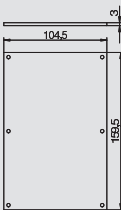
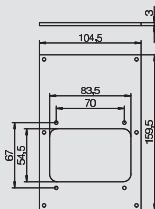
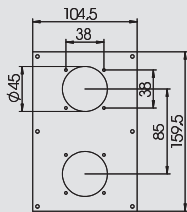
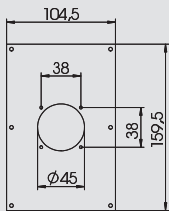
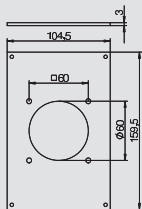
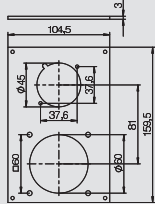
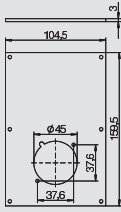
Cover plate VHF-8

Type	Colour	Pack.	Weight	Item No.
		pcs	kg/100 pcs.	
VHF-P10	Rape yellow	1	6.380	6109 86 3

PVC Polyvinylchloride /pc.

Cover plate with two \varnothing 45 mm openings for the installation of 2x power sockets with hinged cover (type S901F).





Cover plate VHF-8

Type	Colour	Pack.	Weight	Item No.
		pcs	kg/100 pcs.	
VHF-P9	Rape yellow	1	6.350	6109 86 6

PVC Polyvinylchloride /pc.
Cover plate with a Ø 45 mm opening for the installation of 1x power socket with hinged cover (type S901F).

Type	Colour	Pack.	Weight	Item No.
		pcs	kg/100 pcs.	
VHF-P11	Rape yellow	1	6.230	6109 86 4

PVC Polyvinylchloride /pc.
Cover plate with a Ø 45 mm opening for the installation of a power socket with hinged cover (type S901F) and a Ø 70 mm opening for the installation of a CEE socket 16/32A with 60 mm fastening track.

Type	Colour	Pack.	Weight	Item No.
		pcs	kg/100 pcs.	
VHF-P3	Rape yellow	1	7.000	6109 86 5

PVC Polyvinylchloride /pc.
Cover plate with a Ø 70 mm opening for the installation of 1x CEE socket 16/32 A with 60 mm fastening track.

Type	Colour	Pack.	Weight	Item No.
		pcs	kg/100 pcs.	
VHF-P7	Rape yellow	1	6.600	6109 87 8

PVC Polyvinylchloride /pc.
Cover plate with opening for the installation of a socket with 38 x 38 mm fastening system.

Type	Colour	Pack.	Weight	Item No.
		pcs	kg/100 pcs.	
VHF-P8	Rape yellow	1	5.900	6109 87 9

PVC Polyvinylchloride /pc.
Cover plate with opening for the installation of two sockets with 38 x 38 mm fastening system.

Type	Colour	Pack.	Weight	Item No.
		pcs	kg/100 pcs.	
VHF-P6	Rape yellow	1	5.350	6109 86 7

PVC Polyvinylchloride /pc.
Cover plate with cut out for the installation of a cover above protection unit (type VHF-AE4TE). Maximum equipment corresponds to four units.

Type	Colour	Pack.	Weight	Item No.
		pcs	kg/100 pcs.	
VHF-P1	Rape yellow	1	7.000	6109 86 8

PVC Polyvinylchloride /pc.
Cover plate as blanking cover.

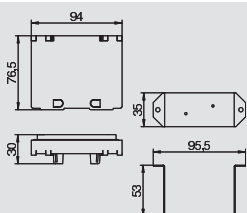


Protective equipment installation VHF-8, cover and support clamp

Type	Pack.	Weight	Item No.
	pcs	kg/100 pcs.	
VHF-AE4TE	1	12.800	6109 85 0

/pc.
Cover and support clamp for the installation of protective equipment such as miniature circuit-breakers or FI protection switches to max. four units.

Note: Use only in conjunction with the supports VHF-T1 or VHF-T2.



VHF power supply units



Protective equipment installation VHF-8, support

Type	Pack.	Weight	Item No.
	pcs	kg/100 pcs.	
VHF-T1	1	6.730	6109 85 2

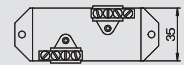
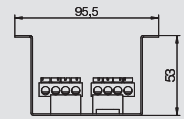
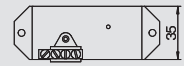
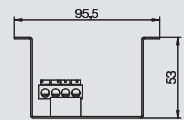
ST Steel /pc.

Support with PE terminal strip for installation of FI protection switches, consisting of:
 - Base element with hat rail 35 mm and PE terminal strip 4 x 10 mm²
 - Fastening material

Type	Pack.	Weight	Item No.
	pcs	kg/100 pcs.	
VHF-T2	1	8.380	6109 85 4

ST Steel /pc.

Support with N and PE terminal strip for installation of miniature circuit-breakers, consisting of:
 - Base element with hat rail 35 mm, N terminal strip 4 x 10 mm² and PE terminal strip 4 x 10 mm²
 - Fastening material

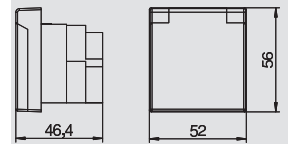


Protective contact socket 45° with hinged cover, IP44

Type	Colour	Pack.	Weight	Item No.
		pcs	kg/100 pcs.	
S901F	Graphite black	1	7.500	6109 87 2

/pc.

Single 45° power socket with hinged cover, for locking into the mounting opening of the cover plate. Protection rating: IP 44.



CEE connection unit

Type	Pack.	Weight	Item No.
	pcs	kg/100 pcs.	
CEE-16A	1	19.100	6109 87 4

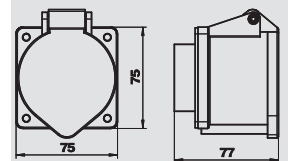
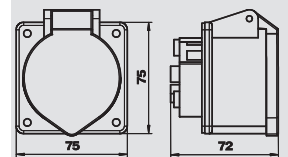
/pc.

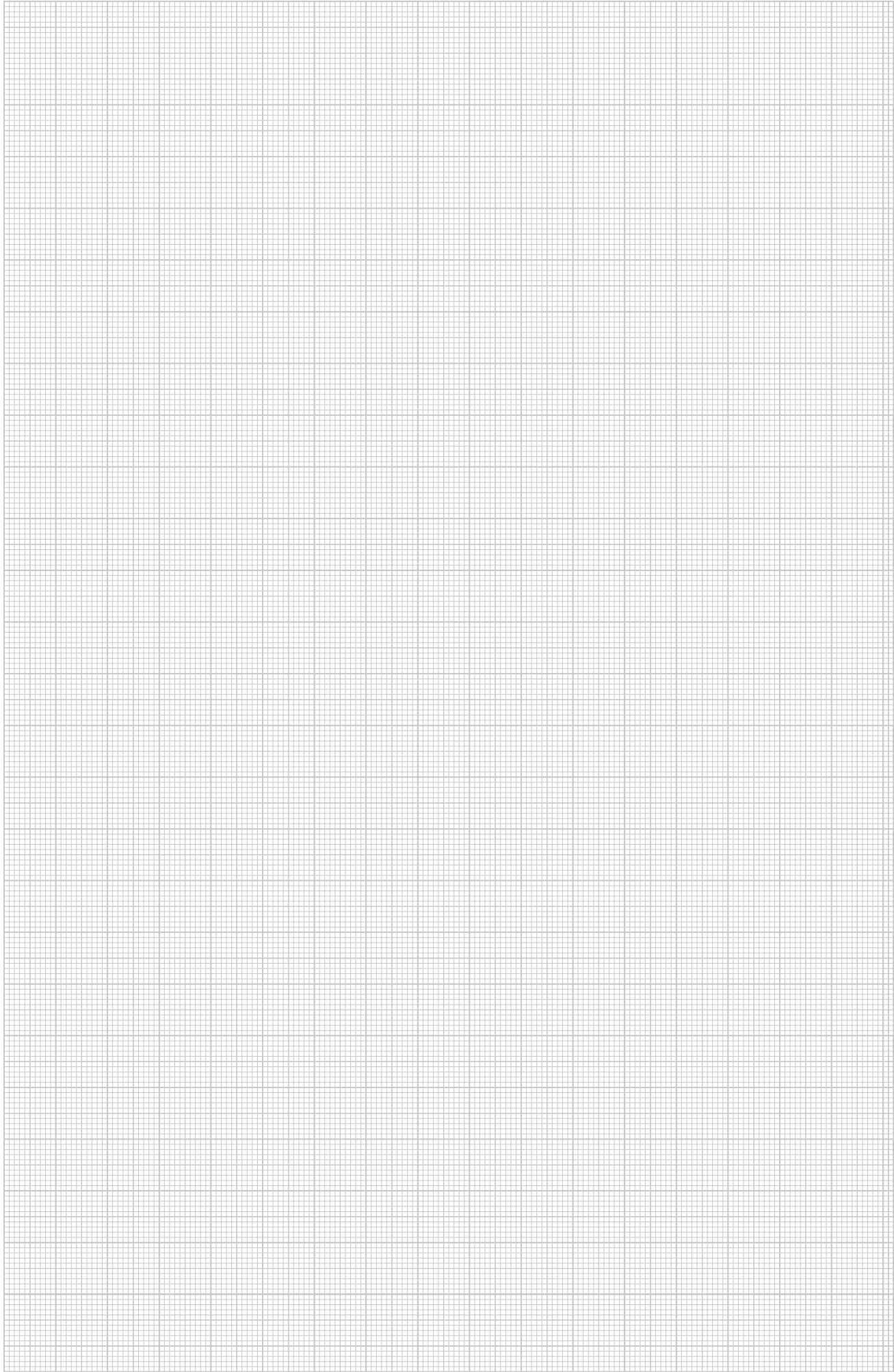
CEE socket with 60 mm fastening track, 3-pin + N + PE, 400 V, 16 A, 6 h.

Type	Pack.	Weight	Item No.
	pcs	kg/100 pcs.	
CEE-32A	1	20.400	6109 87 6

/pc.

CEE socket with 60 mm fastening track, 3-pin + N + PE, 400 V, 32 A, 6 h.











To maintain product safety

OBO lightning and surge protection systems help to maintain product safety production if there are direct lightning strikes or, which is much more common, surge voltages, and thus be able to guarantee sensitive processes and protect the power supply.

And much, much more....

On the following pages you will find an extract from our main catalogue, which will inform you about the various different systems for internal and external lightning and surge protection. You can find additional detail explanations and planning aids in our TBS catalogue (Transient and lightning protection systems).

External and internal lightning and surge protection

	<p>External lightning protection</p>	<p>Round conductor, aluminium Interception rod, one end rounded Stand FangFix system 16 kg</p> <p>Screwless cable brackets Variable earthing connector</p>
	<p>Earthing and equipotential bonding</p>	<p>Stainless steel flat conductor Equipotential bonding rail Strip earthing clip</p>
	<p>Surge protection in energy technology</p>	<p>Combination arrester / MCD, 255 V for TN and TT networks Lightning current and surge arrester</p>
	<p>Surge protection in data technology</p>	<p>Surge protection MCR protection Combination protection</p>



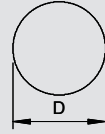
External lightning protection



Round conductor, aluminium

Type	Material symbol	Inter-face	Nominal size Ø	Cross-section	Normal ring	Normal ring	Weight	Item No.
			mm	mm ²	ca. m	ca. kg	kg/100 m	
RD 8-ALU-T	Al	—	8	50	150	20	13.500	5021 29 4
Al Aluminium								/100 m

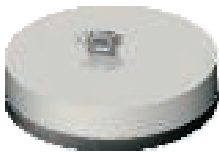
- According to DIN EN 50164-2 (VDE 0185 Part 202)
- Meets the requirements of VDE 0185-305 (IEC 62305)
- RD 8/ALU: Semi-hard (E-AlMgSi0.5 corresponds to DIN 48801)
- RD 8/ALU-T: Twistable (E-AlMgSi0.5 corresponds to DIN 48801)
- RD 10/ALU: Pure aluminium (E-Al corresponds to DIN 48801)
- AL and ALMgSi may not be routed directly on, in or under the plaster, mortar or concrete nor underground



Interception rod, one end rounded

Type	Material symbol	Length	Nominal size Ø	Pack.	Weight	Item No.
		mm	mm	pcs	kg/100 pcs.	
101 ALU-2000	Al	2000	16	10	109.000	5401 83 6
Al Aluminium						/100 pc.

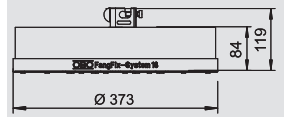
- Ø 16 mm, Al
- For stand system with female thread M16



Stand FangFix system 16 kg

Type	Pack.	Weight	Item No.
	pcs	kg/100 pcs.	
F-FIX-16	1	1732.500	5403 20 0
			/100 pc.

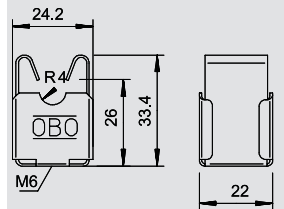
- System consists of FangFix stone with base and clamp
- FangFix clamp made of VA; lightning current tested with 100 kA (10/350)
- 16 kg stone of Ø 365 mm, high level of stability
- Quick and easy mounting of interception rod using anchors
- Concrete, frost-resistant
- The FangFix stone can be stacked



Screwless cable brackets

Type	Fit	Installation height	Pack.	Weight	Item No.
	mm	mm	pcs	kg/100 pcs.	
177 20 VA M6	Rd 8	20	50	2.500	5207 33 9
V2A Stainless steel, 1.4301					/100 pc.

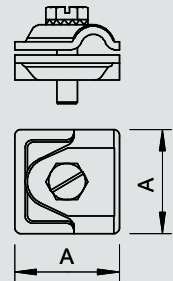
- With female thread M6 or through hole Ø 5 mm
- From stainless steel (V2A)
- Version -VK: copper-plated

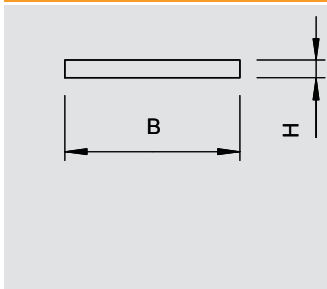


Variable earthing connector

Type	Fit	Dimension A	Material symbol	Pack.	Weight	Item No.
	mm	mm		pcs	kg/100 pcs.	
249 8-10 ALU	Rd 8-10	44	Al	30	6.600	5311 51 9
Al Aluminium						/100 pc.

- For T, cross and parallel connectors
- Quick installation using hex-head screw M10 x 30, high-grade stainless steel
- Conforms to the requirements according to DIN VDE 0185-305 (IEC 62305)



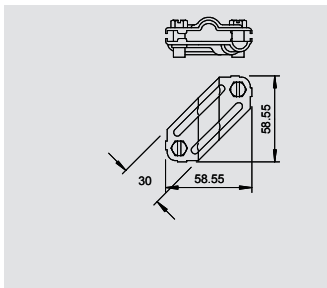


Stainless steel flat conductor

Type	Material symbol	Inter-face	Dimension b x h mm	Cross-section mm ²	Normal ring ca. m	Normal ring ca. kg	Weight kg/100 m	Item No.
5052 V4A 30X3.5	V4A	—	30 x 3,5	105	50	42	82.425	5018 70 6

V4A Stainless steel 1.4401 /100 m

- According to DIN EN 50164-2 (VDE 0185 Part 202)
- Meets the requirements of VDE 0185-305 (IEC 62305)
- For use in areas at risk of corrosion
- For lightning protection, earthing systems and ring equipotential bonding

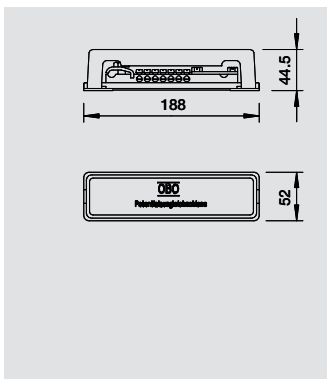


Cross-connectors

Type	Fit mm	Material symbol	Inter-face	Pack. pcs	Weight kg/100 pcs.	Item No.
250 VA	Rd 8-10/FL30	V2A	—	25	10.260	5312 92 2

V2A Stainless steel, 1.4301 /100 pc.

- Fit: Rd 8-10 x Rd 8-10
- Fit: Rd 8-10 x FL 30
- Fit: FL 30 x FL 30
- Installed with 2 hex-head screws M8 x 20 (F)

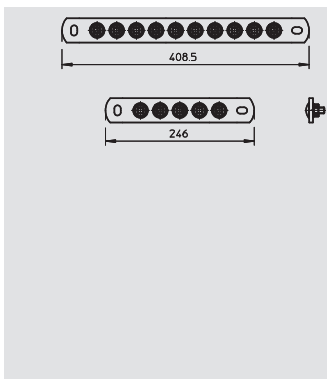


Equipotential bonding rail

Type	Colour	Pack. pcs	Weight kg/100 pcs.	Item No.
1809 A	Black	1	23.000	5015 11 1

V2A Stainless steel, 1.4301 /pc.

- Connection options:
- 7 single or multi-core conductors to 25 mm² or fine-core conductors to 16 mm²
 - 1 round conductor Rd 8-10
 - 1 flat strip to FL30 or round conductor Rd 8-10
 - Base plate and covering hood from polystyrene
 - Colour: black, UV-resistant
 - Screws and over-piece from VA
 - Capable of carrying lightning current 100 kA (10/350)

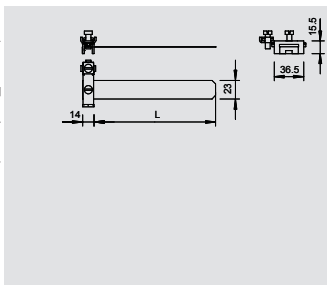
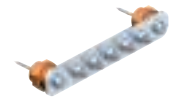


BigBar equipotential bonding bar

Type	Material symbol	Number of connections	Width mm	Length mm	Height mm	Pack. pcs	Weight kg/100 pcs.	Item No.
1802 10 VA	V2A	10	40	408.5	6	1	190.000	5015 86 6

V2A Stainless steel, 1.4301 /pc.

- Main potential equalisation to VDE 0100 Part 410 and Part 540, and also lightning protection potential equalisation to VDE 0185-305 (IEC 62305)
- Insulation feet
- Quick, simple assembly of connection conductors to the contact rail using lock bolts M10
- The high-grade stainless steel versions (V2A) are suitable for outdoor use
- Complete with anchors and bolts for wall mounting
- With lock washer (DIN 137) for bolt locking against loosening (e.g. required in industry and Ex areas)



Strip earthing clip

Type	for pipe Ø inch	for pipe Ø mm	Pack. pcs	Weight kg/100 pcs.	Item No.
927 2	3/8-4	17.2-114	10	8.550	5057 52 3

V2A Stainless steel, 1.4301 /100 pc.

- For pipes of Ø 3/8 - 6"
- Connection options: Max. 2 cables 2.5-25 mm²
- Round conductor Rd 8
- Clip element, bolts and tightening strap made of rustproof stainless steel (VA)



Surge protection in energy technology



Combination arrester / MCD, 255 V for TN-S and TT networks

Type	Highest continuous voltage V	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
MCD 50-B 3+1	255	3 + NPE	1	168.000	5096 87 9

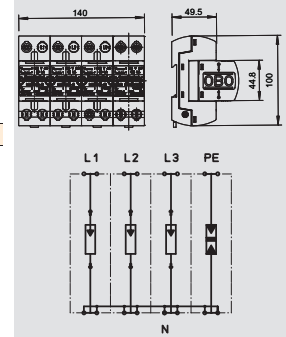
/pc.

Combination arrester, Type 1, according to DIN EN 61643-11(B according to VDE 0675 Part 6).

Completely pre-terminated and ready for connection, consisting of:
 MCD 50-B: Coordinated lightning current arrester, Type 1 (Class B) to EN 61643-11 and MCD 125-B/NPE: Coordinated N-PE spark gap, Type 1 (Class B) to EN 61643-11 for use in TN-S and TT systems. Interface 0 to 1 according to lightning protection zone concept according to IEC 61312-1 and VDE 0185-305 (IEC62305).

- Arresting capacity 50 kA 10/350 μs per pole (L-N)
- Arresting capacity 125 kA (10/350 μs) per pole (N-PE)
- Suitable for any TN or TT system
- Conforms to VDN Directive 2nd Edition 2004
- Protection level < 1.3 kV
- Line follow current quenching 25 kA Ipeak
- Incl. plug caps for identifying the connections
- Encapsulated, non-extinguishing spark gap

Application: Lightning protection equipotential bonding in buildings with external lightning protection of Class I to IV and in standard distributor housings.



Lightning current and surge arrester / V50, 280 V

Type	Highest continuous voltage V	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
V50-B+C 3+NPE	280	3+NPE	1	55.000	5093 65 4

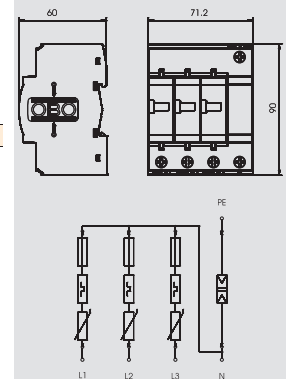
/pc.

Combination arrester set, lightning and surge arrester Type 1+2 to DIN EN 61643-11 (B+C to VDE 0675 part 6).

- For lightning protection equipotential bonding to VDE 0185-305 (IEC 62305)
- Lightning current arresting capacity 12.5 kA (10/350) per pole and 50 kA (10/350) in total
- Universally suitable for TN and TT systems
- With new Multibase base with multi-connection terminals
- Complete unit, consisting of cover and base, pre-mounted and ready for connection
- Arrester, connectable with dynamic cut-off unit
- With visual function display
- Voltage protection level < 1,3 kV
- Encapsulated, non-extinguishing zinc oxide varistor arrester for use in distributor housings
- Labelled connections

Application: Equipotential bonding in buildings, even those with external lightning protection of class III and IV, and in standard distributor housings.

* Complete = cover and base



Surge arrester / V20, 280 V

Type	Highest continuous voltage V	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
V20-C 3+NPE-280	280	3 + NPE	1	41.700	5094 65 6

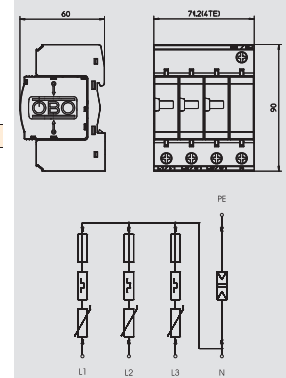
/pc.

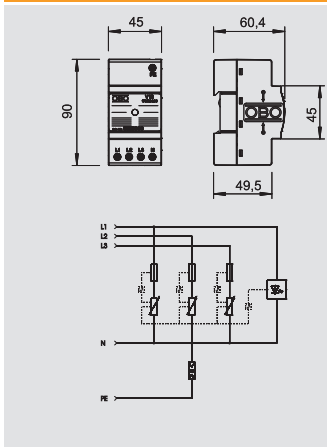
V 20-C/...: Surge protection device Type 2 (Class C) to VDE 0675 part 6-11 (DIN EN 61643-11).

- With new MultiBase base part and Multi-connection clamps
- Complete unit consisting of upper part and base, pre-mounted and ready for connection
- VDE-tested
- Suitable for TN- and TT network systems
- Plug-in upper part; upper part can be separated from base without tools
- Including thermal and dynamic separating device
- With visual display of defects
- High current conductivity and long service life
- Marked connections

Application example: residential buildings, single-family homes without outer lightning protection system.

* Complete = cover and base





Surge arrester / V10 Compact, 255 V

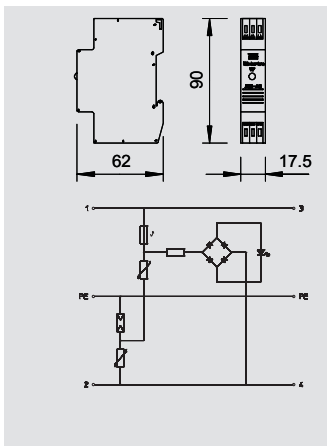
Type	Highest continuous voltage V	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
V10 COMPACT 255	255	3 + NPE	1	15.800	5093 38 0

/pc.

Surge arrester, Type 2+3 to EN 61643-11 (Class C+D to VDE 0675 Parts 6-11)

- Suitable for TN and TT network systems
- Integrated 3+1 solution
- Incl. thermal and dynamic cut-off unit
- With visual function display
- High current conductivity with long lifespan
- Labelled connections
- Separation unit only 45 mm

Application: Industrial, housing and protection of rotary current systems



Surge arrester / VF, 255 V

Type	U max AC V	U max DC V	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
VF230-AC/DC	255	350	230 V version	1	8.000	5097 64 9

/pc.

Surge protection device, fine protection Type 3 to EN 61643-11 (Class D to VDE 0675, Parts 6-11)

- Suitable for DC and AC voltage systems
- With visual function display
- With installation-friendly, screwless connection terminals
- In a space-saving 17.5 mm grid
- Y circuit

Application: Universal use on 35 mm hat profile rail in every normal commercially available distributor housings.



Surge protection in data technology



Surge protection for telecommunication systems

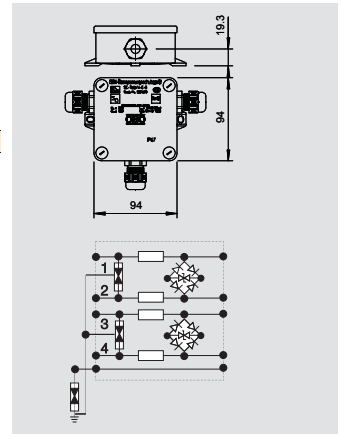
Type	Version	Connection system	Pack. pcs	Weight kg/100 pcs.	Item No.
SC-TELE 4-C-G	Combi protection	Terminal	1	30.000	5081 68 8

/pc.

Data cable protection device for telecommunication systems in insulated housing

- Suitable for any analogue, ISDN or DSL system
- Supports ADSL 2
- With two-level protective circuit
- Insulating housing to IP 54
- With screwless terminals for quick mounting
- For 2 DA systems (4 protected cores)

Application: For use at supply location on line, upstream of NT-SO or splitter interface.



Surge protection for LSA-Plus systems

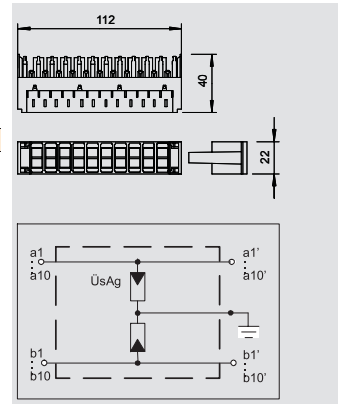
Type	Highest continuous voltage V	Pack. pcs	Weight kg/100 pcs.	Item No.
LSA-B-MAG	180	1	8.600	5084 02 0

/pc.

LSA-B-MAG: LSA basic protection magazine for use in multi-core data cable systems, MCR systems and telephone switchboards.

- Basic protection
- Fitted with 20 gas discharge protectors
- Max. voltage: 180 V

Application: Direct on LSA-Plus separation or connection bars



MCR protection for two-core systems

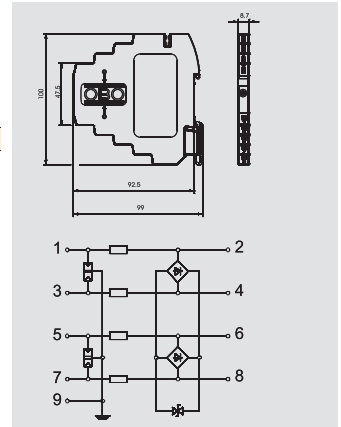
Type	Nominal voltage V	Version	Maximum continuous voltage Vc AC	Maximum continuous voltage Vc DC	Pack. pcs	Weight kg/100 pcs.	Item No.
MDP-4 D-24-T	24	4-pole	20	28	1	5.800	5098 43 1

/pc.

MDP.../D...T: Lightning barrier with test function

- Protection device for multi-wire systems
- Direct shield earthing
- With easy-to-mount screwless connection terminals
- Space-saving width of just 8.1 mm
- Protection circuit testable with Life Control
- High bandwidth to 100 MHz

Application: Use on 35 mm hat profile rail in any standard distribution housing.



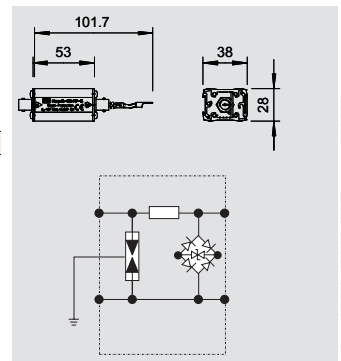
Surge protection for coaxial systems

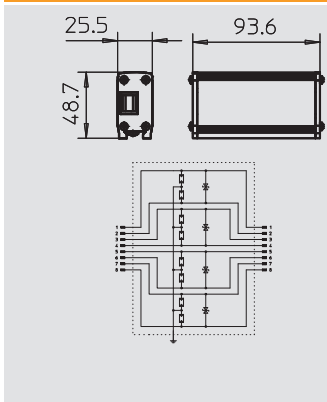
Type	Version	Connection system	Pack. pcs	Weight kg/100 pcs.	Item No.
KOAX B-E2 MF-F	Fine protection	Coax connector	1	15.000	5082 42 0

/pc.

Data line protection device for coaxial Ethernet network systems.

- In aluminium housing
- BNC connector for Cheapernet, 10BASE2
- Simple installation with adapter plug
- Two-stage protection circuit
- Suitable for the protection of video signals; cameras and/or TV systems





Surge protection for network technology

Type	Version	Connection system	Pack.	Weight	Item No.
			pcs	kg/100 pcs.	
ND-CAT6A/EA	8-pole	RJ45	1	16.600	5081 80 0

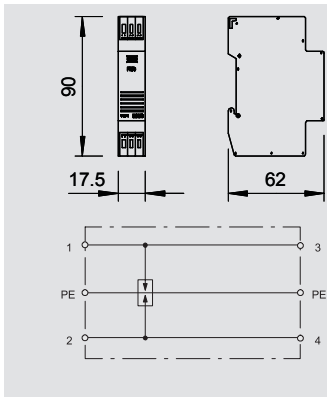


/pc.

Data cable protection devices for high-speed networks

- High-quality RJ-45 sockets
- Low protection level at high current load
- Support for Power over Ethernet + up to 1 A
- Tested transmission quality in networks up to 10 GBit (Class EA) or CAT6A
- Quick installation through connectable version

Application example: 10 GBit Ethernet, 10/100 MBit Ethernet, PoE applications



Basic protection for dual cores

Type	U _{max} DC	U _{max} AC	Pack.	Weight	Item No.
	V	V	pcs	kg/100 pcs.	
TKS-B	170	120	1	7.500	5097 97 5

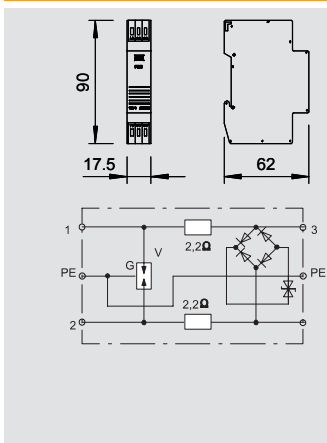


/pc.

Basic protection for use in measuring, control and regulation systems, as well as telecommunication systems

- Basic protection for lightning protection equipotential bonding
- High impulse deflection capacity 6 kA (10/350)
- With installation-friendly, screwless connection terminals
- In space-saving 17.5 mm grid

Application: Universal use on 35 mm hat profile rail in any standard distributor housings.



Combined protection for HF applications and BUS systems

Type	U _{max} DC	U _{max} AC	Pack.	Weight	Item No.
	V	V	pcs	kg/100 pcs.	
FRD 24 HF	28	19.7	1	5.000	5098 57 4



/pc.

Surge protection for use in measuring, control and regulation systems.


- Basic, medium and fine protection
- Two-stage protection circuit with high lightning current carrying capacity
- High transmission frequency of 100 MHz
- Suitable for all bus systems (e.g. Profibus)
- With installation-friendly, screwless connection terminals
- In space-saving 17.5 mm grid

Application: Multi-purpose use on any 35 mm hat profile rail in every commercially available distribution housings.





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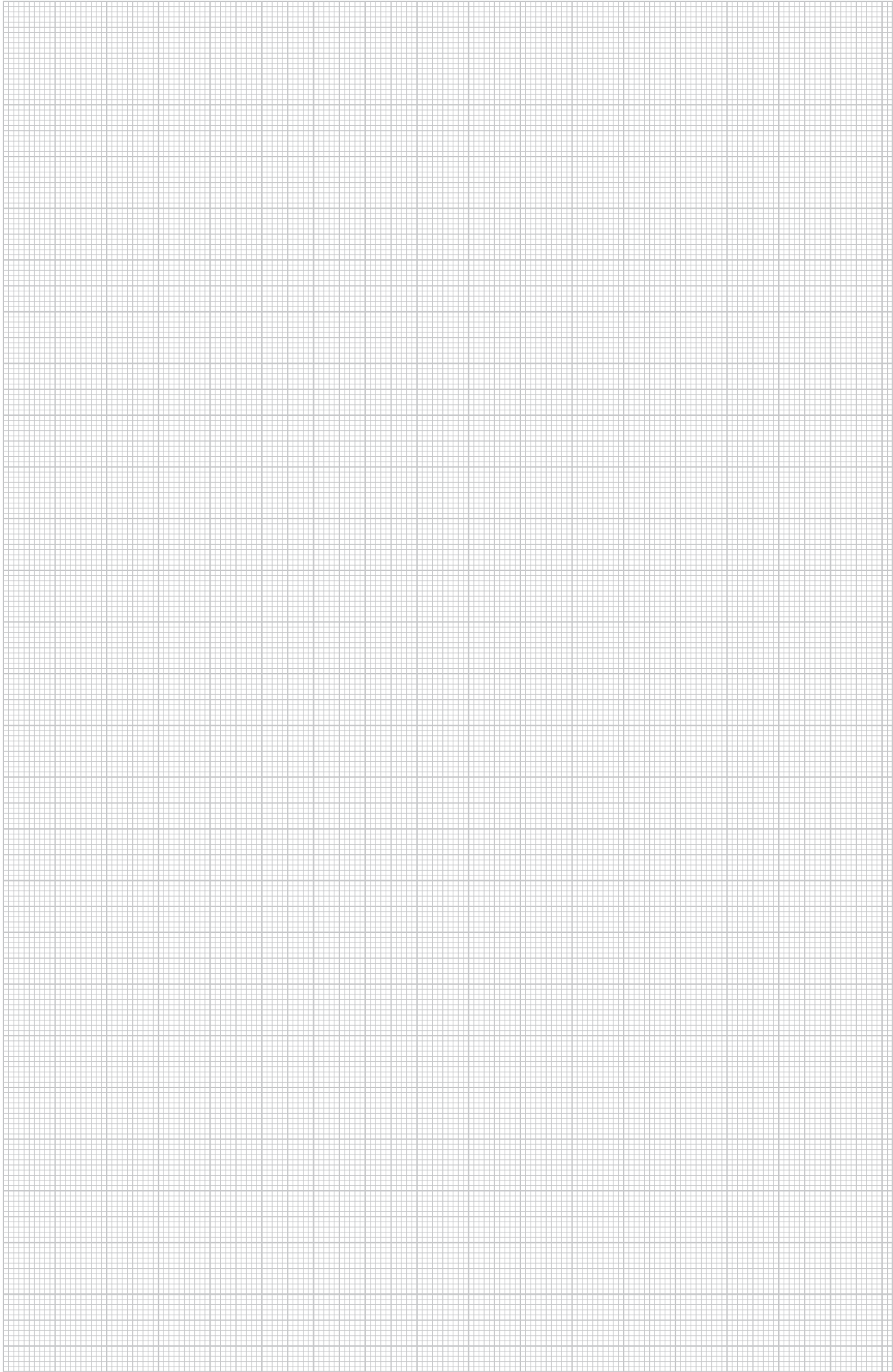
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6257171	7136 92 7		21
6257232	7136 93 5		21
6257294	7136 94 3		21
6257355	7136 97 8		21



Type listing

Structure of the EAN number: Country code 40

Manufacturer code 1219 (for articles beginning with 0: 1010)

Individual EAN-C 5647589

Type	Dimensions/Colour/Div.	EAN-C.	Art. no.	Price	Page	Type	Dimensions/Colour/Div.	EAN-C.	Art. no.	Price	Page
61 325 LGR	Light grey 2000 / PA	5879916	2054 48 5	price/100 pc.	40	2056 76 VA	70-76 25 / V2A	5064275	1159 62 3	price/100 pc.	23
61 525 LGR	Light grey 2000 / PA	5825319	2054 50 7		40	2056 M 12 VA	8-12 23 / V2A	5668190	1159 71 2		32
61 825 LGR	Light grey 1000 / PA	5477976	2054 52 3		40	2056 M 16 VA	12-16 23 / V2A	5668206	1159 71 6		32
						2056 M 22 VA	16-22 23 / V2A	5668213	1159 72 2		32
101 ALU-2000	2000 / Al	5427872	5401 83 6		50	2056 M 28 VA	22-28 23 / V2A	5668220	1159 72 8		32
						2056 M 34 VA	28-34 23 / V2A	5668268	1159 73 4		32
129 M16	M16 Light grey / PE	5490753	2047 81 0		33	2056 M 40 VA	34-40 23 / V2A	5668275	1159 74 0		32
129 M20	M20 Light grey / PE	5490692	2047 82 9		33	2056 M 46 VA	40-46 23 / V2A	5668282	1159 74 6		32
129 M25	M25 Light grey / PE	5490630	2047 83 7		33	2056 M 52 VA	46-52 23 / V2A	5668299	1159 75 2		32
129 M32	M32 Light grey / PE	5487692	2047 85 3		33	2056 M 58 VA	52-58 23 / V2A	5668305	1159 75 8		32
129 M40	M40 Light grey / PE	5037699	2047 86 1		33	2056 M 64 VA	58-64 23 / V2A	5668312	1159 76 4		32
						2056 M 70 VA	64-70 25 / V2A	5668329	1159 77 0		32
						2056 M 76 VA	70-76 25 / V2A	5668336	1159 77 6		32
177 20 VA M6	/ V2A	5404774	5207 33 9		50	2056U 12 VA	8-12 20 / V2A	5074595	1178 50 4		23
249 8-10 ALU	44 / Al	5417736	5311 51 9		50	2056U 12 VA	8-12 20 / V2A	5074595	1178 50 4		32
250 VA	/ V2A	5418757	5312 92 2		51	2056U 16 VA	12-16 20 / V2A	5074656	1178 51 2		23
						2056U 22 VA	16-22 20 / V2A	5074717	1178 52 0		32
733 16 VA	14-16 6,5 x 10 / V2A	5116714	1362 01 1		33	2056U 22 VA	16-22 20 / V2A	5074717	1178 52 0		23
733 19 VA	17-19 6,5 x 10 / V2A	5116776	1362 03 8		33	2056U 28 VA	22-28 20 / V2A	5074779	1178 53 9		32
733 21 VA	19-21 6,5 x 10 / V2A	5116837	1362 04 6		33	2056U 28 VA	22-28 20 / V2A	5074779	1178 53 9		23
733 23 VA	21-23 6,5 x 10 / V2A	5116899	1362 05 4		33	2056U 34 VA	28-34 20 / V2A	5074830	1178 54 7		32
733 29 VA	24-29 6,5 x 10 / V2A	5116950	1362 06 2		33	2056U 34 VA	28-34 20 / V2A	5074830	1178 54 7		23
733 38 VA	30-38 6,5 x 10 / V2A	5117018	1362 07 0		33	2056U 40 VA	34-40 20 / V2A	5074892	1178 55 5		32
733 48 VA	39-48 6,5 x 10 / V2A	5117070	1362 08 9		33	2056U 40 VA	34-40 20 / V2A	5074892	1178 55 5		23
733 54 VA	48-54 6,5 x 14 / V2A	5117131	1362 09 7		33	2056U 46 VA	40-46 20 / V2A	5074953	1178 56 3		32
733 61 VA	53-61 6,5 x 14 / V2A	5117193	1362 10 0		33	2056U 46 VA	40-46 20 / V2A	5074953	1178 56 3		23
733 63 VA	63-63 8 x 18 / V2A	5117254	1362 12 7		33	2056U 52 VA	46-52 20 / V2A	5075011	1178 57 1		32
927 2	/ V2A	5388630	5057 52 3		51	2056U 52 VA	46-52 20 / V2A	5075011	1178 57 1		23
						2056U 58 VA	52-58 23 / V2A	5075073	1178 59 8		23
1268 L 1M VA	/ V2A	5627074	1104 49 8	price/100 m	31	2056U 64 VA	58-64 23 / V2A	5075134	1178 60 1		32
1268 L 2M VA	/ V2A	5627081	1104 50 1		31	2056U 64 VA	58-64 23 / V2A	5075134	1178 60 1		23
						2056U 70 VA	64-70 23 / V2A	5075196	1178 62 8		32
						2056U 70 VA	64-70 23 / V2A	5075196	1178 62 8		23
						2056U 76 VA	70-76 25 / V2A	5075257	1178 63 6		32
						2056U 76 VA	70-76 25 / V2A	5075257	1178 63 6		23
1802 10 VA	/ V2A	5002284	5015 86 6	/pc.	51	2060 2M VA	/ V2A	5627098	1105 12 5	price/100 m	31
1809 A	Black / V2A	5959427	5015 11 1		51	2063 L 2M VA	/ V2A	5627128	1112 70 9		31
2056 12 VA	8-12 23 / V2A	5063612	1159 51 8	price/100 pc.	23	2068 L 2M VA	/ V2A	5047650	1119 70 2		31
2056 16 VA	12-16 23 / V2A	5063674	1159 52 6		23	2068 L 6M VA	/ V2A	5047711	1119 72 9		31
2056 22 VA	16-22 23 / V2A	5063735	1159 53 4		23	2078 M10 VA	M10 10 / V2A	5023579	3141 31 2	price/100 pc.	16
2056 28 VA	22-28 23 / V2A	5063797	1159 54 2		23	2078 M12 VA	M12 12 / V2A	5594437	3141 31 4		16
2056 34 VA	28-34 23 / V2A	5063858	1159 55 0		23	2078 M8 VA	M8 8 / V2A	5023456	3141 31 0		16
2056 40 VA	34-40 23 / V2A	5063919	1159 56 9		23	5017 M10 OS VA	M10 / V4A	5086017	1143 12 7		32
2056 46 VA	40-46 23 / V2A	5063971	1159 57 7		23	5017 M6 OS VA	M6 / V4A	5119920	1143 12 3		32
2056 52 VA	46-52 23 / V2A	5064039	1159 58 5		23	5017 M8 OS VA	M8 / V4A	5085980	1143 12 5		32
2056 58 VA	52-58 23 / V2A	5064091	1159 59 3		23						
2056 64 VA	58-64 23 / V2A	5064152	1159 60 7		23	5052 V4A 30X3.5	/ V4A	5800477	5018 70 6	price/100 m	51
2056 70 VA	64-70 25 / V2A	5064213	1159 61 5		23						

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Type	Dimensions/Colour/Div.	EAN-C.	Art. no.	Price	Page	Type	Dimensions/Colour/Div.	EAN-C.	Art. no.	Price	Page
AW 15 11 VA4301	110 50/ V2A	6207558	6421 00 8	/pc.	29	B 9 T M 5	Light grey/ PP	5541936	2001 84 5	price/100 pc.	36
AW 15 11 VA4571	110 50/ V4A	6817634	6392 00 8								
AW 15 21 VA4301	210 60/ V2A	6207619	6421 02 4	/pc.	29	BW 60 40 VA4301	/ V2A	6014651	6019 58 7	/pc.	23
AW 15 21 VA4571	210 60/ V4A	6817696	6392 01 6								
AW 15 31 VA4301	310 65/ V2A	6207671	6421 03 2	/pc.	29	CEE-16A		5125594	6109 87 4	/pc.	46
AW 15 31 VA4571	310 65/ V4A	6817757	6392 02 4								
AW 15 41 VA4301	410 70/ V2A	5061953	6421 03 6	/pc.	29	CEE-32A		5125600	6109 87 6	/pc.	46
AW 15 41 VA4571	410 70/ V4A	6817818	6392 03 2								
AW 15 51 VA4301	510 75/ V2A	5061960	6421 04 0	price/100 m	29	CPS 4L 2M VA	/ V2A	5050179	1121 96 0	price/100 m	31
AW 15 51 VA4571	510 75/ V4A	6817870	6392 04 0								
AW 15 61 VA4301	610 80/ V2A	5061977	6421 04 4	/pc.	29	CPS 4L 6M VA	/ V2A	5049999	1121 90 1	/pc.	31
AW 15 61 VA4571	610 80/ V4A	6817931	6392 05 9								
AW 30 11 VA4301	110 60/ V2A	6208937	6442 80 3	/pc.	29	CPS 5 L 2M VA	/ V2A	5049272	1121 48 0	/pc.	31
AW 30 11 VA4571	110 60/ V4A	5021049	6443 61 5								
AW 30 21 VA4301	210 70/ V2A	6209057	6442 83 8	/pc.	29	DFAA 100 VA4301	100 1/ V2A	6257058	7136 90 0	/pc.	21
AW 30 21 VA4571	210 70/ V4A	6349753	6443 31 1								
AW 30 31 VA4301	310 80/ V2A	6209118	6442 85 4	/pc.	29	DFAA 200 VA4301	200 1/ V2A	6257119	7136 91 9	/pc.	21
AW 30 31 VA4571	310 80/ V4A	6955879	6443 62 1								
AW 30 41 VA4301	410 80/ V2A	6209170	6442 87 0	/pc.	29	DFAA 300 VA4301	300 1/ V2A	6257171	7136 92 7	/pc.	21
AW 30 41 VA4571	410 80/ V4A	6554478	6443 34 6								
AW 30 51 VA4301	510 90/ V2A	6209231	6442 89 7	/pc.	29	DFAA 400 VA4301	400 1,25/ V2A	6257232	7136 93 5	/pc.	21
AW 30 51 VA4571	510 90/ V4A	5021094	6443 62 5								
AW 30 61 VA4301	610 100/ V2A	6209293	6442 91 9	/pc.	29	DFAA 500 VA4301	500 1,25/ V2A	6257294	7136 94 3	/pc.	21
AW 30 61 VA4571	610 100/ V4A	5021100	6443 62 7								
AW 55 21 VA4301	210 90/ V2A	6441433	6443 06 3	/pc.	29	DFAA 600 VA4301	600 1,25/ V2A	6257355	7136 97 8	/pc.	21
AW 55 31 VA4301	310 110/ V2A	6441495	6443 06 7								
AW 55 41 VA4301	410 130/ V2A	6617111	6443 07 1	/pc.	29	DFB 90 100VA4301	100 1/ V2A	6254897	7134 90 8	/pc.	21
AW 55 51 VA4301	510 145/ V2A	6661091	6443 07 5								
AW 55 61 VA4301	610 165/ V2A	6661152	6443 07 9	/pc.	29	DFB 90 200VA4301	200 1/ V2A	6254958	7134 91 6	/pc.	21
AW 55 71 VA4301	710 195/ V2A	6661879	6443 08 3								
AW30 56 VA4571	560 100/ V4A	5049722	6443 62 6	/pc.	29	DFB 90 300VA4301	300 1/ V2A	6255016	7134 92 4	/pc.	21
AWG 15 11 VA4571	110 65/ V4A	5706304	6420 64 2								
AWG 15 11VA4301	110 50/ V2A	5058373	6420 62 5	/pc.	29	DFB 90 400VA4301	400 1,25/ V2A	6255078	7134 93 2	/pc.	21
AWG 15 21 VA4571	210 65/ V4A	5706311	6420 64 4								
AWG 15 21VA4301	210 60/ V2A	5058380	6420 62 8	/pc.	29	DFB 90 500VA4301	500 1,25/ V2A	6255139	7134 94 0	/pc.	21
AWG 15 31VA4301	310 65/ V2A	5058427	6420 63 1								
AWG 15 31VA4571	310 65/ V4A	5395362	6420 64 6	/pc.	29	DFB 90 600VA4301	600 1,25/ V2A	6255191	7134 96 7	/pc.	21
AWG 15 41 VA4571	410 65/ V4A	5706052	6420 64 8								
AWG 15 41VA4301	410 70/ V2A	5058434	6420 63 4	/pc.	29	DKU 120 VA4310	/ V2A	6617050	6065 61 0	/pc.	17
AWG 15 51 VA4571	510 65/ V4A	5706328	6420 65 0								
AWG 15 51VA4301	510 75/ V2A	5058502	6420 63 7	/pc.	29	DKU 120 VA4310	/ V2A	6617050	6065 61 0	/pc.	20
AWG 15 61 VA4571	610 65/ V4A	5706359	6420 65 2								
AWG 15 61VA4301	610 80/ V2A	5058540	6420 64 0	/pc.	29	DKU 60 VA4310	/ V2A	6441372	6065 60 0	/pc.	17
AZDMD 100 VA4301	103 10/ V2A	6069613	6080 29 4								
AZDMD 50 VA4301	53 10/ V2A	6069491	6080 19 7	/pc.	29	DKU 60 VA4310	/ V2A	6441372	6065 60 0	/pc.	20
AZK 050 VA4301	50 1,5/ V2A	6069071	6075 15 0								
AZK 100 VA4301	100 1,5/ V2A	6069255	6075 30 4	/pc.	29	DRL 100 VA4301	100 1/ V2A	6058877	6052 87 8	/pc.	21
B 9 T M	Light grey/ PP	5540076	2001 85 3								
				/m	25	DRL 200 VA4301	200 1/ V2A	6058938	6052 89 4	/m	23
				/m	29	DRL 200 VA4301	200 1/ V2A	6058938	6052 89 4	/m	21
				/m	29	DRL 300 VA4301	300 1/ V2A	6058990	6052 90 8	/m	23
				/m	29	DRL 300 VA4301	300 1/ V2A	6058990	6052 90 8	/m	21
				/m	29	DRL 400 VA4301	400 1/ V2A	6059058	6052 93 2	/m	23
				/m	29	DRL 400 VA4301	400 1/ V2A	6059058	6052 93 2	/m	21
				/m	29	DRL 500 VA4301	500 1,25/ V2A	6059119	6052 95 9	/m	23
				/m	29	DRL 500 VA4301	500 1,25/ V2A	6059119	6052 95 9	/m	21
				/m	25	DRL 600 VA4301	600 1,25/ V2A	6059171	6052 97 5	/m	23
				/m	25	DRL 600 VA4301	600 1,25/ V2A	6059171	6052 97 5	/m	21
				/m	25	DRLU 050 VA4301	50 1/ V2A	6031818	6052 82 1	/m	17
				/m	25	DRLU 050 VA4301	50 1/ V2A	6031818	6052 82 1	/m	20
				/m	25	DRLU 100 VA4301	100 1/ V2A	6031931	6052 82 4	/m	17
				/m	25	DRLU 100 VA4301	100 1/ V2A	6031931	6052 82 4	/m	20
				/m	25	DRLU 100 VA4571	100 1/ V4A	5021124	6052 99 1	/m	17
				/m	25	DRLU 100 VA4571	100 1/ V4A	5021124	6052 99 1	/m	20
				price/100 pc.	36	DRLU 150 VA4301	150 1/ V2A	6031993	6052 82 8	price/100 pc.	17
				price/100 pc.	36	DRLU 150 VA4301	150 1/ V2A	6031993	6052 82 8	price/100 pc.	20

Type listing

Structure of the EAN number: Country code **40**

Manufacturer code **1219** (for articles beginning with **0: 1010**)

Individual EAN-C **5647589**

Type	Dimensions/Colour/Div.	EAN-C.	Art. no.	Price	Page	Type	Dimensions/Colour/Div.	EAN-C.	Art. no.	Price	Page
DRLU 200 VA4301	200 1/ V2A	6032051	6052 83 1	/m	17	FRS 10X30 VA4301	M10 x 30 30/ V2A	6200535	6406 72 6	price/100 pc.	30
DRLU 200 VA4301	200 1/ V2A	6032051	6052 83 1		20						
DRLU 200 VA4571	200 1/ V4A	5021155	6052 99 3		17	FRS 12X25 VA4301	M12 x 25 25/ V2A	6200597	6406 75 0		30
DRLU 200 VA4571	200 1/ V4A	5021155	6052 99 3		20	FRS 12X25 VA4401	M12 x 25 25/ V4A	6064328	6406 78 5		30
DRLU 300 VA4301	300 1/ V2A	6032174	6052 83 4		17	FRS 12X30 VA4301	M12 x 30 30/ V2A	6200658	6406 76 9		30
DRLU 300 VA4301	300 1/ V2A	6032174	6052 83 4		20						
DRLU 300 VA4571	300 1/ V4A	5021162	6052 99 4		17	FRS 6X12 VA4401	M6 x 12 12/ V4A	6291311	6406 56 4		30
DRLU 300 VA4571	300 1/ V4A	5021162	6052 99 4		20	FRS 6X16 VA4401	M6 x 16 16/ V4A	6817573	6406 58 0		30
DRLU 400 VA4301	400 1/ V2A	6032235	6052 83 7		17						
DRLU 400 VA4301	400 1/ V2A	6032235	6052 83 7		20	FRS 6X20 VA4401	M6 x 20 20/ V4A	6603077	6406 61 0		30
DRLU 400 VA4571	400 1/ V4A	5021216	6052 99 5		17						
DRLU 400 VA4571	400 1/ V4A	5021216	6052 99 5		20	FRS 8X16 VA4301	M8 x 16 16/ V2A	6200412	6406 69 6		30
DRLU 500 VA4301	500 1,25/ V2A	6032297	6052 84 1		17	FRS 8X20 VA4301	M8 x 20 20/ V2A	6200719	6406 80 7		30
DRLU 500 VA4301	500 1,25/ V2A	6032297	6052 84 1		20						
DRLU 500 VA4571	500 1,25/ V4A	5021223	6052 99 6		17	FRS 8X25 VA4301	M8 x 25 25/ V2A	6200771	6406 81 5		30
DRLU 500 VA4571	500 1,25/ V4A	5021223	6052 99 6		20	FRS 8X35 VA4301	M8 x 35 35/ V2A	6200832	6406 82 3		30
DRLU 600 VA4301	600 1,25/ V2A	6032358	6052 84 4		17						
DRLU 600 VA4301	600 1,25/ V2A	6032358	6052 84 4		20	FRSB 6X12 VA4301	M6 x 12 12/ V2A	6200238	6406 52 1		30
DRLU 600 VA4571	600 1,25/ V4A	5021247	6052 99 8		17	FRSB 6X16 VA4301	M6 x 16 15/ V2A	6200290	6406 55 6		30
DRLU 600 VA4571	600 1,25/ V4A	5021247	6052 99 8		20	FRSB 6X20 VA4301	M6 x 20 20/ V2A	6200351	6406 60 2		30
DSK 25 VA4301	25/ V2A	5706045	6416 44 8	/pc.	26	G-GRM 125 75 VA	75 125/ V2A	5686491	6005 55 6	/m	15
DSK 25 VA4571	25/ V4A	5618485	6416 45 0		27						
DSK 45 VA4301	25/ V2A	6202751	6416 48 9		28	G-GRM 150 100 VA	100 155/ V2A	5686507	6005 55 9		15
DSK 45 VA4571	25/ V4A	6818235	6416 46 2		28	G-GRM 50 50 VA	55 55/ V2A	5686477	6005 55 0		15
DSK 47 VA4301	25/ V2A / blk	5018346	6416 50 7		28	G-GRM 75 50 VA	53 73/ V2A	5686484	6005 55 3		15
DSK 47 VA4571	25/ V4A / blk	5018407	6416 51 1		28						
EDR 25 16-20 LGR	M25/ PVC	5246909	2011 50 6	price/100 pc.	37	GKB 34 VA	/ V2A	5694069	6016 67 6	/pc.	16
EDR 25 20-25 LGR	M25/ PVC	5246916	2011 51 4		37	GKS 34 VA4301	/ V2A	6013456	6016 83 9		16
EDR 32 20-25 LGR	M32/ PVC	5246923	2011 52 2		37	GKS 34 VA4401 SP	/ V4A	6120437	6016 85 9		16
EDR 32 25-32 LGR	M32/ PVC	5246930	2011 53 0		37	GKT 38 VA4301	/ V2A	6013579	6017 04 5		16
EDR 40 25-32 LGR	M40/ PVC	5246947	2011 53 8		37	GKT 38 VA4401 SP	/ V4A	6120499	6017 09 2		16
EDR 40 32-40 LGR	M40/ PVC	5246954	2011 54 6		37	GMH18 M10 VA	M10 10-10 / V4A	5084907	1146 56 0	price/100 pc.	32
ELB-L20 VA4301	200 3000/ V2A	5037354	6103 61 4	/m	24	GMH18 M12 VA	M12 12-12 / V4A	5084167	1146 56 2		32
ELB-L30 VA4301	300 3000/ V2A	5037361	6103 61 8		24	GMH18 M6 VA	M6 6-6 / V4A	5084129	1146 55 6		32
ELB-L40 VA4301	400 3000/ V2A	5037378	6103 62 2		24	GMH18 M8 VA	M8 8-8 / V4A	5084150	1146 55 8		32
ELB-L50 VA4301	500 3000/ V2A	5037385	6103 62 6		24	GMH22 M10 VA	M10 10-10 / V4A	5084211	1146 65 0		32
ELB-L60 VA4301	600 3000/ V2A	5037415	6103 63 0		24	GMH22 M12 VA	M12 12-12 / V4A	5084228	1146 65 2		32
FAZ II 10/10GS V	M 10 90/ V4A	5692713	3498 82 4	price/100 pc.	30	GMH22 M6 VA	M6 6-6 / V4A	5084174	1146 64 6		32
FAZ II 12/10 VA	M12 103/ V4A	5692652	3498 85 9		30	GMH22 M8 VA	M8 8-8 / V4A	5084181	1146 64 8		32
F-FIX-16		5548713	5403 20 0		50	GMS 170 VA4401	170/ V4A	6952090	6015 41 8	/pc.	17
FRD 24 HF	28 19,7	5814993	5098 57 4	/pc.	55	GMS 270 VA4401	270/ V4A	6952151	6015 41 9		17
FRS 10X20 VA4301	M10 x 20 20/ V2A	6200894	6406 86 6	price/100 pc.	30	GMS 370 VA4401	370/ V4A	6952212	6015 42 0		17
FRS 10X20 VA4401	M10 x 20 20/ V4A	6822072	6406 87 0		30	GMS 470 VA4401	470/ V4A	6952274	6015 42 1		17
FRS 10X20SVA4401	M10 x 20 20/ V4A	6437894	6406 87 2		30	GMS 570 VA4401	570/ V4A	6952335	6015 42 2		17
FRS 10X25 VA4301	M10 x 25 25/ V2A	6200474	6406 71 8		27	GRM 35 100VA4301	100 3,9/ V2A	5467700	6000 05 5	/m	14
FRS 10X25 VA4301	M10 x 25 25/ V2A	6200474	6406 71 8		28	GRM 35 100VA4401	100 3,9/ V4A	5360759	6000 08 7		14
FRS 10X25 VA4301	M10 x 25 25/ V2A	6200474	6406 71 8		30	GRM 35 150VA4301	150 3,9/ V2A	5467731	6000 05 6		14
					30	GRM 35 150VA4401	150 3,9/ V4A	5360766	6000 08 9		14
					27	GRM 35 200VA4301	200 3,9/ V2A	5470724	6000 05 7		14
					30	GRM 35 200VA4401	200 3,9/ V4A	5360773	6000 09 0		14

Type	Dimensions/Colour/Div.	EAN-C.	Art. no.	Price	Page	Type	Dimensions/Colour/Div.	EAN-C.	Art. no.	Price	Page
GRM 35 300VA4301	300 4,8/ V2A	5470731	6000 05 9	/m	14	LG 640 VS VA4301	400 1,5/ V2A	5064435	6208 70 6	/m	22
GRM 35 300VA4401	300 4,8/ V4A	5360780	6000 09 1		14	LG 640 VS VA4571	400 1,5/ V4A	5022114	6101 21 6		22
GRM 35 50VA4301	50 3,9/ V2A	5650591	6000 05 4		14	LG 650 VS VA4301	500 1,5/ V2A	5064442	6208 70 9		22
GRM 55 100VA4301	100 3,9/ V2A	6101290	6001 07 2		14	LG 650 VS VA4571	500 1,5/ V4A	5022121	6101 22 3		22
GRM 55 100VA4401	100 3,9/ V4A	5166016	6001 08 8		14	LG 660 VS VA4301	600 1,5/ V2A	5064473	6208 71 2		22
GRM 55 150VA4301	150 3,9/ V2A	6101351	6001 07 4		14	LG 660 VS VA4571	600 1,5/ V4A	6524952	6101 23 2		22
GRM 55 150VA4401	150 3,9/ V4A	5166023	6001 09 0		14						
GRM 55 200VA4301	200 3,9/ V2A	6101412	6001 07 6		14	LGVG 60 VA4301	60/ V2A	5065647	6208 94 7	/pc.	22
GRM 55 200VA4401	200 3,9/ V4A	5166061	6001 09 1		14	LGVG 60 VA4571	60/ V4A	5046370	6208 93 2		22
GRM 55 300VA4301	300 4,8/ V2A	6101771	6001 07 8		14	LSA-B-MAG		5525318	5084 02 0		54
GRM 55 300VA4401	300 4,8/ V4A	5166078	6001 09 3		14						
GRM 55 400VA4301	400 4,8/ V2A	6102198	6001 08 0		14						
GRM 55 400VA4401	400 4,8/ V4A	5166085	6001 09 5		14	LTG 100	100 2080/ V2A	5652700	6003 83 0	/m	15
GRM 55 500VA4301	500 4,8/ V2A	6102259	6001 08 2		14						
GRM 55 500VA4401	500 4,8/ V4A	5166122	6001 09 7		14						
GRM 55 50VA4301	50 3,9/ V2A	5430933	6001 07 0		14	LVG 60 VA4301	60/ V2A	5065579	6208 84 6	/pc.	22
GRM 55 50VA4401	50 3,9/ V4A	5431046	6001 08 7		14	LVG 60 VA4571	60/ V4A	6666799	6208 83 5		22
GRM 55 600VA4301	600 4,8/ V2A	6102310	6001 08 5		14	LWVG 60 VA4301	60/ V2A	5065616	6208 89 8		22
GRM 55 600VA4401	600 4,8/ V4A	5166139	6001 09 9		14	LWVG 60 VA4571	60-60 / V4A	5022084	6208 89 1		22
GRM105 100VA4301	100 3,9/ V2A	5149620	6002 45 1		14	MCD 50-B 3+1		5077091	5096 87 9		52
GRM105 200VA4301	200 4,8/ V2A	5149637	6002 45 7		14	MDP-4 D-24-T		5406884	5098 43 1		54
GRM105 300VA4301	300 4,8/ V2A	5149644	6002 46 0		14						
GRM105 400VA4301	400 4,8/ V2A	5149675	6002 46 3		14	MKSU 610 VA4301	100 0,8/ V2A	6063970	6063 77 2	/m	18
GRM105 500VA4301	500 4,8/ V2A	5149682	6002 46 6		14	MKSU 620 VA4301	200 0,8/ V2A	6064038	6063 78 0		18
GRV 245 VA4404	245/ V4A	6054312	6016 68 8	/pc.	16	MKSU 630 VA4301	300 0,8/ V2A	6064090	6063 79 9		18
GSV 34 VA4301	/ V2A	6013210	6016 64 2		16	MKSU 640 VA4301	400 1/ V2A	6064151	6063 84 5		18
GSV 34 VA4401	/ V4A	6120079	6016 64 8		16	MKSU 650 VA4301	500 1/ V2A	6064212	6063 86 1		18
K12 1818 VA4301	/ V2A	6013036	6016 42 1		16	MKSU 660 VA4301	600 1/ V2A	6064274	6063 88 8		18
KOAX B-E2 MF-F		5684855	5082 42 0		54	MP UNI VA4301	115 170/ V2A	5166320	7085 13 3	/pc.	17
KS GR VA4310	/ V2A	5694625	6062 28 2	price/100 pc.	15	MPG 65 VA4404	81 65/ V4A	6933372	6006 48 8		17
KS KR VA4310	/ V2A	5694618	6062 28 0		18	MPG 90 VA4404	111 95/ V4A	6933433	6006 48 9		17
KSR-910 PE	Light grey 20 x 58/ PE	6065172	6066 71 2	/pc.	25	MS 21 L 3M V2A	/ V2A	5697558	1122 92 8	price/100 m	31
KSR-915 PE	Light grey 28 x 58/ PE	6065110	6066 70 4		25	MS 21 L 6M V2A	/ V2A	5697565	1122 92 9		31
KU 3 V VA4301	/ V2A	5706038	6348 88 4		27	MS 41 LS1M 2 V2A	/ V2A	5698333	1123 01 4		31
KU 3 V VA4571	/ V4A	5395393	6348 88 5		27	MS 41 LS3M 2 V2A	/ V2A	5698340	1123 01 6		31
KU 5 V VA4301	/ V2A	5018360	6348 92 5		28	MS 41 LS6M 2 V2A	/ V2A	5698388	1123 01 8		31
KU 5 V VA4571	/ V4A	5018452	6348 92 7		28	ND-CAT6A/EA		5614364	5081 80 0	/pc.	55
KVM		5577768	2363 01 0		37	RAA 610 VA4301	100/ V2A	6821235	7136 12 0		19
KVM-M		5686354	2363 01 5	/VPE	37	RAA 620 VA4301	200/ V2A	6821297	7136 13 3		19
KVM-P		5687771	2363 01 9	/pc.	37	RAA 630 VA4301	300/ V2A	6821358	7136 14 1		19
LG 620 VS VA4301	200 1,5/ V2A	5064411	6208 70 0		22	RAAU 640 VA4301	400/ V2A	6256877	7136 24 2		20
LG 620 VS VA4571	200 1,5/ V4A	6159314	6101 20 0	/m	22	RAAU 650 VA4301	500/ V2A	6256938	7136 25 0		20
LG 630 VS VA4301	300 1,5/ V2A	5064428	6208 70 3		22	RAAU 660 VA4301	600/ V2A	6256990	7136 26 9		20
LG 630 VS VA4571	300 1,5/ V4A	6514038	6101 20 8		22	RB90 610 VA4301	100/ V2A	6820870	7134 12 2		19

Type listing

Structure of the EAN number: Country code 40

Manufacturer code 1219 (for articles beginning with 0: 1010)

Individual EAN-C 5647589

Type	Dimensions/Colour/Div.	EAN-C.	Art. no.	Price	Page	Type	Dimensions/Colour/Div.	EAN-C.	Art. no.	Price	Page
RB90 620 VA4301	200 / V2A	6820931	7134 13 0	/pc.	19	SKHW 110 OR	Pastel orange / PE	5668022	6310 39 8	/pair	24
RB90 630 VA4301	300 / V2A	6820993	7134 13 8		19					/pc.	
RBU 90 640VA4301	400 / V2A	6254712	7134 23 1		19	SKS 10X80 VA4401	M10 x 80 80 / V4A	6822133	6418 24 8		27
RBU 90 650VA4301	500 / V2A	6254774	7134 25 8		19	SKS 10X80 VA4401	M10 x 80 80 / V4A	6822133	6418 24 8		28
RBU 90 660VA4301	600 / V2A	6254835	7134 26 6		19						
				price/100 m		SM16 VA	M16x1,5 3000 / V2A	5622338	2047 65 7	price/100 m	33
RD 8-ALU-T	/ Al	5901273	5021 29 4		50	SM20 VA	M20x1,5 3000 / V2A	5622345	2047 65 8		33
						SM25 VA	M25x1,5 3000 / V2A	5622352	2047 66 0		33
RGV 60 VA4301	60 / V2A	6230839	7082 25 8	/pc.	19	SM32 VA	M32x1,5 3000 / V2A	5622369	2047 66 1		33
RGV 60 VA4571	60 / V4A	6080113	7082 26 5		19	SM40 VA	M40x1,5 3000 / V2A	5622376	2047 66 2		33
				/m							
RKSM 610 VA4301	100 0,75 / V2A	5706083	6047 61 3		18					/pc.	
RKSM 610 VA4571	100 0,75 / V4A	5706113	6047 61 4		18	SSLB 100 VA4301	85 / V2A	6095728	7070 35 3		20
						SSLB 100 VA4571	85 / V4A	5021520	7070 39 0		20
RKSM 615 VA4301	150 0,75 / V2A	5706120	6047 63 2		18						
RKSM 615 VA4571	150 0,75 / V4A	5706137	6047 63 3		18	SSLB 200 VA4301	185 / V2A	6095780	7070 36 1		20
						SSLB 200 VA4571	185 / V4A	5021582	7070 39 2		20
RKSM 620 VA4301	200 0,75 / V2A	5706144	6047 64 0		18						
RKSM 620 VA4571	200 0,75 / V4A	5706175	6047 64 1		18	SSLB 300 VA4301	285 / V2A	6095841	7070 36 5		20
						SSLB 300 VA4571	285 / V4A	5021605	7070 39 4		20
RKSM 630 VA4301	300 0,75 / V2A	5706182	6047 65 6		18						
RKSM 630 VA4571	300 0,75 / V4A	5706199	6047 65 7		18	SSLB 400 VA4301	385 / V2A	6095902	7070 36 9		20
						SSLB 400 VA4571	385 / V4A	5021766	7070 39 6		20
RKSM 640 VA4301	400 0,9 / V2A	5706205	6047 69 1		18						
RKSM 640 VA4571	400 0,9 / V4A	5706236	6047 69 2		18	SSLB 500 VA4301	485 / V2A	6095964	7070 37 3		20
						SSLB 500 VA4571	485 / V4A	5021711	7070 39 8		20
RKSM 650 VA4301	500 0,9 / V2A	5706243	6047 72 1		18						
RKSM 650 VA4571	500 0,9 / V4A	5706250	6047 72 2		18	SSLB 600 VA4301	585 / V2A	6096022	7070 38 1		20
						SSLB 600 VA4571	585 / V4A	5021827	7070 40 0		20
RKSM 660 VA4301	600 0,9 / V2A	5706267	6047 73 7		18						
RKSM 660 VA4571	600 0,9 / V4A	5706298	6047 73 8		18						
				/pc.						price/100 pc.	
RLVK 60 VA4301	60-60 / V2A	6066018	6067 65 4		19	SVM16 VA	M16x1,5 32 / V2A	5622475	2047 67 3		33
RLVK 60 VA4571	60-60 / V4A	6955459	6067 67 5		19	SVM20 VA	M20x1,5 40 / V2A	5622482	2047 67 4		33
RWEB 610 VA4301	100 / V2A	6242054	7109 81 4		19	SVM25 VA	M25x1,5 40 / V2A	5622499	2047 67 6		33
RWEB 620 VA4301	200 / V2A	6242115	7109 83 0		19	SVM32 VA	M32x1,5 44 / V2A	5622505	2047 67 7		33
RWEB 630 VA4301	300 / V2A	6242177	7109 85 7		19	SVM40 VA	M40x1,5 50 / V2A	5622512	2047 67 8		33
RWEB 640 VA4301	400 / V2A	6242238	7109 87 3		19	T 100	/ PP	5246794	2007 07 7		36
RWEB 650 VA4301	500 / V2A	6242290	7109 90 3		19	T 100 F	/ PP	5286547	2007 34 7		36
RWEB 660 VA4301	600 / V2A	6242351	7109 93 8		19	T 100 KL	/ PP	5441212	2007 43 6		36
RWVL 60 VA4301	60 / V2A	6066070	6067 66 2		19	T 100 RO-LGR	/ PP	5303282	2007 64 4		36
RWVL 60 VA4571	60 / V4A	6343157	6067 66 4		19	T 160	/ PP/GF	5246800	2007 09 3		36
S901F	Graphite black	5125556	6109 87 2		46	T 160 F	/ PP/GF	5286554	2007 35 5		36
				price/100 pc.		T 160 KL	/ PP/GF	5682189	2007 44 0		36
SBM16 VA	M16x1,5 178 / V2A	5622611	2047 69 0		33	T 160 RW	/ PP/GF	5286684	2007 54 1		36
SBM20 VA	M20x1,5 183 / V2A	5622628	2047 69 2		33	T 60	/ PP	5246787	2007 06 1		36
SBM25 VA	M25x1,5 207 / V2A	5622635	2047 69 3		33	T 60 F	/ PP	5286509	2007 33 9		36
SBM32 VA	M40x1,5 245 / V2A	5622642	2047 69 4		33	T 60 KL	/ PP	5441182	2007 43 4		36
SBM40 VA	M40x1,5 288 / V2A	5622659	2047 69 5		33	T 60 RO-LGR	/ PP	5303275	2007 63 8		36
				/pc.						/pc.	
SC-TELE 4-C-G		5834793	5081 68 8		54	TKS-B	170 120	5336730	5097 97 5		55
SKH 60 OR	Pastel orange / PE	5668008	6222 53 7		22	TSG 30 VA4301	30 3000 / V2A	5694502	6062 05 2	/m	15

Type	Dimensions/Colour/Div.	EAN-C.	Art. no.	Price	Page	Type	Dimensions/Colour/Div.	EAN-C.	Art. no.	Price	Page
TSG 30 VA4571	30 3000/ V4A	5694533	6062 05 4	/m	15	US 5 50 VA4571	500 2,5/ V4A	6182053	6341 05 7	/pc.	28
TSG 45 VA4301	45 3000/ V2A	5694441	6062 02 5		15	US 5 60 VA4571	600 2,5/ V4A	6183319	6341 05 9		28
TSG 45 VA4571	45 3000/ V4A	5694472	6062 02 8		15	US 5 70 VA4301	700 2,5/ V2A	6081851	6341 12 1		28
TSG 60 VA4301	60 3000/ V2A	5694557	6062 08 4		18	US 5 80 VA4301	800 2,5/ V2A	6081912	6341 12 5		28
TSG 60 VA4571	60 3000/ V4A	5694564	6062 08 6		18	US 5 80 VA4571	800 2,5/ V4A	6237135	6341 06 3		28
TSG 85 VA4301	85 3000/ V2A	5694601	6062 17 3		15	US 5 90 VA4301	900 2,5/ V2A	6081974	6341 12 9		28
TSGV VA4310	/ V2A	5694724	6067 97 0	/pc.	15	US 5 90 VA4571	900 2,5/ V4A	6183371	6341 06 5		28
TSGV VA4310	/ V2A	5694724	6067 97 0		18	US 5 K 100VA4301	1000 2,5/ V2A	6350711	6341 39 0		27
US 3 100 VA4301	1000 2/ V2A	5705727	6342 46 0		26	US 5 K 100VA4571	1000 2,5/ V4A	6459919	6341 24 1		27
US 3 100 VA4571	1000 2/ V4A	5705833	6342 49 1		26	US 5 K 120VA4301	1200 2,5/ V2A	6350834	6341 39 8		27
US 3 150 VA4301	1500 2/ V2A	5705765	6342 46 3		26	US 5 K 120VA4571	1200 2,5/ V4A	6816613	6341 24 9		27
US 3 150 VA4571	1500 2/ V4A	5705840	6342 49 4		26	US 5 K 20 VA4301	200 2,5/ V2A	6477135	6341 35 8		27
US 3 200 VA4301	2000 2/ V2A	5705772	6342 46 6		26	US 5 K 20 VA4571	200 2,5/ V4A	6815531	6341 20 9		27
US 3 200 VA4571	2000 2/ V4A	5705871	6342 49 7		26	US 5 K 30 VA4301	300 2,5/ V2A	6644230	6341 36 2		27
US 3 300 VA4301	300 2/ V2A	5705703	6342 45 5		26	US 5 K 30 VA4571	300 2,5/ V4A	6815593	6341 21 3		27
US 3 300 VA4571	300 2/ V4A	5705789	6342 48 5		26	US 5 K 40 VA4301	400 2,5/ V2A	6350292	6341 36 6		27
US 3 50 VA4301	500 2/ V2A	5705710	6342 45 7		26	US 5 K 40 VA4571	400 2,5/ V4A	6815654	6341 21 7		27
US 3 50 VA4571	500 2/ V4A	5705826	6342 48 8		26	US 5 K 50 VA4301	500 2,5/ V2A	6350414	6341 37 0		27
US 3 600 VA4301	6000 2/ V2A	5706373	6342 46 8		26	US 5 K 50 VA4571	500 2,5/ V4A	6815715	6341 22 1		27
US 3 600 VA4571	6000 2/ V4A	5618478	6342 50 5		26	US 5 KS OR	Pastel orange/ PE	5668046	6338 46 2		27
US 3 K 100VA4301	1000 2/ V2A	5705437	6342 41 7		26	V10 COMPACT 255		5076551	5093 38 0		53
US 3 K 100VA4571	1000 2/ V4A	5705697	6342 39 7		26	V20-C 3+NPE-280		5240099	5094 65 6		52
US 3 K 20VA4301	200 2/ V2A	5705352	6342 40 1		26	V50-B+C 3+NPE		5425120	5093 65 4		52
US 3 K 20VA4571	200 2/ V4A	5705635	6342 37 5		26	VF AZK VA4301	/ V2A	6065059	6066 56 9		25
US 3 K 30VA4301	300 2/ V2A	5705369	6342 40 3		26	VF230-AC/DC	255 350	5447856	5097 64 9		53
US 3 K 30VA4571	300 2/ V4A	5395355	6342 53 0		26	VHF-8 LG	Graphite black/ PA	5125204	6109 82 2		44
US 3 K 40VA4301	400 2/ V2A	5705376	6342 40 5		26	VHF-8L LG	Graphite black/ PA	5125228	6109 82 7		44
US 3 K 40VA4571	400 2/ V4A	5705642	6342 37 9		26	VHF-AE4TE		5125341	6109 85 0		45
US 3 K 50VA4301	500 2/ V2A	5705383	6342 40 7		26	VHF-F100	/ St	5125259	6109 83 0		44
US 3 K 50VA4571	500 2/ V4A	5705659	6342 38 1		26	VHF-P1	Rape yellow/ PVC	5125532	6109 86 8		45
US 3 K 60VA4301	600 2/ V2A	5705390	6342 40 9		26	VHF-P10	Rape yellow/ PVC	5125457	6109 86 3		44
US 3 K 60VA4571	600 2/ V4A	5618461	6342 38 9		26	VHF-P11	Rape yellow/ PVC	5125464	6109 86 4		45
US 3 K 70VA4301	700 2/ V2A	5705406	6342 41 1		26	VHF-P3	Rape yellow/ PVC	5125501	6109 86 5		45
US 3 K 70VA4571	700 2/ V4A	5705666	6342 39 1		26	VHF-P6	Rape yellow/ PVC	5125525	6109 86 7		45
US 3 K 80VA4301	800 2/ V2A	5705413	6342 41 3		26	VHF-P7	Rape yellow/ PVC	5477440	6109 87 8		45
US 3 K 80VA4571	800 2/ V4A	5705673	6342 39 3		26	VHF-P8	Rape yellow/ PVC	5477457	6109 87 9		45
US 3 K 90VA4301	900 2/ V2A	5705420	6342 41 5		26	VHF-P9	Rape yellow/ PVC	5125518	6109 86 6		45
US 3 K 90VA4571	900 2/ V4A	5705680	6342 39 5		26	VHF-T1	/ St	5125372	6109 85 2		46
US 3 KS OR	Pastel orange/ PE	5668039	6338 45 8		26	VHF-T2	/ St	5125389	6109 85 4		46
US 5 100 VA4301	1000 2,5/ V2A	6082094	6341 13 3		28	VHF-TW	Graphite black/ PVC	5125396	6109 86 0		44
US 5 110 VA4301	1100 2,5/ V2A	6082155	6341 13 7		28	VHF-TW L	Graphite black/ PVC	5125402	6109 86 1		44
US 5 120 VA4301	1200 2,5/ V2A	6082216	6341 14 1		28	VH-K800	/ St	5125549	6109 87 0	/m	44
US 5 20 VA4301	200 2,5/ V2A	6081554	6341 10 1		28						
US 5 30 VA4301	300 2,5/ V2A	6081615	6341 10 5		28						
US 5 30 VA4571	300 2,5/ V4A	5020981	6341 05 3		28						
US 5 300 VA4301	3000 2,5/ V2A	6082278	6341 15 2		28						
US 5 300 VA4571	3000 2,5/ V4A	5022305	6341 07 3		28						
US 5 40 VA4301	400 2,5/ V2A	6081677	6341 10 9		28						
US 5 40 VA4571	400 2,5/ V4A	6181995	6341 05 5		28						
US 5 50 VA4301	500 2,5/ V2A	6081738	6341 11 3		28						

Type listing

Structure of the EAN number: Country code **40**

Manufacturer code **1219** (for articles beginning with **0: 1010**)

Individual EAN-C **5647589**

Type	Dimensions/Colour/Div.	EAN-C.	Art. no.	Price	Page	Type	Dimensions/Colour/Div.	EAN-C.	Art. no.	Price	Page	
VTEC EX M12 SW	M12 x 1,5 Black / PA	5596295	2050 30 7	price/100 pc.	39	WRGV 110 VA4301	110-110 / V2A	6897018	6091 33 8	/pc.	24	
VTEC EX M16 SW	M16 x 1,5 Black / PA	5594857	2050 31 5		39							
VTEC EX M20 SW	M20 x 1,5 Black / PA	5594734	2050 32 3		39	WRVL 110 VA4301	110-110 / V2A	6901814	6091 22 9		24	
VTEC EX M25 SW	M25 x 1,5 Black / PA	5594673	2050 33 1		39							
VTEC EX M32 SW	M32 x 1,5 Black / PA	5594611	2050 35 8		39	WRVVK 110 VA4301	110-110 / V2A	6309672	6091 39 3		24	
VTEC EX M40 SW	M40 x 1,5 Black / PA	5315131	2050 36 6		39							
VTEC EX M50 SW	M50 x 1,5 Black / PA	5316695	2050 37 4		39							
VTEC EX M63 SW	M63 x 1,5 Black / PA	5373391	2050 38 2		39							
V-TEC M KA M20	M20x1,5 Light grey / PA	5502456	2024 82 9			37						
V-TEC VM L12 LGRM12x1,5	Light grey / PA	5004127	2022 94 3		38							
V-TEC VM L16 LGRM16x1,5	Light grey / PA	5004141	2022 94 5		38							
V-TEC VM L20 LGRM20x1,5	Light grey / PA	5004158	2022 94 7		38							
V-TEC VM L25 LGRM25x1,5	Light grey / PA	5004202	2022 94 9		38							
V-TEC VM L32 LGRM32x1,5	Light grey / PA	5004240	2022 95 1		38							
V-TEC VM L40 LGRM40x1,5	Light grey / PA	5004257	2022 95 3		38							
V-TEC VM L50 LGRM50x1,5	Light grey / PA	5004264	2022 95 5		38							
V-TEC VM L63 LGRM63x1,5	Light grey / PA	5004301	2022 95 7		38							
V-TEC VM LM12 MS	M12 x 1,5 / CuZn / N	5810254	2086 11 1		38							
V-TEC VM LM16 MS	M16 x 1,5 / CuZn / N	5810377	2086 11 7		38							
V-TEC VM LM20 MS	M20 x 1,5 / CuZn / N	5810438	2086 12 3		38							
V-TEC VM LM25 MS	M25 x 1,5 / CuZn / N	5810735	2086 12 9		38							
V-TEC VM LM32 MS	M32 x 1,5 / CuZn / N	5810858	2086 13 5		38							
V-TEC VM LM40 MS	M40 x 1,5 / CuZn / N	5810971	2086 14 1		38							
V-TEC VM LM50 MS	M50 x 1,5 / CuZn / N	5811152	2086 14 7		38							
V-TEC VM LM63 MS	M63 x 1,5 / CuZn / N	5811213	2086 15 3		38							
V-TEC VM12 LGR	M12 x 1,5 Light grey / PA	5533177	2022 86 2		38							
V-TEC VM12 MS	M12 x 1,5 / CuZn / N	5808992	2086 01 8		38							
V-TEC VM16 LGR	M16 x 1,5 Light grey / PA	5533238	2022 86 4		38							
V-TEC VM16 MS	M16 x 1,5 / CuZn / N	5809234	2086 02 4		38							
V-TEC VM20 LGR	M20 x 1,5 Light grey / PA	5533658	2022 86 6		38							
V-TEC VM20 MS	M20 x 1,5 / CuZn / N	5809418	2086 03 0		38							
V-TEC VM25 LGR	M25 x 1,5 Light grey / PA	5533719	2022 86 8		38							
V-TEC VM25 MS	M25 x 1,5 / CuZn / N	5809593	2086 03 6		38							
V-TEC VM32 LGR	M32 x 1,5 Light grey / PA	5533771	2022 87 0		38							
V-TEC VM32 MS	M32 x 1,5 / CuZn / N	5809777	2086 04 2		38							
V-TEC VM40 LGR	M40 x 1,5 Light grey / PA	5533832	2022 87 2		38							
V-TEC VM40 MS	M40 x 1,5 / CuZn / N	5809890	2086 04 8		38							
V-TEC VM50 LGR	M50 x 1,5 Light grey / PA	5533894	2022 87 4		38							
V-TEC VM50 MS	M50 x 1,5 / CuZn / N	5810070	2086 05 4		38							
V-TEC VM63 LGR	M63 x 1,5 Light grey / PA	5533955	2022 87 6		38							
V-TEC VM63 MS	M63 x 1,5 / CuZn / N	5810131	2086 06 0		38							
VUS 3 VA4301	/ V2A	5706007	6018 51 7	/pc.	26							
VUS 3 VA4571	/ V4A	5618454	6018 52 0		26							
WB 30 75 VA4301	/ V2A	6014774	6019 66 8		22							
WKLK 1120 VA4301	200 2/ V2A	5037262	6311 20 2	/m	24							
WKLK 1130 VA4301	300 2/ V2A	5037293	6311 20 6		24							
WKLK 1140 VA4301	400 2/ V2A	5037309	6311 21 0		24							
WKLK 1150 VA4301	500 2/ V2A	5037316	6311 21 4		24							
WKLK 1160 VA4301	600 2/ V2A	5037323	6311 21 8		24							

Terms and conditions of sale and delivery of the companies OBO BETTERMANN GmbH & Co. KG and 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 August 2004



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.

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