

High Voltage Cable Accessories

Product catalog



CABLES
Well connected.

HV Terminations	3
Dry type plug in GIS and Transformer terminations	5
GIS/Transformer plug in terminations type TFD	5
GIS Insulator sets type TFD	6
Transformer Insulator sets type TTD	7
Testing-plate set type TFD / TTD	8
Contact resistance-meter type TFD / TTD	9
Fluid filled GIS and Transformer Terminations	10
GIS Terminations type TF	10
Transformer terminations type TT	11
Fluid filled Outdoor Terminations	12
Outdoor terminations type TE	12
Outdoor terminations type FR	14
Oil expansion tanks for fluid-filled terminations	16
Oil expansion tanks type ET2 and ET2-H	16
Oil expansion tanks type ET12 and ET12-H	17
HV Joints	19
Joints for Polymer Cables	21
Joint type MPFH	21
Joint type MPFP	22
Joint type MPCP	23
Joint type MPCC	24
Joint type MPSP	25
Transition Joints	26
Transition joint type TOS	26
HV Grounding Accessories	27
Link Boxes for Joints	29
Link boxes LB 68	29
Link Boxes for Terminations	30
Link boxes LB 66	30
Grounding sets for terminations	32
Grounding sets for outdoor terminations	32
Grounding sets for GIS and Transformer terminations	33
HV Cable Clamps	35
Fixing Clamps	37
Fastening clamp type BCT	37
Clamp type BFB 1	38
Clamp type BFBT 1	39
Supporting cross type STKR	40
Profile rail type PS	40
Slot nut type PSVN	41
Anchoring Clamps	42
Anchoring clamp type BAF	42
Anchoring clamp type BAFT	43
Anchoring clamp type BA	44
Anchoring clamp type BAT	46
Jig type ML	48
Dowel type MLS	49
Dowel type MLD	49
Cable Belts BRIFIX	50
BRIFIX® cable belts type KG	50
BRIFIX® cable belt endless type KGE	51

HV Terminations

GIS/Transformer plug in terminations type TFD

Dry type plug-in terminations

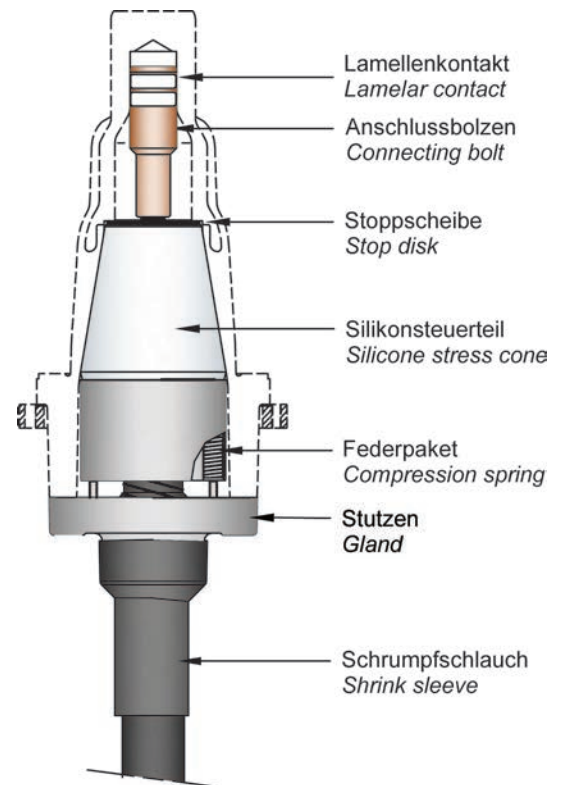
For polymeric cables up to 300 kV

Brugg dry type plug-in terminations offer highest quality and application flexibility as GIS or Transformer cable termination for system voltages up to 300 kV. Based on the outstanding properties of the prefabricated and electrically tested slip on stress cones, the reliable modular construction of the TFD terminations allow its application to all types of polymeric insulated cables independently of the cable manufacturer. Thanks to the dry type insulation the cable terminations can be easily installed in any position.

All Brugg dry type plug in terminations are type tested according to the international standards IEC 60840 (≤ 170 kV) and IEC 62067 (> 170 kV). For the long-term reliability of the termination plug in part, each unit of stress cones produced are electrically routine tested in our factory.

Product main features

- For all polymeric cables
- Easy installation in any position
- Adjustable spring tension force
- Application range per stress cone up to 6 mm
- Factory tested silicone rubber stress cone
- Cable screen connection without plumbing



Technical data

Type	Drawing	Max. operating voltage U_m kV	Max. operating current A	Range of diameter over prepared cable insulation, min. - max. mm	Equivalent cable cross-section (Cu/Al) ¹ mm ²
TDF 1.145-11	S1960-4	145	2500	45 - 82	240 - 1200
TDF 1.145-12	S1961-4	145	4000	70 - 101	1200 - 2500
TDF 1.170-11	S1867-4	170	4000	45 - 101	240 - 2500
TDF 1.245-11	S1870-4	245	4000	70 - 130	400 - 2500
TDF 1.300-11	S1897-4	300	4000	70 - 130	400 - 2500

¹ Values for reference only. The exact application depend on the diameter over the prepared cable insulation.

Note: Insulator not scope of delivery. Insulator sets to be ordered separately.

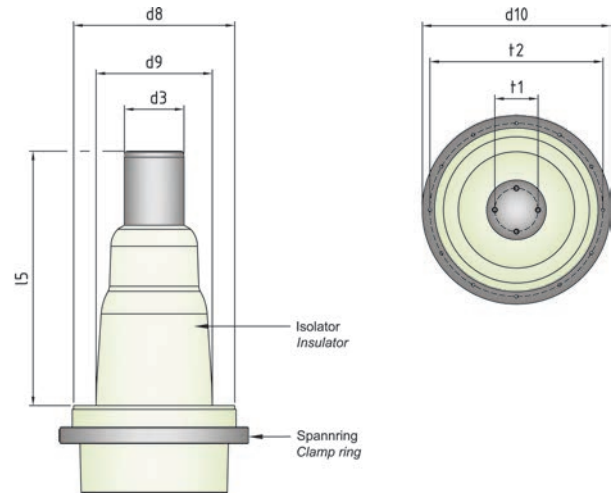
GIS Insulator sets type TFD

Insulator sets up to 300 kV

Brugg dry type insulator sets offer high flexibility to SF6 insulated switchgears for system voltages up to 300 kV. Regardless of whether the required dimensions of the cable compartment are for a dry type or a fluid filled type termination as per IEC 62271-209, each insulator set is provided with all necessary elements for the fast and easy installation to any switchgear independently of the manufacturer. For the long-term reliability all insulators are factory tested as per EN 50089 requirements. All materials used are UV and corrosion resistant thus allowing the terminations to be applicable for both indoors and outdoors installations.

Product main features

- Designs according to IEC 62271-209
- Factory tests according EN 50089
- Complete set ready for installation
- Easy adaptation to all GIS
- Operating current 4000 A
- Short circuit current up to 50 kA, 3 sec



Main dimensions according to IEC 62271-209

Type	l5 mm	d3 mm	d8 mm	d9 mm	d10 mm	t1 mm	t2 mm
TFD 145/170 kV	470	110	298	215	348	80	320
TFD 145/170 kV ext.	757	110	298	215	348	80	320
TFD 245/300 kV	620	200	454	345	500	110	475
TFD 245/300 kV ext.	960	200	559	385	620	110	582

Technical data

Type	Drawing	Part no	Description
TFD 145/170 kV	S1779-4	89385	dry type, fixing ring for 1 phase arrangement
TFD 145/170 kV	S1779-4	89387	dry type, fixing ring for 3 phase arrangement
TFD 145/170 kV ext.	S1938-4	89446	dry type, fixing ring for 1 phase arrangement
TFD 145/170 kV ext.	S1938-4	89447	dry type, fixing ring for 3 phase arrangement
TFD 245/300 kV	S1843-4	89386	dry type, fixing ring for 1 phase arrangement
TFD 245/300 kV ext.	S1908-4	89395	dry type, fixing ring for 1 phase arrangement

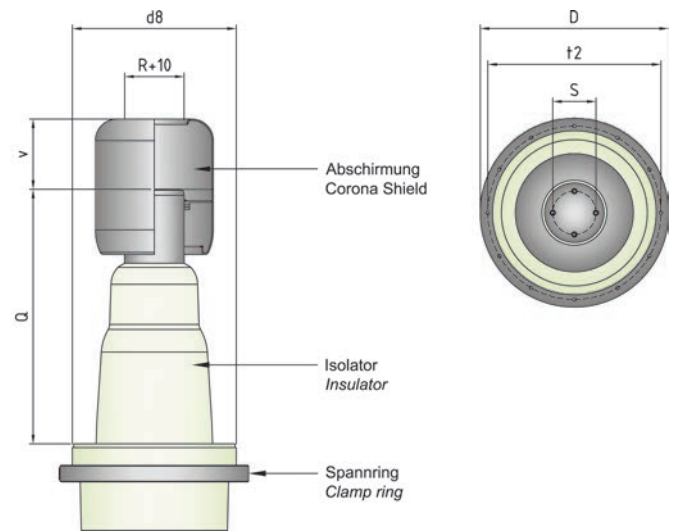
Transformer Insulator sets type TTD

Insulator sets up to 300 kV

Brugg dry type insulator sets offer high flexibility to oil insulated transformers for system voltages up to 300 kV. Regardless of whether the required dimensions of the cable compartment are for dry type terminations according to EN 50299-2 or fluid filled terminations according to EN 50299-1, each insulator set is provided with all necessary elements for the fast and easy installation to any transformer independently of the manufacturer. For the long-term reliability all insulators are in addition factory tested as per EN 50089 requirements. All materials used are UV and corrosion resistant thus allowing the terminations to be applicable for both indoors and outdoors installations.

Product main features

- Designs according to EN 50299-1/ -2
- Factory tests according EN 50089
- Complete set ready for installation
- Easy adaptation to all transformers
- Operating current 4000 A
- Short circuit current up to 50 kA, 3 sec



Main dimensions according to EN 50299-1 / -2

Type	Q mm	V mm	d8 mm	R+10 mm	D mm	S mm	t2 mm
TTD 145/170 kV	470	120	298	110	348	80	320
TTD 145/170 kV ext.	757	120	298	110	348	80	320
TTD 245/300 kV ext.	960	160	559	150	620	110	582

Technical data

Type	Drawing	Part no	Description
TTD 145/170 kV	S1940-4	89448	dry type, fixing ring for 1 phase arrangement
TTD 145/170 kV ext.	S1939-4	89449	dry type, fixing ring for 1 phase arrangement
TTD 245/300 kV ext.	S1909-4	89396	dry type, fixing ring for 1 phase arrangement

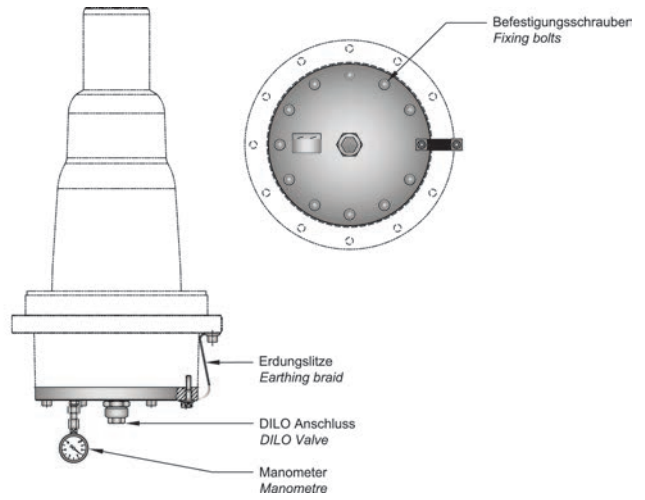
Testing-plate set type TFD / TTD

For Insulators up to 300 kV

The testing-plates allow the performance of electrical tests onto pre-installed insulator female sets type TFD onto SF6 gas-insulated switchgears or TTD onto oil-immersed transformers up to 300 kV. In addition the testing-plate can be used as a blind cover until male plug in cable terminations are connected to the equipment.

Product main features

- Complete set ready for installation
- Manometer indication -1 bar to 8 bar
- For SF6 or N2 insulating gas
- Compatible to all TFD and TTD insulators
- Free of grease
- Fully reusable



Electrical data

Type	AC withstand voltage kV / 1 min	Partial discharge pC / kV	BIL kV	SIL kV
TFD/TTD 145/170 kV	325	< 5 / 131	750	-
TFD/TTD 245/300 kV	460	< 5 / 240	1050	850

Technical data

Type	Drawing	Part no	for insulators
TFD/TTD 145/170 kV	S1879-4	89444	TFD, TTD
TFD/TTD 245/300 kV	S1842-4	89438	TFD, TTD

Note: Insulating gas not scope of delivery.

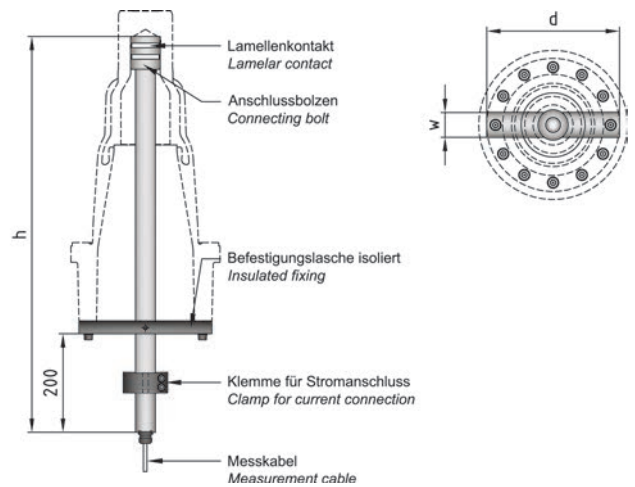
Contact resistance-meter type TFD / TTD

For Insulator female sets up to 300 kV

The contact resistance-meter allows determining the correct contact resistance between insulator female sets type TFD or TTD and SF6 gas-insulated switchgears or oil-immersed transformers up to 300 kV. Each set is provided with all necessary material for a fast installation.

Product main features

- Complete set ready for installation
- With measurement cable
- Easy adaptation to all insulator sets TFD and TTD
- Max. operating current up to 1000 A



Dimensions

Type	mm	d mm	w mm
TFD/TTD 145/170 kV	803	270	50
TFD/TTD 245/300 kV	986	364	50

Technical data

Type	Drawing	Part no	for insulators
TFD/TTD 145/170 kV	S1937-4	89450	TFD, TTD
TFD/TTD 245/300 kV	S1941-4	89440	TFD, TTD

Note: Measurement equipment (e.g. voltmeter) not scope of delivery.

GIS Terminations type TF

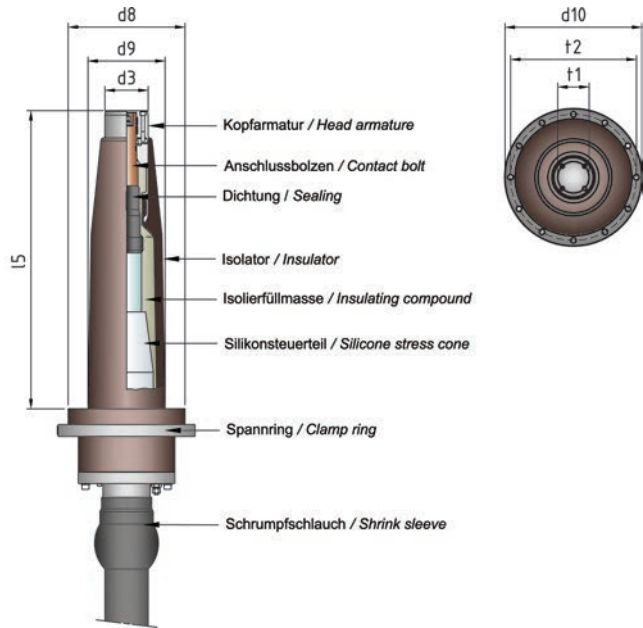
Fluid filled terminations

For polymeric cables up to 550 kV

Brugg offers a complete range of fluid filled terminations for gas-insulated switchgears (GIS) for voltage systems up to 550 kV and cross sections up to 2500 mm². Based on the outstanding properties of the prefabricated and electrically tested slip on stress cones, the reliable modular construction of the TF terminations allow its application to all types of polymeric insulated cables independently of the cable manufacturer. The insulators are designed according to IEC 62271-209 allowing its installation to all switchgears independently from the manufacturer. All materials used are UV and corrosion resistant thus allowing the terminations to be applicable for both indoors and outdoors installations. All terminations are type tested according to the international standards IEC 60840 (≤ 170 kV) and IEC 62067 (> 170 kV).

Product main features

- For all types of polymeric insulated cables
- Wide application range
- Pre-fabricated and factory tested silicon rubber stress cone
- Insulators tested according to EN 50089
- Cold pouring silicone oil
- Cable screen connection without plumbing



Main dimensions according to IEC 62271-209

Type	l5 mm	d3 mm	d8 mm	d9 mm	d10 mm	t1 mm	t2 mm
TF 1.72-11	583	110	245	196	300	80	270
TF 1.170-11	757	110	298	196	348	80	320
TF 1.170-12	757	110	298	229	348	80	320
TF 1.245-11	960	150	558	360	620	110	582
TF 1.300-11	960	150	558	360	620	110	582
TF 1.420-11	1400	150	616	435	690	110	640
TF 1.550-11	1400	150	616	435	690	110	640

Technical data

Type	Drawing	Max. operating voltage U _m kV	Range of diameter over prepared cable insulation, min. - max. mm	Equivalent cable cross-section (Cu/Al) ¹ mm ²	Max. cable diameter mm
TF 1.72-11	S1942-4	72.5	35 - 71	240 - 1200	115
TF 1.170-11	S1917-4	170.0	57 - 80	240 - 1200	115
TF 1.170-12	S1916-4	170.0	80 - 115	1000 - 2500	150
TF 1.245-11	S1943-4	245.0	58 - 115	240 - 2500	150
TF 1.300-11	S1576-4	300.0	76 - 115	400 - 2500	150
TF 1.420-11	S1640-4	420.0	76 - 129	400 - 2500	170
TF 1.550-11	S1491-4	550.0	76 - 129	400 - 2500	170

¹ Values for reference only. The exact application depend on the diameter over the prepared cable insulation.

Note: for installations > 45° oil expansion tanks type ET-2 are required. For 420 kV and 550 kV ET-2 tanks are necessary.

Transformer terminations type TT

Fluid filled terminations

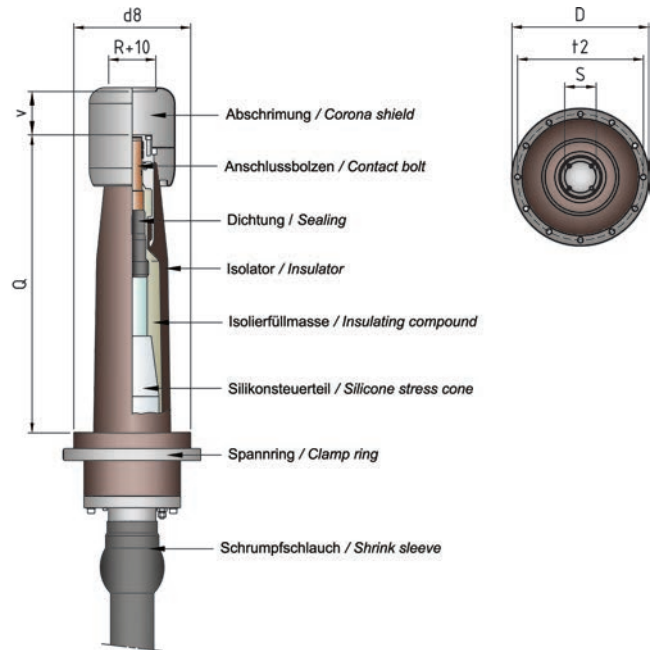
For polymeric cables up to 550 kV

Brugg offers a complete range of conventional fluid filled terminations for oil-immersed transformers for voltage systems up to 550 kV and cross sections up to 2500 mm². Based on the outstanding properties of the prefabricated and electrically tested slip on stress cones, the reliable modular construction of the TT terminations allow its application to all types of polymeric insulated cables independently of the cable manufacturer. The insulators and corona shields are designed according to EN 50299-1 thus allowing its installation to all transformers independently from the manufacturer. All materials used are UV and corrosion resistant thus allowing the terminations to be applicable for both indoors and outdoors installations.

All terminations are type tested according to the international standards IEC 60840 (≤ 170 kV) and IEC 62067 (> 170 kV).

Product main features

- For all types of polymeric insulated cables
- Wide application range
- Sliding contact system for Cu and Al conductors
- Pre-fabricated and factory tested silicone rubber stress cone
- Insulators tested according EN 50089
- Cold pouring silicone oil
- Cable screen connection without plumbing



Main dimensions according to EN 50299-1

Type	Q mm	V mm	d8 mm	R+10 mm	D mm	S mm	t2 mm
TT 1.72-11	583		245		300	80	270
TT 1.170-11	757	120	297	110	348	80	320
TT 1.170-12	757	120	297	110	348	80	320
TT 1.245-11	960	160	558	150	620	110	582
TT 1.300-11	960	160	558	150	620	110	582
TT 1.420-11	1400	160	616	150	690	110	640
TT 1.550-11	1400	160	616	150	690	110	640

Technical data

Type	Drawing	Max. operating voltage U _m kV	Range of diameter over prepared cable insulation, min. - max. mm	Equivalent cable cross-section (Cu/Al) ¹ mm ²	Max. cable diameter mm
TT 1.72-11	S1944-4	72.5	35 - 71	240 - 1200	115
TT 1.170-11	S1929-4	170.0	57 - 80	240 - 1200	115
TT 1.170-12	S1928-4	170.0	80 - 115	1000 - 2500	150
TT 1.245-11	S1945-4	245.0	58 - 115	240 - 2500	150
TT 1.300-11	S1685-4	300.0	76 - 129	400 - 2500	150
TT 1.420-11	S1687-4	420.0	76 - 129	400 - 2500	170
TT 1.550-11	S1750-4	550.0	90 - 129	400 - 2500	170

¹ Values for reference only. The exact application depend on the diameter over the prepared cable insulation.

Note: for installations > 45° oil expansion tanks type ET-2 are required. For 420 kV and 550 kV ET-2 tanks are necessary.

Outdoor terminations type TE

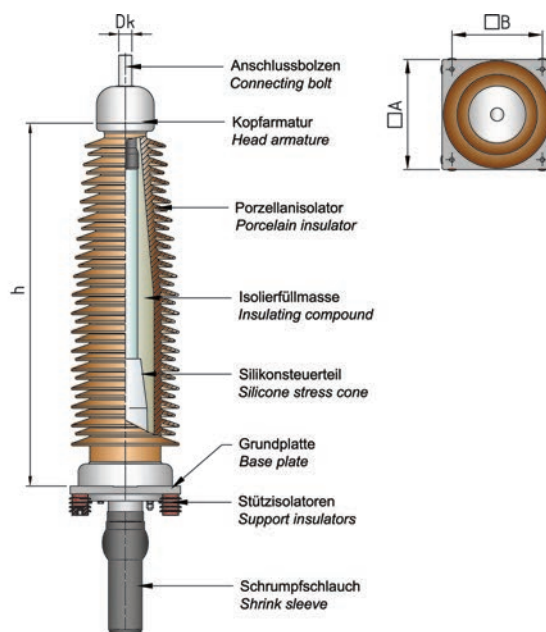
Fluid filled with porcelain insulator

For polymeric cables up to 550 kV

Brugg offers a complete range of solutions for voltage systems up to 550 kV and cross-sections up to 2500 mm². Based on the outstanding properties of the prefabricated and electrically tested one-piece slip on stress cones, the reliable modular construction of the TE termination allow it's application to all types of polymeric insulated cables independently of the cable manufacturer. The porcelain insulator offers excellent mechanical resistance towards birds and rodent attacks. The insulator creepage distances are conceived for pollution severity class E according to IEC 60815-1. In addition all insulators design were conceived according to IEC 60815-2 regulations. All terminations are type tested according to the international standards IEC 60840 as well as IEC 62067 and fulfill also the requirements of American standards IEEE 48.

Product main features

- Outstanding UV, tracking and erosion resistance
- Resistant to birds and rodent attacks
- For all types of polymeric insulated cables
- Configurable base plate and bolt dimensions
- Factory tested silicone rubber stress cone
- Self supported type
- Cold pouring silicone oil
- Screen cable connection without plumbing



Dimensions

Type	mm	Creepage distance mm	A / B mm	DK mm
TE 1.72-11	950	2900	320 / 270, 420 / 345	35 / 50
TE 1.145-11	1553	4700	420 / 345	35 / 50 / 60
TE 1.145-12	1700	5950	420 / 345	35 / 50 / 60
TE 1.145-13	2060	7290	420 / 345	35 / 50 / 60
TE 1.170-11	1700	5950	420 / 345	35 / 50 / 60
TE 1.170-12	2060	7290	420 / 345	35 / 50 / 60
TE 1.245-11	2710	8800	620 / 560	35 / 50 / 60
TE 1.245-12	3040	10000	620 / 560	35 / 50 / 60
TE 1.245-13	4270	13020	620 / 560	35 / 50 / 60
TE 1.300-01	2710	8800	620 / 560	50 / 60
TE 1.420-01	4270	13020	620 / 560	50 / 60
TE 1.420-02	5485	17500	620 / 560	50 / 60
TE 1.420-03	6465	21000	620 / 560	50 / 60
TE 1.550-01	5485	17500	620 / 560	50 / 60

Technical data

Type	Drawing	Max. operating voltage Um kV	Range of diameter over prepared cable insulation, min. - max. mm	Equivalent cable cross-section (Cu/Al) ¹ mm ²	Max. cable diameter mm
TE 1.72-11	S1918-4	72.5	35 - 80	240 - 2000	150
TE 1.145-11	S1919-4	145.0	45 - 115	240 - 2500	150
TE 1.145-12	S1920-4	145.0	45 - 115	240 - 2500	150
TE 1.145-13	S1921-4	145.0	45 - 115	240 - 2500	150
TE 1.170-11	S1922-4	170.0	57 - 115	400 - 2500	150
TE 1.170-12	S1927-4	170.0	57 - 115	400 - 2500	150
TE 1.245-11	S1947-4	245.0	58 - 115	240 - 2500	150
TE 1.245-12	S1948-4	245.0	58 - 115	240 - 2500	150
TE 1.245-13	S1949-4	245.0	58 - 115	240 - 2500	150
TE 1.300-01	S1447-4	300.0	46 - 115	240 - 2500	150
TE 1.420-01	S1296-4	420.0	76 - 129	400 - 2500	150
TE 1.420-02	S1718-4	420.0	76 - 129	400 - 2500	150
TE 1.420-03	S1624-4	420.0	76 - 129	400 - 2500	150
TE 1.550-01	S1674-4	550.0	90 - 129	400 - 2500	170

¹ Values for reference only. The exact application depend on the diameter over the prepared cable insulation.

Note: for installations > 45° oil expansion tanks type ET-2 or ET-12 are required.

Outdoor terminations type FR

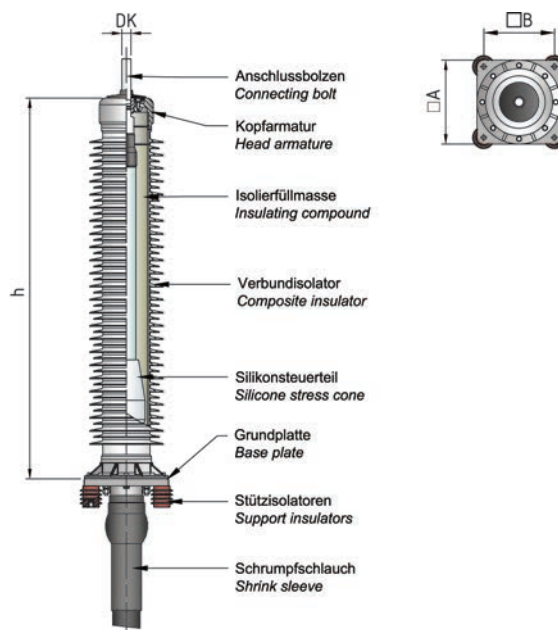
Fluid filled with composite insulator

For polymeric cables up to 550 kV

Brugg offers a complete range of solutions for voltage systems up to 550 kV and cross-sections up to 2500 mm². Based on the outstanding properties of the prefabricated and electrically tested one-piece slip on stress cones, the reliable modular construction of the FR termination allow it's application to all types of polymeric insulated cables independently of the cable manufacturer. The composite insulator offers excellent resistance to ultra violet radiation as well as tracking and erosion proven in numerous climate zones with outstanding results. Due to the inherent hydrophobic properties of the silicone rubber, washing periods of the insulator can be extended thus allowing a considerable maintenance cost reduction. The insulators creepage distances are conceived for pollution severity class E according to IEC 60815-1. In addition all insulators design were conceived according to IEC 60815-3 regulations.

Product main features

- Light weight and easy to handle
- Outstanding UV, tracking and erosion resistance
- Excellent hydrophobic properties
- For all types of polymeric insulated cables
- Configurable base plate and bolt dimensions
- Factory tested silicone stress cone
- Self supported type
- Cold pouring silicone oil
- Cable screen connection without plumbing



Dimensions

Type	h mm	Creepage distance mm	A / B mm	DK mm
FR 1.72-11	865	2400	320 / 270, 420 / 345	35 / 50
FR 1.145-11	1480	4790	320 / 270, 420 / 345	35 / 50
FR 1.145-12	1730	5750	320 / 270, 420 / 345	35 / 50 / 60
FR 1.170-11	1730	5750	320 / 270, 420 / 345	35 / 50 / 60
FR 1.245-11	2464	7820	620 / 560	35 / 50 / 60
FR 1.300-01	3045	9800	620 / 560	50 / 60
FR 1.420-01	4348	15800	900 / 840	50 / 60
FR 1.550-01	5166	18700	900 / 840	50 / 60

Technical data

Type	Drawing	Max. operating voltage U_m kV	Range of diameter over prepared cable insulation, min. - max. mm	Equivalent cable cross-section (Cu/Al) ¹ mm ²	Max. cable diameter mm
FR 1.72-11	S1923-4	72.5	35 - 80	240 - 2000	115
FR 1.145-11	S1924-4	145.0	45 - 80	240 - 2000	115
FR 1.145-12	S1925-4	145.0	80 - 115	1000 - 2500	150
FR 1.170-11	S1926-4	170.0	57 - 115	240 - 2500	150
FR 1.245-11	S1946-4	245.0	58 - 115	240 - 2500	150
FR 1.300-01	S1394-4	300.0	76 - 115	400 - 2500	150
FR 1.420-01	S1820-4	420.0	76 - 129	400 - 2500	170
FR 1.550-01	S1823-4	550.0	90 - 129	400 - 2500	170

¹ Values for reference only. The exact application depend on the diameter over the prepared cable insulation.

Note: for installations > 45° oil expansion tanks type ET-2 or ET-12 are required.

Oil expansion tanks type ET2 and ET2-H

For high voltage cable terminations up to 550 kV

Brugg oil expansion tanks type ET2 and ET2H are easy to install and have been specifically designed for the secure oil expansion compensation for fluid-filled high voltage cable terminations up to 550 kV. The stainless steel housing provides excellent mechanical protection for all types of installation. The "H" version has a special protective coating and allows its use in applications with corrosive environments, such as salty air. For the assurance of a long-term continuous operation in service, the integrated compartment membrane cell is carefully pressurized under controlled conditions during manufacturing. Both sets contain a 3 contact manometer with an IP66 protection rating with 2 meters signal cable. A 10 meter oil connection tube with integrated valve terminals is also provided.

Product main features

- Robust stainless steel V2A housing
- Manometer with V4A housing, 3 contacts and IP66 protection class
- Signal cable 2 meters
- Oil supply tube 10 meters, can be shortened on site
- For indoor and outdoor applications
- Compact dimensions
- Oil operating temperature from -30 °C up to +80 °C
- Pressure gauge types
 - Type 232.30.063 without contacts, range -1 to 10 bar
 - Type 821.1.12 with contacts, range -1 to 5 bar normally open / normally open / normally closed
 - Type 821.2.21 with contacts, range -1 to 5 bar normally closed / normally closed / normally open



Ordering information

Type	Description	Application	Drawing	Pressure gauge type	Part no
ET2	Oil expansion tank for fluid filled HV cable terminations - standard	Standard Corrosion coating, colour grey	S1865-4	232.30.063	89380
ET2	Oil expansion tank for fluid filled HV cable terminations - standard	Standard Corrosion coating, colour grey	S1984-4	821.1.12	83329
ET2	Oil expansion tank for fluid filled HV cable terminations - standard	Standard Corrosion coating, colour grey	S1984-4	821.2.21	83559
ET2-H	Oil expansion tank for fluid filled HV cable terminations - heavy duty	Heavy duty special corrosion coating, colour white	S1985-4	821.1.12	83330
ET2-H	Oil expansion tank for fluid filled HV cable terminations - heavy duty	Heavy duty special corrosion coating, colour white	S1985-4	821.2.21	83560

Additional products (to be ordered separately)

Type	Description	Protection class	W x H x D mm	Part no
Junction box	Junction box for connection of up to 3 manometer signal cables	IP66	180 x 130 x 77	76406

Oil expansion tanks type ET12 and ET12-H

For high voltage cable terminations up to 550 kV

Brugg oil expansion tanks type ET12 and ET12H are easy to install and have been specifically designed for the secure oil expansion compensation for fluid-filled high voltage cable outdoor terminations from 245 kV up to 550 kV. The stainless steel housing provides excellent mechanical protection for all types of installation. The "H" version has a special protective coating and allows its use in applications with corrosive environments, such as salty air. For the assurance of a long-term continuous operation in service, the integrated compartment membrane cell is carefully pressurized under controlled conditions during manufacturing. The sets contain a pressure gauge with an IP66 protection rating. A 10 meter oil connection tube with integrated valve terminals is also provided.

Product main features

- Robust stainless steel V2A housing
- Pressure gauge with V4A housing and IP66 protection class
- Signal cable 2 meters
- Oil connection tube 10 meters, can be shortened on site
- For indoor and outdoor applications
- Oil operating temperature from -30 °C up to + 80 °C
- Pressure gauge types
 - Type 232.30.063 without contacts, range -1 to 10 bar
 - Type 821.1.12 with contacts, range -1 to 5 bar normally open / normally open / normally closed
 - Type 821.2.21 with contacts, range -1 to 5 bar normally closed / normally closed / normally open



Ordering information

Type	Description	Application	Drawing	Pressure gauge type	Part no
ET12	Oil expansion tank for fluid filled HV cable terminations - standard	Standard Corrosion coating, colour grey	S1988-4	232.30.063	76899
ET12	Oil expansion tank for fluid filled HV cable terminations - standard	Standard Corrosion coating, colour grey	S1886-4	821.1.12	76895
ET12	Oil expansion tank for fluid filled HV cable terminations - standard	Standard Corrosion coating, colour grey	S1886-4	821.1.21	76896
ET12-H	Oil expansion tank for fluid filled HV cable terminations - heavy duty	Heavy duty special corrosion coating, colour white	S1987-4	821.1.12	76897
ET12-H	Oil expansion tank for fluid filled HV cable terminations - heavy duty	Heavy duty special corrosion coating, colour white	S1987-4	821.1.21	76898

Additional products (to be ordered separately)

Type	Description	Protection class	W x H x D mm	Part no
Junction box	Junction box for connection of up to 3 manometer signal cables	IP66	180 x 130 x 77	76406

HV Joints

Joint type MPFH

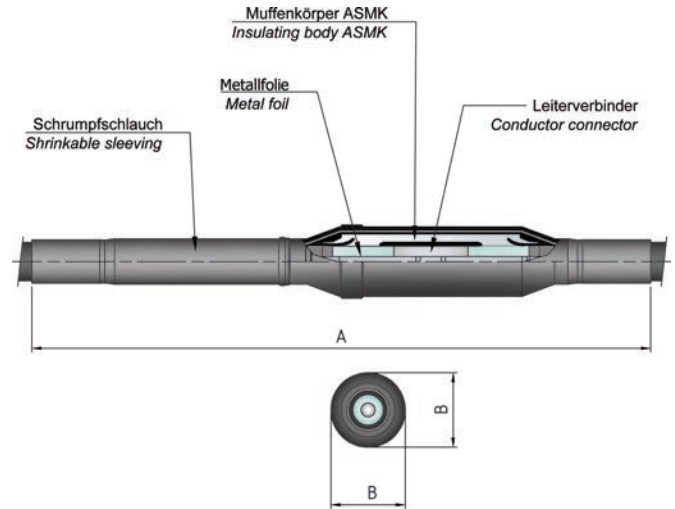
With metallic radial moisture barrier and heat shrinkable outer protection

For polymeric cables up to 245 kV

Fast and easy to install the MPFH is particularly conceived for the reliable straight through connection of polymeric cables up to 245 kV. Thanks to its compact and lightweight construction the MPFH is the ideal cost-effective solution for installations sites with limited installation spaces such as tunnels or concrete manholes without permanent flooding. The joints are type tested according to the international standards IEC 60840 (≤ 170 kV) and IEC 62067 (> 170 kV). For the long-term reliability each unit of silicone body produced are electrically routine tested in our factory.

Product main features

- Pre-molded one piece joint body electrically tested at factory
- Available with bolted or DIN compression connectors
- Compact dimensions & lightweight
- Easy and safe to install
- Cable screen connection without plumbing or soldering
- Radial moisture metallic barrier
- Heavy duty heat shrink outer protection



Technical data

Type	Drawing	Max. operating voltage Um kV	Range of diameter over prepared cable insulation, min. - max. mm	Equivalent cable cross-section (Cu/Al) ¹ mm ²	Max. cable diameter mm	Joint dimensions A x B mm
MPFH 1.72-21	S1904-4	72.5	35 - 57	240 - 800	120	1650 x 180
MPFH 1.72-22	S1914-4	72.5	57 - 88	400 - 2500	140	1650 x 200
MPFH 1.145-21	S1905-4	145.0	46 - 78	240 - 1200	120	1650 x 200
MPFH 1.145-22	S1906-4	145.0	78 - 115	630 - 2500	140	1650 x 220
MPFH 1.170-21	S1884-4	170.0	56 - 115	240 - 2500	155	2000 x 240
MPFH 1.245-21	S1885-4	245.0	67 - 120	400 - 2500	155	2000 x 290

¹ Values for reference only. The exact application depend on the diameter over the prepared cable insulation.

Joint type MPFP

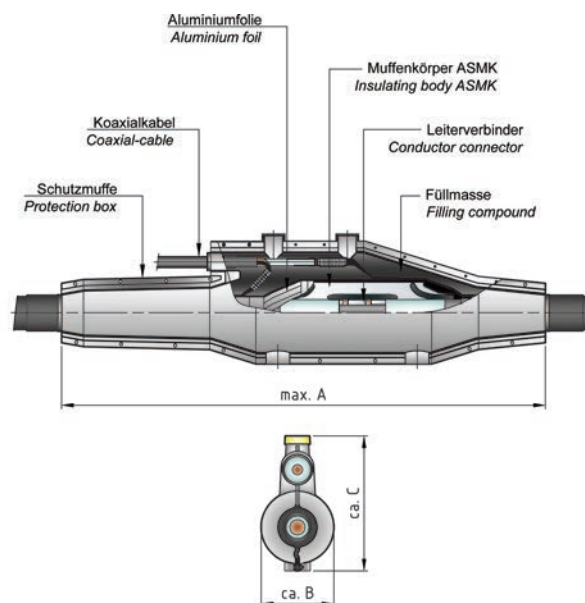
With metallic radial moisture barrier and glass fiber reinforced outer protection

For polymeric cables up to 245 kV

Fast and easy to install the MPFP is particularly conceived for the reliable connection of polymeric cables up to 245 kV. The two part sectionalized outer protection can be easily installed without parking position and admits all types of cable screen connection. Thanks to the glass fiber reinforced outer protection filled with resin compound the MPFP is ideal for all kind of installations including directly buried. The joints are type tested according to the international standards IEC 60840 (≤ 170 kV) and IEC 62067 (> 170 kV). For the long-term reliability each unit of silicone body produced are electrically routine tested in our factory.

Product main features

- Pre-molded one piece joint body electrically tested at factory
- Available with bolted or DIN compression connectors
- Compact dimensions & lightweight
- Easy and safe to install
- Cable screen connection without plumbing or soldering
- Radial moisture metallic barrier
- Glass fiber reinforced protection filled with PU-resin compound



Technical data of straight through joints

Type	Drawing	Max. operating voltage Um kV	Range of diameter over prepared cable insulation, min. - max. mm	Equivalent cable cross-section (Cu/Al) mm ²	Max. cable diameter mm	Joint dimensions A x B mm
MPFP 1.72-21	S1936-4	72.5	35 - 88	240 - 1600	120	1700 x 540
MPFP 1.145-21	S1934-4	145.0	47 - 91	240 - 1200	120	1700 X 540
MPFP 1.145-22	S1952-4	145.0	91 - 115	1000 - 2500	130	1900 x 545
MPFP 1.170-21	S1932-4	170.0	56 - 81	240 - 1200	130	1900 x 545
MPFP 1.170-22	S1954-4	170.0	81 - 115	1000 - 2500	150	2100 x 555
MPFP 1.245-21	S1931-4	245.0	67 - 120	400 - 2500	150	2100 x 555

Technical data of cross bonding joints

Type	Drawing	Max. operating voltage Um kV	Range of diameter over prepared cable insulation, min. - max. mm	Equivalent cable cross-section (Cu/Al) mm ²	Max. cable diameter mm	Joint dimensions A x B mm
MPFP 1.72-31	S1935-4	72.5	35 - 88	240 - 1600	120	1700 x 540
MPFP 1.145-31	S1915-4	145.0	47 - 91	240 - 1200	120	1700 x 540
MPFP 1.145-32	S1953-4	145.0	91 - 115	1000 - 2500	130	1900 x 545
MPFP 1.170-31	S1933-4	170.0	56 - 81	240 - 1200	130	1900 x 545
MPFP 1.170-32	S1955-4	170.0	81 - 115	1000 - 2500	150	2100 x 555
MPFP 1.245-31	S 1913-4	245.0	67 - 120	400 - 2500	150	2100 x 555

Joint type MPCP

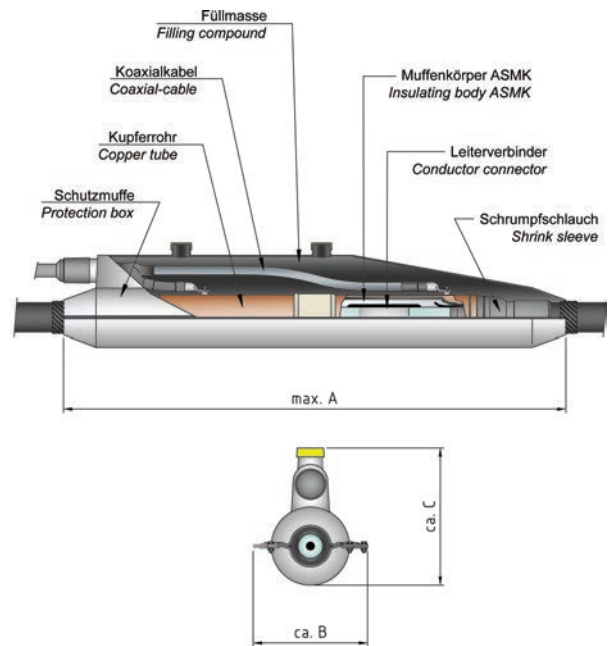
With copper casing radial moisture barrier and coffin box as outer protection

For polymeric cables up to 145 kV

Offering excellent mechanical strength and water tightness the MPCP is particularly conceived for the reliable connection of all types of polymeric insulated cables up to 145 kV. Particularly conceived for long cable transmission systems, the two part sectionalized copper casing admits all types of cable screen connection with the same solution. Thanks to the glass fiber reinforced outer protection filled with resin compound the MPCP is ideal for all kind of installations including directly buried. The joints are type tested according to the international standards IEC 60840 (≤ 170 kV). For the long-term reliability each unit of silicone body produced are electrically routine tested in our factory

Product main features

- Pre-molded one piece joint body electrically tested at factory
- Available with bolted or DIN compression connectors
- Highest degree of mechanical and moisture protection
- Universal cable screen grounding configuration
- Radial moisture metallic barrier made of copper casing
- Glass fiber reinforced protection filled with PU-resin compound



Technical data of straight through joints

Type	Drawing	Max. operating voltage Um kV	Range of diameter over prepared cable insulation, min. - max. mm	Equivalent cable cross-section (Cu/Al) mm ²	Max. cable diameter mm	Joint dimensions A x C mm
MPCP 1.72-21	S1969-4	72.5	34 - 77	240 - 1600	110	1950 x 380
MPCP 1.72-22	S1971-4	72.5	77 - 88	1200 - 2500	125	1950 x 410
MPCP 1.145-21	S1963-4	145.0	45 - 77	240 - 1200	110	1950 x 380
MPCP 1.145-22	S1965-4	145.0	77 - 90	800 - 2000	125	1950 x 410
MPCP 1.145-23	S1967-4	145.0	90 - 115	1200 - 2500	155	2150 x 430

Technical data of cross bonding joints

Type	Drawing	Max. operating voltage Um kV	Range of diameter over prepared cable insulation, min. - max. mm	Equivalent cable cross-section (Cu/Al) mm ²	Max. cable diameter mm	Joint dimensions A x C mm
MPCP 1.72-31	S1968-4	72.5	34 - 77	240 - 1600	110	1950 x 380
MPCP 1.72-32	S1970-4	72.5	77 - 88	1200 - 2500	125	1950 x 410
MPCP 1.145-31	S1962-4	145.0	45 - 77	240 - 1200	110	1950 x 380
MPCP 1.145-32	S1964-4	145.0	77 - 90	800 - 2000	125	1950 x 410
MPCP 1.145-33	S1966-4	145.0	90 - 115	1200 - 2500	155	2150 x 430

Joint type MPCC

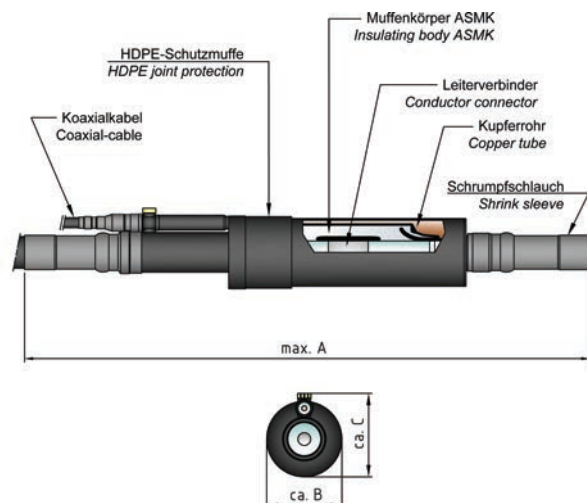
With copper casing radial moisture barrier and intergrated HDPE outer protection

For polymeric cables up to 550 kV

Compact and light weight the MPCC is particularly conceived for the reliable connection of polymeric cables from 170 kV up to 550 kV. Thanks to its robust construction the MPCC is the ideal solution for installations sites with limited installation spaces such as tunnels or concrete manholes including directly buried. The joints are type tested according to the international standards IEC 60840 (≤ 170 kV) and IEC 62067 (> 170 kV). For the long-term reliability each unit of silicone body produced are electrically routine tested in our factory.

Product main features

- Pre-molded one piece joint body electrically tested at factory
- Available with bolted or DIN compression connectors
- Compact dimensions & lightweight
- Easy and safe to install
- Universal cable screen grounding configuration
- Copper casing radial moisture metallic barrier
- Heavy duty high density polyethylene (HDPE) protection



Technical data of straight through joints

Type	Drawing	Max. operating voltage U_m kV	Range of diameter over prepared cable insulation, min. - max. mm	Equivalent cable cross-section (Cu/Al) ¹ mm ²	Max. cable diameter mm	Joint dimensions A x C mm
MPCC 1.170-21	S1972-4	170	55 - 114	240 - 2500	115	2445 x 280
MPCC 1.245-21	S1733-4	245	66 - 119	400 - 2500	150	2722 x 370
MPCC 1.420-21	S1890-4	420	81 - 129	400 - 2500	150	2730 x 410
MPCC 1.550-21	S1892-4	550	81 - 129	400 - 2500	150	2730 x 410

Technical data of cross bonding joints

Type	Drawing	Max. operating voltage U_m kV	Range of diameter over prepared cable insulation, min. - max. mm	Equivalent cable cross-section (Cu/Al) ¹ mm ²	Max. cable diameter mm	Joint dimensions A x C mm
MPCC 1.170-31	S1973-4	170	55 - 114	240 - 2500	115	2445 x 280
MPCC 1.245-31	S1642-4	245	66 - 119	400 - 2500	150	2722 x 370
MPCC 1.420-31	S1891-4	420	81 - 129	400 - 2500	150	2730 x 410
MPCC 1.550-31	S1893-4	550	81 - 129	400 - 2500	150	2730 x 410

¹ Values for reference only. The exact application depend on the diameter over the prepared cable insulation.

Joint type MPSP

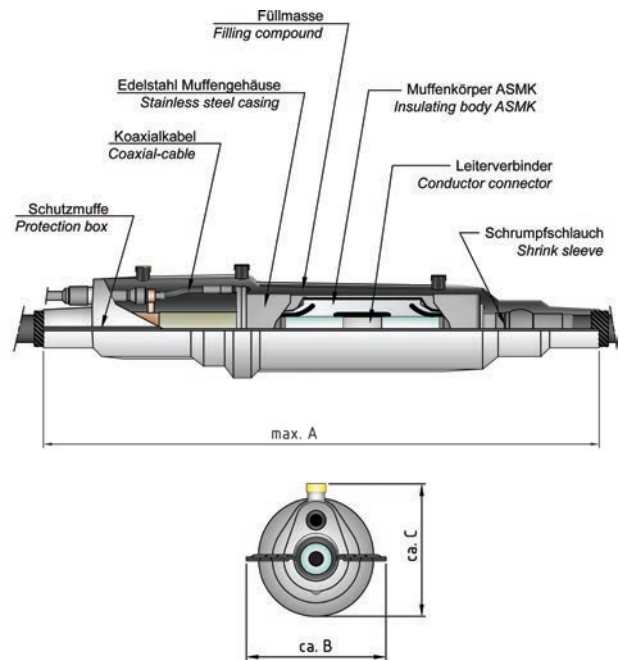
With stainless casing radial moisture barrier and coffin box as outer protection

For polymeric cables from 245 kV up to 550 kV

Offering excellent mechanical strength and water tightness the MPSP is particularly conceived for the reliable connection of all types of polymeric insulated cables from 245 kV up to 550 kV. Particularly conceived for long cable transmission systems, the sectionalized stainless steel casing admits all types of cable screen connection with the same solution. Thanks to the glass fiber reinforced outer protection filled with resin compound the MPSP is ideal for all kind of installations including directly buried. The joints are type tested according to the international standards IEC 62067. For the long-term reliability each unit of silicone body produced are electrically routine tested in our factory.

Product main features

- Pre-molded one piece joint body electrically tested at factory
- Available with bolted or DIN compression connectors
- Highest degree of mechanical and moisture protection
- Universal cable screen grounding configuration
- Radial moisture metallic barrier made of stainless steel casing
- Glass fiber reinforced protection filled with PU-resin compound



Technical data of straight through joints

Type	Drawing	Max. operating voltage Um kV	Range of diameter over prepared cable insulation, min. - max. mm	Equivalent cable cross-section (Cu/Al) ¹ mm ²	Max. cable-Ø mm	Joint dimensions A x B mm
MPSP 1.245-21	S1329-4	245	67 - 120	400 - 2500	150	2800 x 550
MPSP 1.300-21	S1334-4	300	67 - 120	400 - 2500	150	2870 x 615
MPSP 1.420-21	S1377-4	420	81 - 129	400 - 2500	150	2870 x 615
MPSP 1.550-21	S1738-4	550	99 - 129	400 - 2500	150	2870 x 615

Technical data of cross bonding joints

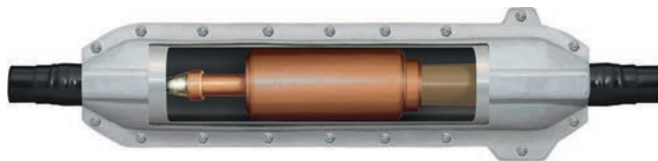
Type	Drawing	Max. operating voltage Um kV	Range of diameter over prepared cable insulation, min. - max. mm	Equivalent cable cross-section (Cu/Al) ¹ mm ²	Max. cable-Ø mm	Joint dimensions A x B mm
MPSP 1.245-31	S1557-4	245	67 - 120	400 - 2500	150	2800 x 550
MPSP 1.300-31	S1347-4	300	67 - 120	400 - 2500	150	2870 x 615
MPSP 1.420-31	S1458-4	420	81 - 129	400 - 2500	150	2870 x 615
MPSP 1.550-31	S1737-4	550	99 - 129	400 - 2500	150	2870 x 615

¹ Values for reference only. The exact application depend on the diameter over the prepared cable insulation.

Transition joint type TOS

For low-pressure oil insulated paper cables on polymeric cables up to 300 kV

Brugg offers a complete range of transition joint solutions for voltage systems from 145 kV up to 300 kV. The joint is particularly conceived for the interconnection between single core low-pressure oil filled cables with design pressure up to 10 bar with all types of polymeric cables. Solutions for three core cables are possible under special request. For easier assembly on site paper insulation main components are being prefabricated in our factory. Thanks to its robust construction of the outer protection with stainless steel water diffusion barrier and protection box with filling compound the TOS joint is adequate to all kind of installation conditions including directly buried. The joints are type tested according to the international standards IEC 660141-1. For the long-term reliability each unit of silicone body for the polymeric cable side are electrically routine tested in our factory.



Product main features

- Pre-molded one piece joint body electrically tested at factory
- Universal cable screen grounding configuration
- Stainless steel casing radial moisture metallic barrier
- Cold pouring filling compound
- Oil stop barrier up to 10 bar

Technical data

Type	Drawing	Max. operating voltage Um kV	Range of diameter over prepared cable insulation, min. - max. mm	Equivalent cable cross-section (Cu/Al) ¹ mm ²	Max. cable diameter mm	Joint dimensions A x C mm
TOS 1.145-31	S1528-4	145	58 - 80	240 - 1200	115	2860 x 480
TOS 1.145-32	S1531-4	145	80 - 115	1000 - 2000	150	2860 x 480
TOS 1.170-31	S1748-4	170	58 - 80	240 - 1000	115	2860 x 480
TOS 1.170-32	S1484-4	170	80 - 115	1000 - 2000	150	2860 x 480
TOS 1.245-31	S1461-4	245	58 - 115	400 - 2000	150	4750 x 630
TOS 1.300-31	S1553-4	300	67 - 115	400 - 2000	150	4750 x 630

¹ Values for reference only. The exact application depend on the diameter over the prepared cable insulation.

Note: for the installation an oil expansion tank type ET-2 is required. To be ordered separately.

HV Grounding Accessories

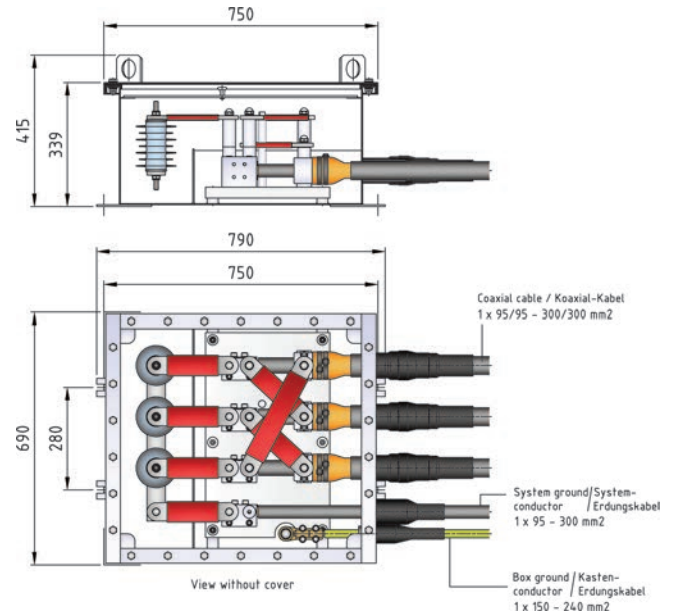
Link boxes LB 68

For High voltage joints

Fast and easy to install, Brugg link boxes have been particularly design to assure an easy access to direct grounded or cross bonded HV cable screen configurations. Fully submersible up to 1 m of water depth, the stainless steel enclosure provides excellent water and mechanical protection. In addition the dust proof design fulfills the requirements of IP68 class protection according to the international standard IEC 60529. The box design allows the installation in pits or vaults and on structures or poles. According to the desirable grounding scheme the boxes are available with or without SVL for single core or coaxial bonding cables from 95 mm² up to 300 mm².

Product main features

- Heavy duty stainless steel casing
- IP68 protection class acc. IEC 60529
- Horizontal or wall mounted installation
- For single core or coaxial bonding cables
- Compact dimensions
- Sheath voltage limiters (SVL)
- Easy and safe to install



Ordering information

Type	Grounding type	Drawing	Bonding cable type	SVL	Part no	Grounding scheme
				kV (Ur)		
LB68 E3.GKN	Direct grounding	S1600-4	Coaxial		89437	
LB68 E3.GN	Direct grounding	S1667-4	Single core		89436	
LB68 E3.GKN SVL	Single bonding with SVL	S1601-4	Coaxial	3	89428	
LB68 E3.GKN SVL	Single bonding with SVL	S1601-4	Coaxial	6	89429	
LB68 E3.GKN SVL	Single bonding with SVL	S1601-4	Coaxial	9	89430	
LB68 E3.GKN SVL	Single bonding with SVL	S1601-4	Coaxial	10	89431	
LB68 E3.GN SVL	Single bonding with SVL	S1668-4	Single core	3	89424	
LB68 E3.GN SVL	Single bonding with SVL	S1668-4	Single core	6	89425	
LB68 E3.GN SVL	Single bonding with SVL	S1668-4	Single core	9	89426	
LB68 E3.GN SVL	Single bonding with SVL	S1668-4	Single core	10	89427	
LB68 C3.GKN SVL	Cross bonding	S1599-4	Coaxial	3	89432	
LB68 C3.GKN SVL	Cross bonding	S1599-4	Coaxial	6	89433	
LB68 C3.GKN SVL	Cross bonding	S1599-4	Coaxial	9	89434	
LB68 C3.GKN SVL	Cross bonding	S1599-4	Coaxial	10	89435	

Subject to change without notice

20170718-1

Link boxes LB 66

for high voltage terminations

Fast and easy to install, Brugg link boxes have been particularly design to assure an easy access to direct grounded HV cable screen configurations. The stainless steel enclosure with anti-corrosive paint provides excellent protection for both indoors and outdoors. In addition the dust proof design fulfills the requirements of IP66 class protection according to the international standard IEC 60529. The box design allows the installation in walls and on structures or poles. According to the desirable grounding scheme the boxes are also available with SVL and blade switch for single core bonding cables from 95 mm² up to 300 mm²




Product main features

- Easy and fast to install
- Heavy duty stainless steel casing
- IP66 protection class acc. IEC 60529
- Shear bolt technology
- For indoor and outdoor installations
- Compact dimensions
- Sheath voltage limiters (SVL) up to 10 kV



Ordering information

Type	Groundig type	Drawing	Cross section mm ²	SVL kV (Ur)	Part no	Groundig scheme
LB66 E1.GN	Direct grounding	S1981-4	95 - 150		89033	
LB66 E1.GN	Direct grounding	S1981-4	120 - 300		89034	
LB66 E1.GN-SVL	Grounding via SVL	S1982-4	95 - 150	3	89035	
LB66 E1.GN-SVL	Grounding via SVL	S1982-4	95 - 150	6	89038	
LB66 E1.GN-SVL	Grounding via SVL	S1982-4	95 - 150	9	89040	
LB66 E1.GN-SVL	Grounding via SVL	S1982-4	95 - 150	10	89041	
LB66 E1.GN-SVL	Grounding via SVL	S1982-4	120 - 300	3	89043	
LB66 E1.GN-SVL	Grounding via SVL	S1982-4	120 - 300	6	89044	
LB66 E1.GN-SVL	Grounding via SVL	S1982-4	120 - 300	9	89045	
LB66 E1.GN-SVL	Grounding via SVL	S1982-4	120 - 300	10	89046	
LB66 E1.GN-B-SVL	Grounding via SVL and blade switch	S1983-4	95 - 150	3	89047	
LB66 E1.GN-B-SVL	Grounding via SVL and blade switch	S1983-4	95 - 150	6	89048	
LB66 E1.GN-B-SVL	Grounding via SVL and blade switch	S1983-4	95 - 150	9	89050	
LB66 E1.GN-B-SVL	Grounding via SVL and blade switch	S1983-4	95 - 150	10	89051	
LB66 E1.GN-B-SVL	Grounding via SVL and blade switch	S1983-4	120 - 300	3	89052	

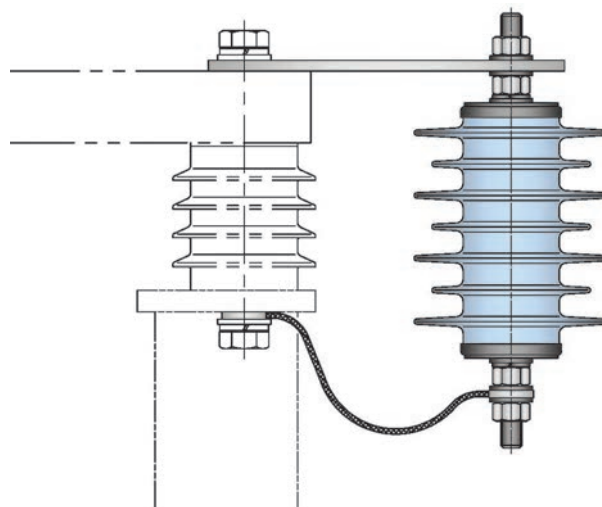
Type	Groundig type	Drawing	Cross section mm ²	SVL kV (Ur)	Part no	Groundig scheme
LB66 E1.GN-B-SVL	Grounding via SVL and blade switch	S1983-4	120 - 300	6	89053	
LB66 E1.GN-B-SVL	Grounding via SVL and blade switch	S1983-4	120 - 300	9	89054	
LB66 E1.GN-B-SVL	Grounding via SVL and blade switch	S1983-4	120 - 300	10	89055	

Grounding sets for outdoor terminations

According to the desirable grounding scheme of HV cable systems Brugg offers a complete range of standard solutions applicable to all terminations from 72.5 kV up to 550 kV. Each set is provided with all necessary support elements for an easy and fast installation on site.

Product main features

- Compact dimensions
- Sheath voltage limiters (SVL) up to 10 kV
Class I acc. IEC 60099-4
- Easy and fast to install
- For indoor and outdoor application



Ordering information

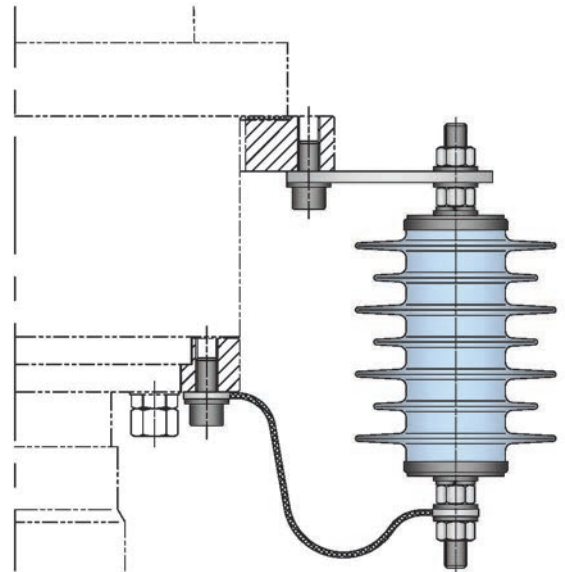
Type	Grounding type	Drawing	SVL kV (Ur)	Part no
Blade disconnecting link	Direct grounding	S1903-4		87893
Strap disconnecting link	Direct grounding	S1899-4		89402
SVL set for outdoor terminations up to 550 kV	Single bonding with SVL	S1901-4	3	89420
SVL set for outdoor terminations up to 550 kV	Single bonding with SVL	S1901-4	6	89421
SVL set for outdoor terminations up to 550 kV	Single bonding with SVL	S1901-4	9	89422
SVL set for outdoor terminations up to 550 kV	Single bonding with SVL	S1901-4	10	89423

Grounding sets for GIS and Transformer terminations

According to the desirable grounding scheme of HV cable systems Brugg offers a complete range of standard solutions applicable to all terminations from 72.5 kV up to 550 kV. Each set is provided with all necessary support elements for an easy and fast installation on site.

Product main features

- Compact dimensions
- Sheath voltage limiters (SVL) up to 10 kV
Class I acc. IEC 60099-4
- Easy and fast to install
- For indoor and outdoor application



Ordering information

Type	Groundig type	Drawing	SVL kV (Ur)	Part no
Flexible braids set for terminations up to 170 kV	Direct grounding	S1907-4		89418
Flexible braids set for terminations from 245 kV up to 550 kV	Direct grounding	S1907-4		89419
SVL set for terminations up to 170 kV	Single bonding with SVL	S1902-4	3	89410
SVL set for terminations up to 170 kV	Single bonding with SVL	S1902-4	6	89411
SVL set for terminations up to 170 kV	Single bonding with SVL	S1902-4	9	89412
SVL set for terminations up to 170 kV	Single bonding with SVL	S1902-4	10	89413
SVL set for terminations from 245 kV up to 550 kV	Single bonding with SVL	S1902-4	3	89414
SVL set for terminations from 245 kV up to 550 kV	Single bonding with SVL	S1902-4	6	89415
SVL set for terminations from 245 kV up to 550 kV	Single bonding with SVL	S1902-4	9	89416
SVL set for terminations from 245 kV up to 550 kV	Single bonding with SVL	S1902-4	10	89417

HV Cable Clamps

Fastening clamp type BCT

Composed of

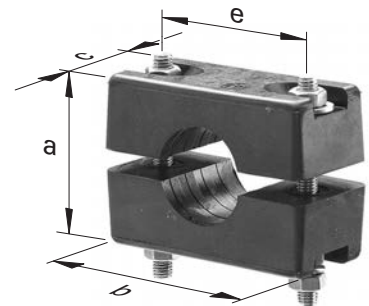
Body made of synthetic rubber with stainless steel A2 bolts

To provide with PO's

Type of fixing
Cable diameter
Cable type

To order separately:

Supporting cross type STKR
Profile rail type PS
Slot nut type PSVN



Type	a	b	c		Cable Ø	Screws	Max. fastening base thickness
	mm	mm	mm	mm	mm	mm	mm
BCT 1-25-2	53	72	36	51	20 - 25	M 8 x 70	10
BCT 1-30-2	53	72	36	51	26 - 30	M 8 x 70	10
BCT 1-35-2	53	72	36	51	31 - 35	M 8 x 70	10
BCT 1-40-2	64	95	45	70	36 - 40	M 8 x 90	10
BCT 1-45-2	64	95	45	70	41 - 45	M 8 x 90	10
BCT 1-52-2	64	95	45	70	46 - 52	M 8 x 90	10
BCT 1-65-2	114	148	66	115	53 - 65	M 10 x 140	13
BCT 1-77-2	114	148	66	115	66 - 77	M 10 x 140	13
BCT 1-89-2	114	148	66	115	78 - 89	M 10 x 140	13
BCT 1-103-2	114	148	66	115	90 - 103	M 10 x 140	13

Part no	Type	Packaging unit piece	Weight kg/piece
86570	BCT 1-25-2	20	0.21
86515	BCT 1-30-2	20	0.21
86516	BCT 1-35-2	20	0.20
86517	BCT 1-40-2	10	0.37
86518	BCT 1-45-2	10	0.35
86519	BCT 1-52-2	10	0.32
86520	BCT 1-65-2	-	1.40
86521	BCT 1-77-2	-	1.28
86522	BCT 1-89-2	-	1.15
86523	BCT 1-103-2	-	1.00

Clamp type BFB 1

Composed of

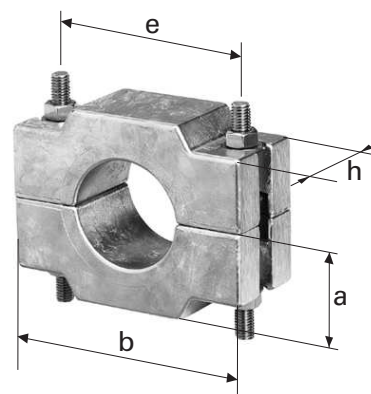
Body made of cast aluminium with stainless steel A2 bolts, including fastening bolts

To provide with PO's

Type of fixing
Cable diameter
Cable type

To order separately:

Supporting cross type STKR
Profile rail type PS
Slot nut type PSVN



Dimension	a mm	b mm	mm	mm	Screws mm
1053 - 1085	60	160	130	60	M 12 x 160
2088 - 2100	65	175	145	60	M 12 x 170
3103 - 3120	75	200	170	60	M 12 x 190

Part no	Type	Cable Ø mm
88830	BFB1-1053	50.1 - 52.5
88831	BFB1-1055	52.6 - 55.0
88832	BFB1-1058	55.1 - 57.5
88833	BFB1-1060	57.6 - 60.0
88834	BFB1-1063	60.1 - 62.5
88300	BFB1-1065	62.6 - 65.0
88301	BFB1-1068	65.1 - 67.5
88302	BFB1-1070	67.6 - 70.0
88303	BFB1-1073	70.1 - 72.5
88304	BFB1-1075	72.6 - 75.0
88305	BFB1-1078	75.1 - 77.5
88306	BFB1-1080	77.6 - 80.0
88307	BFB1-1083	80.1 - 82.5
88308	BFB1-1085	82.6 - 85.0
88312	BFB1-2088	85.1 - 87.5
88313	BFB1-2090	87.6 - 90.0
88314	BFB1-2093	90.1 - 92.5
88315	BFB1-2095	92.6 - 95.0
88316	BFB1-2098	95.1 - 97.5
88317	BFB1-2100	97.6 - 100.0
88321	BFB1-3103	100.1 - 102.5
88322	BFB1-3105	102.6 - 105.0
88323	BFB1-3108	105.1 - 107.5
88324	BFB1-3110	107.6 - 110.0
88325	BFB1-3113	110.1 - 112.5
88326	BFB1-3115	112.6 - 115.0
88327	BFB1-3118	115.1 - 117.5
88328	BFB1-3120	117.6 - 120.0

Clamp type BFBT 1

Composed of

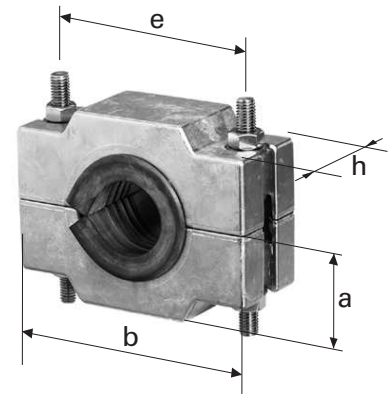
Body made of cast aluminium with stainless steel A2 bolts and rubber insert, including fastening bolts

To provide with PO's

Type of fixing
Cable diameter
Cable type

To order separately:

Supporting cross type STKR
Profile rail type PS
Slot nut type PSVN



Dimension	a mm	b mm	mm	mm	Screws mm
1040 - 1073	60	160	130	60	M 12 x 160
2075 - 2088	65	175	145	60	M 12 x 170
3090 - 3108	75	200	170	60	M 12 x 190

Part no	Type	Cable Ø mm
88850	BFBT1-1040	37.6 - 40.0
88851	BFBT1-1043	40.1 - 42.5
88852	BFBT1-1045	42.6 - 45.0
88853	BFBT1-1048	45.1 - 47.5
88854	BFBT1-1050	47.6 - 50.0
88700	BFBT1-1053	50.0 - 52.5
88701	BFBT1-1055	52.6 - 55.0
88702	BFBT1-1058	55.1 - 57.5
88703	BFBT1-1060	57.6 - 60.0
88704	BFBT1-1063	60.1 - 62.5
88705	BFBT1-1065	62.6 - 65.0
88706	BFBT1-1068	65.1 - 67.5
88707	BFBT1-1070	67.6 - 70.0
88708	BFBT1-1073	70.1 - 72.5
88712	BFBT1-2075	72.6 - 75.0
88713	BFBT1-2078	75.1 - 77.5
88714	BFBT1-2080	77.6 - 80.0
88715	BFBT1-2083	80.1 - 82.5
88716	BFBT1-2085	82.6 - 85.0
88717	BFBT1-2088	85.1 - 87.5
88721	BFBT1-3090	87.6 - 90.0
88722	BFBT1-3093	90.1 - 92.5
88723	BFBT1-3095	92.6 - 95.0
88724	BFBT1-3098	95.1 - 97.5
88725	BFBT1-3100	97.6 - 100.0
88726	BFBT1-3103	100.1 - 102.5
88727	BFBT1-3105	102.6 - 105.0
88728	BFBT1-3108	105.1 - 107.5

Supporting cross type STKR

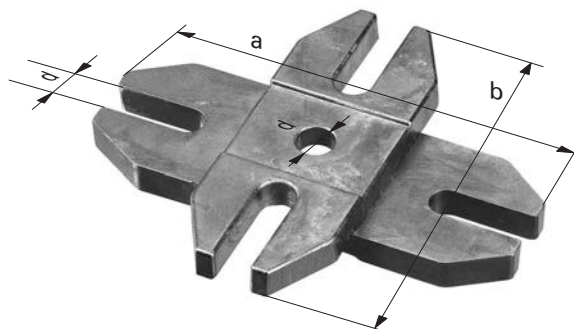
for fixing of BFB/BCT clamps

Cast aluminium

To order separately:

Fixing clamp type BCT

Fixing clamp type BFBT 1



Type	d mm	a mm	b mm
STKR	14	175	145

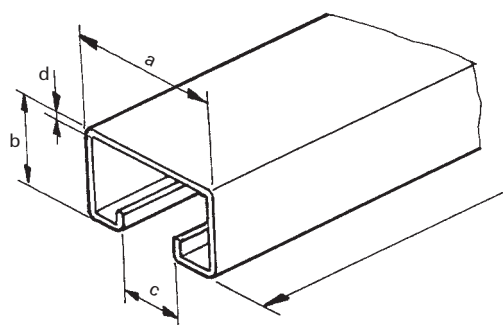
Allocation table

	installed on side	additional U-washer	Part No. U-washer
BCT 1-40-2 - 1-52-2	a	M 8 x 24	65264
BCT 1-65-2 - 1-103-2	a	M 10 x 30	58777
BFB1 1065 - 1085, BFBT1 1053 - 1073	b		
BFB1 2080 - 2100, BFBT1 2068 - 2088	a		

Part no	Type	Weight kg/piece
30320	STKR	0.50

Profile rail type PS

Customized cutting length upon request



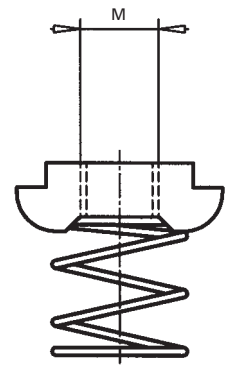
Part no	Type	a mm	b mm	c mm	d mm	Length m		Weight kg/m
28670	PSA 32	32	18	15.4	3	3.0	aluminium	0.56
31633	PSA 50	50	30	22.0	3	6.5	aluminium	1.00
48357	PSV 50	50	30	22.0	3	6.0	Steel hot dip galvanized	3.10

Slot nut type PSVN

Steel tin plated

Packaging unit

Standard pack of 100 pieces



Part no	Type	Profile	Thread
28696	PSVN 32 - 8	PSA 32	M 8
28695	PSVN 32 - 10	PSA 32	M 10

Anchoring clamp type BAF

Composed of

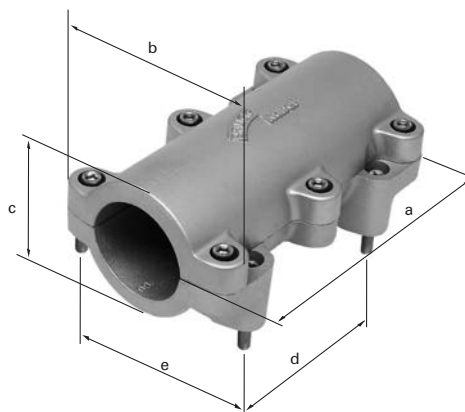
Body made of cast aluminium with stainless steel A2 bolts, including fastening bolts

To provide with PO's

Type of fixing
Cable diameter
Cable type

To order separately:

Jig type ML
Dowel type MLS
Dowel type MLD



Type	a mm	b mm	c mm	d mm	mm	Weight kg/piece
BAF 40	180	106	64	90	70	2.30
BAF 80	250	146	104	140	110	6.10
BAF 110	300	186	140	185	150	11.10
BAF 130	316	220	170	184	180	12.50

Part no	Type	Cable Ø mm
89608	BAF 40 28/30	28 - 30
89609	BAF 40 30/32	30 - 32
89610	BAF 40 32/34	32 - 34
89611	BAF 40 34/36	34 - 36
89612	BAF 40 36/38	36 - 38
89613	BAF 40 38/40	38 - 40
89614	BAF 80 41/44	41 - 44
89615	BAF 80 44/47	44 - 47
89616	BAF 80 47/50	47 - 50
89617	BAF 80 50/53	50 - 53
89618	BAF 80 53/56	53 - 56
89619	BAF 80 56/59	56 - 59
89620	BAF 80 59/62	59 - 62
89621	BAF 80 62/65	62 - 65
89622	BAF 80 65/68	65 - 68
89623	BAF 80 68/71	68 - 71
89624	BAF 80 71/74	71 - 74
89625	BAF 80 74/77	74 - 77
89626	BAF 80 77/80	77 - 80
89627	BAF 110 80/83	80 - 83
89628	BAF 110 83/86	83 - 86
89629	BAF 110 86/89	86 - 89
89630	BAF 110 89/92	89 - 92
89631	BAF 110 92/95	92 - 95
89632	BAF 110 95/98	95 - 98
89633	BAF 110 98/101	98 - 101
89634	BAF 110 101/104	101 - 104
89635	BAF 110 104/107	104 - 107
89636	BAF 110 107/110	107 - 110
89637	BAF 130 110/114	110 - 114
89638	BAF 130 114/118	114 - 118
89639	BAF 130 118/122	118 - 122
89640	BAF 130 122/126	122 - 126
89641	BAF 130 126/130	126 - 130

Anchoring clamp type BAFT

Composed of

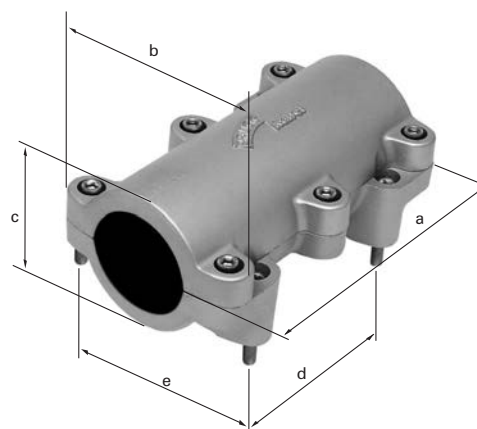
Body made of cast aluminium with stainless steel A2 bolts and rubber insert, including fastening bolts

To provide with PO's

Type of fixing
Cable diameter
Cable type

To order separately:

Jig type ML
Dowel type MLS
Dowel type MLD



Type	a mm	b mm	c mm	d mm	mm	Weight kg/piece
BAFT 40	180	106	64	90	70	2.30
BAFT 80	250	146	104	140	110	6.10
BAFT 110	300	186	140	185	150	11.10
BAFT 130	316	220	170	184	180	12.50

Part no	Type	Cable Ø mm
89510	BAFT 40 23/25	23 - 25
89511	BAFT 40 25/27	25 - 27
89512	BAFT 40 27/29	27 - 29
89513	BAFT 40 29/31	29 - 31
89514	BAFT 40 31/33	31 - 33
89515	BAFT 80 34/37	34 - 37
89516	BAFT 80 37/40	37 - 40
89517	BAFT 80 40/43	40 - 43
89518	BAFT 80 43/46	43 - 46
89519	BAFT 80 46/49	46 - 49
89520	BAFT 80 49/52	49 - 52
89521	BAFT 80 52/55	52 - 55
89522	BAFT 80 55/58	55 - 58
89523	BAFT 80 58/61	58 - 61
89524	BAFT 80 61/64	61 - 64
89525	BAFT 80 64/67	64 - 67
89526	BAFT 80 67/70	67 - 70
89527	BAFT 80 70/73	70 - 73
89528	BAFT 110 73/76	73 - 76
89529	BAFT 110 76/79	76 - 79
89530	BAFT 110 79/82	79 - 82
89531	BAFT 110 82/85	82 - 85
89532	BAFT 110 85/88	85 - 88
89533	BAFT 110 88/91	88 - 91
89534	BAFT 110 91/94	91 - 94
89535	BAFT 110 94/97	94 - 97
89536	BAFT 110 97/100	97 - 100
89537	BAFT 110 100/103	100 - 103
89538	BAFT 130 103/107	103 - 107
89539	BAFT 130 107/111	107 - 111
89540	BAFT 130 111/115	111 - 115
89541	BAFT 130 115/119	115 - 119
89542	BAFT 130 119/123	119 - 123

Anchoring clamp type BA

Composed of

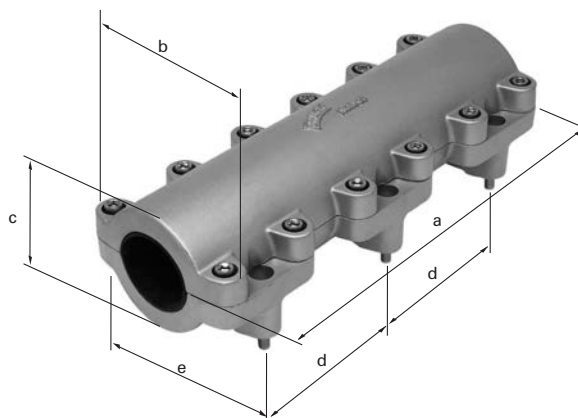
Body made of cast aluminium with stainless steel A2 bolts, including fastening bolts

To provide with PO's

Type of fixing
Cable diameter
Cable type

To order separately:

Jig type ML
Dowel type MLS
Dowel type MLD



Type	a mm	b mm	c mm	d mm	mm	Weight kg/piece
BA 40	300	106	64	180	70	3.30
BA 80	400	146	104	240	110	8.40
BA 110	500	186	140	185	150	15.80
BA 130	500	220	170	185	185	16.50
BA 160	600	270	205	220	230	32.50

Part no	Type	Cable Ø mm
89570	BA 40 24/26	24 - 26
89571	BA 40 26/28	26 - 28
89572	BA 40 28/30	28 - 30
89573	BA 40 30/32	30 - 32
89574	BA 40 32/34	32 - 34
89575	BA 40 34/36	34 - 36
89576	BA 40 36/38	36 - 38
89577	BA 40 38/40	38 - 40
89578	BA 80 41/44	41 - 44
89579	BA 80 44/47	44 - 47
89580	BA 80 47/50	47 - 50
89581	BA 80 50/53	50 - 53
89582	BA 80 53/56	53 - 56
89583	BA 80 56/59	56 - 59
89584	BA 80 59/62	59 - 62
89585	BA 80 62/65	62 - 65
89586	BA 80 65/68	65 - 68
89587	BA 80 68/71	68 - 71
89588	BA 80 71/74	71 - 74
89589	BA 80 74/77	74 - 77
89590	BA 80 77/80	77 - 80
89591	BA 110 80/83	80 - 83
89592	BA 110 83/86	83 - 86
89593	BA 110 86/89	86 - 89
89594	BA 110 89/92	89 - 92
89595	BA 110 92/95	92 - 95
89596	BA 110 95/98	95 - 98
89597	BA 110 98/101	98 - 101
89598	BA 110 101/104	101 - 104
89599	BA 110 104/107	104 - 107
89600	BA 110 107/110	107 - 110
89601	BA 130 110/114	110 - 114
89602	BA 130 114/118	114 - 118

Part no	Type	Cable Ø mm
89603	BA 130 118/122	118 - 122
89604	BA 130 122/126	122 - 126
89605	BA 130 126/130	126 - 130
88450	BA 160130/134	130 - 134
88451	BA 160134/138	134 - 138
88452	BA 160138/142	138 - 142
88453	BA 160142/146	142 - 146
88454	BA 160146/150	146 - 150
88455	BA 160150/154	150 - 154
88456	BA 160154/158	154 - 158
88457	BA 160158/162	158 - 162

Anchoring clamp type BAT

Composed of

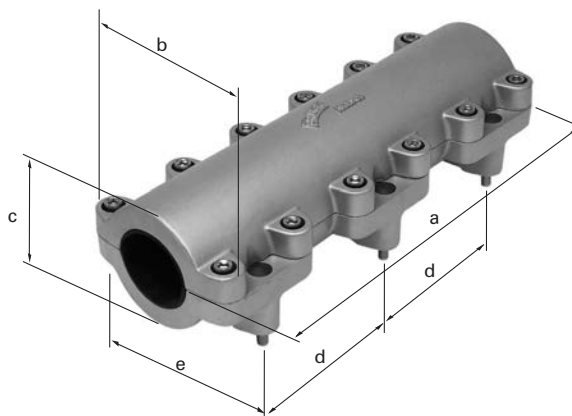
Body made of cast aluminium with stainless steel A2 bolts and rubber insert, including fastening bolts

To provide with PO's

Type of fixing
Cable diameter
Cable type

To order separately:

Jig type ML
Dowel type MLS
Dowel type MLD



Type	a mm	b mm	c mm	d mm	mm	Weight kg/piece
BAT 40	300	106	64	180	70	3.30
BAT 80	400	146	104	240	110	8.40
BAT 110	500	186	140	185	150	15.80
BAT 130	500	220	170	185	185	16.50
BAT 160	600	270	205	220	230	34.50

Part no	Type	Cable Ø mm
89477	BAT 40 23/25	23 - 25
89478	BAT 40 25/27	25 - 27
89479	BAT 40 27/29	27 - 29
89480	BAT 40 29/31	29 - 31
89481	BAT 40 31/33	31 - 33
89482	BAT 80 34/37	34 - 37
89483	BAT 80 37/40	37 - 40
89484	BAT 80 40/43	40 - 43
89485	BAT 80 43/46	43 - 46
89486	BAT 80 46/49	46 - 49
89487	BAT 80 49/52	49 - 52
89488	BAT 80 52/55	52 - 55
89489	BAT 80 55/58	55 - 58
89490	BAT 80 58/61	58 - 61
89491	BAT 80 61/64	61 - 64
89492	BAT 80 64/67	64 - 67
89493	BAT 80 67/70	67 - 70
89494	BAT 80 70/73	70 - 73
89495	BAT 110 73/76	73 - 76
89496	BAT 110 76/79	76 - 79
89497	BAT 110 79/82	79 - 82
89498	BAT 110 82/85	82 - 85
89499	BAT 110 85/88	85 - 88
89500	BAT 110 88/91	88 - 91
89501	BAT 110 91/94	91 - 94
89502	BAT 110 94/97	94 - 97
89503	BAT 110 97/100	97 - 100
89504	BAT 110 100/103	100 - 103
89505	BAT 130 103/107	103 - 107
89506	BAT 130 107/111	107 - 111
89507	BAT 130 111/115	111 - 115
89508	BAT 130 115/119	115 - 119
89509	BAT 130 119/123	119 - 123

Part no	Type	Cable Ø mm
88460	BAT 160 123/127	123 - 127
88461	BAT 160127/131	127 - 131
88462	BAT 160131/135	131 - 135
88462	BAT 160131/135	131 - 135
88463	BAT 160135/139	135 - 139
88464	BAT 160139/143	139 - 143
88465	BAT 160143/147	143 - 147
88466	BAT 160147/151	147 - 151
88467	BAT 160151/155	151 - 155

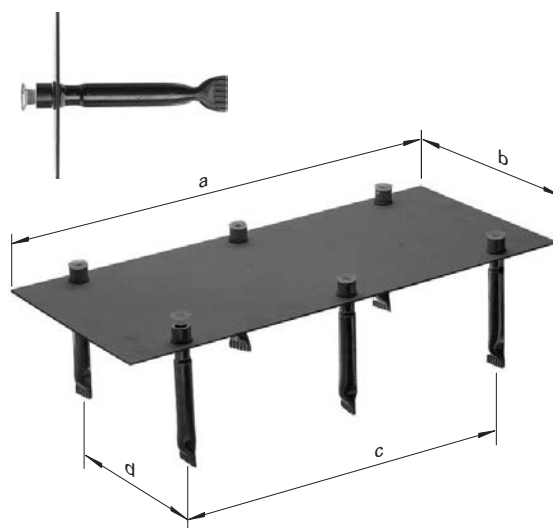
Jig type ML

Composed of

Perforated aluminium plate, dowels with stainless steel bolts, protective caps for Allen screws

To provide with PO's

Clamp type



Allocation table

Type	suitable with	Number of holes	a mm	b mm	c mm	d mm
ML A1	BA 40	4	300	110	180	70
ML A2	BA 80	4	400	150	240	110
ML A3	BA 110	6	500	190	185	150
ML A4	BA 130	6	500	220	185	185
ML F1	BAF 40	4	180	110	90	70
ML F2	BAF 80	4	250	150	140	110
ML F3	BAF 110	4	300	190	185	150
ML F4	BAF 130	4	320	220	184	180

Part no	Type
48200	ML A1
48202	ML A2
48204	ML A3
48206	ML A4
48201	ML F1
48203	ML F2
48205	ML F3
48207	ML F4

Dowel type MLS

to concrete-cast for assembly of anchoring clamps

Composed of

Dowel M12 made of tin plated steel



Part no	Type	suitable with clamp	Dowel quantity
89551	MLS 12/1	BA/BAT 40 - 80, BAF/BAFT 40 - 130	4
89552	MLS 12/2	BA/BAT 110 - 130	6

Dowel type MLD

for assembly of anchoring clamps

Composed of

Dowel M12 made of tin plated steel



Part no	Type	suitable with clamp	Dowel quantity
89553	MLD 12/1	BA/BAT 40 - 80, BAF/BAFT 40 - 130	4
89554	MLD 12/2	BA/BAT 110 - 130	6

BRIFIX[®] cable belts type KG

Short-circuit resistant bandaging of single core cables in base-ments, cable ducts, manholes, etc.

The BRIFIX cable belts are characterized by high tensile strength and easy assembly.

To provide with PO's

Cable diameter d or total circumference



Type	Length mm	Width mm	d mm	Perimeter mm
KG 350/40	350	40	25 - 34	170 - 230
KG 420/40	420	40	35 - 45	231 - 305
KG 600/40	600	40	46 - 62	306 - 420
KG 750/40	750	40	63 - 80	421 - 545
KG 900/40-1	900	40	81 - 100	546 - 680
KG 900/40-2	900	40	101 - 110	681 - 745
KG 900/40-3	900	40	111 - 120	746 - 810
KG 1200/40	1200	40	121 - 129	811 - 870

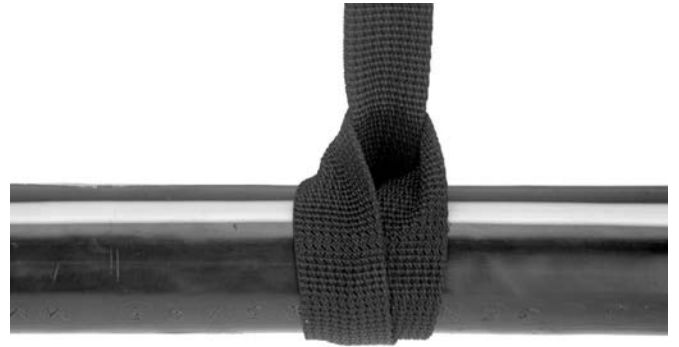
Part no	Type	Standard-Packaging piece	Weight kg/piece
71504	KG 350/40	25	0.06
71505	KG 420/40	25	0.08
71506	KG 600/40	25	0.08
71507	KG 750/40	25	0.08
71508	KG 900/40-1	25	0.08
71509	KG 900/40-2	25	0.08
71510	KG 900/40-3	25	0.08
71558	KG 1200/40	25	0.10

BRIFIX® cable belt endless type KGE

For hanging cables in basements, cable ducts, manholes, etc.

The BRIFIX cable belts are characterized by high tensile strength and easy assembly.

The cable belt distance is determined according to the cable weight and the tensile force.



Type	Length mm	Width mm	Max. cable-Ø mm	Breaking load N
KGE 800/25	800	25	80	500
KGE 1500/25	1500	25	80	500

Part no	Type	Standard-Packaging piece	Weight kg/piece
58618	KGE 800/25	25	0.01
58619	KGE 1500/25	25	0.02

Switzerland (Head office)

Brugg Kabel AG
Klosterzelgstrasse 28
CH-5201 Brugg
Tel. +41 56 460 33 33
info@brugg.com

Brugg Cables Academy
Klosterzelgstrasse 28
CH-5201 Brugg
Tel. +41 56 460 33 33
info.academy@brugg.com



BRUGG CABLES ACADEMY
Stay connected.

Please find more details on the courses currently offered in the online documentation www.bruggcables.com/academy.

Branch offices**China**

Brugg Cables (Shanghai) Co. Ltd.
Building No. 7 SaiTe Industrial Park
No. 1300 Jun Gong Road
Shanghai, 200433
P.R. China
Tel. +86 21 55062530
info.cn@brugg.com

Brugg Cables (Suzhou) Co. Ltd.
Building No.2
No. 88 East Jinling Road
WeitingTown
Suzhou Industrial Park
Suzhou, 215121
P.R. China
Tel. +86 512 62877718
info.cn@brugg.com

Germany, Austria, Benelux

Brugg Kabel GmbH
Daimlerstrasse 8
DE-71701 Schwieberdingen
Tel. +49 7150 9 1635 0
info.de@brugg.com

India

Brugg Cables India Private Limited
Unit No. 959 & 959A, 9th Floor,
JMD Mega Polis
Sohna Road, Sector 48
Gurgaon 122018
Haryana, India
Tel. +91 124 4992802
info.in@brugg.com

Italy

Brugg Cables Italia Srl
Via Pisacane n. 24
IT-20129 Milano
Tel. +39 334 674 63 45
info.it@brugg.com

Kuwait

Brugg Cables – Office Kuwait
Salwa, Block 12
Street No 7, House No 76
Floor No 1, Flat No 1
P.O. Box 2191
22022 Salmiya/Kuwait
Tel. +965 2566 32 71
info.kw@brugg.com

Poland

Brugg Cables Sp. z o.o.
Ul. Rokitniańska 4
PL-66-300 Międzyrzecz
Tel. +48 691 222 537
info.polen@brugg.com

United Arab Emirates

Brugg Kabel AG – Office Abu Dhabi
P.O. Box 51769
Al Khazna Insurance Build
2nd floor, office 211
Najda Street
Abu Dhabi / UAE
Tel. +971 2 671 73 02
info.ae@brugg.com

Brugg Cables Middle East DMCC
Platinum Tower, Suite 2504
Cluster I, JLT
P.O. Box 336461
Dubai
United Arab Emirates
Tel. +971 4 277 2333
info.uae@brugg.com