

# EUROMOLD<sup>®</sup>/GPH<sup>®</sup> HIGH VOLTAGE ACCESSORIES UP TO 72.5 KV

CONNECTORS • TERMINATIONS • JOINTS • JUNCTION SOLUTIONS  
CONNECTION TECHNOLOGY • PRE-ASSEMBLED CABLES • TOOLS



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Attention: Before first design in please contact manufacturer.

Impact wrenches have to be approved by Nexans! Depending on different conductor material or conductor type, indicated values may differ from test values acc. to IEC 61238-1. The use of fine stranded conductors has to be approved by Nexans Power Accessories Germany GmbH.

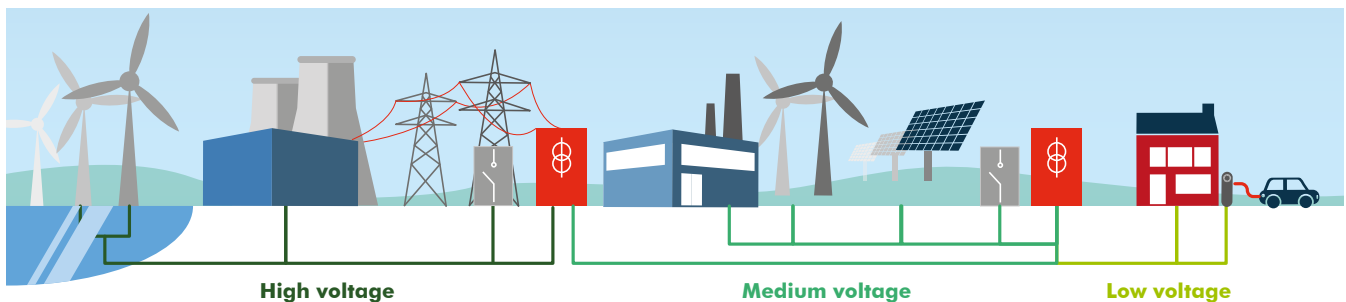
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Hof, February 2022

# LET'S GET CONNECTED!

Nexans Power Accessories is the leading European specialized innovator, manufacturer and distributor of low, medium and high voltage accessories as well as connection technology for energy transmission and distribution networks.



For over a century, **Nexans** has played a crucial role in the electrification of the planet and is committed to electrify the future. With around 25,000 people in 38 countries, the Group is leading the charge to the new world of electrification: safe, sustainable, renewable, decarbonized and accessible to everyone. In 2020, Nexans generated 5.7 billion euros in standard sales. The Group is a leader in the design and manufacturing of cable systems and services across four main business areas: Building & Territories, High Voltage & Projects, Industry & Solutions and Telecom & Data.

**Nexans Power Accessories** has been a leader in pre-assembled cable accessories for more than 60 years. The Nexans business unit is represented in 38 countries worldwide.

The standard product range of **GPH**<sup>®</sup> compression or mechanical connectors and cable lugs is developed and produced as well as customized solutions. Nexans also manufactures ready-to-install pre-assembled cable lengths and factory tested cable bridges for industrial applications.

With the brand name **EUROMOLD**<sup>®</sup> we are a European market leader for medium voltage accessories. We offer the entire portfolio of separable connectors for interfaces A to F in proven EPDM technology with at least 3 mm conductive jacket. In this scope, longtime know-how and technological advance was successfully transferred into high voltage applications. We provide a complete range of separable EPDM connectors and surge arresters, terminations made of silicone or composites, joints for cables, epoxy bushings and junction solutions up to 72.5 kV. An extensive range of additional equipment and a variety of dedicated installation training and tools make Nexans a strong partner in the transmission and distribution of energy.

Nexans Power Accessories have set industrial standards and shaped European norms. Quality and environmental awareness are central components of the corporate philosophy and management system. In addition to being certified according to DIN EN ISO 9001, we are also certified in the important sectors of environmental protection, energy and occupational safety.

## THIS IS WHERE YOU CAN FIND US.

Wherever electricity is conducted through cables and wires. Wherever cables are connected or energy transmission and distribution is required. Wherever safety and quality have utmost priority.

## WE PROVE COMPETENCE.

Nexans products ensure operational reliability as network utilisation increases. Our references are more than 12 million connectors and cable lugs, 1.1 million pre-manufactured accessories and around 134,000 jumpers per year.

## WE TAKE RESPONSIBILITY.

As the Centre of Competence for cable accessories, our engineers and technicians have taken on responsibility for cable connection technologies in the Nexans Group.

## STANDARDS ARE IMPORTANT TO US.

Our high-voltage accessories meet the requirements of the following standards: EN 50673, EN 60099-4, IEC 60840, IEC 60068, IEC 60099-4, IEC 60137, IEC 62067, IEC 61238-1, etc.

## WE ARE CERTIFIED.

DIN EN ISO 14001:2015,  
DIN EN ISO 50001:2015,  
DIN EN ISO 9001,  
OHRIS



# POWER ACCESSORIES FOR ENERGY CABLES

*A compact selection of our accessories  
up to 72.5 kV, 1250 A*

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# POWER ACCESSORIES FOR ENERGY CABLES

EPDM (ethylene propylene diene monomer)  
in connection technology

## Why is EPDM used for slip-on connectors all over the world?

---

EPDM has been used successfully as an insulating and control material for several million of cable connectors worldwide for more than 60 years. Compared with the frequency of which other materials, such as silicone, are used for separable connectors, EPDM reaches more than 95%.

Separable connectors are used at voltage levels from 3.6/6 kV to 60/69 kV (72.5 kV) for all possible applications, such as switchgears, motors, transformers, trains etc. in both indoor and outdoor facilities. Outer cone solutions have also been used for connecting high-voltage installations up to 220 kV for roughly 15 years.

The following advantages set EPDM in the pole position as the insulating and control material for separable connectors.

- Thick-walled, non-removable EPDM jacket with high mechanical load capacity. A metal housing is not necessary.
- The function of the earth connection to the conductive EPDM jacket of the connector is always ensured so that damage to the material caused by electric discharges between the surface of the connector / air and the

surface of the connector / metal (earthed system parts) is impossible. The EPDM material does not release any volatile substances accumulating on the surface having negative effects on the conductivity of the shielding after a longer period of time.

- Connectors made of EPDM meet all international standard testings to the utmost satisfaction, including the reignition test for fault detection.
- Problems when removing connectors (if systems are replaced or moved, even after decades) caused by material sticking to the bushing of the system are impossible. The silicone based lubricant that is used when assembling the connector, does not diffuse into the material, but remains in the gap between connector and bushing. De-energised connectors can be removed at any time, if required.
- The built-in dimensional stability of EPDM material is actively supporting the installation quality of separable connectors.
- Due to the robust and durable surface of the EPDM material, operational reliability in exposed positions is ensured. EPDM allows the long-term use of

power accessories under harsh operating conditions, such as mining or offshore applications, where insensitivity to slight mechanical influences or strong temperature fluctuations are required.

- Thanks to innovative technological advance of the EPDM material and the connector designs, multirange connectors are available today that are characterised by their ease of installation.

From an objective point of view, EPDM material has clear advantages in connection technology over all other materials, just as silicone for slip-on terminations.



# POWER ACCESSORIES

Connectors / Equipment Bushings / Terminations  
up to 72.5 kV



# R909TB/G EUROMOLD® Tee connector

Interface F

up to 72.5 kV, 1250 A<sup>1)</sup>

## Application

Separable tee shape connector designed to connect polymeric insulated cable to equipment (transformers, switchgears, ...). Also connects cable to cable when using the appropriate mating parts.

## Technical characteristics

- Thick conductive EPDM jacket.
- Each separable connector is tested for AC withstand and partial discharge prior to leaving the factory.

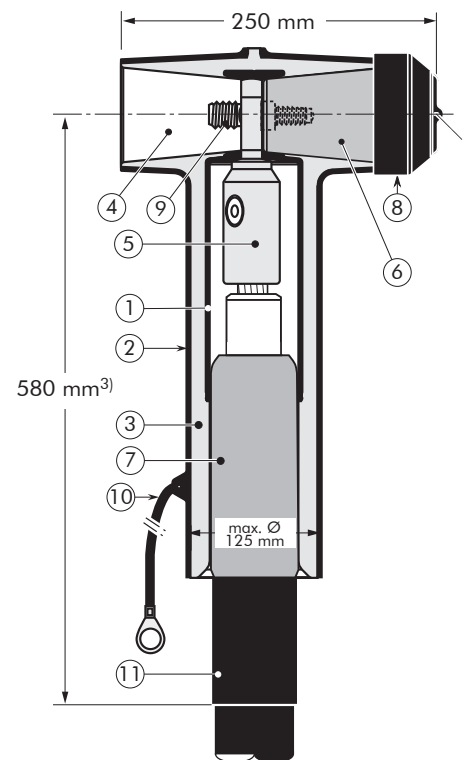
U (U<sub>m</sub>)  
60-69 (72.5) kV



## Design

1. Conductive EPDM insert
2. Conductive EPDM jacket
3. Insulating EPDM layer moulded between insert and jacket
4. Type F interface ref. CENELEC EN 50673
5. Conductor connector (bolted type or hexagonal crimping)
6. Basic insulating plug
7. Cable adapter
8. Conductive EPDM cap
9. Clamping screw with washer and nut
10. Earthing lead
11. Heat-shrinkable sleeve

The screen break design enables cable outer sheath testing without removing or dismantling the connector.



R909TB/G  
Tee connector

## Specifications and standards

The R909TB/G separable tee connector is type tested acc. to IEC 60840 and classified by DNV-GL.

Environmental testing acc. to IEC 60068 (solar radiation acc. to IEC 60068-2-5, salt mist/spray acc. to IEC 60068-2-25) and tested like IP68.

Separable connector type	Max. operating voltage U <sub>m</sub> (kV)	Continuous current I <sub>n</sub> (A)	Conductor cross-section <sup>2)</sup> (mm <sup>2</sup> )	
			min.	max.
R909TB/G	72.5	1250 <sup>1)</sup>	95	1200

<sup>1)</sup> When installed on appropriate equipment bushing.

<sup>2)</sup> Indicative for cables with 10 mm insulation wall thickness.

<sup>3)</sup> Installation length depending on the cable type used.

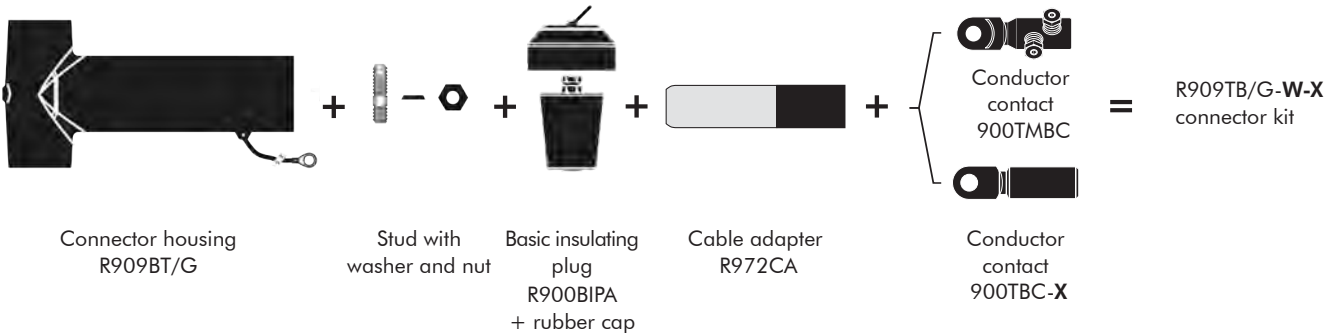
For detailed electrical ratings please see page 44.



## Kit contents

The complete R909TB/G tee connector kit comprises 1 x the following components:

+ The kit also comprises: installation instructions, silicone grease, sealing mastic, gloves, roll adhesive tape, heat-shrinkable sleeve



## Ordering instructions

To order the tee connector, select the ordering part number which gives you the best centering of your core insulation diameter and substitute **X** using **Table X**, according to your conductor size and type.

### Order example:

The copper wire screened cable is 72.5 kV, 800 mm<sup>2</sup> round stranded aluminum with a diameter over XLPE core insulation of 58 mm after cable preparation and 50 mm<sup>2</sup> copper wire screen.

### Order:

R909TB/G-50-800.1000-14-5  
+ SWL16-95x10 tee connector kit.

Table W

Ordering part number	Ø over core insulation <sup>3)</sup> (mm)	
	min.	max.
R909TB/G-25-X	27.0	33.5
R909TB/G-30-X	32.5	41.0
R909TB/G-37-X	40.0	48.0
R909TB/G-43-X	46.5	51.0
R909TB/G-46-X	49.5	55.0
R909TB/G-50-X	54.0	59.0
R909TB/G-53-X	57.0	64.0
R909TB/G-58-X	62.5	68.0

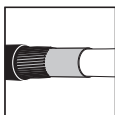
<sup>3)</sup> after cable preparation

Table X

Conductor cross-section (mm <sup>2</sup> )	Aluminium and Copper conductor (RMV)		Copper conductor (RMV)
	bolted		DIN hexagonal
95	95.240-14-5	185.400-14-5	95(K)M-11-2
120			120(K)M-11-2
150			150(K)M-11-2
185			185(K)M-11-2
240	400.630-14-5	800.1000-14-5	240(K)M-11-2
300			300(K)M-11-2
400			400(K)M-11-2
500	1200-14-5 <sup>4)</sup>		500(K)M-11-2
630			630(K)M-11-2
800			800(K)M-11-2
1000			1000(K)M-11-2
1200			1200(K)M-11-2

RMV: round stranded compacted conductors

<sup>4)</sup> For Aluminium conductors only.



Several earthing kits for different cable designs are available.



For use with other cable types please contact our representative.



Components can be ordered individually.



When installed on appropriate equipment bushing: 1250 A continuously.

# R909PB/G EUROMOLD® Coupling connector for R909TB/G

up to 72.5 kV, 1250 A<sup>1)</sup>, 1800A<sup>2)</sup>

## Application

Separable coupling connector (bolted type) for dual cable arrangement. It has been designed to be used with R909TB/G separable tee connector. The arrangement might be extended by multiple coupling connectors.

## Technical characteristics

- Thick conductive EPDM jacket.
- Each separable connector is tested for AC withstand and partial discharge prior to leaving the factory.

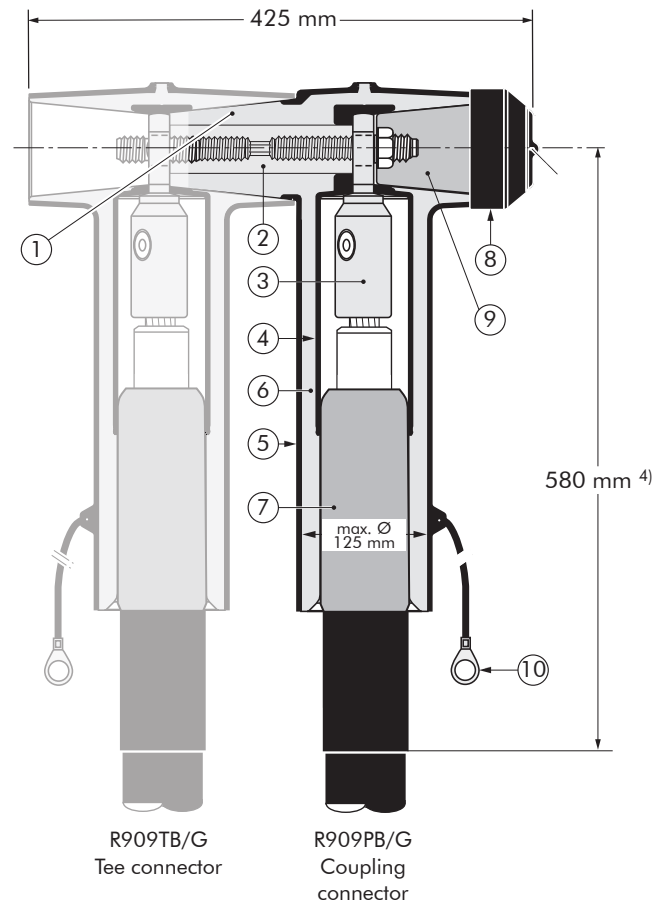
U (U<sub>m</sub>)  
60-69 (72.5) kV



## Design

1. Interface designed to fit R909TB/G
2. Bus for R909PB/G (contact rod and stud)
3. Conductor connector (bolted type or hexagonal crimping)
4. Conductive EPDM insert
5. Conductive EPDM jacket
6. Insulating EPDM layer moulded between the insert and the jacket
7. Cable adapter
8. Conductive EPDM cap
9. Basic insulating plug
10. Earthing lead

The screen break design enables cable outer sheath testing without removing or dismantling the connector.



## Specifications and standards

The R909PB/G separable coupling connector is type tested acc. to IEC 60840 and classified by DNV-GL.

Environmental testing acc. to IEC 60068 (solar radiation acc. to IEC 60068-2-5, salt mist/spray acc. to IEC 60068-2-25) and tested like IP68.

Separable connector type	Max. operating voltage U <sub>m</sub> (kV)	Continuous current I <sub>n</sub> (A)	Conductor cross-section <sup>3)</sup> (mm <sup>2</sup> )	
			min.	max.
R909PB/G	72.5	1250 <sup>1)</sup> /1800 <sup>2)</sup>	95	1200

<sup>1)</sup> When installed on appropriate equipment bushing.

<sup>2)</sup> Daisy chain arrangement.

<sup>3)</sup> Indicative for cables with 10 mm insulation wall thickness.

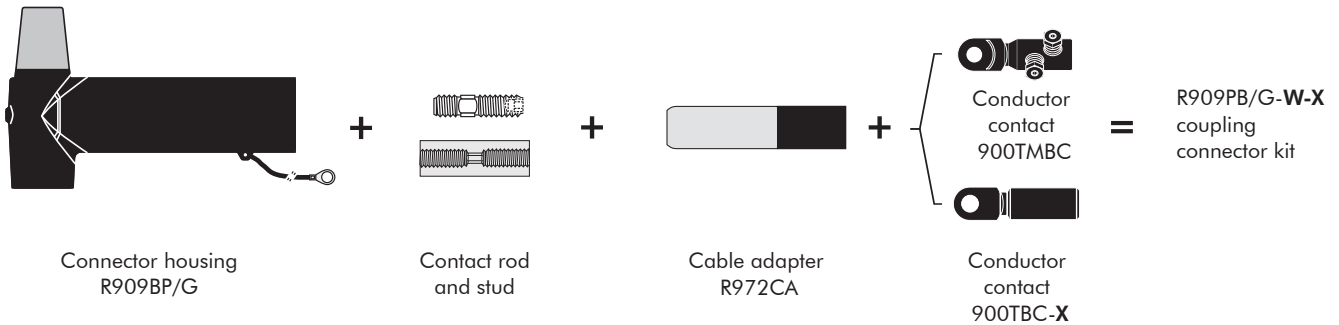
<sup>4)</sup> Installation length depending on the cable type used.

For detailed electrical ratings please see page 44.

## Kit contents

The complete R909PB/G coupling connector kit comprises 1 x the following components:

+ The kit also comprises:  
installation instructions,  
silicone grease, sealing mastic,  
gloves, roll adhesive tape,  
heat-shrinkable sleeve



## Ordering instructions

To order the coupling connector, select the ordering part number which gives you the best centering of your core insulation diameter and substitute **X** using **Table X**, according to your conductor size and type.

### Order example:

The copper wire screened cable is 72.5 kV, 800 mm<sup>2</sup> round stranded aluminum with a diameter over XLPE core insulation of 58 mm after cable preparation and 50 mm<sup>2</sup> copper wire screen.

### Order:

R909PB/G-50-800.1000-14-5  
+ SWL16-95x10 coupling connector kit.

Table W

Ordering part number	Ø over core insulation <sup>4)</sup> (mm)	
	min.	max.
R909TB/G-25-X	27.0	33.5
R909TB/G-30-X	32.5	41.0
R909TB/G-37-X	40.0	48.0
R909TB/G-43-X	46.5	51.0
R909TB/G-46-X	49.5	55.0
R909TB/G-50-X	54.0	59.0
R909TB/G-53-X	57.0	64.0
R909TB/G-58-X	62.5	68.0

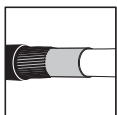
<sup>4)</sup> after cable preparation

Table X

Conductor cross-section (mm <sup>2</sup> )	Aluminium and Copper conductor (RMV)		Copper conductor (RMV)
	bolted		DIN hexagonal
95	95.240-14-5	185.400-14-5	95(K)M-11-2
120			120(K)M-11-2
150			150(K)M-11-2
185			185(K)M-11-2
240	400.630-14-5	800.1000-14-5	240(K)M-11-2
300			300(K)M-11-2
400			400(K)M-11-2
500	1200-14-5 <sup>5)</sup>		500(K)M-11-2
630			630(K)M-11-2
800			800(K)M-11-2
1000			1000(K)M-11-2
1200			1200(K)M-11-2

RMV: round stranded compacted conductors

<sup>5)</sup> For Aluminium conductors only.



Several earthing kits for different cable designs are available.



For use with other cable types please contact our representative.



Components can be ordered individually.



When installed on appropriate equipment bushing: 1250 A continuously.



When in a daisy chain arrangement or similar: 1800 A continuously.

# 900SA-CD EUROMOLD® Surge arrester

Interface F  
up to 72.5 kV

## Application

Surge arrester designed to protect 72.5 kV class components, including transformers, equipment, cable and accessories from high voltage surges resulting from lightning or switching.

## Technical characteristics

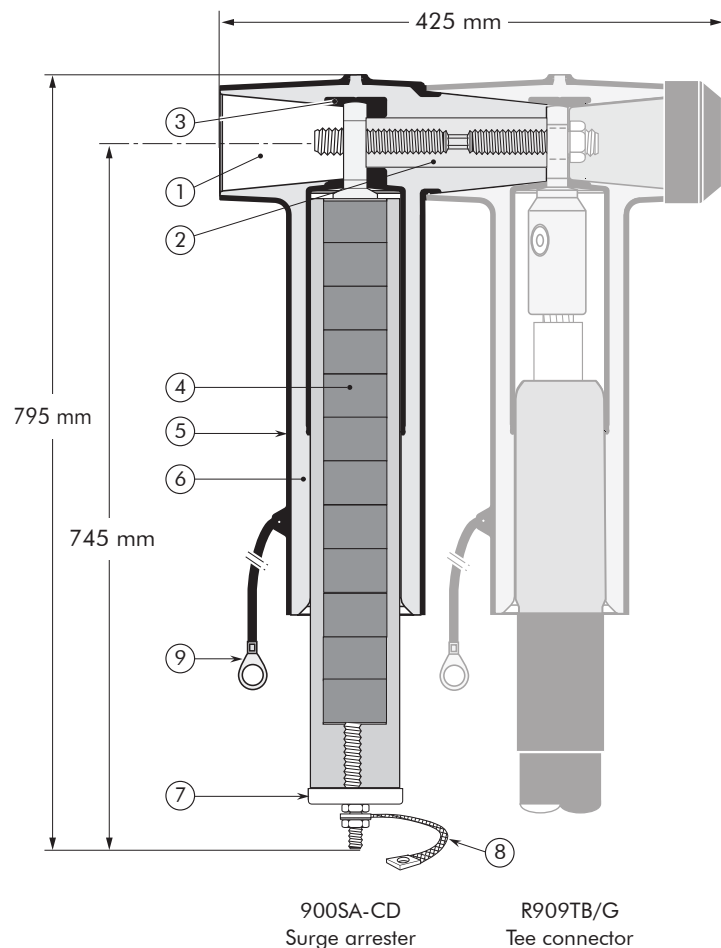
- This surge arrester is a metal oxide varistor type in an elbow configuration.
- Each separable surge arrester is tested for AC withstand and partial discharge prior to leaving the factory.

U (U<sub>m</sub>)  
60-69 (72.5) kV



## Design

1. Type F interface ref. CENELEC EN 50673
  2. Bus for 909PB/G (contact rod and stud)
  3. Conductive EPDM insert
  4. Metal oxide valve elements
  5. Conductive EPDM jacket
  6. Insulating EPDM layer moulded between the insert and the jacket
  7. Steel cap
  8. Earthing connection
  9. Earthing lead
- For use with the R909TB/G separable tee connectors.



## Specifications and standards

The 900SA-CD surge arrester meets the test requirements of IEC 60099-4 and EN 60099-4 and is classified by DNV-GL.

### Note:

The standard installation position of the surge arrester body is vertically. For horizontal installations contact our Technical Customer Service.

Surge arrester type	Nominal discharge current $I_n$ (kA)	Rated voltage $U_r$ (kV)	Max. continuous operating voltage <sup>1)</sup> $U_c$ (kV)	Rated short-circuit current $I_{sc}$ (kA, 0.2s)
900SA-10-54-CD20	10	54	43.2	20
900SA-10-60-CD20	10	60	48.0	20
900SA-10-66-CD20	10	66	52.8	20
900SA-10-72.5-CD20	10	72.5	58.0	20
900SA-10-74-CD20	10	74	59.2	20
900SA-10-54-CD31.5	10	54	43.2	31.5
900SA-10-60-CD31.5	10	60	48.0	31.5
900SA-10-66-CD31.5	10	66	52.8	31.5
900SA-10-72.5-CD31.5	10	72.5	58.0	31.5
900SA-10-74-CD31.5	10	74	59.2	31.5

<sup>1)</sup> Other voltages on request.

For detailed electrical ratings please see page 44.

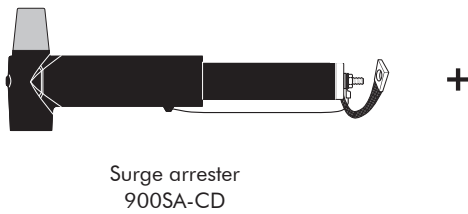
## Kit contents

The complete 900SA-CD surge arrester kit comprises 1x the following components:

+ The kit also comprises: *installation instructions, silicone grease and nylon vent rod, gloves and wiper, contact rod and stud*



= 900SA-10-74-CD20 surge arrester kit



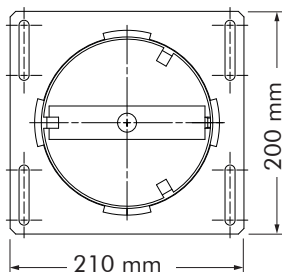
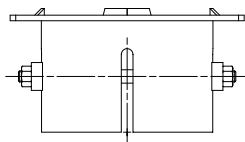
= 900SA-10-74-CD31.5 surge arrester kit

## Ordering instructions

For rated short-circuit current 31.5 kA, 0.2s order the surge arrester kit 900SA-10-74-CD31.5.

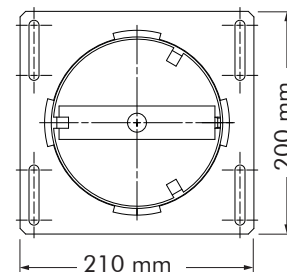
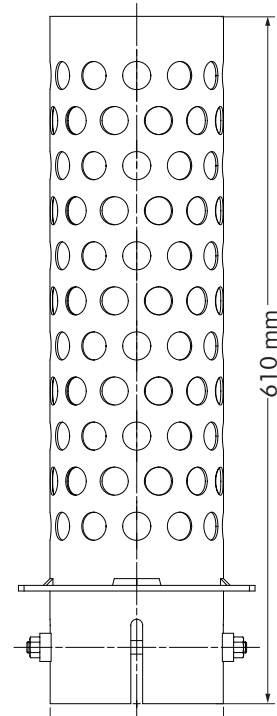
### Support 900SA

To support the weight of the surge arrester.



### Cover 900SA

To support the weight of the surge arrester and to obtain an increased short circuit level up to 31.5 kA.



# R900BE/G EUROMOLD® Bushing extender

Interface F

up to 72.5 kV, 1250 A<sup>1)</sup>

## Application

The separable bushing extender R900BE/G provides an extension piece to allow cables to stand away from equipment, e.g. transformers, switchgears. It is used in conjunction with R909PB/G, supplied with an earthing lead.

## Technical characteristics

- Thick conductive EPDM jacket.
- Each bushing extender is tested for AC withstand and partial discharge prior to leaving the factory.

U (U<sub>m</sub>)  
60-69 (72.5) kV

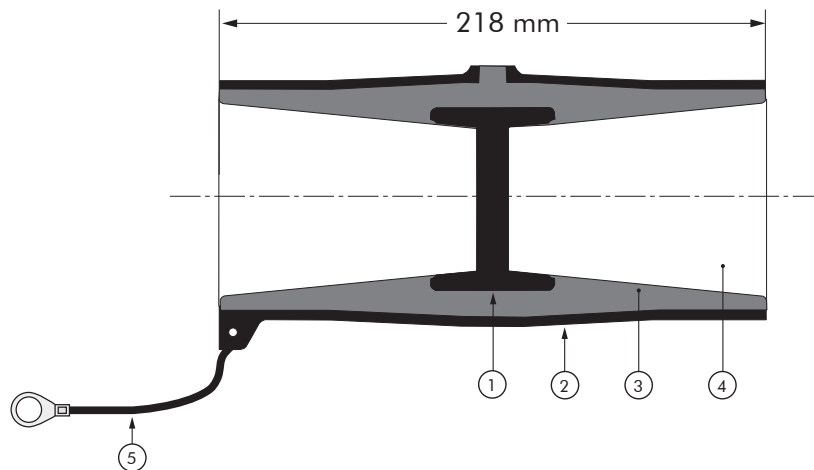
## Design

1. Conductive EPDM insert
2. Conductive EPDM jacket
3. Insulating EPDM layer moulded between insert and jacket
4. Type F interface ref. CENELEC EN 50673
5. Earthing lead

For use with EUROMOLD® connectors, bushings and connecting plugs with interface F as described by CENELEC EN 50673.

### Order:

R900BE/G for 72.5 kV applications.



## Specifications and standards

The R900BE/G bushing extender is type tested acc. to IEC 60840.

Environmental testing acc. to IEC 60068 (solar radiation acc. to IEC 60068-2-5, salt mist/spray acc. to IEC 60068-2-25).

<sup>1)</sup> When installed on appropriate equipment bushing.

# R900DR-B/G EUROMOLD® Dead-end receptacle

Interface F  
up to 72.5 kV

## Application

Fits over a bushing with a type F interface to provide dead-end facility. The dead-end receptacle R900DR-B/G is supplied with an earth lead.

## Technical characteristics

Each dead-end receptacle is tested for AC withstand and partial discharge prior to leaving the factory.

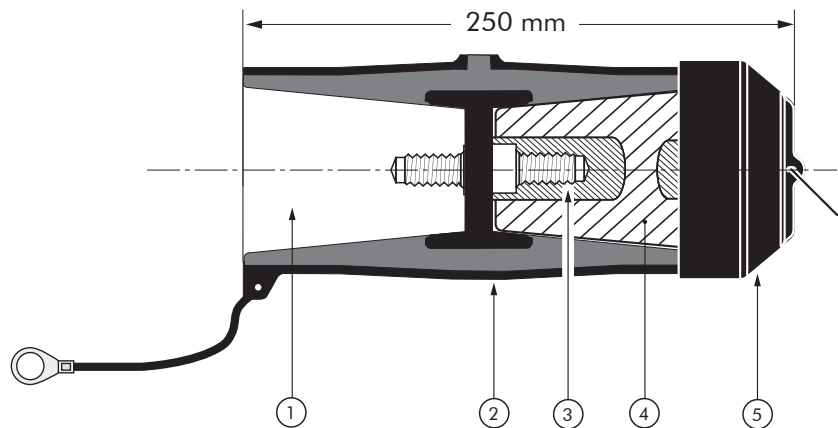
U (U<sub>m</sub>)  
60-69 (72.5) kV

## Design

1. Type F interface ref. CENELEC EN 50673
2. Conductive outer EPDM jacket
3. Clamping screw with washer and nut
4. Basic insulating plug R900BIPA
5. Conductive EPDM cap

### Order:

R900DR-B/G for 72.5 kV applications.



## Specifications and standards

The R900DR-B/G dead-end receptacle is type tested acc. to IEC 60840.

Environmental testing acc. to IEC 60068 (solar radiation acc. to IEC 60068-2-5, salt mist/spray acc. to IEC 60068-2-25).

# 900GP-SBT EUROMOLD® Grounding plug

Interface F

up to 72.5 kV, 1250 A

## Application

The grounding plug 900GP-SBT is designed to support an earth connection to a cable conductor and is used with EUROMOLD® interface F connectors.

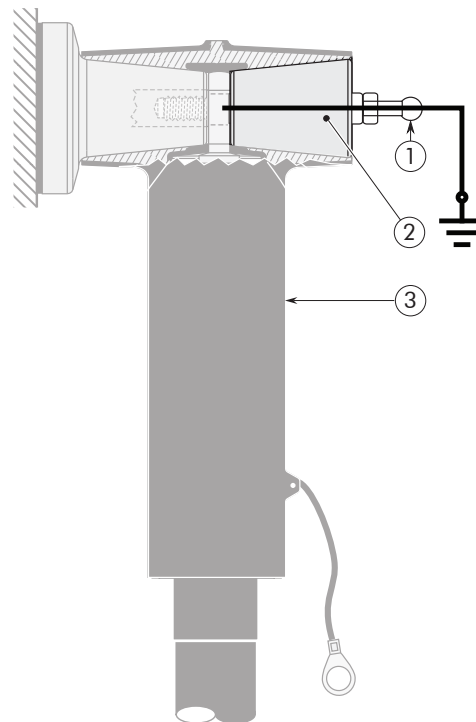
U (U<sub>m</sub>)  
60-69 (72.5) kV

## Design

1. Ball terminal Ø 20 mm or Ø 25 mm
2. Grounding plug 900GP-SBT replacing Basic insulating plug 900BIPA
3. Separable connector R909TB/G or Coupling connector R909PB/G

### Order:

900GP-SBT20 plug with ball-pin Ø 20 mm, order number 88505  
900GP-SBT25 plug with ball-pin Ø 25 mm, order number 703374



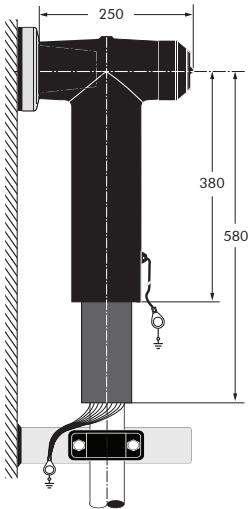


# POSSIBLE ARRANGEMENTS

## Interface F

### R909TB/G

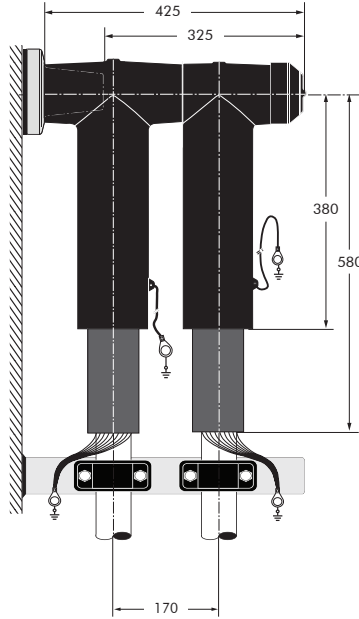
Single cable arrangement



R909TB/G  
Tee connector

### R909TB/G + R909PB/G

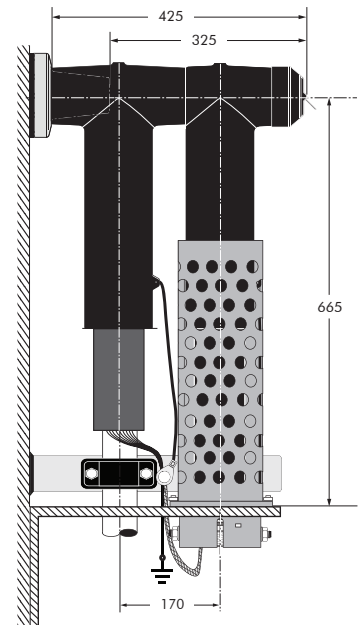
Dual cable arrangement



R909TB/G Tee connector  
R909PB/G Coupling connector

### R909TB/G + 900SA-10-X-CD31.5

Single cable arrangement with surge arrester

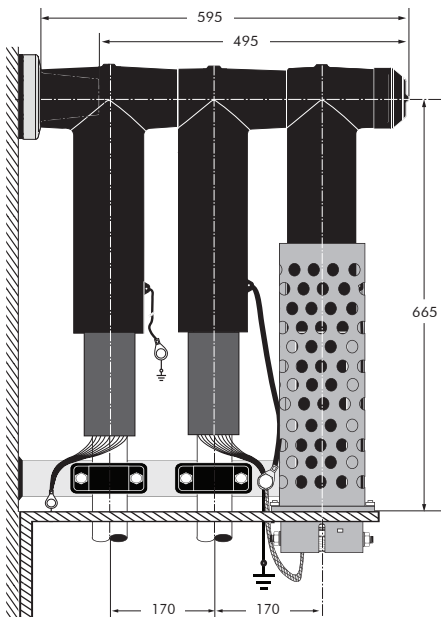


R909TB/G Tee connector  
900SA-CD Surge arrester

### R909TB/G + R909PB/G + 900SA-10-X-CD31.5

Dual cable arrangement with surge arrester

Dual cable arrangement with surge arrester



R909TB/G Tee connector  
R909PB/G Coupling connector  
900SA-CD Surge arrester

# R900AR-8-L / R900AR-12 EUROMOLD® Equipment bushing

Interface F

up to 72.5 kV, 630 A/1250 A

## Application

Moulded epoxy insulated bushings for use in equipment, typically for transformers or other liquid filled installations.

For GIS bushings, please contact our technical support.

## Technical characteristics

Each bushing is tested for AC withstand and partial discharge prior to leaving the factory.

$U (U_m)$   
60-69 (72.5) kV

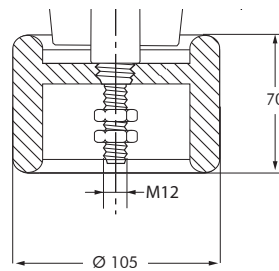
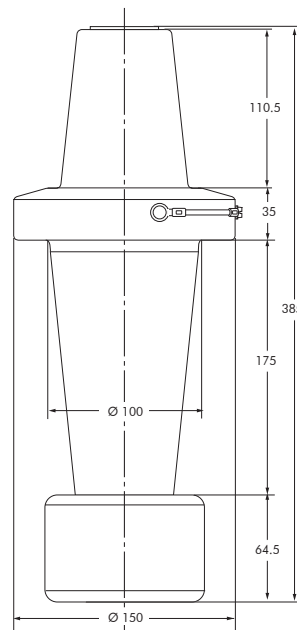
## Specifications and standards

The bolted type equipment bushings R900AR-X/J are moulded epoxy insulated parts with type F interface acc. to CENELEC EN 50673.

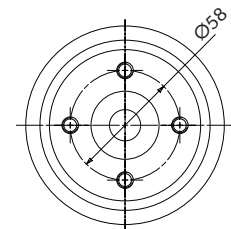
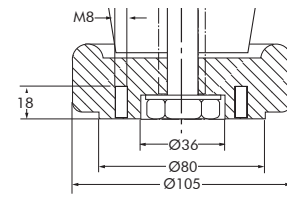
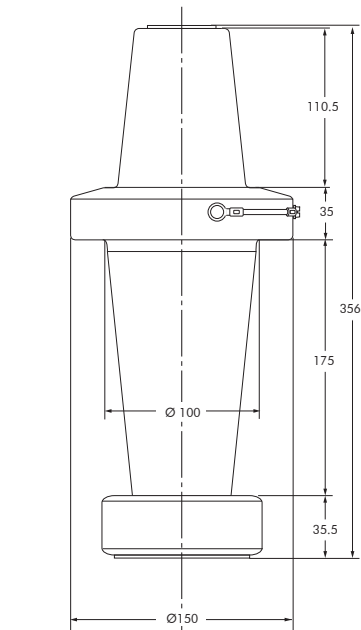
The bushing R900AR-X/J is type tested acc. to IEC 60840 and IEC 60137.

### Note:

The connection has to be encapsulated by an electrode of adequate design.



R900AR-8-L  
(complete with electrode)



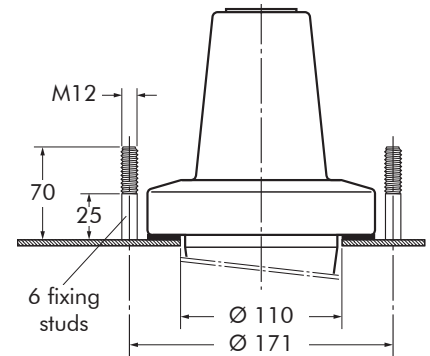
R900AR-12  
(complete with electrode)

Equipment bushing type	Interface type	Max. operating voltage $U_m$ (kV)	Current $I_r$ (A)
R900AR-8-L/J	F4	72.5	630
R900AR-12/J	F5	72.5	1250

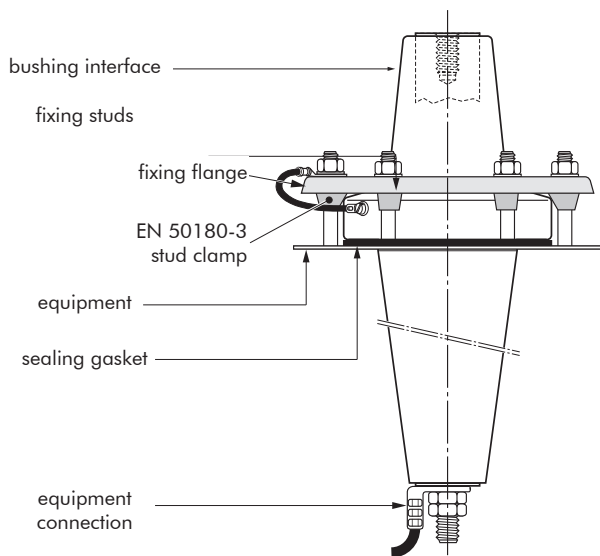
For detailed electrical ratings please see page 44.

# FIXINGS FOR EQUIPMENT BUSHINGS

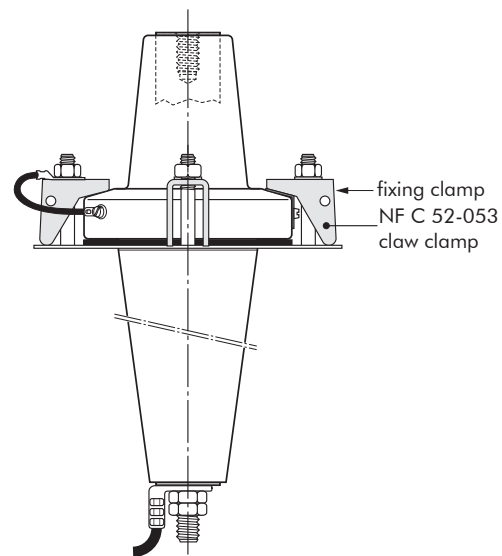
## Fixing dimensions



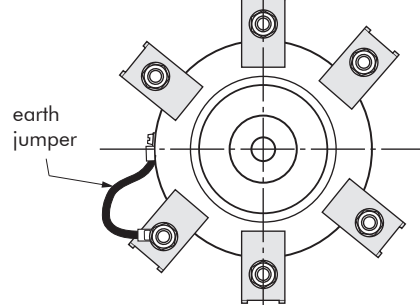
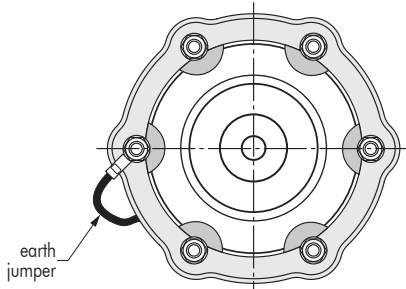
## R900AR-X/J Bushing



Bushing clamping kit KBCDS-400



Bushing clamping kit KBC NFC



## Bushing clamping kit (DIN)

To order the bushing clamping kit with DIN type fixing flange, simply specify KBCDS-400.

## Kit contents

The KBCDS-400 bushing clamping kit comprises the following components:

- + 1 fixing flange DIN type
- + 6 clamp studs
- + 1 sealing gasket

## Bushing clamping kit (FN)

(deviating in design from EN 50673) made of marine grade stainless steel type 316, please specify KBC NFC.

## Kit contents

The KBC NFC bushing clamping kit comprises the following components:

- + 6 claw clamps
- + 1 sealing gasket

# AFN72 EUROMOLD® Slip-on termination

for indoor and outdoor use  
up to 72.5 kV

## Application

Dry type, non size sensitive terminations for use indoors, outdoors and exposed to prolonged sunshine and other weather conditions. To connect polymeric insulated cable to equipment and for the outdoor terminating onto overhead lines or bus bars.

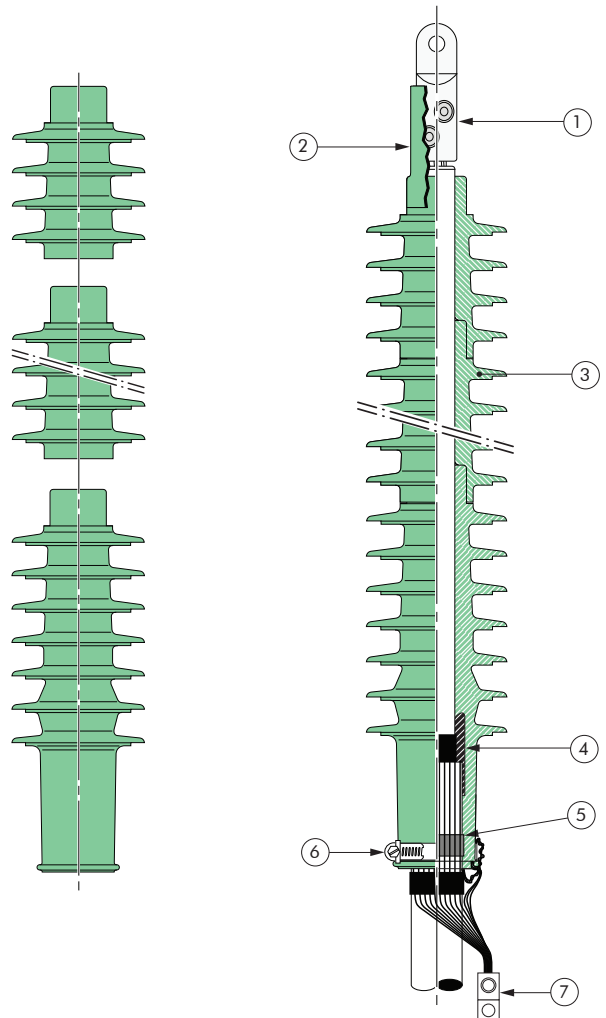
## Technical characteristics

- Its compact and modular design supports the suitability for different pollution levels.
- All termination housings are tested for AC withstand and partial discharge prior to leaving the factory.

U (U<sub>m</sub>)  
60-69 (72.5) kV

## Design

1. Longitudinally sealed mechanical cable lug (connecting stalk or compression cable lugs available on request)
2. Water sealing cover
3. Silicone shed modules providing different pollution levels
4. Silicone housing with sheds and integrated conductive silicone rubber insert providing stress relief for the cable
5. Water sealing mastic
6. Earthing clamp
7. Earthing lug



## Specifications and standards

The AFN72 slip-on termination is type tested acc. to IEC 60840, and meets the requirements of IEC/TS 60815-3; SPS class d and e. According to IEC 60112: CTI > 600

Termination type	Max. operating voltage U <sub>m</sub> (kV)	Ø over core insulation <sup>2)</sup> (mm)		Conductor cross-section <sup>1)</sup> (mm <sup>2</sup> )	
		min.	max.	min.	max.
AFN72	72.5	31.5	82.0	95	2000

<sup>1)</sup> Indicative for cables with 10 mm insulation wall thickness.

<sup>2)</sup> After cable preparation.

For detailed electrical ratings please see page 45

## Kit contents

The AFN72 slip-on termination kit comprises the following components:

- + 1 termination housing
- + modules with sheds
- + conductor cable lug

- + screen wire cable lug
- + water sealing sleeve
- + *The kit also comprises:*  
*special lubricant, wiper,*  
*earthing clamp, water sealing*  
*mastic, adhesive tape,*  
*installation instructions*

## Ordering instructions

To order the termination, select the ordering part number which gives you the best centering of your core insulation diameter. Substitute **X** using the appropriate mechanical cable lug or connecting stalk according to your conductor type and add the screen wire cable lug.

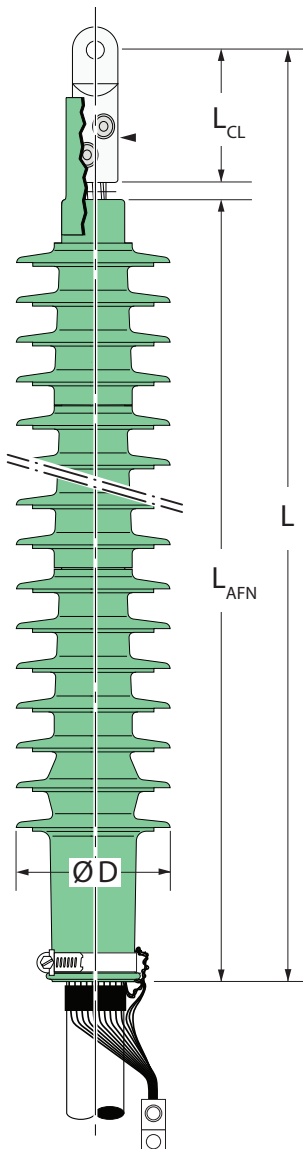
### Order example:

One outdoor termination for a 72.5 kV - 630 mm<sup>2</sup> stranded aluminum cable with 50 mm<sup>2</sup> copper wire screen to be used in pollution class environment d. The diameter over core insulation is 54 mm.

### Order:

AFN72-6-D  
 + C400-630x16  
 + SWL16-95x12

For conductor cable lug, connecting stalk and screen wire cable lug, please see page 20-21.



**Table 1 - Classification and dimensions**

Ordering part number termination	Ø over core insulation <sup>2)</sup> (mm)		Ø D (mm)	Length L <sub>AFN</sub> (mm)	Creepage distance (mm)	Site pollution survey (SPS) class <sup>3)</sup>
	min.	max.				
AFN72-4-D-X	31.5	41.0	127	915	1975	d (Heavy)
AFN72-4-E-X	31.5	41.0	127	1040	2300	e (Very heavy)
AFN72-5-D-X	39.0	47.0	127	915	1975	d (Heavy)
AFN72-5-E-X	39.0	47.0	127	1040	2300	e (Very heavy)
AFN72-6-D-X	46.0	55.0	127	915	1975	d (Heavy)
AFN72-6-E-X	46.0	55.0	127	1040	2300	e (Very heavy)
AFN72-7-D-X	53.0	60.0	172	805	1965	d (Heavy)
AFN72-7-E-X	53.0	60.0	172	965	2475	e (Very heavy)
AFN72-8-D-X	59.0	67.0	172	805	1965	d (Heavy)
AFN72-8-E-X	59.0	67.0	172	965	2475	e (Very heavy)
AFN72-9-D-X	66.0	73.0	172	805	1965	d (Heavy)
AFN72-9-E-X	66.0	73.0	172	965	2475	e (Very heavy)
AFN72-10-D-X	72.0	82.0	172	805	1965	d (Heavy)
AFN72-10-E-X	72.0	82.0	172	965	2475	e (Very heavy)

<sup>2)</sup> after cable preparation

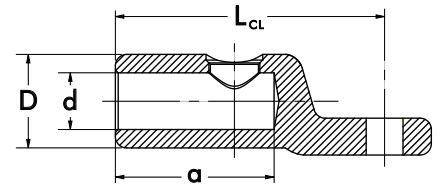
<sup>3)</sup> acc. to IEC/TS 60815-3

To determine the total termination length:

$$\text{Total Length } L = L_{AFN} + L_{CL} + 10 \text{ mm}$$

For detailed information see following pages.

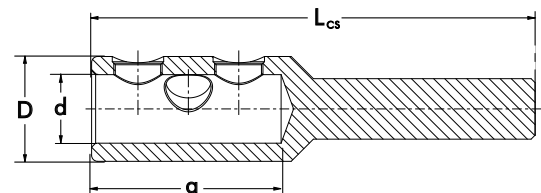
## I GPH® Mechanical conductor cable lug with shear-off-head bolts



Ordering part number conductor cable lug	Conductor cross-section Aluminium (mm <sup>2</sup> )		Conductor cross-section Copper (mm <sup>2</sup> )	Length L <sub>CL</sub>	Dimensions (mm)			Palm hole Ø (mm)
	rm(v)	re	rm(v)		d	D	a	
C95-240 x 16	95-240	95-240	95-240	95	20	33	56	17
C185-400 x 16	185-400	185-400	185-400	120	26	42	82	17
C400-630 x 16	400-630	400-630	400-630	130	34	52	94	17
C630-1000 x 20 <sup>1)</sup>	630-1000	630-1000	630-1000	165	41	65	105	21
C800-1200 x 20 <sup>1)</sup>	800-1200	630-1200	630-1000	170	45	72	105	21
Other cable lugs on request								

<sup>1)</sup> Centric conductor positioning by center insert

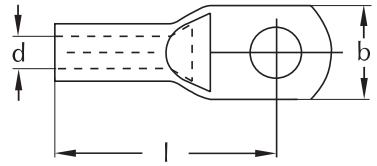
## I GPH® Mechanical connecting stalk with shear-off-head bolts



Ordering part number conductor connecting stalk	Conductor cross-section Aluminium (mm <sup>2</sup> )		Conductor cross-section Copper (mm <sup>2</sup> )	Length L <sub>CS</sub>	Dimensions (mm)			Pin Ø (mm)	Pin length (mm)
	rm(v)	re	rm(v)		d	D	a		
C95-240 PIN20/80	95-240	95-240	95-240	145	20	33	56	20	80
C185-400 PIN30/110	185-400	185-400	185-400	200	26	42	82	30	110
C400-630 PIN30/110	400-630	400-630	400-630	220	34	52	94	30	110
C630-1000 PIN40/120 <sup>1)</sup>	630-1000	630-1000	630-1000	220	41	65	105	40	120
C800-1200 PIN40/130 <sup>1)</sup>	800-1200	800-1200	800-1000	250	45	72	105	40	130
Other connecting stalks on request									

<sup>1)</sup> Centric conductor positioning by center insert

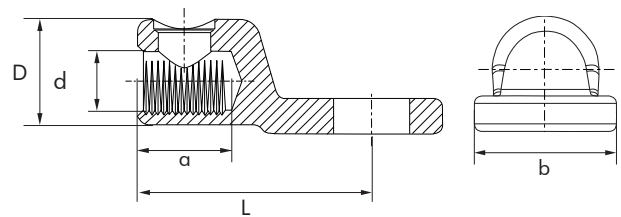
**I GPH® Screen wire cable lug  
copper, compression type,  
acc. to DIN 46235**



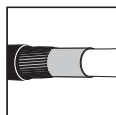
Ordering part number screen wire cable lug	Conductor cross-section Cu stranded (mm <sup>2</sup> )	Dimensions (mm)			Palm hole ∅ (mm)	Die code no.	Number of compressions	
		d	l	b			mech.	hydr.
16 x 10 KU-V 16 x 12 KU-V <sup>1)</sup>	16	5.5	36	17.0 21.0	10.5 13.0	8	2	1
25 x 10 KU-V 25 x 12 KU-V	25	7.0	38	17.0 19.0	10.5 13.0	10	2	1
35 x 10 KU-V 35 x 12 KU-V	35	8.2	42	19.0 21.0	10.5 13.0	12	2	1
50 x 10 KU-V 50 x 12 KU-V	50	10.0	52	22.0 24.0	10.5 13.0	14	3	1
70 x 10 KU-V 70 x 12 KU-V	70	11.5	55	24.0 24.0	10.5 13.0	16	3	1
95 x 10 KU-V 95 x 12 KU-V	95	13.5	65	28.0 28.0	10.5 13.0	18	4	2
120 x 10 KU-V 120 x 12 KU-V	120	15.5	70	32.0 32.0	10.5 13.0	20	4	2

<sup>1)</sup>These cable lugs do not correspond to DIN 46235.

**I GPH® Mechanical screen wire cable lug  
with shear-off-head bolts**



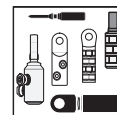
Ordering part number screen wire cable lug	Conductor cross-section (mm <sup>2</sup> )	Dimensions (mm)					Palm hole ∅ (mm)
		L	D	b	d	a	
SWL 16-95 x 12	16-95	52	25	25	14	24	13
SWL 70-185 x 12	70-185	97	35	35	22	56	13



For use with copper wire screened cables. No further earthing device is necessary.



For use with other cable types please contact our representative.



All accessories available with mechanical or compression conductor connector.

# AFNS72

## EUROMOLD® Slip-on termination with support (4-6)

for indoor and outdoor use  
up to 72.5 kV

### Application

Slip-on Termination with support insulator for use indoors, outdoors and exposed to prolonged sunshine and other weather conditions. To connect polymeric insulated cable onto overhead lines or bus bars.

### Technical characteristics

- The modular slip-on design of the cable termination ensures easy installation.
- All termination housings are tested for AC withstand and partial discharge prior to leaving the factory.
- Support insulator creepage distance of 3200 mm.

U (U<sub>m</sub>)  
60-69 (72.5) kV

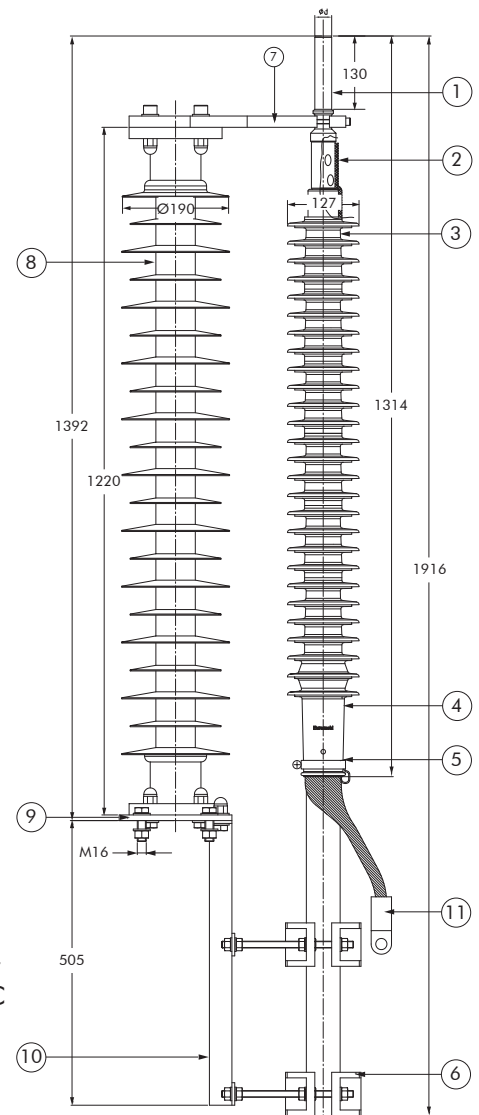
### Design

1. Longitudinally sealed mechanical connecting stalk
2. Water sealing cover
3. Silicone shed modules
4. Silicone housing with sheds and integrated conductive silicone rubber insert providing stress relief for the cable
5. Leakage current collector
6. Cable clamps
7. Head plate with stalk holder made of aluminum
8. Support insulator made of reinforced glass fiber rod and silicone
9. Base plate made of aluminum
10. Cable support made of galvanised steel
11. Earthing cable lug

### Specifications and standards

The AFNS 72 slip-on termination with support is type tested acc. to IEC 60840, and meets the

requirements of IEC/TS 60815-3; SPS class e. According to IEC 60112: CTI > 600



Termination type	Max. operating voltage U <sub>m</sub> (kV)	Ø over core insulation <sup>2)</sup> (mm)		Conductor cross-section <sup>1)</sup> (mm <sup>2</sup> )	
		min.	max.	min.	max.
AFNS72	72.5	31.5	82.0	95	2000

<sup>1)</sup> Indicative for cables with 10 mm insulation wall thickness.

<sup>2)</sup> After cable preparation.

For detailed electrical ratings please see page 45.



## Kit contents

The AFNS72 slip-on termination kit comprises the following components:

- + 1 termination housing
- + modules with sheds
- + conductor cable lug

- + screen wire cable lug
- + water sealing sleeve
- + termination support consisting of: head plate, support insulator, base plate including cable support

+ The kit also comprises: special lubricant, wiper, earthing clamp, water sealing mastic, adhesive tape, installation instructions

## Ordering instructions

To order the termination, select the ordering part number which gives you the best centering of your core insulation diameter. Substitute **X** using **Table 2** according to your conductor type and add the screen wire cable lug.

### Order example:

One outdoor termination for a 72.5 kV - 630 mm<sup>2</sup> stranded aluminum cable with 50 mm<sup>2</sup> copper wire screen to be used in pollution class environment d. The diameter over core insulation is 54 mm.

### Order:

AFNS72-6-D  
+ C400-630 PIN30/110  
+ SWL16-95x12

For screen wire cable lug please see page 21.

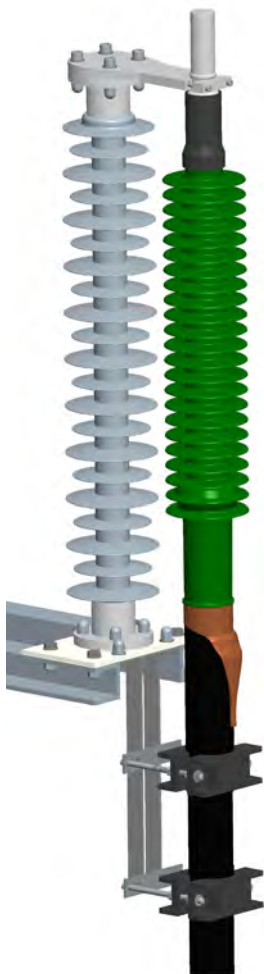
**Table 1 - Classification and dimensions**

Ordering part number termination	Ø over core insulation <sup>3)</sup> (mm)		Ø D (mm)	Length L <sub>AFN</sub> (mm)	Creepage distance <sup>1)</sup> (mm)	Site pollution survey (SPS) class <sup>2)</sup>
	min.	max.				
AFNS72-4-E-X	31.5	41.0	127	1314	2300	e (Very heavy)
AFNS72-5-E-X	39.0	47.0	127	1314	2300	e (Very heavy)
AFNS72-6-E-X	46.0	55.0	127	1314	2300	e (Very heavy)
AFNS72-7-E-X	53.0	60.0	172	1259	2475	e (Very heavy)
AFNS72-8-E-X	59.0	67.0	172	1259	2475	e (Very heavy)
AFNS72-9-E-X	66.0	73.0	172	1259	2475	e (Very heavy)
AFNS72-10-E-X	72.0	82.0	172	1259	2475	e (Very heavy)

<sup>1)</sup> slip-on termination

<sup>2)</sup> acc. to IEC/TS 60815-3

<sup>3)</sup> After cable preparation.



**Table 2 - GPH® Mechanical connecting stalk with shear-off-head bolts**

Ordering part number conductor connecting stalk	Conductor cross-section Aluminium (mm <sup>2</sup> )		Conductor cross-section Copper (mm <sup>2</sup> )	Pin Ø (mm)	Pin length (mm)
	rm(v)	re	rm(v)		
C95-240 PIN20/80	95-240	95-240	95-240	20	80
C185-400 PIN30/110	185-400	185-400	185-400	30	110
C400-630 PIN30/110	400-630	400-630	400-630	30	110
C630-1000 PIN40/120 <sup>4)</sup>	630-1000	630-1000	630-1000	40	120
C800-1200 PIN40/130 <sup>4)</sup>	800-1200	800-1200	800-1000	40	130
Other connecting stalks on request					

<sup>4)</sup> Centric conductor positioning by center insert

# FEV72.5

## Outdoor termination with composite insulator

for single core XLPE HV cables  
up to 72.5 kV

### Application

FEV72.5 terminations are suitable for outdoor installation on single core XLPE cables. This high quality outdoor termination with composite insulator filled with insulating fluid, is optionally equipped with arcing horn and flat terminal connector.

### Technical characteristics

- Optimised for mechanical connecting stalk
- Premoulded and factory tested EPDM stress cone
- Insulated arrangement, disconnectable earth lead
- For conductor cross-section 185 - 2000 mm<sup>2</sup>
- For diameter over core insulation up to 81 mm

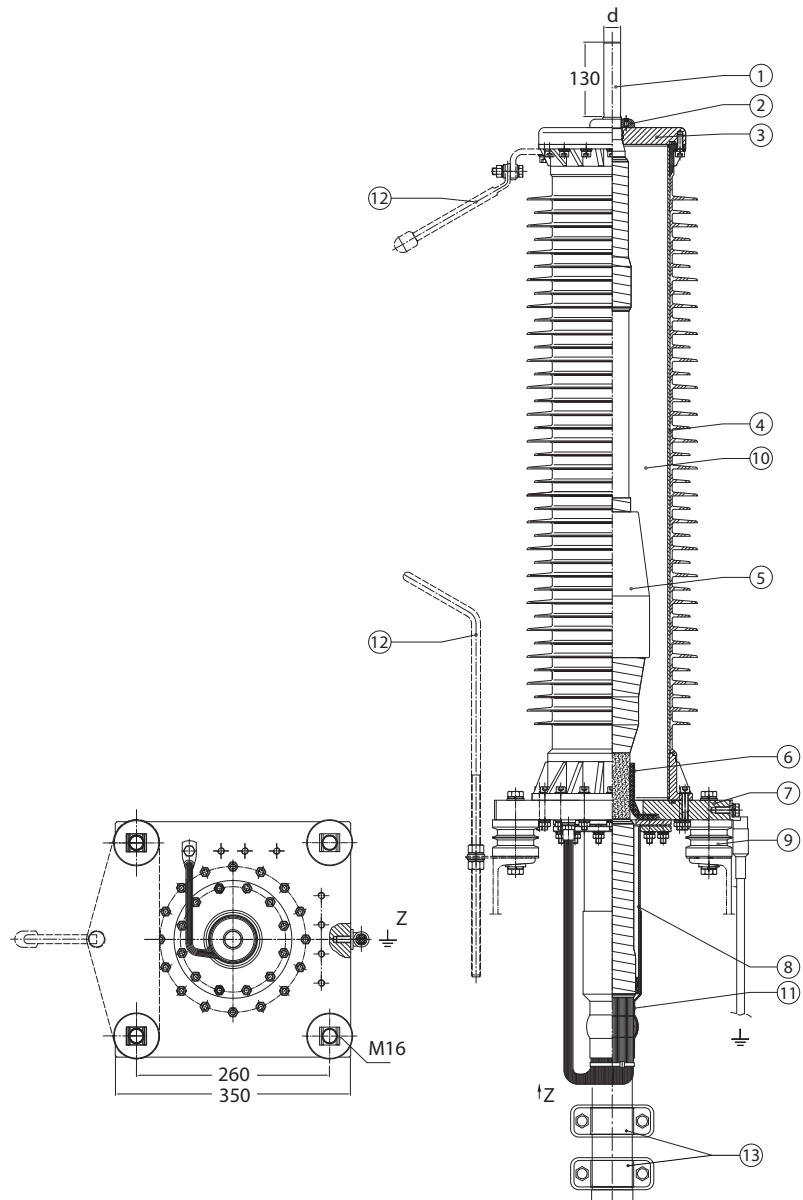
U (U<sub>m</sub>)  
60-69 (72.5) kV

### Design

1. Mechanical connecting stalk
2. Lock nut
3. Head plate
4. Composite insulator
5. EPDM stress cone
6. Sealing flange
7. Base plate
8. Cable gland
9. Support insulator
10. Silicone oil
11. Heat-shrinkable tube
12. Arcing horn (optional)
13. Cable clamp  
(set includes 2 pieces)

### Connecting stalk

Diameter Ø d (mm)	Conductor cross-section (mm <sup>2</sup> )
Ø 30	185 - 630
Ø 40	800 - 1200
Ø 50	1400 - 1800
Ø 60	2000



## Specifications and Standards

All high voltage accessories are in compliance with national and international specifications and can be adapted to special customer requirements.

Therefore, all technical specifications are purely for information purposes only. For your specific requirements, please do not hesitate to contact us.

**International:**  
IEC 60840

Termination type	Max. operating voltage $U_m$ (kV)	Height (mm)	Weight per piece (kg)	Creepage distance (mm)
FEV72.5-2.5VIn	72.5	1168	65	2560

Other types available on request.

For detailed electrical ratings please see page 46-47.

## ESC EUROMOLD® Premoulded EPDM Stress Cone

### Application

Premoulded EPDM stress cones are used for more than 35 years on cables with extruded insulation. EUROMOLD® ESC range of high voltage stress cones is designed based on the long experience with moulded dielectrical components. The stress control is provided by a semi-conductive EPDM deflector on which the insulating part of the stress cone is moulded under high pressure. Stress cones are suitable to terminate cables with extruded insulation from 72.5 kV up to 550 kV in insulators filled with insulating fluid (gas or oil).

### Specifications and Standards

ESC series EPDM stress cones have been qualified as part of outdoor, switchgear and transformer termination.

**International:**  
IEC 60840, IEC 62067  
**National:**  
DIN VDE 0276-632



Stress cone type (Size)	Ø over core insulation <sup>2)</sup> (mm)	Conductor cross-section <sup>1)</sup> (mm)
E0	35 - 42	120 - 240
E1	41 - 48	240 - 400
E2	47 - 55	400 - 630
E3	53 - 61	630 - 1000
E4	60 - 72	1000 - 1600
E5	70 - 81	1600 - 2000

<sup>1)</sup> 72 kV cable,  $t_{50} = 10$  mm

<sup>2)</sup> After cable preparation.



# READY-TO-INSTALL, PRE-ASSEMBLED CABLES AND JOINTS

*up to 72.5 kV*



# READY-TO-INSTALL, PRE-ASSEMBLED CABLES

Interface F connectors and terminations  
up to 72.5 kV

## Application

Pre-assembled cables are Ethylene-propylene rubber (EPR) insulated high voltage cables, equipped with connectors and terminations. They can be used for connecting transformers and switchgears. We manufacture the pre-assembled cables specifically customized in

terms of cable length and type of accessories. The flexible cables, primarily checked by us, are assembled with different conductor cross-sections and accessories, depending on customer's application.

**U (U<sub>m</sub>)**  
**60-69 (72.5) kV**

## Test leads

Test leads are required for development, testing or commissioning of devices or already installed cables. These special cables are assembled individually and follow a basic configuration.

- We use high-flexible EPR-insulated cable with 95 mm<sup>2</sup> class 5 Cu conductor.
- The cables are equipped with Tee connectors R909TB/G, coupling connector R909PB/G or termination AFN72.
- The standard cable lengths are between 2.5 m and 10 m.

Test leads are manufactured to the highest standard and tested with procedures that exceed the requirements for cables, accessories, switchgears or transformers.

For detailed electrical ratings please see page 45.

## Dimensioning basis

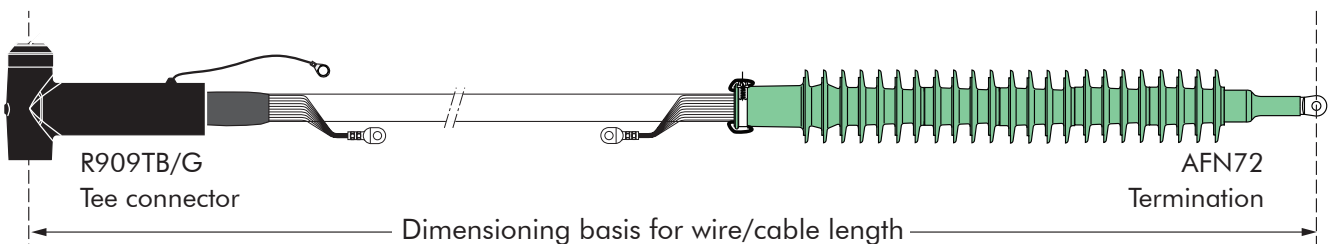
When dimensioning the preassembled cable length, we take the center points of both cable accessories as the basis. When indicating the length of the shield wire, please also specify whether the shield wire should be lead out on one or both sides.

### Accessory A

See table for accessory selection.

### Accessory B

See table for accessory selection.



## Example request

Please fill in what is applicable.

	U <sub>0</sub> / U (kV) 60-69/72.5			Length of shield wire <sup>1)</sup>
	L 1	L 2	L 3	
Conductor/ cable type				
Conductor/ cable length				
Accessory A				
Accessory B				

<sup>1)</sup> If not indicated, we assume a shield wire length of 500 mm for both cable ends.

## Accessory selection

We also assemble accessories not listed here.

Type	Design	Interface	Material	Assembly technique
R909TB/G	Tee connector	F	EPDM	Slip-on technology
R909PB/G	Coupling connector	F	EPDM	Slip-on technology
AFN72	Indoor/outdoor termination	-	Silicone	Slip-on technology

## Electrical characteristics

	Routine test IEC 60840 for pre-assembled cables	Routine test CS660 for test leads acc. to Nexans Standard
Power frequency withstand voltage test (AC):	90 kV duration 30 min.	168 kV duration 1 min.
Partial discharge test:	54 kV < 5 pC	87 kV < 5 pC
Lightning Impulse voltage test:(1,2x50 μs)	325 kV	390 kV

All values correspond to dedicated standards of the respective accessories.

# 72MSJ

## Single core straight joint

Slip-on technology  
up to 72.5 kV

U (U<sub>m</sub>)  
60-69 (72.5) kV

### Application

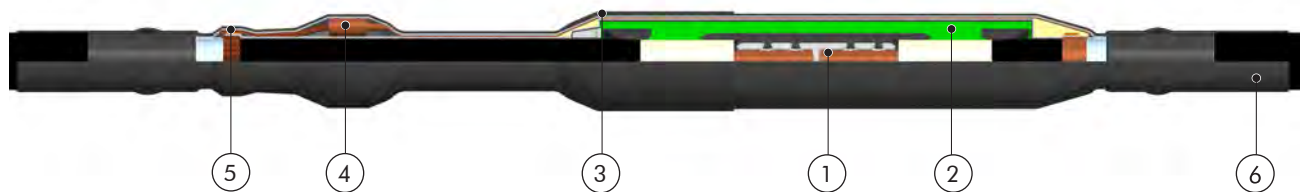
Non size sensitive slip-on single core straight joint made of silicone, optimized for mechanical connectors. For jointing copper wire screened polymeric cable to be laid in air or directly buried. The product is fully screened and fully submersible.

### Technical characteristics

- All joint bodies are tested for AC withstand and partial discharge prior to leaving the factory.
- Protective outer cover made of heat-shrinkable tubes.

### Design

1. Mechanical conductor connector
2. Premoulded silicone joint body
3. Heat-shrinkable protective cover
4. Mechanical screen wire connector
5. Vapour barrier
6. Heat-shrinkable protective cover



### Specifications and standards

The slip-on single core straight joint 72MSJ is type tested acc. to IEC 60840.

Straight joint type	Max. operating voltage U <sub>m</sub> (kV)	Ø over core insulation <sup>2)</sup> (mm)		Conductor cross-section <sup>1)</sup> (mm <sup>2</sup> )
		min.	max.	
72MSJ-3	72.5	34.5	47.0	120 - 400
72MSJ-4	72.5	47.0	63.0	400 - 1000
72MSJ-5	72.5	63.0	82.0	1000 - 2000

<sup>1)</sup> Indicative for cables with 10 mm insulation wall thickness.

<sup>2)</sup> After cable preparation.

For detailed electrical ratings please see page 45.



## Kit contents

The 72MSJ Single core straight joint kit comprises the following components:

- + 1 mechanical conductor connector
- + 1 premoulded joint body
- + 1 mechanical screen wire connector
- + 1 vapour barrier sleeve

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+ *The kit also comprises: semi-conductive tape, copper woven fabric tape, adhesive tape, sealing mastic, heat-shrinkable tubes, installation instructions*

## Ordering instructions

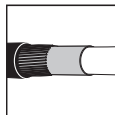
To order the joint, select the joint type which gives you the best centering of your core insulation diameter and add the conductor connector and the screen wire

### Order example:

One straight joint for a 72.5 kV XLPE insulated cable with 630 mm<sup>2</sup> aluminum stranded conductor and 50 mm<sup>2</sup> copper wire screen. The diameter over core insulation is 54 mm.

### Order:

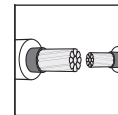
72MSJ-4  
+ M400-630 + D25-150



For use with copper wire screened cables. No further earthing device is necessary.



For use with other cable types please contact our representative.



Joining cables of different sizes possible.

# 72MSJ-x-SB

## Sectionalizing single core straight joint

with integrated screen for cross-bonding application  
Slip-on technology  
up to 72.5 kV

U (U<sub>m</sub>)  
60-69 (72.5) kV

### Application

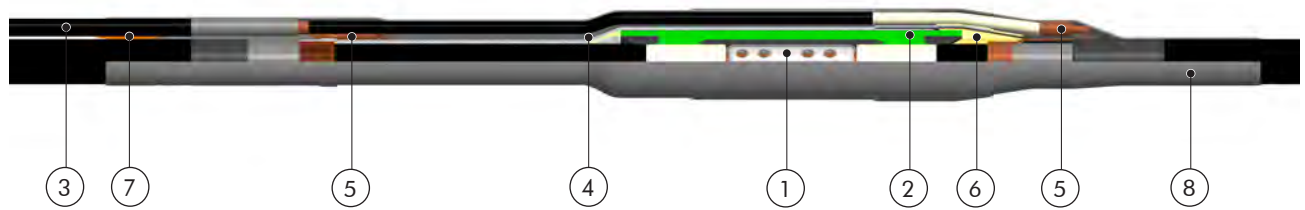
Non size sensitive slip-on single core straight joint made of silicone, optimized for mechanical connectors. For jointing copper wire screened polymeric cable to be laid in air or directly buried. The product is fully screened and fully submersible.

### Technical characteristics

- All joint bodies are tested for AC withstand and partial discharge prior to leaving the factory.
- Protective outer cover made of heat-shrinkable tubes.
- Also available for single-bonding cables.

### Design

1. Mechanical conductor connector
2. Premoulded silicone joint body
3. Coaxial cross-bonding cable
4. Vapour barrier
5. Mechanical screen wire connector
6. Shield break
7. Branch clip
8. Heat-shrinkable protective cover



### Specifications and standards

The slip-on single core straight joint 72MSJ-x-SB is type tested acc. to IEC 60840.

Straight joint type	Max. operating voltage U <sub>m</sub> (kV)	Ø over core insulation <sup>2)</sup> (mm)		Conductor cross-section <sup>1)</sup> (mm <sup>2</sup> )
		min.	max.	
72MSJ-3-SB	72.5	34.5	47.0	120 - 400
72MSJ-4-SB	72.5	47.0	63.0	400 - 1000
72MSJ-5-SB	72.5	63.0	82.0	1000 - 2000

<sup>1)</sup> Indicative for cables with 10 mm insulation wall thickness.

<sup>2)</sup> After cable preparation.

For detailed electrical ratings please see page 45.

## Kit contents

The 72MSJ-x-SB Single core straight joint kit comprises the following components:

- + 1 mechanical conductor connector
- + 1 premoulded joint body
- + 2 mechanical screen wire connectors
- + 1 vapour barrier sleeve
- + 1 branch clip (2 for use with single-bonding cables)

+ The kit also comprises:  
semi-conductive tape,  
copper woven fabric tape,  
adhesive tape, sealing mastic,  
heat-shrinkable tubes,  
installation instructions

## Ordering instructions

To order the joint, select the joint type which gives you the best centering of your core insulation diameter and add the conductor connector and the screen wire connector.

Cross-bonding cable is not included in the kit.

For coaxial cross-bonding cable please indicate: -SB1

### Order example:

One straight joint for a 72.5 kV XLPE insulated cable with 630 mm<sup>2</sup> aluminum stranded conductor and 50 mm<sup>2</sup> copper wire screen. The diameter over core insulation is 54 mm. Used with coaxial cross-bonding cable with 95 mm<sup>2</sup> copper conductor.

### Order:

72MSJ-4-SB1  
+ M400-630 + D16-95

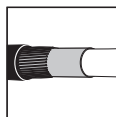
For single bonding-cables please indicate: -SB2

### Order example:

One straight joint for a 72.5 kV XLPE insulated cable with 630 mm<sup>2</sup> aluminum stranded conductor and 50 mm<sup>2</sup> copper wire screen. The diameter over core insulation is 54 mm. Used with two single bonding-cables with 120 mm<sup>2</sup> copper conductor.

### Order:

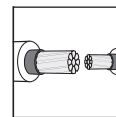
72MSJ-4-SB2  
+ M400-630 + D25-150



For use with copper wire screened cables. No further earthing device is necessary.

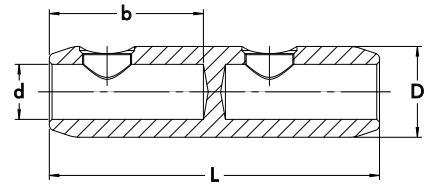


For use with other cable types please contact our representative.



Joining cables of different sizes possible.

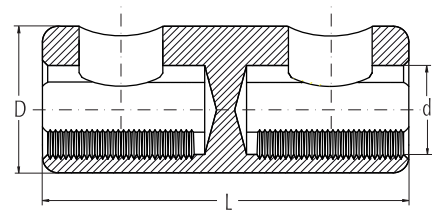
## I GPH® Mechanical conductor connector with shear-off-head bolts



Ordering part number conductor connector	Conductor cross-section Aluminum (mm <sup>2</sup> )		Conductor cross-section Copper (mm <sup>2</sup> )	Number of bolts	Dimensions (mm)			
	rm(v)	re	rm(v)		L	d	D	b
M120-300	120-300	120-300	120-300	2-2	142	25	38	67
M185-400	185-400	185-400	185-400	3-3	170	26	42	82
M300-500	300-500	300-500	300-500	3-3	200	34	52	94
M400-630	400-630	400-630	400-630	3-3	200	34	52	94
M630-1000 <sup>1)</sup>	630-1000	630-1000	630-1000	4-4	220	41	65	105
M800/1000	800/1000	800/1000	800/ -	4-4	220	37/41	60	105
M800-1200 <sup>1)</sup>	800-1200	630-1200	630-1000	4-4	220	45	72	105

<sup>1)</sup> Centric conductor positioning by center inserts

## I GPH® Mechanical screen wire connector with shear-off-head bolts



Ordering part number screen wire connector	Conductor cross-section Copper rm (mm <sup>2</sup> )	Number of bolts	Dimensions (mm)		
			L	D	d
D16-95 SV-T-V-K	16-95	1-1	55	25	14.0
D25-150 SV-T-V-K	25-150	1-1	70	28	17.0

# SLIP-ON TOOLS

for accessories installation in high voltage applications

## I Slip-on tool for connector installation



**Article number: 16050041**

Particularly suitable for upside down installations, when cable adapters are used on their outer application area or in case of limited space.

The tool can be used on all XLPE or EPR insulated cables with class 1 (solid) or class 2 (stranded) conductors. For class 5 or class 6 conductors (flexible, very flexible), please contact our Technical Customer Service.

The slip-on tool consists of:

- Cable clamp including screws, nuts, washers
- Belt strap
- Belt strap with two tension ratchets

For cable outer diameter 50 mm to 75 mm, please order: „Installation tool for R909TB/PB+K50-75“, or number 16050041

Other sizes available on request.

## I Slip-on tool for joint installation

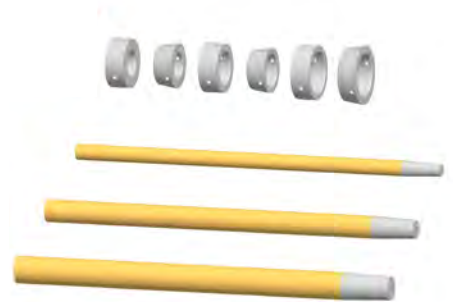


**Article numbers:  
15000146 (Size 3),  
15000147 (Size 4),  
16050032 (Size 5)**

The tool can be used on all XLPE insulated cables with class 1 (solid) or class 2 (stranded) conductors. Depending on the tube dimensions, three different sizes available.

The slip-on tool consists of:

- Slip-on tool to slide the joint body onto the prepared cable core
- Assembly rings for pushing the joint body on parking position and to final position
- Support tube keeps the joint body straight while sliding





# JUNCTION SOLUTIONS

Frames / Cabinets  
up to 72.5 kV



# 900JF P1-P1 Offshore junction frame

For installation on walls and structures,  
accessible from two sides

## Application

Offshore Junction Frames are compact, prefabricated modules supporting integrated tower design, e.g. in offshore wind turbines. The frames allow easy accessible, multiple cable connections from two sides and can be arranged open or closed. Each junction frame is an ideal test and delimitation point for different cable types and responsibilities of other installation companies involved.

## Technical characteristics

- Simplifies the use of pre-assembled, tested cables to tower equipment.
- Protective housing against mechanical damage and harsh environment.
- Marine grade steel (316L) suitable for severe offshore weather conditions.
- Open/closed covering for frame mounting, suitable for customer specific applications.

U (U<sub>m</sub>)  
60-69 (72.5) kV

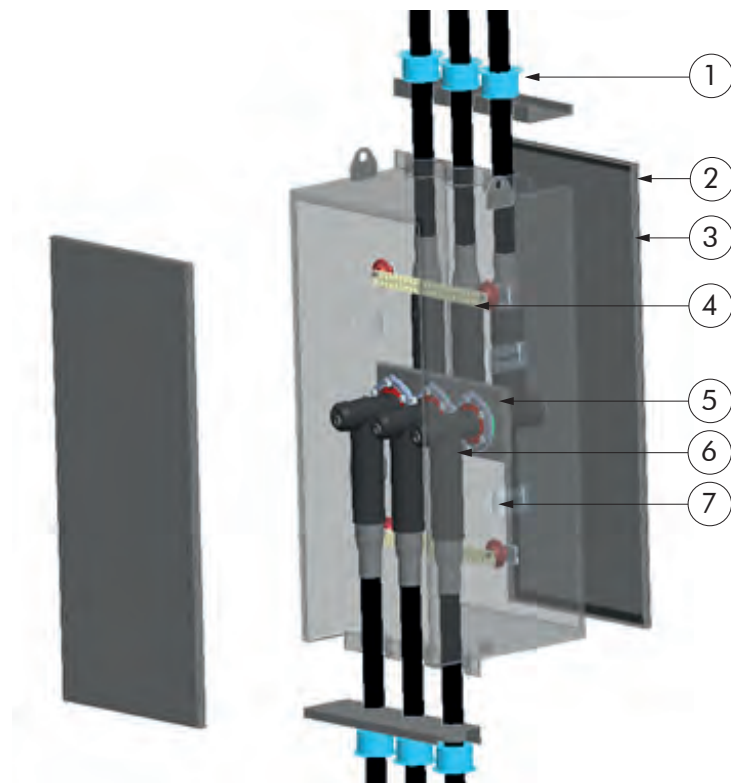
## Design

1. Cable sealing
2. Separable gland plate
3. Access panel sealed with neoprene rubber
4. Earthing busbar
5. Baseplate with double bushings R900CP
6. Tee connector R909TB/G
7. Mounting bracket

The OJF can be installed vertically or horizontally on walls and structures.

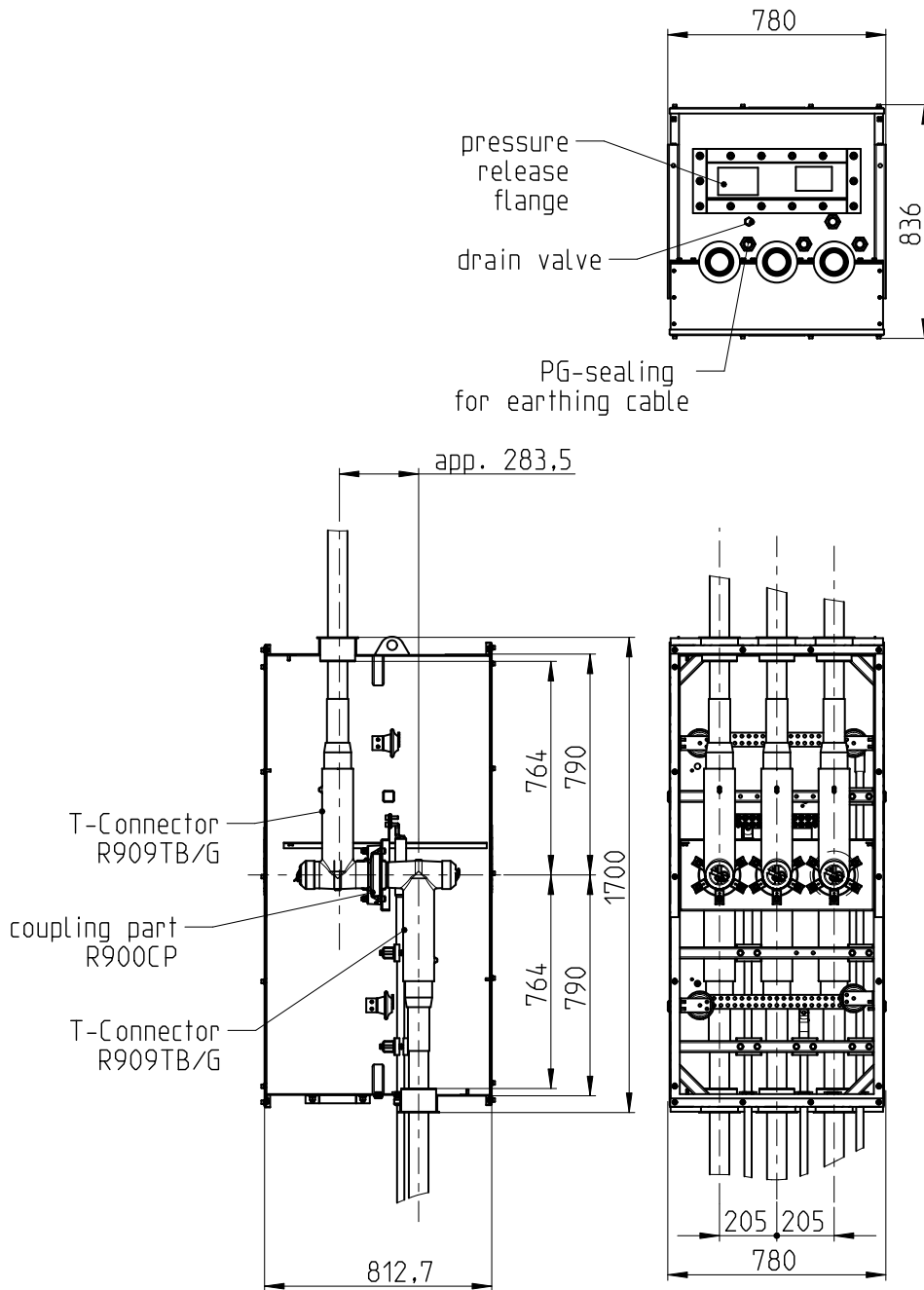
## Specifications and standards

The housing allows cable installation from two sides and is manufactured of stainless steel 1.4571 and 1.4404. Standard parts are made of stainless steel A2 and A4. Inspection/test reports certification available on request.





## I Dimensions



## I General information

The Offshore Junction Solutions are made of stainless steel marine grade 316L, fixings are A2 and A4 grade. Offshore Junction Solutions are designed for IP54, the electrical system (connectors, bushings...)

are tested for water immersion depth of 1 m (equivalent to IP68). Earthquake resistance can be included in the design on customer request, and can be verified by simulation.

Bottom closure standard equipped with pressure release. Additional equipment (temperature sensors, fault sensors, voltage detectors...) can be installed on customer request/specification.

# 900JF P2-P0 Offshore junction frame

For installation on walls and structures,  
accessible from one side

## Application

Offshore Junction Frames are compact, prefabricated modules supporting integrated tower design, e.g. in offshore wind turbines. The frames allow easy accessible, multiple cable connections from one side and can be arranged open or closed. Each junction frame is an ideal test and installation point.

## Technical characteristics

- Simplifies the use of pre-assembled, tested cables to tower equipment.
- Protective housing against mechanical damage and harsh environment.
- Marine grade steel (316L) suitable for harsh offshore weather conditions.
- Open/closed covering for frame mounting, suitable for customer specific applications.

U (U<sub>m</sub>)  
60-69 (72.5) kV

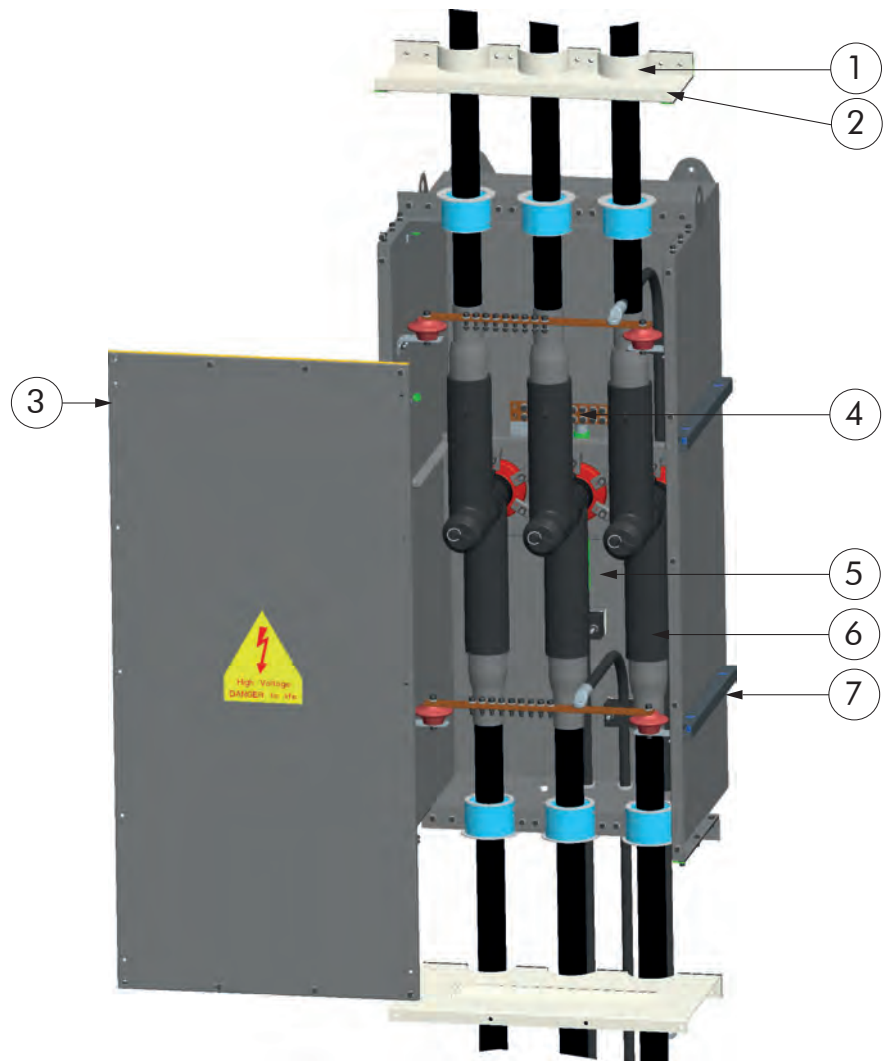
## Design

1. Cable sealing
2. Separable gland plate
3. Access panel sealed with neoprene rubber
4. Earthing busbar
5. Baseplate with end bushings R900AR-SOP-B-AR
6. Tee connector R909TB/G
7. Mounting bracket

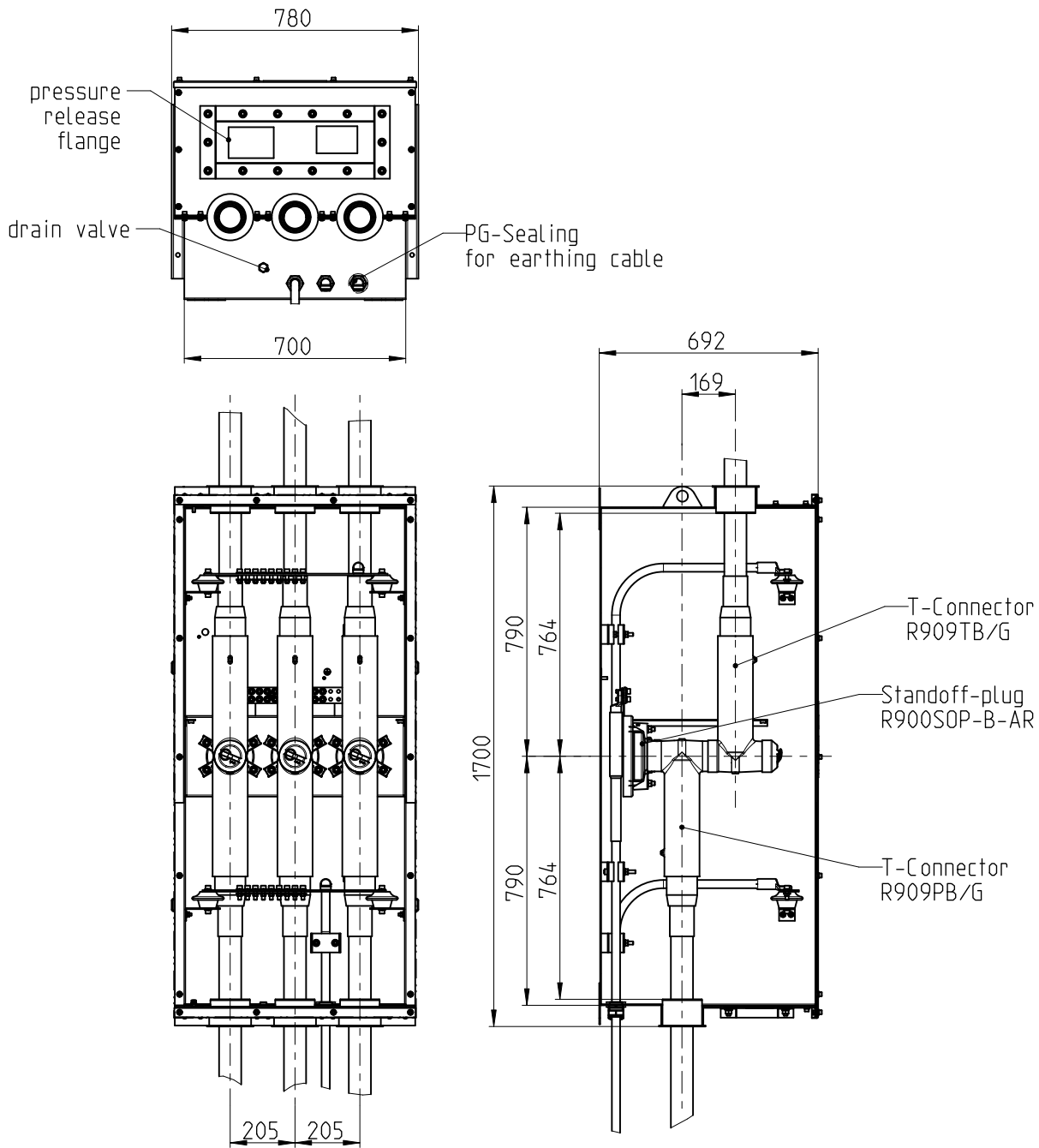
The OJF can be installed vertically or horizontally on walls and structures.

## Specifications and standards

The housing allows cable installation from two sides and is manufactured of stainless steel 1.4571 and 1.4404. Standard parts are made of stainless steel A2 and A4. Inspection/test reports certification available on request.



## I Dimensions



## I General information

The Offshore Junction Solutions are made of stainless steel marine grade 316L, fixings are A2 and A4 grade. Offshore Junction Solutions are designed for IP54, the electrical system (connectors, bushings...)

are tested for water immersion depth of 1 m (equivalent to IP68). Earthquake resistance can be included in the design on customer request, and can be verified by simulation.

Bottom closure standard equipped with pressure release. Additional equipment (temperature sensors, fault sensors, voltage detectors...) can be installed on customer request/specification.

# 900JC P2(3)-P1(2)(SA) Offshore junction cabinet

For floor-mounted installation incl. steel frame,  
accessible from two sides

## Application

Offshore Junction Cabinets are prefabricated modules, supporting integrated tower design in offshore wind turbines. Due to a structural steel frame, the cabinets are suitable for floor-mounted installation, e.g. in the transition piece of the tower and up to connect 2, 3 or 4 cables in multiple arrangements. Each junction cabinet is an ideal test and delimitation point for different cable types and responsibilities of other installation companies involved.

## Technical characteristics

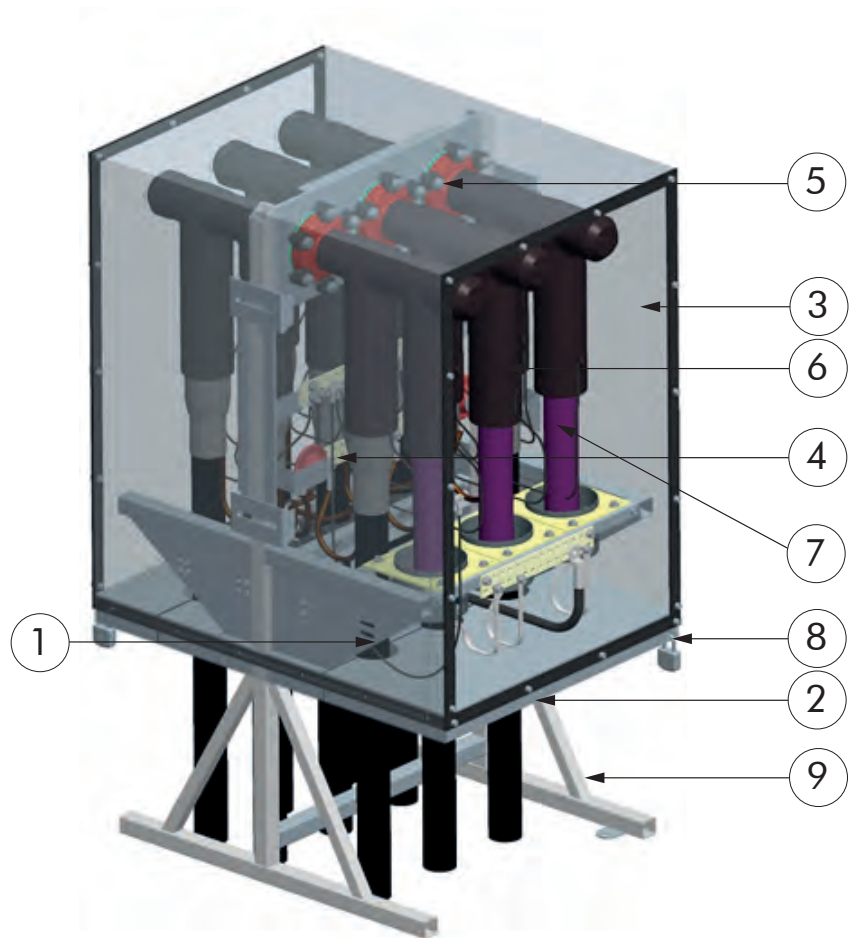
- Simplifies the use of pre-assembled, tested cables to tower equipment.
- Protective housing against mechanical damage and harsh environment.
- Removable housing with guide bars for easy installation.
- Modular, flexible design for customer specific applications.

U (U<sub>m</sub>)  
60-69 (72.5) kV

## Design

1. Cable sealing
2. Separable gland plate
3. Access panel sealed with neoprene rubber
4. Earthing busbar
5. Baseplate with double bushings R900CP
6. Tee connector R909TB/G
7. Surge arrester 900SA-CD
8. Removable doors, that can be locked
9. Steel frame

Due to removable, flexible parts, the OJC can combine different connector/cable arrangements incl. surge arrester.



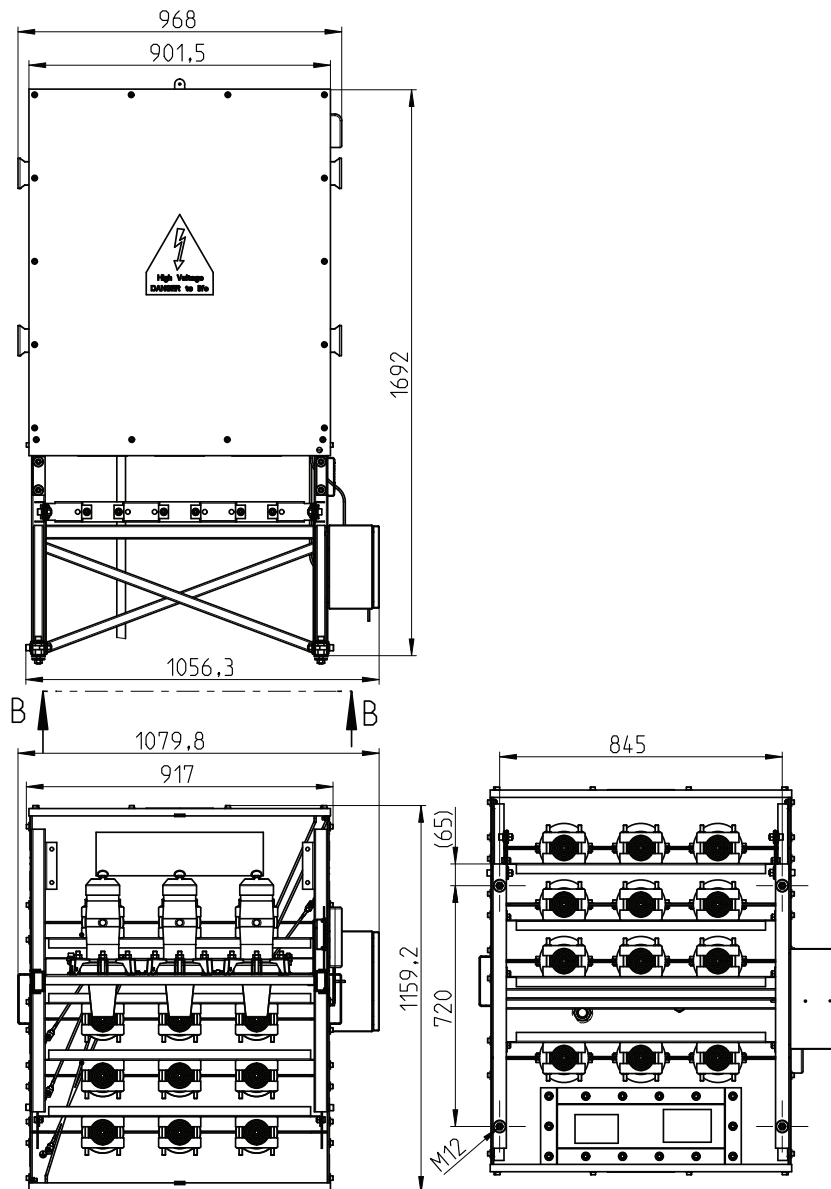
## I Specifications and standards

When removing the housing, the frame allows cable installation from two sides and is manufactured of stainless steel 1.4571 and 1.4404.

Standard parts (fixings) are made of stainless steel A2 and A4.

Inspection/test reports certification available on request.

## I Dimensions



## I General information

The Offshore Junction Solutions are made of stainless steel marine grade 316L, fixings are A2 and A4 grade. Offshore Junction Solutions are designed for IP54, the electrical system (connectors, bushings...)

are tested for water immersion depth of 1 m (equivalent to IP68).

Earthquake resistance can be included in the design on customer request, and can be verified by simulation.

Bottom closure standard equipped with pressure release. Additional equipment (temperature sensors, fault sensors, voltage detectors...) can be installed on customer request/specification.

# ELECTRICAL CHARACTERISTICS

## R909TB/G, R909PB/G

Connector and coupling connector type	Partial discharge (<5pC)	Power frequency withstand voltage	Lighting impulse voltage (1,2x50µs)	Rated short time withstand current	Rated peak withstand current
R909TB/G	54 kV	90 kV/30 min.	325 kV	32.5 kA/3s	84 kA
R909PB/G	54 kV	90 kV/30 min.	325 kV	32.5 kA/3s	84 kA

## 900SA-CD

Surge arrester type	Nominal discharge current I <sub>n</sub>	Line discharge class	Energy withstand capability	Partial discharge
900SA-CD	10 kA	2	Min. 4.25 kJ/kVU <sub>r</sub>	<5pC

Surge arrester type	Steep current residual voltage @ 10 kA [1/20 µs] (kV)	Lighting current residual voltage [8/20 µs] (kV)			Switching impulse residual voltage [30/70 µs] (kV)		High current impulse withstand (kA)	Rated short-circuit current I <sub>sc</sub> (kA, 0.2s)
		@ 5 kA	@ 10 kA	@ 20 kA	@ 250 A	@ 500 A		
900SA-10-54-CD20	213	132	142	156	110	113	100	20.0
900SA-10-60-CD20	213	146	157	173	122	126	100	20.0
900SA-10-66-CD20	213	161	173	190	135	138	100	20.0
900SA-10-72.5-CD20	213	177	190	209	148	152	100	20.0
900SA-10-74-CD20	213	180	194	213	151	155	100	20.0
900SA-10-54-CD31.5	213	132	142	156	110	113	100	31.5
900SA-10-60-CD31.5	213	146	157	173	122	126	100	31.5
900SA-10-66-CD31.5	213	161	173	190	135	138	100	31.5
900SA-10-72.5-CD31.5	213	177	190	209	148	152	100	31.5
900SA-10-74-CD31.5	213	180	194	213	151	155	100	31.5

## R900AR-8-L / R900AR-12

Equipment bushing type	Partial discharge (<10 pC)	Power frequency withstand voltage	Lighting impulse voltage (1,2x50 µs)
R900AR-8-L	54 kV	90 kV/30 min.	325 kV
R900AR-12	54 kV	90 kV/30 min.	325 kV

## AFN72, AFNS72

Termination type	Partial discharge (<5 pC)	Power frequency withstand voltage	Impulse voltage (1,2x50 μs)
AFN72	54 kV	90 kV/30 min.	325 kV
AFNS72	54 kV	90 kV/30 min.	325 kV

## FEV72.5

Termination type	Max. operating voltage $U_m$ (kV)	Impulse voltage (kV)	Nominal leakage path (mm)	Arcing distance (mm)	AC withstand voltage (kV)
FEV72.5-2.5VIn	72.5	325	2560	755	90

## 72MSJ, 72MSJ-x-SB

Joint type	Partial discharge (<5 pC)	Power frequency withstand voltage	Impulse voltage (1,2x50μs)
72MSJ	54 kV	90 kV/30 min.	325 kV
72MSJ-x-SB	54 kV	90 kV/30 min.	325 kV

## READY-TO-INSTALL, PRE-ASSEMBLED CABLES, TEST LEADS

	Routine test IEC 60840 for pre-assembled cables	Routine test CS660 for test leads acc. to Nexans Standard
Power frequency withstand voltage test (AC):	90 kV duration 30 min.	168 kV duration 1 min.
Partial discharge test:	54 kV < 5 pC	87 kV < 5 pC
Lightning Impulse voltage test:(1,2x50 μs)	325 kV	390 kV

All values correspond to dedicated standards of the respective accessories.

# Notes

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