

# SEPARABLE STRAIGHT (FMCS) AND ELBOW CONNECTORS (FMCE)

## CHARACTERISTICS

For polymeric cable up to 24kV

Non-loadbreak operation- Rating 250A

The Prysmian range of FORMFIT<sup>®</sup> Separable Connectors has a wide range of applications including connection to transformers, switchgear units, motors etc.

Suitable for indoor and outdoor installations, the connector is entirely protected by a watertight conductive envelope connected to earth. The connectors are rated for continuous operation at 250 Amp rms, with 300 Amp rms overload (8 hours per 24 hours).

FORMFIT<sup>®</sup>250 series of separable connectors are suitable for use with a wide range of polymeric medium voltage cables, including:

- Single core polymeric insulation (PE, XLPE, EPR etc.)
- Copper or aluminium conductors (16-95mm<sup>2</sup>)
- Semi-conducting screen either extruded or taped
- Metallic screen, wire or polylam type
- Insulation voltage up to 24kV (Um)



## FEATURES & BENEFITS

- No need for special tools, heating, taping or filling
- Vertical, angled or inverted position
- No minimum distance between phases
- Energising may take place immediately after the connector is plugged to its individual bushing, dead end plug etc.
- Individual clamping by stainless steel brace
- Connectors packed separately



## DESCRIPTION

### 1a. Contact pin assembly

Tinned copper pin, screwed into the sized conductor fitting with the hexagonal wrench supplied in the kit.

### 1b. Contact piece

Compressed ferrule with tinned copper contact pin, designed with locking ring.

### 2. Semi-conducting inner screen

Insert of moulded semi-conducting EPDM, enclosing the connecting components, so that ionisation of any air remaining trapped is prevented.

### 3. Semi-conducting outer envelope

Jacket made of semi-conducting EPDM. Its design provides relief of electrical stress as does a cable screen. Its connection to the cable screen ensures that the assembly is maintained at earth potential.

### 4. Insulating body

Moulded from insulating EPDM for integral reconstitution of insulation. It maintains a uniform contact pressure on the cable insulation and the bushing interface producing an excellent moisture seal.

### 5. Test point

Electronically protected by a cap made of semi-conducting EPDM. A capacitive voltage divider provides a means of checking that the item is not live before disconnection.

### 6. Locking brace

Stainless steel brace fastening the connector onto its mating bushing or other accessories.

### 7. Earthing Eye

Eye provided for connection of the outer envelope to the cable screen.

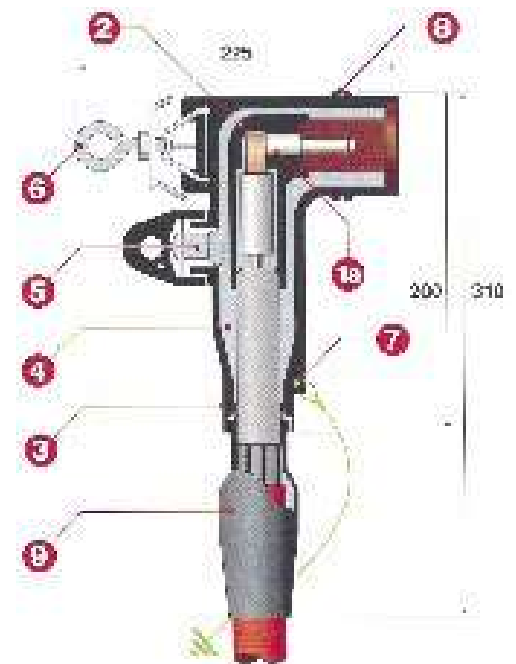
### 8. Groove for locking ring

Groove intended for fitting of a metallic ring (supplied on request) when 3-phase locking is required.

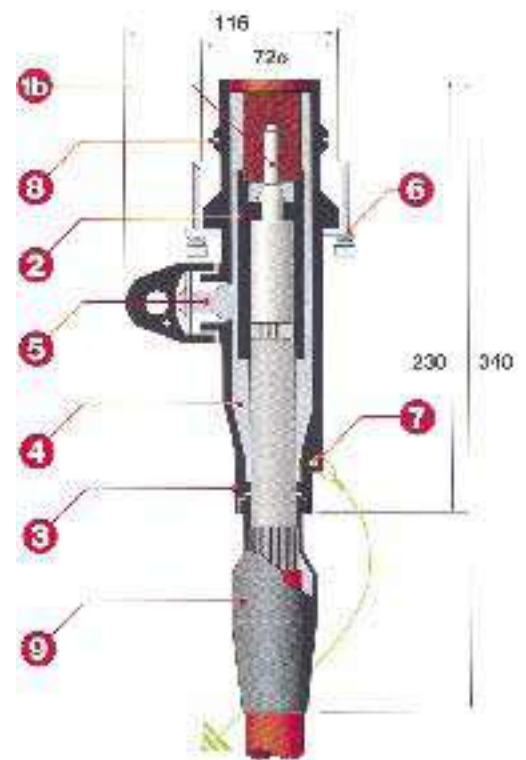
### 9. Earth cover

Made of moulded EPDM, ensuring watertight protection of the earthing device.

## FMCE-250 Elbow Connector



## FMCS-250 Straight Connector



All dimensions in mm.

## SELECTION GUIDE

1. Select from **TABLE A** on the right the kit model corresponding to the diameter over the insulation table.
2. Specify insulation voltage  $U_m$  in kV:  
**12 - 17.5 - 24**
3. Select from the **TABLE B** (bottom right) the earthing device to suit the cable
4. Select the model of connection end-fitting<sup>(1)</sup> according to:

■ Conductor material **C: Copper**  
**A: Aluminium**

■ Conductor Size **In mm<sup>2</sup>**

<sup>(1)</sup> Can be crimped or indented by usual tools

### EXAMPLE ORDER

#### Example of order for Elbow Connector

Cable 20kV, 50mm<sup>2</sup>, insulation diameter 21.2mm, aluminium conductor, copper wire screen:

**FMCE-250-G-24-T3-A50**

#### Example of order for sStraight Connector

Cable 20kV, 50mm<sup>2</sup>, insulation diameter 21.2mm, aluminium conductor, copper wire screen:

**FMCS-250-G-24-T3-A50**

**TABLE A**

Separable Tee Connector						
Diameter over insulation mm		Kit Reference		Conductor size mm <sup>2</sup> (for guidance only) Highest Voltage		
				12kV	17.5kV	24kV
MIN	MAX					
10.0	12.6	FMCS-250-A*	FMCE-250-A*	16		
11.8	14.5	FMCS-250-B*	FMCE-250-B*	25		
13.7	16.3	FMCS-250-C*	FMCE-250-C*	35	25	
15.3	17.9	FMCS-250-D*	FMCE-250-D*	50	35	
17.0	19.5	FMCS-250-E*	FMCE-250-E*	70	50	
18.6	21.3	FMCS-250-F	FMCE-250-F	95	70	35
20.2	23.0	FMCS-250-G	FMCE-250-G		95	50
22.5	25.3	FMCS-250-H	FMCE-250-H			70
23.4	26.0	FMCS-250-J	FMCE-250-J			95

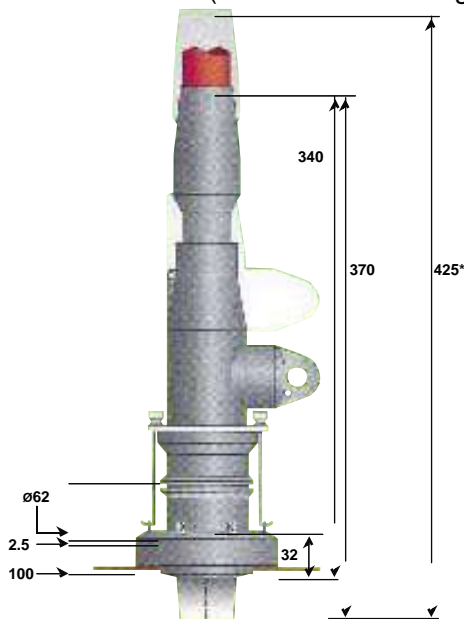
\* Models with reducers

**TABLE B**

Earthing Device Reference	Type of Metallic Screen of Cable
T1	polylam
T2	copper tapes
T3	copper wires

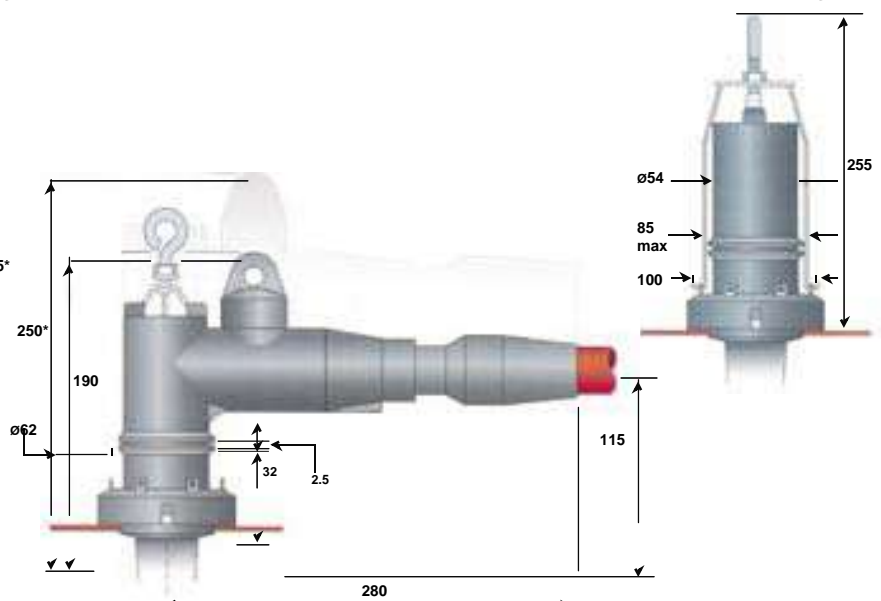
## FMCS-250 Straight Connector

Overall dimensions (mounted on bushing)



## FMCE-250 Elbow Connector

Overall dimensions (mounted on bushing)



All dimensions in mm. \* Minimum dimensions necessary to disconnect.

## ACCESSORIES FOR 250A SEPARABLE CONNECTORS

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### FMR-250 Dead-End Receptacle



- EPM moulding with semi-conducting EPDM jacket, which provides a dead-end facility for insulating bushings.
- Operated when de-energised.
- Watertight, slipped on with silicone grease.
- Supplied with its locking brace.
- References: **12kV - FMPD-250-12**  
**24kV - FMPD-250-24**
- Packing: Single Unit

### FMPD-250 Dead-End Plug



- EPDM moulding which plugs into connector to provide dead-end facility.
- Operated when de-energised.
- References: **12kV - FMPD-250-12**  
**24kV - FMPD-250-24**
- Packing: Single Unit

### FMPS-250 Stand-Off Plug



- EPDM moulding designed to support and dead-end separable connectors when removed from the equipment.
- The stand-off plug is fitted with a metallic mounting. A part moulded-in, semi-conducting EPDM provides electrical continuity with the connector jacket.
- Operated when de-energised.
- References: **12kV - FMPS-250-12**  
**24kV - FMPS-250-24**
- Packing: Single Unit

### FMPE-250 Earthing Plug



- EPDM moulding designed to support and earth separable connectors when removed from the equipment.
- The earthing plug is equipped with a metallic mounting
- Operated when de-energised.
- References: **FMPE-250**
- Packing: Single Unit

### STANDARDS

Master specification PRYSMIAN SP.5 Generally meet the requirements of IEC 540 - EDF HN 52-S-61 - ANSI/IEE 386 - NF C 33-051 - NFS 33- 001 - DIN 52 278.

### QUALITY ASSURANCE

Certified to ISO 9001

### OTHER PRODUCTS

We also supply other accessories from the 400 series  
Details available on request