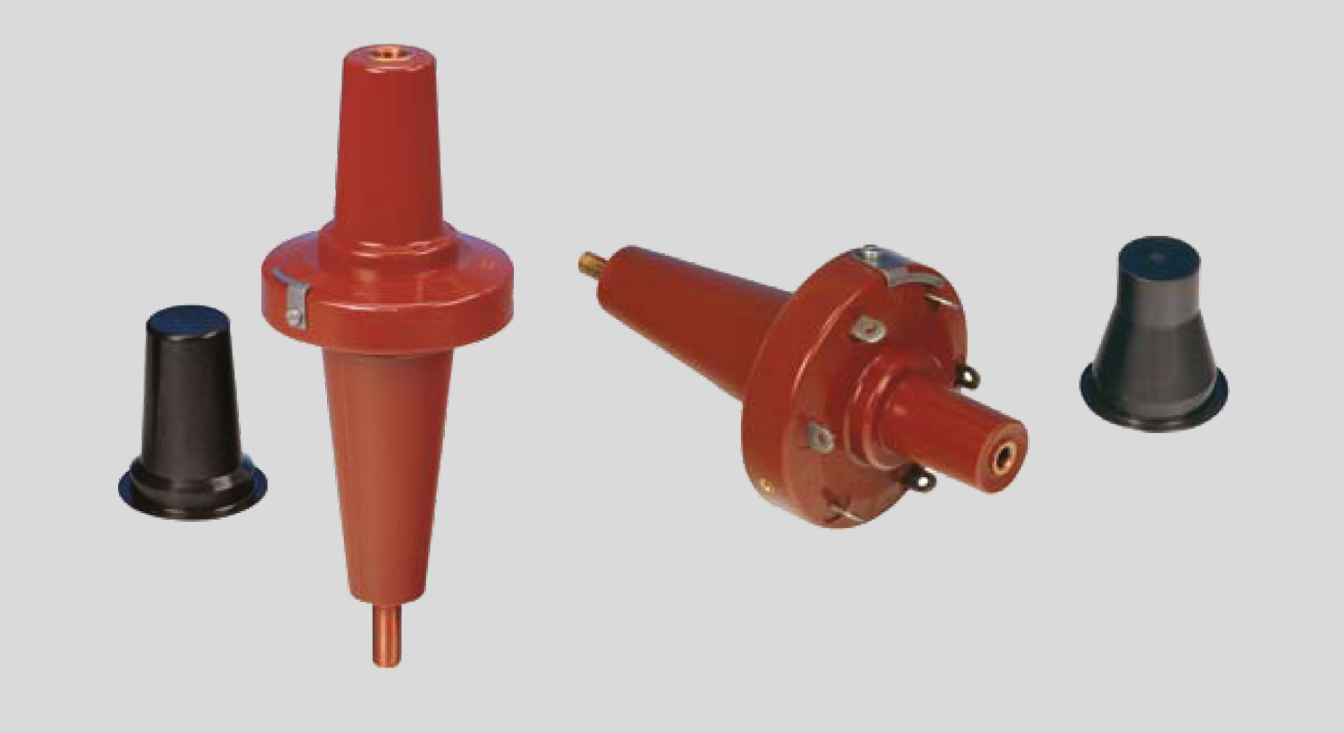
COMEM

BROCHURE

PPS-PPQ-BT

Resin insulators for oil insulated electrical machines

Bushing with plug connection with outer cone PPS



Characteristics

The PPS® bushing can be used as a fixed section for the entry of medium voltage on oil filled machines such as switch gears or transformers. It is fitted with a coupling interface according to table 1.

Application

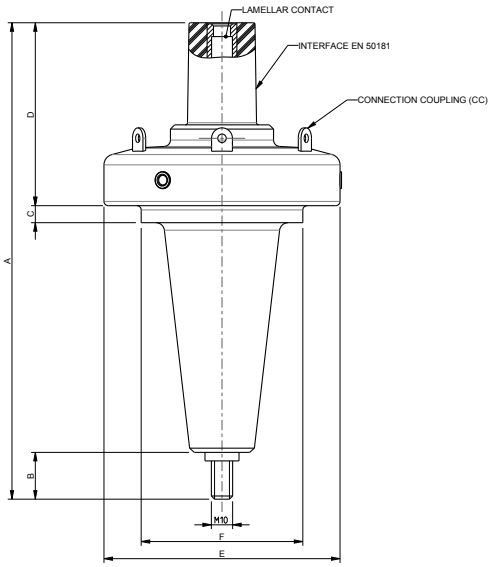
Indoors for vertical or horizontal mounting

Accessories (on request)

Fastening kits for insulators with DIN flanges or with French blocks, and earthing wires can be ordered.

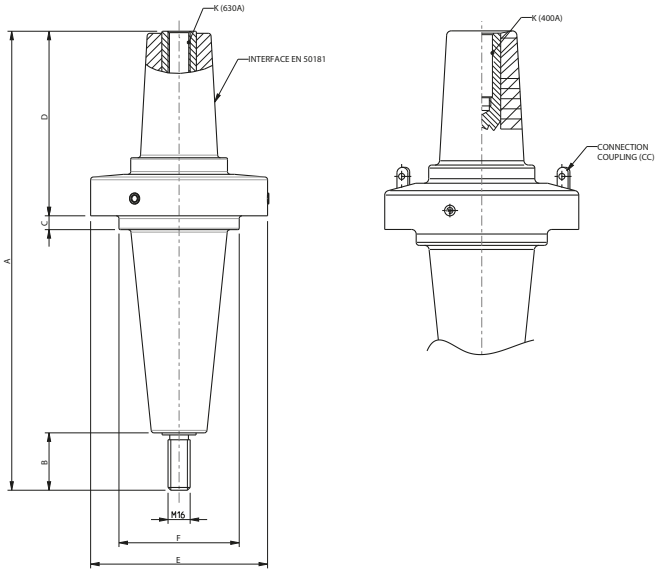
Dimensions - PPS type

PPS 24-36 kV/250 A



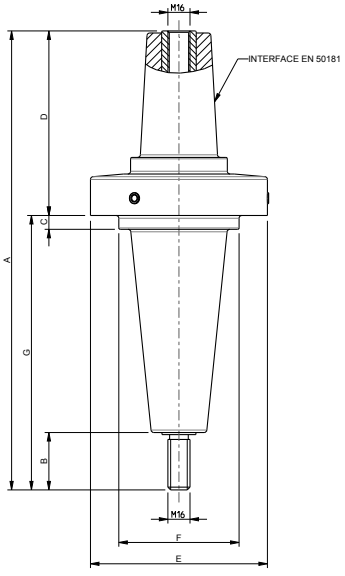
Type	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	CC (number)
24/250	224	22	8	86	111	76	6
24/250-R	189	22	8	86	111	76	6
24/250-L	284	22	8	86	111	76	6
36/250	238	22	8	130	111	76	4

PPS 24-36 kV/400 -630 A



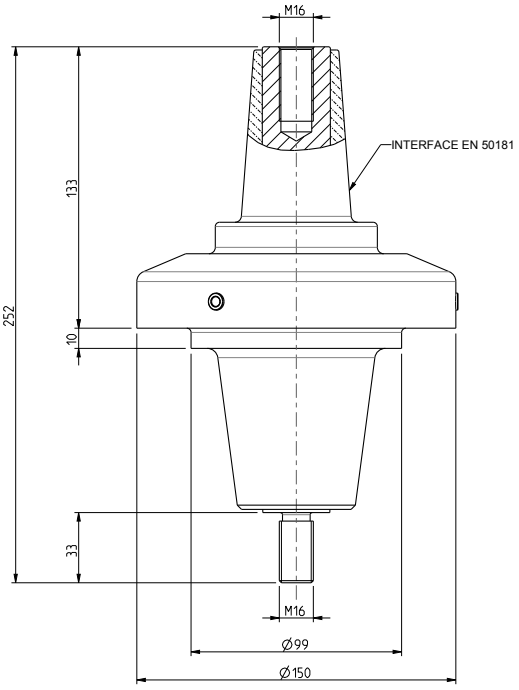
Type	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	K	CC (number)
24-36/630	332	41,5	10	133,5	128	86	M16	-
24-36/400	332	41,5	10	132	128	86	LAMELLAR	4

PPS 42 kV/630 A



Type	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	G (mm)
42/630	332	41,5	10	133,5	128	86	-
42/630 HIGH TG	328,5	-	10	133,5	128	86	195 MAX

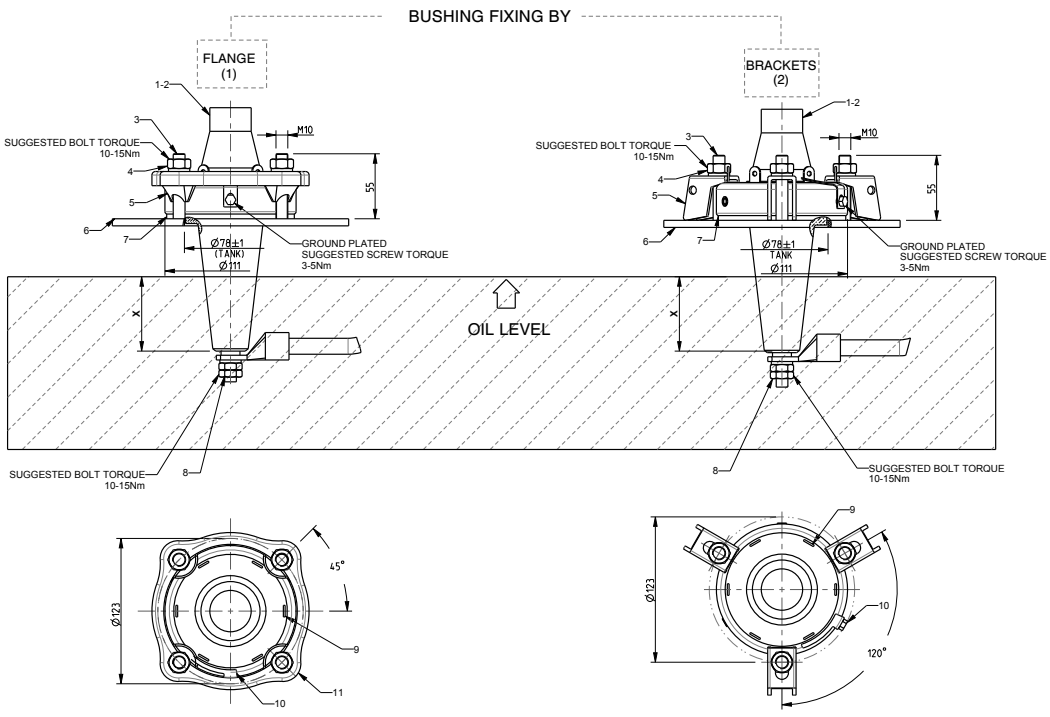
PPS 24 kV/1250 A



Identification		Standards			Oil level	Version with flange	Dry power frequency	Lighting impulse	Oil temperature range
Type	**Catalog nr:**	**Interface**	**Interface IPE**	**Complete insulator**	**Dimension “X”**	**Type**	**kV**	**kV**	**°C**
24 kV / 250 A	PPS 24/250	EN 50180 / UTE C 66-555 IEEE Std 386	A	EN 50180 / DIN 47636 HN 52-S-61	6 - 10 kV 40 mm 12 - 20 kV 50 mm	“A” DIN 42538	55	125	-20 ÷ 100
24 kV / 250 A (Short)	PPS 24/250-R	EN 50180 / EN 50181 HN 52-S-61 IEEE Std 386	A	UTE C 66-555	Total	“A” DIN 42538	55	125	-20 ÷ 100
24 kV / 250 A (Short)	PPS 24/250-R with threaded inserts	EN 50180 / EN 50181 HN 52-S-61 IEEE Std 386 UTE C 66-555	A	COMEM	Total	“A” DIN 42538	55	125	-20 ÷ 100
24 kV / 250 A (Long)	PPS 24/250-L	EN 50180 / EN 50181 HN 52-S-61 IEEE Std 386	A	COMEM	6 - 10 kV 40 mm 12 - 20 kV 50 mm	“A” DIN 42538	55	125	-20 ÷ 100
24 kV / 1250 A	PPS 24/1250	EN 50180 / EN 50181	D	COMEM	Total	DIN 42542	55	125	-20 ÷ 100
36 kV / 250 A	PPS 36/250	EN 50180 / HN 52-S-61 EN 50181	B	UTE C 66-555	Total	*	77	170	-20 ÷ 100
36 kV / 400 A	PPS 36/400	EN 50180 EN 50181 / HN 52-S-61	B	EN 50180 / DIN 47636	6 - 10 kV 40 mm 12 - 20 kV 50 mm 18 - 30 kV 70 mm	“B” DIN 42538	77	170	-20 ÷ 100
36 kV / 630 A	PPS 36/630	EN 50180 / EN 50181	C	EN 50180	6 - 10 kV 40 mm 12 - 20 kV 50 mm 18 - 30 kV 70 mm	“B” DIN 42538	77	170	-20 ÷ 100
42 kV / 630 A	PPS 42/630	EN 50180 / EN 50181	C	EN 50180	6 - 10 kV 40 mm 12 - 20 kV 50 mm 18 - 30 kV 70 mm	“B” DIN 42538	85 95 (High TG)	200	-20 ÷ 100 -20 ÷ 120

Dimensions - PPS type

PPS 24 kV / 250 A



1

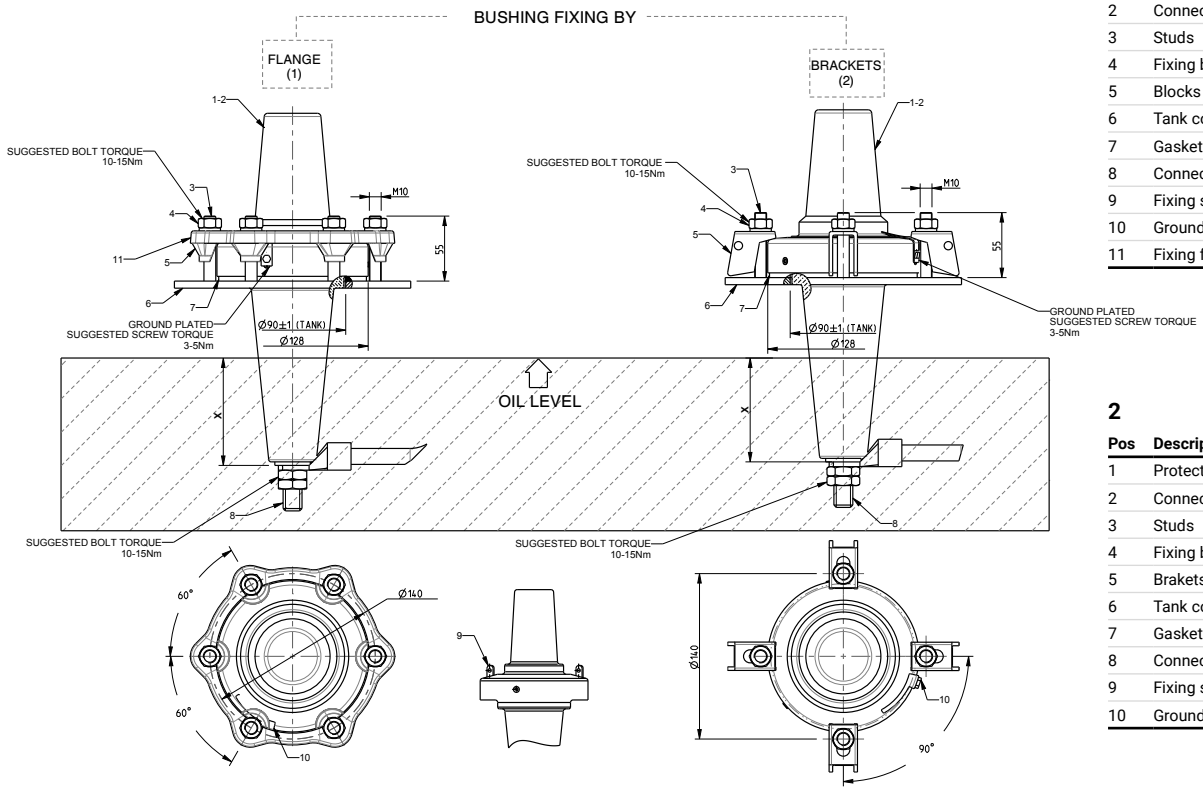
Pos	Description
1	Protective cover
2	Connection interface
3	Studs
4	Fixing bolts
5	Blocks
6	Tank cover
7	Gasket
8	Connection bolt
9	Fixing shoe
10	Ground plated
11	Fixing flange

2

Pos	Description
1	Protective cover
2	Connection interface
3	Studs
4	Fixing bolts
5	Brakets
6	Tank cover
7	Gasket
8	Connection bolt
9	Fixing shoe
10	Ground plated

PPS 24 - 36 KV / 400 - 630 A

PPS 42kV / 630A



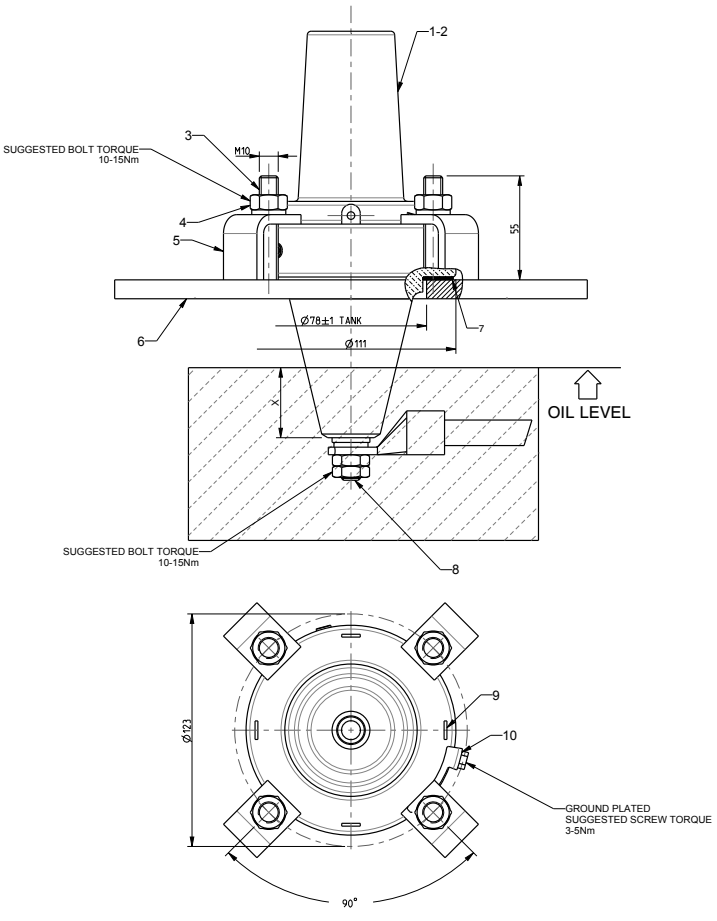
1

Pos	Description
1	Protective cover
2	Connection interface
3	Studs
4	Fixing bolts
5	Blocks
6	Tank cover
7	Gasket
8	Connection bolt
9	Fixing shoe (only 400A)
10	Ground plated
11	Fixing flange

2

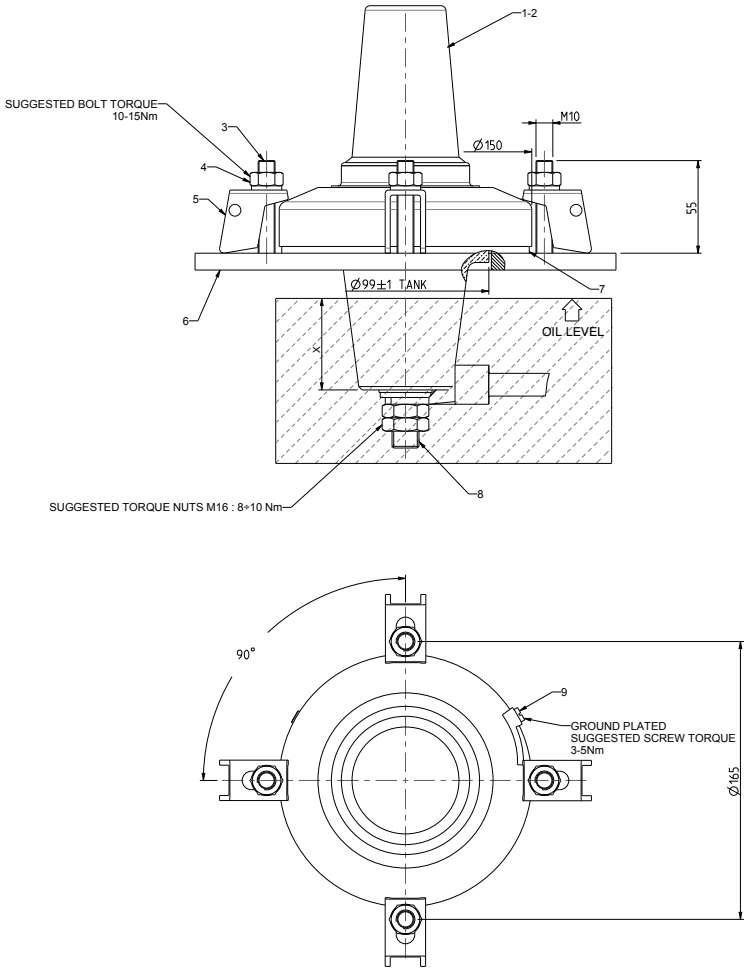
Pos	Description
1	Protective cover
2	Connection interface
3	Studs
4	Fixing bolts
5	Brakets
6	Tank cover
7	Gasket
8	Connection bolt
9	Fixing shoe (only 400A)
10	Ground plated

PPS 36 kV / 250 A



Pos	Description
1	Protective cover
2	Connection interface
3	Studs
4	Fixing bolts
5	Brakets
6	Tank cover
7	Gasket
8	Connection bolt
9	Fixing shoe
10	Ground plated

PPS 24 kV / 1250 A



Pos	Description
1	Protective cover
2	Connection interface
3	Studs
4	Fixing bolts
5	Brakets
6	Tank cover
7	Gasket
8	Connection bolt
9	Ground plated

Important recommendations

- Do not coat or pollute the connection interface in any way whatsoever.
- When the bushing is not connected to other equipment through the rubber terminal, the plastic protective cover must always be set firmly in place.
- Carefully clean the protective cover before replacing it on the bushing after having removed the mobile terminal.
- Remove the protective cover before actuating the bushing.
- At least one of the three lateral plugs of the screen must be earthed as shown in figures 1 and 2.

Bushing with plug connection with inner cone PPQ

ENEL APPROVED
DJ 1111 - DJ 1108

Characteristics

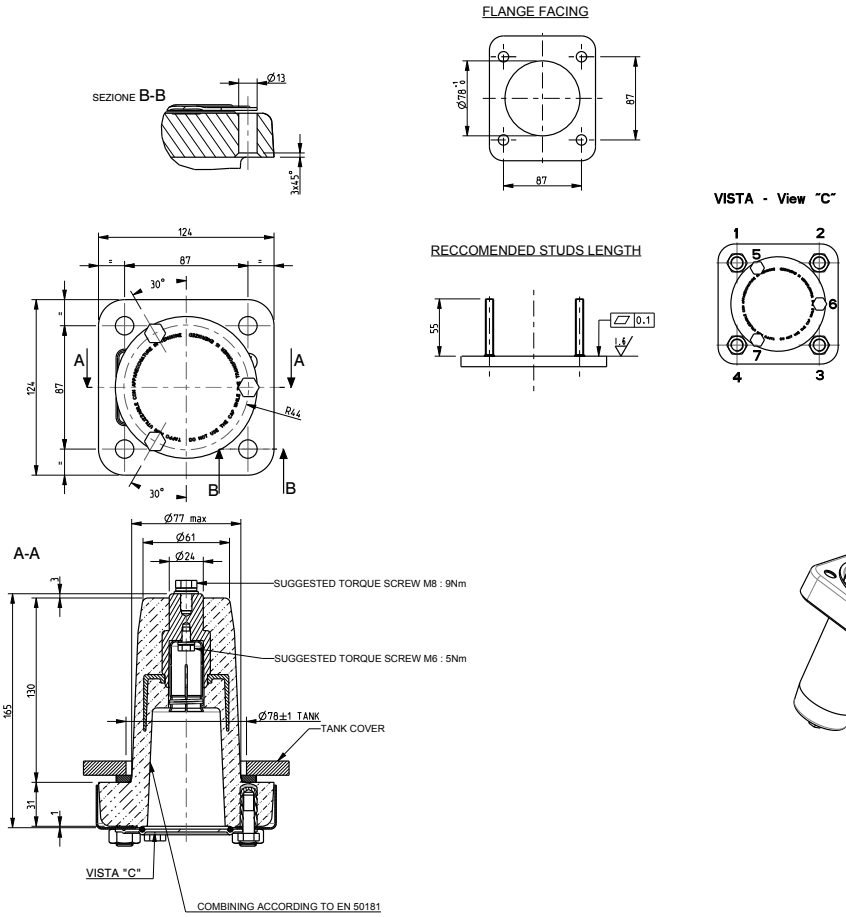
The PPQ bushing can be used as fixed part in the medium voltage input in electrical oil insulated machines, such as transformers or switchgears. It is equipped with a coupling interface according to the - DIN 47637 - standards.

Application

For indoor application, vertical and horizontal mounting.
For outdoor applications, energized or not energized through its rubber connector, vertical and horizontal mounting.

PPQ 20/250

According to table ENEL DJ 1111

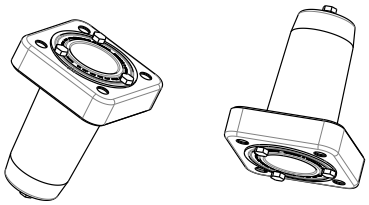


Assembling sequence on the transformer

- Cross fixing sequence: 1 - 3 - 4 - 2
- Three steps fixing:
  1A FASE - 1st step : 2Nm
  2A FASE - 2nd step : 5Nm
  3A FASE - 3rd step : 9Nm
  (Recommended torque)

Protection cover fixing sequence

- Cross fixing sequence: 5 - 6 - 7
- Three steps fixing:
  1A FASE - 1st step : 2Nm
  2A FASE - 2nd step : 5Nm
  3A FASE - 3rd step : 9Nm
  (Recommended torque)

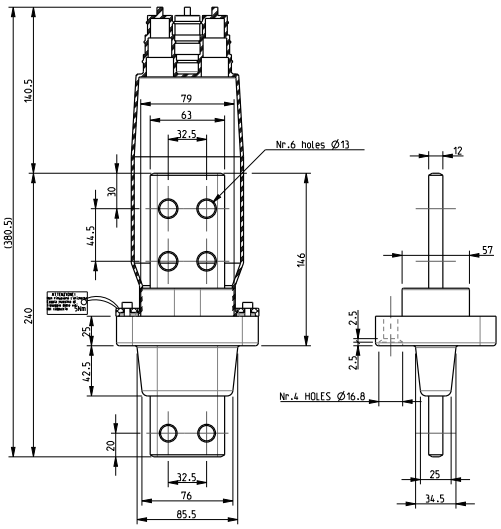


Technical values	PPQ - 20/250
Nominal current	250 A
Nominal voltage	20 kV
Max operating voltage	24 kV
Frequency withstand voltage	55 kV
Impuls withstand voltage	125 kV
Partial discharge measurement (1 pC)	15 kV
Net weight	1,8 kg

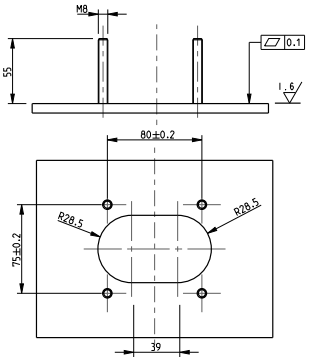
Cast resin bushing BT

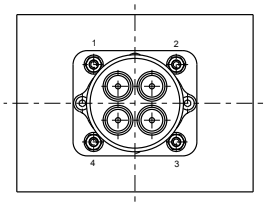
BT 1/1250

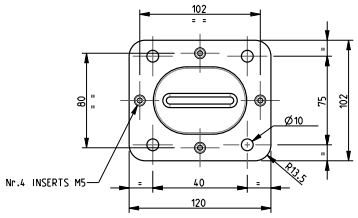
According to table ENEL DJ 1107 - DJ 1109

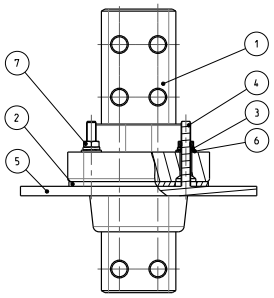


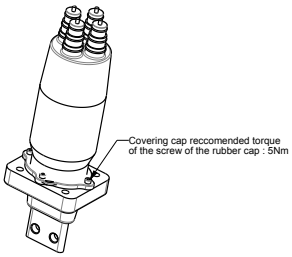
Transformer cover flange











Item List	
1	Insulator BT 1250A
2	Cork gasket code 5GPH118104
Not supplied	
3	Stainless steel washer ø 8 UNI6592
4	Bolt M8x55
5	Transformer cover
6	Stainless steel washer ø 8 UNI1751
7	Stainless steel nut M8 UNI5589

Assembling instructions

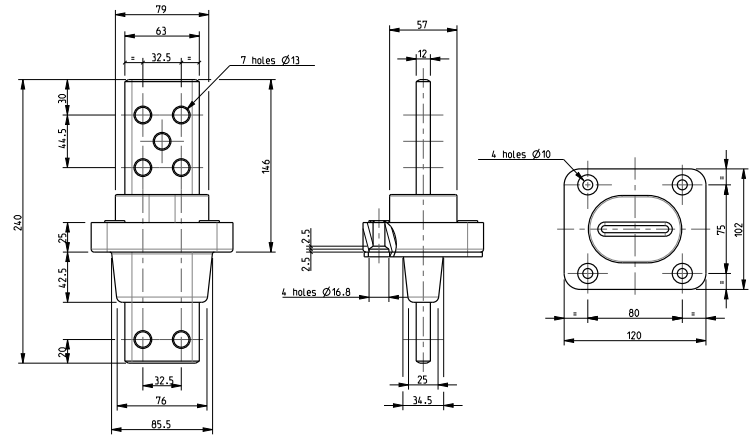
- Screw the 4xM8 nuts according to a cross sequence 1-3-4-2
- 1st step : 2 Nm
- 2nd step : 5 Nm
- 3rd step : 12 Nm (max)

BT Busbar bushings

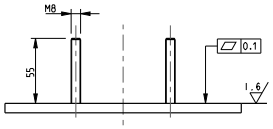
The single phase busbar bushings according to EN 50387 Standard are suitable for indoor oil-air applications on liquid filled transformers.

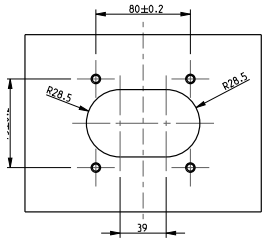
The bushing is composed by a galvanic coated bar moulded inside an insulated resin flange.
Our technical solution does not require any gasket sealing system. It also grants a significant costs saving of transformer maintenance.
Special length of busbars, drilling terminations and accessories are also available on request.

BT 1600A



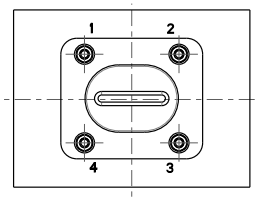
Transformer cover flange





Assembling instructions:

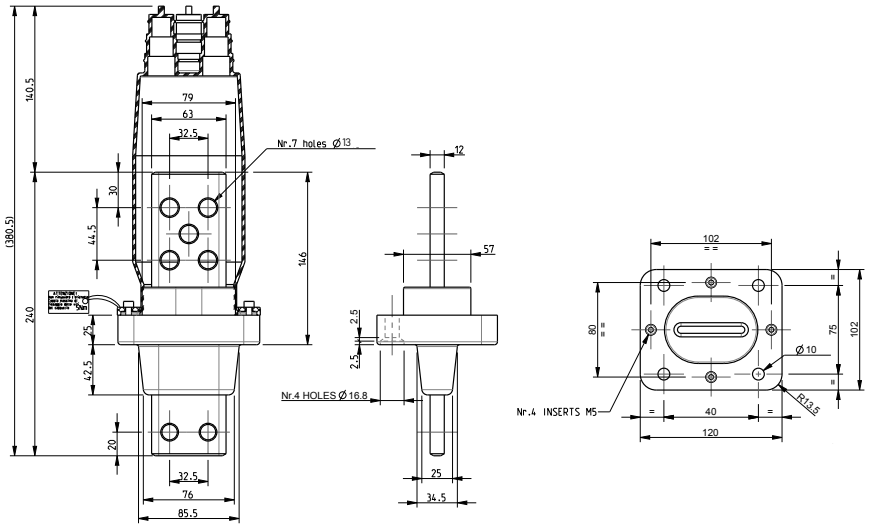
Screw the 4xM8 nuts according to a cross sequence 1-3-4-2
1st step : 2 Nm
2nd step : 5 Nm
3rd step : 12 Nm (max)



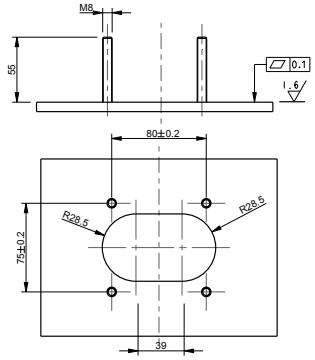
Technical features:

Standard	EN50387
Nominal current:	1600 A
Nominal voltage	1 kV
Dry power frequency	10 kV
Dry lighting impulse withstand voltage	20 kV
Min creepage distance	55 mm
Max operating cantilever load	625 N
Thermal short time current withstand test	16,5 kA
Dynamic short circuit current with-stand test	41 kA
Operating temperature	-20°C÷100°C

BT 1600 - GST001

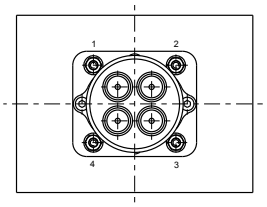


Transformer cover flange



Assembling instructions:

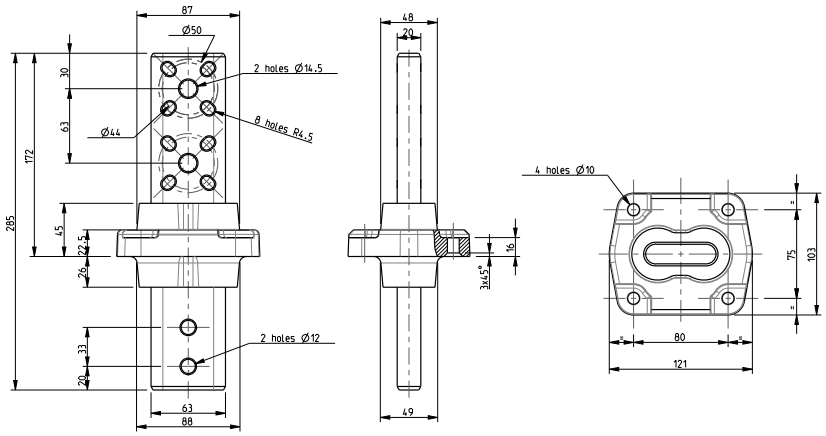
Screw the 4xM8 nuts according to a cross sequence 1-3-4-2
1st step : 2 Nm
2nd step : 5 Nm
3rd step : 12 Nm (max)



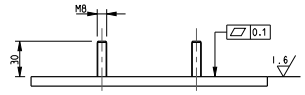
Technical features:

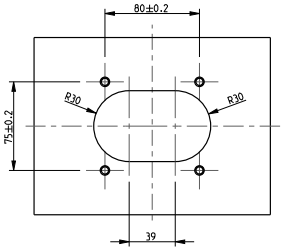
Standard	GST001
Nominal current:	1600 A
Nominal voltage	1 kV
Dry power frequency	10 kV
Dry lighting impulse withstand voltage	20 kV
Min creepage distance	55 mm
Max operating cantilever load	625 N
Thermal short time current withstand test	16,5 kA
Dynamic short circuit current with-stand test	41 kA
Operating temperature	-20°C÷100°C

BT 2000A



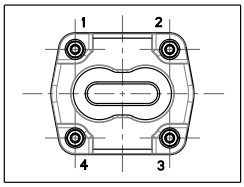
Transformer cover flange





Assembling instructions:

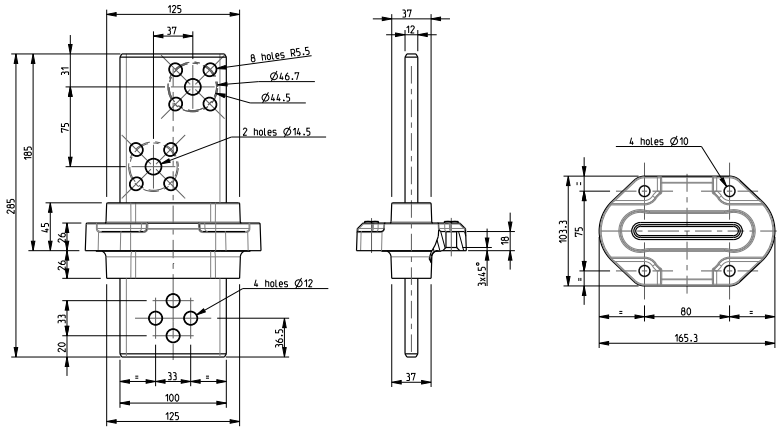
Screw the 4xM8 nuts according to a cross sequence 1-3-4-2
1st step : 2 Nm
2nd step : 5 Nm
3rd step : 12 Nm (max)



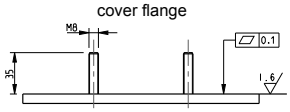
Technical features:

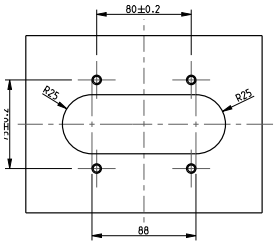
Standard	EN50387
Nominal current:	2000 A
Nominal voltage	1 kV
Dry power frequency	10 kV
Dry lighting impulse withstand voltage	20 kV
Min creepage distance	55 mm
Max operating cantilever load	1000 N
Thermal short time current withstand test	29 kA
Dynamic short circuit current with-stand test	72.5 kA
Operating temperature	-20°C÷100°C

BT 2500



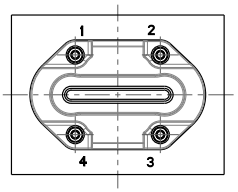
Transformer cover flange





Assembling instructions:

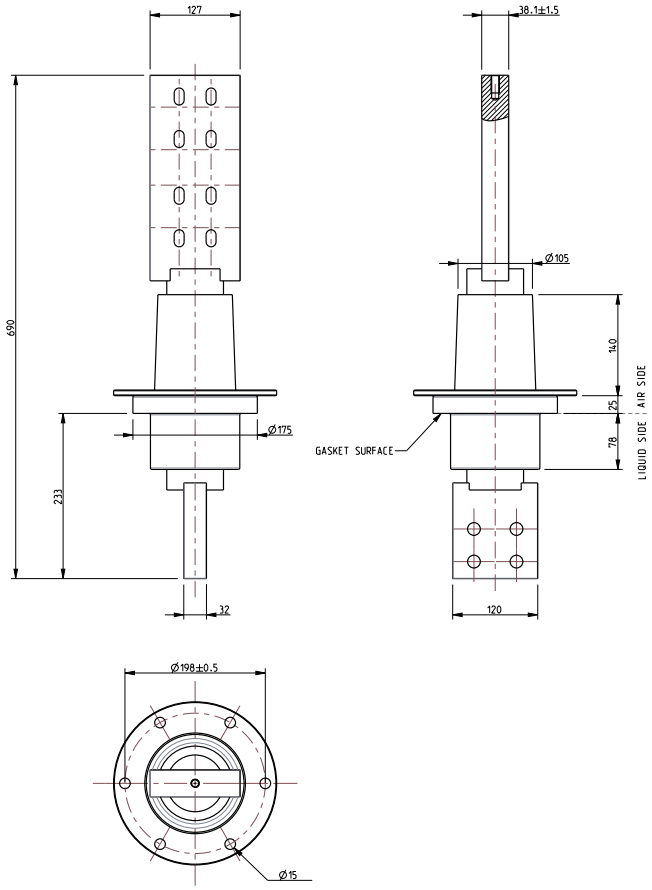
Screw the 4xM8 nuts according to a cross sequence 1-3-4-2
1st step : 2 Nm
2nd step : 5 Nm
3rd step : 12 Nm (max)

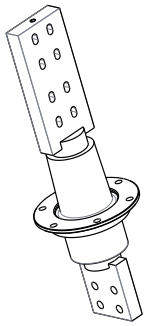


Technical features:

Standard	EN50387
Nominal current:	2500 A
Nominal voltage	1 kV
Dry power frequency	10 kV
Dry lighting impulse withstand voltage	20 kV
Min creepage distance	55 mm
Max operating cantilever load	1000 N
Thermal short time current withstand test	36 kA
Dynamic short circuit current with-stand test	90 kA
Operating temperature	-20°C÷100°C

BT HC (High Current)





Technical features:

Nominal current:	from 4000 up to 8000 A
Nominal voltage	from 1 up to 3 kV
Customized solution	
Epoxy resin insulator for indoor application	
Test according to IEC 60137	

www.comem.com

Brochure-English-07-2024

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