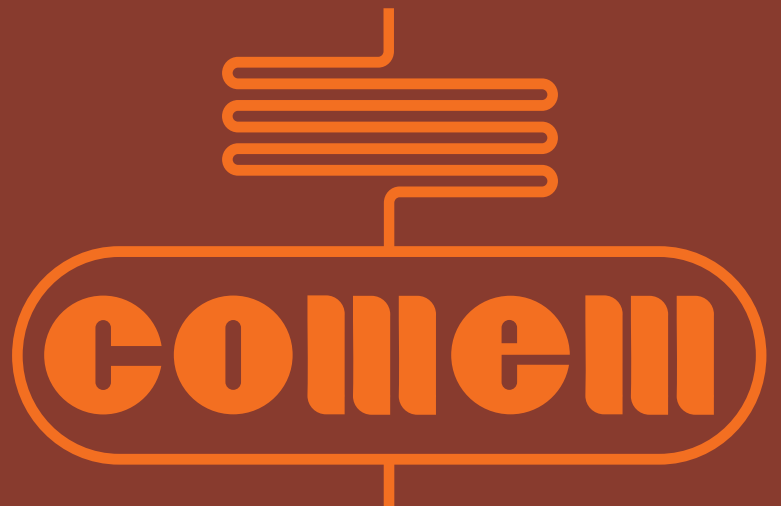


PPS-PPQ-BT-PIAS

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; outdoors both with and without tension making use of the fitting rubber connector, for vertical or horizontal mounting.

ACCESSORIES (ON REQUEST)

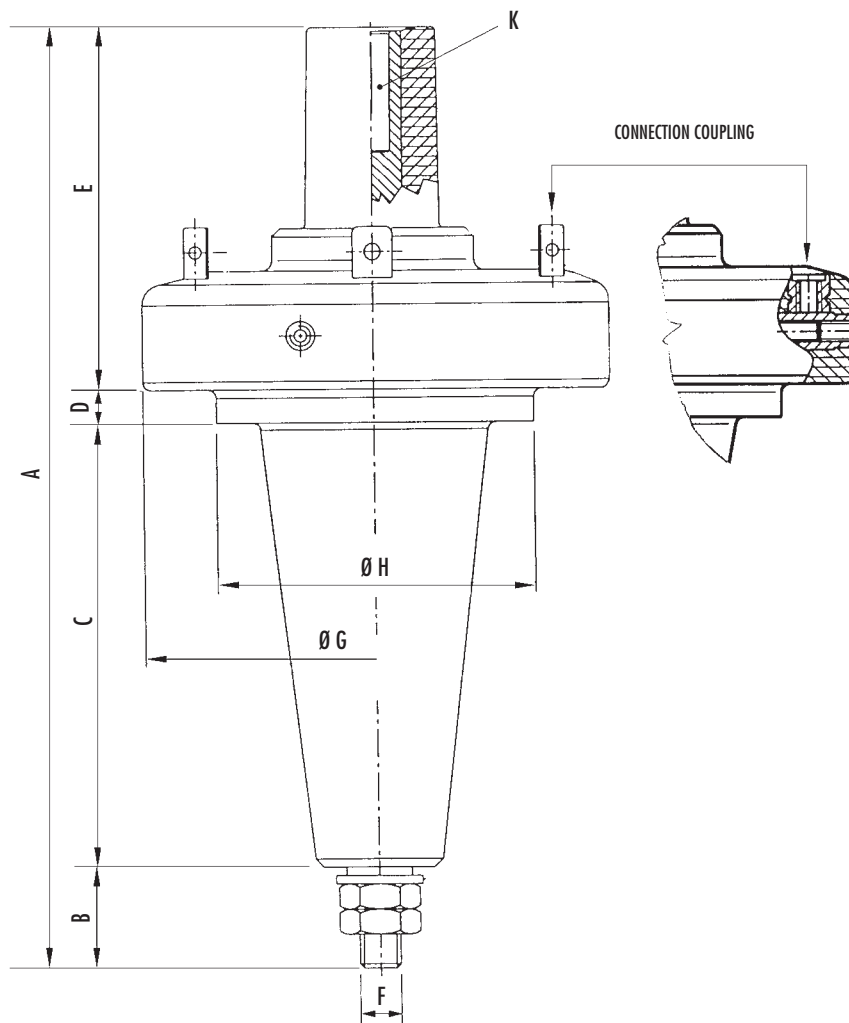
Fastening kits for insulators with DIN flanges or with French blocks can be ordered.

The kit includes:

- NBR gasket
- UNI 6592 flat washer made of galvanized steel
- UNI 5588 nuts made of galvanized steel
- flange (DIN 42538) or French blocks (DIN 42542/HD 506 S1) made of galvanized steel.

The purchase code for these sets is subdivided as follows:

DESCRIPTION	CODE
250 A WITH FLANGE DIN 42538	1110020085
250 A WITH FRENCH BLOCKS DIN 42542 / HD 506 S1	1110020086
400-630 A WITH FLANGE DIN 42538	1110020083
400-630 A WITH FRENCH BLOCKS DIN 42542 / HD 506 S1	1110020084
1250 A WITH FRENCH BLOCKS DIN 42542 / HD 506 S1	1124120900

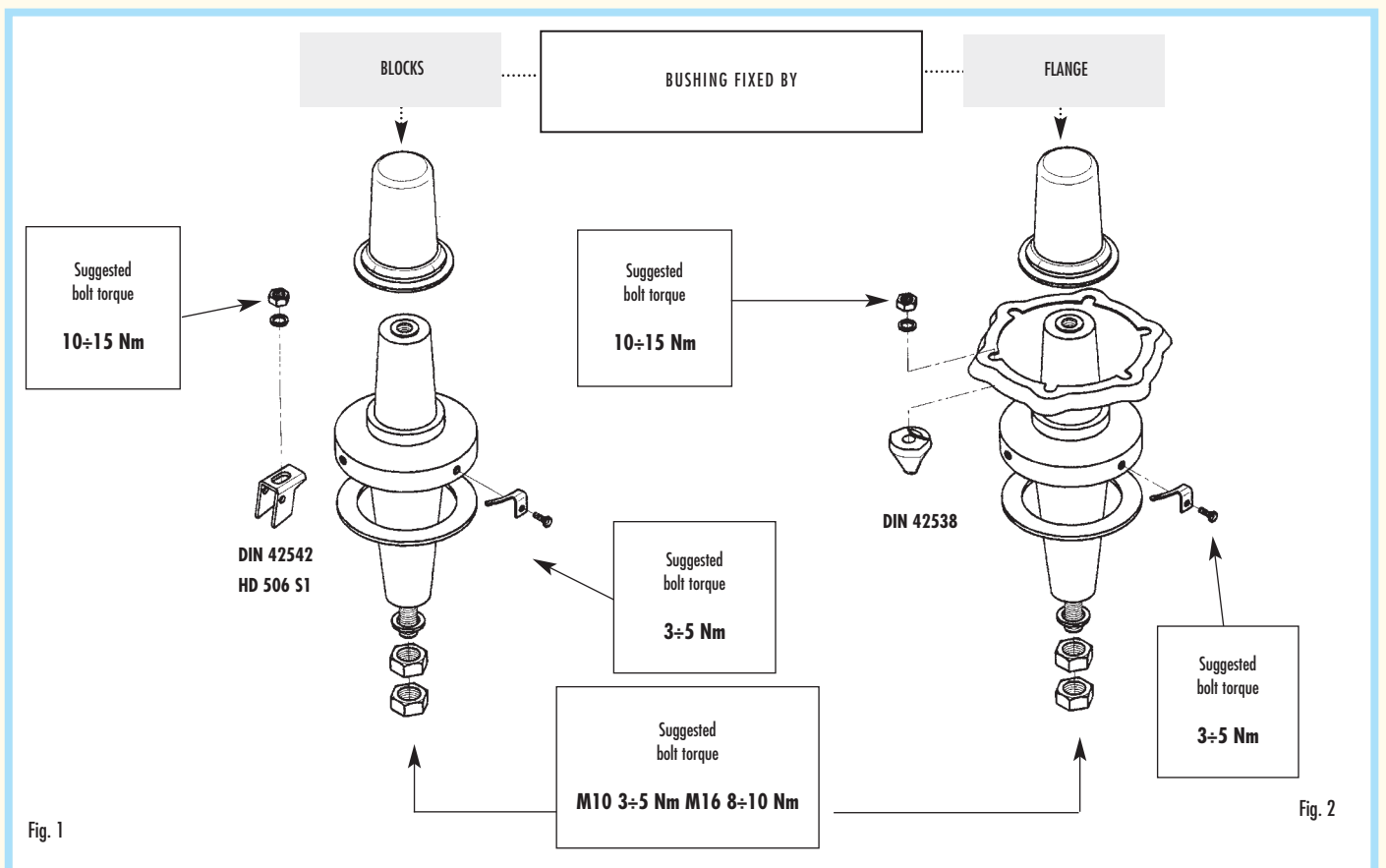


INSULATOR TYPE	DIMENSIONS								CONTACT TYPE	CONNECTION COUPLING	
	A	B	C	D	E	F	G	H		K	TYPE
PPS 24/250	224	22	108	8	86	M10	Ø111	Ø76	LAMELLAR	FIXING SHOE	6
PPS 24/250-R	189	22	73	8	86	M10	Ø111	Ø76	LAMELLAR	FIXING SHOE	6
PPS 24/250-R with M6 threaded inserts	189	22	73	8	86	M10	Ø111	Ø76	LAMELLAR	THREAD M6 x 12	2
PPS 24/250-L	284	22	168	8	86	M10	Ø111	Ø76	LAMELLAR	FIXING SHOE	6
PPS 24/1250	252	33	76	10	133	M16	Ø150	Ø99	M16	/	/
PPS 36/250	240	22	80	8	130	M10	Ø111	Ø75	LAMELLAR	FIXING SHOE	4
PPS 36/400	330,5	41,5	147	10	132	M16	Ø128	Ø87	LAMELLAR	FIXING SHOE	4
PPS 36/630	332	41,5	147	10	133,5	M16	Ø128	Ø87	M16	/	/

IDENTIFICATION		STANDARDS			OIL LEVEL	VERSION WITH FLANGE
TYPE	CATALOG Nr:	INTERFACE	INTERFACE YPE	COMPLETE INSULATOR	DIMENSION "X" (fig. 3)	TYPE
24 kV / 250 A	PPS 24/250 COD. 1G17424023	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
24 kV / 250 A (Short)	PPS 24/250-R COD. 1G17424024	EN 50180 / EN 50181 HN 52-S-61 IEEE Std 386	A	UTE C 66-555	Total	"A" DIN 42538
24 kV / 250 A (Short)	PPS 24/250-R with threaded inserts COD. 1G17424025	EN 50180 / EN 50181 HN 52-S-61 IEEE Std 386 UTE C 66-555	A	COMEM	Total	"A" DIN 42538
24 kV / 250 A (Long)	PPS 24/250-L COD. 1G17424022	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
24 kV / 1250 A	PPS 24/1250 COD. 1617024120	EN 50180 / EN 50181	D	COMEM	Total	DIN 42542
36 kV / 250 A	PPS 36/250 COD. 1G17436020	EN 50180 / HN 52-S-61 EN 50181	B	UTE C 66-555	Total	*
36 kV / 400 A	PPS 36/400 COD. 1G17436040	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
36 kV / 630 A	PPS 36/630 COD. 1G17436041	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

* Mount using only the special blocks supplied.

Tab. 1



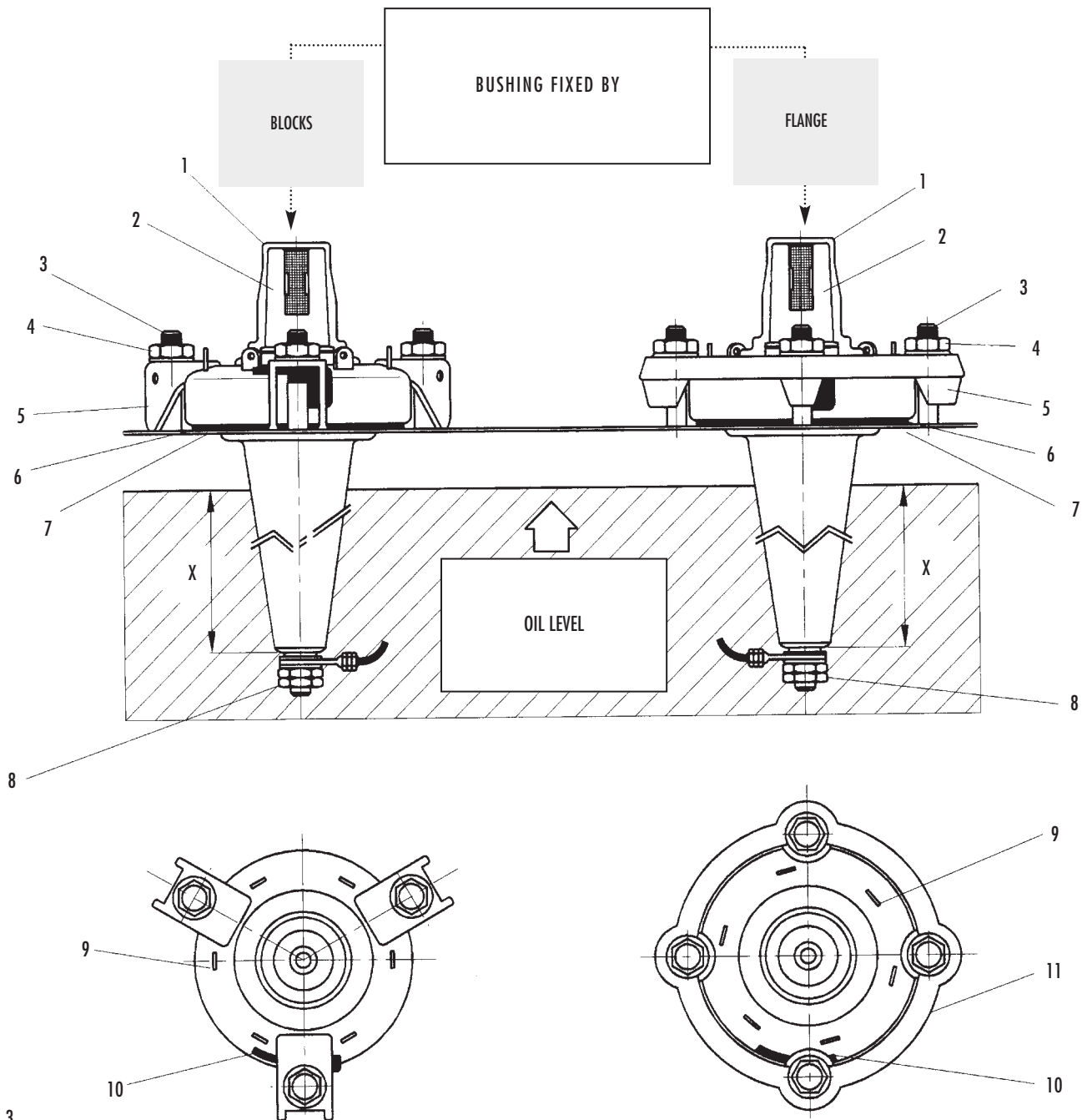


Fig. 3

N. DESCRIPTION

- 1 PROTECTIVE COVER
- 2 CONNECTION INTERFACE
- 3 STUD SCREW
- 4 FIXING BOLTS
- 5 BLOCK
- 6 TRANSFORMER
- 7 GASKET
- 8 CONNECTION BOLTS
- 9 * FIXING SHOE
- 10 GROUND PLATE
- 11 FIXING FLANGE

* 250 A - 400 A

INSTALLATION INSTRUCTIONS

- Position the insulator on the lid of the transformer after having inserted the gasket.
- Earth the bushing screen through the ground plate fixing it to one of the three threads as indicated in figures 1 and 2, then connect it to one of the fixing blocks.
- Set the blocks, or eventual flange in position, with the washers and nuts, which should be tightened uniformly (recommended torque $10 \div 15$ Nm).
- In alternative to the ground plate, as an optional accessory, a conductor cable may be requested for the same function.

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-PPQ2**



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.

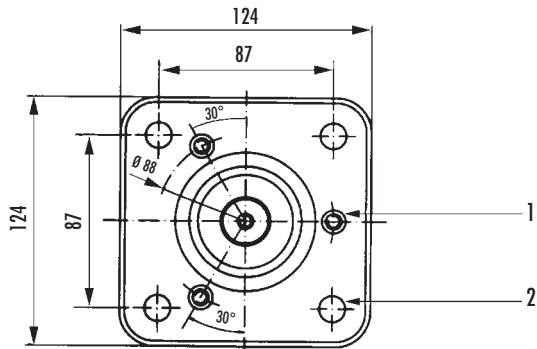
APPLICATION

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

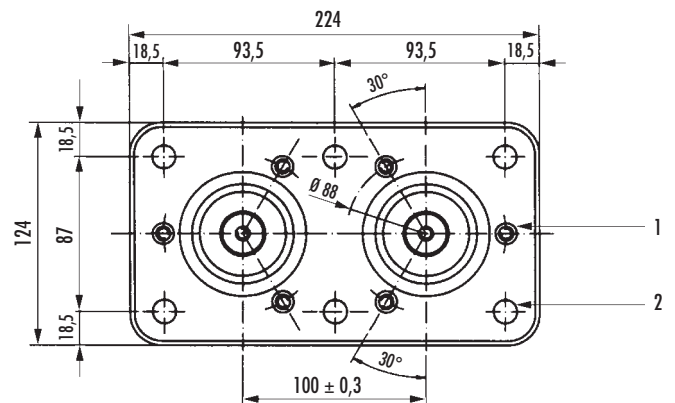
According to table ENEL DJ 1111
Cod. 1G17524020



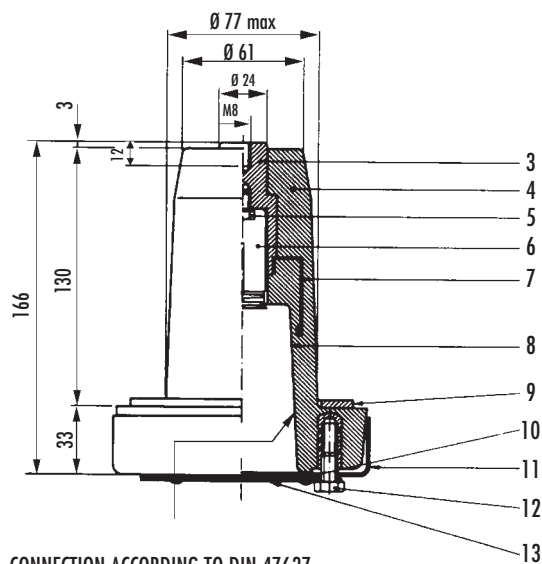
BASIS VIEW OF THE INSULATOR ONLY

PPQ2 20/250

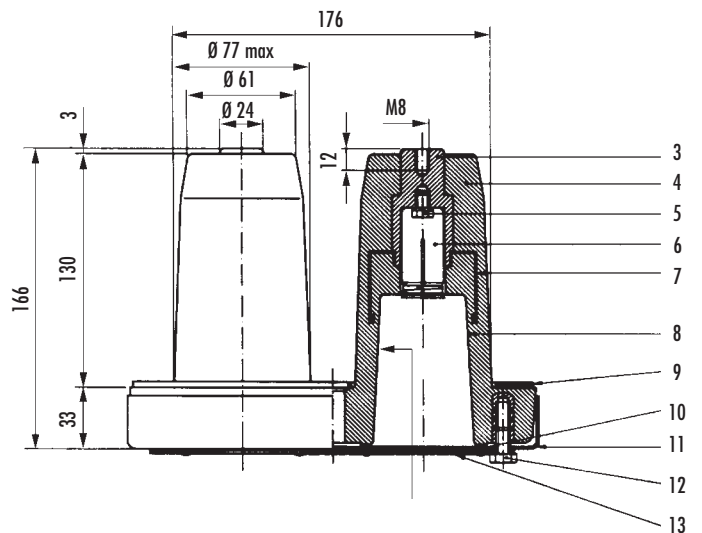
According to table ENEL DJ 1108
Cod. 1G17524022



BASIS VIEW OF THE INSULATOR ONLY



CONNECTION ACCORDING TO DIN 47637
STANDARDS



CONNECTION ACCORDING TO DIN 47637
STANDARDS

N. DESCRIPTION

- 1 FASTENING FOR PLUG CONNECTORS
- 2 FASTENING OF INSULATOR
- 3 CENTRAL THREADED INSERT
- 4 BODY OF EPOXY RESIN
- 5 M6 SCREW AND Ø 6 WASHER
- 6 CONTACT SOCKET
- 7 ELECTRICAL FIELD DEFLECTOR
- 8 INTERFACE SUITABLE FOR PLUG CONNECTOR
- 9 GASKET
- 10 O.R. GASKET
- 11 METALLIC CLAMP
- 12 M8 SCREW
- 13 PROTECTIVE COVER

TECHNICAL VALUES

	PPQ 20/250	PPQ2 20/250
NOMINAL CURRENT	250 A	250 A
NOMINAL VOLTAGE	20 kV	20 kV
MAX OPERATING VOLTAGE	24 kV	24 kV
FREQUENCY WITHSTAND VOLTAGE	55 kV	55 kV
IMPULS WITHSTAND VOLTAGE	125 kV	125 kV
PARTIAL DISCHARGE MEASUREMENT (1 pC)	15 kV	15 kV
NET WEIGHT	1,8 kg	3,5 kg

CAST RESIN BUSHING **BT**

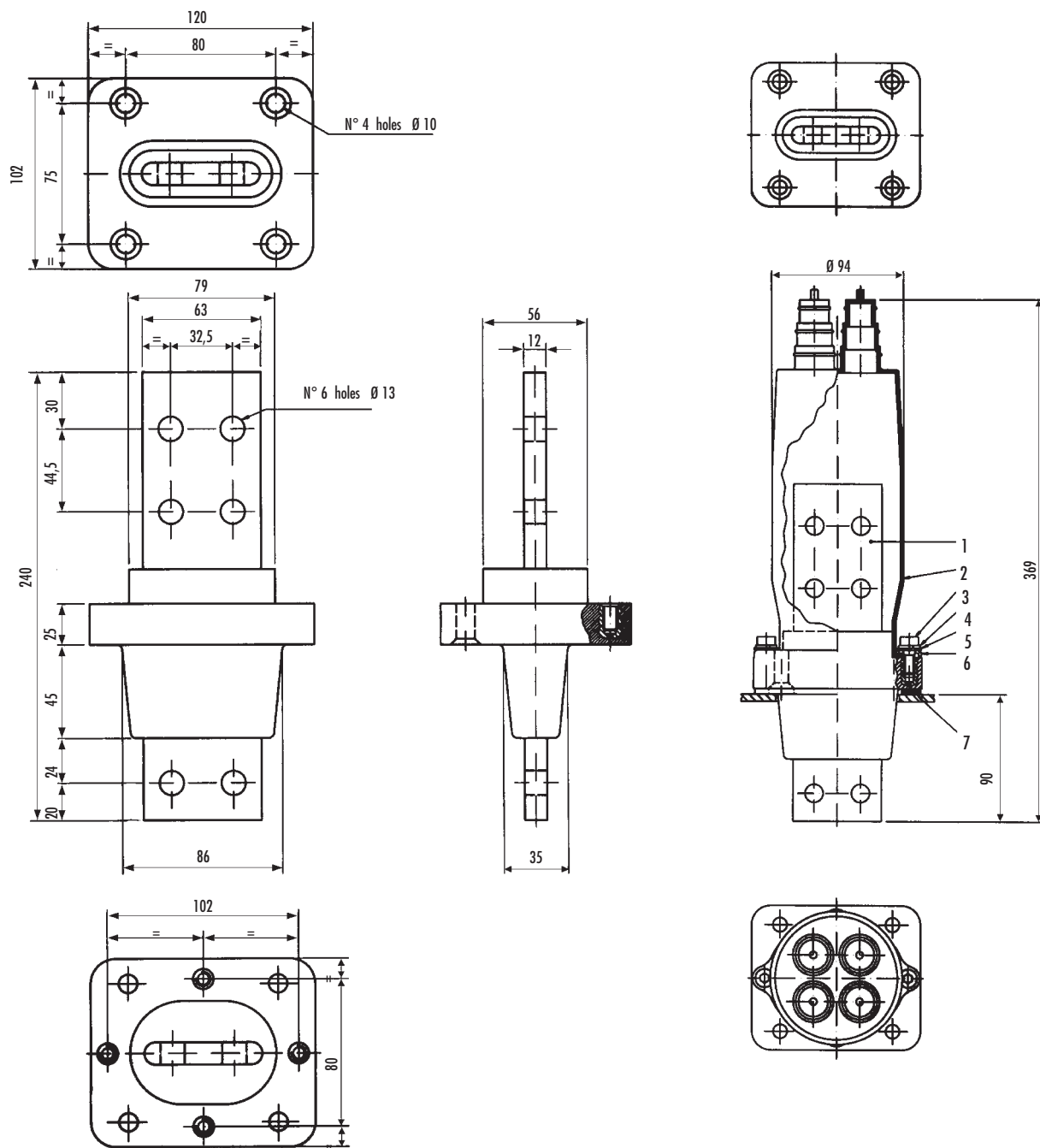


CHARACTERISTICS

Epoxy resin bushings 1 kV 1250 A oil/air for indoor and outdoor applications, according to standard ENEL DJ 1107 - DJ 1109.

BT 1/1250

According to table ENEL DJ 1107 - DJ 1109
Cod. 1G17131120



N. DESCRIPTION

- 1 INSULATOR BT 1/1250
- 2 PROTECTIVE CAP
- 3 M5 SCREW UNI 5931
- 4 Ø 5 WASHER UNI 1751
- 5 Ø 5 WASHER UNI 6592
- 6 METALLIC CLAMP FOR PROTECTION CAP FASTENING
- 7 GASKET

TECHNICAL VALUES

TECHNICAL VALUES	BT
	1/1250
NOMINAL CURRENT	1250 A
NOMINAL VOLTAGE	1 kV
FREQUENCY WITHSTAND VOLTAGE	10 kV
IMPULS WITHSTAND VOLTAGE	20 kV
NET WEIGHT	2,2 kg

BT BUSBAR BUSHINGS

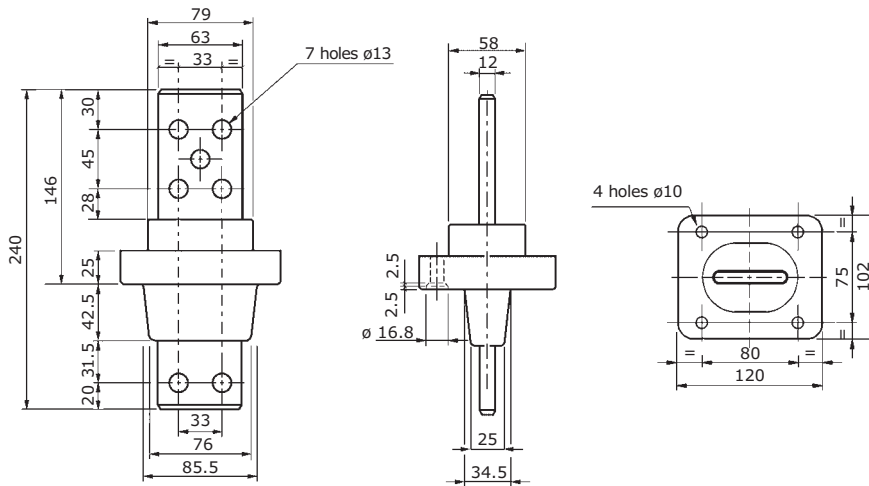


The single phase busbar bushings according to EN 50387 Standard are suitable for indoor oil-air applications on liquid filled transformers.

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 and drilling terminations are also available on request.

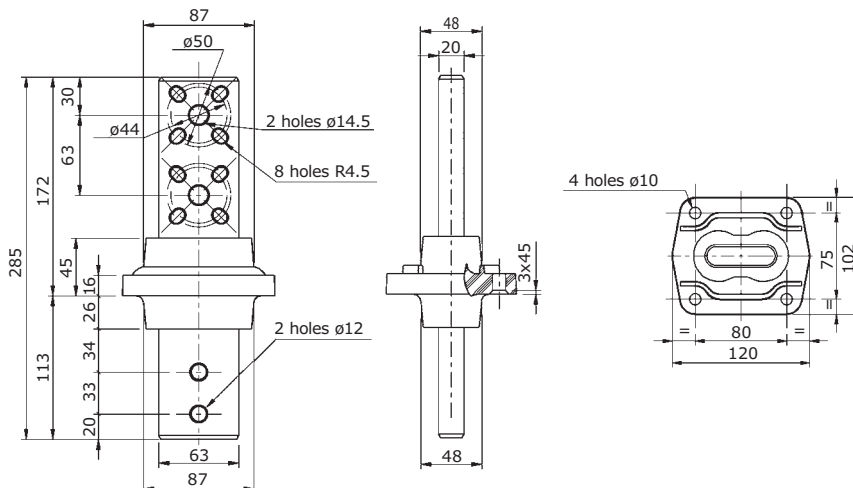
BT 1600A



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:
 $-20^{\circ}\text{C} \div 100^{\circ}\text{C}$

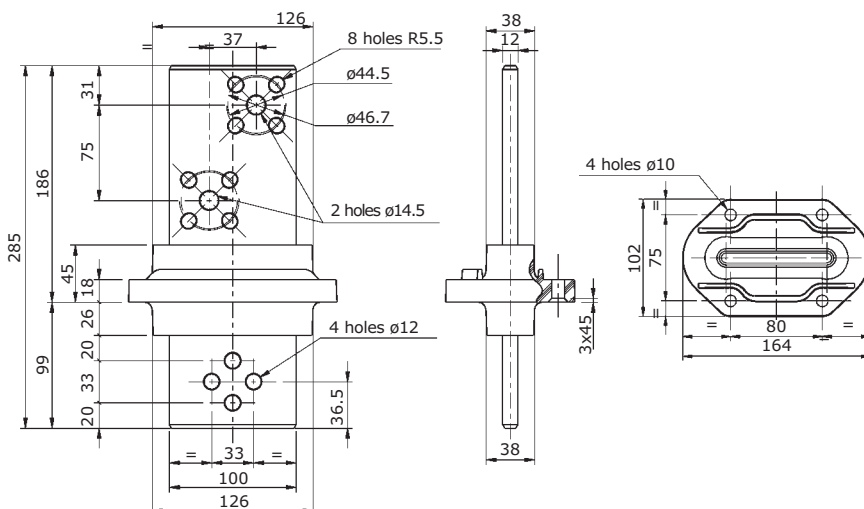
BT 2000A



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 withstand
 test: 72.5 kA
 Operating temperature:
 $-20^{\circ}\text{C} \div 100^{\circ}\text{C}$

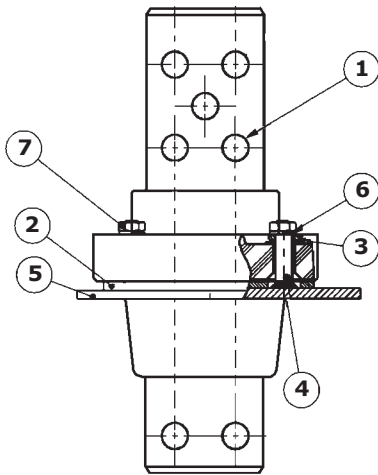
BT 2500A



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 withstand
 test: 90 kA
 Operating temperature:
 $-20^{\circ}\text{C} \div 100^{\circ}\text{C}$

BT 1600A



Item List:

1. Insulator BT 1600A
2. NBR gasket code 5GPH118104

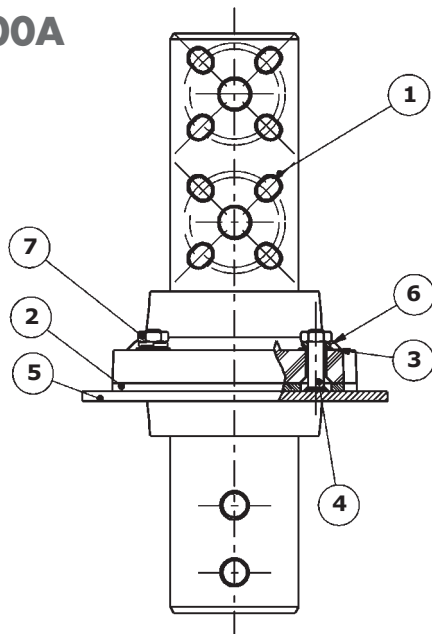
NOT SUPPLIED:

3. Stainless steel washer $\varnothing 8$ UNI6592
4. Bolt M8x55
5. Transformer cover
6. Stainless steel washer $\varnothing 8$ UNI1751
7. Stainless steel nut M8 UNI5589

Kit package:

Size: 430x375x390 mm
Quantity: 12 bushings
Gross weight: 30 kg
Purchasing code: 1G17131127

BT 2000A



Item List:

1. Insulator BT 2000A
2. NBR gasket code 5GPD860100

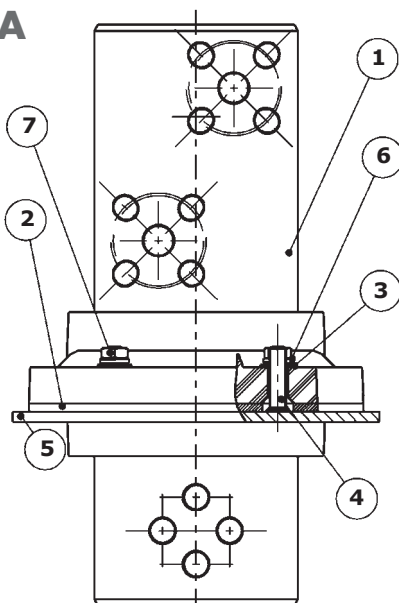
NOT SUPPLIED:

3. Stainless steel washer $\varnothing 8$ UNI6592
4. Bolt M8x30
5. Transformer cover
6. Stainless steel washer $\varnothing 8$ UNI1751
7. Stainless steel nut M8 UNI5589

Kit package:

Size: 395x295x325 mm
Quantity: 4 bushings
Gross weight: 17 kg
Purchasing code: 1G17101200

BT 2500A



Item List:

1. Insulator BT 2500A
2. NBR gasket code 5GPD876500

NOT SUPPLIED:

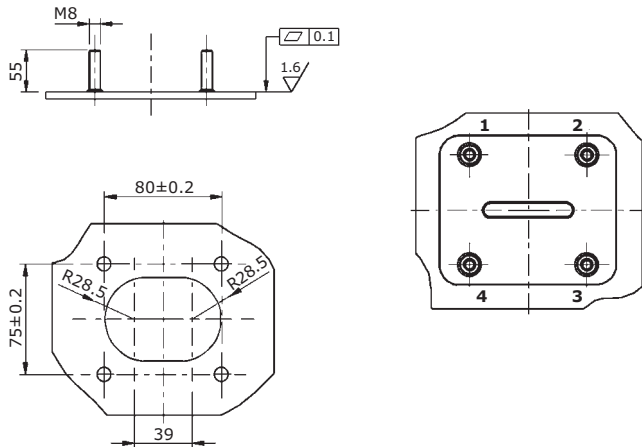
3. Stainless steel washer $\varnothing 8$ UNI6592
4. Bolt M8x30
5. Transformer cover
6. Stainless steel washer $\varnothing 8$ UNI1751
7. Stainless steel nut M8 UNI5589

Kit package:

Size: 395x295x325 mm
Quantity: 4 bushings
Gross weight: 17 kg
Purchasing code: 1G171012A0

BT 1600A

Transformer cover flange



Assembling instructions:

Screw the 4xM8 nuts according to a cross sequence 1-3-4-2

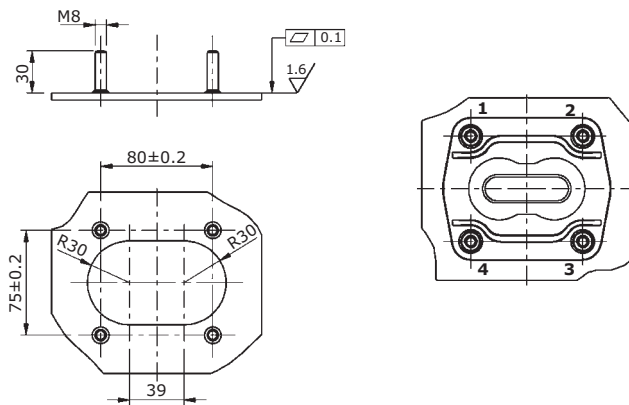
1st step: 2 Nm

2nd step: 5 Nm

3rd step: 12 Nm (max)

BT 2000A

Transformer cover flange



Assembling instructions:

Screw the 4xM8 nuts according to a cross sequence 1-3-4-2

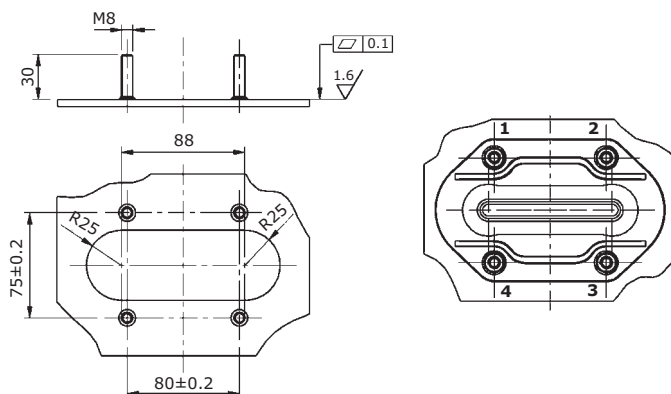
1st step: 2 Nm

2nd step: 5 Nm

3rd step: 12 Nm (max)

BT 2500A

Transformer cover flange



Assembling instructions:

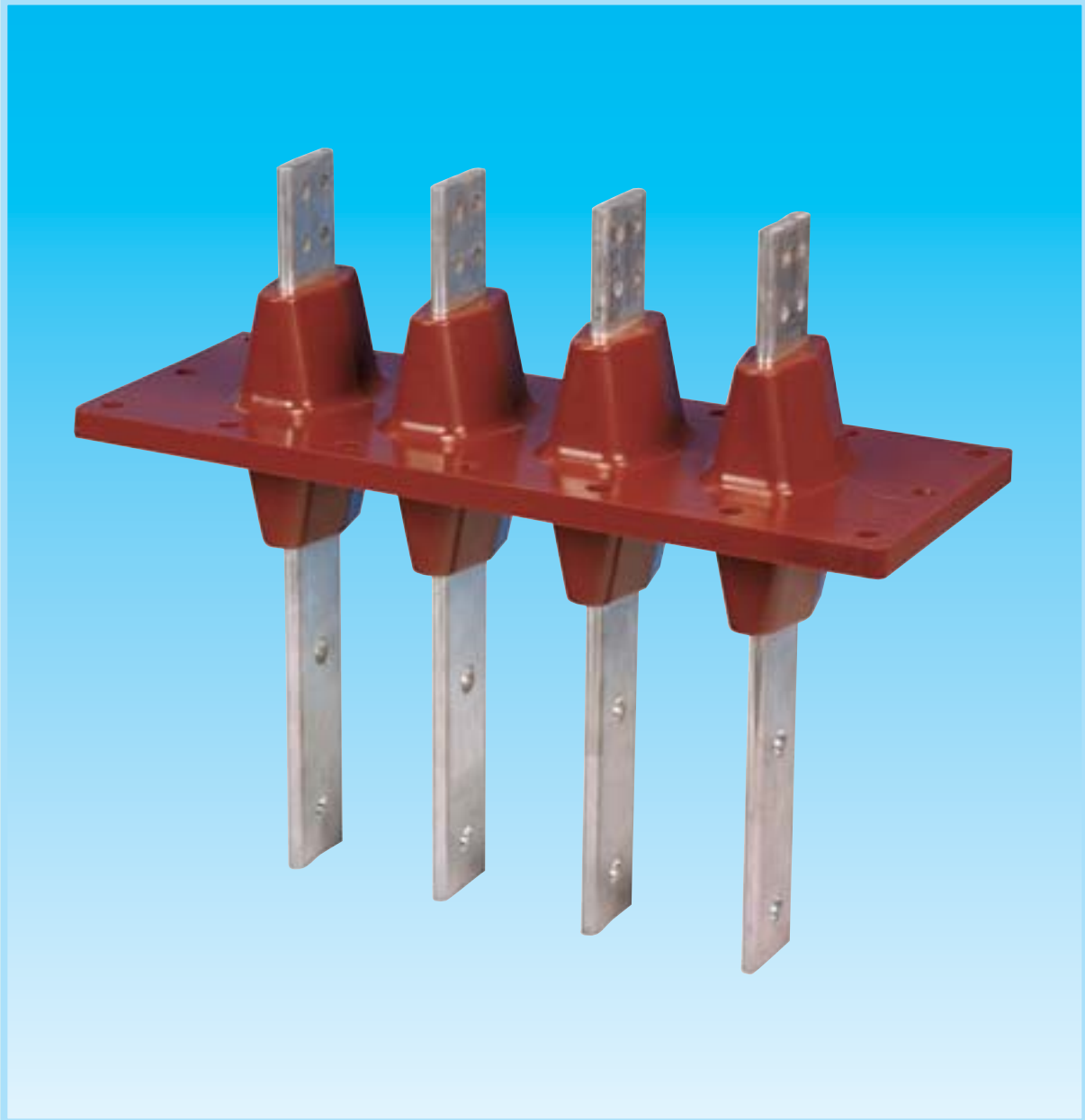
Screw the 4xM8 nuts according to a cross sequence 1-3-4-2

1st step: 2 Nm

2nd step: 5 Nm

3rd step: 12 Nm (max)

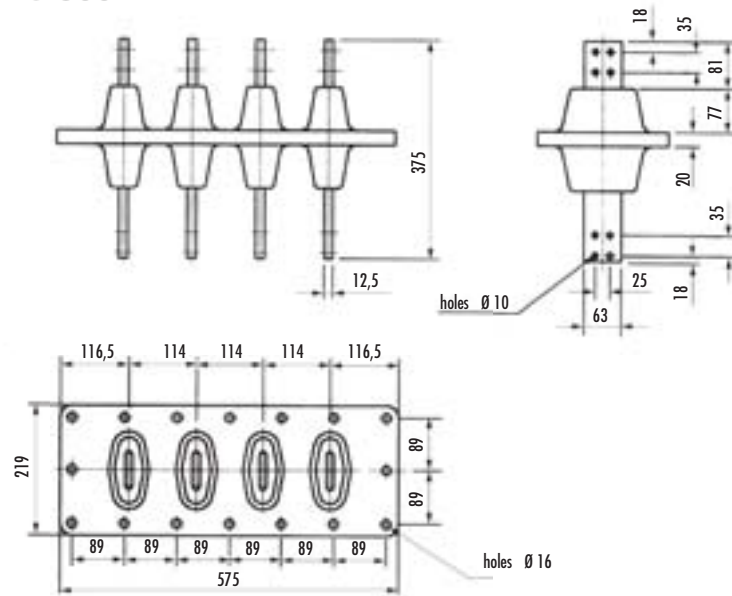
CAST RESIN MONOBLOC *PIAS*



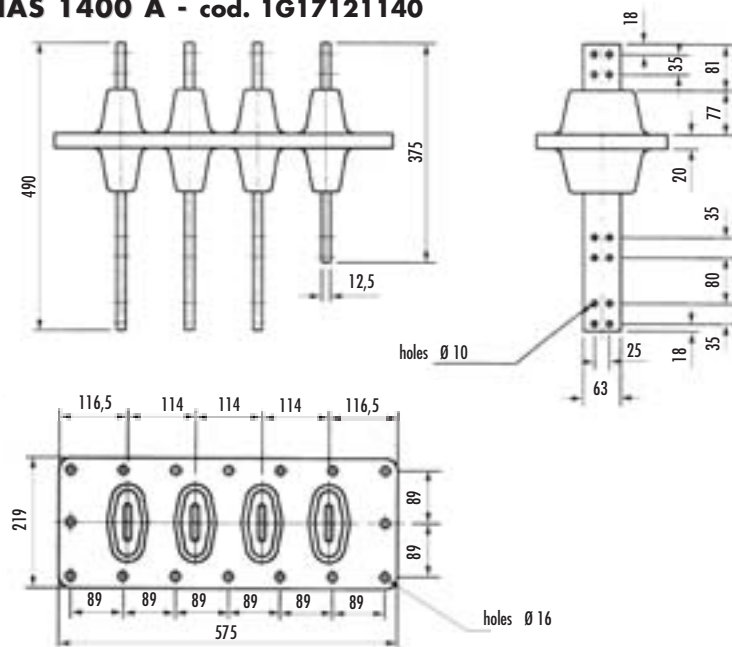
CHARACTERISTICS

Epoxy resin monobloc 1,1 kV oil/air for indoor and outdoor applications, according to standard BS 2562 and EN 50336.

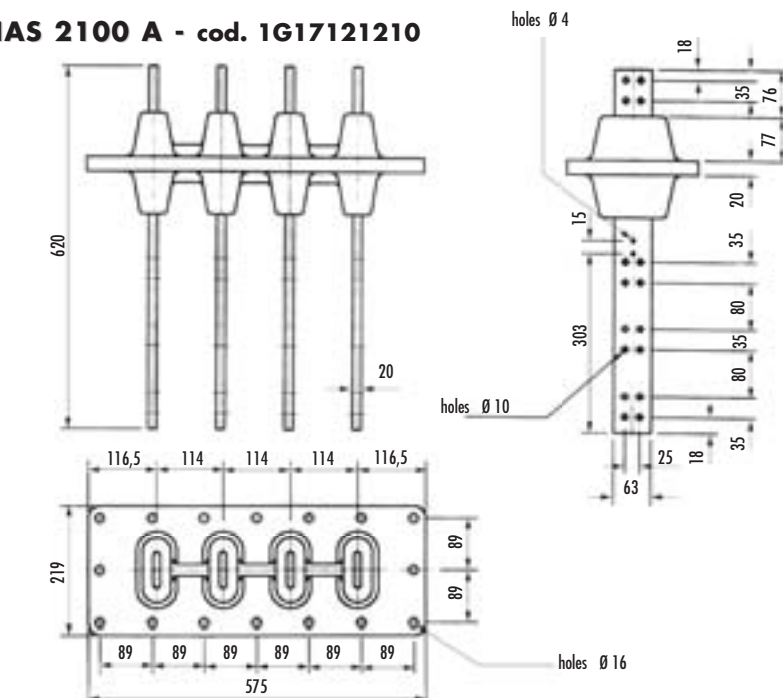
PIAS 800 A - cod. 1G17121080

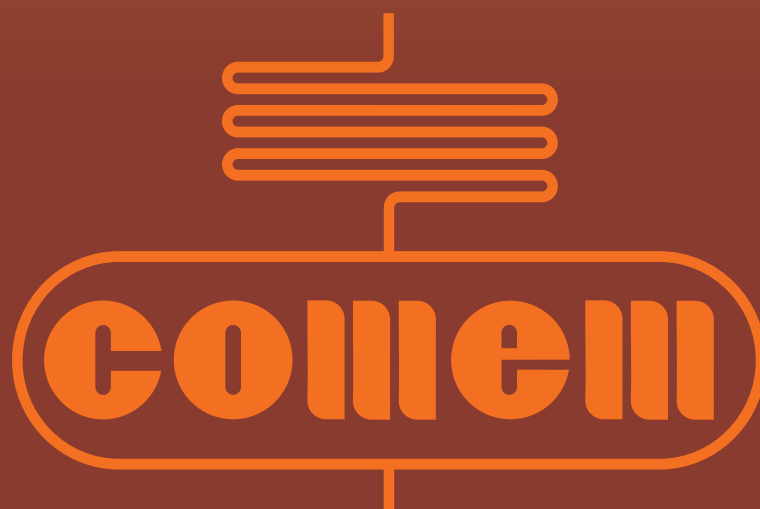


PIAS 1400 A - cod. 1G17121140



PIAS 2100 A - cod. 1G17121210





comem - S.p.A

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