



I - 20098 S. GIULIANO MIL. (ITALY) - VIA COLOMBARA, 1 - FRAZ. PEDRIANO
TELEFONO +39 0298.20.44.11 - TELEFAX +39 02 98.20.44.22
E-Mail: cedaspe@cedaspe.com - InterNet Site: <http://www.cedaspe.com>
CAP. SOC. € 500.000 I.V. - TVA-P.I. IT 01065780155 - C.F. 01065780155
R.E.A. MI 729991 - IMPORT - EXPORT MI 142410 - REG. IMPR. 132146/3344/46 TRIB. MI



LV BUSHINGS FOR OIL IMMERSSED DISTRIBUTION TRANSFORMERS
3,6 kV - 250 to 6300 A
According to DIN 42539 & Cedaspe design

PRODUCT DESCRIPTION AND INSTRUCTIONS FOR USE

GENERAL INFORMATION:

Transformer bushing having porcelain as main insulation and suitable for outdoor installation.

The lower part is directly in contact with the transformer oil and the inner chamber shall be completely filled with oil.

The bushing is suitable to withstand the test voltages and the other prescriptions of the IEC 60137 Standard.

The bushing can be installed at any angles in respect of vertical. In case of installation at more than 30° special execution may be necessary. Anyway, the cantilever values given by IEC 60137 standard are fulfilled.

STORAGE AND SHELF LIFE:

Max shelf-life 5 years. For longer periods please get in touch with manufacturer.

Bushing's components shall be stored in such a way to prevent damages, in a clean place with temperatures ranging from -20 to +40 °C and air humidity 75 %. Storage would be in a warehouse or enclosed building but the same precautions should be followed.

Before use, visual check that no damages happened to any parts.

INSTALLATION:

The bushing is supplied in loose parts.

- 1) for assembly on transformer tank assemble all parts as per sequence shown in the following drawings.
- 2) connect the bushing to internal connections, as per your arrangement, by means of provided locking nuts or your own screws in case of bushings with base connection.
- 3) Tighten closing hexagonal nut (pos. 13) applying torque values mentioned at pag.2

DISMOUNTING OF BUSHING:

To dismount the bushing:

- 1) first lower the oil level a few centimetres below the transformer cover
- 2) disconnect outer connections (connecting flag if mounted)
- 3) unscrew the closing hexagonal nut (pos.13) top of brass washer E (pos.4) with a spanner
- 4) take out porcelain and all components top of tank cover
- 5) disconnect the internal connections
- 6) take out all parts underneath cover

REPLACEMENT OF PORCELAIN:

It is possible to replace the porcelain and/or the gaskets only without disconnecting the internal connections and with oil lowered only at few centimetres below cover level.

- 1) first lower the oil level a few centimetres below the transformer cover
- 2) disconnect outer connections (flags if mounted)
- 3) unscrew the closing hexagonal nut (pos.13) top of brass washer E (pos.4) with a torque spanner
- 4) take out porcelain and all other outer components
- 5) assemble all parts as per sequence shown in the following drawings
- 6) Tighten the closing hexagonal nut (pos.13) applying torque values mentioned below

TIGHTENING VALUES:

(suggested values +/-10 % depending on the quality of the tank cover surface)

Values for nuts on central conductor:

Size	Torque Nm	Size	Torque Nm
M12	13	M48X3	180
M20	30	M55X3	250
M30x2	70	M75X3	250
M42X3	110		

Values for locking bolts of flags:

Size	Torque Nm
M8	10
M10	25
M12	40

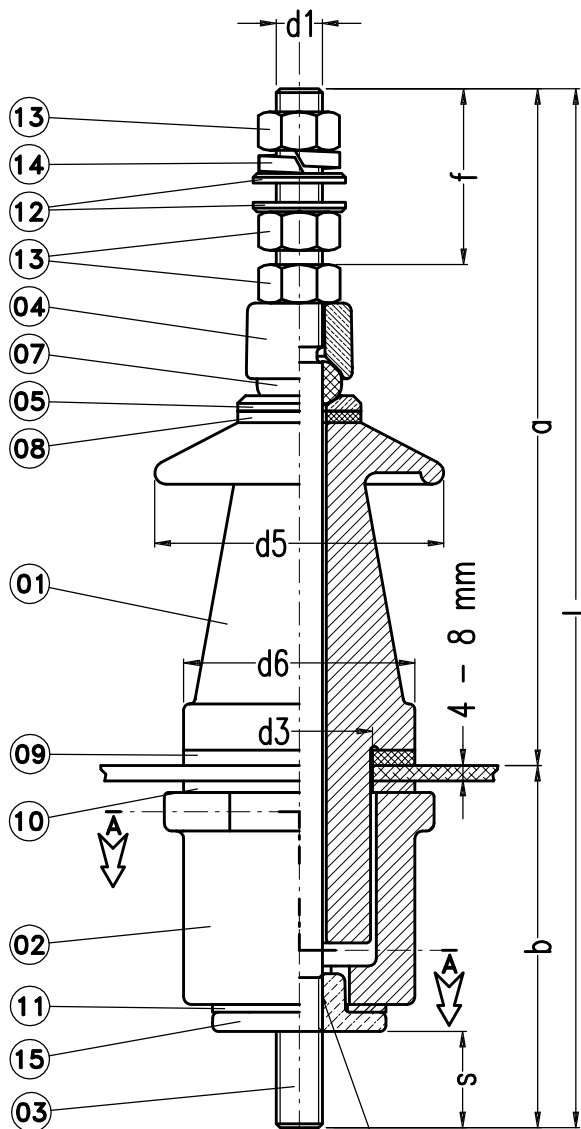
MAINTENANCE:

This type of bushing does not need any specific maintenance though we suggest on a periodical basis to clean the surface of the porcelain.

DISPOSAL:

Disposal of all parts shall be made according to local environmental and waste management rules.

Fig. A1



Pos	Qty	Descrizione/Description
1	1	Porc. Sup. "A"/Top porcelain "A"
2	1	Porc. Inf. "B"/Bottom porcelain "B"
3	1	Tirante/Stem
4	1	Roset. Sup. "E"/Brass washer "E"
5	1	Roset. Inf. "G"/Brass washer "G"
7	1	Guarn. Tor./Ring gasket "J"
8	1	Guarn. Piana/Plain gasket
9	1	Guarn. Flangia/Flange gasket
10	1	Guarn. Interna/Internal gasket
11	1	Guarn. Interna/Internal gasket
12	2	Rondella OT/Brass contact washer
13	3/4	Dado OT UNI5588/Brass nut DIN934
14	1	Rondella Grower/Spring washer
15	1	Ghiera/Brass closing piece
17	2	Dado OT UNI5589/Brass locknut DIN936
19	1	Rosetta a tazza/Bellville washer

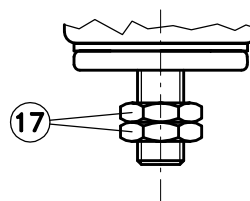


Fig. A2

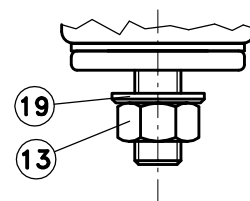
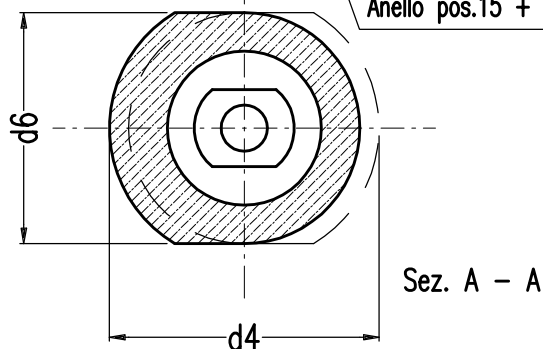


Fig. E1

Ring pos.15 + Stem pos.3 Crimped (on demand can be tinbrazed)
Anello pos.15 + Tirante pos.3 Crimpato (su richiesta può essere saldato a stagno)



Sez. A - A

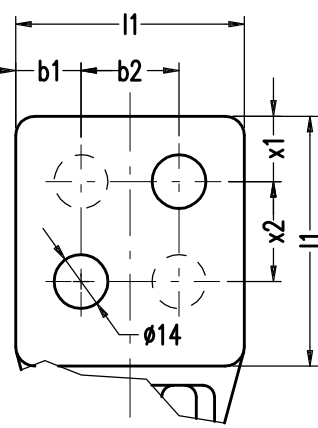
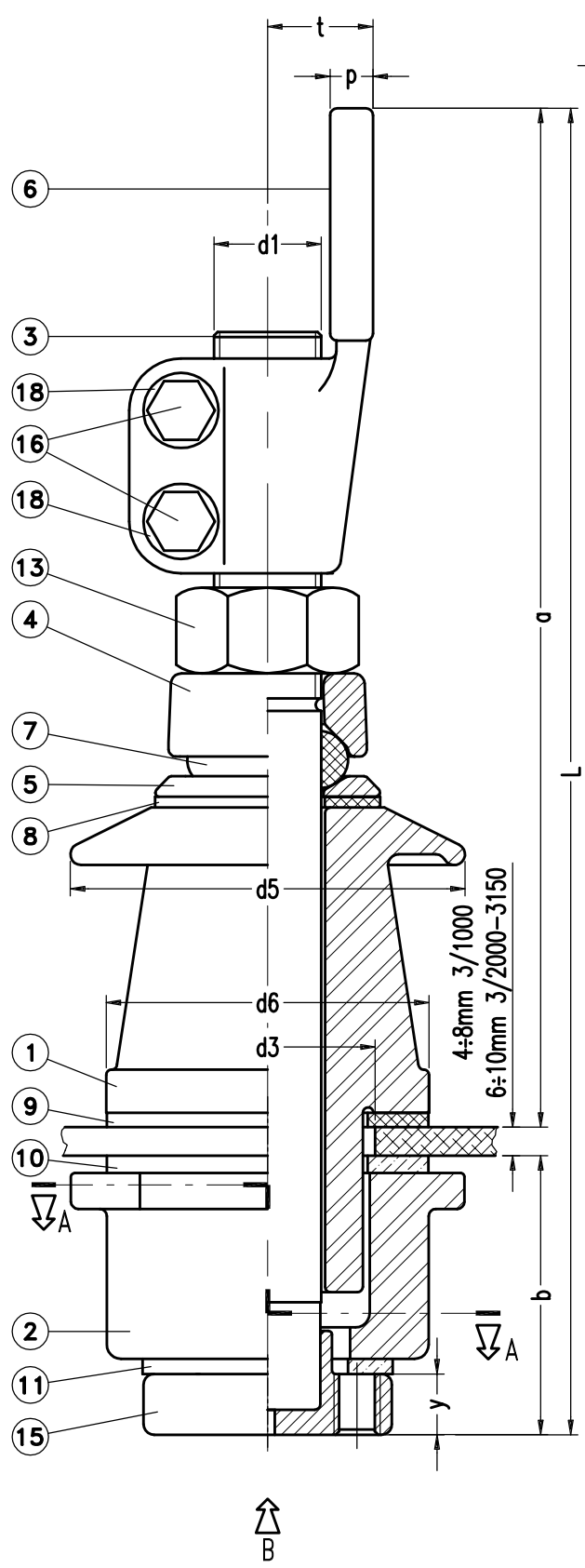
LA FIGURA MOSTRA ISOLATORE 3/250 IN SCALA 1:2

THE FIGURE SHOWS THE BUSHING 3/250 (1:2 SCALE)

Isolatore Bushing	Tensione Voltage KV	Corrente Current A	Linea di fuga Creepage distance	a mm	b mm	f mm	L mm	s mm	d1 mm	d3 mm	d4 mm	d5 mm	d6 mm	Peso Weight Kg	Volume Volume dm ³	Materiale Tirante-pos.3 Stem-pos.3 Material
3/250	3.6	250	120	180	92	50	272	25	M12	39	70	75	60	1.0	2.7	Ottone / Brass
3/630 - CU	3.6	630	120	210	108	65	318	37	M20	45	85	90	70	2.5	4.8	Rame / Copper
3/630 - MS	3.6	630	120	209	105	65	314	35	M20	45	85	90	70	2.5	4.8	Ottone / Brass

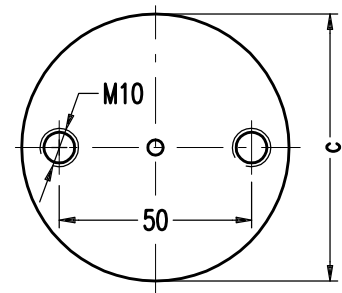
ISOLATORI PASSANTI PER TRASFORMATORI DIN 42539
TENSIONE NOMINALE 3.6kV CORRENTE NOMINALE 250-630A
Outdoor transformer bushings DIN 42539
Rated voltage 3.6kV Rated current 250-630A

CEDASPE

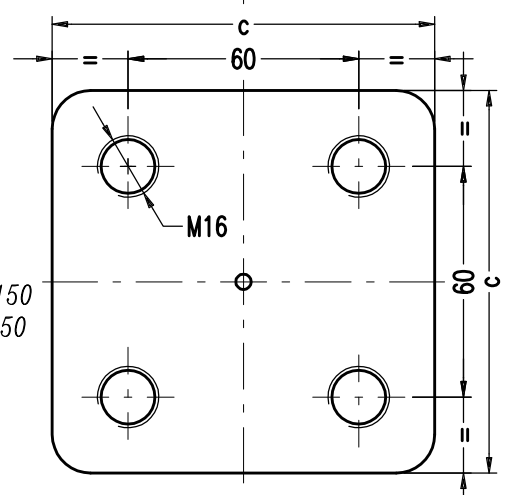


Pos	Qty	Descrizione/Description
1	1	Porc. Sup. "A"/Top porcelain "A"
2	1	Porc. Inf. "B"/Bottom porcelain "B"
3	1	Tirante/Stern
4	1	Roset. Sup. "E"/Brass washer "E"
5	1	Roset. Inf. "G"/Brass washer "G"
6	1	Banderuola/Brass flag
7	1	Guarn. Tor./Ring gasket "J"
8	1	Guarn. Piana/Plain gasket
9	1	Guarn. Flangia/Flange gasket
10	1	Guarn. Interna/Internal gasket
11	1	Guarn. Interna/Internal gasket
13	1	Dado OT UNI5588/Brass nut DIN934
15	1	Ghiera/Brass closing piece
16	2	Vite UNI 5739/Bolt DIN 933
18	2	Rondella/Washer

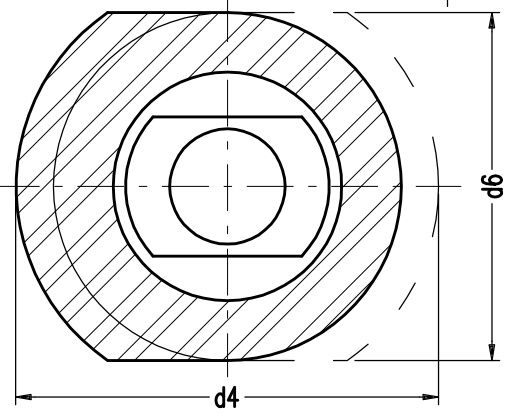
VISTA B
 Isolatore 3/1000
 Bushing 3/1000



VISTA B
 Isolatore 3/2000-3150
 Bushing 3/2000-3150



Sez. A:A



LA FIGURA MOSTRA ISOLATORE 3/1000 IN SCALA 1:2

dim in mm

THE FIGURE SHOWS THE BUSHING 3/1000 (1:2 SCALE)

Isolatore Bushings	Tensione Voltage KV	Corrente Current A	Linea di fuga Creepage distance	a mm	b mm	c mm	y mm	t mm	L mm	p mm	d1 mm	d3 mm	d4 mm	d5 mm	d6 mm	x1 mm	x2 mm	b1 mm	b2 mm	l1 mm	Massa Kg	Volume Volume dm ³	N°Fori N°Holes Z	Band. (Flag)
3/1000	3.6	1250	125	290	80	70	17	28	370	10	M30X2	56	110	110	90	17	26	17	26	60	6	8	2	
3/2000	3.6	2000	125	370	90	100	22	40	460	15	M42X3	70	125	125	104	20	40	25	50	100	13	15	4	
3/3150	3.6	3150	125	400	95	110	27	45	495	15	M48X3	90	150	145	125	20	40	30	60	120	18	20	4	

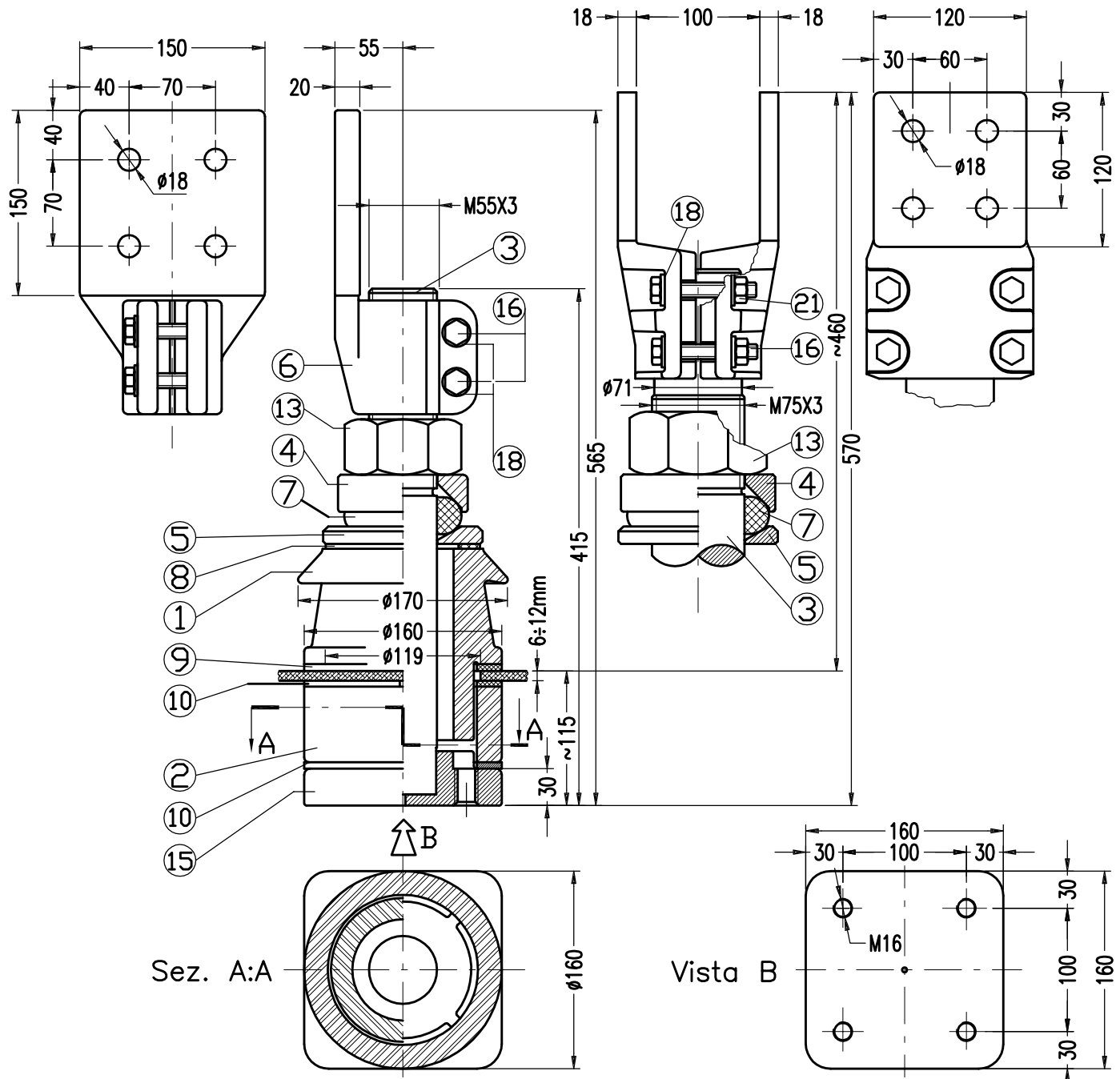
ISOLATORI PASSANTI PER TRASFORMATORI DIN 42539
TENSIONE NOMINALE 3.6kV CORRENTE NOMINALE 1000-2000-3150A
Outdoor transformer bushings DIN 42539
Rated voltage 3.6kV Rated current 1000-2000-3150A



Type 3kV/4500A

Type 3kV/6300A

1.10



Pos	Qty	Descrizione/Description	Pos	Qty	Descrizione/Description
1	1	Porc. Sup. 'A'/Top porcelain 'A'	9	1	Guarn. Flangia/Flange gasket
2	1	Porc. Inf. 'B'/Bottom porcelain 'B'	10	2	Guarn. Interna/Internal gasket
3	1	Tirante/Stem	13	1	Dado DT UNI5588/Brass nut DIN934
4	1	Roset. Sup. 'E'/Brass washer 'E'	15	1	Ghiera/Brass closing piece
5	1	Roset. Inf. 'G'/Brass washer 'G'	16	2/4	Vite UNI 5739/Bolt DIN 933
6	1	Banderuola/Brass flag	18	2/8	Rondella/Washer
7	1	Guarn. Tor./Ring gasket 'J'	21	0/4	Dado UNI5588/Nut DIN934
8	1	Guarn. Piana/Plain gasket			

Isolatore Bushing	Tensione Voltage KV	Corrente Current A	Linea di fuga Creepage distance	Peso Weight Kg	Volume Volume dm ³
3/4500	3	4500	130	32	30
3/6300	3	6300	130	38	35

LA FIGURA MOSTRA ISOLATORE 3/4500-6300 IN SCALA 1:1

dim. in mm

THE FIGURE SHOWS THE BUSHING 3/4500-6300 (1:1 SCALE)



ISOLATORI PASSANTI PER TRASFORMATORI
TENSIONE NOMINALE 3.6kV
Outdoor transformer bushings
Rated voltage 3.6kV