I - 20098 S. GIULIANO MIL. (ITALY) - VIA COLOMBARA, 1 - FRAZ. PEDRIANO
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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

CEDASPE S.p.a.

BUSHINGS: GENERAL INFORMATION

1.0 Electrical characteristics (Ir = rated current; Ur = rated voltage)

1.1Standard insulation levels

Rated voltage Ur kV (r.m.s.)	One minute power frequency withstand voltage wet and dry kV (r.m.s.)	Dry lighting impulse withstand voltage dry (1,2/50 ms) kV
1	10	20
3,6	10	40
12	28	75
24	50	125
36	70	170
52	95	250

1.2 Standard values of rated thermal short time current (Ith) 25 times the rated current (Ir) for 2 s ; for Ir equal or greater than 4000A, Ith is always 100kA

1.3 Overload conditions (IEC 354): Bushing selected with Ir not less than 120% of the rated current of the transformers are considered to be able to withstand the overload conditions according to IEC 354.

2.0 Mechanical characteristic

2.1 Cantilever operating load (bushing installed less than 30° from vertical)

Ur	Ir			
kV	800 A	1600 A	2500 A	3150 A
36	500 N	625 N	1000 N	1575 N
52	500 N	625 N	1000 N	1575 N

2.2 Cantilever operating load (bushing installed more than 30° from vertical)

Ur	Ir			
kV	800 A	1600 A	2500 A	3150 A
36	300 N	375 N	600 N	945 N
52	300 N	375 N	600 N	945 N

2.3 Cantilever test load

Ur	Ir			
kV	800 A	1600 A	2500 A	3150 A
36	1000 N	1250 N	2000 N	3150 N
52	1000 N	1250 N	2000 N	3150 N

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

3.1 On the central conductor LV/HV in brass or copper

Size	Torque	Size	Torque
M8	10 Nm	M42x3	110 Nm
M12	13 Nm	M48x3	180 Nm
M20	30 Nm	M55x3	250 Nm
M30x2	70 Nm	M75x3	250 Nm

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3.2 On the steel fixing stud of HV bushings

Size	Torque
M10	15 Nm
M12	25 Nm
M16	40 Nm

3.3 On the locking bolts of the flags

Size	Torque
M10	25 Nm
M12	40 Nm
M16	90 Nm

4.0 Surface treatment of active metallic parts

Unless by special request, all active metallic parts in brass and copper have self colour surfaces.
Upon request, particularly for use in highly polluted enviroment conditions or in tropical climate, above parts can be supplied with electrolytic tinplated surfaces with 6-8 micron average coating thickness.

5.0 N.B.R. gaskets

The material of our gaskets is suitable to be used in mineral oil at the max temperature of 100°C (minimum temperature -20°C) for continous service; for different limit temperatures, please contact our engineering department.
During the impregnation of the transformer it is possible to reach the max temperature of 110°C in oil and 120°C in air for 24 hours, without damaging the gaskets.
Upon request available cork rubber impregnated gaskets, or in Viton, or in silicon rubber.