GENERATOR TYPE ECO 46-1S/4

Document : **DS060A/1**
issue 004 date 01/04/2014

Electrical Characteristics									
Frequency		Hz	50				60			
Voltage (parallel star)		V	380	400	415	440	415	440	460	480
Rated power class H		kVA	1500	1500	1500	1300	1600	1710	1800	1800
		kW	1200	1200	1200	1040	1280	1368	1440	1440
Rated power class F		kVA	1350	1350	1350	1170	1440	1530	1620	1620
		kW	1080	1080	1080	936	1152	1224	1296	1296
Regulation with		DER1	±1% with any power factor and speed variations between -5% +30%							
Insulation class			H							
Execution			Brushless							
Stator winding			12 ends							
Rotor			with damping cage							
Efficiencies class H	4/4	%	96,3	96,2	96	95,8	96,1	96,3	96,5	96,4
(see graph. for details)	3/4	%	96,7	96,4	96,5	96	96,2	96,5	96,9	96,6
	2/4	%	96	95,9	95,9	95,5	95,6	96	96,2	96,1
	1/4	%	95,3	95,3	95,1	94,6	94,8	95,2	95,3	95,4
Reactances (f. l.cl. F)	Xd	%	291,4	263	244,3	202	315	295,6	286,4	263
	Xd'	%	28,3	25,5	23,7	19,8	29,7	28,66	27,8	25,5
	Xd"	%	14,3	12,9	12,0	10,1	15,8	14,50	14,0	12,9
	Xq	%	186,1	168	156,1	125	197	188,8	182,9	168
	Xq'	%	186,1	168	156,1	125	197	188,8	182,9	168
	Xq"	%	31,2	28,2	26	21,8	33,2	31,7	30,7	28,2
	X_2	%	20,5	18,5	17,2	14,5	22,1	20,79	20,1	18,5
	X_0	%	4,5	4,1	4	3,6	4,7	4,61	4,5	4,1
Short Circuit Ratio	Kcc		0,34	0,38	0,41	0,48	0,31	0,34	0,35	0,38
Time Constants	Td'	sec.	0,250							
	Td"	sec.	0,021							
	Tdo'	sec.	9,50							
	Tα	sec.	0,027							
Short Circuit Current Capacity		%	>300				>350			
Excitation at no load		Amp.	0,6	0,7	0,8	0,95	0,4	0,5	0,6	0,65
Excitation at full load		Amp.	2,8	2,9	3	3,1	2,8	2,7	2,75	2,8
Overload (long-term)		%	1 hour in a 6 hours period 110% rated load							
Overload per 20 sec.		%	300							
Stator Winding Resistance (20°C)		Ω	0,0057							
Rotor Winding Resistance (20°C)		Ω	3,050							
Exciter Resistance (20 °C)		Ω	Rotor : 0,120				Stator : 12,90			
Heat dissipation at f.l.cl.H		W	46106	47401	50000	45595	51946	52561	52228	53776
Telephone Interference			THF < 2%				TIF < 40			
Radio interference			EN61000-6-3, EN61000-6-2. For others standards apply to factory							
Waveform Distors.(THD) at f. load		LL/LN %	3 / 2,9							
Waveform Distors.(THD) at no load		LL/LN %	2,5 / 2,4							
Mechanical characteristics										
Protection			IP 21 (other protection on request)							
DE bearing			6330							
NDE bearing			6324							
Weight of wound stator assembly		kg	1080							
Weight of wound rotor assembly		kg	705							
Weight of complete generator		kg	3010							
Maximun overspeed		rpm	2250							
Unbalanced magnetic pull at f.l.cl.F		kN/mm	6,4							
Cooling air requirement		m^3/min	135				162			
Inertia Constant (H)		sec.	0,326				0,391			
Noise level at 1m/7m		dB(A)	97 / 86				100 / 91			

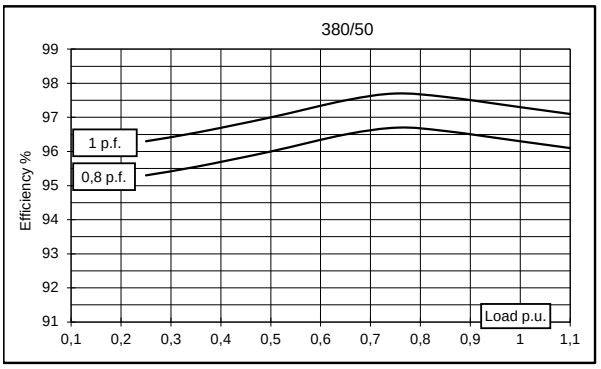
All technical data are to be considered as a reference and they can be modified without any notice.

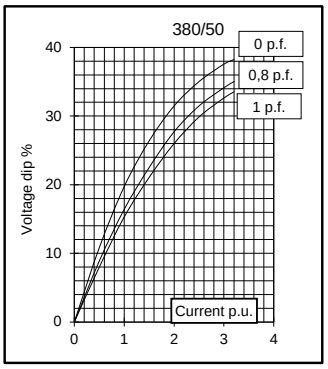
GENERATOR TYPE ECO 46-1S/4

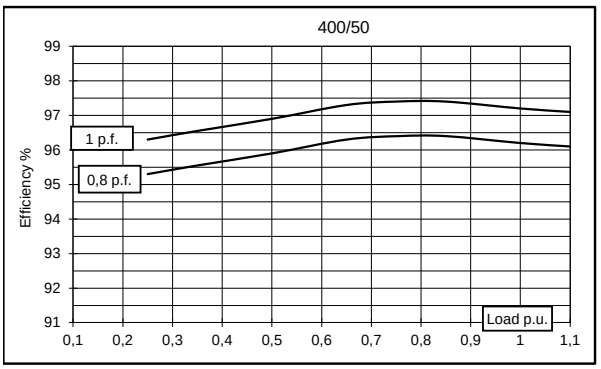
Document : **DS060A/2**

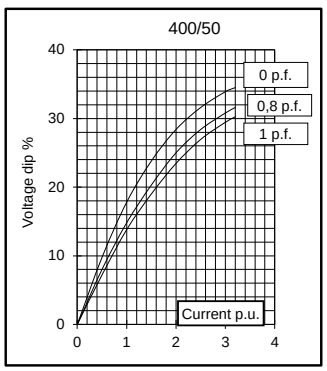
issue 004 date : 01/04/2014

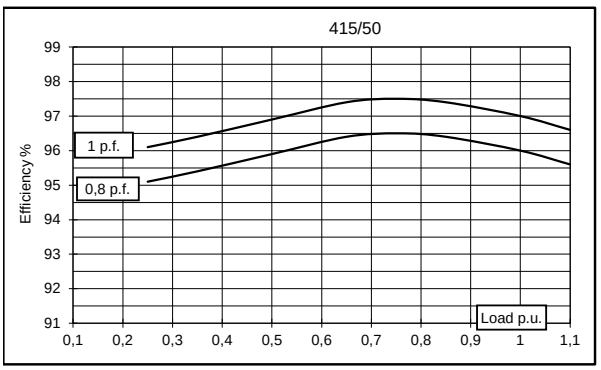
50 Hz

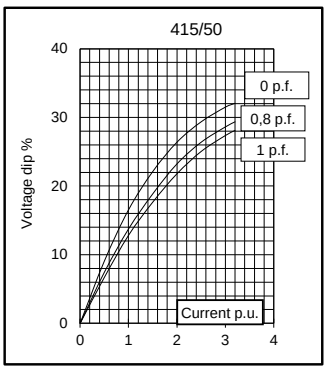


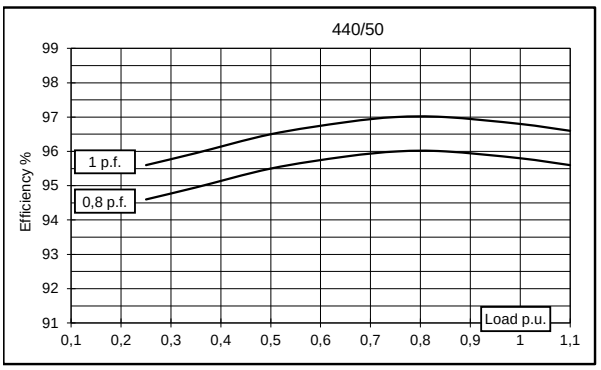


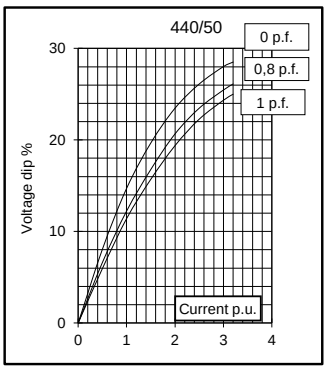


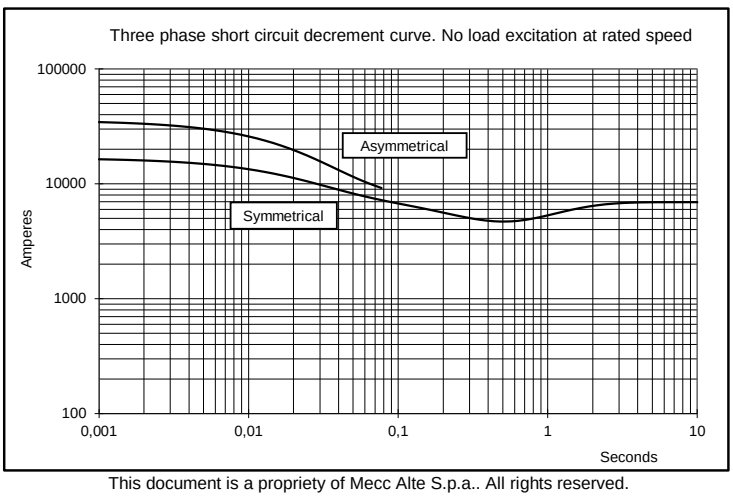










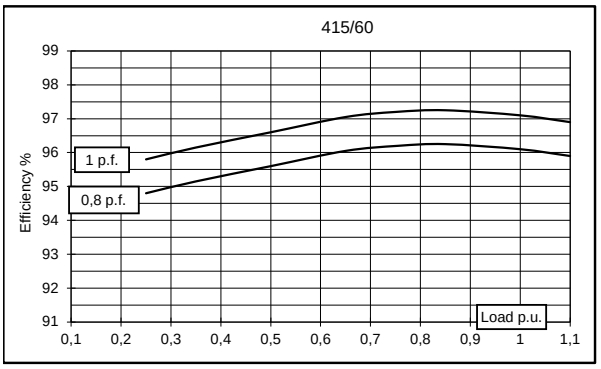


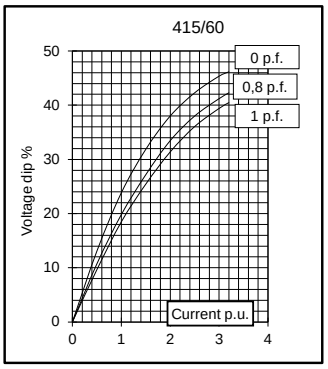
GENERATOR TYPE ECO 46-1S/4

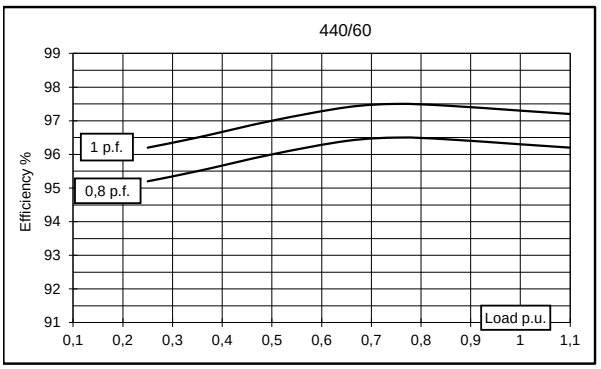
Document : **DS060A/3**

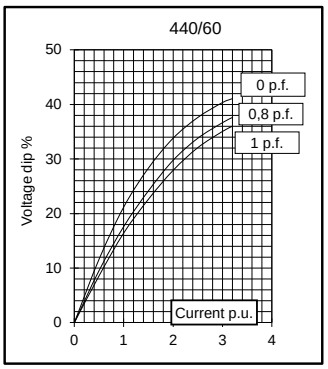
issue 004 date : 01/04/2014

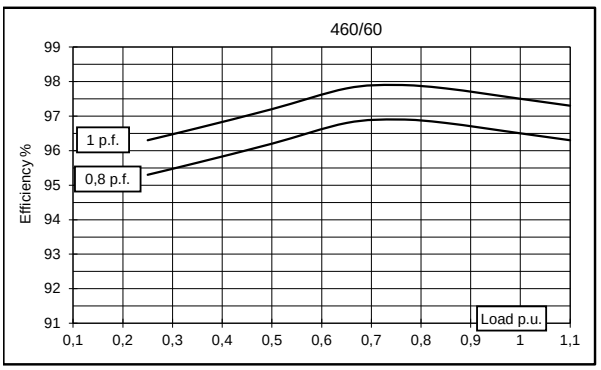
60 Hz

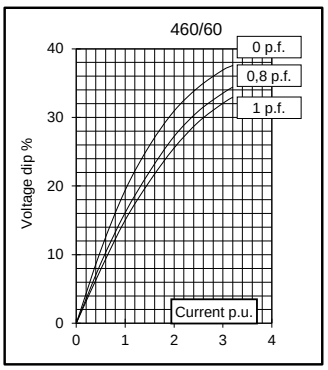


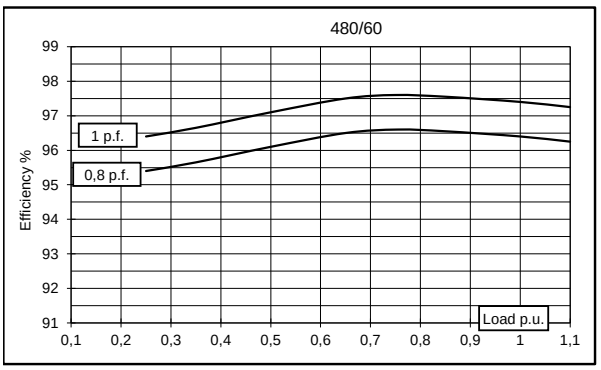


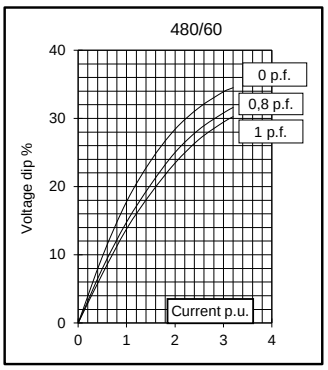


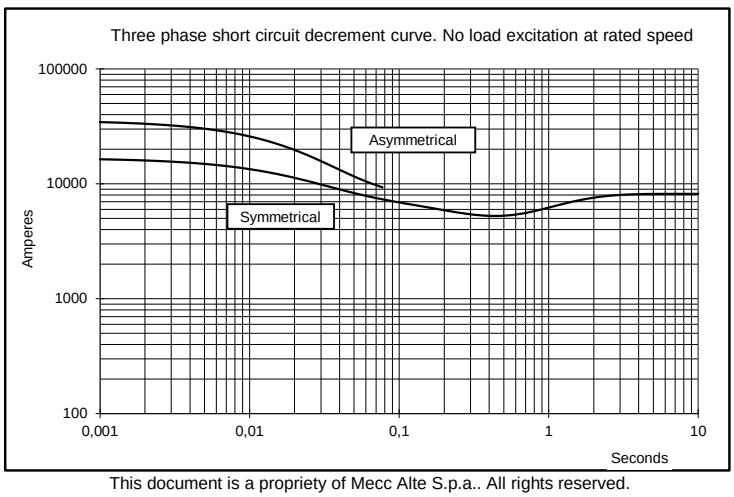




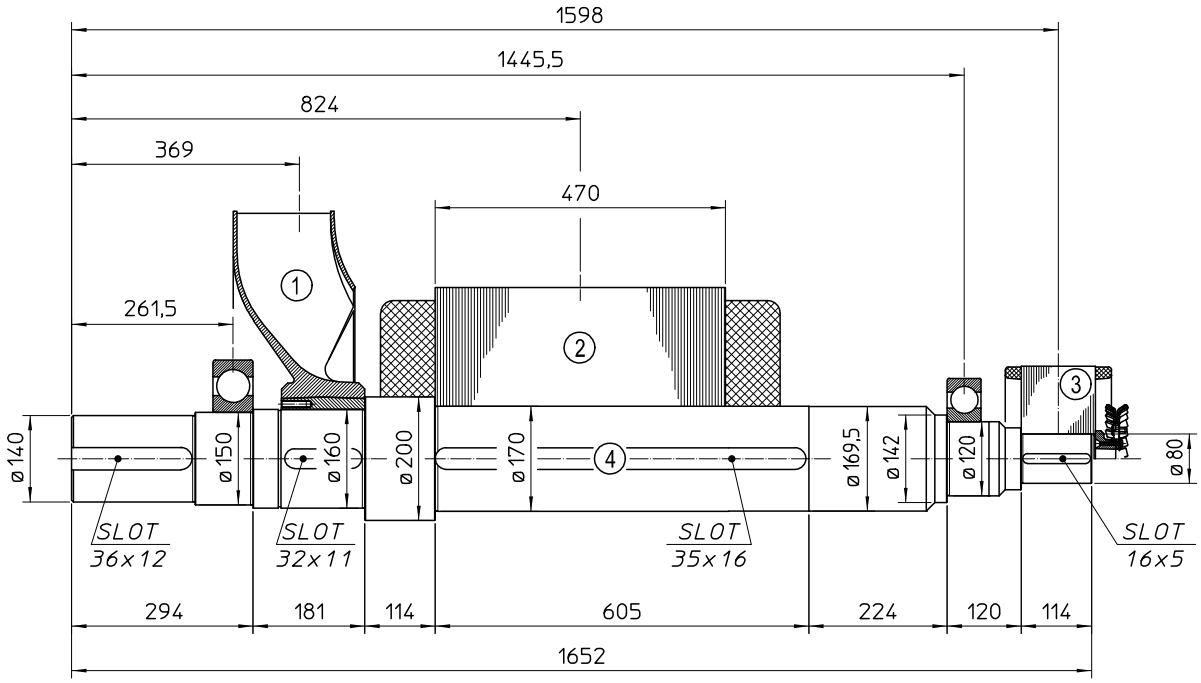






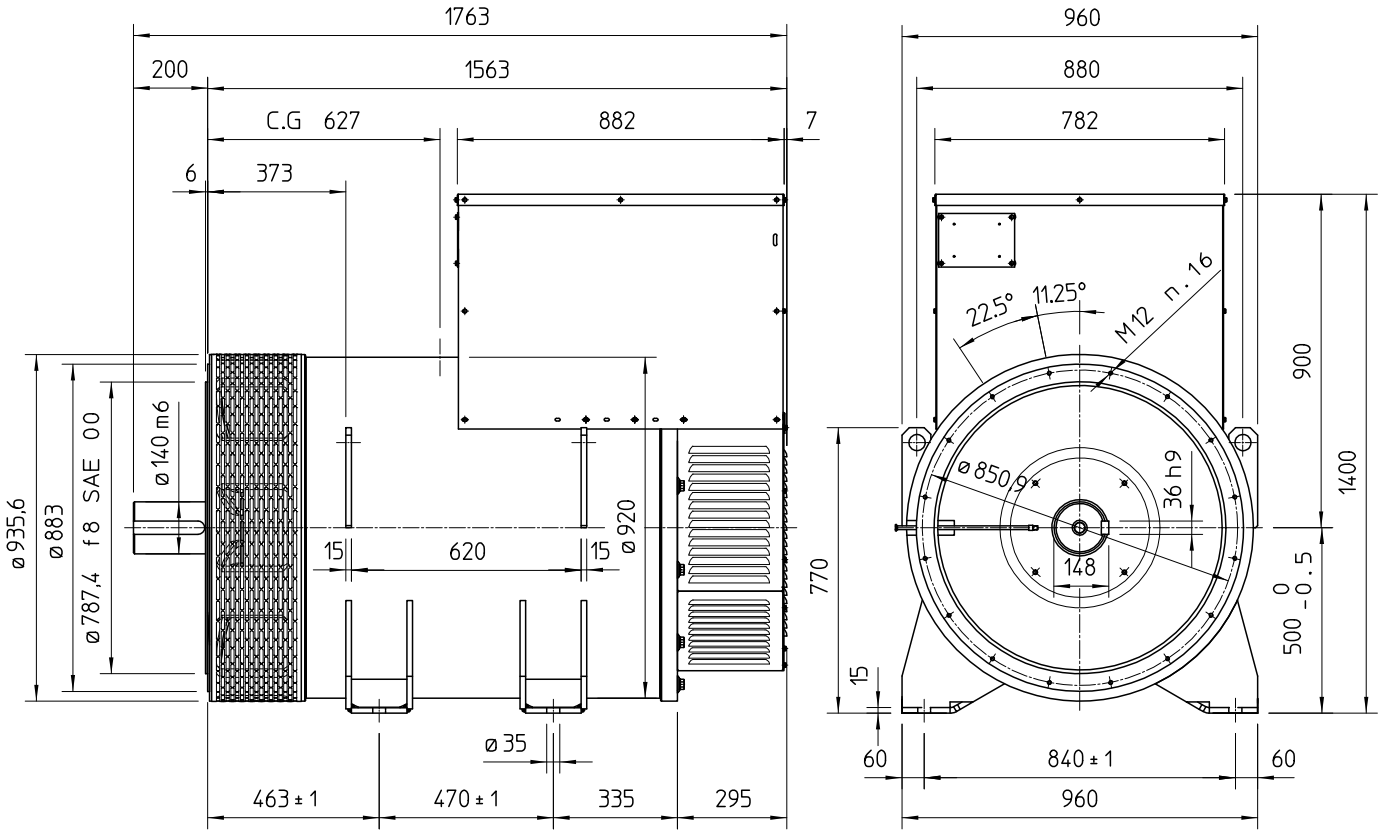


TWO BEARING MOMENTS OF INERTIA



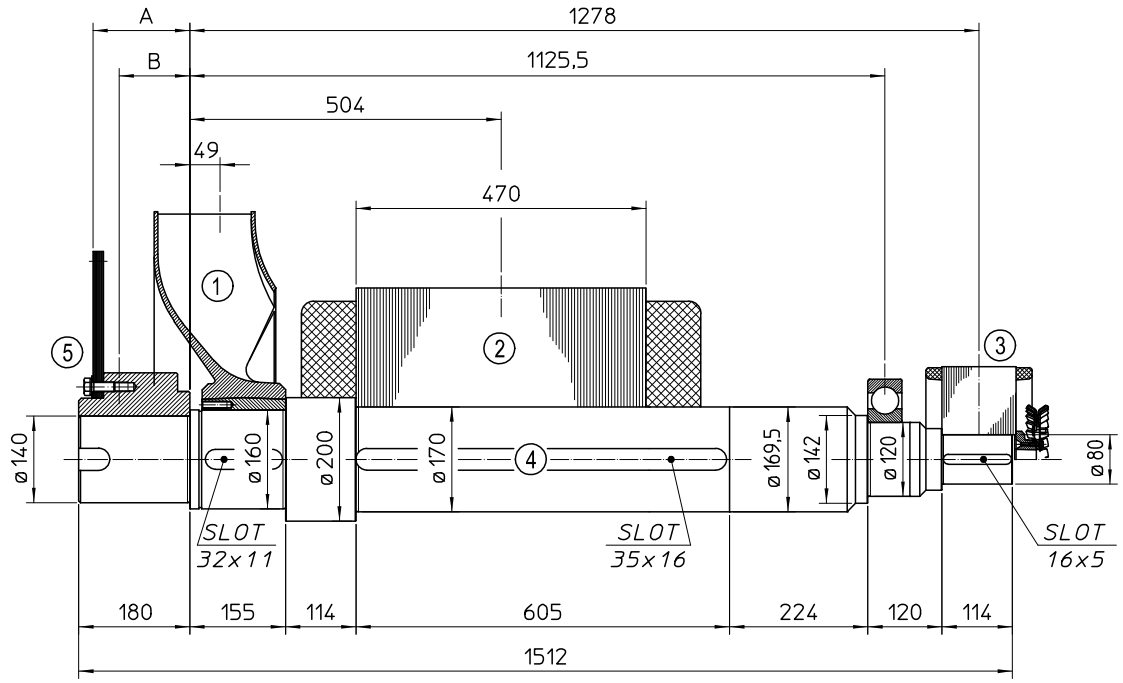
POS.	COMPONENT	WEIGHT (kg)	J (kgm^2)
1	FAN	42.7	2,250
2	MAIN ROTOR	705	27.608
3	EX. ROTOR	60	0,730
4	SHAFT	248.3	0,844
TOTAL		1056	31.432

TWO BEARING DIMENSIONS



C.G.= GRAVITY CENTER

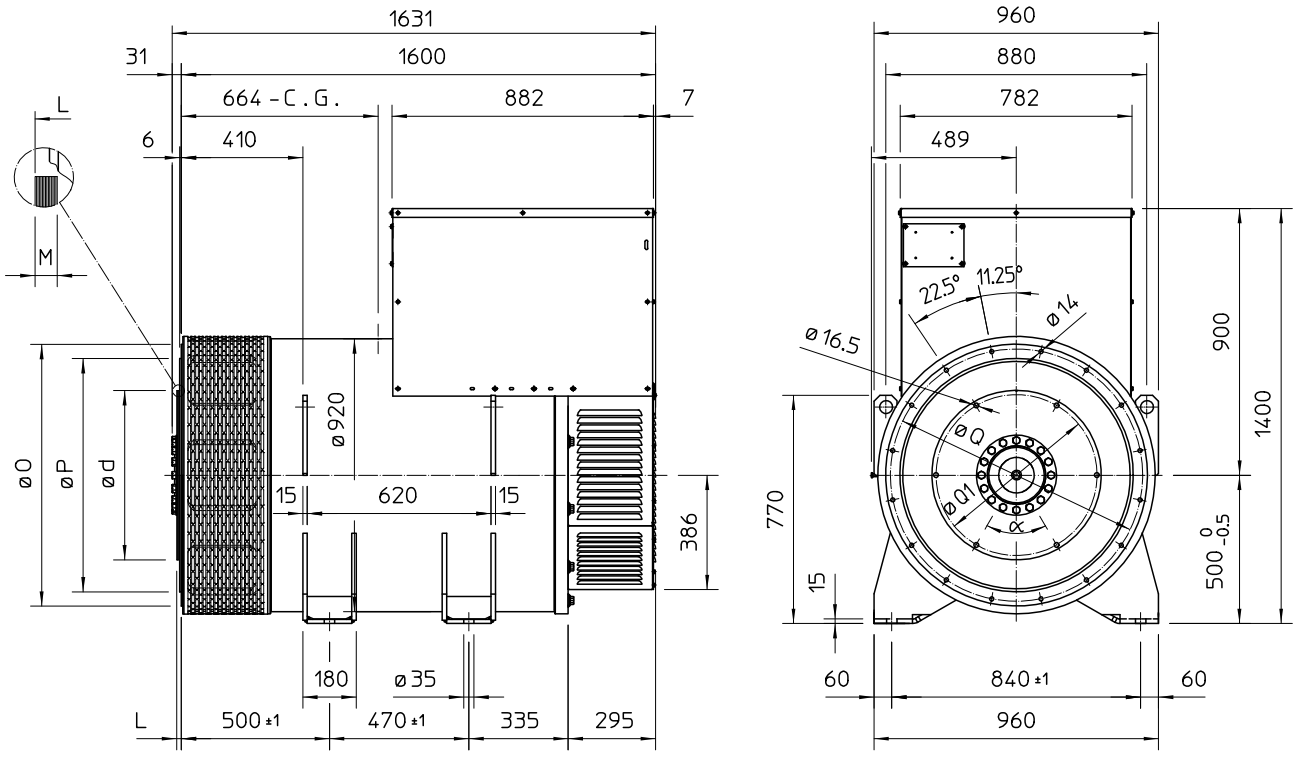
SINGLE BEARING MOMENTS OF INERTIA



POS.	COMPONENT	WEIGHT (kg)	J (kgm^2)
1	FAN	42.7	2,250
2	MAIN ROTOR	705	27.608
3	EX. ROTOR	60	0,730
4	SHAFT	230	0,792
TOTAL		1037.7	31.38

SAE N°	5 SHAFTS COUPLING FLEX PLATE			
	A	B	WEIGHT kg	J kgm^2
18	172.7	113,4	82,7	1,863
21	157	114,6	93,6	3,206

SINGLE BEARING DIMENSIONS



SAE N°	FLANGE		
	O	P	Q
0	711	647.7	679.5
00	883	787.4	850.9

SAE N°	DISC COUPLING					
	d	L	M	Q1	HOLES N°	α
18	571.5	15.7	15	542.92	6	60°
21	673.1	0	17	641.35	12	30°

C.G.= GRAVITY CENTER