mecc alte spa

GENERATOR TYPE ECO 40-2S/4

Document :**DS023A/1**
issue 007 date 10/11/2003

Electrical Characteristics										
Frequency		Hz	50				60			
Voltage (series star)		V	380	400	415	440	415	440	460	480
Rated power class H		kVA	450	450	450	420	480	510	540	540
		kW	360	360	360	336	384	408	432	432
Rated power class F		kVA	410	410	410	385	435	460	490	490
		kW	328	328	328	308	348	368	392	392
Regulation with		UVR6	±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	%	93,4	93,7	93,4	93,2	94	94,5	94,6	94,7
(see graph. for details)	3/4	%	93,7	94	93,9	93,6	94,9	95,1	95,2	95,5
	2/4	%	93,1	93,2	93,2	93	93,9	94	94,1	94,2
	1/4	%	89,2	89	88,8	88,7	90	90,1	90,1	90
Reactances (f. l.cl. F)	Xd	%	382,9	345,6	321,1	266,6	411,0	388,4	376,3	345,6
	Xd'	%	30,1	27,2	25,3	21,0	32,3	30,6	29,6	27,2
	Xd''	%	18,7	16,9	15,7	13,0	20,1	19,0	18,4	16,9
	Xq	%	159,0	143,5	133,3	110,7	170,6	161,3	156,2	143,5
	Xq'	%	159,0	143,5	133,3	110,7	170,6	161,3	156,2	143,5
	Xq''	%	28,8	26	24,2	20,1	30,9	29,2	28,3	26
	X_2	%	23,7	21,4	19,9	16,5	25,4	24,1	23,3	21,4
	X_0	%	3,5	3,2	3,0	2,5	3,8	3,6	3,5	3,2
Short Circuit Ratio	Kcc		0,32	0,43	0,62	1,10	0,23	0,26	0,32	0,43
Time Constants	Td'	sec.	0,118							
	Td''	sec.	0,017							
	Tdo'	sec.	2,64							
	Tα	sec.	0,02							
Short Circuit Current Capacity		%	>300				>350			
Excitation at no load		Amp.	0,4	0,6	0,8	1	0,3	0,4	0,5	0,6
Excitation at full load		Amp.	3,3	3,4	3,7	3,9	2,8	2,9	3	3,2
Overload (long-term)		%	1 hour in a 6 hours period 110% rated load							
Overload per 20 sec.		%	300							
Stator Winding Resistance (20°C)		Ω	0,0074							
Rotor Winding Resistance (20°C)		Ω	4,881							
Exciter Resistance (20 °C)		Ω	Rotor : 0,317				Stator : 8,85			
Heat dissipation at f.l.cl.H		W	25439	24205	25439	24515	24511	23746	24660	24177
Telephone Interference			FHT < 2%				TIF < 40			
Radio interference			EN50081-1, EN50082-1, VDE0875K. For others standards apply to factory							
Waveform Distors.(THD) at f. load		LL/LN %	2,5 / 2,6							
Waveform Distors.(THD) at no load		LL/LN %	2,7 / 2,8							
Mechanical characteristics										
Protection			IP 21 (other protection on request)							
DE bearing			6322							
NDE bearing			6318.2RS							
Weight of wound stator assembly		kg	382							
Weight of wound rotor assembly		kg	245,8							
Weight of complete generator		kg	1118							
Maximun overspeed		rpm	2250							
Unbalanced magnetic pull at f.l.cl.F		kN/mm	5,9							
Cooling air requirement		m^3/min	54				64,8			
Inertia Constant (H)		sec.	0,177				0,213			
Noise level at 1m/7m		dB(A)	94 / 82				98 / 88			

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

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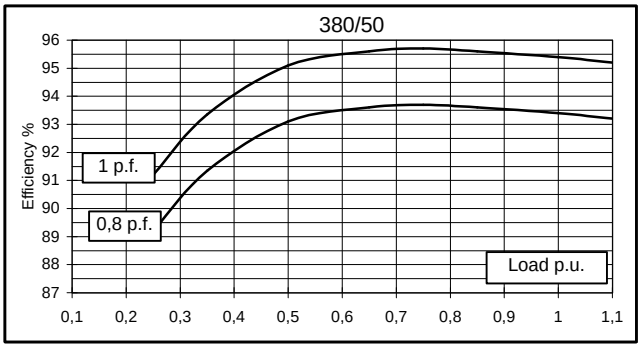
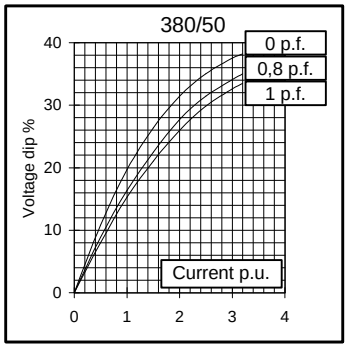
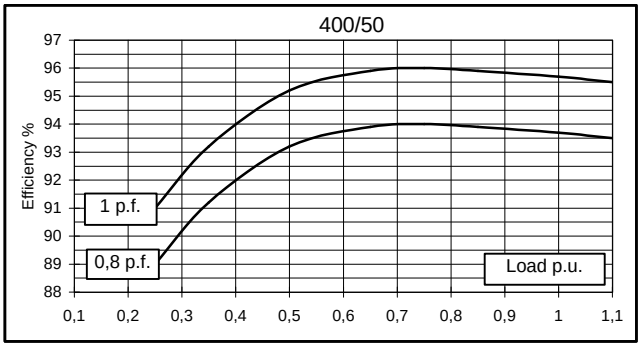
GENERATOR TYPE ECO 40-2S/4

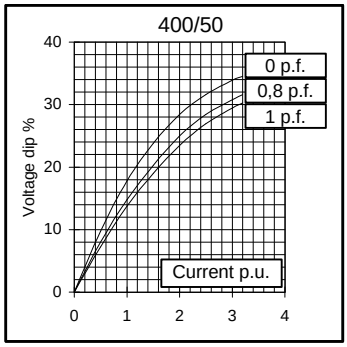
Document : **DS023A/2**
issue 006 date : 15/05/03

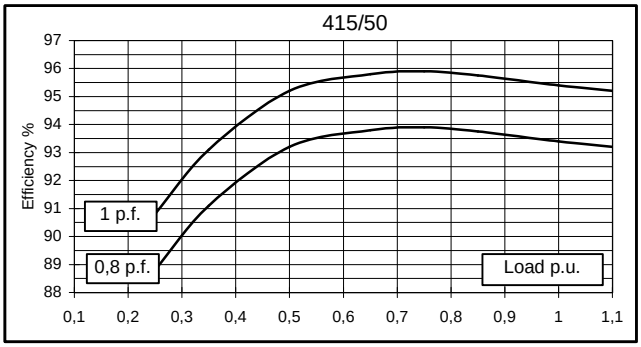
50 Hz

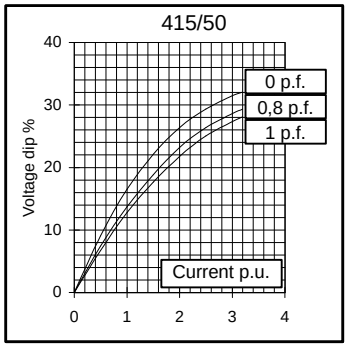


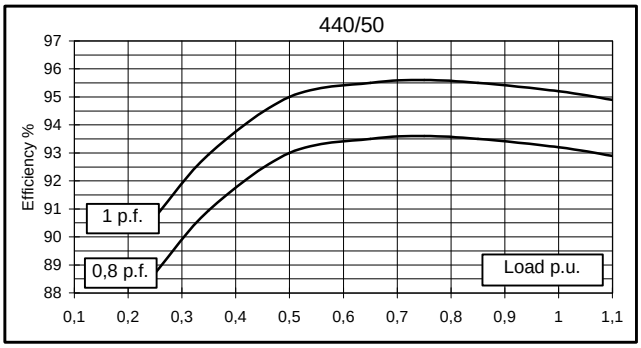


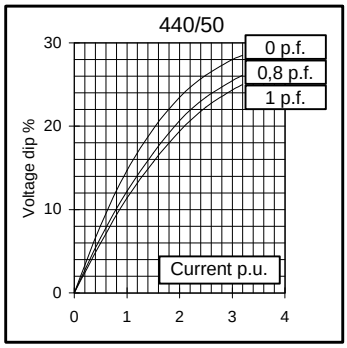


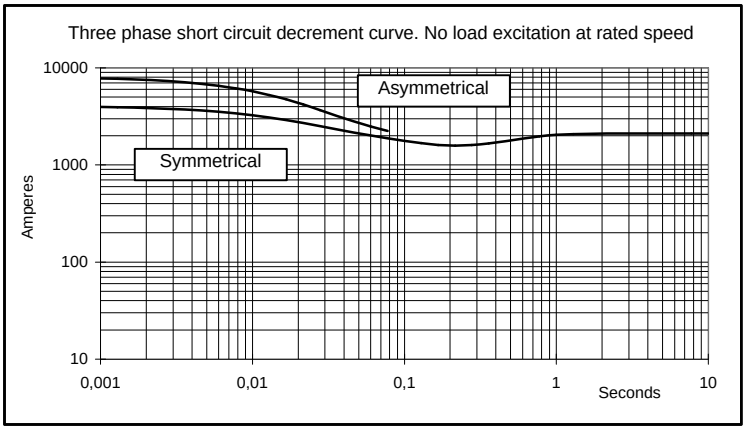




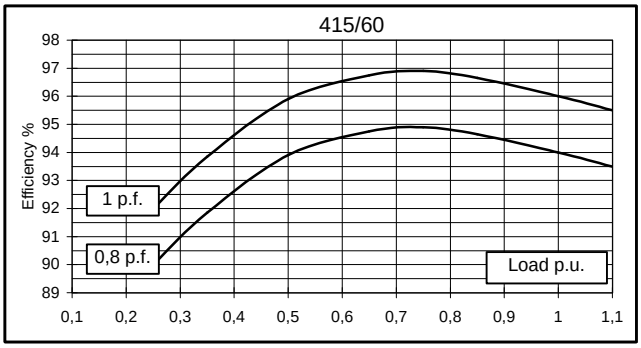


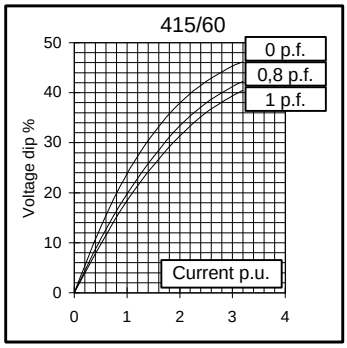


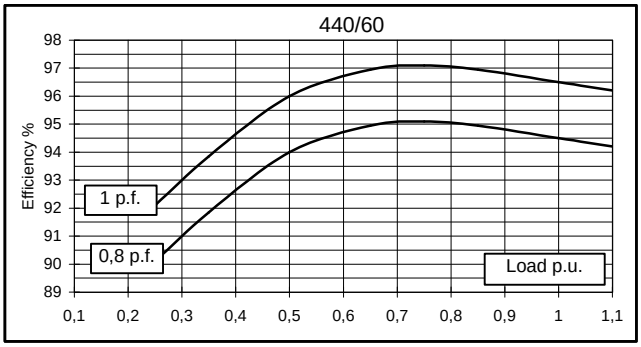


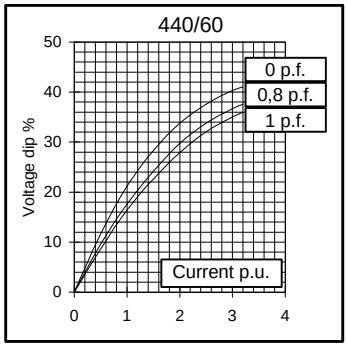


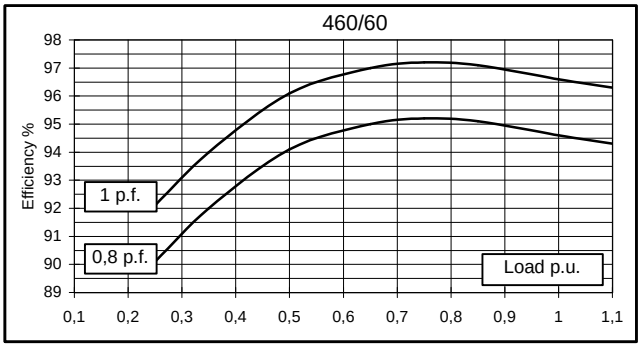
60 Hz

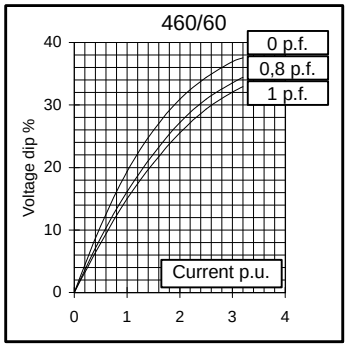


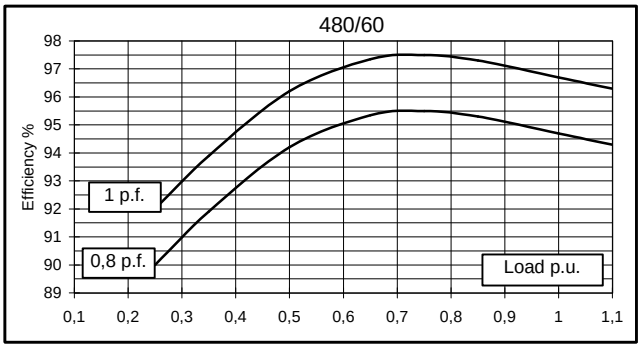


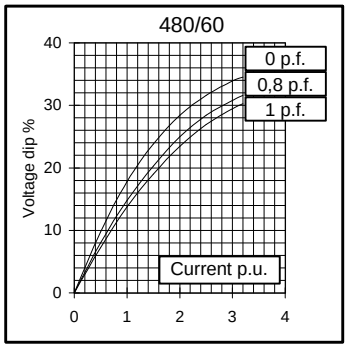


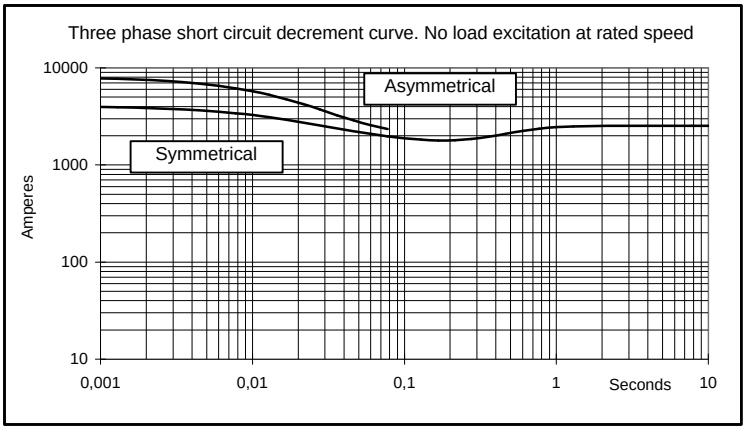




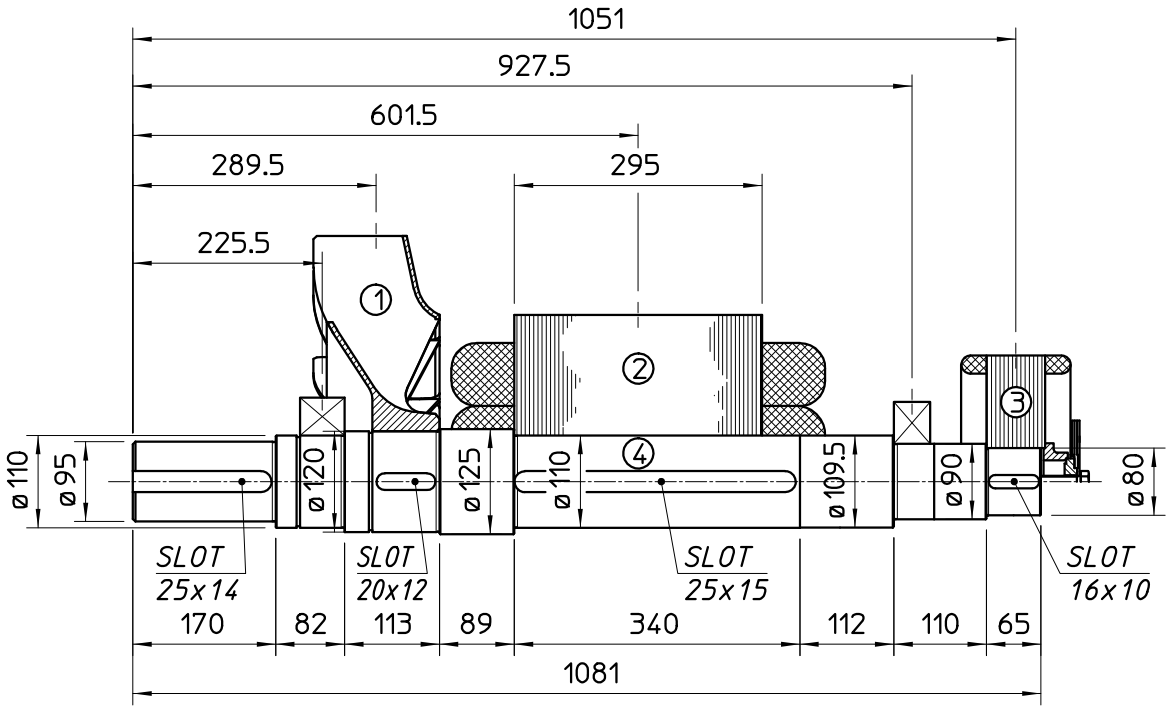






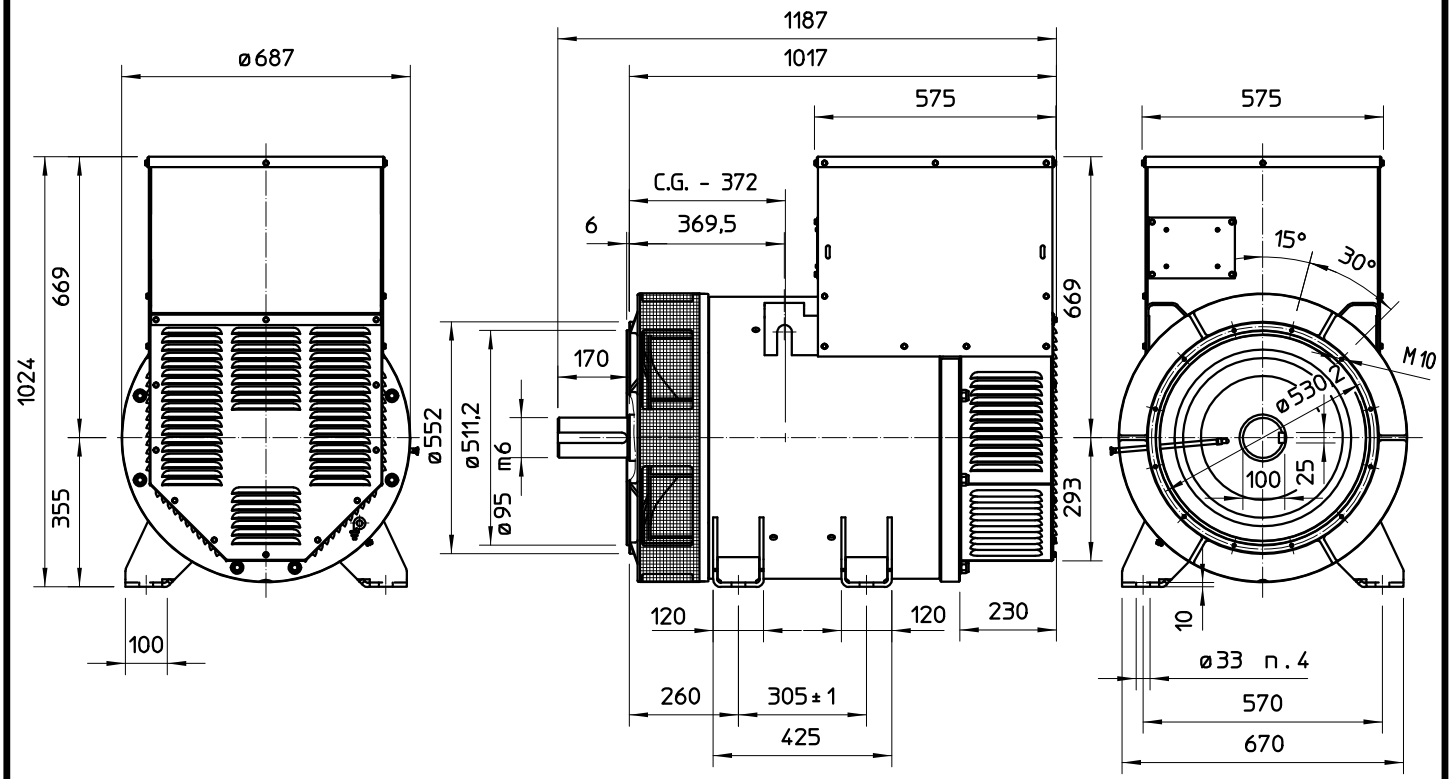


TWO BEARING MOMENTS OF INERTIA



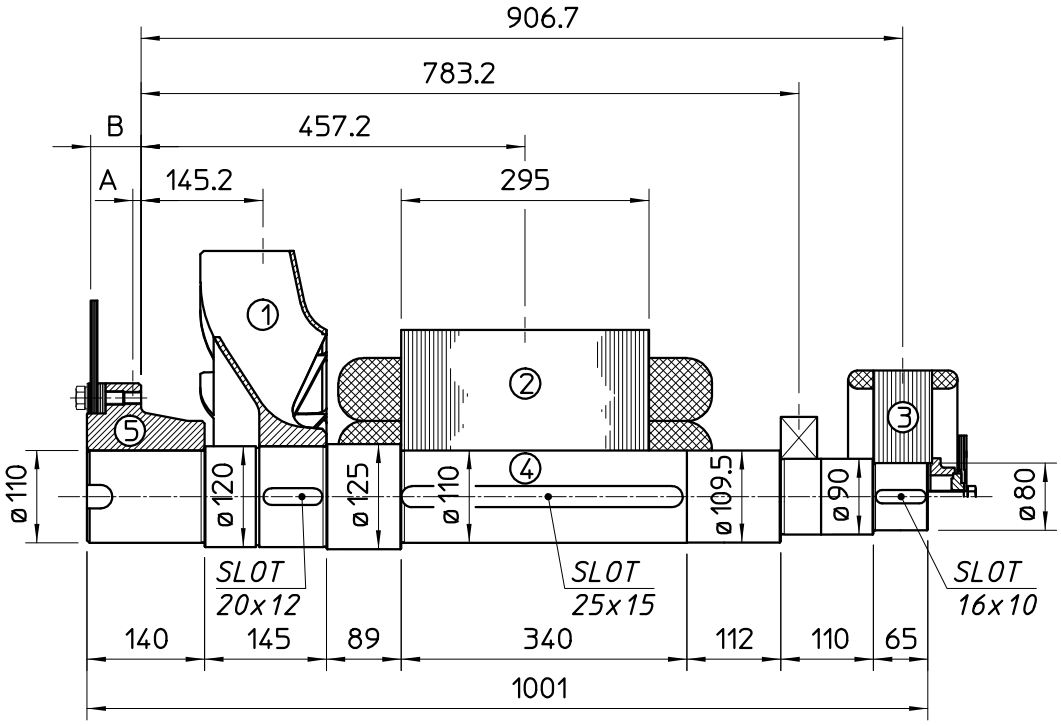
	COMPONENT	WEIGHT kg	J kgm²
1	FAN	16	0,550
2	MAIN ROTOR	245.8	5.234
3	EX. ROTOR	35	0.562
4	SHAFT	75	0.109
	TOTAL	371.8	6.455

TWO BEARING DIMENSIONS



C.G.= GRAVITY CENTER

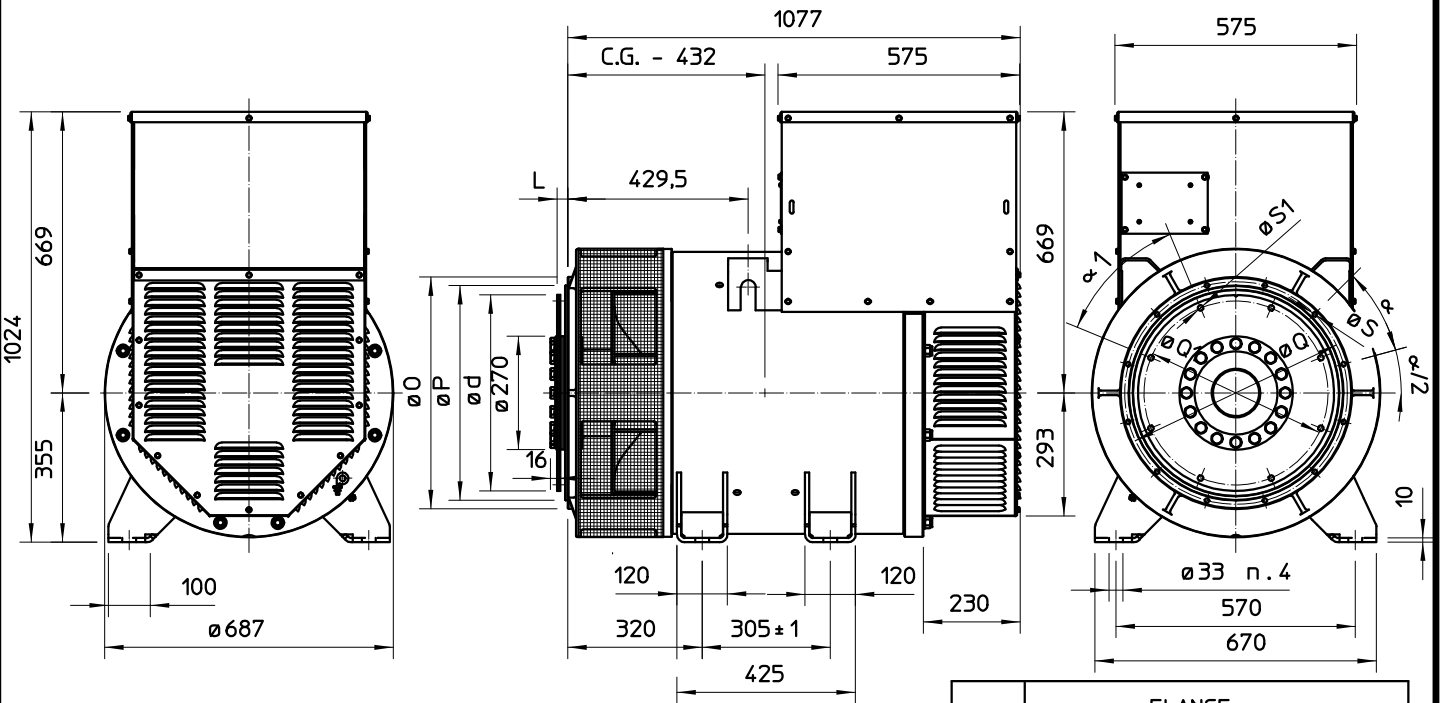
SINGLE BEARING MOMENTS OF INERTIA



	COMPONENT	WEIGHT kg	J kgm ^{2}
1	FAN	16	0,550
2	MAIN ROTOR	245.8	5.234
3	EX. ROTOR	35	0.562
4	SHAFT	72.7	0.106
	TOTAL	369.5	6.452

SAE No	5 SHAFTS COUPLING FLEX PLATE			
	A	B	WEIGHT kg	J kgm ^{2}
14	9,6	60	41,4	0,511
18	6,6	50	45,1	0,858

SINGLE BEARING DIMENSIONS



SAE N.	DISC COUPLING					
	L	d	Q1	N. FORI	S1	α1
14	25,4	466,72	438,15	8	14	45°
18	15,7	571,5	542,92	6	17	60°

SAE N.	FLANGE					
	O	P	Q	N. FORI	S	α
1	552	511,2	530,2	12	11	15°
1/2	648	584,2	619,1	12	14	15°
0	711	647,7	679,5	16	14	11°15'
00	883	787,4	850,9	16	14	11°15'

C.G.= GRAVITY CENTER