

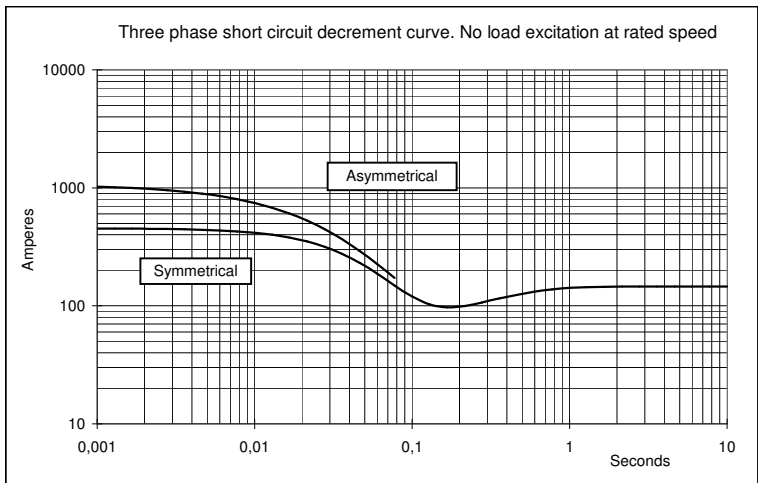
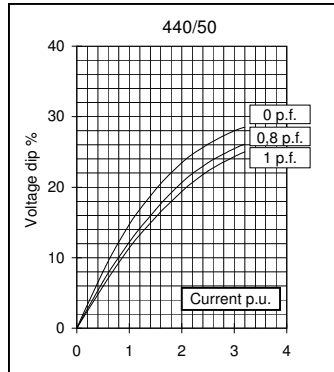
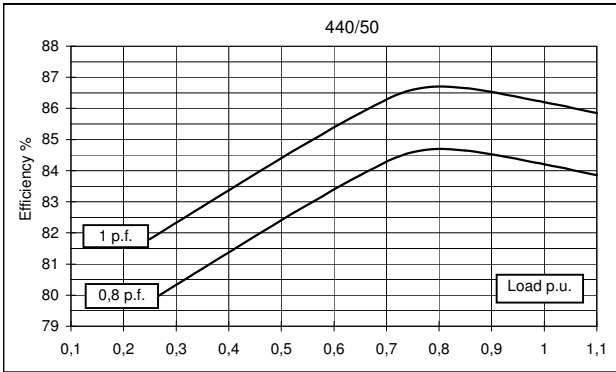
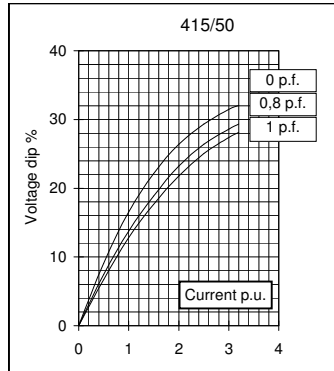
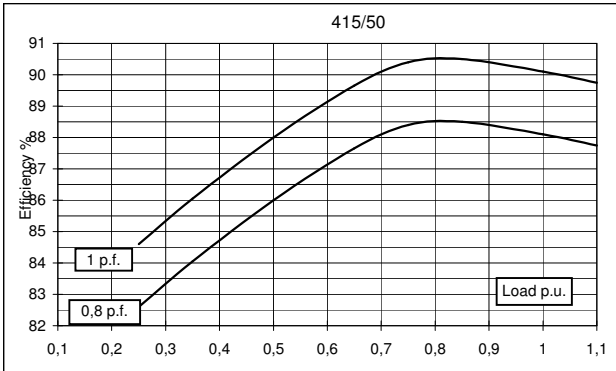
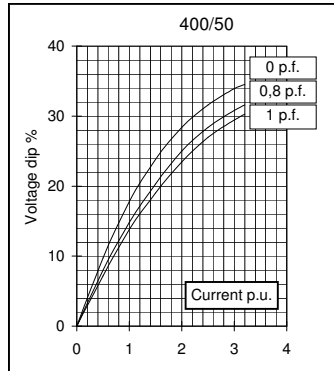
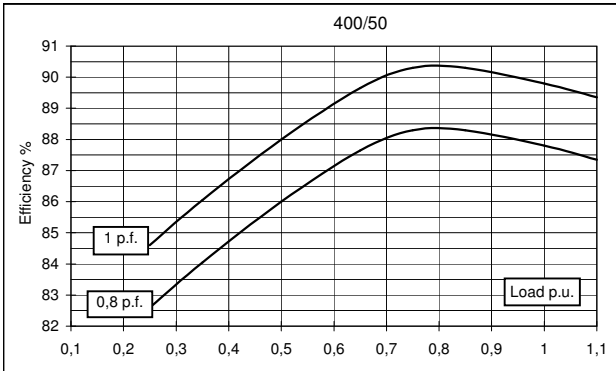
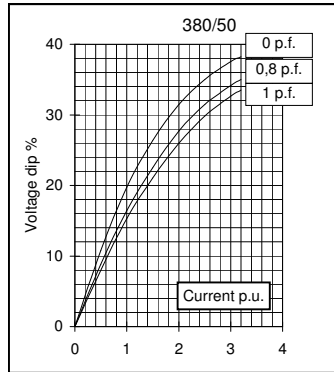
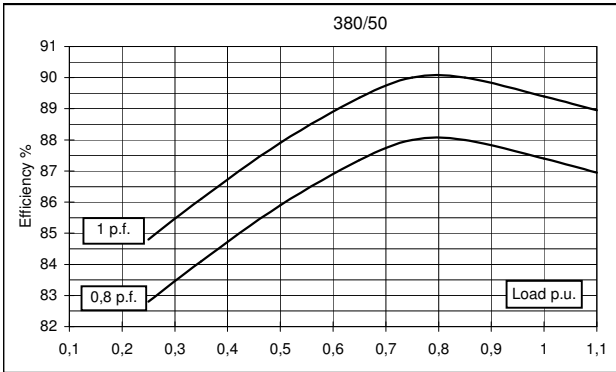


GENERATOR TYPE ECP 28-VL/2 A

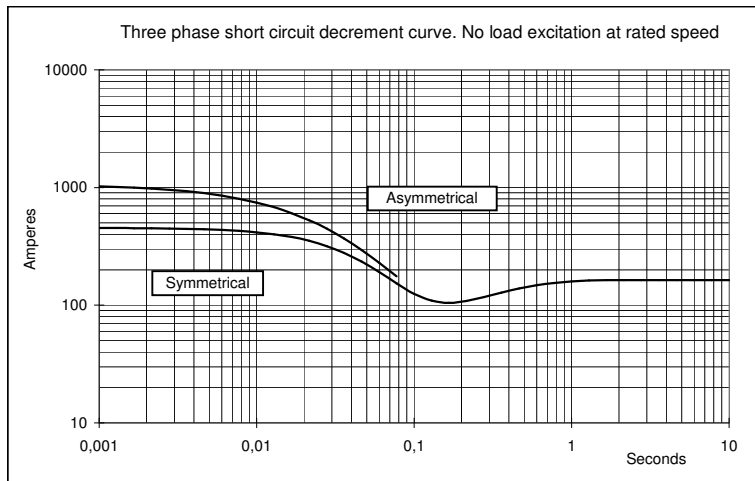
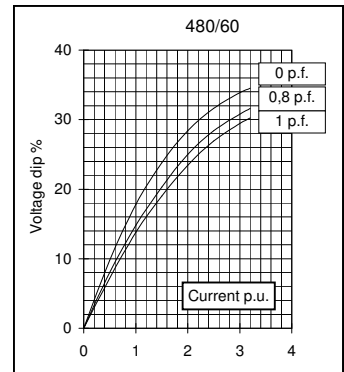
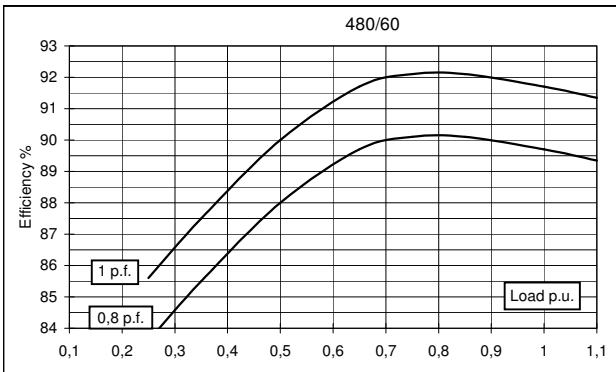
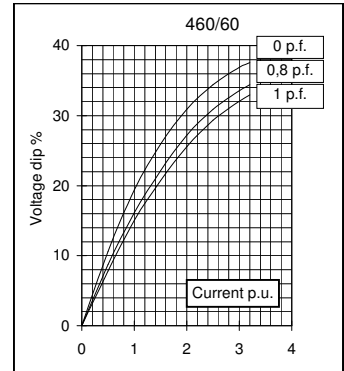
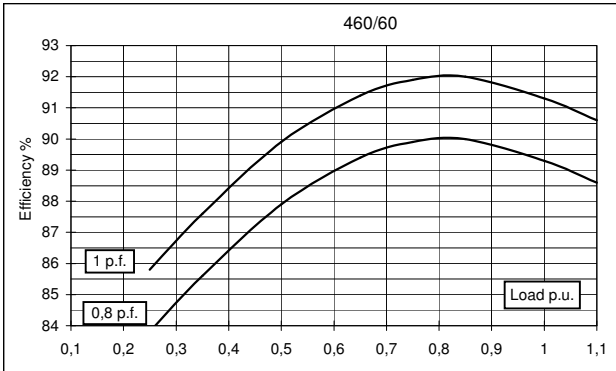
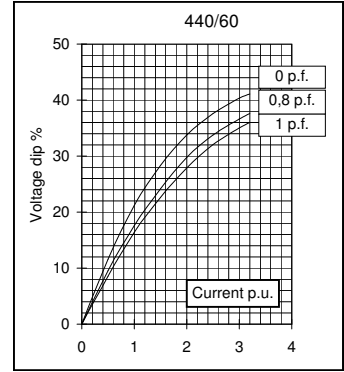
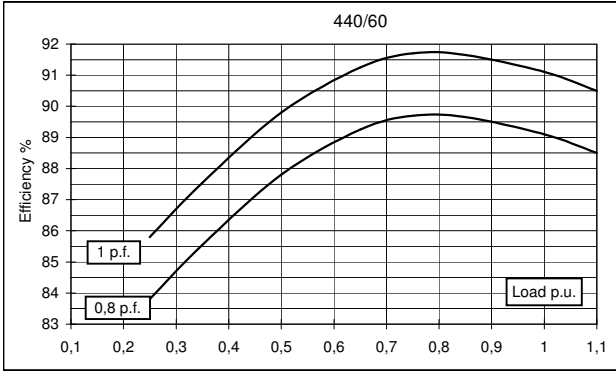
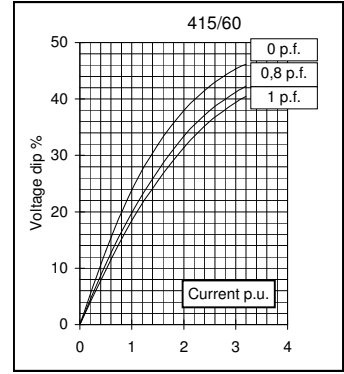
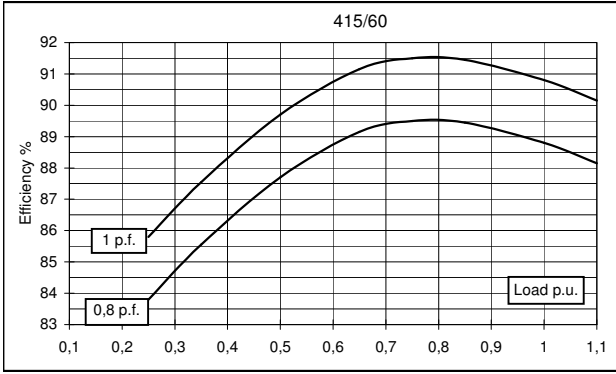
Document : **DS285A/1**
issue 000 date 16/09/2013

Electrical Characteristics										
Frequency	Hz	50				60				
Voltage (star)	V	380	400	415	440	415	440	460	480	
Rated power class H	kVA	40	40	40	34	40	45	48	48	
	kW	32	32	32	27,2	32,0	36	38,4	38,4	
Rated power class F	kVA	37	37	37	31,5	37,5	41,5	44	44	
	kW	29,6	29,6	29,6	25,2	30	33,2	35,2	35,2	
Regulation with	DSR	±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	%	87,4	87,8	88,1	84,2	88,8	89,1	89,3	89,7
(see graph. for details)	3/4	%	88	88,3	88,4	84,6	89,5	89,7	89,9	90,1
	2/4	%	85,9	86	86	82,4	87,7	87,8	87,9	88
	1/4	%	82,8	82,6	82,6	79,8	83,8	83,8	83,8	83,6
Reactances (f. l.cl. F)	Xd	%	260,4	235	218,3	165,1	262,0	262,2	255,9	235
	Xd'	%	8,09	7,3	6,78	5,1	8,14	8,14	7,95	7,3
	Xd''	%	4,21	3,8	3,53	2,7	4,24	4,24	4,14	3,8
	Xq	%	145,2	131	121,7	92,0	146,0	146,2	142,6	131
	Xq'	%	145,2	131	121,7	92,0	146,0	146,2	142,6	131
	Xq''	%	22,7	20,5	19,0	14,4	22,9	22,9	22,3	20,5
	X ₂	%	13,85	12,5	11,61	8,8	13,94	13,95	13,61	12,5
	X ₀	%	4,54	4,1	3,81	2,9	4,57	4,57	4,46	4,1
Short Circuit Ratio	Kcc		0,8	0,9	1,1	1,2	0,68	0,73	0,8	0,9
Time Constants	Td'	sec.	0,042							
	Td''	sec.	0,015							
	Tdo'	sec.	0,74							
	Tα	sec.	0,049							
Short Circuit Current Capacity		%	>300				>350			
Excitation at no load	Amp.		0,35	0,4	0,6	0,75	0,2	0,25	0,3	0,35
Excitation at full load	Amp.		1,2	1,3	1,4	1,5	1,3	1,4	1,3	1,2
Overload (long-term)		%	1 hour in a 6 hours period 110% rated load							
Overload per 20 sec.		%	300							
Stator Winding Resistance (20 °C)		Ω	0,056							
Rotor Winding Resistance (20 °C)		Ω	6,5							
Exciter Resistance (20 °C)		Ω	Rotor : 0,417				Stator : 10,60			
Heat dissipation at f.l.cl.H	W		4613	4446	4322	5104	4036	4404	4601	4409
Telephone Interference			THF < 2%				TIF < 45			
Radio interference			EN61000-6-3, EN61000-6-1. For others standards apply to factory							
Waveform Distors.(THD) at f. load	LL/LN %		2,9 / 3,1							
Waveform Distors.(THD) at no load	LL/LN %		2,8 / 3							
Mechanical characteristics										
Protection			IP 23 (other protection on request)							
DE bearing			6309-2RS							
NDE bearing			6207-2RS							
Weight of wound stator assembly	kg		57							
Weight of wound rotor assembly	kg		30,2							
Weight of complete generator	kg		156							
Maximun overspeed	rpm		4500							
Unbalanced magnetic pull at f.l.cl.F	kN/mm		3,6							
Cooling air requirement	m³/min		9,7				11			
Inertia Constant (H)	sec.		0,178				0,213			
Noise level at 1m/7m	dB(A)		86 / 74				90,5 / 78			

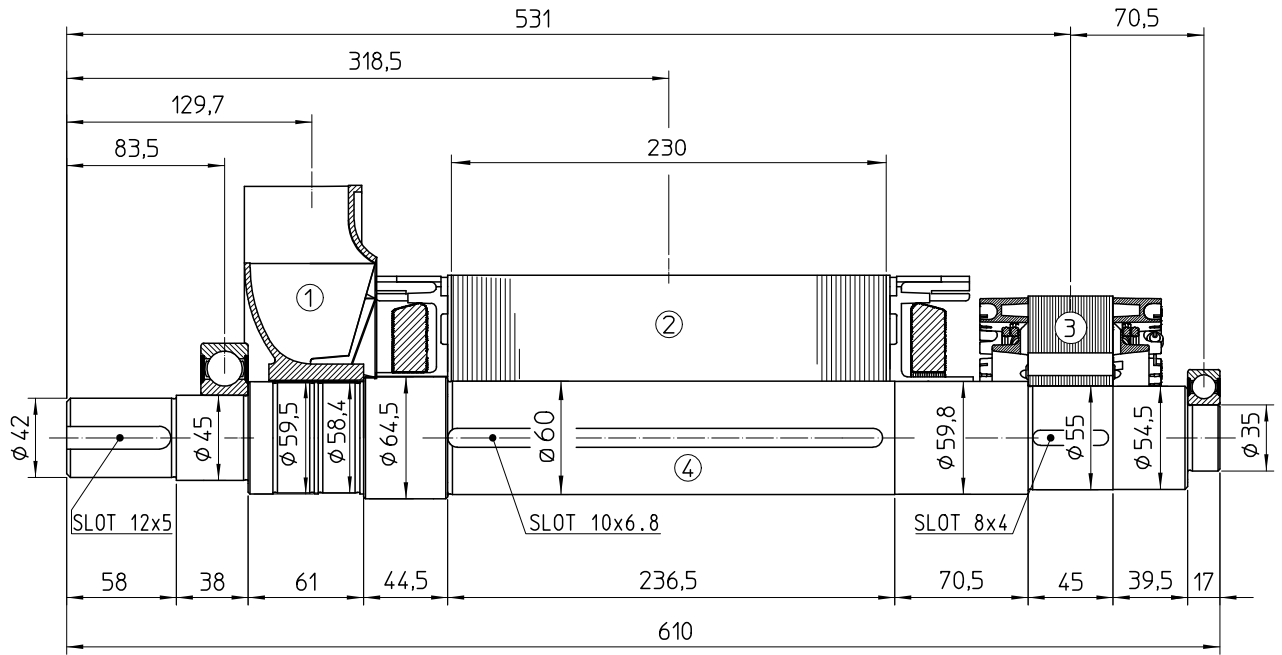
50 Hz



60 Hz

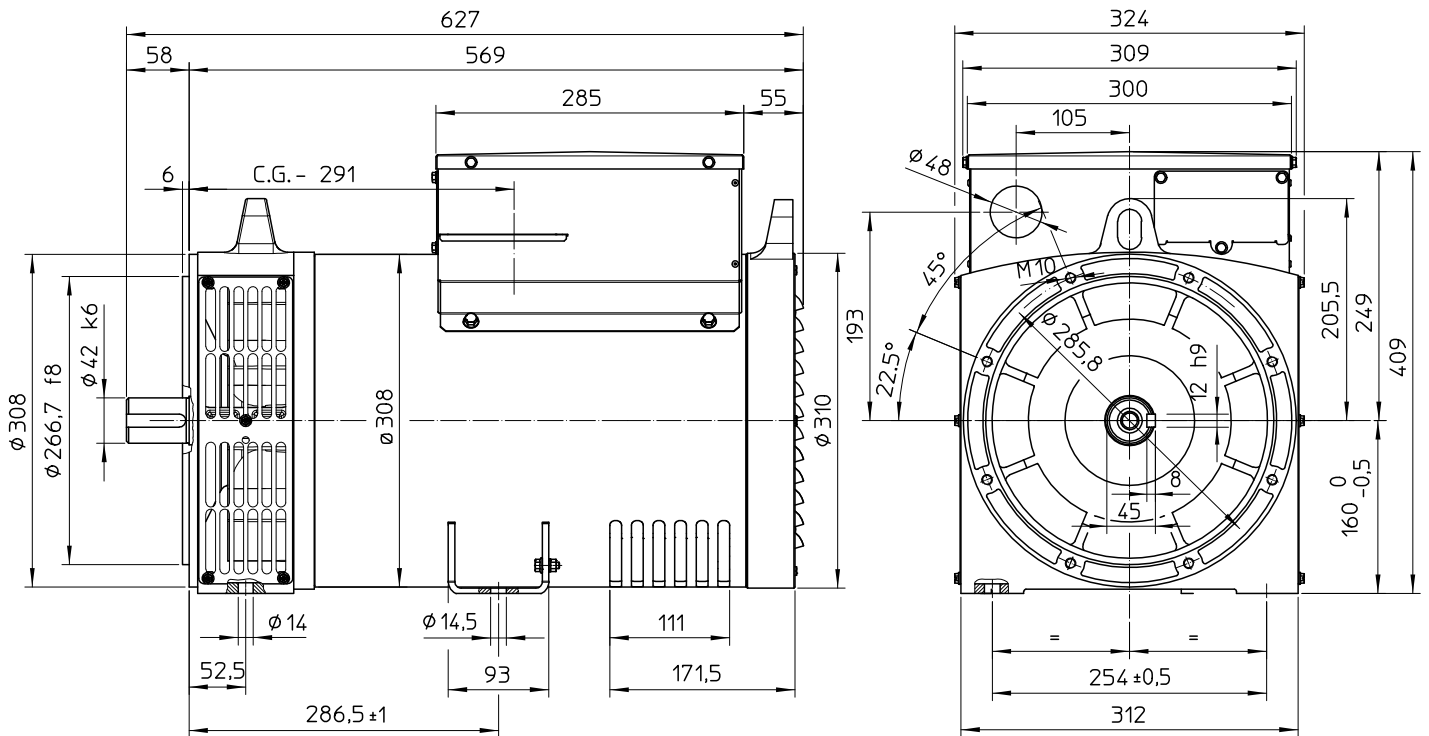


TWO BEARING MOMENTS OF INERTIA



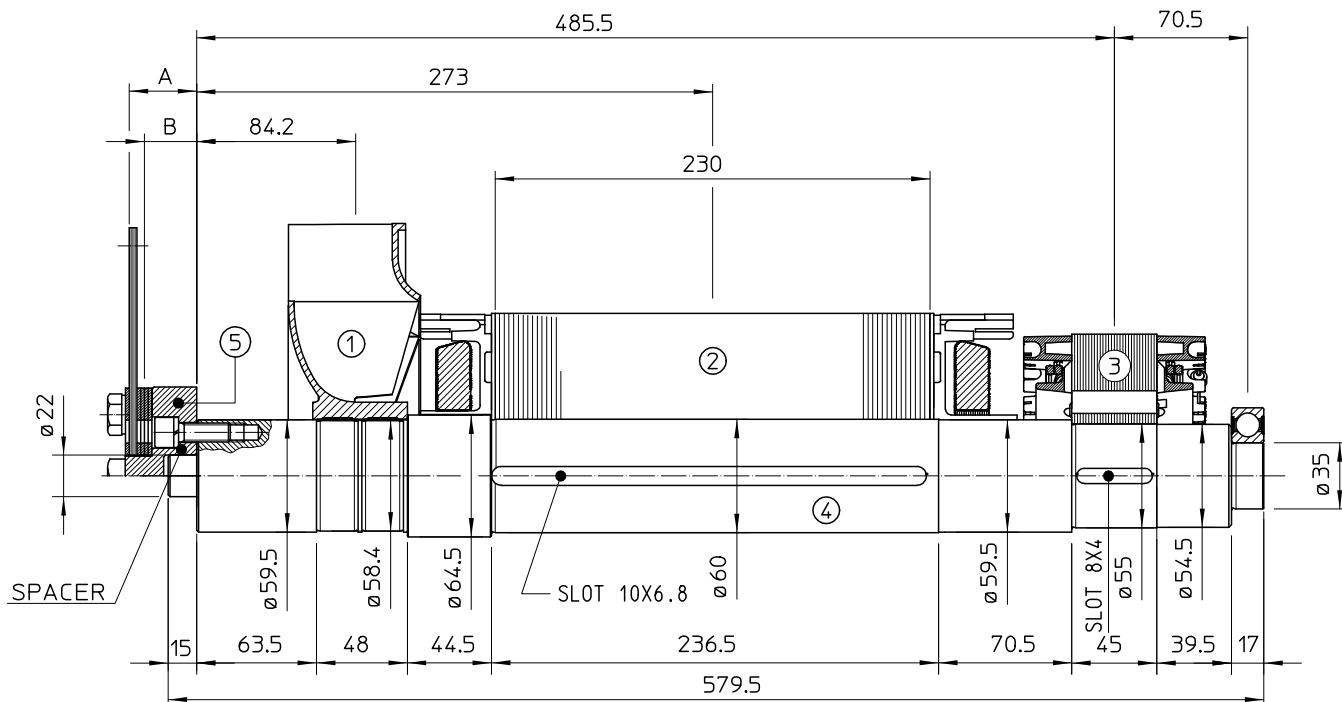
POS.	COMPONENT	WEIGHT (kg)	J (kgm ²)
1	FAN	1.2	0.0087
2	MAIN ROTOR	30.2	0.1129
3	EX. ROTOR	5.5	0.0172
4	SHAFT	11	0.0047
TOTAL		48.6	0.1438

TWO BEARING DIMENSIONS



C.G.= GRAVITY CENTER

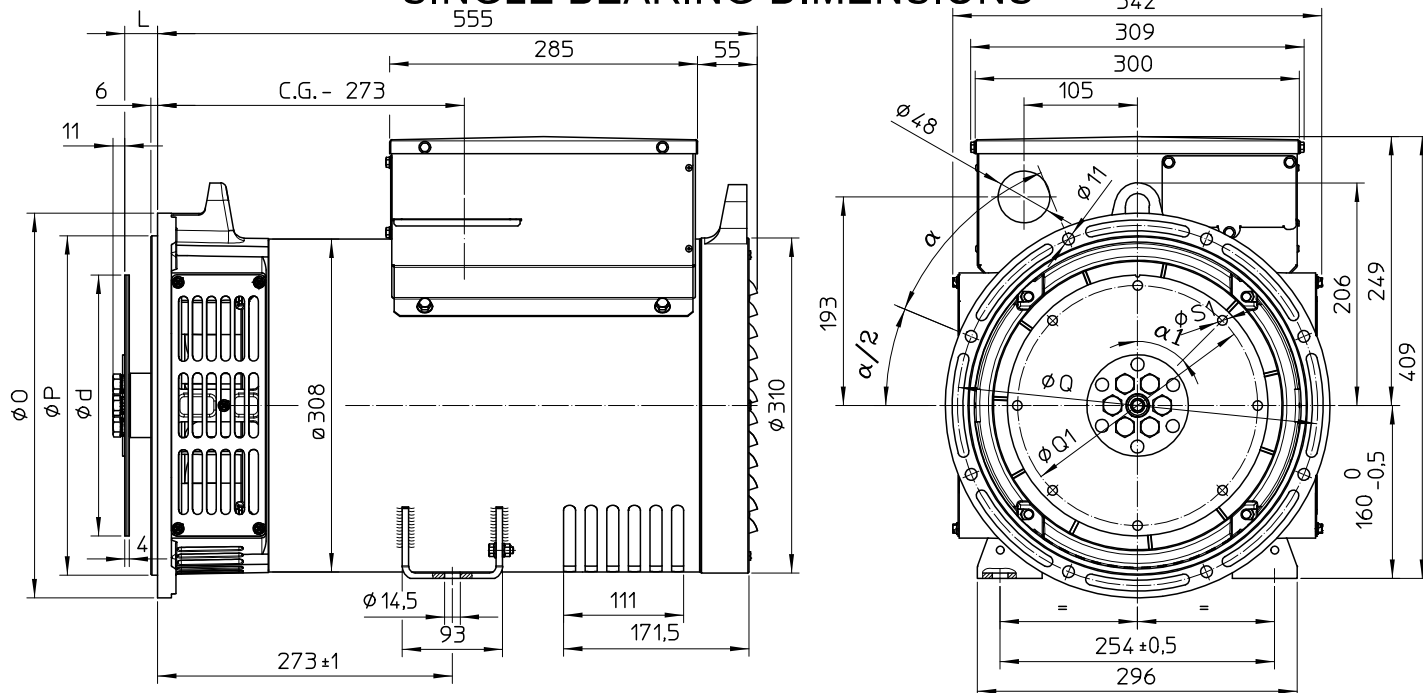
SINGLE BEARING MOMENTS OF INERTIA



POS.	COMPONENT	WEIGHT (kg)	J (kgm ²)
1	FAN	1.2	0.0087
2	MAIN ROTOR	30.2	0.1129
3	EX. ROTOR	5.5	0.0172
4	SHAFT	11.7	0.0050
TOTAL		48.6	0.1438

SAE N°	5		SHAFTS COUPLING FLEX PLATE	
	A	B	WEIGHT kg	J kgm ²
6 1/2	4	2	1.08	0.0065
7 1/2	4	2	1.35	0.0101
8	35.6	28.3	2.84	0.0158
10	27.6	22.9	3.25	0.0303
11 1/2	14	11.2	3.6	0.471

SINGLE BEARING DIMENSIONS



SAE N.	GIUNTI A DISCHI / DISC COUPLING DISCQUE DE MONOPALIER / SCHEIBENKUPPLUNG				
	d	L	Q1	S1	α_1
6 1/2	215.9	30.2	200	9	60°
7 1/2	241.3	30.2	222.25	9	45°
8	263.52	62	244.47	11	60°
10	314.32	53.8	295.27	11	45°
11 1/2	352.42	39.6	333.37	11	45°

SAE N.	FLANGIA / FLANGE BRIDE / FLANSCH			
	O	P	Q	α
5	356	314.3	333.4	45°
4	403	362	381	30°
3	451	409.6	428.6	30°
2	490	447.7	466.7	30°

C.G.= GRAVITY CENTER