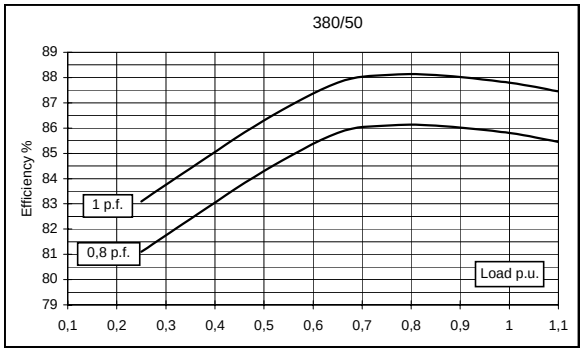
GENERATOR TYPE ECO 3-1LN/4

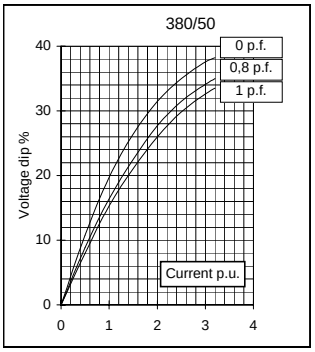
Document : **DS042A/1**
issue 004 date 25/07/2007

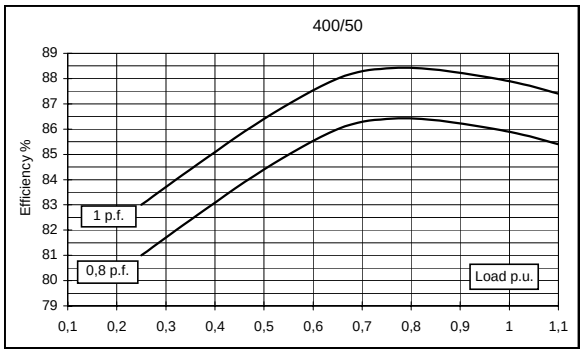
Electrical Characteristics										
Frequency		Hz	50				60			
Voltage (star)		V	380	400	415	440	415	440	460	480
Rated power class H		kVA	11	11	11	9	12	13,2	13,2	13,2
		kW	8,8	8,8	8,8	7,2	9,6	10,6	10,6	10,6
Rated power class F		kVA	10	10	10	8	10	11	12	12
		kW	8	8	8	6,4	8	8,8	9,6	9,6
Regulation with		SR7/2	±1,5 % with any power factor and speed variations between -5% +30%							
Insulation class			H							
Execution			Brushless							
Stator winding			6 ends							
Rotor			without damping cage							
Efficiencies class H	4/4	%	85,8	85,9	85,6	85,4	87	87,5	87,6	87,7
(see graph. for details)	3/4	%	86,1	86,4	86,3	86	87,2	87,4	87,6	87,8
	2/4	%	84,3	84,4	84,4	84,1	85,1	85,2	85,3	85,4
	1/4	%	81,1	81	80,8	80,3	81,8	81,6	81,7	82
Reactances (f. l.cl. F)	Xd	%	238,2	215	199,7	145,4	261,5	255,9	234,1	215
	Xd'	%	23,82	21,5	19,97	14,54	26,15	25,59	23,41	21,5
	Xd"	%	16,84	15,2	14,12	10,28	18,49	18,09	16,55	15,2
	Xq	%	76,2	68,8	63,9	46,5	83,7	81,9	74,9	68,8
	Xq'	%	76,2	68,8	63,9	46,5	83,7	81,9	74,9	68,8
	Xq"	%	88,5	79,9	74,2	54,0	97,2	95,1	87,0	79,9
	X_2	%	20,28	18,3	17,00	12,37	22,26	21,78	19,93	18,3
	X_0	%	6,65	6	5,57	4,06	7,30	7,14	6,53	6
Short Circuit Ratio	Kcc		0,73	0,90	1,06	1,50	0,60	0,68	0,73	0,90
Time Constants	Td'	sec.	0,036							
	Td"	sec.	0,013							
	Tdo'	sec.	0,79							
	$T\alpha$	sec.	0,046							
Short Circuit Current Capacity		%	>300				>320			
Excitation at no load		Amp.	0,32	0,34	0,38	0,45	0,2	0,22	0,25	0,3
Excitation at full load		Amp.	1,4	1,46	1,55	1,6	1,1	1,28	1,32	1,4
Overload (long-term)		%	1 hour in a 6 hours period 110% rated load							
Overload per 20 sec.		%	300							
Stator Winding Resistance (20°C)		Ω	0,914							
Rotor Winding Resistance (20°C)		Ω	8,539							
Exciter Resistance (20 °C)		Ω	Rotor : 1,453				Stator : 15,71			
Heat dissipation at f.l.cl.H		W	1456	1444	1480	1231	1434	1509	1495	1481
Telephone Interference			THF < 2%				TIF < 45			
Radio interference			EN60034-1, VDE 0875K. For others standards apply to factory							
Waveform Distors.(THD) at f. load		LL/LN %	2,3 / 2							
Waveform Distors.(THD) at no load		LL/LN %	2,6 / 2,6							
Mechanical characteristics										
Protection			IP 23 (other protection on request)							
DE bearing			6308-2RS							
NDE bearing			6305-2RS							
Weight of wound stator assembly		kg	23,7							
Weight of wound rotor assembly		kg	12,8							
Weight of complete generator		kg	82							
Maximun overspeed		rpm	2250							
Unbalanced magnetic pull at f.l.cl.F		kN/mm	2,9							
Cooling air requirement		m^3/min	3,3				4			
Inertia Constant (H)		sec.	0,0863				0,103			
Noise level at 1m/7m		dB(A)	72 / 58				78 / 60			

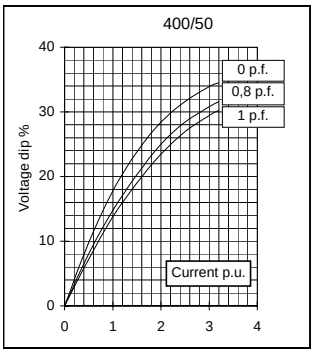
All technical data are to be considered as a reference and they cab be modified without any notice.

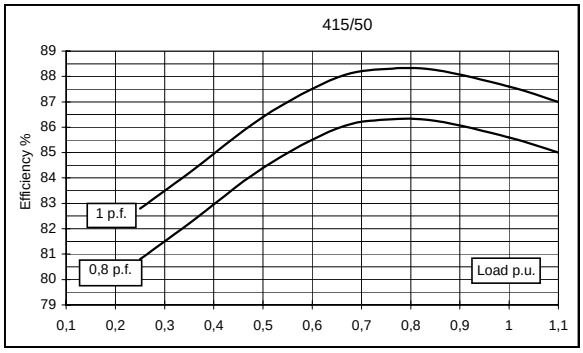
50 Hz

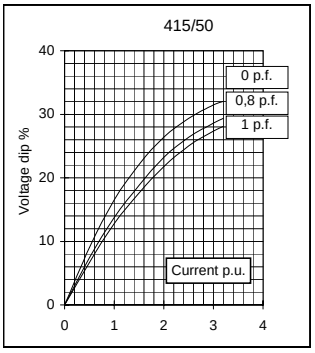


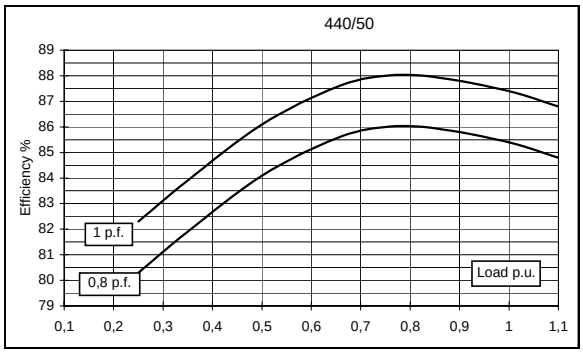


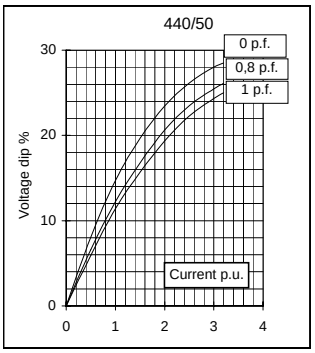


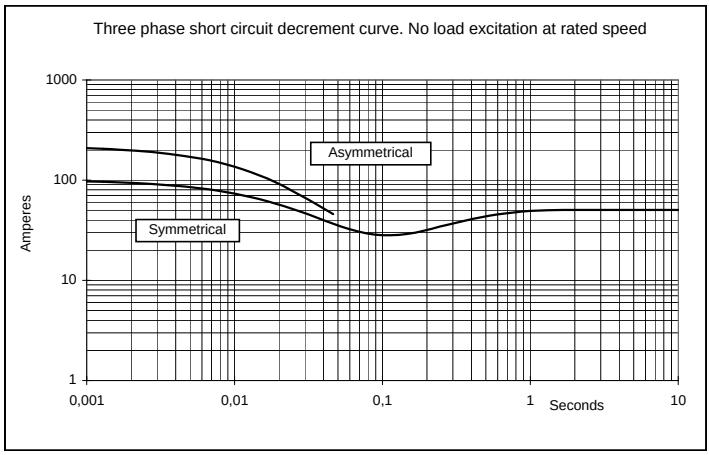






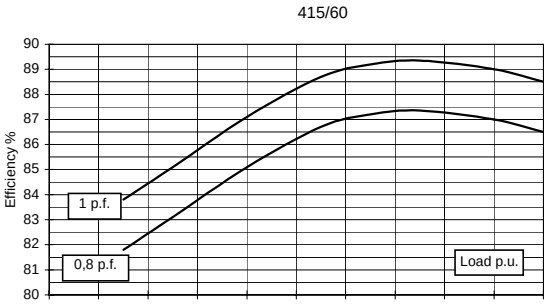




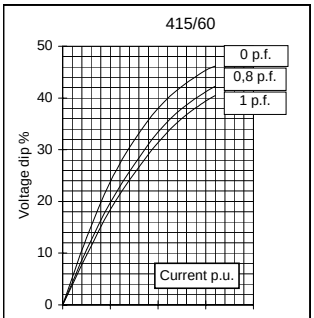


60 Hz

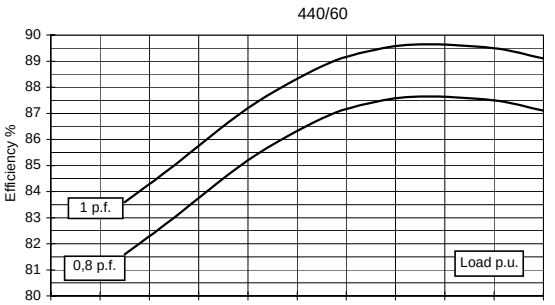
415/60



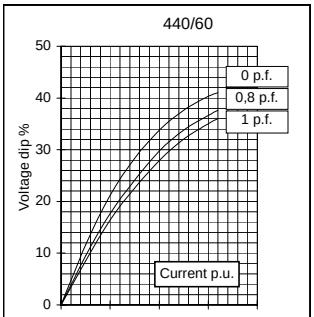
415/60



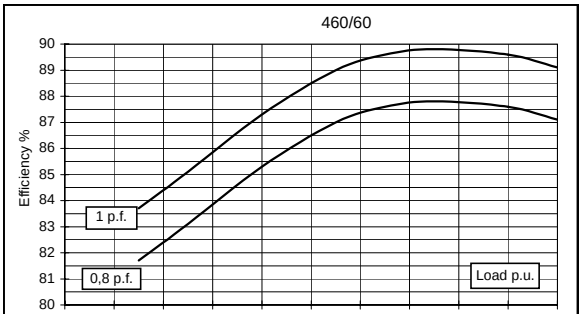
440/60



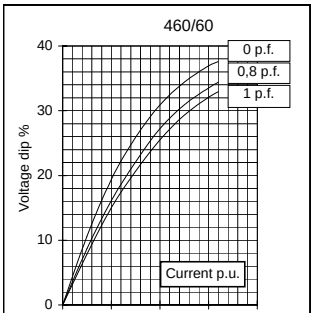
440/60



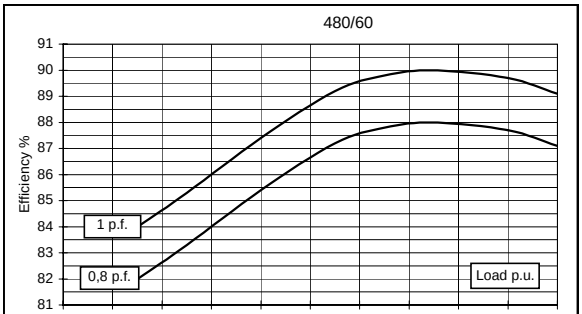
460/60



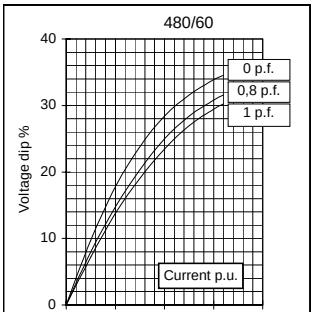
460/60



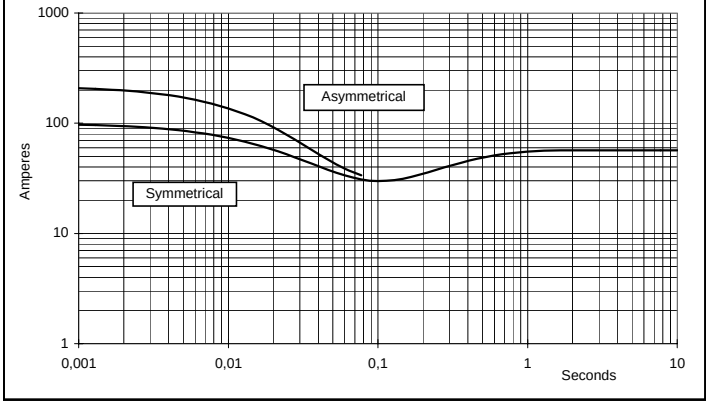
480/60



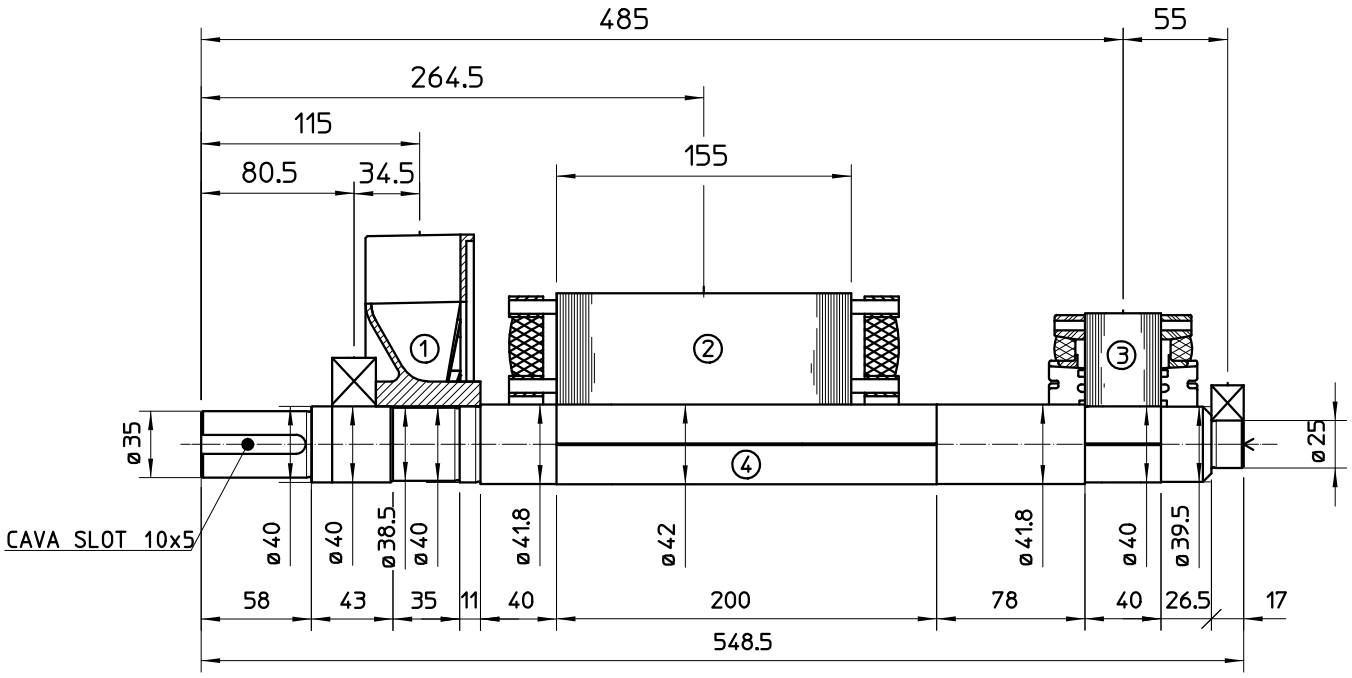
480/60



Three phase short circuit decrement curve. No load excitation at rated speed

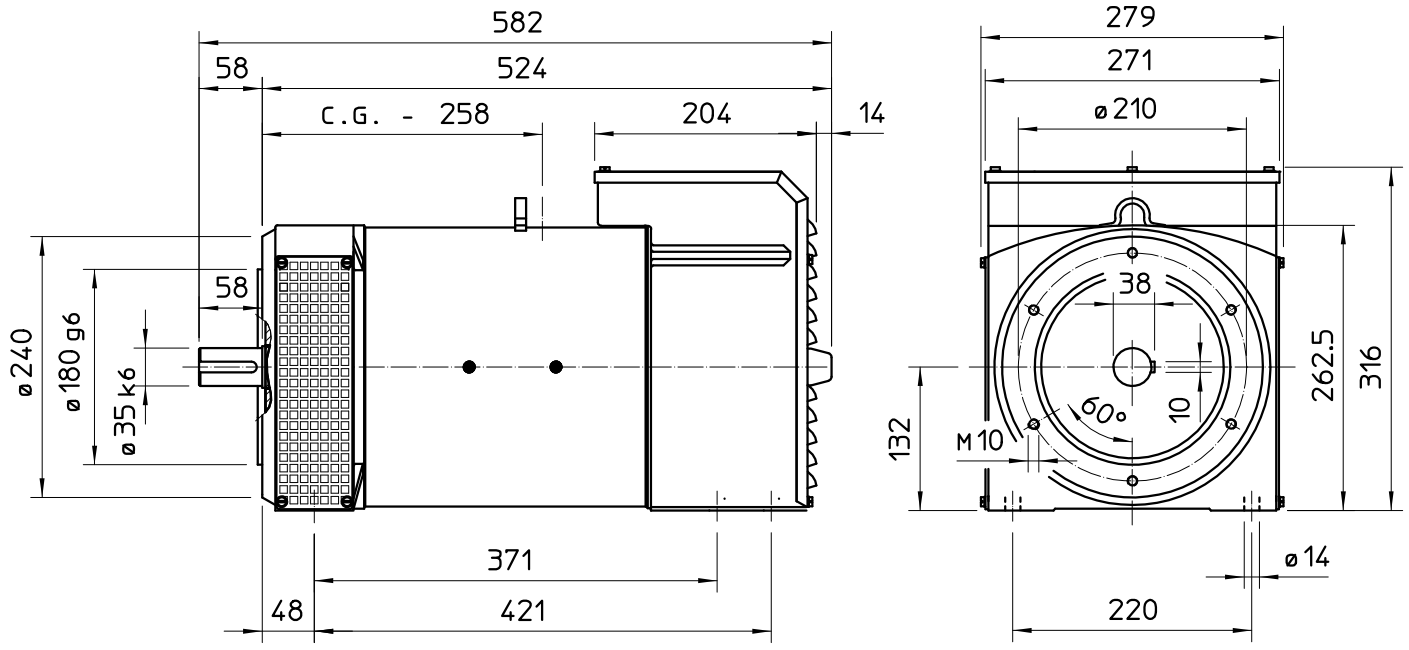


TWO BEARING MOMENTS OF INERTIA



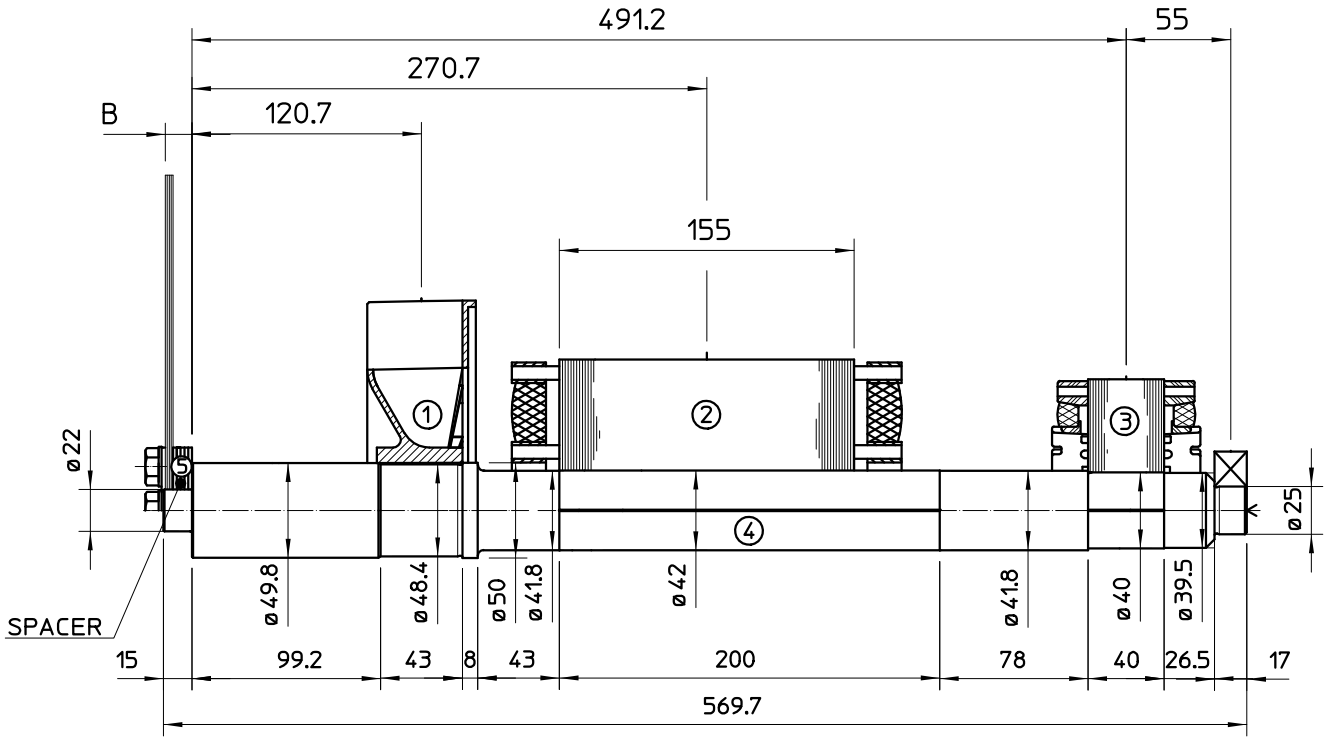
	COMPONENT	WEIGHT Kg	J Kgm²
1	FAN	0.93	0.0036
2	MAIN ROTOR	17.23	0.060
3	EX ROTOR	4.12	0.011
4	SHAFT	5.5	0.0011
6	TOTAL	27.78	0.0757

TWO BEARING DIMENSIONS



C.G. = GRAVITY CENTER

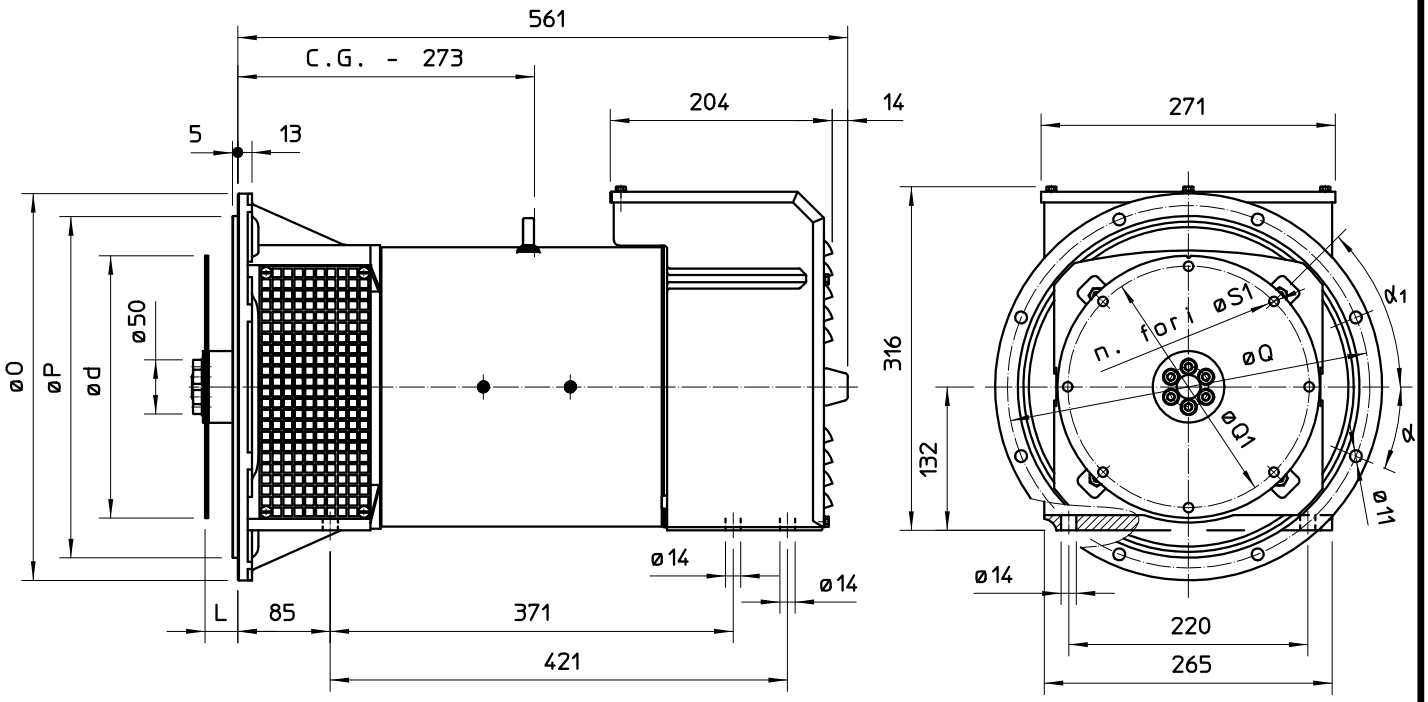
SINGLE BEARING MOMENTS OF INERTIA



	COMPONENT	WEIGHT Kg	J Kgm²
1	FAN	0.82	0.0032
2	MAIN ROTOR	17.23	0.060
3	EX ROTOR	4.12	0.011
4	SHAFT	6.3	0.0013
6	TOTAL	28.47	0.0755

SAE N.	5	SHAFT COUPLING FLEX PLATE	
	B(mm)	WEIGHT kg	J kgm²
6 1/2	4	1.14	0.0067
7 1/2	4	1.42	0.0103
8	35.6	1.97	0.0171
10	27.6	2.59	0.0319
11 1/2	14	3.1	0.0481

SINGLE BEARING DIMENSIONS



FLANGIA FLANGE BRIDE FLANSCHE BRIDAS	SAE N.	O	P	Q	n. fori	α
	6	308	266.7	285.75	8	22°30'
	5	356	314.3	333.4	8	22°30'
	4	403	362	381	12	15°
	3	451	409.6	428.6	12	15°

GIUNTI A DISCO COUPLING DISC PLATEX DISQUE DE MONOPALIER SCHEIBENKUPPLUNG JUNTAS A DISCOS						
SAE N.	L	d	Q1	n. fori	S1	α1
6 1/2	30.2	215.9	200	6	9	60°
7 1/2	30.2	241.3	222.25	8	9	45°
8	62	263.52	244.47	6	11	60°
10	53.8	314.32	295.27	8	11	45°
11 1/2	39.6	352.42	333.37	8	11	45°

C.G. = GRAVITY CENTER