



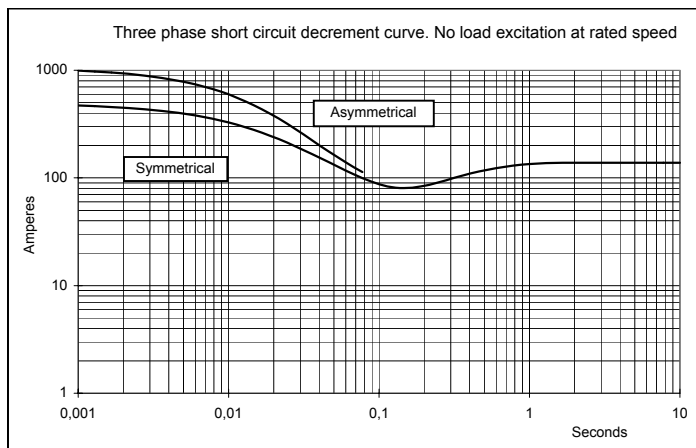
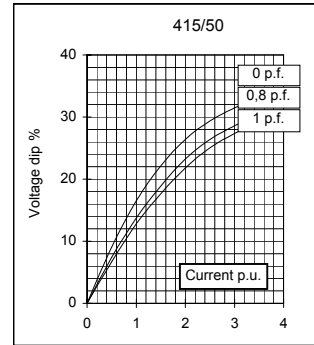
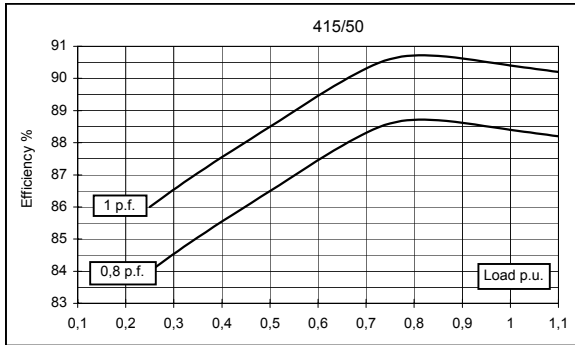
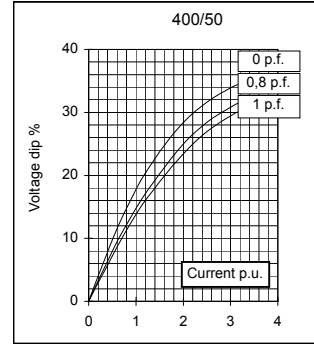
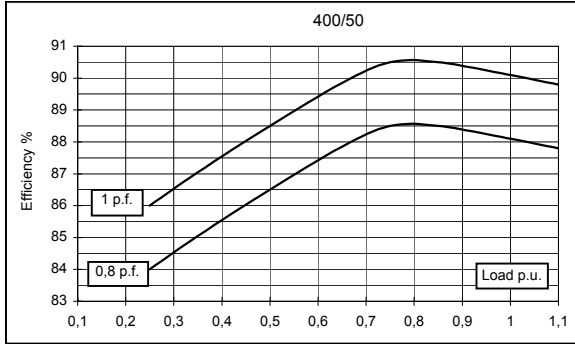
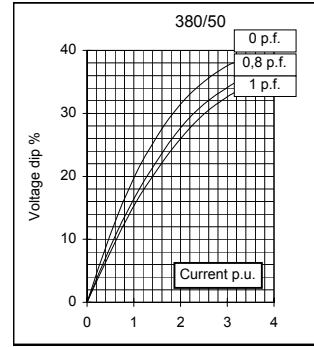
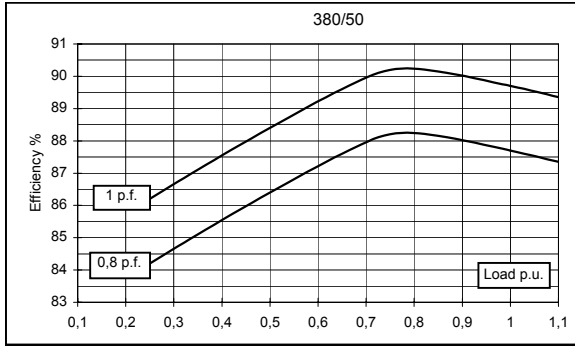
**GENERATOR TYPE ECP 28-VL/4**

Document : **DS004A/1**  
issue 005 date 20/07/2011

<b>Electrical Characteristics</b>										
Frequency	Hz	50				60				
Voltage (series star)	V	380	400	415	440	415	440	460	480	
Rated power class H	kVA	30	30	30	/	33	36	36	36	
	kW	24	24	24	/	26,4	28,8	28,8	28,8	
Rated power class F	kVA	26	26	26	/	29	32	32	32	
	kW	20,8	20,8	20,8	/	23,2	25,6	25,6	25,6	
Regulation with	DSR	±1 % with any power factor and speed variations between -5% +30%								
Insulation class		H								
Execution		Brushless								
Stator winding		12 ends								
Rotor		without damping cage								
Efficiencies class H	4/4	%	87,7	88,1	88,4	/	88,9	89,2	89,4	89,8
(see graph. for details)	3/4	%	88,2	88,5	88,6	/	89,7	89,9	90,1	90,3
	2/4	%	86,4	86,5	86,5	/	88,1	88,2	88,3	88,4
	1/4	%	84,2	84	84	/	86,1	86,1	86	85,9
Reactances (f. l.cl. F)	Xd	%	182,8	165	153,3	/	202,3	196,4	179,7	165
	Xd'	%	17,06	15,4	14,31	/	18,89	18,33	16,77	15,4
	Xd''	%	9,75	8,8	8,18	/	10,79	10,47	9,58	8,8
	Xq	%	78,7	71	66,0	/	87,1	84,5	77,3	71
	Xq'	%	78,7	71	66,0	/	87,1	84,5	77,3	71
	Xq''	%	21,1	19	17,7	/	23,3	22,6	20,7	19
	X <sub>2</sub>	%	14,63	13,2	12,26	/	16,19	15,71	14,37	13,2
	X <sub>0</sub>	%	3,10	2,8	2,60	/	3,43	3,33	3,05	2,8
Short Circuit Ratio	Kcc		0,55	0,62	0,68	/	0,38	0,44	0,55	0,62
Time Constants	Td'	sec.	0,046							
	Td''	sec.	0,012							
	Tdo'	sec.	0,93							
	T <sub>α</sub>	sec.	0,011							
Short Circuit Current Capacity		%	>300				>350			
Excitation at no load	Amp.		0,4	0,6	0,8	/	0,35	0,4	0,5	0,55
Excitation at full load	Amp.		1,75	1,96	2,1	/	1,5	1,6	1,8	1,9
Overload (long-term)	%	1 hour in a 6 hours period 110% rated load								
Overload per 20 sec.	%	300								
Stator Winding Resistance (20°C)	Ω	0,106								
Rotor Winding Resistance (20°C)	Ω	1,86								
Exciter Resistance (20 °C)	Ω	Rotor : 0,417				Stator : 10,60				
Heat dissipation at f.l.cl.H	W	3366	3242	3149	/	3296	3487	3415	3271	
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 %	2,1 / 2								
Waveform Distors.(THD) at no load	LL/LN %	3,3 / 3,1								
<b>Mechanical characteristics</b>										
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	33,4								
Weight of complete generator	kg	165								
Maximun overspeed	rpm	2250								
Unbalanced magnetic pull at f.l.cl.F	kN/mm	4,7								
Cooling air requirement	m³/min	5,3				5,8				
Inertia Constant (H)	sec.	0,067				0,081				
Noise level at 1m/7m	dB(A)	68 / 57				71 / 61				

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



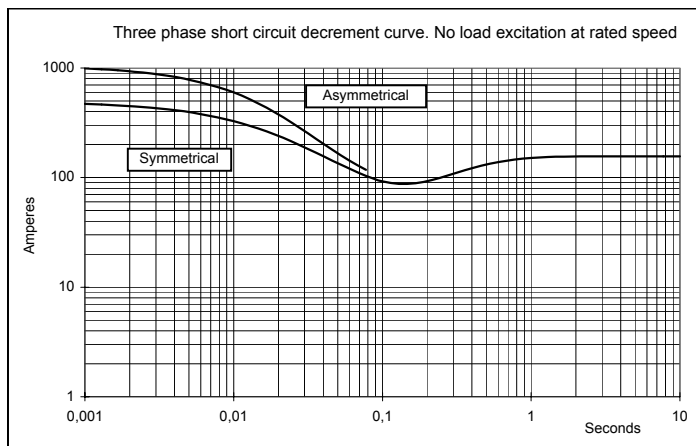
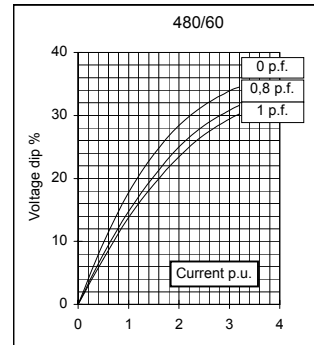
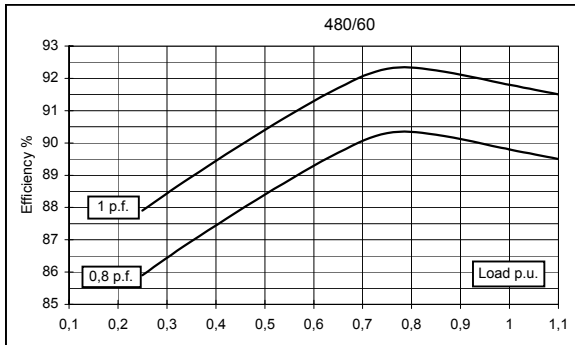
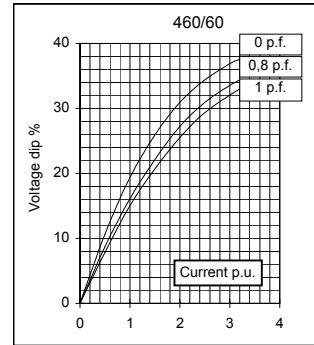
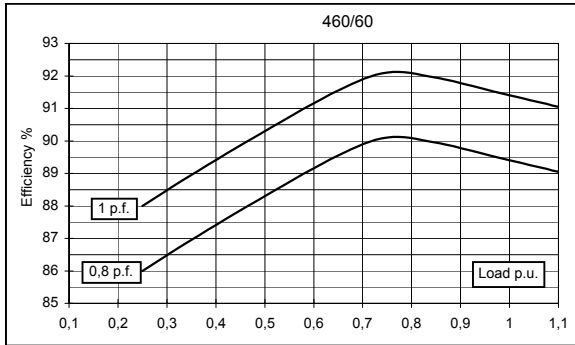
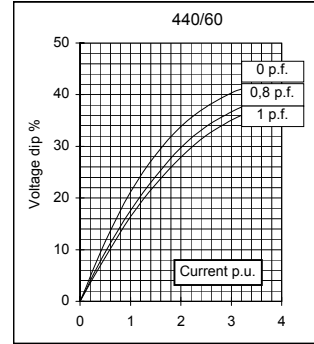
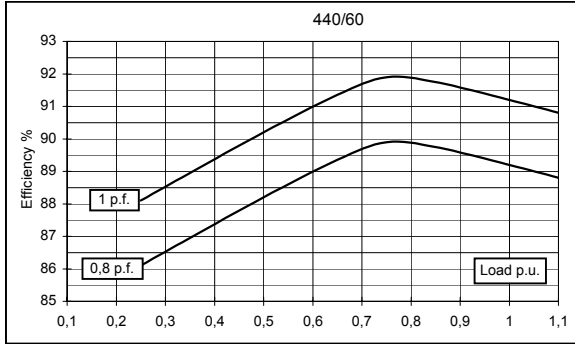
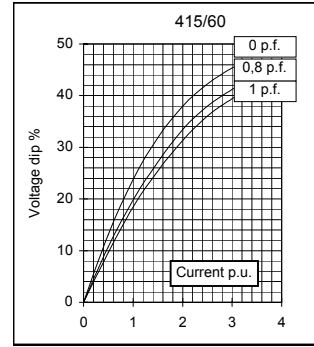
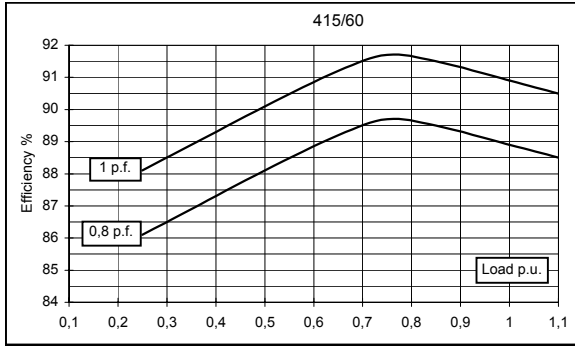


# GENERATOR TYPE ECP 28-VL/4

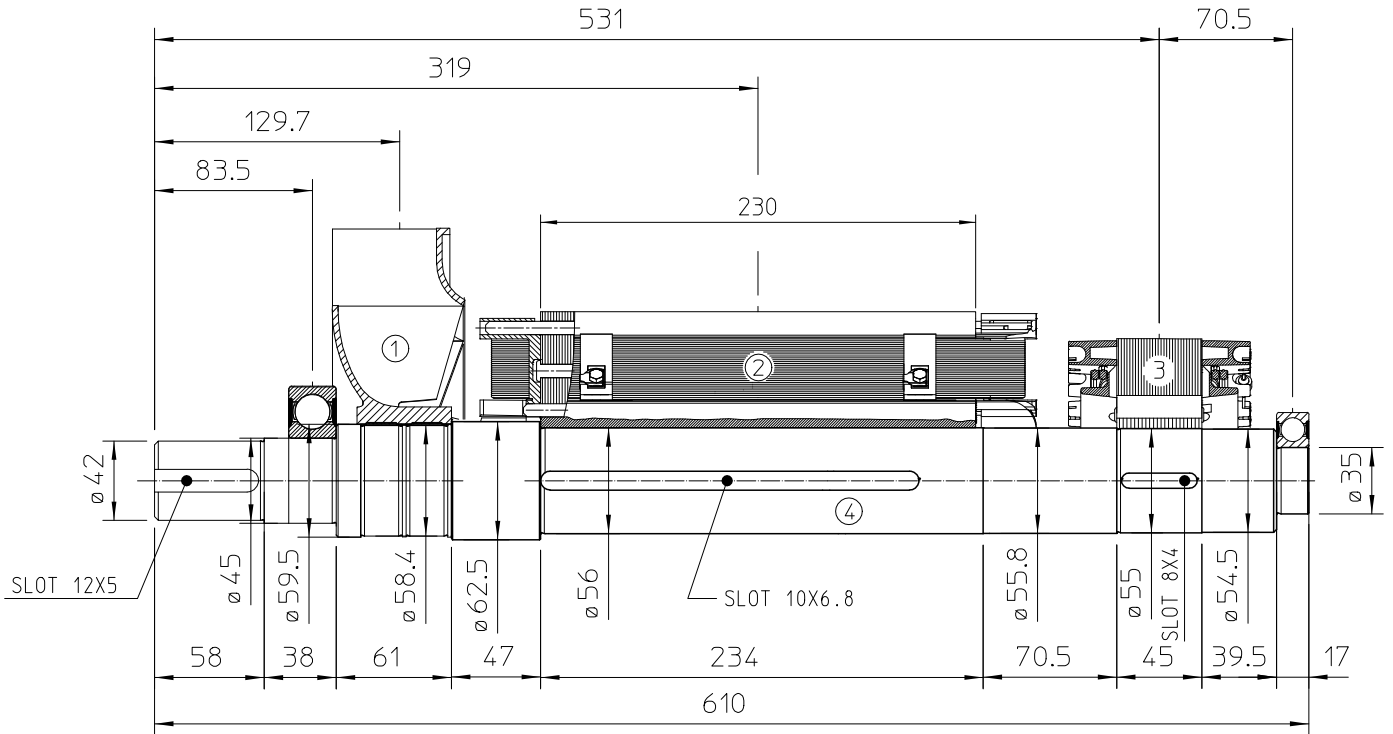
Document : DS004A/3

issue 003 date : 20/07/2011

## 60 Hz

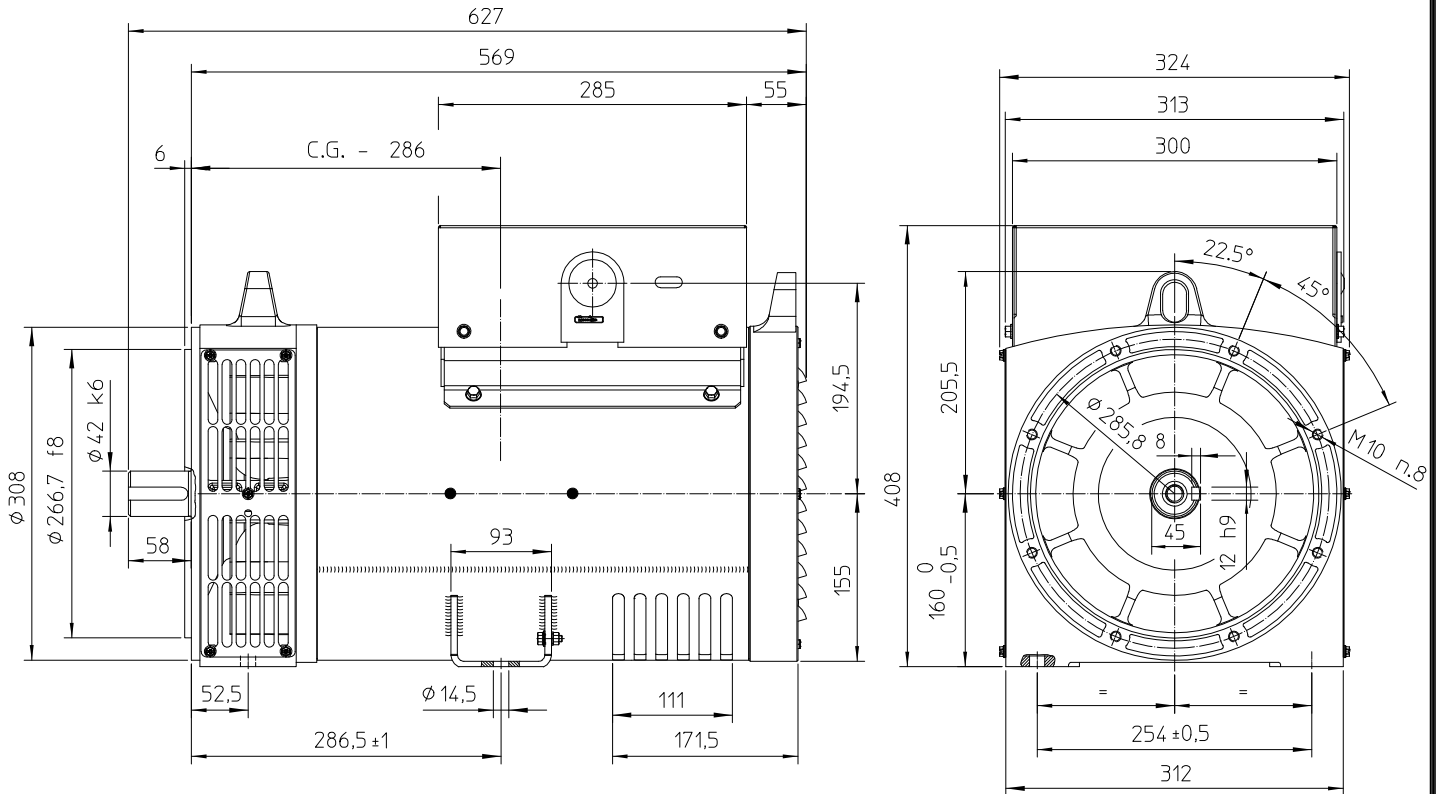


### TWO BEARING MOMENTS OF INERTIA

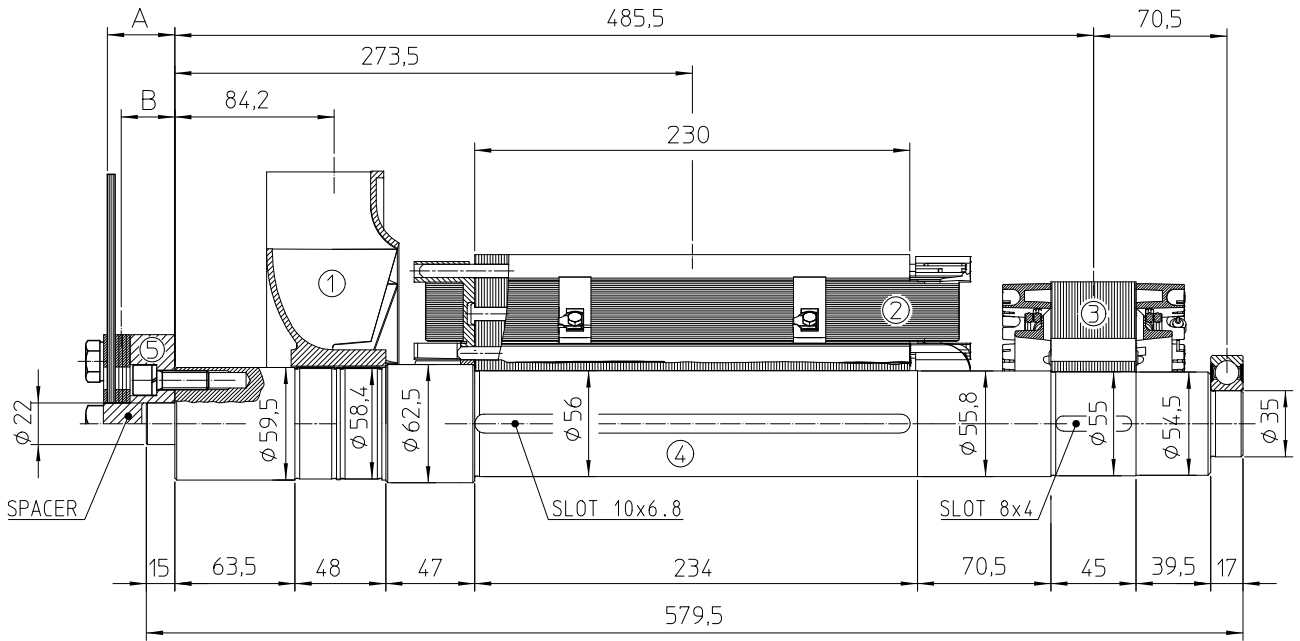


POS.	COMPONENT	WEIGHT (kg)	J (kgm <sup>2</sup> )
1	FAN	1.2	0.0087
2	MAIN ROTOR	33.4	0.1334
3	EX. ROTOR	5.5	0.0172
4	SHAFT	10.8	0.0043
TOTAL		50.9	0.1636

### TWO BEARING DIMENSIONS



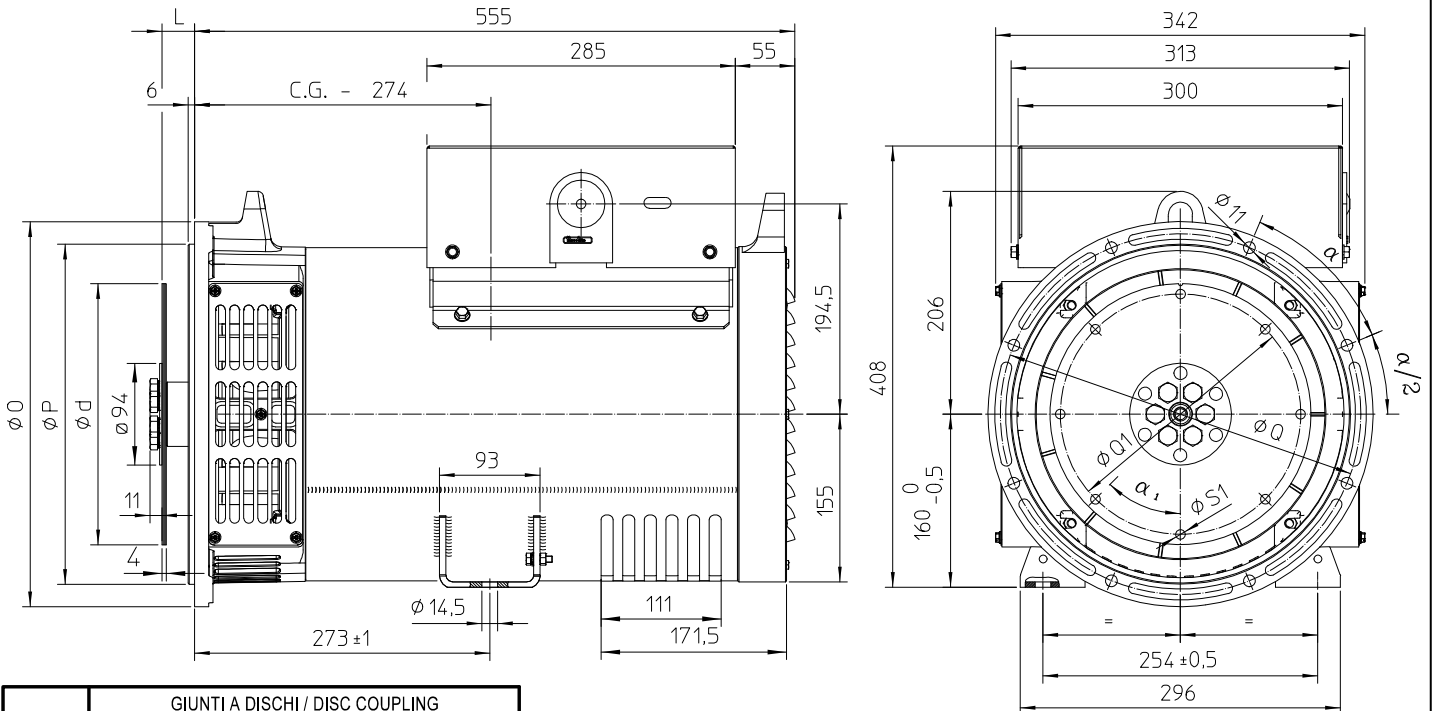
### SINGLE BEARING MOMENTS OF INERTIA



POS.	COMPONENT	WEIGHT (kg)	J (kgm <sup>2</sup> )
1	FAN	1.2	0.0087
2	MAIN ROTOR	33.4	0.1334
3	EX. ROTOR	5.5	0.0172
4	SHAFT	10.8	0.0043
TOTAL		50.9	0.1636

SAE N°	5		SHAFTS COUPLING FLEX PLATE	
	A	B	WEIGHT kg	J kgm <sup>2</sup>
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	0.0471

### SINGLE BEARING DIMENSIONS



SAE N.	GIUNTI A DISCHI / DISC COUPLING DISQUE DE MONOPALIER / SCHEIBENKUPPLUNG				
	d	L	Q1	S1	α <sub>1</sub>
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