



# GENERATOR TYPE ECP 34-1L/4

Document : **DS014A/1**

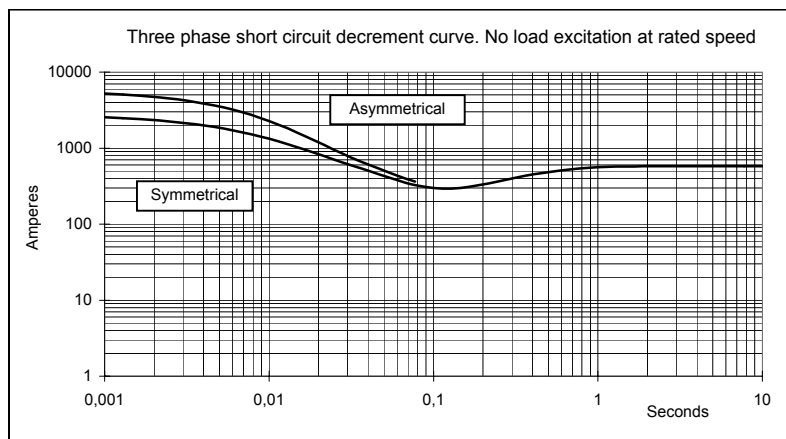
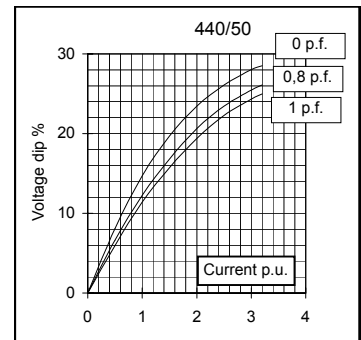
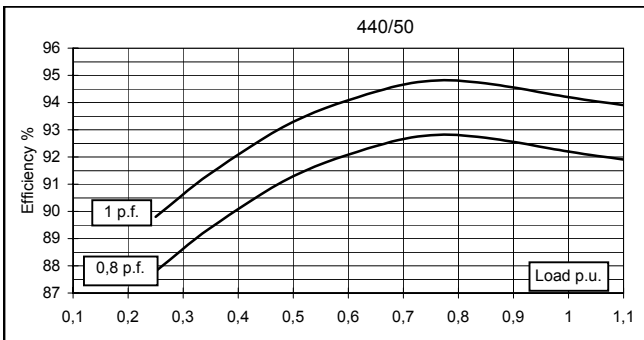
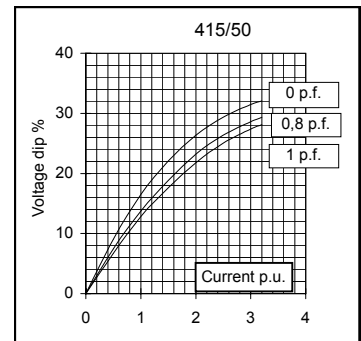
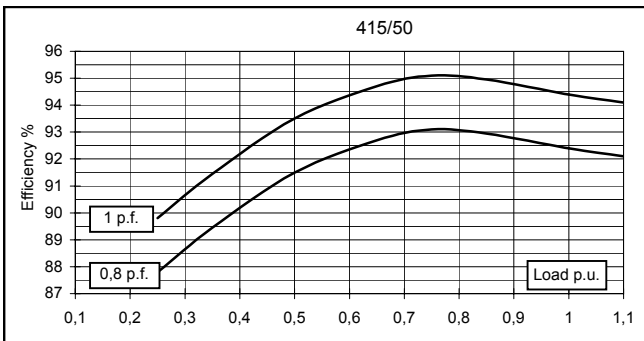
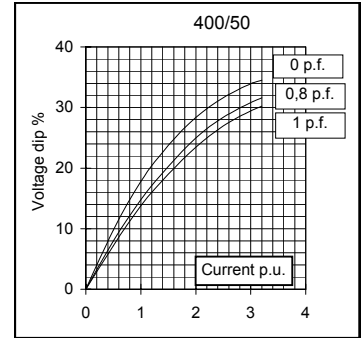
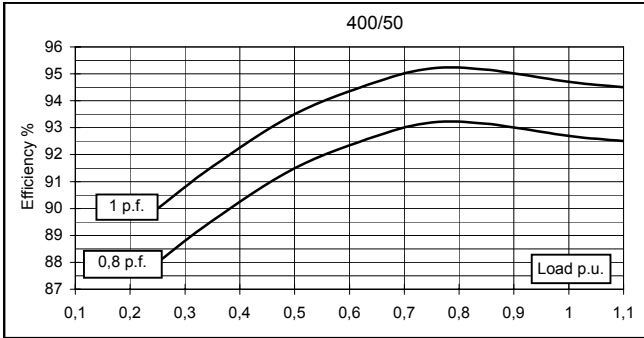
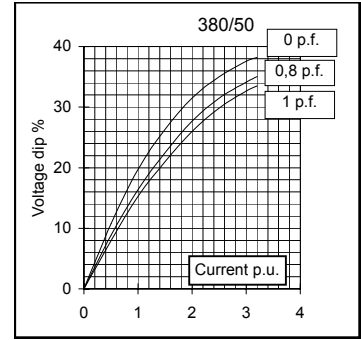
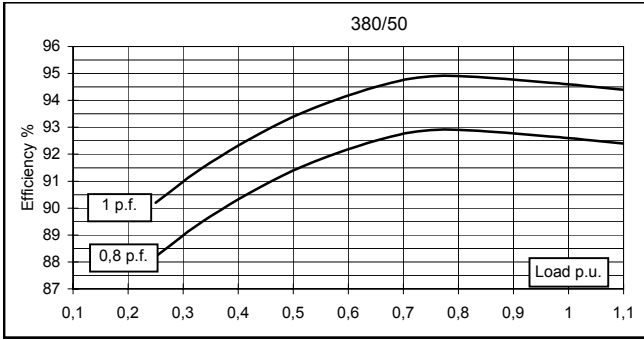
issue 002 date 01/06/2011

Electrical Characteristics										
Frequency	Hz	50				60				
Voltage (series star)	V	380	400	415	440	415	440	460	480	
Rated power class H	kVA	130	130	130	110	135	145	156	156	
	kW	104	104	104	88	108	116	125	125	
Rated power class F	kVA	118	118	118	99	120	130	141	141	
	kW	94	94	94	79	96	104	113	113	
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	%	92,6	92,7	92,4	92,2	93,7	94,2	94,3	94,4
(see graph. for details)	3/4	%	92,9	93,2	93,1	92,8	94,4	94,6	94,7	94,9
	2/4	%	91,4	91,5	91,5	91,3	93	93,1	93,2	93,3
	1/4	%	88,2	88	87,8	87,8	89,2	89,2	89,2	89
Reactances (f. l.cl. F)	Xd	%	237,1	214	198,8	149,7	247,7	236,7	233,0	214
	Xd'	%	19,1	17,2	16,0	12,0	19,9	19,0	18,7	17,2
	Xd''	%	7,5	6,8	6,3	4,8	7,9	7,5	7,4	6,8
	Xq	%	163,5	147,6	137,1	103,2	170,9	163,3	160,7	147,6
	Xq'	%	163,5	147,6	137,1	103,2	170,9	163,3	160,7	147,6
	Xq''	%	33,1	29,9	27,8	20,9	34,6	33,1	32,6	29,9
	X <sub>2</sub>	%	20,5	18,5	17,2	12,9	21,4	20,5	20,1	18,5
	X <sub>0</sub>	%	3,2	2,9	2,7	2,0	3,4	3,2	3,2	2,9
Short Circuit Ratio	Kcc		0,41	0,49	0,63	0,98	0,32	0,37	0,41	0,49
Time Constants	Td'	sec.	0,0372							
	Td''	sec.	0,0076							
	Tdo'	sec.	1,80							
	Tα	sec.	0,0163							
Short Circuit Current Capacity		%	>300				>350			
Excitation at no load	Amp.		0,5	0,55	0,6	0,8	0,2	0,3	0,4	0,5
Excitation at full load	Amp.		2,2	2,3	2,4	2,6	2	2,2	2,3	2,4
Overload (long-term)		%	1 hour in a 6 hours period 110% rated load							
Overload per 20 sec.		%	300							
Stator Winding Resistance (20°C)	Ω		0,018							
Rotor Winding Resistance (20°C)	Ω		3,165							
Exciter Resistance (20 °C)	Ω		Rotor : 0,410				Stator : 15,28			
Heat dissipation at f.l.cl.H	W		8311	8190	8554	7445	7261	7142	7544	7403
Telephone Interference			THF < 2%				TIF < 40			
Radio interference			EN61000-6-3, EN61000-6-1. For others standards apply to factory							
Waveform Distors.(THD) at f. load	LL/LN %		1,8 / 1,9							
Waveform Distors.(THD) at no load	LL/LN %		2,4 / 2,5							
<b>Mechanical characteristics</b>										
Protection			IP 21 ( other protection on request )							
DE bearing			6314.2RS							
NDE bearing			6311.2RS							
Weight of wound stator assembly	kg		142							
Weight of wound rotor assembly	kg		90							
Weight of complete generator	kg		445							
Maximun overspeed	rpm		2250							
Unbalanced magnetic pull at f.l.cl.F	kN/mm		5,4							
Cooling air requirement	m³/min		19,3				23			
Inertia Constant (H)	sec.		0,102				0,122			
Noise level at 1m/7m	dB(A)		79 / 65				83 / 69			

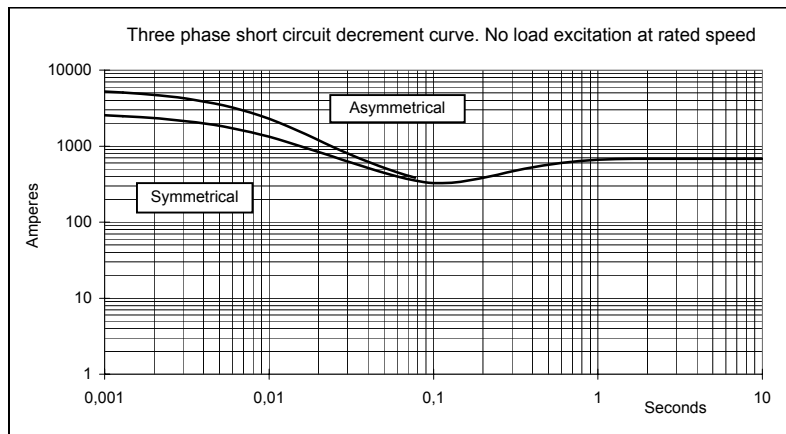
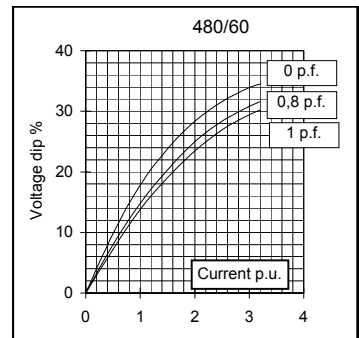
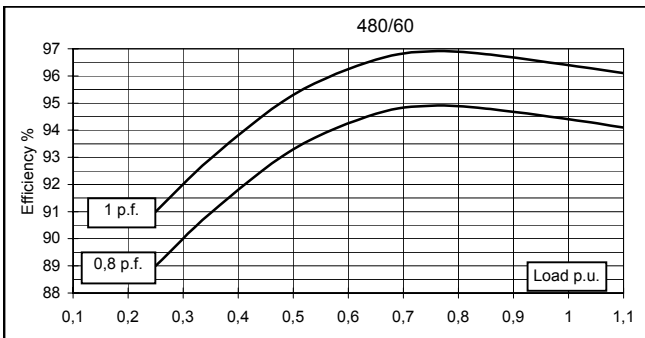
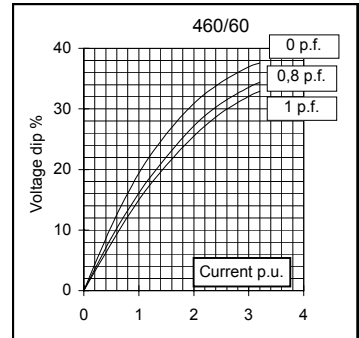
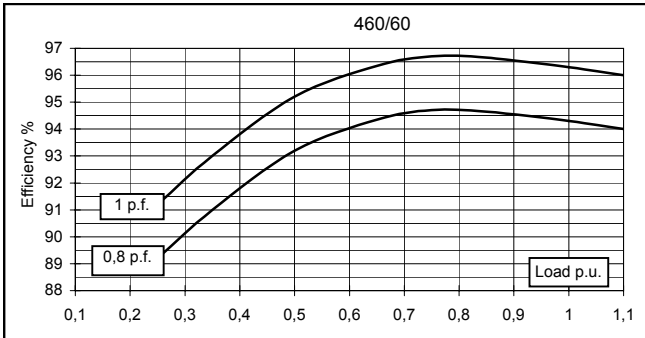
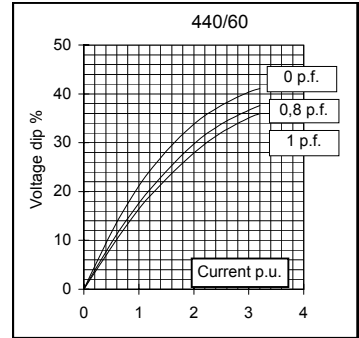
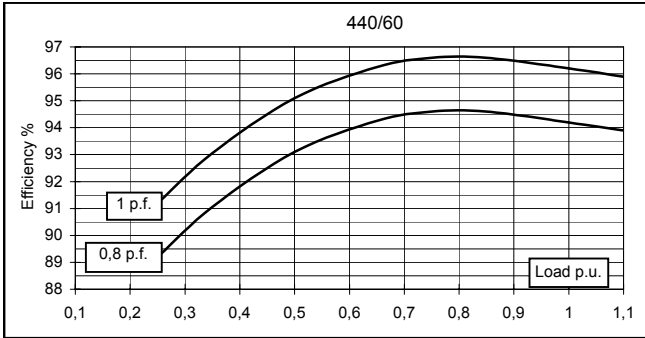
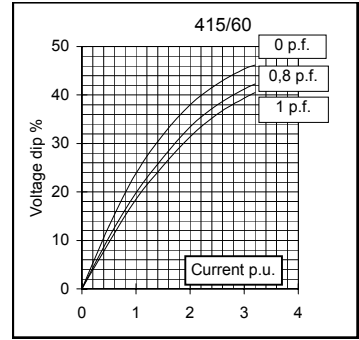
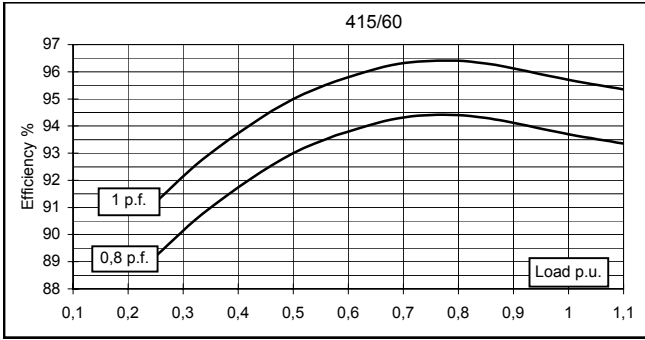
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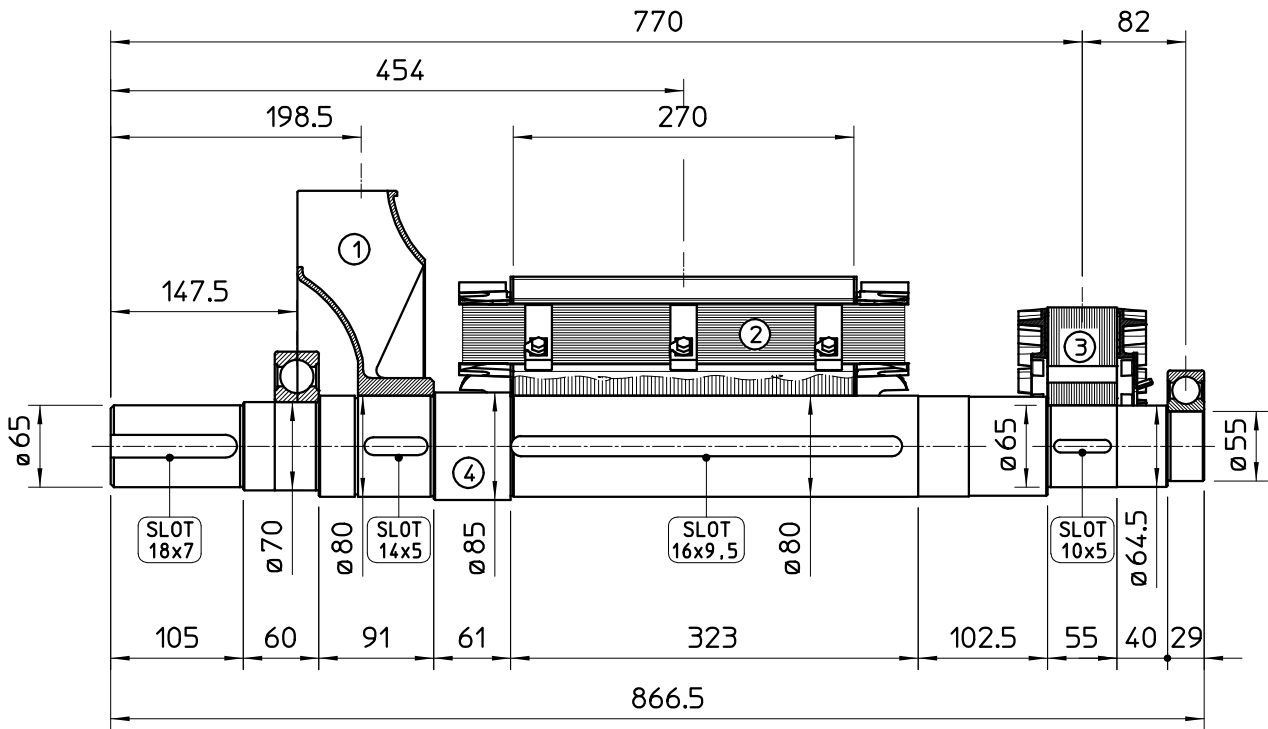
**50 Hz**



**60 Hz**

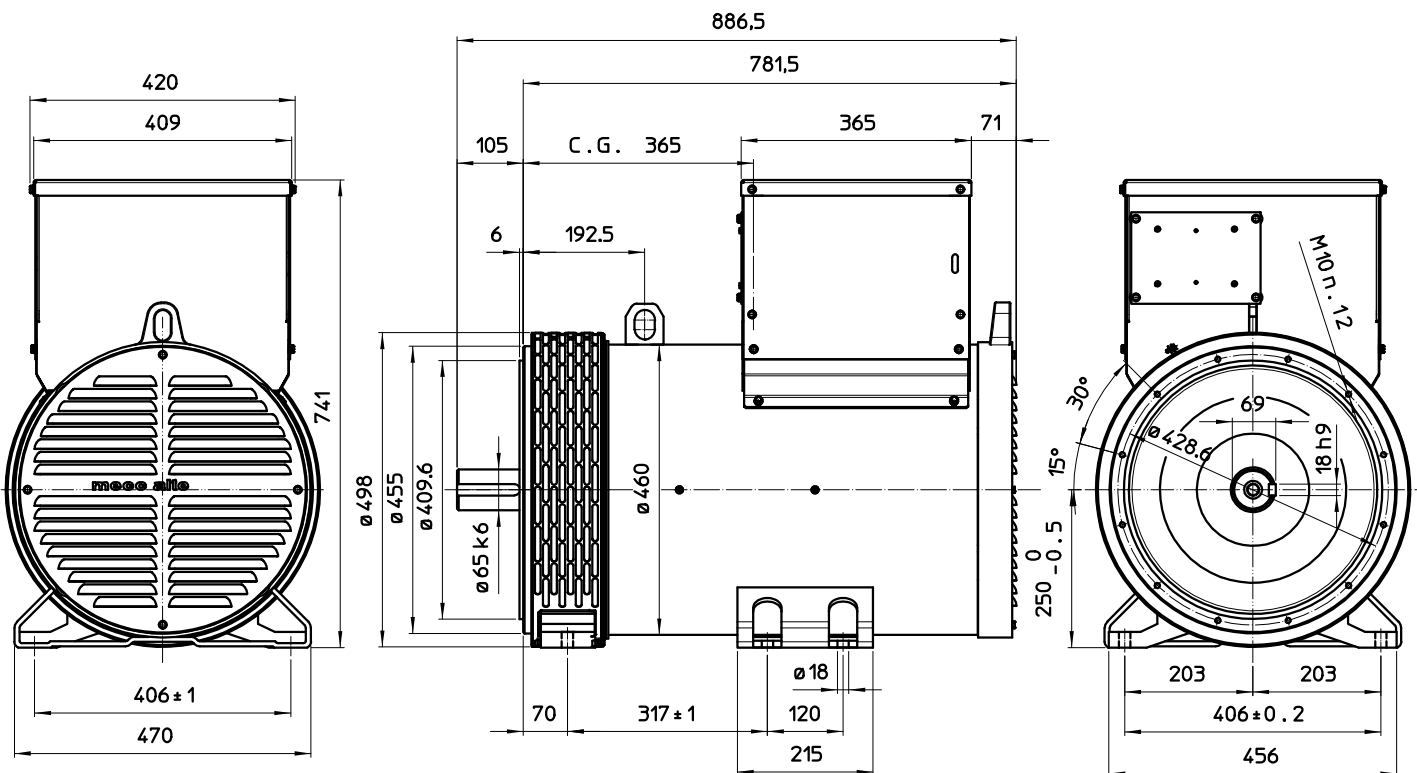


### TWO BEARING MOMENTS OF INERTIA



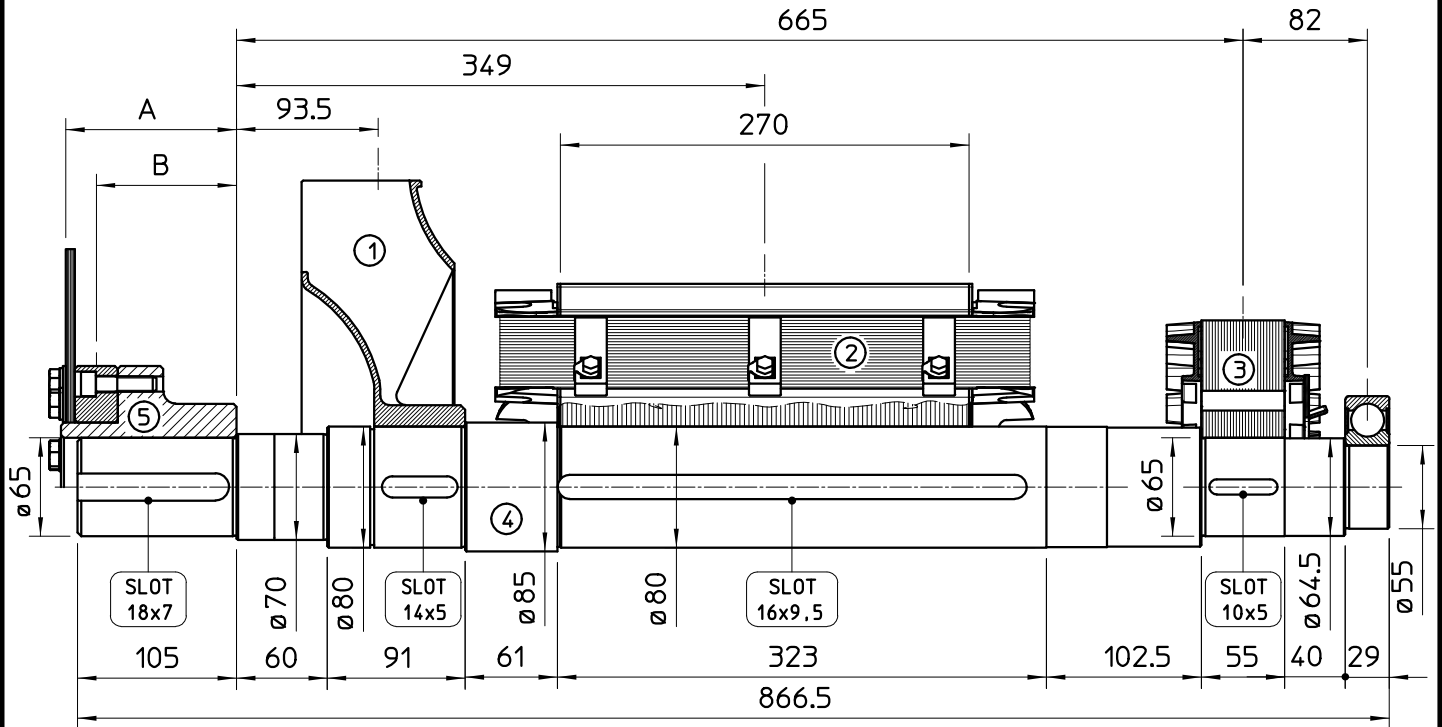
POS.	COMPONENT	WEIGHT (kg)	J (kgm <sup>2</sup> )
1	FAN	3.3	0.0451
2	MAIN ROTOR	93	0.8380
3	EX. ROTOR	14.5	0.0874
4	SHAFT	29.6	0.0218
TOTAL		140.4	0.9923

### TWO BEARING DIMENSIONS



C.G.= GRAVITY CENTER

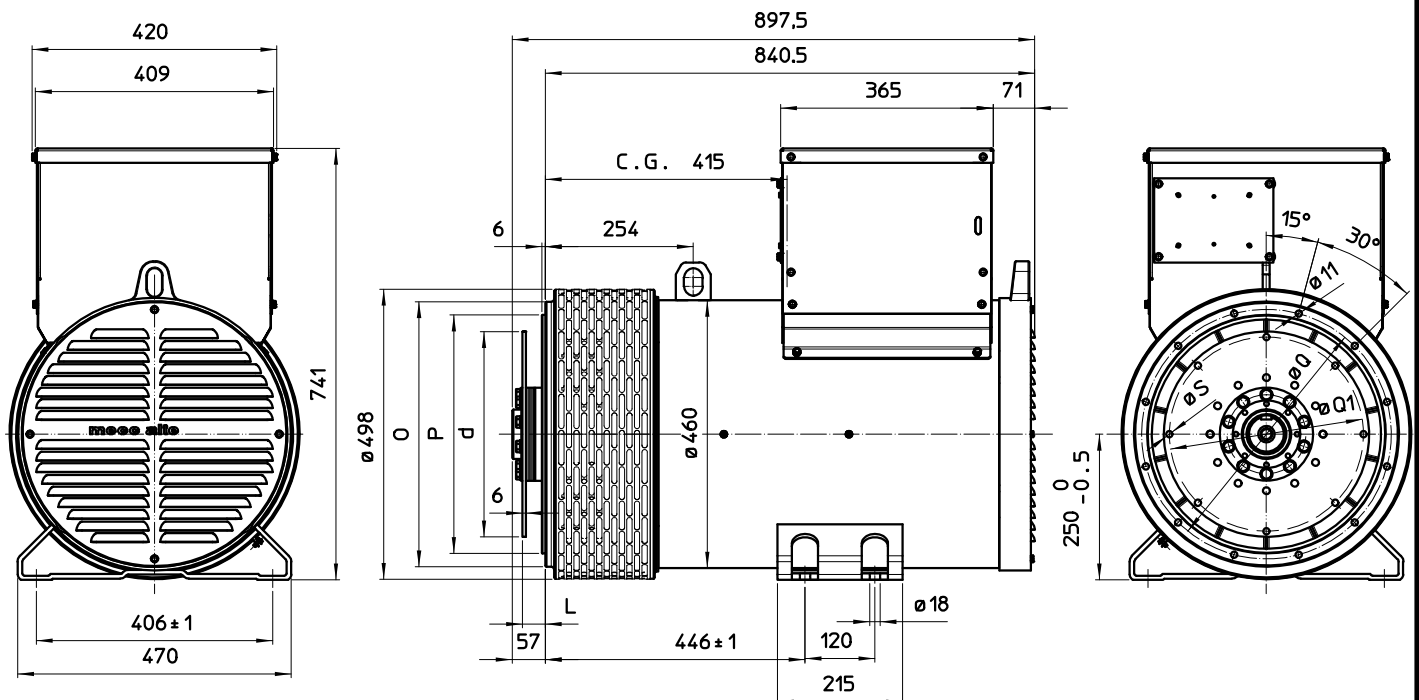
### SINGLE BEARING MOMENTS OF INERTIA



POS.	COMPONENT	WEIGHT (kg)	J (kgm <sup>2</sup> )
1	FAN	3.3	0.0451
2	MAIN ROTOR	93	0.8380
3	EX. ROTOR	14.5	0.0874
4	SHAFT	29.6	0.0218
TOTAL		140.4	0.9923

SAE N°	SHAFTS COUPLING FLEX PLATE			
	A	B	WEIGHT kg	J kgm <sup>2</sup>
5	112.8	35.6	13.5	0.0770
10	98.6	71.5	12.4	0.0956
11 1/2	84.4	68.6	14.8	0.2360

### SINGLE BEARING DIMENSIONS



SAE N.	GIUNTI A DISCHI DISC COUPLING DISQUE DE MONOPALIER SCHEIBENKUPPLUNG				
	L	d	Q1	N. fori	S
10	53,8	314,32	295,27	8	11
11 1/2	39,6	352,42	333,37	8	11
14	25,4	466,72	438,15	8	14

SAE N.	FLANGIA/FLANGE BRIDE/FLANSCH			
	O	P	Q	N. fori
3	451	409,6	428,6	12
2	489	447,7	466,7	12
1	552	511,2	530,2	12

C.G.= GRAVITY CENTER