

ALTERNATOR PRO22M E/4

Three-phase brushless synchronous alternator with AVR - 4 poles

Technical Data Sheet

PRO22M E/4

COMMON DATA

Rated Power at 50Hz	kVA	130	
Rated Power at 60Hz	kVA	156	
Rated Power Factor		0.8	
Nominal Temperature	°C	40	
Control System		Self excited	
Execution		brushless	
Regulation Type		AVR	
Insulation Class		H	
Protection		IP23	
Maximum Overspeed	rpm	2250	
Overload		110% of rated power for one hour in a cycle of 6 hours	
Air Flow Requirement	m ³ /min	18.2 at 50Hz	21.2 at 60Hz
Telephone Interference		<2%	
R.F.I. Suppression		Standard EN55011	

REGULATION DATA

AVR	HVR11	HVR30
Sensing	Single phase	Three phase
Voltage Regulation	± 1%	
Sustained Short Circuit	>250% of rated current	

WINDING DATA

Stator Winding	Double layer with auxiliary winding	
Rotor Winding	with damping cage	
Winding Pitch	2/3	
Number of Leads of Stator Winding	12	
Stator Winding Resistance	0.028Ω at 20°C	
Rotor Winding Resistance	3.95Ω at 20°C	
Exciter Stator Resistance	14.3Ω at 20°C	
Exciter Rotor Resistance	0.47Ω at 20°C	
THD at full load	<3%	
THD at no load	<3%	
Excitation at no load	A _{dc}	0.75
Excitation at full load	A _{dc}	2.5

STANDARD

References	EN60034-1, ISO8538, EN55011
------------	-----------------------------

PRO22M E/4

ELECTRICAL DATA

Frequency		50Hz - 1500rpm				60Hz - 1800rpm			
		380/220	400/230	415/240	440/254	415/240	440/254	460/266	480/277
Voltage Series Star	V	380/220	400/230	415/240	440/254	415/240	440/254	460/266	480/277
Voltage Parallel Star	V	190/110	200/115	207/120	220/127	207/120	220/127	230/133	240/138
Voltage Series Delta	V	220	230	240	254	240	254	266	277
Rated Power in Class H (125°C/40°C)	kVA	130	130	130	110	139	150	156	156
	kW	104	104	104	88	111.2	120	124.8	124.8
Rated Power in Class F (105°C/40°C)	kVA	121	121	121	100	129	139	145	145
	kW	96.8	96.8	96.8	80	103.2	111.2	116	116
Rated Power Standby (150°C/40°C)	kVA	142	142	140	116	148	160	167	167
	kW	113.6	113.6	112	92.8	118.4	128	133.6	133.6
Rated Power Standby (163°C/27°C)	kVA	147	147	145	119	157	169	176	176
	kW	117.6	117.6	116	95.2	125.6	135.2	140.8	140.8

EFFICIENCY IN CL. H

4/4		92.3%						92.5%
3/4		92.5%						92.7%
2/4		90.7%						91.4%
1/4		88.2%						89.6%

REACTANCES AND TIME CONSTANTS

pcc	0.45							
X _d - dir. axis synchronous	327%	295%	274%	206%	352%	338%	321%	295%
X' _d - dir. axis transient	21.1%	19.0%	17.7%	13.3%	22.6%	21.7%	20.7%	19.0%
X'' _d - dir. axis subtransient	9.4%	8.5%	7.9%	5.9%	10.1%	9.7%	9.3%	8.5%
X _q - quad. axis reactance	216%	195%	181%	136%	232%	223%	212%	195%
T' _{do} - O.C. field time constant	298 ms							
T' _d - Transient time constant	23 ms							
T'' _d - Sub-transient time constant	10 ms							

MECHANICAL DATA

Bearing non drive end	6309-2RS-C3		
Bearing drive end (B3/B14 form)	6314-2RS-C3		
Weight of generator	in B2	kg	454
	in B3/B14	kg	456

PRO22M E/4

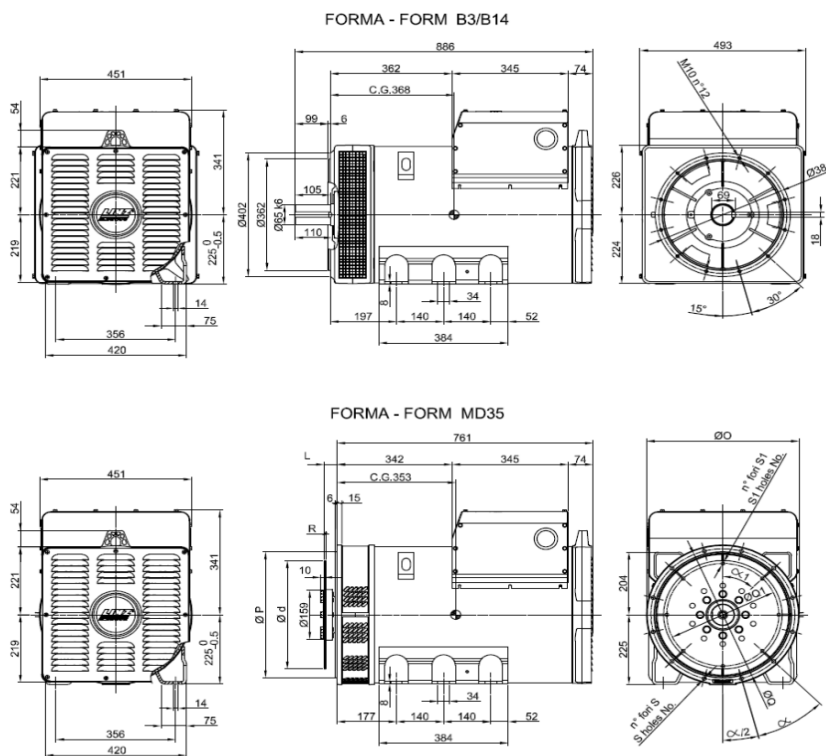
MOMENT OF INERZIA

SAE 10	kg·m ²	1.223
SAE 11½	kg·m ²	1.242
SAE 14	kg·m ²	1.391
B3/B14	kg·m ²	1.16

POWER VARIATION ACCORDING TO TEMPERATURE AND ALTITUDE

		Ambient temperature				
Altitude		25°C	40°C	45°C	50°C	55°C
< 1000m		1.09	1	0.96	0.93	0.91
1000m - 1500m		1.01	0.96	0.92	0.89	0.87
1500m - 2000m		0.96	0.91	0.87	0.84	0.83
2000m - 3000m		0.9	0.85	0.81	0.78	0.76

DIMENSIONS

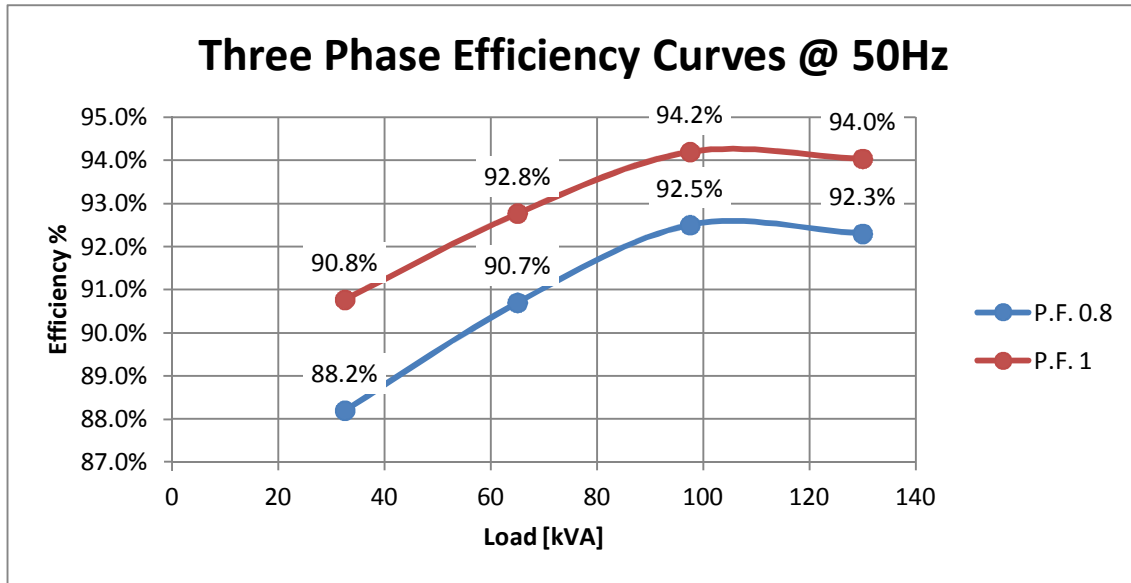


SAE N.	FLANGIE - FLANGES - BRIDAS					
	Ø O	Ø P	Ø Q	n, for holes No.	S	α
3	454	409,6	428,6	12	12	30°
2	492	447,68	466,7			
1	552	511,18	530,2			

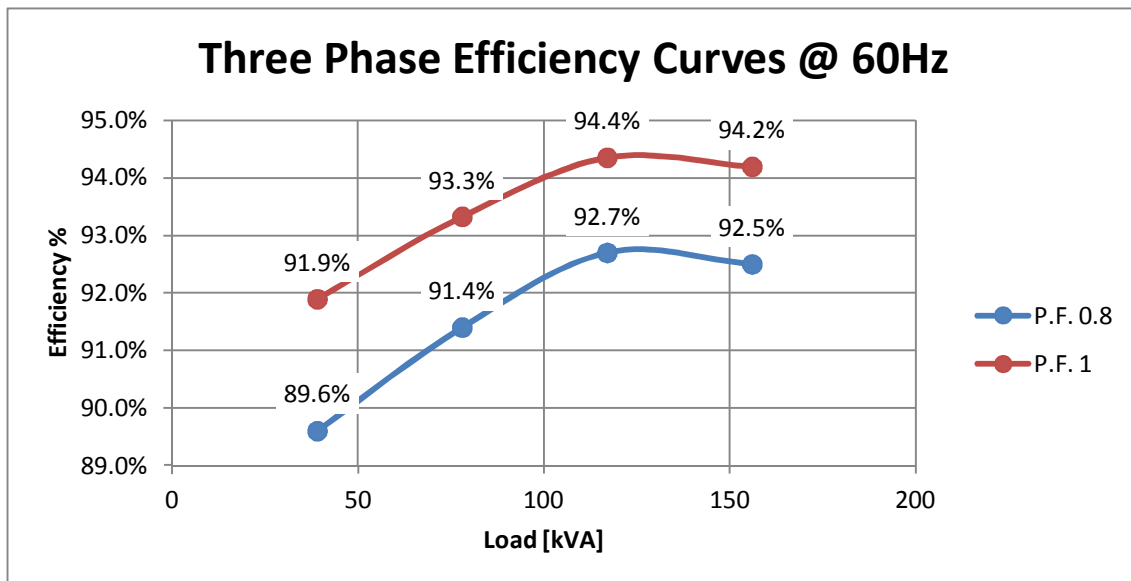
SAE N.	GIUNTI A DISCO - COUPLING DISCS - JUNTAS A DISCOS						
	L	Ø d	Ø Q1	n, for holes No.	S1	α1	R
1 1/2	39,6	352,42	333,37	8	10,5	45°	6
14	25,4	466,72	438,15	8	14	45°	

PRO22M E/4

EFFICIENCY 50Hz

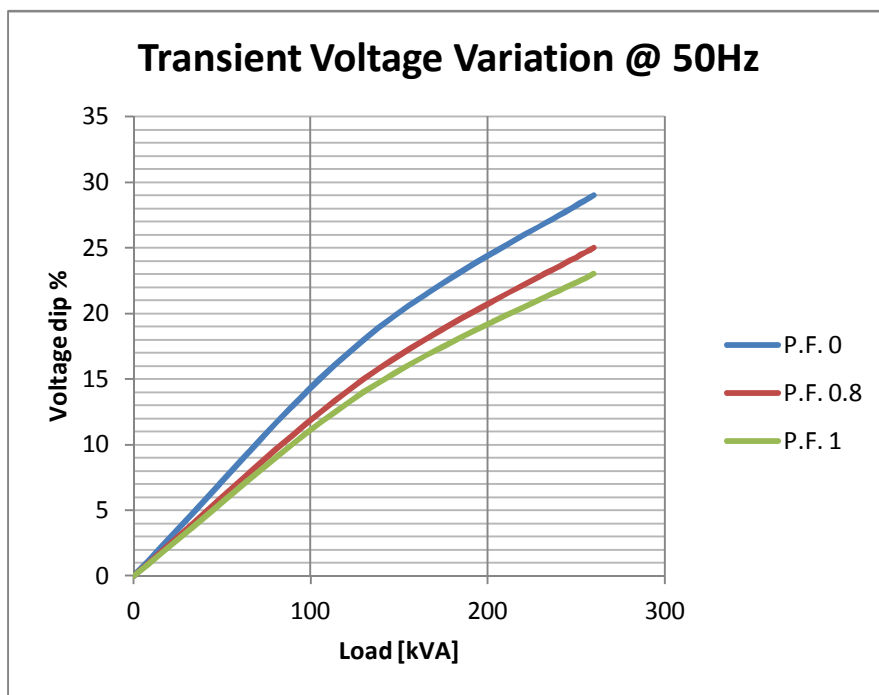


EFFICIENCY 60Hz



PRO22M E/4

TRANSIENT VOLTAGE VARIATION 50Hz



TRANSIENT VOLTAGE VARIATION 60Hz

