

ALTERNATOR PRO18M D/4

Three-phase brushless synchronous alternator with AVR - 4 poles

Technical Data Sheet

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COMMON DATA

Rated Power at 50Hz	kVA	35	
Rated Power at 60Hz	kVA	42	
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	8 at 50Hz	8.3 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	300% 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	0.076Ω at 20°C	
Rotor Winding Resistance	3.24Ω at 20°C	
Exciter Stator Resistance	15Ω at 20°C	
Exciter Rotor Resistance	0.72Ω at 20°C	
THD at full load	<3%	
THD at no load	<3%	
Excitation at no load	A _{dc}	0.91
Excitation at full load	A _{dc}	2.28

STANDARD

References	EN60034-1, ISO8538, EN55011
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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	35	35	35	29	38.5	40	42	42
	kW	28	28	28	23.2	30.8	32	33.6	33.6
Rated Power in Class F (105°C/40°C)	kVA	32	32	31	27.5	36	37	38.5	38.5
	kW	25.6	25.6	24.8	22	28.8	29.6	30.8	30.8
Rated Power Standby (150°C/40°C)	kVA	37	37	36	30	40	42	45	45
	kW	29.6	29.6	28.8	24	32	33.6	36	36
Rated Power Standby (163°C/27°C)	kVA	39	39	37	31	42	45	47	47
	kW	31.2	31.2	29.6	24.8	33.6	36	37.6	37.6

EFFICIENCY IN CL. H

4/4		88.6%						90.4%
3/4		89.1%						90.9%
2/4		86.0%						87.5%
1/4		82.5%						83.0%

REACTANCES AND TIME CONSTANTS

pcc	0.58							
X _d - dir. axis synchronous	266%	240%	224%	164%	296%	272%	261%	240%
X' _d - dir. axis transient	19.9%	18.0%	16.8%	12.3%	22.2%	20.4%	19.6%	18.0%
X'' _d - dir. axis subtransient	7.8%	7.0%	6.5%	4.8%	8.6%	7.9%	7.6%	7.0%
X _q - quad. axis reactance	147%	133%	124%	91%	164%	151%	145%	133%
T' _{do} - O.C. field time constant	147 ms							
T' _d - Transient time constant	11 ms							
T'' _d - Sub-transient time constant	6 ms							

MECHANICAL DATA

Bearing non drive end	6307-2RS-C3		
Bearing drive end (B3/B14 form)	6309-2RS-C3		
Weight of generator	in B2	kg	180
	in B3/B14	kg	181

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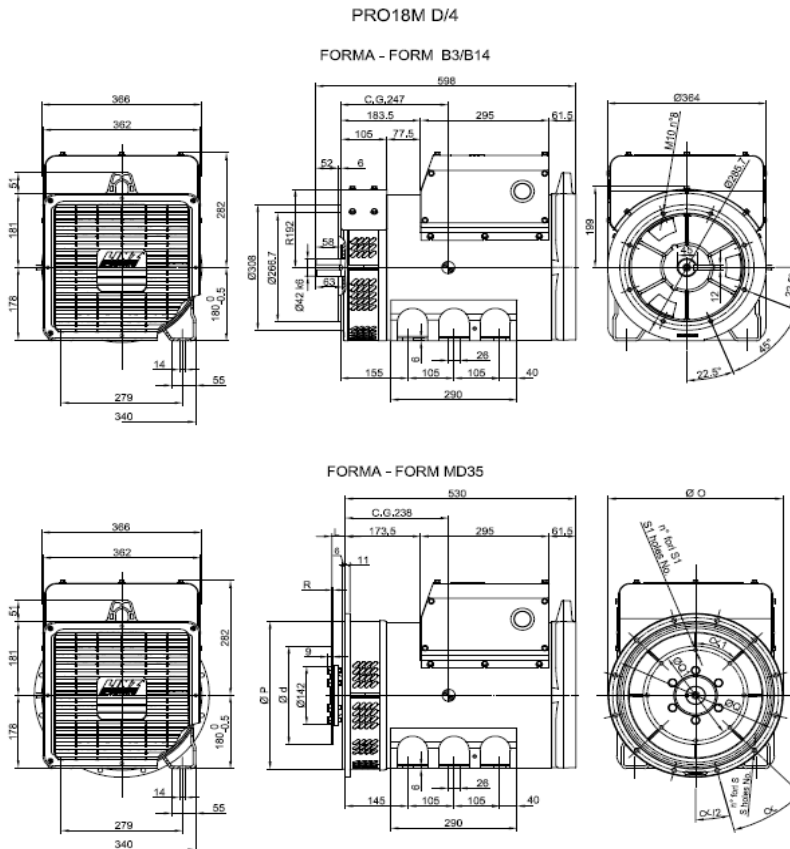
MOMENT OF INERZIA

SAE 7½	kg·m ²	0.321
SAE 8	kg·m ²	0.33
SAE 10	kg·m ²	0.347
SAE 11½	kg·m ²	0.365
B3/B14	kg·m ²	0.313

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

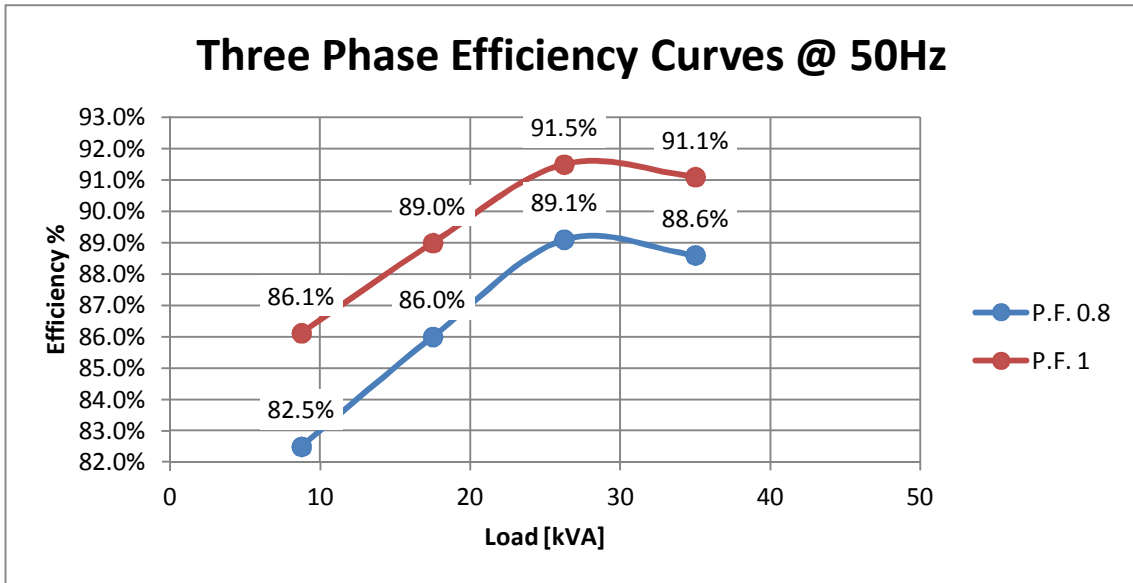
DIMENSIONS



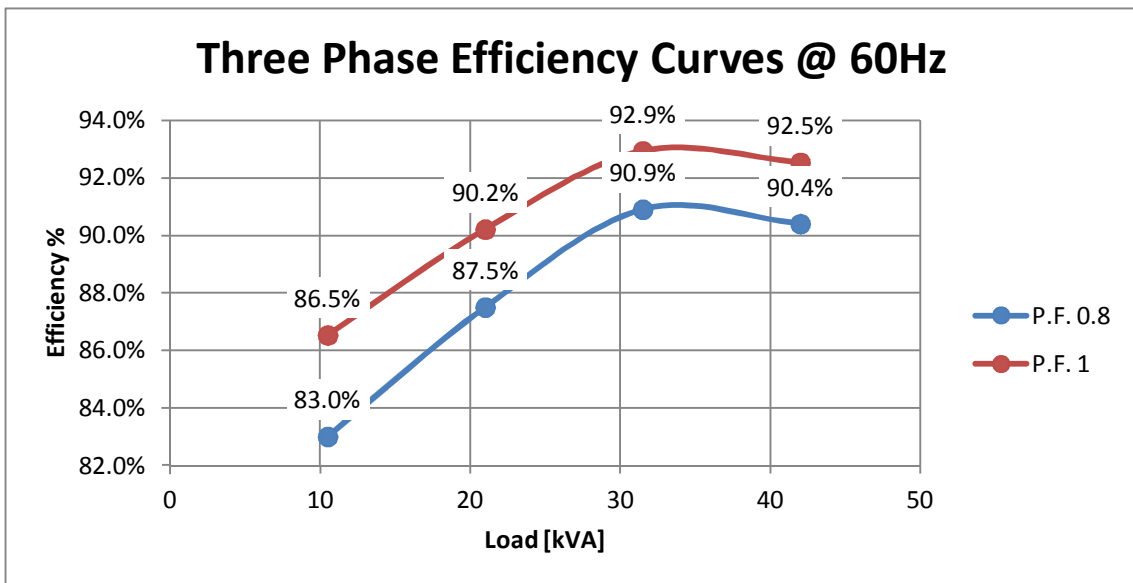
FLANGE - FLANGES - BRIDAS							GIUNTI A DISCO - COUPLING DISCS - JUNTAS A DISCOS							
SAE N.	Ø O	Ø P	Ø Q	n. fori holes No.	S	Cx	SAE N.	L	Ø d	Ø G1	n. fori holes No.	S1	Cx1	FR
5	358	314,3	333,4	8	45°		6 1/2	35,2	215,3	200	8	9	80°	3
4	402	362	381	12	30°		7 1/2	35,2	241,3	222,25	8	9	45°	
3	451	405,8	426,6	12	30°	11	8	62	263,52	244,47	8	10,5	60	
2	480	447,7	466,7	12	30°		10	53,8	314,32	295,27	8	10,5	45°	4,5
							1 1/2	38,6	352,42	333,37	8	10,5	45°	

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EFFICIENCY 50Hz

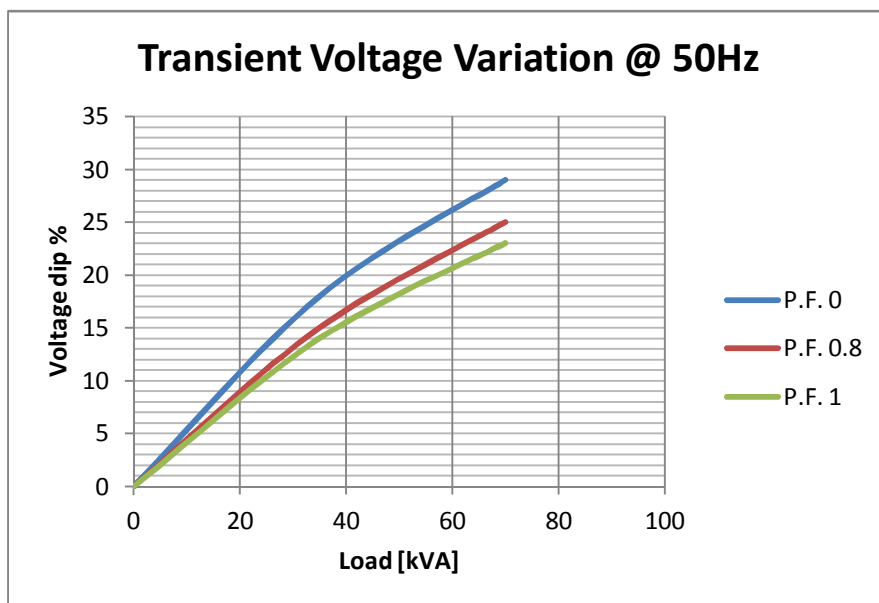


EFFICIENCY 60Hz



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TRANSIENT VOLTAGE VARIATION 50Hz



TRANSIENT VOLTAGE VARIATION 60Hz

