

ALTERNATOR PRO28M E/4

Three-phase brushless synchronous alternator with AVR - 4 poles

Technical Data Sheet

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COMMON DATA

Rated Power at 50Hz	kVA	300	
Rated Power at 60Hz	kVA	360	
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	38.5 at 50Hz	43.4 at 60Hz
Telephone Interference		<2%	
R.F.I. Suppression		Standard EN55011	

REGULATION DATA

AVR	HVR30		
Sensing	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	0.0106Ω at 20°C		
Rotor Winding Resistance	2.52Ω at 20°C		
Exciter Stator Resistance	15Ω at 20°C		
Exciter Rotor Resistance	0.25Ω at 20°C		
THD at full load	<3%		
THD at no load	<3%		
Excitation at no load	A _{dc}	0.63	
Excitation at full load	A _{dc}	2.32	

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	300	300	300	288	335	360	360	360
	kW	240	240	240	230.4	268	288	288	288
Rated Power in Class F (105°C/40°C)	kVA	250	250	250	240	277	300	300	300
	kW	200	200	200	192	221.6	240	240	240
Rated Power Standby (150°C/40°C)	kVA	310	310	310	297	345	370	370	370
	kW	248	248	248	237.6	276	296	296	296
Rated Power Standby (163°C/27°C)	kVA	325	325	325	312	365	390	390	390
	kW	260	260	260	249.6	292	312	312	312

EFFICIENCY IN CL. H

4/4		92.9%						93.3%
3/4		93.3%						93.7%
2/4		92.3%						92.8%
1/4		89.7%						90.2%

REACTANCES AND TIME CONSTANTS

pcc		0.39						
X _d - dir. axis synchronous		390%	352%	327%	279%	438%	419%	383%
X' _d - dir. axis transient		20.5%	18.5%	17.2%	14.7%	23.0%	22.0%	20.1%
X'' _d - dir. axis subtransient		10.0%	9.0%	8.4%	7.1%	11.2%	10.7%	9.8%
X _q - quad. axis reactance		233%	210%	195%	167%	261%	250%	229%
T' _{do} - O.C. field time constant		1850 ms						
T' _d - Transient time constant		116 ms						
T'' _d - Sub-transient time constant		14 ms						

MECHANICAL DATA

Bearing non drive end		6314-2RS-C3	
Bearing drive end (B3/B14 form)		6316-2RS-C3	
Weight of generator	in B2	kg	813
	in B3/B14	kg	818

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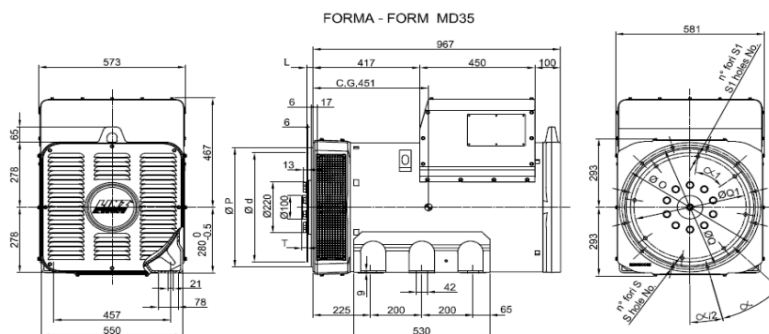
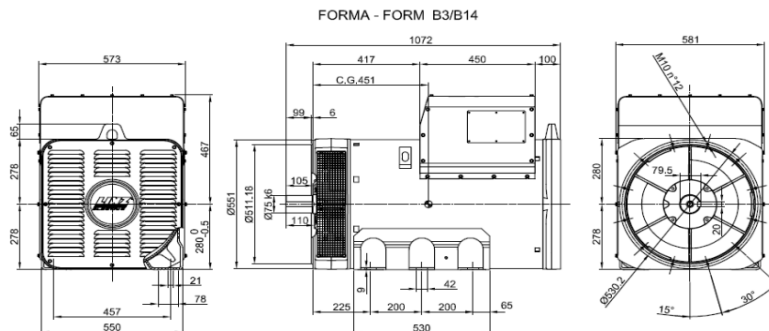
MOMENT OF INERZIA

SAE 11½	kg·m ²	3.248
SAE 14	kg·m ²	3.394
B3/B14	kg·m ²	3.079

POWER VARIATION ACCORDING TO TEMPERATURE AND ALTITUDE

Altitude	Ambient temperature				
	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

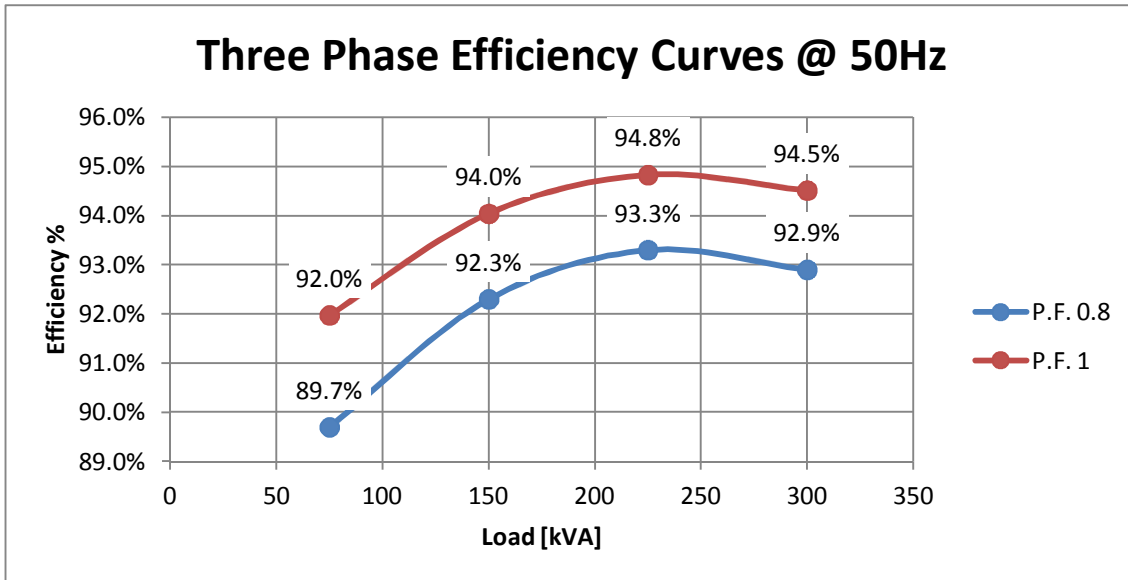


SAE N.	FLANGIE - FLANGES - BRIDAS					
	Ø O	Ø P	Ø Q	n. fori holes No.	S	α
3	451	409.6	428.8			
2	490	447.68	466.7	12	12	30°
1	552	511.18	530.2			

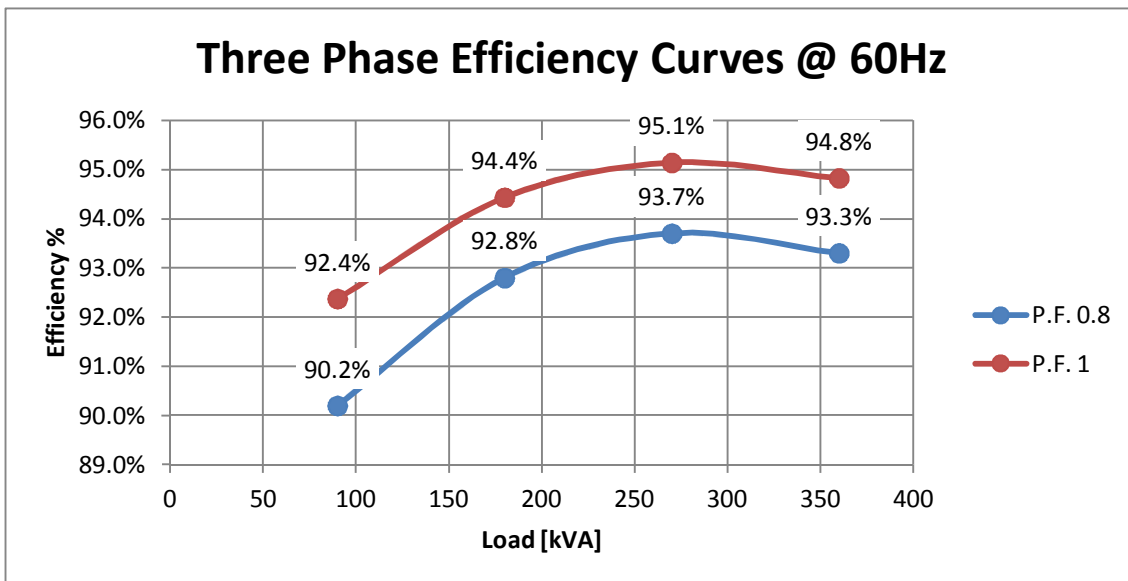
SAE N.	GIUNTI A DISCO - COUPLING DISCS - JUNTAS A DISCOS						
	L	Ø d	Ø Q1	n. fori holes No.	S1	α1	T
1 1/2	39.6	352.42	333.37	8	10.5	45°	0
1 4	25.4	466.72	438.15	8	14	45°	17.3

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EFFICIENCY 50Hz

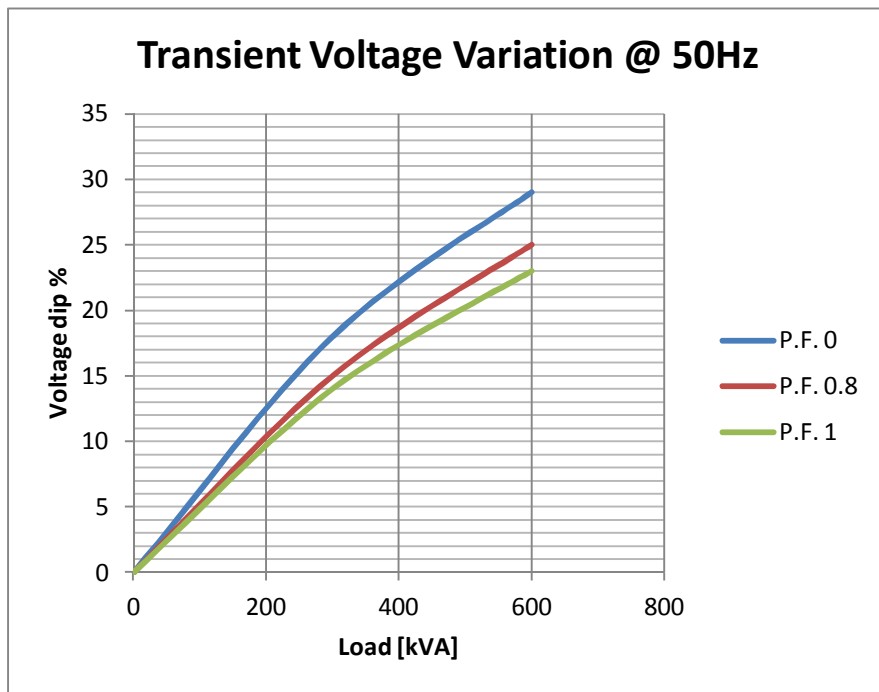


EFFICIENCY 60Hz



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TRANSIENT VOLTAGE VARIATION 50Hz



TRANSIENT VOLTAGE VARIATION 60Hz

