



ALTERNATOR PRO28L G/4

Three-phase brushless synchronous alternator with AVR - 4 poles

Technical Data Sheet

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COMMON DATA

Rated Power at 50Hz	kVA	400	
Rated Power at 60Hz	kVA	480	
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	44.4 at 50Hz	49.6 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	6		
Stator Winding Resistance	0.0061Ω at 20°C		
Rotor Winding Resistance	3.15Ω 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}	0.6	
Excitation at full load	A _{dc}	2.2	

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 Star Connection	V	380/220	400/230	415/240	440/254	415/240	440/254	460/266	480/277
Voltage Delta Connection	V	220	230	240	254	240	254	266	277
Rated Power in Class H (125°C/40°C)	kVA	400	400	400	380	430	460	480	480
	kW	320	320	320	304	344	368	384	384
Rated Power in Class F (105°C/40°C)	kVA	360	360	360	340	386	415	430	430
	kW	288	288	288	272	308.8	332	344	344
Rated Power Standby (150°C/40°C)	kVA	410	410	410	390	435	470	490	490
	kW	328	328	328	312	348	376	392	392
Rated Power Standby (163°C/27°C)	kVA	420	420	420	400	445	480	500	500
	kW	336	336	336	320	356	384	400	400

EFFICIENCY IN CL. H

4/4		93.8%						94.2%
3/4		94.0%						94.4%
2/4		93.1%						93.5%
1/4		90.0%						90.1%

REACTANCES AND TIME CONSTANTS

pcc		0.41						
X _d - dir. axis synchronous		366%	330%	307%	259%	395%	376%	359%
X' _d - dir. axis transient		19.9%	18.0%	16.7%	14.1%	21.6%	20.5%	19.6%
X'' _d - dir. axis subtransient		10.0%	9.0%	8.4%	7.1%	10.8%	10.3%	9.8%
X _q - quad. axis reactance		233%	210%	195%	165%	252%	240%	229%
T' _{do} - O.C. field time constant		1910 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
		1042
	in B3/B14	kg
		1047

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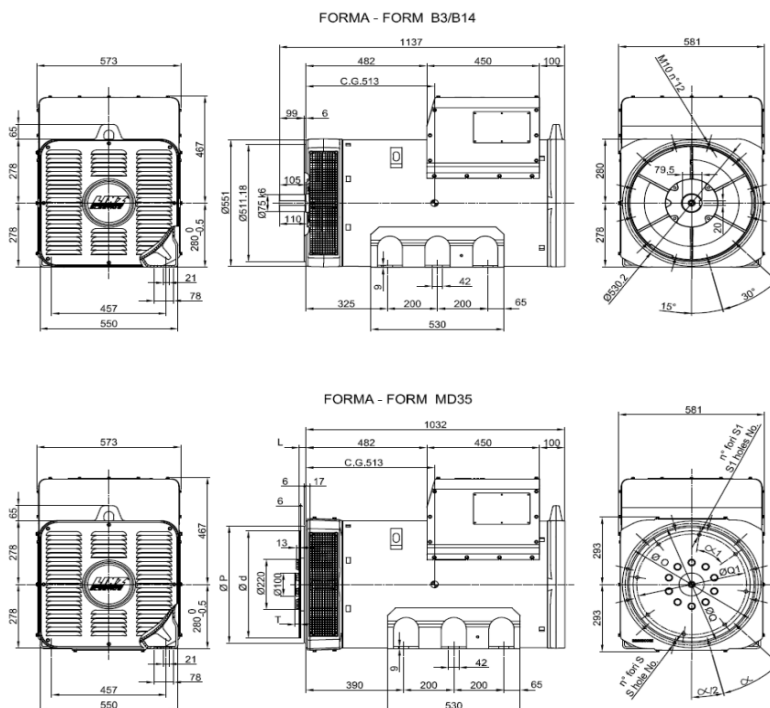
MOMENT OF INERZIA

SAE 11½	kg·m ²	4.885
SAE 14	kg·m ²	5.032
B3/B14	kg·m ²	4.737

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

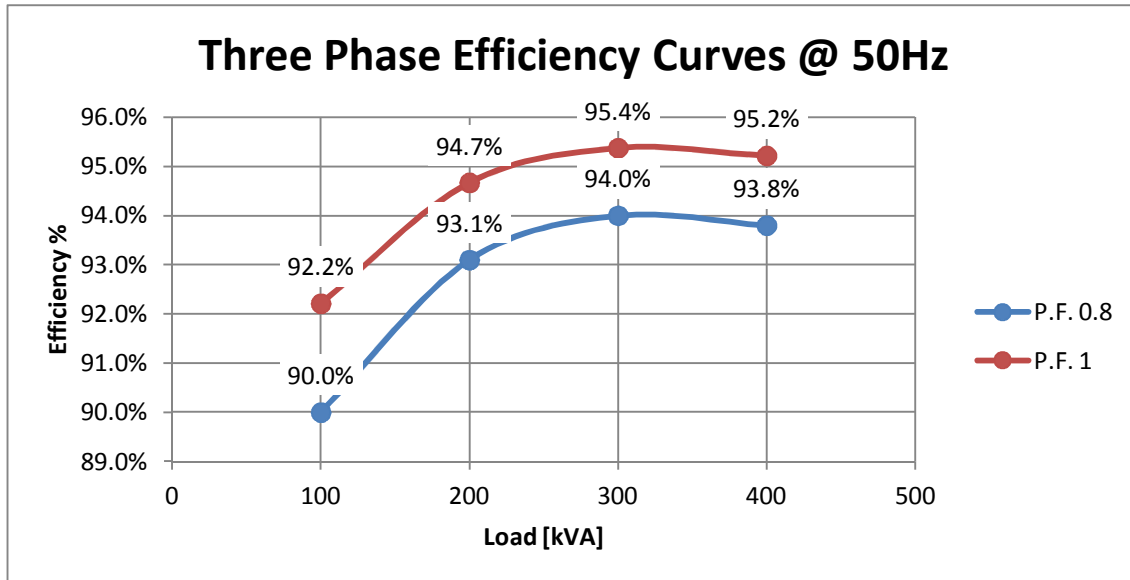


SAE N.	FLANGIE - FLANGES - BRIDAS					
	Ø O	Ø P	Ø Q	n. fori holes No.	S	CX
3	451	409.6	426.6			
2	490	447.68	466.7	12	12	30°
1	552	511.18	530.2			

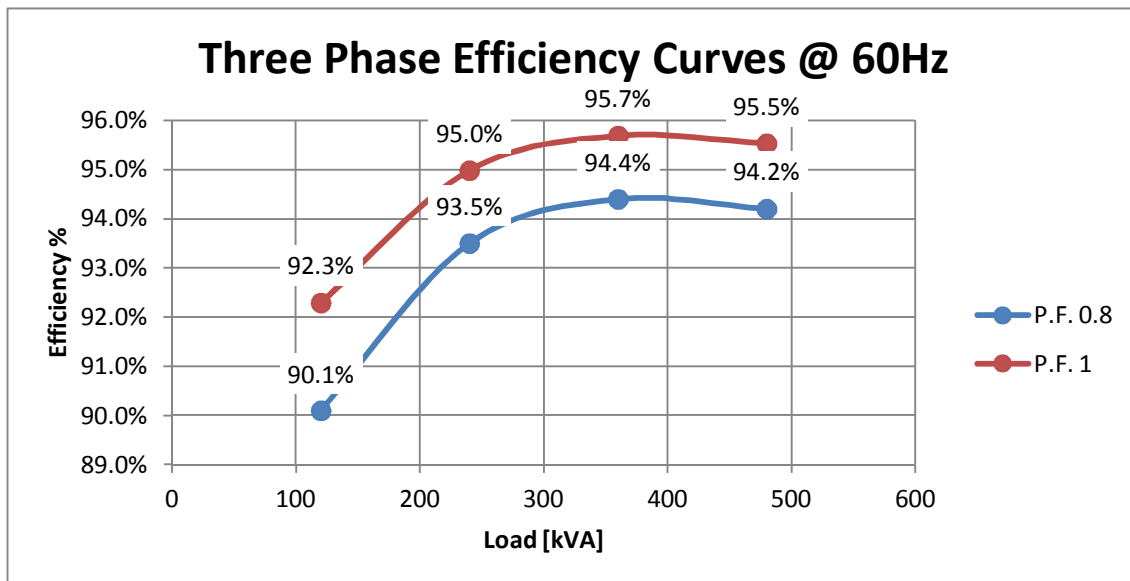
SAE N.	GIUNTI A DISCO - COUPLING DISCS - JUNTAS A DISCOS						
	L	Ø d	Ø Q1	n. fori holes No.	S1	Cx1	T
1 1 1/2	39.6	352.42	333.37	8	10.5	45°	0
1 4	25.4	486.72	438.15	8	14	45°	17.3

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EFFICIENCY 50Hz

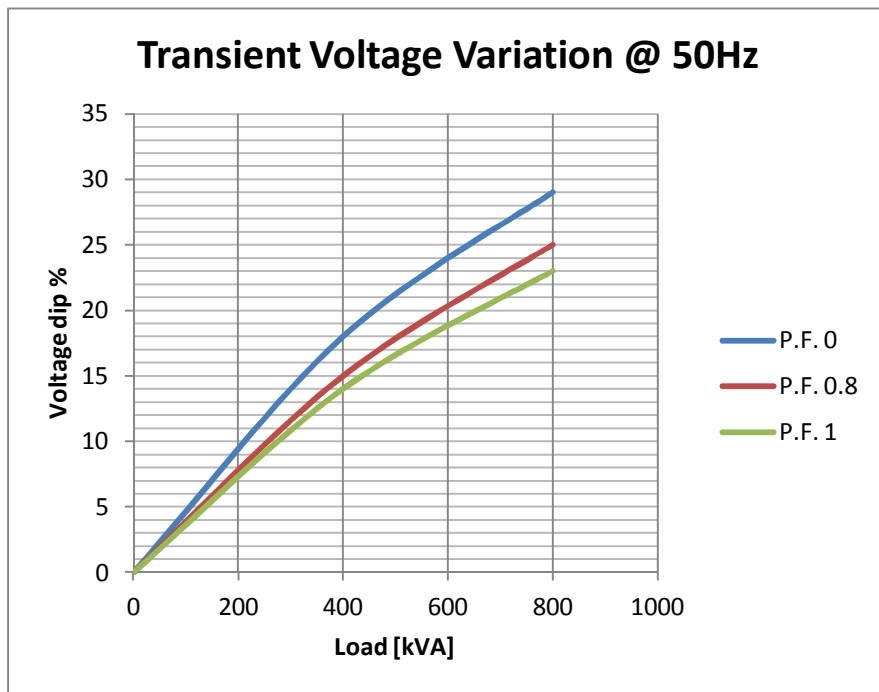


EFFICIENCY 60Hz



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TRANSIENT VOLTAGE VARIATION 50Hz



TRANSIENT VOLTAGE VARIATION 60Hz

