

ALTERNATOR PRO18S A/4

Three-phase brushless synchronous alternator with AVR - 4 poles

Technical Data Sheet

PRO18S A/4

COMMON DATA

Rated Power at 50Hz	kVA	20	
Rated Power at 60Hz	kVA	24	
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	5.5 at 50Hz	5.7 at 60Hz
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	0.23Ω at 20°C	
Rotor Winding Resistance	2.43Ω 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}	0.92
Excitation at full load	A _{dc}	2.15

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	20	20	20	18	21	23	24	24
	kW	16	16	16	14.4	16.8	18.4	19.2	19.2
Rated Power in Class F (105°C/40°C)	kVA	18.5	18.5	18.5	17	20	21	22	22
	kW	14.8	14.8	14.8	13.6	16	16.8	17.6	17.6
Rated Power Standby (150°C/40°C)	kVA	22	22	21.5	20	24	25	26	26
	kW	17.6	17.6	17.2	16	19.2	20	20.8	20.8
Rated Power Standby (163°C/27°C)	kVA	23	23	22.5	21	25	26	27	27
	kW	18.4	18.4	18	16.8	20	20.8	21.6	21.6

EFFICIENCY IN CL. H

4/4		86.1%						87.8%
3/4		86.3%						88.1%
2/4		84.5%						86.3%
1/4		82.0%						83.8%

REACTANCES AND TIME CONSTANTS

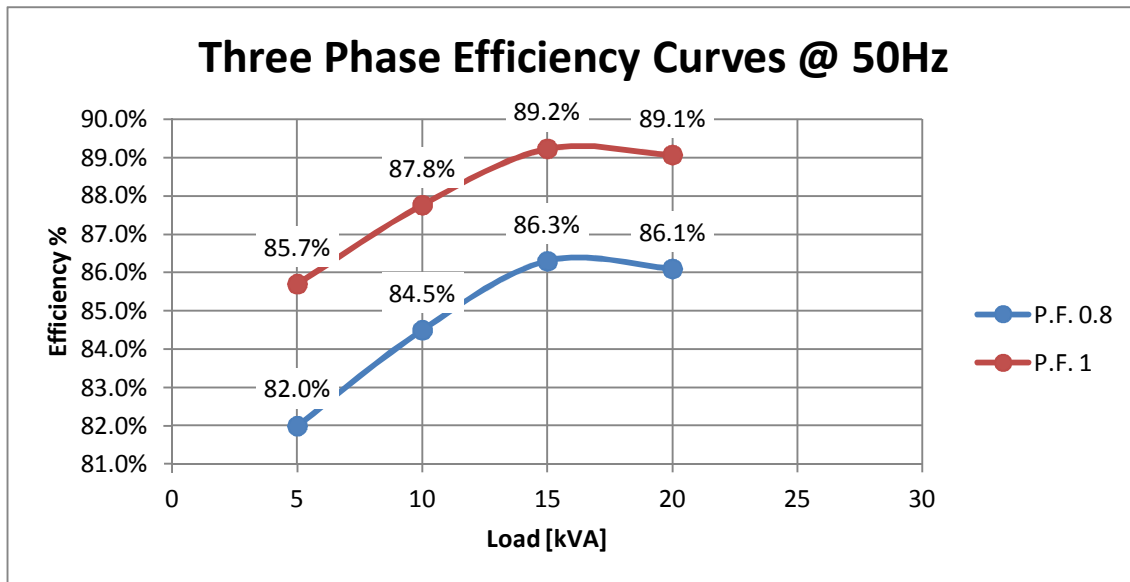
pcc		0.57						
X _d - dir. axis synchronous		265%	242%	222%	182%	293%	275%	262%
X' _d - dir. axis transient		20.8%	19.0%	17.4%	14.3%	23.0%	21.6%	20.6%
X'' _d - dir. axis subtransient		9.8%	9.0%	8.3%	6.8%	10.9%	10.2%	9.8%
X _q - quad. axis reactance		145%	133%	122%	100%	161%	151%	144%
T' _{do} - O.C. field time constant		103 ms						
T' _d - Transient time constant		7 ms						
T'' _d - Sub-transient time constant		5 ms						

MECHANICAL DATA

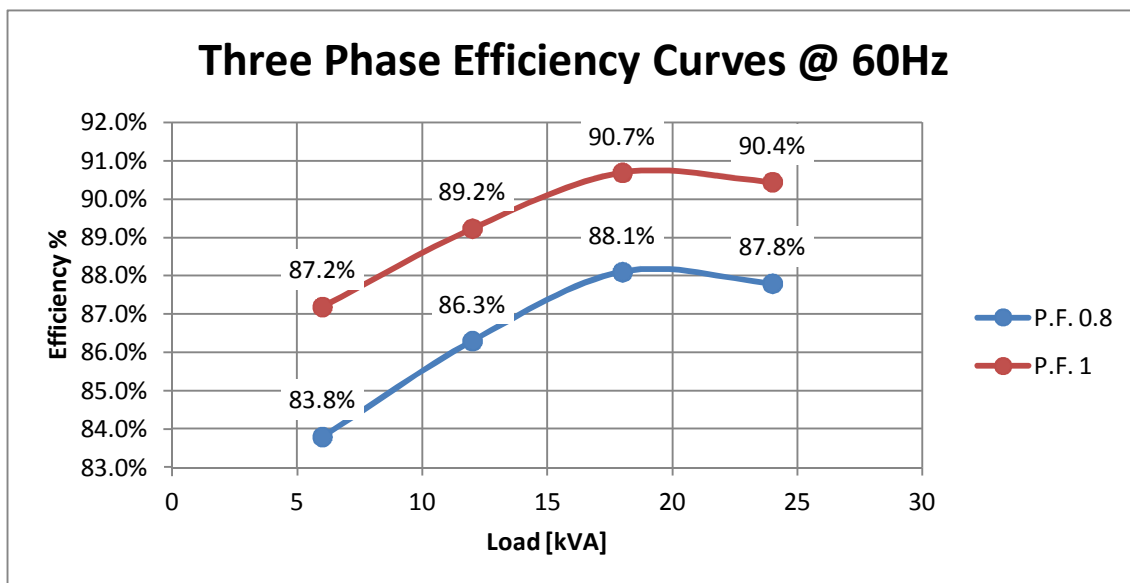
Bearing non drive end		6307-2RS-C3	
Bearing drive end (B3/B14 form)		6309-2RS-C3	
Weight of generator	in B2	kg	131
	in B3/B14	kg	133

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EFFICIENCY 50Hz

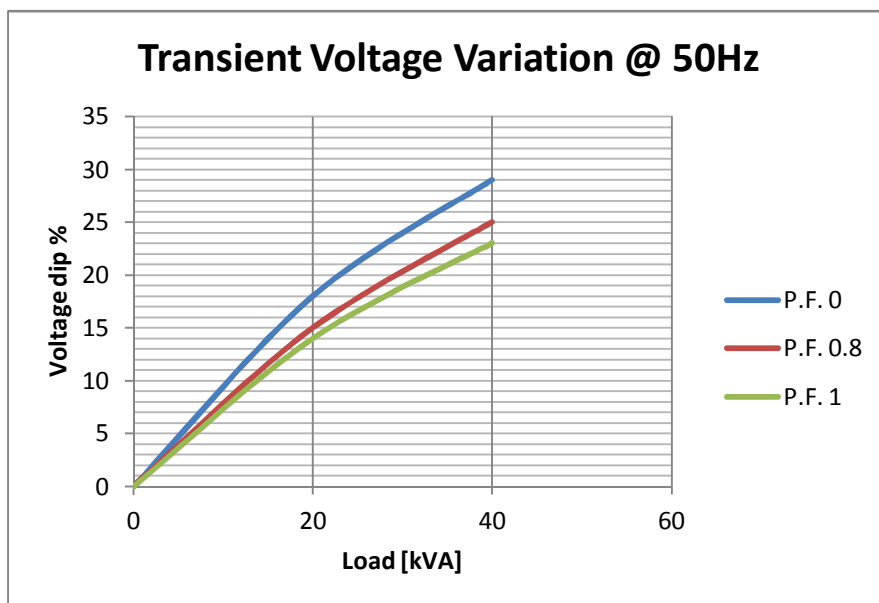


EFFICIENCY 60Hz



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TRANSIENT VOLTAGE VARIATION 50Hz



TRANSIENT VOLTAGE VARIATION 60Hz

