ALTERNATOR PRO18S C/4

Three-phase brushless synchronous alternator with AVR - 4 poles

Technical Data Sheet

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COMMON DATA

Rated Power at 50Hz	kVA	30	
Rated Power at 60Hz	kVA	36	
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	6.9 at 50Hz	7.1 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		0.12Ω at 20°C
Rotor Winding Resistance		2.9Ω 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}	2.23

STANDARD

References	EN60034-1, ISO8538, EN55011

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ELECTRICAL DATA

Frequency		50Hz - 1500rpm				60Hz - 1800rpm			
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	kVA	30	30	30	25	34	35	36	36
(125°C/40°C)	kW	24	24	24	20	27.2	28	28.8	28.8
Rated Power in Class F	kVA	28	28	28	24	32	33	33.5	33.5
(105°C/40°C)	kW	22.4	22.4	22.4	19.2	25.6	26.4	26.8	26.8
Rated Power Standby	kVA	33	33	32	27.5	36	36.5	38	38
(150°C/40°C)	kW	26.4	26.4	25.6	22	28.8	29.2	30.4	30.4
Rated Power Standby	kVA	34	34	33	28	35	37.5	39	39
(163°C/27°C)	kW	27.2	27.2	26.4	22.4	28	30	31.2	31.2

EFFICIENCY IN CL. H

4/4		87.1%						88.8%
3/4		87.5%						89.3%
2/4		85.0%						87.0%
1/4		81.3%						82.2%

REACTANCES AND TIME CONSTANTS

ρcc			0.58						
Xd	- dir. axis synchronous	269%	243%	227%	167%	309%	281%	265%	243%
X'd	- dir. axis transient	21.1%	19.0%	17.7%	13.1%	24.1%	22.0%	20.7%	19.0%
X''d	- dir. axis subtransient	8.9%	8.0%	7.5%	5.5%	10.2%	9.3%	8.7%	8.0%
X_q	- quad. axis reactance	150%	135%	126%	93%	171%	156%	147%	135%
T'_{do}	- O.C. field time constant	125 ms							
T'_d	- Transient time constant	10 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	159
	in B3/B14	kg	161

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MOMENT OF INERZIA

SAE 7½	kg·m^2	0.279
SAE 8	kg·m^2	0.288
SAE 10	kg·m^2	0.306
SAE 11½	kg·m^2	0.325
B3/B14	kg·m^2	0.272

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

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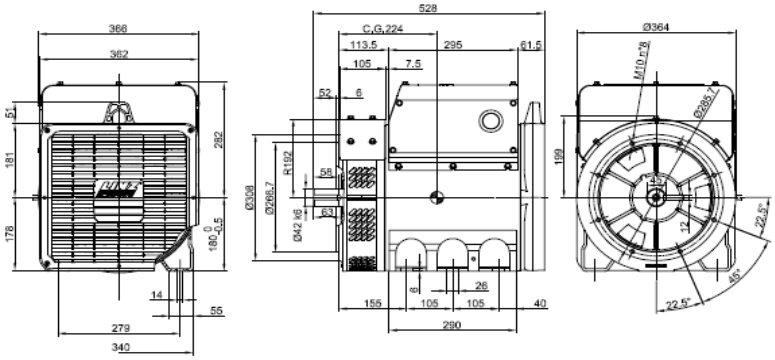
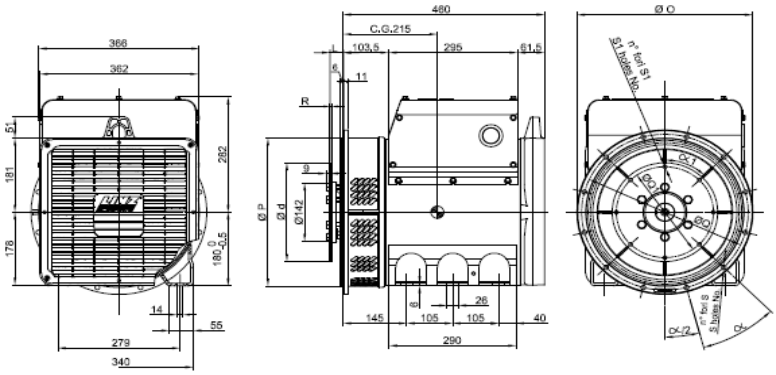
FORMA - FORM B3/B14



FORMA - FORM MD35



SAE N.	FLANGE - FLANGES - BRIDAS Ø O	Ø P	Ø Q	n. fori holes No.	S	α
5	356	314,3	333,4	8	11	45°
4	402	362	381	12		30°
3	451	409,6	428,6	12		30°
2	490	447,7	466,7	12		30°

SAE N.	GIUNTI A DISCO - COUPLING DISCS - JUNTAS A DISCOS L	Ø d	Ø Q1	n. fori holes No.	S1	α1	R
6 1/2	30,2	215,9	200	6	9	60°	3
7 1/2	30,2	241,3	222,25	8	9	45°	
8	62	263,52	244,47	6	10,5	60	4,5
10	53,8	314,32	295,27	8	10,5	45°	
11 1/2	39,6	352,42	333,37	8	10,5	45°	

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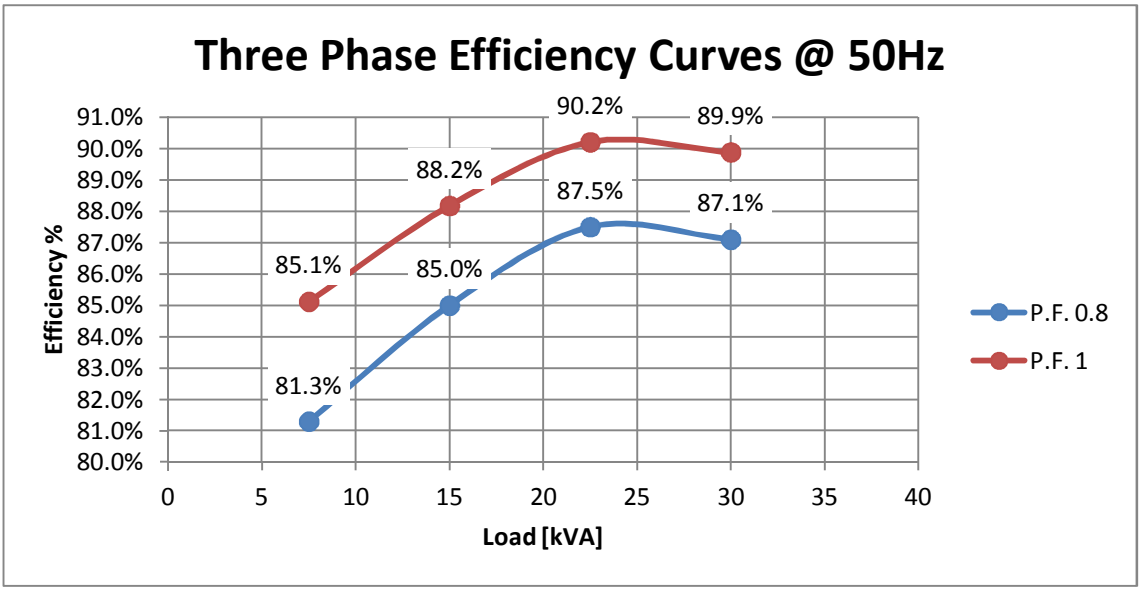
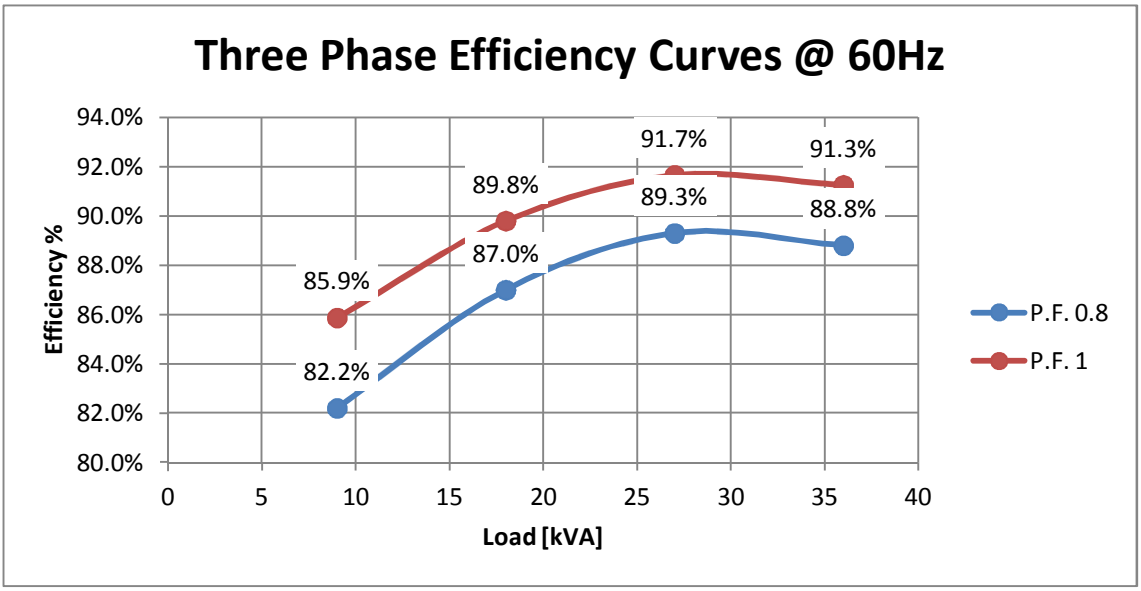
EFFICIENCY 50Hz



EFFICIENCY 60Hz



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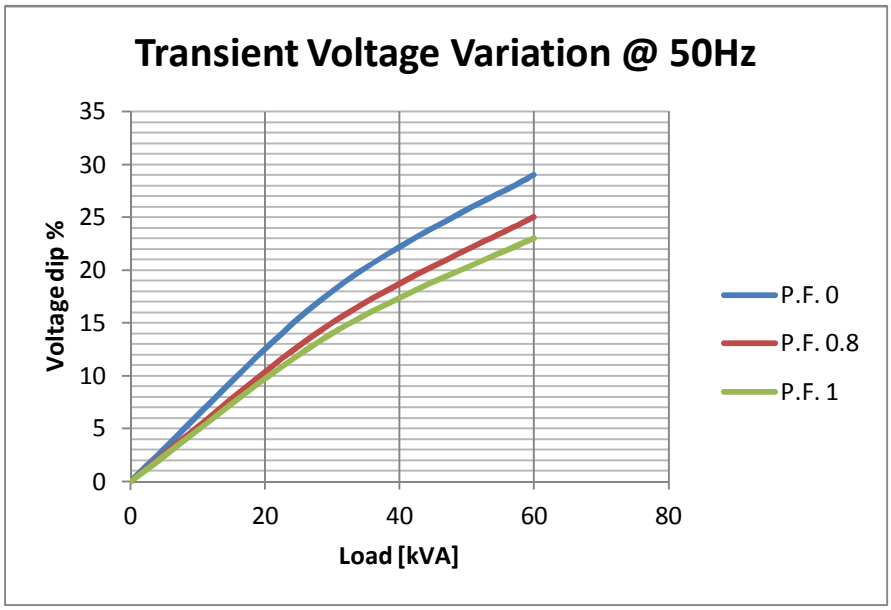
TRANSIENT VOLTAGE VARIATION 50Hz



TRANSIENT VOLTAGE VARIATION 60Hz