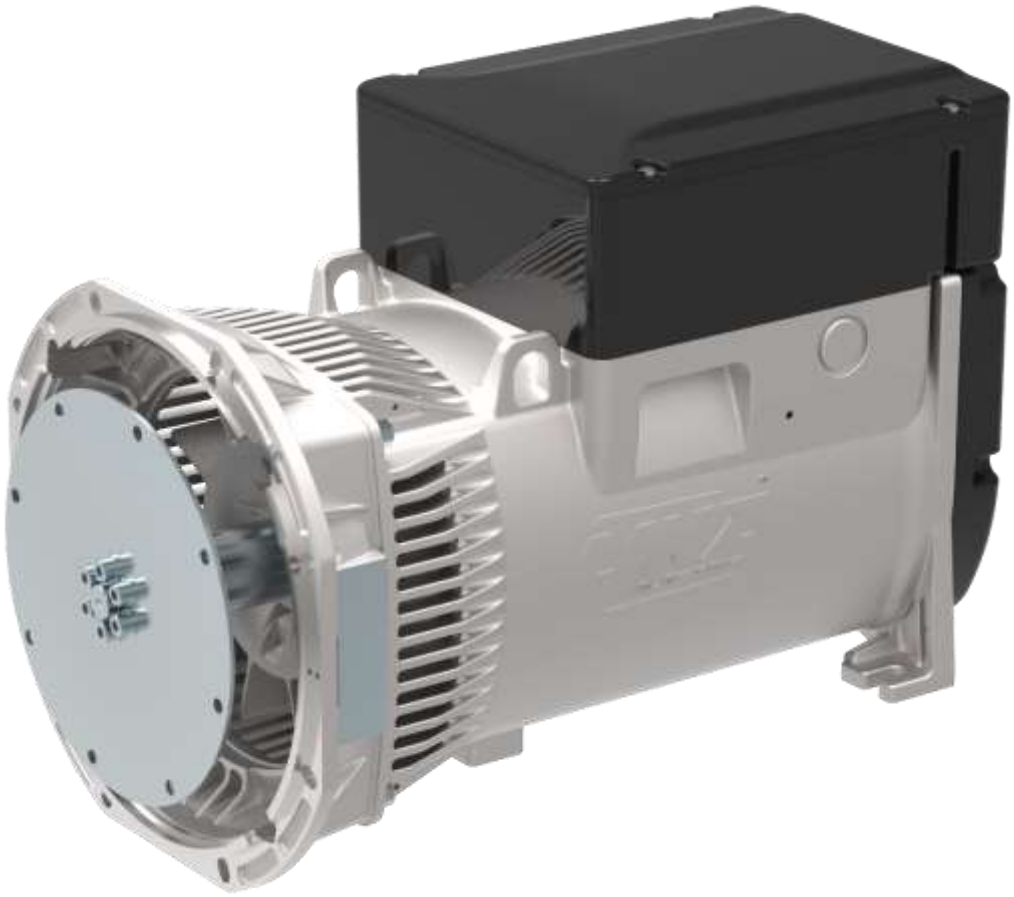
TECHNICAL DATA SHEET



ALTERNATOR E1S13M F/4

Three-Phase synchronous alternator with brushes and compound - 4 poles

E1S13M F/4

COMMON DATA

Rated Power at 50Hz	kVA	20,0	
Rated Power at 60Hz	kVA	24,0	
Rated Power Factor		0,8	
Nominal Temperature	°C	40	
Control System		self-excited	
Execution		with brushes	
Regulation Type		compound	
Insulation Class		H	
Protection		IP21	
Maximum Over speed	rpm	2250	
Overload		110% of rated power for one hour in a cycle of 6 hours	
Air Flow Requirement	m^3/min	4,6 at 50Hz	5,5 at 60Hz
R.F.I. Suppression		Standard EN55011	

REGULATION DATA

Compound	Compound
Voltage Regulation	±4%
Sustained Short Circuit	> 300 of rated current

WINDING DATA

Stator Winding		Double layer
Rotor Winding		with damping cage
Number of Leads of Stator		6
Stator Winding Resistance	Ω	0,38 at 20°C
Rotor Winding Resistance	Ω	9,86 at 20°C
THD at full load		<3,5%
THD at no load		<3%
Excitation at no Load	Adc	3,35
Excitation at full Load	Adc	7,7

STANDARD

References	EN60034-1 ISO8528-3 EN55011

ON REQUEST

UL 1446, Systems of Insulating Materials - General CSA-C22.2 No. 0, Appendix B, General Requirements - Canadian Electrical Code, Part I

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ELECTRICAL DATA

Frequency		50Hz - 1500rpm	60Hz - 1800rpm
Voltage Series Star	V	**400/230**	**480/277**
Rated Power in Class H (125°C/40°C)	kVA	20,0	24,0
	kW	16,0	19,2
Rated Power in Class F (105°C/40°C)	kVA	18,3	22,0
	kW	14,64	17,6
Rated Power Standby (150°C/40°C)	kVA	22,0	26,0
	kW	17,6	20,8
Rated Power Standby (163°C/27°C)	kVA	22,5	26,5
	kW	18,0	21,2

EFFICIENCY IN CL. H

4/4	86,0%	86,5%
3/4	86,2%	86,8%
2/4	82,0%	83,3%
1/4	77,2%	77,7%

REACTANCES AND TIME CONSTANTS

Pcc		0,90
Xd	- dir. axis synchronous	157%
X'd	- dir. axis transient	21,0%
X''d	- dir. axis subtransient	7,6%
X_q	- quad. axis reactance	135%
T'_{do}	- O.C. field time constant	400ms
T'_d	- Transient time constant	53ms
T''_d	- Sub-transient time constant	6,4ms

MECHANICAL DATA

Bearing non drive end			6305-2Z-C3
Bearing drive end (B3/B14 form)			6208-2Z-C3
Weight of generator	in B2	kg	94,0
	in B3/B14	kg	89,9
	in B3/B9	kg	87,0

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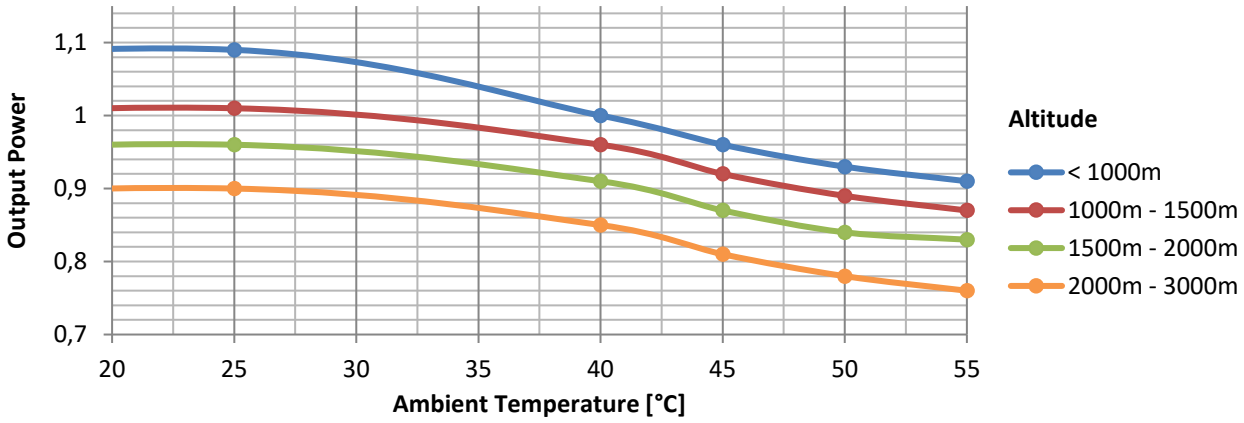
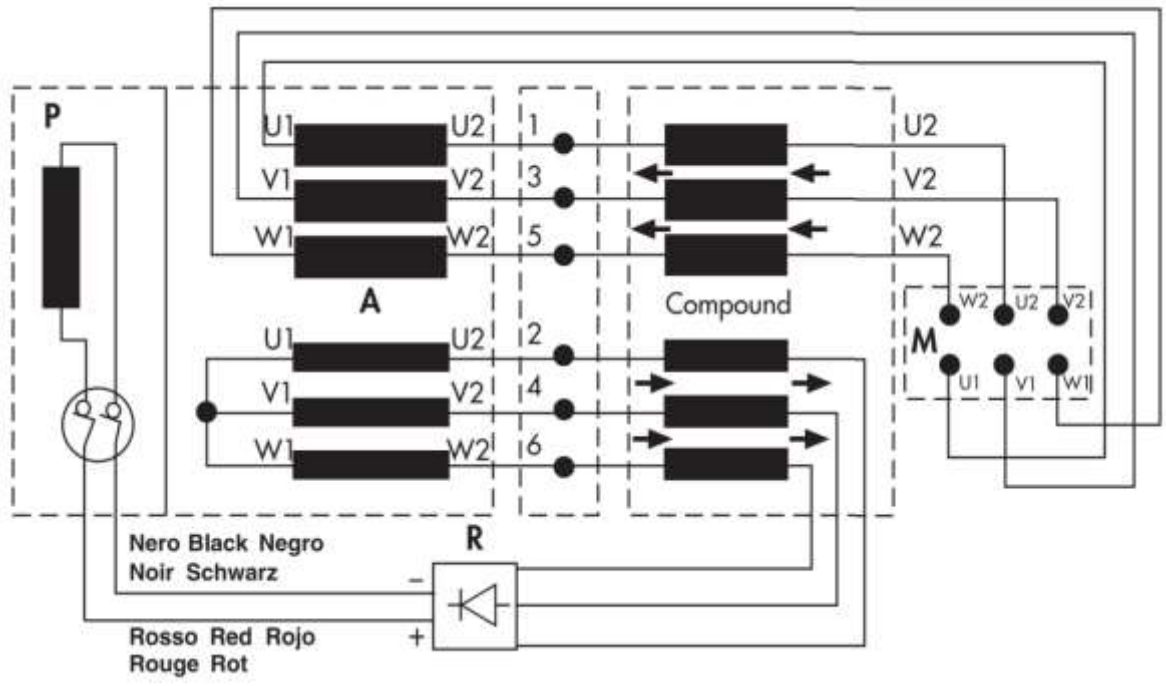
MOMENT OF INERZIA

B3/B9	kg·m²	0,075
B2	kg·m²	0,077
B3/B14	kg·m²	0,075

DERATING CURVES



WIRING DIAGRAM



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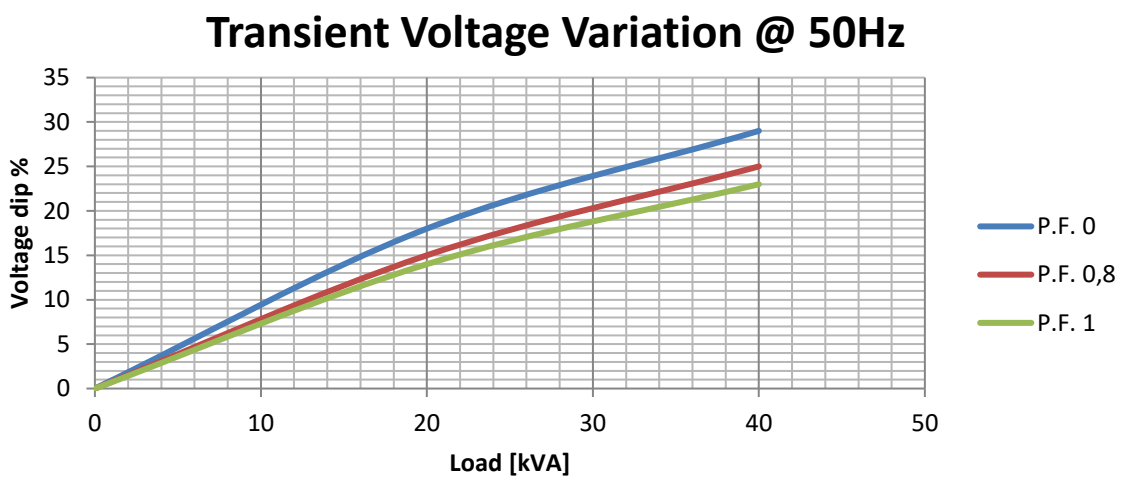
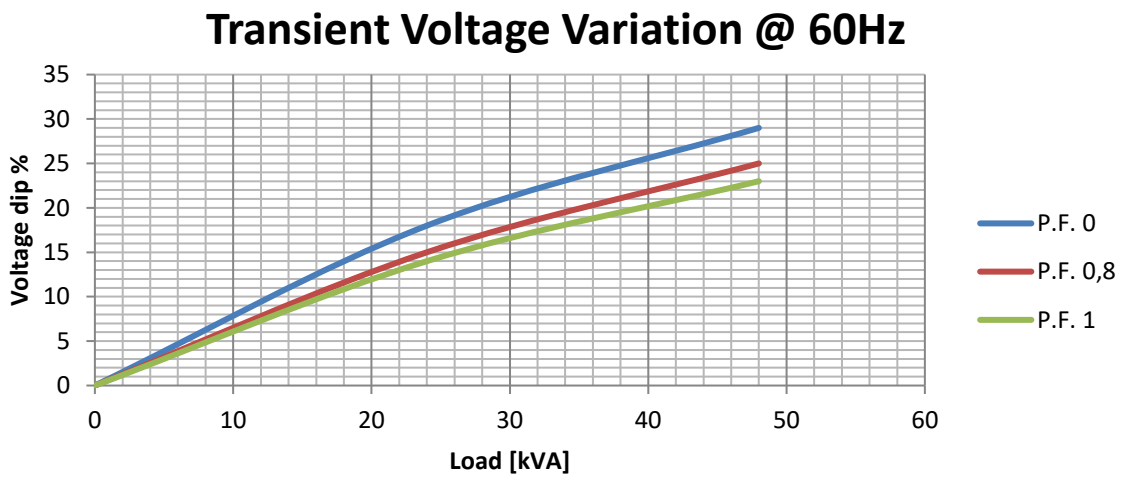
TRANSIENT VOLTAGE VARIATION 50Hz



TRANSIENT VOLTAGE VARIATION 60Hz



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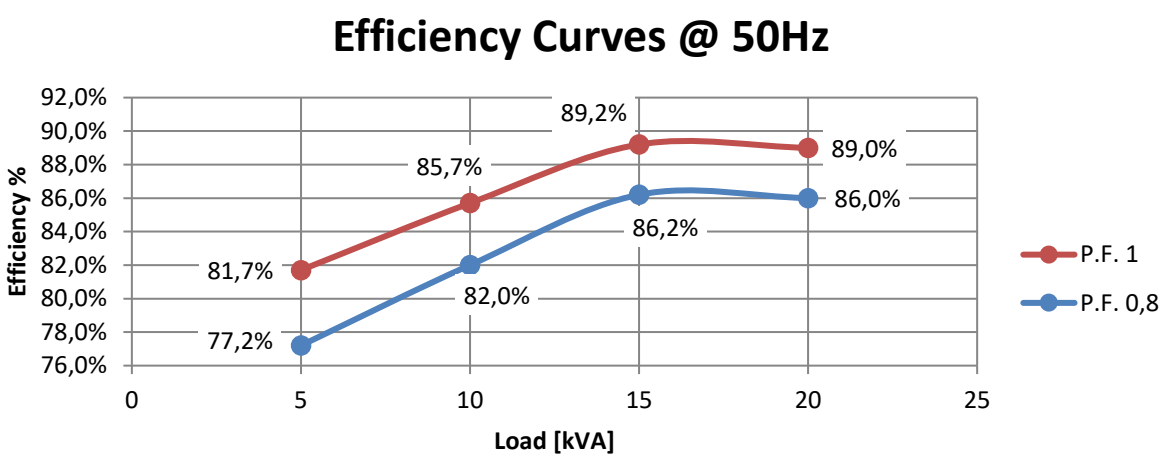
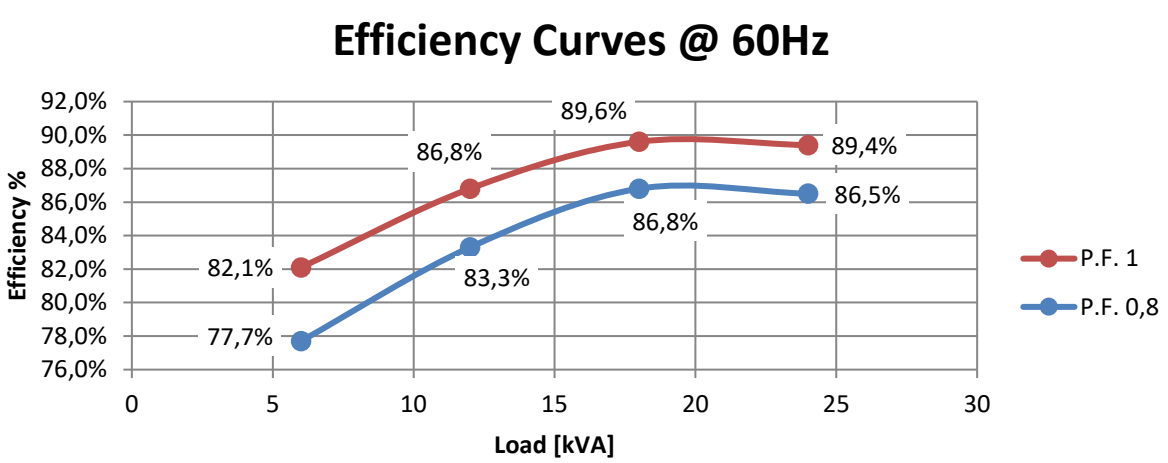
EFFICIENCY 50Hz

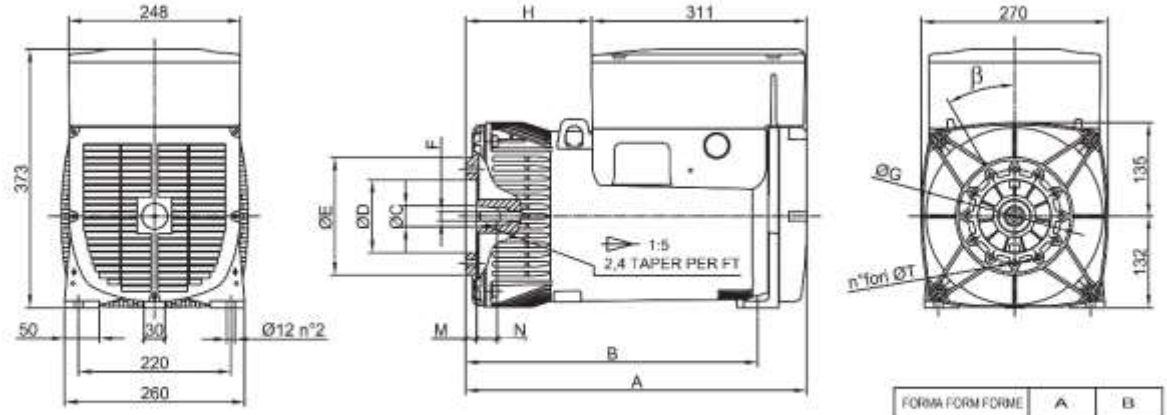


EFFICIENCY 60Hz



E1S13M F/4

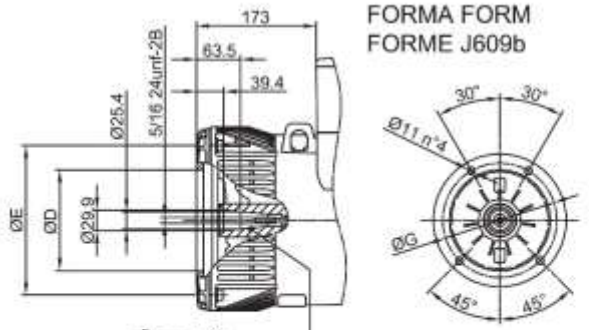
FORMA FORM FORME B3/B9



FORMA FORM FORME	ØC	ØD	ØE	F	ØG	H	M	N	n°fori	ØT	β
cono Ø30	Ø30	Ø105	Ø170	M14x1.5	Ø135	182	16	30	12	Ø9	30°
cono Ø38	Ø38	Ø125	Ø185	M18x1.5	Ø150	173	5	30	4	Ø11	β/2 45°

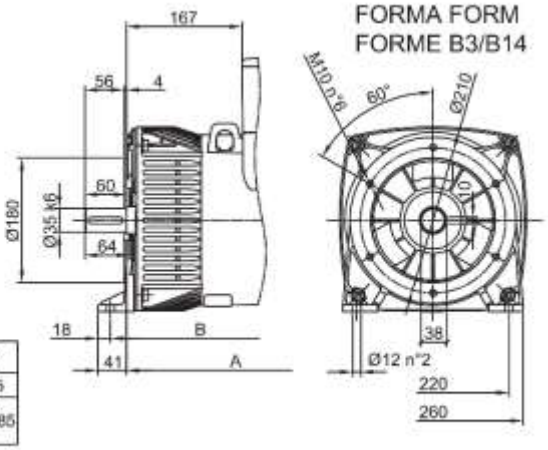
FORMA FORM FORME	A	B
B3B9 cono Ø30	493	422
B3B9 c.Ø38-J609b	484	413
B3/B14	478	430
MD35 - LOMB. STD	526	455

FORMA FORM FORME J609b

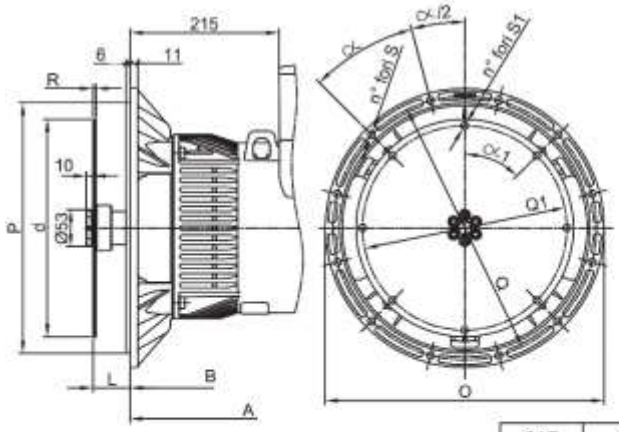


FORMA FORM FORME	ØD	ØE	ØG
J609b	Ø146	Ø192	Ø165
	Ø163.6	Ø216	Ø196.85
	Ø177.8		

FORMA FORM FORME B3/B14

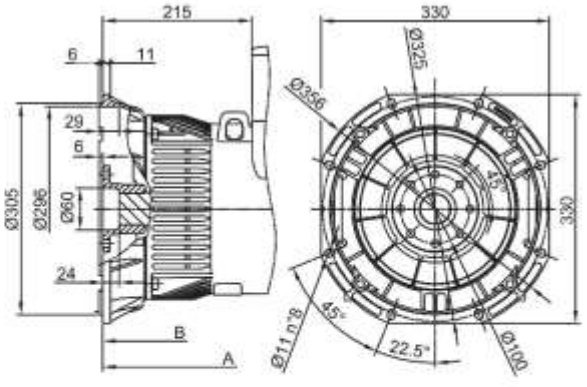


FORMA FORM FORME MD35



SAE N.	FLANGIE - BRIDE - FLANGE					
	O	P	Q	n. fori	S	α
5	356	314.3	333.4	8	11	45°
4	403	362	381	12		30
3	451	409.6	428.6	12		30

FORMA FORM FORME LOMBARDINI STD



SAE N.	GIUNTI A DISCO - DISC COUPLING - ACC. DISQUE						
	L	d	Q1	n. fori	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°	