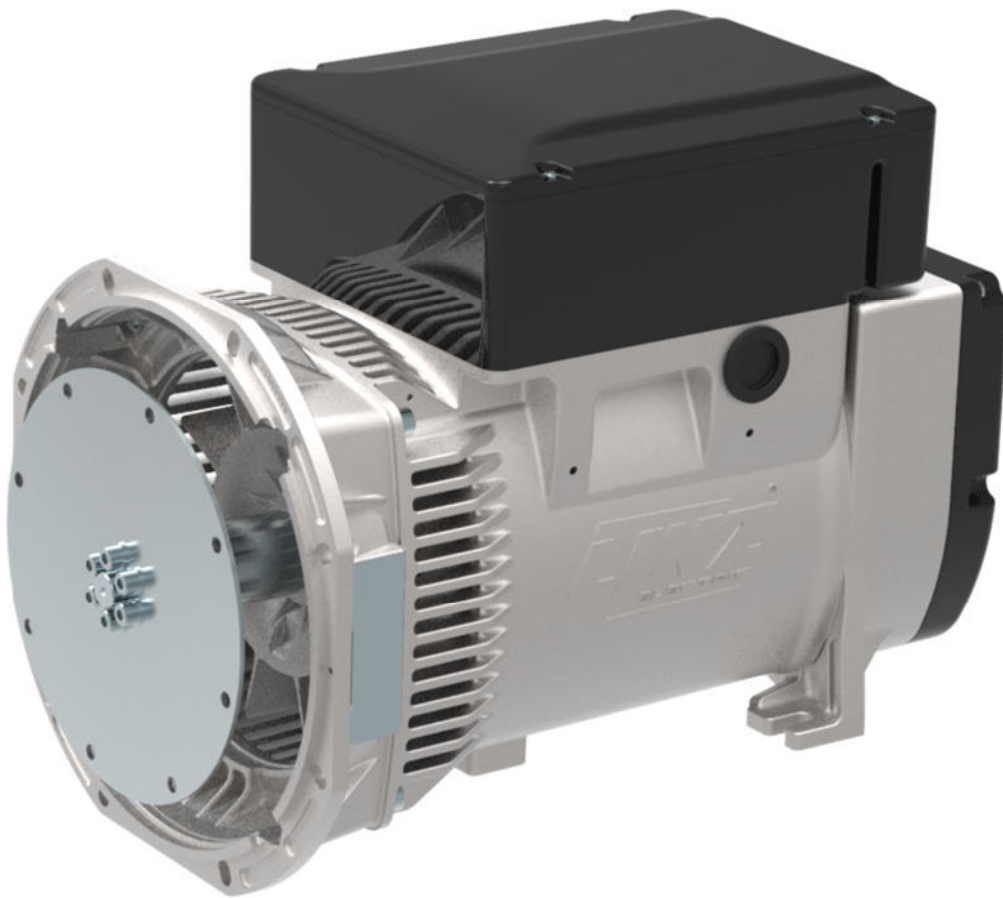


TECHNICAL DATA SHEET



ALTERNATOR E1X13S A/2

Three-Phase brushless synchronous alternator with AVR - 2 poles

E1X13S A/2

COMMON DATA

Rated Power at 50Hz	kVA	8,0	
Rated Power at 60Hz	kVA	10,0	
Rated Power Factor		0,8	
Nominal Temperature	°C	40	
Control System		self-excited	
Execution		brushless	
Regulation Type		AVR	
Insulation Class		H	
Protection		IP21	
Maximum Over speed	rpm	4500	
Overload		110% of rated power for one hour in a cycle of 6 hours	
Air Flow Requirement	m ³ /min	3,5 at 50Hz	4,2 at 60Hz
R.F.I. Suppression		Standard EN55011	

REGULATION DATA

AVR	HVR11	HVR30
Sensing	single-phase	three-phase
Voltage Regulation	±1%	±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	12	
Stator Winding Resistance	Ω	1,53 at 20°C
Rotor Winding Resistance	Ω	8,56 at 20°C
Exciter Stator Resistance	Ω	16,5 at 20°C
Exciter Rotor Resistance	Ω	2,15 at 20°C
THD at full load	<3%	
THD at no load	<3%	
Excitation at no load	A _{dc}	0,19
Excitation at full load	A _{dc}	1,03

STANDARD

References	EN60034-1 ISO8528-3 EN55011
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ON REQUEST

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

CAN/CSA - C22.2 No. 100-14 (R2009) Motors and Generators, UL1004-1 2nd ed. Rotating Electrical Machines - General Requirements, UL1004-4 2nd ed. Electric Generators

E1X13S A/2

ELECTRICAL DATA

Frequency	V	50Hz - 3000rpm				60Hz - 3600rpm			
		380/220	400/230	415/240	440/254	415/240	440/254	460/266	480/277
Voltage Series Star									
Rated Power in Class H (125°C/40°C)	kVA	8,0	8,0	8,0	6,5	9,0	10,0	10,0	10,0
	kW	6,4	6,4	6,4	5,2	7,2	8,0	8,0	8,0
Rated Power in Class F (105°C/40°C)	kVA	7,5	7,5	7,5	6,0	8,2	9,2	9,2	9,2
	kW	6,0	6,0	6,0	4,8	6,56	7,36	7,36	7,36
Rated Power Standby (150°C/40°C)	kVA	8,8	8,8	8,8	7,0	9,8	11,0	11,0	11,0
	kW	7,04	7,04	7,04	5,6	7,84	8,8	8,8	8,8
Rated Power Standby (163°C/27°C)	kVA	9,1	9,1	9,0	7,3	10,2	11,4	11,4	11,4
	kW	7,28	7,28	7,2	5,84	8,16	9,12	9,12	9,12

EFFICIENCY IN CL. H

4/4	80,2%							80,6%
3/4	80,4%							80,7%
2/4	77,0%							77,4%
1/4	73,0%							73,4%

REACTANCES AND TIME CONSTANTS

ρ_{cc}		0,44							
X _d - dir. axis synchronous		410%	370%	344%	248%	445%	440%	403%	370%
X' _d - dir. axis transient		35,5%	32,0%	29,7%	21,5%	38,5%	38,1%	34,8%	32,0%
X'' _d - dir. axis subtransient		14,4%	13,0%	12,1%	8,7%	15,7%	15,5%	14,2%	13,0%
X _q - quad. axis reactance		244%	220%	204%	148%	265%	262%	240%	220%
T' _{do} - O.C. field time constant		310ms							
T' _d - Transient time constant		27ms							
T'' _d - Sub-transient time constant		7,5ms							

MECHANICAL DATA

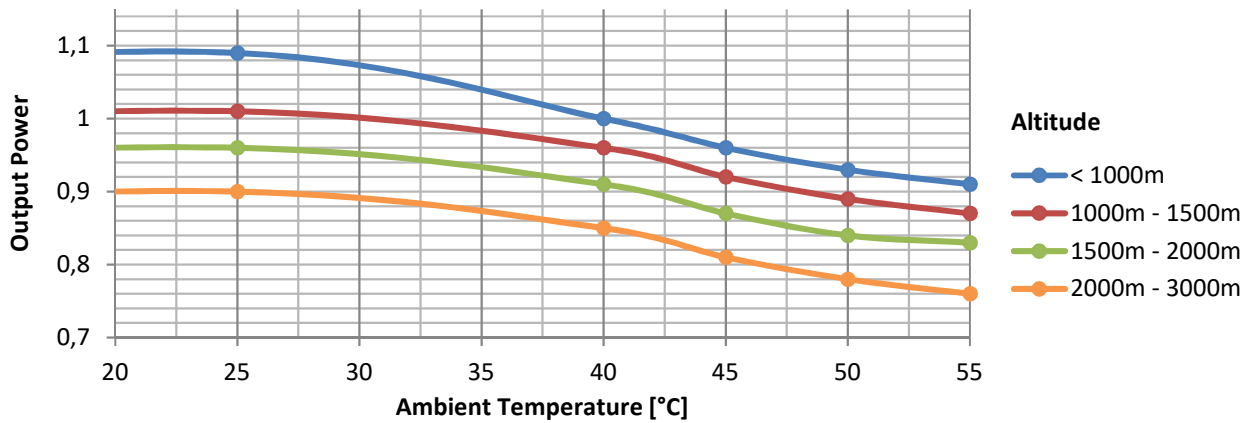
Bearing non drive end			6305-2Z-C3
Bearing drive end (B3/B14 form)			6208-2Z-C3
Weight of generator	in B2	kg	60,7
	in B3/B14	kg	56,6
	in B3/B9	kg	\

E1X13S A/2

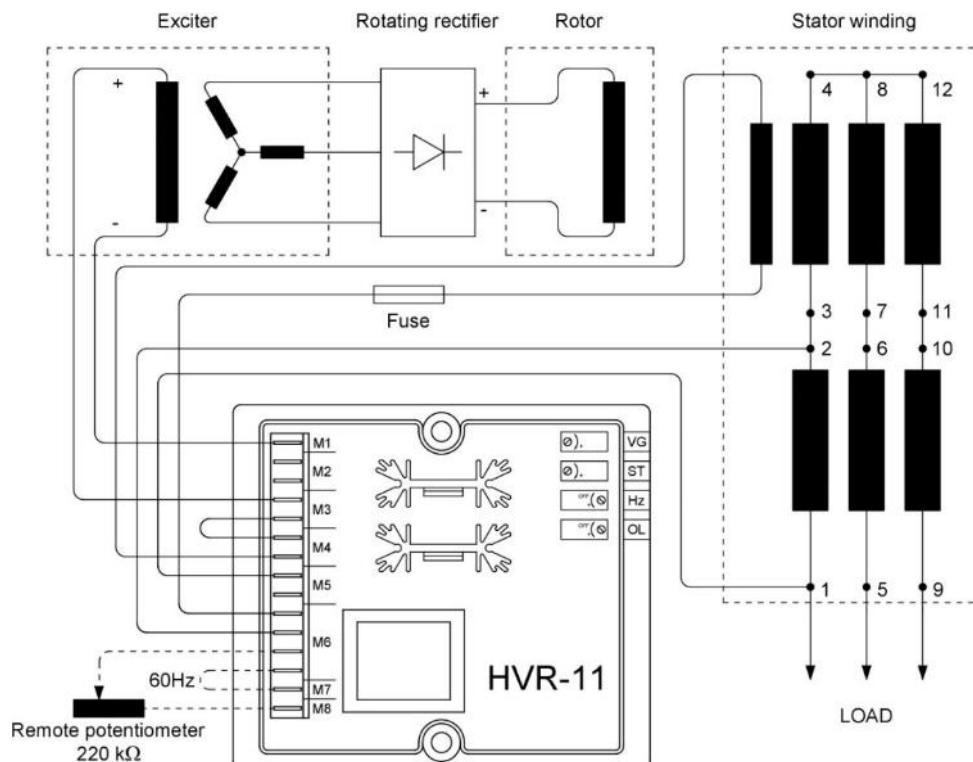
MOMENT OF INERZIA

B3/B9	kg·m ²	\
SAE 7½	kg·m ²	0,055
B2	kg·m ²	0,057

DERATING CURVES



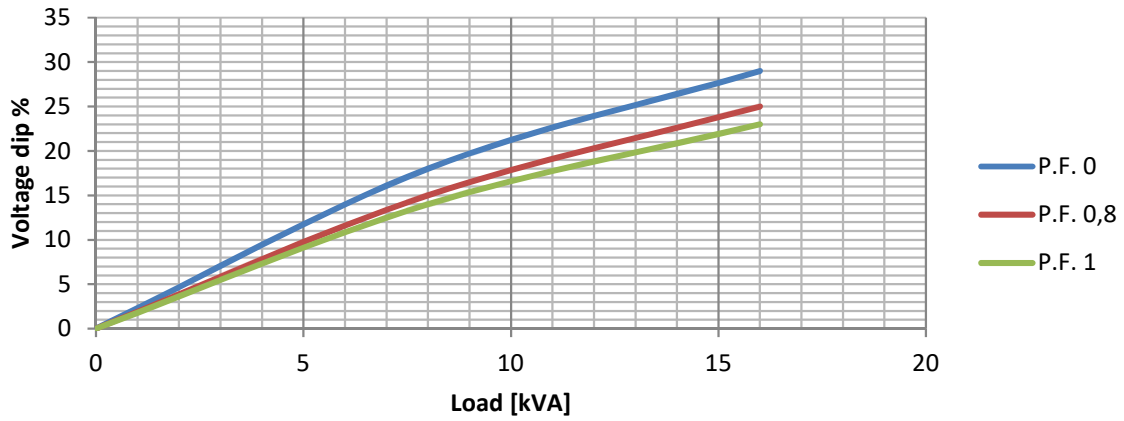
WIRING DIAGRAM



E1X13S A/2

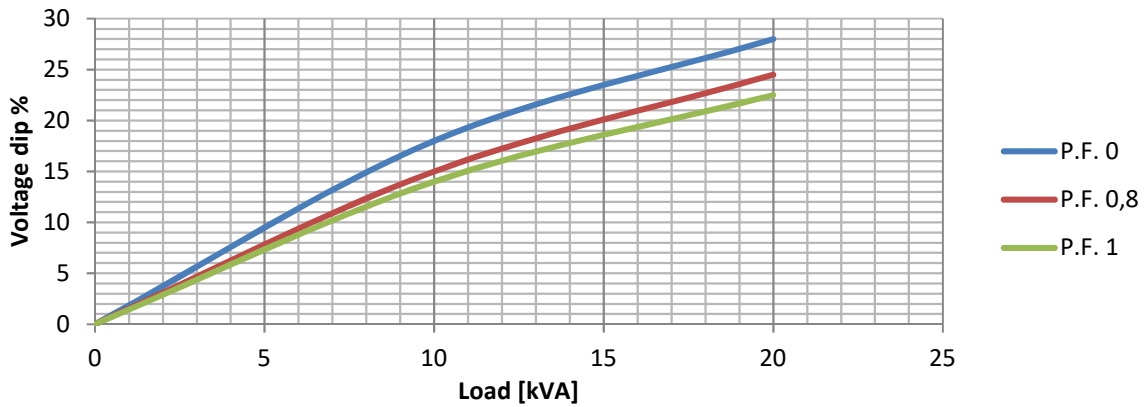
TRANSIENT VOLTAGE VARIATION 50Hz

Transient Voltage Variation @ 50Hz



TRANSIENT VOLTAGE VARIATION 60Hz

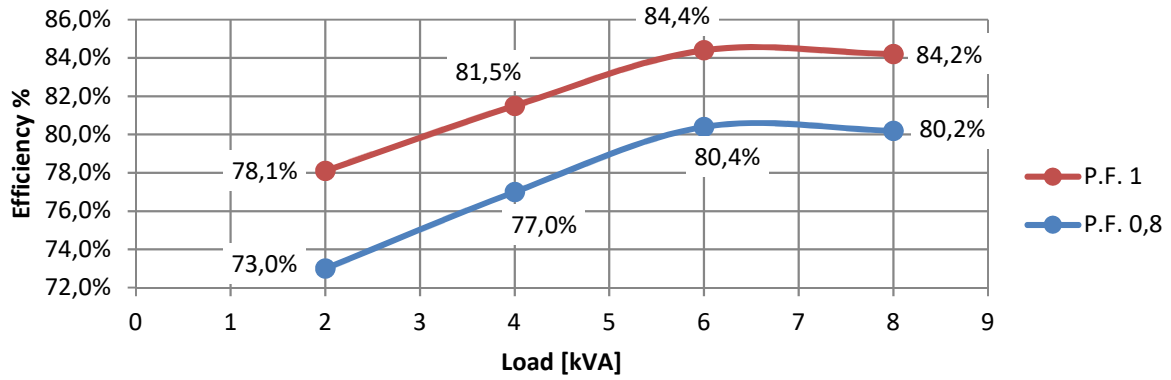
Transient Voltage Variation @ 60Hz



E1X13S A/2

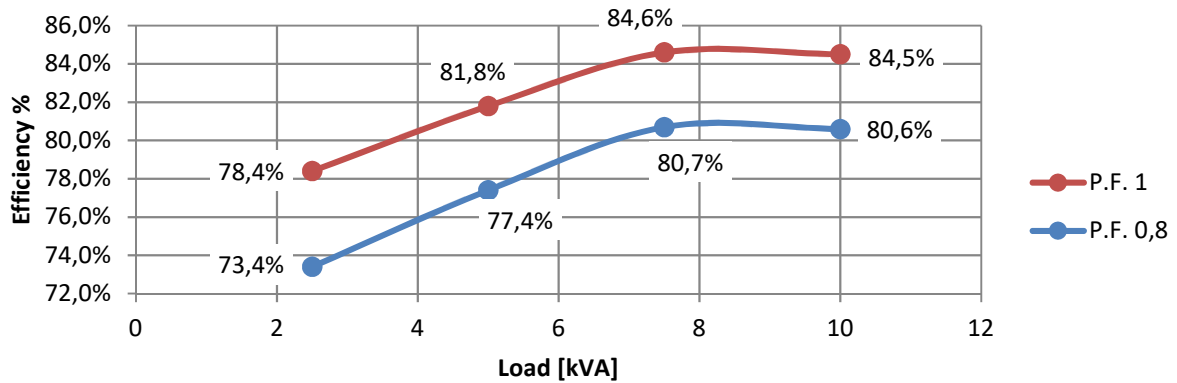
EFFICIENCY 50Hz

Efficiency Curves @ 50Hz



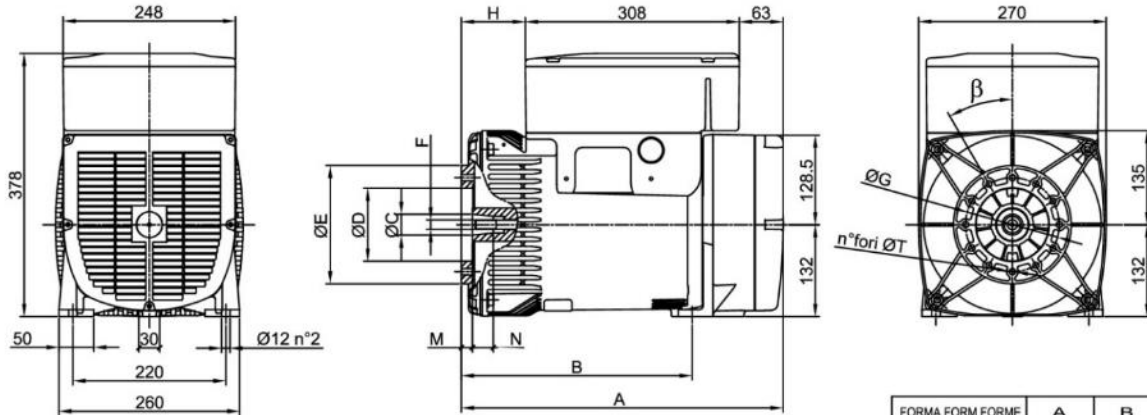
EFFICIENCY 60Hz

Efficiency Curves @ 60Hz



E1X13S A/2

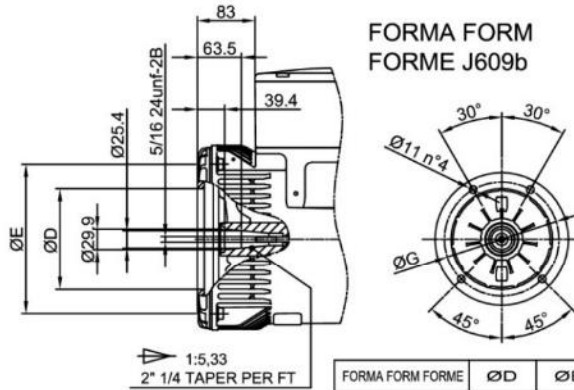
FORMA FORM FORME B3/B9



FORMA FORM FORME	ØC	ØD	ØE	F	ØG	H	M	N	n° fori	ØT	β
cono Ø30	Ø30	Ø105	Ø170	M14x1.5	Ø135	92	16	30	12	Ø9	30°
cono Ø38	Ø38	Ø125	Ø185	M18x1.5	Ø150	83	5	30	4	Ø11	β/2 45°

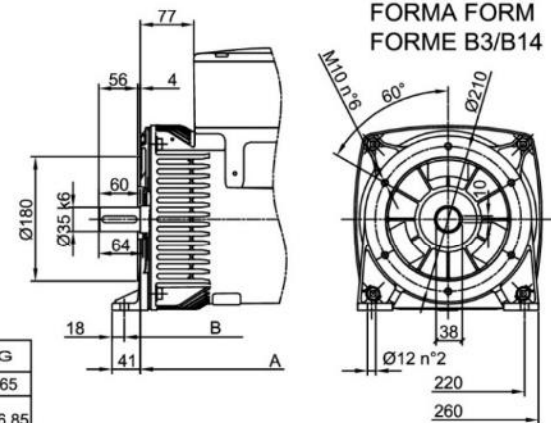
FORMA FORM FORME	A	B
B3B9 cono Ø30	463	332
B3B9 c.Ø38-J609b	454	323
B3/B14	448	340
MD35 - LOMB. STD	496	365

FORMA FORM FORME J609b

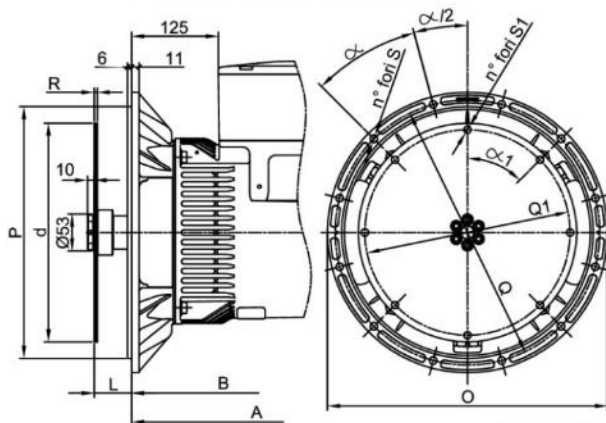


FORMA FORM FORME	ØD	ØE	ØG
J609b	Ø146	Ø192	Ø165
	Ø163.6	Ø216	Ø196.85
	Ø177.8		

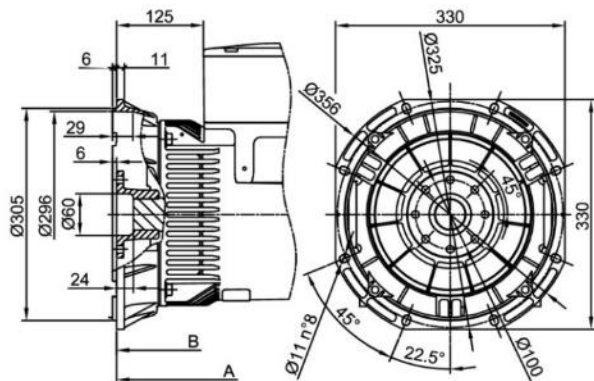
FORMA FORM FORME B3/B14



FORMA FORM FORME MD35



FORMA FORM FORME LOMBARDINI STD



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

SAE N.	GIUNTI A DISCO - DISC COUPLING - ACC. DISQUE					
	L	d	Q1	n. fori	S1	α1
6 1/2	30.2	215.9	200	6	9	60°
7 1/2	30.2	241.3	222.25	8	9	45°
8	62	263.52	244.47	6	10.5	60
10	53.8	314.32	295.27	8	10.5	45°
11 1/2	39.6	352.42	333.37	8	10.5	45°