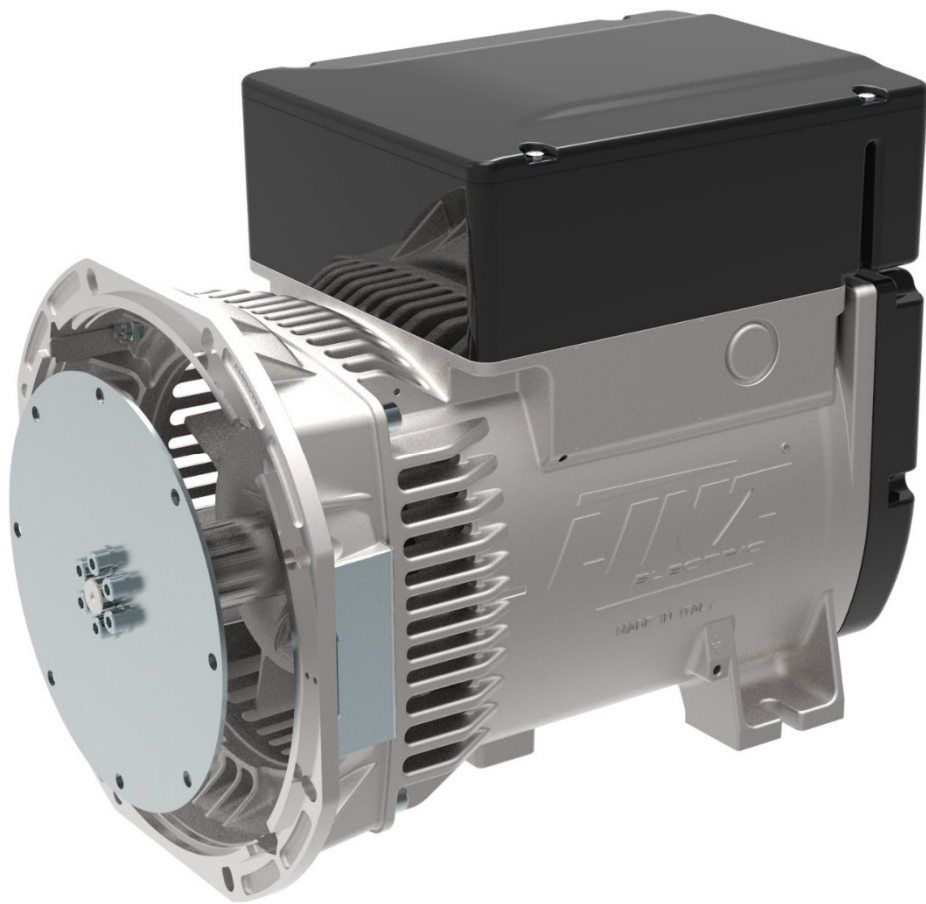


TECHNICAL DATA SHEET



**ALTERNATOR E1S13S B/4**

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

## E1S13S B/4

### COMMON DATA

Rated Power at 50Hz	kVA	10,0	
Rated Power at 60Hz	kVA	12,0	
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 <sup>3</sup> /min	5,3 at 50Hz	6,4 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	0,97 at 20°C
Rotor Winding Resistance	Ω	6,82 at 20°C
THD at full load		<3,5%
THD at no load		<3%
Excitation at no Load	A <sub>dc</sub>	3,2
Excitation at full Load	A <sub>dc</sub>	7,5

### 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

## E1S13S B/4

### ELECTRICAL DATA

Frequency		50Hz - 1500rpm	60Hz - 1800rpm
Voltage Series Star	V	<b>400/230</b>	<b>480/277</b>
Rated Power in Class H (125°C/40°C)	kVA	10,0	12,0
	kW	8,0	9,6
Rated Power in Class F (105°C/40°C)	kVA	9,0	11,0
	kW	7,2	8,8
Rated Power Standby (150°C/40°C)	kVA	11,0	13,0
	kW	8,8	10,4
Rated Power Standby (163°C/27°C)	kVA	11,4	13,5
	kW	9,12	10,8

### EFFICIENCY IN CL. H

4/4	83,0%	83,5%
3/4	83,5%	84,0%
2/4	79,3%	80,1%
1/4	74,5%	75,1%

### REACTANCES AND TIME CONSTANTS

Pcc	0,91
X <sub>d</sub> - dir. axis synchronous	157%
X' <sub>d</sub> - dir. axis transient	20,0%
X'' <sub>d</sub> - dir. axis subtransient	7,7%
X <sub>q</sub> - quad. axis reactance	117%
T' <sub>do</sub> - O.C. field time constant	363ms
T' <sub>d</sub> - Transient time constant	46ms
T'' <sub>d</sub> - Sub-transient time constant	5,6ms

### MECHANICAL DATA

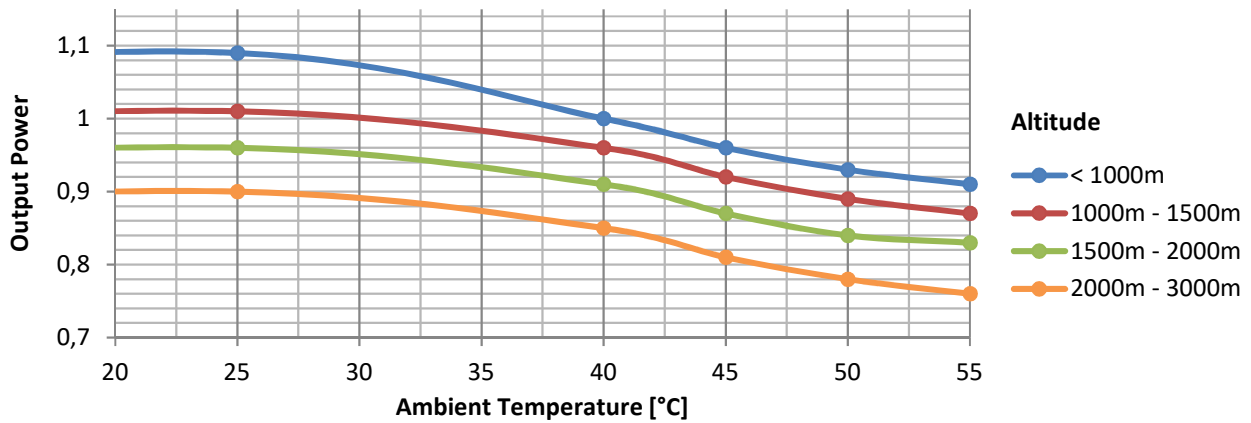
Bearing non drive end	6305-2Z-C3	
Bearing drive end (B3/B14 form)	6208-2Z-C3	
Weight of generator	in B2 kg	64,4
	in B3/B14 kg	60,3
	in B3/B9 kg	57,4

# E1S13S B/4

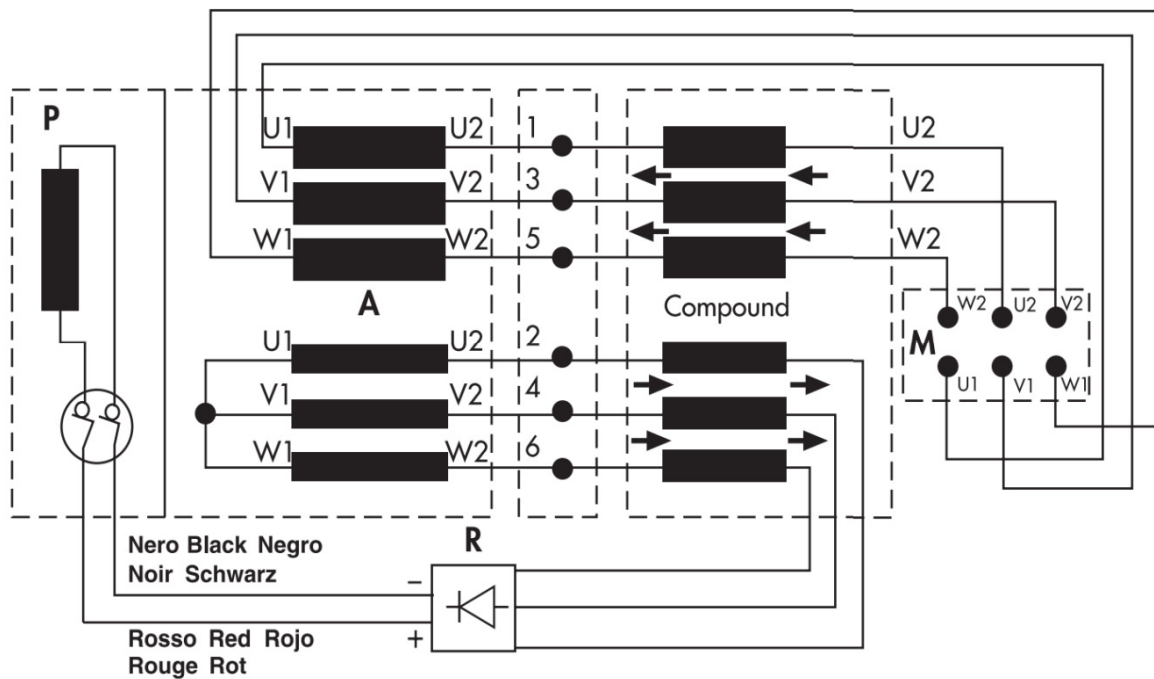
## MOMENT OF INERZIA

B3/B9	kg·m <sup>2</sup>	0,049
B2	kg·m <sup>2</sup>	0,048
B3/B14	kg·m <sup>2</sup>	0,049

## DERATING CURVES



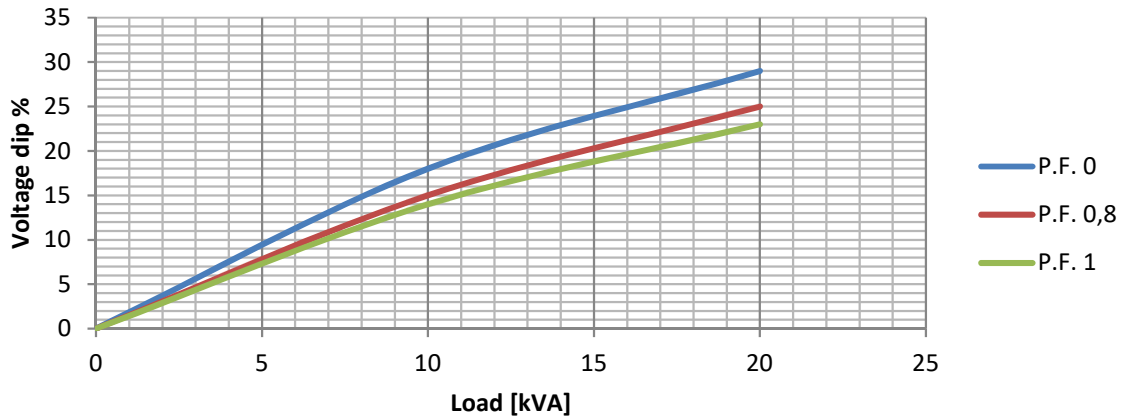
## WIRING DIAGRAM



# E1S13S B/4

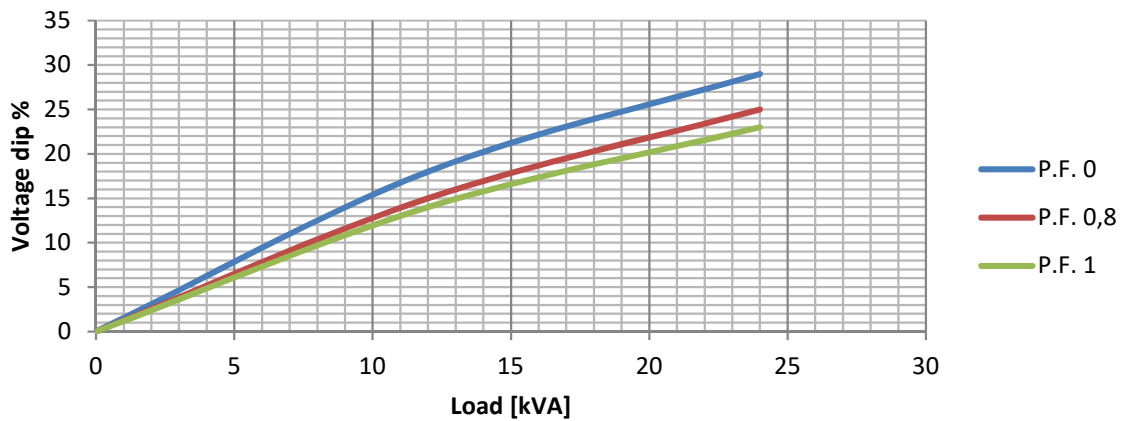
## TRANSIENT VOLTAGE VARIATION 50Hz

### Transient Voltage Variation @ 50Hz



## TRANSIENT VOLTAGE VARIATION 60Hz

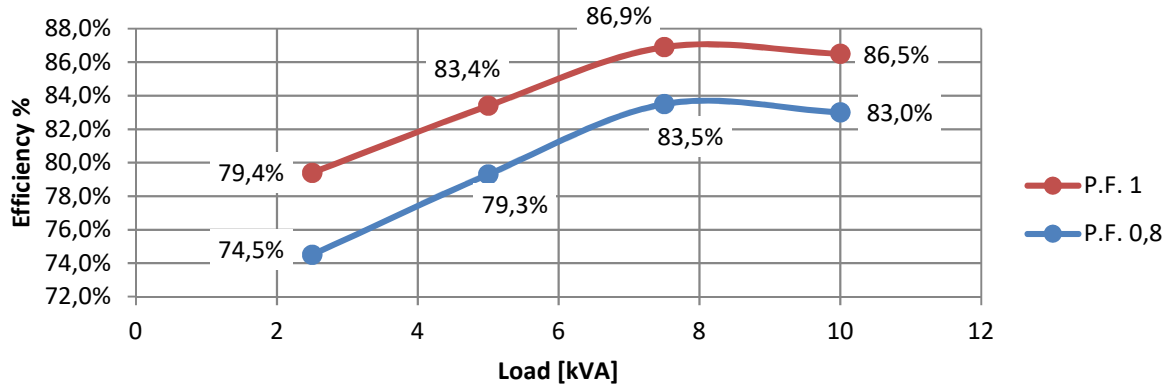
### Transient Voltage Variation @ 60Hz



# E1S13S B/4

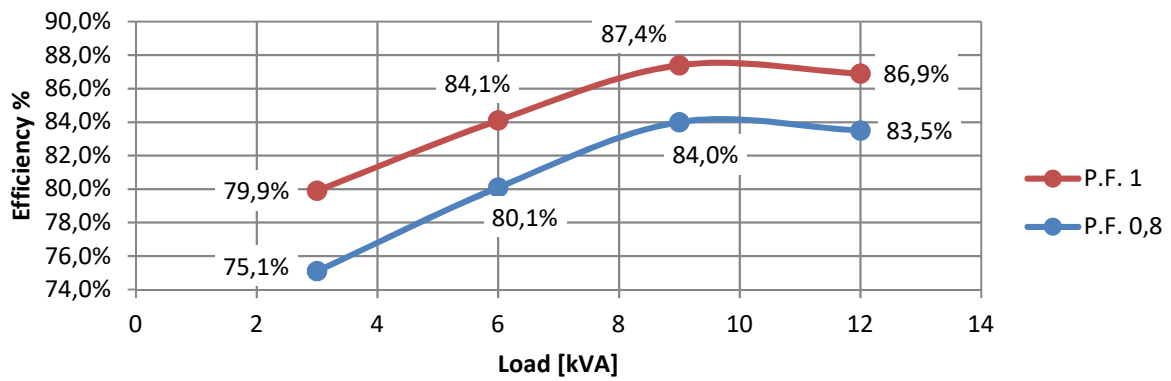
## EFFICIENCY 50Hz

### Efficiency Curves @ 50Hz



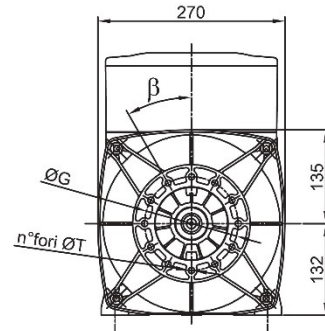
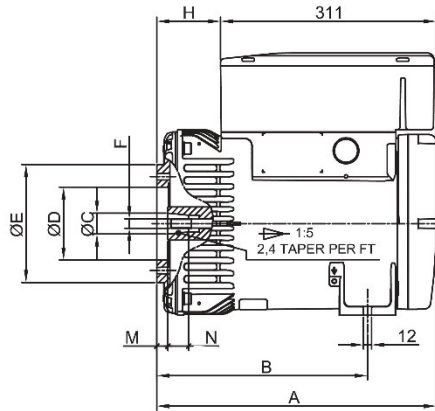
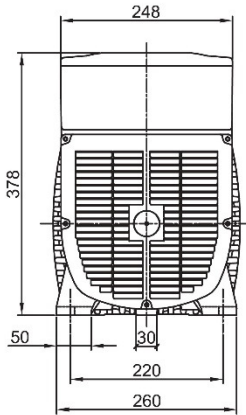
## EFFICIENCY 60Hz

### Efficiency Curves @ 60Hz



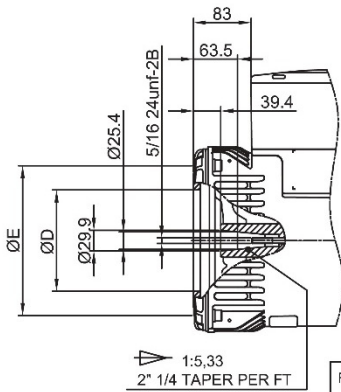
# E1S13S B/4

FORMA FORM FORME B3/B9

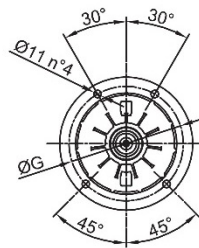


FORMA FORM FORME	ØC	ØD	ØE	F	ØG	H	M	N	n° fori	ØT	β
cono Ø30	Ø30	Ø105	Ø170	M14x1.5	Ø135	92	16	30	12	Ø9	30°
cono Ø38	Ø38	Ø125	Ø185	M18x1.5	Ø150	83	5	30	4	Ø11	β/2 45°

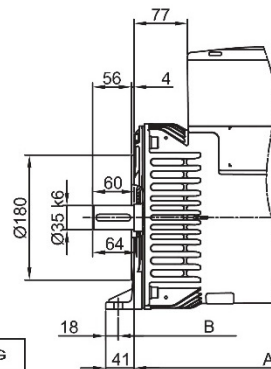
FORMA FORM FORME	A	B
B3B9 cono Ø30	403	304
B3B9 c.Ø38-J609b	394	295
B3/B14	388	312
MD35 - LOMB. STD	436	337



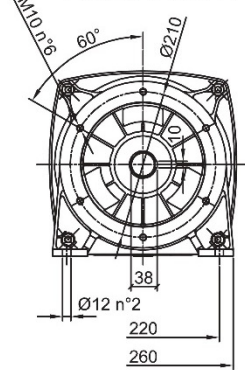
FORMA FORM FORME J609b



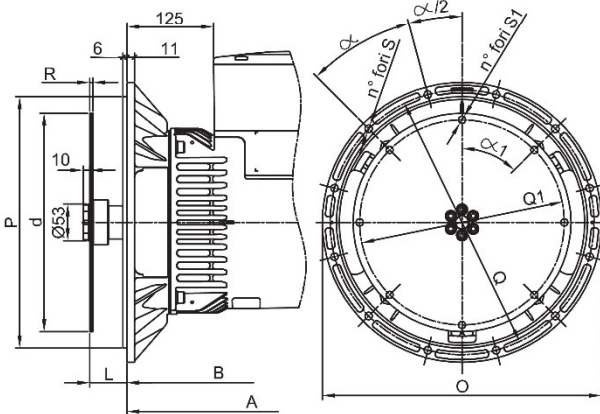
FORMA FORM FORME	ØD	ØE	ØG
J609b	Ø146	Ø192	Ø165
	Ø163.6	Ø216	Ø196.85
	Ø177.8		



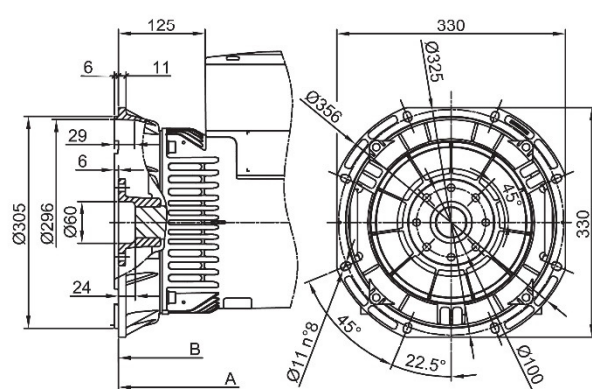
FORMA FORM FORME B3/B14



FORMA FORM FORME MD35



FORMA FORM FORME LOMBARDINI STD



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

SAE N.	GIUNTI A DISCO - DISC COUPLING - ACC. DISQUE					
	L	d	Q1	n. fori	S1	α.1
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°