

TECHNICAL DATA SHEET



**ALTERNATOR CPT18 XSA**

*Three-Phase brushless synchronous alternator with AVR - 4 poles*

## CPT18 XSA

### COMMON DATA

Rated Power at 50Hz	kVA	8,5	
Rated Power at 60Hz	kVA	10	
Rated Power Factor		0,8	
Nominal Temperature	°C	40	
Control System		self-excited	
Execution		brushless	
Regulation Type		AVR	
Insulation Class		H	
Protection		IP23	
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	4,4 at 50Hz	5,0 at 60Hz
R.F.I. Suppression		Standard EN55011	

### REGULATION DATA

AVR		HVR11
Sensing		single-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		12	
Stator Winding Resistance	Ω	2,40 at 20°C	
Rotor Winding Resistance	Ω	1,90 at 20°C	
Exciter Stator Resistance	Ω	12 at 20°C	
Exciter Rotor Resistance	Ω	0,82 at 20°C	
THD at full load		<3%	
THD at no load		<3,5%	
Excitation at no load	Adc	0,65	
Excitation at full load	Adc	2,65	

### 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

## CPT18 XSA

### ELECTRICAL DATA

Frequency		50Hz - 1500rpm					60Hz - 1800rpm				
Voltage	V	Double Delta	Series Star			Double Delta	Series Star				
		115/230	380/220	400/230	415/240	440/254	138/277	415/240	440/254	460/266	480/277
Rated Power in Class H (125°C/40°C)	kVA	5,5	8	8,5	8,5	8	6,5	8,6	9,2	9,5	10
	kW	4,4	6,4	6,8	6,8	6,4	5,2	6,9	7,4	7,6	8
Rated Power in Class F (105°C/40°C)	kVA	5	7,2	7,7	7,7	7,2	6	7,8	8,4	8,7	9,2
	kW	4	5,8	6,2	6,2	5,8	4,8	6,2	6,7	7	7,4
Rated Power Standby (150°C/40°C)	kVA	6	8,5	9	9	8,5	7	9,4	10	10,4	11
	kW	4,8	6,8	7,2	7,2	6,8	5,6	7,5	8	8,3	8,8
Rated Power Standby (163°C/27°C)	kVA	6,4	9	9,4	9,4	9	7,4	9,8	10,4	10,7	11,4
	kW	5,1	7,2	7,5	7,5	7,2	5,9	7,8	8,3	8,6	9,1

### EFFICIENCY IN CL. H @ 0.8P.F

4/4			74,1%							76,1%
3/4			75,4%							77,2%
2/4			72,6%							74,1%
1/4			64,8%							65,8%

### REACTANCES AND TIME CONSTANTS

pcc		0,33								
X <sub>d</sub> - dir. axis synchronous		275%	264%	246%	206%		304%	289%	273%	264%
X' <sub>d</sub> - dir. axis transient		31,3%	30,0%	27,9%	23,4%		34,5%	32,8%	31,0%	30,0%
X'' <sub>d</sub> - dir. axis subtransient		18,8%	18,0%	16,7%	14,0%		20,7%	19,7%	18,6%	18,0%
X <sub>q</sub> - quad. axis reactance		151%	145%	135%	113%		167%	159%	150%	145%
T' <sub>do</sub> - O.C. field time constant							230ms			
T' <sub>d</sub> - Transient time constant							26ms			
T'' <sub>d</sub> - Sub-transient time constant							6ms			

### MECHANICAL DATA

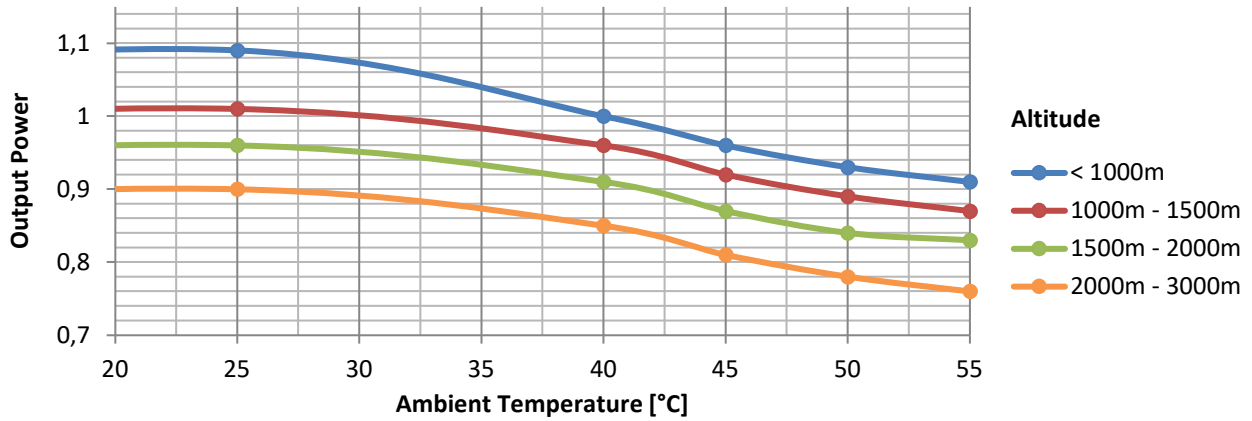
Bearing non drive end			6306-2RS-C3
Bearing drive end (B3/B14 form)			\
Weight of generator	in B2	kg	62,5
	in B3/B14	kg	\
	in B3/B9	kg	\

# CPT18 XSA

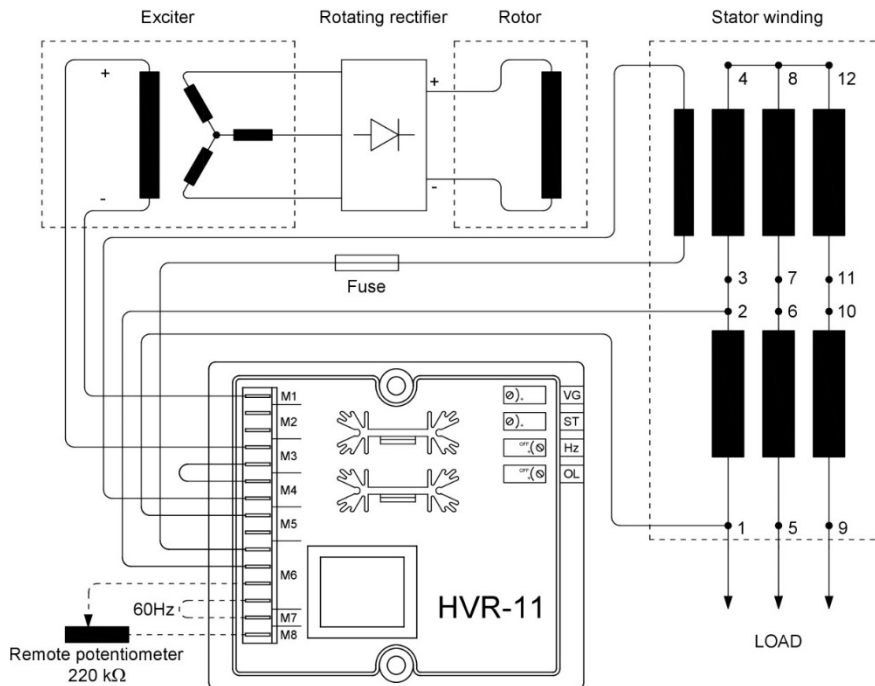
## MOMENT OF INERZIA

SAE 6½	kg·m <sup>2</sup>	0,102
SAE 7½	kg·m <sup>2</sup>	0,105

## DERATING CURVES



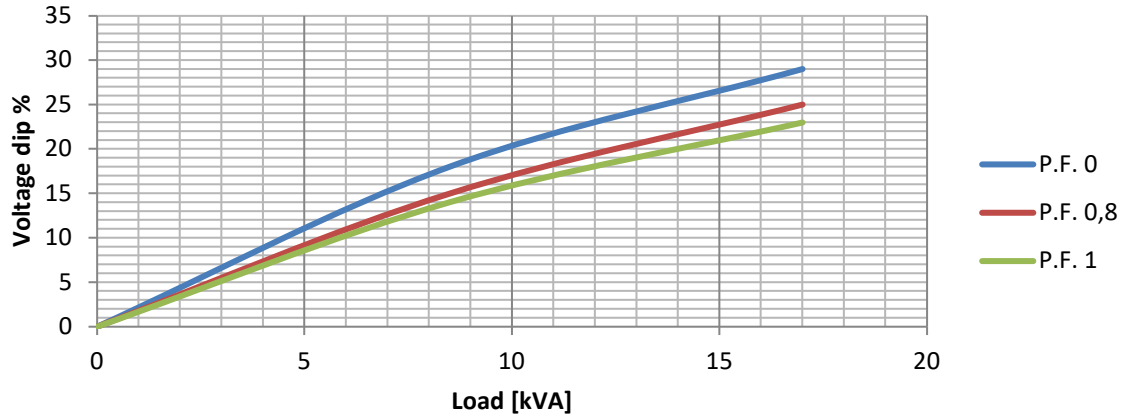
## WIRING DIAGRAM



# CPT18 XSA

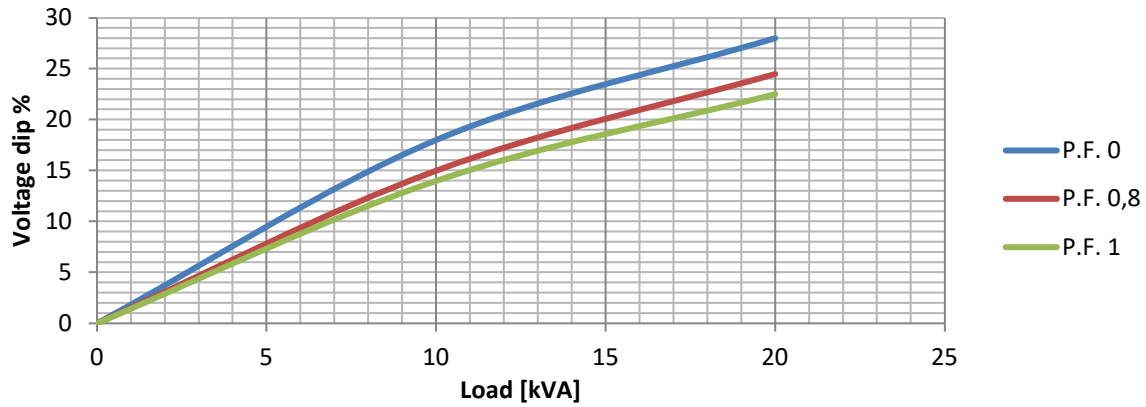
## TRANSIENT VOLTAGE VARIATION 50Hz

### Transient Voltage Variation @ 50Hz



## TRANSIENT VOLTAGE VARIATION 60Hz

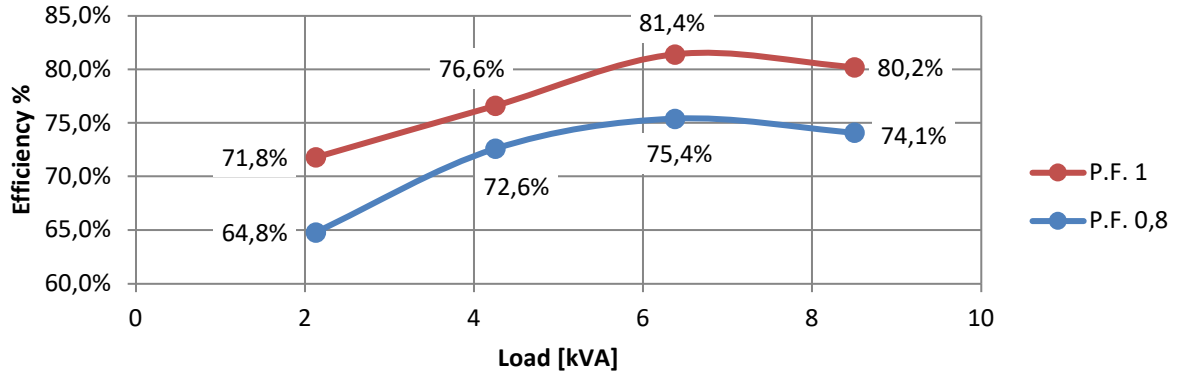
### Transient Voltage Variation @ 60Hz



# CPT18 XSA

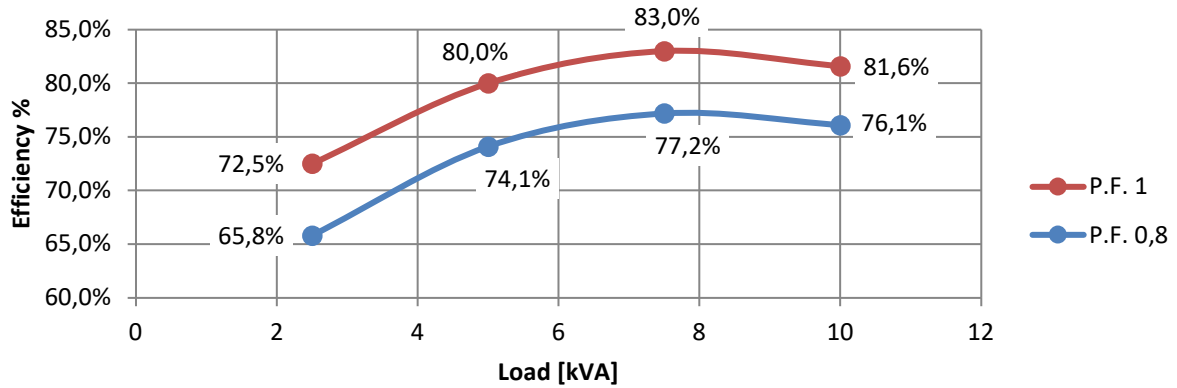
## EFFICIENCY 50Hz

### Efficiency Curves @ 50Hz

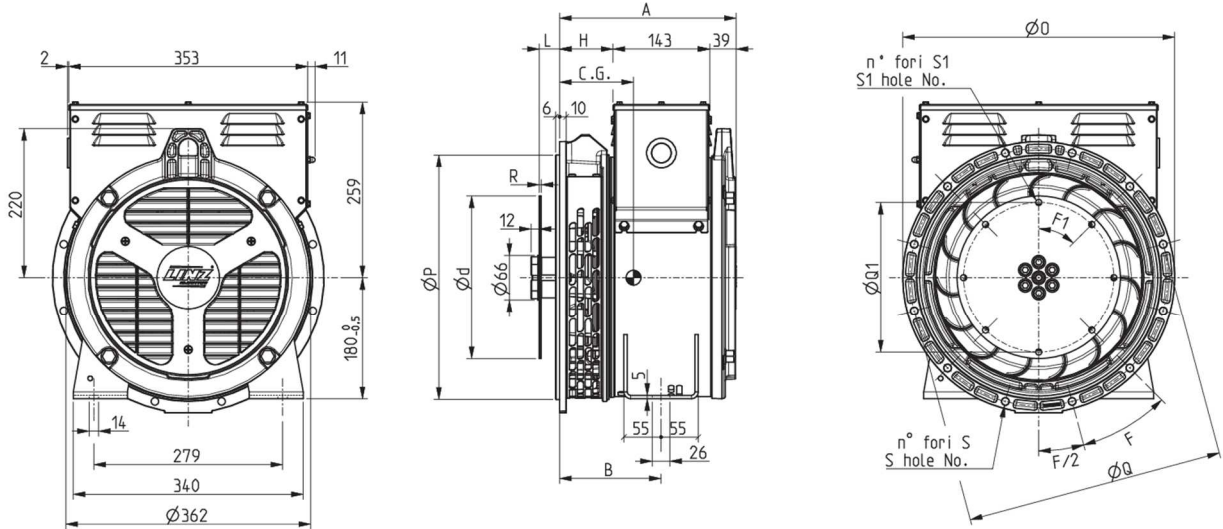


## EFFICIENCY 60Hz

### Efficiency Curves @ 60Hz



# CPT18 XSA



FORMA - FORM	A	B	H
CP 18XS	261	150	79
SAE CP 18S	276	165	94
CP 18M	316	205	134

SAE N.	FLANGIE - FLANGES - BRIDAS					
	Ø0	ØP	ØQ	n. fori holes No.	S	F
5	356	314,3	333,4	8	11	45°
4	402	362	381	12		30°

SAE N.	GIUNTI A DISCO - COUPLING DISCS - JUNTAS A DISCOS						
	L	Ød	ØQ1	n. fori holes No.	S1	F1	R
6 1/2	30,2	215,9	200	6	9	60°	3
7 1/2		241,3	222,25	8		45°	

TYPE	C.G.
CP 18XSA	125
CP 18SB	131
CP 18SC	132
CP 18MD	146
CP 18ME	147
CP 18MF	150