maranello alternator

M110

CONT 100 kVA

www.maranellogenerators.com

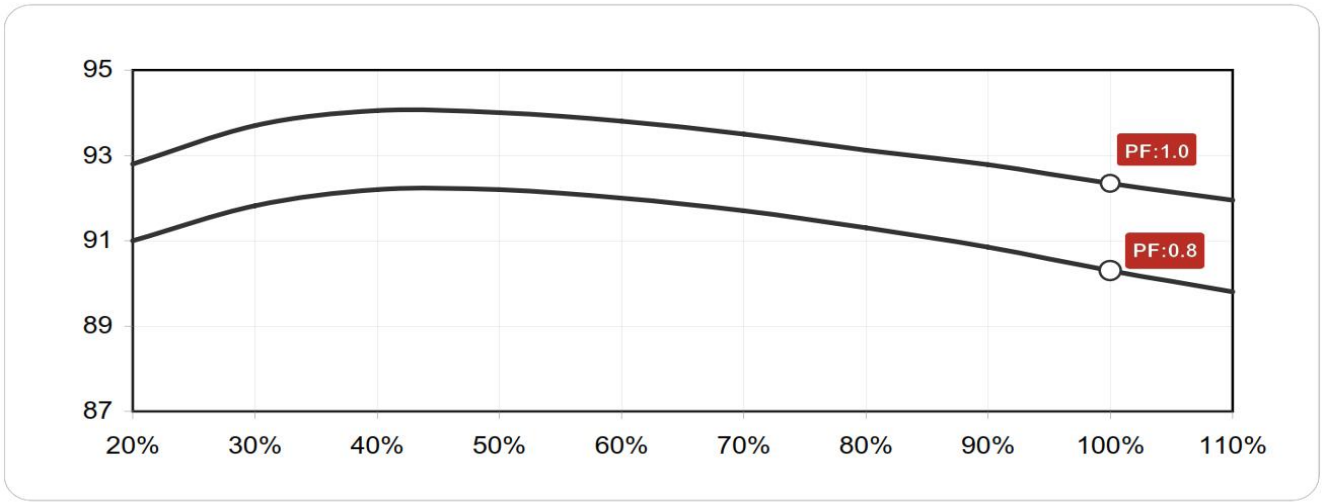
Frequency	50 Hz.							
Wire Connection	12 Wire Three Pheese							
Power Factor	0,8		0,8		0,8		0,8	
Winding No.	#125		#125		#125		#125	
Y Series Star	380		400		415		440	
YY Parallel Star	190		200		208		220	
Δ Series Delta	220		230		240		254	
	kVA	kW	kVA	kW	kVA	kW	kVA	kW
Cont. F 105/40°C	84.1	67.3	84.1	67.3	84.1	67.3	N/A	N/A
Cont. H 125/40°C	100.0	80.0	100.0	80.0	100.0	80.0	N/A	N/A
Stdby H 150/40°C	107.0	85.6	107.0	85.6	107.0	85.6	N/A	N/A
Stdby H 163/27°C	112.0	89.6	112.0	89.6	112.0	89.6	N/A	N/A

Frequency	50 Hz.							
Wire Connection	12 Wire Single Phase				4 Wire Single Phase			
Power Factor	0,8		1		0,8		1	
Winding No.	#125				#41		#41	
ΔΔ Double Delta	220-230-240V		220-230-240V		220-230-240V		220-230-240V	
	kVA	kW	kVA	kW	kVA	kW	kVA	kW
Cont. F 105/40°C	50.3	40.2	50.3	50.3	60.3	48.2	60.3	60.3
Cont. H 125/40°C	60.3	48.2	60.3	60.3	66.0	52.8	66.0	66.0
Stdby H 150/40°C	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Stdby H 163/27°C	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

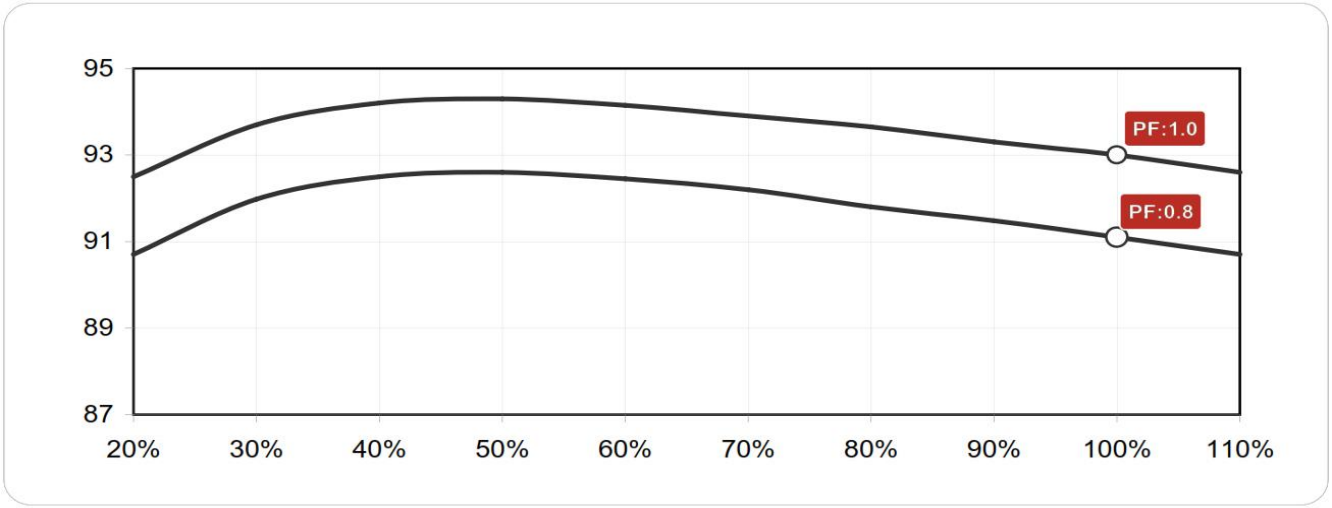
Frequency	60 Hz.							
Wire Connection	12 Wire Three Pheese							
Power Factor	0,8		0,8		0,8		0,8	
Winding No.	#125		#125		#125		#125	
Y Series Star	416		440		460		480	
YY Parallel Star	208		220		230		240	
Δ Series Delta	240		254		266		277	
	kVA	kW	kVA	kW	kVA	kW	kVA	kW
Cont. F 105/40°C	97.6	78.1	107.0	85.6	107.0	85.6	113.0	90.4
Cont. H 125/40°C	112.0	89.6	118.0	94.4	118.0	94.4	126.0	100.8
Stdby H 150/40°C	117.0	93.6	126.0	100.8	126.0	100.8	133.0	106.4
Stdby H 163/27°C	121.0	96.8	128.0	102.4	128.0	102.4	139.0	111.2

Frequency	60 Hz.							
Wire Connection	12 Wire Single Phase				4 Wire Single Phase			
Power Factor	0,8		1		0,8		1	
Winding No.	#125		#125		#42		#42	
ΔΔ Double Delta	240V		240V		240V		240V	
	kVA	kW	kVA	kW	kVA	kW	kVA	kW
Cont. F 105/40°C	60.0	48.0	60.0	60.0	75.4	60.3	61.8	62.1
Cont. H 125/40°C	67.8	54.2	67.8	67.8	84.2	67.4	91.0	91.0
Stdby H 150/40°C	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Stdby H 163/27°C	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

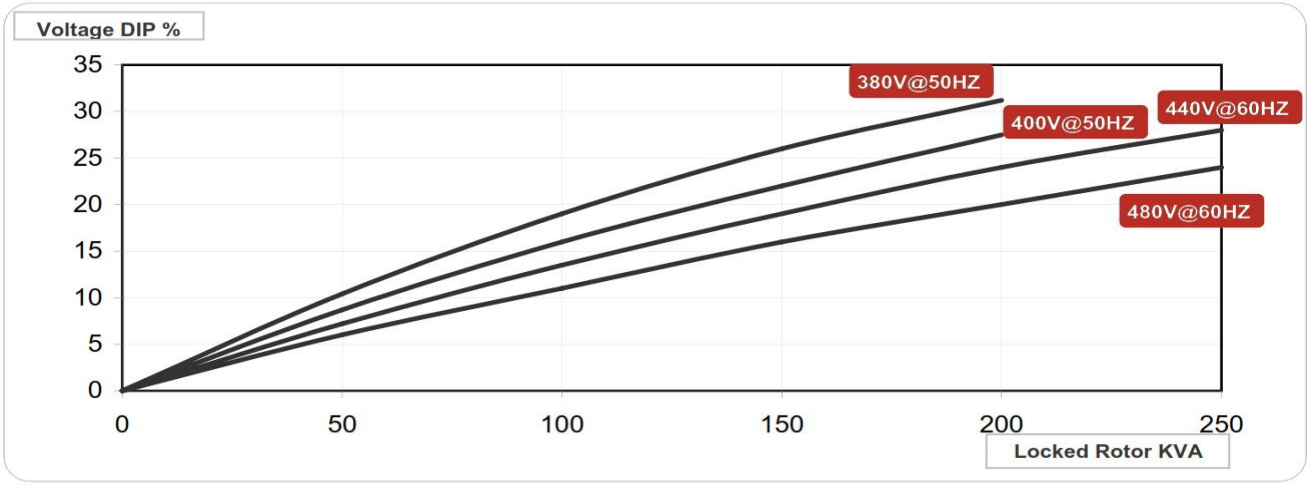
Effiency Curve @ 50 Hz,400V



Effiency Curves @ 60 Hz,480V



Motor Starting Curves @ 50 Hz, 60 Hz Locked Rotor



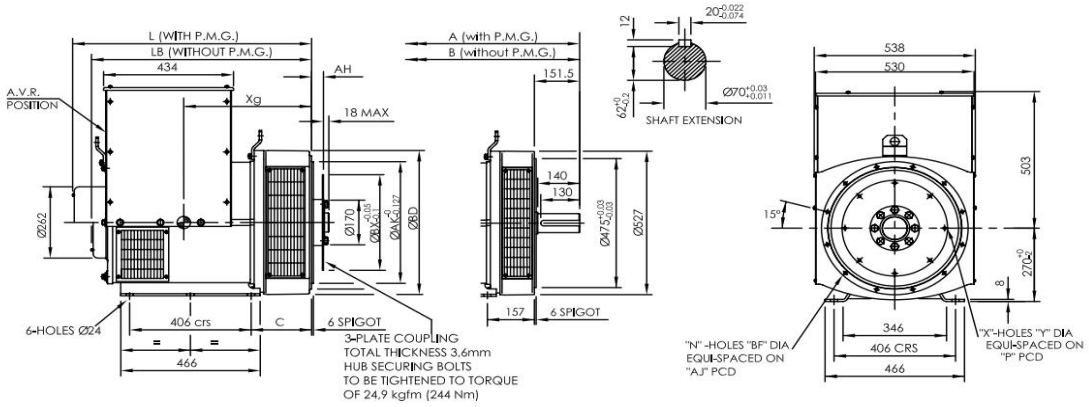
Technical Data Sheet

STANDARD(S) OPTIONAL(O) INFORMATION (I)			SPECIFICATION
EXCITATION SYSTEM	SELF-EXCITED	S	SUSTAINED SHORT-CIRCUIT: NOT AVAILABLE
	ARAP		
	PMG		
AVR	SX460	S	REGULATION PRECISION : +/-1,0 %
	SX440	O	REGULATION PRECISION : +/-1,0 %
	MX341		
	MX321		
WINDING INSULATION	H	S	
	F		
WINDING PITCH	2/3	S	HIGHER FLEXIBILITY IN USE,BETTER MOTOR STARTING ABILITY
	5/6	O	COST-EFFECTIVE POWER SUPPLY SCHEME
WINDING PROTECTION	STANDARD	S	
	"ANTI-HARSH"	O	SPECIAL TREATMENT OF WINDING TO AGINST HASRH ENVIROMENT
	SPACE HEATER	O	TO HEAT UP AIR TO REMOVE THE HUMMINITY AROUND WINDING
	THERMAL SENSOR	O	TO DETECT THE WINDING TEMPERATURE OR BEARING'S
PARALLEL OPERATION	CT100	O	
	CT200		
	CT400		
	CT600		
	CT1000		
WINDING LEADS	12	S	12 LEADS OF WINDING ENDS,
	6	O	6 LEADS OF WINDING ENGS
MACHINE PROCTIION	IP23	S	STANDARD MACHINE PROTECTION
	IP44	O	TO AGINST : 1mm OBJECT AND SPLASHING WATER
	IP54		
POWER FACTOR	1	O	
	0,8	S	
CONNECTION TO ENGINE	SINGLE BEARING	S	
	DOUBLE BEARING	O	
	BELT DRIVE	O	
	VERTICAL		
OVERSPEED		I	MAX ROTATING SPEED : 2250 RPM
ATTITUDE	<=1000m	I	DERATING IS NO NEED
	>1000m	I	DERATING NEEDED, REFERS TO RATING BOOK
ELECTIRICAL FEATRUES	TDF/THC	I	NO LOAD < 1,5 %, NON DISTORATING BALANCED LINEAR LOAD< 5,0 %
	TIF	I	<50
	THF	I	<2%
BEARING	DRIVE -END	I	BALL 6309 - 2RS DOUBLE BEARING CONF. ONLY
	NON DRIVE END	I	BALL 6306 - 2RS
WEIGHT	NET	I	SINGLE BEARING 369 KG DOUBLE BEARING : 397KG
	GROSS	I	SINGLE BEARING 404 KG DOUBLE BEARING : 432KG
PACKING SIZE		I	SINGLE B. : 1100 x680x890 mm DOUBLE B. : 1100x680X890mm

Technical Data Sheet

STANDARD**(S)** OPTIONAL**(O)** INFORMATION **(I)**	SPECIFICATION							
SERİES STAR (V)	380	400	415	440	416	440	460	480
PARALLEL STAR (V)	190	200	208	220	208	220	230	240
SERIES DELTA (V)	220	230	240	254	240	254	266	277
Xd - Direct axis synchro. Reactance unsaturated	2.45	2.21	2.05	_	2.76	2.58	2.36	2.30
X'd - Direct axis transient reactance saturated.	0.20	0.18	0.17	_	0.24	0.22	0.21	0.20
X"d - Direct axis sub transient reactance saturated	0.14	0.13	0.12	_	0.16	0.15	0.14	0.13
Xq - Qadro. Axis synchro.reactance unsaturated.	1.59	1.43	1.33	_	1.58	1.48	1.35	1.32
X"q - Quadro. Axis sub transiet reactance saturated.	0.18	0.16	0.15	_	0.23	0.21	0.20	0.19
X2 - Negative sequence reactance unsturated	0.16	0.14	0.13	_	0.19	0.18	0.16	0.16
Xo -Zero sequence reactance unsaturated.	0.10	0.09	0.08	_	0.12	0.11	0.10	0.10
T'd- Short - Circuit transiet time constant	0.028s							
T"d - Sub Transiet time constant	0.00s							
T'do- Open circuit time constant	0.8s							
Ta- Armature time constant	0.007s							
Kcc - Short Circuit Ratio	1/Xd							

Outline Drawing



DIMENSIONS(mm)					2-BRG	
SAE	TYPE	LB	L	Xg	A	B
SAE 1	SMF2708	750	813	365	905	842
SAE2/3	SMF2708	736	799	353		

COUPLING DISC					
SAE	BX	P	X	Y	AH
14	466.72	438.15	8	13.5	25.4
11.5	352.42	333.38	8	11	39.6
10	314.32	295.28	8	11	53.8

FLANGE(mm)						
SAE	BD	AK	AJ	BF	N	C
SAE3	451	409.58	428.62	11	12	202
SAE2	490	447.68	466.72	11	12	202
SAE1	553	511.17	530.22	12.7	12	216.3

General Specification

Maranello designs, manufactures and markets the alternators which comply with the national and international standards. The alternator can be broadly used in the all-purposed application, such as backup, rental, telecom and marine, and also can be used in a.

Compliant with Standards
Other certifications can be considered on request.

Electrical Features

Automatic Voltage Regulator (AVR)
The high efficiency semiconductors of the AVR ensure positive build-up from initial low levels of residual voltage.

2/3 Winding Pitch
Effectively eliminates the effect of the third harmonics so as to avoid excessive neutral currents.
Varible Voltage Output
Standard voltage output can be achieved through the reconnectable 12 wire, and the beyond-the-standard voltage might be achieved by optional winding.

Overload Capability
Be capable of running at constant load limited to the insulation class with the possibility of overload up to 10% for 1 hour every 12 hours.(Continuous Duty -S1).

High Efficiency and Motor Starting Capacity
Optimizing design greatly improves the efficiency and motor starting capacity.

Mechanical Features

Bracket + Flexible Disc
The combination of casting braket and flexible disc makes product to be coupled with any brand of engine whose interface is international design

Terminal Box
Metal-made and accessed easily, it also can be customized on requests.

Shaft and Key
Rotors assembly is dymastically balanced under ISO8528 andBS5000 regulation, and double-bearing is balanced with half-key.

Bearing
Bearing is greased in the factory for life, and regreasable bearing is available on request.

Machine Protection
The standard protection is IP23, and IP44 is optional

Insulation and Impregnation

H-class Insulation
Materials used in the insulation system is classed "H", specially the copper wire applied is able to withstand 200°C

Vacuum Pressure Impregnation (VPI)
The advanced impregnation equipment is applied to ensure the electrical insulation and mechanical strength.

Winding Protection

Standard:
The winding is protected against relative humidity< 95%.

Optional:
The special-treated winding ("ANTI-HARSH") is recommended to apply for the environment humidity > 95%, or harsh environment such as atmospheric contaminants or salty water spr