maranello alternator

M900

CONT 800 kVA

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THREE-PHASE SYNCHRONOUS GENERATOR

Datasheet for 4 poles -50Hz @ 1500rpm/ 60Hz @ 1800rpm

Ambient Temperature环境温度	40°C	Method of Cooling 冷却方式	Air cooling风冷
Temperature Rise 温升	125°C	Direction of Rotation 旋转方向	Clockwise顺时针
Insulation Class 绝缘等级	H	Maximum Over-speed 最高转速	2250r/min
Power Factor功率因数	0.8	Degree of Protection / Enclosure 防护等级	IP23
Excitation 励磁方式	Brushless无刷	Altitude 海拔	1000m
Winding Pitch 绕组节距	2/3	Stator winding 定子绕组	双层叠绕绕组 DLL
Pole极数	4	Number of Terminal 终端数量	6
Duty工作制	S1- Continuous	Rotor 转子	With damping cage带阻尼
Waveform 电话干扰因数	TIF<50		THF<2%
Waveform distortion 波形畸变率	BS EN 61000-6-2&BS EN 61000-6-4,VDE 0875G,VDE0874N		
Radio interference 无线电干扰	Noload<1.5%,Non-distorting balanced linear load<5%		

AVR MODEL AVR型号	Standard 标配	Selection 选配		PMG		
	MX341B	MX321		MX341B	MX321	
Voltage Regulation - in steady state condition 电压调节	±0.5	±0.5		±0.5	±0.5	
Short Circuit Current Capacity 短路电流容量	3460A					

Electrical Characteristic

Frequency频率	Hz	50				60			
Voltage (series star)电压 Y	V	380/220	400/231	415/240	440/254	416/240	440/254	460/266	480/277
Voltage (parallel star)电压 YY	V	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Voltage (series delta)电压 Δ	V	220	230	240	254	240	254	266	277
Rated power at Class H (125° C) temperature rise	kVA	760	800	800	725	865	916	958	1000
额定功率在H(125℃)温升	kW	608	640	640	580	692	732.8	766.4	800
Efficiency at Class H (P.F.=0.8)绝缘等级H (P.F.=0.8)效率	4/4%	93.5	93.6	93.8	94.2	93.3	93.5	93.6	93.7
	3/4%	94.3	94.4	94.5	94.7	94.1	94.2	94.2	94.2
	2/4%	94.5	94.6	94.5	94.2	94.1	94.2	94.2	94.2
Efficiency at Class H (P.F.=1.0)绝缘等级H (P.F.=1.0)效率	4/4%	94.9	95	95.1	95.5	94.7	94.9	95	95
	3/4%	95.6	95.7	95.8	95.9	95.2	95.3	95.5	95.6
	2/4%	95.8	95.8	95.8	95.5	95.3	95.3	95.5	95.5
Reactances (%) at Class H 绝缘等级H考核时的电抗									
Direct axis synchronous reactance unsaturated 直轴同步电抗	Xd	2.69	2.56	2.38	1.92	3.07	2.91	2.79	2.67
Direct axis transient reactance saturated 直轴瞬态电抗	X'd	0.15	0.14	0.13	0.11	0.17	0.16	0.16	0.15
Direct axis subtransient reactance saturated 直轴瞬变电抗	X"d	0.11	0.1	0.1	0.08	0.12	0.12	0.11	0.11
Quadrature axis synchronous reactance unsaturated 交轴同步电抗	Xq	2.24	2.13	1.98	1.6	2.56	2.42	2.32	2.22
Quadrature axis subtransient reactance saturated 交轴起始瞬态电抗	X"q	0.27	0.25	0.24	0.19	0.3	0.28	0.27	0.26
Leakage reactance漏抗	X1	0.08	0.08	0.07	0.06	0.09	0.09	0.08	0.08
Negative sequence reactance saturated负序电抗饱和	X2	0.19	0.18	0.17	0.13	0.22	0.21	0.2	0.19
Zero sequence reactance unsaturated 零序电抗不饱和	X0	0.03	0.03	0.02	0.02	0.03	0.03	0.03	0.03
Short-circuit ratio 短路比	Kcc	0.3717	0.3906	0.4202	0.5208	0.3257	0.3436	0.3584	0.3745

Short-circuit transient time constant (sec.)瞬变时间常数（秒）	T'd	0.099
Subtransient time constant (sec.) 超瞬变时间常数（秒。）	T"d	0.013
Open circuit time constant (sec.)开路时间常数	T'do	2.95
Armature time constant (sec.)电枢时间常数	Tα	0.034
Stator Winding Resistance (20℃)定子绕组电阻(20℃)	ohm	0.0034
Rotor Winding Resistance (20℃)转子绕组电阻(20℃)	ohm	1.7
Exciter Stator Resistance (20℃)励磁机定子电阻(20℃)	ohm	17.5
Exciter Rotor Phase resistance 励磁机转子相电阻	ohm	0.063

No load excitation current空载励磁电流	io (A)	0.6	0.63	0.71	0.65	0.56	0.6	0.62	0.63
Full load excitation current满载励磁电流	ic(A)	2.6	2.7	2.8	2.7	2.7	2.7	2.8	2.8
Cooling air requirement空气冷却要求	m^3/sec	2.18m3/s 4619cfm				2.63m3/s 5573cfm			

Mechanical Characteristic

Configuration 结构	Single Bearing 单轴承	Double Bearing 双轴承
Type of Construction 结构形式	B2-SAE	IM B34
Total Weight - kgs 总重量-公斤	1900	1880
Weight wound stator - kgs 定子重量-公斤	900	900
Weight wound rotor - kgs 转子重量-公斤	788	744
Inertia (J) [kgm2] 转动惯量（J）[kgm2）	17.652kgm2	17.1086kgm2
Drive end bearing / Lubrication 驱动端轴承/润滑		BALL.6224-2RS(ISO)
Non-drive end bearing / Lubrication非驱动端轴承/润滑	BALL.6317-2RS(ISO)	BALL.6317-2RS(ISO)
Packing crate size 包装尺寸（cm）	178X97X133	186X97X133

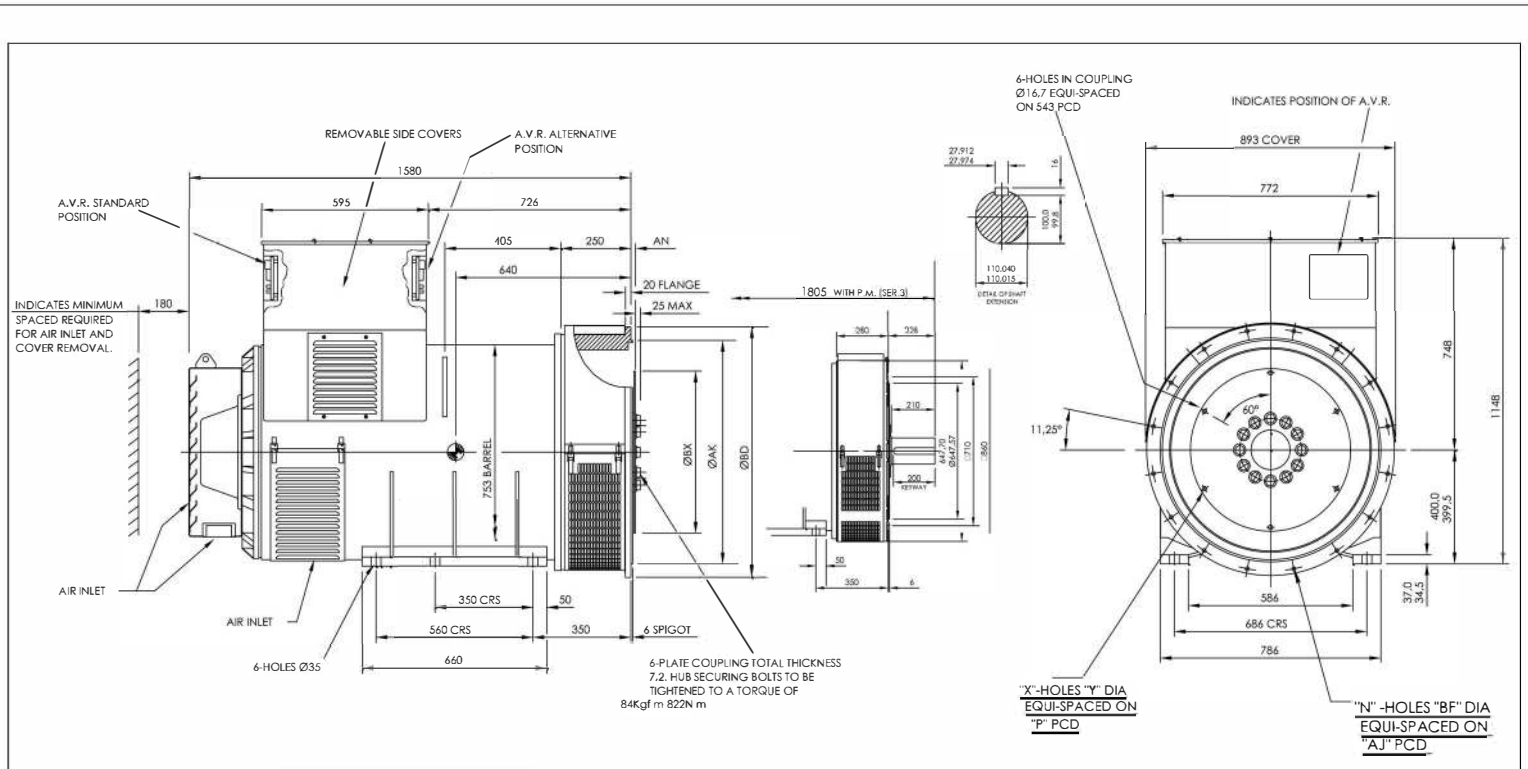
Winding 312 / 0.8 Power Factor

RATINGS

	Class - Temp Rise	Cont. F - 105/40°C				Cont. H - 125/40°C				Standby - 150/40°C				Standby - 163/27°C			
50 Hz	Star (V)	380	400	415	440	380	400	415	440	380	400	415	440	380	400	415	440
	Delta (V)	220	230	240	254	220	230	240	254	220	230	240	254	220	230	240	254
	kVA	697	733	733	664	760	800	800	725	785	825	825	745	800	840	840	760
	kW	558	586	586	531	608	640	640	580	628	660	660	596	640	672	672	608
	Efficiency (%)	93.9	94.0	94.1	94.5	93.6	93.6	93.8	94.3	93.4	93.5	93.7	94.3	93.3	93.4	93.6	94.2
	kW Input	594	624	623	562	650	684	682	615	672	706	704	632	686	719	718	645

60 Hz	Star (V)	416	440	460	480	416	440	460	480	416	440	460	480	416	440	460	480
	Delta (V)	240	254	266	277	240	254	266	277	240	254	266	277	240	254	266	277
	kVA	790	840	878	917	865	916	958	1000	897	948	992	1035	905	958	1000	1045
	kW	632	672	702	734	692	733	766	800	718	758	794	828	724	766	800	836
	Efficiency (%)	93.7	93.8	93.9	93.9	93.4	93.5	93.6	93.6	93.2	93.4	93.4	93.5	93.2	93.3	93.4	93.5
	kW Input	674	716	748	781	741	784	819	855	770	812	850	886	777	821	857	894

DIMENSIONS



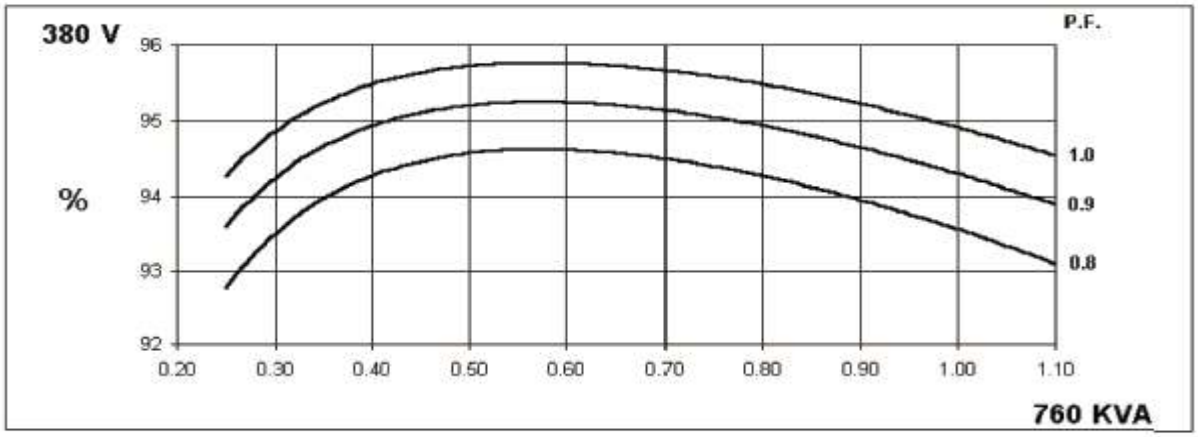
	COUPLING DISC				
SAE	BX	P	X	Y	AH
24	733.375	692	12	20.7	0
21	673.10	641.35	12	16.7	0
18	571.50	542.92	6	16.7	15.7
14	466.72	438.15	8	13.5	25.4

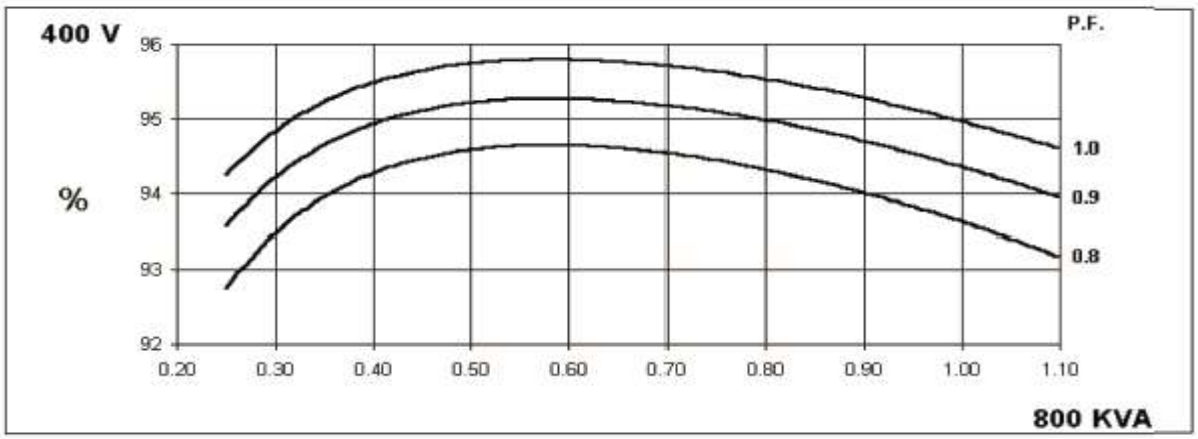
FLANGE (mm)						
SAE	BD	AK	AJ	U°	BF	n
SAE1	553	511.18	530.22	15	12.7	12
SAE1/2	648	584.20	619.12	15	14	12
SAE0	711	647.70	679.45	11.25	14	16
SAE00	882	787.40	850.90	11.25	14	16

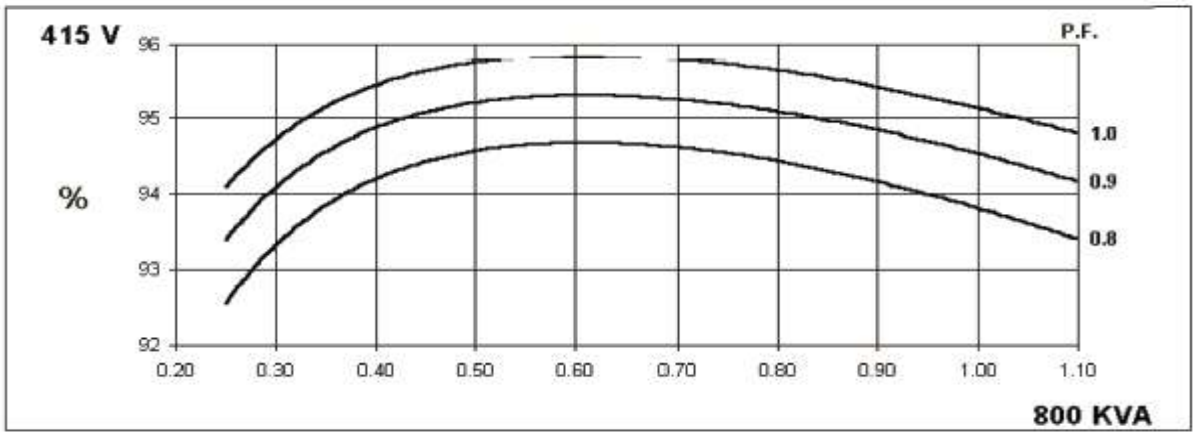
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Design		APP			mm
CHK		Date	2018.01		

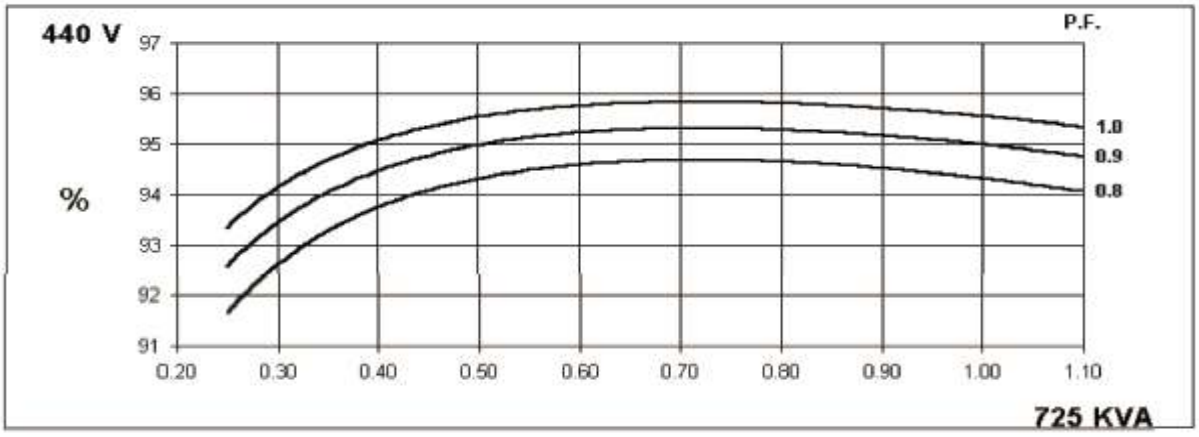
50 Hz

THREE PHASE EFFICIENCY CURVES



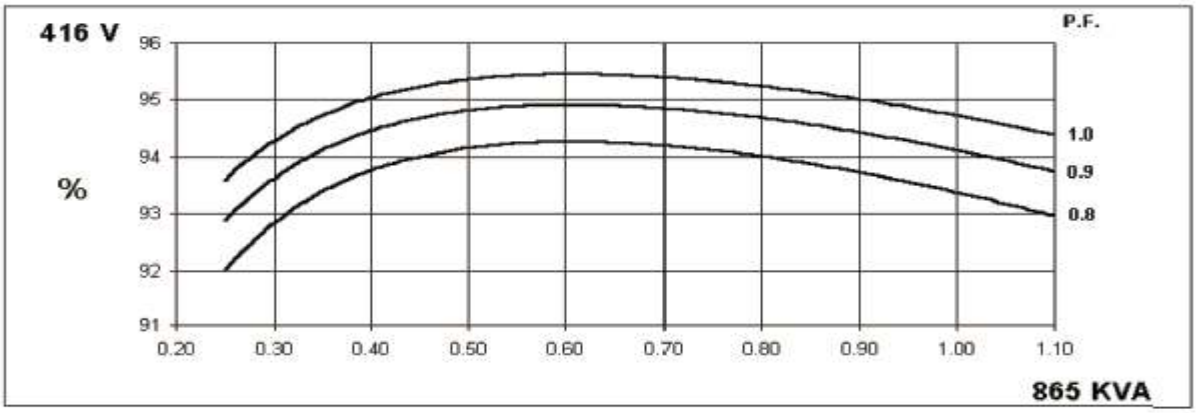


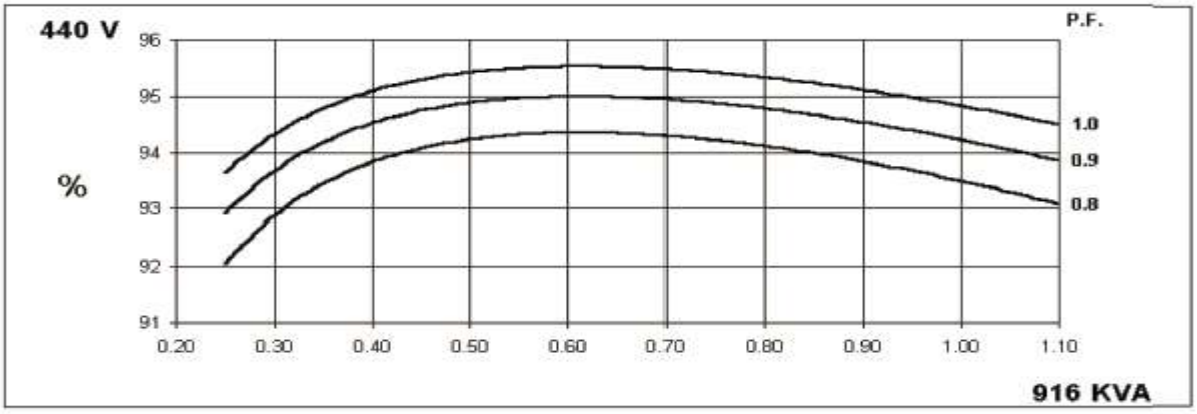


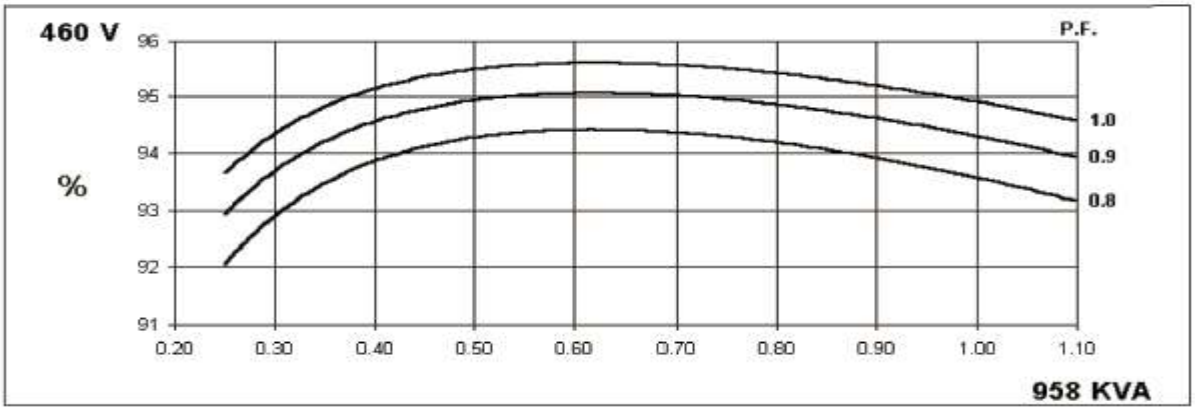


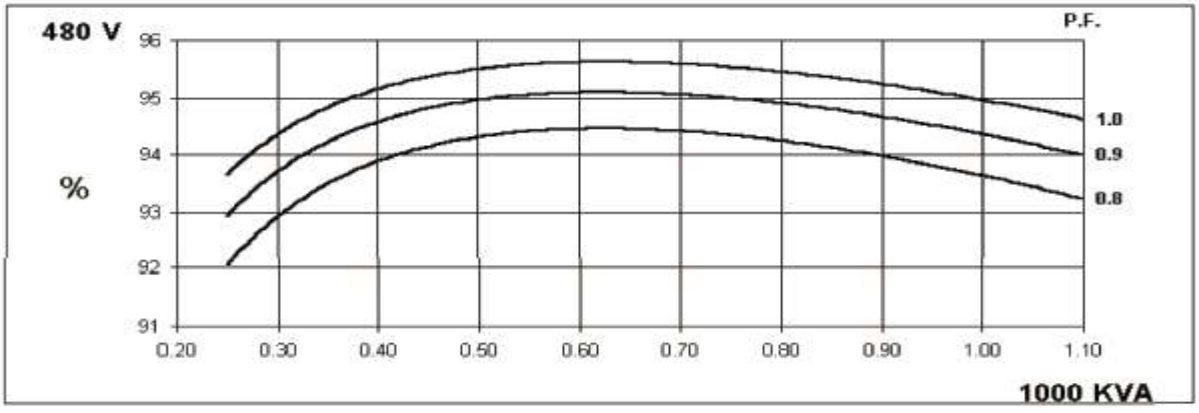
60 Hz

THREE PHASE EFFICIENCY CURVES



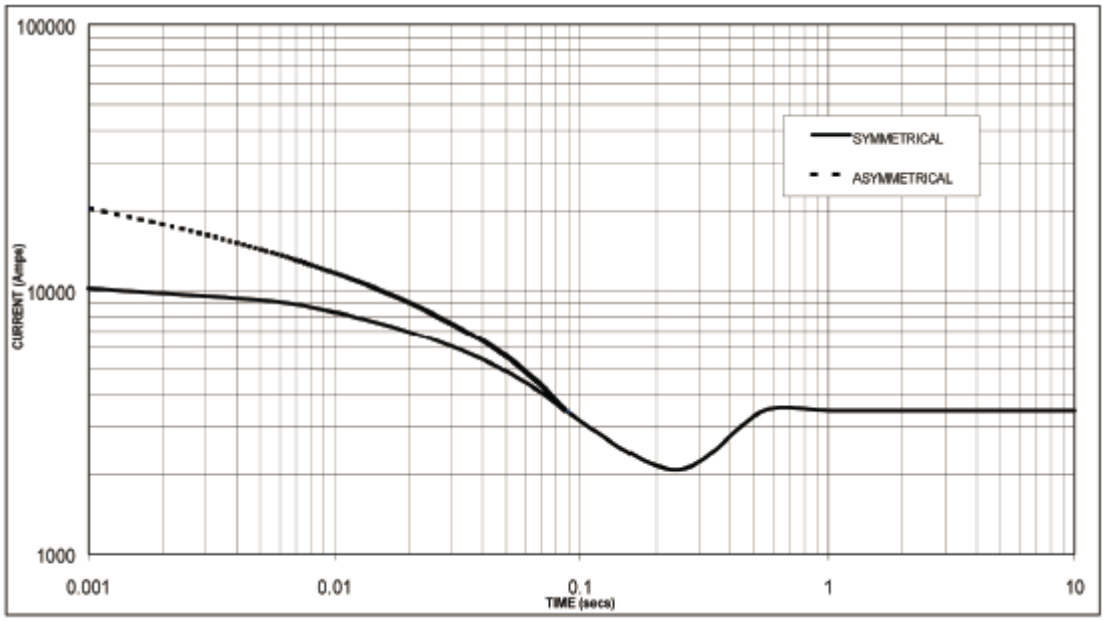






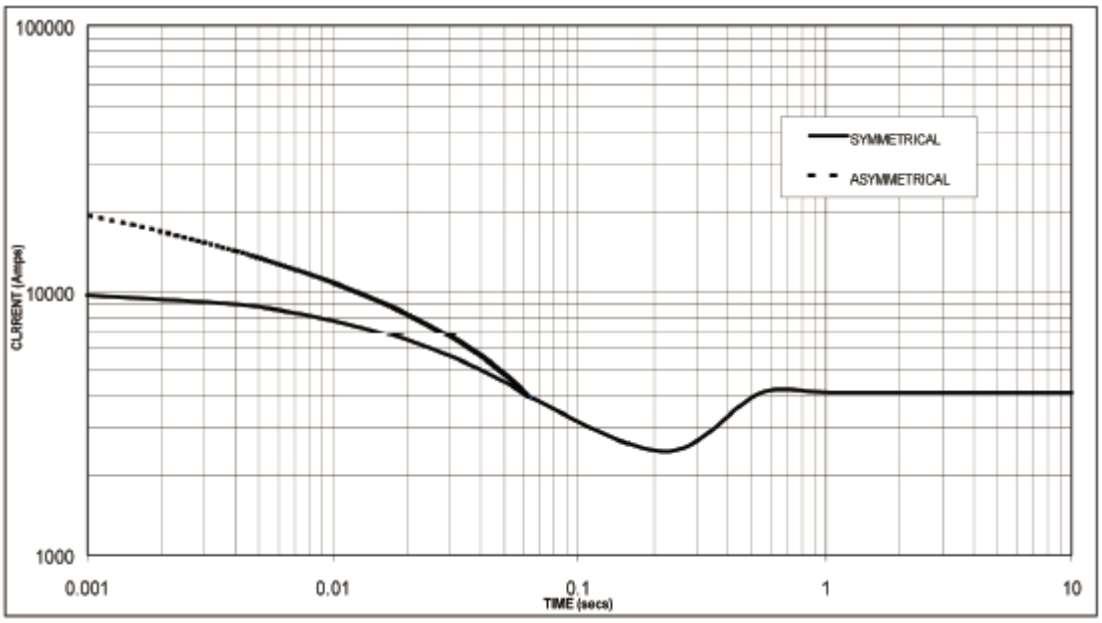
Three-phase Short Circuit Decrement Curve. No-load Excitation at Rated Speed
Based on star (wye) connection.

50 Hz



Sustained Short Circuit = 3460 Amps

60 Hz



Sustained Short Circuit = 4090 Amps

Note 1

The following multiplication factors should be used to adjust the values from curve between time 0.001 seconds and the minimum current point in respect of nominal operating voltage :

50Hz		60Hz	
Voltage	Factor	Voltage	Factor
380v	x 1.00	416v	x 1.00
400v	x 1.05	440v	x 1.06
415v	x 1.09	460v	x 1.10
440v	x 1.16	480v	x 1.15

The sustained current value is constant irrespective of voltage level

Note 2

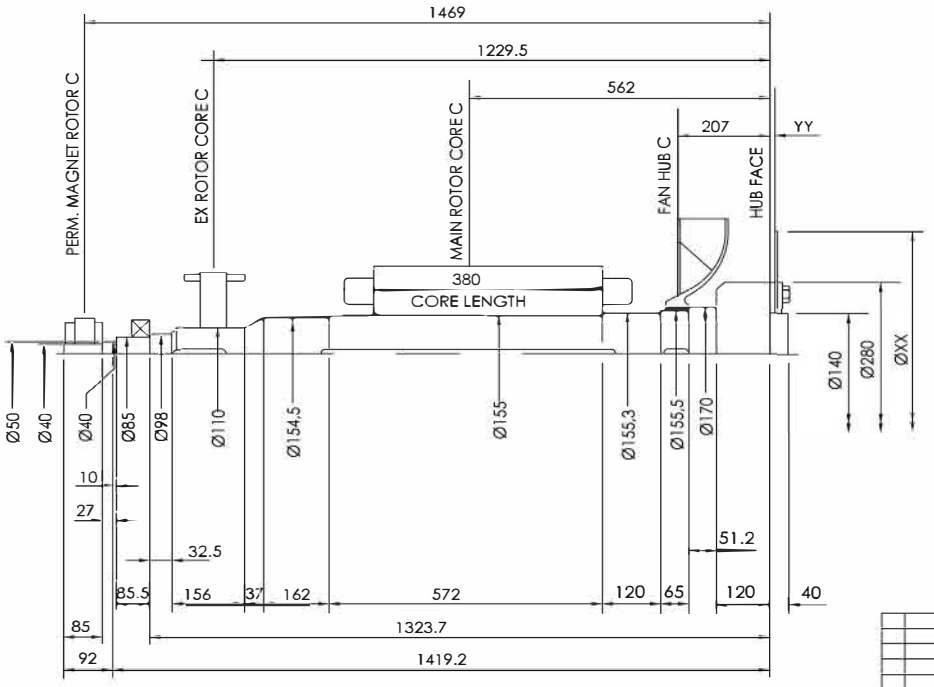
The following multiplication factor should be used to convert the values calculated in accordance with NOTE 1 to those applicable to the various types of short circuit :

	3-phase	2-phase L-L	1-phase L-N
Instantaneous	x 1.00	x 0.87	x 1.30
Minimum	x 1.00	x 1.80	x 3.20
Sustained	x 1.00	x 1.50	x 2.50
Max. sustained duration	10 sec.	5 sec.	2 sec.

All other times are unchanged

Note 3

Curves are drawn for Star (Wye) connected machines.



COMPONENT	Wt kg	J kgm^2
EX. ROTOR	51.6	0,859
MAIN ROTOR	483.521	15.0638
FAN	16.1	0,6762
SHAFT	191.914	0,5514
HUB	37.098	0,4823
P.M.EX.ROTOR	6.97	0.019
P.M. STUB SHAFT	0.929	0,0003
TOTAL	788.132	17.652

COUPLING SAE No	COUPLING DIMEN's XX	COUPLING DIMEN's YY	COUPLING ASSEMBLY WEIGHT kg	COUPLING DISC J kgm^2
14	467	25	25	0,265
16	518	16	24.3	0,403
18	572	16	24.4	0,535
21	673	0	24.25	1.053
24	733	0	28	1.602

					1:1
VER	MOD	DRW	Date		
Design		APP			
CHK		Date	2018.01		mm



Şerifali, Tavukçuyolu Cd No:200, 34775 Ümraniye/İstanbul
+90 216 312 79 79
www.maranellogenerators.com
info@maranellogenerators.com