maranello alternator

M1385

CONT 1250 kVA

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	5400A					

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	1190	1250	1250	1135	1310	1386	1449	1513
额定功率在H(125℃)温升	kW	952	1000	1000	908	1048	1108.8	1159.2	1210.4
Efficiency at Class H (P.F.=0.8)绝缘等级H (P.F.=0.8)效率	4/4%	94.9	94.9	95	95.1	94.9	95	95	95
	3/4%	95.3	95.3	95.3	95.2	95.2	95.2	95.2	95.2
	2/4%	95.1	95.1	95	94.7	95	95	95	94.9
Efficiency at Class H (P.F.=1.0)绝缘等级H (P.F.=1.0)效率	4/4%	96	96	96	96.1	96	96	96	96
	3/4%	96.3	96.3	96.4	96.2	96.2	96.2	96.2	96.2
	2/4%	96.2	96.2	96.1	95.9	96	96	96	96
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	2.16	2.05	1.9	1.54	2.47	2.33	2.23	2.14
Direct axis transient reactance saturated 直轴瞬态电抗	X'd	0.12	0.11	0.1	0.08	0.13	0.13	0.12	0.12
Direct axis subtransient reactance saturated 直轴瞬变电抗	X"d	0.09	0.08	0.08	0.06	0.1	0.09	0.09	0.08
Quadrature axis synchronous reactance unsaturated 交轴同步电抗	Xq	1.79	1.7	1.58	1.28	2.04	1.93	1.85	1.77
Quadrature axis subtransient reactance saturated 交轴起始瞬态电抗	X"q	0.21	0.2	0.18	0.15	0.23	0.22	0.21	0.2
Leakage reactance漏抗	X1	0.07	0.06	0.06	0.05	0.07	0.07	0.07	0.07
Negative sequence reactance saturated负序电抗饱和	X2	0.15	0.14	0.13	0.11	0.17	0.16	0.15	0.15
Zero sequence reactance unsaturated 零序电抗不饱和	X0	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Short-circuit ratio 短路比	Kcc	0.4630	0.4878	0.5263	0.6494	0.4049	0.4292	0.4484	0.4673

Short-circuit transient time constant (sec.)瞬变时间常数（秒）	T'd	0.115
Subtransient time constant (sec.) 超瞬变时间常数（秒。）	T"d	0.015
Open circuit time constant (sec.)开路时间常数	T'do	3.6
Armature time constant (sec.)电枢时间常数	Tα	0.038
Stator Winding Resistance (20℃)定子绕组电阻(20℃)	ohm	0.0015
Rotor Winding Resistance (20℃)转子绕组电阻(20℃)	ohm	2.47
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	2721	2700
Weight wound stator - kgs 定子重量-公斤	1350	1350
Weight wound rotor - kgs 转子重量-公斤	1167	1129
Inertia (J) [kgm2] 转动惯量（J）[kgm2）	29.279kgm2	28.7543kgm2
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）	186X97X133	195X97X133

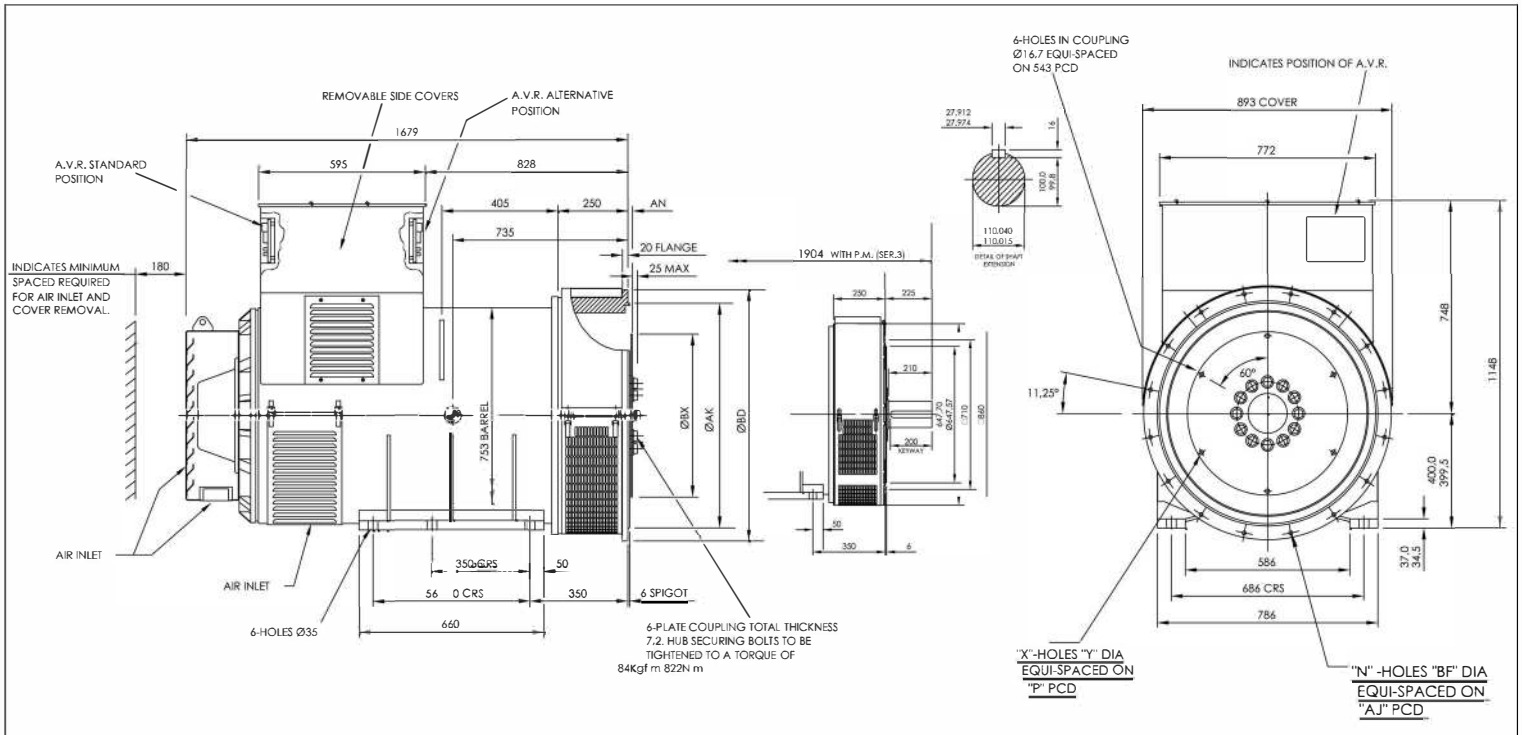
Winding 312 / 0.8 Power Factor

RATINGS

温升等级		F级温升 - 105/40°C				H级温升 - 125/40°C				备载 - 150/40°C				备载 - 163/27°C			
50 Hz	星形（V）	380	400	415	440	380	400	415	440	380	400	415	440	380	400	415	440
	三角形（V）	220	230	240	254	220	230	240	254	220	230	240	254	220	230	240	254
视在功率（kVA）		1091	1146	1146	1040	1190	1250	1250	1135	1225	1288	1288	1170	1250	1313	1313	1190
有功功率（kW）		873	917	917	832	952	1000	1000	908	80	1030	1030	936	1000	1050	1050	952
效率（%）		95.1	95.1	95.1	95.3	94.9	94.9	95.0	95.2	94.8	94.8	94.9	95.2	94.7	94.7	94.8	95.2
有功功率输入		918	964	864	873	1003	1054	1053	954	1034	1087	1086	983	1056	1109	1108	1000

60 Hz	星形（V）	416	440	460	480	416	440	460	480	416	440	460	480	416	440	460	480
	三角形（V）	240	254	266	277	240	254	266	277	240	254	266	277	240	254	266	277
视在功率（kVA）		1200	1270	1328	1386	1310	1386	1449	1513	1354	1432	1497	1563	1369	1448	1514	1580
有功功率（kW）		960	1016	1062	1109	1048	1109	1159	1210	1083	1146	1198	1250	1095	1158	1211	1264
效率（%）		95.1	95.1	95.1	95.1	94.9	94.9	95.0	95.0	94.8	94.9	94.9	94.9	94.8	94.8	94.9	94.9
有功功率输入		1009	1068	1117	1166	1104	1168	1220	1274	1143	1207	1262	1318	1155	1222	1276	1332

DIMENSIONS



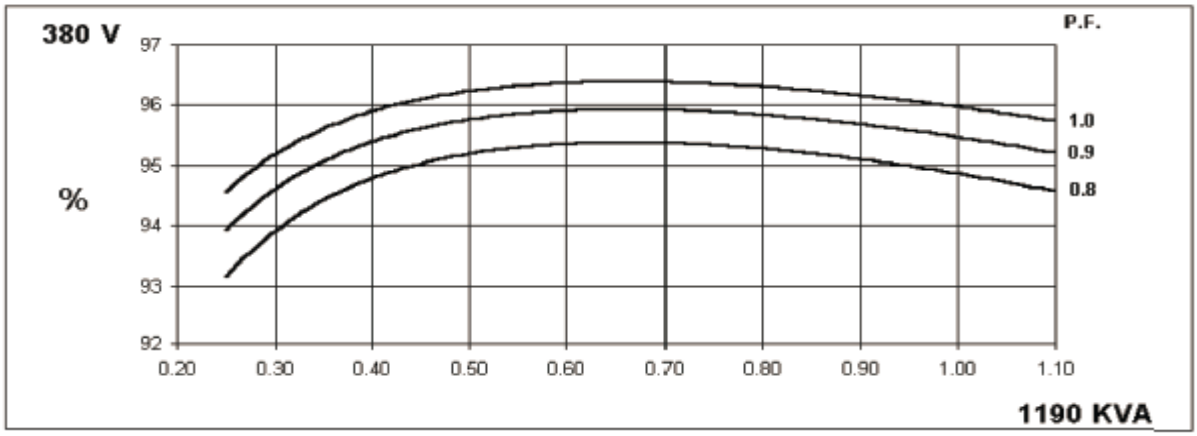
	COUPLING DISC				
SAE	BX	P	X	Y	AH
24	733.375	692	12	20.7	0
21	673.10	641.35	12	16.7	0
18	571.50	542.92	6	16.7	15.7
14	466.72	438.15	8	13.5	25.4

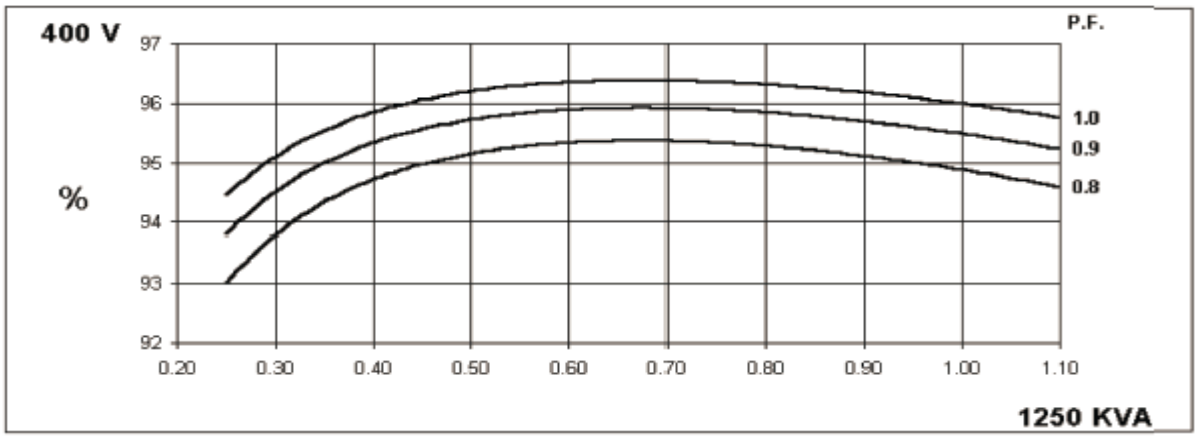
FLANGE (mm)						
SAE	BD	AK	AJ	U°	BF	n
SAE1	553	511.18	530.22	15	12.7	12
SAE1/2	648	584.20	619.12	15	14	12
SAE0	711	647.70	679.45	11.25	14	16
SAE00	882	787.40	850.90	11.25	14	16

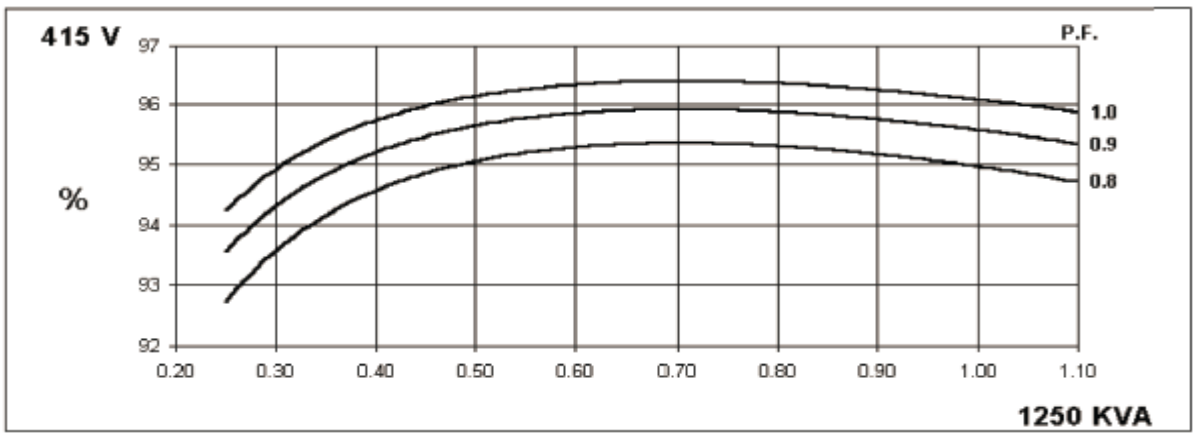
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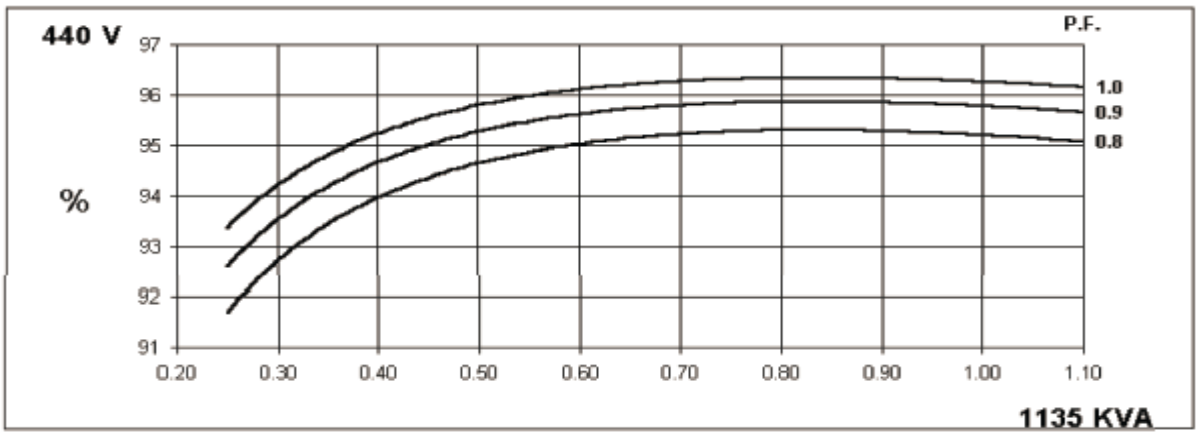
50 Hz

THREE PHASE EFFICIENCY CURVES



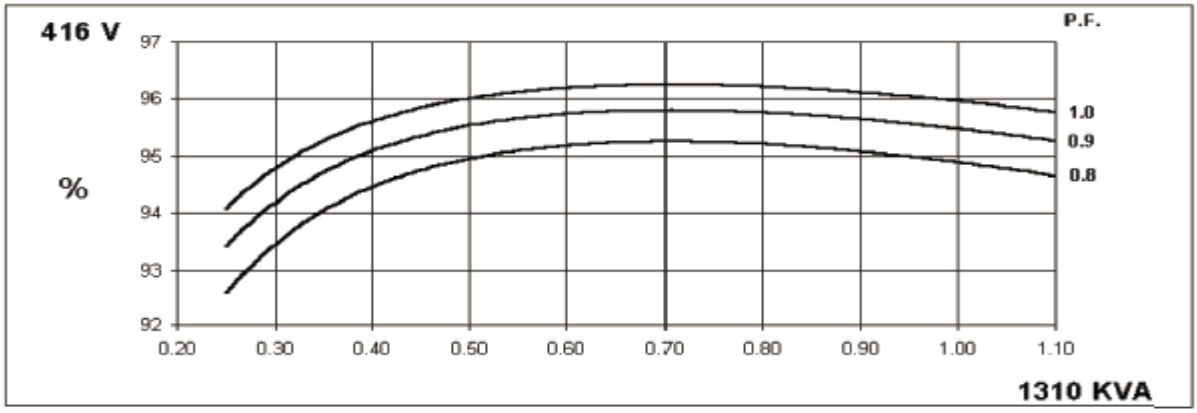


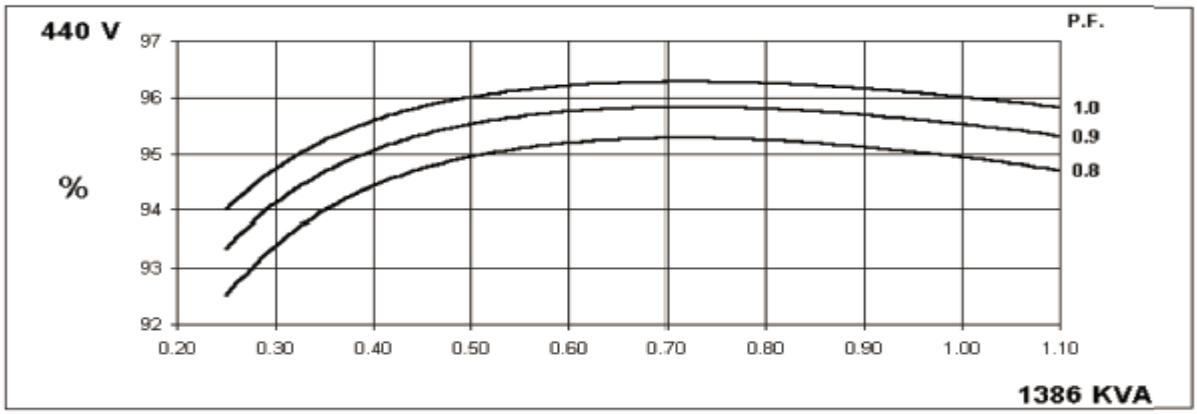


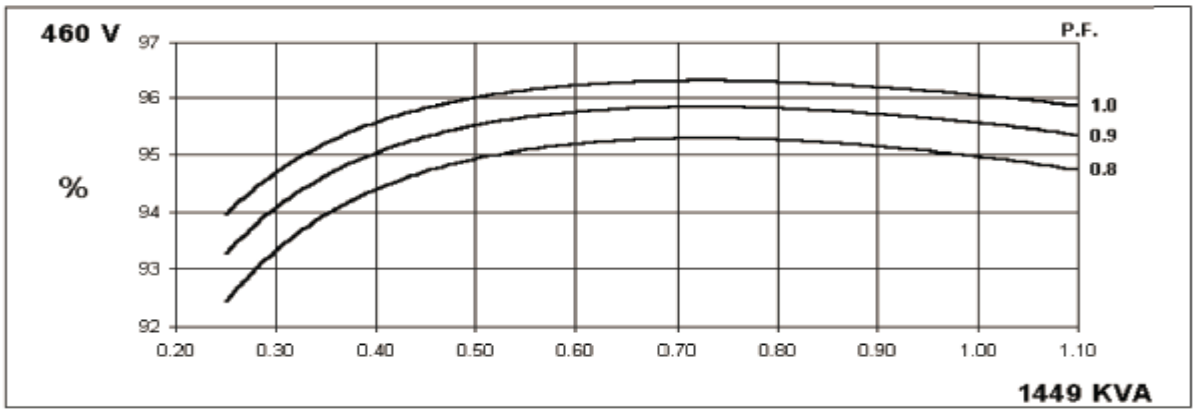


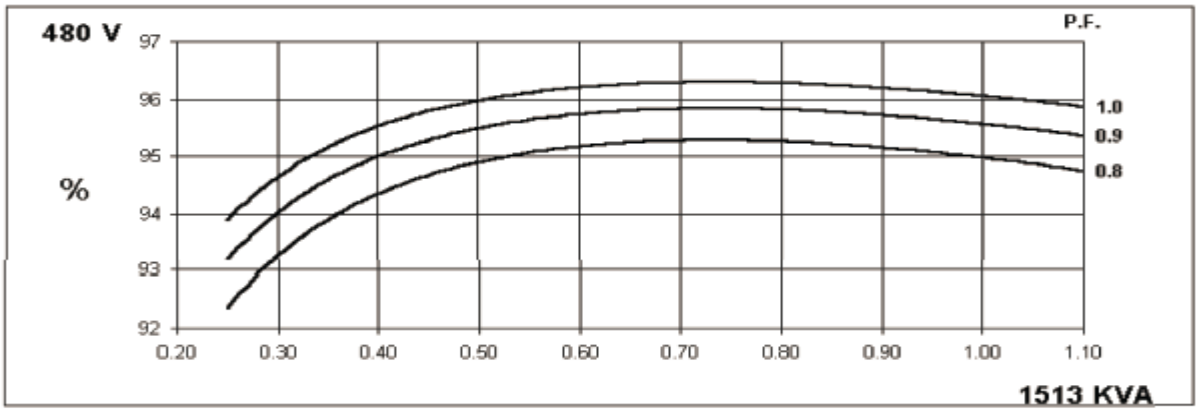
60 Hz

THREE PHASE EFFICIENCY CURVES



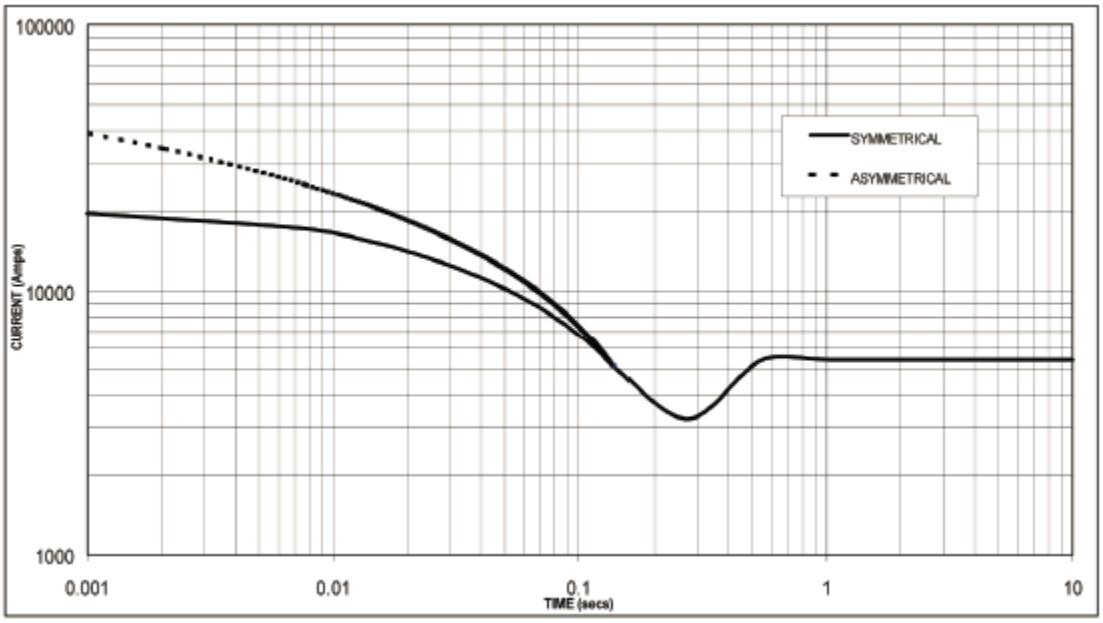






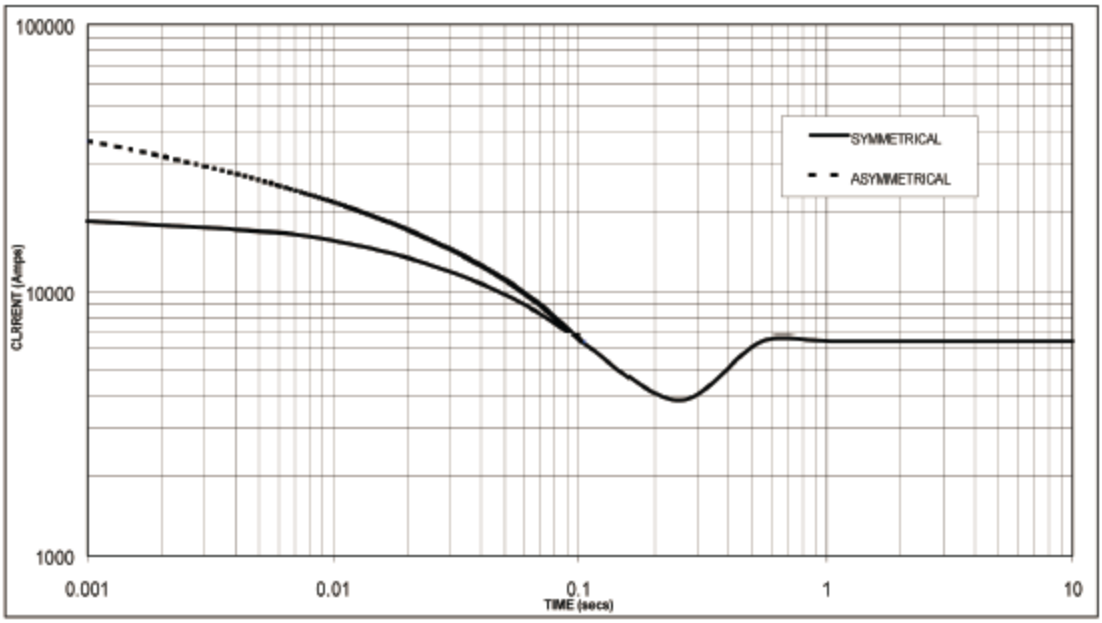
Three-phase Short Circuit Decrement Curve. No-load Excitation at Rated Speed
Based on star (wye) connection.

50 Hz



Sustained Short Circuit = 5400 Amps

60 Hz



Sustained Short Circuit = 6390 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

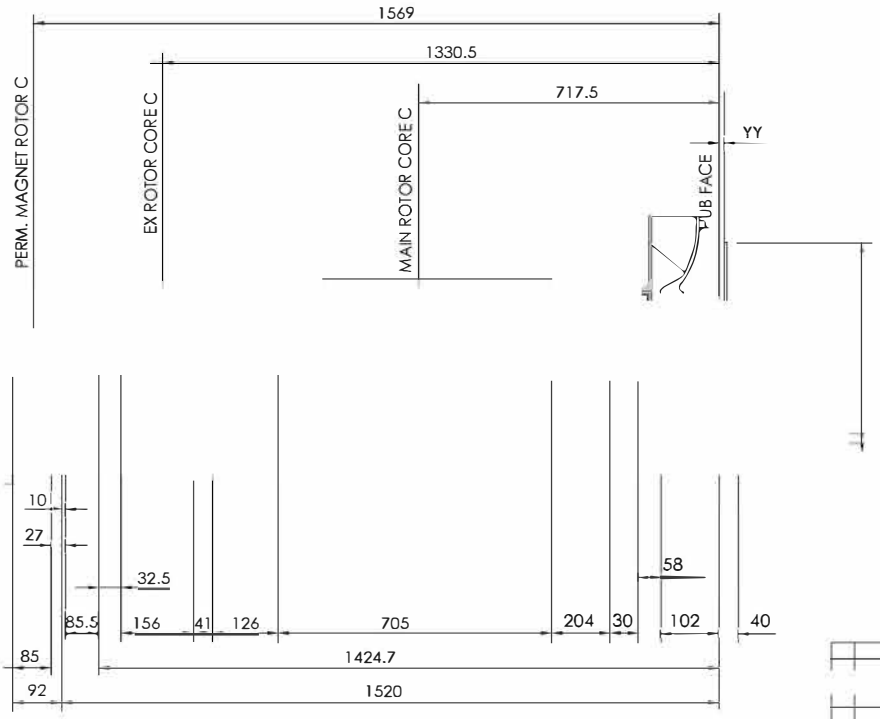
The following multiplication factor should be used to convert the values calculated in accordance with NOTE 1 to those applicable to the various types of short circuit :

	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	844.191	26.0906
FAN	34.547	1.7988
SHAFT	204.355	0,5919
HUB	50.325	0,6766
P.M.EX.ROTOR	6.97	0.019
P.M. STUB SHAFT	0.929	0,0003
TOTAL	1192.917	30.0362

COUPLING SAE No	COUPLING DIMEN's XX	COUPLING DIMEN's YY	COUPLING ASSEMBLY WEIGHT kg	COUPLING DISC J kgm^2
18	572	16	24.4	0.535
21	673	0	24.25	1.053
24	733	0	28	1.602

VER	MOD	DRW	Date
Design		APP	
CHK		Date	2018.01

mm



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