maranello alternator

M825

CONT 750 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	3250A					

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	710	750	750	680	810	855	895	938
额定功率在H(125℃)温升	kW	568	600	600	544	648	684	716	750.4
Efficiency at Class H (P.F.=0.8)绝缘等级H (P.F.=0.8)效率	4/4%	93.2	93.2	93.4	94	93	93.1	93.1	93.2
	3/4%	94.1	94.1	94.2	94.3	93.8	94	94	94
	2/4%	94.3	94.3	94.3	94.1	93.9	94	94	94
Efficiency at Class H (P.F.=1.0)绝缘等级H (P.F.=1.0)效率	4/4%	94.7	94.8	94.9	95.2	94.4	94.5	94.7	94.7
	3/4%	95.3	95.4	95.5	95.7	95	95.1	95.2	95.2
	2/4%	95.6	95.7	95.6	95.3	95.1	95.1	95.2	95.2
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	2.73	2.6	2.42	1.95	3.12	2.94	2.82	2.71
Direct axis transient reactance saturated 直轴瞬态电抗	X'd	0.17	0.16	0.15	0.12	0.2	0.18	0.18	0.17
Direct axis subtransient reactance saturated 直轴瞬变电抗	X"d	0.12	0.12	0.11	0.09	0.14	0.13	0.13	0.12
Quadrature axis synchronous reactance unsaturated 交轴同步电抗	Xq	2.27	2.16	2.01	1.62	2.59	2.44	2.34	2.25
Quadrature axis subtransient reactance saturated 交轴起始瞬态电抗	X"q	0.28	0.27	0.25	0.2	0.32	0.3	0.29	0.28
Leakage reactance漏抗	X1	0.1	0.09	0.09	0.07	0.11	0.11	0.1	0.1
Negative sequence reactance saturated负序电抗饱和	X2	0.2	0.2	0.18	0.15	0.23	0.22	0.21	0.2
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	0.3663	0.3846	0.4132	0.5128	0.3205	0.3401	0.3546	0.3690

Short-circuit transient time constant (sec.)瞬变时间常数（秒）	T'd	0.106
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	2.91
Armature time constant (sec.)电枢时间常数	Tα	0.035
Stator Winding Resistance (20℃)定子绕组电阻(20℃)	ohm	0.0039
Rotor Winding Resistance (20℃)转子绕组电阻(20℃)	ohm	1.64
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

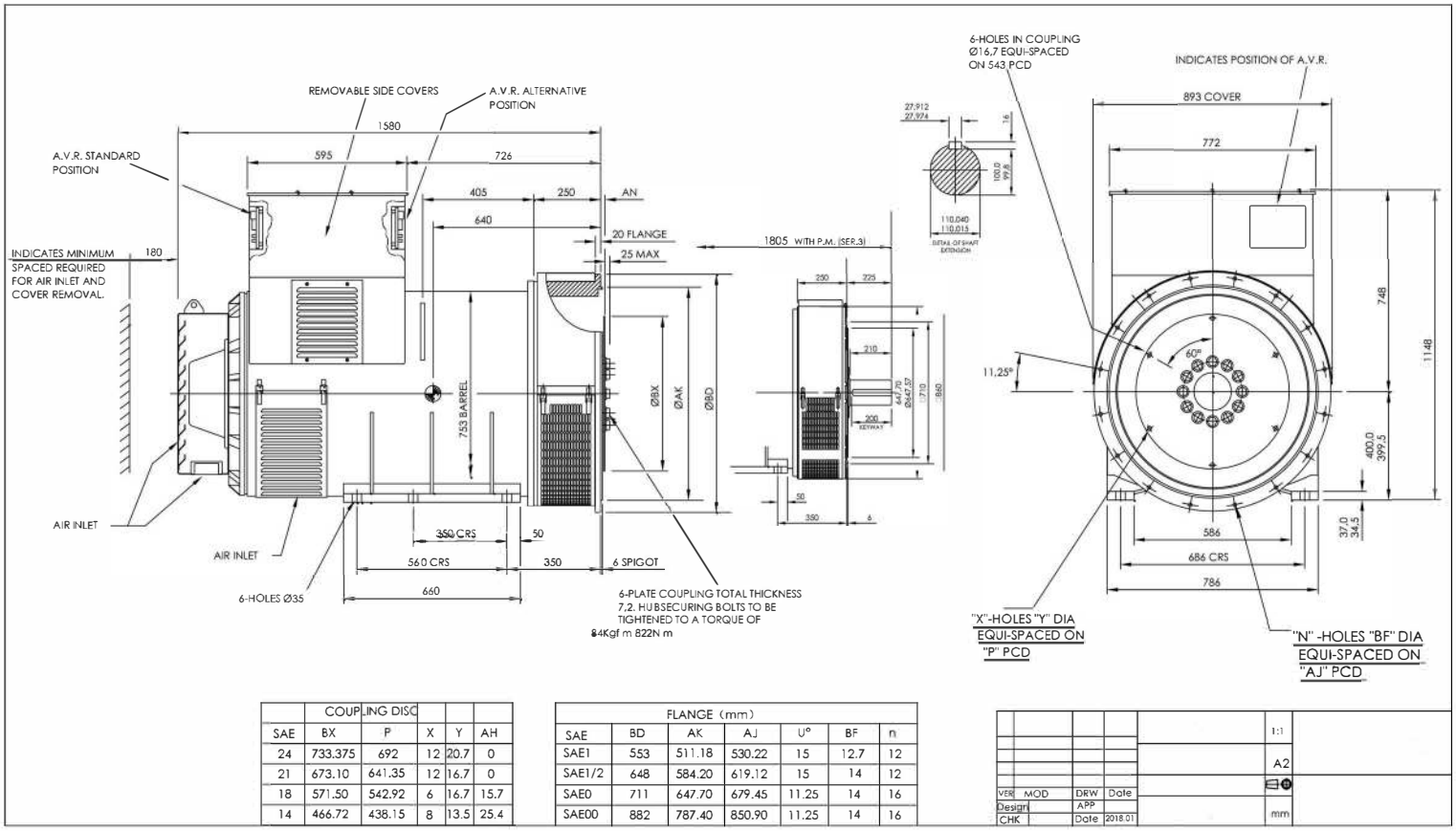
Configuration 结构	Single Bearing 单轴承	Double Bearing 双轴承
Type of Construction 结构形式	B2-SAE	IM B34
Total Weight - kgs 总重量-公斤	1850	1830
Weight wound stator - kgs 定子重量-公斤	835	835
Weight wound rotor - kgs 转子重量-公斤	760	716
Inertia (J) [kgm2] 转动惯量（J）[kgm2）	16.7816kgm2	16.2382kgm2
Drive end bearing / Lubrication 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 311 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）	651	687	687	623	710	750	750	680	730	775	775	700	745	790	790	715
	有功功率（kW）	521	550	550	498	568	600	600	544	584	620	620	560	596	632	632	572
	效率（%）	93.6	93.6	93.8	94.2	93.2	93.3	93.5	94.0	93.1	93.1	93.3	94.0	93.0	93.0	93.3	93.9
	有功功率输入	556	587	586	529	609	643	642	579	627	666	665	596	641	680	677	609
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）	742	784	820	860	810	855	895	938	840	889	929	970	849	898	939	980
	有功功率（kW）	594	627	656	688	648	684	716	750	672	711	743	776	679	718	751	784
	效率（%）	93.3	93.5	93.6	93.6	93.0	93.1	93.2	93.3	92.8	93.0	93.1	93.1	92.8	92.9	93.0	93.1
	有功功率输入	636	671	701	735	697	735	768	804	724	765	798	834	732	773	808	842

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

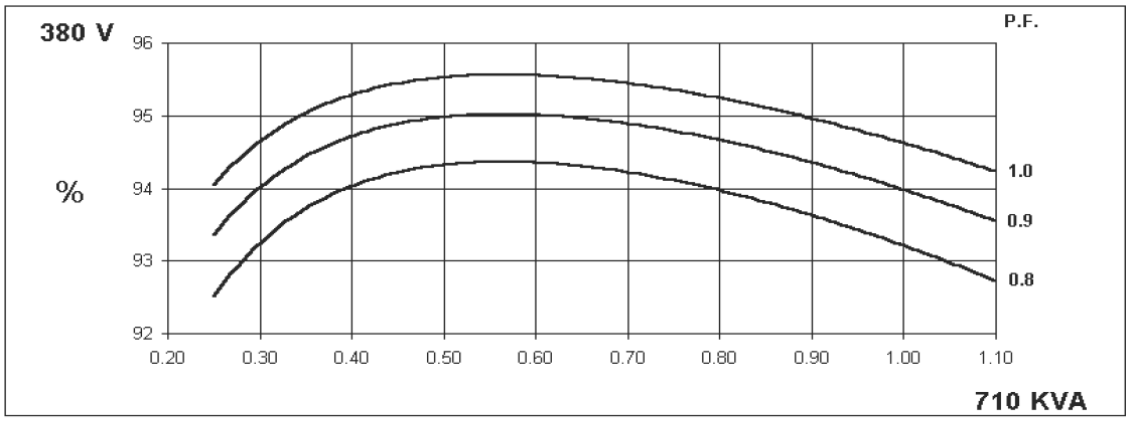
FLANGE (mm)						
SAE	BD	AK	AJ	U°	BF	n
SAE1	553	511.18	530.22	15	12.7	12
SAE1/2	648	584.20	619.12	15	14	12
SAE0	711	647.70	679.45	11.25	14	16
SAE00	882	787.40	850.90	11.25	14	16

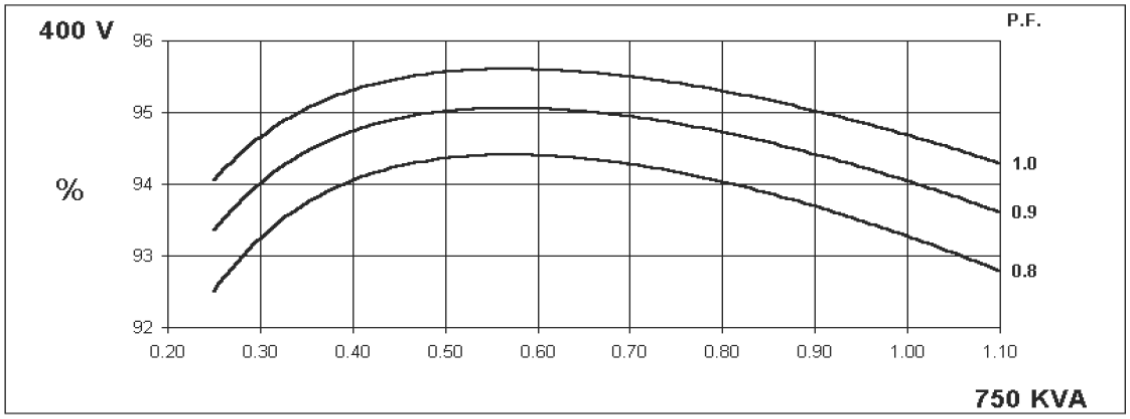
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CHK		Date	2018.01		mm

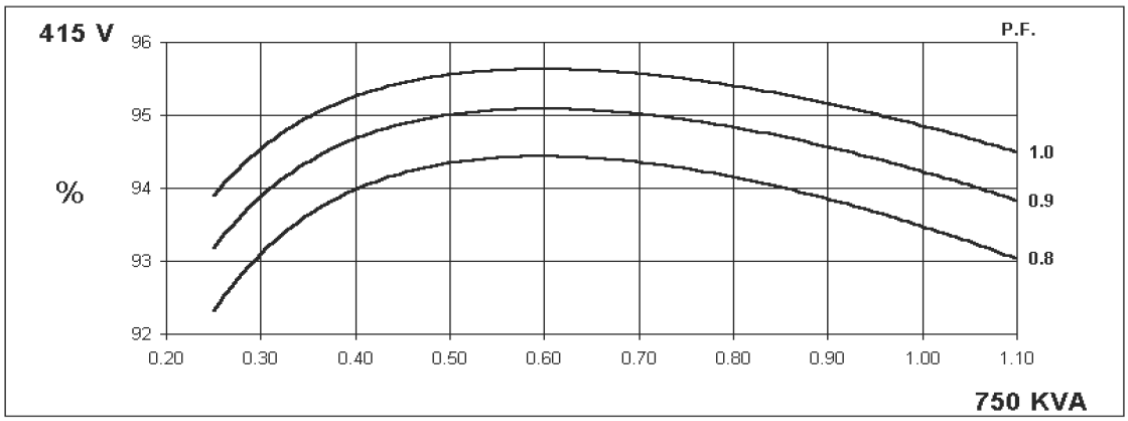
50 Hz

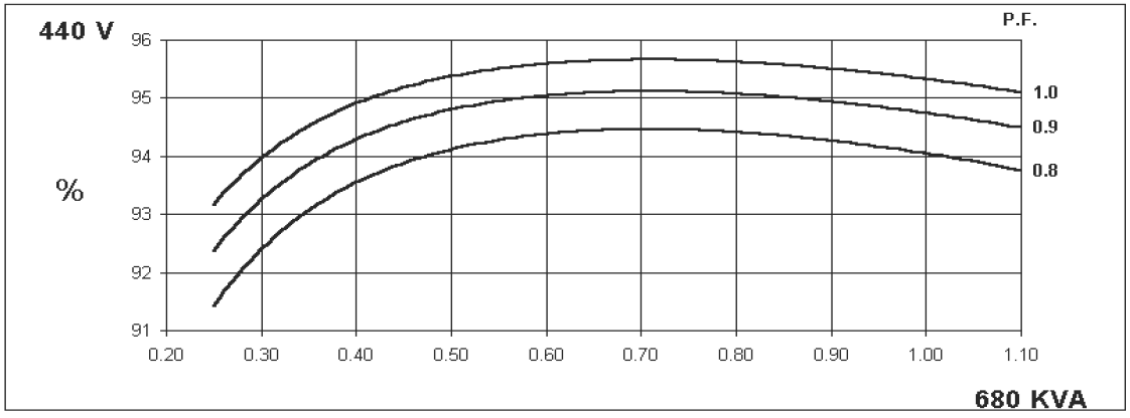
WINDING 311

THREE PHASE EFFICIENCY CURVES





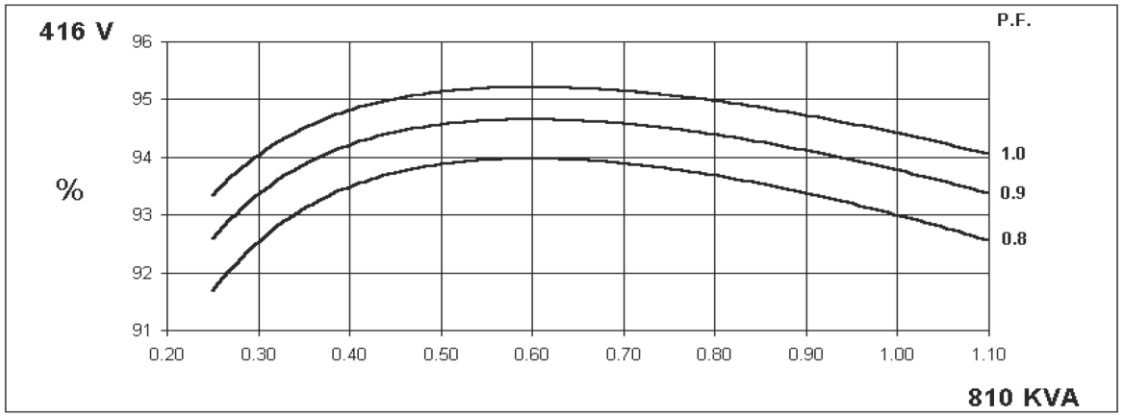


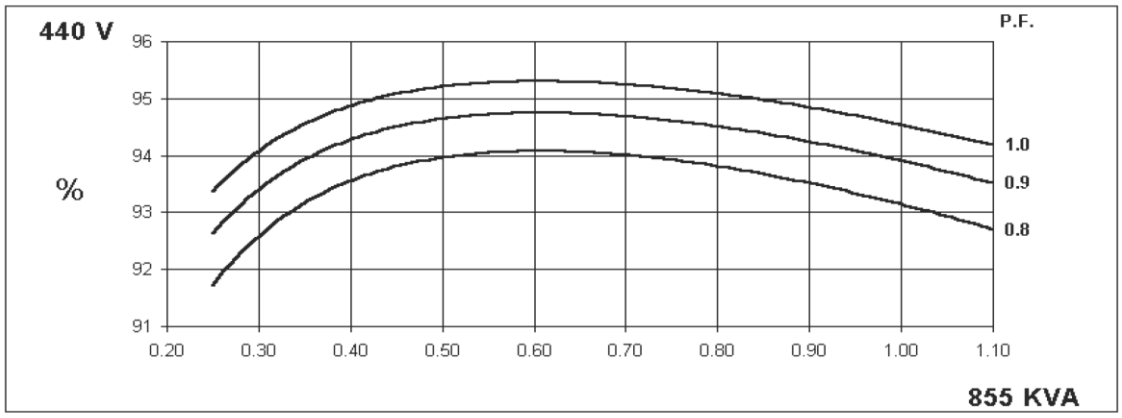


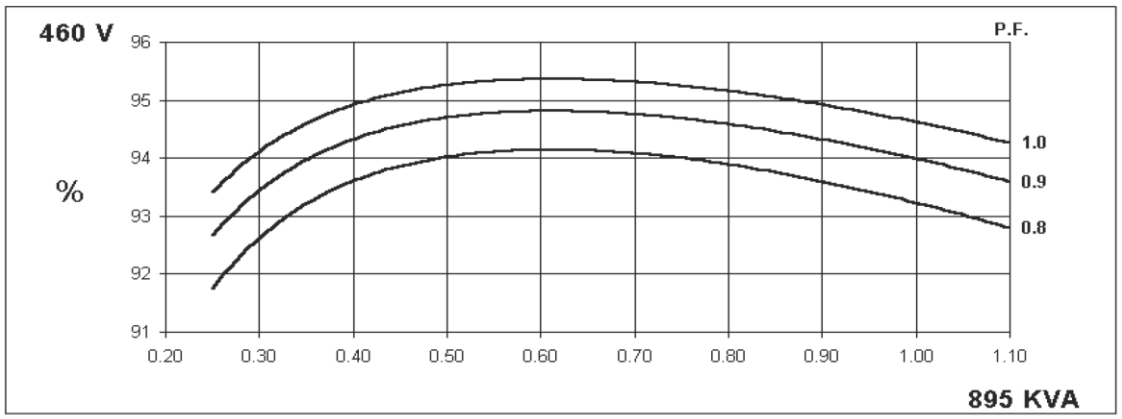
60 Hz

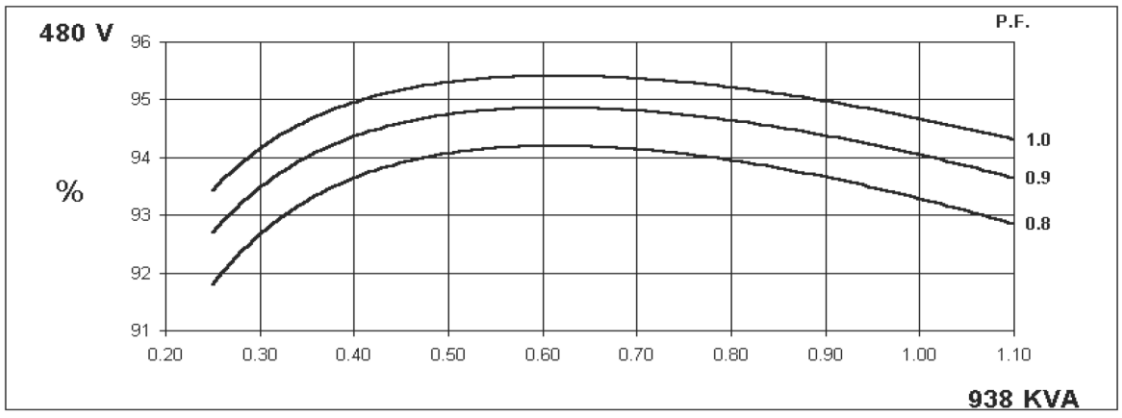
WINDING 311

THREE PHASE EFFICIENCY CURVES



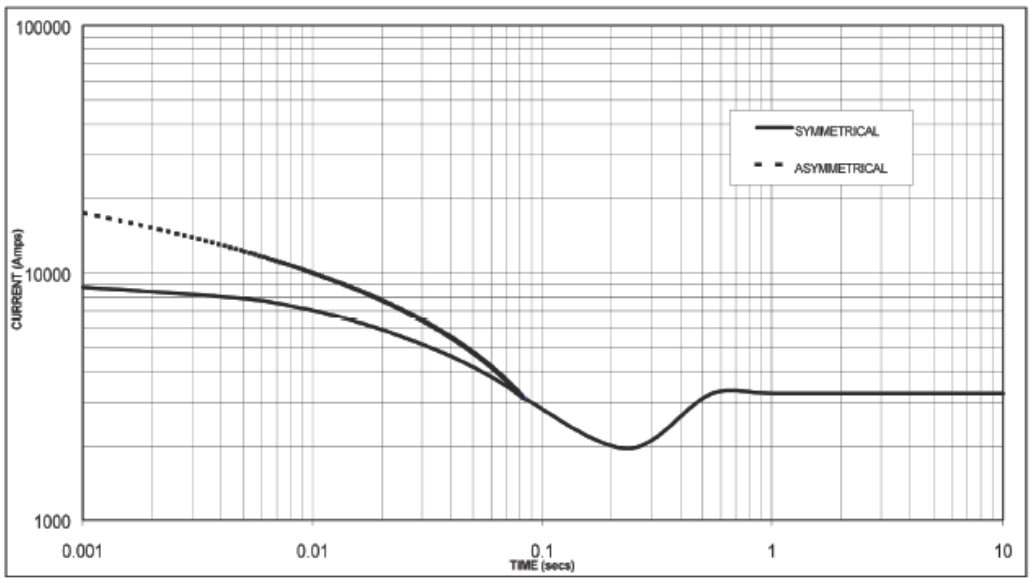






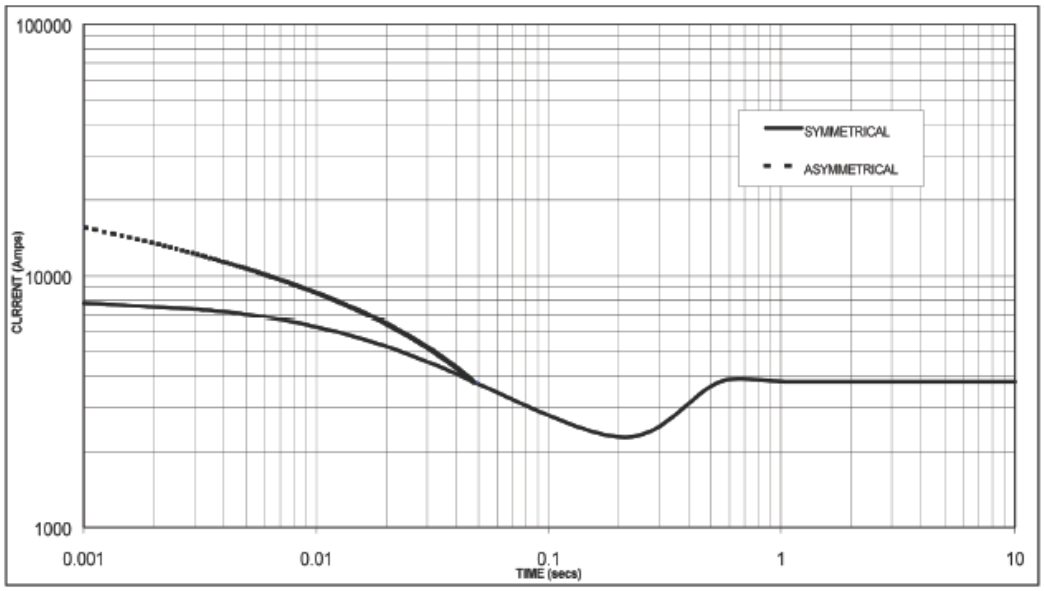
Three-phase Short Circuit Decrement Curve. No-load Excitation at Rated Speed
Based on star (wye) connection.

50 Hz



Sustained Short Circuit = 3250 Amps

60 Hz



Sustained Short Circuit = 3800 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 1.06	440v	X 1.06
415v	X 1.09	460v	X 1.12
440v	X 1.12	480v	X 1.20

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.

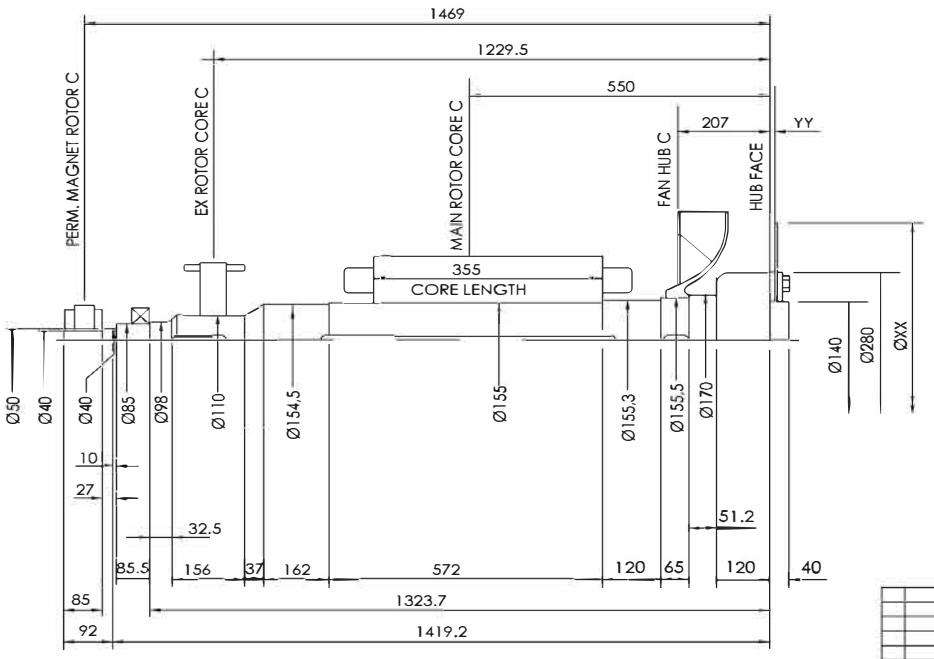
All other times are unchanged

Note 3

Curves are drawn for Star (Wye) connected machines. For other connections the following multipliers should be applied to current values as shown :

Parallel Star = Curve current value X 2

Series Delta = Curve current value X 1.732



COMPONENT	Wt kg	J kgm^2
EX. ROTOR	51.6	0,859
MAIN ROTOR	455.116	14.1934
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	759.727	16.7816

COUPLING SAE No	COUPLING DIMEN's		COUPLING ASSEMBLY WEIGHT kg	COUPLING DISC J kgm^2
	XX	YY		
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	



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