MARATHON ELECTRIC GENERATORS

TYPICAL SUBMITTAL DATA

MODEL : 742FSS4230

BASE MODEL: 742FSS4230 **Winding H-SG 740321**

Submittal Data: 600 Volts*, 800 kW, 1000 kVA, 0.8 P.F., 1800 RPM, 60 Hz, 3 Phase

10/24/2001

Kilowatt ratings at	**1800 RPM**		**60 Hertz**			**4 BARS**	**SCR Duty 3 phase**		
kW (kVA)		**3 Phase**		**0.8 Power Factor**			**Dripproof or Open Enclosure**		
	Class B	**Class F**					**Class H**		
Voltage*	**80° C ① Continuous**	**90° C ① Lloyds**	**95° C ① ABS**	**105° C British Standard**	**105° C Continuous**	**130° C ① Standby**	**125° C British Standard**	**125° C Continuous**	**150° C ① Standby**
600	800 (1000)								

①Rise by resistance method, Mil-Std-705, Method 680.1b. *British Standard Rating per BS 5000*

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Mil-Std-705B Method	**Description**	**Value**
301.1b	Insulation Resistance	>1.5 Meg
302.1a	High Potential Test	
	Main Stator	2200 Volts
	Main Rotor	1500 Volts
	Exciter Stator	1500 Volts
	Exciter Rotor	1500 Volts
	PMG Stator	1500 Volts
401.1a	Stator Resistance, Line to Line	
	High Wye Connection	0.0083 Ohms
	Rotor Resistance	0.699 Ohms
	Exciter Stator	22 Ohms
	Exciter Rotor	0.043 Ohms
	PMG Stator	2.1 Ohms
410.1a	No Load Exciter Field Amps	0.65 A DC
	at 600 Volts Line to Line	
420.1a	Short Circuit Ratio	0.487
421.1a	Xd Synchronous Reactance	2.179 p.u.
		0.785 ohms
422.1a	X2 Negative Sequence React.	0.242 pu
		0.087 ohms
423.1a	X0 Zero Sequence Reactance	0.088 pu
		0.032 ohms
425.1a	X'd Transient Reactance	0.21 pu
		0.076 ohms
426.1a	X"d Subtransient Reactance	0.187 pu
		0.067 ohms
--	Xq Quadrature Synch. React.	Not Available
427.1a	T'd Transient Short Circuit	
	Time Constant	0.226 sec.
428.1a	T"d Subtransient Short Circuit	
	Time Constant	0.01 sec.
430.1a	T'do Transient Open Circuit	
	Time Constant	2.76 sec.
432.1a	Ta Short Circuit Time	
	Constant of Armature Winding	0.049 sec.

Mil-Std-705B Method	**Description**	**Value**
505.3b	Overspeed	2250 RPM
507.1c	Phase Sequence CCW-ODE	ABC
508.1c	Voltage Balance, L-L or L-N	0.20%
601.4a	L-L Harmonic Maximum - Total	5.0%
	(Distortion Factor)	
601.4a	L-L Harmonic Maximum - Single	3.0%
601.1c	Deviation Factor	5.0%
---	TIF (1960 Weightings)	< 50
---	THF (IEC, BS & NEMA Weightings)	< 2 %
652.1a	Shaft Current	< 0.1 ma
---	Main Stator Capacitance to ground	0.014 mfd
	Additional Prototype Mil-Std Methods are Available on Request.	
--	Generator Frame	742
--	Type	MAGNAMAXDVR
--	Insulation	Class H
--	Coupling - Single Bearing	Flexible
--	Amortisseur Windings	Full
--	Excitation	Ext. Voltage Regulated, Brushless
--	Voltage Regulator	DVR2000
--	Voltage Regulation	0.25%
--	Cooling Air Volume	1130 CFM
--	Heat rejection rate	2751 Btu's/min
--	Full load current	962 amps
--	Minimum Input hp required	1137.2
	Efficiency at rated load :	94.3%
--	Full load torque	3317 Lb-ft

(3) Excitation support system or PMG required to sustain short circuit currents.
** Voltages refer to wye (star) connection, unless otherwise specified.*

Data rev. : 11/11/91
Version : 2001.2

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TYPICAL DYNAMIC CHARACTERISTICS

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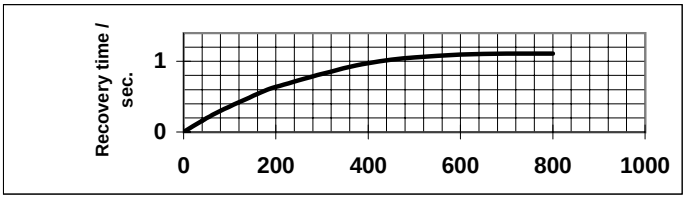
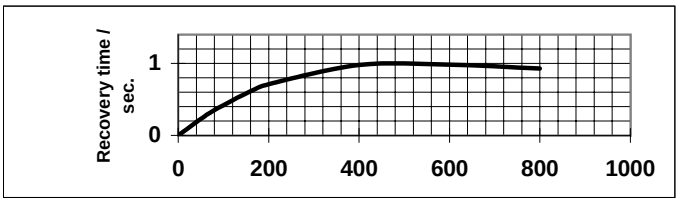
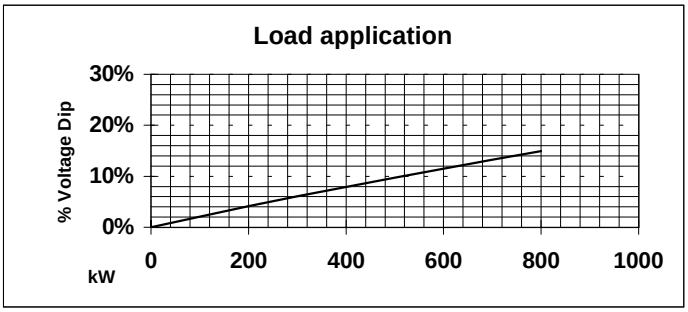
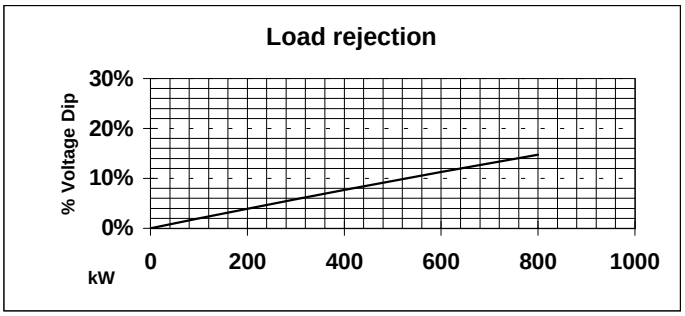
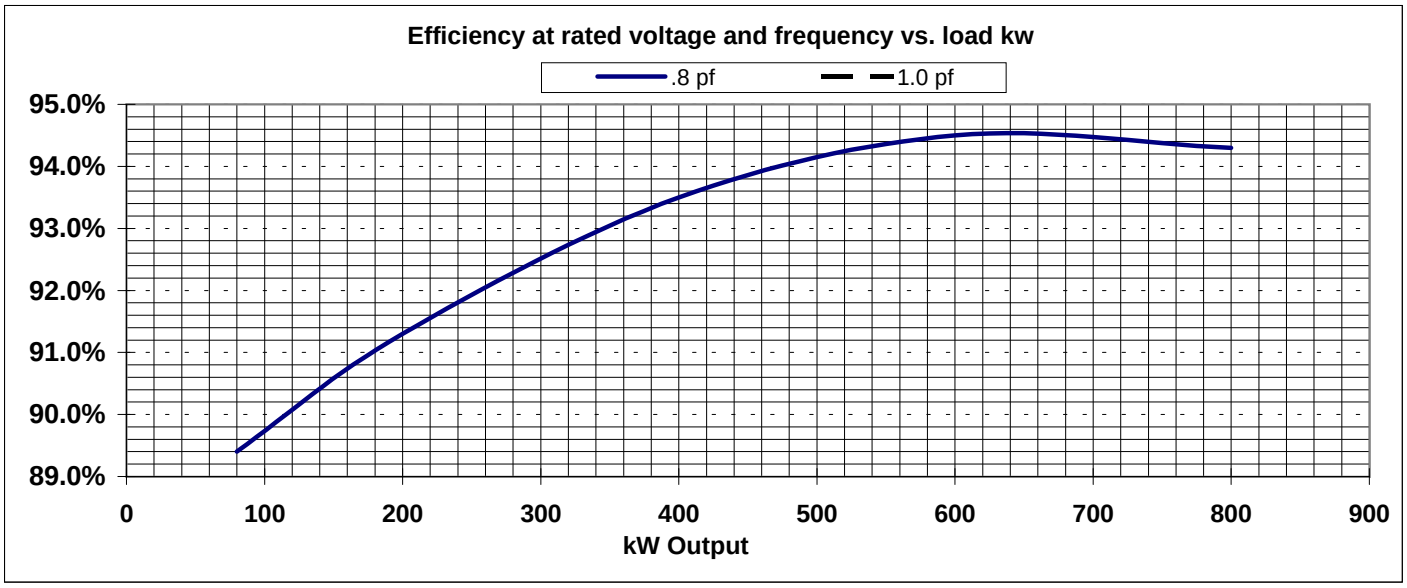
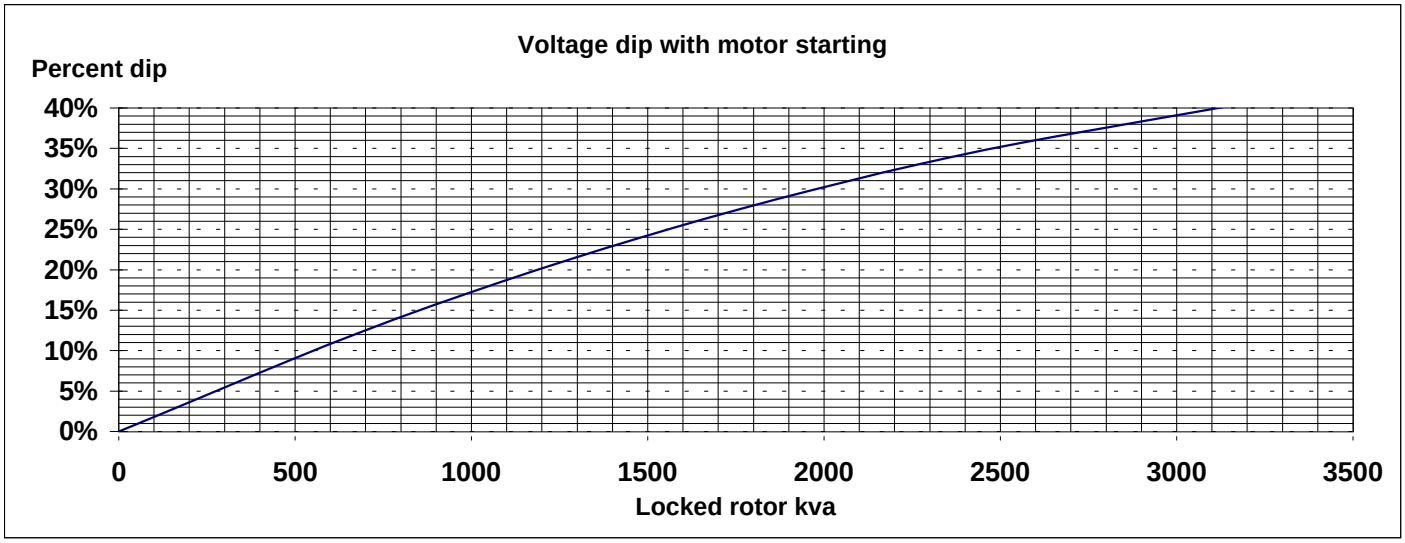
BASE MODEL: 742FSS4230 **Winding H-SG 740321**

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