MARATHON ELECTRIC GENERATORS

TYPICAL SUBMITTAL DATA

MODEL : 744FSL4062

BASE MODEL: 744FSL4062 **Winding H-SG 740307**

Submittal Data: 480 Volts*, 1900 kW, 2375 kVA, 0.8 P.F., 1800 RPM, 60 Hz, 3 Phase

10/25/2001

Kilowatt ratings at	**1800 RPM**	**60 Hertz**	**4 BARS**	**Standard 3 phase**
kW (kVA)	**3 Phase**	**0.8 Power Factor**		**Dripproof or Open Enclosure**

	Class B	**Class F**					**Class H**		
Voltage*	**80º C ① Continuous**	**90º C ① Lloyds**	**95º C ① ABS**	**105º C British Standard**	**105º C Continuous**	**130º C ① Standby**	**125º C British Standard**	**125º C Continuous**	**150º C ① Standby**
480	1500 (1875)	1630 (2038)	1690 (2113)	1800 (2250)	1800 (2250)	1900 (2375)	1800 (2250)	1900 (2375)	1900 (2375)
460	1530 (1913)	1650 (2063)	1700 (2125)	1800 (2250)	1800 (2250)	1890 (2363)	1800 (2250)	1890 (2363)	1890 (2363)
440	1530 (1913)	1640 (2050)	1690 (2113)	1780 (2225)	1780 (2225)	1860 (2325)	1780 (2225)	1860 (2325)	1860 (2325)
416	1510 (1888)	1620 (2025)	1660 (2075)	1750 (2188)	1750 (2188)	1830 (2288)	1750 (2188)	1830 (2288)	1830 (2288)
380	1430 (1788)	1520 (1900)	1570 (1963)	1650 (2063)	1650 (2063)	1650 (2063)	1650 (2063)	1650 (2063)	1650 (2063)

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	2000 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	0.0018 Ohms
	Rotor Resistance	1.044 Ohms
	Exciter Stator	22.1 Ohms
	Exciter Rotor	0.066 Ohms
	PMG Stator	2.1 Ohms
410.1a	No Load Exciter Field Amps	0.75 A DC
	at 480 Volts Line to Line	
420.1a	Short Circuit Ratio	0.543
421.1a	Xd Synchronous Reactance	2.37 p.u.
		0.23 ohms
422.1a	X2 Negative Sequence React.	0.211 pu
		0.02 ohms
423.1a	X0 Zero Sequence Reactance	0.07 pu
		0.007 ohms
425.1a	X'd Transient Reactance	0.176 pu
		0.017 ohms
426.1a	X"d Subtransient Reactance	0.143 pu
		0.014 ohms
--	Xq Quadrature Synch. React.	1.12 pu
		0.109 ohms
427.1a	T'd Transient Short Circuit	
	Time Constant	0.196 sec.
428.1a	T"d Subtransient Short Circuit	
	Time Constant	0.012 sec.
430.1a	T'do Transient Open Circuit	
	Time Constant	3.4 sec.
432.1a	Ta Short Circuit Time	
	Constant of Armature Winding	0.024 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	0.106 mfd

Additional Prototype Mil-Std Methods are Available on Request.

--	Generator Frame	744
--	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	3190 CFM
--	Heat rejection rate	5016 Btu's/min
--	Full load current	2857 amps
--	Minimum Input hp required	2665.1
	Efficiency at rated load :	95.6%
--	Full load torque	7773 Lb-ft

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

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TYPICAL DYNAMIC CHARACTERISTICS

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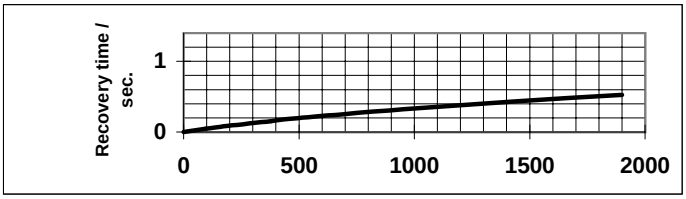
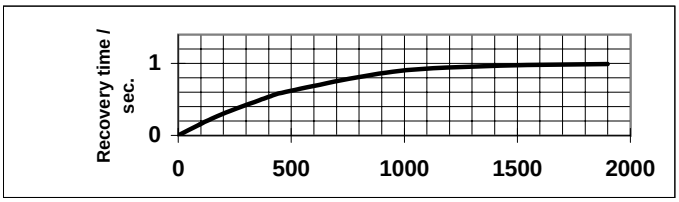
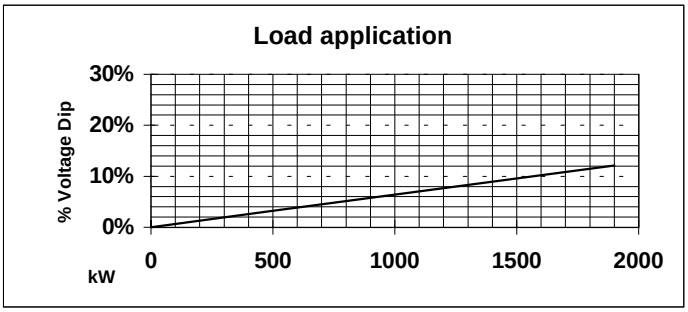
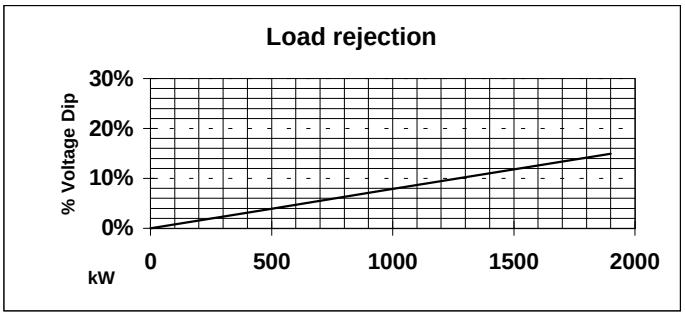
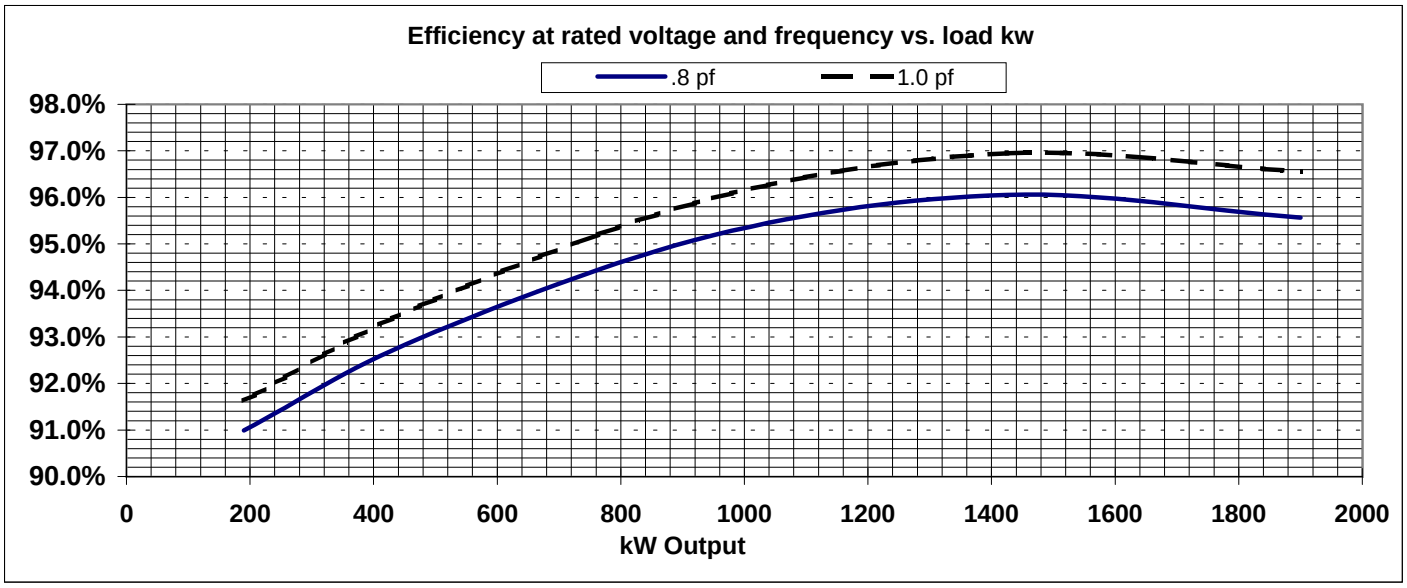
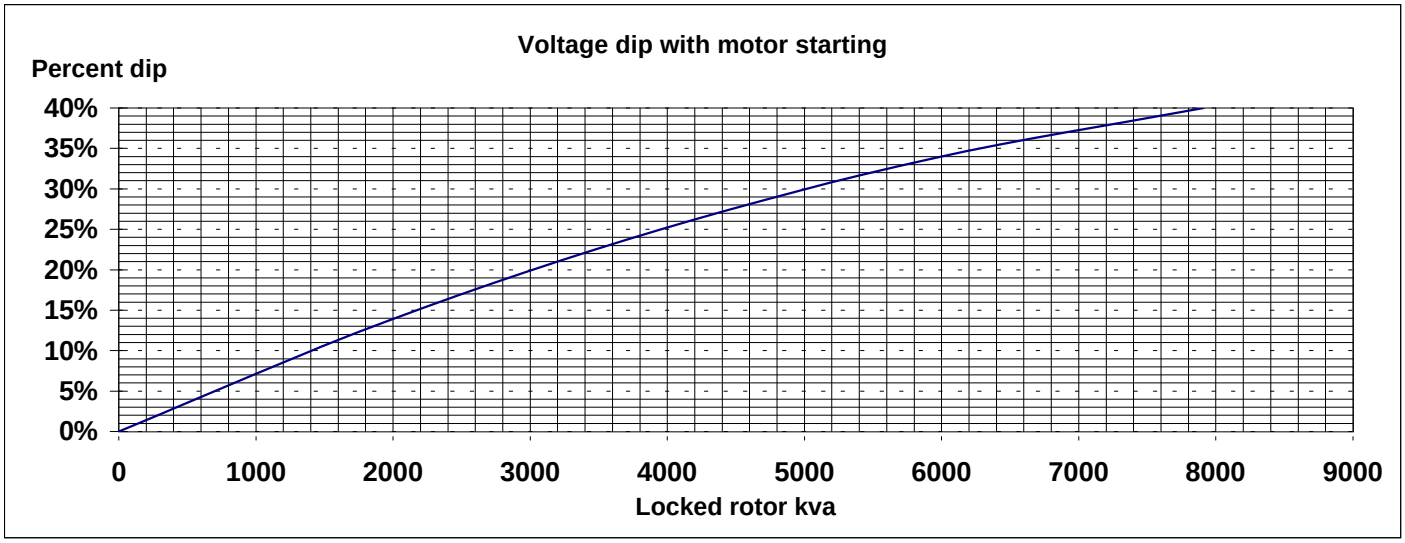
BASE MODEL: 744FSL4062 **Winding H-SG 740307**

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