MARATHON ELECTRIC GENERATORS

TYPICAL SUBMITTAL DATA

MODEL : 744RSL4054

BASE MODEL: 744RSL4054 **Winding H-SG 740046**

Submittal Data: 480 Volts*, 2000 kW, 2500 kVA, 0.8 P.F., 1800 RPM, 60 Hz, 3 Phase

10/29/2001

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)	1650 (2063)	1720 (2150)	1850 (2313)	1850 (2313)	2000 (2500)	1850 (2313)	1960 (2450)	2000 (2500)
460	1490 (1863)	1620 (2025)	1500 (1875)	1800 (2250)	1800 (2250)	1990 (2488)	1880 (2350)	1950 (2438)	1990 (2488)
440	1460 (1825)	1590 (1988)	1450 (1813)	1750 (2188)	1750 (2188)	1920 (2400)	1830 (2288)	1880 (2350)	1920 (2400)
416	1420 (1775)	1530 (1913)	1410 (1763)	1680 (2100)	1680 (2100)	1840 (2300)	1740 (2175)	1800 (2250)	1840 (2300)
380	1360 (1700)	1460 (1825)	1330 (1663)	1590 (1988)	1590 (1988)	1590 (1988)	1590 (1988)	1590 (1988)	1590 (1988)

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	0.0015 Ohms
	Rotor Resistance	1.1 Ohms
	Exciter Stator	22.1 Ohms
	Exciter Rotor	0.048 Ohms
	PMG Stator	2.1 Ohms
410.1a	No Load Exciter Field Amps	0.84 A DC
	at 480 Volts Line to Line	
420.1a	Short Circuit Ratio	0.675
421.1a	Xd Synchronous Reactance	2 p.u.
		0.184 ohms
422.1a	X2 Negative Sequence React.	0.19 pu
		0.018 ohms
423.1a	X0 Zero Sequence Reactance	0.07 pu
		0.006 ohms
425.1a	X'd Transient Reactance	0.115 pu
		0.011 ohms
426.1a	X"d Subtransient Reactance	0.08 pu
		0.007 ohms
--	Xq Quadrature Synch. React.	1 pu
		0.092 ohms
427.1a	T'd Transient Short Circuit	
	Time Constant	0.187 sec.
428.1a	T"d Subtransient Short Circuit	
	Time Constant	0.011 sec.
430.1a	T'do Transient Open Circuit	
	Time Constant	2.93 sec.
432.1a	Ta Short Circuit Time	
	Constant of Armature Winding	0.031 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	0.12 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	3150 CFM
--	Heat rejection rate	5403 Btu's/min
--	Full load current	3007 amps
--	Minimum Input hp required	2808.3
	Efficiency at rated load :	95.5%
--	Full load torque	8191 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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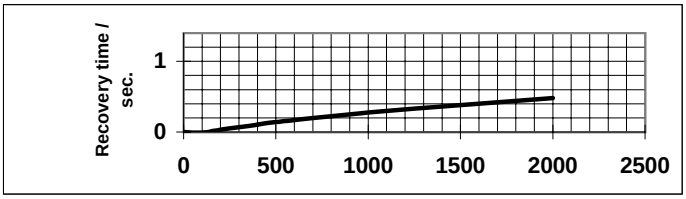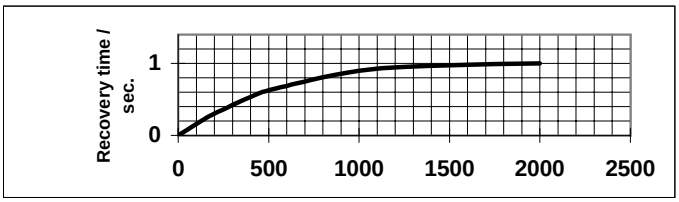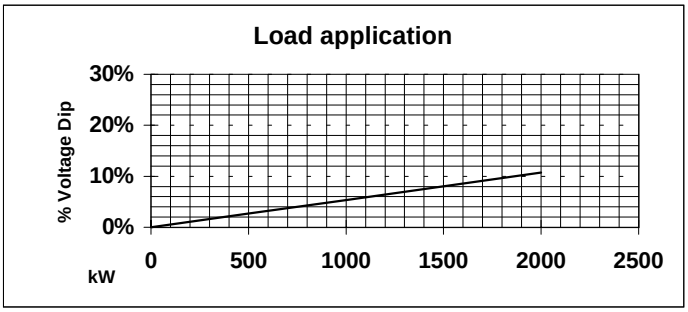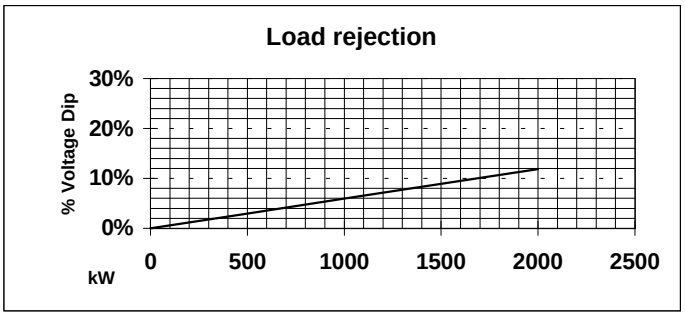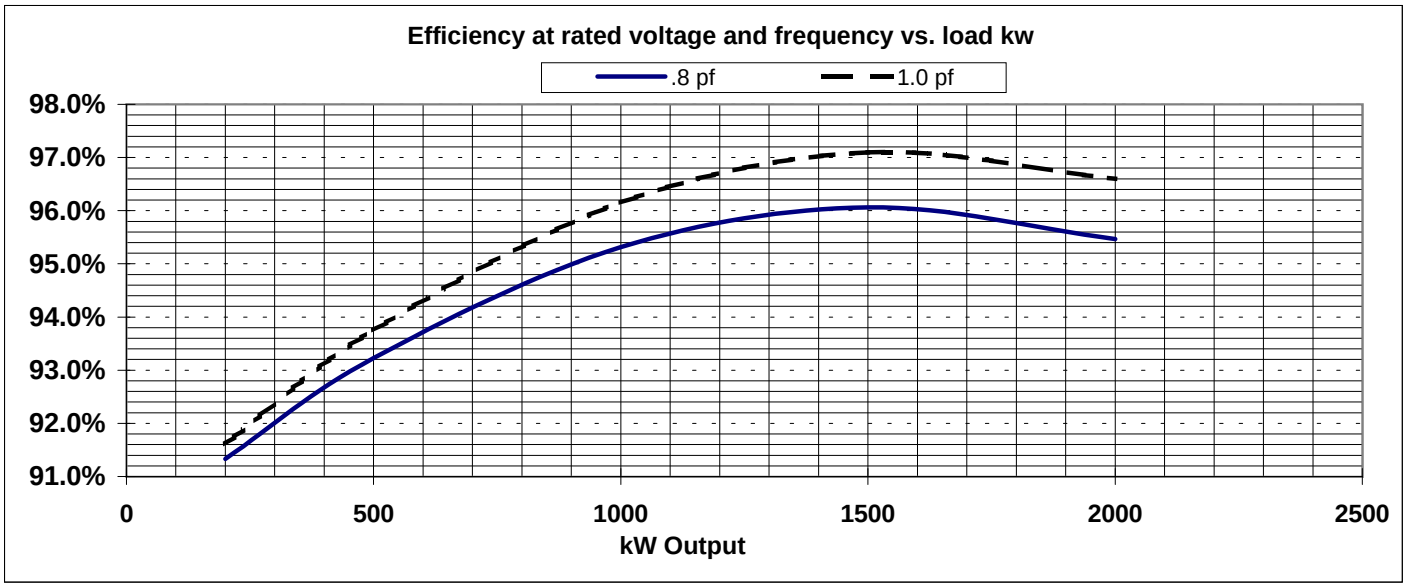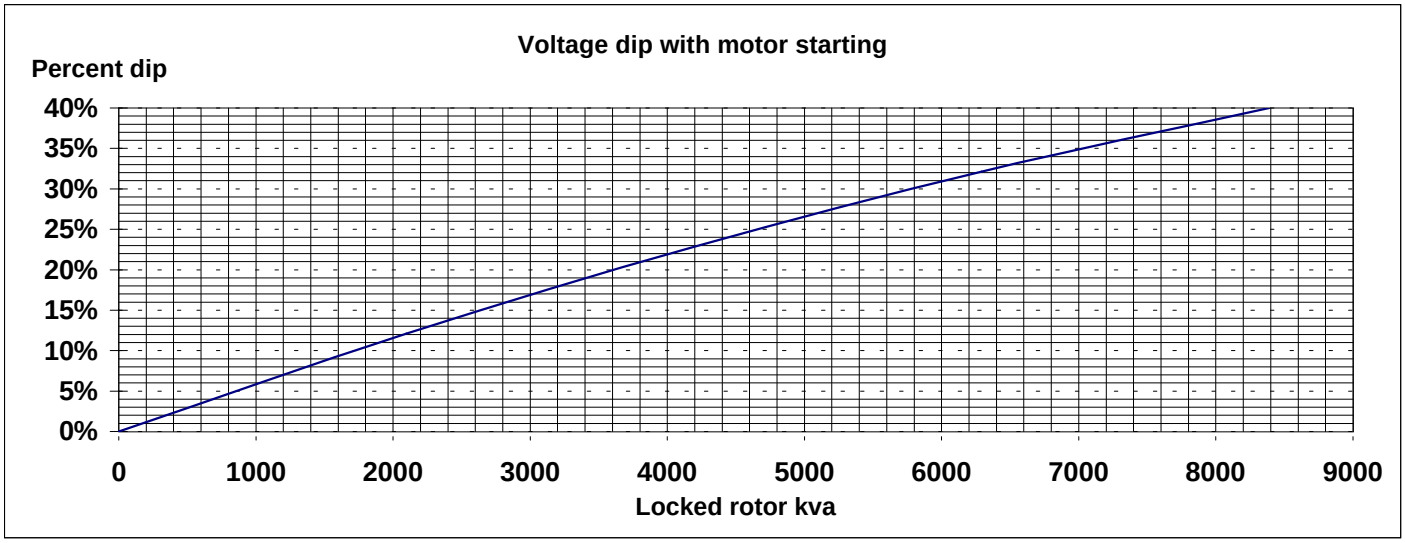
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