MARATHON ELECTRIC GENERATORS

TYPICAL SUBMITTAL DATA

MODEL : 743RSL4052

BASE MODEL: 743RSL4052 **Winding H-SG 740045**

Submittal Data: 415 Volts*, 1280 kW, 1600 kVA, 0.8 P.F., 1500 RPM, 50 Hz, 3 Phase

10/24/2001

Kilowatt ratings at	**1500 RPM**		**50 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**
440	645 (806)	760 (950)	810 (1013)	895 (1119)	895 (1119)	1010 (1263)	1010 (1263)	1010 (1263)	1110 (1388)
415	935 (1169)	1050 (1313)	1090 (1363)	1200 (1500)	1200 (1500)	1280 (1600)	1280 (1600)	1280 (1600)	1380 (1725)
400	1020 (1275)	1120 (1400)	1160 (1450)	1240 (1550)	1240 (1550)	1350 (1688)	1320 (1650)	1350 (1688)	1450 (1813)
380	1110 (1388)	1200 (1500)	1210 (1513)	1320 (1650)	1320 (1650)	1420 (1775)	1370 (1713)	1420 (1775)	1480 (1850)
346	1160 (1450)	1230 (1538)	1170 (1463)	1330 (1663)	1330 (1663)	1350 (1688)	1350 (1688)	1350 (1688)	1350 (1688)

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

Submittal Data: 415 Volts*, 1280 kw, 1600 kVA, 0.8 P.F., 1500 RPM, 50 Hz, 3 Phase **STD. CONNECTION**

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	0.979 Ohms
	Exciter Stator	22 Ohms
	Exciter Rotor	0.043 Ohms
	PMG Stator	2.1 Ohms
410.1a	No Load Exciter Field Amps	1.04 A DC
	at 415 Volts Line to Line	
420.1a	Short Circuit Ratio	0.967
421.1a	Xd Synchronous Reactance	1.64 p.u.
		0.177 ohms
422.1a	X2 Negative Sequence React.	0.151 pu
		0.016 ohms
423.1a	X0 Zero Sequence Reactance	0.049 pu
		0.005 ohms
425.1a	X'd Transient Reactance	0.11 pu
		0.012 ohms
426.1a	X"d Subtransient Reactance	0.091 pu
		0.01 ohms
--	Xq Quadrature Synch. React.	0.815 pu
		0.088 ohms
427.1a	T'd Transient Short Circuit	
	Time Constant	0.157 sec.
428.1a	T"d Subtransient Short Circuit	
	Time Constant	0.01 sec.
430.1a	T'do Transient Open Circuit	
	Time Constant	2.95 sec.
432.1a	Ta Short Circuit Time	
	Constant of Armature Winding	0.028 sec.

Mil-Std-705B

Method	Description	Value
505.3b	Overspeed	1875 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	0.07 mfd

Additional Prototype Mil-Std Methods are Available on Request.

--	Generator Frame	743
--	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	2740 CFM
--	Heat rejection rate	3389 Btu's/min
--	Full load current	2226 amps
--	Minimum Input hp required	1795.7
	Efficiency at rated load :	95.6%
--	Full load torque	6285 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. : 06/01/92
Version : 2001.2

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TYPICAL DYNAMIC CHARACTERISTICS

MODEL : 743RSL4052

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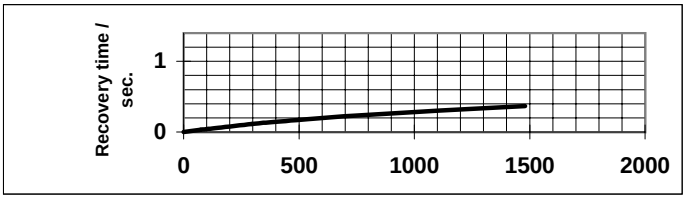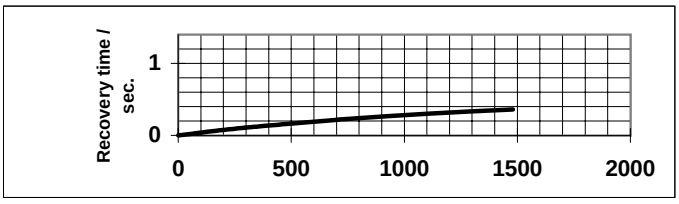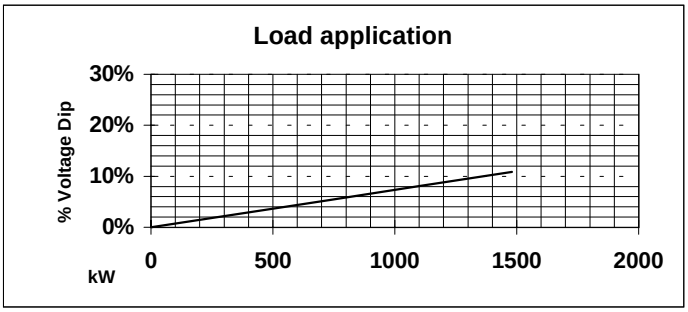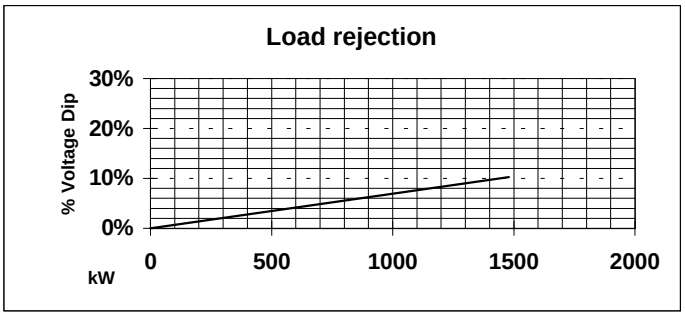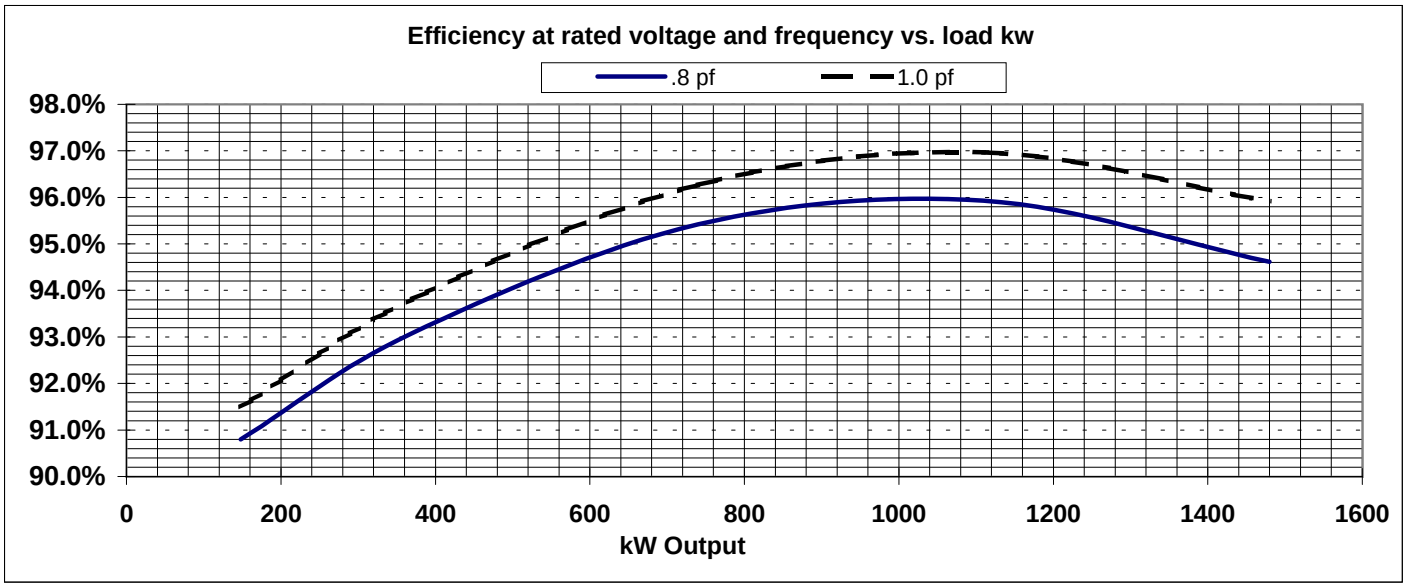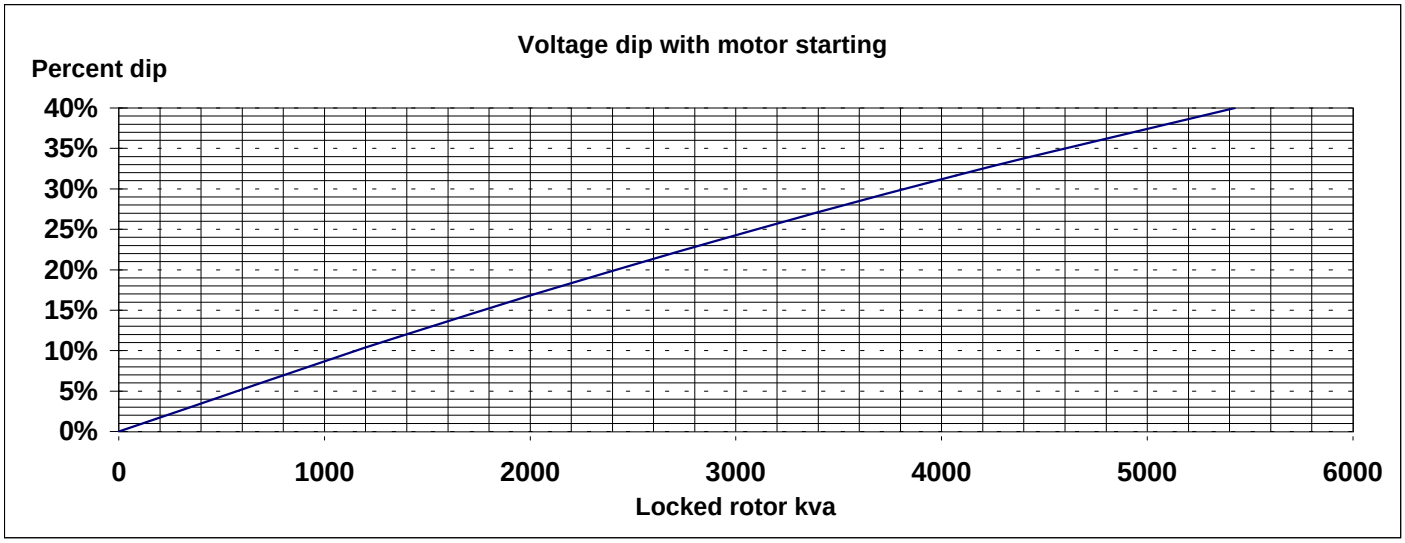
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