MARATHON ELECTRIC GENERATORS

TYPICAL SUBMITTAL DATA

MODEL : 281PSL1502

BASE MODEL: 281PSL1502 **Winding WC- 1502**

Submittal Data: 415 Volts*, 8 kW, 10 kVA, 0.8 P.F., 1500 RPM, 50 Hz, 3 Phase

10/31/2001

Kilowatt ratings at	**1500 RPM**		**50 Hertz**		**12 LEADS**	**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**
440/220	6.4 (8)	6.9 (8.6)	7.1 (8.9)	7.4 (9.3)	7.5 (9.4)	8.2 (10.3)	7.8 (9.8)	8.1 (10.1)	8.6 (10.8)
415/208	7.1 (8.9)	7.5 (9.4)	7.7 (9.6)	8 (10)	8 (10)	8.7 (10.9)	8.3 (10.4)	8.6 (10.8)	9.1 (11.4)
400/200	7.3 (9.1)	7.8 (9.8)	8 (10)	8.2 (10.3)	8.3 (10.4)	9 (11.3)	8.6 (10.8)	8.9 (11.1)	9.5 (11.9)
380/190	7.5 (9.4)	8 (10)	8.1 (10.1)	8.4 (10.5)	8.5 (10.6)	9.1 (11.4)	8.7 (10.9)	9 (11.3)	9.6 (12)
346/173	6.8 (8.5)	7 (8.8)	7.2 (9)	7.4 (9.3)	7.5 (9.4)	8.1 (10.1)	7.8 (9.8)	8 (10)	8.6 (10.8)

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

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Mil-Std-705B			**Mil-Std-705B**		
Method	**Description**	**Value**	**Method**	**Description**	**Value**
301.1b	Insulation Resistance	>1.5 Meg	505.3b	Overspeed	1875 RPM
302.1a	High Potential Test		507.1c	Phase Sequence CCW-ODE	ABC
	Main Stator	2000 Volts	508.1c	Voltage Balance, L-L or L-N	0.20%
	Main Rotor	1500 Volts	601.4a	L-L Harmonic Maximum - Total	3.0%
	Exciter Stator	1500 Volts		(Distortion Factor)	
	Exciter Rotor	1500 Volts	601.4a	L-L Harmonic Maximum - Single	2.5%
	PMG Stator	NS**	601.1c	Deviation Factor	6.0%
401.1a	Stator Resistance, Line to Line		---	TIF (1960 Weightings)	< 50
	High Wye Connection	3.2 Ohms	---	THF (IEC, BS & NEMA Weightings)	< 2 %
	Rotor Resistance	0.439 Ohms	652.1a	Shaft Current	< 0.1 ma
	Exciter Stator	23 Ohms			
	Exciter Rotor	0.12 Ohms	---	Main Stator Capacitance to ground	NA mfd
	PMG Stator	NS**			
410.1a	No Load Exciter Field Amps	0.46 A DC			
	at 208/415 Volts Line to Line			**Additional Prototype Mil-Std Methods**	
420.1a	Short Circuit Ratio	0.590		**are Available on Request.**	
421.1a	Xd Synchronous Reactance	2.23 p.u.	--	Generator Frame	281
		38.166 ohms	--	Type	MAGNAPLUS
422.1a	X2 Negative Sequence React.	0.268 pu	--	Insulation	Class H
		4.587 ohms	--	Coupling - Single Bearing	Flexible
423.1a	X0 Zero Sequence Reactance	0.095 pu	--	Amortisseur Windings	Full
		1.626 ohms	--	Excitation	Ext. Voltage Regulated, Brushless
425.1a	X'd Transient Reactance	0.21 pu	--	Voltage Regulator	SE350
		3.594 ohms	--	Voltage Regulation	1.00%
426.1a	X"d Subtransient Reactance	0.184 pu			
		3.149 ohms			
--	Xq Quadrature Synch. React.	Not Available	--	Cooling Air Volume	200 CFM
427.1a	T'd Transient Short Circuit		--	Heat rejection rate	145 Btu's/min
	Time Constant	0.031 sec.			
428.1a	T"d Subtransient Short Circuit		--	Full load current	14 amps
	Time Constant	0.01 sec.			
430.1a	T'do Transient Open Circuit		--	Minimum Input hp required	14.2
	Time Constant	0.27 sec.		Efficiency at rated load :	75.8%
432.1a	Ta Short Circuit Time				
	Constant of Armature Winding	0.007 sec.	--	Full load torque	50 Lb-ft

(3) Excitation support system or PMG required to sustain short circuit currents.
** Voltages refer to wye (star) connection, unless otherwise specified.*
*** Not supplied as standard equipment.*

Data rev. : 09/01/98
Version : 2001.2

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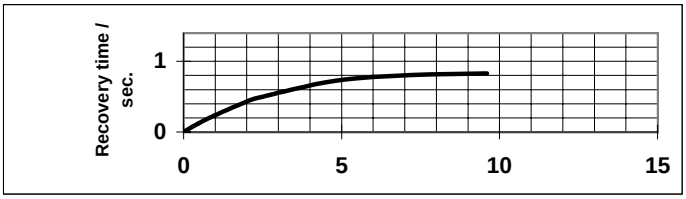
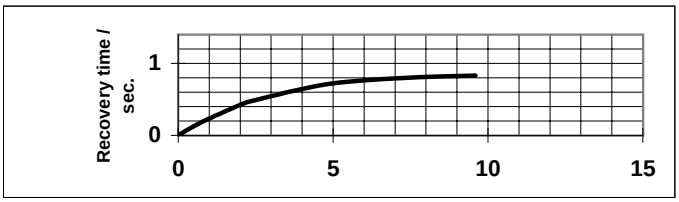
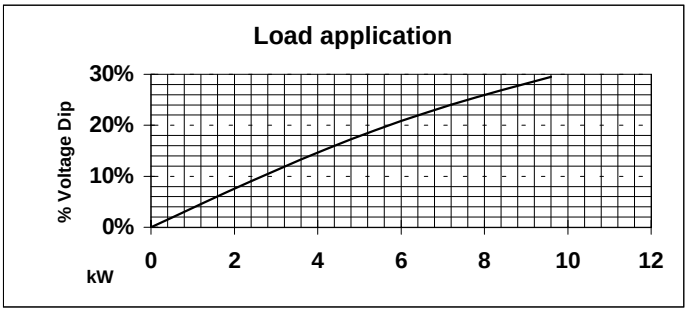
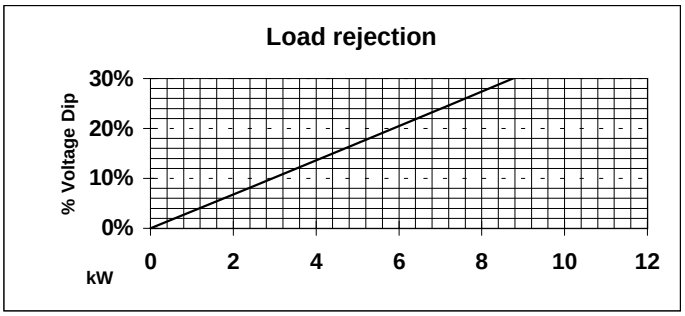
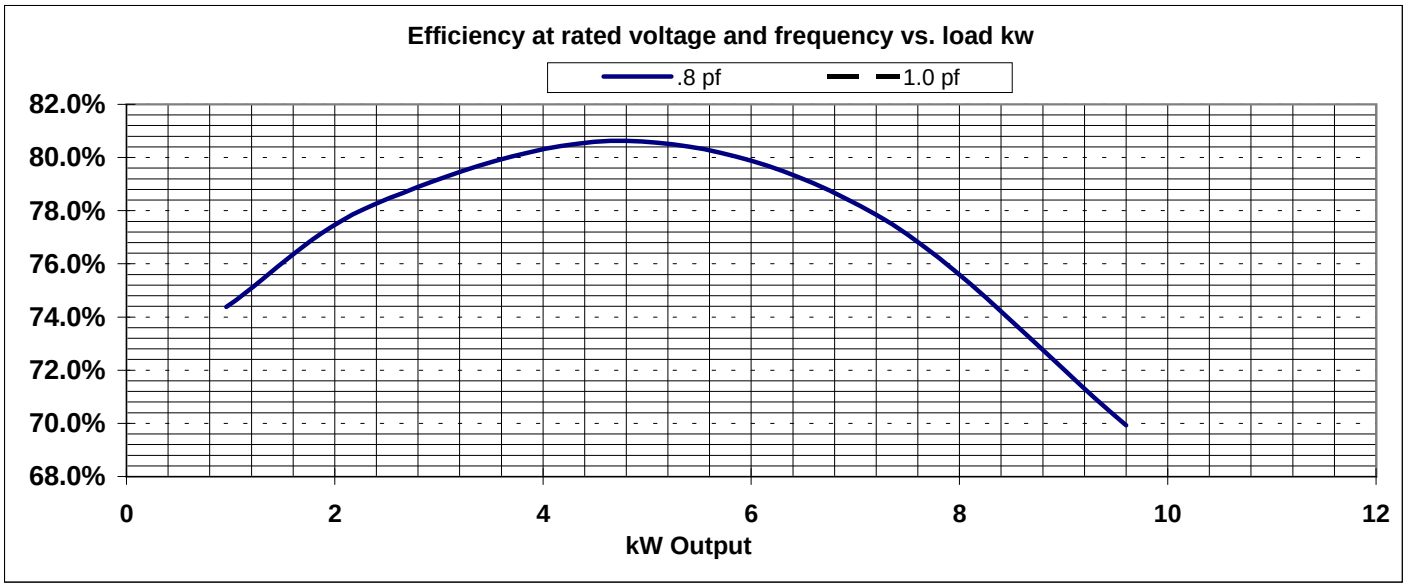
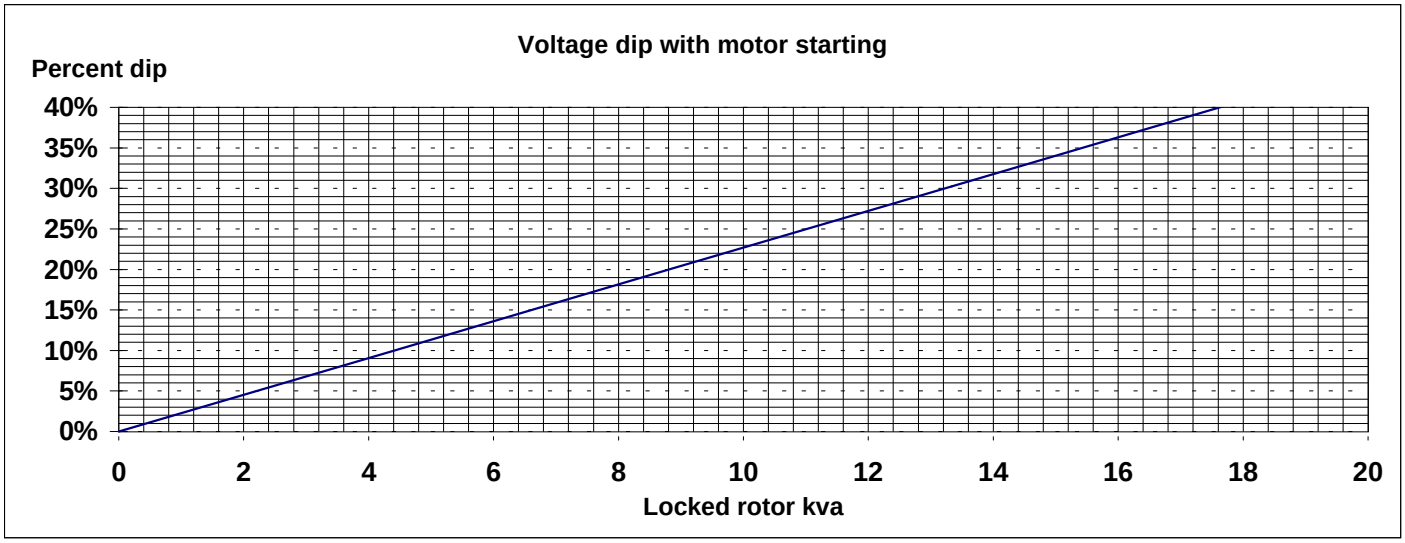
TYPICAL DYNAMIC CHARACTERISTICS

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