MARATHON ELECTRIC GENERATORS

TYPICAL SUBMITTAL DATA

MODEL : 283PSL1506

BASE MODEL: 283PSL1506 **Winding WC- 1506**

Submittal Data: 415 Volts*, 20 kW, 25 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	12 (15)	13 (16.3)	14.5 (18.1)	15.5 (19.4)	15.5 (19.4)	18 (22.5)	17 (21.3)	17.5 (21.9)	19 (23.8)
415/208	15 (18.8)	16 (20)	17 (21.3)	18 (22.5)	18 (22.5)	20 (25)	19 (23.8)	20 (25)	21 (26.3)
400/200	15 (18.8)	16 (20)	17 (21.3)	18 (22.5)	18 (22.5)	20 (25)	19 (23.8)	20 (25)	21 (26.3)
380/190	15.5 (19.4)	16.5 (20.6)	17.5 (21.9)	18 (22.5)	18.5 (23.1)	20 (25)	19 (23.8)	20 (25)	21 (26.3)
346/173	15.5 (19.4)	16.5 (20.6)	17.5 (21.9)	17.5 (21.9)	18 (22.5)	19.5 (24.4)	18 (22.5)	19 (23.8)	20 (25)

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	NS**
401.1a	Stator Resistance, Line to Line	
	High Wye Connection	0.681 Ohms
	Rotor Resistance	0.654 Ohms
	Exciter Stator	23 Ohms
	Exciter Rotor	0.12 Ohms
	PMG Stator	NS**
410.1a	No Load Exciter Field Amps	0.48 A DC
	at 208/415 Volts Line to Line	
420.1a	Short Circuit Ratio	0.571
421.1a	Xd Synchronous Reactance	1.89 p.u.
		12.939 ohms
422.1a	X2 Negative Sequence React.	0.162 pu
		1.109 ohms
423.1a	X0 Zero Sequence Reactance	0.046 pu
		0.315 ohms
425.1a	X'd Transient Reactance	0.124 pu
		0.849 ohms
426.1a	X"d Subtransient Reactance	0.105 pu
		0.719 ohms
--	Xq Quadrature Synch. React.	Not Available
427.1a	T'd Transient Short Circuit	
	Time Constant	0.03 sec.
428.1a	T"d Subtransient Short Circuit	
	Time Constant	0.009 sec.
430.1a	T'do Transient Open Circuit	
	Time Constant	0.45 sec.
432.1a	Ta Short Circuit Time	
	Constant of Armature Winding	0.007 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	3.0%
	(Distortion Factor)	
601.4a	L-L Harmonic Maximum - Single	2.5%
601.1c	Deviation Factor	6.0%
---	TIF (1960 Weightings)	< 50
---	THF (IEC, BS & NEMA Weightings)	< 2 %
652.1a	Shaft Current	< 0.1 ma
---	Main Stator Capacitance to ground	@NA mfd

Additional Prototype Mil-Std Methods are Available on Request.

--	Generator Frame	283
--	Type	MAGNAPLUS
--	Insulation	Class H
--	Coupling - Single Bearing	Flexible
--	Amortisseur Windings	Full
--	Excitation	Ext. Voltage Regulated, Brushless
--	Voltage Regulator	SE350
--	Voltage Regulation	1.00%
--	Cooling Air Volume	200 CFM
--	Heat rejection rate	227 Btu's/min
--	Full load current	35 amps
--	Minimum Input hp required	32.2
	Efficiency at rated load :	83.4%
--	Full load torque	113 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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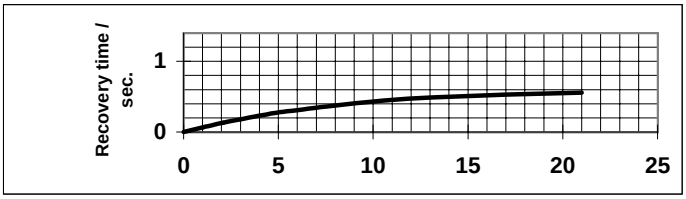
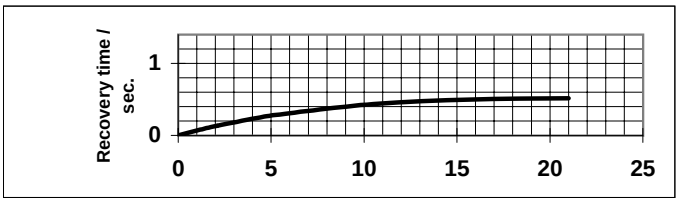
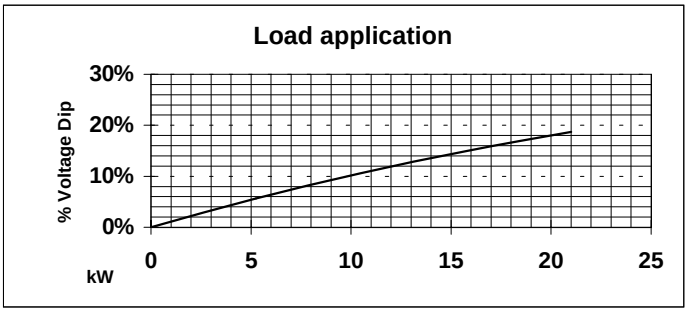
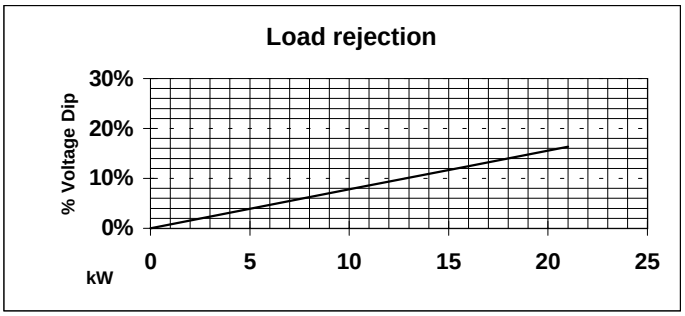
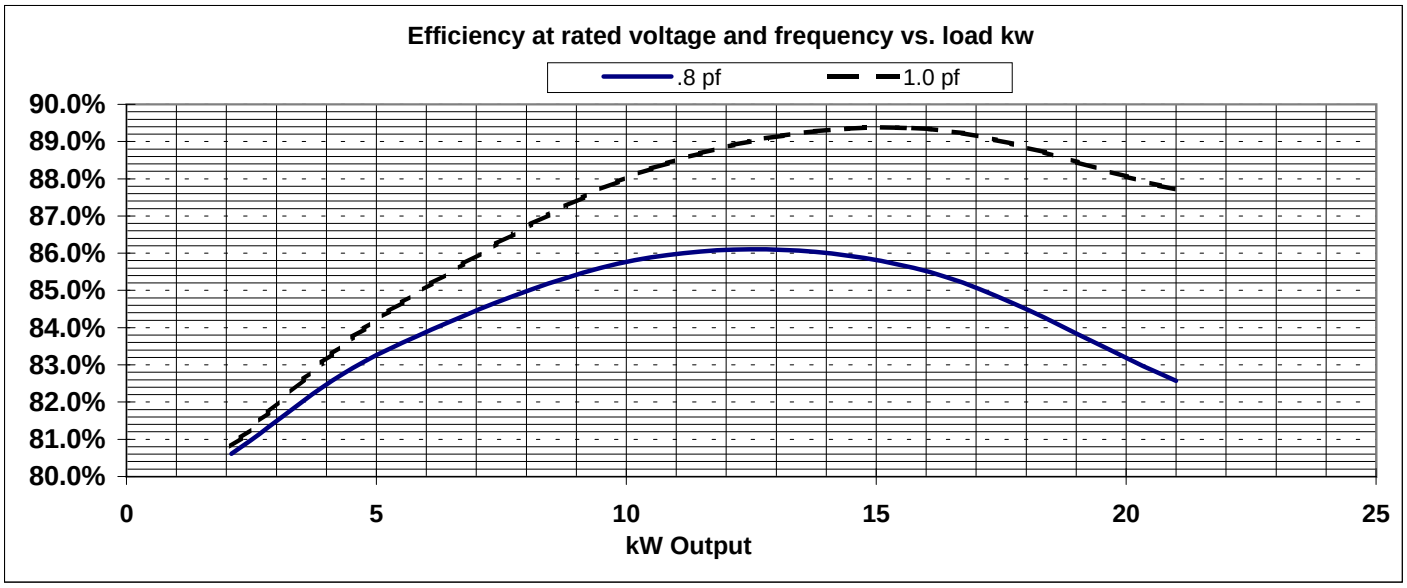
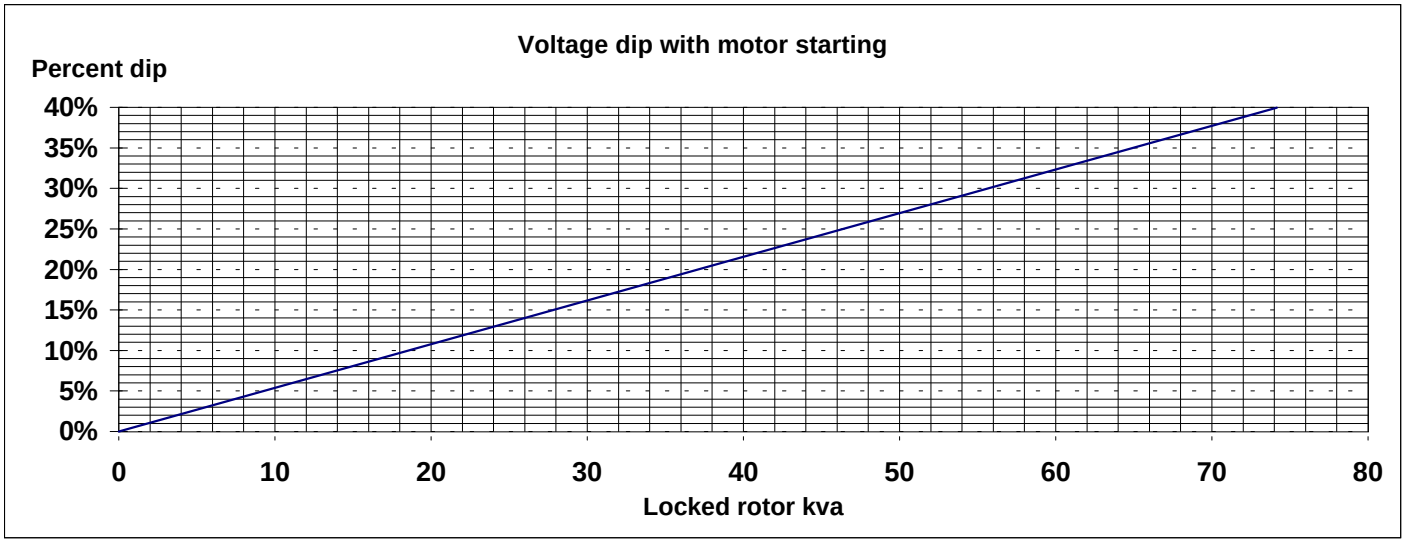
TYPICAL DYNAMIC CHARACTERISTICS

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