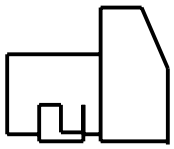
MARATHON ELECTRIC GENERATORS

TYPICAL SUBMITTAL DATA



MODEL : 281PSL1500

BASE MODEL: 281PSL1500 **Winding WC- 1500**

Submittal Data: 415 Volts*, 4.8 kW, 6 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*	**80° C ① Continuous**	**90° C ① Lloyds**	**95° C ① ABS**	**105° C British Standard**	**105° C Continuous**	**130° C ① Standby**	**125° C British Standard**	**125° C Continuous**	**150° C ① Standby**
440/220	2.8 (3.5)	3.2 (4)	3.3 (4.1)	3.6 (4.5)	3.6 (4.5)	4.2 (5.3)	4.1 (5.1)	4.1 (5.1)	4.6 (5.8)
415/208	3.7 (4.6)	4 (5)	4.2 (5.3)	4.5 (5.6)	4.5 (5.6)	5 (6.3)	4.8 (6)	5 (6.3)	5.3 (6.6)
400/200	4.2 (5.3)	4.3 (5.4)	4.5 (5.6)	4.8 (6)	4.8 (6)	5.2 (6.5)	5.1 (6.4)	5.1 (6.4)	5.6 (7)
380/190	4.6 (5.8)	4.7 (5.9)	4.8 (6)	5 (6.3)	5 (6.3)	5.5 (6.9)	5.2 (6.5)	5.3 (6.6)	5.8 (7.3)
346/173	5 (6.3)	5.1 (6.4)	5.2 (6.5)	5.4 (6.8)	5.4 (6.8)	5.9 (7.4)	5.7 (7.1)	5.8 (7.3)	6.2 (7.8)

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

Submittal Data: 415 Volts*, 4.8 kw, 6 kVA, 0.8 P.F., 1500 RPM, 50 Hz, 3 Phase **STD. CONNECTION**

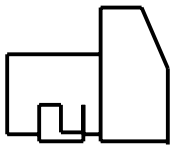
Mil-Std-705B			**Mil-Std-705B**		
Method	**Description**	**Value**	**Method**	**Description**	**Value**
301.1b	Insulation Resistance	>1.5 Meg	505.3b	Overspeed	1875 RPM
302.1a	High Potential Test		507.1c	Phase Sequence CCW-ODE	ABC
	Main Stator	2000 Volts	508.1c	Voltage Balance, L-L or L-N	0.20%
	Main 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	4.2 Ohms	---	THF (IEC, BS & NEMA Weightings)	< 2 %
	Rotor Resistance	0.4 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	0.58 A DC			
	at 208/415 Volts Line to Line			**Additional Prototype Mil-Std Methods**	
420.1a	Short Circuit Ratio	1.100		**are Available on Request.**	
421.1a	Xd Synchronous Reactance	1.4 p.u.	--	Generator Frame	281
		41.931 ohms	--	Type	MAGNAPLUS
422.1a	X2 Negative Sequence React.	0.205 pu	--	Insulation	Class H
		6.14 ohms	--	Coupling - Single Bearing	Flexible
423.1a	X0 Zero Sequence Reactance	0.071 pu	--	Amortisseur Windings	Full
		2.127 ohms	--	Excitation	Ext. Voltage Regulated, Brushless
425.1a	X'd Transient Reactance	0.152 pu	--	Voltage Regulator	SE350
		4.553 ohms	--	Voltage Regulation	1.00%
426.1a	X"d Subtransient Reactance	0.125 pu			
		3.744 ohms			
--	Xq Quadrature Synch. React.	Not Available	--	Cooling Air Volume	200 CFM
427.1a	T'd Transient Short Circuit		--	Heat rejection rate	92 Btu's/min
	Time Constant	0.03 sec.			
428.1a	T"d Subtransient Short Circuit		--	Full load current	8 amps
	Time Constant	0.01 sec.			
430.1a	T'do Transient Open Circuit		--	Minimum Input hp required	8.6
	Time Constant	0.2 sec.		Efficiency at rated load :	74.8%
432.1a	Ta Short Circuit Time				
	Constant of Armature Winding	0.01 sec.	--	Full load torque	30 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

MARATHON ELECTRIC GENERATORS

TYPICAL SUBMITTAL DATA



MODEL : 281PSL1500

BASE MODEL: 281PSL1500 **Winding WC- 1500**

Submittal Data: 415 Volts*, 4.8 kW, 6 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*	**80° C ① Continuous**	**90° C ① Lloyds**	**95° C ① ABS**	**105° C British Standard**	**105° C Continuous**	**130° C ① Standby**	**125° C British Standard**	**125° C Continuous**	**150° C ① Standby**
440/220	2.8 (3.5)	3.2 (4)	3.3 (4.1)	3.6 (4.5)	3.6 (4.5)	4.2 (5.3)	4.1 (5.1)	4.1 (5.1)	4.6 (5.8)
415/208	3.7 (4.6)	4 (5)	4.2 (5.3)	4.5 (5.6)	4.5 (5.6)	5 (6.3)	4.8 (6)	5 (6.3)	5.3 (6.6)
400/200	4.2 (5.3)	4.3 (5.4)	4.5 (5.6)	4.8 (6)	4.8 (6)	5.2 (6.5)	5.1 (6.4)	5.1 (6.4)	5.6 (7)
380/190	4.6 (5.8)	4.7 (5.9)	4.8 (6)	5 (6.3)	5 (6.3)	5.5 (6.9)	5.2 (6.5)	5.3 (6.6)	5.8 (7.3)
346/173	5 (6.3)	5.1 (6.4)	5.2 (6.5)	5.4 (6.8)	5.4 (6.8)	5.9 (7.4)	5.7 (7.1)	5.8 (7.3)	6.2 (7.8)

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

Submittal Data: 415 Volts*, 4.8 kw, 6 kVA, 0.8 P.F., 1500 RPM, 50 Hz, 3 Phase **STD. CONNECTION**

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	4.2 Ohms	---	THF (IEC, BS & NEMA Weightings)	< 2 %
	Rotor Resistance	0.4 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	0.58 A DC			
	at 208/415 Volts Line to Line			**Additional Prototype Mil-Std Methods**	
420.1a	Short Circuit Ratio	1.100		**are Available on Request.**	
421.1a	Xd Synchronous Reactance	1.4 p.u.	--	Generator Frame	281
		41.931 ohms	--	Type	MAGNAPLUS
422.1a	X2 Negative Sequence React.	0.205 pu	--	Insulation	Class H
		6.14 ohms	--	Coupling - Single Bearing	Flexible
423.1a	X0 Zero Sequence Reactance	0.071 pu	--	Amortisseur Windings	Full
		2.127 ohms	--	Excitation	Ext. Voltage Regulated, Brushless
425.1a	X'd Transient Reactance	0.152 pu	--	Voltage Regulator	SE350
		4.553 ohms	--	Voltage Regulation	1.00%
426.1a	X"d Subtransient Reactance	0.125 pu			
		3.744 ohms			
--	Xq Quadrature Synch. React.	Not Available	--	Cooling Air Volume	200 CFM
427.1a	T'd Transient Short Circuit		--	Heat rejection rate	92 Btu's/min
	Time Constant	0.03 sec.			
428.1a	T"d Subtransient Short Circuit		--	Full load current	8 amps
	Time Constant	0.01 sec.			
430.1a	T'do Transient Open Circuit		--	Minimum Input hp required	8.6
	Time Constant	0.2 sec.		Efficiency at rated load :	74.8%
432.1a	Ta Short Circuit Time				
	Constant of Armature Winding	0.01 sec.	--	Full load torque	30 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