MARATHON ELECTRIC GENERATORS

TYPICAL SUBMITTAL DATA

MODEL : 431PSL6234

BASE MODEL: 431PSL6234 **Winding WC- 1920**

Submittal Data: 380 Volts*, 220 kW, 275 kVA, 0.8 P.F., 1800 RPM, 60 Hz, 3 Phase

11/01/2001

Kilowatt ratings at	**1800 RPM**		**60 Hertz**		**4 LEADS**	**Dedicated voltage 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**
380	175 (219)	185 (231)	190 (238)	200 (250)	200 (250)	225 (281)	220 (275)	220 (275)	230 (288)

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	0.052 Ohms
	Rotor Resistance	0.709 Ohms
	Exciter Stator	18.5 Ohms
	Exciter Rotor	0.116 Ohms
	PMG Stator	NS**
410.1a	No Load Exciter Field Amps	0.42 A DC
	at 380 Volts Line to Line	
420.1a	Short Circuit Ratio	0.252
421.1a	Xd Synchronous Reactance	3.873 p.u.
		2.033 ohms
422.1a	X2 Negative Sequence React.	0.277 pu
		0.145 ohms
423.1a	X0 Zero Sequence Reactance	0.052 pu
		0.027 ohms
425.1a	X'd Transient Reactance	0.213 pu
		0.112 ohms
426.1a	X"d Subtransient Reactance	0.199 pu
		0.104 ohms
--	Xq Quadrature Synch. React.	1.85 pu
		0.971 ohms
427.1a	T'd Transient Short Circuit	
	Time Constant	0.064 sec.
428.1a	T"d Subtransient Short Circuit	
	Time Constant	0.019 sec.
430.1a	T'do Transient Open Circuit	
	Time Constant	1 sec.
432.1a	Ta Short Circuit Time	
	Constant of Armature Winding	0.016 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	0.014 mfd

Additional Prototype Mil-Std Methods are Available on Request.

--	Generator Frame	431
--	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	1100 CFM
--	Heat rejection rate	1291 Btu's/min
--	Full load current	418 amps
--	Minimum Input hp required	325.3
	Efficiency at rated load :	90.7%
--	Full load torque	949 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. : 01/01/00
Version : 2001.2

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TYPICAL DYNAMIC CHARACTERISTICS

MODEL : 431PSL6234

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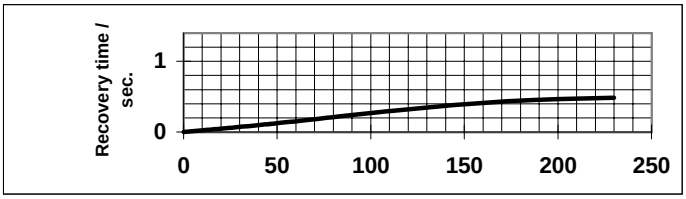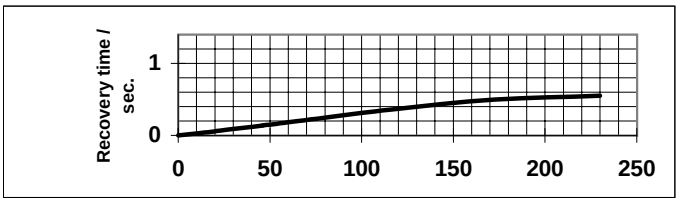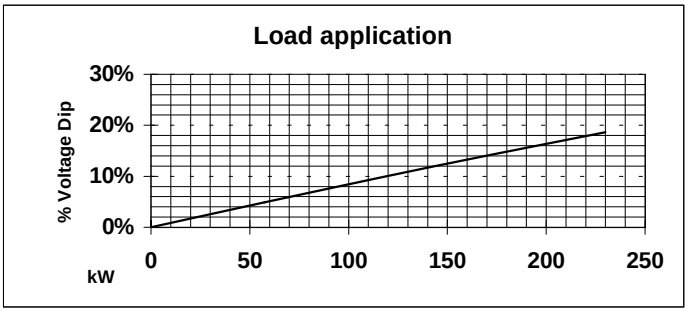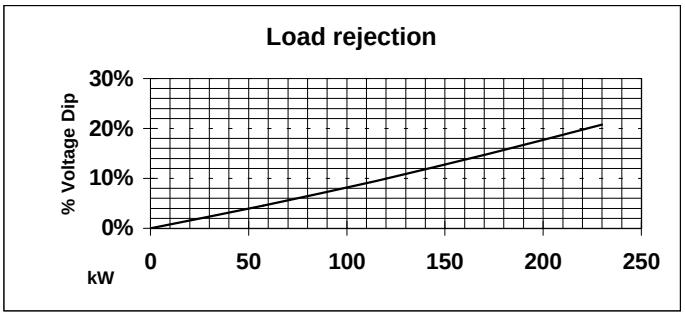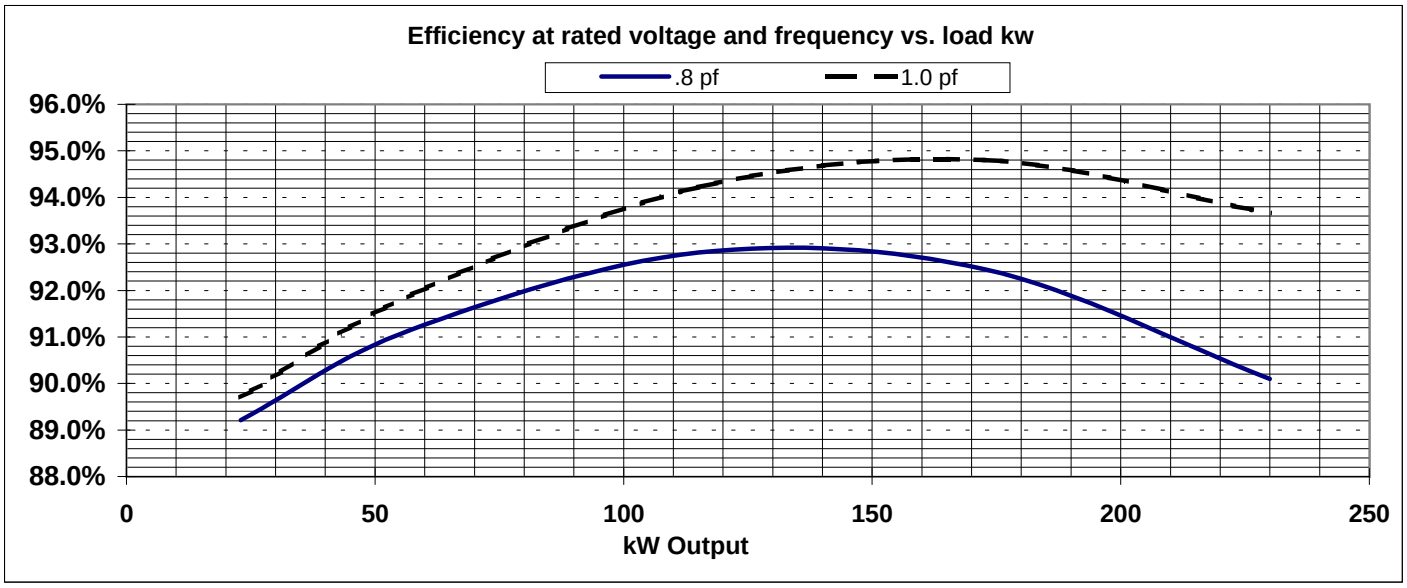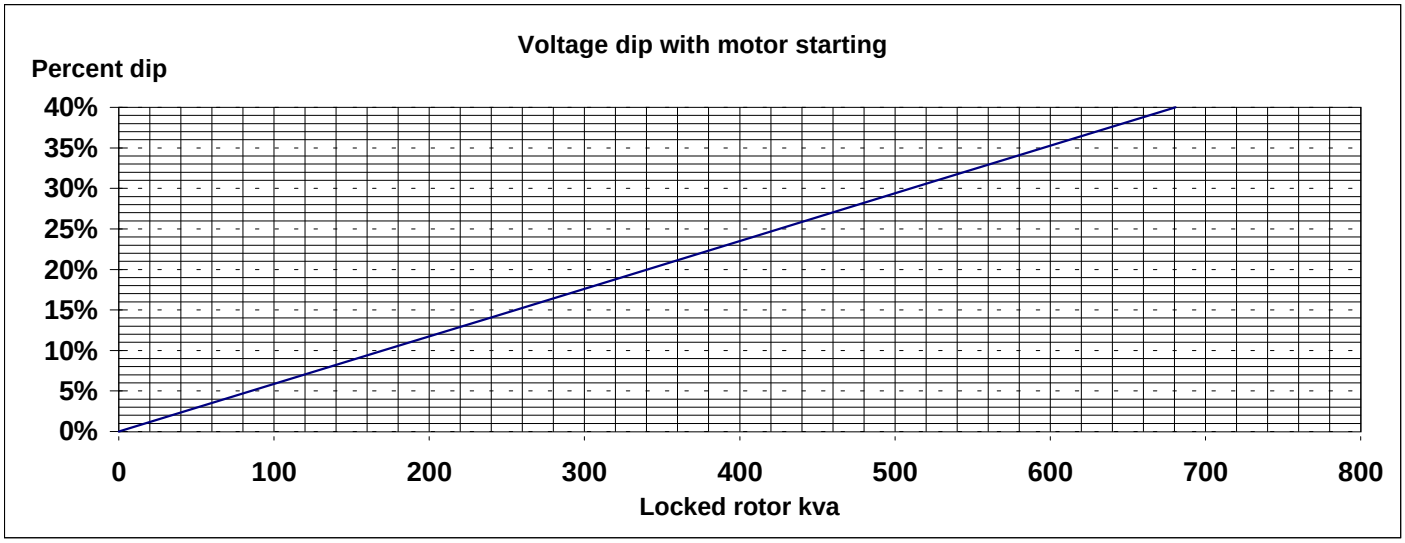
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