MARATHON ELECTRIC MAGNAPLUS GENERATORS

Basic Model 433PSL6216 **Test Report No. WC1907** **Date: 1-1-00**

TYPICAL SUBMITTAL DATA

Kilowatt ratings at	**1800 RPM**		**60 Hertz**			**12 Leads**		
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 ① Continuous**	**130º C ① Standby**	**125º C British Standard**	**125º C ① Continuous**	**150º C ① Standby**
240/480	280 (350)	307 (384)	321 (401)	342 (428)	342 (428)	380 (475)	357 (446)	370 (463)	400 (500)
230/460	285 (356)	312 (390)	325 (406)	346 (433)	346 (433)	380 (475)	359 (449)	372 (465)	395 (494)
220/440	290 (363)	316 (395)	327 (409)	348 (435)	348 (435)	280 (350)	359 (449)	372 (465)	395 (494)
208/416	290 (363)	313 (391)	325 (406)	343 (429)	343 (429)	375 (469)	352 (440)	366 (458)	387 (484)
190/380	281 (351)	302 (378)	311 (389)	330 (413)	330 (413)	357 (446)	336 (420)	350 (438)	370 (463)

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

Submittal Data: 240/480 Volts*, 437 kVA, 1800 RPM, 60 Hz, 3 Phase

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	0.0124 Ohms
	Rotor Resistance	1.079 Ohms
	Exciter Stator	18.5 Ohms
	Exciter Rotor	0.116 Ohms
	PMG Stator	2.1 Ohms**
410.1a	No Load Exciter Field Amps	
	at 480 Volts Line to Line	0.78 A DC
420.1a	Short Circuit Ratio	0.6
421.1a	Xd Synchronous Reactance	2 pu
422.1a	X2 Negative Sequence	
	Reactance	0.179 pu
423.1a	X0 Zero Sequence Reactance	0.035 pu
425.1a	X'd Transient Reactance	0.104 pu
426.1a	X"d Subtransient Reactance	0.099 pu
--	Xq Quadrature Synchronous	
	Reactance	1.034 sec.
427.1a	T'd Transient Short Circuit	
	Time Constant	0.067 sec.
428.1a	T"d Subtransient Short Circuit	
	Time Constant	0.015 sec.
430.1a	T'do Transient Open Circuit	
	Time Constant	2.06 sec.
432.1a	Ta Short Circuit Time	
	Constant of Armature Winding	0.013 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	0.2%
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
625.1c	Mechanical Strength (High Wye	
	Connection, Sustained 3 Phase	
	Short Circuit Current) (3)	< 300%
652.1a	Shaft Current	< 0.1 ma
652.1a	Main Stator Capacitance to	
	Ground	0.028 mfd
	Additional Prototype Mil-Std Methods are Available on Request.	
--	Generator Frame	433
--	Type	Ext. Voltage Regulated, Brushless
--	Insulation	Class H
--	Coupling - Single Bearing	Flexible
--	Amortisseur Windings	Full
--	Cooling Air Volume	880 CFM
--	Exciter	Rotating
--	Voltage Regulator	SE350***
--	Voltage Regulation	1%***
--	Sensing	1 Phase***

(3) Excitation support system or PMG required to sustain short circuit currents.

* Voltage refers to wye (star) connection, unless otherwise specified.

**Not supplied as standard equipment.

***DVR®2000 voltage regulator supplied with PMG option. DVR®2000 voltage regulation 1/4%, 1 or 3 Phase sensing.

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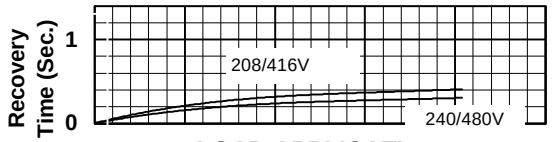
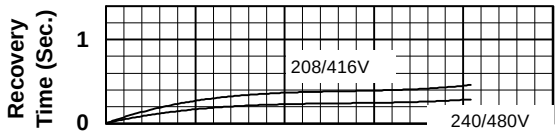
TYPICAL DYNAMIC CHARACTERISTICS

60 HERTZ



LOAD APPLICATION



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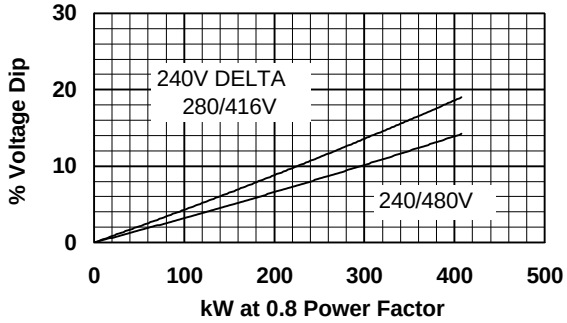
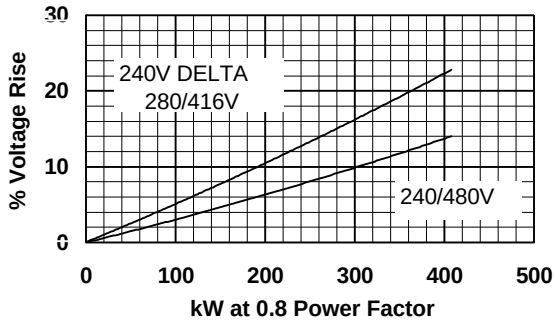
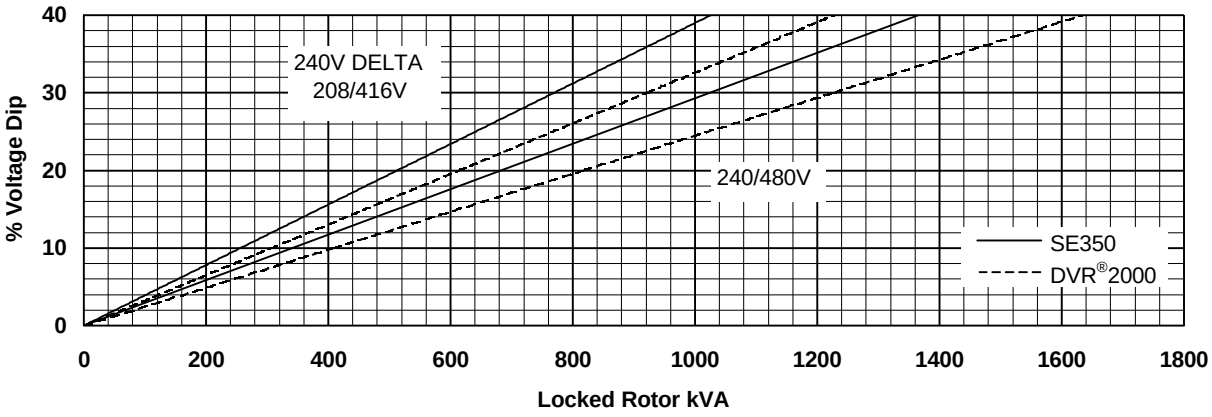
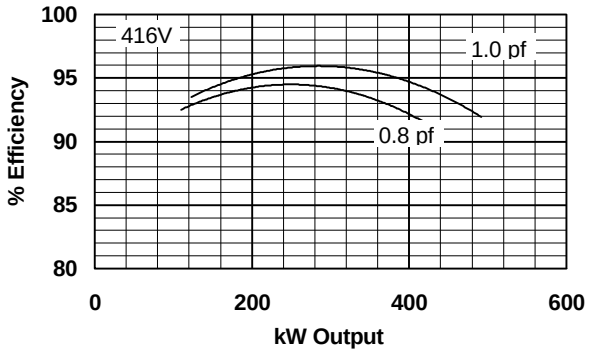


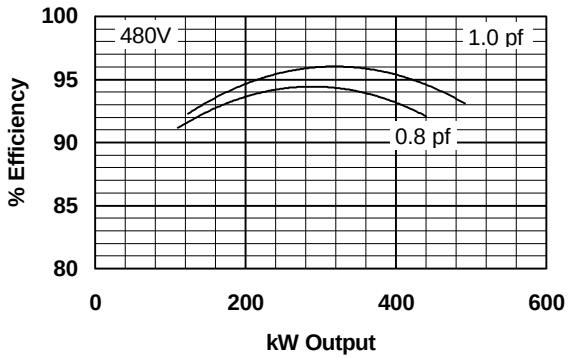


TYPICAL MOTOR STARTING CHARACTERISTICS



TYPICAL GENERATOR EFFICIENCY





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