

MARATHON ELECTRIC MAGNAPLUS GENERATORS

Section 3600

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Basic Model 431PSL6208

Test Report No. WC1903

Date: 1-1-00

TYPICAL SUBMITTAL DATA

kW (kVA)	1800 RPM			60 Hertz			12 Leads		
	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 ① Continuous	130° C ① Standby	125° C British Standard	125° C ① Continuous	150° C ① Standby
240/480	180 (225)	195 (244)	200 (250)	211 (264)	211 (264)	230 (288)	218 (273)	226 (283)	240 (300)
230/460	180 (225)	195 (244)	200 (250)	211 (264)	211 (264)	230 (288)	215 (269)	225 (281)	236 (295)
220/440	180 (225)	191 (239)	197 (246)	210 (263)	210 (263)	225 (281)	212 (265)	221 (276)	233 (291)
208/416	176 (220)	190 (238)	195 (244)	203 (254)	203 (254)	225 (281)	206 (258)	216 (270)	227 (284)
190/380	167 (209)	180 (225)	183 (229)	192 (240)	192 (240)	207 (259)	194 (243)	203 (254)	213 (266)

① Rise by resistance method, Mil-Std-705, Method 680.1b.

Rating per BS 5000.

Submittal Data: 240/480 Volts*, 281 kVA, 1800 RPM, 60 Hz, 3 Phase					
Mil-Std-705B			Mil-Std-705B		
Method	Description	Value	Method	Description	Value
301.1b	Insulation Resistance	> 1.5 Meg	505.3b	Overspeed	2250 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	0.2%
	Main Rotor	1500 Volts	601.4a	L-L Harmonic Maximum - Total (Distortion Factor)	5.0%
	Exciter Stator	1500 Volts	601.4a	L-L Harmonic Maximum - Single	3.0%
	Exciter Rotor	1500 Volts	601.1c	Deviation Factor	5.0%
	PMG Stator	1500 Volts**	--	TIF (1960 Weightings)	<50
401.1a	Stator Resistance, Line to Line		625.1c	Mechanical Strength (High Wye Connection, Sustained 3 Phase Short Circuit Current) ⁽³⁾	< 300%
	High Wye Connection	0.0348 Ohms	652.1a	Shaft Current	< 0.1 ma
	Rotor Resistance	0.709 Ohms	652.1a	Main Stator Capacitance to Ground	0.014 mfd
	Exciter Stator	18.5 Ohms	Additional Prototype Mil-Std Methods are Available on Request.		
	Exciter Rotor	0.116 Ohms			
	PMG Stator	2.1 Ohms**			
410.1a	No Load Exciter Field Amps at 480 Volts Line to Line	0.6 A DC			
420.1a	Short Circuit Ratio	0.41			
421.1a	Xd Synchronous Reactance	2.958 pu			
422.1a	X2 Negative Sequence Reactance	0.212 pu			
423.1a	X0 Zero Sequence Reactance	0.04 pu			
425.1a	X'd Transient Reactance	0.163 pu			
426.1a	X" d Subtransient Reactance	0.152 pu			
--	Xq Quadrature Synchronous Reactance	1.413 pu			
427.1a	T'd Transient Short Circuit Time Constant	0.064 sec.	--	Generator Frame	431
428.1a	T" d Subtransient Short Circuit Time Constant	0.019 sec.	--	Type Ext. Voltage Regulated, Brushless	Class H
430.1a	T'do Transient Open Circuit Time Constant	1 sec.	--	Insulation	Flexible
432.1a	Ta Short Circuit Time Constant of Armature Winding	0.016 sec.	--	Coupling - Single Bearing	Full
			--	Amortisseur Windings	1100 CFM
			--	Cooling Air Volume	Rotating
			--	Exciter	SE350***
			--	Voltage Regulator	1%***
			--	Voltage Regulation	1 Phase***
			--	Sensing	

⁽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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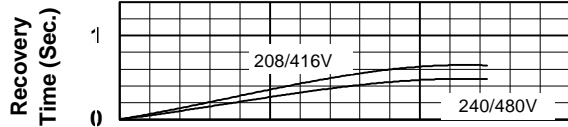
Date: 1-1-00

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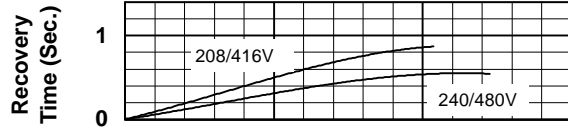
Test Report No. WC1903

TYPICAL DYNAMIC CHARACTERISTICS

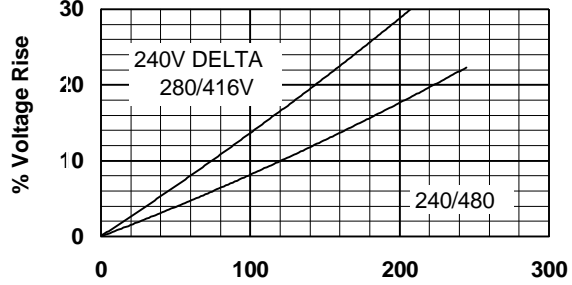
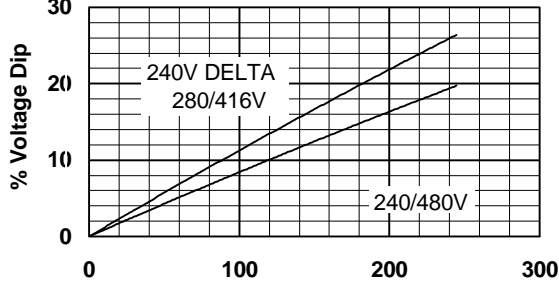
60 HERTZ



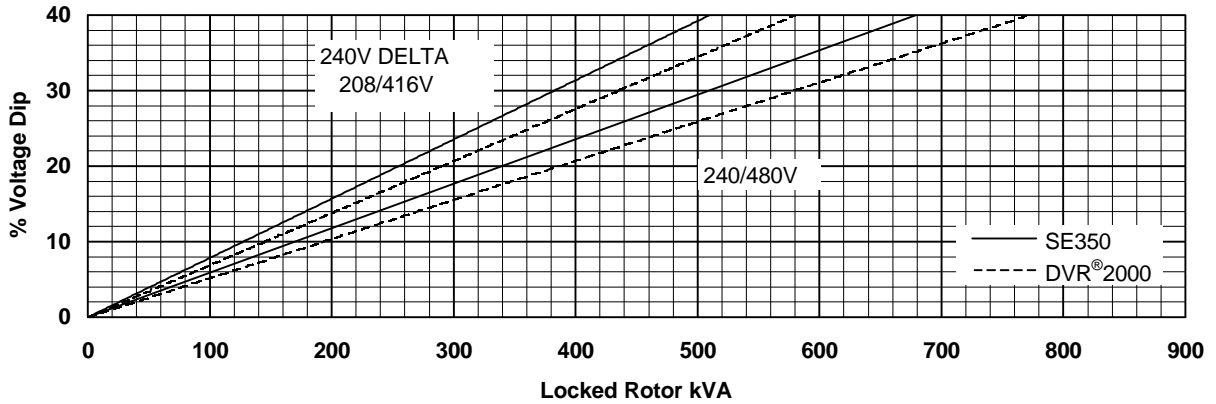
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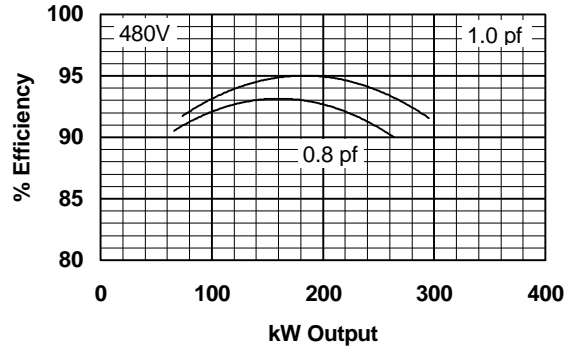
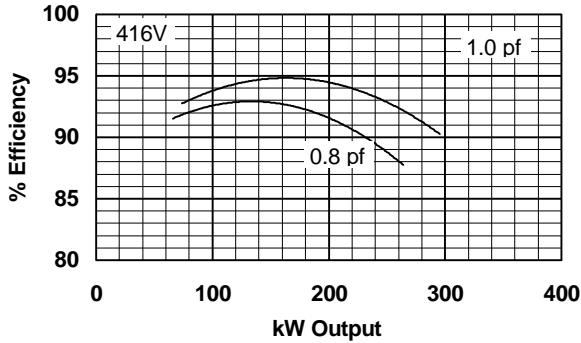
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TYPICAL MOTOR STARTING CHARACTERISTICS



TYPICAL GENERATOR EFFICIENCY



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