

# MARATHON ELECTRIC MAGNAPLUS GENERATORS

Section 3600

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Basic Model 433PSL6220

Test Report No. WC1909

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	310 (388)	340 (425)	352 (440)	375 (469)	375 (469)	411 (514)	391 (489)	403 (504)	430 (538)
230/460	313 (391)	341 (426)	355 (444)	375 (469)	375 (469)	410 (513)	387 (484)	402 (503)	426 (533)
220/440	317 (396)	343 (429)	355 (444)	375 (469)	375 (469)	410 (513)	385 (481)	397 (496)	423 (529)
208/416	315 (394)	335 (419)	345 (431)	362 (453)	362 (453)	400 (500)	379 (474)	385 (481)	417 (521)
190/380	292 (365)	311 (389)	320 (400)	335 (419)	335 (419)	367 (459)	350 (438)	355 (444)	385 (481)

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

Rating per BS 5000.

Submittal Data: 240/480 Volts*, 500 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) <sup>(3)</sup>	< 300%
	High Wye Connection	0.0124 Ohms	652.1a	Shaft Current	< 0.1 ma
	Rotor Resistance	0.991 Ohms	652.1a	Main Stator Capacitance to Ground	0.028 mfd
	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	0.86 A DC			
420.1a	Short Circuit Ratio	0.54			
421.1a	Xd Synchronous Reactance	2.414 pu			
422.1a	X2 Negative Sequence Reactance	0.162 pu			
423.1a	X0 Zero Sequence Reactance	0.039 pu			
425.1a	X'd Transient Reactance	0.117 pu			
426.1a	X" d Subtransient Reactance	0.104 pu			
--	Xq Quadrature Synchronous Reactance	1.182 sec.			
427.1a	T'd Transient Short Circuit Time Constant	0.067 sec.			
428.1a	T" d Subtransient Short Circuit Time Constant	0.016 sec.			
430.1a	T' do Transient Open Circuit Time Constant	2.27 sec.			
432.1a	Ta Short Circuit Time Constant of Armature Winding	0.018 sec.			

**Additional Prototype Mil-Std Methods  
are Available on Request.**

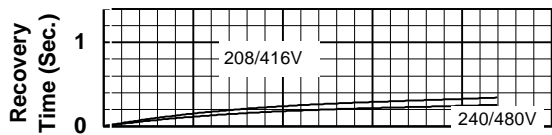
<sup>(3)</sup> Excitation support system or PMG required to sustain short circuit currents.

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

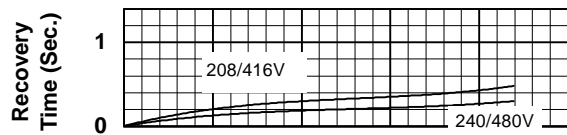
\*\*Not supplied as standard equipment.

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

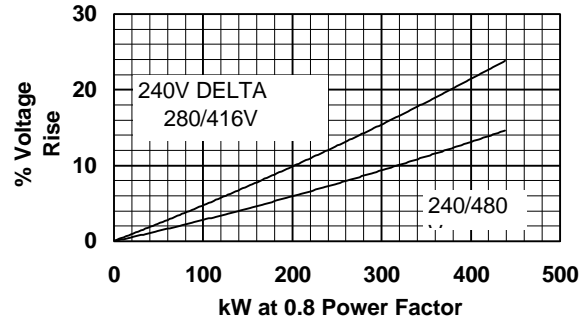
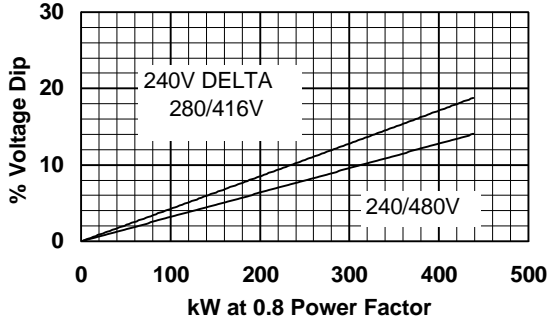
### TYPICAL DYNAMIC CHARACTERISTICS 60 HERTZ



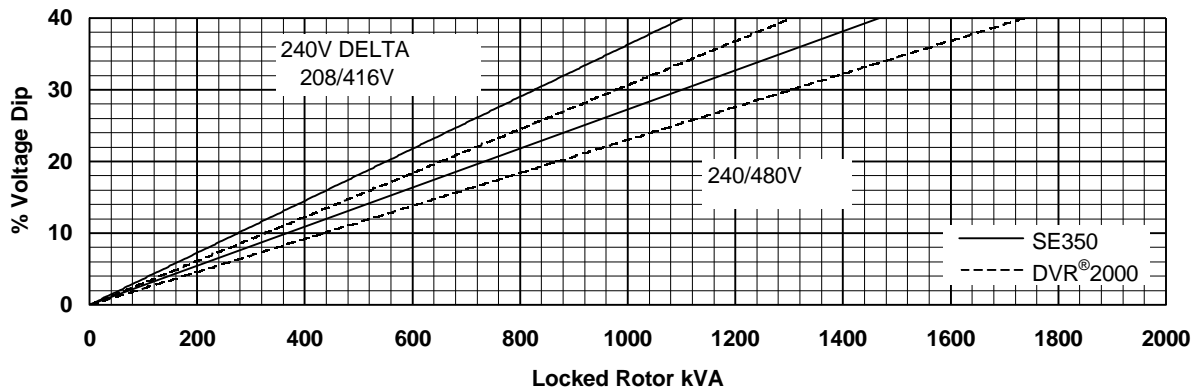
LOAD APPLICATION



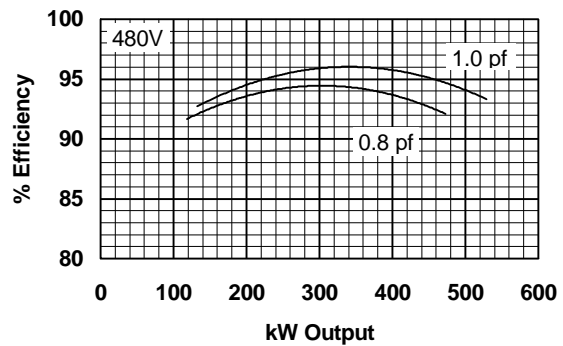
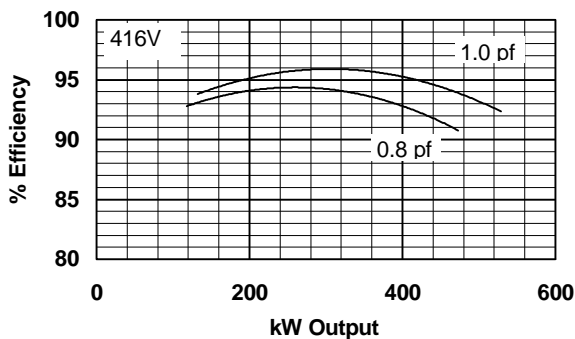
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### TYPICAL MOTOR STARTING CHARACTERISTICS



### TYPICAL GENERATOR EFFICIENCY



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