MAGNAPLUS®

MARATHON ELECTRIC
SYNCHRONOUS AC GENERATOR
TYPICAL DYNAMIC CHARACTERISTICS

Base Model 431CSL6206 Winding: **WC1902** **Date: 07/08/11**

Kilowatt ratings at	**1500 RPM**		**50 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 ② British Standard**	**105º C ① Continuous**	**130º C ① Standby**	**125º C ② British Standard**	**125º C ① Continuous**	**150º C ① Standby**
220/440	102 (128)	116 (145)	120 (150)	129 (161)	129 (161)	145 (181)	138 (173)	141 (176)	152 (190)
208/415	122 (153)	136 (170)	140 (175)	148 (185)	148 (185)	164 (205)	154 (193)	160 (200)	169 (211)
200/400	129 (161)	141 (176)	146 (183)	154 (193)	154 (193)	168 (210)	160 (200)	165 (206)	176 (220)
190/380	133 (166)	144 (180)	149 (186)	160 (200)	160 (200)	172 (215)	164 (205)	169 (211)	180 (225)
173/346	133 (166)	141 (176)	144 (180)	152 (190)	152 (190)	164 (205)	156 (195)	160 (200)	172 (215)

① *Rise by resistance method, Mil-Std-705, Method 680.1t* ② *Rating per BS 5000.*

Submittal Data: 208/415 Volts*, 205 kVA, 1500 RPM, 50 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	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	0.2%
	Main Rotor	1500 Volts	601.4a	L-L Harmonic Maximum - Total	5.0%
	Exciter Stator	1500 Volts		(Distortion Factor)	
	Exciter Rotor	1500 Volts	601.4a	L-L Harmonic Maximum - Single	3.0%
	PMG Stator	1500 Volts**	601.1c	Deviation Factor	5.0%
401.1a	Stator Resistance, Line to Line		---	TIF (1960 Weightings)	<50
	High Wye Connection	0.0371 Ohms	625.1c	Mechanical Strength (High Wye	
	Rotor Resistance	0.679 Ohms		Connection, Sustained 3 Phase	
	Exciter Stator	18.5 Ohms		Short Circuit Current)[3]	< 250%
	Exciter Rotor	0.116 Ohms	652.1a	Shaft Current	< 0.1 ma
	PMG Stator	2.1 Ohms**	652.1a	Main Stator Capacitance to	
410.1a	No Load Exciter Field Amps			Ground	0.011 mfd
	at 415 Volts Line to Line	0.82 A DC			
420.1a	Short Circuit Ratio	0.644		**Additional Prototype Mil-Std Methods**	
421.1a	Xd Synchronous Reactance	2.198 pu		**are Available on Request.**	
422.1a	X2 Negative Sequence				
	Reactance	0.183 pu	--	Generator Frame	431
423.1a	X0 Zero Sequence Reactance	0.037 pu	--	Type	Ext. Voltage Regulated, Brushless
425.1a	X'd Transient Reactance	0.134 pu	--	Insulation	Class H
426.1a	X"d Subtransient Reactance	0.126 pu	--	Coupling - Single Bearing	Flexible
--	Xq Quadrature Synchronous		--	Amortisseur Windings	Full
	Reactance	1.091 pu	--	Cooling Air Volume	1000 CFM
427.1a	T'd Transient Short Circuit		--	Exciter	Rotating
	Time Constant	0.049 sec.	--	Voltage Regulator	SE350***
428.1a	T"d Subtransient Short Circuit		--	Voltage Regulation	1%***
	Time Constant	0.013 sec.	--	Sensing	1 Phase***
430.1a	T'do Transient Open Circuit				
	Time Constant	1.1 sec.			
432.1a	Ta Short Circuit Time				
	Constant of Armature Winding	0.019 sec.			

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

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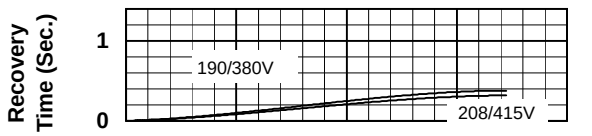
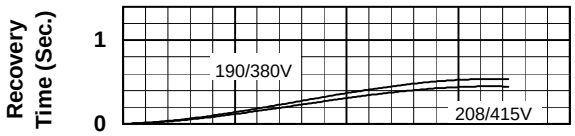
50 HERTZ



LOAD APPLICATION



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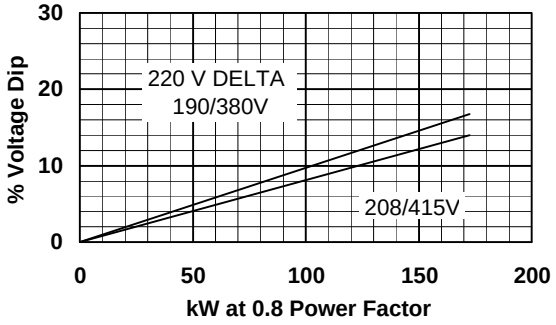
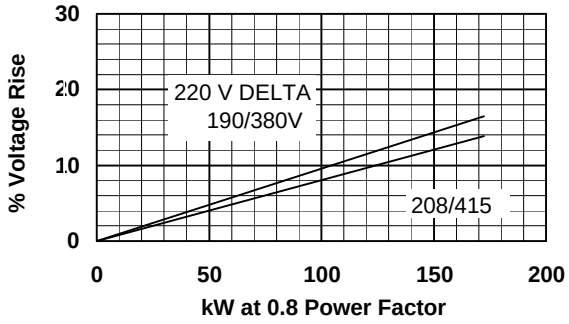
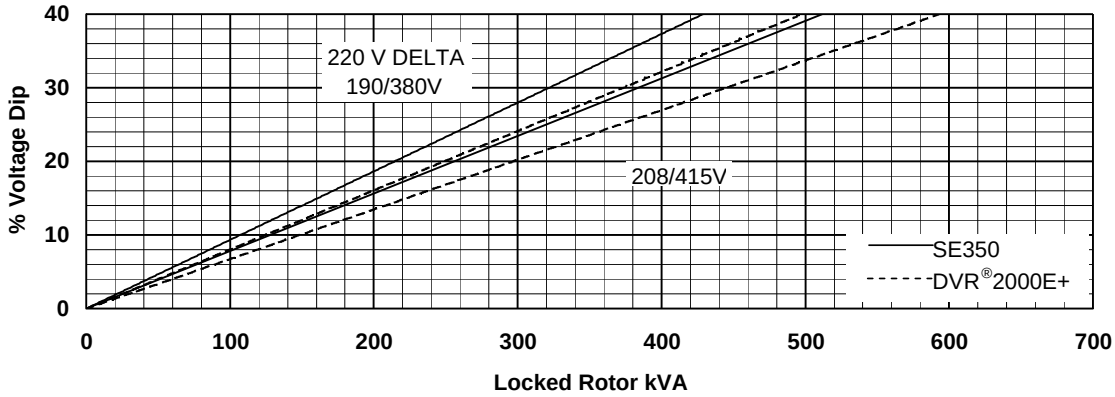
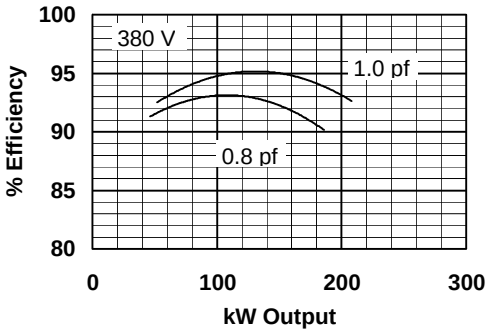


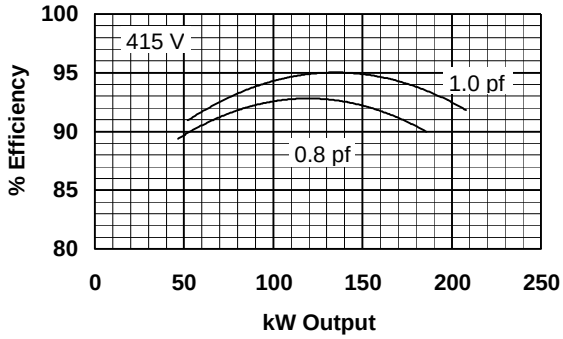


TYPICAL MOTOR STARTING CHARACTERISTICS



TYPICAL GENERATOR EFFICIENCY





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