



**MARATHON ELECTRIC
SYNCHRONOUS AC GENERATOR
TYPICAL DYNAMIC CHARACTERISTICS**

Basic Model: **431CSL6204/431PSL6204**

Date: **6/15/17**

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	143 (179)	155 (194)	160 (200)	170 (213)	170 (213)	181 (226)	170 (213)	180 (225)	190 (238)
230/460	144 (180)	155 (194)	160 (200)	170 (213)	170 (213)	182 (228)	171 (214)	180 (225)	188 (235)
220/440	143 (179)	155 (194)	160 (200)	167 (209)	167 (209)	180 (225)	168 (210)	177 (221)	185 (231)
208/416	142 (178)	152 (190)	156 (195)	165 (206)	165 (206)	176 (220)	165 (206)	175 (219)	182 (228)
190/380	136 (170)	145 (181)	150 (188)	155 (194)	155 (194)	167 (209)	156 (195)	165 (206)	172 (215)

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

† Rating per BS 5000.

Submittal Data: 240/480 Volts*, 226 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	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	0.049 Ohms	652.1a	Shaft Current	< 0.1 ma
	Rotor Resistance	0.656 Ohms	652.1a	Main Stator Capacitance to	
	Exciter Stator	18.5 Ohms		Ground	0.013 mfd
	Exciter Rotor	0.116 Ohms			
	PMG Stator	2.1 Ohms**			
410.1a	No Load Exciter Field Amps				
	at 480 Volts Line to Line	0.64 A DC			
420.1a	Short Circuit Ratio	0.417	--	Generator Frame	431
421.1a	Xd Synchronous Reactance	2.877 pu	--	Type Ext. Voltage Regulated, Brushless	
422.1a	X2 Negative Sequence		--	Insulation	Class H
	Reactance	0.42 pu	--	Coupling - Single Bearing	Flexible
423.1a	X0 Zero Sequence Reactance	0.025 pu	--	Amortisseur Windings	Full
425.1a	X'd Transient Reactance	0.184 pu	--	Cooling Air Volume	1100 CFM
426.1a	X"d Subtransient Reactance	0.166 pu	--	Exciter	Rotating
--	Xq Quadrature Synchronous		--	Voltage Regulator	SE350***
	Reactance	1.415 pu	--	Voltage Regulation	1%***
427.1a	T'd Transient Short Circuit		--	Sensing	1 Phase***
	Time Constant	0.062 sec.			
428.1a	T''d Subtransient Short Circuit				
	Time Constant	0.013 sec.			
430.1a	T'do Transient Open Circuit				
	Time Constant	1.46 sec.			
432.1a	Ta Short Circuit Time				
	Constant of Armature Winding	0.017 sec.			

* 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.

www.marathonelectric.com

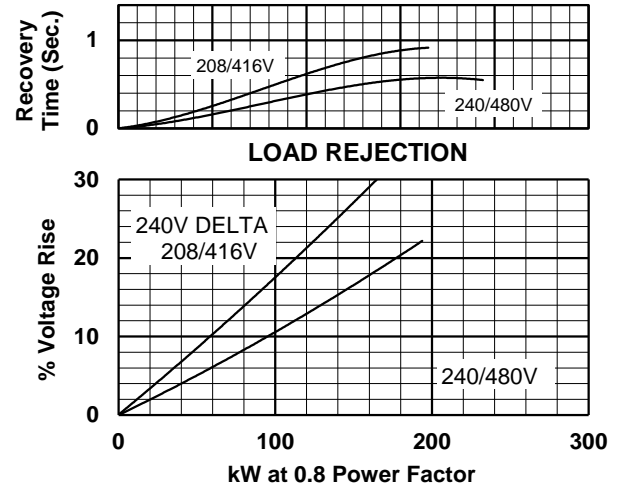
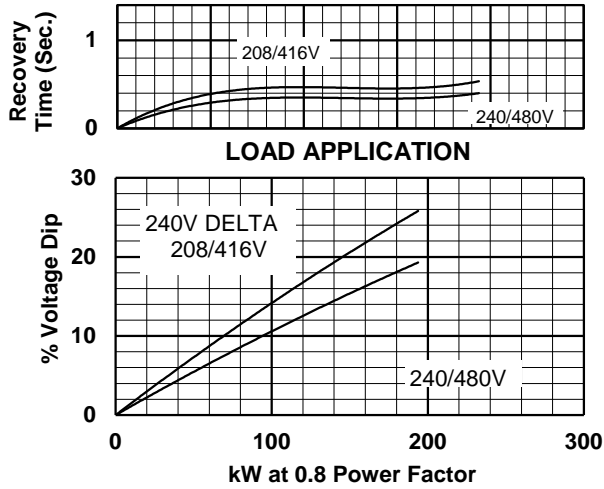


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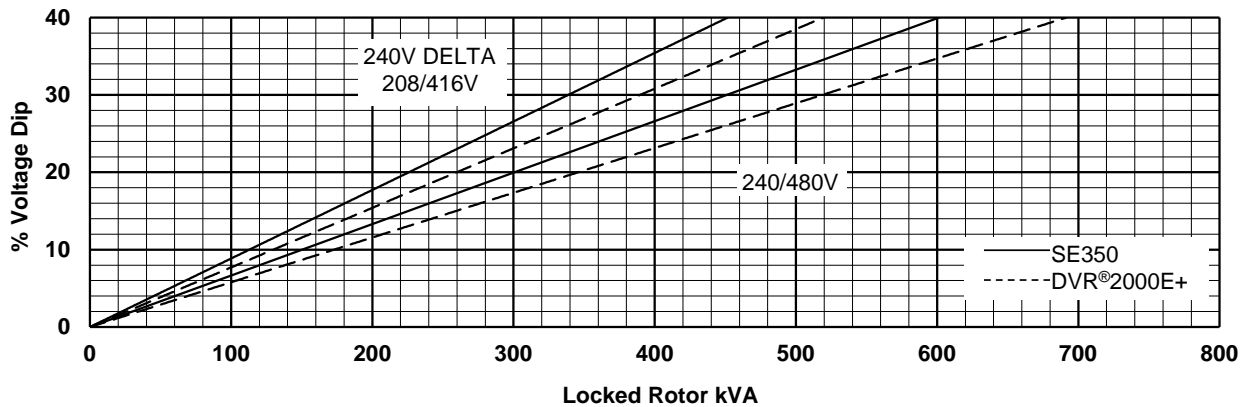
Basic Model: 431CSL6204/431PSL6204

Date: 6/27/17

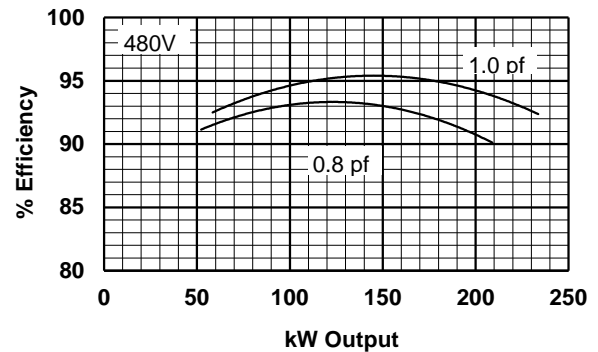
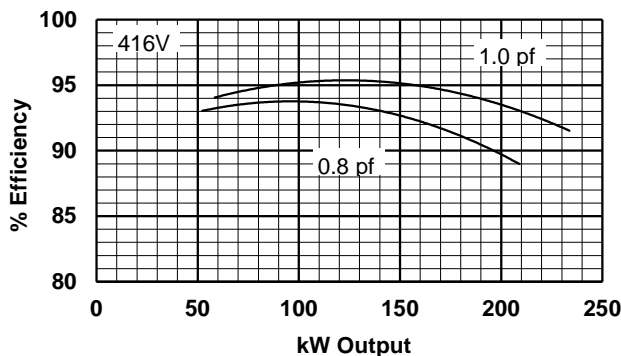
60 HERTZ



TYPICAL MOTOR STARTING CHARACTERISTICS



TYPICAL GENERATOR EFFICIENCY



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