TAYLOR POWER SYSTEMS

MARATHON ELECTRIC
SYNCHRONOUS AC GENERATOR
TYPICAL DYNAMIC CHARACTERISTICS

Basic Model: **431CSL6208** Winding: **WC1903**

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*	**80° C ① Continuous**	**90° C ① Lloyds**	**95° C ① ABS**	**105° C ② British Standard**	**105° C ① Continuous**	**130° C ① Standby**	**125° C ② 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.* ② *Rating per BS 5000.*

Submittal Data: 240/480 Volts*, 288 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	0.0348 Ohms
	Rotor Resistance	0.709 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	0.6 A DC
420.1a	Short Circuit Ratio	0.4
421.1a	Xd Synchronous Reactance	3.032 pu
422.1a	X2 Negative Sequence	
	Reactance	0.217 pu
423.1a	X0 Zero Sequence Reactance	0.041 pu
425.1a	X'd Transient Reactance	0.167 pu
426.1a	X''d Subtransient Reactance	0.156 pu
--	Xq Quadrature Synchronous	
	Reactance	1.448 pu
427.1a	T'd Transient Short Circuit	
	Time Constant	0.064 sec.
428.1a	T''d Subtransient Short Circuit	
	Time Constant	0.019 sec.
430.1a	T'do Transient Open Circuit	
	Time Constant	1 sec.
432.1a	Ta Short Circuit Time	
	Constant of Armature Winding	0.016 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	0.014 mfd
	Additional Prototype Mil-Std Methods are Available on Request.	
--	Generator Frame	431
--	Type	Ext. Voltage Regulated, Brushless
--	Insulation	Class H
--	Coupling - Single Bearing	Flexible
--	Amortisseur Windings	Full
--	Cooling Air Volume	1100 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®2000E+ voltage regulator supplied with PMG option. DVR®2000E+ voltage regulation 1/4%, 1 or 3 Phase sensing.

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TYPICAL SUBMITTAL DATA

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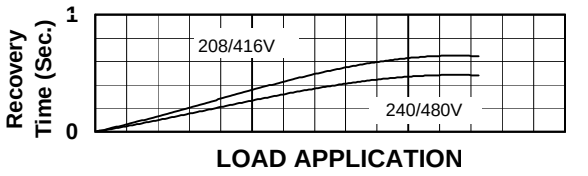
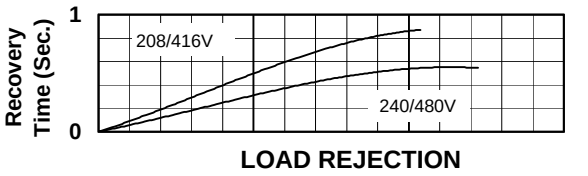
60 HERTZ



LOAD APPLICATION



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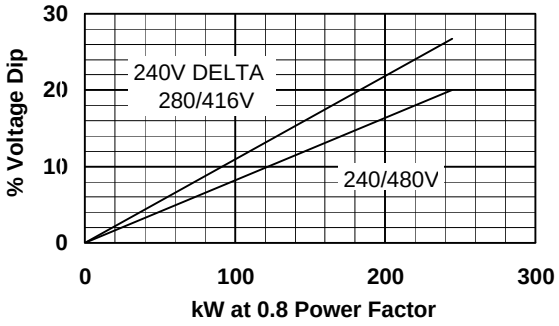
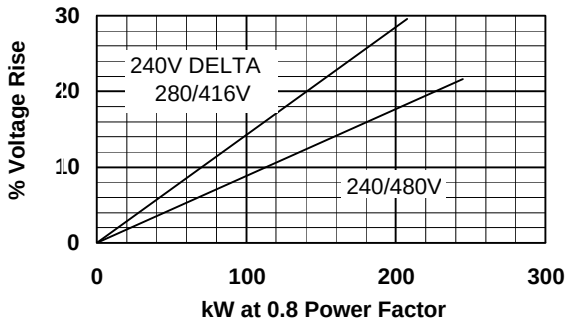
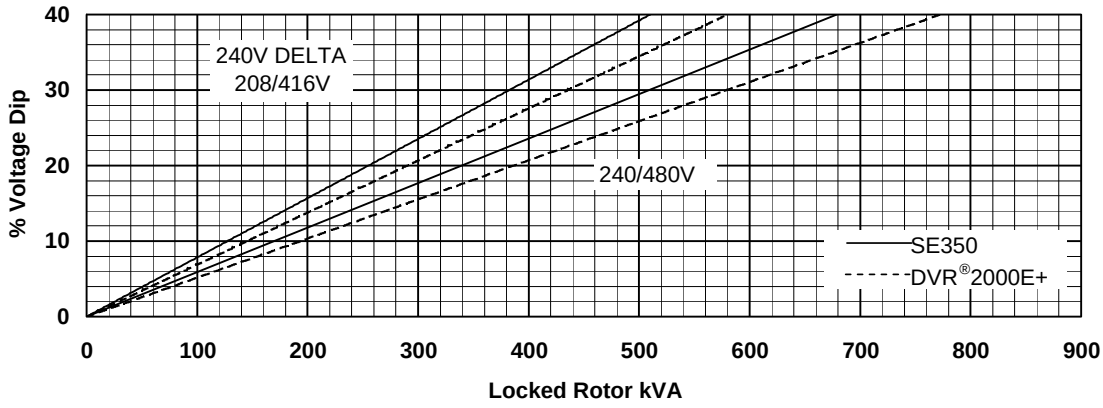
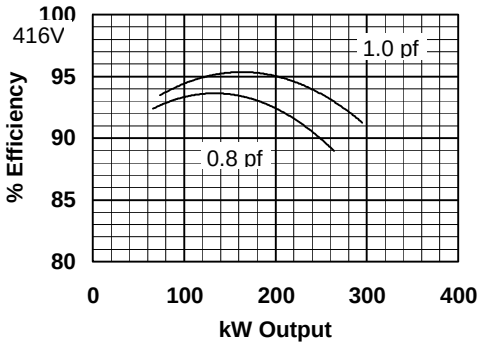


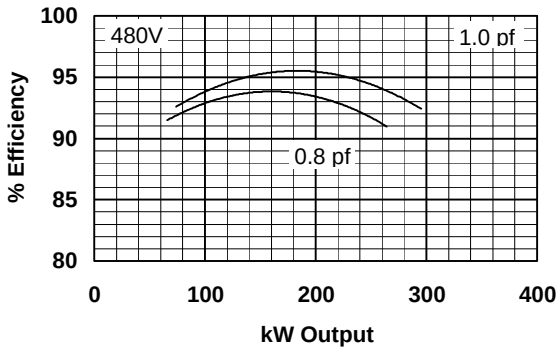


TYPICAL MOTOR STARTING CHARACTERISTICS



TYPICAL GENERATOR EFFICIENCY





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