



**MARATHON ELECTRIC  
SYNCHRONOUS AC GENERATOR  
TYPICAL SUBMITTAL DATA**

Basic Model 283CSL1507

Date: 03/10/05

Voltage*	Class B		Class F					Class H		
	80° C ①	90° C ①	95° C ①	105° C †	105° C ①	130° C ①	125° C †	125° C ①	150° C ①	
	Continuous	Lloyds	ABS	British Standard	Continuous	Standby	British Standard	Continuous	Standby	
240/480	27.0 (33.8)	28.0 (35.0)	28.0 (35.0)	31.0 (38.8)	31.0 (38.8)	33.0 (41.3)	33.0 (41.3)	33.0 (41.3)	35.0 (43.8)	
230/460	26.0 (32.5)	27.0 (33.8)	27.0 (33.8)	30.0 (37.5)	30.0 (37.5)	32.0 (40.0)	32.0 (40.0)	32.0 (40.0)	34.0 (42.5)	
220/440	25.0 (31.3)	26.0 (32.5)	26.0 (32.5)	28.0 (35.0)	28.0 (35.0)	31.0 (38.8)	31.0 (38.8)	31.0 (38.8)	33.0 (41.3)	
208/416	24.0 (30.0)	25.0 (31.2)	25.0 (31.2)	27.0 (33.8)	27.0 (33.8)	30.0 (37.5)	30.0 (37.5)	30.0 (37.5)	32.0 (40.0)	
190/380	22.0 (27.5)	23.0 (28.8)	23.0 (28.8)	25.0 (31.3)	25.0 (31.3)	27.0 (33.8)	27.0 (33.8)	27.0 (33.8)	29.0 (36.3)	

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

† Rating per BS 5000.

Submittal Data: 480 Volts, 37.5 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	601.4a	L-L Harmonic Maximum - Total	3.0%
	Main Rotor	1500 Volts		(Distortion Factor)	
	Exciter Stator	1500 Volts	601.4a	L-L Harmonic Maximum - Single	2.5%
	Exciter Rotor	1500 Volts	601.1c	Deviation Factor	6.0%
401.1a	Stator Resistance, Line to Line		---	TIF (1960 Weightings)	<50
	High Wye Connection	0.438 Ohms			
	Rotor Resistance	1.183 Ohms			
	Exciter Stator	18.83 Ohms			
	Exciter Rotor	0.127 Ohms			
410.1a	No Load Exciter Field Amps at 480 Volts Line to Line	0.49 A DC	--	Generator Frame	280
420.1a	Short Circuit Ratio	0.78	--	Type	Ext. Voltage Regulated, Brushless
421.1a	Xd Synchronous Reactance	1.91 pu	--	Insulation	Class H
422.1a	X2 Negative Sequence Reactance	0.215 pu	--	Coupling - Single Bearing	Flexible
423.1a	X0 Zero Sequence Reactance	0.04 pu	--	Amortisseur Windings	Full
425.1a	X'd Transient Reactance	0.0689 pu	--	Cooling Air Volume	250 CFM
426.1a	X''d Subtransient Reactance	0.0645 pu	--	Exciter	Rotating
427.1a	T'd Transient Short Circuit Time Constant	0.025 sec.	--	Voltage Regulator	SE350
428.1a	T''d Subtransient Short Circuit Time Constant	0.008 sec.	--	Voltage Regulation	1%
430.1a	T'do Transient Open Circuit Time Constant	0.8 sec.			
432.1a	Ta Short Circuit Time Constant of Armature Winding	0.0167 sec.			

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

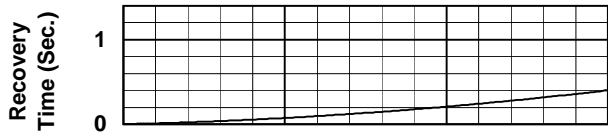


**MARATHON ELECTRIC  
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TYPICAL DYNAMIC CHARACTERISTICS**

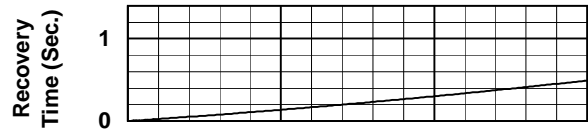
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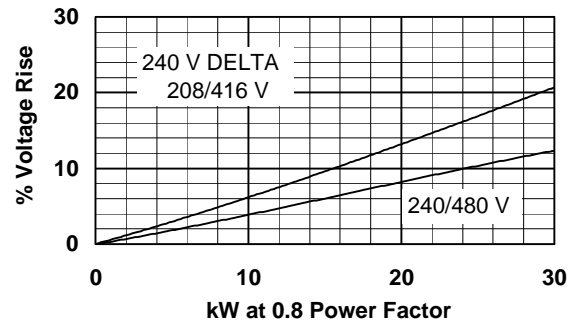
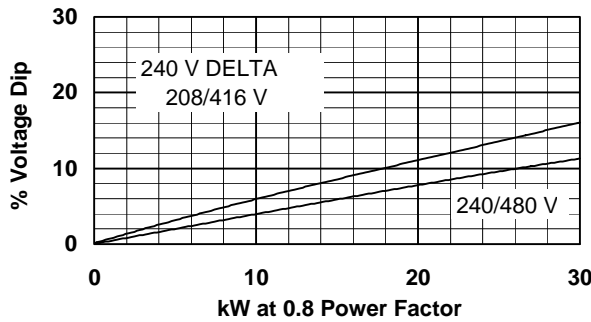
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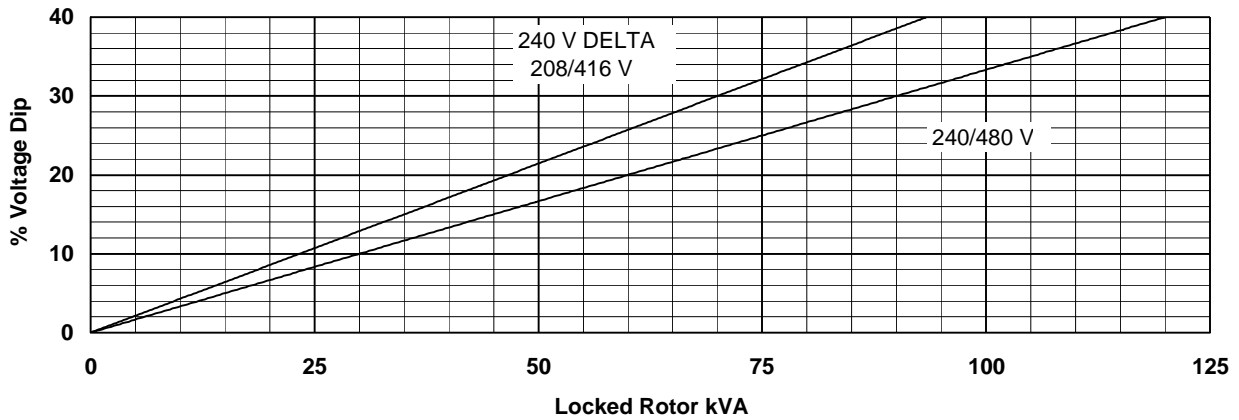
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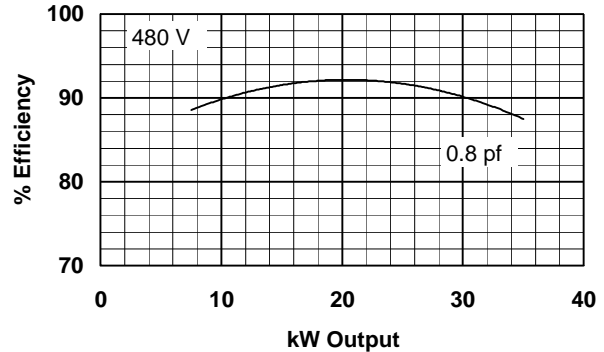
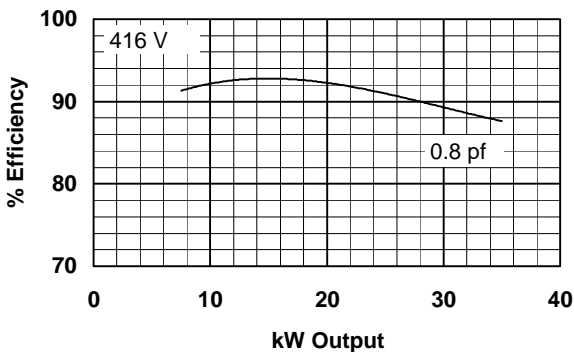
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**TYPICAL MOTOR STARTING CHARACTERISTICS**



**TYPICAL GENERATOR EFFICIENCY**



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