



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

Basic Model: **284PSL1742**

Winding: **WC1742**

Date: **7/1/04**

Voltage*	Class B		Class F				Class H		
	80° C ①	90° C ①	95° C ①	105° C ②	105° C ①	130° C ①	125° C ②	125° C ①	150° C ①
	Continuous	Lloyds	ABS	British Standard	Continuous	Standby	British Standard	Continuous	Standby
240/480	32 (40.0)	33 (41.3)	33 (41.3)	36 (45.0)	36 (45.0)	40 (50.0)	40 (50.0)	40 (50.0)	45 (56.3)
230/460	32 (40.0)	33 (41.3)	33 (41.3)	36 (45.0)	36 (45.0)	40 (50.0)	40 (50.0)	40 (50.0)	44 (55.0)
220/440	32 (40.0)	33 (41.3)	33 (41.3)	36 (45.0)	36 (45.0)	40 (50.0)	40 (50.0)	40 (50.0)	43 (53.8)
208/416	32 (40.0)	33 (41.3)	33 (41.3)	36 (45.0)	36 (45.0)	40 (50.0)	40 (50.0)	40 (50.0)	42 (52.5)
190/380	29 (36.3)	30 (37.5)	30 (37.5)	33 (41.3)	33 (41.3)	37 (46.3)	37 (46.3)	37 (46.3)	38 (47.5)

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

② Rating per BS 5000.

Submittal Data: 480 Volts, 50 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 (Distortion Factor)	3.0%
	Main Rotor	1500 Volts	601.4a	L-L Harmonic Maximum - Single	3.0%
	Exciter Stator	1500 Volts	601.1c	Deviation Factor	<5%
	Exciter Rotor	1500 Volts	---	TIF (1960 Weightings)	<50
401.1a	Stator Resistance, Line to Line		Additional Prototype Mil-Std Methods are Available on Request.		
	High Wye Connection	0.22 Ohms			
	Rotor Resistance	0.55 Ohms			
	Exciter Stator	17.5 Ohms			
	Exciter Rotor	0.12 Ohms			
410.1a	No Load Exciter Field Amps at 480 Volts Line to Line	0.8 A DC	--	Generator Frame	280
420.1a	Short Circuit Ratio	0.712	--	Type	Ext. Voltage Regulated, Brushless
421.1a	Xd Synchronous Reactance	1.927 pu	--	Insulation	Class H
422.1a	X2 Negative Sequence Reactance	0.16 pu	--	Coupling - Single Bearing	Flexible
423.1a	X0 Zero Sequence Reactance	0.034 pu	--	Amortisseur Windings	Full
425.1a	X'd Transient Reactance	0.068 pu	--	Cooling Air Volume	250 CFM
426.1a	X''d Subtransient Reactance	0.059 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	0.014 sec.	--	Voltage Regulation	1%
430.1a	T'do Transient Open Circuit Time Constant	0.71 sec.	--	Heat Rejection Rate	250 BTU/min
432.1a	Ta Short Circuit Time Constant of Armature Winding	0.023 sec.	--	Full Load Current	48.1 A
			--	Minimum Input Hp Required	59.5 Hp
			--	Efficiency at Rated Load	90.1%
			--	Full Load Torque	174 ft*lb

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



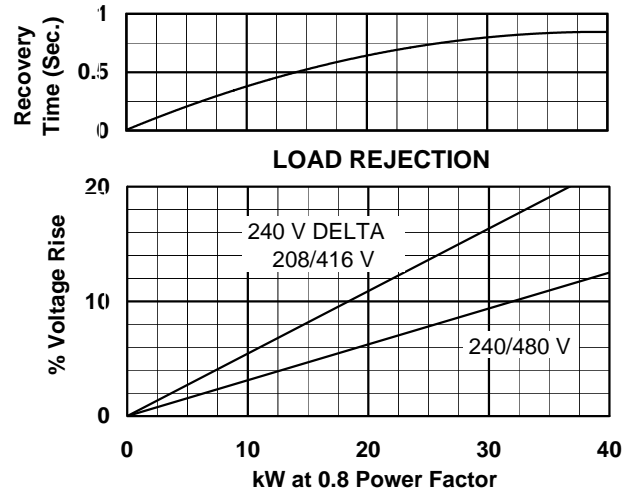
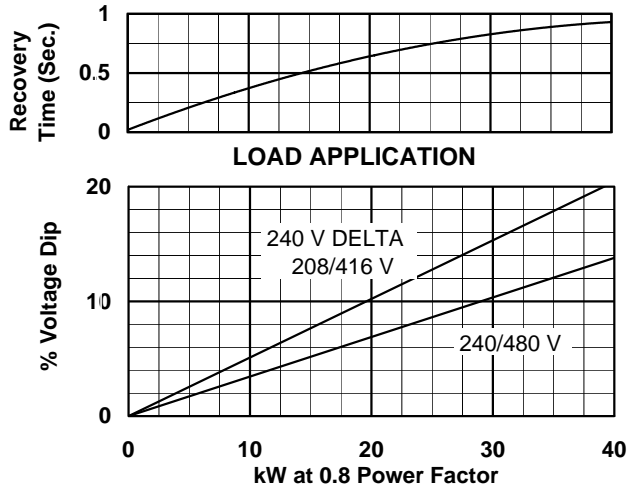
**MARATHON ELECTRIC
SYNCHRONOUS AC GENERATOR
TYPICAL DYNAMIC CHARACTERISTICS**

Basic Model: 284PSL1742

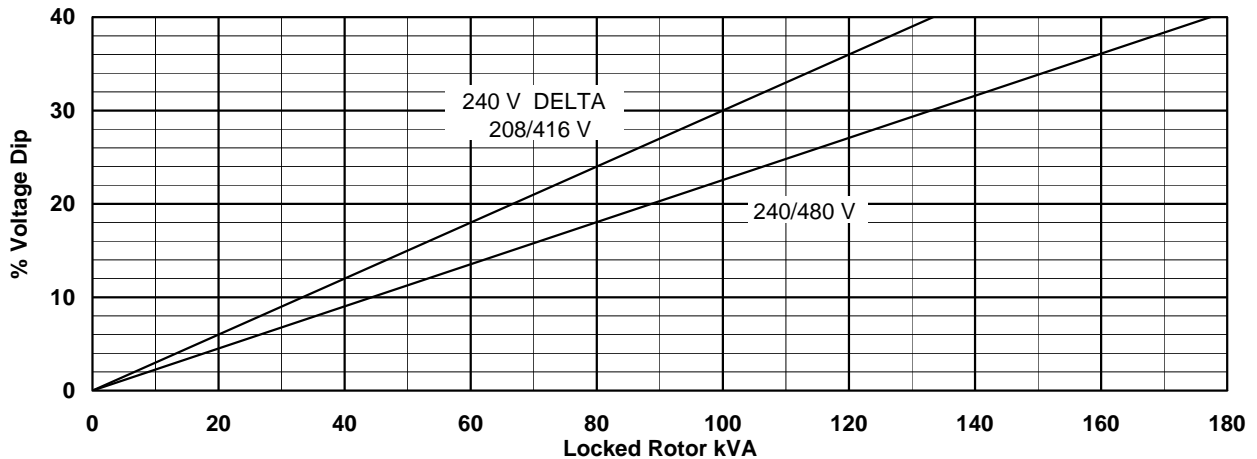
Winding: WC1742

Date: 7/1/04

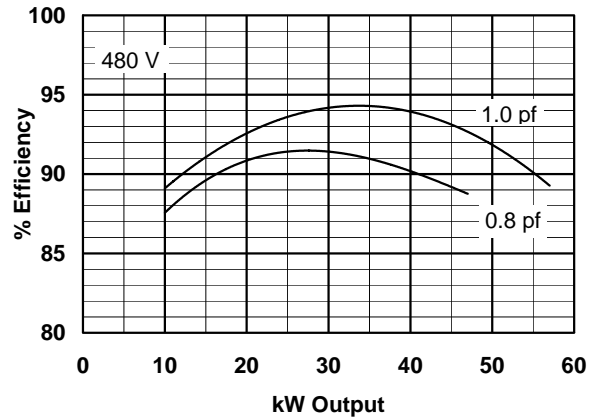
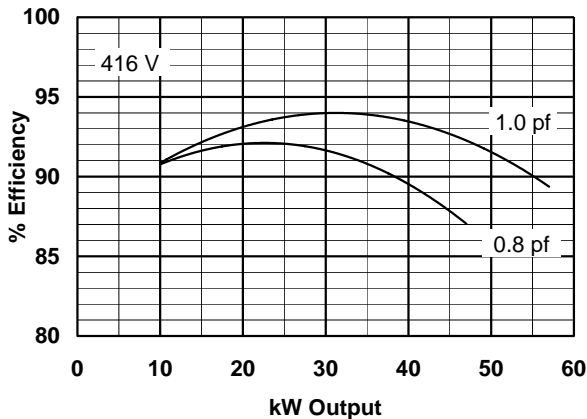
60 HERTZ



TYPICAL MOTOR STARTING CHARACTERISTICS



TYPICAL GENERATOR EFFICIENCY



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