

# TAYLOR

## POWER SYSTEMS

### SYNCHRONOUS AC GENERATOR TYPICAL SUBMITTAL DATA

Basic Model: **284PSL1742**

Winding: **WC1742**

Kilowatt ratings at		1800 RPM		60 Hertz			12 Leads		
kW (kVA)		3 Phase		0.8 Power Factor			Dripproof or Open Enclosure		
Voltage*	Class B	Class F					Class H		
	80° C Ⓞ Continuous	90° C Ⓞ Lloyds	95° C Ⓞ ABS	105° C Ⓞ British Standard	105° C Ⓞ Continuous	130° C Ⓞ Standby	125° C Ⓞ British Standard	125° C Ⓞ Continuous	150° C Ⓞ 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)

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

Ⓞ 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		<b>Additional Prototype Mil-Std Methods are Available on Request.</b>		
	High Wye Connection	0.22 Ohms	--	Generator Frame	280
	Rotor Resistance	0.55 Ohms	--	Type	Ext. Voltage Regulated, Brushless
	Exciter Stator	17.5 Ohms	--	Insulation	Class H
	Exciter Rotor	0.12 Ohms	--	Coupling - Single Bearing	Flexible
410.1a	No Load Exciter Field Amps at 480 Volts Line to Line	0.8 A DC	--	Amortisseur Windings	Full
420.1a	Short Circuit Ratio	0.712	--	Cooling Air Volume	250 CFM
421.1a	Xd Synchronous Reactance	1.927 pu	--	Exciter	Rotating
422.1a	X2 Negative Sequence Reactance	0.16 pu	--	Voltage Regulator	SE350
423.1a	X0 Zero Sequence Reactance	0.034 pu	--	Voltage Regulation	1%
425.1a	X"d Transient Reactance	0.068 pu	--	Heat Rejection Rate	250 BTU/min
426.1a	X"d Subtransient Reactance	0.059 pu	--	Full Load Current	48.1 A
427.1a	T"d Transient Short Circuit Time Constant	0.025 sec.	--	Minimum Input Hp Required	59.5 Hp
428.1a	T"d Subtransient Short Circuit Time Constant	0.014 sec.	--	Efficiency at Rated Load	91.6%
430.1a	T'do Transient Open Circuit Time Constant	0.71 sec.	--	Full Load Torque	174 ft*lb
432.1a	Ta Short Circuit Time Constant of Armature Winding	0.023 sec.			

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

# TAYLOR

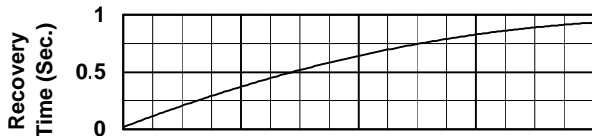
## POWER SYSTEMS

### SYNCHRONOUS AC GENERATOR TYPICAL DYNAMIC CHARACTERISTICS

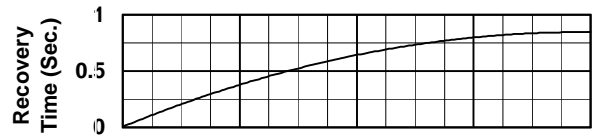
Basic Model: 284PSL1742

Winding: WC1742

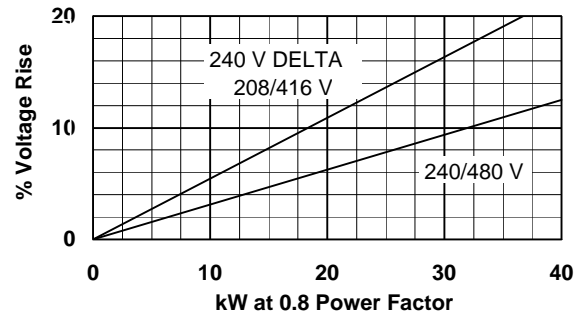
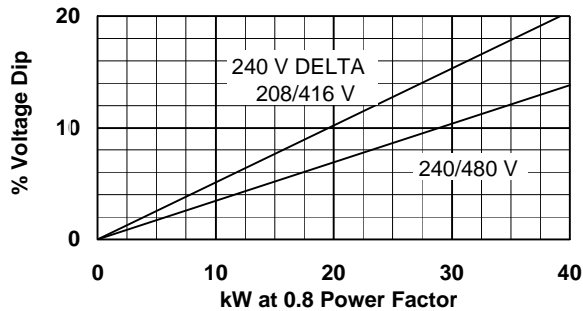
#### 60 HERTZ



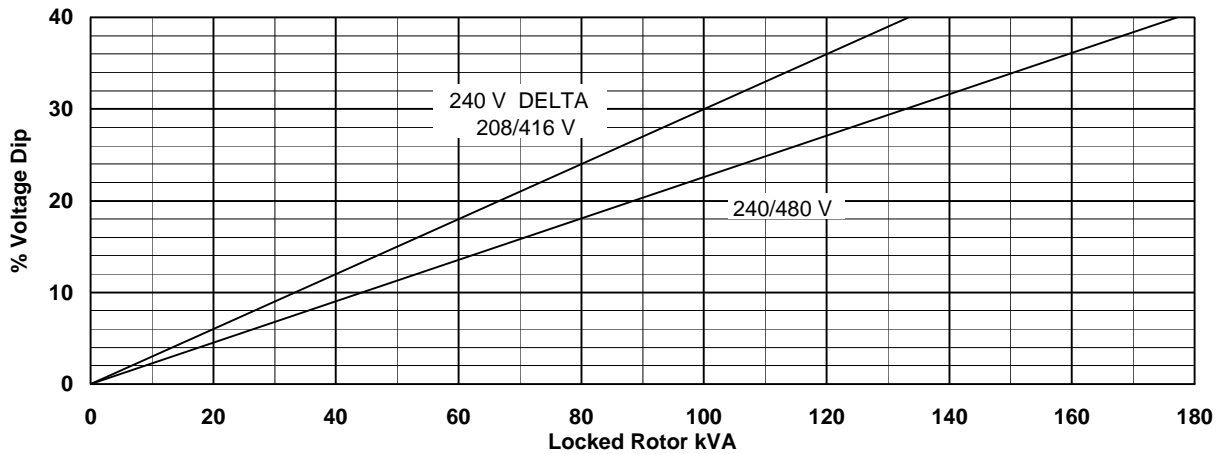
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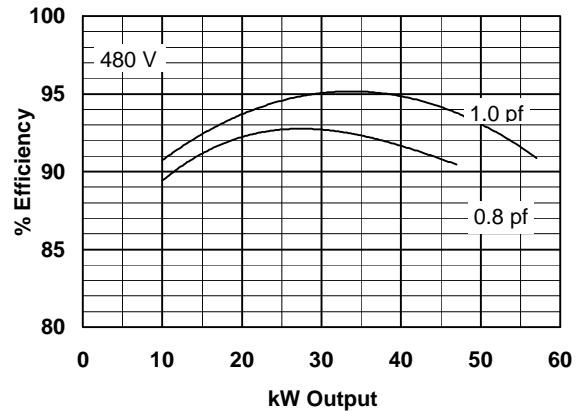
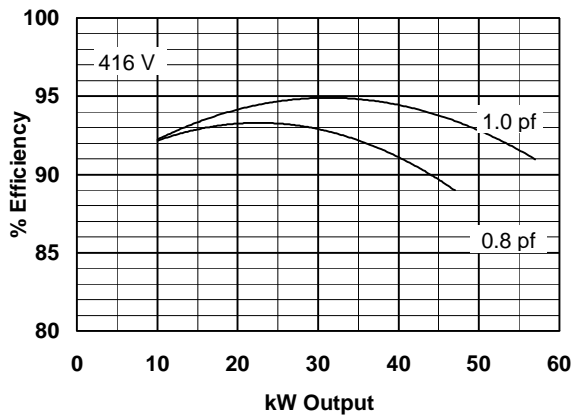
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#### TYPICAL MOTOR STARTING CHARACTERISTICS



#### TYPICAL GENERATOR EFFICIENCY



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