MARATHON ELECTRIC GENERATORS

TYPICAL SUBMITTAL DATA

MODEL : 284CSL1542

BASE MODEL: 284CSL1542 **Winding WC- 1542**

Submittal Data: 480 Volts*, 40 kW, 50 kVA, 0.8 P.F., 1800 RPM, 60 Hz, 3 Phase

10/31/2001

Kilowatt ratings at	**1800 RPM**		**60 Hertz**		**12 LEADS**	**Standard 3 phase**			
kW (kVA)	**3 Phase**		**0.8 Power Factor**			**Dripproof or Open Enclosure**			
	Class B	**Class F**					**Class H**		
Voltage*	**80º C ① Continuous**	**90º C ① Lloyds**	**95º C ① ABS**	**105º C British Standard**	**105º C Continuous**	**130º C ① Standby**	**125º C British Standard**	**125º C Continuous**	**150º C ① Standby**
480/240	34 (42.5)	34 (42.5)	35 (43.8)	40 (50)	40 (50)	43 (53.8)	43 (53.8)	43 (53.8)	46 (57.5)
460/230	33 (41.3)	33 (41.3)	34 (42.5)	37 (46.3)	37 (46.3)	41 (51.3)	41 (51.3)	41 (51.3)	43 (53.8)
440/220	33 (41.3)	33 (41.3)	34 (42.5)	37 (46.3)	37 (46.3)	41 (51.3)	41 (51.3)	41 (51.3)	43 (53.8)
416/208	32 (40)	32 (40)	33 (41.3)	36 (45)	36 (45)	40 (50)	40 (50)	40 (50)	41 (51.3)
380/190	29 (36.3)	29 (36.3)	30 (37.5)	33 (41.3)	33 (41.3)	36 (45)	36 (45)	36 (45)	38 (47.5)

①Rise by resistance method, Mil-Std-705, Method 680.1b. *British Standard Rating per BS 5000*

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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	NS**
401.1a	Stator Resistance, Line to Line	
	High Wye Connection	0.273 Ohms
	Rotor Resistance	1.363 Ohms
	Exciter Stator	18 Ohms
	Exciter Rotor	0.139 Ohms
	PMG Stator	NS**
410.1a	No Load Exciter Field Amps	0.46 A DC
	at 240/480 Volts Line to Line	
420.1a	Short Circuit Ratio	0.638
421.1a	Xd Synchronous Reactance	2.1 p.u.
		9.7 ohms
422.1a	X2 Negative Sequence React.	0.208 pu
		0.961 ohms
423.1a	X0 Zero Sequence Reactance	0.373 pu
		1.723 ohms
425.1a	X'd Transient Reactance	0.083 pu
		0.383 ohms
426.1a	X"d Subtransient Reactance	0.063 pu
		0.291 ohms
--	Xq Quadrature Synch. React.	Not Available
427.1a	T'd Transient Short Circuit	
	Time Constant	0.028 sec.
428.1a	T"d Subtransient Short Circuit	
	Time Constant	0.009 sec.
430.1a	T'do Transient Open Circuit	
	Time Constant	0.93 sec.
432.1a	Ta Short Circuit Time	
	Constant of Armature Winding	0.008 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	0.20%
601.4a	L-L Harmonic Maximum - Total	3.0%
	(Distortion Factor)	
601.4a	L-L Harmonic Maximum - Single	2.5%
601.1c	Deviation Factor	6.0%
---	TIF (1960 Weightings)	< 50
---	THF (IEC, BS & NEMA Weightings)	< 2 %
652.1a	Shaft Current	< 0.1 ma
---	Main Stator Capacitance to ground	@NA mfd
	Additional Prototype Mil-Std Methods are Available on Request.	
--	Generator Frame	284
--	Type	MAGNAPLUS
--	Insulation	Class H
--	Coupling - Single Bearing	Flexible
--	Amortisseur Windings	Full
--	Excitation	Ext. Voltage Regulated, Brushless
--	Voltage Regulator	SE350
--	Voltage Regulation	1.00%
--	Cooling Air Volume	250 CFM
--	Heat rejection rate	281 Btu's/min
--	Full load current	60 amps
--	Minimum Input hp required	60.2
	Efficiency at rated load :	89.0%
--	Full load torque	176 Lb-ft

(3) Excitation support system or PMG required to sustain short circuit currents.
** Voltages refer to wye (star) connection, unless otherwise specified.*
*** Not supplied as standard equipment.*

Data rev. :
Version : 2001.2

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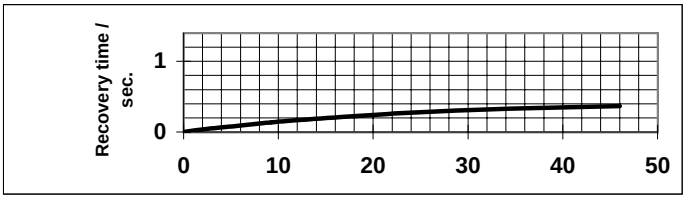
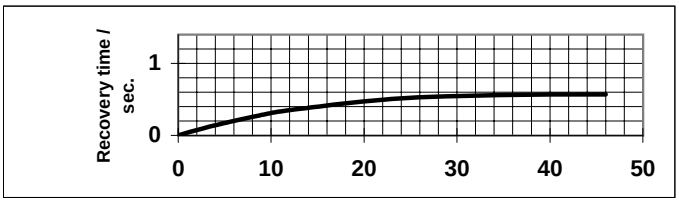
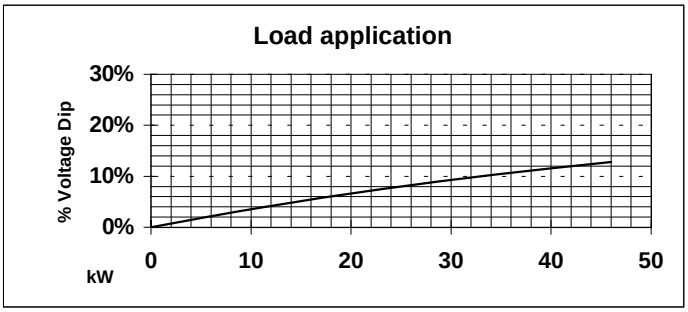
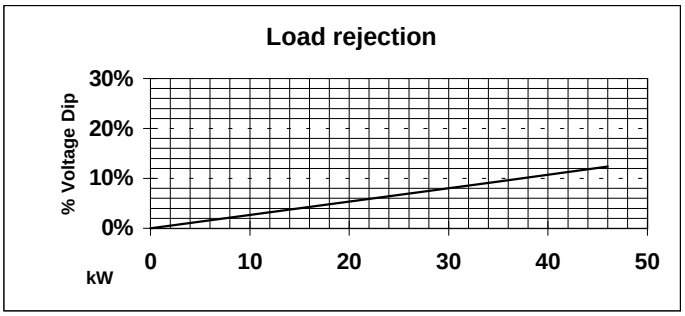
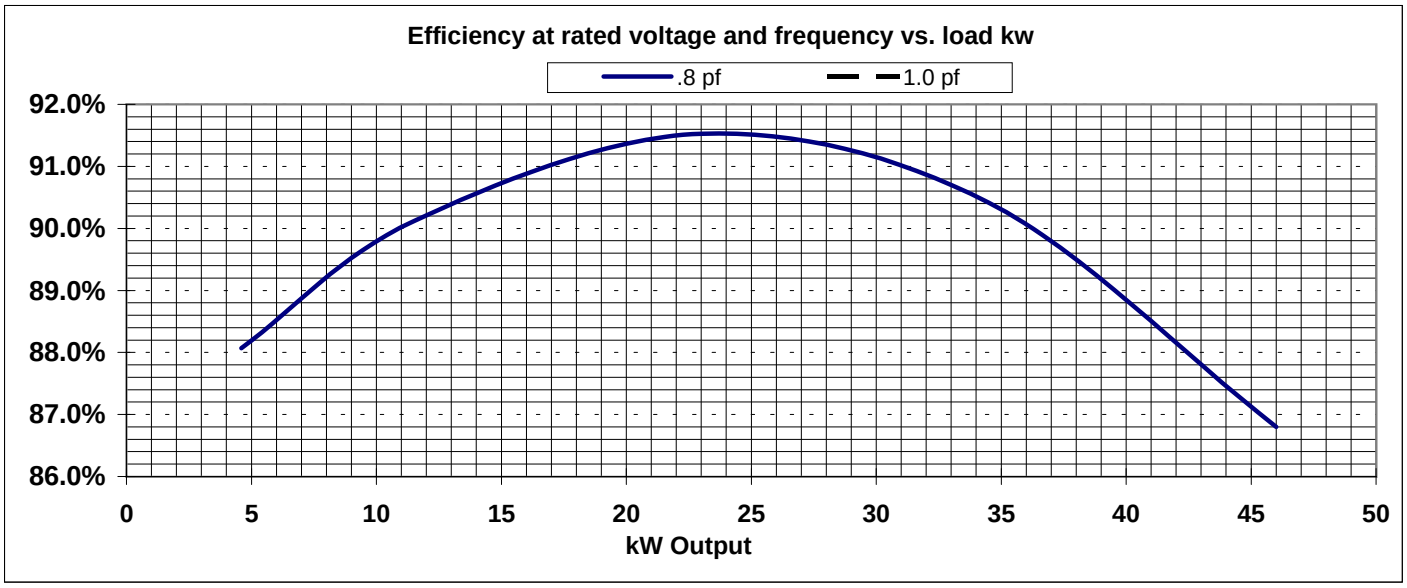
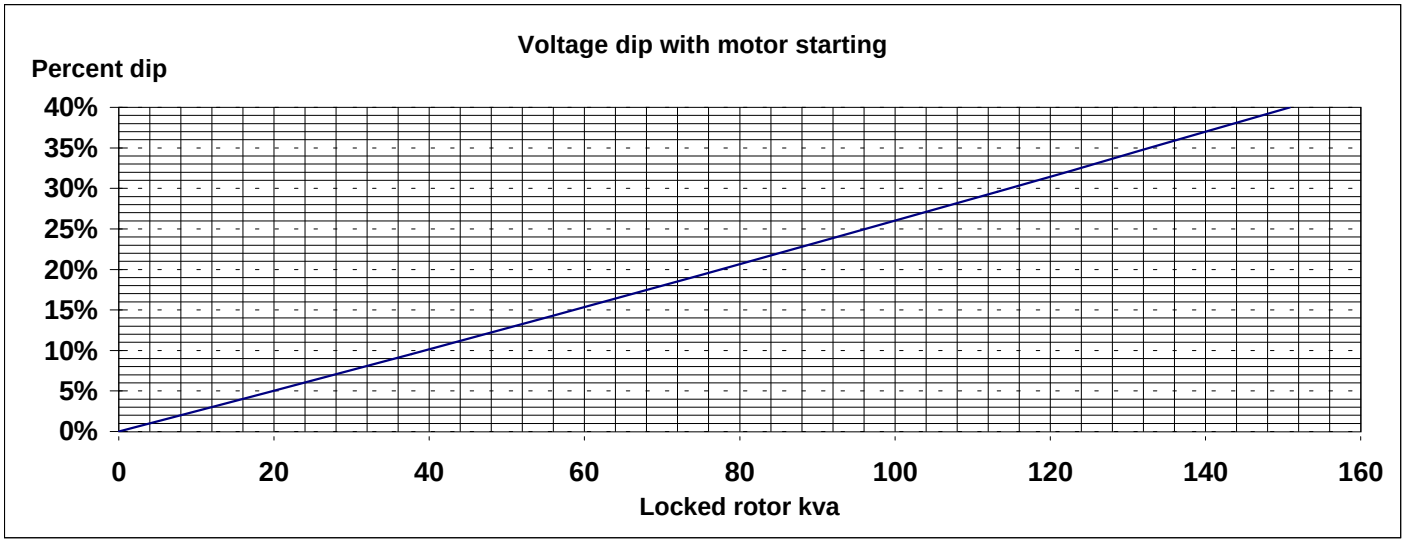
TYPICAL DYNAMIC CHARACTERISTICS

MODEL : 284CSL1542

BASE MODEL: 284CSL1542 **Winding WC- 1542**

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