# MARATHON ELECTRIC MAGNAPLUS GENERATORS



**Basic Model 433PSL6216** **Test Report No. WC1907** **Date: 1-1-00**

## TYPICAL SUBMITTAL DATA

**Kilowatt ratings at 1500 RPM 50 Hertz 12 Leads**

**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 ① Continuous | 130º C ① Standby | 125º C British Standard | 125º C ① Continuous | 150º C ① Standby |
| **220/440** | 156 (195) | 184 (230) | 193 (241) | 212 (265) | 212 (265) | 248 (310) | 237 (296) | 240 (300) | 261 (326) |
| **208/415** | 201 (251) | 225 (281) | 236 (295) | 256 (320) | 256 (320) | 288 (360) | 273 (341) | 280 (350) | 300 (375) |
| **200/400** | 216 (270) | 237 (296) | 248 (310) | 265 (331) | 265 (331) | 296 (370) | 280 (350) | 288 (360) | 308 (385) |
| **190/380** | 228 (285) | 250 (313) | 260 (325) | 276 (345) | 276 (345) | 301 (376) | 284 (355) | 296 (370) | 312 (390) |
| **173/346** | 240 (300) | 249 (311) | 258 (323) | 272 (340) | 272 (340) | 296 (370) | 277 (346) | 290 (363) | 305 (381) |

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

**Submittal Data: 208/415 Volts*, 350 kVA, 1500 RPM, 50 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 | 0.0124 Ohms |
| | Rotor Resistance | 1.079 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 | 0.96 A DC |
| 420.1a | Short Circuit Ratio | 0.73 |
| 421.1a | Xd Synchronous Reactance | 1.838 pu |
| 422.1a | X2 Negative Sequence | |
| | Reactance | 0.133 pu |
| 423.1a | X0 Zero Sequence Reactance | 0.034 pu |
| 425.1a | X'd Transient Reactance | 0.094 pu |
| 426.1a | X"d Subtransient Reactance | 0.085 pu |
| -- | Xq Quadrature Synchronous | |
| | Reactance | 1.034 sec. |
| 427.1a | T'd Transient Short Circuit | |
| | Time Constant | 0.055 sec. |
| 428.1a | T"d Subtransient Short Circuit | |
| | Time Constant | 0.014 sec. |
| 430.1a | T'do Transient Open Circuit | |
| | Time Constant | 2.06 sec. |
| 432.1a | Ta Short Circuit Time | |
| | Constant of Armature Winding | 0.013 sec. |

| Mil-Std-705B Method | Description | Value |
|---|---|---|
| 505.3b | Overspeed | 1875 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 | 0.028 mfd |
| | **Additional Prototype Mil-Std Methods are Available on Request.** | |
| -- | Generator Frame | 433 |
| -- | Type | Ext. Voltage Regulated, Brushless |
| -- | Insulation | Class H |
| -- | Coupling - Single Bearing | Flexible |
| -- | Amortisseur Windings | Full |
| -- | Cooling Air Volume | 730 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®2000 voltage regulator supplied with PMG option. DVR®2000 voltage regulation 1/4%, 1 or 3 Phase sensing.

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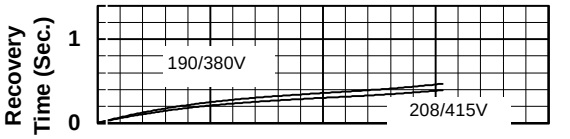
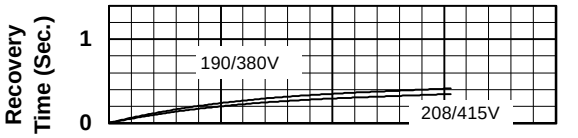
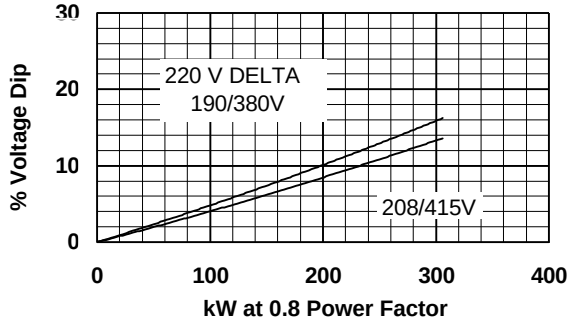
## TYPICAL DYNAMIC CHARACTERISTICS
### 50 HERTZ

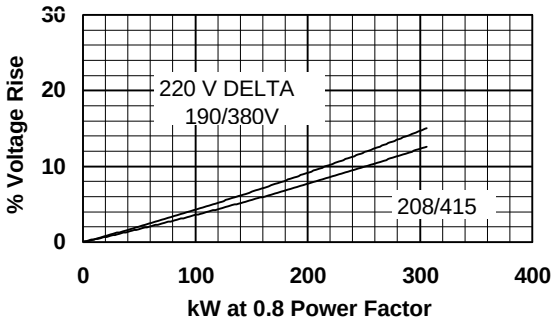



LOAD APPLICATION

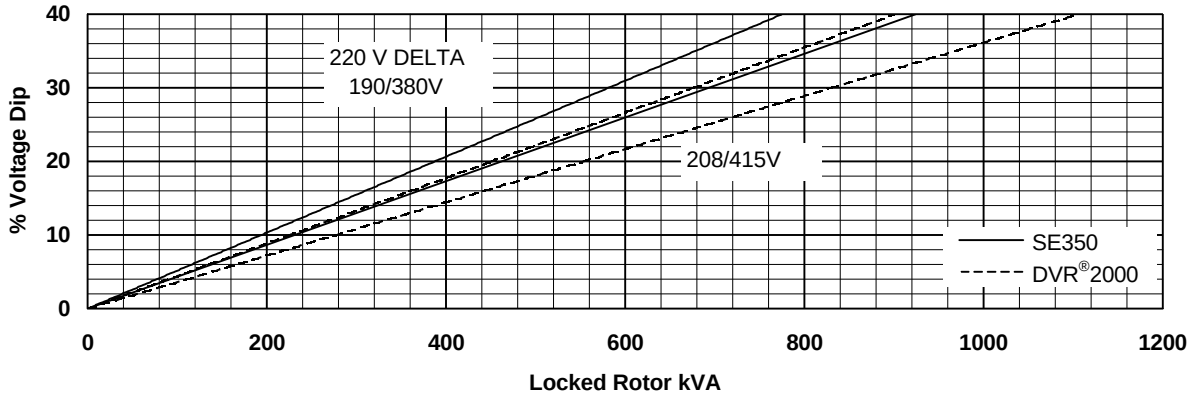



LOAD REJECTION

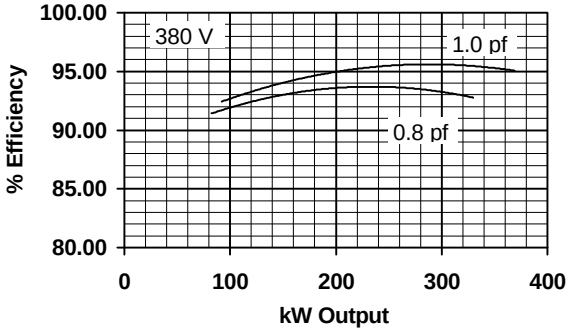


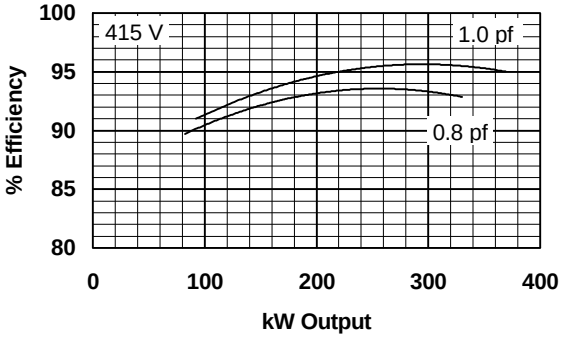




### TYPICAL MOTOR STARTING CHARACTERISTICS




### TYPICAL GENERATOR EFFICIENCY

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