**MR12-490**  
*(Premium Replacement for UPS12-475FR)*

**VALVE REGULATED LEAD ACID BATTERY FOR UPS STANDBY POWER APPLICATIONS**  
12V 139 AH @ 20 HR RATE, 12V 488 WATTS/CELL @ 15 MIN RATE

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### FEATURES

- 10 year design life @ 25°C (77°F)
- Absorbent Glass Mat (AGM) technology for efficient gas recombination of up to 99% and freedom from electrolyte maintenance.
- 3 Year Warranty (refer Dynasty warranty card, 41-9011)
- Patented Long Life Alloy having the lowest calcium levels in the industry - minimizing grid growth, reducing gassing, and extending battery life.
- Patented UL Recognized Flame-arresting vents in each cell for safety and long life.
- Designed with the same recombination, thermal runaway prevention, gassing and flame retardant characteristics of the Bellcore 4228 compliant Dynasty Telecom products.
- Proprietary computer modeled radial grid matrix using multiple conductors to provide the lowest internal resistance and highest current carrying capability.
- Proprietary Fixed Orifice Plate Pasting technology applying active material on both sides of the grid for consistent cell-to-cell performance, higher capacity and uniform grid protection.
- UL-recognized component complying with UL1778, 924, 1989 and 94 V-0
- Thermally welded case-to-cover bond to eliminate leakage.
- Can be operated in any orientation. Upright, side or end mounting recommended.
- Not restricted for air transport – Complies with IATA/ICAO Special Provision A67
- Not restricted for surface transport – Classified as non-hazardous material as related to DOT-CFR Title 49 parts 171-189
- Not restricted for water transport – Classified as non-hazardous material per IMDG Amendment 27.
- Flame-retardant polypropylene case and cover compliant with UL 94 V-0 with an Oxygen Limiting Index of greater than 28.

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### Constant Power Discharge Ratings – Watts Per Cell @ 77°F (25°C)

<table>
<thead>
<tr>
<th>End Point Volts/Cell</th>
<th>10</th>
<th>15</th>
<th>20</th>
<th>30</th>
<th>40</th>
<th>45</th>
<th>50</th>
<th>60</th>
<th>90</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.67</td>
<td>590</td>
<td>488</td>
<td>412</td>
<td>317</td>
<td>256</td>
<td>236</td>
<td>218</td>
<td>189</td>
<td>136</td>
</tr>
</tbody>
</table>

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**C&D Technologies, Inc.**  
**DYNASTY Division**  
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Phone: 800-396-2789  
Fax: 414-961-6506

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*Form 41-9010 (Rev. 07/03) Printed in the U.S.A.*
### MR12-490 – Specifications

<table>
<thead>
<tr>
<th>Cells Per Unit</th>
<th>Voltage Per Unit</th>
<th>Weight</th>
<th>Electrolyte</th>
<th>Maximum Discharge Current</th>
<th>Short Circuit Current</th>
<th>Ohms Imped. 60 Hz (Ω)</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>12.84</td>
<td>100 lbs</td>
<td>Absorbed H₂SO₄</td>
<td>800 Amps</td>
<td>5000 Amps</td>
<td>0.0023 Ohms</td>
</tr>
</tbody>
</table>

**Capacity**
488 watts per cell at the 15 minute rate to 1.67 volts per cell at 77°F (25°C). 139.2 Ah @ 20 hr. rate to 1.75 volts per cell @ 77°F (25°C). 125.4 Ah @ 10 hr. rate to 1.80 volts per cell @ 20°C (68°F).

**Operating Temperature Range**
**Discharge:** -40°F (-40°C) to +160°F (71°C). **Charge:** -10°F (-23°C) to +140°F (60°C) (with temperature compensation).

**Nominal Operating Temperature Range**
+74°F (23°C) to +80°F (27°C).

**Floating Charging Voltage**
13.5 to 13.8 VDC/unit Average at 77°F (25°C).

**Recommended Maximum Charging Current Limit**
C/5 amperes (27.84 amperes @ 100% depth of discharge) @ 20 hr. rate.

**Equalization and Cycle Service Charging Voltage**
14.4 to 14.8 VDC/unit Average at 77°F (25°C).

**Maximum AC Ripple (Charger)**
0.5% RMS or 1.5% P-P of float charge voltage recommended for best results. Maximum voltage allowed = 1.4% RMS (4% P-P). Maximum current allowed = 6.96 amperes RMS (C/20).

**Self Discharge**
Dynasty MaxRate batteries may be stored for up to 6 months at 77°F (25°C) and then a freshening charge is required. For higher temperatures the time interval will be shorter.

**Accessories**
Inter unit connectors, racks and cabinet systems are available.

**Terminal:** Inserted
Threaded copper alloy insert terminal to accept 1/4-20 UNC bolt.

**Terminal Hardware Initial Torque:** Inserted Terminal
110 in.-lbs. (12.4 N-m).

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<th>90</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.75</td>
<td>525</td>
<td>444</td>
<td>385</td>
<td>300</td>
<td>245</td>
<td>224</td>
<td>208</td>
<td>183</td>
<td>133</td>
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<tr>
<td>1.70</td>
<td>570</td>
<td>472</td>
<td>401</td>
<td>310</td>
<td>252</td>
<td>231</td>
<td>214</td>
<td>186</td>
<td>135</td>
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<td>136</td>
</tr>
<tr>
<td>1.65</td>
<td>614</td>
<td>500</td>
<td>418</td>
<td>322</td>
<td>260</td>
<td>238</td>
<td>220</td>
<td>191</td>
<td>137</td>
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<tr>
<td>1.60</td>
<td>644</td>
<td>513</td>
<td>428</td>
<td>327</td>
<td>264</td>
<td>241</td>
<td>222</td>
<td>192</td>
<td>138</td>
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</table>

### Constant Current Discharge Ratings – Amperes @ 77°F (25°C)

<table>
<thead>
<tr>
<th>End Point Volts/Cell</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>5</th>
<th>8</th>
<th>10</th>
<th>12</th>
<th>20</th>
<th>24</th>
<th>72</th>
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<tr>
<td>1.85</td>
<td>80.9</td>
<td>47.2</td>
<td>34.4</td>
<td>22.5</td>
<td>15.0</td>
<td>12.3</td>
<td>10.5</td>
<td>6.58</td>
<td>5.53</td>
<td>1.93</td>
</tr>
<tr>
<td>1.80</td>
<td>85.5</td>
<td>50.9</td>
<td>36.3</td>
<td>23.5</td>
<td>15.5</td>
<td>12.8</td>
<td>10.9</td>
<td>6.79</td>
<td>5.70</td>
<td>1.99</td>
</tr>
<tr>
<td>1.75</td>
<td>90.3</td>
<td>53.2</td>
<td>37.8</td>
<td>24.2</td>
<td>16.1</td>
<td>13.2</td>
<td>11.2</td>
<td>6.96</td>
<td>5.84</td>
<td>2.03</td>
</tr>
</tbody>
</table>

**Note:** Batteries to be mounted with 0.5 in (1.25 cm) spacing minimum and free air ventilation. Specifications subject to change without notification.