MPS12-50 VALVE REGULATED LEAD ACID BATTERY

FOR STANDBY POWER APPLICATIONS

12V 50 AH @ 20 HR Rate,
12V 170 Watts/Cell @ 15 Min Rate

FEATURES

- Robust plate for extended life.
- Flame-arresting one-way pressure-relief vent for safety and long life.
- Durable polypropylene container and cover.
- Thermally welded case-to-cover bond to eliminate leakage.
- Absorbent Glass Mat (AGM) technology for efficient gas recombination of up to 99% and freedom from electrolyte maintenance.
- UL-recognized component.
- Multicell design for economy of installation and maintenance.
- Can be used 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.
- Computer designed lead, low calcium alloy grid for minimal gassing and ease of recycling.

SPECIFICATIONS

12 Volts – 50 Ampere Hour Capacity @ 20 Hour Rate

<table>
<thead>
<tr>
<th>Discharge in Hours</th>
<th>1.00</th>
<th>2.00</th>
<th>3.00</th>
<th>4.00</th>
<th>5.00</th>
<th>6.00</th>
<th>7.00</th>
<th>8.00</th>
<th>10.00</th>
<th>12.00</th>
<th>20.00</th>
<th>24.00</th>
<th>72.00</th>
<th>100.00</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amp-Hr Capacity</td>
<td>32.0</td>
<td>37.2</td>
<td>40.0</td>
<td>42.0</td>
<td>43.3</td>
<td>44.3</td>
<td>45.1</td>
<td>46.0</td>
<td>46.9</td>
<td>47.8</td>
<td>50.0</td>
<td>50.3</td>
<td>51.7</td>
<td>52.0</td>
</tr>
</tbody>
</table>
### Specifications

**Cells**

<table>
<thead>
<tr>
<th>Per Unit</th>
<th>Voltage Per Unit</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>12.84</td>
<td>40 lbs, 18 kg</td>
</tr>
</tbody>
</table>

**Electrolyte**

- Absorbed H₂SO₄
- SG = 1.300

**Maximum Discharge Current**

- 600 Amps

**Short Circuit Current**

- 2500 Amps @ 0.1 sec.

**Ohms Imped. 60 Hz (Ω)**

- 0.0060 Ohms

**Capacity**

- 170 watts per cell at the 15 minute rate to 1.67 volts per cell at 77°F (25°C), 50 Ah @ 20 hr. rate to 1.75 volts per cell @ 77°F (25°C), 44.8 Ah @ 10 hr. rate to 1.80 volts per cell @ 68°F (20°C).

**Operating Temperature Range**

- Discharge: -40°F (-40°C) to +160°F (71°C), Charge: -10°F (-23°C) to +140°F (60°C).

**Recommended Operating Temperature Range**

- +74°F (23°C) to +80°F (27°C).

**Float Charging Voltage**

- 13.5 to 13.8 VDC/unit average at 77°F (25°C).

**Recommended Maximum Charging Current Limit**

- C/5 amperes (10 amperes @ 100% depth of discharge) @ 20 hour 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 AC ripple voltage allowed = 4% (P-P). Maximum AC ripple current allowed = 2.5 amperes RMS (C/20).

**Self Discharge**

- Dynasty MPS 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**

- “L” terminal with 0.28” clearance hole to accept 0.25” (6mm) bolt.

**Terminal Hardware Initial Torque**

- 40 in.-lbs. (4.5 N-m).

**Terminal Hardware Annual Retorque**

- 32 in.-lbs. (3.48 N-m).

**Operating Time to End Point Voltage (in minutes)**

<table>
<thead>
<tr>
<th>End Point Watts Per Cell</th>
<th>5</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>1.75</td>
<td>250</td>
<td>190</td>
<td>155</td>
<td>130</td>
<td>100</td>
<td>82.5</td>
<td>76.7</td>
<td>70.8</td>
<td>62.0</td>
<td>45.3</td>
</tr>
<tr>
<td>1.70</td>
<td>272</td>
<td>204</td>
<td>165</td>
<td>136</td>
<td>105</td>
<td>86.6</td>
<td>80.0</td>
<td>74.4</td>
<td>65.0</td>
<td>46.7</td>
</tr>
<tr>
<td>1.67</td>
<td>280</td>
<td>210</td>
<td>170</td>
<td>140</td>
<td>107</td>
<td>88.1</td>
<td>81.7</td>
<td>75.2</td>
<td>65.5</td>
<td>47.3</td>
</tr>
<tr>
<td>1.65</td>
<td>284</td>
<td>213</td>
<td>173</td>
<td>142</td>
<td>108</td>
<td>88.5</td>
<td>82.1</td>
<td>75.8</td>
<td>66.0</td>
<td>47.7</td>
</tr>
<tr>
<td>1.60</td>
<td>290</td>
<td>215</td>
<td>174</td>
<td>143</td>
<td>109</td>
<td>88.9</td>
<td>82.6</td>
<td>76.2</td>
<td>66.5</td>
<td>48.1</td>
</tr>
</tbody>
</table>

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

**Operating Time to End Point Voltage (in hours)**

<table>
<thead>
<tr>
<th>End Point Watts Per Cell</th>
<th>.083</th>
<th>.25</th>
<th>.50</th>
<th>.75</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>
<th>100</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.90</td>
<td>73.0</td>
<td>53.6</td>
<td>38.0</td>
<td>31.7</td>
<td>25.2</td>
<td>16.0</td>
<td>11.8</td>
<td>7.80</td>
<td>5.15</td>
<td>4.25</td>
<td>3.58</td>
<td>2.17</td>
<td>1.83</td>
<td>0.63</td>
<td>0.46</td>
</tr>
<tr>
<td>1.85</td>
<td>107</td>
<td>69.2</td>
<td>45.6</td>
<td>37.3</td>
<td>29.0</td>
<td>17.5</td>
<td>12.7</td>
<td>8.26</td>
<td>5.45</td>
<td>4.43</td>
<td>3.75</td>
<td>2.33</td>
<td>1.96</td>
<td>0.68</td>
<td>0.50</td>
</tr>
<tr>
<td>1.80</td>
<td>120</td>
<td>75.6</td>
<td>49.2</td>
<td>39.8</td>
<td>30.4</td>
<td>18.2</td>
<td>13.0</td>
<td>8.48</td>
<td>5.60</td>
<td>4.57</td>
<td>3.88</td>
<td>2.45</td>
<td>2.06</td>
<td>0.71</td>
<td>0.51</td>
</tr>
<tr>
<td>1.75</td>
<td>134</td>
<td>81.6</td>
<td>52.6</td>
<td>42.3</td>
<td>32.0</td>
<td>18.6</td>
<td>13.3</td>
<td>8.66</td>
<td>5.75</td>
<td>4.69</td>
<td>3.98</td>
<td>2.50</td>
<td>2.10</td>
<td>0.72</td>
<td>0.52</td>
</tr>
</tbody>
</table>

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

**Operating Time to End Point Voltage (in hours)**

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