MOTIVE 31XHS

MODEL: 31XHS with Screw in Cap
VOLTAGE: 12
MATERIAL: Polypropylene
DIMENSIONS: Inches (mm)
BATTERY: Deep-Cycle Flooded/Wet Lead-Acid Battery
COLOR: Black
WATERING: No Watering System Available

12 VOLT

PHYSICAL SPECIFICATIONS

<table>
<thead>
<tr>
<th>BCI</th>
<th>MODEL NAME</th>
<th>VOLTAGE</th>
<th>CELL(S)</th>
<th>TERMINAL TYPE</th>
<th>DIMENSIONS &lt; Inches (mm)</th>
<th>WEIGHT&lt; LBS (kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>30H</td>
<td>31XHS</td>
<td>12</td>
<td>6</td>
<td>G</td>
<td>LENGTH 12.97 (329) WIDTH 6.75 (171) HEIGHT 9.58 (243)</td>
<td>67 (30)</td>
</tr>
</tbody>
</table>

ELECTRICAL SPECIFICATIONS

<table>
<thead>
<tr>
<th>CRANKING PERFORMANCE</th>
<th>CAPACITY &lt; MINUTES</th>
<th>CAPACITY &lt; AMP-HOURS (Ah)</th>
<th>ENERGY (kWh)</th>
<th>INTERNAL RESISTANCE (mΩ)</th>
<th>SHORT CIRCUIT CURRENT (amps)</th>
</tr>
</thead>
<tbody>
<tr>
<td>C.C.A. @ 0°F (-18°C)</td>
<td>C.A. @ 32°F (0°C)</td>
<td>@ 25 Amps @ 75 Amps</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>5-Hr 10-Hr 20-Hr 100-Hr</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>225</td>
</tr>
</tbody>
</table>

CHARGING INSTRUCTIONS

CHARGER VOLTAGE SETTINGS (AT 77°F/25°C)

<table>
<thead>
<tr>
<th>SYSTEM VOLTAGE</th>
<th>12V</th>
<th>24V</th>
<th>36V</th>
<th>48V</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bulk Charge</td>
<td>14.82</td>
<td>29.64</td>
<td>44.46</td>
<td>59.28</td>
</tr>
<tr>
<td>Float Charge</td>
<td>13.50</td>
<td>27.00</td>
<td>40.50</td>
<td>54.00</td>
</tr>
<tr>
<td>Equalize Charge</td>
<td>16.20</td>
<td>32.40</td>
<td>48.60</td>
<td>64.80</td>
</tr>
</tbody>
</table>

CHARGING TEMPERATURE COMPENSATION

ADD | SUBSTITUTE
--- | --------
0.005 volt per cell for every 1°C below 25°C | 0.005 volt per cell for every 1°C above 25°C
0.0028 volt per cell for every 1°F below 77°F | 0.0028 volt per cell for every 1°F above 77°F

OPERATIONAL DATA

OPERATING TEMPERATURE | SELF DISCHARGE
--- | ---
-4°F to 113°F (-20°C to +45°C). At temperatures below 32°F (0°C) maintain a state of charge greater than 60% | 5 – 15% per month depending on storage temperature conditions.

STATE OF CHARGE MEASURE OF OPEN-CIRCUIT VOLTAGE

<table>
<thead>
<tr>
<th>PERCENTAGE CHARGE</th>
<th>SPECIFIC GRAVITY</th>
<th>CELL</th>
<th>12 VOLT</th>
</tr>
</thead>
<tbody>
<tr>
<td>100</td>
<td>1.277</td>
<td>2.122</td>
<td>12.73</td>
</tr>
<tr>
<td>90</td>
<td>1.258</td>
<td>2.103</td>
<td>12.62</td>
</tr>
<tr>
<td>80</td>
<td>1.238</td>
<td>2.083</td>
<td>12.50</td>
</tr>
<tr>
<td>70</td>
<td>1.217</td>
<td>2.062</td>
<td>12.37</td>
</tr>
<tr>
<td>60</td>
<td>1.195</td>
<td>2.040</td>
<td>12.24</td>
</tr>
<tr>
<td>50</td>
<td>1.172</td>
<td>2.017</td>
<td>12.10</td>
</tr>
<tr>
<td>40</td>
<td>1.148</td>
<td>1.993</td>
<td>11.96</td>
</tr>
<tr>
<td>30</td>
<td>1.124</td>
<td>1.969</td>
<td>11.81</td>
</tr>
<tr>
<td>20</td>
<td>1.098</td>
<td>1.943</td>
<td>11.66</td>
</tr>
<tr>
<td>10</td>
<td>1.073</td>
<td>1.918</td>
<td>11.51</td>
</tr>
</tbody>
</table>

Do not install or charge batteries in a sealed or non-ventilated compartment. Constant under or overcharging will damage the battery and shorten its life as with any battery.

RECYCLE RESPONSIBLY

99% RECYCLABLE
**TROJAN BATTERY COMPANY WITH QUALITY SYSTEM CERTIFIED BY DNV = ISO 9001:2015 =**

**BATTERY DIMENSIONS** (shown with ST)

- **LENGTH**: 12.97 (329)
- **WIDTH**: 6.75 (171)
- **HEIGHT**: 8.78 (223)

**TERMINAL CONFIGURATIONS**

<table>
<thead>
<tr>
<th>11</th>
<th>ST</th>
<th>STUD TERMINAL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Terminal Height Inches (mm)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1.64 (16)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Torque Values in-lb (Nm)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>120 – 180 (14 – 20)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Bolt</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3/8&quot;</td>
</tr>
</tbody>
</table>

A. The number of minutes a battery can deliver when discharged at a constant rate at 80°F (27°C) and maintain a voltage above 1.75 V/cell. Capacities are based on peak performance.

B. The amount of amp-hours (Ah) a battery can deliver when discharged at a constant rate at 80°F (27°C) and maintain a voltage above 1.75 V/cell. Capacities are based on peak performance.

C. Dimensions may vary depending on type of handle or terminal. Batteries should be mounted with 0.5 inches (12.7 mm) spacing minimum.

D. C.C.A. (Cold Cranking Amps) - the discharge load in amperes which a new, fully charged battery can maintain for 30 seconds at 0°F (-18°C) at a voltage above 1.2 V/cell.

E. C.A. (Cranking Amps) - the discharge load in amperes which a new, fully charged battery can maintain for 30 seconds at 32°F (0°C) at a voltage above 1.2 V/cell. This is sometimes referred to as marine cranking amps @ 32°F or M.C.A. @ 32°F.

F. Height taken from bottom of the battery to the highest point on the battery. Heights may vary depending on type of terminal.

G. Terminal images are representative only.

H. Weight may vary.

**PERCENT CAPACITY VS. TEMPERATURE**

- **Temperature (F)**
  - 0
  - 20
  - 30
  - 40
  - 50
  - 60
  - 70
  - 80
  - 90
  - 100
  - 110
  - 120

- **Percent of Available Capacity**
  - 0%
  - 20%
  - 40%
  - 60%
  - 80%
  - 100%
  - 120%
  - 140%

**TROJAN 31XHS PERFORMANCE**

- **Discharge Current (amps)**
  - 10
  - 100
  - 1000
  - 10000
  - 100000

- **Time (mins)**
  - 10
  - 100
  - 1000
  - 10000
  - 100000

**Designated and tested in compliance with applicable BCI, DIN, BS and IEC standards.**

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