Crown Battery Manufacturing’s team of research and development engineers welcome the opportunity to discuss your technical requirements during the design and specification stage. To access this technical assistance, please contact:

Crown Battery Manufacturing’s Product Support Department
+1.419.334.7181 | sales@crownbattery.com | Fax +1.419.334.7124

AVAILABLE TERMINAL STYLES:

VENT CAP OPTIONS:

PHYSICAL SPECIFICATIONS

<table>
<thead>
<tr>
<th>BCI Group Size</th>
<th>Model Description</th>
<th>Nominal Voltage</th>
<th>Length (in)</th>
<th>Width (in)</th>
<th>Container Height (in)</th>
<th>Terminal Height (in)</th>
<th>Weight (lbs)</th>
<th>Cover &amp; Container Material</th>
<th>Case to Cover Seal Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>903</td>
<td>CR-430</td>
<td>6</td>
<td>12.38</td>
<td>314</td>
<td>7.19</td>
<td>183</td>
<td>15.29</td>
<td>388</td>
<td>Polypropylene Plastic</td>
</tr>
</tbody>
</table>

ELECTRICAL SPECIFICATIONS

<table>
<thead>
<tr>
<th>Ampere Hour Capacity (Ah)</th>
<th>Discharge Capacity Minutes</th>
<th>KWH (kWh)</th>
<th>Internal Resistance</th>
</tr>
</thead>
<tbody>
<tr>
<td>100 Hr</td>
<td>72 Hr</td>
<td>48 Hr</td>
<td>20 Hr</td>
</tr>
<tr>
<td>525</td>
<td>490</td>
<td>460</td>
<td>430</td>
</tr>
</tbody>
</table>

CHARGING INSTRUCTIONS:

Crown Battery Manufacturing Company specifies the following standard battery charge profile for the CR-430 deep cycle battery when used in an electric vehicle service:

**Phase 1:** Constant Current (I1)

- I1 = highest amperage available < 100 amps
- Normal transition to Phase 2 at 2.37 Volts Per Cell.
- Safety transition to END OF CHARGE if \( \frac{dV}{dt} < 0 \) / 1 hr, \( dt = 1 \) hr.
- (NEGATIVE SLOPE).
- Timeout for Phase 1 = 10 hours.

**Phase 2:** Constant Voltage (U2) = 2.37 VPC

- Normal transition to Phase 3 if \( I2 = 15.0 \) amps or approximately
- Safety transition to END OF CHARGE if \( \frac{dI}{dt} < 0.4 \) amp / 1 hr, \( dt = 1 \) hr.

**Phase 3:** Constant Current (I3) = 15.0 amps or approximate

- Normal transition to END OF CHARGE at 115 -118% of AH returned.

PLEASE CONTACT CROWN BATTERY MANUFACTURING COMPANY TO ADVISE THE SPECIFIC CHARGE TERMINATION METHOD USED.

Timeout for charging phases 1 - 3 at 16 hours.

Temperature compensation coefficient = +/− 3 mV / °C.

Recommended Equalization Charge: Every seven (7) days. 4 additional hours at normal finish rate of 15.0 amps for 4 hours.

Safety transition to END OF CHARGE at maximum voltage of 2.7 VPC.
Effect of Battery Temperature on Battery Life

Lead acid batteries are electrochemical storage devices that store and release chemical energy upon demand in the form of electricity. By virtue of their design lead acid batteries are highly reactive to temperature – with the rate of chemical reactions that occur within the battery being affected by the operating temperature where the battery is used. Higher operating temperatures will result in faster chemical reactions within the battery – delivering improved discharge performance; conversely, cooler operating temperatures will result in slower internal chemistry. However, higher operating temperatures also result in shortened battery life as the increased rate of chemical reactions will accelerate the rate of deterioration of internal components.

Typical battery life is based upon a baseline operating temperature of 80°F / 27°C. Temperature increases of 15°F / 10°C over the baseline will cause the battery’s rate of internal chemical reactions to double – something that will reduce battery life due to the accelerated deterioration of internal components. Please contact Crown Battery to discuss any minimal requirements for battery life when operating batteries in temperatures greater than 80°F / 27°C.