Equipment for Battery Research of Coin Cell

MTI provides total solution for research of new generation rechargeable battery, supercapacitors and energy storage material. We supply whole line of desk-top lab machines from electrode coating, to coin cell crimping and following battery analysis. You can set up a research lab in one room under $20K budget.

<table>
<thead>
<tr>
<th>Rotary Furnace</th>
<th>XRD</th>
<th>Ball Mill</th>
<th>Electrode Coater</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vacuum Oven</td>
<td>Hot Electrode Roller</td>
<td>Disc Puncher</td>
<td>Coin Cell Crimper</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Humidity Controlled Glove Box</td>
<td>Electrolyte &amp; Dispenser</td>
<td>Spot Welder</td>
<td>Battery Potentiostat &amp; Analyzer</td>
</tr>
<tr>
<td>All Type Coin Case</td>
<td>Split Test Cells</td>
<td>Battery Powders &amp; Benders</td>
<td>Completed Accessories</td>
</tr>
</tbody>
</table>

If you have any question on Li-Ion battery research, please watch operation video on-line or call us 1-888-525-3070 to find a cost effective solution.
Li-ion Coin Cell Fabrication & Equipment

Step 1 Electrode Sheet Preparation

- **Furnace** to sinter raw active material (Cathode & Anode)
- **Milling Machine** to mill material to smaller particles
- **Mixer** to mixing active, conductive and binder material into paste in vacuum
- **Coater** to coat paste on current collector and attached **Heater** to dry it
- **Rolling Press (Calender)** to roll the electrode to proper thickness
- **Vacuum Oven** to bake the electrode to drive away moisture inside

Step 2 Cell Assembly

- **Disc Cutter** to cut single coated anode, cathode and separator into disc shape
- **Pressing Machine** to press (flatten) the discs and then soak them into the electrolyte in glove box with H₂O and O₂ lower than 1ppm
- **Stack the discs** by the order in the coin cell case: Cathode + Separator + Anode + Spacer(s) + Spring (Current collector from both electrodes contact to the concave side of the each case part)
- **Electrolyte Filler** to fill proper amount of electrolyte into the case
- **Crimping Machine** to crimp the coin cell so that the battery core is sealed in the case

Step 3 Battery Testing

- **Battery Analyzer** to test the coin cell’s performance and **Impedance Tester** to measure battery’s internal resistance

If you have any question on Li-Ion battery research, please watch operation video on-line or call us 1-888-525-3070 to find a cost effective solution

MTI Corporation
860 South 19th Street, Richmond, CA 94804, USA
Tel: 510-525-3070    Fax: 510-525-4705
E-mail: info@mtixtl.com    Website: www.mtixtl.com