**Equipment for Battery Research of Pouch Cell**

MTI provides complete set of desk-top equipments for making polymer Li-ion battery cell via punched aluminum laminated film at affordable cost. We have battery research labs both in California (USA) and China where to train customers to make polymer Li-ion cell by using our equipment before purchase. We also provide technical support via on-line video for worldwide customer at free of charge.

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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.

--- Since 1995

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Li-ion Pouch Battery Fabrication & Equipment

**Step 1 Electrode Sheet Preparation**
- **Furnace** to sinter raw active material (Cathode & Anode)
- **Milling Machine** to mill material
- **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

**Step 2 Cell Assembly**
- **Stacking Method**
  - **Electrode Mould Cutting Machine** to cut out electrode with lead
  - **Stacking Machine** to stack layers in form of Anode + Separator + Cathode + Separator+...
- **Winding Method**
  - **Slitting Machine** to slit electrode sheet to strip
  - **Winding Machine** to wind strips in form of Anode + Separator + Cathode + Separator+...
- **Ultrasonic Welding Machine** to first weld current collector and then tab together
- **Short-circuit Detector** to test if the cell has short-circuit
- **Vacuum Oven** to dry the cell if no short-circuit

**Step 3 Case Formation & Sealing**
- **Cup Forming Machine** to punch cup-shape and gas receiver on Aluminum lamination sheet and then place cell into the cup
- **Top & Side Heat Sealing Machine** to seal the top and shorter side after double-up
- **Electrolyte Filling System** to fill electrolyte in vacuum/glove box
- **Vacuum Primary-sealing Machine** to seal longer side (theside with gas receiver) under vacuum after electrolyte is filled
- **Battery Analyzer** to Charging/Discharge the cell to do battery formation and drive the useless gas caused by electrode chem.reaction into gas receiver (A clamp may be applied on battery to drive gas)
- Cutting off the gas receiver and **Vacuum Sealing Machine** do final sealing on the cutting edge under vacuum in glove box
- Optional step like case shape trim

**Step 4 Battery Testing**
- **Battery Analyzer** to test the battery’s performance and **Impedance Tester** to measure battery’s internal resistance

Please note: Cell here is the battery core without case and electrolyte.

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