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** to roll the electrode to proper thickness (Calendering is optional after this step)

**Step 2 Cell Assembly**

**Stacking Method**
- **Mould Cutting Machine** to cut electrode sheet to mould size

**Winding Method**
- **Slitting Machine** to slit electrode sheet to strip
- **Winding Machine** to wind strips in form of Positive + Separator + Negative
- **Ultrasonic Welding Machine** to weld positive and negative tab onto the cell
- **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 Sheet and then place cell into the cup
- **Top & Side Heat Sealing Machine** to seal the top and one side after double-up
- **Electrolyte Filling System** to fill electrolyte in vacuum/glove box
- **Vacuum Primary-sealing Machine** to seal another side under vacuum after electrolyte is filled
- **Battery Analyzer** to Charge/Discharge the cell to do battery formation and drive the useless gas caused by electrode chem. reaction into gas receiver
- Cutting off the gas receiver and **Vacuum Sealing Machine** do final sealing on the cutting edge under vacuum
- Optional step like case edge folding & 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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MTI provides complete set of desk-top equipments for making polymer Li-ion battery cell via punched aluminum laminated film at affordable cost. MTI Corp has battery research labs both in California (USA) and China where to train customers how 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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