

# **R&D Scale Cylinder/Coin/Pouch Cell Flow-Chart with MTI's Battery Equipment**

## **Material Synthesis**

1. Furnace to sinter:

[Rotary Tube Furnace with 100mm OD Quartz Tube, 1200C Max. - OTF-1200X-4-R](#)

2. Ball mill to unify grain size:

[Bench-Top Planetary Automatic Ball Mills with 4 Alumina Jars \(4x500ml\) - MSK-SFM-1](#)



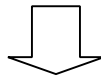
## **Slurry Mixing**

Big Size:

[Vacuum Mixer with 5L Water Cold Stainless Steel Tank and Vacuum Pump - MSK-SFM-6](#)

Small Size:

[Desk-Top Variable Speed Vacuum Mixer \(150/500ml\) with Build-in Vacuum Pump , Vibration Plate & Two Containers - MSK-SFM-7](#)



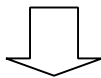
## **Coating and Drying**

Big Size:

[Automatic Battery Electrode Coating System with Slurry Feeder, Coater, Roll \(Un\)Winder and Drying Oven  
MSK-AFA-E300](#)

Small Size:

[Automatic Film Coater with Cover Heater, Vacuum Pump & Micrometer Film Applicator \(110 or 220VAC\) -  
MSK-AFA-III](#)



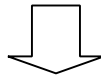
**Calendering/Pressing**

Big Size:

[300mm Width Pressure Controllable Electric Rolling Machine for Battery Electrodes MSK-HRP-E2300](#)

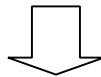
Small Size:

[Precision 4" Hot Rolling Press/Calender up to 130°C - MSK-HRP-01](#)



**Slitting (For Pouch and Cylinder Cell only)**

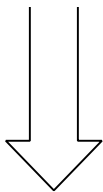
Will be available within 1 month from MTI, Item number is MSK-T-Slitting



**Drying**

[Bench-Top Vacuum Oven \(16x13x14", 53L, 250°C\) With 28 Segments Temperature Controller - EQ-DZF-6050 series](#)

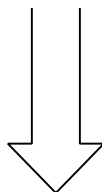
**18650 Cylinder Line**



**Tab Ultrasonic Welding**

[Desk-Top Ultrasonic Metal Welder, 40KHz, 220V - MSK-800](#)

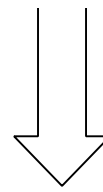
**Coin Cell Line**



**Electrode Disc Cutting**

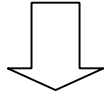
[Precision Disc Cutter with Standard 16, 19, 20 and Optional 3-24mm Diameter Cutting Die- MSK-T-10](#)

**Pouch Line**



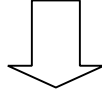
**Pouch Case Forming**

[Pouch Cell Case/Cup Forming Machine for Aluminum-Laminated Film - MSK-120](#)



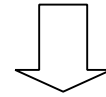
### **Winding**

[Semi-Automatic Winding Machine for Electrodes of Cylinder Cell - MSK-112A-Cylinder](#)



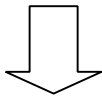
### **Glove Box**

[Large Glove Box \( 122Wx90Hx 76D, CN\) with Gas Purification System and Digital Control - EQ-VGB-6](#)



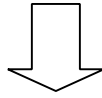
### **Electrode Die Cutting**

[Semi-Automatic Die Cutter of Electrodes for Stacking Pouch Cell MSK-180](#)



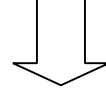
### **Deep Welding**

[Precise Pneumatic Point Welding Machine for Professional Li-on Battery Research- MSK-330A](#)



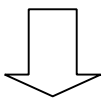
### **Electrolyte Injection (in glove box or dry room)**

[Bottletop Electrolyte Digital Dispenser with 1000mL Stainless Steel Bottle: 1- 10 ml adjustable -BD-10ML](#)



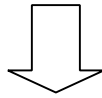
### **Tab Ultrasonic Welding**

[Desk-Top Ultrasonic Metal Welder, 40KHz, 220V - MSK-800](#)



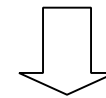
### **Case Grooving**

[Desk-top Semi-Auto Grooving Machine for 18650 Cylinder Cell - MSK-500-18650](#)



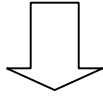
### **Coin Cell Crimping**

[Compact Hydraulic Crimping Machine: One for All Button Cells of CR2016 , CR2025 & CR2032 and Optional Die for CR2325 or CR2450 -- MSK-110](#)



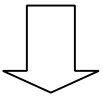
### **Electrode Stacking**

[Semi-Automatic Stacking Machine for Pouch Cell - MSK-111A](#)



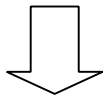
**Glove Box**

[Large Glove Box](#)  
[\( 122Wx90Hx 76D, CN\)](#)  
[with Gas Purification](#)  
[System and Digital Control](#)  
[- EQ-VGB-6](#)



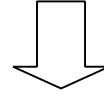
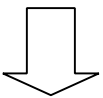
**Electrolyte Injection (in glove box or dry room)**

[Bottletop Electrolyte Digital](#)  
[Dispenser with 1000mL](#)  
[Stainless Steel Bottle: 1- 10](#)  
[ml adjustable -BD-10ML](#)



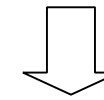
**Vacuum Standing (in glove box or dry room)**

[Vacuum Standing Box for](#)  
[Professional Li-on Battery](#)  
[Research- MSK-170](#)



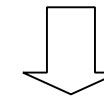
**Heat Sealing**

[Compact Heating Sealer for](#)  
[Sealing Pouch Cell](#)  
[Laminated Aluminum Case-](#)  
[MSK-140](#)



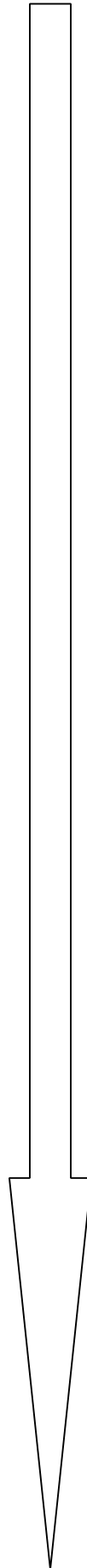
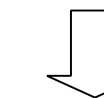
**Glove Box**

[Large Glove Box](#)  
[\( 122Wx90Hx 76D, CN\)](#)  
[with Gas Purification](#)  
[System and Digital Control](#)  
[- EQ-VGB-6](#)



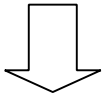
**Electrolyte Injection (in glove box or dry room)**

[Bottletop Electrolyte Digital](#)  
[Dispenser with 1000mL](#)  
[Stainless Steel Bottle: 1- 10](#)  
[ml adjustable -BD-10ML](#)



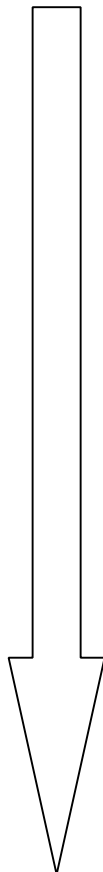
**Case Crimping (in glove box or dry room)**

[Desk-top Hydraulic Sealing Machine for 18650 Cylinder Cell MSK-510-18650](#)



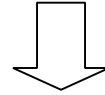
**Formation**

[8 Channels Battery Analyzer \(6-3000mA, up to 5V\) with Laptop and Software for R&D all Rechargeable Cells -BST8-3](#)



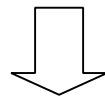
**Vacuum Standing (in glove box or dry room)**

[Vacuum Standing Box for Professional Li-on Battery Research- MSK-170](#)



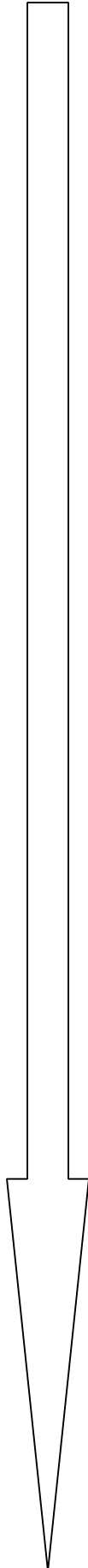
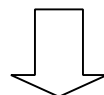
**Vacuum Heat Sealing (Primary Sealing)**

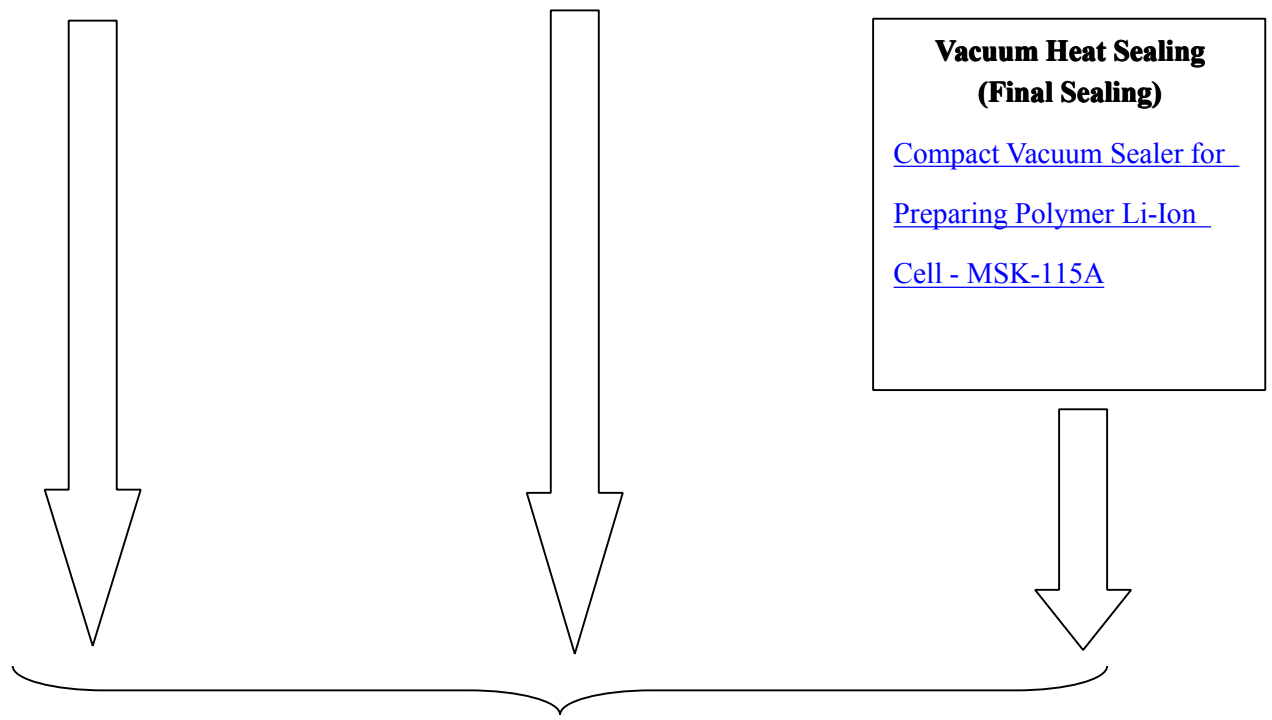
[Compact Vacuum Sealer for Preparing Polymer Li-Ion Cell - MSK-115A](#)



**Formation**

[8 Channels Battery Analyzer \(6-3000mA, up to 5V\) with Laptop and Software for R&D all Rechargeable Cells -BST8-3](#)





**Testing**  
[8 Channels Battery Analyzer \(6-3000mA, up to 5V\) with Laptop and Software for R&D all Rechargeable Cells -BST8-3](#)

Note:

Battery consumables like coin/cylinder cell case or pouch cell case material are not included in above flow-chart, please visit <http://www.mtixtl.com/batterycapacitorequipment.aspx>

Both the products and fabrication process from MTI are subject to change without notice, please visit our website for the update; if you have any questions, please call us at 1-510-525-3070 or email to [info@mtixtl.com](mailto:info@mtixtl.com).