

Cylinder Cell Production Line Quotation

SHIP TO: BILL TO:

Item	Description	Qty.	Unit Price	Ext. Amount
1	1200°C Split Tube Furnace with Vacuum Flanges & Optional Quartz Tube 80mm, 208-240VAC, Single Phase,50/60Hz - OTF-1200X-80 -Utility: Sintering and synthesizing electrode powder -Necessary	1	\$5,000.00	\$5,000.00
	-Alternative: 1. All MTI's furnace can be used for powder sintering http://www.mtixtl.com/tubefurnaces.aspx 2. Strongly suggest "Rotary Furnace" for best sintering result http://www.mtixtl.com/rotarytubefurnaces.aspx			
2	Bench-Top Planetary Automatic Ball Mills with 4 Alumina Jars (4x500ml), 208-240VAC, Single Phase,50/60Hz - MSK-SFM-1 -Utility: Ball mill for electrode powder -Necessary	1	\$5,900.00	\$5,900.00
	-Alternative: Mill for smaller quantity (MSK-SFM-3, \$2,900.00): http://www.mtixtl.com/sfm-3desk- tophighspeedvibratingballmillwith80mlstainlesssteeljar.aspx			
3	Vacuum Mixer with 5L Water Cold Stainless Steel Tank and Vacuum Pump, 208-240VAC, Single Phase,50/60Hz - MSK-SFM-6 -Slurry mixing/stirring under vacuum -Necessary	1	\$5,000.00	\$5,000.00
	-Alternative: Mixer for smaller quantity (MSK-SFM-7, \$2,600.00): http://www.mtixtl.com/Desk-TopSteplessSpeedVariationVacuumMixer500-1000mlwithBuild-inV.aspx			
4	Automatic Film Coater with Cover Heater, Vacuum Pump & Micrometer Film Applicator, 208-240VAC, Single Phase,50/60Hz- MSK-AFA-III -Utility: Electrode slurry coating on substrate (current collector) -Necessary	1	\$7,000.00	\$7,000.00
	-Alternateive: For larger scale production (MSK-AFA-E300, \$65,000.00): http://www.mtixtl.com/AutomaticBatteryElectrodeCoatingSystemwithSlurryFeederCoaterRoll.aspx			
5	Precision 4" Hot Rolling Press/Calender up to 130°C, 208-240VAC, Single Phase,50/60Hz - MSK-HRP-01 -Utility: Calendering the coated electrode -Necessary	1	\$8,600.00	\$8,600.00
	- Alternative: For bigger calendering size (MSK-HRP-02, \$13,000.00): http://mtixtl.com/BenchTopPrecisionAutomaticHeatingRollingPress-MSK-HRP-02.aspx			

	1			
6	Semi-Automatic Slitting Machine for Electrodes of Cylinder Battery - MSK-CSE-300 -Utility: Cutting/slitting the electrode to proper size/shape for easy winding -Neccessary available in MTI	1	\$12,000.00	\$12,000.00
	Alternative: No alternative			
7	Desk-Top Ultrasonic Metal Welder, 40KHz, 110VAC or 208-240VAC, Single	1	\$22,000.00	\$22,000.00
,	Phase,50/60Hz - MSK-800 -Utility: Welding tab onto current collector and welding layers of current collector together -Necessary	1	\$22,000.00	\$22,000.00
	Alternative: No alternative, spot weledering machine is not suitable			
8	Bench-Top Vacuum Oven (16x13x14", 53L, 250°C) With 28 Segments Temperature Controller, 110VAC or 208-240VAC, Single Phase,50/60Hz - EQ- DZF-6050	1	\$1,900.00	\$1,900.00
	-Utiltiy: Drying the electrode under vacuum before pouch cell assembly -Necessary			
	Alternative: No alternative			
9	Semi-Automatic Winding Machine for Electrodes of Cylinder Cell,110VAC or 208-240VAC, Single Phase,50/60Hz - MSK-112A-Cylinder	1	\$3,000.00	\$3,000.00
	-Utility: Winding the Anode+Separator+Cathode to cylinder shape as cell core -Necessary			
	Alternative: Manual winding by researcher (Layers alignment and contact may be very bad if by manual winding)			
10	Precise Pneumatic Point Welding Machine for Professional Li-on Battery Research, 208-240 V, Single Phase 50/60Hz- MSK-330A -Utility:	1	\$3,500.00	\$3,500.00
	Welding the tab from anode to the bottom end inside the case by deeply inserting the welding head into the case Welding the tab from cathode to the cap coming from the top end of the case			
	3. Welding the terminal for postive and negative of the battery for testing connection			
	-Necessary			
	Alternative: No alternative			
11	Desk-top Semi-Auto Grooving Machine for 18650 Cylinder Cell, 110VAC or 208- 240VAC, Single Phase,50/60Hz - MSK-500-18650 -Utility:	1	\$8,000.00	\$8,000.00
	Grooving the case to fix the cell core Leaving the part above grooving as crimping part Necessary			
	Alternative: No alternative			
12	Large Glove Box (122Wx90Hx 76D, CN) with Gas Purification System and Digital Control, 208-240VAC, Single Phase,50/60Hz - EQ-VGB-6 -Utility: Offering environment with H2O<10ppm (the lower the better) to inject electrolyte, cell vacuum standing and case crimping -Necessary	1	\$32,000.00	\$32,000.00
	Alternative: Dry Room with H2O<-40C.D.P (MTI does not provide dry room, please contact a individual supplier)			

13	Bottletop Electrolyte Digital Dispenser with 1000mL Stainless Steel Bottle: 10 ml adjustable - BD-10ML -Utility: Injecting electrolyte into the pouch cell -Necessary	1- 1	\$500.00	\$500.00			
	Alternative: Simply by syringe injection						
14	Vacuum Standing Box for Professional Li-on Battery Research, 208-240VA Single Phase,50/60Hz - MSK-170 -Utility: 1. Vacuuming the air out of the cell after electrolyte injection	C , 1	\$6,700.00	\$6,700.00			
	The electrolyte will be completely absorbed by the layers and the layers contact very well under vacuum environment Neccessary but often ignored by researcher	will					
	Alternative: No alternative						
15	Desk-top Hydraulic Sealing Machine for 18650 Cylinder Cell - MSK-510-186 -Utility: Crimping the cell in glove box after electrolyte injection -Necessary	550 1	\$5,500.00	\$5,500.00			
	Alternative: No alternative						
16	8 Channels Battery Analyzer (6-3000mA, up to 5V) with Laptop and Softwa for R&D all Rechargeable Cells,110VAC or 208-240VAC, Single Phase,50/6 BST8-3 -Utility: 1. Activating the battery after crimping (cell formation) 2. Doing charge/discharge cyclying to determine battery's condiction like capacity,cycle life and efficiencyNecessary		\$3,000.00	\$3,000.00			
	Alternative if different current/voltage requirement (1uA-10A/5V-50V, other rangustomizable): http://www.mtixtl.com/batterytestingsystems.aspx	ge is					
			OB US 94804)				
	LTL Freight shipping and in		ng and handling 4804 to customer	TBD TBD			
			Total Amount	TBD			
Issued		Date	XX/XX				
Delive	Delivery: 2-4 weeks after receipt of your order and payment if all equipments in stock 6-8 weeks after receipt of your order and payment if some equipments out of stock						
Both product availability and price are subject to change v before the receipt of PO							

Please Note:

- 1. This quotation is created for customer's budget planning on setting up a cylinder cell R&D lab, please contact us and ask for a real quotation according to your specification and maximize the cost performance.
- 2. This quotation does not include consumbles like cases and tapes, please visit our web http://www.mtixtl.com/batterycapacitorequipment.aspx for details.
- 3. The products with price in this quotation are subject to change without notice, please contact MTI for update.

Thanks and Regards