POUCH LI-ION CELL PILOT ASSEMBLY LINE

Want to Make Your Own Pouch Li-Ion Cells on a Budget? Solith Has the Right Solution.
POUCH LI-ION CELL PILOT ASSEMBLY LINE

Designed for start-up and pilot production of pouch cells, with dimensions suitable for EV and Energy Storage applications. The line features an efficient and user-friendly tool to develop new cell sizes and test different chemistries with high quality standards.

POUCH LI-ION CELL PILOT ASSEMBLY LINE

EPM SERIES - ELECTRODE PUNCHING MACHINE
This machine punches the electrodes from a coated roll in an automatic process which reduces the workforce needed for its operation. The tolerance on the cutting tool (in the micron range) allows a precise cut without burrs and with very precise dimensions.

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EFM SERIES - ELECTROLYTE FILLING MACHINE
This machine performs electrolyte dispensing under vacuum and pouch sealing. Dispensing cycles with multiple vacuum levels on the same recipe can be applied to speed up the soaking process. Different filling recipes can be programmed and saved through an HMI. The machine can be equipped with a degassing function as an option.

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BFM SERIES - BLISTER FORMING MACHINE
It is designed for production of single cavity blister pouches for Li-Ion cells from a roll of packaging material.

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DSM SERIES - DEGASSING AND SEALING MACHINE
This machine performs the sealing under vacuum of pouch cells. Sealing is carried out under vacuum to remove gases developed by lithium cell reactions during the formation cycle. Degassing and pouch trimming operations are performed in two separate modules for better maintenance and process control.

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PSM SERIES - POUCH SEALING MACHINE
The PSM is designed for sealing the blister pouch of Li-Ion cells. A trimming station allows the operator to cut the extra pouch material after sealing has been completed.

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ZFS SERIES - Z-FOLD STACKER
This piece of equipment creates cell stacks. The stacking of anode, cathode, and separator is performed automatically with high precision and repeatability. The separator is unwound from roll with tensioning and alignment controls, while electrodes are picked up from trays.

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TWTM SERIES - TAB WELDING & TRIMMING MACHINE
The TWTM trims stacked electrode current collectors and welds final tabs to anode and cathode of the cell stack. During the welding phase, stacked tabs are maintained in the correct position thanks to specific tools. To weld larger cells or tabs, only horn and anvil of the welding unit need to be replaced, and a dedicated tool needs to be adapted to the new stack and tab sizes.

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POUCH LI-ION CELL PILOT ASSEMBLY LINE
SEPARATOR

KEY FEATURES AND BENEFITS

- Compact footprint: SMALL DIMENSIONS, EASY INSTALLATION
- Smooth tool changing: EASE OF CONFIGURATION WITH SIMPLE INTERFACE
- High quality/price ratio: GOOD AUTOMATION LEVEL AND PRECISION WITH AFFORDABLE INVESTMENT
- Complete solution suitable for pilot production and lab installation: CELL ASSEMBLY PROCESS FROM A TO Z

1. EPM - ELECTRODE PUNCHING MACHINE
2. ZFS - Z-FOLD STACKER
3. TWTM - TAB WELDING & TRIMMING MACHINE
4. BFM - BLISTER FORMING MACHINE
5. PSM - POUCH SEALING MACHINE
6. EFM - ELECTROLYTE FILLING MACHINE
7. DSM - DEGASSING AND SEALING MACHINE

CATHODE
ELECTRODE PUNCHING
Z-FOLDING AND STACKING
TAB WELDING
ELECTROLYTE FILLING
FORMATION AND AGEING
ANODE

The information contained in this leaflet is for illustration purposes only and may be subject to changes.