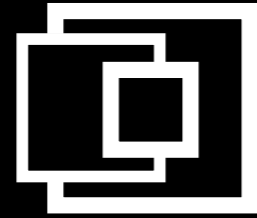


Osai Automation Systems



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Modular • Configurable • Scalable • Flexible

LASER AND AUTOMATION FOR BATTERIES

CELLS SORTING AND STACKING



The system picks the cells from an input media (eg. carton box) and places them by polarity.
The cells will be electrically tested to be sorted, then positioned according to the quality.

KEYPOINTS

Suitable for

Any Li-Ion Battery cells format: cylindrical, pouch, prismatic

Module assembling

Cells sorted into classes, according to their voltage

Full traceability

Test report logging



GLUE AND THERMAL PASTE DISPENSING



The system is capable of dispensing the glue and the heat conducting paste among the cells.
The optical control and UV curing are integrated.

KEYPOINTS

Flexible solution

for dispensing on modules with different shapes

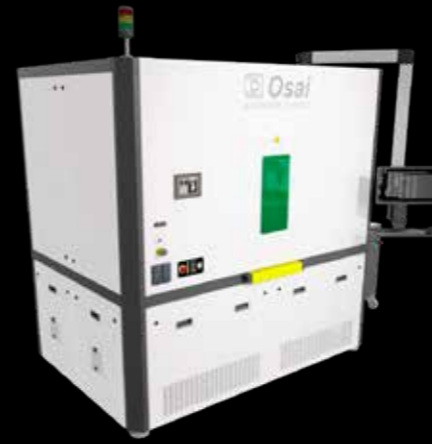
Easy change

of volumetric glue/past dispensing valve

High accuracy

+/- 5um

LASER WELDING AND CLEANING



This Laser equipment can be configured with the most suitable source, process monitoring, process head, and vision system.
Various Laser welding techniques can be used. Motion axes customizable in terms of size and payload.

A flip device can be integrated to process both sides of the module automatically.

KEYPOINTS

Customizable for

Any Battery module and packs geometry for welding and/or cleaning purpose

Laser

CW and pulsed Fiber, single mode even with adjustable beam mode

Process monitoring

The system can be equipped with an in-line optical monitoring device

High accuracy

Precise positioning thanks to the high repeatability of the axes and the vision system for offset correction



BUS BARS PICK & PLACE



According to the connection diagram of the module, the system, guided by a vision system, will place the bus bars to be welded above the contacts of the cells and will check their position, preparing them for welding.

KEYPOINTS

Flexible solution

for bus-bar handling on modules with different shapes

Optical check

OIS (Osai Inspection System) for accurate positioning

High accuracy

+/- 5um



MODULE EOLT: ELECTRICAL FINAL TEST AND COOLANT CIRCUIT LEAK TEST



The test bench is equipped with a custom rack for the electric test and a leakage tester.
The connection could be automatic or manual. All the test results can be placed in local storage or sent to MES.

KEYPOINTS

Voltage measuring by single cell and by module

Internal resistance DC/AC

Capacity measuring

Insulation test up to 6000 VDC

Module IR AC & DC measuring

Charge/Discharge test

BMS functional test

Cooling system leakage test $\Delta P/ \Delta T$ up to 10bar

