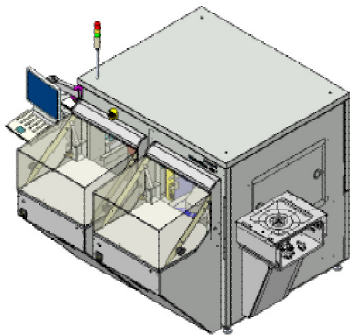


CHAD WaferMate450™

Automate Your Wafer Level Process

The Chad **WaferMate450™** is a highly configurable BOLTS compatible robotic wafer-handling cell that mates high performance with cost competitiveness.

The **WaferMate450™** pairs expertly with all types of process tools and environments. The standard system comes with a typical real load configurations. For BEOL (back-end-of-the-line) such as wafer level packaging, the **WaferMate450™** is configured with side handoff for traditional conveyor-style layouts such as screen printers, bonders, dispensers, inspection and plasma tools. CHAD's systems are often paired with more than one tool.

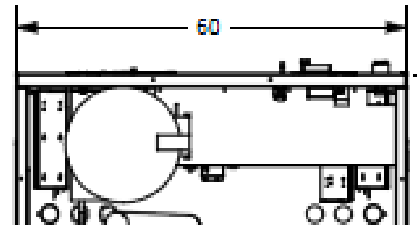


As a class-1 clean FEOL (front-end-of-the-line) EFEM, the **WaferMate450™** includes all applicable mini-environment components, E84 compliance, and rear hand-off.

CHAD's systems are made highly effective with **WaferWare™**, a third-generation Semi E93-1101 compliant software suite that allows wide-ranging application and GUI control.



CHAD's highly responsive project and engineering teams typically guide the specification process, and develop geometry and throughput models to meet each system's specific needs. This approach allows for optimized space, throughput and cost efficiency.



The **WaferMate450™** features reliable, absolute encoder, DC Servo motor, 4-axis robots. These robots utilize fluid-magnetic seals, which provide stand-alone ISO class-1 cleanliness, and enjoy a worldwide install base in the tens of thousands.

The robots are fitted with a range of end effector technologies, including vacuum, Bernoulli, edge grip and special components for thin or warped wafers. Robot mounted thru-beam mappers and reflective mappers can also be deployed if required.



The **WaferMate450™** is a 450mm automation platform that can be adapted for 300mm wafers as well providing the capability to be a bridge 450mm to 300 mm bridge tool.

FOR MORE INFORMATION:

Chad Industries, Inc.
1565 S Sinclair Street
Anaheim, CA 92806

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WEB: www.chadindustries.net



CHAD WaferMate450™

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Performance Specifications

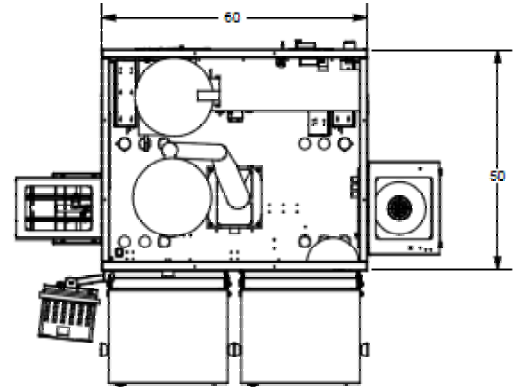
- Wafer alignment to $\pm 0.05^\circ$
- Wafer Placement $\pm 50\mu\text{m}$
- 180 wafers per hour
- Up to ISO class 1 (optional)
- Full SEMI compliance
- MTBF 60,000 hrs

Standard Accessories

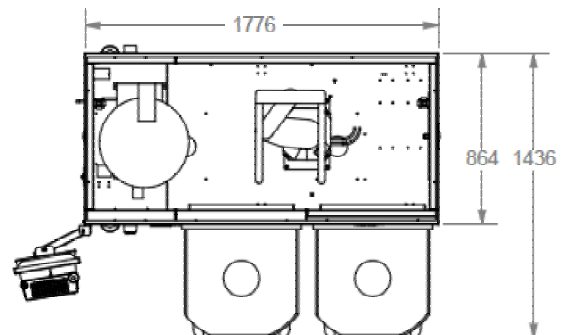
- FOUP Opener
- Aligner
- OCR
- Barcode
- FID
- Mini environment
- Ionization bars
- Wafer Conveyor / oven interface
- SMEMA interface
- SECS/GEM interface
- See CHAD's 'Robotic Wafer Handler Worksheet' for full options listing.
Available online at www.chadindustries.net

Facilities Requirements (approximate)

- 220VAC $\pm 10\%$ @ 50/60 Hz
Single Phase 3 wire
- 20 amps
- VAC 24mmHG @ 1lpm (and/or)
- CDA 90psi @ 2lpm



Side Load



Rear Load

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