

Modular Robotic Wafer Processing Platform



Small Footprint –6-axis manipulation minimizes footprint

Multiple Operations –Many tasks performed in one “turnkey” work cell

Large Capacity –1/2-hour to 8-hour “walk away” continuous run

Ultra Thin Wafers –60 micron “flexible wafer” compatible

High Throughput –Parallel processing / “Quick Swap” available

Accuracy – 6-axis encoder feedback and vision correction

Reliable –Industrial, production-proven, name brand subsystems

Accessible–Easy access to instruments for manual runs or maintenance

Flexible and Adaptable

- Compatible with a wide variety of instruments , wafers and processes
- Re-configurable in the future for instruments, wafers and operations that may not be foreseen at the time of the **WaferFlex™** purchase
- Modular and upgradeable as processes and wafers evolve over time
- Cohesive software packaged adaptable to various instruments

WaferFlex™ Shown Configured For Vision

Inspection, Die Marking and Wafer Packaging

Broad Ranging Features (Standard and Optional)

Ultra thin, flexible wafers (60 micron) • Irregular/Warped (1cm concave) wafers • Extended Run Capacity • Cleanroom Enclosure • Machine Vision Inspection for Surface Defects • Low Cost Versions Available for Simple Wafer Transfer / Loading Operations • Advanced **WaferGuide™** Software and System Integration Package • Database Management • Touch Screen • Intuitive, Graphical User Interface • Non-Contact, Low Contact and Full Contact End Effectors • 6-axis, 4-axis or Cartesian Robotics • Shipping Material Handling • Wafer ID and Tracking (Marking, Reading and Data Import/Export/Management) • Configurable / Adaptable to new customer's unique process requirements

SSI Robotics introduces the future of wafer processing and semiconductor automation...The New **WaferFlex™**. This cutting-edge design combines accuracy, reliability, versatility and space savings at a low price per operation performed within the system. The **WaferFlex™** has advanced capabilities such as ultra thin/warped wafer compatibility, handling of wafer packing materials, surface defect inspection, and vision/laser sensor feedback to prevent errors. The adaptability and modular style enables future upgrades to avoid obsolescence and extend the useful life of the system. The 6-axis articulated arm allows for a wide variety of motions and operations. The result...trouble-free operation and peace of mind.



Wafer Compatibility

All known diameters.
Thickness down to 60micron (< 60 micron is optional)

Throughput

Dependent on instrument processing time
(Contact SSI Robotics for your specific Process Throughput Study)

Operations Performed

Wafer Transfer
Surface Inspection
Individual Die Marking (Ink or Laser)
Wafer Packaging
Data Management
3rd Party Equipment Loading/Unloading
Customer-Specific Requests

Control

WaferGuide™ Software Package
Intuitive, Graphical User Interface
8-Inch Touch Screen (optional)
Windows 2000 Operating System
400 MHz CPU

Robotics

6-Axis Articulated Arm (Version A)
4-Axis Scara Arm (Version B)
Additional Cartesian Axis (Optional)

End Effector

Gripper
Non-Contact (Optional)
Quick-Swap Dual Effector (Optional)

Input/Output/Capacity

Cassettes, Shipping Containers...
Mechanized Means: Conveyors...(Optional)

Handling/Sorting

Binning
Laser Sensor Jam Prevention/Detection

Tracking

Wafer Map Integration (Standard)
Bar Code Reader (optional)

Environment

Ambient (Standard)
Class 100 rating (Optional)
-Positive pressure, HEPA filtered air inside the enclosure
-Filter rated 99.99% efficient for 0.3 microns particles
Additional Cleanroom Ratings (Optional)

Dimensions

W	137cm (54in) min
D	137cm (54in) min
H	183 cm (72in) min

Weight

225 kg (500 lb) min

Facilities

Power: 120VAC, 60 Hz, 15 Amps
Air: 6.9bar (100psi) @ 2.3 LPS (5 CFM)
Dry and filtered @ 5 micron or better

Note: Specifications may vary from the typical values specified above due to custom adaptation to each specific process