



EQUIPMENT & ACCESSORIES

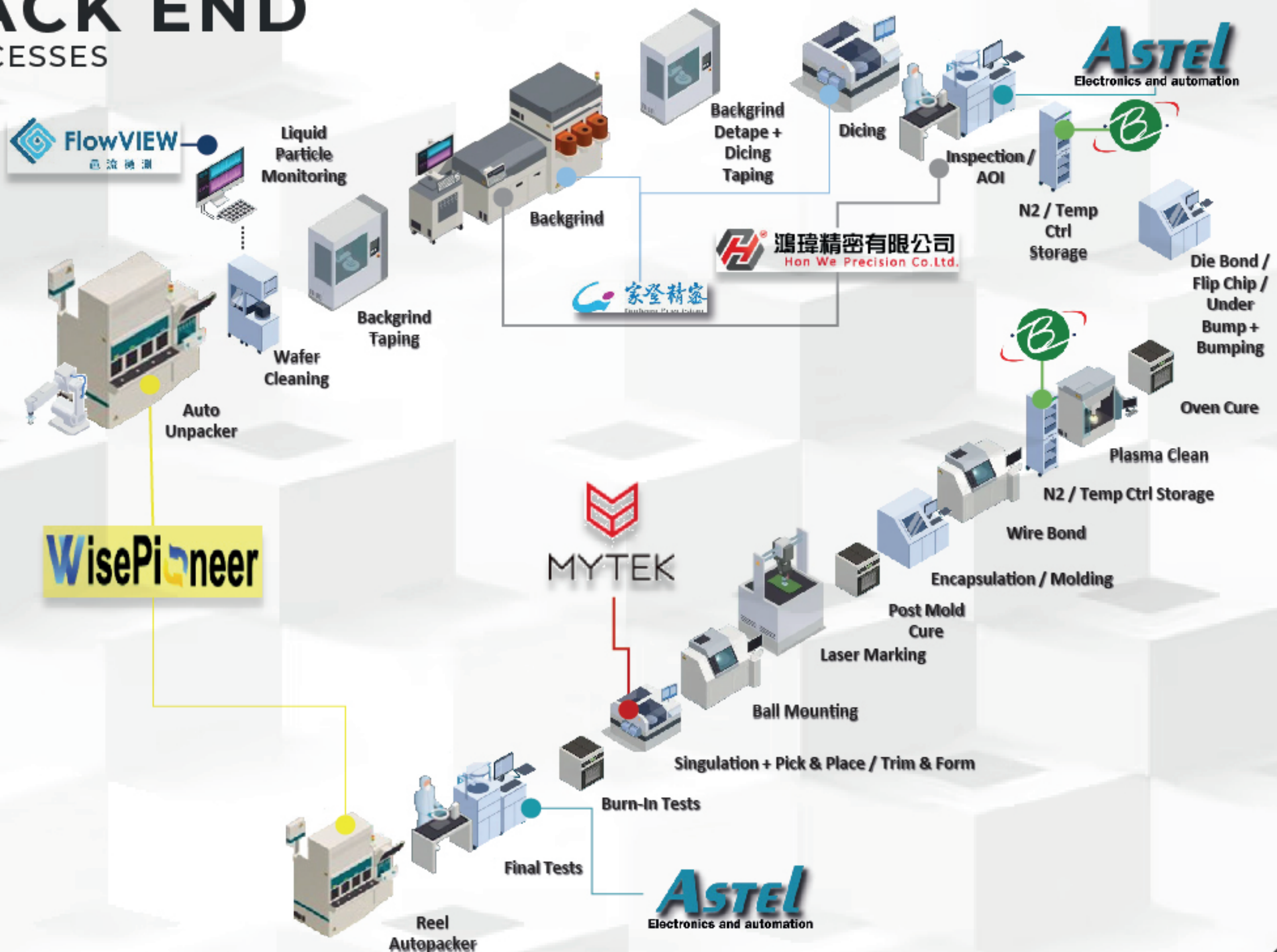
@ C L E A N R O O M

DOU YEE
E N T E R P R I S E S

FRONT END PROCESSES



BACK END PROCESSES



WAFER BATCH TRANSFER SYSTEMS

THE MOST RELIABLE WAY TO TRANSFER YOUR WAFERS

WAFER BATCH TRANSFER & SORT EQUIPMENT



TableTop Sorter

- Single 6 Inch / 8 Inch Horizontal Sorting
- 2 Load Ports With Automatic Mapping
- Notch / Flat Aligner

Gemini / Aligner

- Wafer Batch Transfer 6 Inch / 8 Inch Cassette To Cassette
- Single Port
- Notch / Flat Aligner
- Secs / Gem Available



Gemini Standalone



Gemini SECS/GEM

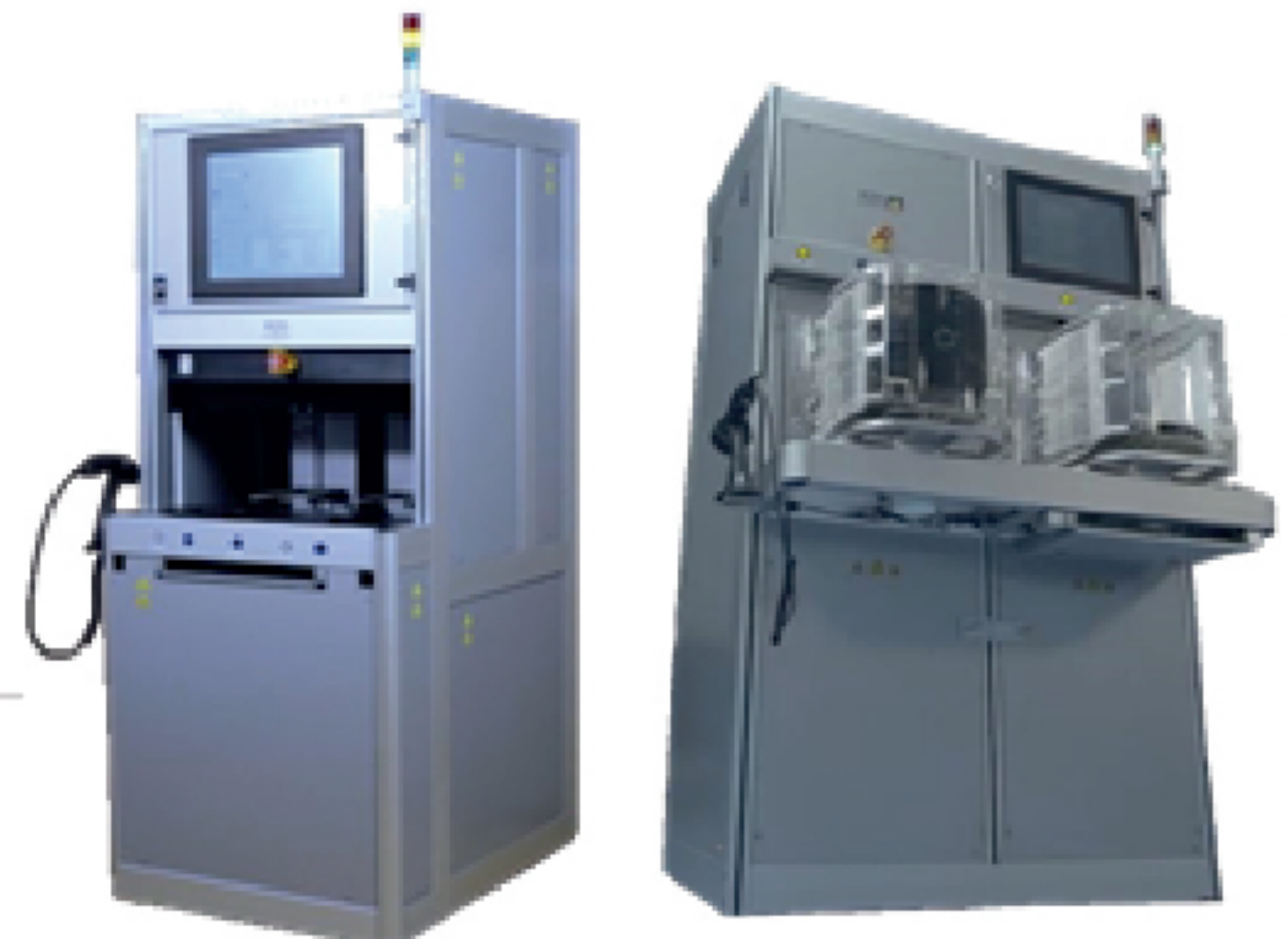


Comet Substrate

- 25 To 25 Batch Transfer
- Suitable For Glass And Other Substrates
- Panel Level Packaging, CMOS Image Sensors, MicroLED

Comet Sorters OCR

- 6 / 8 Inch Or 12 Inch
- Optical Aligner & OCR System
- Automatic Wafer Mapping
- Pre-programmed Or Customized Recipes



Sorter

WAFER HANDLING & INSPECTION SYSTEMS

ADVANCED TECHNOLOGIES WITH SMALL FOOTPRINT

WAFER HANDLING & INSPECTION SYSTEMS



MIL8000 Wafer Inspection System

- Wafer Front & Back Macro Inspection
- Up To 8 Inch Wafers
- Contactless Handling
- Suitable For Thin Wafers

MIL12000 Wafer Loader Inspection System

- FOSB / FOUP Handling
- 12 Inch Wafers
- Automatic Wafer Mapping, Cross Slot & Wafer Protrusion Detection

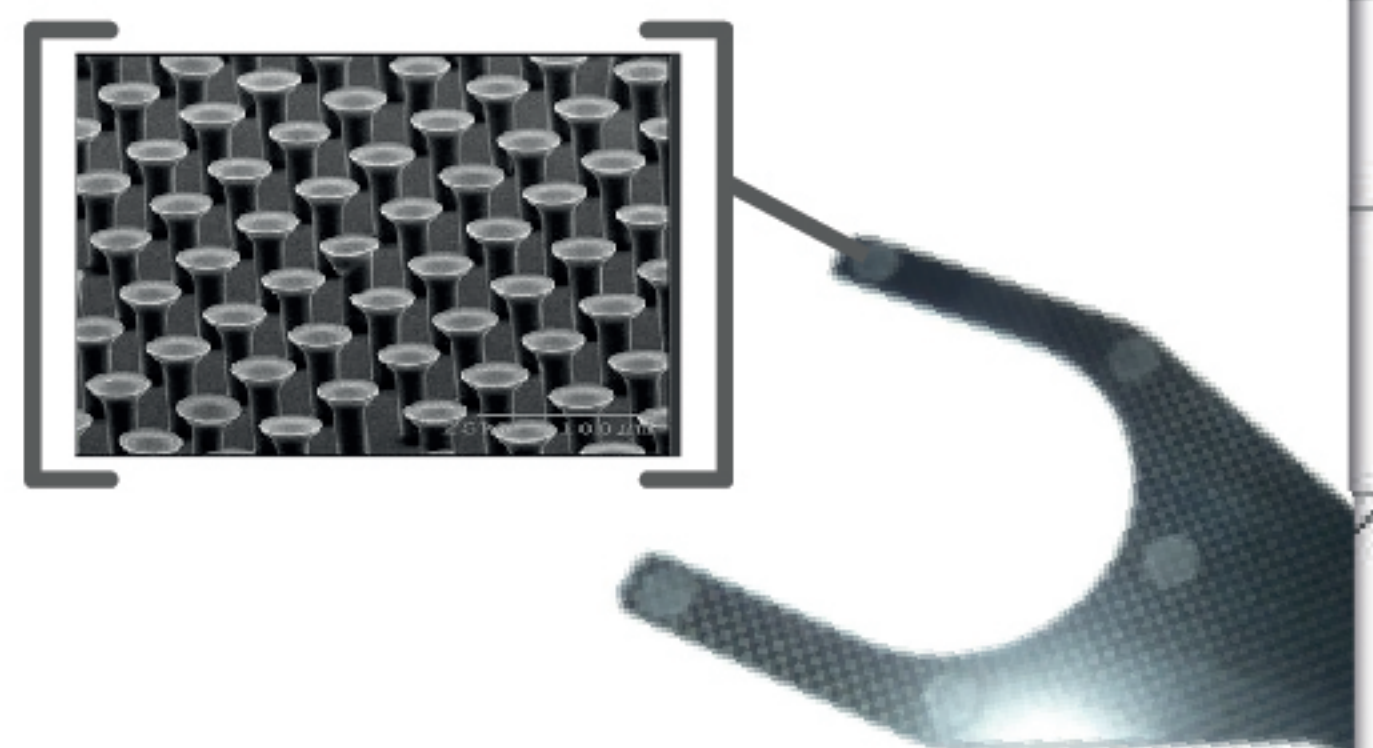


FML8000 Ring Frame Wafer Loader

- Micro Inspection Of 6 / 8 Inch Dicing Frame Wafers

Customizable Vacuumless Carbon-Fiber End Effector

- For Wafer Handling
- Suitable For Tight Vertical Spaces
- Wafer Removal During Equipment Recovery
- Patented Nanotechnology Dry Adhesive



CASSETTE & JIGS CLEANING SYSTEM

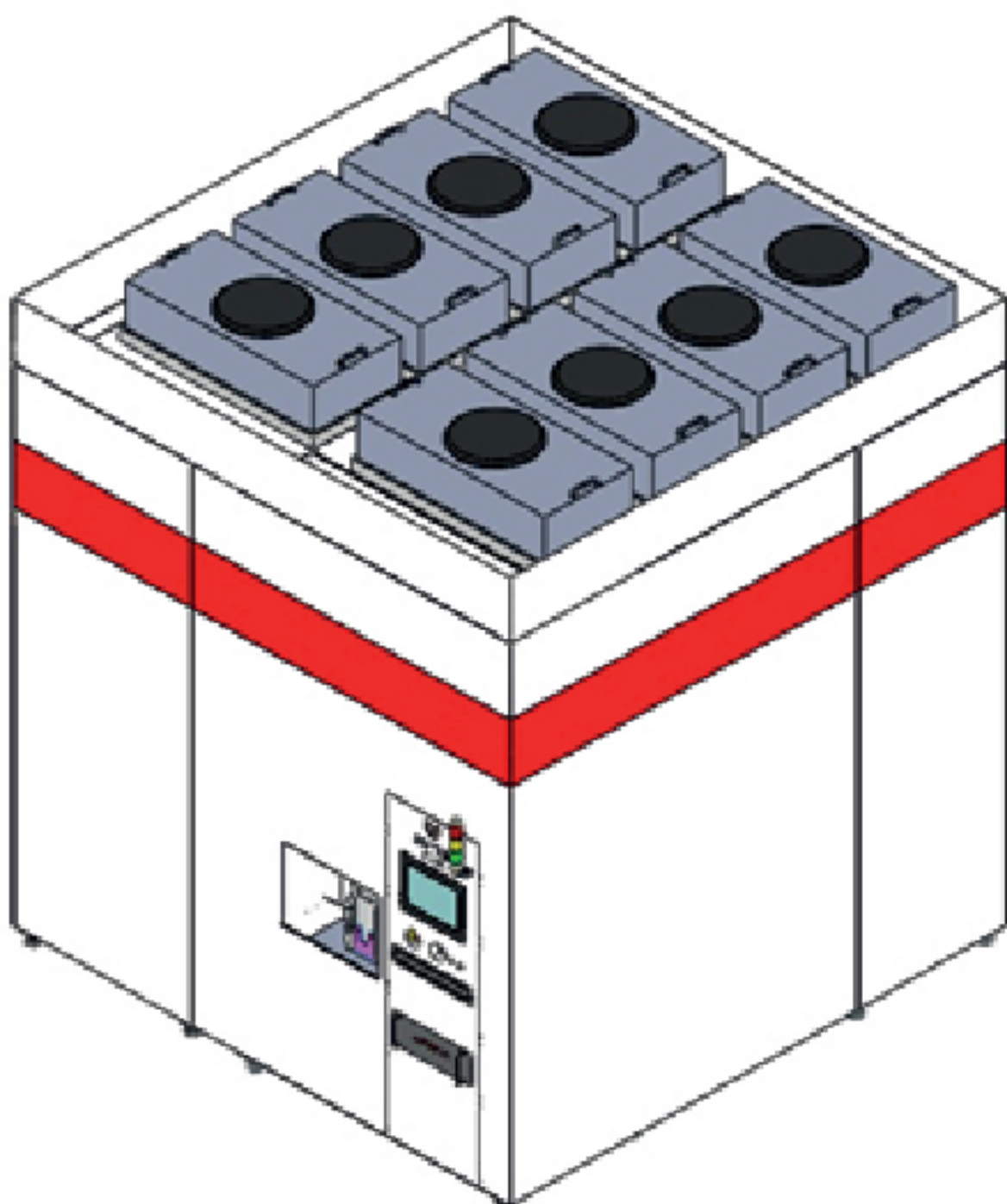
ONE WASH PER DAY KEEPS THE CONTAMINATION AWAY

WAFER CASSETTE CLEANING SYSTEMS



MYFC-S500 Foup / FOSB Cleaning System

- Semi-Automatic
- Hot DI Water Wash & Hot CDA / N2 / IR Dry
- 30 min Cycle for Foup / FOSB / Cassette / Magazine
- Customizable For Lead Frame Cassettes And Others
- Mixed Configuration Possible With Interchangeable Baskets
- ISO Class 5



MYFC-1500 Foup / FOSB Cleaning System

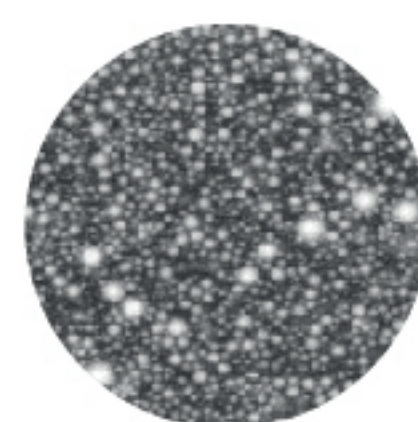
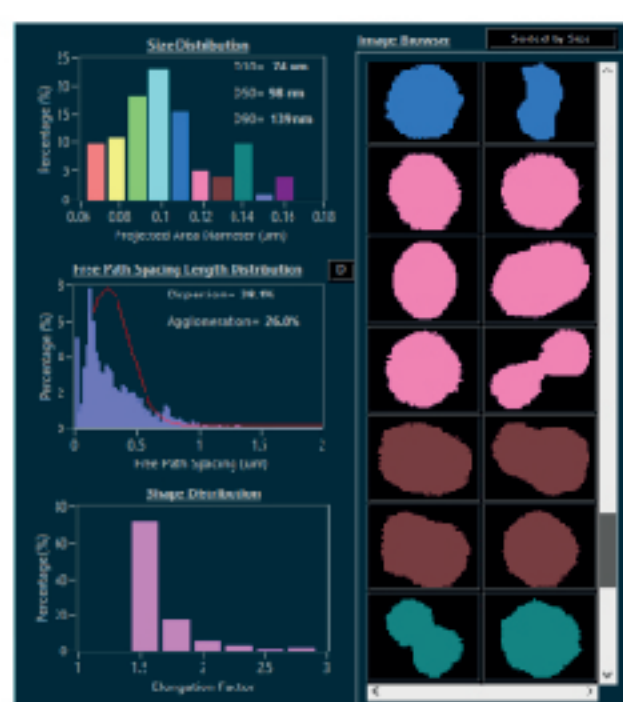
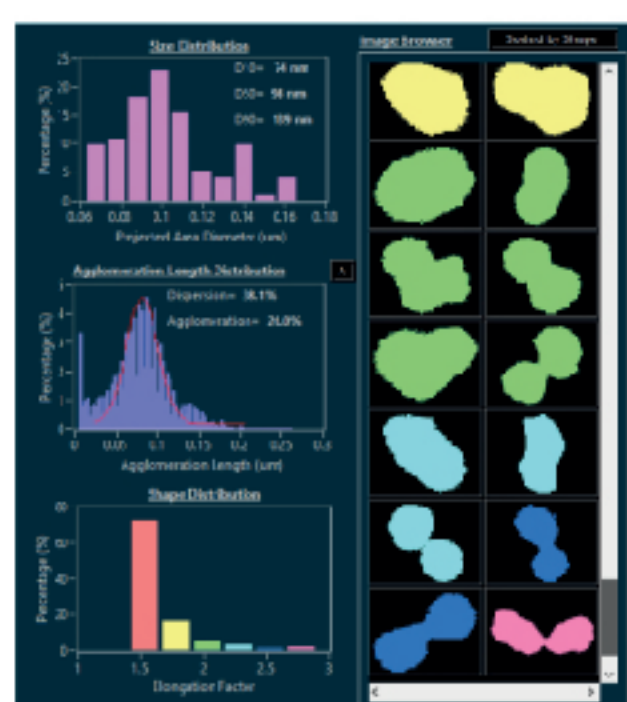
- Fully Automatic
- 6-Axis Self-Clean Robot
- 20 Min. Cycle / Cassette
- ESD, Humidity & Contamination Control
- ISO Class 2

REVOLUTIONARY REAL-TIME LIQUIDS MICROVISION THE TECHNOLOGY THAT UNLOCKS TOMORROW'S SECRETS TODAY

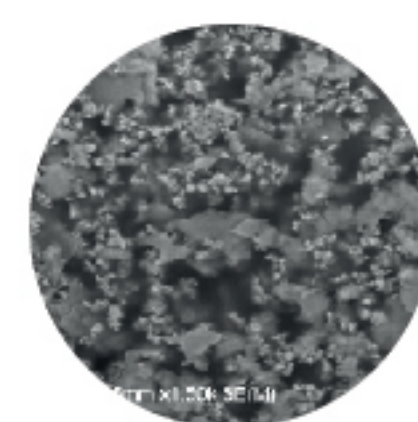
LIQUID PARTICLE IMAGER & COUNTER

Lab Starter Kit With Analysis Software

- Failure / Manufacturing / Material Analysis
- Compatible with SEM / TEM / EDS
- Captures Particle Images In Liquid State
- Auto-Generated Graph Reports
 - Particle Size & Shape Recognition
 - Particle Count



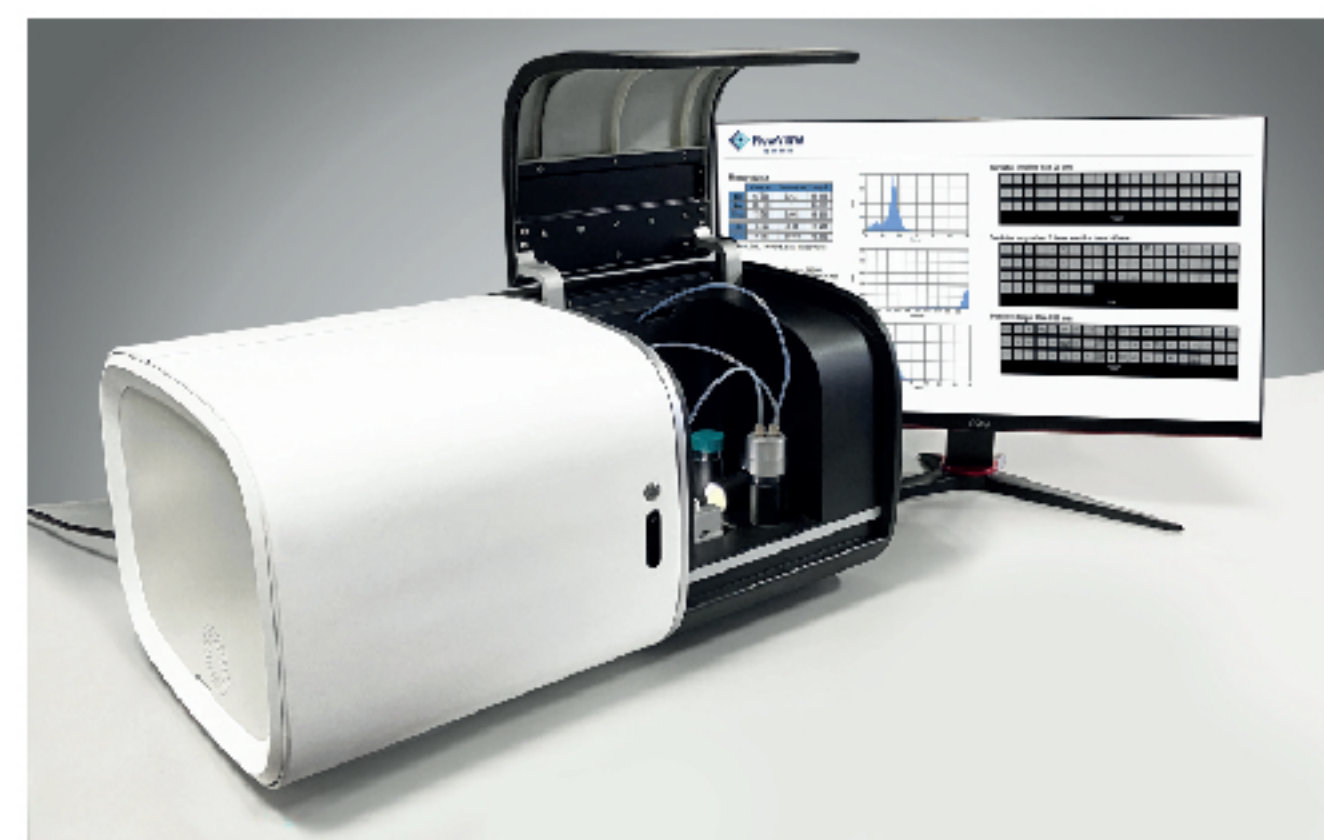
CMP SiO₂ Slurry



Conducting Silver Paste

AI Imager Particle Counter

- Deep Learning AI Mass Particle Imaging Classification With Auto-Generated Graph Reports
- Particle / Microbe Identification, Size & Count



Multi-Channel Liquid Particle Counter

- In-Line Smart Early Warning System
 - Use with Main Processing Equipment for CMP, Wet Etch and other Applications
 - Automated Detection of Particles in Incoming Process Chemicals
- i. Definitive Images & Data Quantification
 - ii. Automatic Image Analysis
 - iii. Reduce Time and Resources
 - iv. Suitable for Biomedical, Pharmaceutical, Energy & Semiconductor Industries



MINI-ENVIRONMENT CONTROLLED INTELLIGENT STORAGE SYSTEMS

THE BEST WAY TO MANAGE SENSITIVE MATERIALS

WAFER & MATERIAL STORAGE SYSTEMS



Particle & Humidity N2 Cabinet

- ISO 4 / Class 10
- ESD Control
- Energy Saving



Intelligent Rewarming Solder Paste Cabinet

- Capacity: 16 Bottles
- FIFO Control
- Intelligent System Monitors Thawing Time and Minimize Scraps



Temperature & Humidity Monitor

- Built-In Memory for 11,900 Records
- Supports Database Formats
- Programmable Records Collection Intervals



Precision Clean Nanoscale Photomask Cabinet

- Temperature & Humidity Controlled
- Display Indicators
- Up to 80% Savings in N2 Consumption



Airtight Drying Cabinets

- Uses CDA or N2
- Humidity <5% RH
- Customizable

*Storage Solutions available for other applications

MINI-ENVIRONMENT CONTROLLED INTELLIGENT STORAGE SYSTEMS

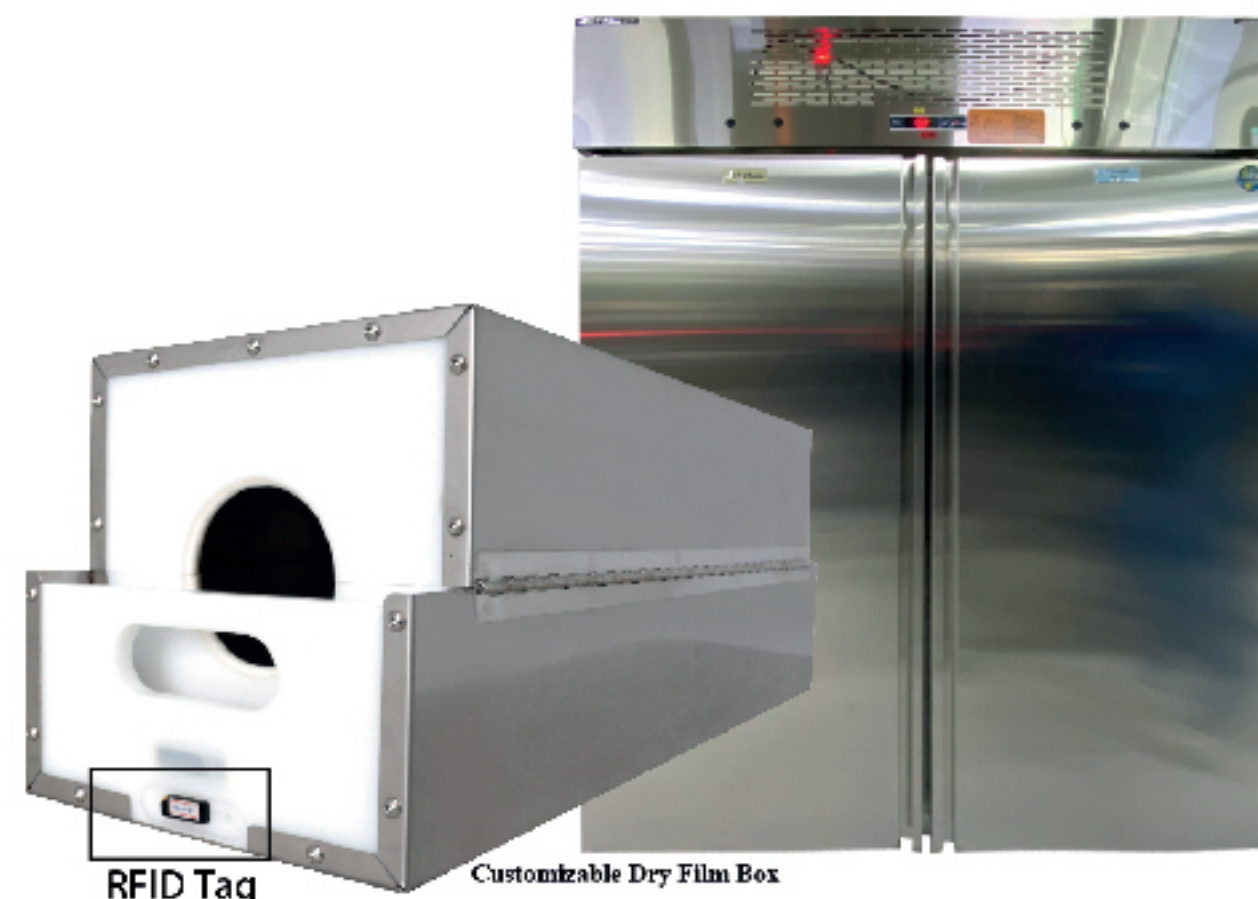
THE BEST WAY TO MANAGE SENSITIVE MATERIALS

WAFER & MATERIAL STORAGE SYSTEMS



Copper Foil Storage Cabinet

- Stores Up To 2 Packs (40Kgs)
- Barcode Scanner + Software for Inventory Management



Dry Film Refrigerater / Freezer

- Electronic Temperature Control
- Intelligent RFID Reader Records
- Insulation To Prevent Leakage



Humidity Controlled Glove Cabinet

- Airtight
- Humidity Control



Rack Lift Trolley

- Anti-drop design
- Retractable side bars
- Suitable for loading / unloading from Oven

*Storage Solutions available for other applications

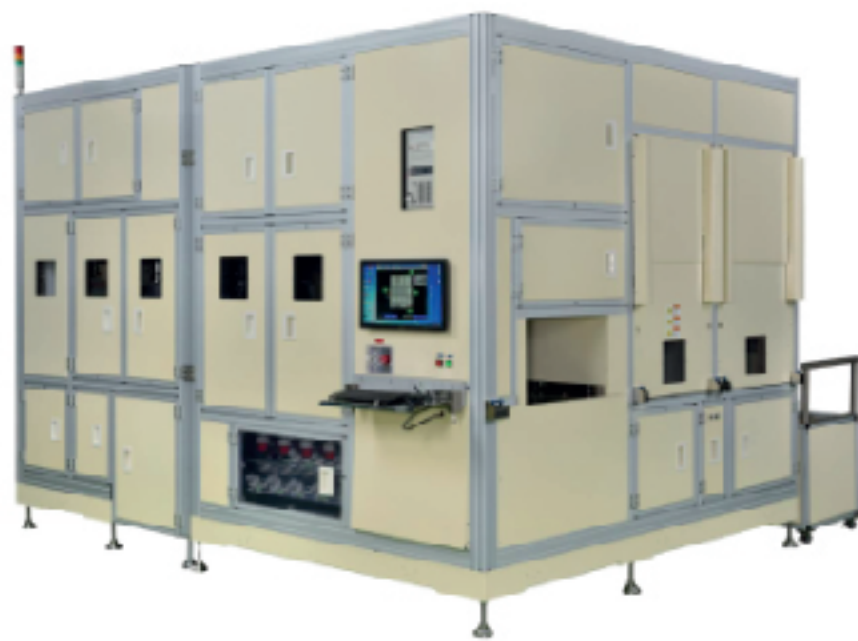
FAB Automation Equipment

THE PERFECT WAY TO INCREASE EFFICIENCY AND REDUCE COSTS.

AUTOMATION SOLUTIONS

Fully Automatic Packing / Unpacking Equipment

- Suitable for Semiconductor Wafer Packaging
- Automatic Labelling, HIC Card & Desiccant Placements
- SECS/GEM Compliant
- SEMI Compliant



FOUP / FOSB Auto Unpacker



FOUP / FOSB Autopacker



Carton Box Autopacker



Tape & Reel Autopacker

Fully Automatic Ring Frame Tape Remover Cleaner

- Tape UV Cure, Remove & Dispose
- Ring Frame Cleaning
- Ring Frame Inspection
- 8 Inch & 12 Inch

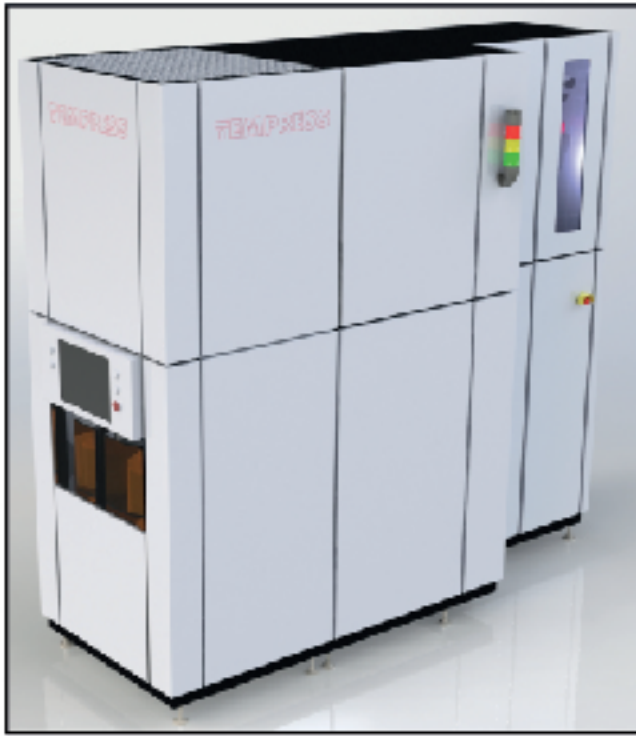


Ring Frame Tape Remover Cleaner

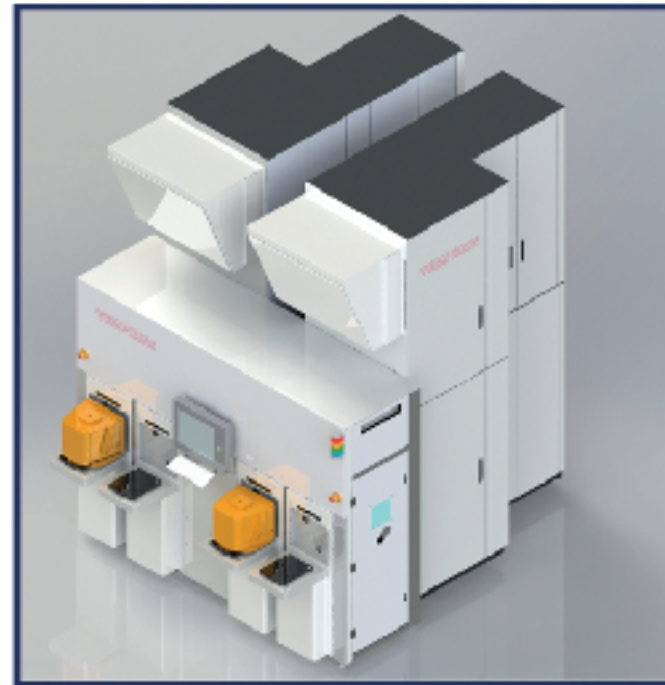
THERMAL FURNACE FOR DEPOSITION AND DIFFUSION

SIMPLE SOLUTIONS FOR COMPLEX PROCESSES

WAFERS BATCH THERMAL DIFFUSION & DEPOSITION EQUIPMENT



**Single Tube
Vertical Furnace**



**Multiple Tube
Vertical Furnace**

Vertical Furnaces

VS Series

- 150 / 200 / 300MM
- Max. Temp: 1,150° C
- Up to 75 Wafers Per Batch



Horizontal Furnaces

TS Series V

- 150 / 200 / 300MM
- Max. Temp: 1,300° C
- Up to 4 Tubes / 200 Wafers Per Batch



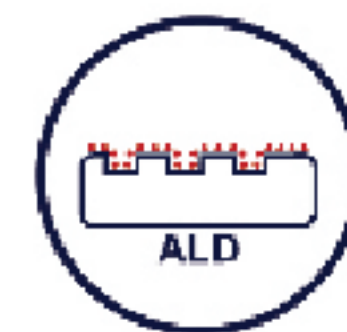
Diffusion

- Wet Oxidation
- Dry Oxidation
- Annealing
- H₂ Annealing
- Sintering
- Alloy
- POCl₃ & BBr₃



LPCVD

- Poly (Flat / Ramped)
- Doped Poly
- Nitride / Low Loss Nitride
- Low Stress Nitride
- TEOS (Undoped / Doped)
- HTO- Undoped / Doped LTO
- SIPOS



Others

- ALD (Al₂O₃)
- PI Curing
- PEALD
- PECVD
- GaN Diffusion

Processes

WAFER HANDLING SOLUTIONS

EASY ON YOUR BUDGET, HASSLE-FREE USE

WAFER HANDLING SYSTEMS

- Single Wafer Handling
- True ESD Protection
- Normally Open Vacuum Switch
- Support Ribs Prevents Wafer Deformation / Cracks
- Reinforced Vacuum Tubing

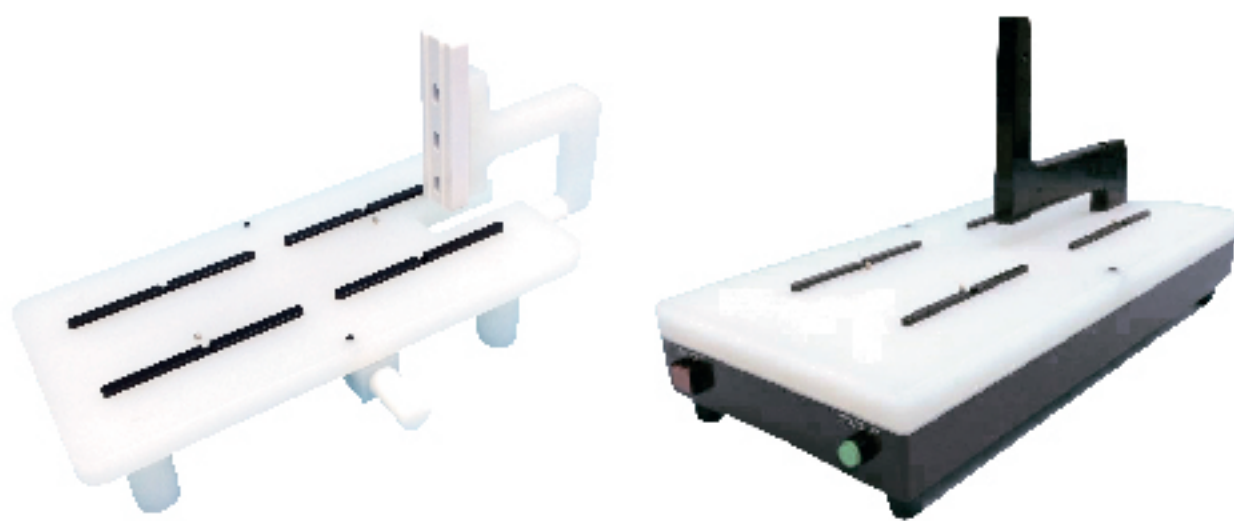


6 – 8 Inch Wafer Handling

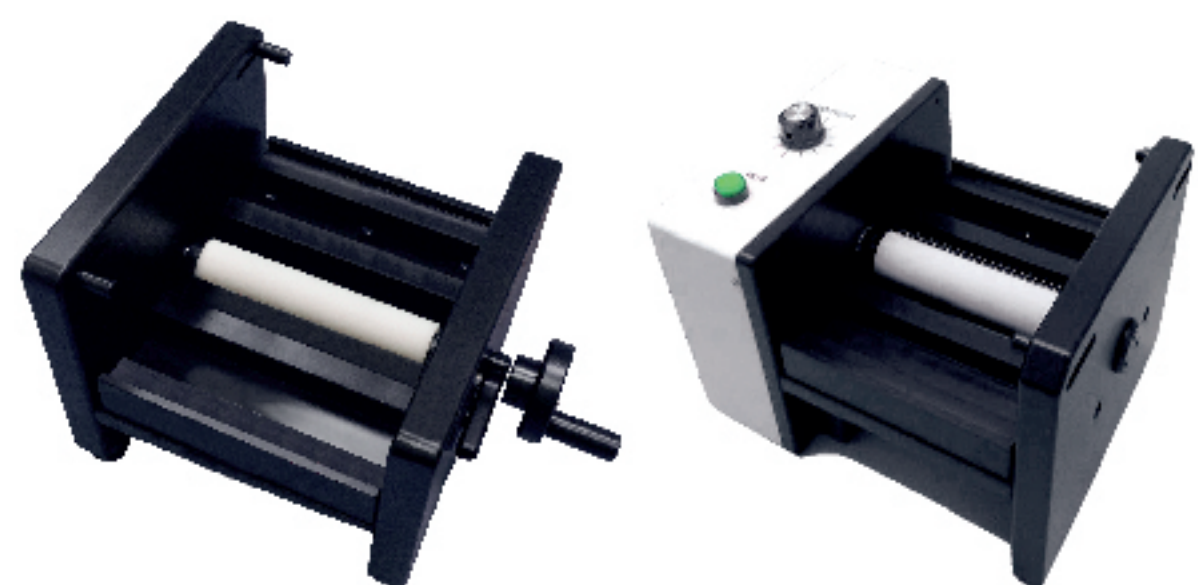


12 Inch Wafer Handling

CLEANROOM TOOLS



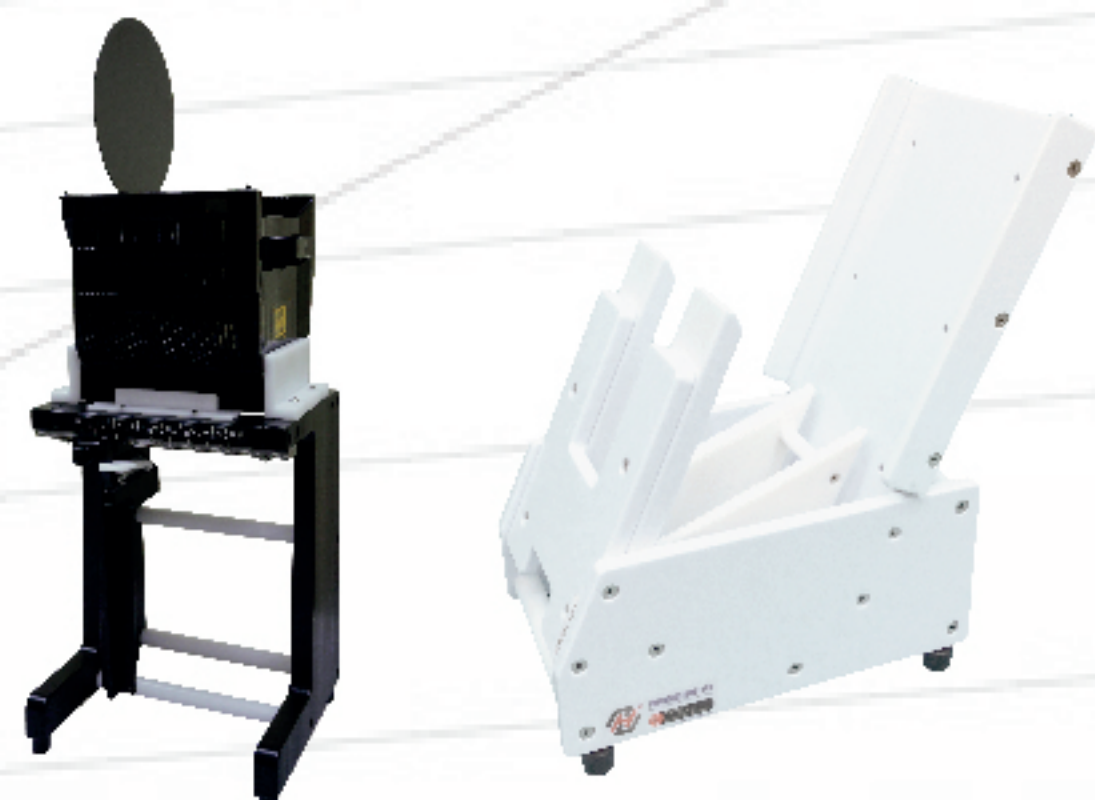
Horizontal Wafer Transfer



Wafer Aligner



Wafer Pick



Wafer Inspection

OTHER PRODUCTS

ADVANCE IOT SENSORS

FOR ENVIRONMENT - GAS / PARTICLES / VOC / AMC

NEW



Environment Type Gas O2 Sensor



- Detect oxygen concentration and micro-oxygen residual in two models.
- Concentration ranges from 0 to 25%, with corresponding applicable models that can be selected
- Triggers Alarm if <19%
- Supports 4-20mA Output / Modbus RTU Output
- Couple With A45 VOC Sensor (Optional)

VOC Humidity Temperature Pressure Multi-Sensor



- VOC 0-50ppm $\pm 0.1\text{ppm}$
- Humidity 0~100%RH $\pm 1.0\%RH$
- Temp -40~125°C $\pm 0.1^\circ\text{C}$
- Pressure -100K~300KPa $\pm 0.1\text{kPa}$
- Advanced CMOS Technology
- Supports Exhaust And Environment Monitoring

Vacuum Type Gas Micro O2 Sensor



- Detects 0~10,000ppm $\pm 10\text{ppm}$
- Supports 4~20mA Output / Modbus RTU Output

RS485 Temperature & Humidity Sensor



- High Accuracy, Ultra-Low Power, 16-Bit Temperature & RH Sensor
- Temp -40~125 $\pm 0.1^\circ\text{C}$
- Humidity 0~100% $\pm 1.0\%RH$

Anti-Corrosion Temperature & Humidity Sensor



- High Accuracy, Ultra-Low Power, 16-Bit RH Sensor
- Temp -40~125 $\pm 0.1^\circ\text{C}$
- Humidity 0~100% $\pm 1.0\%RH$
- JEDEC JES47

IMU Sensor for EFEM / Robot



- Miniature, high precision
- For EFEM / Robot Monitor
- Range: -2G~2G $\pm 0.01G$

Maxtrix IR Thermo Sensor with AI



- For Equipment Control / Enclosed Chambers / Factory Pipes monitoring
- Scan & analyze Temp. Trend
- Trigger Alarm if exceeds Upper / Lower Limits
- Temp 0~400 $\pm 0.1^\circ\text{C}$

Micro Differential Pressure Sensor



- Miniature, high precision
- Low DP for HVAC/EFEM Air Flow Speed / Volume Monitoring
- Offset Stability <0.1Pa / Year
- Ranges:
 - -25~25 $\pm 0.1\text{Pa}$
 - -150~150 $\pm 0.1\text{Pa}$ (EFEM)
 - -500~500 $\pm 0.1\text{Pa}$

Particle & VOC Multi-Sensor



- Monitors Airborne Molecular Contamination For Critical Applications
- Use simultaneously with Micro Differential Pressure Sensor (Optional)
- Particle 0.3~10 $\mu\text{m} \pm 5\%$
- VOC 0~50 $\pm 0.1\text{ppm}$
- Humidity 0~100% $\pm 1.0\%RH$
- Temp -40~125 $\pm 0.1^\circ\text{C}$

VOC: Volatile Organic Contamination

OTHER PRODUCTS

RFID RACK SYSTEMS

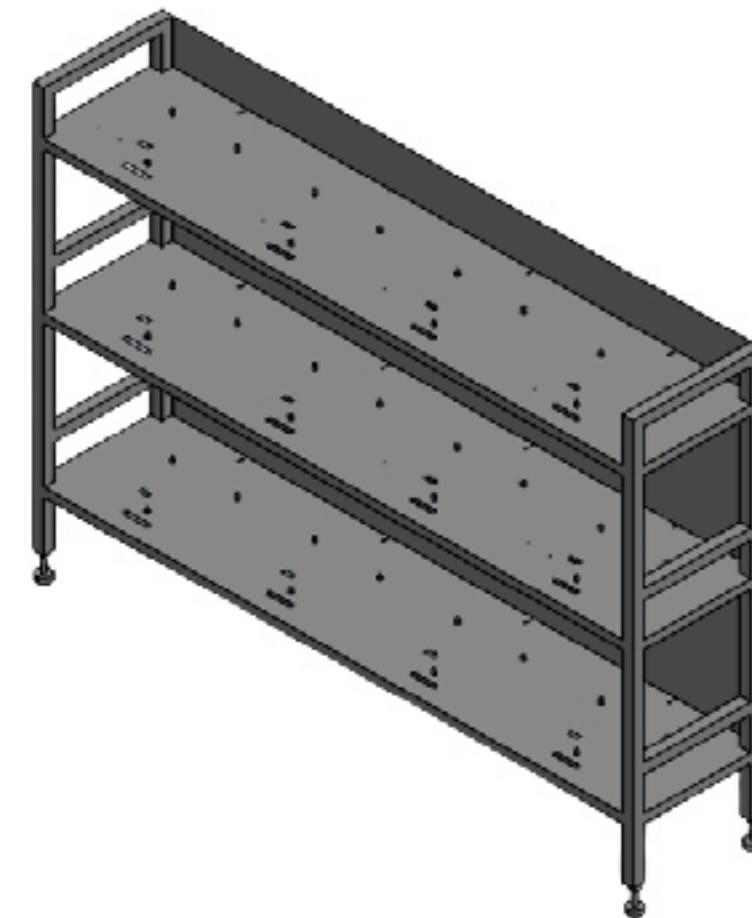
FOR RFID-ENABLED CASSETTE RACK TRACKING

NEW



RFID 200mm 4X4 Rack

- LF RFID Reader For TI FSK 134.2k/123.2 kHz Tags
- Scan Distance 15~120mm
- Designed For 200mm POD
- HW Gateway To Build Up Daisy Chain Up To 16 Readers
- Shelf Equipped with RGB LED Board, Near Presence Sensor
- Supports Long Antenna (8cm) / Short Antenna (4.5cm)



RFID 300mm 3X4 Rack

- LFRFID Reader For TI FSK 134.2k/ 123.2 kHz Tags
- Scan Distance 15~120mm
- Designed For 300mm FOUP, MP FOUP
- HW Gateway To Build Up Daisy Chain Up To 12 Readers
- Shelf Equipped With RGB LED Board, Near Presence Sensor
- Supports Long Antenna (8cm) / Short Antenna (4.5cm)



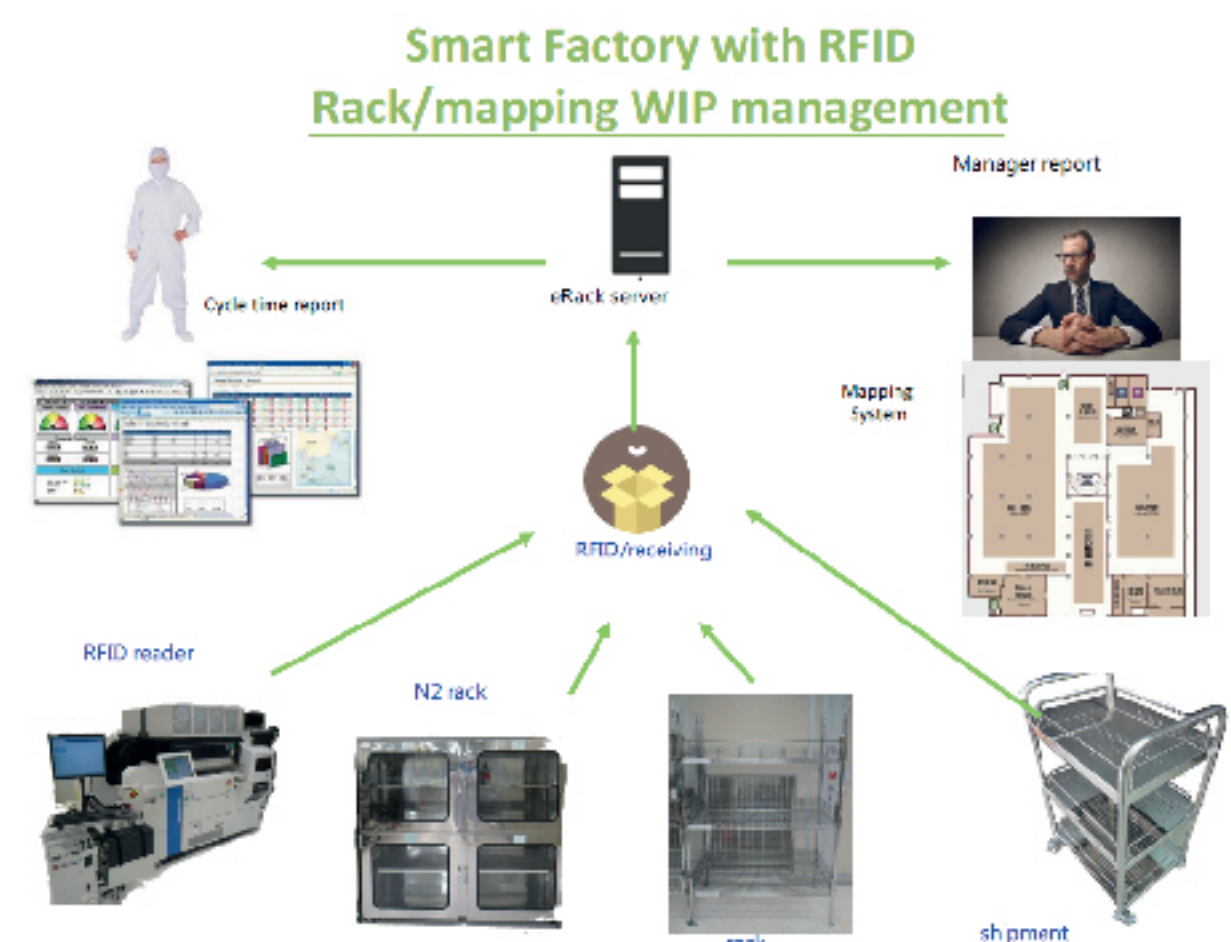
LF RFID Shelf Reader Module

- LF RFID Reader For TI FSK 134.2K/123.2KHz Tags
- Includes Antenna, Presence Sensor, LED Board & 1602 LCD
- Scan Distance 15~190mm
- 2 x RS485 Integrated Sockets For Daisy Chain
- RS232 CANBUS



RFID Gateway for Multi-Reader

- Gateway Integrates Multiple RFID Readers As One To Communicate With Host
- Gateway Types: RS232/RS485/RJ45-RS485/USB-RS485
- Used Between PC And RFID Readers. Host Communications: SECS/GEM HSMS Or SECI Or USB(ASCII)
- 3 Isolation RS485 Sockets For Daisy Chain



WIP Intelligent Logistics System

- Factory-wide Smart Logistics System
 - Intelligent Shelf Position Allocation
 - Item Tracking
 - Automatic In / Out
 - SECS/GEM Compliant

OTHER PRODUCTS

RFID READER SYSTEMS

FOR RFID TAGS READING

NEW



LF RFID Load Port / OHB Reader

- LF RFID Reader For TI FSK 134.2k/123.2 kHz Tags
- Scan Distance 15~180mm
- Design For Load Port, OHB
- RS232 DB9 Female & RS485 EDGRC-3.5-04P For Daisy Chain
- Supports:
 - α 1602 LCD By XH2.54P16
 - α 1 x 24V NPN Sensor (EDGRC-3.5-03P)
 - α 2 x 5V NPN Presence Accessories (XH2.54P4)
 - α External LED Accessories (XH2.54P4)
 - α Long Antenna (8cm, EDGRC-3.5-02P)
 - α Short Antenna (4.5cm, XH2.54P2)



RFID 300mm 3X4 Rack

- LF RFID Reader for TI FSK 134.2k/123.2 kHz Tags
- Scan Distance 15~100mm
- Designed For Load Port, OHB
- RS485 EDGRC-3.5-04P For Daisy Chain
- Supports:
 - α 4 x 5V NPN Presence Accessories (XH2.54P4)
 - α Short Antenna (4.5cm, XH2.54P2)



LF RFID Reticle Dual Antenna Reader

- LF RFID Reader For TI FSK 134.2k/123.2 kHz Tags
- Scan Distance 15~100mm
- Designed For Reticle Load Port. Pod Equipped
- With 1 Tag In Left Or Right Side
- Reader Will Test Read To Ensure ID Reliability
- RS485 EDGRC-3.5-04P For Daisy Chain
- Supports:
 - α 2 x 5V NPN Presence Accessories (XH2.54P4)
 - α Short Antenna (4.5cm, XH2.54P2)



RFID Gateway for Multi-Reader

- LF RFID Reader For TI FSK 134.2k/123.2 kHz Tags
- Scan Distance 15~190mm
- Designed For Stocker Load Port
- Equipped With CANBUS Integrated Socket (Asyst/Brooks Compatible) For Muratec Stocker Daisy Chain
- Supports Long Antenna (8cm, EDGRC-3.5-02P)

ADVANCED IOT RACK DATA COLLECTION

FOR AIOT RACK DATA COLLECTION SYSTEMS

NEW



AIoT 16-Slot I2C Accessory



ADC Rack Includes Slot, LCD, RJ45 Socket, US Socket, Power Adapter And Compact Router. Slot Can Support Analog Inputs 4-Wire And I2C Wire.

In future, Data Collection Slot Can Be Extended To CANBUS (Open Can)

AIoT Compact Network Router



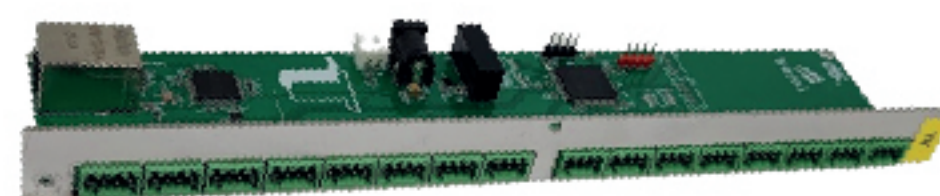
- Compact Sized With Level 3 LAN Switch
- 4 Ports WAN/LAN + 4 Ports LAN
- Supports MQTT Protocol & SECS/GEM

AIoT 16-Slot / 8 x I2C Channels



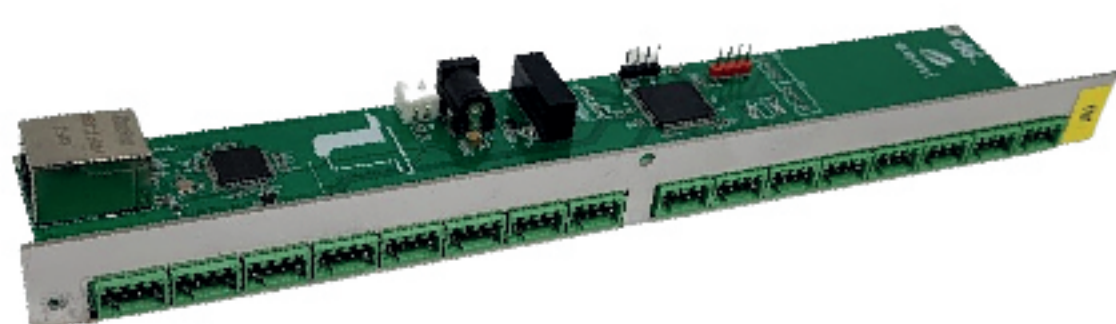
- 16-ch Isolated I2C Channel
- Noise Filter(150pf)
- Supports Standard(100k), Fast(400k), Fast Plus(1000k) I2C Speed
- OLED Display For 16-Channel Values + Green/Red Box Status Indicator
- Accessories - Repeater: I2C Repeater For 5 Meters Cable
- 10/100 BASE-T RJ45 Ethernet, Supports DHCP
- Accessories-POE: Supports POE I, II Standards
- Use With O2/O3, NO/NO2/NH3, CH4/H2/IPA VOC/ Particle(PM1.0~PM10), Humidity/Temp, Micro-Differential Pressure And / Or Pressure Sensors

AIoT 16-Slot Isolated Analog AI Channels



- 16-ch Isolated Analog Input
- Support 2/3 Wire, Differential/Single-End Analog Input
- Supports Both Voltage/Current Signals
- OLED Display For 16-Channel Values + Green/Red Box Status Indicator
- Provide Isolation AI+/AI-
- 10/100 BASE-T RJ45 Ethernet, Supports DHCP
- Accessories-POE: Supports POE I, II Standards

16-Slot $\Delta\Sigma$ 24-Bit 8 AI Channels



- 16-ch Isolated Analog Input
- Support 2/3 Wire, Both Differential/Single-End Analog Input
- Supports Both Voltage/Current Signals
- OLED Display For 16-channel Values + Green/Red Box Status Indicator
- Provide Isolation AI+/AI-
- 10/100 BASE-T RJ45 Ethernet, Supports DHCP
- Accessories-POE: Supports POE I, II Standards

OTHER PRODUCTS

ADVANCED IOT DATA COLLECTION MODULES

FOR AIOT DATA COLLECTION MODULES

NEW



AIoT 8-Channel AI Sensor Signal Converter Module



Usage: Sensor Analog to Digital AI Converter For Equipment Retrofit/Automation Upgrade Kits

- Support 8-ch Single-End Analog Input, Voltage (0-5V, 0-10V)/current signal (0-20mA, 4-20mA)
- OLED Display For 8-Channel Values + Green/Red Box Status Indicator
- 10/100 BASE-T RJ45 Ethernet, Supports DHCP
- Accessories-POE: Supports POE I, II Standards

AIoT 8 x I2C Sensor Module



- 8 x Isolated I2C Channels
- Noise Filter (150pf)
- Supports Standard (100k), Fast (400k), Fast Plus (1000k) I2C Speed
- OLED Display For 8-Channel Values + Green/Red Box Status Indicator
- Accessories-Repeater: I2C Repeater For 5 Meters Cable
- 10/100 BASE-T RJ45 Ethernet, Supports DHCP
- Accessories-POE: Supports POE I, II Standards

AIoT 8-Channel $\Delta\Sigma$ 24-Bit AI Module



- 8-Ch Isolated Analog Input
- Support 2/3 Wire, Differential/Single-End Analog Input
- Supports Sigma-Delta
- Supports Both Voltage/Current Signal
- OLED Display For 8-Channel Values + Green/Red Box Status Indicator
- Provide isolation AI+/AI-
- 10/100 BASE-T RJ45 Ethernet, Supports DHCP
- Accessories-POE: Supports POE I, II Standards

WAFER STORAGE AND TRANSFER BOXES

TOTAL SOLUTIONS FOR YOUR WAFERS

WAFERS TRANSPORT, STORAGE & AUTOMATION

Reticle Boxes

- Capacity: Single Wafer
- Sizes: 4, 5, 6, 7, 9 & 14 Inch
- Material: PP, ABS (ESD), PC (ESD) Or Stainless Steel



300MM FOUP (Red / Orange)

- Capacity: 13 or 25 Wafers
- Support RFID & OHT
- Material: PC / COP / ESD



200MM Wafer Shipping Box

- High Strength and Wear-Resistant
- Airtight Rubber Seals To Prevent Contamination During Transport
- Capacity: 25 Wafers
- Material: PC

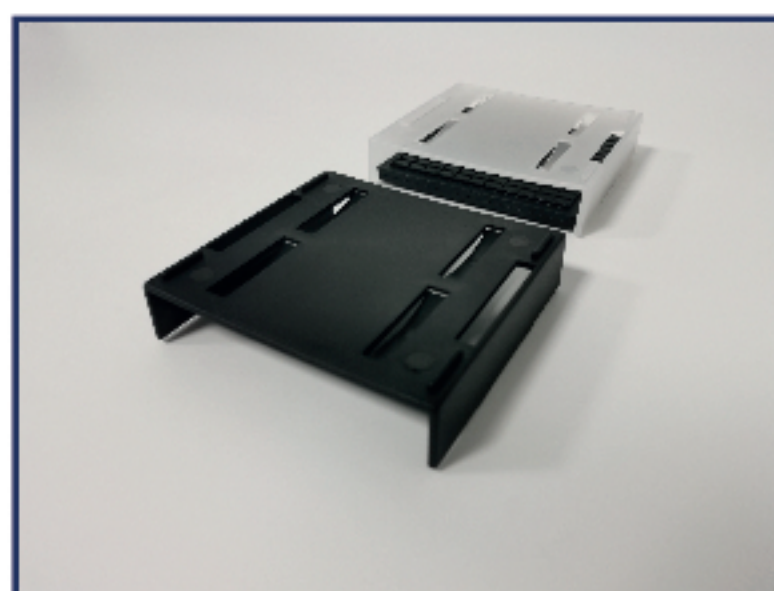
WAFER STORAGE AND TRANSFER BOXES

TOTAL SOLUTIONS FOR YOUR WAFERS

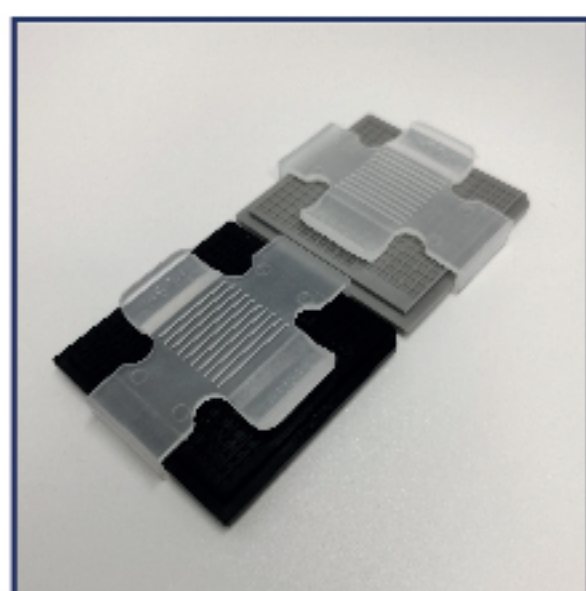
WAFERS TRANSPORT, STORAGE & AUTOMATION

Wafer Jars, Cushions, Separators

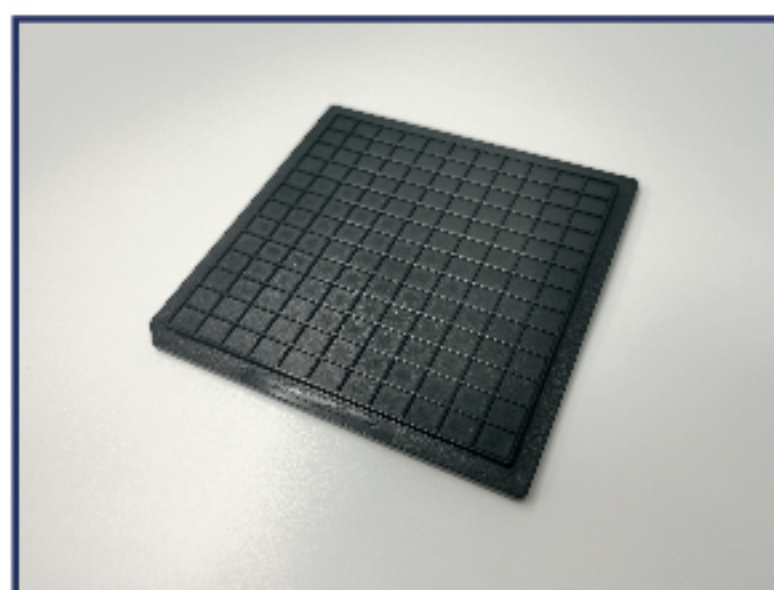
- Sizes: 6, 8, & 12 Inch
- Material:
 - Conductive PP (Jar)
 - ESD PE (Foam)
 - Tyvek / Conductive PP or PE (Wafer Separators)



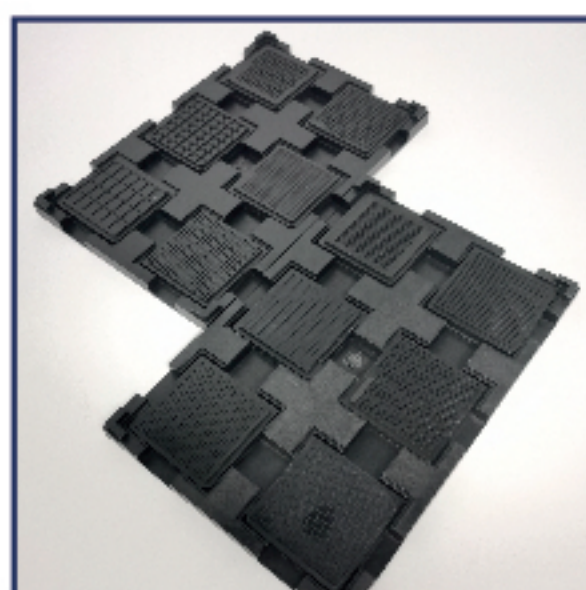
Drawers



Interleaf



Chip Trays



Waffle Plates

Frame Shippers

- Types: Canister or Box
- Sizes: 6, 8 or 12 Inch
- Material: Conductive PP

Waffle Pack Chip Tray System

- Available Sizes: 2"x2", 3"x3" & 4"x4" with different Die sizes
- Material: Conductive PC

CONNECT WITH US

Whatapps me:



TALK TO US TODAY FOR DETAILS!

Email: S4_Marketing@douyee.com.sg

DOU YEE
E N T E R P R I S E S



More than **45** offices across
North America, Europe and Asia Pacific

- Manufacturing Plants -

Singapore • Malaysia • China • France • Poland

DOU YEE
ENTERTAINMENT

HEAD OFFICE

2304 Bedok Reservoir Road,
#05-00 Dou Yee Building,
Singapore 479223

Tel: (65) 6444 2678

Fax: (65) 6743 7172

Website: www.douyee.com

Email: s4_marketing@douyee.com.sg



Branches Contacts