

Watlow® Offers High-Quality Disk Refurbishment Capabilities

Allows Semiconductor Fabs to Save on Wheel Costs and Downtime

All semiconductor fabs will reach a point when the performance of their implanter wheels will need to be serviced. Refurbishment is a cost-effective way to keep the tools performing well for extended life. When issues of corrosion in the cooling passage occur, there are options to full wheel replacement, which can be extremely costly. Watlow® offers the knowledge, experience and expertise to clean and refurbish a variety of ion implant wheels, heat sinks and coated process chamber hardware saving fab tools from complete replacement. Watlow offers standard and expedited lead times exceeding industry standards and provides high-quality services, qualified technical support and superior technology and testing services.

Watlow thoroughly inspects and evaluates all incoming parts to identify damages and issues, and all findings are reported back to the customer. All parts that require liquid cooling are inspected internally and externally for corrosion, and replacement parts are available and in stock at Watlow for severely corroded pedestals and heat sinks.

Purity and cleanliness are top priority at Watlow's world class manufacturing facility. The company's facility in San Jose, CA features Class 100, 1000 and 10,000 cleanrooms, a full machine shop with complete CNC capabilities, an ultrasonic wash and deionized water system, decontamination and surface finishing areas and automated production equipment.

Quality is a top priority at Watlow. Wheels are re-assembled in a certified class 10,000 cleanroom, dynamic balancing is performed under high vacuum: <1g at operating speed, fully refurbished wheels are thermal and stress tested under high vacuum and final inspections are performed using calibrated measurement devices.

Watlow is a trusted partner that has worked in the semiconductor industry for over 30 years. Visit www.watlow.com today to find out more about the company's refurbishment capabilities.



Features and Benefits

Corrosion inspection and repair

- Extends the life of implant tools

PVD or thermal spray silicon coating available

- Provides a clean finish and better performance of the disk

Dynamic testing performed in a simulation chamber under high vacuum

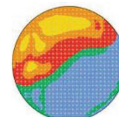
- Qualifies components before shipment

Elastomer molding applied using precision tooling and application methods

- Ensures high-quality materials and process steps
- Uniform elastomer application for excellent thermal performance by effective wafer to wheel contact

Traditional Supplier

Poor Contact =
Poor Thermal Performance



Watlow Solution

Good Contact =
Good Thermal Performance



Watlow's precision thermal interface pads for wafer cooling and electrical charge control deliver uniform, repeatable thermal performance and effective wafer-to-wheel contact.

Capabilities

Metrology / testing

- Thermal analysis capability
- Bulk material properties
- Acoustic imaging
- Dynamic balancing
- Electrical analysis
- Helium leak testing
- Customized test tools for specific customer requirements
- Surface morphology
- Elastomer surface friction / stiction
- Dimensional / alignment verification
- CMM
- ICP-MS

Disk services

- Targeted tools
 - Please contact Watlow for a list of targeted tools.

Thermal interface pads

- Process development and manufacturing of thermal interface pads for wafer cooling and electrical charge control for specific needs or requirements
- Surface interface characterization, testing and development
- Watlow uses materials that meet or exceed OEM specifications
 - OEM materials are also available for most applications
- Uniform application
 - Excellent repeatable thermal performance and effective wafer-to-wheel contact

Silicon coating

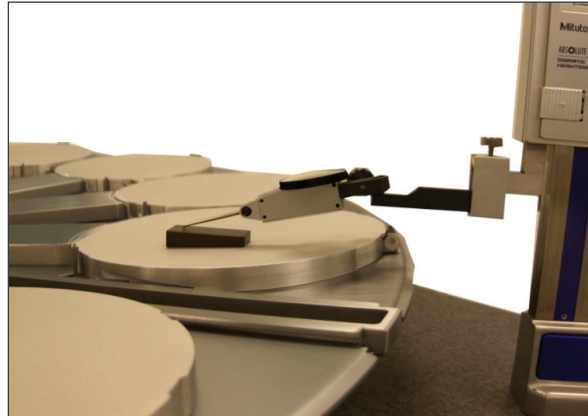
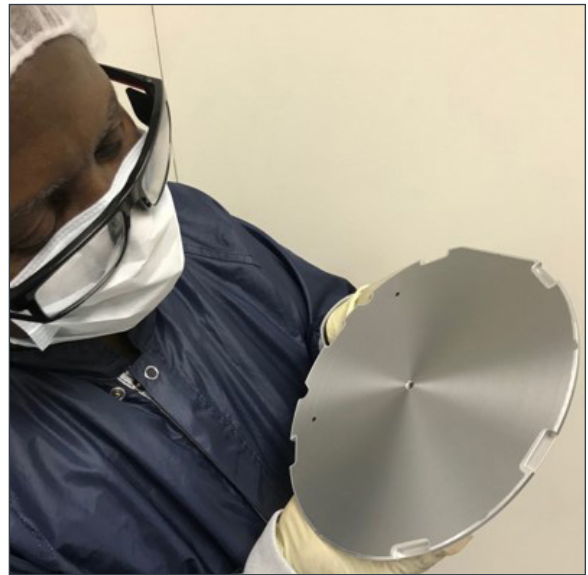
- High purity silicon is used in the coating process
 - Deposition methods
 - PVD
 - Thermal spray

Consumable replacement parts

- Please contact Watlow for a list of consumable replacement parts.

Upgrade parts

- Please contact Watlow for a list of upgrade parts.



Watlow® is a registered trademark of Watlow Electric Manufacturing Company.

Powered by Possibility



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France	+33 (0) 1 41 32 79 70	Korea	+82 2 2169 2600

Mexico	+52 442 256 2200
Singapore	+65 6773 9488
Spain	+34 91 675 1292
Taiwan	+886 7 288 5168
UK	+44 (0) 115 964 0777