Full Flexibility

The RS-C is a fully automated standalone reticle storage & management system with inspection options for 6” reticles. It is based on a modular, Cartesian product platform allowing a high flexibility in storage size. The RS-C system offers up to 4 I/O ports for a variety of reticle carriers including RSP150, MRSP150, Nikon and Canon 6” cassettes and manual and automatic shipping boxes.

Advanced Reticle Protection

The reticles are safely stored within Tec-Cell modules (TCM). These modules are designed to store each reticle within a controlled ISO Class 1 micro environment, safe from ESD effects. To protect the reticle from chemical contamination, the Tec-Cell module can be purged by nitrogen (N₂) or extreme clean dry air (xCDA).

Versatile

The wealth of features and flexibility in size make the RS-C suitable for multiple applications in the fab or mask house, including reticle qualification, reticle-carrier exchange and clean reticle storage.

Benefits

- Secure reticle storage
- Tec-Cell technology
- Prolongs the reticle lifetime
- Fast reticle access time
**Tool Overview**

- Storage area
- Control cabinet
- Shipping box I/O
- Macro Inspection Unit (MIU)
- Manual load port for SMIF, Canon or Nikon carriers
- Particle Detection System (PDS)

**Model Overview**

<table>
<thead>
<tr>
<th>No. of Levels</th>
<th>Height (mm) FFU (AMC)</th>
<th>Storage Capacity</th>
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<td>No. of Columns</td>
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<td>2875 (3000)</td>
<td>6</td>
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<tr>
<td></td>
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<td>8</td>
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<tr>
<td>6</td>
<td>2400 (2550)</td>
<td>10</td>
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<table>
<thead>
<tr>
<th>No. of Levels</th>
<th>Height (mm) FFU (AMC)</th>
<th>Storage Density (reticle/m²)</th>
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</table>

Other sizes, configurations and capacities available on request.
## Options

| Manual load ports for cassettes | - Cassette I/O manually operated  
| - Device to insert the cassette and clamp it  
| - Sensing unit to detect the cassette presence and reticle presence in cassette  
| - Cassette opening mechanism  
| - 6” Canon or Nikon cassette I/O stations are available.  
| Shipping I/O | - Load port to handle mask shipping boxes.  
| Note: Shipping box load port is only available after confirmation of technical feasibility of the used shipping box. Depending on box type, manual or semi-automatic versions are available.  
| AMHS for load ports | - SEM84 compliant optical I/O communication interface between tool load port RSP150/MRSP150 and OHT system  
| - To avoid collision of OHT and manual intervention (with E84) safety light curtains are required  
| Reticle rotary unit (RRU) with air knife | - Rotation table to orient the reticle by 180° for different steppers  
| - Reticle presence sensors  
| - Air knife for particle blow off with nozzle for glass side and pellicle side  
| AMC filtering for reticle storage modules | - AMC filter package on the purge inlet  
| - Absorbs acids, bases and organic compounds  
| SECS/GEM interface | Host communication software via HSMS interface  
| Label Printer | - Direct thermal transfer label printer (Zebra SL 105 plus)  
| - Prints 76mm/3” per second with a resolution of min. 300 dpi (12 dots/mm)  
| - Prints clean room suitable labels which easily adhere to the reticle carriers and can be easily removed with gloves.  
| - Prints Code39, Interleaved 2 of 5, Code128, EAN-8, EAN-13, EAN 2 & 5, Code93, DataMatrix  
| Hand held scanner | Scanner linked to the keyboard to log on to the system and to read in reticle ID if required  

## Contamination Control Solutions
| **Particle detection system, (PDS)** | • To automatically inspect particles on reticles, glass and pellicle side  
• Detectability of particles: ≥ 10µm (Effective Sphere Diameter)  
• Repeatability:  
  • Particles 10…20 µm ≥ 90% of particle count  
  • Particles > 20µm ≥ 98% of particle count  
• Auto-focus system for different pellicle heights of 2 to 8mm |
| **Macro Inspection Unit (MIU)** | • The macro station can perform rotation, tilt and swiveling motions of the reticle via joy stick  
• The homogeneous main illuminator (BLU310) is a bright field light source covering the complete reticle |
| **Second illumination for MIU (dark-field)** | • Very bright (100,000 Lux) slit across the sample for detection of traces and small particles, dimmable, white color.  
• Light band width (min.) : 40mm X 200mm. |
| **AMC filtering for handling area** | • Optional AMC filter package to add on to the Fan Filter Unit (FFU)  
• Absorbs acids, bases and organic compounds |
| **Optics gas purifier** | • Absorbs acids, bases, organic concentrations and H2O  
• Ensure quality of xCDA  
• Break through sensor to detect filter lifetime |
| **Ionization for incoming reticles** | • Corona discharge ionization using xCDA mounted at opener for technology nodes greater than 100nm  
• Additional shielding to allow use of this system for technology nodes greater than 30 nm  
• Alternative photon ionizer for technology nodes greater than 10nm |
Tool Footprint

Example layout of 13C tool with maintenance areas

1. Exhaust box can be mounted under raised floor.

Note: If local space standards and guidelines require larger maintenance areas for safety purposes, these should be applied.
For more information, please contact your local Brooks Automation sales representative or visit www.brooks.com.