

Helios – SiGe Tool

Si_SiGe-User-Meeting
Novmber 3rd and 4th, 2026

The Solutions Company

Agenda:

Helios
What does SiGe need now?
Specific SiGe attention areas
Helios focus
Helios capability and response
Conclusion

What do 200mm SiGe wafer manufactures need now?

Proven Legacy equipment with modern, engineered upgrades, and a knowledgeable technology partner

Proven Legacy Equipment

Reliable, established equipment with proven track record

Modern, Engineered Upgrades

Enhanced equipment capabilities and expanded process flexibility

Knowledgeable Technology Partner

Deep reactor expertise and engineering knowledge that provide customers with additional tools, adjustable parameters, and technical insights to optimize reactor performance for **their** specific process requirements

Helios - Engineering Expertise Enabling Customer-Specific Reactor Optimization

What do 200mm SiGe wafer manufactures need now?

Our expertise enables better outcomes by expanding the available process adjustments and optimization options. We provide capabilities, rather than dictate the process.

Focus on results delivered across defectivity, uniformity, yield, repeatability and reactor maintenance

- Moisture control
- Temperature control
- Particles
- Gas optimization
- Wafer placement
- Repeatable film properties
- Uniformity
- Defect control

Tools for consistent, predictable Epitaxial film manufacturing

Helios – SiGe Tool

- Merlin™ Robot System (w/GIII)
- Helios Scorpion™ Robot Arm
- 5 Zone temperature control
- Helios Gate Valve
- Injectors
- Helios System Controller
- Helios H2 Detection System
- Helios susceptor rotation / lift assembly

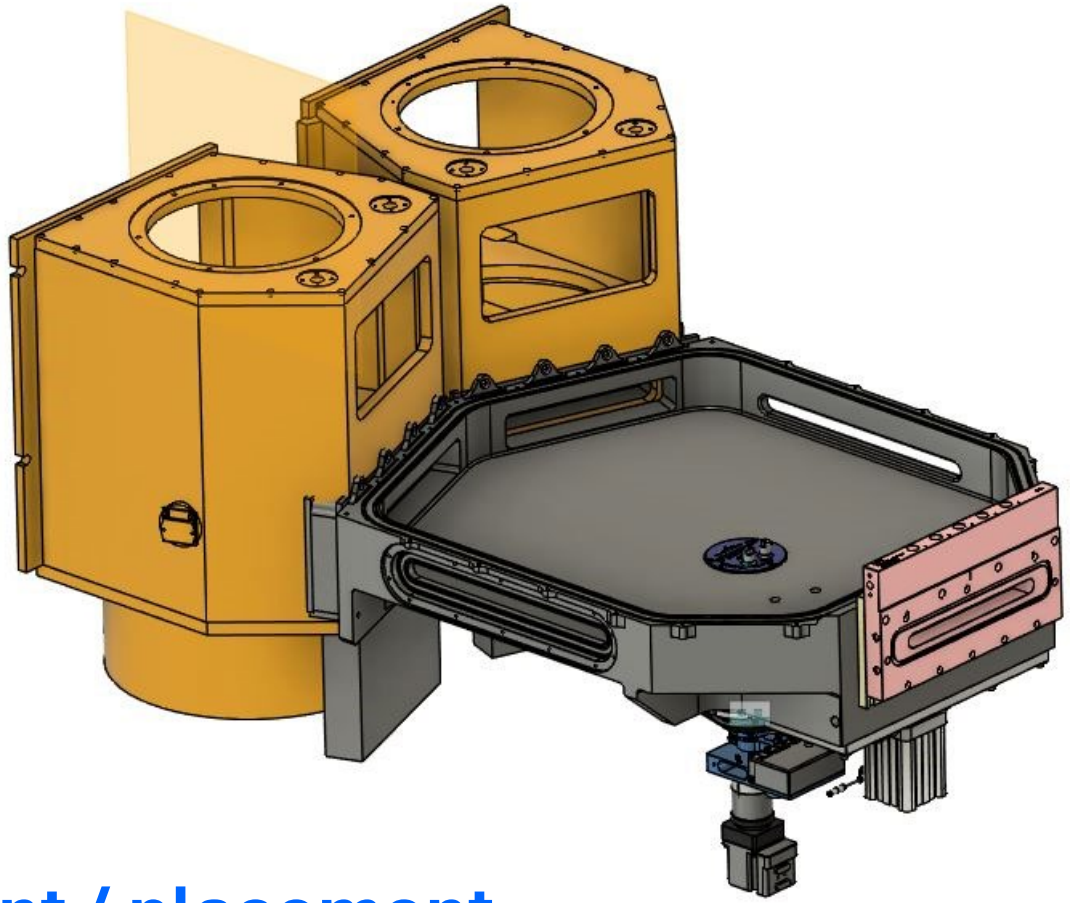
Innovative Manufacturability

- Billet WHC (Wafer Handling Chamber)
  - Dual, purged O-ring
  - Heater option
  - Glass covers
- Billet LoadLocks (Vacuum)
  - Dual, purged O-ring
  - Heater option
  - Blass covers

© 2024 Helios Technical Services All rights reserved.
Helios Technical Services and Proprietary Information.

LL and WHC temperature control

LL material



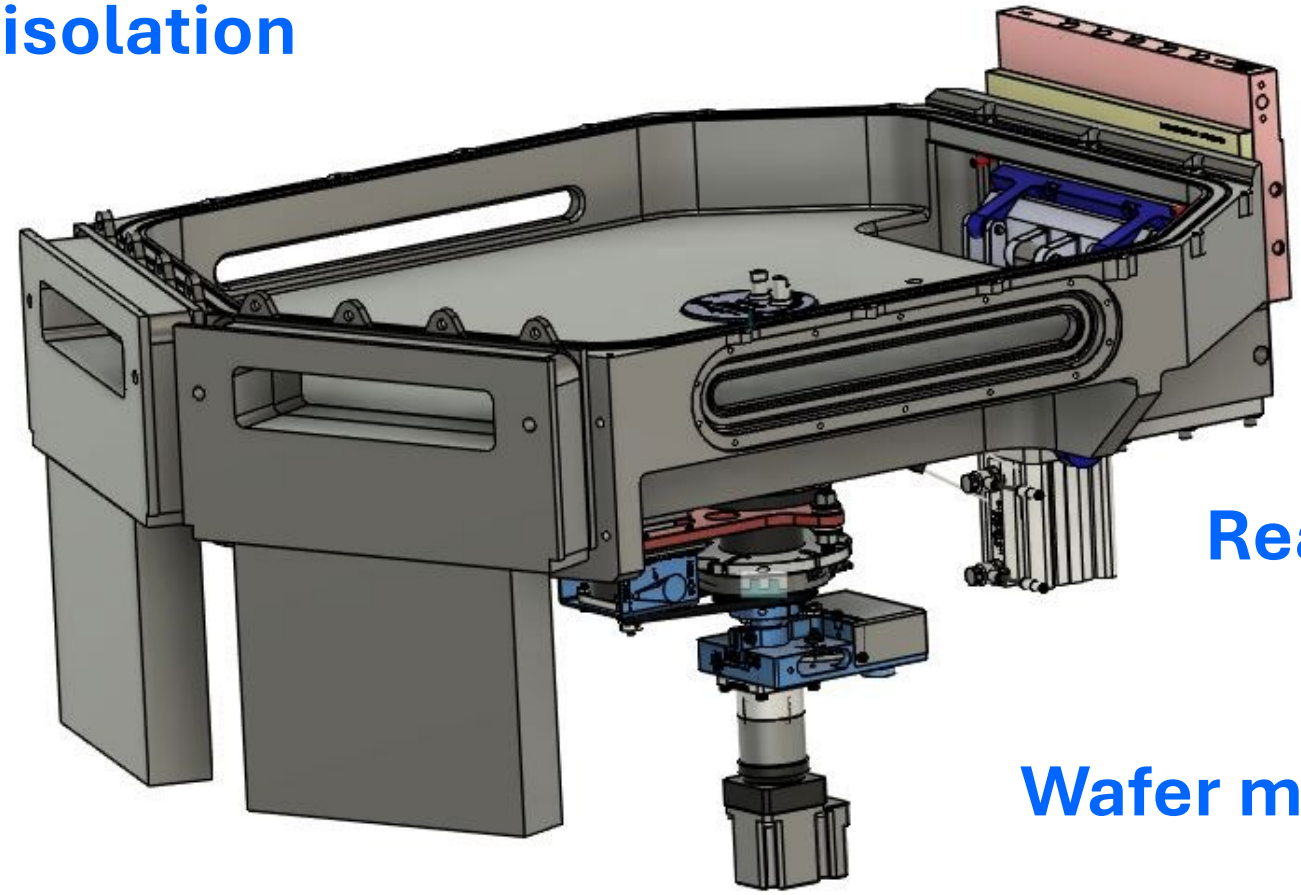
Gas control

Susceptor control

Wafer movement / placement

Gas flow control

LL to WHC isolation



Reactor isolation

WHC material

Wafer movement

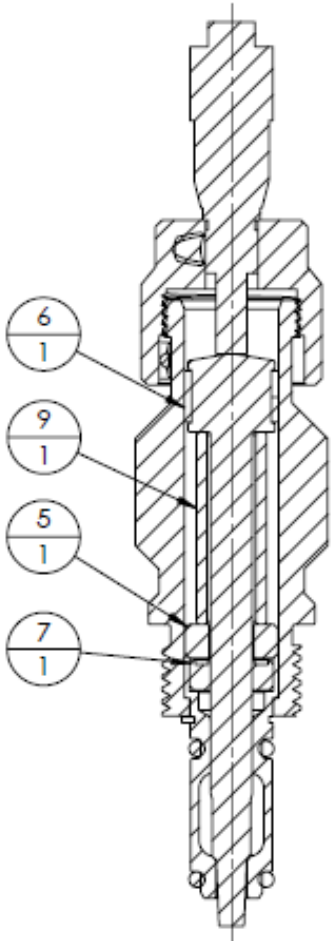
Helios
SCR Upgrade Assembly

Industry leading technology



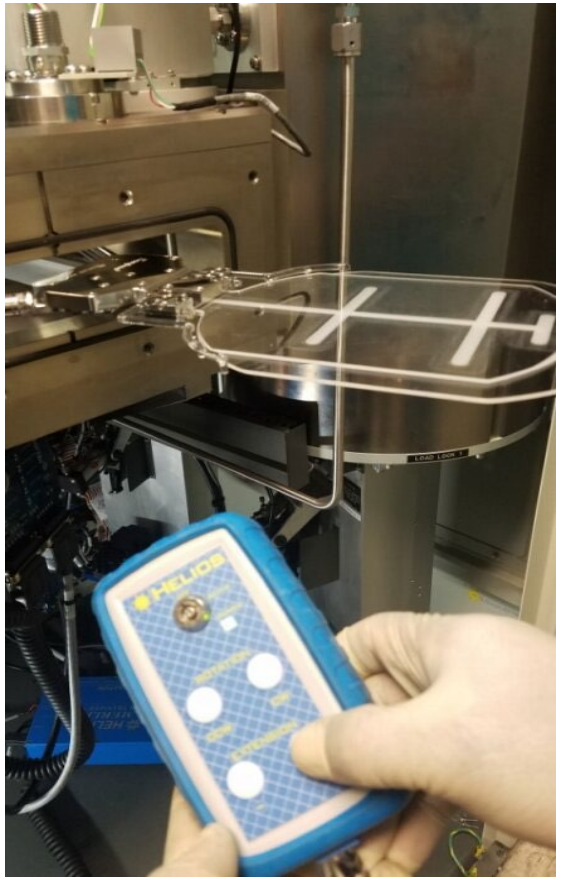
Helios-Cartridge, Injector

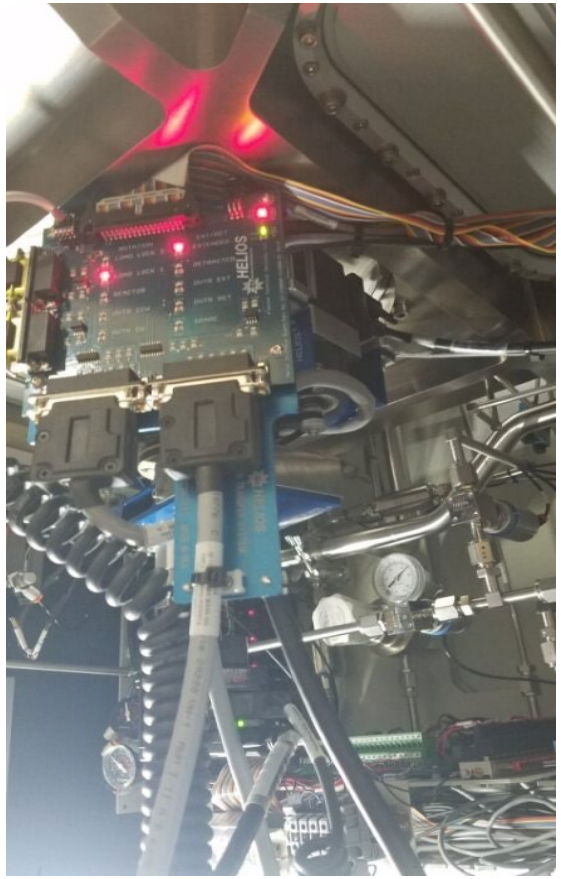
- Areas redesigned with Engineering precision:
  - Seal
    - Aerospace quality, 300 series, SS energized graphite impregnated seal
    - Increased seal life
  - Needle and Jet Orifice
    - Precision manufactured to scientific instrument standards
  - Wear Band
    - Eliminates stiction
  - User requested ‘shut off’ seat incorporated
  - Zero datum













Helios Maintenance Pendent, Helios Wafer Transfer Board

© 2024 Helios Technical Services All rights reserved.
Helios Technical Services and Proprietary Information.

Conclusion:

200mm SiGe Epitaxy is growing, requiring intelligent tool upgrades

Helios

Engineering Expertise Enabling Customer-Specific Reactor Optimization

Thank You

Further questions, require additional data? Visit us at www.HeliosTechnicalServices.com