

Brooks On-Board[®] Upgrade for xR-80 Ion Implanters

Turn-Key Upgrade Package:

- Brooks offers a performance-enhancing, fully-integrated On-Board Cryopump upgrade solution for all 9000 series and xr80 series Ion Implanters:
 - On-Board 10 Cryopumps replace the Cryo-Torr[®] 10 Cryopumps on the SIDE and REAR Stations.
 - Single-compressor systems are upgraded with two Model 9600 Compressors.



Value Proposition:

- This upgrade is for Customers who are concerned with reducing regeneration-caused downtime. This upgrade will increase tool availability and increased wafer throughput by enhanced hydrogen pumping during ion implants.

All upgrade inquiries must be transacted through Brooks technical support 1-800-FOR-GUTS[®]

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Features:

- Automated regenerations designed for optimal photoresist removal
- Fast Regenerations restore hydrogen pumping speed and capacity to 100%
- GOLDLink® enabled
- Analysis of historical On-Board performance
- Installed by experienced Brooks Engineers
- Backed by 1-800-FOR-GUTS®: 7x24x365 Technical Support

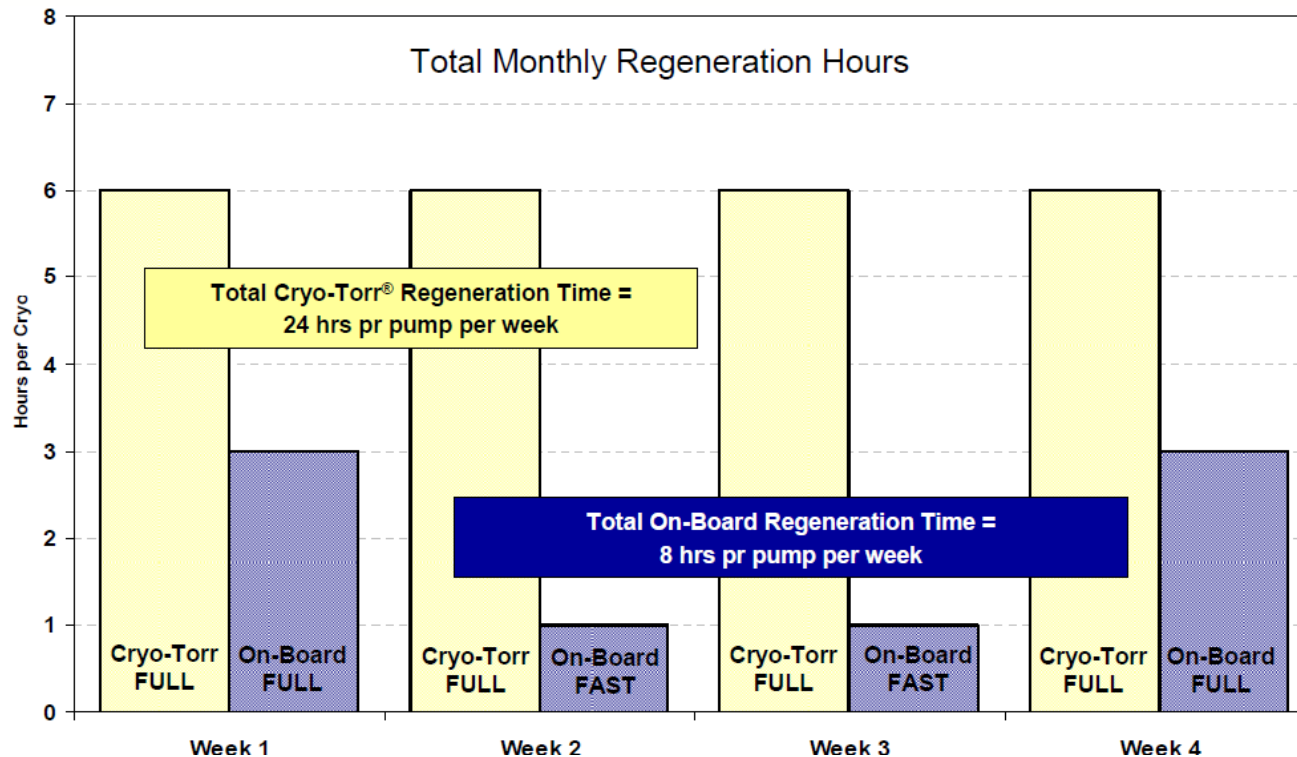
Benefits:

- **Lower Maintenance Costs**
 - Save \$3,000 to \$10,000 per cryopump over 24-months
- **Increase Tool Availability**
 - Reduce monthly regeneration times from 60 hrs to 18 hrs per pump
- **Increases Wafer Throughput**
- **Minimize pressure excursions and implant "dose holds"**
- **Extension and optimization of pump change-out cycles from historical analysis.**
- **Faster and improved automated regenerations**
 - Full Regeneration = 3 hours
 - Fast Regeneration < 1 hour

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- By utilizing On-Board's FastRegen[®] capability, availability-increasing benefits are immediately realized via reduced regeneration downtime. In addition, the new On-Board Ion Implant module will optimize Full Regenerations to remove internal build-up of process by-products, effectively extending each pump's operational life.



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