



Brooks On-Board[®] Upgrade for E220/500 Ion Implanters

Turn-Key Upgrade Package:

Brooks offers a performance-enhancing, fully-integrated On-Board Cryopump upgrade solution for all vacuum configurations VSEA E220/500 Ion Implanters:

- On-Board 4F Cryopumps replace Varian V300HT Turbopumps or Cryo-Torr[®] 100 Cryopumps on the Loadlocks.
- On-Board 250F or On-Board 10F Cryopumps replace Cryo-Torr 250F or Cryo-Torr 10 on the End-Station.



Value Proposition:

Customers will see *increased tool availability* by reducing regeneration-caused downtime and *increased wafer throughput* through improved base pressure in the loadlocks and end-station.



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Features

- Automated regenerations designed for optimal photoresist removal
- Faster and improved automated regenerations
 - Full Regeneration = 3 hours
 - Fast Regeneration < 1 hour
- Fast Regenerations restore hydrogen pumping speed and capacity to 100%
- GOLDLink® enabled
- Installed by experienced Brooks Engineers
- Backed by 1-800-FOR-GUTS®: 7x24x365 Technical Support

Benefits

- Increased wafer throughput and system availability.
- 35 to 40% reduction in pumpdown time due to improved waterpumping speed
- A savings of 10-100's of seconds each loadlock/process chamber pumpdown.
- Reduced Regeneration downtime due to FastRegen utilization.
 - Improved Process Capability.
- Better dose uniformity across batch, reduced or eliminated first wafer/last wafer effects.
- Reduced vacuum dose holds (beam interruptions due to vacuum recovery).



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Enhanced Water Pumping Speeds:

- Eliminate water vapor gas load from the LL's causes a pressure “burst” in the process chamber when the slit valve is opened
- Ensure specific target base pressure is obtained in the process chamber prior to implant start to improve process results

	Rated H ₂ O Speed	Elbow Installed?	Effective H ₂ O Pumping Speed in LL
V300 Turbopump	250 l/s	Yes	109 l/s
CT-100 Cryopump	1,100 l/s	Yes	139 l/s
Cryo-Torr 4F Cryopump	1,100 l/s	No	296 l/s

Brooks Integration Kit for E220/500 software:

- Allows adjusting of LL pump downtime (“Elevator ISO Valve Delay”)
- Ensures desired LL pump crossover pressures are obtained



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