



CRITICAL COMPONENTS
GROUP

CTI-Cryogenics® Enhanced On-Board 8F Cryopump

VACUUM PRODUCTS

Today's sputtering processes demand the highest possible process tool availability. The new, enhanced On-Board 8F Cryopump improves tool availability – by cutting regeneration frequency significantly.

It delivers better vacuum recovery in processes such as aluminum, TiN, titanium, and other sputtering applications. So you can run more wafers between regenerations. And with regenerations being less frequent, it's easier for you to schedule them at the same time as shield or target changes.

Your results – more tool availability, and more product wafer output.

Improved Vacuum Recovery Cuts Regeneration Frequency In Half

Many sputtering applications use a vacuum recovery step to maximize process performance. In this step, the process chamber must be pumped to a specified high vacuum level, within a specific time, after the feed gas is shut off. This step is a principal driver of cryopump regeneration frequency.

The enhanced On-Board 8F Cryopump maintains fast recovery performance longer, for fewer regenerations, in both argon- and nitrogen/argon-based sputtering. The figures illustrate its recovery performance for both process types, using a target recovery pressure of 1×10^{-7} Torr.

With recovery performance like this, you can cut your number of regenerations per month by 40% to 65%. And fewer regenerations mean that it's more likely you can regenerate only during times when you're doing a shield or target change.

(Note: Because pumping speeds for all gases are the same as in the On-Board 8F and Cryo-Torr 8F, no process requalification is required.)

Benefits

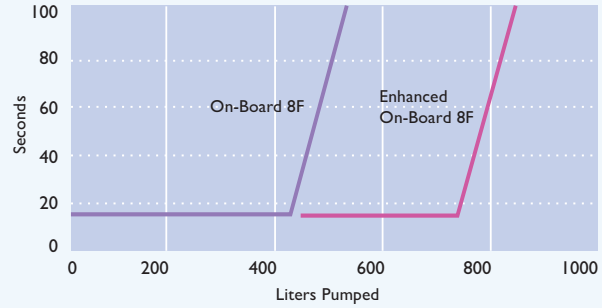
- Cuts Regeneration Frequency In Half
- Improves Sputtering Tool Availability
- Delivers Better Vacuum Recovery
- Increases Product Output Between Regenerations
- Backed by GUTS® (Guaranteed Uptime Support)



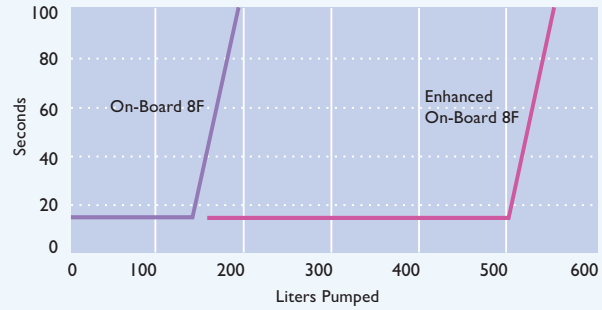
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On-Board 8F Cryopump

Recovery Performance Data

Recovery Performance
Argon Processes



Recovery Performance
N₂/Argon Processes
(>50%N₂)



In any vacuum process, recovery performance depends upon process specifics, including target recovery pressure. Contact CTI-Cryogenics to discuss your application.

Performance Specifications

Pumping Speeds	Hydrogen	2200 l/s
	Air	1500 l/s
	Water Vapor	4000 l/s
	Argon	1200 l/s
Argon Throughput	700 SCCM (9 Torr-l/sec)	
Hydrogen Capacity	12 std. liter (5x10 ⁻⁶ Torr)	
Crossover	150 Torr-liter	
Nominal Regeneration Time*	First and Second Stage	2.5 Hour
	Second Stage**	< 1 Hour

This cryopump is easily integrated into all process tools currently equipped with either On-Board 8F or Cryo-Torr 8F Cryopumps, either via factory installation (for new process equipment) or via in-fab retrofit to installed process equipment. Contact your CTI-Cryogenics representative for details.

* cold to cold ** Specify FastRegen Control Module for Sputtering

Backed by GUTS®

All CTI-Cryogenics products are backed by the GUTS (Guaranteed Up-Time Support) rapid response network, our comprehensive customer support program. When you call the GUTS service center, you are guaranteed immediate, competent response and action by a vacuum expert from our worldwide technical support staff. We're at work for you 24 hours a day, 365 days a year. In the U.S., dial 1-800-FOR-GUTS (800-367-4887).

For more information, please contact your local Brooks Automation sales representative or visit www.brooks.com.

