

ON-BOARD[®] CRYOPUMP SYSTEMS



THE PUMPS THAT LAUNCHED THE VACUUM REVOLUTION

When our CTI-Cryogenics On-Board cryopump systems were introduced, they launched a revolution in vacuum productivity that continues today.

On-Board cryopump systems featured fast regeneration, greatly reducing downtime between production cycles.

They were the first to deliver enhanced temperature control, for improved consistency in vacuum pumping speeds

and higher productivity. And they were the first to offer remote monitoring and control of pumps scattered around large facilities or even around the world.

Today, Edwards' first-generation On-Board® cryopump systems continue to offer a perfect blend of productivity,

reliability, vacuum consistency, central monitoring and price.

CTI-Cryogenics On-Board® cryopump systems from Edwards: still delivering high productivity around the clock, around the world.

CTI-Cryogenics vacuum products and tailored solutions provide the flexibility, superior reliability, and precise performance that are essential for a broad range of applications:

Semiconductor

Metrology
Physical Vapor Deposition
Chemical Vapor Deposition
Atomic Layer Deposition
Etch
Implant
Thermal Processing
Lithography

Data Storage

Magnetic/Optical Media
Read/Write Heads

Flat Panel Displays

Thin Film Coatings

Analytical

Ionization
Electron Beam

Education/Government

Accelerators and Synchrotrons
Space simulation
Fusion research
Surface science
Atomic Physics

Industrial

Vacuum furnaces
Heat treat furnace

FEATURES & BENEFITS

- **Fast Regeneration and multipump control reduces downtime and increases productivity**
- **Consistent vacuum performance that adapts to changing process conditions**
- **Remote monitoring enables predictive maintenance and higher productivity**
- **On-Board configurability – seemingly endless choices**
- **Backed by GUTS®**

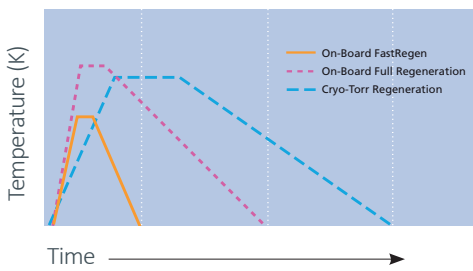
Fast Regeneration

Answering the call for greater uptime

Although capable of pumping enormous quantities of gas, cryopumps must eventually be “regenerated” to allow frozen gasses to be removed, renewing their vacuum capabilities.

Enabled by integrated controls, On-Board® cryopumps regenerate in one-half to one-third the time of traditional cryopumps. Not only are On-Board’s “full” regenerations faster, its highly sophisticated control system also assures that the regeneration process is truly complete, maximizing tool or process productivity.

Regeneration Summary



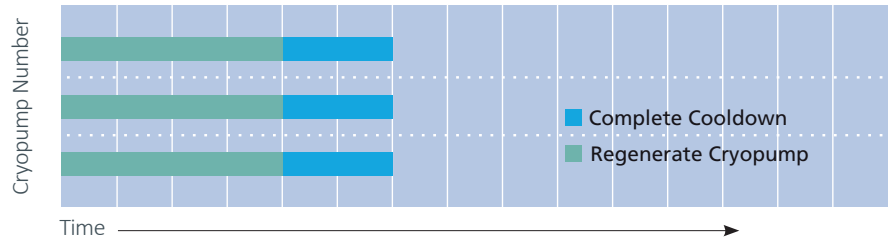
Moreover, On-Board’s FastRegen® capability further increases uptime by swiftly removing only the process gasses, restoring its performance in a fraction of the time required by a full regeneration.

Coordinated Multi-pump Regeneration

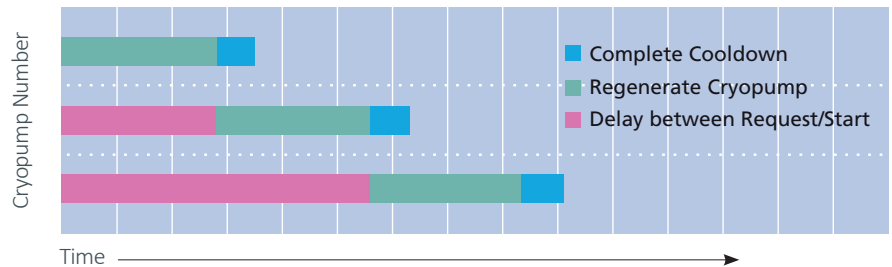
Boosting productivity through networked intelligence

For multiple cryopump systems, On-Board’s pump-to-pump communications network can be used to link cryopumps together and regenerate them in “groups” rather than “one-at-a-time.” By coordinating the regeneration tasks between pumps, On-Board’s group regeneration capability can return multiple pumps to full productivity in only slightly more time than what would take to regenerate a single, “non-intelligent” cryopump.

Group Regeneration



Serial Regeneration



SPECIFICATION

On-Board® Configurability

Seemingly endless choices

Edwards was first to offer both a “flat” CTI-Cryogenics cryopump configuration for low-profile applications, and a “straight” configuration for traditional applications.

On-Board cryopump sizes range from 4-inch to 400mm flange inner diameters (ID). We can provide the right configuration that meets your application requirement.

Your choices, however, don’t end with the selection of cryopumps. From a complete line of highly-reliable helium compressors to flexlines of nearly every shape and length, our extensive family of CTI-Cryogenics accessories is designed to meet virtually every vacuum requirement.

Backed by GUTS®

Regardless of your application, one thing is certain: when you need vacuum, you don’t need unplanned downtime. That’s why we invented GUTS – Guaranteed Up-Time Support.

You can call our GUTS line around the clock, around the world to get knowledgeable help in a hurry. We’ll either get you up and running through phone support, or we’ll take

immediate steps to get a part, a pump, or an experienced service engineer on-site to help.

Every call to our GUTS line is answered by a capable, empowered Edwards employee with the resources to diagnose customer problems quickly and accurately. Our commitment is to get your system back on-line quickly.



On-Board Cryopumps

On-Board Pump Model	4F	8	8F	250F	10	10F	400
Configuration	Flat	Straight	Flat	Flat	Straight	Flat	Straight
Vacuum Flange ID (Metal Seal, ANSI, and ISO)	100 mm	200 mm	200 mm	250 mm	290 mm	300 mm	400 mm
Gas Pumping Speeds							
Water Liters/Sec	1,100	4,000	4,000	6,500	9,000	9,500	16,000
Air Liters/Sec	370	1,500	1,500	2,200	3,000	3,600	6,000
Hydrogen Liters/Sec	370	2,500	2,200	3,200	5,000	6,000	12,000
Argon Liters/Sec	310	1,200	1,200	1,800	2,500	3,000	5,000
Gas Capacities							
Hydrogen Standard Liters	3	17	12	16	24	24	42
Argon Standard Liters	210	1,000	1,000	1,000	2,000	2,000	2,500
Throughput							
Argon Sccm	700	700	700	700	1,500	1,500	500
Argon Torr-Liters/Sec	9	9	9	9	19	19	6
Crossover Torr-Liters	100	150	150	150	300	300	300
Full Regeneration (Typical)	<1.4 hrs	<2.7 hrs	<2.7 hrs	<3.3 hrs	<2.2 hrs	<2.2 hrs	<3.8 hrs
Fast Regeneration (Typical)	<0.7hrs	<1.0 hrs	<1.0 hrs	<1.5 hrs	<1.0 hrs	<1.0 hrs	<1.6 hrs
Cryopump Weight							
Lbs	47	55	52	58	95	100	170
Kg	21	25	24	26	43	45	77

Standard products shown. Please contact Edwards for custom cryopump configurations and specifications.





GLOBAL CONTACTS

© Edwards Limited 2021. All rights reserved Edwards and the Edwards logo are trademarks of Edwards Limited.

Whilst we make every effort to ensure that we accurately describe our products and services, we give no guarantee as to the accuracy or completeness of any information provided in this datasheet.

Edwards Ltd, registered in England and Wales
No. 6124750, registered office: Innovation Drive,
Burgess Hill, West Sussex, RH15 9TW, UK.

EMEA		ASIA PACIFIC	
UK	+44 (0) 1444 253 000 (local rate) 0845 921 2223	China	+86 400 111 9618
Belgium	+32 2 300 0730	India	+91 20 4075 2222
France	+33 1 4121 1256	Japan	+81 47 458 8836
Germany	0800 000 1456	Korea	+82 31 716 7070
Italy	+ 39 02 48 4471	Singapore	+65 6546 8408
Israel	+ 972 8 681 0633	Taiwan	+886 3758 1000
		AMERICAS	
		USA	+1 800 848 9800
		Brazil	+55 11 3952 5000