

# CTI-CRYOGENICS® ON-BOARD® /S 320FX CRYOPUMP (30L & 40L CAPACITY)

[edwardsvacuum.com](http://edwardsvacuum.com)

The On-Board® /S 320FX Cryopump, developed specifically to address the challenges of today's ion implant processes, provides enhanced hydrogen pumping speed and capacity while maintaining all the quality, performance and reliability benefits you've come to expect from the On-Board® /S 320FE cryopump.

The On-Board® /S 320FX cryopump is designed to deliver the highest hydrogen vacuum pumping speed and capacity possible for improved product yield and tool throughput. Building upon Edwards' extensive cryogenic pump design expertise, this cryopump outperforms all other comparably sized pumps while meeting rigorous safety guidelines.

Intelligent system controls deliver better process quality, vacuum consistency and uptime, while providing real-time system knowledge for optimised motor speed and cryogenic temperature. Automatic adjustment for changing heat/gas loading conditions enhances vacuum consistency and improves inter-wafer recovery time. The On-Board® /S 320FX also adjusts for accumulation of process-related coatings without compromising reliability or productivity.

The On-Board® /S system ensures full use of system-level helium resources for any operational condition. A patented control system continuously regulates the helium allocation per pump thereby, increasing the pump-to-compressor ratio for reduced cost of ownership. In addition, On-Board /S cryopump systems reduce power and cooling water consumption.

Our state-of-the-art cryogenic array design with higher capacity brings about longer run times between regenerations, and reduces the impact of ion implant residuals for longer pump life. The IntelliPurge power management reduces unexpected pump regeneration due to short-term power failure, and ensures safety during an extended power outage. Proprietary regeneration sequences shorten regeneration time and ensure consistency in the performance of the pump after regenerations.

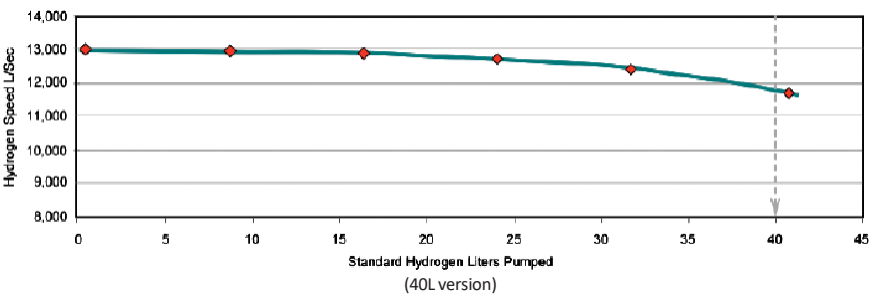
An integrated TC gauge and gate valve interlock eliminates the need for additional controllers, while integrated rough, purge, vent valves and controls simplify installation and improve system reliability.



## Features and Benefits

- Specifically designed for ion implant applications
- Optimised for tool throughput
  - 33% increased hydrogen capacity
  - 10% increase in hydrogen pumping speed
  - Meets existing safety guidelines
- Intelligent self-adjusting technology
  - Automatic cryogenic heat load compensation
  - Variable speed motor and control system with reduced vibration
- Lower cost of ownership
  - More pumps per compressor
  - Energy savings with no compromise in productivity
- Variable-speed motor for maximising pump operational life
- Increased uptime
  - IntelliPurge power failure pump management

Maximum Vacuum Performance Between Regenerations



Performance Specifications

	On-Board® IS 320FX
Gas Pumping Speeds*	
Water	11,000 L/Sec
Air	3,600 L/Sec
Hydrogen	12,500 L/Sec (30L)
	13,000 L/Sec (40L)
Argon	3,000 L/Sec
Gas Capacities	
Hydrogen	30L /40L
Crossover	300 Torr-L
Typical Regeneration Times (includes 20 min. extended purge time)	
Full (First and Second Stage)	150 Minutes
FastRegen™ (Second Stage only)	75 Minutes

Physical Features

ISO Vacuum Flange Inner Diameter	12.6 inches (320 mm)
----------------------------------	----------------------

\* Measurements per: "Recommended practices for measuring the performance and characteristics of closed-loop gaseous helium cryopumps." (J. Vac Technol. A 17(5), Sep/Oct 1999)

Features

Integrated Controls

- Pump-mounted, Field-replaceable Module
- Motor Drive Electronics
- Host Communication Interface (RS-232C, DB-9 Connector)
- First Stage Temperature Control
- Helium Management
- Service Communications Port
- Remote Display Option
- Gate Valve Control

Integrated Accessories

- First and Second Stage Temperature Sensors
- First and Second Stage Heaters
- Purge Valve
- Roughing Valve
- Vacuum (TC) Gauge
- Pressure Relief Valve
- Exhaust Purge Valve
- IntelliPurge System

Pump Motor

Variable Speed (3Ø, Low Vibration)

Power

200/230 VAC 50/60 Hz 1Ø, (5A)

Compatible Compressors

On-Board® IS-2000V, On-Board® IS-1000

Edwards continually updates its products to match the evolving needs of the semiconductor industry and any specifications given here are subject to change without notice.

## Official Distributor in Australia



# EZZI VISION

***Vacuum and Thin Film Technology***

### CONTACT US

T: 1800 GO EZZI

E: [sales@ezzivision.com.au](mailto:sales@ezzivision.com.au)

W: [ezzivision.com.au](http://ezzivision.com.au)

**VIC:** 13/62 Ramset Drive, Chirnside Park,  
VIC 3116, Australia

**NSW:** Unit 1, 80 O'Riordan St, Alexandria,  
NSW 2015, Australia

**WA:** Unit 11, 24 Baile Road, Canning Vale,  
WA 6155 Australia

### 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

UK

+44 (0) 1444 253 000  
(local rate) 0845 921 2223

Belgium

+32 2 300 0730

France

+33 1 4121 1256

Germany

0800 000 1456

Italy

+ 39 02 48 4471

Israel

+ 972 8 681 0633

#### ASIA PACIFIC

China

+86 400 111 9618

India

+91 20 4075 2222

Japan

+81 47 458 8836

Korea

+82 31 716 7070

Singapore

+65 6546 8408

Taiwan

+886 3758 1000

#### AMERICAS

USA

+1 800 848 9800

Brazil

+55 11 3952 5000

