



Innova ICE (Integrated Cooling Exchanger)

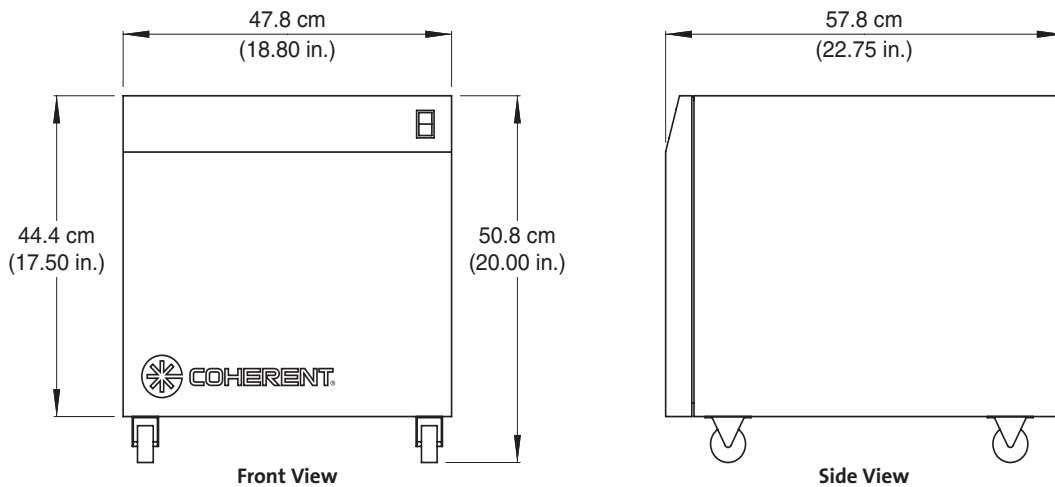
Compatible with all StarC, 70C, 90C, 300C, and FreD Lasers manufactured after January 1, 1997



Features

- Protects and extends tube life
- Improves laser performance and stability
- Powered and controlled from laser power supply
- Isolates laser from fluctuations of water quality, flow, pressure, and temperature
- Self-priming pump for easy start-up

Mechanical Specifications



Superior Reliability & Performance

Innova® ICE (Integrated Cooling Exchanger)

Compatible with all StarC, 70C, 90C, 300C, and FreD Lasers manufactured after January 1, 1997

Performance Specifications	Cooling Capacity at Maximum Plant Side Flow Rate (kW)	26
	Temperature Delta at Maximum Plant Side Flow Rate (°C)	40
	Maximum Plant Side Static Pressure (psi)	90
	Plant Water Temperature Range (°C)	5 to 30
	Plant Water Flow Range (gpm)	2 to 8
	Maximum Cooling Water Temperature into Laser (°C)	35
	Cooling Water Flow into Laser (gpm)	
	Minimum	1.8
	Nominal	2.5 to 3
	Maximum	3.5
	Cooling Water Pressure into Laser (psi)	
	Minimum Δ	22
	Maximum Δ	40
	Maximum Laser Side Return Temperature (°C)	60
Laser Side Temperature Regulation (at input of laser)(°C)	± 1	
Laser Loop Resistivity	Maintained between 50 k Ω -cm & 2 M Ω -cm	

Facility Water Requirements
The plant water required for Innova ICE can be either tap water or any closed loop water cooling system. It is important to note that the minimum temperature delta between the plant side of the Innova ICE and the laser side is 5°C (9°F).

AC Power Requirements
Power is provided by the power supply via interconnection umbilical. AC power required for the power supply is 208 VAC $\pm 10\%$ (range 187VAC to 229 VAC), 3-phase with ground, no neutral, WYE configuration, 50 or 60 Hz.

Utility Requirements	Resistivity	50.0 k Ω -cm to 2.0 M Ω -cm (>100.0 k Ω -cm recommended)
	pH	6 to 8
	Hardness	<100 mg/L (5.9 grains/gal.) or 100 parts/million of calcium
	Particulate Size	<200 μ m

Mechanical Specifications	Weight	
	Crated	102 kg (225 lbs.)
	Uncrated	75 kg (65 lbs.)

Typical Values for Coherent Ion Lasers	Innova 70C, StarC	Innova 90C, Innova 90C FreD	Innova 300C, Innova 300C MotoFreD
	Maximum Cooling Requirement (kW)	20	20

Coherent follows a policy of continuous product improvement. Specifications are subject to change without notice.

Coherent's scientific and industrial lasers are certified to comply with the Federal Regulations (21 CFR Subchapter J) as administered by the Center for Devices and Radiological Health on all systems ordered for shipment after August 2, 1976.

Coherent offers a limited warranty for all Innova Integrated Cooling Exchangers. For full details of this warranty coverage, please refer to the Service section at www.Coherent.com or contact your local Sales or Service Representative.



www.Coherent.com

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