

**Aumictech**

Test & measurement • bought, sold, repaired, calibrated

Data Sheet

August 15, 2026

COHERENT

Coherent Innova-90 Argon Ion Laser System

Coherent Innova 90 Small-Frame Argon Ion Laser System The Innova 90 is Coherent's water-cooled small-frame ion laser family (90-2 through 90-6 argon and 90-K krypton). OEM Innova 90 performance tables list TEM00 all-lines argon power 2.0 / 3.0 / 4.0 / 5.0 / 6.0 W for 90-2/3/4/5/6, single-line 514.5 nm 0.80 / 1.40 / 1.70 / 2.00 / 2.40 W and 488.0 nm 0.70 / 1.00 / 1.30 / 1.50 / 1.80 W. Wavelength coverage 454.5 to 528.7 nm visible argon with UV to 351.1 nm on equipped tubes. Typical service listings: 208 VAC 3-phase 50/60 Hz, up to 45 A per phase on 90-4/5/K high-field, water-cooled head about 56 × 6 × 6 in and 238 lb class on I-90/90-6 packages. The Innova 90 is Coherent's water-cooled small-frame ion laser family (90-2 through 90-6 argon and 90-K krypton). OEM Innova 90 performance tables list TEM00 all-lines argon power 2.0 / 3.0 / 4.0 / 5.0 / 6.0 W for 90-2/3/4/5/6, single-line 514.5 nm 0.80 / 1.40 / 1.70 / 2.00 / 2.40 W and 488.0 nm 0.70 / 1.00 / 1.30 / 1.50 / 1.80 W. Wavelength coverage 454.5 to 528.7 nm visible argon with UV to 351.1 nm on equipped tubes. Typical service listings: 208 VAC 3-phase 50/60 Hz, up to 45 A per phase on 90-4/5/K high-field, water-cooled head about 56 × 6 × 6 in and 238 lb class on I-90/90-6 packages. Raman, holography, pumping dye/Ti:sapphire, and visible/UV scientific sources needing a small-frame argon ion laser with Innova plasma tube.



MODEL

Coherent Innova-90

CALIBRATION

Available on request

CONDITION

Used

STATUS

In stock

RFQ / SKU

Innova-90

LISTING

<https://aumictechlabs.com/products/innova-90-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 • 811210 • 541380

This unit

The Coherent Innova 90C is a continuous-wave (CW) ion laser system designed for applications requiring stable and reliable laser output. It builds upon the performance of the Innova 90, offering enhanced features for scientific research, medical applications, and semiconductor processing. The laser utilizes a Series V metal/ceramic plasma tube for extended lifetime and a SuperInvar resonator for superior passive stability against thermal and mechanical fluctuations. It is available with optional configurations such as a single-frequency option for narrow linewidth and long coherence length, and an intracavity aperture for precise spatial mode control. The system is powered by a low-noise linear passbank power supply and controlled via a handheld remote.

Technical Specifications

- * **Laser Type:** Continuous-Wave (CW) Ion Laser Plasma Tube: Coherent Series V metal/ceramic plasma tube
- Resonator:** SuperInvar resonator structure for enhanced passive stability
- Power Supply:** Fully regulated series passbank design, low-noise output (~0.2% rms)
- Control:** Hand-held remote control
- Output Power and Wavelengths** The Innova 90C offers multi-watt output in the visible spectrum and deep-UV wavelengths through frequency doubling.

* **Multiline Visible Output:** Up to 5.00 W

Specific Wavelengths and Powers (Typical):

- * 514.5 nm: 2.00 W
- * 488.0 nm: 1.50 W
- * 496.5 nm: 0.60 W
- * 476.5 nm: 0.60 W
- * 501.7 nm: 0.40 W
- * 528.7 nm: 0.35 W
- * 457.9 nm: 0.35 W

* **Multiline UV3:** 0.4 W

Deep-UV (FRED Model): Utilizes intracavity frequency doubling in BBO crystals for CW output at seven wavelengths in the range 229-264.3 nm, with output power up to 0.1W.

- * 264.3 nm: 0.02 W
- * 257.2 nm: 0.10 W
- * 250.8 nm: 0.015 W
- * 248.2 nm: 0.06 W
- * 244.0 nm: 0.10 W
- * 238.2 nm: 0.03 W
- * 229.0 nm: 0.01 W

Beam Parameters

- * **Beam Diameter (at 1/e² points):** * 1 m from output bezel: 0.6-0.95 mm
- * **At output coupler mirror:** 1.76 mm (Typical)
- Beam Divergence (Full Angle):** 0.5-0.85 mrad
- Output Polarization:** 100:1 horizontal or 100:1 vertical
- Transverse Mode:** TEM00
- Stability** * **Power Stability:** ±1.0% (standard), ±0.5% (with PowerTrack™)
- * **Performance measured in light regulation with PowerTrack™ over a 30-minute period following a one-hour warm-up.**
- Frequency Stability:** Excellent frequency stability, particularly with the single-frequency option and temperature-stabilized etalon.

Single-Frequency Option

- * **Linewidth:** Narrow
- Coherence Length:** Long
- Intracavity Aperture** * **Function:** Easy and precise spatial mode control.

Electrical and Utility Requirements

- * **Input Power:** 3-phase with ground Voltage: 208 VAC ±10%, 50 or 60 Hz
- Maximum Current Draw:** 60 A per phase at 208 VAC
- Cooling:** Water-cooled
- * **Water Flow Rate:** 8.5 liters/min (2.2 gallons/min)
- * **Water Pressure:** 1.41 to 4.23 kg/cm² (20 to 60 psi)
- * **Incoming Water Temperature:** 10 to 35°C (50 to 95°F). Incoming water temperature must be above the dew point of the ambient air to avoid condensation on high-voltage circuitry.
- Purge Gas:** 0.5-1.0 SCFH (Standard Cubic Feet per Hour)
- Scientific Grade N2 (99.999%)**

Physical Specifications

- * **Laser Head Weight:** * Crated: 122 kg (270 lb) * Uncrated: 54 kg (120 lb)
- Power Supply Weight:** * Crated: 67 kg (147 lb) * Uncrated: 39 kg (86 lb)

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

Applications The Coherent Innova 90C is well-suited for:

- * Scientific research
- Semiconductor processing
- Medical applications
- Life Science OEM applications

Why Choose Aumictech for Coherent Innova-90? At Aumictech, we specialize in supplying high-end ion laser equipment.

Whether you need solid performance, long-term reliability, or flexible operating configurations for your application, our team ensures the Coherent Innova-90 delivers maximum performance.

INNOVA Characteristics / Specifications

PARAMETER	VALUE
Model	Innova-90
Instrument Type	Small-frame argon ion laser
Family	Coherent Innova 90 / I-90
All Lines 90	2000 mW TEM00
Line 514p5 90	2400 mW
Line 488p0 90	1800 mW
Visible Band	454.5 nm to 528.7 nm argon lines
Ultraviolet Class	351.1 nm class on UV-equipped tubes
Krypton Sibling	Innova 90-K 800 mW all-lines class (special optics)
Cooling	water-cooled plasma tube and magnet
Service Voltage Class	208 VAC 3-phase 50/60 Hz
Service Current Class	up to 45 A per phase on 90-4, 90-5, 90-K high-field magnet
Head Envelope Class	about 56 inWx 6 inDx 6 inHon I-90 listings
Head Mass Class	about 238 lb (108 kg) on I-90/90-6 package listings
Mode	TEM00 specified powers
Power Supply	matched Innova 90-n rack supply (90-6 on 6 W heads)
Manufacturer	Coherent
Literature	Coherent Innova 90 small-frame ion laser performance table
Single Line Note	OEM specifies single-line argon at 514.5 and 488.0 nm only; other lines are nominal
System Role	scientific CW ion laser

Full OEM specifications

Complete technical content extracted from the manufacturer datasheet. Sparse OEM tables are reconstructed as tables below; other text is preserved as paragraphs.

performance tables list TEM00 all-lines argon power 2.0 / 3.0 / 4.0 / 5.0 / 6.0 W for 90-2/3/4/5/6, single-line 514.5 nm 0.80 / 1.40 / 1.70 / 2.00 / 2.40 W and 488.0 nm 0.70 / 1.00 / 1.30 / 1.50 / 1.80 W. Wavelength coverage 454.5 to 528.7 nm visible argon with UV to 351.1 nm on equipped tubes. Typical service listings: 208 VAC 3-phase 50/60 Hz, up to 45 A per phase on 90-4/5/K high-field, water-cooled head about 56 x 6 x 6 in and 238 lb class on I-90/90-6 packages.

Applications
Raman, holography, pumping dye/Ti:sapphire, and visible/UV scientific sources needingasmall-frame argon ion laser with Innova plasma tube.

Key Features
Small-frame water-cooled Innova ion laser
Argon all-lines 2 to 6 W TEM00 by 90-2 through 90-6
Specified single lines 514.5 nm and 488.0 nm
208 VAC 3-phase service class
Innova plasma-tube architecture

Technical Specifications

Technical Specifications

PARAMETER	VALUE
Model	Innova-90
Instrument Type	Small-frame argon ion laser
Family	Coherent Innova 90 / I-90
All Lines 90 2	2000 mW TEM00
All Lines 90 3	3000 mW TEM00
All Lines 90 4	4000 mW TEM00
All Lines 90 5	5000 mW TEM00
All Lines 90 6	6000 mW TEM00
Line 514p5 90 2	800 mW
Line 514p5 90 6	2400 mW
Line 488p0 90 2	700 mW
Line 488p0 90 6	1800 mW
Visible Band	454.5 nm to 528.7 nm argon lines
Ultraviolet Class	351.1 nm class on UV-equipped tubes
Krypton Sibling	Innova 90-K 800 mW all-lines class (special optics)
Cooling	water-cooled plasma tube and magnet
Service Voltage Class	208 VAC 3-phase 50/60 Hz
Service Current Class	up to 45 A per phase on 90-4, 90-5, 90-K high-field magnet

PARAMETER	VALUE
Head Envelope Class	about 56 inWx 6 inDx 6 inHon I-90 listings
Head Mass Class	about 238 lb (108 kg) on I-90/90-6 package listings
Mode	TEM00 specified powers
Power Supply	matched Innova 90-n rack supply (90-6 on 6 W heads)
Manufacturer	Coherent
Literature	Coherent Innova 90 small-frame ion laser performance table
Single Line Note	OEM specifies single-line argon at 514.5 and 488.0 nm only; other lines are nominal
System Role	scientific CW ion laser

Notes

From Coherent Innova 90 small-frame TEM00 power table (90-2 through 90-6 all-lines and 514.5/488.0 nm). Confirm the installed head is 90-2/3/4/5/6 versus 90-K before using krypton rows. Tube current limits are on the Innova 90 power-supply/head nameplate.

Available from Aumictech

Used and refurbished unit evaluated in-house. Calibration: Available on request. Used · In stock.

Request a quote: sales@aumictech.com · +1 (484) 841-9341

Aumictech

788 S 500 E, Pleasant Grove, UT 84062
sales@aumictech.com · +1 (484) 841-9341
<https://aumictechlabs.com>

NIST-traceable calibration · SAM registered ·
30-day returns
NAICS 423690 · 811210 · 541380
Generated August 15, 2026

Technical content from manufacturer specifications. Unit photo/stock from Aumictech listing when available. Specifications subject to OEM documentation and unit condition.