

Concentration Monitor

CR-288®



- Provides process monitoring for inline liquid chemical applications
- Provides real-time information for point-of-use chemical /mixing blending, spiking and dilution without process intrusion or interruption
- PC-based graphical user interface software for data collection, analysis, and field calibration
- Stand-alone tool for improved productivity

The Jetalon CR-288® concentration monitor uses an optical system to provide real-time temperature-compensated concentration measurement in a compact, ultrahigh-purity package. The digital display unit and the 288-connect(r) software package combine convenient, scalable data interface and acquisition options via a graphical user interface and liquid crystal display (LCD).

Features

Sensor:

- Compact, ultrahigh-purity package
- Meets SEMI F57-0301
- Based on the principal of Index of Refraction
- Design optimizes fluid flow over the sensor
- Fine thread flare and Nippon Pillar Super 300 end connections standard; other end connections available.



Cable:

- Connects the sensor to the digital display unit
- FEP jacketed, EMC-shielded 10 ft. (3 m) instrumentation cable
- IP67-rated snap-on connector to HD 15 serial connector



Digital Display Unit (DDU):

- LCD Display
- 4-20 mA output for concentration and temp.
- (2) 5 Volt digital output channels
- Connects up 1-4 sensors per DDU
- RS-232 communication with computer software package, DB25/DB9 to USB 1.1 converter included
- Aluminum housing w/ mounting slots



288-connect® Software Package:

- Windows based
- Interfaces into real-time processes
- Real-time concentration and temperature data logging
- Allows rapid field calibration to specific process fluid

Sensor Materials of Construction

Component	Material
<i>Body</i>	<i>DuPont Teflon (modified PTFE)</i>
<i>Optical Window</i>	<i>Semiconductor-grade Sapphire</i>
Cable Receptacle	Polyphenylene sulfide (PPS)
Screws	PTFE-coated Stainless Steel
Bonnet, mounting plate	Homopolymer polypropylene (PP)
Body-to-bonnet gasket	DuPont Teflon (modified PTFE)

Wetted components listed in *italics*.

Performance Data

Data based on operation within the calibrated range, +/- 10% of the refractive index range.

- Refractive Index Accuracy (Refractive Index Units, RIU): +/- 1×10^{-4}
- Refractive Index Repeatability: 1×10^{-5}
- Concentration Accuracy: +/- 0.1% *
- Concentration Repeatability: 0.01%
- Temperature Accuracy: 0.1 C
- Temperature Resolution and Repeatability: 0.01 C
- Response Time: 1.2 sec (undamped) - damping is user configurable

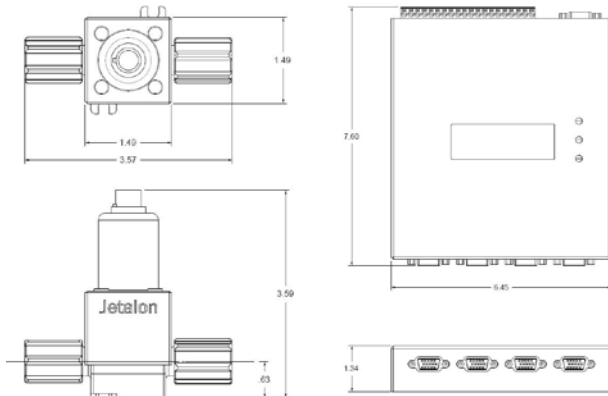
* Based on measuring ethylene glycol and water at 20 psig (1.3 bar), 76.1 F to 78.8 F (24.5 to 26 C), and a calibration range of 0 to 100% concentration.

Cleaning and Packaging

Every CR-288® sensor is cleaned and packaged in accordance with SEMI Standard F57-301 for ultrahigh-purity fluid system components. Sensors are laser marked for traceability.

Testing and Calibration

Every CR-288® sensor is factory leak tested to meet SEMI Standard E49.3, Section 9.2 for allowable leak rate. Each sensor is factory calibrated to deionized water at 20 C. The sensor calibration table can be updated with the 288-connect® software to optimize performance with other liquids.



Technical Data

Sensor Operating Parameters

Fluid Pressure Rating	0 to 80 psig (0 to 5.5 bar)
Fluid Temperature Rating	60 to 149 F (16 to 65 C)
Process Fluid Index of Refraction Range	1.28000 to 1.46389

Digital Display Unit Operating Parameters

DDU Power Requirements	24V (DC) +/- 5%, 0.5A min
Power Supply Input Requirements	100/240 V (AC) 50/60 +/- 3 Hz
Analog Output	4 to 20 mA for temperature and concentration percentage per sensor; up to four sensors per DDU
Serial Port	RS-232
LCD Display	Backlit LCD with three LED status lights
Sensor Electrical Connector	IP67-compliant, 12-pole, 1 A, panel-mount type
Ambient Operating Environment	Room Temperature: 77 +/- 9 F (25 +/- 5 C)
Electromagnetic Compatibility	CE-conformity, EN61326, FCC part 15, IDES-001, SEMI E33-94

Software

Windows-based interface for user setup, calibration, monitoring and data-logging of up to four sensors. System Requirements: Windows 98 or higher, 128+MB RAM, CD-ROM

Warranty Information

CR-288® is backed by a Limited Lifetime Warranty. For more information, please contact Jetalon directly.

Purchasing Information

To purchase the CR-288® Concentration Monitor, please contact Jetalon directly:

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