UltraChem® 40

Liquid Particle Counter

Without measurement there is no control.

NanoVision Technology

NanoVision Technology — The Visible Advantage

Your products need reliable contamination monitoring. You need to detect the smallest particle possible. Now get both – sensitivity to 40 nm particles with the greatest reliability available on the market.

If your application requires measuring small particles in chemicals with high molecular scatter, UltraChem 40 is the best tool for the job. NanoVision Technology eliminates the competition between the light scattered by fluid molecules and that from the particles. This makes 40 nm sizing possible for the first time.

Background and false counts are a thing of the past. The NanoVision Technology breakthrough ensures only information that matches a particle fingerprint is counted. The result: Data you can act on with confidence.

UltraChem 40 Liquid Particle Counter achieves this sensitivity in chemicals using a low cost laser diode. The proven long life of the diode enables a three-year warranty for maximum confidence in your particle counter.

Finally the performance you demand from a particle counter you can trust — UltraChem 40.

BENEFITS

Detect Small Particles

- 40 nm sensitivity
- Large sample volume for improved data quality

NanoVision Technology

- Adaptive technology makes the instrument immune to most optical contamination
- See what your particle counter sees
- Measures small particles in a wide range of chemicals, including high molecular scattering fluids. Chemicals include:
  - PGMEA
  - Photoresist solvents
  - HF
  - Sulfuric acid

Low Cost of Operation

- 2-year warranty
- Solid state laser diode
- Simple design

Versatile

- Online or batch sampling capabilities
- Multiple communication protocols
- Small footprint allows placement in various locations

APPLICATIONS

- DI water monitoring
- Chemical distribution monitoring
- Chemical quality assurance
- Immersion lithography

PARTICLE MEASURING SYSTEMS

UltraChem® 40

Liquid Particle Counter

specifications

Size range	40 – 125 nm
Size channels	40, 70, 100, 125 nm
Flow rate	5 ml/min
Sample volume	2 ml/min nominal
Maximum concentration	2,500 particles/ml, Monitor and Spectrometer mode 15,000 particles /ml, High-Scatter mode
Sample temperature	50 – 302 °F (10 – 150 °C)
Zero count	< 20 counts/l
Laser source	Laser diode Class I, complies with US 21 CFR 1040.10 and EN 60825-1; Internally an enclosed Class 4 laser is used per EN 60825-1
Wetted surface materials	Sapphire, Teflon®, KEL-F®
Dimensions (d, w, h)	17.5 x 18.75 x 11.75 in (68.9 x 47.6 x 29.8 cm)
Weight	35 lb (16 kg)
Power	100 – 240 VAC 1.25 Amp
Communications	Ethernet (PMS protocol) 4-20 mA RS-232 (for set up only)
Calibration	Materials used are traceable to National Institute of Standards and Technology (NIST) and/or Japanese Industrial Standards (JIS)
Environment	Temperature: 50 – 95 °F (10 – 35 °C); Humidity: Non-condensing Optional Class I, Division 2 rated Indoor use only Pollution degree 2 Over-voltages (transients) Category II Ordinary protection (not protected against harmful ingress of moisture) Class I equipment (Electrical earth ground from the mains power source to the product input is required for safety)
Warranty	2-year
ELECTRONIC FLOW CONTROLLER	
Range	2 – 20 ml/min
Accuracy	± 10%
Control	0 – 10 VDC (supplied by sensor)
Fluid temperature	50 – 176 °F (10 – 80 °C)
Fluid pressure	70 psi, maximum
Wetted materials	PFA/PTFE
Communications	RS-232 (maintenance functions only)
Operating principle	Ultrasonic flowmeter with active PID needle valve control
Warranty	1-year

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PARTICLE MEASURING SYSTEMS

05/13/14