

UltraChem[®] 40

Liquid Particle Counter

Highly reliable particle counter with 40 nm sensitivity for high molecular scatter applications



Without measurement there is no control

NanoVision Technology

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 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.

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

- 3-year warranty on Liquid Particle Counter
- 1-year warranty on Electronic Flow Controller
- 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 (cold and hot)
- Chemical distribution monitoring
- Chemical quality assurance
- Immersion lithography



**PARTICLE
MEASURING
SYSTEMS[®]**

a spectris company

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 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 | 3-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 |

HEADQUARTERS

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