

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.



**PARTICLE
MEASURING
SYSTEMS®**

a spectris company

 **enviroterm**

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

UltraChem[®] 40

Liquid Particle

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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