

# UltraChem<sup>®</sup> 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<sup>®</sup> 40 is the best tool for the job. NanoVision Technology<sup>®</sup> 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<sup>®</sup>

- 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<sup>®</sup>**

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# UltraChem<sup>®</sup> 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 <sup>®</sup> , Kel-F <sup>®</sup>
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

5475 Airport Blvd  
Boulder, Colorado 80301 USA  
**T:** +1 303 443 7100, +1 800 238 1801

Instrument Service & Support  
**T:** +1 800 557 6363

Customer Response Center  
**T:** +1 877 475 3317  
**E:** info@pmeasuring.com

www.pmeasuring.com  
info@pmeasuring.com



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MEASURING  
SYSTEMS<sup>®</sup>**  
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### GLOBAL OFFICES

AUSTRIA  
**T:** +43 512 390 500  
**E:** pmsaustria@pmeasuring.com

BENELUX  
**T:** +32 10 23 71 56  
**E:** pmsbelgium@pmeasuring.com

BRAZIL  
**T:** +55 11 5188 8227  
**E:** pmsbrazil@pmeasuring.com

CHINA  
**T:** +86 21 6113 3600  
**E:** pmschina@pmeasuring.com

FRANCE  
**T:** 33(0)1 60 10 32 96  
**E:** pmsfrance@pmeasuring.com

GERMANY  
**T:** +49 6151 6671 632  
**E:** pmsgermany@pmeasuring.com

ITALY  
**T:** +39 06 9053 0130  
**E:** pmsrl@pmeasuring.com

JAPAN  
**T:** +81 3 5298 8175  
**E:** pmsjapan@pmeasuring.com

KOREA  
**T:** +82 31 286 5790  
**E:** pmskorea@pmeasuring.com

MEXICO  
**T:** +52 55 2271 5106  
**E:** pmsmexico@pmeasuring.com

NORDIC  
**T:** +45 707 028 55  
**E:** pmsnordic@pmeasuring.com

PUERTO RICO  
**T:** +1 787 718 9096  
**E:** pmspuertorico@pmeasuring.com

SINGAPORE  
**T:** +65 6496 0330  
**E:** pmsingapore@pmeasuring.com

SWITZERLAND  
**T:** +41 71 987 01 01  
**E:** pmsswitzerland@pmeasuring.com

TAIWAN  
**T:** 886-3-5525300 Ext: 301  
**E:** pms taiwan@pmeasuring.com