NIVETEC
Instrumentação e Controle

UV254 ORGANICS MONITOR
UVM5000

Organics

STANDARD FEATURES

- Online continuous operation
- Patent pending Ortho-Beam technology
- 254nm wavelength UV light source
- Displays either UV Transmittance or UV Absorbance values
- User friendly interface
- 4-20mA analog output
- RS232 for data logging via PC
- Dry contact for user configurable alarms

OPTIONAL FEATURES

- Automatic chemical cleaning system
- Dual sample feed capability

BENEFITS

- Surrogate measurement for TOC/DOC
- Reduced need for cleaning
- Continuous compensation for lamp drift and cuvette fouling
- No reagents
- Much lower cost than other online organics monitors
- Very low maintenance costs

APPLICATIONS

Water Treatment

- Detect changes in coagulant demand
- Monitor organics removal
- Optimize UV disinfection systems
- Monitor potential for disinfection byproducts (DBPs)

Distribution System Monitoring

- Detect system contamination

Wastewater Treatment

- Monitor effluent discharge

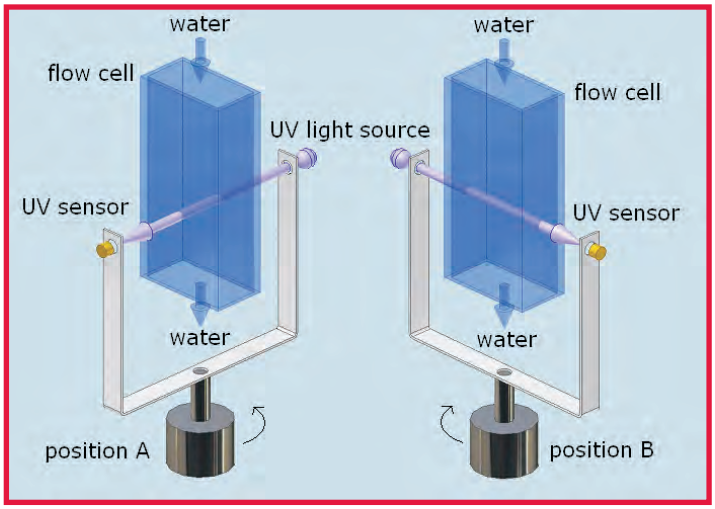
DESCRIPTION

The UVM5000 provides online continuous organics monitoring utilizing a 254 nm ultraviolet light source. The amount of light absorbed provides an ongoing indication of natural organic matter (NOM) in a flowing sample, and serves as a continuous surrogate measurement for total organic carbon (TOC). More specifically, UV254 is the best detector of aromatic or reactive organics which when combined with chlorine, can form disinfection by-products (DBPs). The patent pending Ortho-Beam technology provides many significant advantages while maintaining affordability. The monitor's unique ability to automatically detect and compensate for UV lamp fluctuations and quartz fouling minimizes losses in accuracy over time, and significantly reduces maintenance.

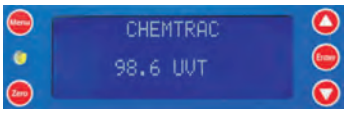
CHEMTRAC

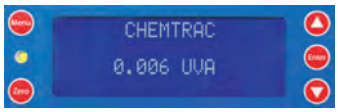
GENERAL SPECIFICATIONS

Range:	0 - 100% UVT, 0 - 2 UVA
Accuracy:	± 0.5% FS
Repeatability:	± 0.1% UVT
Resolution:	0.1% UVT, 0.001 UVA
Units:	cm^{-1}
Path Length:	10 mm
Sampling Time:	10 seconds
Flow Rate:	300 - 1000 mL/min.
Calibration:	Ortho-Beam technology allows continuous automatic calibration during operation
Cleaning:	• Significantly reduced cleaning requirements due to Ortho-Beam technology • Automatic cleaning (optional)
Self Diagnostics:	Continuous detection of leaks, lamp output, humidity, temperature, and electrical fault
Operator Interface:	Five push-button menu system
Display:	• 4 line x 20 character backlit LCD • Multi-color indicator light for system alarms and warnings
Alarms:	Dry-contact terminals allow operator configurable alarms for: • High and low UVT/UVA setpoints • Low lamp output • Leak detection • Electrical and system fault
Humidity Control:	Humidity sensor with large regeneratable desiccant system
Outputs:	• 4-20 mA output configurable to either UVT or UVA • Dry-contact terminals for alarm conditions • RS232 for data logging via PC
Wavelength:	253.7 nm
Light Source:	Low pressure mercury UV lamp
Lamp Life:	2 year expected
Dimensions:	14” H x 12” W x 8” D
Enclosure:	Nema 4X, wall mountable
Fluid Connections:	1/4” tube compression in/out
Electrical:	24VDC 20W power adapter (accepts 90-250 VAC 50/60 Hz)
Storage Temp:	-4º to 140º F (-20º to 60º C)
Operating Temp:	32º to 113º F (0º to 45º C)
Warranty:	2 year limited warranty
Options:	• Dual Feed • Automatic chemical cleaning • Open channel / Non-pressurized pump system

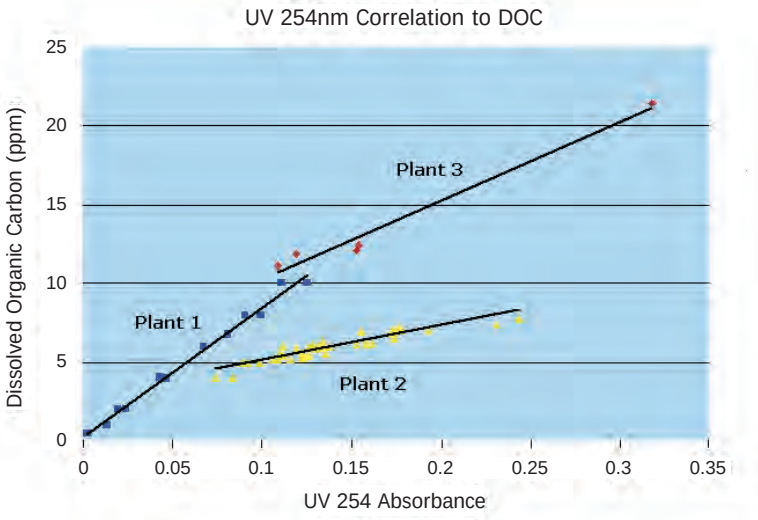


With the Ortho-Beam technology, UV 254 nm measurements are alternately taken at 90-degree angles to each other through a rectangular quartz flow cell by rotating the lamp/sensor fixture back and forth between the two positions. The two UV 254 nm readings give the amount of light able to transmit/absorb through two different path lengths of the test water. From these two measurements alone, quartz fouling and lamp fluctuations are intrinsically compensated for by the measurement process.





The LCD display can indicate organics levels as a % transmittance, or as an absorbance value.



Site-specific correlations can be made between UV 254 and other organic test parameters such as TOC or DOC.