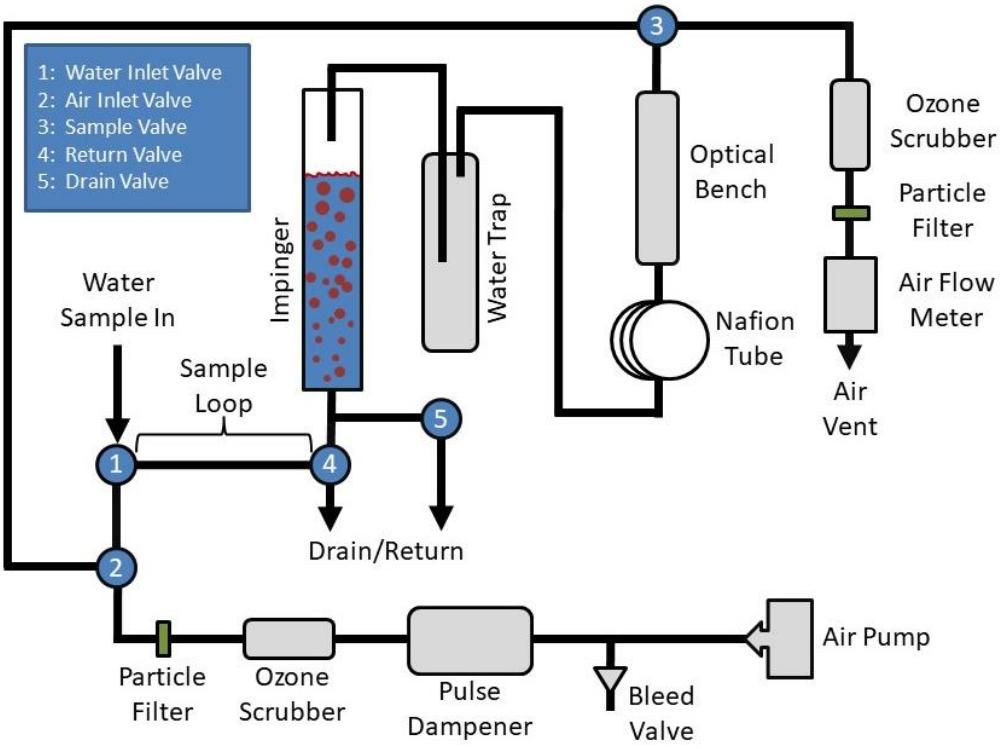
Model UV-106-W Aqueous Ozone Monitor™

MicroSparge™ Technology

The Model UV-106-W Aqueous Ozone Monitor™ uses our patented MicroSparge™ technology to measure dissolved ozone in water with high precision and accuracy. Unlike most dissolved ozone sensors, the instrument does not make use of a membrane that will foul over time. Instead, dissolved ozone is measured by nearly complete sparging (bubbling) of ~2 mL of water with ozone-scrubbed ambient air and integrating the gas-phase concentration of ozone stripped from solution. A small correction, based on the temporal profile of ozone removed from solution, is applied to account for any ozone remaining in solution. Because ozone is measured in the gas phase, interferences from particles and dissolved inorganic and organic compounds are removed, making the instrument applicable to both ultrapure water and "dirty" water, such as drinking water, which can contain a wide variety of dissolved inorganic and organic impurities and suspended particles.

The Model UV-106-W Cleaning System is available for separate purchase from 2B Technologies. It should be used whenever the Aqueous Ozone Monitor is sampling "dirty" water (i.e., water that will precipitate solids in the presence of ozone). The Cleaning System adds citrate to the sample flow at regular intervals to remove scaling and buildup of deposits.

Schematic Diagram



Features

- Interference-free measurement of dissolved ozone in ultrapure or "dirty" water
- NEMA water-proof housing
- New measurement every 10 s
- Internal data logger logs 16,383 lines of data
- Precision and accuracy of 0.05 ppm or 1% of reading
- Both serial and user-scalable analog outputs (0-2.5 V and 4-20 mA)
- Selectable data averaging times of 10 s, 1 min, 5 min and 1 hr
- LED alarms

Options

- Breakout box for power, RS232, 0-2.5 V and 4-20 mA connectors, and 2 relays
- Cleaning System
- Metal stand

Specifications

Measurement Principle (Absolute Method)	Integrated UV Absorbance of Ozone Sparged from ~2 mL of Water Sample
Applications	Ozone in Clean or “Dirty” Water
Ozone Concentration Range	0-100 ppm (g/m^3, μg/mL)
Precision	Greater of 0.05 ppm or 1% of Reading
Accuracy	Greater of 0.05 ppm or 1% of Reading
Zero Drift	< 0.05 ppm per month
Measurement Frequency	10 s
Response Time	20 s
Averaging Times	10 s, 1 min, 5 min, 1 hr
Ozone Units Displayed	ppm, ppb, μg/mL, mg/L, g/m^3
Power Requirements	11-14 V DC, 1.7 A at 12 V, 20.4 watts (1.75 A, 21 watts with Cleaning System)
Sample Water Flow Rate	Nominal: 250-300 mL/min; Range: 50-1000 mL/min
Pressure Range	0-50 psi (>100 psi Burst Pressure)
Housing	NEMA
Relays (2 in Optional Breakout Box)	0.1 ppm Resolution, 2-Level, SPDT Dry Contacts
Analog Outputs	4-20 mA, 0-2.5 V (2 point scalable)
Digital Outputs	LCD, RS232, USB
Baud Rates	4800, 9600, 38400
Logging	Internal Data Logger, 16,383 lines (10 s avg. = 1.9 days; 5 min avg = 57 days)
LED Alarms	Low Lamp, Low Flow, Invalid Measurement
Dimensions (without mounting bracket)	13.3h × 12.0w × 7.3d in (33.8 × 30.5 × 18.5 cm)
Weight	15.1 lb (6.8 kg)

System Includes

- Model UV-106-W Aqueous Ozone Monitor
- Model UV-106-W Cable Assembly
- AC Power Adapter (100-240 VAC to 12 VDC, 5 amp) with Country-Specific Plug
- Pressure Reduction Needle Valve Assembly
- Serial Cable (9-pin F to 9-pin F)
- Serial-to-USB Converter and Gender Changer
- Operation Manual on USB Stick
- Calibration Data and Certificate
- Instrument Birth Certificate
- One-Year Warranty