



AQUAVOLT™ Line Precision Moisture Analyzers

Industrial Gas

Electronic Gas

Natural Gas

Medical & Aviation

Aerospace & Military

Glove Box

Specialty Gases

Reliable and longstanding staples of the gas industry, the AquaVolt and AquaVolt+ provide accurate, calibration-free technology for trace moisture analysis across a range of applications, as follows:

The AquaVolt Line provides precise, on-line for:

- European Pharmacopoeia requirements for moisture analysis in medical gases
- Industrial process gases in production
- Industrial gas at various stages of product purification
- Trailer and cylinder filling operations
- Instrument air used in pneumatic systems
- Shielding gases used in welding

More applications for the AquaVolt+ include:

- Semiconductor manufacturing
- Specialty gas applications
- Mobile cart applications
- Research/scientific labs

Thoughtful features save space, ease operation, and boost confidence, including:

- ✓ **Compact, flexible footprint:** Two analyzers fit neatly into ONE 19" RACK!
- ✓ **Ease of Use:** User-friendly keypad interface, bright vacuum fluorescent display (VFD) and helpful menu-driven prompts make it simple to specify, to configure, and to start up for your specific application
- ✓ **Flash upgradable software:** Easily upgrade unit software via RS232 port
- ✓ **Adjustable outputs:** Flexibility to change output scales in the field. No need to replace electronic components or access the internal components. Simply access menu via Mode/Enter key and select output scale.
- ✓ **Mass Flow Control:** Select your sample gas from the main menu and the microprocessor automatically adjusts the mass flow controller to the proper set point.
- ✓ **On-line verification:** Conveniently check proper cell operation using simple Delta Flow procedure to verify sensor linearity and performance on-line.
- ✓ **Consistency and precision:** The reliability and accuracy of MEECO's time-proven electrolytic sensor are unique among its peers. When you have been doing something since the early 1950's, you approach perfection...

AQUAVOLT Line

Precision Moisture Analyzers



Performance	AquaVolt	AquaVolt+
Operating range	1-1000 ppmV	0.035-20 ppmV in Inert Gases. Please inquire regarding performance in other gases
Detection limit (LDL)	1 ppmV	35 ppbV
Accuracy (greater of)	±5% of reading or 0.4 ppm, whichever is greater *	±5% of reading or 35 ppb, whichever is greater **
Ambient Temperature	0°C to +60°C	0°C to +60°C
Gas Handling System and Conditions		
Gas connections	1/8" Compression	1/4" VCR Inlet 1/8" Compression outlet
Inlet pressure	10-3000 psig	10-3000 psig
Flow rate	@1.1 liter/min combined sample and bypass	@1.1 liter/min combined sample and bypass
Dimensions	H x W x D [in (mm)]	H x W x D [in (mm)]
Rack Mount	19" x 17" x 7" (48.3 cm x 43.2 cm x 17.8 cm)	19" x 17" x 7" (48.3 cm x 43.2 cm x 17.8 cm)
Weight		
Rack Mount	25 lbs. (11.34 kg)	25 lbs. (11.34 kg)
Electrical		
Alarm indicators	One (1) System Alarm	One (1) System Alarm
	One (1) Flow Alarm	One (1) Flow Alarm
	Two (2) User Adjustable Moisture Level Alarms	Two (2) User Adjustable Moisture Level Alarms
Power requirements	100-240 vac, 50/60 Hz	100-240 vac, 50/60 Hz

* For pure O₂: ± 10% of reading/3 ppm, whichever is greater

** For pure O₂ or air: +/- 100 ppb or 20%, whichever is greater

Principle of Operation

Based on Faraday's Law of Electrolysis, the AquaVolt's sensor absorbs and electrolyzes moisture at fractional parts-per-million or parts per billion (ppm or ppb). 100% of the sample moisture is absorbed by a phosphorus pentoxide (P₂O₅) film that covers two spirally-wound electrodes embedded in a hollow glass tube. When the sample gas enters the cell at a known flow rate, the film absorbs all the moisture molecules present. By applying an electrical potential (voltage) to the electrodes, each absorbed water molecule is electrolyzed, generating a finite current. This current is precise and proportional to the amount of absorbed water. It is a direct measurement of the water vapor present in the sample gas.

The Trusted Name In Moisture Analysis. Founded in 1948, MEECO specializes in moisture analyzers used in facilities around the world. We tackle the tough problems, such as natural gas pipelines, where instruments are often subject to physical abuse, corrosives and serious contaminants. We're proud to report, the MEECO name is synonymous with moisture analysis.

