

MEECO INC

The **AQUAVOLT™** Family

PRECISION MOISTURE ANALYZERS



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As the newest additions to the MEECO line of precision moisture analyzers, the AquaVolt and AquaVolt+ provide cutting edge microprocessor technology for rack-mount requirements. The 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. Plus, you still get the reliability and accuracy of MEECO's time-proven electrolytic sensor.

AquaVolt™ Applications

The AquaVolt provides precise, on-line moisture monitoring for:

- 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

The AquaVolt+ can be used in the applications above, as well as:

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



Features :

- **Modular Design:** Accommodates one or two units in a single 19" rack-mount package. Offers space savings and flexibility in configuring analytical racks for multiple gas samples.
- **Flash Upgradable Software:** Easily upgrade unit software via the RS232 port.
- **Units of Measure:** Microprocessor-based electronics allow choice of display options including ppbV, ppmV, ppmW, or °C and °F dewpoint.
- **Five Button User Interface:** Mode/Enter key, along with simple Up, Down, Left and Right keys, make using the menu quick and simple.
- **VFD Display:** Bright, easy-to-read display allows direct indication at point-of-use, as well as quick field configuration of the control parameters.
- **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.
- **Approvals:** CE Mark.

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). How: One hundred percent of the sample moisture is absorbed by a phosphorus pentoxide (P_2O_5) 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, therefore, an exact, direct measurement of the water vapor present in the sample gas.

Specifications

	AquaVolt	AquaVolt+
Range:	1-1000 ppmV	0.035-20 ppmV Inert Gases. Please inquire regarding performance in other gases.
Lower Detection Limit:	1 ppmV	35 ppbV
Accuracy:	±5% of reading or 0.4 ppm, whichever is greater	±2% of reading or 20 ppb, whichever is greater
Units of Measure:	Field selectable choice: ppbV, ppmV, ppmW, dewpoint in °C or °F	
Power:	100-240 vac, 50/60 Hz	
Output Signal:	Isolated 0-5vdc or Isolated 4-20 mA Standard (Field Configurable) RS232 Communications Standard	
Alarms:	Standard with One (1) Cell Failure fixed Two (2) User Adjustable Moisture Level Alarms	
Inlet Pressure:	10 - 3000 psig	
Ambient Temperature:	0 °C to +60 °C	
Flow Rate:	@1.1 liter/min combined sample and bypass	
Gas Connections:	1/8" Compression	1/4" VCR Inlet 1/8" Compression Outlet
Weight:	25 lbs (11.34 kg)	
Dimensions:	19" x 17" x 7" (48.3 cm x 43.2 cm x 17.8 cm)"	

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