



# WATERBOY 2™

## MICRO-PROCESSOR BASED PORTABLE MOISTURE ANALYZER

**The Portable Moisture Measurement Solution** The MEECO WaterBoy 2 offers a cost effective solution for reliable, portable moisture analysis. Utilizing our time-proven electrolytic technology, it features new micro-processor driven electronics.

The simplicity of the WaterBoy 2's three-button interface makes changing display options effort-less. Now, with the push of a button, you can select from five different display options.

Its modular design and sturdy construction is ideal for field conditions. The WaterBoy 2 is equipped with an internal 24 Vdc lead acid rechargeable battery, in addition to a 110 Vac transformer. And, with the optional RS-232 port, you can send data to a printer, a computer or other control device.

### Principle of Operation

Based on Faraday's Law of Electrolysis, the WaterBoy 2's sensor absorbs and electrolyzes moisture to fractional parts-per-million (ppm).

**How:** One hundred percent of the sample moisture is absorbed by a hygroscopic film that covers two spiral wound electrodes embedded in a hollow glass tube. When the sample gas enters the cell at a known flow rate, the phosphorus pentoxide ( $P_2O_5$ ) 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.

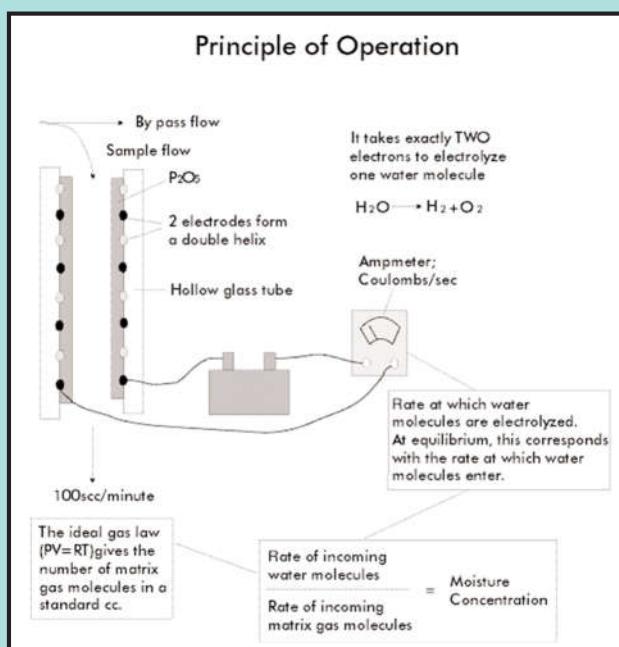
**NOTE:** European Pharmacopoeia for moisture analysis in medical gases.

### **WaterBoy 2™ Key Features Include:**

**Units of Measure:** Micro-processor based electronics allow choice of display options including ppmV, ppmW, lbs/mmscf, or °C and °F dewpoint.



### **Moisture In = Current Out**



**Three-Button User Interface:** Mode/Enter key, along with simple Up and Down keys, make using the menu quick and simple.

**LCD Display:** Integral digital display allows direct indication at point of use, and quick field configuration of the control parameters. Also includes low battery indicator light.

**Scaleable Outputs:** Flexibility to change output scales in field. No need to replace electronic components. Simply access menu via Mode/Enter key and select output scale.

**On-Line Verification:** Use simple Delta Flow procedure to quickly verify sensor linearity and performance on-line.

**Approvals:** FM Approved Class 1 Division 2, Non-incendive.

Specifications	
<b>WaterBoy Features:</b>	Stable value indication Low battery indication
<b>User Interface:</b>	3 key touch pad
<b>Display:</b>	1 line, 16 character alphanumeric LCD 3/8" high digits
<b>Display Options:</b>	ppmV, ppmW (requires user input of molecular weight), °C and °F dewpoint am lbs/mmscf (Note: °C and °F dewpoint is referenced to atmospheric pressure. Pressure dewpoint available with user input of operating pressure).
<b>Power:</b>	Internal 24 Vdc lead acid rechargeable battery with a 2.6 amp hour rating (suitable for 5-day typical operation at room temperature).  External 24 Vdc MEECO supplied 110 Vac wall transformer. (Unit can be operated while charging).  Optional external 24 Vdc ±10% 1/2 amp maximum power supply (customer supplied).
<b>Output Signal:</b>	0-1 Vdc output into 2k ohms or greater (standard). Field range programmable.  Isolated RS232 (optional). Reduces battery operation time by 50%.
<b>Inlet Pressure Range".</b>	WaterBoy 2 Model 3200 or 3250: 50-3000 psig WaterBoy LP2 Model 3260: 5-100 psig
<b>Operating Temperature:</b>	-20 °C to +60 °C (-40 °F to 140 °F)
<b>Accuracy:</b>	±5% of reading or 0.4 ppm, whichever is greater **
<b>Ranges:</b>	0—1000 ppmV with 0.1 ppm resolution (100cc flow tmts) 0—5000 ppmV with 1 ppm resolution (10cc flow units)
<b>Fittings and Connections:</b>	1/8" Compression
<b>Weight:</b>	17 bs. (7.7 kg)
<b>Lower Detection Limits:</b>	1 ppmV
<b>Flow Rate:</b>	Sample: 10 sccm or 100 sccm Bypass: 1000 sccm
<b>Approvals:</b>	FM Approved Class 1, Division 2, Non-Incendive. The Electrolytic Technology is specified by the European Pharmacopoeia for moisture analysis in medical gases.
<b>Gas Compatibility:</b>	Consult Factory

\*Model F3260 WaterBoy LP2 is available for sample gas inlet pressures less than 100 psig

\*\*in pure O<sub>2</sub>: ± 10% of reading/3 ppm, whichever is greater

**The Trusted Name In Moisture Analysis.** Founded in 1948, MEECO specializes in moisture analyzers used in countless 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. In the gas industry, we're proud to report, the MEECO name is synonymous with moisture analysis.



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