

# 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 effortless. 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).

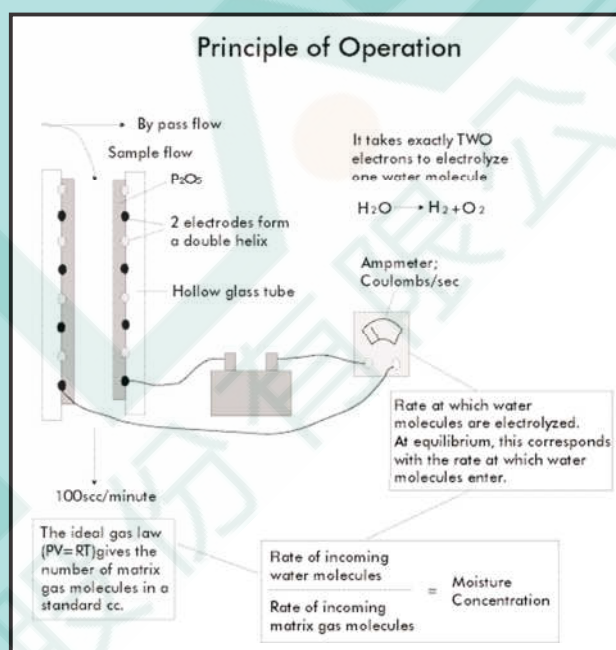
**How:** One hundred percent of the sample moisture is absorbed by a hygroscopic film that covers two spiral wound electrodes embedded in a hollow glass tube. When the sample gas enters the cell at a known flow rate, the phosphorus pentoxide ( $P_2O_5$ ) film absorbs all the moisture molecules present.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

### 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:** Pending testing, Class 1 Division 2, Non-incendive.

Specifications	
WaterBoy 2™ Features:	Stable value indication Low battery indication
User Interface:	3 key touch pad
Display:	1 line, 16 character alphanumeric LCD 3/8" high digits
Display Options:	ppmV, ppmW (requires user input of molecular weight), °C and °F dewpoint and lbs/mmScf  (NOTE: °C and °F dewpoint is referenced to atmospheric pressure. Pressure dewpoint available with user input of operating pressure).
Power:	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 $\pm 10\%$ , 1/2 amp maximum power supply (customer supplied).
Output Signal:	0–1 Vdc output into 2k ohms or greater (standard). Field range programmable.  Isolated RS232 (optional). Reduces battery operation time by 50%.
Inlet Pressure Range*:	WaterBoy 2 Model 3200 or 3250: 50–3000 psig WaterBoy LP2 Model 3260: 5–100 psig
Operating Temperature:	-20°C to +60°C (-4°F to 140°F)
Accuracy:	$\pm 5\%$ of reading or 0.4 ppm, whichever is greater
Ranges:	0–1000 ppmV with 0.1 ppm resolution (100cc flow units) 0–5000 ppmV with 1 ppm resolution (10cc flow units)
Fittings and Connections:	1/8" Compression
Weight:	17 lbs. (7.7 kg)
Lower Detection Limits:	1 ppmV
Flow Rate:	Sample: 10 sccm or 100 sccm Bypass: 1000 sccm
Approvals:	CE Marked, FM Approved Class 1, Division 2, Non-Incendive.
Gas Compatibility:	Consult Factory

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