



# The MedOx™ Safeguards Medical Oxygen

INDUSTRIAL GAS

HIGH-PURITY GAS

NATURAL GAS

MEDICAL/PHARMACEUTICALS

LABORATORY

Designed for medical oxygen, the MedOx offers:

- From 1 ppmV to 1000 ppmV moisture detection compliant with the Pharmacopoeia Europa
- Absolute measurement (freedom from calibration)
- Built-in moisture compensation to prevent dry-out
- Low cost of ownership and operational simplicity
- Compact footprint

Designed specifically for medical oxygen handled by gas suppliers, hospitals and the aviation industry, the MedOx™ provides continuous, highly linear, online moisture analysis with built-in moisture compensation to maintain the analyzer's agility.

The MedOx solves a problem that has arisen, ironically, with the greater purity of medical gas.

“The gas has become so good – and by that, I mean ‘dry’ – that it can cause the sensing solution to dry out, or cause sluggishness if the analyzer is left on extended purge mode,” explains Lisa Bergson, MEECO's chief executive.

To overcome the problem, MEECO developed the MedOx, with built-in moisture compensation to maintain the analyzer's agility even when stored on very dry gas.

Utilizing MEECO's proven electrolytic technology, the new device provides continuous, highly linear, online moisture analysis. Since 1999, the electrolytic technology has been the method specified by the European Pharmacopoeia for moisture analysis in medical gases. MEECO – having manufactured phosphorus pentoxide (P2O5) cells for electrolytic moisture analysis since 1948 – uses its technology and experience to meet the evolving needs of medical gas manufacturers and their users.





## Service Program

MEECO offers a comprehensive service program in support of the MedOx and other instruments. We also offer certification of our instruments in support of your ISO or other quality programs.

## Principle of Operation

Based on Faraday's Law of Electrolysis, the MEECO cell absorbs and electrolyzes moisture at fractional parts-per-million (ppm) or other units of measure. How: One hundred percent 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, therefore, an exact, direct measurement of the water vapor present in the sample gas.

MedOx™ Specifications	
Ranges	1 - 1000 ppmV
Sensor	MEECO APO cell
Lower Detection Limit	1 ppmV
Accuracy	+/- 10% of reading or 3 ppmV in O2, whichever is greater*
Unit of Measure	Field selectable choices: ppmV, ppmW, dewpoint in C° or F°
Power	100 - 240 VAC, 50/60 Hz 2.5 AMP replaceable fuse in power entry module
Output Signal	(Field Configurable Isolated 0 - 5 VDC or Isolated Current Output 4 - 20 mA, 0 - 20 mA, or 0 - 24 mA) RS-232 Communications - Standard
Alarms	Two (2) user-adjustable moisture level alarms
Inlet Pressure	30 - 150 psig (2.1 - 10.3 bar)
Ambient Temperature	0° C to 60° C, Max. 80% RH non-condensing
Flow Rate	~ 1.1 slpm combined sample and bypass
Gas Connection	inlet gas connection: 1/4" VCR connection outlet gas connection: 1/8" compression tube fitting
Dimension	19" x 17" x 7" (48.3 cm x 43.2 cm x 17.8 cm)

\* other than O2, +/- 5% of reading / 0.4 ppmV