ONLINE ANALYTICAL SOLUTIONS EXPERTS

PPB

PPM

H2O

DEW POINT

°C

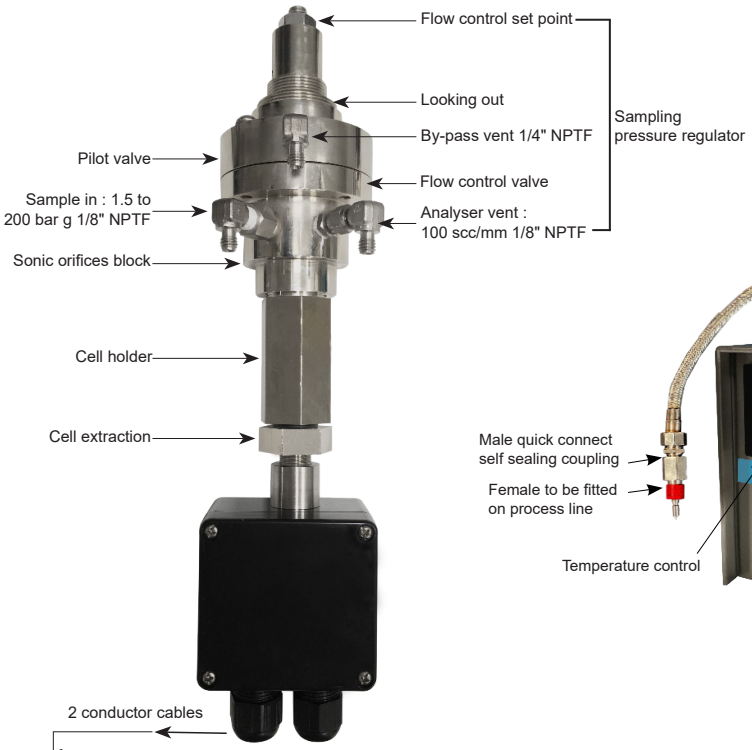
°F

DET H_2O

ELECTROLYTIC MOISTURE MONITOR HYGROMETER

Moisture monitoring in gaseous samples for concentration between 30 ppb and 5000 ppm(v) H_2O.

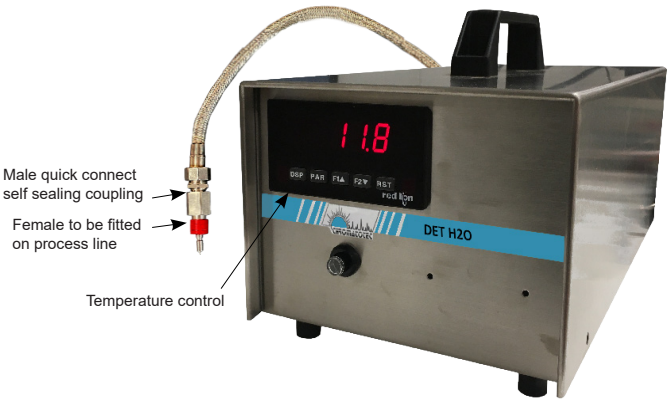
PROCESS ANALYSER





MOISTURE MONITOR PANEL CONTROL UNIT

SCAN or CLICK ME



BATTERY OPERATED PORTABLE MOISTURE MONITOR



ATEX VERSION

Pharmacopoeai medical gases
Compliant with the Standard n°737-3

Applications for corrosive gases
Chlorinated gases, O2 or H2 at levels higher than 30%

Adapted for high-pressure sampling
On-line probe holder with built-in pressure reducer for gases up to 20 bar g

Chromatotec® is specialised in VOC, Sulfur and permanent gases analysis at trace and ultra trace levels (ppm, ppb, ppt). Please visit our website for more details.

Updated: September 2026

DET H2O

ELECTROLYTIC MOISTURE MONITOR HYGROMETER

Principle:

The gas sample flows through a cell containing an electrolytic probe with a double platinum wiring supported by a special glass tube coated with a thin film od P2O5.

A continuos regulated voltage, high enough to reach water bond-dissociation energy is being applied between the two bounds of the probe. As the gas moves toward the end of the cell, the residual water contained in the sample is hydrolyzed under the surface of the probe.

According to Faraday's Law, the consumed current (in mA) is directly related to the amount of water hydrolyzed; 96,500 Coulombs are then necessary to dissociate 9 grams of water.

The current variation measured there is converted by a physical calculation, into ppb or ppm (V) or (p) and displayed by the Moisture Monitor Control unit. The dew points are expressed in ºC or ºF at referenced pressure, or in lb./MMSCFT.

Benefits:

Reference moisture monitoring: Fundamental measurement of the humidity is based on Faraday's Law, which requires no calibration.

Moisture monitoring accuracy: Conventional hygrometers offer ranges of dew point measurements between -80 and -20ºC (0.5 to 1020 ppm) or between -60 and 0ºC (10 to 6000 ppm).
How can you obtain accurate results in the critical 0-10 ppm (V) range?

Our hygrometer is directly programmable between 0-10 ppm (V) or 0-1500 ppm (V/p). It also allows the user to set it to give dew point in ºC or ºF at referenced pressure or in lb./MMSCFT.

Fast response: Within 10 minutes after connection in line, even at sample moisture levels below 5 ppm(v), with the close microcell.

Direct on-line connection and no required additional sampling equipment: The integrated probe holder controls and reduces flows and pressures automatically. No required adjustment for porcess pressure variations between 1,4 and 20 bar g. With the built-in pressure controller, minimal surface contact with the sample indicates that stabilization is not linked with the response time of the moisture monitor.

Low maintenance of Moisture Monitor: The Moisture Monitor probe requires only to be regenerated by the end user according to the procedure specified in the Instruction Manual; once or twice a year. The life of the probe decreases in case of high content.

Options:

- Stationary or portable Hygrometer.
- Special application for measurements in ppb (30 ppb to ppm).
- 200 bar g sample in upon request.
- Moisture Monitor block conditioning wetted parts can be offered in brass nickel plated or SS 316L; with VCR fittings for ppb moisture measurements in ultra pure gases or in Monel 400 for application on chlorine or corrosive gases.
- Intrinsic safety option ATEX EExi available.
- Serial RS232C or RS485: bi-directional loop 200mA300 to 2400 bauds or field bus <<Device Net>>.
- Power supply: 85 to 250 VAC - 50/60Hz or 24 VAC or 10 to 30 VDC

Product technical specifications:

Detection range :

- Programming from 0 to 10ppm(V) or 0 to 1500 ppm(v) equivalent value in dew point at referenced pressure.
- Possibility of decimal switching over to ranges: for instance 0-10 / 0-100 ppm(v) (optional).

Performance :

- Resolution: 0.05% of measuring range nand a minimum of 0.05ppm(V).
- Sensitivity: 0.02% of measuring range and a minimum of 0.05ppm(V).
- Repeatability: Linear results.
- Measurement frequency: 1 second for the probe.
- Response time: 90% within 60 seconds (from -15°C to - 65°C dewpoint).

Communication :

- Double-threshold moisture alarm programmable.
- Read-out: Up to 5 digits by LED Display.
- 4-20 mA or 0-20 mA or 0-10V (programmable).
- Isolated
- Accuracy: 0.1% of range
- Resolution: 12 bits.
- Impedance maxi: 500 ohms for output in current.
- Impedance mini: 10 ohms for output in volts.

Power Supply :

- 100/220 V - 50Hz
- Portable unit battery: 4h autonomy.
- Sensor/Control unit interconnection: current loop 2 wires, maximum line impedance: 10 ohms for loop

Gas supply :

- Sample pressure: 1.4 to 20 bar g.
- Sample temperature: -20 to 80ºC.
- Sample analyzer flow rate: 100 Ncc³/min
- Sample by-pass flow rate: Q (sl/h)= inlet pressure (bar g) x 11
- E.g.: for 10 bars g inlet pressure; Q=110 sl/h

To order:

Moisture analyzer with
P205 electrolytic sensor to
be controlled and integrated
in GC 866 (not inluded)

Model :
DET H2O

Chromatotec® is continuously improving its products, therefore these specifications are subject to change without notice

To contact us: sales@chromatotec.com

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