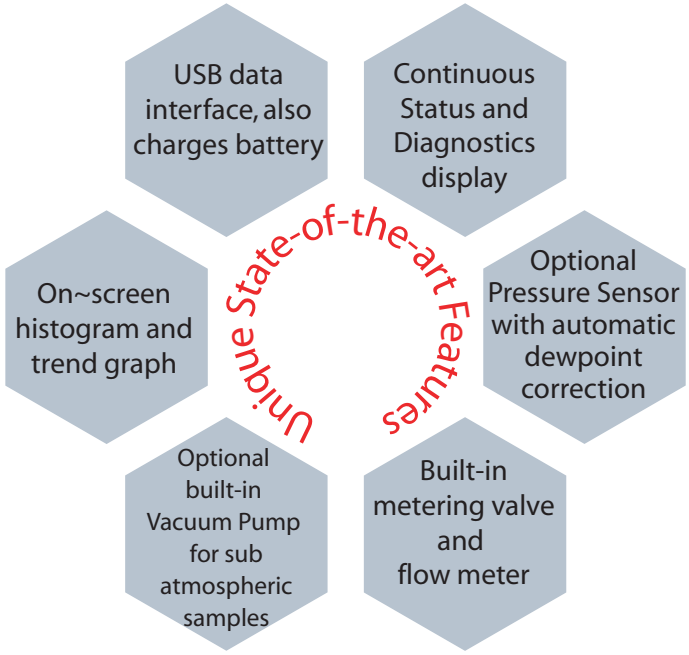
# PPBa PhyMetrix Portable Benchtop Moisture Analyzer

## Leading edge Nanosensor Technology



## more FEATURES

- -110˚C to +20˚C dewpoint Sensor
- Fast, Accurate and Repeatable
- Built-in temperature compensation
- Small & Lightweight
- State-of-the-art electronics & software
- Graphical display
- Advanced User-friendly Interface
- Programmable data logging
- Battery backed clock calendar
- Built-in Sensor desiccant store for rapid results
- 316 Stainless Steel & PTFE wetted parts
- 1/8" Swagelok® compression fittings
- NIST calibrations
- optional 4/20 mA output

## APPLICATIONS

- Petrochemical
- Industrial Gases
- Natural Gas
- Power Generation
- Furnace Gas / Heat Treating
- Air Dryers
- Pharmaceutical
- Aerospace
- Medical

**PhyMetrix, Inc.**
Moisture Measurement
Innovation at work

- Test
- Measure
- Calibrate
- Quick
- Reproducible
- NIST Traceable

Proudly Designed, Developed and Manufactured in the USA

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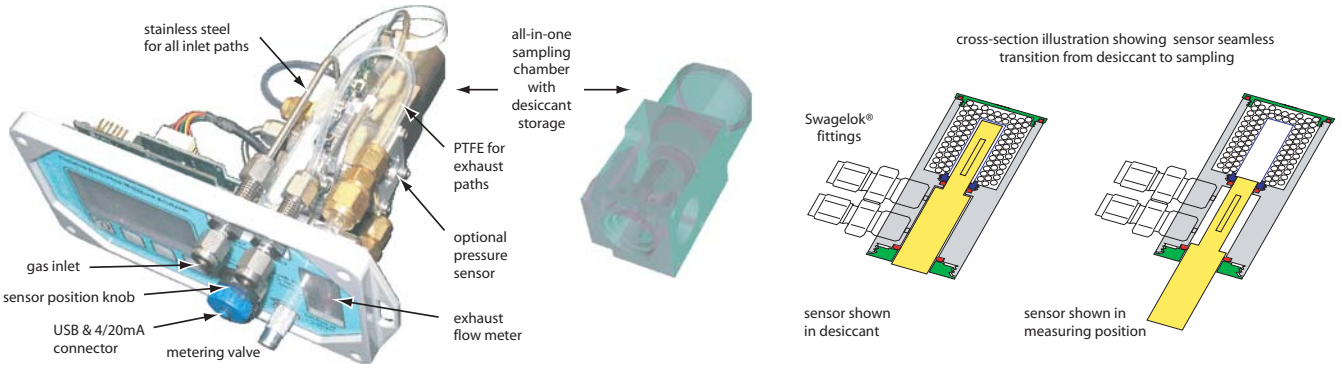
## Retractable Sensor




## PPBa Technical Specifications

| | |
|---|---|
| Moisture Sensor | Range: -110˚C to +20˚C dewpoint ( -166˚F to +68˚F dewpoint )<br>Accuracy: ±2˚C (3.6˚F) temperature corrected  Repeatability: 0.8˚C (1.5˚F)<br>Response time: 95% of step change in 3 min.  Sample flow: >1 LPM |
| Temperature Sensors | Range: -40˚C to +70˚C (-40˚F +158˚F)<br>Accuracy: ±2˚C (3.6˚F) |
| Pressure Sensor | 0 to 150 PSIA ±1%, 316L stainless steel wetted parts |
| Flow meter | Body: Styrene Acrylonitrile, Max Pressure: 50 psi (3.4 bar) [ this pressure limitation is for the exhaust ] |
| Inlet Metering Valve | Max pressure: 2000 psi (137 bar) [ this pressure limitation is for the inlet, and can be utilized only if outlet is unrestricted ] |
| Ergonomics | • Easy to carry or use on desktop, lightweight 3.5 Lbs<br>• Easy to read graphic LCD display with user controlled backlight brightness (LCD is readable without the backlight)<br>• Snap dome tactile membrane switches with dynamically assigned legends<br>• Audible feedback upon button press as well as for warnings and alarms<br>• Auto scaling graph / histogram on moisture measurement display for stability verification<br>• Easy to use with verbose built-in context sensitive Help screens<br>• Battery Saver, with user selectable Auto-power-down times, can also be disabled<br>• Built-in pressure measurement and pressure corrected moisture readings, simultaneously displayed with the uncorrected reading for greater ease of understanding<br>• Verbose Status bar with indications, warnings and audible errors<br>• User selectable locking with or without a password.<br>• Built-in battery backed clock calendar |
| Electrical | External AC Universal Power adapter (100-240VAC 50-60Hz) with USB connector<br>Rechargeable Li-Ion battery, recharges through the USB connector from the PC or from the supplied universal power adapter<br>Sampling system and sensor are isolated from electrical interface and supply grounds<br>Measurement resolution of moisture sensor: 1pF resulting in less than 0.01˚C<br>External power and I/O: USB mini B female connector - IP67 / IP68 with Sealing Cap |
| Mechanical | 1/8" Swagelok® Inlet and Outlet bulkhead fittings<br>All 316 Stainless Steel and PTFE wetted parts, small surface area stainless steel sampling chamber for fast response time.<br>Integral Sensor retraction into desiccant storage chamber for fast response-time when measuring low moisture<br>Enclosure<br>Extruded aluminum<br>Dimensions- L: 7.83" (199mm) W: 6.38" (162mm) H: 3.32" (84mm)<br>Weight Total: 3.5 Lbs (1.6 Kg)<br>Pressure: Inlet 2000 psi (137 bar) Outlet 50 psi (3.4 bar) |
| Temperature Range | PPBa Analyzer: -20˚C to +60˚C  *Electronics: -40˚C to +85˚C*<br>*Moisture Sensor: -20˚C to +60˚C*  *Pressure Sensor: -20˚C to +85˚C*<br>*LCD operating: -20˚C to +70˚C storage: -30˚C to +80˚C* |
| Miscellaneous Features | NIST traceable calibrations<br>Built-in metering valve and flow meter, no need for external pressure regulator etc…<br>Units of measure: ˚C & ˚F dewpoint, ppmV, ppmW, µB $H_2O$ vapor pressure, grams of $H_2O$ / $m^3$ and Lbs $H_2O$ /$10^6$ standard cubic feet in Natural Gas. (All units autoscaled)<br>Digital & Analog I/O: USB, 4/20mA with HART®<br>Data logging - single point, multipoint, time stamping, each sample records: dewpoint, temperature and pressure, ( memory > 4,000 samples)<br>Built-in Vacuum Pump Option, for low pressure or sub atmospheric sample sources. Includes internal dedicated battery and external charger.<br>Virtual Analyzer PC software for training and evaluation,<br>allows the user to experience the exact interface on their own PC with voice explanations |

| ORDERING INFORMATION | Part Number |
|---|---|
| **PhyMetrix Portable Benchtop Analyzer** Model: **PPBa**<br>Included Accessories: USB cable (mini B male to A male)<br>AC universal power adapter with USB connector | **PPBa** |
| Pressure sensor option 0-150 psia w/automatic pressure correction | suffix **-P** |
| Analog Output 4/20 mA with HART® option | suffix **-A** |
| Intrinsically Safe ATEX option | suffix **-I** |
| Vacuum Pump, built-in includes battery and external charger | suffix **-V** |

Represented by:

*Ordering example: part number for the Analyzer with a Pressure Sensor and 4/20mA would be:* **PPBa-P-A**

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