a new standard of reliability in moisture measurement
A Choice of Technologies

Kahn manufactures a full line of precision hygrometers using the most advanced, proven technologies:

- Ceramic sensors yield the fastest response time and greatest corrosion resistance
- Extremely accurate chilled mirror optical systems provide a fundamental method of dewpoint measurement

In addition, you get the flexibility of local, remotely installed, or portable hygrometers rugged enough for any industrial environment. Kahn also offers the latest in dewpoint transmitters with both analog and digital outputs to your computer or PLC.

Kahn features intrinsically safe designs for hazardous locations. All Kahn hygrometers offer traceability to national and international standards.

Kahn offers a wide variety of sampling systems for use with many gases, including natural gas, and at pressures from vacuum to 5000 PSIG.

Our off-the-shelf and custom-designed calibration equipment will allow you to easily verify sensor performance or even outfit an entire metrology laboratory.

We invite you to compare our technical advantages. You will find that, feature for feature, Kahn Instruments sets the standard in moisture measurement.

NOTE: The information included herein was correct at the time of publication and supersedes all previous data. It is our policy to continually improve our products to insue even better performance. Consequently current Kahn products may incorporate modifications not shown on these pages.

CERAMIC SENSORS

Fastest response time and corrosion resistant

Kahn pioneered the use of ceramic substrate sensors to meet the need for accelerated response and for measuring dewpoints in mildly corrosive gases. The result is a ceramic sensor that not only provides the fastest documented response to dewpoint changes, but also uses a ceramic base material and innovative film deposition techniques to improve chemical and mechanical resistance to corrosive gases. In addition, Kahn sensors are very stable and are not harmed by contact with water. All ceramic sensors are fully interchangeable without the need for hygrometer recalibration.

Easidew and HygroPort*

Portable Hygrometers

- Dewpoints from -100°C to +20°C
- Pressures to 5000 PSIG
- °C, °F, ±/MMSCF, PPM, %RH, g/m³, g/Kg displays (HygroPort) or °F, °C (Easidew)
- Bluetooth capability (HygroPort)
- 320,000 point datalogging capability (HygroPort)
- Temperature compensation
- Temperature or pressure inputs (HygroPort)
- Internal and external dewpoint sensors (HygroPort)

Pura High Purity Gas Dewpoint Transmitter*

- Dewpoint range to -120°C/-184°F<1ppbv
- High integrity ½ or ⅞ inch male VCR fittings
- 12 to 28 VDC operation
- 4-20mA (standard) and RS485 (optional) output
- Adjustable 4-20mA output span
- Temperature compensation
- Adjustable output error settings
- Double or simple bagged to clean room standards
- 4-20mA (standard) and RS485 (optional) output
- Adjustable 4-20mA output span
- Temperature compensation
- Adjustable output error settings
- Double or simple bagged to clean room standards

Easidew Dewpoint Transmitter*

- Dewpoints from -110°C to +20°C
- Moisture content from 0 to 3000 PPM
- Pressures to 5000 PSIG
- 12 to 28 VDC operation
- Linear 4-20mA output signal
- Temperature compensation
- Stainless steel NEMA 4 housing
- Adjustable output error settings
- 2-wire or 3-wire installation

Cermet II Hygrometer*

- Dewpoints from -110°C to +20°C
- Pressures to 5000 PSIG
- °C, °F, ±/MMSCF, °C, °F, PPMV displays
- 4-20mA, 0-20mA or 0-10VDC outputs
- Pressure compensated PPMV and e/MMSCF
- Up to three adjustable alarm setpoints
- Second process input (temp. or press.)
- Open sensor alarm
- Temperature compensation

*Intrinsically Safe (I.S.) Versions Available

- Portable/Transmitter/Single Channel
- Factory Mutual (FM), Canadian Standards Association (CSA) and BASEEFA approved
- Class I, Division 1, Groups A, B, C, D
Kahn Experience

Kahn, a leader in pneumatic, hydraulic and electronic technology for over 60 years, provides innovative solutions to practical measurement problems. Since Kahn’s first moisture measurement designs were introduced 50 years ago, we have manufactured high quality, durable hygrometers for many specialized applications, often under demanding conditions. Our long-standing success in customer satisfaction and our expanding product line ensure that Kahn can provide you with hygrometers to suit all your needs.

Kahn provides technical support and maintenance for all of its equipment, from the earliest models to the latest innovations. Our hygrometers are also backed by the finest warranty in the industry: One full year on calibration and workmanship for both the instrument and sensor.

Some Satisfied Customers

- Air Products
- Amgen
- Cargill
- Duke Energy
- DuPont
- ExxonMobil
- General Electric
- General Motors
- Harvard University
- Hewlett Packard
- Honeywell
- IBM
- Intel
- Lockheed Martin
- Merck
- NASA
- National Weather Service
- Pratt & Whitney Aircraft
- Spectra Energy
- Tennessee Valley Authority
- Texas Instruments
- U.S. Navy

The calibrations of Kahn hygrometers are traceable to the National Institute of Standards and Technology. Sensors are calibrated through a master optical hygrometer which has been calibrated at the NIST and is periodically re-calibrated. A certificate of traceability is provided with any of these instruments.

CHILLED MIRROR OPTICAL SYSTEMS

Fundamental Dewpoint Measurement

Kahn offers several optical (chilled mirror) hygrometer products, Optidew, Optisure and Series 4000, to meet the requirements of a broad range of dewpoint measurement applications. Each product is available in a variety of models to suit the user’s specific needs. Kahn’s 20 years of experience in chilled mirror technology has produced extremely sensitive (parts per billion), accurate and drift-free instrumentation for measurement of gas dewpoint. All Kahn hygrometers offer measurement traceability to national and international standards.

The Optidew Dewpoint and RH Hygrometer is a compact, sturdy and economical instrument that provides continuous dewpoint measurement, display and output. Key features include:

Models

- **Optidew-Wall**
  - Wall mount transmitter with integral sensors
- **Optidew-Remote**
  - Transmitter with remote sensors and 6 foot cables
- **Optidew-Probe**
  - Transmitter with probe type sensors
- **Optidew-Bench**
  - Bench mount hygrometer with monitor, carry handle, remote sensors and 6 foot sensor cables

The Optisure and S4000 Hygrometer family feature the most accurate and versatile optical hygrometers available in the marketplace today. Key features include:

Models

- **Optisure**
  - Lightweight with measurement range to -60°C
  - Triple display: 10 parameters (dewpoint, RH, temperature, pressure, etc.) available in each window

**S4000 Remote**

- Remote sensor in a compact housing
- Climatic version: dewpoints to +85°C

**S4000RS**

- Temperature-controlled sensor body for dewpoint measurements to -85°C (230 ppb)

**S4000TRS**

- Temperature-controlled sensor body for dewpoint measurements to -100°C (13 ppb)

*The S4000RS and S4000TRS also feature our unique “speed pipe” technology that improves the response speed at trace moisture levels. The “speed pipe” concentrates the formation of ice crystals on the mirror surface and can reduce response time at trace moisture levels by a factor of four times.*
# Hygrometer Specifications

## Ceramic

<table>
<thead>
<tr>
<th>Model</th>
<th>Portable</th>
<th>Transmitter</th>
<th>On-Line</th>
<th>Optical</th>
</tr>
</thead>
<tbody>
<tr>
<td>EASIDEV</td>
<td>HYGROPOR*</td>
<td>EASIDEV*</td>
<td>PURA</td>
<td>OPTIDEV</td>
</tr>
<tr>
<td>Sensor</td>
<td>Ceramic</td>
<td>Ceramic</td>
<td>Interchangeable</td>
<td>Ceramic</td>
</tr>
<tr>
<td>Temperature</td>
<td>-100°C to +20°C</td>
<td>-100°C to +20°C</td>
<td>-100°C to +20°C</td>
<td>-50°C to +90°C</td>
</tr>
<tr>
<td>Pressure</td>
<td>Vacuum to 5000 PSIG</td>
<td>Vacuum to 5000 PSIG</td>
<td>Vacuum to 5000 PSIG</td>
<td>Vacuum to 5000 PSIG</td>
</tr>
<tr>
<td>Calibration</td>
<td>±2°C</td>
<td>±2°C (±100°C to 0°C)</td>
<td>±1°C (±61°C to -60°C)</td>
<td>±2°C (±100°C to 0°C)</td>
</tr>
</tbody>
</table>

## Optical

<table>
<thead>
<tr>
<th>Model</th>
<th>S4000 Remote</th>
<th>S4000 RS/TRS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sensor</td>
<td>Remote</td>
<td>Remote</td>
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<tr>
<td>Temperature</td>
<td>±1°C (±61°C to -60°C)</td>
<td>±1°C (±61°C to -60°C)</td>
</tr>
</tbody>
</table>

## Standard and Custom Calibration Equipment Also Available

*Intrinsically Safe Versions Available; Specifications May Differ*

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**Model**

- EASIDEV
- HYGROPOR*
- EASIDEV*
- PURA
- CERMET II*
- OPTIDEV
- S4000 Remote
- S4000 RS/TRS

**Sensor**

- Ceramic
- Interchangeable

**Temperature**

- -100°C to +20°C
- -110°C to +20°C
- -110°C to +20°C
- -100°C to +20°C

**Pressure**

- Vacuum to 5000 PSIG
- Vacuum to 5000 PSIG
- Vacuum to 5000 PSIG
- Vacuum to 3600 PSIG

**Calibration**

- ±2°C (±100°C to 0°C)
- ±1°C (±61°C to -60°C)
- ±1°C (±61°C to -60°C)
- ±2°C (±100°C to 0°C)

**Dimensions**

- L x Dia  H x W  x D

**Options**

- Built-In
- Remote
- Portable
- Transmitter
- Sensor block with ½” VCR
- 4-20mA or RS485
- 8 Mb storage
- Bluetooth
- Digital, °C, °F
- None

**Output**

- 4-20mA
- 4-20mA or RS485
- 4-20mA or 0-20mA
- 0-10VDC, 4-20mA or 0-20mA
- 4-20mA, 0-20mA, RS232 and RS485
- 4/0-20mA, 0-10VDC, USB, MODBUS (OPS)
- Pressure Transducer Sampling system

**Display**

- Digital, °C, °F
- Digital, °C, °F
- Digital, °C, °F
- Digital, °C, °F

**Weight**

- 2.9 lbs.
- 0.3 lbs.
- 1.0 lbs.
- 2.0 lbs.

**Power**

- 12-28 VDC
- 12-28 VDC
- 90-265 VAC 47-440 Hz, 20 Watts
- 90-265 VAC 47-440 Hz, 20 Watts

**Options**

- External sensor
- Sampling system
- External sensor
- Sampling system

- 10.8” x 4.9” x 9.9”
- 5.4” x 1.23” x 1.06”
- 3.9” x 7.9” x 8.8”
- Printed viewing area

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