

# Vigilant™

THE **COMPLETE,**  
**PRECISE** HUMIDITY  
MEASUREMENT  
**SOLUTION**



pipe mount



wall mount



rack mount



portable



bench-top



## INTRODUCING THE **NEXT GENERATION** HYGROMETER

The EdgeTech® Vigilant™ is a highly sophisticated digital dew point hygrometer engineered for a multitude of demanding applications and environments. It combines the inherent accuracy and field proven reliability of chilled-mirror technology with the flexibility and speed of digital control – all within a package that is half the size of other, less sophisticated hygrometers.

**Versatile.** Vigilant is the perfect hygrometer for virtually any process or laboratory environment thanks to its wide -50 to 90°C measurement range, optional pressure and temperature inputs for calculating any psychrometric variable, and flexible mounting. Using optional accessories, Vigilant can be adapted for bench-top, portable, wall, pipe or rack use in just seconds.

**Effortless.** Another practical Vigilant innovation is the *menu-driven graphical backlit LCD display*. This hands-free design allows operators to clearly view up to three parameters simultaneously, along with the status of ServoLock™, ABC, mirror condition, alarms, date and time. With Vigilant, no manual scrolling or other distracting selecting is necessary to monitor major indicators. And the front panel provides easy access to a fully programmable menu.

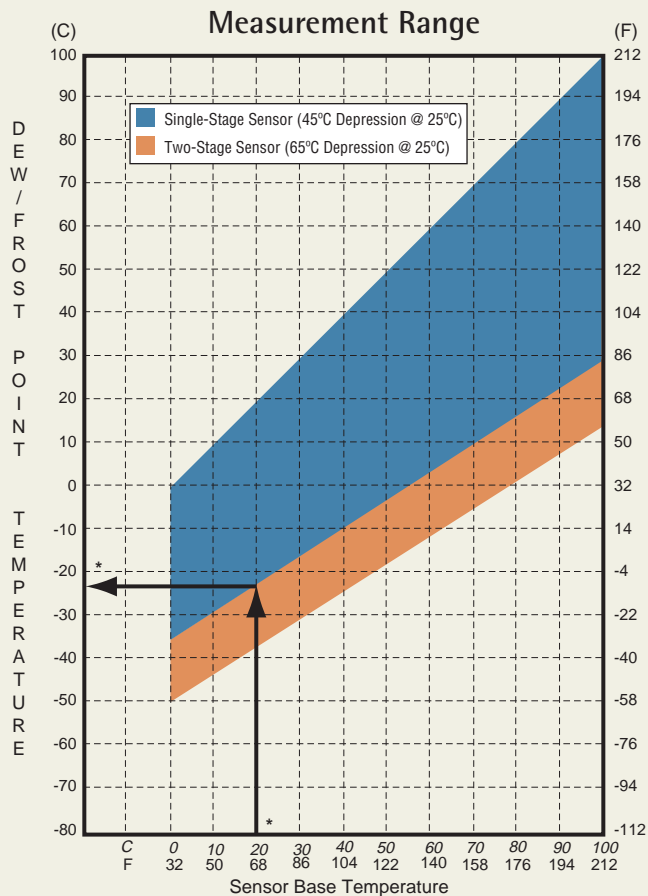
**Advanced.** The Vigilant is loaded with high-tech features, including *ServoLock™*, a new digital control scheme that improves sensitivity and response characteristics while

providing greater control and operational stability. Another unique feature is Vigilant's *SetPoint mirror temperature control* which allows the user to chill the mirror to a predetermined temperature above dew point and alarm/alert the user if the dew point attains or exceeds this threshold. To provide extended intervals of unattended operation, the Vigilant boasts a new *Automatic Balance Control (ABC)* scheme that automatically corrects for the light reducing affects of mirror contaminants. In addition, the Vigilant features both *analog and digital outputs*. 0-5VDC and 4-20mADC can be assigned to any parameter and are user-scalable throughout the entire range. It offers RS232C duplex serial for programming, data output, status indication of control, mirror condition, and optional relays.

**Proven.** The Vigilant is fully NIST-traceable and backed by more than 30 years of hygrometer experience.

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\* With a base temperature of 20°C/68°F you can expect a single stage sensor to be able to measure dew point as low as -23.3°C/-10°F.

## THE PROFESSIONAL'S CHOICE

Combining chilled-mirror accuracy and reliability with state-of-the-art digital electronics, the Vigilant is the professional's choice for hygrometers. It is unsurpassed in versatility; capable of measuring any psychrometric variable in a variety of applications and environments.

If your application calls for the uncompromising precision, flexibility, and full functionality of the next generation in hygrometers, contact your local EdgeTech representative or call us toll free at **800-276-3729**. Or visit the company's web site at [www.edgetech.com](http://www.edgetech.com); e-mail at [h2o@edgetech.com](mailto:h2o@edgetech.com).

### EdgeTech Edge

- ▶ Proven chilled-mirror technology
- ▶ NIST-certified calibration
- ▶ 1 or 2 stage flow-through sensors
- ▶ Dual alarms
- ▶ Automatic Balance Control (ABC)
- ▶ Serial and analog outputs

### Vigilant Vantage

- ▶ ServoLock™ digital control
- ▶ SetPoint mirror temperature control
- ▶ Backlit hands-free display
- ▶ Lightweight portability
- ▶ Flexible on-site placement

### Versatile Packaging Options

- ▶ Bench-top
- ▶ Portable
- ▶ Wall mount
- ▶ Pipe mount
- ▶ Rack mount

### Proving Grounds

- ▶ Lab calibration standards
- ▶ Continuous industrial processes
- ▶ Environmental chambers
- ▶ Heat treating furnaces
- ▶ Automotive test stands
- ▶ Curing ovens
- ▶ Process dryers
- ▶ Clean rooms
- ▶ Plant air
- ▶ Metrology



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## PERFORMANCE SPECIFICATIONS

### MEASUREMENT

Range	
‣ Dew/ Frost Point:	-50 to 90°C (-58 to 194°F)
‣ Temperature (optional):	-50 to 100°C (-58 to 212°F)
‣ Relative Humidity (optional):	0 to 100% RH
‣ Pressure (optional):	0-25psia or 0-300psig (other ranges available consult factory)
<i>Note: Other humidity parameters available (gr/lb, PPMv, PPMw, etc.) consult factory.</i>	
Accuracy	
‣ Dew/ Frost Point:	+/- 0.2°C (+/-0.36°F)
‣ Temperature (optional):	+/- 0.2°C (+/-0.36°F)
‣ Relative Humidity (optional):	+/- 0.5%*
‣ Pressure (optional):	+/- 0.5% of full scale
Repeatability:	+/- 0.05°C (+/- 0.09°F)
Hysteresis:	None
Response Time:	1.5°C (2.7°F)/Sec. nominal above 0.0°C(32°F)
Update Rate:	1/sec.
Display Resolution:	0.1°C/ °F/ %RH, 0.01psia
Dew Point Depression:	S1- 45°C (81°F), S2- 65°C (117°F)

### FUNCTIONALITY

Power:	95-240VAC, 50-60Hz, 50 Watts Max.
Operating Temperature	
‣ Dew Point Sensor:	0 to 100°C (32 to 212°F)
‣ Control Unit:	0 to 50°C (32 to 122°F)
‣ Temperature Sensor (optional):	-50 to 100°C (-58 to 212°F)
‣ Pressure Sensor (optional):	-18 to 79°C (0 to 175°F)
Sample Connection:	Female 1/8in NPT
Sample Flow:	0.25 to 2.5 L/min. (0.5 to 5.0scfh)
Sample Pressure:	0 to 22 bar (0 to 300psia)
Auxiliary Coolant:	2 L/min. (0.5GPM) at 100psig Max.
Outputs	
‣ Analog:	1- user scalable 4 to 20mA & 0 to 5VDC standard. (3 analog outputs available)
‣ Digital:	RS232C, duplex serial for data output, set-up, status indication of control, each relay, & mirror condition
Display:	Back-lit multi-line graphical LCD
Wetted Materials:	Anodized Aluminum, Delrin, Epoxy, Glass, & Rhodium

### PHYSICAL

Dimensions (lwxhxh):	30.8x19.4x10.2 cm / 12.1x7.63x4 in
Weight:	4.5kg (10lbs)
Shipping Weight:	5.9kg (13lbs)
Mounting:	Bench-top standard

### ACCESSORIES

Humidity Kit:	Temperature Probe 100 Ohm PRT housed in 316 SS with 3m(10ft) cable (available up to 75m (250ft)), all software for RH computation
Pressure Kit:	Pressure Transducer 0 to 25psia or 0 to 300psig (other ranges available consult factory) 316 SS, all software for PPMv/ gr/lb computation
Remote Mounting Kit:	3m (10ft) sensor extension cable(available up to 75m(250ft))
Sampling Module:	Vacuum pump (0.75 to 1.35kg/cm <sup>2</sup> (10.7 to 19.2 psia)) 115/230VAC, variable area flow meter, compression fittings, NEMA-4X enclosure
Wall Mounting Kit:	Includes mounting brackets and all associated hardware
Pipe Mounting Kit:	Includes wall mounting kit & additional brackets for horizontal or vertical pipe installations
Explosion-Proof Sensor Housing:	Class 1 Div. 1 Groups C&D (Remote Mounting Kit required)
Analog outputs:	Up to 2 additional analog outputs
Alarm Relays:	2 user scalable latching or unlatching Form C, SPDT, 3A max.

*Due to continuous product development, specifications subject to change without notice.*

*\* Nominal from calculation.*

