

Model AWS-6020 Sample System

For General Applications

The AWS-6020 weatherproof sample system is designed for gas or general compressed air sampling and allows the sensor to operate at ideal sampling conditions, whilst protecting your hygrometer from high pressures and contaminants, particularly in hydrocarbon applications.



Key features

- Designed for gas or general compressed air sampling
- Combines pressure regulation, filtration and flow control
- Allows the dewpoint sensor to operate at atmospheric pressure
- Dewpoint meter protected from the elements when housed inside the cabinet
- IP66 weatherproof rating
- Wall mount
- Choice of compression fittings



Housed in an IP66 weatherproof cabinet, the AWS-6020 combines: pressure regulation, filtration, flow control, a three port sample selection valve, sensor holder, dewpoint sensor and dewpoint meter.

Both the dewpoint sensor and dewpoint meter (as illustrated) are housed inside the cabinet protecting them from the elements.

Electrical connections are made through 1 x STB 16 gland (mains) and 3 x M13 glands (signal lines) to terminal rail. Pneumatic connections to 3 x 1/8" NPT bulkhead fittings with a choice of 1/4", 1/8" or 6 mm compression fittings if required.

Alpha Moisture Systems sample systems are engineered solutions for extracting and analysing a representative sample of the process air or gas, which is then either vented off to atmosphere or returned to the process.

This range of sample systems has been developed over many years of experience in industrial moisture analysis and all systems are built using the highest quality components to ensure long term performance and reliability in even the toughest of applications.

Our standard range of sampling systems can be viewed at www.dew-point.com. However, if your particular requirements are not met by any of those shown, please contact us and our engineers will be happy to advise and custom design a system for your specific application.

Technical Data

AWS Sample System Enclosure

- **Type:** IP66 weatherproof housed inline hygrometer, for wall or pedestal mounting, including dewpoint meter and sample system comprising three port sample selection valve, filter unit, pressure regulator, flow indicator, sensor holder and sensor.
- **Electrical connections:** 1 x STB 16 gland (mains) and 3 x M13 glands (signal lines) to terminal rail.
- **Pneumatic connections:** 3 x 1/8" NPT bulkhead fittings with a choice of 1/8", 1/4" or 6 mm compression fittings if required.
- **Sensor Connection:** Low loss coax cable (75 ohms max capacitance of 50pF per metre)
- **Power Supply:** 110 or 220 V AC single phase 50 or 60 Hz, 24 V DC
- **Outputs:** Alarms: Two single pole changeover contacts (NO/C/NC), rated at 10 A at 240 V AC. Alarm trip at set point with 0.1 °C (or equivalent) hysteresis to eliminate relay chatter.
Signal: Isolated 4-20 or 0-20 mA Linear
- **Accuracy:** Meter: 1% across meter range
- **Sampling:** Input Pressure (PR): 200 Bar (Med), 400 Bar (Hi)
- **Dimensions (H x W x D)** Overall: 400 x 400 x 200 mm
- **Weight:** 11.3 kg
- **Display:** Model 6020
- **Calibration:** AutoCal on all but Blue range

Dewpoint Sensor

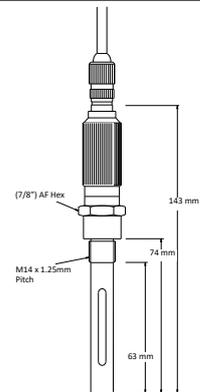
- **Accuracy:** ± 2 °C (±3.6 °F) dewpoint
- **Operating Temperature:** -20°C to + 50°C
- **Storage Temperature:** -50°C to +70°C
- **Operating Humidity:** 0-90% RH non-condensing
- **Mechanical Connections:** M14 x 1.25 mm pitch
- **Electrical Connection:** Male coaxial plug
- **Dimensions:** Overall length: 141 mm, protruding 68 mm
- **Weight:** Approximately 100 g
- **Sensor Connection:** Low loss coax cable (75 ohms max capacitance of 50pF per metre)
- **Sensor Materials:** High purity aluminium, gold, nylon, silver and stainless steel

- **Ranges:**
Overall range offered between -110 °C to +20 °C (-166 °F to +68 °F) dewpoint
-110 to -20 °C DP -166 to -4 °F
-100 to 0 °C DP -148 to +32 °F
-80 to +20 °C DP -112 to +68 °F

- **Approvals:**  2813  0518

- **Calibration:** National Physical Laboratory (NPL) traceable calibration available

Sensor Diagram



Model 6020 Hygrometer

- **Sensor:** Ultra High Capacitance Aluminium Oxide Sensor
- **Ranges:** Please check Moisture Sensor specification for ranges available.
- **AutoCal:** Field calibration/span check facility. Activated and operated via potentiometer on the front of the instrument.
- **Approvals**
 
- **Factory Calibration:** Supplied with Certificate of Calibration traceable to National & International Standards at the National Physical Laboratory (NPL)
- **Accuracy:** ±2 °C (±3.6 °F) dewpoint NPL traceable -90 °C to +20 °C (-130 °F to +68 °F)
- **Resolution:** 0.1 °C, 0.1 °F DP or 0.1 ppm(v)
- **Repeatability:** Better than ±0.3 °C (±0.54 °F) DP
- **Operating Temperature:** -20 °C to +60 °C (-4 °F to +140 °F)
- **Storage Temperature:** -20 °C to +70 °C (-4 °F to +158 °F)
- **Response Times:** Wet to dry: -20 °C to -60 °C - less than 120 secs. Dry to wet: -100 °C to -20 °C - less than 20 secs
- **Sample Flow Rate:** Flow independent but ideally 2-5 litres/min Max: 25 litres/min
- **Calibration Warranty:** 12 months from date of despatch

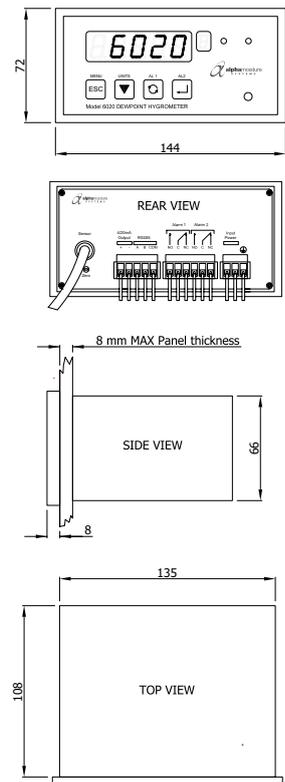
ELECTRICAL

- **Electromagnetic Compatibility (EMC):** Immunity: Complies with EN 61326, Emissions: Complies with EN 61326
- **Warm Up Time:** 5 seconds
- **Fault Conditions:** Short circuit/over range: display reads "Short" and output drives to 24.0 mA
- **Output Signal:** Isolated 4 - 20 or 0 - 20 mA Linear
- **Operating Voltage:** 90 to 250 V AC 50/60 Hz or 24 V DC
- **Display:** Red 7-segment 5-digit primary display and secondary display
- **Alarms:** Two single pole changeover contacts (NO/C/NC), rated at 10 A at 240 V AC. Alarm trip at set point with 0.1 °C (or equivalent) hysteresis to eliminate relay chatter
- **Cable:** Supplied with 2 metre low loss coaxial cable

MECHANICAL

- **Operating Pressure:** From 1kPa (0.01 barA) to maximum 35,000 kPa (350 barA)
- **Operating Humidity (External):** Maximum - 95% RH non-condensing
- **Sensor Protection:** 16 sintered stainless steel filter - 50 micron
- **Probe Material (Wetted Parts):** 316 stainless steel
- **Mechanical Warranty:** 12 months in case of faulty workmanship and defective parts

Model 6020 Diagram



AutoCal

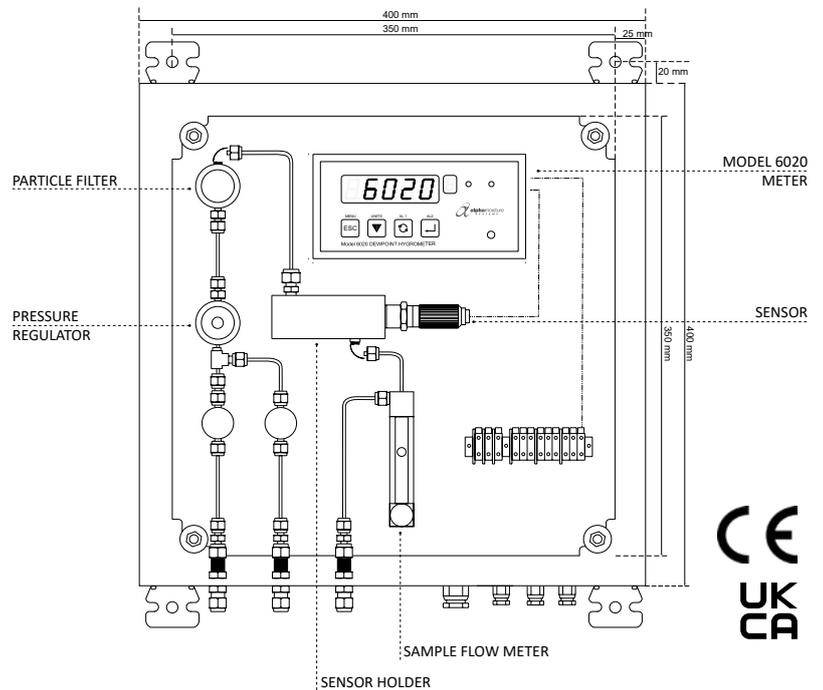
AutoCal, short for automatic calibration, is a feature designed to simplify and automate the calibration process for different types of equipment. It aims to maintain accuracy and reliability without requiring extensive manual involvement or specialised knowledge from the user.

By incorporating AutoCal, the Model 6020 provides users with a reliable, accurate and easily maintainable moisture measurement solution for industrial applications and a key function offering several benefits for maintaining accuracy and ease of use.

AutoCal allows users to perform periodic onsite calibration checks and adjustments of the sensor, helping to maintain accuracy between laboratory calibrations and quickly verify the integrity of the sensor, ensuring reliable measurements.

The simple calibration process is suitable for sensor ranges up to 0 °C dewpoint where users can easily adjust readings by exposing the sensor to ambient conditions and using the accessible AutoCal potentiometer, which is conveniently located on the front panel of the instrument.

AWS-6020 General Assembly Diagram



How To Order

AWS-6020 - [XX] - [XX] - [X/X]

Select a Range

-110 °C to -20 °C	(-166 °F to -4 °F)	SR
-100 °C to 0 °C	(-148 °F to +32 °F)	PL
-80 °C to +20 °C	(-112 °F to +68 °F)	RD

Select required input pressure

200 Bar	Me
400 Bar	Hi

Select inlet and outlet pipe fittings

Inlet Pipe Fitting		Outlet Pipe Fittings	
No Fittings	0	No Fittings	0
1/4" Pipe OD	4	1/4" Pipe OD	4
1/8" Pipe OD	8	1/8" Pipe OD	8
6 mm Pipe OD	6	6 mm Pipe OD	6

NOTE: No fittings choice = ports are 1/8" NPT Female.

Ordering Example

To order AWS-6020 with range -80 °C to +20 °C dewpoint, 200 Bar with 1/4" Swagelok fittings, the order code is:

Model AWS-6020-RD-4/4

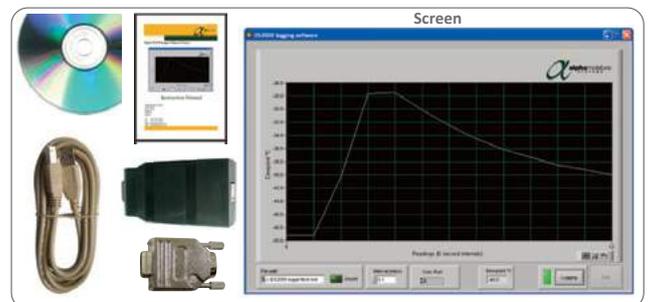
Optional

Model 6020 External Logger Software

Remote logging facility for the Model 6020

- Easy to install using Install Wizard from CD
- Multi function graph tools
- PC specification: PC should run minimum WindowsXP, Windows Vista, Windows 7, Windows 10 and 11, 32 and 64 bit compatible
- Minimum screen resolution of 1024 x 768 pixels
- Kit components include: CD installation disc and manual, USB to USB cable, male 9 way 'D' type on USB - RS485 converter unit.

Please note: The cable from the display unit to RS485 connection is not included. When placing your order please indicate the length of cable required, for example, 3 metres.



Contact Us

For further information or if you require a customised solution for your application, book a consultation with our expert technical team.

Contact: +44 (0) 1274 733100, info@amsystems.co.uk, www.dew-point.com