Model SADPµ and SADP-D

Intrinsically Safe Portable Dewpoint Hygrometers with ranges available between -110°C to +20°C (-166°F to +68°F) dewpoint

SHAW Automatic Dewpoint Hygrometer - the world's leading portable hygrometer is now manufactured, under licence, by Alpha Moisture Systems.

Having been in production for nearly 50 years, this unit has stood the test of time and its popularity is demonstrated by the fact that it can be found in every industrialised country in the world. It remains the benchmark in portable hygrometry for measuring absolute humidities down to one part per million and below.

Fast Response - Stable - Reliable - Accurate - Easy to Use.

SHAW Automatic Dewpoint Hygrometer - the world's leading portable hygrometer is now manufactured, under licence, by Alpha Moisture Systems.

Having been in production for nearly 50 years, this unit has stood the test of time and its popularity is demonstrated by the fact that it can be found in every industrialised country in the world. It remains the benchmark in portable hygrometry for measuring absolute humidities down to one part per million and below.

Built to the exacting demands stipulated by SHAW, this robust and easy to use Model SADP Dewpoint Hygrometer has, at its heart, the world renown SHAW Ultra High Capacitance Sensor with the unique Automatic Calibration feature (see overleaf).

Designed to operate at atmospheric pressure, this instrument is available in a variety of sensor ranges, covering an overall range of -110°C to +20°C dewpoint.

Analogue versions of the SHAW Automatic Dewpoint Hygrometer offer the 0-10ppm(v) range expanded over the full scale, which is selected by means of a rotary switch on the front panel. This allows for precise measurements below 10ppm(v). Digital versions of Model SADP can be configured to display dewpoint in either °C or °F on a large, easy to read, 41/2 digit LCD display.

The SHAW Automatic Dewpoint Hygrometer is fully self-contained and is also certified as Intrinsically Safe for use in Hazardous Areas, without the need for any additional accessories such as Zener Barriers etc.

The unit is supplied ready for use with batteries installed and a certificate of calibration traceable to National and International Standards. Standard accessories supplied with the unit include a specially designed carrying case with shoulder strap, operational tools, 2m PTFE sampling hose and a pressure dewpoint calculator.
Specifications

MODEL SADPμ Automatic Dewpoint Hygrometer

SENSOR TYPE
SHAW Ultra High Capacitance Aluminium Oxide Type.

RANGE
Analogue - Seven different ranges encompassing an overall range from -110°C to +20°C dewpoint (-166°F to +68°F), with corresponding range in ppm(v). Certain models come standard with expanded linear range 0-1 or 0-10 ppm(v).

Digital - Seven different ranges encompassing an overall range from -110°C to +20°C dewpoint (-166°F to +68°F).

DISPLAY
Analogue - 120mm, taut band, precision analogue indicator scaled linear in °C & °F and logarithmic ppm(v). Expanded range 0-10 ppm(v) scaled linear and selected by a rotary switch on front panel. (Expanded range available as standard with ranges SR (0 - 1 ppm(v)), GY, and RD)

Digital - 4½ digit, LCD display. Factory set to read in either °C or °F

INTRINSIC SAFETY CERTIFICATION
Code: Ex ia IIC T3 Ga (Ta = –20°C to +50°C)
Ex ia IIC T4 Ga (Ta = –20°C to +37°C)

Certificate No.: Sira 02ATEX2133X

AUTOMATIC CALIBRATION
Via potentiometer adjustment on front panel.

CALIBRATION ACCURACY
Better than ±0.5°C dewpoint, ±0.5% of range.

REPEATABILITY
Better than ±0.5°C dewpoint.

TYPICAL RESPONSE TIME
95% of reading within 20 seconds in normal operation.

POWER SUPPLY
9V DC - six "C" type disposable batteries (included).

BATTERY LIFE
In excess of 150 hours during continuous operation.

ELECTRONIC ACCURACY
Better than ±1% of range.

WARM UP TIME
Less than 5 seconds.

OPERATING CONDITIONS
Temperature: -20°C to +50°C
Humidity: 0-98% RH, Non-condensing
Storage: Temperature: -50°C to +70°C
Operating pressure: Atmospheric to 0.5 barg

ELECTROMAGNETIC COMPATIBILITY
Complies with BS EN 61326-1

FLOW RATE TO SENSOR
2 to 20 litres/minute.

CONNECTIONS
Two fir tree type on either side of desiccant chamber.

WARRANTY
Two years from date of delivery against faulty materials or workmanship.

ACCESSORIES INCLUDED
Anti-static carrying case, operational tools, 2m PTFE sampling hose and pressure dewpoint calculator.

Automatic Calibration

The most important and unique feature of the SHAW system is the Automatic Calibration facility. Each SHAW sensor is precisely manufactured to saturate with water vapour at its design maximum. Hence, when the sensor is exposed to moisture above its maximum operating range, it will rapidly come to equilibrium and cease to respond to any further increase in moisture.

This forms the basis of Automatic Calibration. The SHAW sensor can be calibrated by simply exposing it to any atmosphere which is wetter than the operating range of the sensor - usually room air is sufficient - and adjusting the calibration control on the front panel of the instrument. That’s it! The sensor is now calibrated and ready for use. Automatic Calibration can, hence, be carried out in-situ and without the need for any special equipment or skilled personnel. The net result is reduced downtime, minimal calibration costs and immediate verification of the system.
Guide to Installation

Cylinder gas

Two-stage pressure regulator
Sample Exhaust
Flow Indicator (optional)
Dewpoint Hygrometer

Clean gas

Pressure regulator or needle valve
Process line

Gas with particulate or liquid contamination

Filter Unit / Coalescer

Weights and Dimensions

All dimensions are in millimetres

Overall height when head is fully extended = 326 mm.

How to Order - Step 1 of 2
Select a Range Below
Model SADPμ + [XX] + [XXX]

INDICATION
Analogue [A]
Digital °C [D]
Digital °F [DF]

Range
PURPLE -100 to 0°C (-148°F to +32°F) [PL1]
PURPLE -100 to +20°C (-148°F to +68°F) [PL2]
SILVER -110 to -20°C (-166°F to -4°F) [SR]
BLUE -80 to +20°C (-112°F to +68°F) [BL]
GREY -80 to 0°C (-112°F to +32°F) [GY]
RED -80 to -20°C (-112°F to -4°F) [RD]

Example: If your requirement is for an automatic dewpoint hygrometer with analogue indication and range -80°C to 0°C dewpoint then please order: Model SADPμ-A-GY.

How to Order - Step 2 of 2
Order accessories - Below is a small selection, please see website for more at www.amsystems.co.uk

Flow Meter
Order Part No. AFM

Flow Indicator
Order Part No. AFI

Standard Filter Unit
Order Part No. AFU

Needle Valve
Order Part No. PPE016

Corrosive Gases: The Sensor should not be exposed to corrosive gases (or corrosive contaminants in the gas sample) as these can chemically attack the sensor, impairing calibration accuracy and/or damaging it beyond economic repair. Examples of such gases are mercury (Hg), ammonia (NH₃), chlorine (Cl₂) etc. Strong oxidising agents such as ozone (O₃) should also be prevented from coming into contact with the sensor.

For more information on our ATEX Certified Ex product range please contact us on +44 (0) 1274 733 100 or Email: info@amsystems.co.uk

© Alpha Moisture Systems Ltd.

Product specification may be subject to change.

Registered in England and Wales No. 3902302
VAT Registration No. GB607207563
WEEE Producer Registration No. WEEE/EA0067TX

Tel +44 (0) 1274 733 100
Fax +44 (0) 1274 733 200
Email info@amsystems.co.uk
Website www.amsystems.co.uk