



# DMP6 Dew Point Probe

For Very High Temperature Applications



## Features

- Measures humidity at high temperatures up to +350 °C (+662 °F)
- Dew point measurement range -25 ... +100 °C (-13 ... +212 °F)  $T_{d/f}$
- Dew point measurement accuracy up to  $\pm 2$  °C ( $\pm 3.6$  °F)  $T_{d/f}$
- Sensor purge provides superior chemical resistance
- Condensation-tolerant
- Modbus RTU over RS-485
- Compatible with Indigo transmitters and Insight PC software
- Traceable calibration certificate

Vaisala DRYCAP® Dew Point Probe DMP6 is designed for humidity measurement in industrial applications with very high temperatures. High temperature tolerance is achieved using a passive cooling set that conducts heat away from the probe and reduces temperature to optimal range for the sensor.

### Measure Humidity Directly in Very Hot Processes

DMP6 is built for direct measurement in temperature range 0 ... +350 °C (+32 ... +662 °F). There is no need for a sampling system or trace heating. To tolerate these high temperatures the probe head is inserted inside a cooling set that provides passive cooling. The cooling set has removable cooling fins that allow the operating temperature profile of the probe to be adjusted so that adequate cooling is provided for each application. The cooling system has no moving parts, and requires no additional power or cooling utilities, so there is no risk of sensor damage due to mechanical cooling failure.

DMP6 incorporates the Vaisala DRYCAP® sensor, which is accurate, reliable, and stable. The sensor is condensation-tolerant and is immune to particulate

contamination, oil vapor, and most chemicals. Sensor warming minimizes the risk of condensation accumulating on the sensor. If the DRYCAP® sensor does get wet, it will rapidly dry and recover its swift response time.

### Chemical Purge Minimizes Effects of Contaminants

In environments with high concentrations of chemicals and cleaning agents, the chemical purge option helps to maintain measurement accuracy between calibration intervals.

The chemical purge involves heating the sensor to remove harmful chemicals. The function can be initiated manually or programmed to occur at set intervals.

### Services You Can Count On

Each probe is manufactured and individually calibrated in Vaisala's world-class facility in Finland. The traceable factory calibration certificate is included also in electronic format in the probe.

The interchangeable probes minimize the downtime associated with maintenance. Validate and maintain the accuracy by calibrating the instrument on the field or use the easy and thorough calibration service in Vaisala's service facilities in Helsinki, Boston, Beijing and Tokyo.

# Technical Data

## Measurement Performance

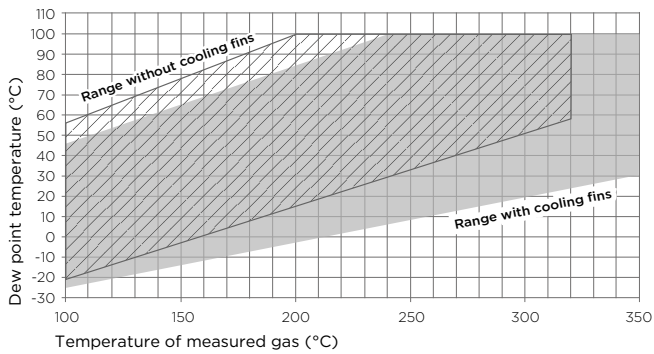
### Dew Point

Sensor	DRYCAP® 180S
Measurement range	-25 ... +100 °C (-13 ... +212 °F) T <sub>d/f</sub>
Accuracy	±2 °C (±3.6 °F) T <sub>d/f</sub>
Response time 63 % [90 %]	
From dry to wet	5 s [10 s]
From wet to dry	45 s [5 min]
<b>Mixing Ratio</b>	
Measurement range (typical)	0 ... 1000 g/kg (0 ... 7000 gr/lbs)
Accuracy (typical)	±12 % of reading

## Operating Environment

Operating temperature range of probe head <sup>1)</sup>	0 ... +350 °C (+32 ... +662 °F)
Operating temperature range of probe body	-40 ... +80 °C (-40 ... +176 °F)
Storage temperature	-40 ... +80 °C (-40 ... +176 °F)
Measurement environment	For air, nitrogen, hydrogen, argon, helium, and oxygen <sup>2)</sup>
IP rating	IP66
EMC compliance	EN61326-1, Industrial environment

- 1) Installation of cooling fins on the cooling set affects the operating temperature range. See the operating range graph.
- 2) Consult Vaisala if other chemicals are present. Consider safety regulations with flammable gases.



Operating Range of Probe Head

## Inputs and Outputs

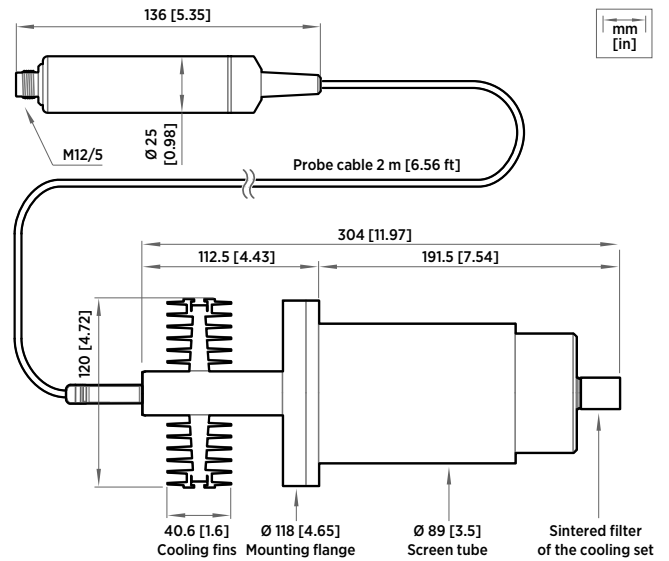
Operating voltage	15 ... 30 VDC
Current consumption	10 mA typical, 500 mA max.
Digital output	RS-485, non-isolated
Protocols	Modbus RTU

### Output Parameters

Dew point temperature, mixing ratio, water concentration, water vapor pressure, water mass fraction

## Mechanical Specifications

Connector	M12 5-pin A-coded male
Probe weight	500 g (1.10 lb)
Cooling set weight	3.50 kg (7.72 lb)
Probe cable length	2 m (6.56 ft)
<b>Materials</b>	
Probe	AISI316L
Probe body	AISI316L
Cable jacket	FEP
Cooling set	Stainless steel and aluminum



DMP6 Dimensions with Cooling Set

## Accessories

Cooling set for DMP6	DMP246CS
USB PC connection cable <sup>1)</sup>	242659

<sup>1)</sup> Vaisala Insight software for Windows available at [www.vaisala.com/insight](http://www.vaisala.com/insight)



[www.vaisala.com](http://www.vaisala.com)

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