



**HP480**  
**T480.1**  
**S.TC2.480.2**

▶ [ GB ] Probes for the measurement of the dew point in compressed air systems



**Probes for the measurement of the dew point in compressed air systems**

Compressed air is used for several purposes, many of which require compressed air with a low humidity level, and so comes the need to know the dew point (Dew Point - DP) of water vapour in the compressed air that circulates in the system. The **HP480**, **T480.1** and **S.TC2.480.2** probes are designed specifically for this purpose.

The use of dew point measurement in order to limit moisture in compressed air distribution systems has many advantages:

- prevents corrosion of metal pipes;
- in cold areas, prevents the formation of ice inside the pipes leading to obstruction of the pipes themselves;
- prevents bacterial growth in plants for medical use
- reduces maintenance costs of pneumatic drives, maintaining the proper lubrication of moving parts;
- improves the quality of products coming into contact with air, for example in the drying process of granulates.

The probes can be installed in any position. The connection to the compressed air can be achieved with a threaded connection or with a quick connection. The connection allows for quick installation and removal of the probe without stopping the system. 3 different 1/4" couplings are supplied: Italian, German, and American standard.

All models are equipped with a filter made of sintered steel, stainless steel measuring chamber and control valve of the air flow.

They are suitable for measurement of compressed air with dew point up to class 3 according to standard ISO8573-1.

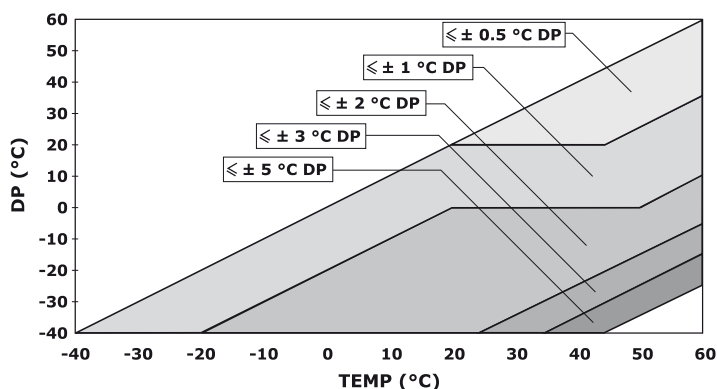
The available probes differ according to the instrument that can be connected:  
**HP480:** Interchangeable probe with SICRAM module. It can be connected to any of the portable instruments **HD2101.1**, **HD2101.2**, **HD2301.0**, **D02003** and **DO 9847**.

**T480.1:** Probe connected directly to the instrument. It is used with the transmitters for humidity and temperature of the series and **HD4977T..** and **HD 4877T ...**

**S.TC2.480.2:** Interchangeable probe with **SICRAM 2** module. It can be connected to the transmitters of the series **HD2817T..** and **HD2717T...**

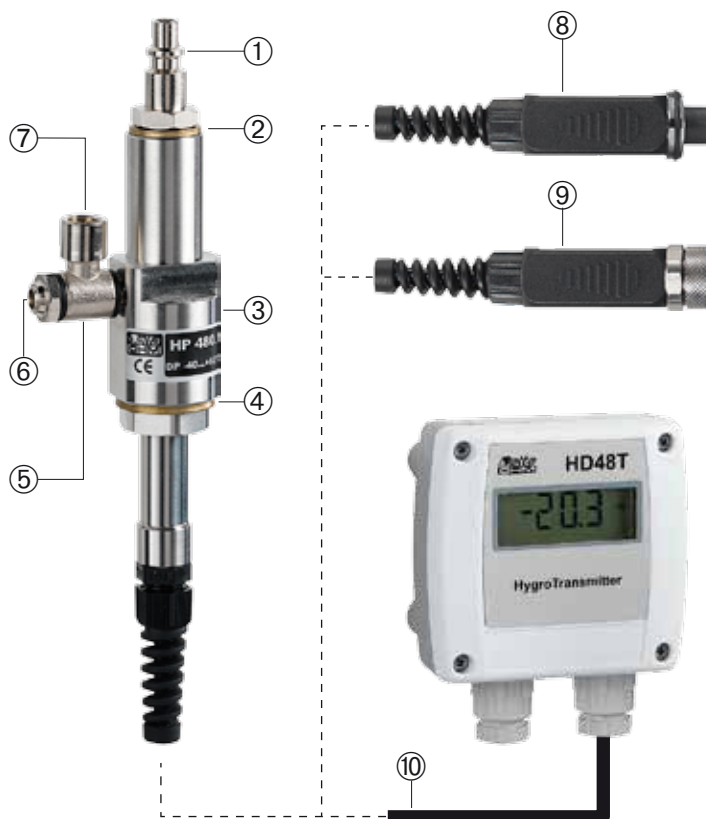
**SPECIFICATIONS**

Relative humidity	
Sensor	capacitive
Measuring range	0...100%RH
Accuracy (@ T = 15...35 °C)	± 1.5%RH (0..90%RH), ± 2%RH (remaining field)
Accuracy (@ T = -40...+60 °C)	± (1.5 + 1.5% of the measured value)%RH
Long term stability	< 1%RH/year
Temperature	
Sensor	Pt100
Measuring range	-40...+60 °C
Accuracy	± 0.25 °C
Dew point	
Sensor	Parameter calculated from the measurement of temperature and relative humidity
Measuring range	-40...+60 °C DP
Accuracy (@ T = 20 °C)	± 2 °C DP (-40...-20 °C DP) ± 1.5 °C DP (-20...0 °C DP) ± 1 °C DP (0...+20 °C DP) ± 0.5 °C DP (+20...+60 °C DP)
Accuracy (@ T = -40...+60 °C)	See graph 1
General features	
Regulation of the air flow	From 0.2 to 3 l/min
Cable length	2m
Filter	Sintered 15µm AISI 316 steel
Material of the measuring chamber	AISI 304 stainless steel
Operating temperature of the probe	-40...+80 °C
Operating pressure of the probe	Up to 16 bar
Protection degree	IP65



Graph 1: accuracy of the dew point measurement (DP)

**DESCRIPTION**



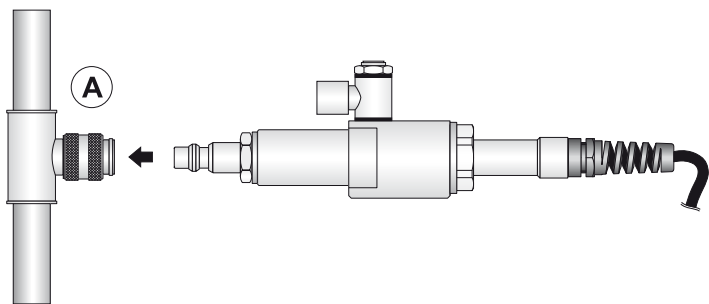
1. Quick Coupling for the connection to the compressed air.
2. Internal G 1/4" thread for the connection of the measuring chamber to the compressed air plant without using the quick coupling.
3. Measuring chamber.
4. G 1/2" thread to connect the probe to the measuring chamber or directly to the compressed air.
5. Air flow control valve.
6. Air flow adjustment screw.
7. Air flow expulsion.
8. SICRAM Module, for model HP480 only
9. Module SICRAM 2, for model S.TC2.480.2 only
10. Fixed cable, for model T480.1 only

**INSTALLATION**

The probe can be connected to the compressed air system in three ways:

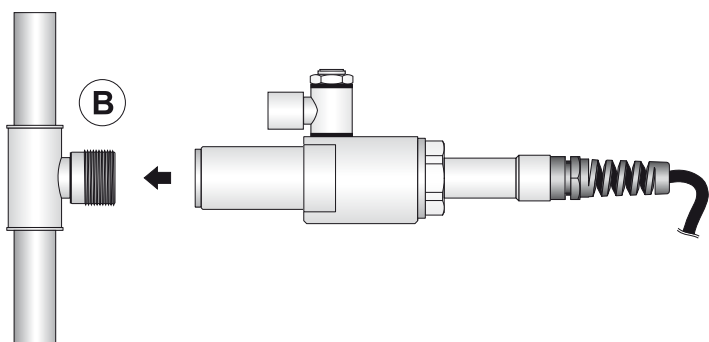
- A. by using the measuring chamber with a quick coupling;
- B. by using the measuring chamber with a G 1/4" threaded connection;
- C. directly (without measuring chamber) with a G 1/2" threaded connection.

### Connection with measuring chamber and quick coupling:



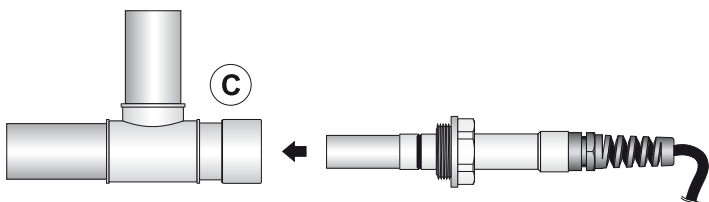
To connect with quick coupling, you can use one of the standard 1/4" couplings provided. Other couplings than those supplied can be used, provided that they have a G 1/4" thread on the side that fits into the probe.

### Connection with measuring chamber and threaded connection:



For the connection by treaded coupling, the connection must have an external G 1/4" thread on the side which will be placed in the probe. The connection must be airtight. When installing or removing the probe, it is necessary to depressurize the system.

### Direct connection (without measuring chamber ) and threaded connection:



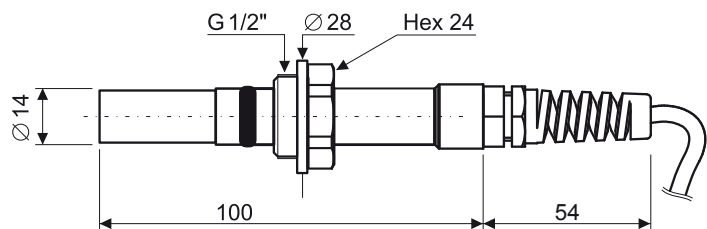
For direct connection of the probe, use a fitting with internal G 1/2" thread on the side which will be placed in the probe. The connection must be airtight. When installing or removing the probe, it is necessary to depressurize the system. Ensure that the probe does not obstruct the normal flow of air through the distribution line.

In all modes of installation, it is recommended that you place in the plant, upstream of the sensor, a safety valve to be closed manually in case of maintenance of the probe.

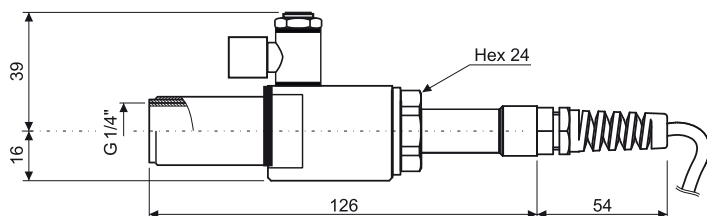
Periodically check the cleanliness of the sintered filter of the probe, in order to maintain optimum response characteristics of the probe. The filter can be washed with a detergent that leaves no traces.

### DIMENSIONS

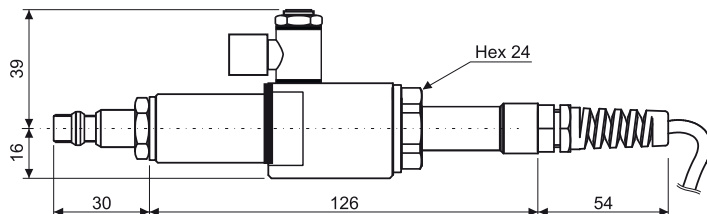
#### Dimensions (mm) of the probe without measuring chamber:



### Dimensions (mm) of the probe with measuring chamber, without quick coupling:



### Dimensions (mm) of the probe with measuring chamber and quick coupling:



### ORDERING CODES:

**HP480:** Interchangeable temperature and humidity probe, complete with SICRAM module. Connection cable 2m. Equipped with 15µ sintered AISI 316 stainless steel filter, measuring chamber, air flow regulation valve, and three 1/4" quick couplings (standard Italian, German, and American). For portable instruments **HD2101.1**, **HD2101.2**, **HD2301.0**, **D02003** e **D09847**.

**T480.1:** Humidity and temperature probe, **connected directly to the instrument**. Connection cable 2m. Equipped with 15µ sintered AISI 316 stainless steel filter, measuring chamber, air flow regulation valve, and three 1/4" quick couplings (standard Italian, German, and American). For humidity and temperature transmitters of the series **HD4877T...** and **HD4977T...**

**S.TC2.480.2:** Interchangeable humidity and temperature probe, complete with SICRAM 2 module. Connection cable 2m. Equipped with 15µ sintered AISI 316 stainless steel filter, measuring chamber, air flow regulation valve, and three 1/4" quick couplings (standard Italian, German, and American). For the transmitters of the series **HD2717T...** and **HD2817T...**



#### Manufacture of portable and bench top instruments

Current and voltage loop transmitters

Temperature - Humidity - Pressure

Air speed - Light - Acoustics - Vibration

pH - Conductivity - Dissolved Oxygen - Turbidity

Elements for weather stations - Thermal Microclimate



LAT N° 124 Signatory of EA, IAF and ILAC Mutual Recognition Agreements

Temperature - Humidity - Pressure - Air speed

Photometry/Radiometry - Acoustics

#### CE CONFORMITY

- **Safety:** EN61000-4-2, EN61010-1 Level 3
- **Electrostatic discharge:** EN61000-4-2 Level 3
- **Electric fast transients:** EN61000-4-4 livello 3, EN61000-4-5 Level 3
- **Voltage variations:** EN61000-4-11
- **Electromagnetic interference susceptibility:** IEC1000-4-3
- **Electromagnetic interference emission:** EN55022 class B

