High humidity probe with
heated sensor element: 0632 2142

Application Information **en**

Introduction

Dear Customer

We are delighted you have chosen a product from Testo. We hope that the product will give you a long period of satisfaction and will aid you in your work.

Please read this instruction manual carefully and familiarise yourself with the operation of the unit before putting it to use.

If problems should occur which you cannot rectify yourself, please consult our service department or your dealer. We will endeavour to provide fast and competent assistance to avoid lengthy down times.

Copyright

We reserve the right to modify technical details from the descriptions, specifications and illustrations contained in this documentation.

Testo AG
Postfach 11 40
79849 Lenzkirch

Germany

Symbols

Incorrect operation of this instrument could lead to danger. Particularly important information, which has to be observed when working with this product, is highlighted in this instruction manual as follows:

Warnings are highlighted by a warning triangle. The **Warning title** indicates the danger level:

Warning! Serious physical injury may occur if the specified safety measures are not carried out.

Caution! Means minor physical injury or material damage may occur if the specified safety measures are not carried out.

Warning title Read all the warnings carefully and carry out all the specified safety measures to avoid danger.

! Notes on special cases and peculiarities in the handling of your unit are indicated by an exclamation mark.

Contents

Basic safety instructions

⚠ Avoid electrical hazards:

- Never make measurements with the unit and its external probes on or near live components unless the unit/probes are expressly approved for current and voltage mesurements.

⚠ Protect the high humidity probe

- Never store the instrument/probe together with solvents (e.g. acetone).

⚠ Measuring correctly:

- Check the complete measurement system prior to every measurement (probe, connections etc.).

⚠ Preserve product safety/warranty entitlement:

- Take time to read the instruction manual for the high humidity probe.
- Operate the probe only within the parameters specified in the technical data.
- Please handle the probe with care.
- Force should never be applied.
- The temperature data for the sensors/probes only refer to the sensor measuring range. Never subject handles or pipes to temperatures greater than 70°C unless they are expressly approved for higher temperatures.
- Only carry out the maintenance and repair work described in the Instruction manual. Please follow instructions. For safety reasons, only original spare parts from Testo should be used.

  Any other work should only be carried out by authorised trained personnel. Otherwise responsibility for the perfect functioning of the probe following repairs and for the validity of approvals will be denied by Testo.

♻ Ensure correct disposal:

- You can return your instrument directly to us at the end of its service life. We will dispose of it responsibly.

The probe is suitable for measuring relative humidity and temperature even in meteorological conditions.

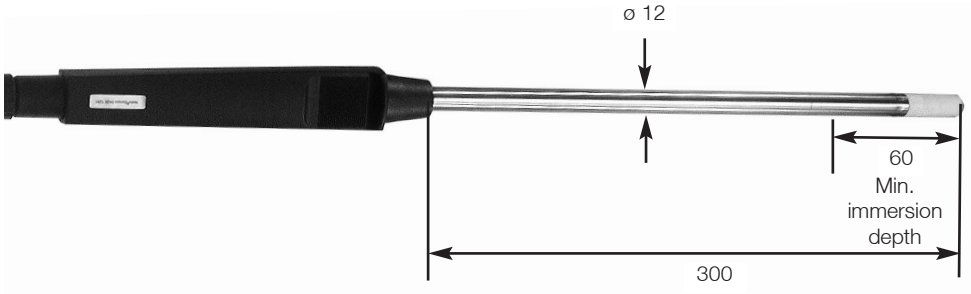
The high humidity probe for humidity and temperature is particularly ideal for use at high humidities and quickly changing temperatures. Humidity can condense on the surface of the components due to the delayed temperature adaptation of the components. The temperature is kept higher (approx. 5 K) than the ambient temperature in order to avoid condensation on the humidity sensor.

Humidity sensor heating is compensated in the probe.

The minimum immersion depth of 60 mm should be adhered to when measuring (e.g. duct measurement).

The high humidity probe was developed for use with the **testo 645**, **testo 445**, **testo 650**, **testo 400** and **testo 454** measuring instruments. Use the cable provided for your instrument (see Ordering data) for connection to the measuring instruments.

Dimensions in mm



- Connect probe to measuring instrument.
- Switch on measuring instrument.
- When switched on, there is an adaptation time of approx. 5 minutes.
- Measuring instrument and high humidity probes are ready to use.

Cleaning the sensor

Clean dirty sensors with destilled water.

- Carefully unscrew sintered cap.
- Rinse sensor and leave to dry.
- Attach sintered cap and screw tightly.

Do not touch sensor or subject to impact.

Cleaning the sintered cap

Clean dirty sintered caps with pure alcohol or destilled water or purge cap with compressed air (from inside outwards).

Depending on application and exposure to dirt, it is recommended that the high humidity probe is checked once a year in Testo`s calibration laboratory.

Calibration certificates for humidity and temperature are available.

Adjustment in environmental chamber

In the environmental chamber, you can adjust the high humidity probe using the adjustment buttons.

! An adjustment with the testo control and calibration set is not possible.

Carry out adjustment as follows:

① Place high humidity probe in the environmental chamber and set adjustment point 11.3 %RH at 25 °C in the environmental chamber.

② Wait for adaptation time to elapse. When adjusting, an adaptation time of at least one hour is recommended.

③ Remove the cover plugs on the handle of the high humidity probe.

④ Press S1 button for adjustment point 11.3 %RH.

⑤ Carry out steps ① to ③ for the adjustment point 75.3 %RH. Press button S2 for adjustment point 75.3 %RH.

Technical data

Probe type	NTC temperature sensor Humidity sensor, capacitive
Measuring range	
Humidity:	0 to 100 %RH
Temperature:	-20 to +100 °C
Accuracy	
Humidity:	±2.5 %RH at rated temperature +25 °C
Temperature:	±0.4 °C (-10 to +50 °C) ±0.5 °C (-20 to -10.1 °C) ±0.5 °C (+50.1 to +100 °C)
Maximum storage and transport temperature:	-20 to +80 °C
Resolution	
Humidity:	0.1 %RH
Temperature:	0.1 °C
Probe length	300 mm
Ø probe tip	12 mm
Warranty	
Probe	2 years

Ordering data

Description	Part no.
High humidity probe with heated sensor element	0636 2142
Plug-in head connection cable 1.5 m	0430 0143
Plug-in head connection cable 5 m	0430 0145
PTFE sintered cap	0554 0758
ISO calibration certificate/Humidity Electronic hygrometer, calibration points: 11.3 %RH and 75.3 %RH at 25 °C	0520 0006

Notes

testo AG

Postfach 11 40, 79849 Lenzkirch
Testo-Straße 1, 79853 Lenzkirch

Telefon: (07653) 681-0
Fax: (07653) 681-100

E-Mail: info@testo.de
Internet: http://www.testo.com

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