



Industrial thermohygrometer

- PC analysis
- Prints
- 2 probe sockets
- Probes
- HOLD/MAX/MIN
- 0 to 100%RH



The testo 645 humidity measuring instrument automatically displays the parameters relative humidity, absolute humidity, dew point, degree of humidity, enthalpy and temperature.

Convenient data analysis on your PC with location name.

A wide range of humidity and temperature probes suitable for high temperature measurement to monitoring humidity in compressed air systems are available.



Measures equilibrium moisture e.g. in bulk material

- **Highly accurate humidity meas. to ±1%RH**
- **Internal data memory**
- **Convenient data analysis**
- **TopSafe for tough applications**

testo 645

Set with TopSafe

testo 645, humidity/temperature measuring instrument, with TopSafe, battery and calibration protocol

Part no. 0563 6450



Detects condensate, thus preventing damage to the compressed air system

Suitable probes at a glance

| Description | Illustration | Meas. range | Accuracy | 190 | Conn. | Part no. |
|---|--------------|------------------------------------|--|-------|--|-----------|
| Standard indoor air quality probe up to +70°C | | 0... +100 %RH -20... +70 °C | ±2 %RH (+2... +98 %RH) ±0.4 °C (-10... +50 °C) ±0.5 °C (-20... -10.1 °C) ±0.5 °C (+50.1... +70 °C) | 12 s | Plug-in head, connection cable 0430 0143 or 0430 0145 required | 0636 9740 |
| Duct humidity/temperature probe, can be connected to telescopic handle <small>Telescopic handle 0430 9715, see Ordering data for Accessories</small> | | 0... +100 %RH -20... +70 °C | ±2 %RH (+2... +98 %RH) ±0.4 °C (-10... +50 °C) ±0.5 °C (-20... -10.1 °C) ±0.5 °C (+50.1... +70 °C) | 12 s | Fixed cable | 0636 9715 |
| NEW Thin humidity probe incl. 4 attachable protection caps for ambient air measurements, measurements in exhaust air ducts and equilibrium moisture measurements | | 0... +100 %RH -20... +70 °C | ±2 %RH (+2... +98 %RH) ±0.4 °C (-10... +50 °C) ±0.5 °C (-20... -10.1 °C) ±0.5 °C (+50.1... +70 °C) | 15 s | Plug-in head, connection cable 0430 0143 or 0430 0145 required | 0636 2130 |
| Highly accurate reference humidity/temp. probe incl. calibration certificate | | 0... +100 %RH -20... +70 °C | ±1 %RH (+10... +90 %RH)* ±2 %RH (0... +9.9 %RH) ±2 %RH (+90.1... +100 %RH) ±0.4 °C (-10... +50 °C) ±0.5 °C (-20... -10.1 °C) ±0.5 °C (+50.1... +70 °C) | 12 s | Plug-in head, connection cable 0430 0143 or 0430 0145 required | 0636 9741 |
| Flexible humidity probe with mini module for meas. e.g. on material testing rigs, module cable length 1500mm, probe tip 50x19x7mm | | 0... +100 %RH -20... +125 °C | ±2 %RH (+2... +98 %RH) ±0.4 °C (-10... +50 °C) ±0.5 °C (-20... -10.1 °C) ±0.5 °C (+50.1... +125 °C) | 20 s | Plug-in head, connection cable 0430 0143 or 0430 0145 required | 0628 0013 |
| Sword probe for measuring humidity and temperature in stacked material | | 0... +100 %RH -20... +70 °C | ±2 %RH (+2... +98 %RH) ±0.4 °C (-10... +50 °C) ±0.5 °C (-20... -10.1 °C) ±0.5 °C (+50.1... +70 °C) | 12 s | Plug-in head, connection cable 0430 0143 or 0430 0145 required | 0636 0340 |
| NEW High humidity level probe with heated sensor element, no condensation on sensor | | 0... +100 %RH -20... +85 °C | ±2.5 %RH (0... +100 %RH) ±0.4 °C (-10... +50 °C) ±0.5 °C (-20... -10.1 °C) ±0.5 °C (+50.1... +85 °C) | 30 s | Plug-in head, connection cable 0430 0143 or 0430 0145 required | 0636 2142 |
| Robust high temperature/humidity probe up to +180°C | | 0... +100 %RH -20... +180 °C | ±2 %RH (+2... +98 %RH) ±0.4 °C (+0.1... +50 °C) ±0.5 °C (-20... 0 °C) ±0.5 °C (+50.1... +180 °C) | 30 s | Plug-in head, connection cable 0430 0143 or 0430 0145 required | 0628 0021 |
| Flexible humidity probe (does not retain shape) for measurements in inaccessible places | | 0... +100 %RH -20... +180 °C | ±2 %RH (+2... +98 %RH) ±0.4 °C (+0.1... +50 °C) ±0.5 °C (-20... 0 °C) ±0.5 °C (+50.1... +180 °C) | 30 s | Plug-in head, connection cable 0430 0143 or 0430 0145 required | 0628 0022 |
| Standard pressure dew point probe for measurements in compressed air systems | | 0... +100 %RH -30... +50 °C tpd | ±0.9 °C tpd (+0.1... +50 °C tpd) ±1 °C tpd (-4.9... 0 °C tpd) ±2 °C tpd (-9.9... -5 °C tpd) ±3 °C tpd (-19.9... -10 °C tpd) ±4 °C tpd (-30... -20 °C tpd) | 300 s | Plug-in head, connection cable 0430 0143 or 0430 0145 required | 0636 9840 |
| Precision pressure dew point probe for measurements in compressed air systems incl. cert. with test point -40°C tpd | | 0... +100 %RH -60... +50 °C tpd | ±0.8 °C tpd (-4.9... +50 °C tpd) ±1 °C tpd (-9.9... -5 °C tpd) ±2 °C tpd (-19.9... -10 °C tpd) ±3 °C tpd (-29.9... -20 °C tpd) ±4 °C tpd (-40... -30 °C tpd) | 300 s | Plug-in head, connection cable 0430 0143 or 0430 0145 required | 0636 9841 |
| Flexible humidity probe (retains shape) for measurements at inaccessible points | | 0... +100 %RH -20... +125 °C | ±2 %RH (+2... +98 %RH) ±0.4 °C (-10... +50 °C) ±0.5 °C (-20... -10.1 °C) ±0.5 °C (+50.1... +125 °C) | 30 s | Plug-in head, connection cable 0430 0143 or 0430 0145 required | 0628 0014 |

Temperature probes attachable, See testo 950 • Humidity probes attachable, See testo 650

Caps for humidity probes, see Ordering data for Accessories

☑ The measuring instrument inside TopSafe is waterproof with this probe.

* in the temperature range from +10°C to +30°C

Practical accessories and recommended sets

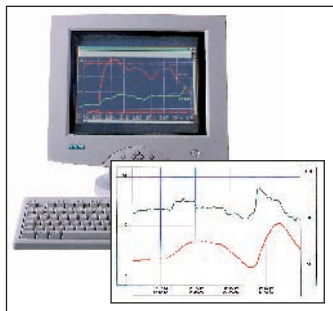


Testo printer with 1 roll of thermal paper and 4 AA size batteries

Part no. 0554 0545

NEW testo 575 fast printer, incl. 1 roll of thermal paper and batteries

Part no. 0554 1775



ComSoft 3 - Professional with data management

Part no. 0554 0830



TopSafe (indestructible protection case), with bench stand and belt clip
Protects instrument from water, dust, impact, scratches. IP 65 only with waterproof probes (drop symbol)

Included



Control and humidity adjustment set 11.3%RH/75.3%RH incl. adapter for humidity probes

Part no. 0554 0660

testo 645, standard set for humidity and temperature measurement



testo 645, humidity instrument
Standard ambient air probe
Connection cable, 1.5 m long
Quick-action surface probe
Connection cable, 1.5 m long
Transport case

Part no. 0563 6451

testo 645, set for industrial humidity measurement up to +120°C



testo 645, humidity instrument
Robust humidity probe
Connection cable, 1.5 m long
Quick-action surface probe
Connection cable, 1.5 m long
Transport case

Part no. 0563 6452

Ordering data for Accessories

Part no.

| | |
|--|-----------|
| Plug-in mains unit For mains operation and recharging battery in instrument | 0554 0088 |
| 9V rechargeable battery for instrument Instead of battery | 0515 0025 |
| Testo printer with 1 roll of thermal paper and 4 AA size batteries Prints readings on location | 0554 0545 |
| NEW testo 575 fast printer, incl. 1 roll of thermal paper and batteries Infrared thermal line printer with graph function | 0554 1775 |
| Recharger for printer (with 4 standard rech. batt.) | 0554 0110 |
| Spare thermal paper for printer (6 rolls) | 0554 0569 |
| Spare thermal paper for printer (6 rolls) Measurement data documentation legible for up to 10 years | 0554 0568 |
| Label thermal paper (Testo patent) for testo 575 printer (6 rolls), can be applied directly | 0554 0561 |
| Cable, 1.5 m long, connects probe with plug-in head to meas. instrument | 0430 0143 |
| Extension cable, 5 m long, between plug-in head cable and instrument | 0409 0063 |
| Telescopic handle, 340 - 800mm long | 0430 9715 |
| Adapter for surface humidity measuring, for humidity probes Ø 12mm Locates damp spots on walls, for example | 0628 0012 |
| Cap for bore holes, for humidity probe with 12mm diameter Measures equilibrium moisture in bore holes | 0554 2140 |
| ComSoft 3 - Professional with data management Incl. database, analysis and graphics function, data analysis, trend curve | 0554 0830 |
| RS232 cable Connects instrument to PC (1.8 m) for data transfer | 0409 0178 |
| Control and humidity adjustment set 11.3%RH/75.3%RH incl. adapter for humidity probes | 0554 0660 |
| Teflon sintered filter, Ø 12 mm, for corrosive substances High humidity range (long-term measurements), high velocities | 0554 0756 |
| Stainless steel sintered cap, Ø 12 mm, is screwed onto humidity probe For measurements at high velocity speeds or in dirt ingressed air | 0554 0647 |
| Transport case (plastic) for measuring instrument, probes, accessories | 0516 0445 |
| ISO calibration certificate/Humidity Electronic hygrometers; calibration points 11.3%RH and 75.3%RH at +25°C | 0520 0006 |
| DKD calibration certificate/Humidity Electronic hygrometers; calibration points 11.3%RH and 75.3%RH at +25°C | 0520 0206 |

Sintered caps, see testo 650

Technical data

| Probe type | Testo humid. sensor, cap. | Pt100 | Type K (NiCr-Ni) | Type J (Fe-CuNi) | Type S (Pt10Rh-Pt) | NTC |
|--------------------|---------------------------|--|--|------------------|--------------------|-------------------------|
| Meas. range | 0... +100 %RH | -200... +800 °C | -200... +1370 °C | -40... +750 °C | -50... +1700 °C | -50... +150 °C |
| Resolution | 0.1 %RH (0... +100 %RH) | 0.1 °C (-200... +800 °C) | 0.1 °C (-200... +1370 °C) | | | 0.1 °C (-50... +150 °C) |
| Accuracy ± 1 digit | See probe data | ±0.1% of mv (+200.1... +800 °C) ±0.2 °C (-200... +200 °C) | ±0.5% of mv (+60... +1370 °C) ±0.3 °C (-200... +59.9 °C) | | | |
| Display | LCD, 4 lines | | Accuracy of temperature: ± 1 digit at +22°C | | | |
| Oper. temp. | 0... +50 °C | | Ni 10000 sensor: meas. range: ...+180°C | | | |
| Storage temp. | -20... +70 °C | | Typical battery lives: 9V block (Al-Mn) 20-45h. The hour times are reduced by a factor of 5 if a 9V rech. battery is used | | | |
| Battery type | Alkali manganese | | Calculated humidity parameters: td, g/m ³ , g/kg, J/g (pressure compensated) | | | |
| Battery life | 45 h | | Mains connection and battery recharging in instrument | | | |
| Dimensions | 215x68x47 mm | | | | | |
| Weight | 255 g | | | | | |
| Warranty | 2 years | | | | | |

%RH

°C

 td
tpd

 g/m³

g/kg

J/g