

Measuring Instruments For Velocity



m/s

m³/h

°C

%RH

hPa

CO₂

Lux

CO

rpm

V

mA



Measurement and application ranges of the velocity probes

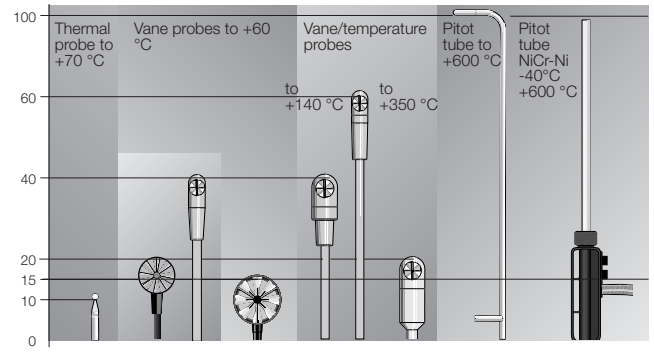
Probe selection

The flow measuring range 0 to 100 m/s can be divided into three sections:

- Low-speed velocity 0 to 5 m/s
- Mid-speed velocity 5 to 40 m/s
- High-speed velocity 40 to 100 m/s.

Thermal probes are used for accurate measurements in the range 0 to 5 m/s. Vane probes are ideal for velocities ranging from 5 to 40 m/s. The measuring range of the Pitot tube depends on the differential pressure probe used. The new 100 Pa probe can therefore be used for the exact measurement of flow speed from approx. 1 m/s to 12 m/s. The Pitot tube yields optimum results in the higher velocity range. An additional criterion when selecting the right velocity probe is the temperature. Thermal sensors can normally be used at up to approx. +70 °C. Special design vane probes can be used to max. +350 °C. Pitot tubes are used for temperatures above +350 °C.

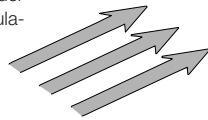
Measurement and application ranges of the velocity probes



Thermal probes

Thermal probes

The principle of the thermal probe is based on a heated element from which heat is extracted by the colder impact flow. Temperature is kept constant via a regulating switch. The controlling current is directly proportional to the velocity. When thermal velocity probes are used in turbulent flows, the measured result is influenced by the flows impacting the heated body from all directions. In turbulent flows, a thermal velocity sensor indicates higher measured values than a vane probe. This can be observed especially during measurements in ducts. Depending on the design of the duct, turbulent flows can occur even at low velocities.



Thermal hot wire probe for measuring velocity, with direction recognition function



Vane probes

Vane probes

The measuring principle of the vane probe is based on the conversion of a rotation into electric signals. The flowing agent makes the vane rotate. An inductive proximity switch „counts“ the revolutions of the vane and supplies a pulse sequence which is converted in the measuring instrument and is then indicated as a velocity value. Large diameters (Ø 60 mm, Ø 100 mm) are suitable for the measurement of turbulent flows (e.g. at outlet ducts) at smaller or medium velocities. Small diameters are more suitable for measurements in ducts; in which case the duct cross-section must be 100 times bigger than the probe cross-section being impacted.

The 16mm probe has proven to be very versatile. It is large enough to have good starting qualities and is small enough to withstand velocities of up to 60 m/s.

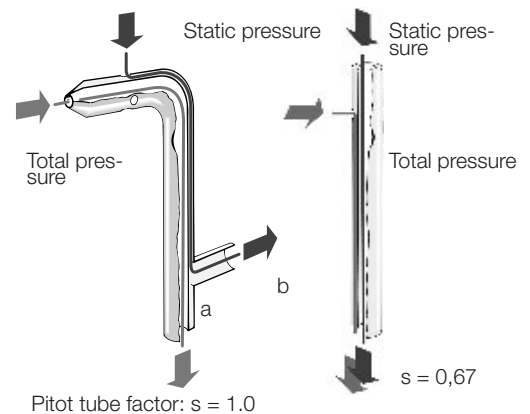


Pitot tube

Pitot tube

The Pitot tube opening takes on total pressure and conducts it to connection (a) in the pressure probe. The pure static pressure is taken up by a lateral slot and conducted to connection (b). The resulting differential pressure is a dynamic flow-dependent pressure which is then analysed and indicated.

As with thermal probes, the Pitot tube is more likely to react to turbulent flows than a vane probe. Therefore, a free inlet and outlet path must also be ensured during Pitot tube measurements.



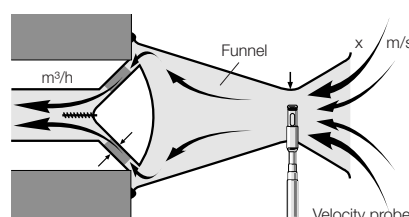
$$v = s \cdot \sqrt{\frac{2 \cdot p}{\rho}}$$

- v = Velocity in m/s
- s = Pitot tube factor
- ρ = Air density in kg/m³
- p = Differential pressure in Pascal measured at Pitot tube

Measuring volume flow with a funnel

$$v \left[\frac{\text{m}^3}{\text{h}} \right] = x \left[\frac{\text{m}}{\text{s}} \right] \cdot 22$$

- v = Volume flow
- x = Velocity
- 22 = Funnel factor



testovent 417



testovent is available for exhaust air (testovent 410 and 415, see ill. right), and for air input (testovent 417, the funnel set for plate inlets and funnels).

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Measurement systems

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testo 405

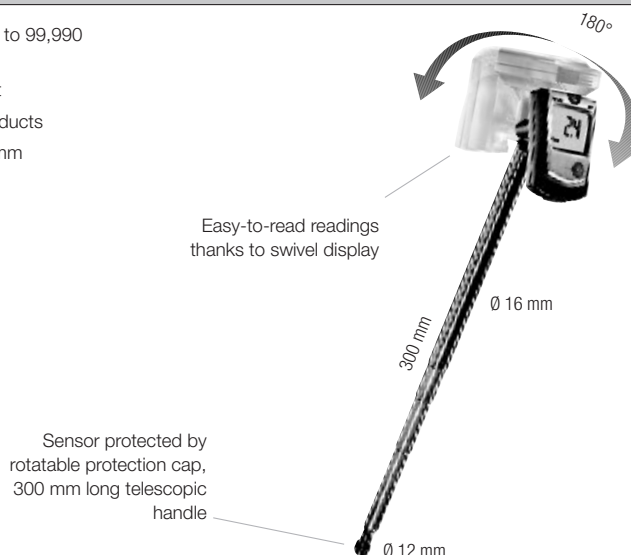
Pocket size thermal anemometer

testo 405 is a thermal anemometer with a telescopic handle (max. extension length: 300 mm). It facilitates the measurement of air flow, volume flow and temperature.

testo 405; thermal anemometer with duct holder, holding clip, battery included

Part no.
0560 4053

- Volume flow calculation up to 99,990 m³/h
- Temperature measurement
- Ideal for measurements in ducts
- Telescopic handle to 300 mm



Technical data

Meas. range	0 to 5 m/s (-20 to 0 °C) 0 to 10 m/s (0 to +50 °C) -20 to +50 °C 0 to +99990 m ³ /h
Accuracy ±1 digit	±(0.1 m/s + 5% of mv) (0 to +2 m/s) ±(0.3 m/s + 5% of mv) (remaining range) ±0.5 °C
Resolution	0.01 m/s 0.1 °C

Oper. temp.	0 to +50 °C
Storage temp.	-20 to +70 °C
Battery type	3 batteries Type AAA
Battery life	Approx. 20 h
Weight	115 g (with batteries, without packaging)
Warranty	2 years

Accessories

Accessories	Part no.
testovent 410, volume flow funnel, Ø 340 mm/330x330 mm, incl. case	0554 0410
testovent 415, volume flow funnel, Ø 210 mm/210x210 mm, incl. case	0554 0415
ISO calibration certificate velocity two point calibration; calibration points 5m/s and 10m/s	0520 0094
ISO calibration certificate velocity hot wire, vane anemometer, Pitot tube; calibration points 1; 2; 5; 10 m/s	0520 0004

testo 410-1/-2

Pocket size vane anemometer

testo 410-1 measures air speed and temperature. It is ideal for quick spot checks at air outlets on account of its integrated measurement with the 40mm vane. Timed mean calculation is possible.

In addition to air speed and temperature, testo 410-2 also measures air moisture. Testo's very own, patented humidity sensor guarantees accurate readings. In this way, air conditions can be reliably checked.

- Flow velocity measuring instrument with temperature measurement
- Integrated measurement with 40 mm vane
- Timed mean value calculation
- Hold function and max./min. values
- Windchill calculation for outside areas (perceived temperature)
- Display illumination

testo 410-1; vane anemometer with built-in NTC air thermometer, incl protective cap, batteries and calibration protocol

Part no.
0560 4101

- Protective cap for safe storage
- Including wrist strap, belt holder and calibration protocol

Additional advantages of testo 410-2

- Air humidity measurement with long-term stable Testo humidity sensor
- Incl. dewpoint calculation and wet bulb

testo 410-2; vane anemometer with integrated humidity measurement and NTC air thermometer, incl protective cap, batteries and calibration protocol

Part no.
0560 4102



Technical data

	testo 410-1/-2	testo 410-2
Probe type	Vane	Testo humid. sensor, cap.
Meas. range	0.4 to 20 m/s	-10 to +50 °C
Accuracy ±1 digit	±(0.2 m/s + 2% of mv)	±0.5 °C
Resolution	0.1 m/s	0.1 °C
Battery life	100 h (average, without display illumination)	60 h (average, without display illumination)

Common Technical Data testo 410-1/-2

Dimensions	133 x 46 x 25 mm (incl. protective cap)	Battery type	2 batteries Type AAA
Oper. temp.	-10 to +50 °C	Weight	110 g (with protective cap and batteries)
Storage temp.	-20 to +70 °C	Measuring rate	0.5 s
Protection class	IP10	Warranty	2 years

Accessories

Accessories	Part no.
ISO calibration certificate velocity two point calibration; calibration points 5m/s and 10m/s	0520 0094
ISO calibration certificate/Velocity hot wire, vane anemometer, Pitot tube; calibration points 5; 10; 15; 20 m/s	0520 0034

testo 416

Compact Vane Anemometer

The compact testo 416 anemometer with permanently attached vane probe with telescopic handle (max. 890mm).

Volume flow is shown directly in the display. Accurate volume flow calculation due to easy input of duct area.

Timed and multi-point mean calculation provide information on mean volume flow.

Min/max values can also be shown in the display. The Hold function enables you to freeze the current reading in the display.

- Direct display of volume flow
- Multi-point or timed mean calculation
- Max/min values
- Hold button to freeze readings
- Display light
- Auto-Off function
- TopSafe, instrument protection against dirt and knocks (optional)



Telescopic vane (length max. 890 mm, Ø 16 mm)

testo 416, vane anemometer with permanently attached 16 mm telescopic vane (max. 890 mm), with battery and calibration protocol

Part no.

0560 4160

Accessories	Part no.
Case for measuring instrument and probes	0516 0210
TopSafe, protects from impact and dirt	0516 0221
Transport case for meas. instr. and probes (405 x 170 x 85 mm)	0516 0201
Recharger for 9V rechargeable battery for external recharging of 0515 0025 battery	0554 0025
9V rech. battery for instrument instead of battery	0515 0025
ISO calibration certificate velocity hot wire, vane anemometer; calibration points 0.5; 0.8; 1; 1.5 m/s	0520 0024
ISO calibration certificate velocity hot wire, vane anemometer, Pitot tube; calibration points 1; 2; 5; 10 m/s	0520 0004
ISO calibration certificate/Velocity hot wire, vane anemometer, Pitot tube; calibration points 5; 10; 15; 20 m/s	0520 0034

Technical data	
Probe type	Vane
Meas. range	+0.6 to +40 m/s
Accuracy	±(0.2 m/s +1.5% of mv)
±1 digit	
Resolution	0.1 m/s
Oper. temp.	-20 to +50 °C
Storage temp.	-40 to +85 °C
Battery type	9V block battery, 6F22
Battery life	80 h
Dimensions	182 x 64 x 40 mm
Weight	325 g
Material/Housing	ABS
Warranty	2 years

testo 417

Large-Area Vane Anemometer

The compact testo 417 anemometer with built-in flow/temperature vane Ø 100 mm to measure flow speed, volume flow and temperature.

Volume flow is shown directly in the display. Accurate volume flow calculation thanks to easy input of duct area. In addition, it is easy to switch to the current temperature reading.

The flow direction, i.e. drawn in or blowing, is visible in the display.

Timed and multi-point mean calculation provide information on mean volume flow, flow speed and temperature readings.

The optional funnel set facilitates efficient measurements at ventilator grilles and disc outlets.

Min/max values can also be shown in the display. Current readings can be frozen in the display using the Hold function.

- Direction of flow recognition
- Temperature, flow and volume flow measurement
- Multi-point and timed mean calculation
- Max/min values
- Hold button to freeze readings
- Display light
- Auto Off function

Built-in Ø 100 mm vane



testo 417, vane anemometer with built-in 100 mm vane, incl. temperature measurement, battery and calibration protocol

Part no.
0560 4170

Technical data

Probe type	NTC	Vane	Volume flow
Meas. range	0 to +50 °C	+0.3 to +20 m/s	0 to +99999 m³/h
Accuracy ±1 digit	±0.5 °C	±(0.1 m/s +1.5% of mv)	
Resolution	0.1 °C	0.01 m/s	0.1 m³/h (0 to +99.9 m³/h) 1 m³/h (+100 to +99999 m³/h)

Oper. temp.	0 to +50 °C
Storage temp.	-40 to +85 °C
Battery type	9V block battery, 6F22
Battery life	50 h

Dimensions	277 x 105 x 45 mm
Weight	230 g
Material/Housing	ABS
Warranty	2 years

Accessories

	Part no.
Case for measuring instrument and probes	0516 0210
Funnel set consisting of funnel for disc outlets (Ø 200) and funnel for ventilator (330 x 330 mm) for in- and outgoing air	0563 4170
Recharger for 9V rechargeable battery for external recharging of 0515 0025 battery	0554 0025
9V rech. battery for instrument instead of battery	0515 0025
DKD calibration certificate/velocity hot wire, vane anemometer; calibration points 0.5; 1; 2; 5; 10 m/s	0520 0244
ISO calibration certificate velocity hot wire, vane anemometer, Pitot tube; calibration points 1; 2; 5; 10 m/s	0520 0004
ISO calibration certificate/velocity hot wire, vane anemometer, Pitot tube; calibration points 5; 10; 15; 20 m/s	0520 0034
ISO calibration certificate velocity hot wire, vane anemometer; calibration points 0.5; 0.8; 1; 1.5 m/s	0520 0024

testo 425

Compact Thermal Anemometer

The compact testo 425 anemometer with permanently attached thermal flow probe (probe head Ø 7.5 mm) incl. telescopic handle.

Volume flow is shown directly in the display. Accurate volume flow calculation thanks to easy input of duct area. In addition, it is also possible to switch to the current temperature reading.

Timed and multi-point mean calculation provide information on mean volume flow, flow speed and temperature reading.

Min/max values can also be shown in the display. The Hold function makes it possible to freeze current readings in the display.

- Temperature, flow and volume flow measurement
- Multi-point and timed mean calculation
- Max/min values
- Hold button to freeze readings
- Display light
- Auto Off function
- TopSafe, the indestructible protective case (optional)

testo 425, thermal anemometer with permanently attached flow probe (Ø probe head 7.5 mm), incl. temperature measurement and telescopic handle (max. 820 mm), battery and calibration protocol

Part no.

0560 4251



Telescopic flow probe
(max. 820 mm)

Accessories	Part no.
Case for measuring instrument and probes	0516 0210
TopSafe, protects from impact and dirt	0516 0221
Transport case for meas. instr. and probes (405 x 170 x 85 mm)	0516 0201
Recharger for 9V rechargeable battery for external recharging of 0515 0025 battery	0554 0025
9V rech. battery for instrument instead of battery	0515 0025
ISO calibration certificate velocity hot wire, vane anemometer, Pitot tube; calibration points 1; 2; 5; 10 m/s	0520 0004
ISO calibration certificate/Velocity hot wire, vane anemometer, Pitot tube; calibration points 5; 10; 15; 20 m/s	0520 0034

Technical data		
Probe type	Thermal	NTC
Meas. range	0 to +20 m/s	-20 to +70 °C
Accuracy ±1 digit	±(0.03 m/s +5% of mv)	±0.5 °C (0 to +60 °C) ±0.7 °C (remaining range)
Resolution	0.01 m/s	0.1 °C
Oper. temp.	-20 to +50 °C	Dimensions 182 x 64 x 40 mm
Storage temp.	-40 to +85 °C	Weight 285 g
Battery type	9V block battery, 6F22	Material/Housing ABS
Battery life	20 h	Warranty 2 years

testo 435

All measurement parameters for air conditioning

testo 435 provides the possibility of analysing indoor air. On the one hand, this serves as an indicator for the well-being of people at their workplaces, and on the other hand as an important and deciding factor in storage and production processes.

In addition to this, Indoor Air Quality signals whether the air conditioning system (HVAC) is working with as much energy economy as possible, or whether it needs to be adjusted with the help of testo 435.

The parameters CO₂, relative humidity and room temperature are available for evaluating the quality of the air. Absolute pressure, draught, Lux, U-value and surface temperature can additionally be determined. In order to determine volume flow, all the possibilities of flow velocity measurement are available, such as thermal probes, vane anemometers and Pitot tubes.

Versatility with wireless probes

In addition to classical probes on wires, a wireless measurement up to a distance of 20 m (without obstruction) is possible. Damage to the wire or hindrances in usage are thus eliminated. A maximum of three wireless probes can be recorded and displayed with testo 435. The wireless probes are for the measurement parameters temperature and, depending on the instrument type, humidity. The optional, easily plugged-in radio module can be retrofitted at any time.

All-rounder for ventilation and Indoor Air Quality

Common product advantages testo 435

- Wide selection of probes:
 - IAQ probe for evaluating indoor air quality via CO₂, air temperature, indoor air humidity and absolute pressure
 - Thermal probes with integrated temperature and air humidity measurement
 - Vane and hot wire probes
 - Radio probes for temperature
- Easy operation with user profiles
- Printout on the testo fast printer

Further product advantages of the variants

- Integrated differential pressure measurement (435-3/-4, not retrofittable)
 - for flow measurement
 - for monitoring filters
- Extended instrument function (435-2/-4, not retrofittable)
 - Instrument store for 10,000 readings and up to 99 measurement sites
 - PC software for analysing, archiving and documenting measurement data
 - Humidity probes with radio or wire
 - Lux probe connection possible
 - Comfort level probe connection possible
 - U-value probe connection possible



testo 435-1

testo 435-1, multi-functional meas. instr., for A/C, ventilation and Indoor Air Quality, with battery and calibration protocol

Part no.

0560 4351

testo 435-2

testo 435-2, multi-functional measuring instrument for A/C, ventilation and Indoor Air Quality with readings memory, PC software and USB data transmission cable, incl. battery and calibration protocol

Part no.

0563 4352

testo 435-3

testo 435-3, multi-functional measuring instrument with built-in differential pressure measurement for air conditioning, ventilation and Indoor Air Quality, with battery and calibration protocol

Part no.

0560 4353

testo 435-4

testo 435-4, multi-functional meas. instr. with built-in differential pressure measurement for A/C, ventilation and Indoor Air Quality with readings memory, PC software and USB data transmission cable, with battery and calibration protocol









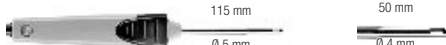

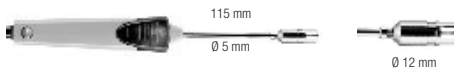



Part no.

0563 4354




435-1/-2/-3/-4

Probes


435-1/-2/-3/-4

IAQ probes	Illustration	Meas. range	Accuracy	Part no.	
IAQ probe to assess Indoor Air Quality, CO ₂ , humidity, temperature and absolute pressure measurement, with desk-top stand		0 to +50 °C 0 to +100 %RH 0 to +10000 ppm CO ₂ +600 to +1150 hPa	±0.3 °C ±2 %RH (+2 to +98 %RH) ±50 ppm CO ₂ ±2% of mv (0 to +5000 ppm CO ₂) ±100 ppm CO ₂ ±3% of mv (+5001 to +10000 ppm CO ₂) ±3 hPa	0632 1535	
Ambient CO probe, for detecting CO in buildings and rooms		0 to +500 ppm CO	±5% of mv (+100.1 to +500 ppm CO) ±5 ppm CO (0 to +100 ppm CO)	0632 1235	
Flow velocity probes	Illustration	Meas. range	Accuracy	Part no.	
Thermal velocity probe with built-in temperature and humidity measurement, Ø 12 mm, with telescopic handle (max. 745 mm)		-20 to +70 °C 0 to +100 %RH 0 to +20 m/s	±0.3 °C ±2 %RH (+2 to +98 %RH) ±(0.03 m/s +4% of mv)	0635 1535	
Vane meas. probe, 16 mm diameter, with telescopic handle max. 890 mm, e.g. for meas. in ducts, can be used from 0 to +60 °C		+0.6 to +40 m/s Oper. temp. 0 to +60 °C	±(0.2 m/s +1.5% of mv)	0635 9535	
Vane meas. probe, 60 mm diameter, with telescopic handle max. 910 mm, e.g. for meas. at duct exit, can be used from 0 to +60 °C		+0.25 to +20 m/s Oper. temp. 0 to +60 °C	±(0.1 m/s +1.5% of mv)	0635 9335	
Hot wire probe for m/s and °C, Ø probe head 7.5 mm, with telescopic handle (max. 820 mm)		0 to +20 m/s -20 to +70 °C	±(0.03 m/s +5% of mv) ±0.3 °C (-20 to +70 °C)	0635 1025	
Funnel measurement	Illustration	Meas. range	Accuracy	Part no.	
Vane meas. probe, 100 mm diameter, for measurements with funnel set 0563 4170		+0.3 to +20 m/s 0 to +50 °C	±(0.1 m/s +1.5% of mv) ±0.5 °C	0635 9435	
Funnel set consisting of funnel for disc outlets (Ø 200) and funnel for ventilator (330 x 330 mm) for in- and outgoing air				0563 4170	
Absolute pressure probes	Illustration	Meas. range	Accuracy	Part no.	
Absolute pressure probe 2000 hPa		0 to +2000 hPa	±5 hPa	0638 1835	
Air probes	Illustration	Meas. range	Accuracy	t99	Part no.
Efficient, robust NTC air probe	 115 mm Ø 5 mm 50 mm Ø 4 mm	-50 to +125 °C	±0.2 °C (-25 to +80 °C) ±0.4 °C (remaining range)	60 s	0613 1712
				Conn.: Fixed cable 1.2 m	
Surface probes	Illustration	Meas. range	Accuracy	t99	Part no.
Fast-reaction paddle surface probe, for measurements in inaccessible places, e.g. narrow apertures and slots TC Type K	 145 mm Ø 8 mm 40 mm	0 to +300 °C	Class 2*	5 s	0602 0193
				Conn.: Fixed cable	
Fast-action surface probe with sprung thermocouple strip, also for uneven surfaces, measurement range short-term to +500°C, TC Type K	 115 mm Ø 5 mm Ø 12 mm	-60 to +300 °C	Class 2*	3 s	0602 0393
				Conn.: Fixed cable	
Pipe wrap probe for pipe diameter 5 to 65 mm, with exchangeable measuring head. Meas. range short-term to +280°C, TC Type K		-60 to +130 °C	Class 2*	5 s	0602 4592
				Conn.: Fixed cable	
Clamp probe for measurements on pipes, pipe diameter 15 to 25 mm (max. 1"), meas. range short-term up to +130°C, TC Type K		-50 to +100 °C	Class 2*	5 s	0602 4692
				Conn.: Fixed cable	
Immers./penetr. probes	Illustration	Meas. range	Accuracy	t99	Part no.
Waterproof immersion/penetration probe, TC Type K	 114 mm Ø 5 mm 50 mm Ø 3.7 mm	-60 to +400 °C	Class 2*	7 s	0602 1293
				Conn.: Fixed cable 1.2 m	

435-2/-4

IAQ probes	Illustration	Meas. range	Accuracy	Part no.
Comfort level probe for degree of turbulence measurement with telescopic handle (max. 820 mm) and stand, meets EN 13779 requirements	 max. 820 mm	0 to +50 °C 0 to +5 m/s	±0.3 °C ±(0.03 m/s + 4% of mv)	0628 0109
Lux probe, for measuring light intensity			Accuracy to DIN 5032, Part 6: f1 = 6% = V(Lambda) adjustment f2 = 5% = cos-like weighting, Class C	0635 0545
Humidity probes	Illustration	Meas. range	Accuracy	Part no.
Humidity/temperature probe	 Ø 12 mm	-20 to +70 °C 0 to +100 %RH	±0.3 °C ±2 %RH (+2 to +98 %RH)	0636 9735

435-3/-4

Prandtl's Pitot tubes	Illustration	Oper. temp.	Part no.
Pitot tube, 350 mm long, Ø 7 mm, stainless steel, measures flow speed	 350 mm / 500 mm / 1000 mm Ø 7 mm	0 to +600 °C	0635 2145
Pitot tube, 500 mm long		0 to +600 °C	0635 2045
Pitot tube, 1000 mm long		0 to +600 °C	0635 2345

*According to standard EN 60584-2, the accuracy of Class 2 refers to -40 to +1200 °C.

Technical data

Probe type	NTC	Type K	Type T	Testo humid. sensor, cap.	Vane	Hot wire	Absolute pressure probe	CO ₂ (IAQ probe)
Meas. range	-50 to +150 °C	-200 to +1370 °C	-200 to +400 °C	0 to +100 %RH	0 to +60 m/s	0 to +20 m/s	0 to +2000 hPa	0 to +10000 ppm CO ₂
Accuracy ±1 digit	±0.2 °C (-25 to +74.9 °C) ±0.4 °C (-50 to -25.1 °C) ±0.4 °C (+75 to +99.9 °C) ±0.5% of mv (remaining range)	±0.3 °C (-60 to +60 °C) ±(0.2 °C +0.3% of mv) (remaining range)	±0.3 °C (-60 to +60 °C) ±(0.2 °C +0.3% of mv) (remaining range)	See probe data	See probe data	See probe data	See probe data	See probe data
Resolution	0.1 °C	0.1 °C	0.1 °C	0.1 %RH	0.01 m/s (60 vane) 0.1 m/s (16 vane)	0.01 m/s	0.1 hPa	1 ppm CO ₂

Technical data 435-2/-4

Probe type	Lux
Meas. range	0 to +100000 Lux
Accuracy ±1 digit	See probe data
Resolution	1 Lux / 0.1 Hz

Technical data 435-3/-4

Probe type	Differential pressure probe, internal
Meas. range	0 to +25 hPa
Accuracy ±1 digit	±0.02 hPa (0 to +2 hPa) 1% of mv (remaining range)
Overload	200 hPa
Resolution	0.01 hPa

Oper. temp.	-20 to +50 °C
Storage temp.	-30 to +70 °C
Dimensions	220 x 74 x 46 mm
Battery type	Alkali manganese, mignon, Type AA
Battery life	200 h (typical vane measurement)
Weight	450 g
Material/Housing	ABS/TPE/Metal
Warranty	2 years

Accessories

Part no.

Transport and Protection

Service case for basic equipment of measuring instrument and probes, dimensions: 400 x 310 x 96 mm 0516 0035

Service case for measuring instrument, probe and accessories, dimensions 520 x 380 x 120 mm 0516 0435

Additional Accessories and Spare Parts

Handle for attachable humidity probe head for connection to testo 635, incl. probe wire, for measurement / calibration of humidity probe head 0430 9735

Lithium battery button cell, CR2032 AA batteries for radio handle 0515 0028

Plug-in mains adapter, 5 VDC 500 mA with European adapter, 100-250 VAC, 50-60 Hz 0554 0447

testovent 410, volume flow funnel, Ø 340 mm/330x330 mm, incl. case 0554 0410

testovent 415, volume flow funnel, Ø 210 mm/210x210 mm, incl. case 0554 0415

Funnel set consisting of funnel for disc outlets (Ø 200) and funnel for ventilator (330 x 330 mm) for in- and outgoing air 0563 4170

Connection hose, silicone, 5m long, max. load 700 hPa (mbar) 0554 0440

testo saline pots for control and humidity adjustment of humidity probes, 11.3 %RH and 75.3 %RH with adapter for humidity probe, quick checks or calibration of humidity probe 0554 0660

Sintered PTFE filter, Ø 12 mm, for corrosive media, High humidity range (long-term measurements), high flow velocities. 0554 0756

Stainless steel sintered cap, Ø 12 mm, is screwed onto humidity probe, for measurements at higher flow velocities or in contaminated air 0554 0647

Adhesive material for fixing and sealing 0554 0761

Accessories

Part no.

Printer and Accessories

Testo fast printer with wireless infrared interface, 1 roll thermal paper and 4 AA batteries, for printing out measurements on site 0554 0549

Spare thermal paper for printer (6 rolls), permanent ink, measurement data documentation legible for up to 10 years 0554 0568

Spare thermal paper for printer (6 rolls) 0554 0569

External fast charger for 1-4 AA rech. batteries, incl. 4 Ni-MH rech. batteries with individual cell charging and charge control display, incl. impulse trickle charging, integrated discharge function, with built-in international mains plug, 100-240 V, 300 mA, 50/60 Hz 0554 0610

Calibration Certificates

ISO calibration certificate/temperature, meas. instr. with surface probe; calibration points +60°C; +120°C; +180°C 0520 0071

ISO calibration certificate humidity, Calibration points 11.3 %RH and 75.3 %RH at +25°C 0520 0006

ISO calibration certificate/pressure, differential pressure, accuracy 0.1 to 0.6 (% of fsv) 0520 0025

ISO calibration certificate velocity, hot wire, vane anemometer; calibration points 0.5; 0.8; 1; 1.5 m/s 0520 0024

ISO calibration certificate velocity, hot wire, vane anemometer, Pitot tube; calibration points 1; 2; 5; 10 m/s 0520 0004

ISO calibration certificate/Velocity, hot wire, vane anemometer, Pitot tube; calibration points 5; 10; 15; 20 m/s 0520 0034

ISO calibration certificate/light, Calibration points 0;500;1000;2000;4000 Lux 0520 0010

ISO calibration certificate/CO₂, CO₂ probes; calibration points 0; 1000; 5000 ppm 0520 0033

435-1/-2/-3/-4

Ordering data Option: Radio

435-1/-2/-3/-4

Radio module for upgrading measuring instrument with radio option

Country versions	Radio freq.	Part no.
Radio module for measuring instrument, 869.85 MHz, approval for the countries: DE, FR, UK, BE, NL, ES, IT, SE, AT, DK, FI, HU, CZ, PL, GR, CH, PT, SI, MT, CY, SK, LU, EE, LT, IE, LV, NO	869.85 MHz FSK	0554 0188
Radio module for measuring instrument, 915.00 MHz FSK, approval for USA, CA, CL	915.00 MHz FSK	0554 0190

Assembled for you: Radio handles with probe head

Radio handles with probe head for surface measurement	Meas. range	Accuracy	Resolution	t ₉₉
Radio handle for attachable probe heads with T/C probe head for surface measurement	-50 to +350 °C Short-term to +500 °C	Radio handle: ±(0.5 °C +0.3% of mv) (-40 to +500 °C) ±(0.7 °C +0.5% of mv) (remaining range) T/C probe head: Class 2	0.1 °C (-50 to +199.9 °C) 1.0 °C (remaining range)	5 s
Country versions	Radio freq.	Part no.		
Radio handle for plug-in probe heads, incl. T/C adapter, approval for the countries: DE, FR, UK, BE, NL, ES, IT, SE, AT, DK, FI, HU, CZ, PL, GR, CH, PT, SI, MT, CY, SK, LU, EE, LT, IE, LV, NO	869.85 MHz FSK	0554 0189		
Radio immersion/penetration probes, T/C probe head for surface measurement, attachable to radio handle, T/C Type K		0602 0394		
Radio handle for plug-in probe heads, incl. T/C adapter, approval for USA, CA, CL	915.00 MHz FSK	0554 0191		
T/C probe head for surface measurement, attachable to radio handle, T/C Type K		0602 0394		



435-2/-4

Radio probes incl. humidity probe head	Meas. range	Accuracy	Resolution
Radio handle for attachable probe heads with humidity probe head	0 to +100 %RH -20 to +70 °C	±2 %RH (+2 to +98 %RH) ±0.3 °C	0.1 %RH 0.1 °C
Country versions	Radio freq.	Part no.	
Radio handle for plug-in probe heads, incl. T/C adapter, approval for the countries: DE, FR, UK, BE, NL, ES, IT, SE, AT, DK, FI, HU, CZ, PL, GR, CH, PT, SI, MT, CY, SK, LU, EE, LT, IE, LV, NO	869.85 MHz FSK	0554 0189	
Humidity probe head, attachable to radio handle		0636 9736	
Radio handle for plug-in probe heads, incl. T/C adapter, approval for USA, CA, CL	915.00 MHz FSK	0554 0191	
Humidity probe head, attachable to radio handle		0636 9736	



Radio probes: General technical data

Battery type	Radio handle	Measuring rate	0.5 s or 10 s, adjustable on handle	Radio transmission	Unidirectional
Battery life	2 AAA micro batteries	Radio coverage	Up to 20 m (without obstructions)	Oper. temp.	-20 to +50 °C
Protection class	215 h (meas. rate 0.5 s) 6 months (meas. rate 10 s)			Storage temp.	-40 to +70 °C
	IP54				

testo 521-1 / testo 521-2

The highly accurate differential pressure meter, testo 521, with an internal pressure sensor from 0 to 100 hPa is ideal for Pitot tube measurements in the range 5 to 100 m/s. testo 521 is available in 2 accuracy classes. testo 521-1 with an internal pressure sensor with Class 0.2, testo 521-2 with an internal pressure sensor with Class 0.1.

In the case of velocity speeds in the range from 1 to 12 m/s, you can carry out accurate measurements using the 100 Pa probe which can be attached externally.

The measurement data can be saved according to location and analysed on your PC or printed on site on your Testo fast printer.

Pitot tube reference instrument

- Temp. compensated differential pressure sensor in instrument
- Additional 2 probe sockets for measuring pressure and temp.
- Direct calculation of velocity speed and volume flow
- Multi-point and timed mean calculation
- Density compensation
- Up to two 4 to 20 mA interfaces connectable to hand-held instr.
- 1 analog signal can be evaluated per interface
- Scaling of analog signal in hand-held instrument
- Transmitter can be supplied with power from testo 521, for example
- 4 to 20 mA interface can be connected to testo 521, 526, 400, 650 und 950 hand-held instruments



1 testo 521-1, differential pressure meter 0 to 100 hPa incl. battery and calibration protocol

Part no.
0560 5210

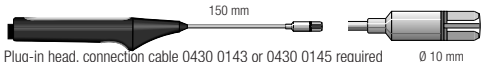
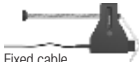
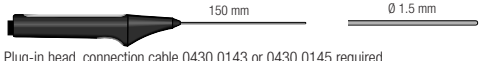

2 testo 521-2, differential pressure meter 0 to 100 hPa incl. battery and calibration protocol

Part no.
0560 5211

Pressure probes	Illustration	Probe type	Meas. range	Accuracy	Overload	Static pressure	Zeroing	Part no.
Precision pressure probe, 100 Pa, in robust metal housing with impact protection, incl. magnet for fast attachment, to measure differential pressure and flow speeds (in combination with Pitot tube)		Differential pressure probe	0 to +100 Pa	±(0.3 Pa ±0.5% of mv)	50 hPa	100 hPa	up to 20 Pa	0638 1347
	Plug-in head, connection cable 0430 0143 or 0430 0145 required							
Pressure probe, 10 hPa, in robust metal housing with impact protection incl. magnet for fast attachment, to measure differential pressure and flow speeds (in combination with Pitot tube)		Differential pressure probe	0 to +10 hPa	±0.03 hPa	50 hPa	1000 hPa	to 0.4 hPa	0638 1447
	Plug-in head, connection cable 0430 0143 or 0430 0145 required							
Pressure probe, 100 hPa, in robust metal housing with impact protection, incl. magnet for fast attachment, to measure differential pressure and flow speeds (in combination with Pitot tube)		Differential pressure probe	0 to +100 hPa	±0.5% of mv (+20 to +100 hPa) ±0.1 hPa (0 to +20 hPa)	300 hPa	1000 hPa	to 4 hPa	0638 1547
	Plug-in head, connection cable 0430 0143 or 0430 0145 required							
Pressure probe, 2000 hPa, measures absolute pressure, in robust metal housing with impact protection, incl. quick-closing coupling (M8 x 0.5), magnet for fast attachment		Absolute pressure probe	0 to +2000 hPa	±5 hPa (0 to +2000 hPa) 4000 hPa	—	—	—	0638 1847
	Plug-in head, connection cable 0430 0143 or 0430 0145 required							

Prandtl's Pitot tubes	Illustration	Meas. range	Part no.
Pitot tube, 300 mm long, stainless steel, for measuring flow velocity		Oper. temp. 0 to +600 °C	0635 2245
Pitot tube, 350 mm long, Ø 7 mm, stainless steel, measures flow speed		Oper. temp. 0 to +600 °C	0635 2145
Pitot tube, 500 mm long, Ø 7 mm, stainless steel, measures flow speed		Oper. temp. 0 to +600 °C	0635 2045
Pitot tube, 1000 mm long, stainless steel, measures flow speed		Oper. temp. 0 to +600 °C	0635 2345

Straight Pitot tubes	Illustration	Probe type	Meas. range	Part no.
Pitot tube, stainless steel, 360 mm long, for measuring flow velocity incl. temperature, for pressure probes 0638 1347/..1447/..1547		Type K (NiCr-Ni)	-40 to +600 °C	0635 2040
Pitot tube, stainless steel, 500 mm long, for measuring flow velocity incl. temperature, for pressure probes 0638 1347/..1447/..1547		Type K (NiCr-Ni)	-40 to +600 °C	0635 2140
Pitot tube, stainless steel, 1000 mm long, for measuring flow velocity incl. temperature, for pressure probes 0638 1347/..1447/..1547		Type K (NiCr-Ni)	-40 to +600 °C	0635 2240

Probes	Illustration	Meas. range	Accuracy	t99	Part no.
Quick-action surface probe with sprung thermocouple strip, measuring range short-term to +500°C	 150 mm Plug-in head, connection cable 0430 0143 or 0430 0145 required Ø 10 mm	-200 to +300 °C	Class 2*	3 s	0614 0194
Pipe wrap probe for pipes up to 2" in diameter	 Fixed cable	-60 to +130 °C	Class 2*	5 s	0600 4593
Super quick-action immersion/penetration probe for measurements in liquids	 150 mm Ø 1.5 mm Plug-in head, connection cable 0430 0143 or 0430 0145 required	-200 to +600 °C	Class 1*	1 s	0604 0493
Highly accurate air probe for air and gas temperature measurements with bare, mechanically protected sensor	 150 mm Fixed cable Ø 9 mm	-40 to +130 °C	To UNI curve	60 s	0610 9714

* According to standard EN 60584-2, the accuracy of Classes 1 / 2 refer to -40 to +1000/+1200 °C.

Accessories	Part no.
Transport and Protection	
TopSafe (protection case) incl. carrier strap, bench stand and magnet. Protects instrument from dust, impact, scratches	0516 0446
Transport case for measuring instrument, probes, Prandtl Pitot tube, accessories	0516 0527
System case For measuring instrument, probes, straight or Prandtl Pitot tube, accessories	0516 0526
Additional Accessories and Spare Parts	
9V rech. battery for instrument instead of battery	0515 0025
Desk-top power supply with international connection options	0554 1143
Cable, 1.5 m long, connects probe with plug-in head to meas. instrument PUR coating material	0430 0143
Cable, 5 m long, connects probe with plug-in head to measuring instrument PUR coating material	0430 0145
Connection hose, silicone, 5m long max. load 700 hPa (mbar)	0554 0440
Printer and Accessories	
Testo fast printer with wireless infrared interface, 1 roll thermal paper and 4 AA batteries	0554 0549
Spare thermal paper for printer (6 rolls), permanent ink measurement data documentation legible for up to 10 years	0554 0568
Software and Accessories	
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
Ethernet adapter, RS232 - Ethernet incl. software driver, mains unit facilitates data communication in network	0554 1711
Calibration Certificates	
DKD calibration certificate/pressure diff. and pos. pressure; 11 measuring points distributed over the instr. meas. range	0520 0215
DKD calibration certificate/pressure diff. and pos. pressure; 6 meas. points distributed over meas. range (>0.6% of fsv)	0520 0225
DKD calibration certificate/pressure absolute pressure; 11 measuring points distributed over meas. range	0520 0212
ISO calibration certificate/pressure differential pressure, accuracy 0.1 to 0.6 (% of fsv)	0520 0025
ISO calibration certificate/pressure differential pressure; 5 points distributed over meas. range	0520 0005
ISO calibration certificate/absolute pressure, 5 measurement points distributed over meas. range absolute pressure, accuracy 0.1 to 0.6 (% of fsv)	0520 0125

Accurate measurements from 1 m/s

You will achieve accurate measurement results in the range from 5 to 100 m/s using an internal pressure sensor with an accuracy of 0.1 % of fsv:

Accuracy at 5 m/s:	0.32 m/s
Accuracy at 20 m/s:	0.09 m/s
Accuracy at 50 m/s:	0.05 m/s

High accuracy levels are achieved in the velocity range from 1 to 12 m/s when you use the 100 Pa probe which is connected externally. Dependencies on position are completely eliminated thanks to double diaphragm engineering. Changes in position do not influence the measurement result:

Accuracy at 1 m/s:	0.09 m/s
Accuracy at 5-8 m/s:	0.03 m/s

Technical data			
	testo 521-1		
Probe type	Piezoresistive pressure sensor (built in to the instrument)		
Meas. range	0 ... 100 hPa		
Overload	300 hPa		
Static pressure	2000 hPa		
Accuracy	±0.2 % of fsv		
±1 digit			
Resolution	0.01 hPa		

	testo 521-2		
Probe type	Piezoresistive pressure sensor (built in to the instrument)	Pitot tube measurement	
Meas. range	0 to 100 hPa	5 to 100 m/s	
Overload	300 hPa		
Static pressure	2000 hPa		
Accuracy	±0.1 % of fsv	0.05 m/s at 65 m/s	
±1 digit			
Resolution	0.01 hPa		

Common data			
Probe type	Piezoresistive pressure sensor for external pressure probes	NTC	Type K (NiCr-Ni)
Meas. range	0 to 2000 hPa	-40 to +150 °C	-200 to +1370 °C
Accuracy	±0.1 % of mv	±0.2 °C (-10 to +50 °C)	±0.4 °C (-100 to +200 °C)
±1 digit		±0.4 °C (remaining range)	±1 °C (remaining range)
Resolution	0.1 Pa (0638 1347) 0.001 hPa (0638 1447) 0.01 hPa (0638 1547) 0.1 hPa (0638 1847)	0.1 °C	0.1 °C

Oper. temp. (compensated)	0 to +50 °C	Power supply	Battery/Rechargeable battery/Mains unit 12V
Storage temp.	-20 to +70 °C	Battery life	Continuous operation w/ internal pressure sensor: 30 h With rech. battery: 10 h With carbon battery: 18 h
Display	LCD display with symbol, 7 segment display and point matrix LCD, 2 lines	Other features	Mains connection and battery recharging in instrument Automatic recognition of all connected probes
Battery type	9 V (6LR61)	Material/Housing	ABS
Dimensions	219 x 68 x 50 mm	Warranty	2 years
Weight	300 g		
PC	RS232 interface		
Memory	25,000		

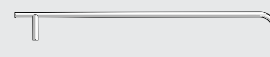
Pitot tube measurement

Straight Pitot tubes or classical Prandtl's Pitot tubes can be used, depending on the application. Pitot tubes are available in different lengths and diameters depending on duct diameters and duct openings.



Straight Pitot tubes

- Built-in temperature measurement
- Higher accuracy on account of Pitot tube factor 0.67
- Application range from -40 to +600 °C



Prandtl's Pitot tube

- Higher velocity range in pressure measurement range used
- Application range from 0 to +600 °C

testo 512

testo 512 shows pressure and flow velocity simultaneously in an easy-to-read, large, backlit display. Measurement data is printed on site with date and time as well as minimum and maximum values. testo 512 has two switchable units for flow: m/s and fpm. Eight units can be set for pressure: kPa, hPa, Pa, mmH₂O, mmHg, psi, inch H₂O, inch Hg.

Adjustable damping for sliding mean calculation, density compensation is built-in. The displayed actual value can be frozen in the display by pressing the HOLD button. The measured minimum and maximum value can be displayed and stored in the meter.

TopSafe protects the measuring instrument in the field from impact, dirt and splash water.

Pressure and flow velocity measuring instrument

- 8 units for pressure: kPa, hPa, Pa, mm H₂O, mmHg, psi, inch H₂O, inch Hg
- 2 units for flow: m/s, fpm
- Built-in density compensation
- Display light
- Hold/Max/Min function
- Readings printout with date/time and min./max. values



Simultaneous display of flow and pressure value

1	0 to 2 hPa/mbar
testo 512 differential pressure meter, 0 to 2 hPa, incl. battery and calibration protocol	
Part no. 0560 5126	

3	0 to 200 hPa/mbar
testo 512 differential pressure meter, 0 to 200 hPa, incl. battery and calibration protocol	
Part no. 0560 5128	

2	0 to 20 hPa/mbar
testo 512 differential pressure meter, 0 to 20 hPa, incl. battery and calibration protocol	
Part no. 0560 5127	

4	0 to 2000 hPa/mbar w/o flow velocity and Pascal measurement
testo 512 differential pressure meter, 0 to 2000 hPa, incl. battery and calibration protocol	
Part no. 0560 5129	

Technical data	1	2	3	4
Meas. range	0 to +2 hPa +2 to +17.5 m/s 395 to 3445 fpm	0 to +20 hPa +5 to +55 m/s 985 to 10830 fpm	0 to +200 hPa +10 to +100 m/s 1970 to 19690 fpm	0 to +2000 hPa
Resolution	0.001 hPa 0.1 m/s 0.1 fpm	0.01 hPa 0.1 m/s 0.1 fpm	0.1 hPa 0.1 m/s 0.1 fpm	1 hPa
Overload	±10 hPa	±200 hPa	±2000 hPa	±4000 hPa

Common data			
Accuracy	0.5% of fsv ±1 digit	Auto Off	10 min
Measuring medium	All non-corrosive gases	Battery type	9V block battery, 6F22
		Battery life	120 h
Display	LCD, 2 lines	Dimensions	202 x 57 x 42 mm
Oper. temp.	0 to +60 °C	Weight	300 g
Storage temp.	-10 to +70 °C	Warranty	2 years

Accessories	Part no.
Accessories for measuring instrument	
9V rech. battery for instrument instead of battery	0515 0025
Recharger for 9V rechargeable battery for external recharging of 0515 0025 battery	0554 0025
Printer and accessories	
Testo fast printer with wireless infrared interface, 1 roll thermal paper and 4 AA batteries	0554 0549
Spare thermal paper for printer (6 rolls), permanent ink measurement data documentation legible for up to 10 years	0554 0568
Transport and Protection	
TopSafe, protects from impact and dirt	0516 0221
Case for measuring instrument and probes	0516 0210
Transport case for meas. instr. and probes (405 x 170 x 85 mm)	0516 0201

Accessories	Part no.
Additional accessories and spare parts	
Pitot tube, 350 mm long, Ø 7 mm, stainless steel, measures flow speed	0635 2145
Pitot tube, 500 mm long, Ø 7 mm, stainless steel, measures flow speed	0635 2045
Pitot tube, 1000 mm long, stainless steel, measures flow speed	0635 2345
Connection hose, silicone, 5m long max. load 700 hPa (mbar)	0554 0440
Calibration certificates	
DKD calibration certificate/pressure diff. and pos. pressure; 11 measuring points distributed over the instr. meas. range	0520 0215
ISO calibration certificate/pressure, differential pressure, accuracy 0.1 to 0.6 (% of fsv)	0520 0025

Mini wind tunnel

You can draw up your own ISO certificates using the wind tunnel and a certified Testo measuring instrument. All of Testo's velocity probes can be checked and calibrated using the mini wind tunnel (except Ø 100 mm vane probes).

Draw up your own ISO calibration certificates! The Testo mini wind tunnel can be used for regular checks on velocity probes and measuring instruments in your company.

- 3 speed levels can be set: 2.5/5/10 m/s
- The readings are traceable to the PTB standard if Testo's DKD certified testo 400 reference instrument is used
- Accuracy of wind tunnel: $\pm 1\%$ of reading (at least 0.1 m/s) plus calibration uncertainty of the respective reference instrument's certificate



Recommended set

Testo mini wind tunnel, affordable set for beginners

- Mini wind tunnel incl. power connection cable (Part no. 0554 0450)
- testo 435-2, multi-functional measuring instrument for A/C, ventilation and Indoor Air Quality with readings memory, PC software and USB data transmission cable, incl. battery and calibration protocol (Part no. 0563 4352)
- Vane meas. probe, 16 mm diameter, with telescopic handle max. 890 mm, e.g. for meas. in ducts (Part no. 0635 9535)
- DKD calibration certificate/velocity (Part no. 0520 0254)

You already have a Testo measuring instrument with velocity probe and calibration certificate and you want to calibrate more probes of the same type using the wind tunnel. Mini wind tunnel incl. power connection cable

Part no.
0554 0450

Technical data

Length: 610 mm
Ø meas. tunnel: approx. 100 mm (inside)
Velocities: 2.5/5/10 m/s, can be switched
Range of application: +10 to +40 °C
Probe holder: For all of Testo's velocity probes except vane probes with Ø 100 mm
Motor: Direct current fan
Power supply: 230 V/50 Hz or 110 V can be switched, built-in IEC socket
Warranty: 2 years

Testo mini wind tunnel with reference measuring system

- Mini wind tunnel incl. power connection cable (Part no. 0554 0450)
- testo 400, multi-function measuring instrument, incl. store for up to 500,000 readings, VAC module (volume flow measurement with error calculation), battery, Li cell and calibration protocol (Part no. 0563 4001)
- Vane/temperature probe, Ø 16 mm, attachable to 0430 3545 handle or 0430 0941 telescopic handle (Part no. 0635 9540)
- Cable, 1.5 m long, for connecting vane probes with plug-in head to the measuring instrument (Part no. 0409 0045)
- DKD calibration certificate/velocity (Part no. 0520 0254)

Testo fast printer

The universal printer with IRDA and infrared interface saves you time since it stores the print data prior to printing. Data transfer is completed within 2 seconds. The instrument is then immediately ready for operation.

The readings are saved black on white with date and time.

Testo fast printer with wireless infrared interface, 1 roll thermal paper and 4 AA batteries

Part no.
0554 0549

Universal infrared printer for differential pressure measuring instrument testo 512

- System compatibility with other Testo measuring instruments (also downward compatibility)
- Fast data transfer, the measuring instrument is ready for use again within 2 sec.
- Fast print function thanks to newest line printer
- Energy-saving Auto-off/Wake-up function
- Testo design with integrated magnetic plate
- Robust housing (adapted to testo 327)
- Mains operation possible (same mains unit as for testo 327/330)



Technical data

Printer type	infrared-controlled thermal printer, adjustable contrast, graphic-capable
Reception radius	max. 2 m
Dimensions	147 x 77 x 47 mm

Oper. temp.	0 to +50 °C
Storage temp.	-40 to +60 °C
Power supply	4 AA batteries 1.5 V (or rechargeable) Mains unit GV/1.2A
Weight	430 g

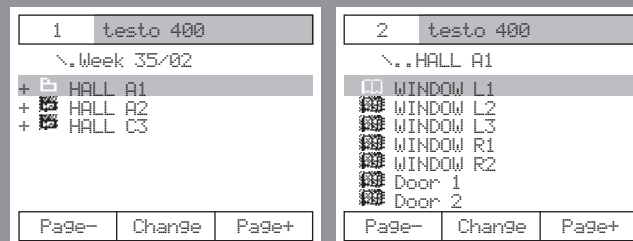
Accessories

Accessories	Part no.
Spare thermal paper for printer (6 rolls)	0554 0569
Spare thermal paper for printer (6 rolls), permanent ink, measurement data documentation legible for up to 10 years	0554 0568
External fast charger for 1-4 AA rech. batteries, incl. 4 Ni-MH rech. batteries with individual cell charging and charge control display, incl. impulse trickle charging, integrated discharge function, with built-in international mains plug, 100-240 V, 300 mA, 50/60 Hz	0554 0610

structure - measure - print on-site

Structuring measurement data:

- Readings can be saved at individual locations
- with guarantee of refinding.
- The "tree structure" - folders, sub-folders and measurement protocols - guarantees an uncomplicated overview.
- Practical additional information such as measurement information or required value input can be saved with the location.
- The locations can be selected via barcode labels using the pen.
- It is easy to draw an effective tour plan using the locations list.



Long-term control made easy:

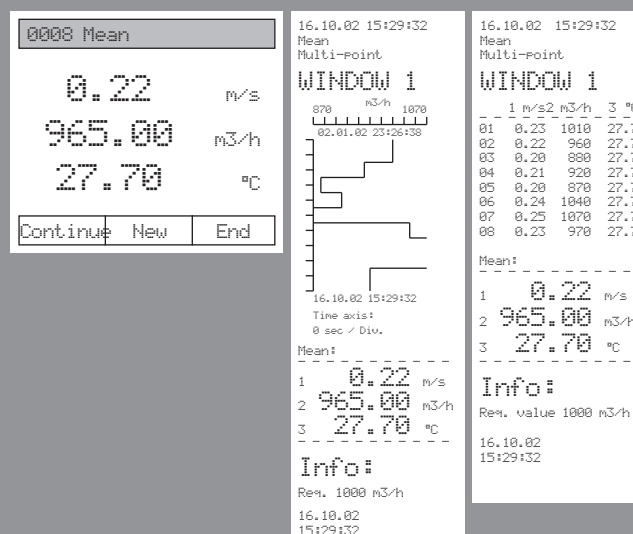
User-friendly data logging, not only for spot checks

- **The beginning of the measurement can be...**
 - determined manually each time.
 - activated if a user defined limit value is exceeded.
 - set according to date/time.
- **The measurement is completed when...**
 - the predefined number of readings is reached.
 - date/time is reached.
 - the memory is full.
 - ended manually.
- **Non-stop measurement via wrap-around memory...**
 - deletes the oldest respective value.
 - is deactivated manually.



Documentation on-site:

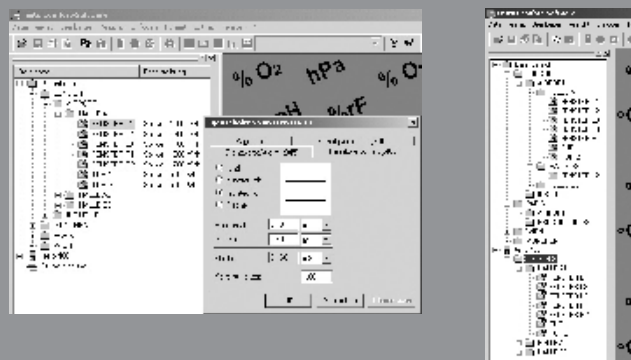
- The individual measurement protocol can be either saved or deleted following analysis.
- The fast printer immediately supplies the documentation required.
- The attachable comfort printer also offers graphical analysis options.
- Thermal paper for long-term legible measurement data documentation of up to 10 years.



prepare - analyse - file - document

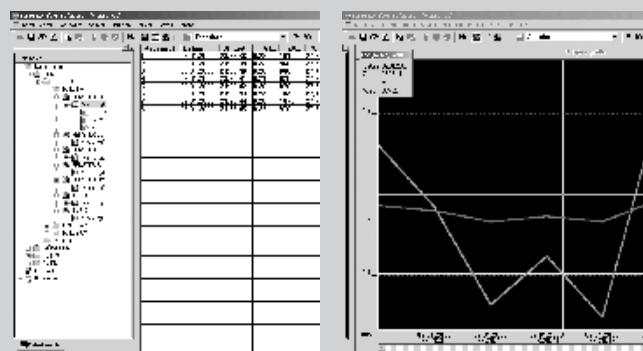
Easy reading management:

- Preparation of the measurement:
 - The measurement program is determined and loaded into instrument
 - Tour plan is drawn up based on locations and is loaded into instrument.
- The measuring instrument is downloaded once measuring is complete:
 - The saved protocols are conveniently filed via the software using "Drag & Drop" or are analysed in Data.
- The readings are determined using the measuring instrument and can also be displayed online using the software.



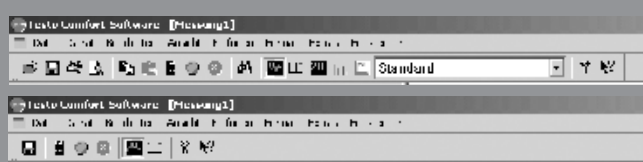
Comprehensive analysis, easy filing:

- Analysis:
 - with calculation functions
 - with crosshairs
 - with mean calculation
 - with calculation of standard deviation
 - taking all conventional refrigerants into consideration (refrigeration module, optional)
- Display:
 - as table or as graphic
 - as digit field or as histogram
 - with analog display
 - Measurement channels can be activated or deactivated at the touch of a button
- Documenting:
 - Data is transferred to Excel table using "Copy and Paste".



Individual configuration options:

- Your company logo can be included on the printouts.
- Functions can be selected from the function list and the finished profile can be saved.
- The online interface is available for LabVIEW software.
- Menu can be individually tailored to your needs.



ComSoft 3 - Professional for:

- Monitoring measuring instrument testo 445
- Reference measuring instrument testo 400

ComSoft 3 - Professional with data management

incl. database, analysis and graphics function, data analysis, trend curve

Part no.
0554 0830

Accessories

RS232 cable
connects instrument to PC (1.8 m) for data transfer

Part no.

0409 0178

Ethernet adapter

The new Ethernet adapter enables the following:

- On-site measurements, e.g. in production, warehouses, Incoming Goods
- Measuring instrument remains on site, transport not necessary
- Data inspection from office or administration
- Centralised filing of measurement data

Ethernet offers:

- Fast transmission of readings
- Use of an existing network without additional cabling
- Long transmission distances
- Identification of measuring instruments in system network

Ethernet adapter, RS232 - Ethernet incl. software driver, mains unit facilitates data communication in network (not for use in Ex-zone)

Part no.

0554 1711

Access Ethernet with Testo measuring instruments

Long-term monitoring of ambient data

The parameters temperature and humidity, are measured and saved on site by the data logger. Using the Ethernet adapter, measurement data stored in the logger can be read out and filed via the PC network. The measurement data is then easily analysed and checked on your PC in the office.

The Ethernet adapter therefore has the following advantages:

- Affordable operation since it is no longer necessary to read out data on site or take the logger to the office
- Fast access times because current measurement data can be accessed at any time.



Multi-point checks on site

Testo's portable measuring instruments are used in production or in Incoming Goods to take spot checks on site. Using an Ethernet adapter, measurement data can be transmitted immediately to a central office which enables fast reaction times, if further actions are required.

Accessories	Part no.
System accessories: testo 400, testo 445	
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

Technical data		Management and software configuration	Internet browser e.g. from Netscape or Microsoft Telnet
Dimensions	45 x 48 x 14 mm		
Oper. temp.	+0 to +70 °C	Interface	Serial interface on computer board with terminal program Provision of a local virtual COM port (Windows systems)
Software	Microsoft Windows 2000 / NT 4.0 / ME / 98 / 95		
Power supply	Mains unit, 5 Volt app. 230 mA		
Humidity class	F to DIN 40040		
EMC	Radio interference and interference resistance		
Interface	25 pin RS 232 connection with adapter 25/9pin		
Logs	TCP/IP, LPR, Telnet, SNMP, DHCP DDNS, ARP, BOOTP, ICMP		

testo 445

Service instrument for ventilation/air conditioning systems

The testo 445 VAC instrument measures temperature, relative humidity, dew point, absolute humidity, degree of humidity, enthalpy, all types of air velocity (in ducts, duct openings or extractors), volume flow, pressure and indoor air quality.

Data can be saved according to location and then analysed on PC or printed on the Testo fast printer on site.

testo 445, VAC measuring instrument, incl. TopSafe, battery and calibration protocol

Part no.

0563 4450

- Automatic mean calculation and volume flow measurement
- Automatic allocation of duct cross-section to location (max. 99 locations)
- Internal data logger (3,000 readings)
- Simultaneous measurement of up to 6 parameters



Accessories	Part no.
Transport and Protection	
Transport case (plastic) for measuring instrument, probes and accessories Larger version, for safe and clear storage	0516 0445
System case (plastic) for measuring instrument, probes and accessories probes in lid make it easy to find parts in case (540 x 440 x 130 mm)	0516 0400
System case (aluminium) for measuring instrument, probes and accessories probes in lid make it easy to find parts in case	0516 0410
Additional Accessories and Spare Parts	
9V rech. battery for instrument instead of battery	0515 0025
Desk-top power supply with international connection options	0554 1143
Cable, 1.5 m long, connects probe with plug-in head to meas. instrument PUR coating material	0430 0143
Cable, 5 m long, connects probe with plug-in head to measuring instrument PUR coating material	0430 0145
Extension cable, 5 m long, between plug-in head cable and instrument PUR coating material	0409 0063
Printer and Accessories	
Testo fast printer with wireless infrared interface, 1 roll thermal paper and 4 AA batteries	0554 0549
Fast testo 575 printer, incl. 1 roll of thermal paper and batteries infrared thermal line printer with graphics function	0554 1775
External fast charger for 1-4 AA rech. batteries, incl. 4 Ni-MH rech. batteries with individual cell charging and charge control display, incl. impulse trickle charging, integrated discharge function, with built-in international mains plug, 100-240 V, 300 mA, 50/60 Hz	0554 0610
Spare thermal paper for printer (6 rolls)	0554 0569
Spare thermal paper for printer (6 rolls), permanent ink 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
Software and Accessories	
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
Ethernet adapter, RS232 - Ethernet incl. software driver, mains unit facilitates data communication in network	0554 1711
Calibration Certificates	
ISO calibration certificate velocity hot wire, vane anemometer, Pitot tube; calibration points 1; 2; 5; 10 m/s	0520 0004
ISO calibration certificate/Velocity hot wire, vane anemometer, Pitot tube; calibration points 5; 10; 15; 20 m/s	0520 0034
DKD calibration certificate/velocity hot wire, vane anemometer; calibration points 0.5; 1; 2; 5; 10 m/s	0520 0244
DKD calibration certificate/velocity hot wire, vane anemometer, Pitot tube; calibration points 2; 5; 10; 15; 20 m/s	0520 0204

Technical data			
Probe type	Type K (NiCr-Ni)	Type J (Fe-CuNi)	NTC
Meas. range	-200 to +1370 °C	-200 to +1000 °C	-50 to +150 °C
Accuracy ±1 digit	±0.5% of mv (-200 to 60 °C) ±0.5% of mv (+60 to +1370 °C) ±0.3 °C (-60 to +60 °C)	±0.5% of mv (-200 to 60 °C) ±0.5% of mv (+60 to +1000 °C) ±0.2 °C (-25 to +74.9 °C) ±0.3 °C (-60 to +60 °C)	±0.5% of mv (+100 to +150 °C) ±0.2 °C (-25 to +74.9 °C) ±0.4 °C (-50 to -25.1 °C) ±0.4 °C (+75 to +99.9 °C)
Resolution	0.1 °C (-200 to +1370 °C)	0.1 °C (-200 to +1000 °C)	0.1 °C (-50 to +150 °C)

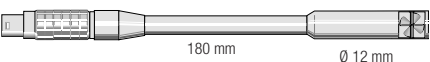
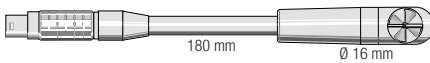
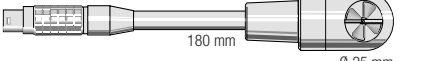

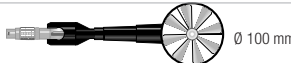

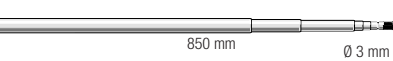
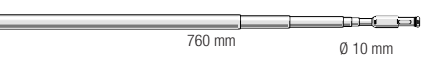
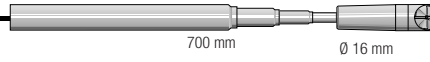




Probe type	Testo humid. sensor, cap.	Vane	Thermal
Meas. range	0 to +100 %RH	0 to +60 m/s	0 to +20 m/s
Accuracy ±1 digit	See probe data	See probe data	See probe data
Resolution	0.1 %RH (0 to +100 %RH)	0.01 m/s (0 to +60 m/s)	0.01 m/s (0 to +10 m/s) 0.1 m/s (+10.1 to +20 m/s)



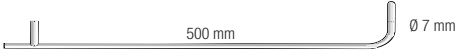



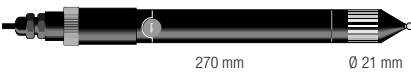



Probe type	Pressure	CO2 probe	CO2 probe
Meas. range	See pressure probes	0 to +1 Vol. % CO ₂	0 to +10000 ppm CO ₂
Accuracy ±1 digit	±0.1% of mv	See probe data	±(100 ppm CO ₂ ±3% of mv) (+5000 to +10000 ppm CO ₂) ±(500 ppm CO ₂ ±2% of mv) (0 to +5000 ppm CO ₂)
Resolution	0.001 hPa (Sonde 0638 1345) 0.001 hPa (Sonde 0638 1445) 0.01 hPa (Sonde 0638 1545) 1 hPa (Sonde 0638 1645)	0 Vol. % CO ₂ (0 to +1 Vol. % CO ₂)	1 ppm CO ₂ (0 to +10000 ppm CO ₂)







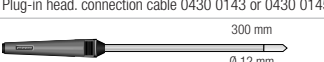
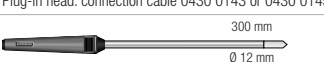
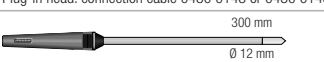


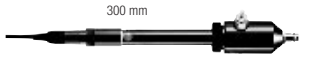

Probe type	CO probe		
Meas. range	0 to +500 ppm CO		
Accuracy ±1 digit	±5% of mv (+100 to +500 ppm CO) ±5 ppm CO (0 to +100 ppm CO)		
Resolution	1 ppm CO (0 to +500 ppm CO)		

Oper. temp.	0 to +50 °C	Battery life: 6-45 h (depending on probe) Mains conn. and batt. rech. in instr. Calculated humidity parameters: td, g/m ³ , g/kg pressure-compensated, J/g Calculated volume flow: m ³ /h (e.g. 0 to 99999 m ³ /h), m ³ /min, m ³ /s, l/s, cfm Calculated velocity values (density-compensated): 0 to 100 m/s; 0 to 99999 m ³ /h Humidity measurement: Measuring range -50 to 180 °C; See Probes for accuracy Accuracy of Type K, J: Additional error via operation temperature 0.2 °C (adjustment point)
Storage temp.	-20 to +70 °C	
Display	LCD, 4 lines	
Battery type	9V block battery	
Battery life	45 h	
PC	RS232 interface	
Weight	255 g	
Material/Housing	ABS	
Warranty	2 years	
Memory	3000	
Dimensions	215 x 68 x 47 mm	

testo 445
Suitable probes at a glance

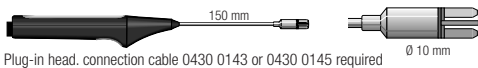
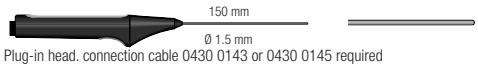
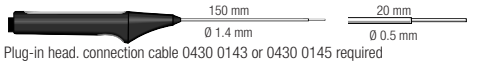
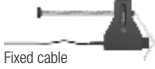
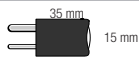

Probes	Illustration	Probe type	Meas. range	Accuracy	Part no.
Vane probe, Ø 12 mm, can be attached to handle 0430 3545 or telescopic handle 0430 0941	 180 mm Ø 12 mm	Vane	+0.6 to +20 m/s Oper. temp. -30 to +140 °C	±(0.2 m/s ±1% of mv) (+0.6 to +20 m/s)	0635 9443
Vane/temperature probe, Ø 16 mm, attachable to 0430 3545 handle or 0430 0941 telescopic handle	 180 mm Ø 16 mm	Vane Type K (NiCr-Ni)	+0.4 to +60 m/s -30 to +140 °C	±(0.2 m/s ±1% of mv) (+0.4 to +40 m/s) ±(0.2 m/s ±2% of mv) (+40.1 to +50 m/s)	0635 9540
Vane/temperature probe, Ø 25 mm, can be attached to 0430 3545 handle or 0430 0941 telescopic handle	 180 mm Ø 25 mm	Vane Type K (NiCr-Ni)	+0.4 to +40 m/s -30 to +140 °C	±(0.2 m/s ±1% of mv) (+0.4 to +40 m/s)	0635 9640
Bendable vane probe (can be bent by 90°), Ø 60 mm, attachable to handle 0430 3545 or telescopic handle 0430 0941, for meas. on ventilation outlets	 Ø 60 mm	Vane	+0.25 to +20 m/s Oper. temp. 0 to +60 °C	±(0.1 m/s ±1.5% of mv) (+0.25 to +20 m/s)	0635 9440
Bendable vane probe (can be bent by 90°), Ø 100 mm, attachable to handle 0430 3545 or telescopic handle 0430 0941, for measurements on ventilation outlets	 Ø 100 mm	Vane	+0.2 to +15 m/s Oper. temp. 0 to +60 °C	±(0.1 m/s ±1.5% of mv) (+0.1 to +15 m/s)	0635 9340
Affordable, robust hot bulb probe, Ø 3 mm, for measurements in the lower velocity range, with handle	 150 mm Ø 4 mm Ø 3 mm	Hot bulb NTC	0 to +10 m/s -20 to +70 °C	±(0.03 m/s ±5% of mv) (0 to +10 m/s)	0635 1549
Robust hot bulb probe, Ø 3 mm, with handle and telescopic handle for measurements in the lower velocity range	 850 mm Ø 3 mm	Hot bulb NTC	0 to +10 m/s -20 to +70 °C	±(0.03 m/s ±5% of mv) (0 to +10 m/s)	0635 1049
Quick-action hot wire probe, Ø 10 mm, with telescopic handle, for measurements in the lower velocity range with direction recognition	 760 mm Ø 10 mm	Hot wire NTC	0 to +20 m/s -20 to +70 °C	±(0.03 m/s ±4% of mv) (0 to +20 m/s)	0635 1041
Vane probe, Ø 16 mm, with telescopic handle, Tmax +60°C	 700 mm Ø 16 mm	Vane	+0.6 to +40 m/s	±(0.2 m/s ±1.5% of mv) (+0.6 to +40 m/s)	0628 0005
Vane probe, Ø 60 mm, with telescopic handle, for integrating velocity measurement	 1100 mm Ø 60 mm	Vane	+0.25 to +20 m/s	±(0.1 m/s ±1.5% of mv) (+0.25 to +20 m/s)	0635 9449
High temperature vane probe, Ø 25 mm, with handle for continuous measurements up to +350°C	 560 mm Ø 25 mm	Vane Type K (NiCr-Ni)	+0.6 to +20 m/s -40 to +350 °C	±(0.3 m/s ±1% of fsv) (+0.6 to +20 m/s)	0635 6045
Precision pressure probe, 100 Pa, measures differential pressure and velocities (in combination with Pitot tube)		Differential pressure probe	0 to +100 Pa	±(0.3 Pa ±0.5% of mv) (0 to +100 Pa)	0638 1345
Pressure probe, 10 hPa, measures differential pressure and velocities (in combination with Pitot tube)		Differential pressure probe	0 to +10 hPa	±0.03 hPa (0 to +10 hPa)	0638 1445

Probes	Illustration	Probe type	Meas. range	Accuracy	Part no.
Pressure probe, 100 hPa, measures differential pressure and velocities (in combination with Pitot tube)		Differential pressure probe	0 to +100 hPa	±0.5% of mv (+20 to +100 hPa) ±0.1 hPa (0 to +20 hPa)	0638 1545
Pressure probe, 2000 hPa, measures absolute pressure		Absolute pressure probe	0 to +2000 hPa	±5 hPa (0 to +2000 hPa)	0638 1645
Pitot tube, 500 mm long, Ø 7 mm, stainless steel, measures flow speed			Oper. temp. 0 to +600 °C		0635 2045
Pitot tube, 350 mm long, Ø 7 mm, stainless steel, measures flow speed			Oper. temp. 0 to +600 °C		0635 2145
Pitot tube, 300 mm long, stainless steel, for measuring flow velocity			Oper. temp. 0 to +600 °C		0635 2245
Pitot tube, 1000 mm long, stainless steel, measures flow speed			Oper. temp. 0 to +600 °C		0635 2345
3-function probe for simultaneous measurement of temperature, humidity and velocity. With plug-in head, 0430 0143 connection cable required		Hot bulb Testo humid. sensor, cap. NTC	0 to +10 m/s 0 to +100 %RH -20 to +70 °C	±(0.03 m/s ±5% of mv)(0 to 10 m/s) ±2 %RH (+2 to +98 %RH) ±0.4 °C (0 to +50 °C) ±0.5 °C (remaining range)	0635 1540
Comfort level probe for measuring degree of turbulence, with telescopic handle and stand. Fulfills EN 13779 requirements		Hot wire NTC	0 to +5 m/s 0 to +50 °C	±(0.03 m/s ±4% of mv) (0 to +5 m/s) ±0.3 °C (0 to +50 °C)	0628 0009
CO2 probe measures indoor air quality and monitors the workplace. With plug-in head, connection cable 0430 0143 or 0430 0145 required		CO2 probe	0 ... +1 Vol. % CO ₂ 0 ... +10000 ppm CO ₂	±(50 ppm CO ₂ ±2% of mv)(0 to +5000 ppm CO ₂) ±(100 ppm CO ₂ ±3% of mv)(+5001 to +10000 ppm CO ₂)	0632 1240
Ambient CO probe, for detecting CO in buildings and rooms			0 to +500 ppm CO	±5% of mv (+100.1 to +500 ppm CO) ±5 ppm CO (0 to +100 ppm CO)	0632 3331

More probes	Illustration	Meas. range	Accuracy	t90	Part no.
Standard ambient air probe up to +70°C	 Plug-in head, connection cable 0430 0143 or 0430 0145 required	0 to +100 %RH -20 to +70 °C	±2 %RH (+2 to +98 %RH)	±0.4 °C (-10 to +50 °C) ±0.5 °C (remaining range)	12 s 0636 9740
Duct humidity/temperature probe, can be connected to telescopic handle 0430 9715	 Plug-in head, connection cable 0430 0143 or 0430 0145 required	0 to +100 %RH -20 to +70 °C	±2 %RH (+2 to +98 %RH)	±0.4 °C (-10 to +50 °C) ±0.5 °C (remaining range)	12 s 0636 9715
Thin humidity probe incl. 4 attachable protection caps for ambient air measurements, measurements in exhaust air ducts and equilibrium moisture measurements	 Plug-in head, connection cable 0430 0143 or 0430 0145 required	0 to +100 %RH -20 to +70 °C	±2 %RH (+2 to +98 %RH)	±0.4 °C (-10 to +50 °C) ±0.5 °C (-20 to -10.1 °C) ±0.5 °C (+50.1 to +70 °C)	15 s 0636 2130
Highly accurate reference humidity/temp. probe	 Plug-in head, connection cable 0430 0143 or 0430 0145 required	0 to +100 %RH -20 to +70 °C	±1 %RH (+10 to +90 %RH)* ±2 %RH (remaining range)	±0.2 °C (+10 to +40 °C) ±0.4 °C (remaining range)	12 s 0636 9741
Flexible humidity probe with mini module for meas. e.g. on material testing rigs, module cable length 1500mm, probe tip 50x19x7mm	 Plug-in head, connection cable 0430 0143 or 0430 0145 required	0 to +100 %RH -20 to +125 °C	±2 %RH (+2 to +98 %RH)	±0.4 °C (-10 to +50 °C) ±0.5 °C (remaining range)	20 s 0628 0013
Sword probe for measuring humidity and temperature in stacked material	 Plug-in head, connection cable 0430 0143 or 0430 0145 required	0 to +100 %RH -20 to +70 °C	±2 %RH (+2 to +98 %RH)	±0.4 °C (-10 to +50 °C) ±0.5 °C (-20 to -10.1 °C) ±0.5 °C (+50.1 to +70 °C)	12 s 0636 0340
High humidity level probe w/ heated sensor element, no humidity on sensor	 Plug-in head, connection cable 0430 0143 or 0430 0145 required	0 to +100 %RH -20 to +85 °C	±2.5 %RH (0 to +100 %RH)	±0.4 °C (-10 to +50 °C) ±0.5 °C (-20 to -10.1 °C) ±0.5 °C (+50.1 to +100 °C)	30 s 0636 2142
Robust humidity probe e.g. for measuring equilibrium moisture or for measurements in exhaust ducts to +120°C	 Plug-in head, connection cable 0430 0143 or 0430 0145 required	0 to +100 %RH -20 to +120 °C	±2 %RH (+2 to +98 %RH)	±0.4 °C (-10 to +50 °C) ±0.5 °C (remaining range)	30 s 0636 2140
Robust high temperature/humidity probe up to +180°C	 Plug-in head, connection cable 0430 0143 or 0430 0145 required	0 to +100 %RH -20 to +180 °C	±2 %RH (+2 to +98 %RH)	±0.4 °C (+0.1 to +50 °C) ±0.5 °C (remaining range)	30 s 0628 0021
Flexible humidity probe (does not retain shape) for measurements in inaccessible places	 Plug-in head, connection cable 0430 0143 or 0430 0145 required	0 to +100 %RH -20 to +180 °C	±2 %RH (+2 to +98 %RH)	±0.4 °C (+0.1 to +50 °C) ±0.5 °C (-20 to 0 °C) ±0.5 °C (+50.1 to +180 °C)	30 s 0628 0022
Standard pressure dew point probe for measurements in compressed air systems	 Plug-in head, connection cable 0430 0143 or 0430 0145 required	0 to +100 %RH -30 to +50 °C tpd		±0.9 °C tpd (+0.1 to +50 °C tpd) ±1 °C tpd (-4.9 to 0 °C tpd) ±2 °C tpd (-9.9 to -5 °C tpd) ±3 °C tpd (-19.9 to -10 °C tpd) ±4 °C tpd (-30 to -20 °C tpd)	300 s 0636 9840
Precision pressure dew point probe for measurements in compressed air systems incl. cert. with test point -40°C tpd	 Plug-in head, connection cable 0430 0143 or 0430 0145 required	0 to +100 %RH -60 to +50 °C tpd		±0.8 °C tpd (-4.9 to +50 °C tpd) ±1 °C tpd (-9.9 to -5 °C tpd) ±2 °C tpd (-19.9 to -10 °C tpd) ±3 °C tpd (-29.9 to -20 °C tpd) ±4 °C tpd (-40 to -30 °C tpd)	300 s 0636 9841
Flexible humidity probe (retains shape) for measurements at inaccessible points	 Plug-in head, connection cable 0430 0143 or 0430 0145 required	0 to +100 %RH -20 to +125 °C	±2 %RH (+2 to +98 %RH)	±0.4 °C (-10 to +50 °C) ±0.5 °C (-20 to -10.1 °C) ±0.5 °C (+50.1 to +125 °C)	30 s 0628 0014

* in the temperature range from +15°C to +30°C

testo 445
Suitable probes at a glance

Probes	Illustration	Meas. range	Accuracy	t ₉₉	Part no.
Quick-action surface probe with sprung thermocouple strip, measuring range short-term to +500°C		-200 to +300 °C	Class 2*	3 s	0604 0194
Super quick-action immersion/penetration probe for measurements in liquids		-200 to +600 °C	Class 1*	1 s	0604 0493
Super quick-action immersion/penetration probe for measurements in gases and liquids with a low-mass tip		-200 to +600 °C	Class 1*	1 s	0604 9794
Pipe wrap probe for pipes up to 2" in diameter		-60 to +130 °C	Class 2*	5 s	0600 4593
Spare meas. head for pipe wrap probe, TC Type K		-60 to +130 °C	Class 2*	5 s	0602 0092
Globe thermometer to measure radiant heat		0 to +120 °C <small>Accuracy corresponds to ISO 7243, ISO 7726, DIN EN 27726, DIN 33403 requirements</small>	±0.5 °C (0 to +49.9 °C) ±1 °C (+50 to +120 °C)		0554 0670

* According to standard EN 60584-2, the accuracy of Classes 1 / 2 refer to -40 to +1000/+1200 °C.

See testo 400 for more probes

Accessories for velocity probes, pressure probes	Part no.
Professional telescopic handle for plug-in vane probes, max. 1 m long	0430 0941
Extension for telescopic handle, 2 m long please also order the 0409 0063 extension cable	0430 0942
Handle for plug-in vane probes	0430 3545
Extension cable, 5 m long, between plug-in head cable and instrument PUR coating material	0409 0063
Connection hose, silicone, 5m long max. load 700 hPa (mbar)	0554 0440
Magnetic holder for pressure probes for pressure probes 0638 1345/..1445/..1545/..1645	0554 0225
Cover plugs for test holes (50 off)	0554 4001

Accessories for temperature probes	Part no.
Silicone heat paste (14g), T _{max} = +260°C improves heat transfer in surface probes	0554 0004
Cable, 1.5 m long, connects probe with plug-in head to meas. instrument PUR coating material	0430 0143
Cable, 5 m long, connects probe with plug-in head to measuring instrument PUR coating material	0430 0145
Extension cable, 5 m long, between plug-in head cable and instrument PUR coating material	0409 0063
Telescopic handle, max. 1 m, for probe with plug-in head cable: 2.5 m long, PUR coating material	0430 0144

Accessories: Humidity, 3-function probe	Part no.
Cable, 1.5 m long, connects probe with plug-in head to meas. instrument PUR coating material	0430 0143
Cable, 5 m long, connects probe with plug-in head to measuring instrument PUR coating material	0430 0145
Extension cable, 5 m long, between plug-in head cable and instrument PUR coating material	0409 0063
Telescopic handle, max. 1 m, for probe with plug-in head cable: 2.5 m long, PUR coating material	0430 0144
Telescopic handle, 340 - 800 mm long, for 0636 9715 probe	0430 9715
testo saline pots for control and humidity adjustment of humidity probes, 11.3 %RH and 75.3 %RH with adapter for humidity probe	0554 0660
Metal protection cage, Ø 12 mm for humidity probes for measurement in flow velocities of less than 10 m/s	0554 0755
Cap with wire mesh filter, Ø 12 mm	0554 0757
PTFE sintered filter, Ø 21 mm, for corrosive substances high humidity range (long-term measurements), high velocities	0554 0666
Sintered PTFE filter, Ø 12 mm, for corrosive media High humidity range (long-term measurements), high flow velocities.	0554 0756
Stainless steel sintered cap, Ø 21 mm, can be screwed onto humidity probe protection in case of high mechanical load and high velocities	0554 0640
Stainless steel sintered cap, Ø 12 mm, is screwed onto humidity probe for measurements at higher flow velocities or in contaminated air	0554 0647
PTFE cap, Ø 5 mm, attachable, PTFE material, (5 off) PTFE Dust protection, high humidity measurements, high flow speeds for humidity probe 0636 2130	0554 1031
PTFE sintered filter, Ø 12 mm, for corrosive substances high humidity range (non-stop measurements), high flow speeds	0554 0758

Caps for humidity probes, see page 32

testo 400

Precision reference class measuring instruments have everything the professional user needs to complete complicated measurement tasks efficiently, accurately and conveniently.

testo 400 includes the parameters temperature, CO₂, rpm, current, voltage, relative humidity, pressure, velocity and volume flow.

Intelligent electronics ensure the latest technology is used thanks to software updates. The measuring instrument can always keep up with the measurement tasks at hand thanks to upgrades.

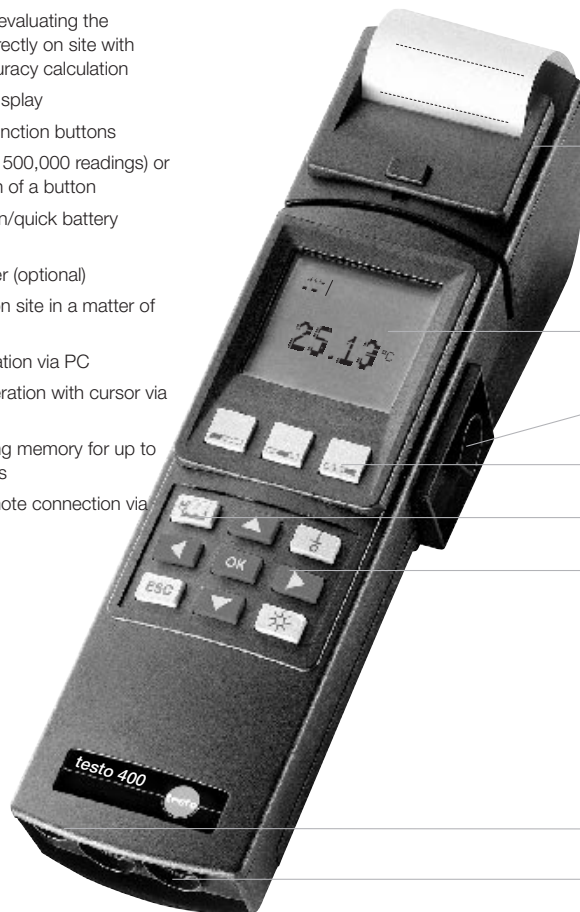
Upgradable and teachable, highly reliable and of the highest quality - they are the properties which guarantee that the customer is equipped for the future.

Useful instrument functions:

- System accuracy up to 0.05 °C and up to a resolution of 0.001 °C
- All functions of testo 650 and testo 950
- Input of cross-sections for volume flow calculation
- Absolute pressure compensation in thermal probes
- Density calculation for velocity measurement with reference to temperature, humidity and absolute pressure
- Turbulence degree measurement to EN 13779
- Assessment of volume flow measurements with calculation of total uncertainty of measurement in accordance with EN 12599 with VAC module

The reference measuring instrument for A/C and ventilation systems

- VAC module for evaluating the measurement directly on site with integrated inaccuracy calculation
- Clear graphics display
- 3 user defined function buttons
- Save up to max. 500,000 readings) or print at the touch of a button
- Mains connection/quick battery recharge
- Attachable printer (optional)
- Prints readings on site in a matter of seconds
- Data communication via PC
- User friendly operation with cursor via menu structure
- Integrated reading memory for up to 500,000 readings
- Possibility of remote connection via GSM



Attachable printer prints readings on site in seconds

Clear graphics display

Data communication by PC

3 user-defined function buttons

Saves or prints at the touch of a button

Easy operation with cursor

Power connection/quick battery recharge

2 user defined probe sockets

testo 400

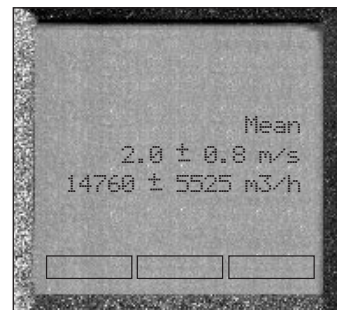
testo 400, multi-function measuring instrument, incl. store for up to 500,000 readings, VAC module (volume flow measurement with error calculation), battery, Li cell and calibration protocol

Can be used for:

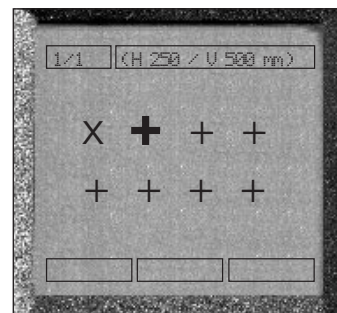
- Velocity, volume flow
- Humidity, pressure
- Temperature
- CO₂, rpm and current/voltage

Part no.

0563 4001



Assessment of measurement directly on location with integrated uncertainty calculation



The coordinates required for the grid measurement are shown in the instrument display. The depth information on the vane telescopic handle makes the task that much easier in practice.

testo 400

Additional recommended sets

Recommended set

For fast measurements on VAC systems

- testo 400, multi-function measuring instrument, incl. store for up to 500,000 readings, VAC module (volume flow measurement with error calculation), battery, Li cell and calibration protocol (Part no. 0563 4001)
- ComSoft 3 - Professional with data management (Part no. 0554 0830)
- RS232 cable (Part no. 0409 0178)
- Bendable vane probe (can be bent by 90°), Ø 100 mm, attachable to handle 0430 3545 or telescopic handle 0430 0941, for measurements on ventilation outlets (Part no. 0635 9340)
- Vane/temperature probe, Ø 16 mm, attachable to 0430 3545 handle or 0430 0941 telescopic handle (Part no. 0635 9540)
- Professional telescopic handle for plug-in vane probes, max. 1 m long (Part no. 0430 0941)
- Attachable printer (securely attached) including 1 roll of thermal paper and batteries (Part no. 0554 0570)
- SoftCase (protects instrument from impact) with carrier strap, magnetic holder and probe holder (Part no. 0516 0401)
- SoftCase for attachable printer (protects printer from dirt/impact) (Part no. 0516 0411)
- System case (aluminium) for measuring instrument, probes and accessories (Part no. 0516 0410)

We recommend:

DKD calibration certificate/temperature 0520 0201
El. resistance thermometer, el. thermometer; cal. points selectable from -80 to +1000°C

The pro set for assessing workplaces subjected to heat

- testo 400, multi-function measuring instrument, incl. store for up to 500,000 readings, VAC module (volume flow measurement with error calculation), battery, Li cell and calibration protocol (Part no. 0563 4001)
- Wet Bulb Globe temperature probe to assess workplaces subjected to heat, in accordance with ISO 7243 or DIN 33403, incl. WBGT case (Part no. 0635 8888)
- Attachable printer (securely attached) including 1 roll of thermal paper and batteries (Part no. 0554 0570)

We recommend:

ISO calibration certificate/temperature 0520 0181
for air/immersion probes, calibration points -8°C; 0°C; +40°C

testo 400, the Pro set for comfort level meas. & occupational safety/health

- testo 400, multi-function measuring instrument, incl. store for up to 500,000 readings, VAC module (volume flow measurement with error calculation), battery, Li cell and calibration protocol (Part no. 0563 4001)
- Comfort level probe for measuring degree of turbulence, with telescopic handle and stand. Fulfills EN 13779 requirements (Part no. 0628 0009)
- Attachable printer (securely attached) including 1 roll of thermal paper and batteries (Part no. 0554 0570)

We recommend:

CO2 probe measures indoor air quality and monitors the workplace. With plug-in head, connection cable 0430 0143 or 0430 0145 required 0632 1240

Cable, 1.5 m long, connects probe with plug-in head to meas. instrument 0430 0143
PUR coating material

Standard ambient air probe up to +70°C 0636 9740
Measures all physical parameters in the psychrometric chart

Quick-action surface probe with sprung thermocouple strip, measuring range short-term to +500°C 0604 0194

Cable, 1.5 m long, connects probe with plug-in head to meas. instrument 0430 0143
PUR coating material

Recommended set

Laboratory fume cupboard probe

- testo 400, multi-function measuring instrument, incl. store for up to 500,000 readings, VAC module (volume flow measurement with error calculation), battery, Li cell and calibration protocol (Part no. 0563 4001)
- Mains unit 230 V/ 8 W/ 1 A, for instrument (European plug) (Part no. 0554 1084)
- Rech. batt. set for instr. (2 rech. 2.4V/1100mAh) (Part no. 0554 0196)
- Thermal anemometer probe, Ø 10 mm, w. telescopic handle, measures air flow in lab fume cupboards to DIN EN 14175 (Part no. 0635 1047)
- Standard ambient air probe up to +70°C (Part no. 0636 9740)
- Pressure probe, 2000 hPa, measures absolute pressure, in robust metal housing with impact protection, incl. quick-closing coupling (M8 x 0.5), magnet for fast attachment (Part no. 0638 1847)
- Precision pressure probe, 100 Pa, in robust metal housing with impact protection, incl. magnet for fast attachment, to measure differential pressure and flow speeds (in combination with Pitot tube) (Part no. 0638 1347)
- Cable, 1.5 m long, connects probe with plug-in head to meas. instrument (Part no. 0430 0143)
- Comfort level probe for measuring degree of turbulence, with telescopic handle and stand. Fulfills EN 13779 requirements (Part no. 0628 0009)

We recommend:

ComSoft 3 - Professional with data management 0554 0830
incl. database, analysis and graphics function, data analysis, trend curve

RS232 cable 0409 0178
connects instrument to PC (1.8 m) for data transfer

Attachable printer (securely attached) including 1 roll of thermal paper and batteries 0554 0570

SoftCase (protects instrument from impact) with carrier strap, magnetic holder and probe holder 0516 0401

SoftCase for attachable printer (protects printer from dirt/impact) 0516 0411
protects from impact and falls

System case (aluminium) for measuring instrument, probes and accessories 0516 0410
probes in lid make it easy to find parts in case

DKD calibration certificate/velocity for laboratory fume cupboard probe

ISO calibration certificate/velocity for laboratory fume cupboard probe

The Pro Set for clean room systems

- testo 400, multi-function measuring instrument, incl. store for up to 500,000 readings, VAC module (volume flow measurement with error calculation), battery, Li cell and calibration protocol (Part no. 0563 4001)
- Precision pressure probe, 100 Pa, in robust metal housing with impact protection, incl. magnet for fast attachment, to measure differential pressure and flow speeds (in combination with Pitot tube) (Part no. 0638 1347)
- Precision air probe (Part no. 0628 0017)
- Highly accurate reference humidity/temp. probe (Part no. 0636 9741)
- Cable, 1.5 m long, connects probe with plug-in head to meas. instrument (Part no. 0430 0143)
- Cable, 1.5 m long, connects probe with plug-in head to meas. instrument (Part no. 0430 0143)
- Quick-action hot wire probe, Ø 10 mm, with telescopic handle, for measurements in the lower velocity range with direction recognition (Part no. 0635 1041)
- Bendable vane probe (can be bent by 90°), Ø 100 mm, attachable to handle 0430 3545 or telescopic handle 0430 0941, for measurements on ventilation outlets (Part no. 0635 9340)
- Professional telescopic handle for plug-in vane probes, max. 1 m long (Part no. 0430 0941)
- Current/voltage cable (±1 V, ±10 V, 20 mA) (Part no. 0554 0007)
- System case (aluminium) for measuring instrument, probes and accessories (Part no. 0516 0410)
- ComSoft 3 - Professional with data management (Part no. 0554 0830)
- RS232 cable (Part no. 0409 0178)

We recommend:

DKD calibration certificates for temperature, humidity, velocity, pressure (See Calibration)

Accessories	Part no.
Accessories for measuring instrument	
Rech. batt. set for instr. (2 rech. 2.4V/1100mAh) selected for quick recharging in instrument	0554 0196
Mains unit 230 V/ 8 V/ 1 A, for instrument (European plug) for mains operation and battery recharging	0554 1084
Lithium battery button cell, CR2032 AA batteries for radio handle	0515 0028
Printer and Accessories	
Attachable printer (securely attached) including 1 roll of thermal paper and batteries	0554 0570
Testo fast printer with wireless infrared interface, 1 roll thermal paper and 4 AA batteries	0554 0549
Fast testo 575 printer, incl. 1 roll of thermal paper and batteries	0554 1775
infrared thermal line printer with graphics function	
External fast charger for 1-4 AA rech. batteries, incl. 4 Ni-MH rech. batteries with individual cell charging and charge control display, incl. impulse trickle charging, integrated discharge function, with built-in international mains plug, 100-240 V, 300 mA, 50/60 Hz	0554 0610
Spare thermal paper for printer (6 rolls)	0554 0569
Spare thermal paper for printer (6 rolls), permanent ink 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
SoftCase for instrument and printer	
SoftCase (protects instrument from impact) with carrier strap, magnetic holder and probe holder	0516 0401
SoftCase for attachable printer (protects printer from dirt/impact) protects from impact and falls	0516 0411
Software and Accessories	
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
Ethernet adapter, RS232 - Ethernet incl. software driver, mains unit facilitates data communication in network	0554 1711
System case	
System case (plastic) for measuring instrument, probes and accessories probes in lid make it easy to find parts in case (540 x 440 x 130 mm)	0516 0400
System case (aluminium) for measuring instrument, probes and accessories probes in lid make it easy to find parts in case	0516 0410

Calibration Certificates	Part no.
Calibration certificates/temperature	
ISO calibration certificate/temperature for air/immersion probes, calibration points -18°C; 0°C; +60°C	0520 0001
ISO calibration certificate/temperature Meas. instr. with air/immersion probe; cal. points 0°C; +150°C; +300°C	0520 0021
ISO calibration certificate/temperature meas. instr. with surface probe; calibration points +60°C; +120°C; +180°C	0520 0071
DKD calibration certificate/temperature meas. instr. with air/immersion probe; calibration points -20°C; 0°C; +60°C	0520 0211
DKD calibration certificate/temperature contact surface temperature probes; calibration points +100°C; +200°C; +300°C	0520 0271
Calibration certificates/humidity	
ISO calibration certificate/humidity cal. points freely selectable from 5 to 95%RH at +15 to +35°C or at -18 to +80°C	0520 0106
ISO calibration certificate humidity Calibration points 11.3 %RH and 75.3 %RH at +25°C	0520 0006
ISO calibration certificate dewpoint two adjustment points -10/-40 °Ctd at 6 bar	0520 0136
ISO calibration certificate/humidity saturated saline solutions: calibration point 11.3%RH	0520 0013
ISO calibration certificate/humidity saturated saline solutions, calibration point 75.3%RH	0520 0083
DKD calibration certificate/humidity electronic hygrometers; calibration points 11.3%RH and 75.3%RH at +25°C	0520 0206
DKD calibration certificate/humidity cal. points freely selectable from 5 to 95%RH at +25°C or -18°C to +70°C	0520 0216
DKD calibration certificate/humidity saturated saline solutions; calibration point 11.3%RH	0520 0213
DKD calibration certificate/humidity saturated saline solutions; calibration point 75.3%RH	0520 0283
Calibration certificates/pressure	
ISO calibration certificate/pressure differential pressure; 5 points distributed over meas. range	0520 0005
DKD calibration certificate/pressure diff. and pos. pressure; 6 meas. points distributed over meas. range (>0.6% of fsv)	0520 0225
ISO calibration certificate/pressure differential pressure, accuracy 0.1 to 0.6 (% of fsv)	0520 0025
DKD calibration certificate/pressure diff. and pos. pressure; 11 measuring points distributed over the instr. meas. range	0520 0215
ISO calibration certificate/absolute pressure, 5 measurement points distributed over meas. range absolute pressure, accuracy 0.1 to 0.6 (% of fsv)	0520 0125
DKD calibration certificate/pressure absolute pressure; 11 measuring points distributed over meas. range	0520 0212
Calibration certificates/velocity	
ISO calibration certificate/velocity all velocity probes, calibration points selectable from 0.3 to 50 m/s at +25°C	0520 0104
ISO calibration certificate velocity hot wire, vane anemometer, Pitot tube; calibration points 1; 2; 5; 10 m/s	0520 0004
ISO calibration certificate/velocity hot wire, vane anemometer, Pitot tube; calibration points 5; 10; 15; 20 m/s	0520 0034
ISO calibration certificate velocity hot wire, vane anemometer; calibration points 0.5; 0.8; 1; 1.5 m/s	0520 0024
DKD calibration certificate/velocity hot wire, vane anemometer; calibration points 0.5; 1; 2; 5; 10 m/s	0520 0244
DKD calibration certificate/velocity hot wire, vane anemometer, Pitot tube; calibration points 2; 5; 10; 15; 20 m/s	0520 0204
DKD calibration certificate/velocity hot wire anemometer; calibration points 0.1; 0.2; 0.5; 0.8; 1 m/s	0520 0224

testo 400
Technical data

Technical data					
Probe type	Vane	Thermal	Testo humid. sensor, cap.	Pressure	aw value
Meas. range	0 to +60 m/s	0 to +20 m/s	0 to +100 %RH	0 to +2000 hPa	0 to +1 aW
Accuracy ±1 digit	See probe data for system accuracy	See probe data for system accuracy	See probe data	Probe 0638 1347 Probe 0638 1447 Probe 0638 1547 Probe 0638 1647 Probe 0638 1747 Probe 0638 1847 ±0.1% of mv Probe 0638 1741 Probe 0638 1841 Probe 0638 1941 Probe 0638 2041 Probe 0638 2141 ±0.2% of mv	See probe data
Resolution	0.01 m/s (for Ø 60/100 mm), 0.1 m/s (for rem. probes)	0.01 m/s (0 to +20 m/s)	0.1 %RH (0 to +100 %RH)	0.001 hPa (Probe 0638 1347) 0.001 hPa (Probe 0638 1447) 0.01 hPa (Probe 0638 1547) 0.1 hPa (Probe 0638 1647) 0.1 hPa (Probe 0638 1747) 0.1 hPa (Probe 0638 1847) 0.01 bar (Probe 0638 1741) 0.01 bar (Probe 0638 1841) 0.01 bar (Probe 0638 1941) 0.01 bar (Probe 0638 2041) 0.01 bar (Probe 0638 2141)	

Probe type	NTC	Pt100	Type K (NiCr-Ni)	Type S (Pt10Rh-Pt)	Type J (Fe-CuNi)
Meas. range	-40 to +150 °C	-200 to +800 °C	-200 to +1370 °C	0 to +1760 °C	-200 to +1000 °C
Accuracy ±1 digit	±0.2 °C (-10 to +50 °C) ±0.4 °C (-40 to -10.1 °C) ±0.4 °C (+50.1 to +150 °C)	±0.1 °C (-49.9 to +99.9 °C) ±(0.1 °C + 0.1% of mv) (remaining range)	±(0.3 °C + 0.1% of mv)	±1 °C (0 to +1760 °C)	±0.4 °C (-150 to +150 °C) ±1 °C (-200 to -150.1 °C) ±1 °C (+150.1 to +1000 °C)
Resolution	0.1 °C (-40 to +150 °C)	0.01 °C (-99.9 to +300 °C) 0.1 °C (-200 to -100 °C) 0.1 °C (+300.1 to +800 °C)	0.1 °C (-200 to +1370 °C)	1 °C (0 to +1760 °C)	0.1 °C (-200 to +1000 °C)

Probe type	CO2 probe	CO probe	Mechanical	Current/voltage measurement	Current/voltage measurement
Meas. range	0 to +1 Vol. % CO ₂ 0 to +10000 ppm CO ₂	0 to +500 ppm CO	20 to 20000 rpm	0 to +20 mA (0554 0007) 0/4 to 20 mA (0554 0528)	0 to +10 V
Accuracy ±1 digit	See probe data	±5% of mv (0 to +500 ppm CO)	±1 digit	±0.04 mA (0 (0554 0007) to +20 mA) See probe (0554 0528) data	±0.01 V (0 to +10 V)
Resolution			1 rpm	0.01 mA (0 to +20 mA)	0.01 V (0 to +10 V)

Oper. temp.	0 to +50 °C
Storage temp.	-25 to +60 °C
Display	LCD, 4 lines
Battery type	1,5 V AA
Battery life	18 h
PC	RS232 interface
Weight	500 g
Material/Housing	ABS
Warranty	3 years
Memory	500.000

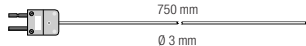
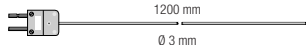
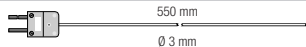
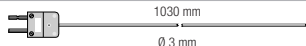
Memory space: 1 MB corresponding to approx. 500,000 readings
Other features: automatic probe recognition
Power: Battery/rech. battery, alternatively 8 V mains unit
Battery life in continuous operation with 2 T/C probes

Probes Type K (NiCr-Ni)	Illustration	Meas. range	Accuracy	t ₉₉	Part no.
Thermocouple, made of fibre-glass insulated thermal pipes, pack of 5	<p>2000 mm Please order adapter 0600 1693 Ø 0.8 mm</p>	-200 to +400 °C	Class 1**	5 s	0644 1109
Quick-action surface probe with sprung thermocouple strip, measuring range short-term to +500°C	<p>150 mm Ø 10 mm Conn.: Plug-in head, connection cable 0430 0143 or 0430 0145 required</p>	-200 to +300 °C	Class 2**	3 s	0604 0194 0614 0194*
Super quick-action surface probe, probe tip at 90° angle, with sprung thermocouple strip	<p>100 mm Ø 10 mm Conn.: Plug-in head, connection cable 0430 0143 or 0430 0145 required</p>	-200 to +300 °C	Class 2**	3 s	0604 0994
Robust surface probe	<p>150 mm Ø 4 mm Conn.: Plug-in head, connection cable 0430 0143 or 0430 0145 required</p>	-200 to +600 °C	Class 1**	25 s	0604 9993
Robust surface probe, at 90° angle, suitable for inaccessible places	<p>130 mm Ø 4 mm Conn.: Plug-in head, connection cable 0430 0143 or 0430 0145 required</p>	-200 to +600 °C	Class 1**	25 s	0604 9893
Robust surface probe with sprung thermocouple strip for high temperature range up to +700°C	<p>200 mm Ø 15 mm Conn.: Fixed cable, coiled</p>	-200 to +700 °C	Class 2**	3 s	0600 0394
Roller surface probe for measurements on rollers and rotating drums, max. circumferential velocity 18 to 400m/min	<p>274 mm Ø 33 mm Conn.: Fixed cable, coiled</p>	-50 to +240 °C	Class 2**		0600 5093
Magnetic probe, adhesive power approx. 20 N, with magnets, for measurements on metal surfaces	<p>35 mm Ø 20 mm Conn.: Fixed cable</p>	-50 to +170 °C	Class 2**		0600 4793
Magnetic probe, adhesive power approx. 10 N, with magnets, for higher temperatures, measures on metal surfaces	<p>75 mm Ø 21 mm Conn.: Fixed cable</p>	-50 to +400 °C	Class 2**		0600 4893
Adhesive thermocouple, pack of 2, carrier material: aluminium foil	<p>Diameter extension 2 x 0.2 mm, 0.1 mm thick</p>	-200 to +200 °C	Class 1**		0644 1607
Is fixed at the measuring point using conventional adhesives or silicone heat paste 0554 0004					
Fast response immersion/penetration probe	<p>150 mm Ø 3 mm Conn.: Plug-in head, connection cable 0430 0143 or 0430 0145 required</p>	-200 to +400 °C	Class 1**	3 s	0604 0293
Super quick-action immersion/penetration probe for measurements in liquids	<p>150 mm Ø 1.5 mm Conn.: Plug-in head, connection cable 0430 0143 or 0430 0145 required</p>	-200 to +600 °C	Class 1**	1 s	0604 0493
Super quick-action immersion/penetration probe for high temperatures	<p>470 mm Ø 1.5 mm Conn.: Plug-in head, connection cable 0430 0143 or 0430 0145 required</p>	-200 to +1100 °C	Class 1**	1 s	0604 0593 0614 0593*
Super quick-action immersion/penetration probe for measurements in gases and liquids with a low-mass tip	<p>150 mm Ø 1.4 mm Conn.: Plug-in head, connection cable 0430 0143 or 0430 0145 required</p>	-200 to +600 °C	Class 1**	1 s	0604 9794
Robust immersion/penetration probe made of V4A stainless steel, waterproof and oven-proof, e.g. for the food sector	<p>150 mm Ø 3.5 mm Conn.: Fixed cable</p>	-200 to +400 °C	Class 1**	3 s	0600 2593
Smelting probe for measurements in non-ferrous melting baths, with exchangeable measuring tip (Measurement tip lifetime: up to 500 measurements in aluminium smelter)	<p>1100 mm Ø 6.5 mm Conn.: Fixed cable</p>	-200 to +1250 °C	Class 1**	60 s	0600 5993
Spare measuring tip for smelting probe					0363 1712
Pipe wrap probe for pipes up to 2" in diameter	<p>15 mm Conn.: Fixed cable</p>	-60 to +130 °C	Class 2**	5 s	0600 4593
Spare meas. head for pipe wrap probe, TC Type K	<p>35 mm</p>	-60 to +130 °C	Class 2**	5 s	0602 0092

*with EEPROM: Precision adjustment for each probe at a measuring point; measuring range limits are saved in probe; t₉₅ extrapolation; surface allowance in surface probe can be adapted to measuring task

** According to standard EN 60584-2, the accuracy of Classes 1 / 2 refer to -40 to +1000/+1200 °C.



testo 400
Suitable probes at a glance







Probes Type K (NiCr-Ni)	Illustration	Meas. range	Accuracy	t ₉₉	Part no.
Plug-in measuring tip, 750mm long, flexible, for high temperatures, outer casing: stainless steel 1.4541	 750 mm Ø 3 mm Please order handle with Part no. 0600 5593	-200 to +900 °C	Class 1*	4 s	0600 5393
Plug-in measuring tip, 1200 mm long, flexible, for high temperatures, outer casing: stainless steel 1.4541	 1200 mm Ø 3 mm Please order handle with Part no. 0600 5593	-200 to +900 °C	Class 1*	4 s	0600 5493
Plug-in measuring tip, 550mm long, flexible, for high temperatures, outer casing: Inconel 2.4816	 550 mm Ø 3 mm Please order handle with Part no. 0600 5593	-200 to +1100 °C	Class 1*	4 s	0600 5793
Plug-in measuring tip, 1030mm long, flexible, for high temperatures, outer casing: Inconel 2.4816	 1030 mm Ø 3 mm Please order handle with Part no. 0600 5593	-200 to +1100 °C	Class 1*	4 s	0600 5893

Probes Pt100	Illustration	Meas. range	Accuracy	t ₉₉	Part no.
Standard air probe	 150 mm Ø 3 mm Conn.: Plug-in head, connection cable 0430 0143 or 0430 0145 required	-200... +600 °C	Class A**	75 s	0604 9773
Precision air probe	 150 mm Ø 3 mm Conn.: Plug-in head, connection cable 0430 0143 or 0430 0145 required	-100 to +400 °C	1/10 Class B (0 to 100°C) 1/5 Class B (rem. range) to EN 60751**	75 s	0628 0017
Robust surface probe	 150 mm Ø 4 mm Conn.: Plug-in head, connection cable 0430 0143 or 0430 0145 required	-50 to +400 °C	Class B**	40 s	0604 9973
Velcro probe for pipes with diameter of max. 75 mm	 280 mm Conn.: Fixed cable	-50 to +150 °C	Class B**	40 s	0628 0019
Standard immersion/penetration probe	 200 mm Ø 3 mm Conn.: Plug-in head, connection cable 0430 0143 or 0430 0145 required	Stainless Steel -200 to +400 °C	Class A**	20 s	0604 0273
Standard immersion/penetration probe	 200 mm Ø 3 mm Conn.: Plug-in head, connection cable 0430 0143 or 0430 0145 required	Nickel -200 to +600 °C	Class A**	20 s	0604 0274
Highly accurate immersion/penetration probe incl. certificate	 295 mm Ø 4 mm Conn.: Plug-in head, connection cable 0430 0143 or 0430 0145 required	Stainless Steel -40 to +300 °C	±0.05 °C (+0.01 to +100 °C) ±(0.05 °C ±0.05% of mv) (-40 to 0 °C) ±(0.05 °C ±0.05% of mv) (+100.01 to +300 °C)	60 s	0614 0240
Highly accurate immersion/penetration probe	 200 mm Ø 3 mm Conn.: Plug-in head, connection cable 0430 0143 or 0430 0145 required	-100 to +400 °C	1/10 Class B (0 to 100°C) 1/5 Class B (rem. range) to EN 60751**	30 s	0628 0015
Flexible precision immersion probe, cable heat-proof up to +300°C	 1000 mm Ø 3.5 mm Conn.: Plug-in head, connection cable 0430 0143 or 0430 0145 required	50 mm Ø 6 mm -100 to +265 °C	1/10 Class B (0 to 100°C) 1/5 Class B (rem. range) to EN 60751**	80 s	0628 0016
Robust immersion/penetration probe with sharpened measuring tip, waterproof and oven-proof	 150 mm Ø 3.5 mm Conn.: Fixed cable	Ø 3 mm -200 to +400 °C	Class A**	30 s	0604 2573






* According to standard EN 60584-2, the accuracy of Class 1 refers to -40 to +1000 °C.

** According to standard EN 60751, the accuracy of Class A and B refer to -200 to +600 °C.

Probes NTC	Illustration	Meas. range	Accuracy	t ₉₉	Part no.
Highly accurate air probe for air and gas temperature measurements with bare, mechanically protected sensor	 150 mm Ø 9 mm Conn.: Fixed cable	-40 to +130 °C	To UNI curve	60 s	0610 9714
Globe thermometer to measure radiant heat	 Ø 150 mm Conn.: Fixed cable	0 to +120 °C	±0.5 °C (0 to +49.9 °C) ±1 °C (+50 to +120 °C) Accuracy corresponds to ISO 7243, ISO 7726, DIN EN 27726, DIN 33403 requirements		0554 0670





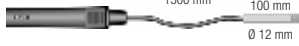











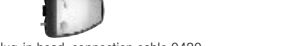
More probes	Illustration	Meas. range	Accuracy	Part no.
Ambient CO probe, for detecting CO in buildings and rooms	 Conn.: Fixed cable 1.5 m	0 to +500 ppm CO	±5% of mv (+100.1 to +500 ppm CO) ±5 ppm CO (0 to +100 ppm CO)	0632 3331
CO ₂ probe measures indoor air quality and monitors the workplace. With plug-in head, connection cable 0430 0143 or 0430 0145 required	 Conn.: Plug-in head, connection cable 0430 0143 or 0430 0145 required	0 ... +1 Vol. % CO ₂ 0 ... +10000 ppm CO ₂	±(50 ppm CO ₂ ±2% of mv)(0 to +5000 ppm CO ₂) ±(100 ppm CO ₂ ±3% of mv)(+5001 to +10000 ppm CO ₂)	0632 1240
Mechanical rpm probe with plug-in head Included	 Conn.: Plug-in head, connection cable 0430 0143 or 0430 0145 required	20 to 20000 rpm	±1 digit	0640 0340
2 probe tips Ø 8 and Ø 12 mm 1 hollow cone Ø 8 mm 1 surface speed disc Ø 19 mm to measure rotational speed: rpm = rotational speed in mm/s				
Current/voltage cable (±1 V, ±10 V, 20 mA)		0 to +1000 mV 0 to +10 V 0 to +20 mA	±1 mV (0 to +1000 mV) ±0.01 V (0 to +10 V) ±0.04 mA (0 to +20 mA)	0554 0007
4 to 20 mA interface for connection and intermittent power supply to transmitters (scaling via hand-held instrument), in robust metal housing with impact protection, incl. magnet for fast attachment	 Conn.: Plug-in head, connection cable 0430 0143 or 0430 0145 required	0/4 to 20 mA Channels: 1 channel, transmitter connection via terminal board Auxiliary energy output: 18V DC ± 20% max. connection load: 30 mA	±0.04 mA	0554 0528






Accessories	Part no.
Cable, 1.5 m long, connects probe with plug-in head to meas. instrument, PUR coating material	0430 0143
Cable, 5 m long, connects probe with plug-in head to measuring instrument, PUR coating material	0430 0145
Extension cable, 5 m long, between plug-in head cable and instrument, PUR coating material	0409 0063
Telescopic handle, max. 1 m, for probe with plug-in head, cable: 2.5 m long, PUR coating material	0430 0144
Adapter to connect NiCr-Ni thermocouples and probes with open wire ends	0600 1693
Handle for plug-in measuring tip	0600 5593
Silicone heat paste (14g), T _{max} = +260°C, improves heat transfer in surface probes	0554 0004
Spare measuring tip for smelting probe	0363 1712

Humidity probes	Illustration	Meas. range	Accuracy	t ₉₉	Part no.
Standard ambient air probe up to +70°C	 Plug-in head, connection cable 0430 0143 or 0430 0145 required	0 to +100 %RH -20 to +70 °C	±2 %RH (+2 to +98 %RH) ±0.4 °C (-10 to +50 °C) ±0.5 °C (remaining range)	12 s	0636 9740
Duct humidity/temperature probe, can be connected to telescopic handle 0430 9715 Telescopic handle 0430 9715, see Ordering data/Accessories	 Fixed cable	0 to +100 %RH -20 to +70 °C	±2 %RH (+2 to +98 %RH) ±0.4 °C (-10 to +50 °C) ±0.5 °C (remaining range)	12 s	0636 9715
Thin humidity probe incl. 4 attachable protection caps for ambient air measurements, measurements in exhaust air ducts and equilibrium moisture measurements	 Plug-in head, connection cable 0430 0143 or 0430 0145 required	0 to +100 %RH -20 to +70 °C	±2 %RH (+2 to +98 %RH) ±0.4 °C (-10 to +50 °C) ±0.5 °C (-20 to -10.1 °C) ±0.5 °C (+50.1 to +70 °C)	15 s	0636 2130
Highly accurate reference humidity/temp. probe	 Plug-in head, connection cable 0430 0143 or 0430 0145 required	0 to +100 %RH -20 to +70 °C	±1 %RH (+10 to +90 %RH)* ±2 %RH (remaining range) ±0.2 °C (+10 to +40 °C) ±0.4 °C (remaining range)	12 s	0636 9741
Humidity/temperature probe	 Plug-in head, connection cable 0430 0143 or 0430 0145 required	0... +100 %RH -20 to +70 °C	±2 %RH (+2... +98 %RH) ±0.4 °C (+0.1 to +50 °C) ±0.5 °C (-20 to 0 °C) ±0.5 °C (+50.1 to +70 °C)	12 s	0636 9742

* in the temperature range from +15°C to +30°C

testo 400
Suitable probes at a glance

Probes Process humidity	Illustration	Meas. range	Accuracy	t99	Part no.		
Standard pressure dew point probe for measurements in compressed air systems	 300 mm Plug-in head, connection cable 0430 0143 or 0430 0145 required	0 to +100 %RH -30 to +50 °C tpd	±0.9 °C tpd (+0.1 to +50 °C tpd) ±1 °C tpd (-4.9 to 0 °C tpd) ±2 °C tpd (-9.9 to -5 °C tpd) ±3 °C tpd (-19.9 to -10 °C tpd) ±4 °C tpd (-30 to -20 °C tpd)	300 s	0636 9840		
Precision pressure dew point probe for measurements in compressed air systems incl. cert. with test point -40°C tpd	 300 mm Plug-in head, connection cable 0430 0143 or 0430 0145 required	0 to +100 %RH -60 to +50 °C tpd	±0.8 °C tpd (-4.9 to +50 °C tpd) ±1 °C tpd (-9.9 to -5 °C tpd) ±2 °C tpd (-19.9 to -10 °C tpd) ±3 °C tpd (-29.9 to -20 °C tpd) ±4 °C tpd (-40 to -30 °C tpd)	300 s	0636 9841		
High humidity level probe w/ heated sensor element, no humidity on sensor	 300 mm Ø 12 mm Plug-in head, connection cable 0430 0143 or 0430 0145 required	0 to +100 %RH -20 to +85 °C	±2.5 %RH (0 to +100 %RH) ±0.4 °C (-10 to +50 °C) ±0.5 °C (-20 to -10.1 °C) ±0.5 °C (+50.1 to +100 °C)	30 s	0636 2142		
Robust high temperature/humidity probe up to +180°C	 300 mm Ø 12 mm Plug-in head, connection cable 0430 0143 or 0430 0145 required	0 to +100 %RH -20 to +180 °C	±2 %RH (+2 to +98 %RH) ±0.4 °C (+0.1 to +50 °C) ±0.5 °C (remaining range)	30 s	0628 0021		
Flexible humidity probe (does not retain shape) for measurements in inaccessible places	 1500 mm 100 mm Ø 12 mm Plug-in head, connection cable 0430 0143 or 0430 0145 required	0 to +100 %RH -20 to +180 °C	±2 %RH (+2 to +98 %RH) ±0.4 °C (+0.1 to +50 °C) ±0.5 °C (-20 to 0 °C) ±0.5 °C (+50.1 to +180 °C)	30 s	0628 0022		
Probes Material and equilibrium moisture	Illustration	Meas. range	Accuracy	t99	Part no.		
Flexible humidity probe with mini module for meas. e.g. on material testing rigs, module cable length 1500mm, probe tip 50x19x7mm	 Plug-in head, connection cable 0430 0143 or 0430 0145 required	0 to +100 %RH -20 to +125 °C	±2 %RH (+2 to +98 %RH) ±0.4 °C (-10 to +50 °C) ±0.5 °C (remaining range)	20 s	0628 0013		
Sword probe for measuring humidity and temperature in stacked material	 320 mm 18 mm x 5 mm Plug-in head, connection cable 0430 0143 or 0430 0145 required	0 to +100 %RH -20 to +70 °C	±2 %RH (+2 to +98 %RH) ±0.4 °C (-10 to +50 °C) ±0.5 °C (-20 to -10.1 °C) ±0.5 °C (+50.1 to +70 °C)	12 s	0636 0340		
Robust humidity probe e.g. for measuring equilibrium moisture or for measurements in exhaust ducts to +120°C	 300 mm Ø 12 mm Plug-in head, connection cable 0430 0143 or 0430 0145 required	0 to +100 %RH -20 to +120 °C	±2 %RH (+2 to +98 %RH) ±0.4 °C (-10 to +50 °C) ±0.5 °C (remaining range)	30 s	0636 2140		
Material moisture probe	 1500 mm		Free scaling, reference measurement, no water level		0636 0365		
Material/building moisture cable		0 to 100 k Ohm = 100 to 0 %	Display values in instrument display mean: 100 to 66 wet; 0 to 1 very dry		0636 0565		
Probes aw value	Illustration	Meas. range	Accuracy	t99	Part no.		
aw value set: pressure-tight precision humidity probe with certificate, measurement chamber and 5 sample bowls (plastic)	 Reproducibility of aw value ±0.003	0 to +1 aW 0 to +100 %RH -20 to +70 °C	±0.01 aW (+0.1 to +0.9 aW) ±0.02 aW (+0.9 to +1 aW) ±0.4 °C (-10 to +50 °C) ±0.5 °C (remaining range)		0628 0024		
Differential pressure probe	Illustration	Meas. range	Accuracy	Overload	Static pressure	Zeroing	Part no.
Precision pressure probe, 100 Pa, in robust metal housing with impact protection, incl. magnet for fast attachment, to measure differential pressure and flow speeds (in combination with Pitot tube)	 Plug-in head, connection cable 0430 0143 or 0430 0145 required	0 to +100 Pa	±(0.3 Pa ±0.5% of mv)	50 hPa	100 hPa	to 20 Pa	0638 1347
Pressure probe, 10 hPa, in robust metal housing with impact protection incl. magnet for fast attachment, to measure differential pressure and flow speeds (in combination with Pitot tube)	 Plug-in head, connection cable 0430 0143 or 0430 0145 required	0 to +10 hPa	±0.03 hPa	50 hPa	1000 hPa	to 0,4 hPa	0638 1447
Pressure probe, 100 hPa, in robust metal housing with impact protection, incl. magnet for fast attachment, to measure differential pressure and flow speeds (in combination with Pitot tube)	 Plug-in head, connection cable 0430 0143 or 0430 0145 required	0 to +100 hPa	±0.5% of mv (+20 to +100 hPa) ±0.1 hPa (0 to +20 hPa)	300 hPa	1000 hPa	to 4 hPa	0638 1547
Pressure probe, 1000 hPa, measures differential pressure, in robust metal housing with impact protection, incl. quick-closing coupling (M8 x 0.5), magnet for fast attachment	 Plug-in head, connection cable 0430 0143 or 0430 0145 required	0 to +1000 hPa	±1 hPa (0 to 200 hPa) ±0.5% of mv (200 to 1000 hPa)	2000 hPa	1000 hPa	to 20 hPa	0638 1647
Pressure probe, 2000 hPa, measures differential pressure, in robust metal housing with impact protection, incl. quick-closing coupling (M8 x 0.5), magnet for fast attachment	 Plug-in head, connection cable 0430 0143 or 0430 0145 required	0 to +2000 hPa	±2 hPa (0 to 400 hPa) ±0.5% of mv (400 to 2000 hPa)	3000 hPa	1000 hPa	to 40 hPa	0638 1747
Pressure probe, 2000 hPa, measures absolute pressure, in robust metal housing with impact protection, incl. quick-closing coupling (M8 x 0.5), magnet for fast attachment	 Plug-in head, connection cable 0430 0143 or 0430 0145 required	0 to +2000 hPa	±5 hPa (0 to +2000 hPa)	—	—	—	0638 1847

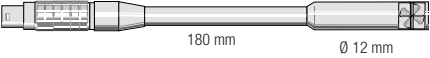

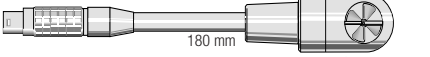

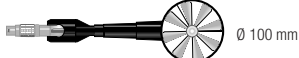


Relative pressure probes	Illustration	Meas. range	Accuracy	Overload	Zeroing	Part no.
Low pressure probe, refrigerant-proof stainless steel, up to 10 bar	 Plug-in head, connection cable 0409 0202 required	-1 to +10 bar	±1% of fsv Overload 25 bar	25 bar	to 0,1 bar	0638 1741 screw-in thread 7/16" UNF
High pressure probe, refrigerant-proof stainless steel, up to 30 bar	 Plug-in head, connection cable 0409 0202 required	-1 to +30 bar	±1% of fsv Overload 120 bar	120 bar	to 0,3 bar	0638 1841 screw-in thread 7/16" UNF
High pressure probe, refrigerant-proof stainless steel, up to 40 bar	 Plug-in head, connection cable 0409 0202 required	-1 to +40 bar	±1% of fsv Overload 120 bar	120 bar	to 0,4 bar	0638 1941 screw-in thread 7/16" UNF
High pressure probe, refrigerant-proof stainless steel, up to 100 bar	 Plug-in head, connection cable 0409 0202 required	-1 to +100 bar	±1% of fsv Overload 250 bar	250 bar	to 1 bar	0638 2041 Screw-in thread 7/16" UNF
High pressure probe, refrigerant-proof stainless steel, up to 400 bar	 Plug-in head, connection cable 0409 0202 required	-1 to +400 bar	±1% of fsv Overload 600 bar	600 bar	to 4 bar	0638 2141 Screw-in thread 7/16" UNF

Caps for humidity probes	Illustration	Part no.
Metal protection cage, Ø 12 mm for humidity probes, material: stainless steel V4A. Quick adjustment time, robust and temperature-proof. Used when measuring velocities of less than 10 m/s.		Ø 12 mm 0636 9740, 0636 9715 0554 0755
Cap with wire mesh filter, Ø 12 mm		All humidity probes with Ø 12 mm 0554 0757
PTFE sintered filter, Ø 21 mm, PTFE. Not affected by condensation, water-repellent, resistant to corrosive substances. Applications: compressed air measurements, high humidity range (continuous measurements), high flow velocities		Ø 21 mm All humidity probes with Ø 21 mm 0554 0666
Sintered PTFE filter, Ø 12 mm material PTFE. Favourable behaviour in condensation, water repellent, high resistance to aggressive media. Applications: Compressed air measurements, high humidity range (long-term measurements), high flow velocities.		Ø 12 mm 0636 9769, 0636 9740, 0636 9715 0554 0756
PTFE sintered filter, Ø 12 mm, PTFE. Not affected by condensation, water-repellent, resistant to corrosive substances. Applications: compressed air measurements, high humidity range (continuous measurements), high flow velocities		Ø 12 mm 0628 0021, 0628 0022, 0636 2140, 0636 2142 0554 0758
Stainless steel sintered cap, Ø 21 mm, can be screwed onto humidity probe. protection in case of high mechanical load and high velocities		Ø 21 mm All humidity probes Ø 21 mm 0554 0640
Stainless steel sintered cap, Ø 12 mm, material: stainless steel V2A. Very rugged, suitable for penetration, can be cleaned with compressed air, mechanical sensor protection. Applications: High mechanical loads, high flow velocities.		Ø 12 mm 0636 9740, 0636 9715 0554 0647
PTFE cap, Ø 5 mm, attachable, PTFE material, (5 off). Applications: dust protection, high humidity level measurements, high flow velocities		Ø 5 mm 0636 2130 0554 1031






Accessories: Humidity probes	Part no.	Accessories: Pressure probes	Part no.
Cable, 1.5 m long, connects probe with plug-in head to meas. instrument PUR coating material	0430 0143	Connection cable, 2.5 m long, for pressure probes 0638 1741/1841/1941	0409 0202
Cable, 5 m long, connects probe with plug-in head to measuring instrument PUR coating material	0430 0145	Adapter for pressure probes, 1/2" outer thread, 1/4" inner thread for pressure probes 0638 1741/1841/1941/2041/2141	0699 3127
Extension cable, 5 m long, between plug-in head cable and instrument PUR coating material	0409 0063	Cable, 1.5 m long, connects probe with plug-in head to meas. instrument PUR coating material	0430 0143
Telescopic handle, max. 1 m, for probe with plug-in head cable: 2.5 m long, PUR coating material	0430 0144	Cable, 5 m long, connects probe with plug-in head to measuring instrument PUR coating material	0430 0145
Adapter for surface humidity measurement, for humidity probes Ø 12mm locates damp spots on walls, for example	0628 0012	Connection hose, silicone, 5m long max. load 700 hPa (mbar)	0554 0440
Cap for bore holes, for humidity probe Ø 12 mm Measures equilibrium moisture in bore holes	0554 2140	Connection hose set, 2 x 1 m, coiled, incl. 1/8" screw connection Pressure-tight up to 20 bar, for probe 0638 1647/1747/1847	0554 0441
testo saline pots for control and humidity adjustment of humidity probes, 11.3 %RH and 75.3 %RH with adapter for humidity probe	0554 0660		




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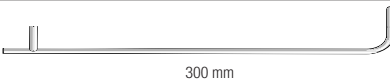


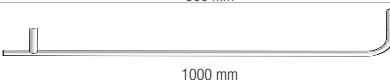
Suitable probes at a glance

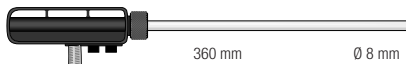


Vane probes	Illustration	Probe type	Meas. range	Accuracy	Part no.
Vane probe, Ø 12 mm, can be attached to handle 0430 3545 or telescopic handle 0430 0941	 180 mm Ø 12 mm	Vane	+0.6 to +20 m/s Oper. temp. -30 to +140 °C	±(0.2 m/s ±1% of mv) (+0.6 to +20 m/s)	0635 9443
Vane/temperature probe, Ø 16 mm, attachable to 0430 3545 handle or 0430 0941 telescopic handle	 180 mm Ø 16 mm	Vane Type K (NiCr-Ni)	+0.4 to +60 m/s -30 to +140 °C	±(0.2 m/s ±1% of mv) (+0.4 to +40 m/s) ±(0.2 m/s ±2% of mv) (+40.1 to +50 m/s)	0635 9540
Vane/temperature probe, Ø 25 mm, can be attached to 0430 3545 handle or 0430 0941 telescopic handle	 180 mm Ø 25 mm	Vane Type K (NiCr-Ni)	+0.4 to +40 m/s -30 to +140 °C	±(0.2 m/s ±1% of mv) (+0.4 to +40 m/s)	0635 9640
Bendable vane probe (can be bent by 90°), Ø 60 mm, attachable to handle 0430 3545 or telescopic handle 0430 0941, for meas. on ventilation outlets	 Ø 60 mm	Vane	+0.25 to +20 m/s Oper. temp. 0 to +60 °C	±(0.1 m/s ±1.5% of mv) (+0.25 to +20 m/s)	0635 9440
Bendable vane probe (can be bent by 90°), Ø 100 mm, attachable to handle 0430 3545 or telescopic handle 0430 0941, for measurements on ventilation outlets	 Ø 100 mm	Vane	+0.2 to +15 m/s Oper. temp. 0 to +60 °C	±(0.1 m/s ±1.5% of mv) (+0.1 to +15 m/s)	0635 9340
Vane probe, Ø 16 mm, for stationary assembly, 3 m cable (PVC)	 250 mm Ø 16 mm		+0.4 to +60 m/s Oper. temp. 0 to +70 °C	±(0.2 m/s ±1% of mv) (+0.4 to +60 m/s)	0628 0036
High temperature vane probe, Ø 25 mm, with handle for continuous measurements up to +350°C	 560 mm Ø 25 mm	Vane Type K (NiCr-Ni)	+0.6 to +20 m/s -40 to +350 °C	±(0.3 m/s ±1% of fsv) (+0.6 to +20 m/s)	0635 6045

Accessories: Vane probes	Part no.
Professional telescopic handle for plug-in vane probes, max. 1 m long	0430 0941
Extension for telescopic handle, 2 m long please also order the 0409 0063 extension cable	0430 0942
Handle for plug-in vane probes	0430 3545

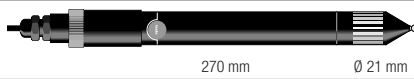


Thermal probes	Illustration	Probe type	Meas. range	Accuracy	Part no.
Robust hot bulb probe, Ø 3 mm, for measurements in the lower velocity range, 2m cable (PVC)	 150 mm Ø 3 mm	Hot bulb NTC	0 to +10 m/s -20 to +70 °C	±(0.03 m/s ±5% of mv) (0 to +10 m/s)	0628 0035
Affordable, robust hot bulb probe, Ø 3 mm, for measurements in the lower velocity range, with handle	 150 mm Ø 3 mm	Hot bulb NTC	0 to +10 m/s -20 to +70 °C	±(0.03 m/s ±5% of mv) (0 to +10 m/s)	0635 1549
Robust hot bulb probe, Ø 3 mm, with handle and telescopic handle for measurements in the lower velocity range	 850 mm Ø 3 mm	Hot bulb NTC	0 to +10 m/s -20 to +70 °C	±(0.03 m/s ±5% of mv) (0 to +10 m/s)	0635 1049
Quick-action hot wire probe, Ø 10 mm, with telescopic handle, for measurements in the lower velocity range with direction recognition	 760 mm Ø 10 mm	Hot wire NTC	0 to +20 m/s -20 to +70 °C	±(0.03 m/s ±4% of mv) (0 to +20 m/s)	0635 1041
Thermal anemometer probe, Ø 10 mm, w. telescopic handle, measures air flow in lab fume cupboards to DIN EN 14175	 760 mm Ø 10 mm	Hot wire NTC	0 to +5 m/s 0 to +50 °C	±(0.02 m/s ±5% of mv) (0 to +5 m/s)	0635 1047

Differential pressure probes	Illustration	Probe type	Meas. range	Accuracy	Overload	Static pressure	Zeroing	Part no.
Precision pressure probe, 100 Pa, in robust metal housing with impact protection, incl. magnet for fast attachment, to measure differential pressure and flow speeds (in combination with Pitot tube)		Differential pressure probe	0 to +100 Pa	±(0.3 Pa ±0.5% of mv)	50 hPa	100 hPa	to 20 Pa	0638 1347
Pressure probe, 10 hPa, in robust metal housing with impact protection incl. magnet for fast attachment, to measure differential pressure and flow speeds (in combination with Pitot tube)		Differential pressure probe	0 to +10 hPa	±0.03 hPa	50 hPa	1000 hPa	to 0,4 hPa	0638 1447
Pressure probe, 100 hPa, in robust metal housing with impact protection, incl. magnet for fast attachment, to measure differential pressure and flow speeds (in combination with Pitot tube)		Differential pressure probe	0 to +100 hPa	±0.5% of mv (+20 to +100 hPa) ±0.1 hPa (0 to +20 hPa)	300 hPa	1000 hPa	to 4 hPa	0638 1547

Prandtl's Pitot tubes	Illustration	Accuracy	Part no.
Pitot tube, 300 mm long, stainless steel, for measuring flow velocity	 300 mm Ø 4 mm	Oper. temp. 0 to +600 °C	0635 2245
Pitot tube, 350 mm long, Ø 7 mm, stainless steel, measures flow speed	 350 mm Ø 7 mm	Oper. temp. 0 to +600 °C	0635 2145
Pitot tube, 500 mm long, Ø 7 mm, stainless steel, measures flow speed	 500 mm Ø 7 mm	Oper. temp. 0 to +600 °C	0635 2045
Pitot tube, 1000 mm long, stainless steel, measures flow speed	 1000 mm Ø 7 mm	Oper. temp. 0 to +600 °C	0635 2345

Straight Pitot tubes	Illustration	Probe type	Meas. range	Part no.
Pitot tube, stainless steel, 360 mm long, for measuring flow velocity incl. temperature, for pressure probes 0638 1347/..1447/..1547	 360 mm Ø 8 mm	Type K (NiCr-Ni)	-40 to +600 °C	0635 2040
Pitot tube, stainless steel, 500 mm long, for measuring flow velocity incl. temperature, for pressure probes 0638 1347/..1447/..1547	 500 mm Ø 8 mm	Type K (NiCr-Ni)	-40 to +600 °C	0635 2140
Pitot tube, stainless steel, 1000 mm long, for measuring flow velocity incl. temperature, for pressure probes 0638 1347/..1447/..1547	 1000 mm Ø 8 mm	Type K (NiCr-Ni)	-40 to +600 °C	0635 2240

Accessories: Pressure probes	Part no.
Connection hose, silicone, 5m long max. load 700 hPa (mbar)	0554 0440
Cable, 1.5 m long, connects probe with plug-in head to meas. instrument PUR coating material	0430 0143

Comfort level measurement	Illustration	Probe type	Meas. range	Accuracy	Part no.
3-function probe for simultaneous measurement of temperature, humidity and velocity. With plug-in head, 0430 0143 connection cable required	 270 mm Ø 21 mm	Hot bulb Testo humid. sensor, cap. NTC	0 to +10 m/s 0 to +100 %RH -20 to +70 °C	±(0.03 m/s ±5% of mv)(0 to 10 m/s) ±2 %RH (+2 to +98 %RH) ±0.4 °C (0 to +50 °C) ±0.5 °C (remaining range)	0635 1540
Comfort level probe for measuring degree of turbulence, with telescopic handle and stand. Fulfills EN 13779 requirements	 890 mm Ø 90 mm	Hot wire NTC	0 to +5 m/s 0 to +50 °C	±(0.03 m/s ±4% of mv) (0 to +5 m/s) ±0.3 °C (0 to +50 °C)	0628 0009
Wet Bulb Globe temperature probe to assess workplaces subjected to heat, in accordance with ISO 7243 or DIN 33403, incl. WBGT case	 Ø 150 mm		0 to +120 °C	In accordance with ISO 7243 or DIN 33403	0635 8888 ID No. 0699 4239/1

Accessories: 3-Function probe	Part no.
Cable, 1.5 m long, connects probe with plug-in head to meas. instrument PUR coating material	0430 0143



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Measurement Engineering for Restaurants, Catering and Supermarkets

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Multi-Function Measuring Instruments

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