



Measuring Instruments For Indoor Air Quality, Light And Sound



CO₂ measurement engineering

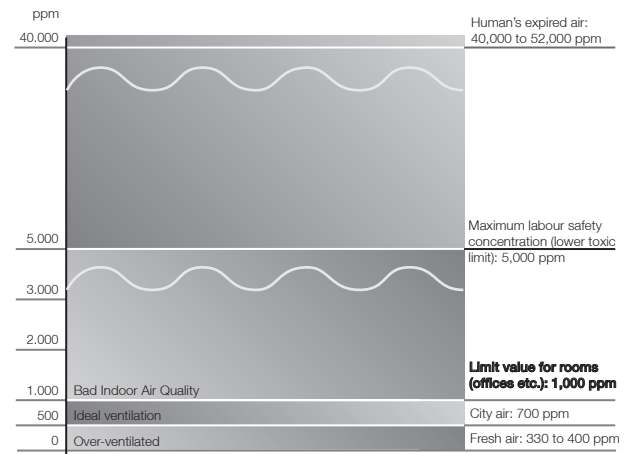
Why CO₂ measurement?

CO₂ concentration is used as an indicator when assessing indoor air quality. If the CO₂ concentration in indoor air is too high (limit value: 1000 ppm), the air feels "stuffy and stale".

Bad air quality in rooms (e.g. offices) can lead to tiredness, lack of concentration and illness (Sick Building Syndrome SBS) and is caused, in many cases, by insufficient ventilation.

The CO₂ concentration in demand controlled ventilating (DCV) systems is used to regulate the supply of fresh air. Stationary CO₂ transmitters are used and should be checked on a regular basis using hand-held measuring instruments.

CO₂ concentrations



The Light Parameter

Approxiamtely 80% of all sensations are experienced by the eye. Light is required for this purpose.

Approximately 25% of human energy is needed for the seeing process.

Spectral response of the eye

Light is made up of very high electromagnetic oscillation between 380 and 770 nm. They are experienced by the eye as light.

Light intensities

Humans are day beings, i.e. we are used to a light intensity such as that which is available during the day. Values lie between approx. 5000 Lux on a dull Winter's day and approx. 100 000 Lux on a sunny Summer's day.

The light intensity of artificial lights is usually between 100 and 1000 Lux.

Effects

Fatigue on account of too little light occurs more in the organism as a whole than in the eye itself. For this reason, insufficient or bad lighting conditions cannot be identified as the cause of accidents or fatigue.

According to documentation available approx. 30% of all accidents result directly or indirectly from inadequate lighting. In the interest of accident prevention it is imperative that steps are taken to monitor the situation.

Different light intensities are recommended by standards bodies, depending on the task. Light intensities of approx. 100 to 250 Lux are sufficient for simple tasks. A minimum of 1000 Lux is required for precision work.

<p>Light intensity Unit: Lux (lx) Light intensity is the ratio of the light flux on an area to the area.</p>	<p>Light flux: Unit: lumen (lm) Light flux is the total radiation power emitted from a light source and photometrically assessed.</p>
$\text{Light intensity (lx)} = \frac{\text{Light flux (lm)}}{\text{Area (m}^2\text{)}} \quad E = \frac{\Phi}{A}$	

The Sound parameter

Sound waves are fluctuations in air pressure

If they are audible to the human ear we talk about audible sound. The fluctuations in pressure occurring with audible sound are extremely low. At a normal pressure of 1013 mbar even changes in the µPa range can stimulate the human ear. A suitable pressure sensor with the appropriate sensitivity is the microphone.

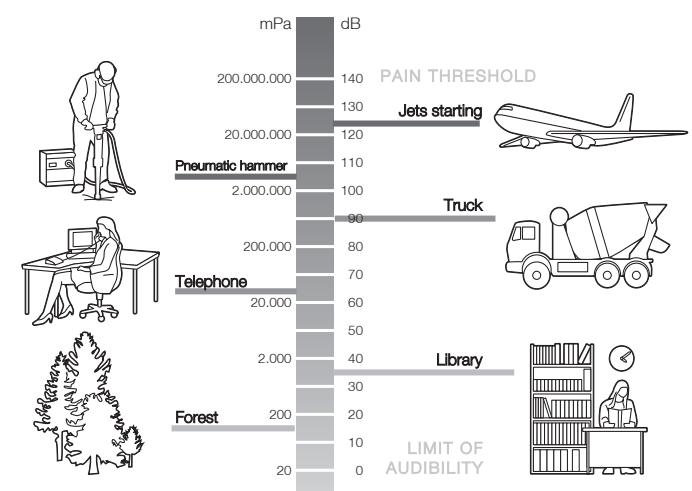
Sound level meters have been designed for measurements in the free field. There is also a free field if the level falls by 6 dB per duplication of the distance from the source. This is the case in most rooms.

Example:

- Office with carpet, curtains and partitions = Free field !
- Cellar with concrete walls, without furniture, highly reverberant = Reverberant field !

Measuring tips

Measuring conditions are ideal if there are absolutely no interfering objects in the sound field. This would be the case, for example, on top of a mountain. Because there are no walls or ceilings on which sound can be reflected, free dispersion is guaranteed (free field). In a closed room there is usually a wall opposite the noise source. This can cause reflections which distort the measured result (reverberant field).



Contents

Measuring Instruments

Practical measuring instruments for Indoor Air Quality, Light and Sound

testo 316-1	Detector for leaks in natural gas pipes	4
testo 317-1	Flue gas spillage detector	4
testo 317-2	Gas leak detector	5
testo 317-3	Ambient carbon monoxide warning	5
testo gas detector	Gas detector	6
testo 315-2	CO warning instrument	7
testo 315-1	Versatile CO measurement – For safety and service	8
testo 535	CO2 instrument with probe for HVAC fitters and engineers	10
testo 545	Light meter with location management	11
testo 815	Sound level meter	12
testo 816	The Accuracy Class 2 Set	12
testo 318-1 S	Fiberscopes – Versatile tools for fast diagnosis	13
testo 318-2 S	Fiberscopes with probe diameter of 10 mm	13
testo 318-1	Fiberscope	14
testo 318-2	Fiberscope	14
testo 318-6	Fiberscope	14

Accessories

Printer		Page	Software and Accessories		Page
Testo printer	Testo printer	15	ComSoft 3 - Professional	Professional Software including Data Filing	16
			Ethernet adapter		
			Ethernet adapter	With Testo measuring instruments in Ethernet	18

Measurement systems

testo 400	The reference measuring instrument for A/C and ventilation systems	Page 19

testo 316-1

Detector for leaks in natural gas pipes

The testo 316-1 gas leak detector quickly detects even the smallest leaks.

- Flexible measurement probe for hard to reach locations
- Optical and audible alarms signal when limits are exceeded
- TopSafe case protects from dirt and impact (optional)
- DVGW approval



testo 316-1, testo 316-1, electronic gas leak detector with flexible measurement probe and battery

Part no.
0632 0316

Technical data

Probe type	Semi-conductor sensor
Meas. range	0 to 10,000 ppm CH ₄

Battery type	9V block battery
Battery life	> 5 h
Dimensions	190 x 57 x 42 mm
Weight	Approx. 300 g
Material/Housing	ABS
Warranty	2 years
1st alarm limit: from 200 ppm CH ₄ 2nd alarm limit: 10,000 ppm CH ₄	

Accessories

Part no.

TopSafe for testo 316, indestructible protection case incl. stand, protects from dirt and impact	0516 0189
Case for instrument and probes For safe and orderly storage	0516 0182
Transport case (plastic) For transport and secure storage of measuring instrument and accessories	0516 3120
Accessories set (for instrument without TopSafe) includes multi-function clip, carrier loop, probe holder	0554 0550

testo 317-1

Flue gas spillage detector

The testo 317-1 flue gas spillage detector reliably detects escaping heating gases. The practical instrument immediately gives off a visual and audible alarm. Therefore, it is not necessary to actually see the detector. The bendable probe facilitates applications in confined areas.

- Reliable recognition of escaping flue gases
- Bendable measurement probe for points which are difficult to access
- Audible and visual alarm
- DVGW approved



teto 317-1, electronic flue gas spillage detector with flexible probe, incl. battery

Part no.
0632 3170

Technical data

Measuring medium	Ambient air
Reaction time	2 s
Battery type	3 AAA micro batteries
Dimensions	128 x 46 x 18 mm
Weight	300 g
Display	Visual/audible
Warranty	2 years

Diameter/Probe pipe tip	Ø 10 mm
Length of probe pipe tip	35 mm
Length of probe pipe	200 mm

testo 317-2

Highly practical gas leak detector for fast checks on gas pipe connections, with visual bar display.

testo 317-2, Gas leak detector including case with belt clip and hand loop, self-test function and batteries

Part no.
0632 3172

Technical data

Meas. range	0 to 20.000 ppm CH ₄ 0 to 10.000 C ₃ H ₈
Display	8 segment trend display
Alarm thresholds	10.000 ppm CH ₄ 5000 C ₃ H ₈
Lower response thresholds	100 ppm CH ₄ 50 C ₃ H ₈
t ₉₀	<5 s
Heat-up time	60 s

Gas leak detector

- Shows gas concentration in visual bar display
- Sensor self-test following switch-on
- Audible confirmation of readiness to operate
- Increasing alarm sounds with increasing gas concentration
- Continuous sound if alarm threshold is exceeded
- Battery monitoring with optical display



testo 317-3

The testo 317-3 CO monitor detects the presence of carbon monoxide in the surrounding area and warns the user both visually and audibly about dangerous gas concentrations e.g. when installing and servicing gas heaters.

testo 317-3, CO Monitor testo 317-3 incl. leather bag, headphones, hand strap, self-test function, sampler

Part no.
0632 3173

Technical data

Meas. range	0 to +1999 ppm
Accuracy	±10 ppm (0 to +99 ppm)
±1 digit	±10 % (+100 to +499 ppm) ±20 % (>+500 ppm)
Resolution	1 ppm

Ambient carbon monoxide warning

- 3 year warranty on CO cell
- Visual and audible alarm
- No zero phase, instrument can be used immediately
- Adjustable alarm threshold
- CO zeroing at site

Oper. temp.	-5 to +45°C
Battery type	2 batteries Type AAA
Battery life	150 h (with beeper switched off)
Reaction time	40 s
Warranty	2 years on the instrument 3 years on the CO sensor



testo gas detector

According to DVGW leaflet G 465-4, gas detectors are approved for aboveground gas detection up to the "lower explosive limit (LEL)". Testo's gas detector is a multi-range gas detector for the gas types methane, propane and hydrogen. Gas concentrations are measured by the semi-conductor sensor in the ppm range and are shown in the display with a resolution of 1 ppm.

Gas detector incl. flexible probe extension, rechargeable battery and mains unit for mains operation and battery recharging

Part no.
0632 0323

Gas detector

- Audible signals if approaching lower explosion limit
- Continuous tone and warning in display if explosion limit is reached.



Technical data

Display range	Methane CH ₄	1 to 999 ppm, 0.1 to 4.4 vol. %
	Propane C ₃ H ₈	1 to 999 ppm, 0.1 to 1.9 vol. %
	Hydrogen H ₂	1 to 999 ppm, 0.1 to 4.0 vol. %
Resolution	1 ppm / 0.1 vol. %	
First reaction	>10 ppm	
Voltage supply	Built-in battery block, NiMH, 1600 mAh	
Ex-Protection	Sensor intrinsically-safe in accordance with DMT test institute	
Battery life	>8 h	

Reaction time	2-3 s
Oper. temp.	-15 to +40 °C
Storage temp.	-25 to +70 °C
Dimensions	190 x 40 x 28 mm
Weight	320 g
Warranty	2 years on instrument, 1 year on sensor

testo 315-2

CO warning instrument

Use testo 315-2 to check the CO level in ambient air. Even low concentrations of the highly poisonous gas are detected. In this way, you can judge whether the burner flue gases are being fully drawn off.

- Reliable warning of CO poisoning
- DVGW approval
- Adjustment of different alarm limits
- Printout with date/time and recommended value (alarm limit)
- With calibration protocol
- TopSafe, protection case for tough applications
- Quick and practical documentation of data on location, printout with date/time and recommended value (alarm limit)

testo 315-2, CO warning instrument, with battery and calibration protocol

Part no.
0632 0317



Accessories	Part no.
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Transport and Protection	
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TopSafe (protection case), with bench stand Protects instrument from dirt and impact	0516 0443
Magnetic bench stand suitable for TopSafe 0516 0443 For positioning on boilers, for example	0554 0407
Multi-function clip (for instrument with TopSafe) consisting of multi-function clip and magnetic holder	0554 0398
Case For secure storage of measuring instrument	0516 0191
Transport case (plastic) For transport and secure storage of measuring instrument and accessories	0516 3120

Printer and Accessories	
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Testo printer with cordless IRDA and infrared interface, 1 roll of thermal paper and 4 round cell batteries	0554 0547
Recharger for printer (with 4 standard rech. batteries) Rechargeable batteries are recharged externally	0554 0110
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

Additional Accessories and Spare Parts	
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9V rech. battery for instrument Instead of battery	0515 0025
Recharger for 9V rechargeable battery For external recharging of 0515 0025 battery	0554 0025
CO flue gas probe to measure CO in flue gas, with exchangeable NOx filter and pressure reducer	0554 3154
Spare particle filter (10 off) For CO flue gas probe	0554 0040
Filter granulates (refill set) to renew NOx filter in CO flue gas probe	0554 3167

Calibration Certificates	
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ISO calibration certificate/Flue gas Calibration points 2.5% O ₂ ; 100 and 1000 ppm CO; 800 ppm NO; 80 ppm NO ₂ ; 1000 ppm SO ₂	0520 0003
ISO calibration certificate/CO CO probes; calibration points 0; 80 ppm	0520 0039

Recommended set	
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testo 315-2, CO warning set	
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- CO warning instrument, with battery and calibration protocol (Part no. 0632 0317)
- TopSafe (protection case), with bench stand (Part no. 0516 0443)
- Case (Part no. 0516 0191)

Technical data		
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Meas. range	0 to +2000 ppm CO	Oper. temp.	+5... +45 °C
Accuracy	±10 ppm CO (0 to +100 ppm CO)	Battery type	9V block battery
±1 digit	±10% of mv (+100 to +2000 ppm CO)	Dimensions	215 x 68 x 47 mm
		Weight	400 g
		Display	LCD, 2 lines
		Material/Housing	ABS
Resolution	1 ppm CO	Warranty	2 years
Alarm limits	50/100/500 ppm		
Zero point adjustment	Automatically when switched on		

testo 315-1

Versatile CO measurement – For safety and service

testo 315-1 provides you with all the measurement functions needed to service gas heating systems. While measuring draught, pressure difference, temperature or ionisation current, the instrument can also simultaneously show the CO level in ambient air. In this way, you always have the system's safety under your watchful eye.

- Reliable CO warning
- Three alarm thresholds are freely adjustable
- Audible and visual alarm
- Automatic zero point adjustment
- Two temperature sockets to compare flow and return temperature
- Compensation of deviations in readings due to temperature
- TopSafe case protects from dirt, water and impact (optional)



testo 315-1, CO warning and servicing instrument for gas heating systems, with battery and calibration protocol

Part no.
0632 0315

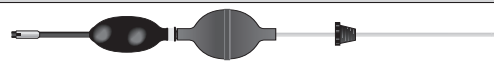
Recommended set

The testo 315-1 service set with printout on-site

- CO warning and servicing instrument for gas heating systems, with battery and calibration protocol (Part no. 0632 0315)
- Pressure set with flue draught probe (Part no. 0554 3150)
- Cables for measuring ionisation current (2 off) incl. clamp testing tips, cable 1 m long (Part no. 0554 0551)
- Pipe wrap probe with Velcro strip, for temperature measurement on pipes with diameter up to max. 120 mm, Tmax +120°C (Part no. 0628 0020)
- Pipe wrap probe with Velcro strip, for temperature measurement on pipes with diameter up to max. 120 mm, Tmax +120°C (Part no. 0628 0020)
- Testo printer with cordless IRDA and infrared interface, 1 roll of thermal paper and 4 round cell batteries (Part no. 0554 0547)
- TopSafe (protection case), with bench stand (Part no. 0516 0443)
- Transport case (plastic) (Part no. 0516 3120)

More probes

CO flue gas probe to measure CO in flue gas, with exchangeable NOx filter and pressure reducer



Meas. range Accuracy t_{99} Part no.

0554 3154

Pressure set with flue draught probe



0554 3150

Cables for measuring ionisation current (2 off) incl. clamp testing tips, cable 1 m long



0554 0551

Pipe wrap probe with Velcro strip, for temperature measurement on pipes with diameter up to max. 120 mm, Tmax +120°C



-50 to +120 °C Class 1 90 s 0628 0020

Fixed cable

395 mm

Accessories	Part no.
Transport and Protection	
TopSafe (protection case), with bench stand Protects instrument from dirt and impact	0516 0443
Magnetic bench stand suitable for TopSafe 0516 0443 For positioning on boilers, for example	0554 0407
Multi-function clip (for instrument with TopSafe) consisting of multi-function clip and magnetic holder	0554 0398
Case For secure storage of measuring instrument	0516 0191
Transport case (plastic) For transport and secure storage of measuring instrument and accessories	0516 3120
Printer and Accessories	
Testo printer with cordless IRDA and infrared interface, 1 roll of thermal paper and 4 round cell batteries	0554 0547
Recharger for printer (with 4 standard rech. batteries) Rechargeable batteries are recharged externally	0554 0110
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
Additional Accessories and Spare Parts	
9V rech. battery for instrument Instead of battery	0515 0025
Recharger for 9V rechargeable battery For external recharging of 0515 0025 battery	0554 0025
Spare particle filter (10 off) For CO flue gas probe	0554 0040
Filter granulates (refill set) to renew NOX filter in CO flue gas probe	0554 3167
Calibration Certificates	
ISO calibration certificate/Flue gas Calibration points 2.5% O ₂ ; 100 and 1000 ppm CO; 800 ppm NO; 80 ppm NO ₂ ; 1000 ppm SO ₂	0520 0003
ISO calibration certificate/CO CO probes; calibration points 0; 80 ppm	0520 0039

Technical data			
Meas. range	0 to +2000 ppm CO	-200 to +200 hPa	-40 to +40 hPa
Accuracy ±1 digit	±10% of mv (+100 to +2000 ppm CO) ±10 ppm CO (0 to +100 ppm CO)	±0.5 hPa (-49.9 to +49.9 hPa) ±1.5 hPa (-200 to -50 hPa) ±1.5 hPa (+50 to +200 hPa)	±1.5% of mv (-40 to -3 hPa) ±1.5% of mv (+3 to +40 hPa) ±0.03 hPa (-2.99 to +2.99 hPa)
Resolution	1 ppm CO (0 to +2000 ppm CO)	0.1 hPa (-200 to +200 hPa)	0.01 hPa (-40 to +40 hPa)

Meas. range	-40 to +600 °C	-100 to +100 µA	
Accuracy ±1 digit	±0.5% of mv (+100 to +600 °C) ±0.5 °C (0 to +99 °C)	±3 µA (-100 to +100 µA)	
Resolution	0.1 °C (-40 to +600 °C)	1 µA (-100 to +100 µA)	

Oper. temp.	+5 to +45 °C
Storage temp.	-20 to +50 °C
Display	LCD, 2 lines
Battery type	9V block battery
Battery life	16 h
Dimensions	215 x 68 x 47 mm
Weight	400 g
Material/Housing	ABS
Warranty	2 years

testo 535

CO2 instrument with probe for HVAC fitters and engineers

testo 535, the efficient CO₂ measuring instrument for measuring indoor air quality. Bad air quality in rooms can lead to tiredness, lack of concentration and illness (Sick Building Syndrome) due to high CO₂ concentration (greater than 1000 ppm)

You can print the data on location with date and time on the Testo printer. The TopSafe case protects the instrument from dust, dirt and impact (optional).

- Long-term monitoring based on maximum and mean calculation
- Long-term stable 2 channel infrared sensor
- Highly accurate, highly efficient
- Repeated calibration is unnecessary



testo 535, CO₂ measuring instrument with permanently attached probe, batteries and calibration protocol

Part no.
0560 5350

Accessories	Part no.
Transport and Protection	
TopSafe (protection case) with bench stand Protects instrument from impact and dirt	0516 0183
Transport case (plastic) for instrument and accessories For safe and orderly storage	0516 0184
Case For secure storage of measuring instrument	0516 0191
Printer and Accessories	
Testo printer with cordless IRDA and infrared interface, 1 roll of thermal paper and 4 round cell batteries	0554 0547
Recharger for printer (with 4 standard rech. batteries) Rechargeable batteries are recharged externally	0554 0110
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
Additional Accessories and Spare Parts	
Accessories set (for instrument without TopSafe) includes multi-function clip, carrier loop, probe holder	0554 0550
Accessories set (for instrument with TopSafe) includes multi-function clip and probe holder	0554 0552
9V rech. battery for instrument Instead of battery	0515 0025
Recharger for 9V rechargeable battery For external recharging of 0515 0025 battery	0554 0025
Plug-in mains unit For mains operation and recharging battery in instrument	0554 0088
Calibration Certificates	
ISO calibration certificate/CO ₂ CO ₂ probes; calibration points 0; 1000; 5000 ppm	0520 0033

Technical data	
Probe type	2 channel infrared sensor
Meas. range	0 to +9999 ppm CO ₂
Accuracy ±1 digit	±(50 ppm CO ₂ ±2% of mv) (0 to +5000 ppm CO ₂) ±(100 ppm CO ₂ ±3% of mv) (+5001 to +9999 ppm CO ₂)
Resolution	1 ppm CO ₂
Measuring medium	Air
Oper. temp.	0 to +50 °C
Storage temp.	-20 to +70 °C
Battery type	9V block battery
Battery life	6 h
Dimensions	190 x 57 x 42 mm
Weight	300 g
Display	LCD, 2 lines
Material/Housing	ABS
Warranty	2 years
Auto Off	10 min

testo 545

Light meter with location management

In order to have good quality light, luminous intensity in the workplace, hospitals, offices or schools has to fulfill specific minimum guidelines. This can be checked using testo 545.

A location list with individual luminous intensity values can be saved and later connected to form a curve using software. This "light profile" provides information on the uniformity of the lighting.

- Multi-point or timed mean calculation
- Stores up to 99 file locations
- Logger function (3000 readings)
- Quick documentation on site on the Testo printer

testo 545, light meter, incl. probe, battery and calibration protocol

Part no.
0560 0545



Accessories	Part no.
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Transport and Protection	
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TopSafe (indestructible protection case) incl. bench stand and belt clip IP 65, protects instrument from water, dust, impact, scratches, chemicals	0516 0441
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Transport case (plastic) for measuring instrument, probes and accessories Now bigger for safe and orderly storage	0516 0445
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Case For secure storage of measuring instrument	0516 0191
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Printer and Accessories	
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Testo printer with cordless IRDA and infrared interface, 1 roll of thermal paper and 4 round cell batteries	0554 0547
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Recharger for printer (with 4 standard rech. batteries) Rechargeable batteries are recharged externally	0554 0110
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Spare thermal paper for printer (6 rolls)	0554 0569
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Spare thermal paper for printer (6 rolls), permanent ink Measurement data documentation legible for up to 10 years	0554 0568
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Software and Accessories	
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ComSoft 3 - Professional with data management Incl. database, analysis and graphics function, data analysis, trend curve	0554 0830
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RS232 cable Connects instrument to PC (1.8 m) for data transfer	0409 0178
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Ethernet adapter, RS 232 - Ethernet incl. software driver, mains unit Facilitates data communication in network	0554 1711
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Electrical isolation for RS232 (connects measuring instrument to PC)	0554 0006
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Calibration Certificates	
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ISO calibration certificate/Light Lux probes; calibration points 500; 1000; 2000 Lux	0520 0010
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Recommended set	
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testo 545, Comfort Set incl. printer	
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- testo 545, light meter, incl. probe, battery and calibration protocol (Part no. 0560 0545)
- TopSafe (indestructible protection case) incl. bench stand and belt clip (Part no. 0516 0441)
- Testo printer with cordless IRDA and infrared interface, 1 roll of thermal paper and 4 round cell batteries (Part no. 0554 0547)
- Transport case (plastic) for measuring instrument, probes and accessories (Part no. 0516 0445)

Technical data			
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Meas. range	0 to +100000 Lux	Display	LCD, 4 lines
Accuracy	Accuracy to DIN 5032, Part 6: f1 = 8% = V (Lambda) adaptation f2 = 5% = cos like rating	PC	RS232 interface
±1 digit		Conn.	Fixed cable, coiled
		Memory	3000
		Oper. temp.	0 to +50 °C
		Storage temp.	-20 to +70 °C
		Battery type	9V block battery
		Battery life	50 h
Resolution	1 Lux (0 to +32000 Lux) 10 Lux (0 to +100000 Lux)	Dimensions	220 x 68 x 50 mm
		Weight	500 g
		Material/Housing	ABS
		Warranty	2 years

testo 815 / testo 816

Sound level measurement – To DIN/IEC 60651, Class 2

The ideal instrument for daily use. Whether it is for air conditioning or heating, disco noise, machine noise or noise in combustion systems, testo 815 is the ideal partner.

Additional benefits of testo 816:

When compared to testo 815, the larger model has additional features which make it ideal for assessors, workplace measurements and for measuring industry and environmental noise.

Common features:

- Accuracy Class 2 to IEC 60651
- Easy to adjust (adjustment screwdriver included)
- Frequency weighting in accordance with characteristic curve A and C
- Maximum and minimum value memory
- Built-in tripod knuckle screw (1/4 inch)
- High accuracy (Class 2)
- Switchable time weighting Fast/Slow

Additional benefits of testo 816:

- Automatic range switchover
- Backlit display
- Mains unit connection
- Bar graph display
- AC output for connecting recorders and amplifiers
- DC output with 10 mV/dB for connecting recorders or dataloggers



testo 815

testo 815, Sound level meter, accuracy class 2, incl. microphone, wind protection cap and battery

Part no.
0563 8155

testo 816

testo 816, Sound level meter, accuracy class 2, incl. microphone, wind protection cap, battery, stereo jack 3.5 mm, in a practical measurement case

Part no.
0563 8165

Accessories

Part no.

Accessories

Calibrator, for regular calibration of testo 815, testo 816 0554 0452

Power unit 230 V/ 8 V/ 1 A, for instrument (European plug) For mains operation and battery recharging 0554 1084

Calibration Certificates

ISO calibration cert./Sound pressure Calibration points 94 dB(A); 104 dB(A); 114 dB(A) at different frequencies 0520 0111

Technical data

	testo 815	testo 816
Meas. range	+32 to +130 dB	+30 to +130 dB
Accuracy ±1 digit	Class 2 ±1.0 dB	Class 2 ±1.0 dB
Resolution	0.1 dB	0.1 dB
Oper. temp.	0 to +40 °C	0 to +40 °C
Storage temp.	-10 to +60 °C	-10 to +60 °C
Battery type	9V block battery	9V block battery
Battery life	70 h	50 h
Weight	195 g	315 g
Dimensions	255 x 55 x 43 mm	309 x 68 x 50 mm
Warranty	2 years	2 years
Section meas. ranges: 30 to 80 dB; 50 to 100 dB; 80 to 130 dB Time weighting: FAST 125 ms setting / SLOW 1 s setting Pressure dependency: -0.0016 dB/hPa		

Technical data

	Sound level calibrator
Battery type	9V block battery
Battery life	40 h
Warranty	2 years
Accuracy	±0.5 dB in accordance with Class 2 to IEC 60942
Sound pressure level: 94 dB(A)/104 dB(A), adjustable Frequency: 1000 Hz Distortion factor: less than 3%	
Also suitable for 1/2 and 1 inch microphones by other manufacturers	



testo 318-2 S / testo 318-1 S
Fiberscopes – Versatile tools for fast diagnosis

The testo 318-1 S and 318-2 S fiberscopes, with 914 mm and 457 mm long probes, for fast and easy diagnosis of numerous maintenance and repair problems. Visual inspections can be easily and quickly made on hard-to-access points without the need for complicated technology or mounting.

- One hand operation with light switch and focus ring
- Powerful halogen lamp for optimum illumination
- Optional, clip-on 45 degree mirror makes inspection a snap
- Fast, easy check, even for the smallest openings


testo 318-2 S

testo 318-2 S, Fiberscope, 457 mm long probe/Ø 6 mm, halogen lamp and batteries

Part no.

0632 3182

testo 318-1 S

testo 318-1 S, Fiberscope, 914 mm long probe/Ø 6 mm, halogen lamp and batteries

Part no.

0632 3181

Technical data

No. of pixels: 6,000
 Field of view: 40°
 Min. focus distance: 19 mm
 Operating and storage temperature: -23 to +49°C
 Shaft tip diameter: 6 mm
 Max. bending radius: 203 mm
 Light source: Halogen lamp (3220 K)
 Housing: ABS (black)
 Dimensions (handle): 152 x 36 x 62 mm
 Weight: Approx. 227 g
 Battery type: 2 AA, 1.5V

Warranty:

Excludes damage caused by misuse, accidents or modifications to the product. Warranty is void if the user opens the handle for any reason.

Important information:

- Never use on or near live parts
- Never use on or near live electrical circuits
- Never use in explosive atmospheres
- Not intended for medical or veterinary use
- Avoid over-bending the shaft
- Do not open the handle for any reason
- No user serviceable parts inside
- Do not submerge the handle in any liquid
- Do not immerse the shaft in any solvent for extended periods of time

Accessories

Spare halogen lamp Extremely powerful for optimum illumination, even in dark areas	0213 0017
Attachable clip incl. magnet, Ø 6 mm e.g. for fast collection of small, loose metal parts in ducts, shafts etc.	0554 1324
Clip on 45° mirror, Ø 6 mm For visual inspections at hard-to-access points	0554 1325

**testo 318-1 / testo 318-2 /
testo 318-6**

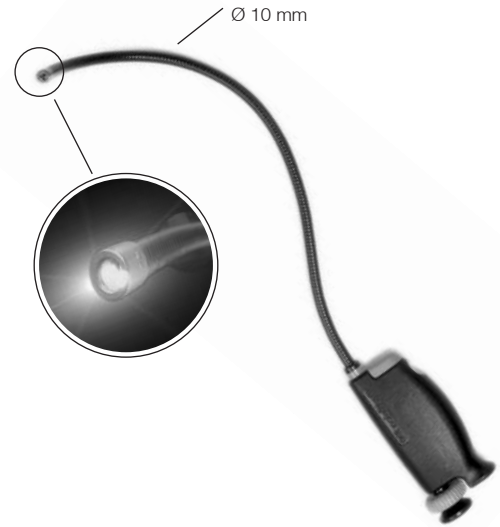
The remarkable testo 318-1 fiberscope, probe length 914 mm, gives you an inside edge on diagnosing hundreds of maintenance and repair problems. The revolutionary flexible shaft adjusts into almost any position.

The remarkable testo 318-2 fiberscope, probe length 457 mm, gives you an inside edge on diagnosing hundreds of maintenance and repair problems. The revolutionary flexible shaft adjusts into almost any position.

The testo 318-6 fiberscope, with probe length of 1830 mm, for fast and easy diagnosis of numerous maintenance and repair problems. Visual inspections can be easily and quickly made on hard-to-access points without the need for complicated technology or mounting.

Fiberscopes with probe diameter of 10 mm

- Powerful halogen lamp for optimum illumination
- Can be used for all types of diagnosis
- Fast inspection with clip-on 45° mirror (optional)
- One hand operation with light switch and focus ring



testo 318-1	
testo 318-1 Set includes: fiberscope, probe 914 mm long/Ø 10 mm, halogen lamp, batteries	
Part no.	
0632 0318	

testo 318-2	
testo 318-2 Set includes fiberscope, probe length 457 mm/Ø 10 mm, halogen lamp, batteries	
Part no.	
0632 0319	

testo 318-6	
Complete 318-6 Set consisting of fiberscope, probe 1830 mm long/Ø 10 mm, halogen lamp, clip-on 45° mirror, clip with magnet, spare lamp, batteries and hard shell case	
Part no.	
0563 3186	

Technical data	Warranty:
No. of pixels: 6,000	Excludes damage caused by misuse, accidents or modifications to the product. Warranty is void if the user opens the handle for any reason.
Field of view: 40°	Important information:
Min. focus distance: 19 mm	- Never use on or near live parts
Operating and storage temperature: -23 to +49°C	- Never use on or near live electrical circuits
Shaft tip diameter: 10 mm	- Never use in explosive atmospheres
Max. bending radius: 203 mm	- Not intended for medical or veterinary use
Light source: Halogen lamp (3220 K)	- Avoid over-bending the shaft
Housing: ABS (black)	- Do not open the handle for any reason
Dimensions (handle): 152 x 36 x 62 mm	- No user serviceable parts inside
Weight: Approx. 227 g	- Do not submerge the handle in any liquid
Battery type: 2 AA 1.5 V	- Do not immerse the shaft in any solvent for extended periods of time

Accessories	
Spare halogen lamp Extremely powerful for optimum illumination, even in dark areas	0213 0017
Clip on 45° mirror, Ø 10 mm For inspections at hard to access points	0554 1320
Attachable clip incl. magnet, Ø 10 mm e.g. for quickly gathering small, loose metal parts in ducts, shafts etc.	0554 1321

Testo printer

The versatile printer with IRDA and infrared interface saves time since it stores the print data before printing it. Data is sent within two seconds. The measuring instrument is then immediately able to operate.

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

Testo printer with cordless IRDA and infrared interface, 1 roll of thermal paper and 4 round cell batteries

Part no.

0554 0547

Versatile infrared printer

Technical data

Printer type	Infrared-controlled thermal printer, adjustable contrast, prints graphics
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 round cell batteries, 1.5 V or rechargeable batteries
Weight	430 g

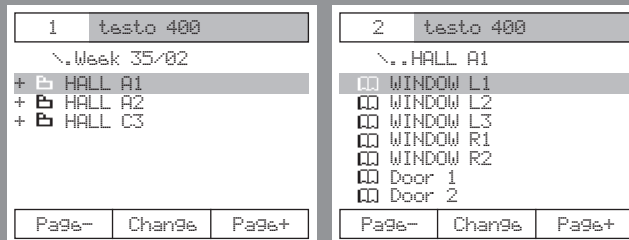
Accessories

	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
Recharger for printer (with 4 standard rech. batteries), Rechargeable batteries are recharged externally	0554 0110

structure - measure - print on-site

Structuring measurement data:

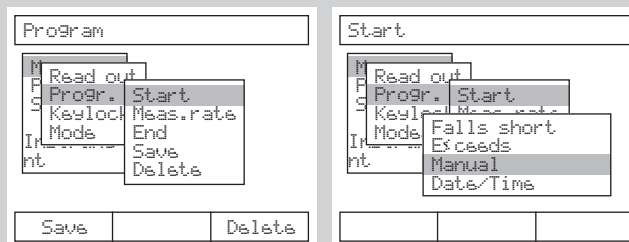
- Readings can be saved at individual locations
- with guarantee of refinding.
- The "tree structure" - folders, sub-folders and measurement protocols - guarantees an uncomplicated view.
- Practical additional information such as measurement information or required value input can be saved with the location.
- 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:

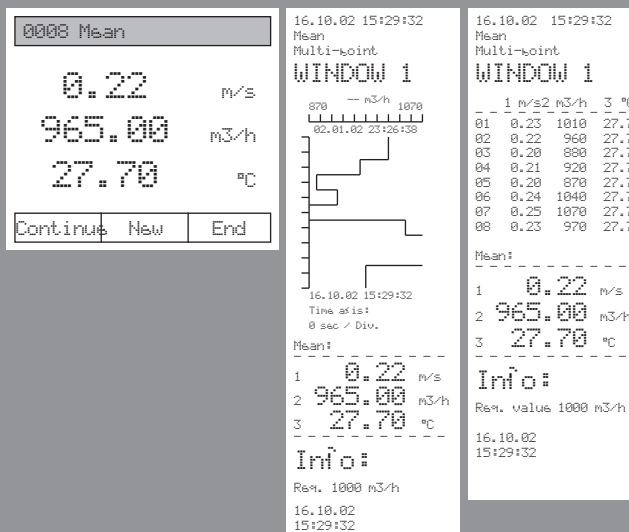
User-friendly data logging, not only for spot checks

- **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:

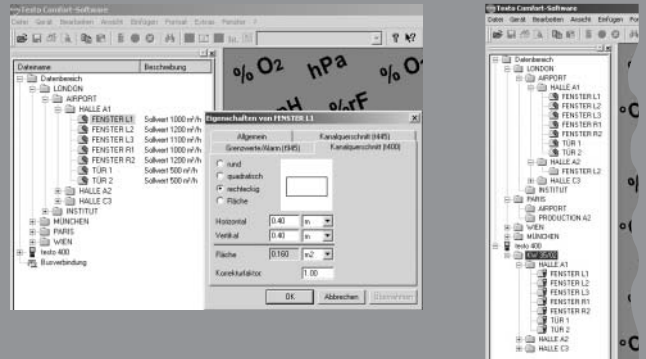
- The individual measurement protocol can be either saved or deleted following analysis.
- The printer immediately supplies the documentation required.
- The attachable comfort printer also offers graphical analysis options.
- Thermal paper for long-term legible measurement data documentation of up to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



prepare - analyse - file - document

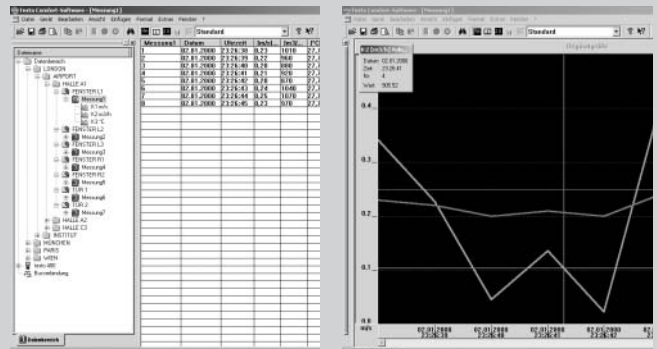
Easy reading management:

- 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.



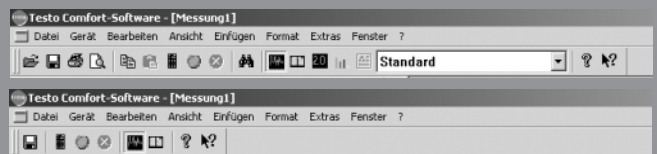
Comprehensive analysis, easy filing:

- 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:

- Data loggers from the testo 175, testo 177 and testostor 171 series
- testo 945, testo 645, testo 445 and testo 545 monitoring instruments
- testo 950, testo 650, testo 400 reference measuring instruments (also as version for testo 454 and testo 350)

ComSoft 3 - Professional with data management

Incl. database, analysis and graphics function, data analysis, trend curve (without interface)

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, storage halls, 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 networks

Ethernet adapter, RS 232 - 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 datalogger. 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 handheld 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 650, testo 950	
ComSoft 3 - Professional with data management, Incl. database, analysis and graphics function, data analysis, trend curve (without interface)	0554 0830
RS232 cable, Connects instrument to PC (1.8 m) for data transfer	0409 0178

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

testo 400
The reference measuring instrument for A/C and ventilation systems

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 to 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 DIN EN 27726, DIN 1946 Teil 2, ISO
- Assessment of volume flow measurements with calculation of total uncertainty of measurement in accordance with EN 12599 with VAC module (optional)

- With VAC module for velocity measurement in m/s, m³/h duct
- Clear graphics display
- 3 user defined function buttons
- Save or print at the touch of a button
- Mains connection/Quick battery recharge
- Attachable printer
- Prints readings on site in the matter of seconds
- Data communication via PC
- Barcode reader
- User friendly operation via cursor


Recommended set
Set for inspecting laboratory fume cupboards

- testo 400, multi-function measuring instrument, incl. battery, Li cell and calibration protocol (Part no. 0563 4001)
- Power unit 230 V/ 8 V/ 1 A, for instrument (European plug) (Part no. 0554 1084)
- Rechargeable battery set for instrument (4 rechargeables 2.4V/700mAh) (Part no. 0554 0196)
- Thermal anemometer, Ø 10 mm, w. telescopic handle, measures air flow in lab fume cupboards to DIN EN 14175 (draft) (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 velocity speeds (in connection 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 DIN 1946 Part 2 or EN 12 599 requirements (Part no. 0628 0009)

We recommend:

ComSoft 3 - Professional with data management Incl. database, analysis and graphics function, data analysis, trend curve (without interface)	0554 0830
RS232 cable Connects instrument to PC (1.8 m) for data transfer	0409 0178
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) Protects from impact and falls	0516 0411
System case (aluminium) for measuring instrument, probes and accessories Probes in lid make it easy to find parts in case	0516 0410
DKD calibration certificate/Velocify for laboratory fume cupboard probe	
ISO calibration certificate/Velocify for laboratory fume cupboard probe	

testo 400

testo 400, multi-function measuring instrument, incl. 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


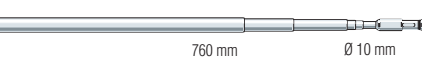
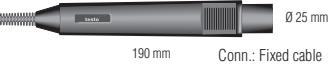



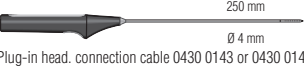
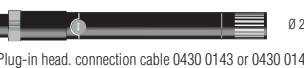
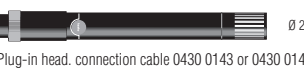



Recommended set	
The pro set for assessing workplaces subjected to heat	
<ul style="list-style-type: none"> - testo 400, multi-function measuring instrument, incl. battery, Li cell and calibration protocol (Part no. 0563 4001) - Wet Bulb Globe temperature probe to assess workplaces subjected to heat, in accordance with ISO 7243 or DIN 33403, incl. WGBT 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	
<ul style="list-style-type: none"> - testo 400, multi-function measuring instrument, incl. battery, Li cell and calibration protocol (Part no. 0563 4001) - Comfort level probe for measuring degree of turbulence, with telescopic handle and stand. Fulfills DIN 1946 Part 2 or EN 12 599 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 PUR coating material	0430 0143
Standard ambient air probe up to +70°C Measures all physical parameters in the Mollier diagram	0636 9740
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 PUR coating material	0430 0143

Accessories	Part no.
Accessories for measuring instrument	
Memory upgrade to 500,000 readings Upgrades memory capacity (by Service)	0554 9481
Rechargeable battery set for instrument (4 rechargeables 2.4V/700mAh) Selected for quick recharging in instrument	0554 0196
Power unit 230 V/ 8 V/ 1 A, for instrument (European plug) For mains operation and battery recharging	0554 1084
Car charging adapter, ready to measure following recharging in car Battery is recharged while travelling in car	0554 0424
Spare Li cell to save RAM data When changing battery or rechargeable battery	0515 0028
Printer and Accessories	
Attachable printer (securely attached) including 1 roll of thermal paper and batteries	0554 0570
Testo printer with cordless IRDA and infrared interface, 1 roll of thermal paper and 4 round cell batteries	0554 0547
Fast testo 575 printer, incl. 1 roll of thermal paper and batteries Infrared thermal line printer with graphics function	0554 1775
Recharger for printer (with 4 standard rech. batteries) Rechargeable batteries are recharged externally	0554 0110
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
Barcode and accessories	
Barcode reader to read in measurement locations Quick and accurate allocation of reading to site	0554 0460
Barcode labels, self-adhesive (1200 off) for labelling site with barcode, printing via software	0554 0411
Adhesive pockets (50 off) for printout, paper barcode labels...	0554 0116
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, RS 232 - Ethernet incl. software driver, mains unit Facilitates data communication in network	0554 1711
Electrical isolation for RS232 (connects measuring instrument to PC)	0554 0006
VAC module	
Memory upgrade to 500,000 readings Upgrades memory capacity (by Service)	0554 9481
VAC module upgrade Volume flow calculation in ducts with error calculation function in instrument	0450 4010
VAC module upgrade, PC software, (for ComSoft 3 software) Printout of standard measurement protocols	0554 4030
Refrigeration module	
"Refrigeration technology" update with saved curves of all usual refrigerants	0554 4035
System case	
Transport case (plastic) for measuring instrument, probes For secure and orderly storage	0516 0300
System case (plastic) for measuring instrument, probes and accessories Probes in lid make it easy to find parts in case	0516 0400
System case (aluminium) for measuring instrument, probes and accessories Probes in lid make it easy to find parts in case	0516 0410

testo 400
Calibration certificates and Probe examples

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 Thermometers 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 Electronic hygrometers; calibration points 11.3%RH and 75.3%RH at +25°C	0520 0006
ISO calibration certificate/Pressure dew point Two adjustment points -10/-40 °C tpd	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 -20°C to +85°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	Part no.
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 Differential and positive pressure; 11 measuring points distributed over the instrument measuring range	0520 0215
ISO calibration certificate/Pressure Absolute pressure, accuracy 0.1 to 0.6 (% of full-scale value)	0520 0125
DKD calibration certificate/Pressure Absolute pressure; 11 measuring points distributed over meas. range	0520 0212
Calibration certificates/Velocity	
ISO calibration certificate/Velocitv All velocity probes, calibration points selectable from 0.3 to 50 m/s at +25°C	0520 0104
ISO calibration certificate/Velocitv Hot wire, vane anemometer, Pitot tube; calibration points 1; 2; 5; 10 m/s	0520 0004
ISO calibration certificate/Velocitv Hot wire, vane anemometer, Pitot tube; calibration points 5; 10; 15; 20 m/s	0520 0034
ISO calibration certificate/Velocitv Hot wire, vane anemometer; calibration points 0.5; 0.8; 1; 1.5 m/s	0520 0024
DKD calibration certificate/Velocitv Hot wire, vane anemometer; calibration points 0.5; 1; 2; 5; 10 m/s	0520 0244
DKD calibration certificate/Velocitv Hot wire, vane anemometer, Pitot tube; calibration points 2; 5; 10; 15; 20 m/s	0520 0204
DKD calibration certificate/Velocitv Hot wire anemometer; calibration points 0.1; 0.2; 0.5; 0.8; 1 m/s	0520 0224

More probes	Illustration	Meas. range	Accuracy	Part no.
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
Thermal anemometer, Ø 10 mm, w. telescopic handle, measures air flow in lab fume cupboards to DIN EN 14175 (draft)	 760 mm Ø 10 mm	0 to +5 m/s 0 to +50 °C	±(0.02 m/s ±5% of mv) (0 to +5 m/s)	0635 1047
Ambient CO probe to measure CO level in ambient air	 190 mm Ø 25 mm Conn.: Fixed cable	0 to +500 ppm CO	±5% of mv (+100.1 to +500 ppm CO) ±5 ppm CO (0 to +100 ppm CO)	0632 1247
CO2 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 to +1 Vol. % CO ₂ 0 to +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
Standard ambient air probe up to +70°C	 Ø 12 mm Plug-in head, connection cable 0430 0143 or 0430 0145 required	0 to +100 %RH -20 to +70 °C	±0.4 °C (-10 to +50 °C) ±0.5 °C (remaining range) ±2 %RH (+2 to +98 %RH)	0636 9740
Duct humidity/temperature probe, can be connected to telescopic handle Telescopic handle 0430 9715, see Ordering data/Accessories	 180 mm Ø 12 mm Fixed cable	0 to +100 %RH -20 to +70 °C	±0.4 °C (-10 to +50 °C) ±0.5 °C (remaining range) ±2 %RH (+2 to +98 %RH)	0636 9715
Thin humidity probe incl. 4 attachable protection caps for ambient air measurements, measurements in exhaust air ducts and equilibrium moisture measurements	 250 mm Ø 4 mm Plug-in head, connection cable 0430 0143 or 0430 0145 required	0 to +100 %RH -20 to +70 °C	±0.4 °C (-10 to +50 °C) ±0.5 °C (-20 to -10.1 °C) ±0.5 °C (+50.1 to +70 °C) ±2 %RH (+2 to +98 %RH)	0636 2130
Highly accurate reference humidity/temp. probe incl. cal. cert.	 Ø 21 mm Plug-in head, connection cable 0430 0143 or 0430 0145 required	0 to +100 %RH -20 to +70 °C	±0.4 °C (-10 to +50 °C) ±0.5 °C (remaining range) ±1 %RH (+10 to +90 %RH) ±2 %RH (remaining range)	0636 9741 *
Humidity/temperature probe	 Ø 21 mm Plug-in head, connection cable 0430 0143 or 0430 0145 required	0... +100 %RH -20 to +70 °C	±0.4 °C (+0.1 to +50 °C) ±0.5 °C (-20 to 0 °C) ±0.5 °C (+50.1 to +70 °C) ±2 %RH (+2... +98 %RH)	0636 9742
Precision pressure probe, 100 Pa, in robust metal housing with impact protection, incl. magnet for fast attachment, to measure differential pressure and velocity speeds (in connection 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)	0638 1347
Comfort level probe for measuring degree of turbulence, with telescopic handle and stand. Fulfills DIN 1946 Part 2 or EN 12 599 requirements	 890 mm Ø 90 mm	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

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

See product publication "Multi-Function Measuring Instruments" for more probes

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	±0.01 m/s (0 to +1.99 m/s) ±0.02 m/s (+2 to +4.9 m/s) ±0.04 m/s (+5 to +20 m/s)	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) ±0.4 °C (-99.9 to -50 °C) ±0.4 °C (+100 to +199.9 °C) ±1 °C (-200 to -100 °C) ±1 °C (+200 to +800 °C)	±0.4 °C (-100 to +200 °C) ±1 °C (-200 to -100.1 °C) ±1 °C (+200.1 to +1370 °C)	±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)	(+20 to +20000 rpm)	±0.04 mA (0 (0554 0007) to +20 mA) See probe data (0554 0528)	±0.01 V (0 to +10 V)
Resolution			1 rpm (+20 to +20000 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	45000

Memory space in basic version: 128 KB corresponding to approx. 45,000 readings
With memory upgrade: 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



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