We measure it. testo

One for all.

The testo 480 multi-function measuring instrument with intelligent menu guide for norm-compliant measurements.

The norm-compliant measurement solution for every VAC requirement.

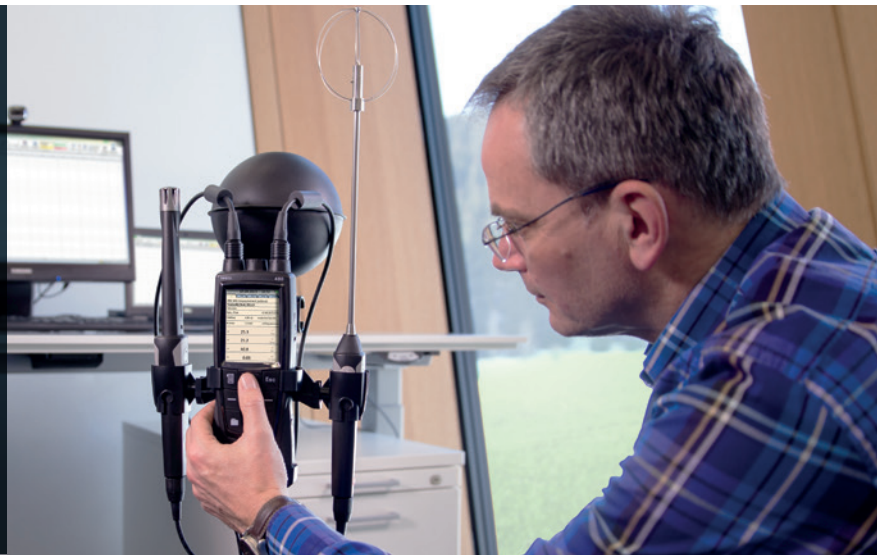
As a VAC professional, you encounter the most diverse measurement requirements in your daily work in offices, residential and industrial buildings. With the intelligent multi-function measuring instrument testo 480, you do justice to each and every one. Thanks to its extensive probe range, you are equipped for all important applications, and record VAC parameters such as flow velocity, temperature, humidity, pressure, illuminance, radiant heat, degree of turbulence and CO_2 – highly accurately in every measuring range. A further highlight are the guided measurement menus for VAC grid and comfort measurements, which make your work easier and guarantee norm-compliant measurement results. The testo 480 is the allround talent for assessors, experts, VAC system constructors and facility managers.

Guided VAC grid measurements.

An incorrectly adjusted system impairs the indoor air quality, which can endanger the health of the staff or production quality. The testo 480 helps you to adjust VAC systems norm-compliantly, and guides you step by step through the measurement.

Guided comfort measurements.

Comfort at the workplace plays an important role in the well-being of the staff. With the testo 480, you calculate all the PMV/PPD and degree of turbulence values relevant to this, as well as the indoor air quality. Here too, you are guided reliably and norm-compliantly through the measurements – also for spot checks or long-term measurements.



We measure it. testo

The universal measuring instrument testo 480: A real allrounder.

Everything with one instrument: Flow velocity, temperature, humidity, pressure, illuminance, turbulence and CO_2 content.

Guided, norm-compliant measurement program: For VAC grid and comfort measurements (PMV/PDD, degree of turbulence, NET, WBGT).

Complete probe range: Ready for all important VAC and industry applications.

Professional report creation: Use the PC software EasyClimate to compile results, analyses and reports on site.

Intelligent calibration concept: The probe notifies the instrument when calibration is required. Digital probes can even be calibrated independently of the the measuring instrument.

Clear graphic display: Have an overview of all parameters and readings.

Zero-error display: Measuring accuracies are automatically eliminated thanks to intelligent, digital probes.

Practical track-pad: Navigate through the measurement menus in just a few steps.

Technical data universal measuring instrument testo 480.

General technical data	
Protection class	IP30
Simultaneously connectable probes	2x temperature TC type K, 1 x differential pressure (integrated), 3 x digital
EU/EG guidelines	2004/108/EC
Warranty	2 years
Battery life	approx. 17 hours (handheld instrument without probe with 50% display brightness)
Display functions	Coloured graphic display
Power supply	Rechargeable battery, connected mains unit for long-term measurements and battery charging
Data transfer	USB cable or SD card
Memory	60,000,000 readings
Storage temperature	-20 to +60 °C
Weight	435 g
Operating temperature	0 to +40 °C

Temperature – Pt100	
Measuring range	-100 to +400 °C
Resolution	0.01 °C / 0.001 °C
Temperature – TC Type K (NiCr-Ni)	
Measuring range	-200 to +1370 °C
Accuracy	±(0.3 °C to 0.1 % of m.v.)
Resolution	0.1 °C
Humidity – capacitive	
Measuring range	0 to 100 %RH
Resolution	0.1% RH
Flow velocity – vane anemometer	
Measuring range	0.6 to +50 m/s (vane 16 mm) 0.1 to +15 m/s (vane 100 mm)
Resolution	0.1 m/s (vane Ø 16 mm) 0.01 m/s (vane Ø 100 mm)
Flow velocity – hot wire anemometer	
Measuring range	0 to +20 m/s
Resolution	0.01 m/s

Differential pressure (integrated sensor)	
Measuring range	-100 to +100 hPa
Accuracy	± (0.3 Pa ± 1 % of m.v.) (0 to +25 hPa) ± (0.1 hPa + 1.5 % of m.v.((+25.001 to +100 hPa)
Resolution	0.001 hPa
Absolute pressure	
Measuring range	700 to 1100 hPa
Accuracy	± 3 hPa
Resolution	0.1 hPa
CO_2 measurement in indoor air	
Measuring range	0 to 10000 ppm CO_2
Resolution	1 ppm CO_2
Comfort measurement	
Measuring range	0 to +5 m/s
Resolution	0.01 m/s
Luminous intensity	
Measuring range	0 to 100000 Lux
Resolution	1 Lux

VAC grid measurement
according to EN 12599.

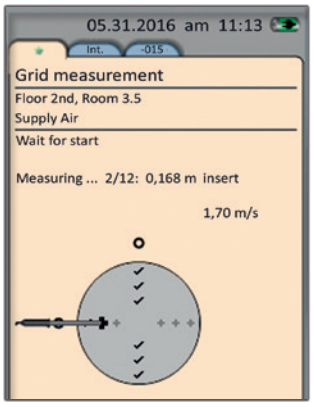
The testo 480 helps you to adjust VAC systems norm-compliantly. With an integrated measurement program, the instrument guides you through the grid measurement step by step and according to the legal stipulations – and ensures reproduceable results. The measurement result can then be printed out, filed, or documented in a report.

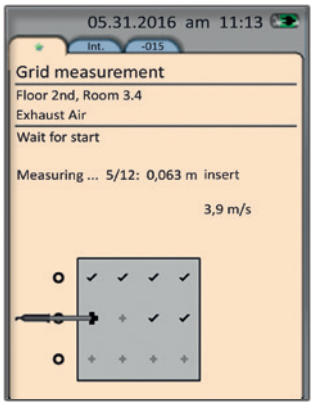
Before the measurement, you enter all important data into the instrument:

- Measurement type (timed, multi-point or timed/multi-point)
- Arrangement (quantity) of the measurement points
- Aperture position of the measurement points
- Edge distance and uncertainties

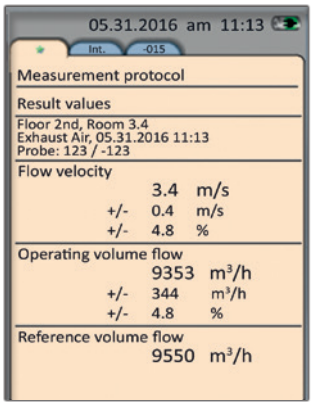
The testo 480 then guides you through the grid measurement:

- Practical presentation of the measurement location and position at which the probe must be placed
- Exact information on how far the probe must be inserted into the duct at each measurement location
- Display of procedure for timed/multi-point measurements
- Marking of measurement points already measured





After the measurement, the instrument calculates the total uncertainty norm-compliantly according to EN 12599.



Suitable probes for the VAC grid measurement.
The extensive probe program for the testo 480 offers you suitable measurement probes for low, medium and high flow velocities, as well as for extremely contaminated flows with a high particle content. In addition to this, you can extend your measuring instrument with special probes for higher temperature ranges.

Thermal flow velocity probes for low flow velocities		Measuring range	Accuracy
Thermal flow velocity probe (hot wire) Ø 10 mm, bendable 90° (200 mm), with telescope (scaling max. 1100 mm) and integrated measurement button Order no. 0635 1543 *		0 to +20 m/s -20 to +70 °C 0 to 100 %RH +700 to +1100 hPa	±(0.03 m/s +4% of m.v.) ± 0.5 °C ±(1.8 %RH + 0.7% of m.v.) ± 3 hPa
Thermal flow velocity probe (hot wire) Ø 7.5 mm, with telescope (max. 790 mm) and fixed plug-in head cable Order no. 0635 1024		0 to +20 m/s -20 to +70 °C	±(0.03 m/s +5% of m.v.) ± 0.5 °C
Thermal flow velocity probe (robust hot bulb) Ø 3 mm, with telescope (max. 860 mm) and fixed plug-in head cable, for direction-independent flow velocity measurement Order no. 0635 1050		0 to +10 m/s -20 to +70 °C	±(0.03 m/s +5% of m.v.) ± 0.5 °C
Thermal flow velocity probes for medium flow velocities		Measuring range	Accuracy
Vane measurement probe Ø 16 mm with telescope and integrated measurement button Order no. 0635 9542 *		0.6 to 50 m/s -10 to +70 °C	±(0.2 m/s +1 % of m.v.) (0.6 to 40 m/s) ±(0.2 m/s +2 % of m.v.) (40.1 to 50 m/s) ± 1.8 °C
High-temperature vane measurement probe Ø 16 mm with telescope and integrated measurement button Order no. 0635 9552 *		0.6 to 50 m/s -30 to +140 °C	±(0.2 m/s +1 % of m.v.) (0.6 to 40 m/s) ±(0.2 m/s +2 % of m.v.) (40.1 to 50 m/s) ±(2.5 °C +0.8 % of m.v.)
Pitot tubes for high flow velocities		Technical data	
Stainless steel Pitot tube for measurement of flow velocity in high velocities and in heavily contaminated flows with a high particle content Order no. 0635 2145 (350 mm), 0635 2045 (500 mm), 0635 2345 (1000 mm)		Length: 350/500/1000 mm Diameter: 7 mm Measuring range: 1 to 100 m/s Operating temperature: 0 to +600 °C Pitot tube factor: 1.0	
Straight Pitot tube with integrated temperature measurement, incl. connection hose Order no. (350 mm), 0635 2143 (500 mm), 0635 2243 (1000 mm)		Length: 350/500/1000 mm Measuring range: 1 to 30 m/s Operating temperature: 0 to +600 °C Pitot tube factor: 0.67 Minimum immersion depth: 150 mm	

*Plug-in head cable required (order no. 0430 0100)

Ordering suggestion for VAC grid measurement see page 8

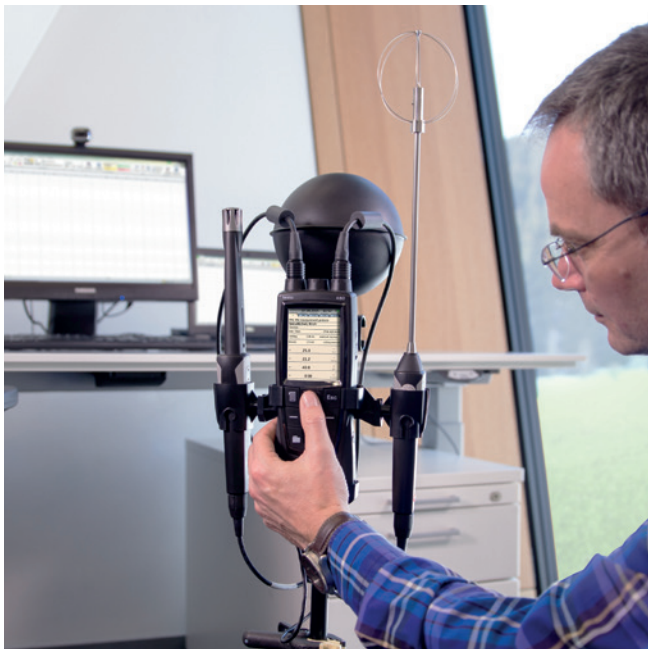
Comfort level measurement in the workplace.

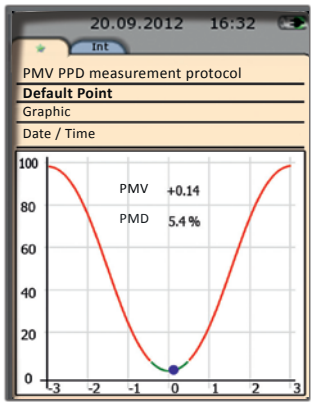
When complaints about the climatic conditions at the workplace occur, the thermal perception of the staff must be evaluated objectively. The testo 480 helps you to calculate all relevant PMV/PPD and degree of turbulence values, as well as the indoor air quality, norm-compliantly – in order to be able to make unambiguous, manipulation-proof statements on the thermal comfort level at workplaces.

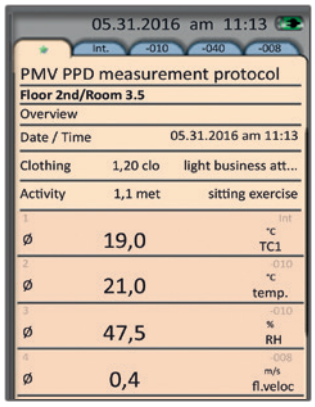
PMV/PPD measurement according to ISO 7730.
The testo 480 calculates norm-compliant PMV and PPD values from the key factors ambient temperature, air humidity, radiant temperature, flow velocity, activity and clothing.

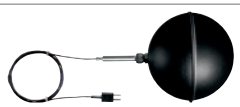
Before the measurement, you enter all important data into the instrument:
- Clothing (insulating values for individual items of clothing can be taken from ISO 7730)
- Activity (MET values for different activities can be taken from ISO 773)
- Measurement duration
- Measurement rate

The measuring instrument then guides you through the measurement step by step and displays the measurement results as a table and/or graph.





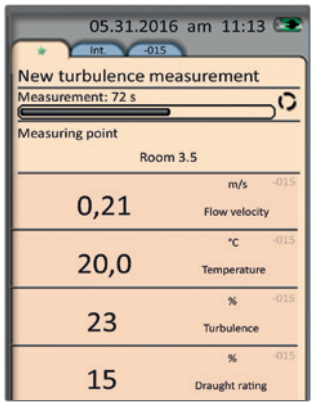


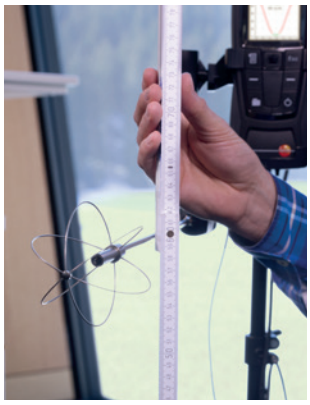
Suitable probes for PMV/PPD measurement		Measuring range	Accuracy
IAQ probe for the evaluation of indoor air quality, CO_2, humidity, temperature and absolute pressure measurement, incl. desktop tripod Order no. 0632 1543 *		0 to +50 °C 0 to 100 %RH 0 to +10000 ppm CO_2 +700 to +1100 hPa	± 0.5 °C ±(1.8 %RH + 0.7% of m.v.) ±(75 ppm CO_2 +3 % of m.v.) 0 to +5000 ppm CO_2 ±(150 ppm CO_2 +5 % of m.v.) 5001 to +10000 ppm CO_2 ± 3 hPa
Comfort probe for turbulence measurement in accordance with EN 13779 Order no. 0628 0143 *		0 to +50 °C 0 to +5 m/s +700 to +1100 hPa	± 0.5 °C ±(0.03 m/s +4% of m.v.) ± 3 hPa
Globe thermometer Ø 150 mm, TC Type K, for measuring radiant heat Order no. 0602 0743		0 to +120 °C	Class 1
Tripod with brackets for hand-held instrument and probe including telescope extension Order no. 0554 0743			

*Plug-in head cable required (order no. 0430 0100)

Degree of turbulence measurement according to EN 13799 and draught measurement according to ISO 7730.

In cases of complaints about draughts, you can carry out a degree of turbulence measurement or a draught risk measurement with the testo 480 and the comfort probe. After the measurement, the measurement protocol shows the norm-compliantly measured mean flow velocity, the mean temperature as well as the degree of turbulence and the draught rate calculated from these.

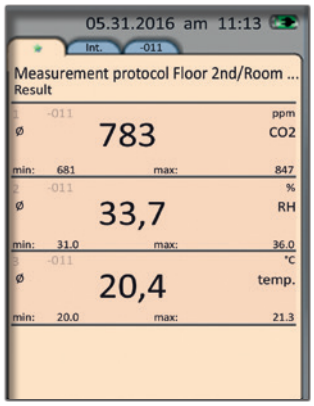




Suitable probe for the degree of turbulence measurement		Measuring range	Accuracy
Comfort probe for turbulence measurement in accordance with EN 13779 Order no. 0628 0143, plug-in head cable required (order no. 0430 0100)		0 to +50 °C 0 to +5 m/s +700 to +1100 hPa	± 0.5 °C ±(0.03 m/s +4% of m.v.) ± 3 hPa

Measurement of indoor air quality

A measurement of the indoor air quality helps when making an initial estimate of the climatic conditions. With the testo 480 and the suitable indoor air quality probe, CO_2, temperature and relative humidity can be recorded simultaneously.



Suitable probe for measurement of indoor air quality		Measuring range	Accuracy
IAQ probe for the evaluation of indoor air quality, CO_2, humidity, temperature and absolute pressure measurement, incl. desktop tripod. Order no. 0632 1543, plug-in head cable required (order no. 0430 0100)		0 to +50 °C 0 to 100 %RH 0 to +10000 ppm CO_2 +700 to +1100 hPa	± 0.5 °C ±(1.8 %RH + 0.7% of m.v.) ±(75 ppm CO_2 +3 % of m.v.) 0 to +5000 ppm CO_2 ±(150 ppm CO_2 +5 % of m.v.) 5001 to +10000 ppm CO_2 ± 3 hPa

Ordering suggestion for comfort measurement see page 8

Our ordering suggestions.

VAC set

Our ordering suggestion	Order no.	EUR
Universal measuring instrument testo 480	0563 4800	xxx.xx
Vane probe Ø 16 mm with telescope	0635 9542	xxx.xx
Thermal hot wire probe Ø 10 mm, bendable 90°	0635 1543	xxx.xx
Humidity and temperature probe Ø 12 mm	0636 9743	xxx.xx
Vane probe Ø 100 mm	0635 9343	xxx.xx
Plug-in head cable for digital probes	0430 0100	xxx.xx
System case for measuring instrument and probes	0516 4800	xxx.xx
Total price VAC set		**xxxx.xx**

Comfort set

Our ordering suggestion	Order no.	EUR
Universal measuring instrument testo 480	0563 4800	xxx.xx
Comfort probe	0628 0143	xxx.xx
Globe thermometer	0602 0743	xxx.xx
IAQ probe	0632 1543	xxx.xx
Lux probe	0635 0543	xxx.xx
2 x plug-in head cable for digital probes	0430 0100	xxx.xx
Tripod with telescope and brackets	0554 0743	xxx.xx
System case for measuring instrument and probes	0516 4801	xxx.xx
Total price comfort set		**xxxx.xx**

Other probes for versatile measurements with the testo 480 multi-function measuring instrument.

Description	Illustration	Order no.	EUR
Hot wire probe (Ø 10 mm) for measuring flow and temperature on laboratory fume extractors; measuring range 0 to +5 m/s		0635 1048	xxx.xx
Lux probe for measuring illuminance; measuring range 0 to +100000 Lux		0635 0543	xxx.xx
Humidity/temperature probe (Ø 12 mm) for highly precise humidity measurement with 1% accuracy*		0636 9743	xxx.xx
Robust digital humidity/temperature probe*		0636 9753	xxx.xx
Flexible digital precision immersion probe, PTFE cable heatproof to +300 °C; measuring range -100 to +265 °C*		0614 0071	xxx.xx

Description	Illustration	Order no.	EUR
Digital precision air temperature probe (Pt100); measuring range -100-to +400 °C*		0614 0072	xxx.xx
Fast-reaction surface temperature probe with cross-band measurement head; measuring range -20 to +300 °C*		0614 0195	xxx.xx
Digital precision temperature probe for measurement in liquids and semi-solid media; accuracy up to ±0.05 °C, measuring range -80 to +300 °C*		0614 0275	xxx.xx
Robust air temperature probe (TC type K) – measuring range -60 to +400 °C		0602 1793	xxx.xx

*Plug-in head cable required (order no. 0430 0100)

More probes and calibrations for testo 480 at www.testo.com