We measure it. testo

Operated by smartphone:
testo 420/Testo Smart Probes

Google play | Available on the App Store

All flow velocities. Under control.

Ventilation and air conditioning measuring instruments from Testo.

All outlets. All flow velocities. One expert.

Test air conditioning and ventilation systems – in ducts, at outlets, and with multifunction instruments.

The correct and efficient adjustment of ventilation and air conditioning systems makes very high demands of measurement technology, due to the various measurement locations and the differing flow velocities.
Whether the precise determination of volume flow, quick spot measurements in ducts or the recording of turbulent flows at outlets: without suitable measuring instruments, it is impossible to ensure optimum indoor air in residential and non-residential buildings.
The most accurate measurement results can be achieved by measuring directly in a duct. However, since ventilation ducts are in practice frequently hidden or inaccessible, it is often necessary to resort to outlet measurements. In addition to this, turbulence in ducts and at outlets can often falsify measurements.

As you can see, carrying out precise flow velocity measurements is not easy. For this reason, Testo offers the optimum solution for every measurement task and measurement range: thermal probes, vane anemometers, differential pressure measuring instruments, funnel measuring instruments and multifunction measuring instruments. With the patented flow straighteners from Testo, even turbulent flows can be measured accurately. Here you can find information on how to measure flow velocity more efficiently.

Innovative App solutions

Writing mails, checking the weather, planning routes: Many things are easier with a smartphone. With our free Apps for the volume flow measurement hood testo 420, and the Testo Smart Probes, ventilation measurement is now also more convenient and less stressful.

- Measurement site-independent operation: Your smartphone becomes the remote control
- Convenient measurement value display: Readings are always available when you need them
- Clever documentation: Create protocols and reports easily, and send them immediately by e-mail

Patented flow straightener technology

The correct recording of volume flow at ventilation and swirl outlets is often hampered by turbulence. In order for you to be able to obtain precise results even in turbulent flows, Testo has developed patented flow straighteners for testo 417 and testo 420. The flow straighteners convert turbulent air into an almost uniform flow, which can then be reliably recorded with the measuring instrument. This reduces measurement inaccuracies at swirl outlets and in turbulent air by up to 50 %.

Fast worldwide calibration service

For us, measurement precision does not stop at the delivery of the instruments. Regular calibration is indispensable for constant, reliable results. This is why our subsidiary, Testo Industrial Services (TIS) has a worldwide network of their own calibration laboratories. This allows you quick access to our accredited calibration services – so you can continue to work efficiently.

Accurate and convenient measurement in ducts.

The easy way to optimum measurement results in all flow velocity ranges.

In order for air conditioning and ventilation systems to run smoothly and efficiently, the flow velocity in the ventilation duct must be regularly checked. Only when the flows in the duct correspond to the requirement are the room loads (heat, cold and substance load) reliably transported away – and the indoor air quality is right.
If the ventilation duct is accessible, duct measurement is then the best solution. This is because air flows are measured most accurately directly in the duct. However, it must be taken into account that the flows in the duct are usually non-homogenous and turbulent.

In order to obtain reliable results in spite of this, measurements should always be taken at several points over the duct cross-section. In these grid measurements, the mean flow velocity is calculated from the individual measurement values.
Ventilation measuring instruments from Testo support you in grid measurement just as reliably as in the automatic calculation of volume flow.
Which instrument suits your application depends on the flow velocity range you wish to measure.

Lower flow velocity range up to 5 m/s

m/s °C

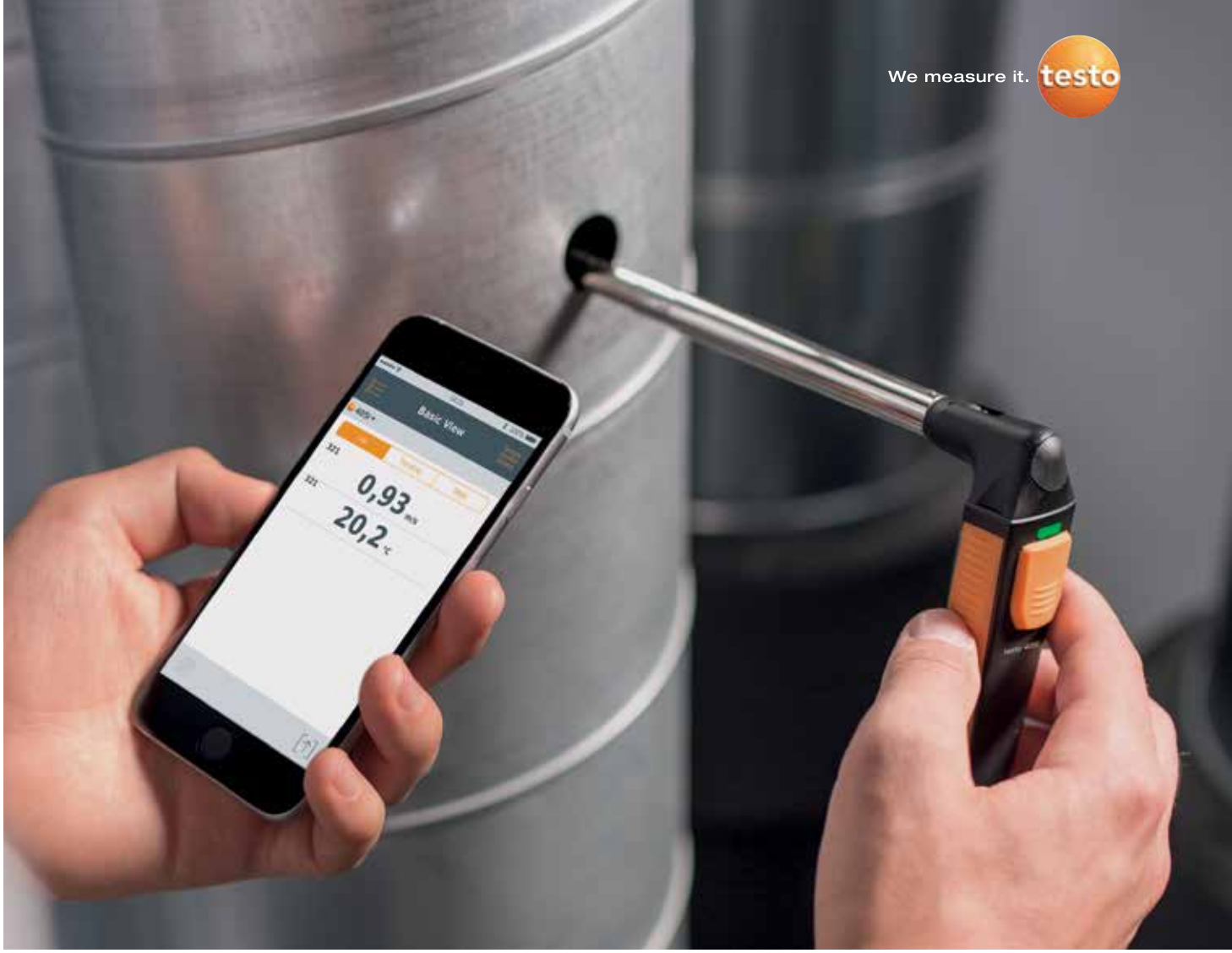
Thermal anemometer testo 425 (0 to 20 m/s)
Our accuracy champion in the flow velocity range from 1 to 5 m/s. With fixed telescopic flow velocity probe up to 820 mm length for duct measurement.

m/s °C

Thermal anemometer testo 405 (0 to 10 m/s)
Particularly accurate in the range between 0 and 2 m/s Equipped with 300 mm telescopic probe. Automatically calculates the volume flow.

m/s °C

Thermal anemometer testo 405i (0 to 30 m/s)
Work comfortably thanks to operation completely via testo Smart Probes App. Easy report creation and data dispatch by e-mail.



Medium flow velocity range from 5 m/s

m/s

Vane anemometer testo 416 (0.6 to 40 m/s)
Our accuracy champion in the flow velocity range from 5 m/s. Telescope length up to 890.

m/s Pa

Differential pressure measuring instrument testo 420 (-120 to +120 Pa)
Measures flow velocities up to 14 m/s in combination with a Pitot tube or a flow velocity matrix.

Medium to high flow velocity range from 40 to 100 m/s, as well as highly contaminated flows

m/s hPa

Differential pressure measuring instrument testo 510 (-100 to +100 hPa)
Compact and with integrated display.

m/s hPa

Differential pressure measuring instrument testo 510i (-150 to +150 hPa)
Controlled by your smartphone. Reports easily created and sent via testo Smart Probes App.

Precise measurement at outlets.

Testo measurement technology provides reliable results even at swirl outlets.

The quality of the indoor air depends crucially on whether the air input or output volume flows are optimally adjusted. For this reason, the measurement is taken directly at the outlet during adjustment work. However, inaccessible ventilation ducts also make measurements at outlets necessary.

At swirl and plate outlets or ventilation grilles however, turbulence is created, which can falsify the measurement results.
In order to be able to measure these non-uniform flow profiles, it is essential that a funnel measuring instrument

Highest accuracy even in turbulence

m³/h

m/s %RH °C Pa

Volume flow measurement hood testo 420 (40 to 4000 m³/h)
Measures air input and output. Ideally suitable for outlets from 360 mm in non-residential buildings. Easy documentation and convenient working with the testo 420 App. Can be combined with exchangeable hoods in different sizes: 360 x 360 mm / 915 x 915 / 1220 x 305 mm / 1220 x 610 mm.

m³/h m/s °C

Vane anemometer testo 417 set 2 (0 to 440 m³/h)
With 2 measurement funnels (Ø 200 mm for plate outlets and 330 x 330 mm for ventilation grilles) and volume flow straightener. Measures air input and output in residential buildings. Ideal for outlets up to 330 mm. With flow straightener measurement up to 200 m³/h.

with a flow straightener is used. Patented volume flow straighteners from Testo guarantee the greatest level of accuracy, even in strong air turbulence.

m/s °C m³/h

Vane anemometer
testo 417 (0.3 to 20 m/s)
Faster measurements with 100 mm vane. Easy mean value function.

m/s °C

Vane anemometer
testo 410i (0.4 to 30 m/s)
Operated by your smartphone. Documentation easily created and reports sent via testo Smart Probes App.

m/s °C %RH

Vane anemometer
testo 410-2
(0.4 to 20 m/s)
With 40 mm vane and integrated humidity measurement.

Volume flow funnel
testovent 410
For convenient measurement on extractor systems in combination with thermal probes.

Multifunctional measurement in ducts and at outlets.

Record multiple VAC parameters – not just flow velocity.

With our multifunction measuring instruments, you measure with the highest level of flexibility on air conditioning and ventilation systems. Because at Testo, you find the right probe for every measurement task. Use the maximum freedom of combination, and connect widely differing probes to your testo 480 or testo 435: e.g. thermal anemometers, vane anemometers or Pitot tubes. In addition to flow velocity, volume flow, temperature and humidity, with our multifunction instruments you can measure absolute and differential pressure, light intensity, radiated heat, degree of turbulence and CO_2 concentration with a single instrument.

°C | m/s | hPa | %RH | ppm CO_2 | Lux

The multi-function VAC measuring instrument testo 435-4

The testo 435-4 works efficiently and reliably, without needing any complicated prior programming:

- Fast duct measurement with at the touch of only one button
- Integrated differential pressure measurement for monitoring filters or for flow velocity measurement with a Pitot tube
- Flexibility thanks to wireless probes for temperature and humidity
- Includes PC software for analyzing and documenting the readings

Combine the testo 435-4 with these probes:

Vane probe Ø 16 mm (0635 9535)
(0.6 to 40 m/s)
With 890 mm telescope, also suitable for measurements on larger ventilation ducts. Automatic calculation of volume flow.

Hot wire probe Ø 12 mm (0635 1535)
(0 to 20 m/s)
Measures flow velocity, temperature and humidity in ducts and at outlets.
With 745 mm telescope.

Vane/temperature probe, Ø 100 mm (0635 9435) **(0.3 to 20 m/s)**
Ideal for the determination of volume flow and flow velocities at outlets. For measurement at plate outlets and ventilation grilles, we recommend the funnel set testovent 417.

Funnel set testovent 417 (0563 4170)
In combination with the vane probes 0635 9435 and 0635 9542, it allows accurate and convenient measurement at ventilation grilles and plate outlets.

°C | m/s | hPa | %RH | ppm CO_2 | Lux

The multi-function VAC measuring instrument testo 480

The testo 480 supports you in your work and in guaranteeing optimum indoor air quality, thanks to integrated guided measurement programs and practical additional functions:

- Stored programmes for the measurement of volume flow, degree of turbulence and comfort (PMV/PPD)
- Norm-compliant adjustment of VAC systems thanks to automatic error calculation according to EN 12599
- Convenient duct measurement: Immersion depth of the probe is automatically calculated and displayed.
- Reliable work thanks to easily visible length markings on the telescope
- Quick storage of the measurement values with the "Save" button built into the probe

Combine the testo 480 with these probes:

Vane probe Ø 16 mm (0635 9542)
(0.6 to 50 m/s)
Ideal for the measurement of medium flow velocities in ducts. Also records volume flow and temperatures up to +70 °C. Comfortable working even at larger ducts thanks to 960 mm telescope.

Bendable hot wire probe (0635 1543)
(0 to 20 m/s)
4 functions in one probe: Measures flow velocity, temperature, humidity and absolute pressure in ducts and at outlets with laminar flow. With a stable telescope up to 1100 mm for working on walls and ceilings.

Vane/temperature probe Ø 100 mm
(0635 9343) **(0.3 to 20 m/s)**
Measures flow velocity, volume flow and temperatures up to +60 °C at outlets. With testovent 417, also suitable for measurements at plate outlets.

Flow velocity measurement: an overview.

All product features in direct comparison.

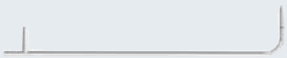
	Measuring range	Documen-tation	Tele-scope	Funnel	Pitot tube	Memory	EN 12599	Total volume flow
In ducts								
testo 405	0 to 10 m/s		300 mm					
testo 405i	0 to 30 m/s	App	400 mm			✓		✓
testo 425	0 to 20 m/s		820 mm					
testo 416	0.6 to 40 m/s		890 mm					
testo 510 + Pitot tube*	2 to 40 m/s				✓*			
testo 510i + Pitot tube*	2 to 50 m/s	App			✓*	✓		✓
testo 420 + Pitot tube*	0.2 to 14 m/s	App			✓*	✓		
At outlets								
testo 420 set	40 to 4000 m^3/h	App		✓	✓*	✓		✓
testo 417 set 2	0.3 to 20 m/s 0 to +440 m^3/h			✓				
testo 417	0.3 to 20 m/s 0 to +99999 m^3/h			✓*				
testo 410-2	0.4 to 20 m/s							
testo 410i	0.4 to 30 m/s	App				✓		✓
Multi instrument testo 480		PC/printer		✓*	✓*	✓	✓	
testo 480 + vane probe* (0635 9542)	0.6 to 50 m/s		960 mm					
testo 480 + bendable hot wire probe* (0635 1543)	0 to 20 m/s		1100 mm					
testo 480 + vane/temp. probe* (0635 9343)	0.1 to 15 m/s							
Multi instrument testo 435-4		PC/printer		✓*	✓*	✓		
testo 435-4 + vane probe* (0635 9535)	0.6 to 40 m/s		890 mm					
testo 435-4 + hot wire probe* (0635 1535)	0 to 20 m/s		745 mm					
testo 435-4 + vane/temp. probe* (0635 9435)	0.3 to 20 m/s							

*optional

Pitot tube

Pitot tube, Ø 7mm, stainless steel, measures flow velocity*

Pitot tube, length 500 mm, Ø 7 mm,	0554 4200	**x.xx**
Pitot tube, length 350 mm, Ø 7 mm	0635 2145	**x.xx**
Pitot tube, length 1000 mm, Ø 7 mm	0635 2345	**x.xx**



Ordering suggestions: an overview.

Measurement technology for measurements in ducts and at outlets.

testo 405

testo 405, thermal anemometer with duct bracket, incl. attachment clip and batteries

Order no. 0560 4053

x.xx EUR

testo 405i

testo 405i, Bluetooth thermal anemometer with App, incl. batteries and calibration protocol

incl. App

Order no. 0560 1405

x.xx EUR

testo 416

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

Order no. 0560 4160

x.xx EUR

testo 425

testo 425, compact thermal anemometer with permanently connected flow probe, incl. temperature measurement and telescope (max. 820 mm), calibration protocol and battery

Order no. 0560 4251

x.xx EUR

Pressure set testo 510

testo 510, handy differential pressure measuring instrument, hose set (Ø 4 mm and 5 mm) with adapter, incl. protective cap, calibration protocol, belt pouch and batteries

Order no. 0563 0510

x.xx EUR

testo 510i

testo 510i, Bluetooth differential pressure gauge with App, incl. hose set (Ø 4 mm and 5 mm) with adapter, batteries and calibration protocol

incl. App

Order no. 0560 1510

x.xx EUR

testo 420

testo 420 differential pressure measuring instrument incl. battery and calibration protocol

incl. App

Order no. 0560 0420

x.xx EUR

testo 417

Vane anemometer testo 417 with integrated 100 mm vane, incl. temperature measurement, battery and calibration protocol.
Funnel set (Ø 200 mm for plate outlets and 330 x 330 mm for ventilators).

Order no. 0563 4171

x.xx EUR

testo 410-2

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

Order no. 0560 4102

x.xx EUR

testo 410i

testo 410i, Bluetooth vane anemometer with App, incl. batteries and calibration protocol

incl. App

Order no. 0560 1410

x.xx EUR

Ordering suggestions: an overview.

Measurement technology for measurements at outlets.

testo 420 set

incl. App

testo 420 volume flow hood, with body, 610 x 610 mm flow hood, 5 x tension rods, USB cable, batteries and trolley

Order no. 0563 4200

EUR 000.00

Accessories:

Flow hood 360 x 360 mm	0554 4200	**x.xx**
Flow hood 305 x 1220 mm	0554 4201	**x.xx**
Flow hood 610 x 1220 mm	0554 4202	**x.xx**
Flow hood 915 x 915 mm	0554 4203	**x.xx**
Tripod, extendable to 4 m	0554 4209	**x.xx**

testo 417 set 2

Vane anemometer testo 417 with integrated 100 mm vane, incl. temperature measurement, battery and calibration protocol. Funnel set (Ø 200 mm for plate outlets and 330 x 330 mm for ventilators). Volume flow straightener testovent 417.

Order no. 0563 4172

x.xx EUR

Measurement technology for measurements in ducts and at outlets.

testo 480

High-end VAC measuring instrument testo 480 incl. PC software "EasyClimate", mains unit, USB cable

Order no. 0563 4800

EUR 000.00

Accessories:

Vane probe, Ø 16 mm with telescope	0635 9542	**x.xx**
Thermal flow velocity probe Ø 10 mm with telescope, bendable 90°	0635 1543	**x.xx**
Vane probe Ø 100 mm for measurement at air outlets	0635 9343	**x.xx**

testo 435-4

Multi-function measuring instrument testo 435-4 incl. measurement value store, PC software "ComSoft", USB data cable, batteries

Order no. 0563 4354

x.xx EUR

Accessories:

Vane Ø 16 mm, with telescope	0635 9535	**x.xx**
Thermal flow velocity probe with integrated temperature and humidity measurement, Ø 12 mm, with telescope	0635 1535	**x.xx**
Vane probe Ø 100 mm for measurement at air outlets	0635 9435	**x.xx**