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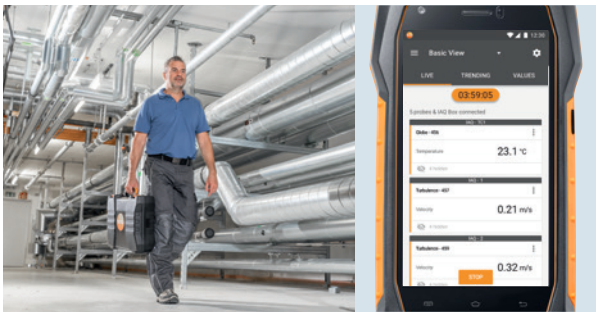
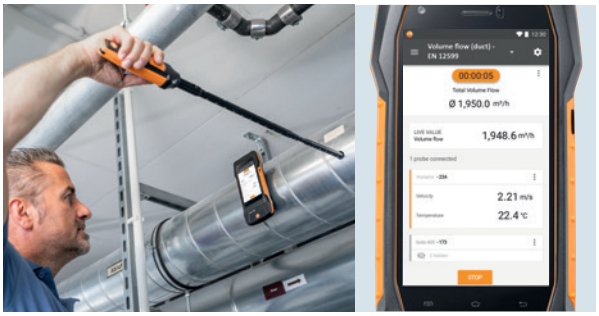
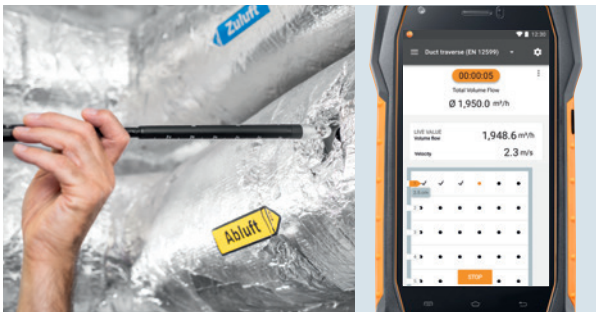
testo 400:
Overview of the measurement menus

Measurement menu		Function
1. Basic View Individual display of the measurement values of each probe.		• For all probes • Activation of the logger function • Single-point or timed measurement • Presentation of the measurement values as single values, table or graph
2. Volume flow – ducts Determination of volume flow in a duct.		• For all flow velocity probes (hot wire, vane) • Duct geometry input required • Single-point or timed measurement • Import of measurement site information from customer management
3. Volume flow – ducts (EN 12599) Determination of volume flow in ducts using grid measurement in accordance with EN 12599.		• For all flow velocity probes (hot wire, vane) and Pitot tubes • Input of duct geometry and duct apertures required • Single-point or timed measurement • Calculation of measurement uncertainty according to EN 12599 • Automatic display of insertion depths for traversing duct • Duct distribution for rectangular ducts according to the trivial method, and for circular ducts according to the centroidal axis method.
4. Volume flow – ducts (ASHRAE 111) Determination of volume flow in ducts using grid measurement in accordance with ASHRAE 111.		• For all flow velocity probes (hot wire, vane) and Pitot tubes • Input of duct geometry and duct apertures required • Single-point or timed measurement • Automatic display of insertion depths for traversing duct • Duct distribution for rectangular ducts according to the log-tchebycheff method, and for circular ducts according to the log-linear method

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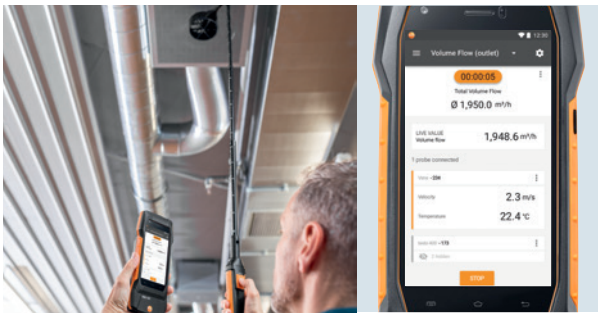
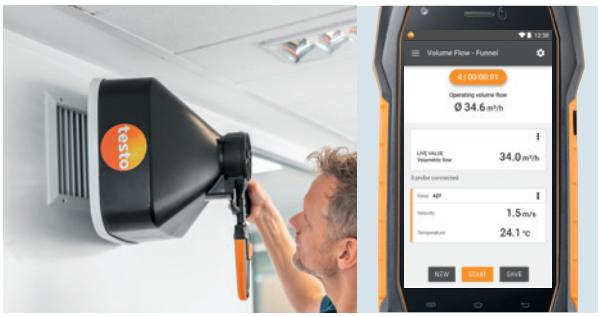
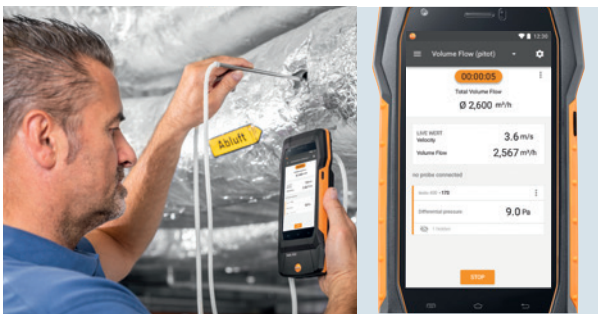
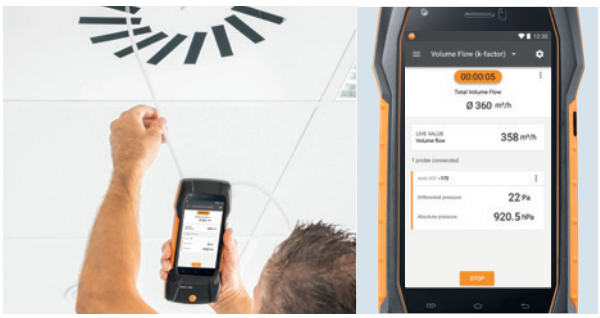
Measurement menu		Function
5. Volume flow – outlets Determination of volume flow at an outlet.		• For all flow velocity probes (hot wire, vane) • Outlet area input necessary • Automatic differentiation between input and output air when using the 100 mm vane probe • Single-point or timed measurement • Import of measurement site information from customer management
6. Volume flow – funnel Simplified volume flow measurement at an air outlet with Testo measurement funnel.		• Funnels suitable for outlets up to 200 x 200 mm or 330 x 330 mm • Automatic funnel recognition • Automatic differentiation between input and output air when using the 100 mm vane probe
7. Volume flow – Pitot tube Determination of volume flow in a duct using a Pitot tube.		• Determination of dynamic pressure in ducts with a Pitot tube • Recommended for flow velocities > 3 m/s (590 ft/min) and/or very contaminated flow • Input of manufacturer-specific Pitot tube factor necessary • Input of ambient temperature and ambient pressure necessary for density compensation
8. Volume flow – k-factor Determination of volume flow on individual components through measurement of the reference pressure and input of the manufacturer-specific factor.		• Input of a manufacturer-specific factor necessary (k-factor or c-factor) • Measurement in the position prescribed by the manufacturer • The specific factors are given in the manufacturer's product documentation • Calculation of volume flow based on this formula: k* √ΔP

* These measurement menus will only be available in later versions of the testo 400.

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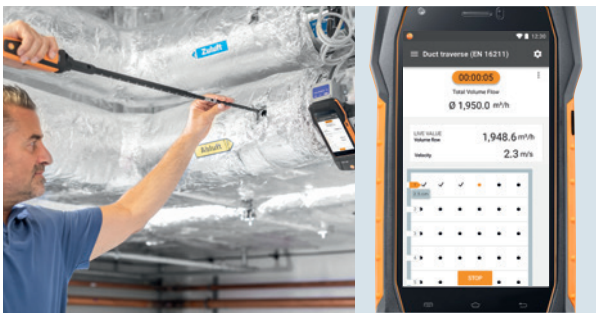
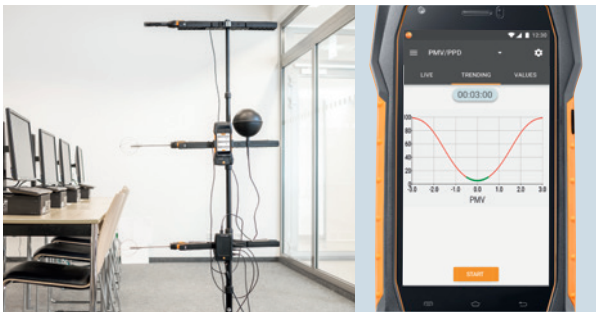
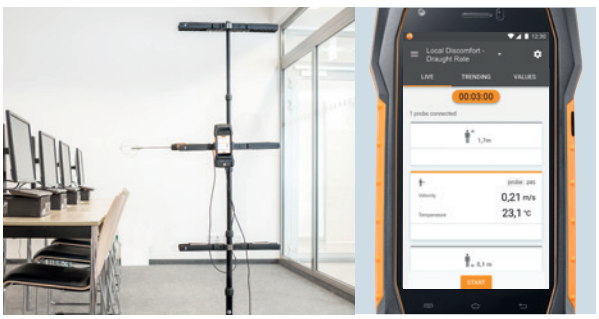
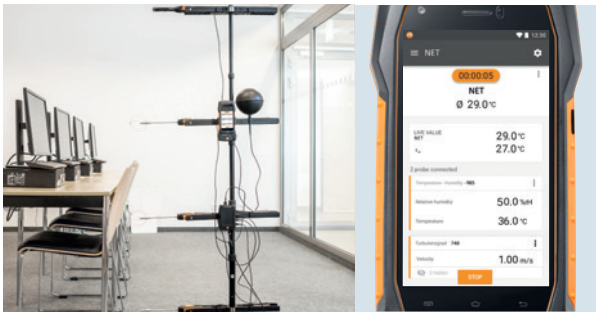
Measurement menu		Function
9. Volume flow – ducts (EN 16211) Determination of volume flow in ducts using grid measurement in accordance with EN 16211.*		• For all flow velocity probes (hot wire, vane) and Pitot tubes • Input of duct geometry and duct apertures required • Single-point or timed measurement • Automatic display of insertion depths for traversing duct • Differentiation between rectangular and round ducts
10. Comfort – PMV/PPD (EN 7730 / ASHRAE 55) Determination of the comfort parameters PMV and PPD.		• PMV/PPD: For indoor rooms (e.g. workplaces, public buildings) • Necessary parameters: Globe temperature, ambient temperature and humidity, air flow velocity • PMV value: Index which predicts the average climate assessment value of a large group of people • PPD index: Quantitive prediction of the number of dissatisfied persons in a specific ambient climate
11. Discomfort – draught rate Determination of the comfort parameters air draught and degree of turbulence.		• Draught rate: Percentage of persons who feel discomfort due to air flows • Degree of turbulence: Expresses fluctuations in air flow velocity and intensity of air flow • For measurements at up to 3 sites simultaneously • Differentiation between standing and sitting workplaces possible
12. Comfort – NET Determination of normal effective temperature (NET) at hot workplaces.*		• Normal effective temperature: Applicable for clothed persons and in ambient conditions without additional heat radiation • Measurement of air temperature, air humidity and air flow velocity necessary • Optionally, a globe thermometer can be connected to measure the corrected effective temperature (CET)

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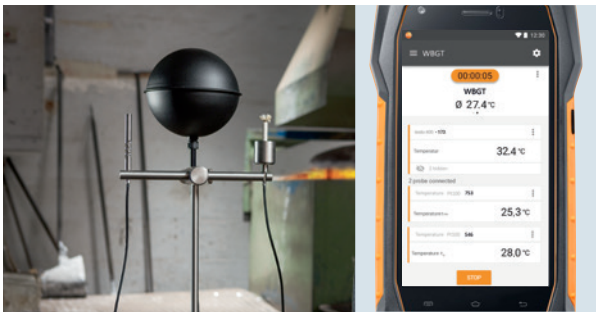
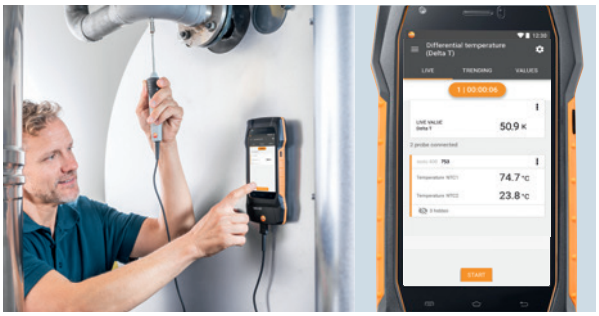
Measurement menu		Function
13. Comfort – WBGT Determination of the heat load on a person in a warm ambient climate based on the WBGT index (Wet Bulb Globe Temperature).*		• To determine the WGBT value, the temperatures of a naturally ventilated thermometer (t_{nw}), air temperature (t_a) and globe temperature (t_g) must be measured • The WBGT index is usually given in °C • WBGT applies inside and outside buildings without solar irradiation WBGTS applies outside buildings with solar irradiation • The indices are calculated based on the following formulae: $WBGT = 0.7\ t_{nw} + 0.3\ t_g$ $WBGTS = 0.7\ t_{nw} + 0.2\ t_g + 0.1\ t_a$
14. Differential temperature – ΔT Measurement of differential temperatures with two temperature probes.		• Two temperature probes required • Input of a surface temperature correction factor possible
15. Differential pressure – ΔP Measurement of the difference between two pressures.		• Use of the integrated pressure connections of the testo 400 • Suitable for monitoring filter pressures • Highest accuracy in the lower measuring range for cleanroom applications (e.g. measurement of differential pressures between rooms)

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