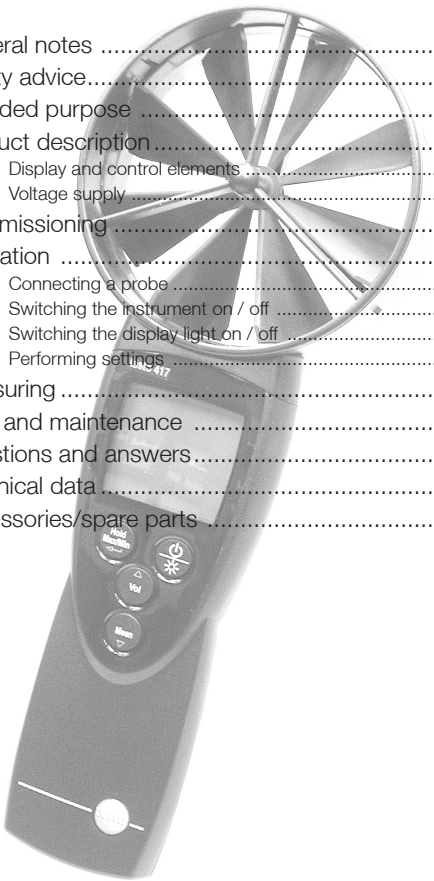
testo 417
Vane anemometer

Bedienungsanleitung de
Instruction manual en
Mode d'emploi fr

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General notes

This chapter provides important advice on using this documentation.

The documentation contains information that must be applied if the product is to be used safely and efficiently.

Please read this documentation through carefully and familiarise yourself with the operation of the product before putting it to use. Keep this document to hand so that you can refer to it when necessary.

Identification

Representation	Meaning	Comments
i	Note	Offers helpful tips and information.
➢, 1, 2	Objective	Denotes the objective that is to be achieved via the steps described. Where steps are numbered, you must always follow the order given!
✓	Condition	A condition that must be met if an action is to be carried out as described.
❯, 1, 2, ...	Step	Carry out steps. Where steps are numbered, you must always follow the order given!
Text	Display text	Text appears on the instrument display.
Button	Control button	Press the button.
-	Result	Denotes the result of a previous step.
⇨	Cross-reference	Refers to more extensive or detailed information.

1. Safety advice

This chapter gives general rules which must be followed and observed if the product is to be handled safely.

Avoid personal injury/damage to equipment

- Do not use the measuring instrument and probes to measure on or near live parts.
- Never store the measuring instrument/probes together with solvents and do not use any desiccants.

Product safety/preserving warranty claims

- Operate the measuring instrument only within the parameters specified in the Technical data.
- Always use the measuring instrument properly and for its intended purpose. Do not use force.
- Do not expose handles and feed lines to temperatures in excess of 70 °C unless they are expressly permitted for higher temperatures.
  Temperatures given on probes / sensors relate only to the measuring range of the sensors.
- Open the instrument only when this is expressly described in the documentation for maintenance and repair purposes.
  Carry out only the maintenance and repair work that is described in the documentation. Follow the prescribed steps when doing so. For safety reasons, use only original spare parts from Testo.

Ensure correct disposal

- Take faulty rechargeable batteries/spent batteries to the collection points provided for them.
- Send the product back to Testo at the end of its useful life. We will ensure that it is disposed of in an environmentally friendly manner.

2. Intended purpose

This chapter gives the areas of application for which the product is intended.

Use the product only for those applications for which it was designed. Ask Testo if you are in any doubt.

testo 417 is a compact measuring instrument for measuring flow velocities and temperatures by means of an integrated 100mm vane with temperature probe.

The product was designed for the following tasks/applications:

- Measuring volumetric flow rates at inlets/outlets
- Measuring the temperature of flows

The product should not be used in the following areas:

- Areas at risk of explosion.
- Diagnostic measurements for medical purposes

3. Product description

This chapter provides an overview of the components of the product and their functions.

3.1 Display and control elements

Overview



① Probe
② Display
③ Control buttons
④ Battery compartment (rear)
⑤ Service compartment (rear)

Button functions

Button	Functions
⏻	Switch instrument on; switch instrument off (press and hold)
☼	Switch display light on / off
Hold / Max / Min	Keep reading, display maximum/minimum value
↵	Open/leave configuration mode (press and hold); In configuration mode: Confirm input
△	In configuration mode: Increase value, select option
▽	In configuration mode: Reduce value, select option
Mean	Multi-point and timed mean calculation
Vol	Volumetric flow

Important displays

Display	Meaning
	Battery capacity (bottom right in display): · 4 segments in the battery symbol are lit: Instrument battery is fully charged · No segments in the battery symbol are lit: Battery is almost spent

3.2 Voltage supply

Voltage is supplied by means of a 9V monobloc battery (included in delivery) or rechargeable battery. It is not possible to run the instrument from the mains supply or charge a rechargeable battery in the instrument.

4. Commissioning

This chapter describes the steps required to commission the product.

➢ Inserting a battery/rechargeable battery:

1. To open the battery compartment on the rear of the instrument, push the lid of the battery compartment in the direction of the arrow and remove it.
2. Insert a battery/rechargeable battery (9V monobloc). Observe the polarity!
3. To close the battery compartment, replace the lid of the battery compartment in position and push it against the direction of the arrow.

5. Operation

This chapter describes the steps that have to be executed frequently when using the product.

5.1 Connecting a probe

The necessary probes are permanently connected or integrated. It is not possible to connect any additional probes.

5.2 Switching the instrument on / off

➢ Switching the instrument on:

› Press [⏻].

- Measurement view is opened: The current reading is displayed, or ----- lights up if no reading is available.

➢ Switching the instrument off:

› Press and hold [⏻] (for approx. 2s) until the display goes out.

5.3 Switching the display light on / off

➢ Switching the display light on/off:

✓ The instrument is switched on.

› Press [☼].

5.4 Performing settings

1 To open configuration mode:

✓ The instrument is switched on and is in measurement view. Hold, Max or Min are not activated.

› Press and hold [↵] (for approx. 2s) until the display changes.

- The instrument is now in configuration mode.

ℹ You can change to the next function with [↵].
You can leave configuration mode at any time. To do so, press and hold [↵] (for approx. 2s) until the instrument has changed to measurement view. Any changes that have already been made in configuration mode will be saved.

2 To set funnel factor F.FACT:

ℹ For measurements at ventilation outlets with a funnel the parameter F.FACT must be activated. The funnel set (order no. 0563 4170) consists of a funnel for measurements at plate outlets (200 x 200mm) and a funnel for measurements at ventilation outlets (330 x 330mm).

✓ Configuration mode is opened, F.FACT is lit.

› Activate (on) or deactivate (oFF) the factor with [△] / [▽] and confirm with [↵].

3 To set the area (only if F.FACT oFF):

✓ Configuration mode is opened, AREA is lit.

› Set the cross-sectional area with [△] / [▽] and confirm with [↵].

4 To set the grill factor: K.FACT (only if F.Fact oFF):

ℹ If parts of the cross-sectional area are covered (e.g. by grill members), this can be corrected via the grill factor. The grill factor indicates the proportion of free space on the cross-sectional area. Example: If 20% of the area is covered, the grill factor must be set to 0.8 (80% free space)

✓ Configuration mode is opened, K.FACT is lit.

› Set the grill factor with [△] / [▽] and confirm with [↵].

5 To set Auto Off:

✓ Configuration mode is opened, AutoOff is flashing.

› Select the desired option with [△] / [▽] and confirm with [↵]:

- on: The measuring instrument switches off automatically if no button is pressed for 10min (Hold or Auto Hold is lit).
- oFF: The measuring instrument does not switch itself off automatically.

6 To set the unit of measurement:

✓ Configuration mode is opened, UNIT is lit.

› Select the desired unit of measurement with [△] / [▽] and confirm with [↵].

7 To reset:

✓ Configuration mode is opened, RESET is lit.

› Select the desired option with [△] / [▽] and confirm with [↵]:

- no: Instrument is not reset.
- Yes: Instrument is reset. The instrument is reset to the factory settings.

- The instrument returns to measurement view.

6. Measuring

This chapter describes the steps that are required to perform measurements with the product.

➢ **Taking a measurement:**

✓ The instrument is switched on and is in measurement view.

› Put the probe in position and read off the readings.

➢ **Changing the measurement channel display:**

› To change between displaying the temperature (°C) and the calculated volumetric flow rate (m^3/h): Press [Vol].

➢ **Holding the reading, displaying the maximum/minimum value:**

The current reading can be recorded. The maximum and minimum values (since the instrument was last switched on) can be displayed.

› Press [Hold / Max / Min] several times until the desired value is displayed.

- The following are displayed in turn:
  - **Hold**: the recorded reading
  - **Max**: Maximum value
  - **Min**: Minimum value
  - The current reading

➢ **Resetting the maximum/minimum values:**

The maximum/minimum values of all channels can be reset to the current reading.

1 Press [Hold / Max / Min] several times until **Max** or **Min** lights up.

2 Press and hold [Hold / Max / Min] (approx. 2s).

- All maximum or minimum values are reset to the current reading.

➢ Performing a multi-point mean calculation:

✓ Hold, Max or Min are not activated.

1 Press Mean.
- ● Mean is lit.
- The number of readings recorded is displayed in the upper line, while the current reading is displayed in the lower line.

Option:

› To change between displaying the temperature (°C), flow velocity (m/s) and calculated volumetric flow rate (m^3/h): Press Vol.

2 To include readings (in the desired quantity): Press ↵ (several times).

3 To end measurement and calculate the mean value: Press Mean.
- ● Mean flashes. The calculated spot mean value is displayed.

4 To return to measurement view: Press Mean.

➢ Performing a mean calculation in time:

✓ Hold, Max or Min are not activated.

1 Press Mean twice.
- ◷ Mean is lit.
- The elapsed measuring time (mm:ss) is displayed in the upper line, while the current reading is displayed in the lower line.

Option:

› To change between displaying the temperature (°C), flow velocity (m/s), and calculated volumetric flow rate (m^3/h): Press Vol.

2 To start measurement: Press ↵.

3 To interrupt/continue measurement: Press ↵ each time.

4 To end measurement and calculate the mean value: Press Mean.
- ◷ Mean flashes. The calculated mean value in time is displayed.

5 To return to measurement view: Press Mean.

7. Care and maintenance

This chapter describes the steps that help to maintain the functionality of the product and extend its service life.

➢ Cleaning the housing:

› Clean the housing with a moist cloth (soap suds) if it is dirty. Do not use aggressive cleaning agents or solvents!

➢ Changing the battery/rechargeable battery:

✓ The instrument is switched off.

1 To open the battery compartment on the rear of the instrument, push the lid of the battery compartment in the direction of the arrow and remove it.

2 Remove the spent battery/rechargeable battery and insert a new battery/rechargeable battery (9 V monobloc). Observe the polarity!

3 To close the battery compartment, replace the lid of the battery compartment in position and push it against the direction of the arrow.

8. Questions and answers

This chapter gives answers to frequently asked questions.

Question	Possible causes	Possible solution
▭ is lit (bottom right in display).	· Instrument battery is almost spent.	· Replace instrument battery.
Instrument switches itself off automatically.	· Auto Off function is switched on. · Residual capacity of battery is too low.	· Switch function off. · Replace battery.
Display: -----	· Probe break.	· Please contact your dealer or Testo Customer Service.
Display reacts slowly	· Ambient temperature is very low.	· Raise ambient temperature.
Display: uuuuu	· Permitted measuring range was undershot.	· Keep to permitted measuring range.
Display: ooooo	· Permitted measuring range was exceeded.	· Keep to permitted measuring range.

If we are unable to answer your question, please contact your dealer or Testo Customer Service. For contact data, see back of this document or web page www.testo.com/service-contact.

9. Technical data

Characteristic	Value
Parameters	Flow velocity (m/s), temperature (°C/°F)
Calculated variables	Volumetric flow rate (m^3/h)
Measuring range	+0.3...+20 m/s 0...+50 °C/+32...+122 °F
Resolution	0.01 m/s 0.1 °C / 0.1 °F
Accuracy (± 1 Digit)	±0.1 m/s+1.5% of reading ±0.5 °C/±0.9 °F
Probe	Vane probe 100 mm, NTC temperature probe (integrated)
Measuring rate	2/s
Operating temperature range	0...+50 °C / +32...+122 °F
Storage temperature	-40...+85 °C / -40...+185 °F
Voltage supply	1x 9V monobloc battery/rech. battery
Battery life	approx. 50 h
EC Directive	2004/108/EEC
Warranty	2 years

10. Accessories/spare parts

Name	Part no.
Funnel set consisting of funnel for disc valves (200 x 200mm) and funnel for ventilator (330 x 330mm)	0563 4170

For a complete list of all accessories and spare parts, please refer to the product catalogues and brochures or look up our website: www.testo.com