



## Latest generation testo air velocity & IAQ probes with fixed cable

Instruction manual



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# 1 About this document

- The instruction manual is an integral part of the instrument.
- Please read this instruction manual through carefully and familiarize yourself with the product before putting it to use.
- Pay particular attention to the safety instructions and warning advice in order to prevent injury and damage to the product.
- Keep this documentation to hand so that you can refer to it when necessary.
- Always use the complete original instruction manual.
- Hand this instruction manual on to any subsequent users of the product.

# 2 Safety and disposal


## Security

- Only use the product properly, for its intended purpose, and within the parameters specified in the technical data. Do not apply any force.
- Dangers may also arise from the systems being measured or the measuring environment: always comply with the locally valid safety regulations when carrying out measurements.
- Do not carry out any contact measurements on uninsulated, live parts.
- Do not store the product together with solvents. Do not use any desiccants.
- Only carry out maintenance and repair work on this instrument which is described in the documentation. Follow the prescribed steps exactly when doing the work. Use only original spare parts from Testo.
- Temperature information given on probes/sensors relates only to the measuring range of the sensor technology. Do not expose handles and feed lines to temperatures in excess of 50°C (122°F), unless they are expressly authorized for use at higher temperatures.
- Do not operate the instrument if there are signs of damage on the housing or supply lines.

### Disposal

- At the end of its useful life, deliver the product to the separate collection point for electric and electronic devices (observe local regulations) or return the product to Testo for disposal.



-  WEEE Reg. no. DE 75334352

## 3 System description

You have acquired a probe, if applicable with additional probe-specific accessories.

The probe can be directly connected to the testo 400 / testo 440 measuring instrument.



You will find detailed information about how each of the probes works along with the testo 400 /testo 440 measuring instrument in the corresponding chapter of the respective instruction manual for the measuring instrument.



The digital probe allows measuring values to be processed directly in the probe. This technology eliminates instrument measurement uncertainty.


## 4 Description of the instrument

### 4.1 Hot wire probe, including temperature sensor (0635 1032)

#### Application

In conjunction with the testo 400 / testo 440, the hot wire probe is suitable for flow and temperature measurements in ventilation ducts.

#### Structure



|   |                               |   |               |  |
|---|-------------------------------|---|---------------|--|
|   |                               |   |               |  |
|   |                               |   |               |  |
| 1 | Sensor with protective sleeve | 2 | Probe adapter |  |
| 3 | Telescope with scaling        | 4 | Cable         |  |
| 5 | Connection plug               |   |               |  |

#### CAUTION

Damage to sensor possible!


- Do not touch sensor!
- Close the protective sleeve after the measurement.

### 4.2 Hot wire probe (Ø 7.5 mm), including temperature sensor (0635 1026)

#### Application

In conjunction with the testo 400 / testo 440, the thin hot wire probe is suitable for flow and temperature measurements in ventilation ducts and on ceiling / wall outlets.

#### Structure



|   |                               |   |                        |
|---|-------------------------------|---|------------------------|
|   |                               |   |                        |
|   |                               |   |                        |
| 1 | Sensor with protective sleeve | 2 | Telescope with scaling |
| 3 | Cable                         |   |                        |

### CAUTION

Damage to sensor possible!

- **Do not touch sensor!**
- **Close the protective sleeve after the measurement.**



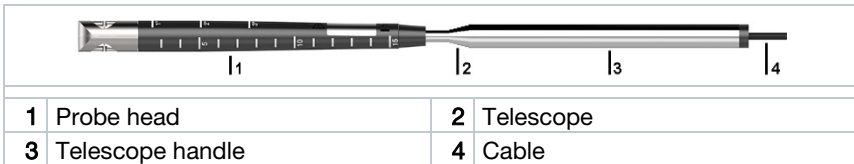
The thin hot wire probe (0635 1026) is recognized in the testo 400 from app version 14 and in the testo 440 from firmware version 1.0.6.

## 4.3 Vane probe (Ø 16 mm) (0635 9532)

### Application

In conjunction with the testo 400 / testo 440, the vane probe (Ø 16 mm) is suitable for flow measurements in ventilation ducts.

### Structure



### CAUTION

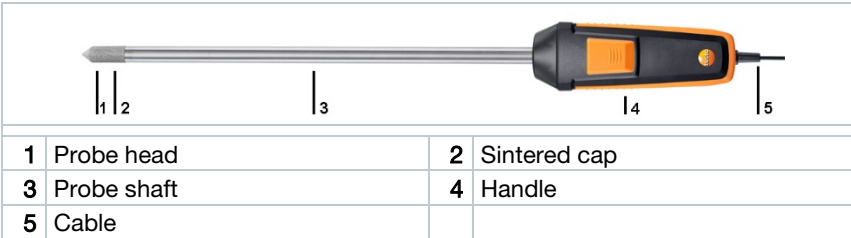
Damage to sensor possible!

- **Do not touch sensor!**
- **Put the protective sleeve on after the measurement.**

## 4.4 High-precision temperature/humidity probe up to +180°C (0636 9775)

### Application

In conjunction with the testo 400 / testo 440, the high-precision temperature/humidity probe is used to measure humidity and temperature.

**Structure****CAUTION**

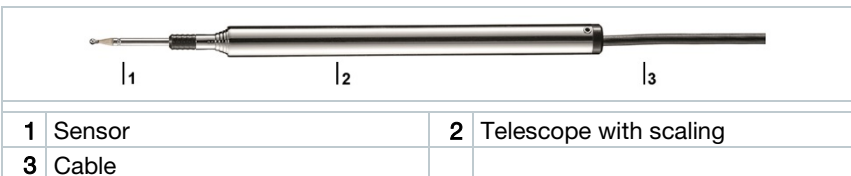
Damage to sensor possible!

- **Do not touch sensor!**

## 4.5 Hot ball probe including temperature sensor (0635 1051)

**Application**

The hot ball probe is ideal in conjunction with the testo 400 / testo 440 for flow and temperature measurements irrespective of direction.

**Structure****CAUTION**

Damage to sensor possible!

- **Do not touch sensor!**
- **Close the protective sleeve after the measurement.**



The hot ball probe (0635 1051) is recognized in the testo 400 from app version 14 and in the testo 440 from firmware version 1.0.6.

## 4.6 Lux probe (0635 0551)

### Application

In conjunction with the testo 400 / testo 440, the lux probe is used to determine the illuminance of workplaces. In general, the illuminance measurement of warm light or white LEDs is possible because these types of LED cover the whole spectral range of the human eye. The measurement of one-colour LEDs (e.g. blue LEDs) is not recommended.

### Structure



### CAUTION

Damage to sensor possible!

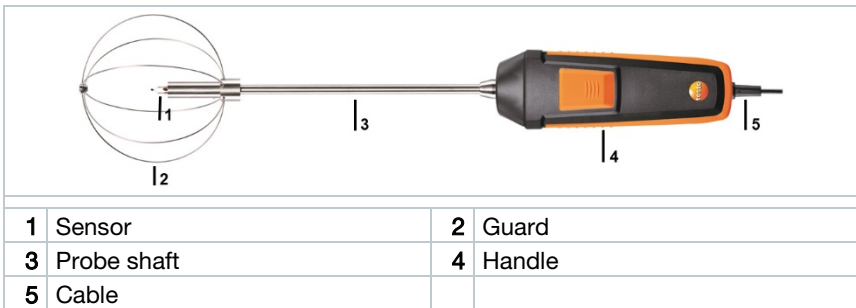
- Do not touch sensor!

## 4.7 Turbulence probe (0628 0152)

### Application

In conjunction with the testo 400 / testo 440, the turbulence probe is used for temperature and air pressure measurement.

### Structure





**ATTENTION**

Damage to sensor possible!

- **Do not touch sensor!**



The probe contains sensitive components. Please handle the probe with care.

## 4.8 Laboratory flue probe (0635 1052)

### Application

In conjunction with the testo 400 / testo 440, the laboratory flue probe is used to determine flow velocities in laboratory fume cupboards.

### Structure



|   |        |   |                   |
|---|--------|---|-------------------|
| 1 | Sensor | 2 | Protective sleeve |
| 3 | Button | 4 | Handle            |
| 5 | Cable  |   |                   |

**ATTENTION**

Damage to sensor possible!

- **Do not touch sensor!**
- **Push the protective sleeve over the sensor after the measurement.**



The probe contains sensitive components. Please handle the probe with care.



Low flow velocities may result in greater measurement uncertainty during temperature measurement!

## 5 Commissioning

### Displaying readings

- ✓ | Sensor is connected to the measuring instrument.
- ▶ | Readings are displayed.

## 6 Maintenance

### 6.1 Maintaining the probes

#### 6.1.1 Cleaning the instrument



Do not use any aggressive cleaning agents or solvents; instead use mild household cleaning agents or soapy water.



Always keep the connections clean and free from grease and other deposits.

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Clean the instrument and the connections with a damp cloth and dry them off.

#### 6.1.2 Calibration



The probes are supplied with a factory calibration protocol as standard.

Recalibration of the probes once every 12 months is recommended in many applications.

This can be carried out by Testo Industrial Services (TIS) or other certified service providers with the aid of easy-to-use service software. For calibration, the probe alone (without the hand instrument) can be sent away.

Please contact Testo for further information.

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## 7 Technical data



- Adjustment conditions for flow probes:  
Adjustment in free jet Ø 350 mm, reference pressure 1013 hPa, based on testo reference Laser Doppler Anemometer (LDA).
- Note for flow probes:  
Low flow velocities may result in greater measurement uncertainties during humidity and temperature measurement! The probe should be switched on outside a duct under the following conditions:  
Ambient temperature: 20°C  
Flow: approx. 0 m/s.
- Note for humidity probes:  
Please do not use the humidity probes in condensing atmospheres.  
For continuous use in high-humidity ranges  
> 80% RH at ≤ 30°C for > 12 h  
> 60% RH at > 30°C for > 12 h  
please get in touch with Testo Service or contact us via the Testo website.



Collapse the telescope after use and do not constrict with the cable. Start with the telescopic links closest to the handle.

### Hot wire probe, including temperature sensor (0635 1032)

| Feature                           | Value  |
|-----------------------------------|--|
| Measuring range                   | 0 to +30 m/s<br>-20 to +70 °C<br>700 to 1100 hPa   |
| Accuracy<br>(at 22 °C, ± 1 digit) | ± (0.03 m/s + 4% of m.v.) (0 to 20 m/s)<br>± (0.5 m/s + 5% of m.v.) (20.01 to 30 m/s)<br>± 0.5 °C (0 to +70 °C)<br>± 3 hPa |
| Resolution                        | 0.01 m/s<br>0.1 °C<br>0.1 hPa  |
| Storage temperature               | -20 °C to +70 °C   |
| Operating temperature             | -20 °C to +70 °C   |
| Protection class                  | IP20   |

| Feature                         | Value   |
|---------------------------------|---|
| Dimensions                      | Cable length: 1.7 m<br>Extension length with telescope: 850 mm<br>Ø probe head on the sensor: 9 mm<br>Ø end of probe shaft: 12 mm |
| Weight                          | 90 g  |
| Directives, standards and tests | EU Directive: 2014/30/EU  |

### Hot wire probe (Ø 7.5 mm), including temperature sensor (0635 1026)

| Feature                          | Value   |
|----------------------------------|---|
| Measuring range                  | 0 to +20 m/s<br>-20 to +70 °C<br>700 to 1100 hPa  |
| Accuracy<br>(at 22°C, ± 1 digit) | ± (0.03 m/s + 5 % of m.v.)<br>± 0.5 °C (0 to +70 °C)<br>± 3 hPa   |
| Resolution                       | 0.01 m/s<br>0.1 °C<br>0.1 hPa   |
| Storage temperature              | -20 °C to +70 °C  |
| Operating temperature            | -20 °C to +70 °C  |
| Protection class                 | IP20  |
| Dimensions                       | Cable length: 1.7 m<br>Extension length with telescope: 850 mm<br>Ø probe head on the sensor: 7.5 mm<br>Ø end of probe shaft: 12 mm |
| Weight                           | 90 g  |
| Directives, standards and tests  | EU Directive: 2014/30/EU  |

### Vane probe (Ø 16 mm) (0635 9532)

| Feature                          | Value   |
|----------------------------------|---|
| Measuring range                  | 0.6 to 50 m/s   |
| Accuracy<br>(at 22°C, ± 1 digit) | ± (0.2 m/s +1% of m.v.) (0.6 to 40 m/s)<br>± (0.2 m/s +2% of m.v.) (40.1 to 50 m/s) |
| Resolution                       | 0.1 m/s   |
| Storage temperature              | -10°C to +70°C  |

## 7 Technical data

| Feature                         | Value  |
|---------------------------------|--|
| Operating temperature           | -10°C to +70°C   |
| Protection class                | IP20   |
| Dimensions                      | Cable length: 1.7 m<br>Extension length with telescope: 850 mm<br>Ø probe head: 16 mm<br>Ø end of probe shaft: 12 mm |
| Weight                          | 148 g  |
| Directives, standards and tests | EU Directive: 2014/30/EU   |

### High-precision temperature/humidity probe up to +180°C (0636 9775)

| Feature                          | Value   |
|----------------------------------|---|
| Measuring range                  | -20 to +180°C<br>0 to 100% RH   |
| Accuracy<br>(at 22°C, ± 1 digit) | ±0.5°C (-20 to 0°C)<br>±0.4°C (0.1 to +50°C)<br>±0.5°C (+50.1 to +180°C)  |
| Accuracy<br>(at 25°C, ±1 digit)  | ±3% RH (0 to 2% RH)<br>±2% RH (2.1 to 98% RH)<br>±3% RH (98.1 to 100% RH)<br>Additional uncertainty<br>- Long-term stability: ±1% RH / year |
| Resolution                       | 0.1°C<br>0.1% RH  |
| Temperature coefficient          | type (k=1) ±0.03% RH/K (-20 to +50°C)<br>type (k=1) ±0.06% RH/K (+50 to +180°C)   |
| Storage temperature              | -20 to 60°C   |
| Operating temperature            | Handle: -5 to +50°C<br>Probe head: -20 to +180°C  |
| Protection class                 | IP20  |
| Dimensions                       | Cable length: 1.4 m<br>Overall probe length: 420 mm<br>Probe shaft length: 270 mm<br>Ø probe shaft: 12 mm                                   |
| Weight                           | 255 g   |
| Directives, standards and tests  | EU Directive: 2014/30/EU  |

**Hot ball probe, including temperature sensor (0635 1051)**

| Feature                           | Value   |
|-----------------------------------|---|
| Measuring range                   | 0 to +10 m/s<br>-20 to +70 °C<br>700 to 1100 hPa  |
| Accuracy<br>(at 22 °C, ± 1 digit) | ± (0.03 m/s + 5 % of m.v.)<br>± 0.5 °C (0 to +70 °C)<br>± 3 hPa   |
| Resolution                        | 0.01 m/s<br>0.1 °C<br>0.1 hPa   |
| Storage temperature               | -20 °C to +70 °C  |
| Operating temperature             | -20 °C to +70 °C  |
| Protection class                  | IP20  |
| Dimensions                        | Cable length: 1.7 m<br>Extension length with telescope: 850 mm<br>Ø probe head on the sensor: 3 mm<br>Ø end of probe shaft: 12 mm |
| Weight                            | 90 g  |
| Directives, standards and tests   | EU Directive: 2014/30/EU  |

**Lux probe (0635 0551)**

| Feature                          | Value   |
|----------------------------------|---|
| Measuring range                  | 0 to 100,000 lux  |
| Accuracy<br>(at 22 °C, ±1 digit) | DIN EN 13032-1 Appendix B;<br>Class C according to DIN 5032-7 |
| Resolution                       | 0.1 lux < 10,000 lux<br>1 lux ≥ 10,000 lux                    |
| Storage temperature              | -20 to +50 °C   |
| Operating temperature            | 0 to +50 °C   |
| Ambient humidity                 | Preferred use: 20 to 80% RH                                   |
| Dimensions                       | Cable length: 1.4 m<br>Housing: 110 x 55 x 22 mm              |
| Weight                           | 110 g   |
| Directives, standards and tests  | EU Directive: 2014/30/EU                                      |

**Turbulence probe (0628 0152)**

| Feature                          | Value   |
|----------------------------------|---|
| Measuring range                  | 0 to +5 m/s<br>0 to +50°C<br>700 to 1100 hPa                                      |
| Accuracy<br>(at 22°C, ± 1 digit) | ± (0.03 m/s + 4% of m.v.) (0 to +5 m/s)<br>± 0.5°C<br>± 3 hPa                     |
| Resolution                       | 0.01 m/s<br>0.1°C<br>0.1 hPa  |
| Storage temperature              | -20 to +60°C  |
| Operating temperature            | 0°C to +50°C  |
| Dimensions                       | Cable length: 1.4 m<br>Overall probe length: 400 mm<br>Probe shaft length: 195 mm |
| Weight                           | 250 g   |
| Directives, standards and tests  | EU Directive: 2014/30/EU  |

**Laboratory flue probe (0635 1052)**

| Feature                          | Value   |
|----------------------------------|---|
| Measuring range                  | 0 to +5 m/s<br>0 to +50°C<br>700 to 1100 hPa                                      |
| Accuracy<br>(at 22°C, ± 1 digit) | ± (0.02 m/s + 5% of m.v.) (0 to +5 m/s)<br>± 0.5°C<br>± 3 hPa                     |
| Resolution                       | 0.01 m/s<br>0.1°C<br>0.1 hPa  |
| Storage temperature              | -20 to +60°C  |
| Operating temperature            | 0°C to +50°C  |
| Dimensions                       | Cable length: 1.4 m<br>Overall probe length: 350 mm<br>Probe shaft length: 195 mm |
| Weight                           | 230 g   |



| Feature                         | Value                    |
|---------------------------------|--------------------------|
| Directives, standards and tests | EU Directive: 2014/30/EU |

## 8 Accessories and spare parts

| Description   | Order no. |
|---|-----------|
| Measuring stand with standard-compliant positioning of probes (including bag) | 0554 1591 |



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