Dear Customer

You have made the right decision by choosing the testo 325 flue gas analyser. Thousands of customers buy our high standard products every year. There are at least 7 good reasons for doing so:

2) Extended warranty times of up to 3 years - depending on instrument.
3) We have the ideal solutions for your measuring tasks based on our expert experience gained over 40 years.
4) Our high quality standard is confirmed by the ISO 9001 certificate.
5) Of course, our instruments carry the CE symbol required by the EU.
6) Calibration certificates for all relevant parameters. Seminars, advice and calibration on location.
7) Our after-sales service. Ask for more details.
Operation via plug-in mains unit
The original mains unit should be used when operating the analyser.

Tightness
The complete measuring system (probe, condensate trap, hoses and plug-in connections) must be checked for tightness e.g. by attaching a rubber bladder, which has been pressed together, on the probe tip. Measurements may be inaccurate if additional air is drawn in.

Gas outlet
When measuring ensure that the gas outlet in the analyser is free of any obstacles so that the gas can escape unhindered. If this is not the case the results measured may be incorrect.

Condensate trap
Empty the condensate trap once maximum levels have been reached. The pump has to be switched off (the measurement cells are at risk otherwise!)

Measurement cells
There is a low level of concentrated acid (CO sensor) or alkaline solution (O2 sensor) in the measurement cells. Please dispose of these measurement cells carefully.

Analyser
Storage of the analysers in rooms containing solvents will damage the measurement cells.
Initial operation

Power supply

Standard rechargeable batteries or batteries
- Use standard rechargeable battery type (1.5V IEC KR 15/51 corresponding to type AA) or battery type (1.5V AA size alkaline IEC LR6 •AA• ) (4 off).

Testo mains unit (0554.0054)
- Ensure that the connection plug in testo 325 is securely connected.
- Operation with mains unit is possible if rechargeables/batteries are empty (batteries cannot be recharged in analyser)

Capacity display

Voltage >4.6 V (Service life: approx. 3 hours, at an ambient temperature of 20°C)
Flash symbol, voltage <4.6 V
Lifetime of rechargeable battery: 0.5 h
Lifetime of battery: approx. 2.5 h
If the voltage in the rechargeable battery drops below 4.2 V, the analyser is switched off automatically to protect against total discharge.

Gas path

FG = Flue gas
°C FT = Flue gas temperature
°C AT = Separate ambient air temperature
p = Pressure
Initial operation

Diagram of analyser

- Time
- Date
- Initialisation phase
- Flue gas temperature
- Temperature measurement
- Ambient air temperature
- Battery capacity
- Print
- Pump measurement - On/Off
- Print button
- Cancel/Return
- Menu button and confirmation

- Fuel name
- Parameters
- Measuring units
- Readings
- Pump active
- Draught/pressure measurement
- On/Off button
- Selection button
- Scroll buttons
- Draught/pressure button

- Mains unit connection
- AT
- FT
- Gas inlet (red)
- Inlet for draught measurement or pressure connection (blue)
Initial operation
Operating the analyser

Button panel

- **Scroll buttons**
  Use the **up/down arrow buttons** ▲ / ▼ to scroll between the measured value windows (in the measurement menu) or to select a menu point in a list. If the last window or the last menu item has been reached, you automatically go to the first window or the first menu item.

- **Selection button**
  Use the arrow button pointing to the right ▶ to access the parameters which can be changed in the Date/Time Menu and in the Display Sequence Menu. The parameters are set using the ▲ and ▼ buttons.

- **Print**
  The measurement data in the display is printed by pressing Print Print.

- **I/O button**
  Press I/O ▼ to switch instrument on or off. A switch-off message appears in the display before the instrument is switched off completely. You can still stop the instrument from being switched off by pressing any button except ▲. The instrument then returns to the measurement menu.

- **Escape button**
  By pressing ▼ you can cancel selected procedures or a planned selection or you can leave sub-menus. When you leave the sub-menus, by pressing ▼ you generally go back one menu window until you are in the main menu.

- **OK button**
  The ▼ button takes you from the measurement menu to the main menu. Chosen functions are selected or executed.
Example of measurement

Measuring flue gas and ambient air temperature

The flue gas temperature is measured via the thermocouple at the tip of the flue gas probe. The probe has openings in this area in the probe stem so that the thermocouple is protected but at the same time comes into contact with the flue gas.

In order to measure the exact flue gas temperature and therefore be able to measure the exact flue gas loss, the thermocouple should always be positioned in the flue gas flow. It should not be covered by the probe stem frame. The flue gas probe must be plugged into the FT connection socket.

There are two ways to measure the ambient air temperature with testo 325:

1. Measuring the ambient air temperature using the flue gas probe

The temperature is already measured during the initialisation phase and is shown in the display.

The temperature measured by the flue gas probe is interpreted by the testo 325 as the ambient air temperature and is saved as the ambient air temperature value once the initialisation phase is completed. All of the dependent variables are calculated with this value.

This type of ambient air temperature measurement is sufficient for systems which are dependent on ambient air. During the initialising phase, ensure that the tip of the flue gas probe is held near the burner’s intake duct.

2. Measuring the ambient air temperature via a separate ambient air probe

The probe is connected to the additional probe socket (AT) at the bottom connection panel of testo 325. As soon as a separate temperature probe is inserted, the temperature is automatically recognised as the ambient air temperature and is measured continually.
Example of measurement

Flue gas measurement in burners

If the flue gas probe is in a vertical position or at an angle of 45°, the condensate drops which develop could result in a sudden drop in temperature.

Remedy:
Position the flue gas probe horizontally.

After every measurement rinse the measurement cells with fresh air (Pump Start/Stop) until the O₂ level is over 20.0 % and the CO level is below 50 ppm (applies only to testo 325-1).
The flue gas probe is used to measure draught. Draught can be measured before or after a flue gas measurement.

Draught can only be measured if the pump is switched off. If the draught is measured following flue gas measurement there will still be impact pressure in the hose, after the pump is stopped, which first has to be reduced (approx. 30 seconds).

The analyser's position should not be changed when draught is being measured.

Any remaining condensate in the flue gas probe must be removed (shake the probe with the tip nearest the ground).

Do not switch between rechargeable battery and mains operation when measuring draught (fluctuations in voltage may influence the measured result).

Initialising the pressure sensor:
Probe must be outside the flue.
Negative sign means negative pressure, positive sign means positive pressure in the flue.

Data is not saved

Data is saved. Return to measurement menu.
Example of measurement

Differential temperature measurement

Only for measuring temperature e.g. flow/return temperature.

Attach probe T1 and T2.

Scroll with the arrow buttons through the main menu until you come to the $\Delta T$ setting.

Confirm with $\text{OK}$.

Reconfirm with $\text{OK}$ Jump to measurement menu with display of differential temperature $\Delta T$.

Return to main menu by pressing $\text{ESC}$.
1. Select uCO in the measurement menu line (uCO flashes)

2. Start pump

3. Stop pump

4. Save undiluted CO measured value

5. Change probe

6. Measure flue gas (see Page 8)

Example of measurement

CO undiluted
(applies only to testo 325-1)
Example of measurement

Printing the measured results

The readings can be printed by pressing the `button. Printing is only possible if the pump is not in operation. Printing can be stopped by pressing `[ESC]`.

All readings are printed with
- Date/Time
- Set parameter sequence
- Measuring units

(How to set date/time. See reference section)

*These values are entered by hand on the printout.

HCT: Heat carrier temperature
SSNR: Smoke number
Scroll with the arrow buttons through the main menu until you reach Dat/Time.

Change the field to be set by pressing ▶.
Increase value by pressing ▲, reduce value by pressing ▼.
Confirm settings with OK and return to main menu.
ESC: return to the main menu without taking over the settings.
**Fuels**

Selectable fuels and their factors

| Fuel                      | $K_{gr}$ | $K_{net}$ | $CO_{2\text{max}}$ | $K_1$ | $K_2$ | Hydrogen Content of fuel H $|\text{H}|$ | Moisture Content of fuel $\text{MH}_2\text{O}$ | $Q_{gr}$ | $Q_{net}$ | $O_2\text{ ref}$ | $F_{Br}$ |
|---------------------------|---------|-----------|---------------------|-------|-------|-------------------|---------------------------------------------|---------|---------|-----------------|----------|
| Natural Gas               | 0.350   | 0.390     | 11.9               | 40    | 44.3  | 24.4              | 0                                           | 53.42   | 48.16   | 3               | 0.2304   |
| Fuel Oil, Class D         | 0.480   | 0.510     | 15.4               | 53    | 56.4  | 13.0              | 0                                           | 45.60   | 42.80   | 3               | 0.2434   |
| Fuel Oil, Class E,F,G     | 0.510   | 0.540     | 15.8               | 54    | 57.2  | 11.5              | 0.2                                         | 42.90   | 40.50   | 3               | 0.2545   |
| Propane LPG               | 0.420   | 0.450     | 13.8               | 48    | 51.8  | 18.2              | 0                                           | 50.0    | 46.3    | 3               | 0.2341   |

* These values set by the factory can be freely selected.

$K_{gr}, K_{net}, CO_{2\text{max}}, K_1, K_2$, Hydrogen content of fuel H, Moisture content of fuel $\text{MH}_2\text{O}$, $Q_{gr}$, $Q_{net}$, $O_2\text{ ref}$ are all fuel-specific factors

$F_{Br}$: Conversion factor mg/m$^3$ in g/GJ

$f$: Siegert factor

Scroll through the fuel list using the arrow buttons.

Confirm setting by pressing [OK] and go to measurement menu.

[ESC]: Return to the main menu without taking over the settings.
Reference section

Parameter sequence

Possible parameters in instrument versions

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>O2 (testo 325-1/-2)</td>
<td>Oxygen level</td>
</tr>
<tr>
<td>FT</td>
<td>Flue gas temperature</td>
</tr>
<tr>
<td>AT</td>
<td>Ambient air temperature</td>
</tr>
<tr>
<td>CO2 (testo 325-1/-2)</td>
<td>Carbon dioxide level</td>
</tr>
<tr>
<td>Lambda (testo 325-1/-2)</td>
<td>Excess air value</td>
</tr>
<tr>
<td>Draught (hPa.mbar, mmH₂O)</td>
<td>Fine draught reading</td>
</tr>
<tr>
<td>Eta (testo 325-1/-2)</td>
<td>Efficiency</td>
</tr>
<tr>
<td>∆T</td>
<td>Differential temperature</td>
</tr>
<tr>
<td>uCO (testo 325-1)</td>
<td>Carbon monoxide level undiluted</td>
</tr>
<tr>
<td>CO (testo 325-1/-3)</td>
<td>Carbon monoxide level</td>
</tr>
</tbody>
</table>

Setting the parameter sequence

Select the required line by selecting \( \uparrow \) or \( \downarrow \).

Select the parameter for this line with \( \rightarrow \).

Select additional line if required.

Once selection is complete, the complete parameter sequence is taken over when \( \text{OK} \) is pressed. Jumps to measurement menu.

If the selection is cancelled by pressing \( \text{ESC} \) the settings are not taken over. Jumps to measurement menu.

If parameters were selected which are not measured “– – – –” will appear in the measurement menu.
Reference section

Setting the units

Possible measurement parameters

- Temperature: °C, °F
- Gas: ppm, mg/m³ (testo 325-1/-3 only)
- Draught/Pressure: hPa, mbar, mmH₂O

Measuring units

Select the parameter with ▲ or ▼
Select list of all possible measuring units via ►
Accept measuring unit by pressing OK jumps to measurement menu.
Cancel selection by pressing ESC, settings are not accepted.

The “GAS” setting is only possible in testo 325-1/-3.
Maintenance

Changing rechargeable batteries or batteries

Switch off analyser before changing battery or rechargeable battery.

Complete change in 1 - 2 minutes or plug in mains unit.
The set date/time may otherwise be lost.

Warning
Observe the correct polarity of the rechargeable batteries/batteries

Remove empty/defect rechargeable battery or empty battery from the battery compartment and replace with new rechargeable batteries or batteries.

Condensate trap

The max. level in the condensate trap should not be exceeded.

Remove the emptying plugs to empty the condensate trap.

Changing filters

The filter must be exchanged if dirt particles can be seen.

Empty the condensate trap before changing filter.

To do this, unlock the condensate trap and remove from housing.

Remove the filter and replace with a new one. Order spare filter (Part no. 0554.0040).
Only this filter should be used.

A tightness test should be carried out every time a filter is changed (See page 3).
Maintenance

Flue gas probe

Cleaning the flue gas probe if the gas path is clogged
Remove the probe stem and place in hot water. Move about in hot water. Blow air through pipe or clean with a round brush (e.g. made of brass).

Changing a defect thermocouple
Pull out the bending protection spring from the guide at the back outlet with a counterclockwise movement and pull out the tube to the left. Pull out the thermocouple by the tube.

Lever the thermocouple out of the handle with the aid of a screwdriver.

Only remove the thermocouple if it is defect. The thermocouple may be damaged when pulled out by the connection tube.

Remove the bending protection spring and take the tube out of the holder in the handle and out of the slit. Push the bending protection spring over the new thermocouple.

When inserting the new thermocouple do not press on the thermocouple tube. Press it into place with the help of a small screwdriver.

Cleaning the flue gas pump
Open the housing on the measuring instrument (See page 19, Items 1 - 8).

- Take out the pump carefully.
- Insert “Pump Tool” in the pump head guides.
- Take off “Pump Tool” together with the pump head.
- Remove diaphragm holder from pump head and take out diaphragm.
- Clean pump diaphragm, pump plate and pump head with spirit or water.
- Place pump diaphragm in the diaphragm holder and insert in the pump head
- Place pump head on pump.
- Remove “Pump Tool”.
- Place pump in assembly block.
- Reassemble measuring instrument (see page 20).
Changing O₂-CO measurement cells

1.) Remove temperature probe and hose connector of the flue gas probe and the mains unit from the testo 325.

2.) Empty condensate trap before removing it.

3.) Unlock the condensate trap and remove from housing (See page 17).

4.) Remove filter insert (See page 17).

5.) Remove positioning plate using a screwdriver.

6.) Open battery compartment and remove batteries/rechargeables (See page 17).

7.) The testo 325 housing is opened by moving the housing parts in the direction of the arrows (See diagram).

8.) Remove bottom part of housing.

9.) Release holder screws (See diagram).

10.) Remove the mounting block with the electronics from the top of the housing (see below).

11.) Remove mounting block from the board.

12.) Release fastening screws (3 off) on measurement chamber cover. Remove cover.

Reduce electric charge in your own body before touching the electronics.
Avoid contact with electronic parts.
Changing the CO measurement cell (testo 325-1/-3)

Before installing the new CO measuring cell, carefully remove the short-circuit spring from the contacts.

- Remove measurement cell from measurement chamber cover and attach the new measuring cell.

![Short-circuit spring](Image)

When changing a CO measurement cell the NO filter should also be replaced.

- Remove the NO filter from the measurement chamber. When installing the new filter ensure that the area with the bore holes faces downward in the measurement chamber.

Changing the O₂ measurement cell (testo 325-1/-2)

- The measurement cell is located in the measurement chamber. Remove the measurement cell and put in the new measurement cell. Observe the guides on the measurement cell and chamber when installing.

Assembling testo 325

- Place the measurement chamber cover on the measurement chamber. Tighten the fastening screws (3 off).
- Connect the mounting block with the electronics.
- Place the mounting block and electronics in the upper part of the housing.
- Attach the mounting block and the electronics to the upper part of the housing with the holder screws (2 off).
- Put upper part of housing in position and close in the opposite direction to the arrow.
- Insert positioning plate and filter.
- Insert condensate trap. Ensure that it snaps into position.
- Put batteries/rechargeables into place and close battery compartment cover.
Changing O₂-CO measurement cells

Calibrating the O₂ cell (testo 325-1/-2 only)

Start calibration by pressing \[ \text{OK} \]. Takes approx. 1 h. The analyser remains switched on during calibration.

Inputting CO cell coefficient (testo 325-1/-3 only)

The CO cell coefficient is written on the sheet enclosed with the spare CO measurement cell.

Once the coefficient has been entered and confirmed via \[ \text{OK} \] the system then goes to the initialisation phase.

During the calibration phase you can go to the initialisation phase anytime by pressing the \[ \text{button} \] twice.

You will receive false readings if the calibration phase is interrupted

Recalibration is available from Testo service points, subsidiaries and agencies.
These equations are used to calculate the following values:

**CO₂ value:**  
\[ \text{CO}_2 = \frac{\text{CO}_{2\text{max}} (21\% - \text{O}_2\%) \text{ CO}_{2\text{max}}} {21\%} \]  
- \( \text{CO}_{2\text{max}} \): Fuel-specific maximum CO₂ value  
- 21\%: Oxygen level of air in %  
- \( \text{O}_2\% \): Measured oxygen level in %

**Flue gas loss:**  
\[ q_A = \left( \frac{\text{FT} - \text{AT}} {21\% - \text{O}_2\%} \right) A^2 + \left( \frac{B} {21\% - \text{O}_2\%} \right) \]  
- \( \text{FT} \): Flue gas temperature  
- \( \text{AT} \): Ambient air temperature  
- \( A^2 \): Fuel-specific factors  
- \( B \): Oxygen level in air  
- \( \text{O}_2\% \): Measured oxygen level (rounded to whole numbers)  
- \( K_k \): is a factor which can turn into a negative value if \( q_A \) falls below the temperature. Necessary for measurements on burners.

If the fuel-specific factors \( A^2 \) and \( B \) are zero, the Siegertsche Formula is applied using factor \( f \).

\[ q_A = f \times \left( \frac{\text{FT} - \text{AT}} {\text{CO}_2} \right) \]  
- \( \text{FT} \): Flue gas temperature  
- \( \text{AT} \): Ambient air temperature  
- \( \text{CO}_2 \): Calculated CO₂ value  
- \( f \): fuel-specific factor

**Burner efficiency:**  
\[ \text{Eta} = 100 - q_A \]  
If \( q_A \) is negative, Eta will be greater than 100%.

**Excess air value \( \lambda \):**  
\[ \lambda = \frac{\text{CO}_{2\text{max}} \text{ CO}_2} {\text{CO}_{2\text{max}}} \]  
- \( \text{CO}_{2\text{max}} \): Fuel-specific maximum CO₂ value  
- \( \text{CO}_2 \): Calculated CO₂ value

**Only in testo 325-1**

**CO** undiluted:  
\[ \text{CO}_{\text{undiluted}} = \text{CO} \times \lambda \]  
- \( \text{CO} \): Measured CO value  
- \( \lambda \): Excess air value

**Calculating ppm in mg/m³ referred to the O₂ reference value**

\[ \text{CO (mg/m³)}: \quad \text{CO} = \frac{21\% - \text{O}_2\%\text{reference}} {21\% - \text{O}_2\%} \times \text{CO (ppm)} \times 1.25 \]  
- 21\%: Oxygen level in air  
- \( \text{O}_2\% \): Measured oxygen level
Conversion of ppm to mg/m³ referred to the O₂ reference value (freely selectable according to fuel)

\[
\text{CO (mg/m³)} = \frac{O_2 \text{ set} - O_2 \text{ ref}}{(O_2 \text{ set} - O_2)} \times \text{CO (ppm)} \times 1.25
\]

\(O_2 \text{ set} : \) Oxygen content in the air
\(O_2 : \) Measured oxygen content

Conversion of ppm to g/GJ

\[
\text{CO (g/GJ)} = \frac{O_2 \text{ set}}{O_2 \text{ meas.}} \times \text{CO (ppm)} \times \text{FBr} \times 1.25
\]

Conversion of (ppm) to mg / kWh

\[
\text{CO (mg/kWh)} = \frac{O_2 \text{ set}}{O_2 \text{ meas.}} \times \text{CO (ppm)} \times \text{FBr} \times 3.6 \times 1.25
\]

\(\text{FBr} \) See “Fuel selection”

Efficiencies

\[
\text{Effg} = 100 - \left[ \frac{K_{gr} \times (FT - AT)}{CO_2} \right] + \left[ \frac{X \times (2488 + 2.1 \times FT - 4.2 \times AT)}{Q_{gr} \times 1000} \right] + \left[ \frac{K_1 \times CO}{CO_2 + CO} \right]
\]

\[
\text{Effn} = 100 - \left[ \frac{K_{net} \times (FT - AT)}{CO_2} \right] + \left[ \frac{X \times (210 + 2.1 \times FT - 4.2 \times AT)}{Q_{gr} \times 1000} \right] + \left[ \frac{K_1 \times Q_{gr} \times CO}{Q_{net} \times CO_2 + CO} \right]
\]

\[
\text{rat} = \frac{\text{CO (ppm)}}{CO_2 \text{ (%)} \times 10000}
\]
## Error messages

<table>
<thead>
<tr>
<th>Error message during measurement</th>
<th>Cause / Remedy</th>
</tr>
</thead>
</table>
| Symbols are flashing            | 1. Flue gas temperature probe not connected.  
2. Temperature probe is not connected properly. Flue gas temperature and its calculated values are not measured, the remaining values are listed. Check the temperature probe connection or insert new temperature probe. |
| CO, O₂ and ° are flashing       | Admissible operating temperature has been exceeded. The ambient air changes to non-permissible values. Adapt to ambient air temperature. |
| O₂ is flashing                  | Measurement of the O₂ signal in the calibration phase is unstable. Cause: O₂ cell was changed but the specified adaptation time of 60 minutes for the cell was not adhered to. → Switch off instrument and wait on adaptation. |
| **During the initialisation phase** |                      |
| O₂ is flashing                  | O₂ cell is used up. Change measurement cell. |
| CO is flashing                  | Measurement of the zero point is not stable. Let the initialising phase run several times. If this is not successful, the CO measurement cell is probably defect. |
| **Before switching off**        |                      |
| O₂ and/or CO are flashing       | There is still flue gas in the analyser or very high concentrations were measured or the initialising phase is taking longer. Cause: Insufficient air was rinsed through after the last measurement or the probe is in the flue gas. → Probe should be brought into contact with fresh air. If there is still no change after several runs of the initialising mode the cell is probably defect or the cell is used up. |
| ![LOW BAT](LOW_BAT.png)         | The analyser supply voltage is too low. Recharge rechargeable/battery or connect to mains. |

If we were unable to answer your question, please contact your distributor or Testo Customer Service. You will find contact details in the Warranty booklet or in Internet at [www.testo.com](http://www.testo.com).
### Technical data

#### Temperature measurement
- **Measurement range**: -40 to +600 °C
- **Resolution**: 0.1 °C
- **Accuracy**: ±0.5 °C (0 to +99.9 °C)
  ±0.5 % of m.v. (from +100 °C)
- **Sensor**: Thermocouple Type K (NiCr-Ni) to DIN IEC 584 Part 2, Class 1

#### Draught/pressure measurement
- **Measurement range**: ± 40 mbar
- **Resolution**: 0.01 mbar
- **Accuracy**: < 3.00 mbar ± 0.03 mbar
  > 3.00 mbar ± 1.5% of m.v.
- **Max. overload**: 1000 mbar

#### Effg/Effn
- **Measurement range**: 0 to 120.0 %
- **Resolution**: 0.1 %

#### Flue gas loss
- **Measurement range**: 0 to 99.9 %
- **Resolution**: 0.1 %

#### O₂ measurement
- **Measurement range**: 0 to 21 vol.%
- **Accuracy**: ± 0.2 vol.% absolute
- **Resolution**: 0.1 vol.%
- **Response time t90**: Approx. 40 s

#### CO₂ measurement
- **Display range**: 0 to CO₂max
- **Accuracy**: ± 0.2 vol.%
- **Resolution**: 0.01 vol.%
- **Measurement**: Digital calculation from O₂
- **Response time t90**: Approx. 40 s

#### CO measurement (testo 325-1 only)
- **Measurement range**: 0 to 2000 ppm
- **Accuracy**: ± 20 ppm (to 400 ppm)
  ± 5 % of m.v.
- **H₂ level**: < 10%
- **Resolution**: 1 ppm
- **Response time t90**: Max. 60 s, typically 40 s

#### Weight
- 500g

#### Dimensions
- 216 x 68 x 47 mm

#### Transport/ storage temperature
- -20 to +50 °C

#### Ambient temp.
- +4 to +45 °C

#### Power supply
- Via plug-in mains unit, batteries or exchangeable rechargeable batteries

#### Warranty instrument
- 2 years
**Testo log printer 0554.0545**

**Technical data**

- **Type or printer:** Infrared thermal printer
- **Operating temperature:** 0 to +50 °C
- **Storage/transport temperature:** -40 to +60 °C
- **Dimensions:** 150 x 88 x 50 mm
- **Weight:** 0.33 kg (incl. batteries)
- **Power supply:** 4 AA batteries, 1.5 V or NC rechargeable batteries
- **Accessories:** Spare paper, Part no. 0554.0569

*Note: The printer switches to power save after 10 minutes of inactivity.*

- Paper feed
- Return from power save
- Self-test = Keep button pressed when switching on

**Transmission distance:**

Maximum 2 m

**Instructions for disposal:**

Only run down batteries should be disposed of. Place batteries in separate plastic bags to prevent short-circuits.

**Data terminal and switch on:**

- **Control lamp**
  - Green = ON/Battery o.k.
  - Yellow = ON/Battery warning
  - Red = ON/Battery empty

Ensure window is clean.
## Ordering data

<table>
<thead>
<tr>
<th>Description</th>
<th>Part no.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Analyser</strong></td>
<td></td>
</tr>
<tr>
<td>testo 325-1 flue gas analyser (incl. batteries and calibration certificate)</td>
<td>0563.0320</td>
</tr>
<tr>
<td>testo 325-2 flue gas analyser (incl. batteries and calibration certificate)</td>
<td>0563.0330</td>
</tr>
<tr>
<td>testo 325-3 flue gas analyser (incl. batteries and calibration certificate)</td>
<td>0563.0340</td>
</tr>
<tr>
<td><strong>Flue gas and temperature probes</strong></td>
<td></td>
</tr>
<tr>
<td>Compact flue gas probe (length: 180 mm, hose length: 1.5 m)</td>
<td>0600.9544</td>
</tr>
<tr>
<td>Compact flue gas probe (length: 300 mm, hose length: 1.5 m)</td>
<td>0600.9542</td>
</tr>
<tr>
<td>TUV approved flue gas probe for measurements on atmospheric gas systems</td>
<td>0600.9543</td>
</tr>
<tr>
<td>Mini ambient air probe (length: 60 mm)</td>
<td>0600.9798</td>
</tr>
<tr>
<td>Clamp probe (for meas. on pipes with max. diameter of 1(\mathrm{\text{i}}), T(_{\text{max}}) +100 °C)</td>
<td>0602.4692</td>
</tr>
<tr>
<td>Surface probe (with sprung thermocouple band, T(_{\text{max}}) +300 °C)</td>
<td>0602.0392</td>
</tr>
<tr>
<td>Pipe clamp probe</td>
<td>0628.0020</td>
</tr>
<tr>
<td><strong>Printer</strong></td>
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<tr>
<td>Testo log printer</td>
<td>0554.0545</td>
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<tr>
<td><strong>Accessories</strong></td>
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<tr>
<td>Instrument SoftCase (for attachment to boiler)</td>
<td>0516.2570</td>
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<tr>
<td>Instrument case (plastic version)</td>
<td>0516.3250</td>
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<tr>
<td>Mains unit (230 V for mains operation)</td>
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<tr>
<td>Mains unit GB</td>
<td>0554.0041</td>
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<tr>
<td>Mains unit J</td>
<td>0554.0052</td>
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<tr>
<td>Mains unit USA</td>
<td>0554.0053</td>
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<tr>
<td>Spare particle filter for testo 325 (10 off)</td>
<td>0554.0040</td>
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<tr>
<td>Spare paper for infrared printer</td>
<td>0554.0569</td>
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<tr>
<td>Battery recharger for printer and testo 325, incl. 4 rechargeable batteries</td>
<td>0554.0110</td>
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<tr>
<td>Hose connection set (incl. silicon hose and adapter)</td>
<td>0554.0315</td>
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<tr>
<td><strong>Spare cells</strong></td>
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</tr>
<tr>
<td>O(_2) spare cell for testo 325-1/-2</td>
<td>0390.0069</td>
</tr>
<tr>
<td>CO spare cell for testo 325-1/-3</td>
<td>0390.0168</td>
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