

testo 330-2 LL

Understand flue gas analysis at a glance

The new colour graphic display of the flue gas analyzer testo 330 LL visualizes the measurement data graphically: Self-explanatory graphic curves as well as easy symbols and clear colour design ease the analysis of the measurement data considerably. The central element of the new graphic processing of the measurement data is the flue gas matrix.

In the course of the flue gas measurement, this shows whether the CO and O₂ values, as well as other measurement parameters, are in the green, permitted range, and the heating system is thus optimally adjusted. Thumb symbols instantly show the status of the system. If the CO and O₂ concentrations measured are in the green range, the thumbs point up. If the recorded measurement values are not within the optimum range, the symbols of the flue gas matrix provide important information for the required adjustment of the heating system.

testo 330-2 LL

testo 330-2 LL Flue gas analyzer with longlife gas sensors, Bluetooth and H₂-compensated CO cell as well as integrated draught and gas zeroing, incl. rech. battery and calibration protocol

Part no.

0632 3307 70

testo 330-LL – visualizes measurement data graphically

New features of the testo 330 LL:

- Colour graphic display with 240 x 320 Pixel
- Graphic processing of measurement data
- New instrument design
- Instrument diagnosis function uses easy "traffic light" presentation to enable comprehensive error diagnosis, diagnosis of sensors and the call-up of instrument information such as the filling level of the condensate trap and the battery status
- Logger function for long-term measurements
- New measurement menus, e. g. Gas pipe test
- Pressure measurement up to 300 mbar
- User-defined fuels

Other features:

- Reduced follow-on costs thanks to LL sensors with 4 years' guarantee
- Life expectancy up to 6 years (O₂ / CO)
- At least 1 sensor replacement is saved in the course of a normal working life
- Powerful Li-ion rechargeable battery - life: >6 h with pump running, no memory effect, no deep discharge
- Rechargeable battery can be charged separately and in instrument
- TÜV-tested according to 1. BImSchV / EN 50379 Part 2 for O₂, °C, hPa and CO with H₂-compensation

A measuring instrument with great ease of communication:

- Powerful memory management: 500,000 readings
- IrDa/ Bluetooth interface for data transfer to Pocket-PC / laptop / printer
- USB interface for data readout to a PC software
- ZIV (Central Guild Association) driver for all standard industry software packages

Only for testo 330-2 LL

- In CO measurement, from 8.000 ppm, automatic dilution is carried out up to min. 30,000 ppm CO
- Integrated gas and draught zeroing without probe removal: The probe can remain in the flue during zeroing



* Exceptions: Typical wearing parts: Rechargeable battery and thermocouple (1 year) NO/CO_{low} sensor (2 years), filter



Set testo 330-2 LL

The Longlife set for customer service and maintenance technicians

Flue gas analyzer testo 330-2 LL (O ₂ and COH ₂) incl. Bluetooth, rech. battery and calibration protocol	Part no. 0563 3372 70
100-240 V mains unit for mains operation or charging the rechargeable battery in the instrument	
Combustion air temperature probe, immersion depth 190 mm	
Hose connection set for separate gas pressure measurement	
testo Bluetooth printer with mains unit	
Basic system case flat	
Flue gas probe length 300 mm, Ø 8 mm, Tmax. 500 °C	

Set testo 330-2 LL

The Longlife set for inspectors

Flue gas analyzer testo 330-2 LL (O ₂ und COH ₂) incl. Bluetooth, rech. battery and calibration protocol	Part no. 0563 3372 72
100-240 V mains unit for mains operation or charging the rechargeable battery in the instrument	
Combustion air temperature probe, immersion depth 190 mm	
Smoke tester testo 308	
Soot pump holder	
Flue gas probe length 300 mm, Ø 8 mm, Tmax. 500 °C	
Basic system case with double floor for instrument, probes and further accessories	






Set testo 330-2 LL

The Longlife set for service technicians and inspectors with fine pressure probe



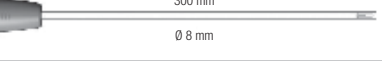



Flue gas analyzer testo 330-2 LL (O ₂ und COH ₂) incl. Bluetooth, rech. battery and calibration protocol	Part no. 0563 3372 71
100-240 V mains unit for mains operation or charging the rechargeable battery in the instrument	
Combustion air temperature probe, immersion depth 190 mm	
testo Bluetooth printer with mains unit	
Easyheat software testo 330 for PC	
USB connection cable, instrument-PC	
Flue gas probe length 300 mm, Ø 8 mm, Tmax. 500 °C	
Fine pressure probe	
Capillary hoses	
Surface probe angled 90°	
Connection cable for surface probe	
Straight Pitot tube	
Heating check retrofit CD	
Basic system case with double floor for instrument, probes and further accessories	






*Country permits: The BLUETOOTH® radio module used by Testo is permitted for the following countries and may only be used in those countries, i.e. the BLUETOOTH® wireless transmission may not be used in any other country! Europe including all EU member states: Austria, Belgium, Bulgaria, Czech Republic, Cyprus, Denmark, Estonia, Finland, France, Germany, Great Britain, Greece, Hungary, Ireland, Italy, Latvia, Luxembourg, Malta, Netherlands, Poland, Portugal, Romania, Sweden, Slovakia, Slovenia, Spain and Turkey; European countries (EFTA): Iceland, Liechtenstein, Norway, Switzerland; Non-European countries: Ukraine, Colombia and El Salvador.







testo 330-LL			
Temperature measurement	Meas. range	-40 to +1200 °C	
	Accuracy (± 1 digit)	$\pm 0,5$ °C (0.0 to +100.0 °C) $\pm 0,5$ % of mv (remaining range)	
	Resolution	0.1 °C (-40 to 999,9 °C) 1 °C (remaining range)	
Draught measurement	Meas. range	-9.99 to +40 hPa	
	Accuracy (the greater value applies)	± 0.02 hPa or $\pm 5\%$ of mv (-0.50 to +0.60 hPa) ± 0.03 hPa (+0.61 to +3.00 hPa) $\pm 1.5\%$ of mv (+3.01 to +40.00 hPa)	
	Resolution	0.01 hPa	
Pressure measurement	Meas. range	0 to 300 hPa	
	Accuracy (± 1 digit)	± 0.5 hPa (0.0 to 50.0 hPa) $\pm 1\%$ of mv (50.1 to 100.0 hPa) ± 1.5 % of mv (remaining range)	
	Resolution	0.1 hPa	
O ₂ measurement	Meas. range	0 to 21 Vol. %	
	Accuracy (± 1 digit)	± 0.2 Vol. %	
	Resolution	0.1 Vol. %	
	Response time t ₉₀	< 20 s	
testo 330-1 LL CO measurement (without H2 compensation)	Meas. range	0 to 4000 ppm	
	Accuracy (± 1 digit)	± 20 ppm (0 to 400 ppm) $\pm 5\%$ of mv (401 to 1000 ppm) $\pm 10\%$ of mv (1001 to 4000 ppm)	
	Resolution	1 ppm	
	Response time t ₉₀	< 60 s	
testo 330-2 LL CO measurement (H2 compensation)	Meas. range	0 to 8000 ppm	
	Accuracy (± 1 digit)	± 10 ppm or $\pm 10\%$ of mv (0 to 200 ppm) ± 20 ppm or $\pm 5\%$ of mv (201 to 2000 ppm) $\pm 10\%$ of mv (2001 to 8000 ppm)	
	Resolution	1 ppm	
	Response time t ₉₀	< 40 s From 8000 ppm: Display range 8000 to 30000 ppm (automatic dilution) / 500 ppm resolution	
Efficiency measurement (ETA)	Meas. range	0 to 120%	
Flue gas loss	Resolution	0.1%	
	Meas. range	0 to 99.9%	
CO ₂ measurement digital calculation from O ₂	Resolution	0.1%	
	Display range	0 to CO ₂ max	
	Accuracy (± 1 digit)	± 0.2 Vol. %	
	Response time t ₉₀	< 40 s	
Option: NO _{low} measurement	Meas. range	0 to 300 ppm	
	Accuracy (± 1 digit)	± 2 ppm (0.0 to 40.0 ppm) $\pm 5\%$ of mv (remaining range)	
	Resolution	0.1 ppm	
Option: NO measurement	Response time t ₉₀	< 30 s	
	Meas. range	0 to 3000 ppm	
	Accuracy (± 1 digit)	± 5 ppm (0 to 100 ppm) $\pm 5\%$ of mv (101 to 2000 ppm) $\pm 10\%$ of mv (2001 to 3000 ppm)	
Ambient CO measurement (with CO probe)	Resolution	1 ppm	
	Meas. range	0 to 500 ppm	
	Accuracy (± 1 digit)	± 5 ppm (0 to 100 ppm) $\pm 5\%$ of mv (>100 ppm)	
Gas leak measurement for combustible gases (with gas leak detection probe)	Response time t ₉₀	Approx. 35 s	
	Display range	0 to 10,000 ppm CH ₄ / C ₃ H ₈	
	Signal	Optical display (LED) Audible display via buzzer	
Ambient CO ₂ measurement (with ambient CO ₂ probe)	Adjustment time t ₉₀	< 2 s	
	Meas. range	0 to 1 Vol. % 0 to 10000 ppm	
	Accuracy (± 1 digit)	$\pm (50 \text{ ppm} \pm 2\% \text{ of mv})$ (0 to 5000 ppm)	
Warranty	Response time t ₉₀	Approx. 35 s	
	testo 330-1 LL/-2 LL	Instrument/probe/gas sensors (O ₂ , CO) NO, NOlow sensor Thermocouple and battery	4 years 2 years 1 year

Modular flue gas probes	Illustration	Tmax	Part no.
Flue gas probe, 180 mm long, Ø 8 mm, Tmax 500 °C, TÜV approval		+500 °C	0600 9760
Flue gas probe, 300 mm long, Ø 8 mm, Tmax 500 °C, TÜV approval		+500 °C	0600 9761
Flue gas probe, 180 mm long, Ø 6 mm, Tmax 500 °C		+500 °C	0600 9762
Flue gas probe, 300 mm long, Ø 6 mm, Tmax 500 °C		+500 °C	0600 9763
Flexible flue gas probe, 330 mm long, Tmax 180 °C, short-term 200 °C, bending radius max. 90° for measuring at inaccessible points			0600 9764

Modular flue gas probes, available in 2 lengths, incl. probe stop, NiCr-Ni thermocouple, 2.2m hose and particle filter

Probe accessories	Illustration	Tmax	Part no.
Probe shaft, 180 mm long, Ø 8 mm, Tmax 500 °C		+500 °C	0554 9760
Probe shaft, 180 mm long, Ø 6 mm, Tmax 500 °C		+500 °C	0554 9762
Probe shaft, 300 mm long, Ø 8 mm, Tmax 500 °C		+500 °C	0554 9761
Probe shaft, 335 mm long, with probe stop, Ø 8 mm, Tmax 1000 °C		+1000 °C	0554 8764
Probe shaft, 700 mm long, with probe stop, Ø 8 mm, Tmax 1000 °C		+1000 °C	0554 8765
Flexible probe shaft, 330 mm long, Ø 10 mm, Tmax 180 °C		+180 °C	0554 9764
Multi-hole probe shaft, 300 mm long, Ø 8 mm, for mean CO calculation			0554 5762
Multi-hole probe shaft, 180 mm long, Ø 8 mm, for mean CO calculation			0554 5763
Hose extension, 2.8 m, extension cable for probe and analyser			0554 1202
8 mm probe stop, steel, with spring clamp and handle, Tmax 500 °C			0554 3330
6 mm, probe stop, steel, with spring clamp and handle, Tmax 500 °C			0554 3329

Additional probes	Illustration	Meas. range	Accuracy	Part no.
Dual wall clearance probe for O ₂ supply air measurement				0632 1260
Gas leak probe		0 to +10000 ppm CH ₄ / C ₃ H ₈		0632 3330
Ambient CO probe, for detecting CO in buildings and rooms		Fixed cable 1.5 m 0 to +500 ppm CO	±5% of mv (+100.1 to +500 ppm CO) ±5 ppm CO (0 to +100 ppm CO)	0632 3331
Ambient CO ₂ probe		Plug-in head, connection cable 0430 0143 or 0430 0145 required 0 ... +1 Vol. % CO ₂ 0 ... +10000 ppm CO ₂	±(50 ppm CO ₂ ±2% of mv)(0 to +5000 ppm CO ₂) ±(100 ppm CO ₂ ±3% of mv)(+5001 to +10000 ppm CO ₂)	0632 1240
Connection cable				0430 0143
Fine pressure probe for testo 330 LL				0638 0330

Ambient air temperature probes	Illustration	Meas. range	Accuracy	t99	Part no.
Combustion air temperature probe, immersion depth 300 mm		0 to +100 °C	±0.5 °C (0 to +100 °C)	30 s	0600 9791
Combustion air temperature probe, immersion depth 190 mm		0 to +100 °C			0600 9787
Combustion air temperature probe, immersion depth 60 mm		0 to +100 °C	±0.5 °C (0 to +100 °C)	30 s	0600 9797
Temperature probes	Illustration	Meas. range	Accuracy	t99	Part no.
Mini ambient air probe, Tmax +80°C, for separate ambient air temperature measurement		0 to +80 °C			0600 3692
Pipe wrap probe for pipes with diameter of up to 2", for flow/return temp. meas. in hydronic systems		-60 to +130 °C	Class 2	5 s	0600 4593
Fast-action surface probe with sprung thermocouple strip, for measurements on floor heating, radiators, insulations...		-200 to +300 °C	Class 2	3 s	0604 0194
Plug-in head, connection cable 0430 0143 or 0430 0145 required					
Connection cable					0430 0143

Measuring instruments with options	Part no.	EUR
testo 330-1 LL flue gas analyzer with longlife gas sensors (not H2-compensated), incl. rech. battery and calibration protocol	0632 3306	
testo 330-2 LL flue gas analyzer with longlife gas sensors with integrated draught and gas zeroing, incl. O2/CO cell (not H2-compensated), incl. rech. battery and calibration protocol	0632 3307	
Option: Fine draught measurement, rResolution 0.1 Pa, measurement range to 100 Pa (instead of the standard draught measurement)		
Option fine differential pressure measurement		
Option: NO sensor, meas. range 0 to 3000 ppm, 1 ppm resolution		
Option H2-compensated CO cell		
Option COlow sensor		
Option Bluetooth		

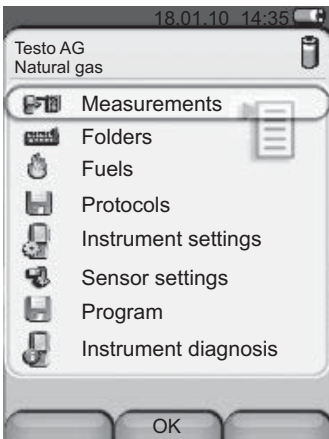
Spare gas sensors	Part no.	EUR
O2 sensor for testo 330-1 LL/-2 LL	0393 0002	
CO sensor (without H2-compensation) for testo 330-1 LL/-2 LL	0393 0051	
CO sensor (H2-compensated) for testo 330-1 LL/-2 LL	0393 0101	
COlow sensor 0 to 300 ppm for testo 330-1 LL/-2 LL	0393 0103	
NO sensor 0 to 3000 ppm for testo 330-1 LL/-2 LL	0393 0151	
Retrofit NO sensor, measuring range 0 to 3000 ppm, resolution 1 ppm, for testo 330-1 LL/-2LL	0554 2151	
Retrofit COlow sensor, Measuring range 0 -to 300 ppm, resolution 0.1 hPa, for testo 330-1 LL/-2 LL	0554 2103	

Accessories	Part no.	EUR
100-240 V AC / 6.3 V DC international mains unit, for mains operation or battery charging in instrument	0554 1096	
Spare battery 2600 mA	0515 0107	
Charger for spare battery	0554 1103	
Testo fast printer with wireless infrared interface, 1 roll thermal paper and 4 AA batteries	0554 0549	
BLUETOOTH® printer set with wireless Bluetooth interface, incl. 1 roll thermal paper, rechargeable battery and mains unit	0554 0553	
Spare thermal paper for printer (6 rolls), permanent ink	0554 0568	
Readout adapter for automatic furnaces	0554 1206	
Adhesive pockets (50 off) for printout, paper barcode labels...	0554 0116	
Instrument cleaner (100 ml)	0554 1207	
Smoke tester with oil, soot sheet, for measuring soot in flue gas	0554 0307	
Hose connection set for separate gas pressure measurement	0554 1203	
Pressure set for testing gas line	0554 1213	
Differential temperature set consisting of 2 pipe clamp probes and adapter	0554 1204	
Spare particle filter (10 off) for probe handle	0554 3385	
easyheat PC analysis software, shows measurement in form of diagrams, tables and manages customer data. Please order USB cable 0449 0047 separately.	0554 3332	
Full version EasyHeat + EasyHeat Mobile (for PC und PDA)	0554 1210	
USB connection cable, instrument to PC	0449 0047	
ISO calibration certificate/flue gas	0520 0003	

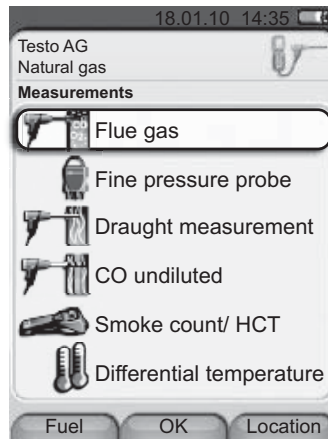
Accessories	Part no.
Transport and Protection	
Basic system case for analyzer, probes and accessories	0516 3330
Basic system case with two levels for analyser, probes and additional accessories	0516 3331
Tools system case with tools section, without contents, attachable to basic system case	0516 0329
Versatile system case without sections, attachable to basic system case, For easy storage of analyser and additional accessories	0516 0331
Measurement case (leather) with drawers for instruments and accessories	0516 0303

The advantages of the new flue gas analyzer testo 330 LL:

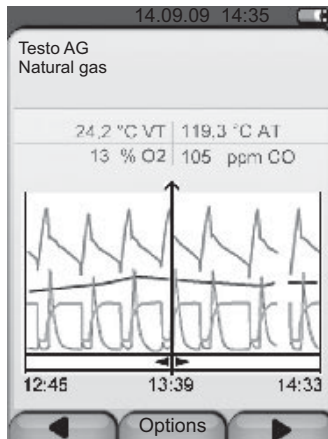
- High-resolution colour display for the graphic representation of your measurement data
- Extended measurement menus such as Tightness testing for comprehensive analysis of the heating system
- Logger function for easy long-term recording of the measurement curve



Main menu – select adjustment function



Select one of the pre-set measurements



Measurement data can be graphically visualized and quickly analyzed

The measurement menus

- | | | |
|---------------------|--------------------------|-------------------------|
| Flue gas | Smoke number/HCT | Oil flow rate |
| Draught measurement | Differential pressure | CO ambient |
| Fine pressure probe | Differential temperature | CO ₂ ambient |
| BlmSchV | O ₂ input air | Automatic burner |
| CO undiluted | Gas flow rate | Gas pipe tests |

Further advantages of the flue gas analyzer testo 330 LL: The new instrument design

Thanks to the new colour design and the materials used, the instrument is also suitable for use in rough and dirty surroundings.

