We measure it. testo

Measure. Print. Done.

testo 310. Flue gas analysis the easy way.

Flue gas analysis is this easy.

Success is simply a question of the right tool.

Get to know the new flue gas analyser testo 310. It combines simple functions with a high level of measurement accuracy, making it perfect for all basic measurements on heating systems. Long battery lifetimes of up to 10 hours guarantee high availability. Its easy handling and compact design make the testo 310 a robust tool for daily work – even when things get rough.

The printer specially developed for the testo 310, including infrared interface, allows you to create clear reports on site as required. The current measurement value can be printed out of any measurement menu during or after the measurement. You present the results of your work to your customer in black and white.

The testo 310 offers all advantages of electronic flue gas measurement in high quality at a perfect cost-benefit ratio. testo 310: Measure. Print. Done.

All settings under control at all times.
The testo 310 stands out thanks to its easy handling and menu-guided security. You can read off the measurement values confidently and conveniently from the well-lit display, even in bad light conditions. The fuels are stored not just as numbers, but are each described. At the top edge of the clear display, the symbols for the different measurement menus are always in view. The display and the dirt-insensitive keypad are clearly structured. Operation is very easy – even if you only have one hand free. And you always get right to the point:

The measurement values can be read off on the well-lit display. The testo 310 has a battery life of 10 hours. It is excellently suited to rough surroundings. The condensation trap can be emptied quickly and easily.

Thanks to the automatic zeroing of the gas sensor, the testo 310 is ready for use shortly after being switched on – only 30 seconds to start is unbeatably fast.
The testo 310 intentionally concentrates on the four core measurement functions flue gas, ambient CO, draught and pressure. The instrument has two measurement cells for O_2 and CO, and a temperature sensor integrated into the flue gas probe. The gas sensors measure the exact oxygen and carbon monoxide content as well as the flue gas and ambient temperature. From this data, all relevant measurement parameters such as CO_2 value, degree of efficiency and flue gas loss are calculated. Since the flue gas probe is permamently fixed to the instrument, there are no bothersome single parts in the way.

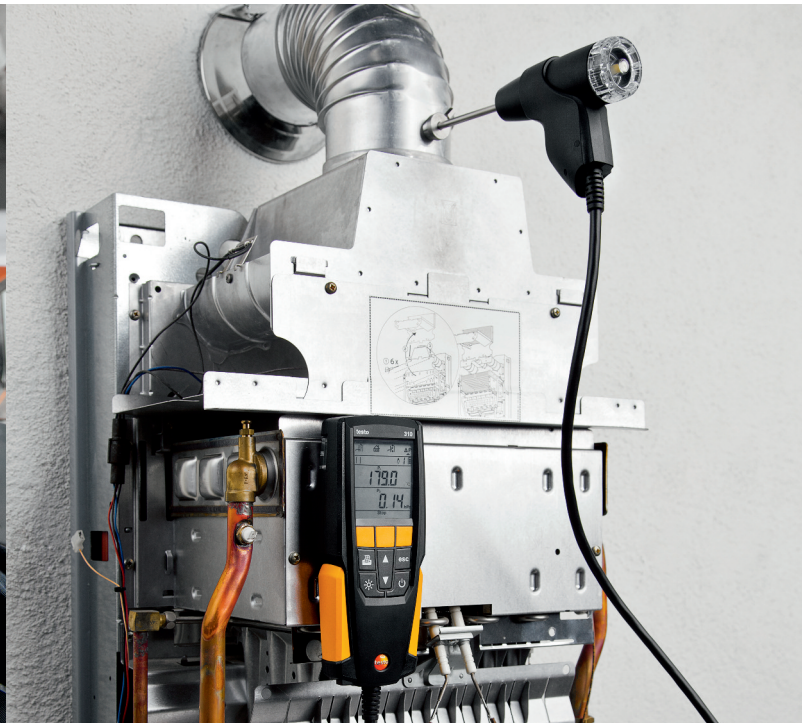
New business potential thanks to modern flue gas analysis.

Flue gas analysis is not a luxury. Only an optimally adjusted heating system efficiently converts the fuel used into heat, thereby emitting as few pollutants as possible. Whether the adjustment of a system is correct can only be safely determined in the course of a professional flue gas measurement. A visual inspection for evaluating combustion quality leaves too much room for interpretation. The method using a shaking bottle, table and slide rule is neither modern nor efficient. Electronic flue gas analysis, on the other hand, is easy, safe and accurate. Highly accurate sensors analyse the flue gas mixture and automatically calculate all relevant measurement parameters. Thanks to your service, your customers save costs for energy, maintenance or new acquisition. The continuous documentation of the measurement results by printout creates trust and proves the high quality of your work. The testo 310 is your reliable partner for consolidating and strengthening customer relations.

Flue gas analysis the smart way.

testo 310: easy-to-conduct measurements in every basic application.

Whether you wish to carry out complex flue gas analysis, check the basic settings of a newly installed system, or provide customer service maintenance on a heating system: With the four measurement menus of the testo 310, for flue gas, ambient CO, draught and differential pressure, you are optimally equipped for the basic measurements on any heating system.



Flue gas measurement
In this central measurement in the course of flue gas analysis, you directly determine CO and O_2 content as well as the ambient and flue gas temperatures. From these values, and dependent on fuel-specific parameters, the testo 310 automatically calculates -all other measurement parameters such as CO_2 concentration, degree of efficiency and ratio. This allows you to confidently evaluate whether the heating system is correctly adjusted and working efficiently. If required, you can carry out an optimisation which lowers fuel consumption, improves the degree of efficiency of the heating system and saves your customer money.

Draught measurement
Draught measurement ensures that the flue gas from a heating system is correctly drawn off through the flue. This measurement menu is specially intended to determine whether the heating system has the corresponding negative pressure. At the same time, the flue gas temperature is measured.

Documenting the measurement results

The printer specially developed for the testo 310, including infrared interface, allows you to present the the optimisation of the heating system to your customer in black and white. In case of complaints, on the other hand, you are always able to prove that you tested the system for safety.

Ambient CO measurement

With this safety measurement, you determine whether flue gas spillage is spreading in the vicinity of the heating system. This can cause high CO concentrations in heating and living rooms, which can lead to poisoning. Because this represents a life-threatening danger for the inhabitants, but also for yourself, this measurement should always be carried out before all others.

Differential pressure measurement

The differential pressure measurement tests the gas supply to gas boilers. To do this, you measure the difference between the pressure in the gas line and the ambient pressure. The value recorded is then compared to the data prescribed by the manufacturer for gas flow pressure and static gas pressure. The differential pressure is also important for the adjustment of the jet pressure, which influences appliance performance: By changing the jet pressure, you adjust the performance to the heat requirement and ensure the heating system is working optimally.

Product properties in detail.

See what makes the testo 310 special.

Robust
Robust and light instrument for daily use – excellently suitable even for rough and dirty surroundings.

Illuminated display
Two-line display and clear menu structure. Easy to operate and clearly legible.

Automatic zeroing of sensor
Automatic zeroing of the gas sensor in only 30 seconds after starting, which can be cancelled if not required.

Lithium rechargeable battery
Operation with lithium rechargeable battery (1500 mAh) – no need to change battery, up to ten hours running time, charging via USB possible.

Probe filter
Quickly and easily exchangeable

Attachment
Integrated magnets for easy fixing to burner.

Condensate trap
Integrated condensate trap – very quickly and easily emptied.

Printer
Documentation via infrared interface.

Product sets and accessories.

Available in retail or online at www.testolimited.com

Product sets	Order no.	
testo 310 flue gas set	0563 3100	
testo 310 flue gas set with printer	0563 3110	

Measuring instrument accessories		
USB mains unit incl. cable	0554 1105	
Testo IR printer	0554 3100	
Testo fast printer IRDA	0554 0549	
Spare thermal paper	0554 0568	
Spare dirt filter	0554 0040	

Ordering data

testo 310 flue gas set

testo 310 incl. rech. battery and calibration protocol for the measurement of O_2, CO, hPa and °C; probe 180 mm with cone; silicon hose for pressure measurement; particle filters 10 off.

Order no. 0563 3100

testo 310 flue gas set with printer

testo 310 incl. rech. battery and calibration protocol for the measurement of O_2, CO, hPa and °C; IR printer (0554 3100); probe 180 mm with cone; silicon hose for pressure measurement; particle filters 10 off; 2 rolls thermal paper for printer.

Order no. 0563 3110

Testo IR printer

Testo IR printer with wireless infrared interface, 1 roll of thermal paper and 4 AA batteries

Order no. 0554 3100

Technical data

	Measuring range	Accuracy ±1 digit	Resolution	Adjustment time t_{90}
Temperature (flue gas)	0.0 to 400.0 °C	±1 °C (0,0 to 100,0 °C) ±1.5 % of reading (> 100 °C)	0.1 °C	< 50 sec
Temperature (Ambient temperature)	-20 to +100.0 °C	± 1 °C	0.1 °C	< 50 sec
Draught measurement	-20.00 to +20,00 hPa	± 0.03 hPa (-3.00 to +500 hPa) ± 1.5% of m.v. (remaining range)	0.1 hPa	
Pressure measurement	-40,00 to +40.0 hPa Note: 1hPA=1mBar	± 0.5 hPa	0.1 hPa	
O_2 measurement	0,0 to 21.0 vol.%	± 0.2 vol.%	0.1 vol. %	30 sec
CO measurement	0 to 4000 ppm	Independently verified to ±3 ppm at <20 ppm ± 20 ppm (0 to 400 ppm) ±1,5 % of reading (401 to 2000 ppm) ±10 % of reading (2001 to 4000 ppm) ***N.B.*** *Standards require ±3 ppm at <20 ppm*	1 ppm	60 sec
Ambient CO measurement	0 to 4000 ppm	±20 ppm (0 - 400 ppm) ±1,5 % of reading (401 to 2000 ppm) ±10 % of reading (2001 to 4000 ppm)	1 ppm	60 sec
Efficiency (Eta)	0 to 120 %	-	0.1 %	-

General technical data

Storage temperature	-20.0 °C to +50,0 °C
Operating temp.	-5 to +45 °C
Power supply	Rech. batt.: 1500 mAh, mains unit 5V / 1A
Memory	No memory

Display	Backlit 4-line display
Weight (with probe)	approx. 700 g
Dimensions	201 x 83 x 44 mm
Warranty	Measuring instrument, flue gas probe, gas sensors: 24 months Thermocouple: 12 months Rech. batt.: 12 months

Subject to change without notice.

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