We measure it. testo

Highly efficient flue gas analyzer

testo 320 – Just a few “clicks” away from a heating system diagnosis

- High-resolution colour graphic display
- Quick and easy menu structure
- Storage space for 500 measurement values
- Measurement of flue gas, draught, pressure, ambient CO, differential temperature and gas leak detection
- O_2 and CO sensor and flue gas probe with temperature probe
- TÜV-tested according to EN 50379, Parts 1-3

O_2
CO_2
CO
HPA
QA
ETA
°C

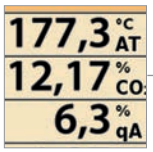
The new testo 320 is a high-quality measuring instrument for efficient flue gas analysis. Its wide measuring range makes it a reliable partner for eliminating malfunctions and emergencies, monitoring legal limit values or for daily routine work servicing heating systems. The numerous measurement menus of the testo 320 are clearly structured.

Standarized menu procedures, which are stored in the instrument specifically for your country, simplify operation – depending on which standards you are dealing with. The high-resolution display allows a detailed presentation of the measurement procedures and is easily legible even under the worst conditions.

www.testo.com

Product properties

High-resolution colour graphic display
The measurement menus and measurement values are presented in detail and always easily legible.

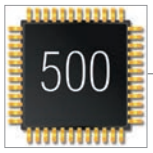


Sensor monitoring
Integrated traffic light system which continuously monitors the sensor functionality.

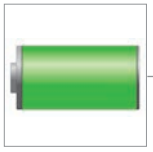
Fast sensor zeroing
Automatic zeroing of the sensor in only 30 seconds after start-up, and which can be cancelled if not required.

Sensors exchangeable by the user
Easy exchange of sensors by the user – no adjustment necessary.

Memory
Up to 500 measurement protocols can be saved and called up in the memory of the testo 320.



Lithium battery
Operation with a Lithium battery (1500mAh) – no battery change necessary, up to eight hours running time, charging via USB connection possible.



Attachment
Integrated magnets for fast attachment to burner/boiler.

Stamp of approval
The flue gas analyzer testo 320 is TÜV-tested according to EN 50379, Parts 1-3.

Robust design
Robust, durable instrument – ideally suited even to rough surroundings.

Condensate trap
Integrated condensate trap – very easily emptied.

Efficient exchange of probes
Fast and easy exchange of probes via the probe coupling. All gas paths are connected to the instrument at once with the bayonet connection.

Probe filter
Easy exchange of probe filter.

Flexibility with modular probes
A range of probe lengths and diameters ensure a high degree of flexibility for all applications. To exchange the probe shaft, it is simply placed on the probe handle and engages.

Ordering data / Accessories

testo 320 set for heating constructors

0632 3220	testo 320 with H_2-compensated CO sensor
0554 1105	USB mains unit
0516 3300	System case (height: 130 mm)
0554 0549	Testo fast printer IRDA
0600 9741	Compact flue gas probe (length 300 mm, Ø 6 mm)
0600 9787	Combustion air probe (length 190 mm)

Measuring instrument with options	**Part no.**	
testo 320 flue gas analyzer, incl. O_2 sensor, calibration protocol, graphic display	0632 3220	
Option CO sensor without H_2-compensation		
Option H_2-compensated CO sensor		
Option CO_{low} sensor		
Bluetooth option		

Spare gas sensors	**Part no.**	
Spare sensor O_2 for testo 320	0393 0005	
Spare CO sensor (without H_2-compensation) for testo 320	0393 0053	
Spare CO sensor H_2-compensated for testo 320	0393 0105	
Spare CO_{low} sensor for testo 320	0393 0103	

Smoke tester with oil and soot sheet, for measuring soot in flue gas, excl. cone (part no. 0554 9010)	0554 0307	
Testo Bluetooth®/IRDA printer incl. 1 roll of printer paper, rechargeable battery and mains unit	0554 0620	
Testo fast printer IrDA with wireless infrared interface; 1 roll thermal paper; 4 AA batteries	0554 0549	
Spare thermal paper for printer, permanent ink	0554 0568	
PC analysis software easyheat, for presenting measurement procedures as diagrams, tables and for managing customer data	0554 3332	
USB mains unit incl. cable	0554 1105	
Spare battery	0515 5046	
Instrument case (height: 130 mm) for instrument, probes and accessories	0516 3300	
Instrument case with double base (height: 180 mm) for instrument, probes and accessories	0516 3301	
ISO calibration certificate/flue gas	0520 0003	

Probes

Compact basic flue gas probes	Part no.	
Flue gas probe compact; length 180 mm; Ø 6 mm; Tmax. 500 °C; probe stop; NiCr-Ni thermocouple, 2.2 m hose and particle filter included	0600 9740	
Flue gas probe compact; length 300 mm; Ø 6 mm; Tmax. 500 °C; probe stop; NiCr-Ni thermocouple, 2.2 m hose and particle filter included	0600 9741	

Modular flue gas probes	Part no.	
Flue gas probe modular, incl. cone for attachment; thermocouple NiCr-Ni; hose 2.2 m; particle filter; length 180 mm; Ø 8 mm; Tmax. 500 °C; TÜV-tested	0600 9760	
Flue gas probe; length 300 mm; Ø 8 mm; Tmax. 500 °C; TÜV approval; probe stop; NiCr-Ni thermocouple; 2.2 m hose and particle filter included	0600 9761	
Flue gas probe; length 180 mm; Ø 6 mm; Tmax. 500 °C; probe stop; NiCr-Ni thermocouple; 2.2 m hose and particle filter included	0600 9762	
Flue gas probe; length 300 mm; Ø 6 mm; Tmax. 500 °C; probe stop; NiCr-Ni thermocouple; 2.2 m hose and particle filter included	0600 9763	
Flue gas probe flexible; thermocouple NiCr-Ni; hose 2.2. m; dirt filter; length 330 mm; Ø 9 mm; Tmax. 180 °C; short-term 200 °C; ideal for measuring at inaccessible points	0600 9770	

Probe accessories	Part no.	
Probe shaft; length 180 mm; 8 mm; Tmax. 500 °C	0554 9760	
Probe shaft; length 300 mm; Ø 8 mm; Tmax. 500 °C	0554 9761	
Probe shaft flexible; length 330 mm; Ø 9 mm; Tmax. 180 °C	0554 9770	
Probe shaft multi-hole; length 300 mm; Ø 8 mm; for mean CO calculation	0554 5762	
Probe shaft multi-hole; length 180 mm; Ø 8 mm; for mean CO calculation	0554 5763	
Hose extension; 2.8 m; extension cable for probe	0554 1202	
Hose connection set with adapter for separate gas pressure measurement	0554 1203	
Spare dirt filter, modular probe; 10 off	0554 3385	
Spare particle filter, compact probe; 10 off	0554 0040	

Probes

Additional probes	Part no.	
Dual wall clearance probe for O_2 supply air measurement	0632 1260	
Gas leak detection probe; 0 to 10000 ppm CH_4/C_3H_8	0632 3330	
Ambient CO probe, for detecting CO in buildings and rooms; 0 to +500 ppm	0632 3331	
Ambient CO_2 probe, Plug-in head, connection cable 0430 0143 or 0430 0145 required	0632 1240	
Differential temperature set; consisting of 2 Velcro probes and temperature adapter	0554 1208	
Fine pressure probe: highly accurate probe for the measurement of differential pressure and temperature, as well as Pitot tube measurement of flow velocities (see technical data)	0638 0330	
Capillary hose set for 4 Pa measurement	0554 1215	

Combustion air temperature probes	Part no.	
Combustion air temperature probe, immersion depth 190 mm	0600 9787	
Combustion air temperature probe, immersion depth 60 mm	0600 9797	

Additional temperature probes	Part no.	
Mini ambient air probe; for separate ambient air temperature measurement; 0 to +80 °C	0600 3692	
Very fast reaction surface probe	0604 0194	
Connection cable	0430 0143	

Technical data

	Measuring range	Accuracy ±1 digit	Resolution	Adjustment time t_{90}
Temperature	-40 to +1200 °C	±0.5 °C (0 to +100.0 °C) ±0.5 % of m.v. (remaining range)	0.1 °C (-40 to +999,9 °C) 1 °C (> +1000 °C)	
Draught measurement	-9.99 to +40 hPa	±0.02 hPa or ±5% of m.v. (-0.50 to +0.60 hPa) ±0.03 hPa (+0.61 to +3.00 hPa) ±1.5% of m.v. (+3.01 to +40.00 hPa)	0.01 hPa with fine draught option 0.001 hPa	
Pressure measurement	0 to +300 hPa	±0.5 hPa (0.0 to 50.0 hPa) ±1% of m.v. (50.1 to 100.0 hPa) ±1.5 % of m.v. (remaining range)	0.1 hPa with fine draught option 0.01 hPa	
O_2 measurement	0 to 21 Vol. %	±0.2 Vol. %	0.1 Vol. %	< 20 s
CO measurement (without H_2-compensation)	0 to 4000 ppm	±20 ppm (0 to 400 ppm) ±5% of m.v. (401 to 2000 ppm) ±10% of m.v. (2001 to 4000 ppm)	1 ppm	< 60 s
CO measurement (H_2-compensated)	0 to 8000 ppm	±10 ppm or ±10% of m.v. (0 to 200 ppm) ±20 ppm or ±5% of m.v. (201 to 2000 ppm) ±10% of m.v. (2001 to 8000 ppm)	1 ppm	< 40 s
Determination of degree of effectivity (Eta)	0 to 120%		0.1%	
Flue gas loss	0 to 99.9%		0.1%	
CO_2 determination digital calculation from O_2	Display range 0 to CO_2 max	±0.2 Vol. %	0.1 Vol. %	< 40 s
Option CO_{low} measurement (H_2-compensated)	0 to 500 ppm	±2 ppm (0 to 39.9 ppm) ±5% of m.v. (remaining range)	0.1 ppm	< 40 s
Ambient CO measurement (with CO probe)	0 to 500 ppm	±5 ppm (0 to 100 ppm) ±5% of m.v. (> 100 ppm)	1 ppm	
Gas leak measurement for flammable gases (with gas leak detection probe)	Display range 0 to 10.000 ppm CH_4 / C_3H_8	Signal optical display (LED) audible signal via buzzer		< 2 s
Ambient CO_2 measurement (with ambient CO_2 probe)	0 to 1 Vol. % 0 to 10.000 ppm	±50 ppm or ±2% of m.v. (0 to 5000 ppm) ±100 ppm or ±3% of m.v. (5001 to 10000 ppm)		
Differential pressure, flow velocity and temperature via fine pressure probe	±10.000 Pa 0.15 to 3 m/s max. -40 to +1,200 °C (dependent on probe)	±0.3 Pa (0 to 9.99 Pa) plus ±1 Digit ±3% of m.v. (10 to 10.000 Pa) plus ±1 Digit ±0.5 °C (-40 to 100 °C) ±0.5 % of m.v. (rem. measuring range) plus probe accuracy	 0.1 m/s 0.1 °C	

General technical data

Storage temperature	-20 to +50 °C
Operating temperature	-5 to +45 °C
Power supply	Battery: 3.7 V / 2,400 mAh Mains unit: 6 V / 1.2 A
Memory	500 measurement values

Display	Colour graphic display 240 x 320 pixels
Weight	573 g
Dimensions	240 x 85 x 65 mm
Warranty	Instrument/probe/gas sensors: 24 months Battery: 12 months

0981 2884/msp/A/01.2016

ANSAC

ANSAC TECHNOLOGY (S) PTE LTD
35, Marsiling Industrial Estate Road 3,
#02-01 Singapore 739257
T: (65) 6368 0225 F: (65) 6368 8023
E: sales@ansac-tech.com.sg I www.ansac-tech.com.sg