



testo 300 M, professional flue gas analyser

**TÜV approval:
TÜV By RgG 179**

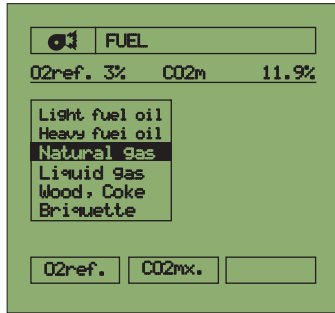
- PC analysis
- Prints
- Data memory (20)

With **testo 300 M**, Testo has defined new standards in combustion measurement. Its technical properties support heating service technicians when carrying out their daily measuring tasks quickly, reliably and at maximum speed.

The instrument can measure flue gas temperature, ambient temperature, O₂, CO₂, CO, draught, differential pressure, excess air and gross/net efficiency in the matter of seconds. The readings can be saved in the instrument and transmitted to your PC for processing.

The measuring cells and rechargeable batteries which you can change yourself reduce operation and maintenance costs significantly.

The user-friendly operation of **testo 300 M** also sets standards. The large, easy-to-read display guides you through the complete measurement.



Testo printer
for cordless printout of readings with date and time



Large display
with user guide

Heat carrier temperature and smoke spot number are entered

RS232 interface
• Measured data is read out on PC
• Data exchange with all conventional branch software
• Online measurement

Temperature probe connection
for accurate measurement of flue gas loss in systems dependent on ambient air

User-friendly operation using function buttons

User-friendly operation using cursor

Saves / prints at the touch of a button

Automatic instrument switch-off
if CO concentrations are too high for the measuring cells

Temperature probes for all applications

Memory for up to 20 complete measurements

Easy-to-change rech. batt. and measuring cells

Mains connection/ Quick battery recharge

Real-time differential pressure measurement

Wide selection of flue gas probes and accessories

°C

Vol. % O₂

ppm CO

Vol. % CO₂

ppm NO

λ

ΔP

effg

effn

testo 300 M

testo 300 M, professional flue gas analyser, incl. rechargeable battery and calibration protocol

Part no. 0563 0310

testo 300 XL, professional flue gas analyser

The additional advantages of testo 300 XL over testo 300M at a glance:

TÜV approval:
TÜV By RgG 179

Attachable infrared printer, can also be used separately for cordless printout of readings with date, time and company logo

Extended memory for up to 100 complete measurements

Connection for barcode pen

Differential temperature measurement using 2nd temperature probe

Manual CO switch-off function to continue measurement in spite of high CO concentration

CO probe measures CO concentrations in ambient air

Barcode pen for quick allocation of reading to location

CO switch-off function
PC analysis
Prints
Data memory (100)

testo 300 XL is ideally equipped for all measuring tasks in the heating industry. The CO level in ambient air can be measured and gas leaks can be detected. Measurement of differential temperature makes the adjustment of burners easier for example. The barcode ensures that the correct reading is allocated to the correct location. The securely attached infrared printer has many advantages for the analyser.

- °C
- Vol. % O₂
- ppm CO
- Vol. % CO₂
- ppm NO
- λ
- ΔP
- effg
- effn



testo 300 XL

testo 300 XL, professional flue gas analyser, incl. rechargeable battery and calibration protocol

Part no. 0563 0300

testo 300 M/XL

The concept

The **testo 300 M/XL** flue gas analyser is equipped with an O₂ and a CO measuring cell as standard. The analyser can also be equipped or upgraded with an NO measuring cell. CO₂ level, efficiency and excess air are calculated and appear immediately in the large, easy-to-read display.

testo 300 M/XL is also a pressure meter. Using the handy hose connection set, you can measure absolute and differential pressures.

The measuring cells can be changed on location without cal gas. Used measuring cells can be easily changed by the user. Every measuring cell can operate immediately on account of the electronics included thus saving you the high cost of service.

Wide variety of probes

Flue gas probes with penetration depths of 180 mm, 300 mm and 700 mm for flue gas temperatures up to +500 °C or up to +1000 °C can be connected, depending on the requirements on site. Separate ambient air probes facilitate measurement of the ambient air temperature parallel to the flue gas measurement. Pipe clamp probes and surface probes are available for special applications.

Safety measurements

Safety measurements can also be carried out using **testo 300 XL**. The CO level in ambient air can be checked quickly using the CO probe. Leaking gas pipes are detected by the gas leak detection probe.

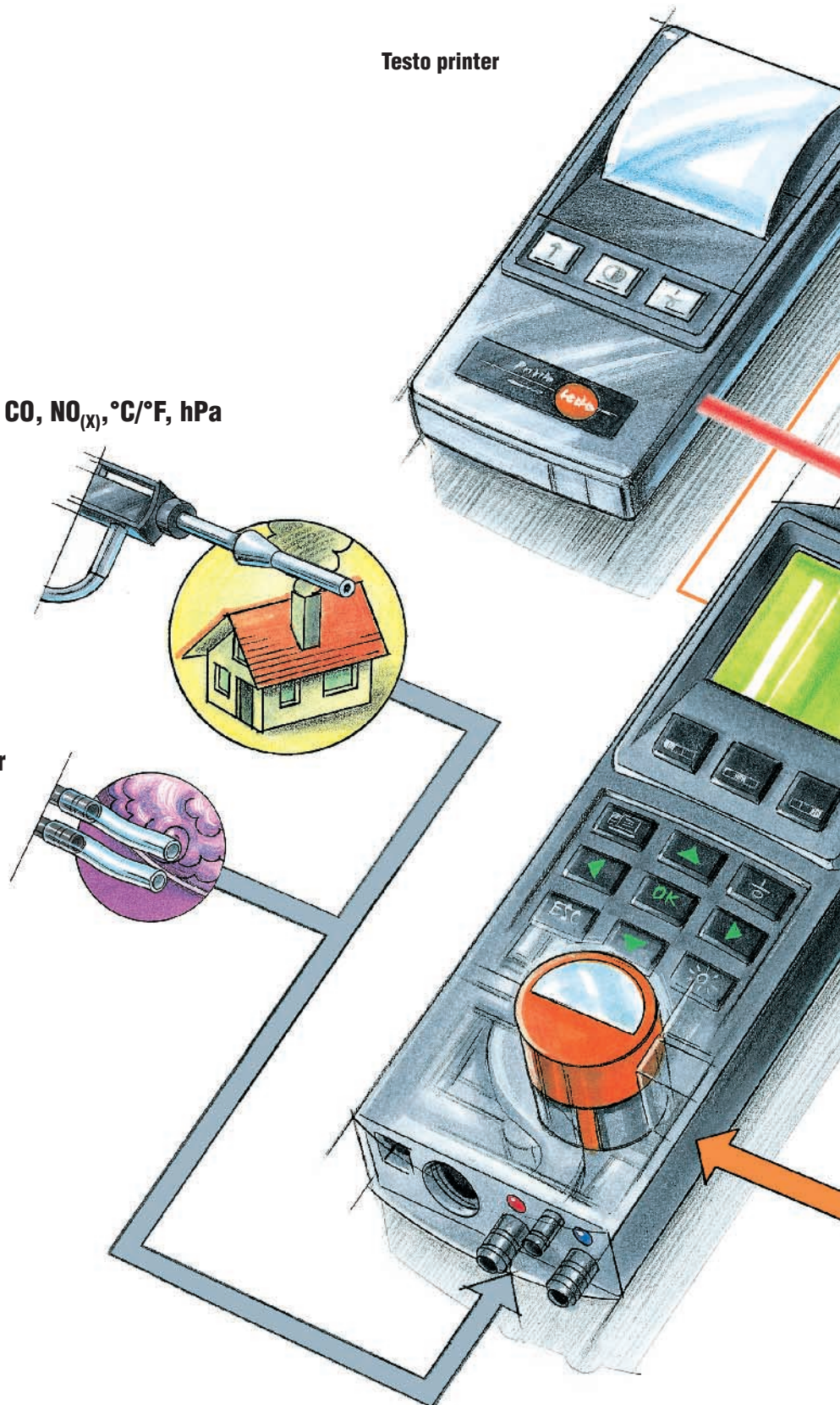
Protection from condensate

The condensate trap integrated in the flue gas probe provides protection from condensate in the analyser. The condensate trap is not sufficient for long-term measurements and measurements on condensing furnaces and low temperature systems; a compact gas drier can be used instead to reliably "dry" moist flue gas. The comfort version automatically pumps out the condensate.

Testo printer

O₂, CO₂, CO, NO_(X), °C/°F, hPa

ΔP, mbar



°C

Vol. % O₂

ppm CO

Vol. % CO₂

ppm NO

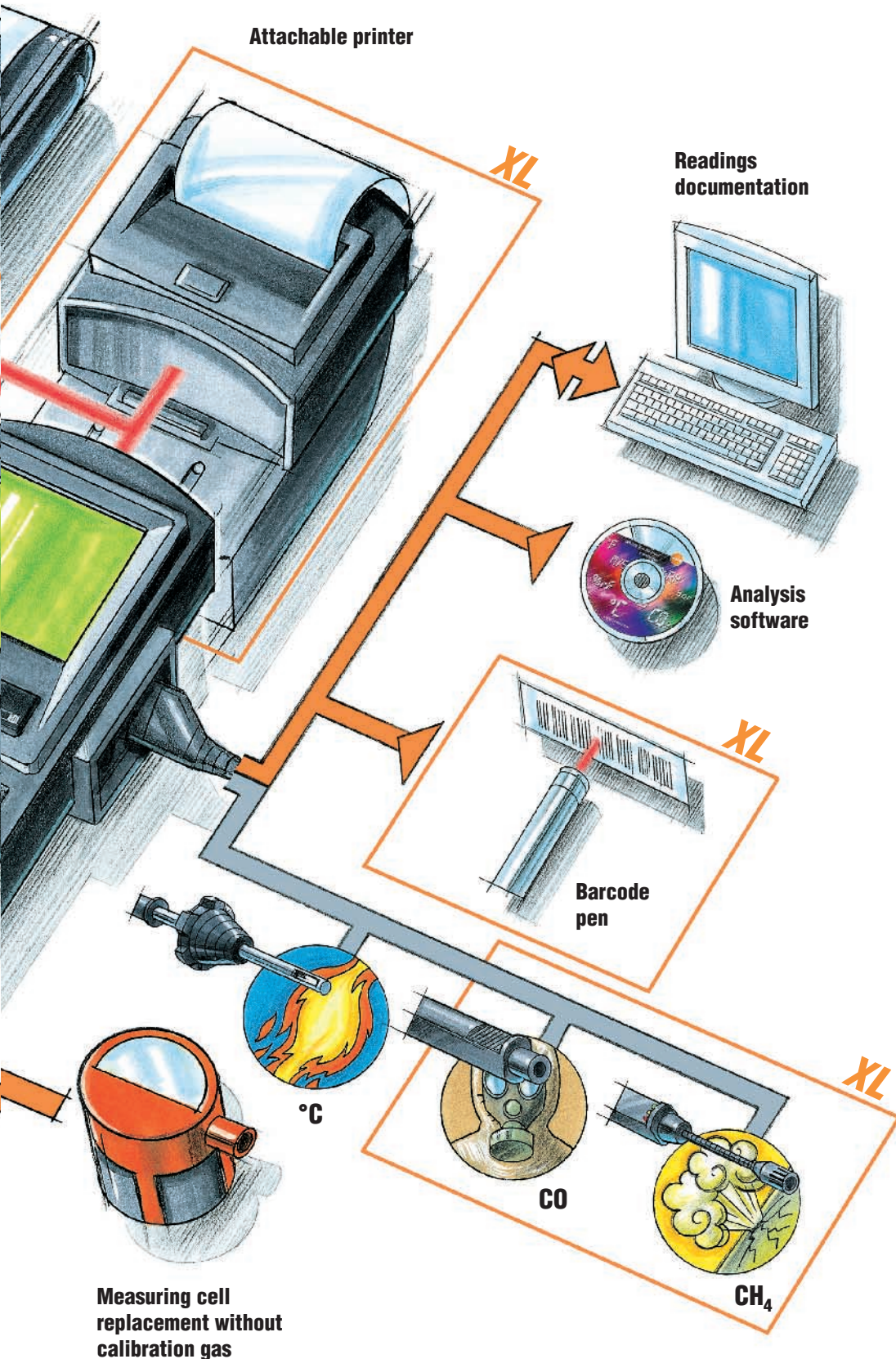
λ

ΔP

effg

effn

System overview: testo 300 M/XL



Readings documentation

Printout:
The readings are transmitted by infrared to the Testo printer. A securely attachable printer is also available for **testo 300 XL**.

Branch software:
The data can, of course, be analysed using branch software. **testo 300 M/XL** communicates without any problems with the software from leading manufacturers.

Analysis software

To analyse the data saved in your PC, the readings can be processed using the RS232 interface and **ECONOMICAL** software in a **WINDOWS®** environment.

Functions:

- Online measurement on PC
- Loads your names list onto analyser
- Reads out readings saved in analyser for display or printing on your PC in the form of histograms, tables or digit boxes
- Prints barcodes on self-adhesive labels

Integrated memory

Using **testo 300 M**, you can save all the readings from up to 20 heating systems quickly and efficiently. **testo 300 XL** has a memory for 100 measurements which can be extended to 400 measurements. In this way, large measurement sequences can be logged over a period of several days.

Barcode pen (only with testo 300 XL)

You can read in information to **testo 300 XL** quickly and efficiently using the barcode pen. In this way, the readings can be allocated to the correct customer number on location. The barcode is printed on your customer card using your branch software or on self-adhesive labels using Testo's **Economical** software or branch software.

°C

 Vol. % O₂

ppm CO

 Vol. % CO₂

ppm NO

λ

ΔP

effg

effn



Economical software, Windows® software for data management

With convenient analysis and graphics function, online measurement and barcode printout

Part no. 0554 0310



SoftCase (protects instrument from dirt and impact) made of plastic, with carrier strap and magnetic plate

Can be positioned on boiler, for example
Part no. 0516 0301



Compact gas drier, basic version
Part no. 0632 3370

Compact gas drier, comfort version
Part no. 0632 3371



For testo 300 XL

Attachable printer

Part no. 0554 0570

SoftCase (protects printer from dirt/impact)

Part no. 0516 0411

°C

Vol. % O₂

ppm CO

Vol. % CO₂

ppm NO

λ

ΔP

effg

effn



Testo printer with 1 roll of thermal paper and 4 AA size batteries
Prints readings on location

Part no. 0554 0545



Spare NO measuring cell

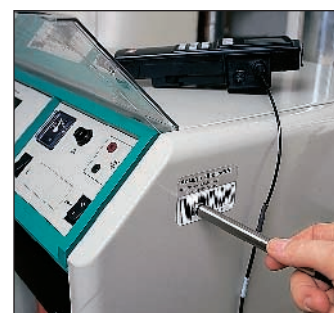
Quick and easy replacement of measuring cell by user

Part no. 0390 0074



Smoke tester with oil, soot sheet for measuring soot in flue gas

Part no. 0554 0307



For testo 300 XL

Barcode pen to read in measurement locations
Quick and accurate allocation of reading to site

Part no. 0554 0460

Ordering data for testo 300 M/XL

Part no.

testo 300 M, flue gas analyser, with rech. batt. and calibration protocol
Measures O₂, CO₂, CO (H₂ compensated), efg/effn, draught/pressure, differential pressure, °C

0563 0310

testo 300 XL, flue gas analyser, incl. rech. battery and calibration protocol
Measures O₂, CO₂, CO (H₂ compensated), CO (ambient), efg/effn, draught/pressure, differential pressure, CH₄, °C, differential temperature

0563 0300

Mains unit 230 V/ 8 V/ 1 A, for instrument (European plug)
For mains operation and battery recharging

0554 1084

NO measuring cell

0440 3922

Built-in in flue gas analyser

NO measuring cell (upgrade)

0554 3922

For subsequent installation in flue gas analyser

Spare CO measuring cell

0390 0072

Quick and easy replacement of measuring cell by user

Spare NO measuring cell

0390 0074

Quick and easy replacement of measuring cell by user

Spare O₂ measuring cell

0390 0070

Testo printer with 1 roll of thermal paper and 4 AA size batteries

Prints readings on location

0554 0545

Spare thermal paper for printer (6 rolls)

0554 0569

Recharger for printer (with 4 standard rech. batt.)

Rechargeable batteries are recharged externally

0554 0110

Car charging adapter, ready to measure following recharging in car

Battery is recharged while travelling in car

0554 0424

Hose connection set, incl. silicone hose and connection adapter

For separate gas pressure measurement

0554 0315

Cable, 1.5 m long, connects probe with plug-in head to meas. instrument

PUR coating material

0430 0143

Smoke tester with oil, soot sheet for measuring soot in flue gas

0554 0307

PC software and accessories

Economical software, Windows® software for data management

With convenient analysis and graphics function, online measurement and barcode printout

RS232 cable

Connects instrument to PC (1.8 m) for data transfer

0554 0310

0409 0178

Ordering data for Accessories

Part no.

Spare particle filter for flue gas analyser (10 off)

0554 3371

Filter paper to determine smoke number

40 strips for approx. 200 measurements

0554 0308

SoftCase (protects instrument from dirt and impact) made of plastic, with carrier strap and magnetic plate

0516 0301

Transport case (leather) for instrument, probes and accessories

Robust, spacious case made of real leather

0516 0100

Aluminium case for instrument, probe and accessories

Probes in lid make it easy to find parts in case

0516 0306

Transport case (plastic) for measuring instrument, probes

0516 0300

Measurement case (leather) with drawers for instruments and accessories

0516 0303

System case for analyser, probes and accessories

0516 0310

Product line system case with small plastic boxes without contents, attachable to system case 0516 0310

0516 0328

Tools system case with tools bag without contents, attachable to system case 0516 0310

0516 0329

Universal system case without sections, attachable to system case 0516 0310

0516 0331

ISO calibration certificate/Flue gas

Calibration points 2.5% O₂; 100 and 1000 ppm CO; 80 ppm NO; 80 ppm NO₂; 1000 ppm SO₂

0520 0003

Ordering data for gas drier

Compact gas drier, basic version

For measurements with a high condensate level (manual condensate emptying)

0632 3370

Compact gas drier, comfort version

For measurements with a high condensate level and long-term measurements (automatic condensate emptying)

0632 3371

Mains unit for compact gas drier and flue gas analyser

0554 1143

Current connection cable, connects gas drier to flue gas analyser

0449 0034

Supplies power to flue gas analyser via the compact gas drier mains unit

Spare particle filter for compact gas drier (5 off)

0554 3370

Suitable probes at a glance

Ordering data for accessories for testo	Part no.	Part no.
Memory extension to 400 data blocks Saves readings from up to 400 complete systems in testo 300 XL	0440 0122	Barcode pen to read in measurement locations Quick and accurate allocation of reading to site
Attachable printer (securely attached) including 1 roll of thermal paper and batteries	0554 0570	Barcode labels, self-adhesive (1200 off) Location marked with barcode, printed using software
SoftCase for attachable printer (protects printer from dirt/impact) Protects from impact and falls	0516 0411	Adhesive pockets (50 off) for printout, paper barcode labels...

For testo 300 M and 300 XL	Illustration	Part no.
Compact flue gas probe, 180 mm immersion depth with probe stop, NiCr-Ni thermocouple up to +500°C, built-in independent condensate trap and particle filter, 2.2 m hose	180 mm Ø 8 mm	0600 9534
Compact flue gas probe, 300 mm immersion depth with probe stop, NiCr-Ni thermocouple up to +500°C, built-in independent condensate trap and particle filter, 2.2 m hose	300 mm Ø 8 mm	0600 9532
Flue gas probe, 300 mm immersion depth with probe stop, NiCr-Ni thermocouple up to +1000°C, built-in independent condensate trap and particle filter, 2.2 m hose	300 mm Ø 8 mm	0600 8532
Flue gas probe, 700 mm immersion depth with probe stop, NiCr-Ni thermocouple up to +1000°C, built-in independent condensate trap and particle filter, 2.2 m hose	700 mm Ø 8 mm	0600 8531
NEW Flexible flue gas probe, 330 mm immersion depth, NiCr-Ni thermocouple up to +500°C, integrated condensate trap independent of position and particle filter, 2.2 m hose (without flue draught measurement)	330 mm Ø 10.5 mm	0600 9430

For testo 300 M and 300 XL	Illustration	Meas. range	Accuracy	t ₉₉	Conn.	Part no.
Ambient air probe, 300 mm immersion depth, with probe stop for separate measurement of ambient air temperature (e.g. systems with outside primary air intakes)	300 mm Ø 5 mm	0... +100 °C				0600 9791
Mini amb. air probe, 60 mm imm. depth, w. probe stop, magnetic clip, Tmax +100°C, for dual wall clearance temp. meas. in sys. w. outside primary air intakes	60 mm Ø 4 mm	0... +100 °C				0600 9797
Ambient air probe, immersion depth 190 mm, with probe stop, magnetic clip, Tmax +100°C, for ambient air temperature measurement in systems dependent on/independent of ambient air	190 mm Ø 4 mm	0... +100 °C				0600 9787
Mini ambient air probe, Tmax +80°C, for separate ambient air temperature measurement		0... +80 °C				0600 3692
Pipe wrap probe for pipes with diameter of up to 2", for flow/return temperature measurement in hydronic systems		-60... +130 °C	Class 2	5 s	Fixed cable	0600 4593
Spare meas. head for pipe wrap probe	35 mm 15 mm	-60... +130 °C	Class 2	5 s		0602 0092
Quick-action surface probe with spring-loaded thermocouple band for measurements in floor heating systems, radiators, insulation...	150 mm Ø 10 mm	-200... +300 °C	Class 2	3 s	Plug-in head, connection cable 0430 0143 or 0430 0145 required	0604 0194

For testo 300 XL only	Illustration	Meas. range	t ₉₀	Other features	Part no.
Gas leak detection probe to detect leaks in gas heating systems	200 mm Ø 20 mm	0... +10000 ppm CH ₄	2 s	1st alarm limit: 200 ppm CH ₄ 2nd alarm limit: 10,000 ppm CH ₄ Alarm: optical display (LED) and audible signal (buzzer) triggered if alarm limit is exceeded	0632 1246
CO probe to measure CO level in ambient air	190 mm Ø 25 mm	0... +500 ppm CO	35 s		0632 1247
NEW Dual wall clearance probe, sickle shaped supply O ₂ probe for measuring the O ₂ level in the dual wall clearance of systems independent of ambient air					0632 1248

°C

 Vol. % O₂

ppm CO

 Vol. % CO₂

ppm NO

λ

ΔP

effg

effn



testo 300 M, Professional set for heating fitters



- °C
- Vol. % O₂
- ppm CO
- Vol. % CO₂
- ppm NO
- λ

- ΔP
- effg
- effn



Heating technicians expect a lot from modern day flue gas analysers like the testo 300 M. Reliable results which can hold up to checks and comparisons have top priority. This is particularly important in the trades business since a burner is checked to see if it fulfills legal requirements.

Advantage: All the measuring equipment incl. smoke tester in one case

Recommended kit:	Part no.
testo 300 M, flue gas analyser, with rech. batt. and calibration protocol Measures O ₂ , CO ₂ , CO (H ₂ compensated), effg/effn, draught/pressure, differential pressure, °C	0563 0310
Mains unit 230 V/ 8 V/ 1 A, for instrument (European plug) For mains operation and battery recharging	0554 1084
Compact flue gas probe, 300 mm immersion depth with cone, NiCr-Ni thermocouple up to +500°C, built-in independent condensate trap and particle filter, 2.2 m hose	0600 9532
Mini amb. air probe, 60 mm imm. depth, w. probe stop, magnetic clip, Tmax +100°C, for dual wall clearance temp. meas. in sys. w. outside primary air intakes	0600 9797
Testo printer with 1 roll of thermal paper and 4 AA size batteries Prints readings on location	0554 0545
SoftCase (protects instrument from dirt and impact) made of plastic, with carrier strap and magnetic plate	0516 0301
Smoke tester with oil, soot sheet for measuring soot in flue gas	0554 0307
Aluminium case for instrument, probe and accessories Probes in lid make it easy to find parts in case	0516 0306



testo 300 M, Set for adjusting small-scale burners



°C

 Vol.
% O₂

 ppm
CO

 Vol. %
CO₂

 ppm
NO

 λ
 ΔP

effg

effn

Recommended kit:	Part no.
testo 300 M, flue gas analyser, with rech. batt. and calibration protocol Measures O ₂ , CO ₂ , CO (H ₂ compensated), effg/effn, draught/pressure, differential pressure, °C	0563 0310
Mains unit 230 V/ 8 V/ 1 A, for instrument (European plug) For mains operation and battery recharging	0554 1084
Compact flue gas probe, 300 mm immersion depth with cone, NiCr-Ni thermocouple up to +500°C, built-in independent condensate trap and particle filter, 2.2 m hose	0600 9532
Mini amb. air probe, 60 mm imm. depth, w. probe stop, magnetic clip, Tmax +100°C, for dual wall clearance temp. meas. in sys. w. outside primary air intakes	0600 9797
Testo printer with 1 roll of thermal paper and 4 AA size batteries Prints readings on location	0554 0545
Hose connection set, incl. silicone hose and connection adapter For separate gas pressure measurement	0554 0315
SoftCase (protects instrument from dirt and impact) made of plastic, with carrier strap and magnetic plate	0516 0301
System case for analyser, probes and accessories	0516 0310



The affordable testo 300 M flue gas analyser is also a high standard pressure meter. It can measure absolute and differential pressures quickly and efficiently when used together with the practical hose connection set.

Advantage: Readings are printed quickly on site by the cordless infrared printer.

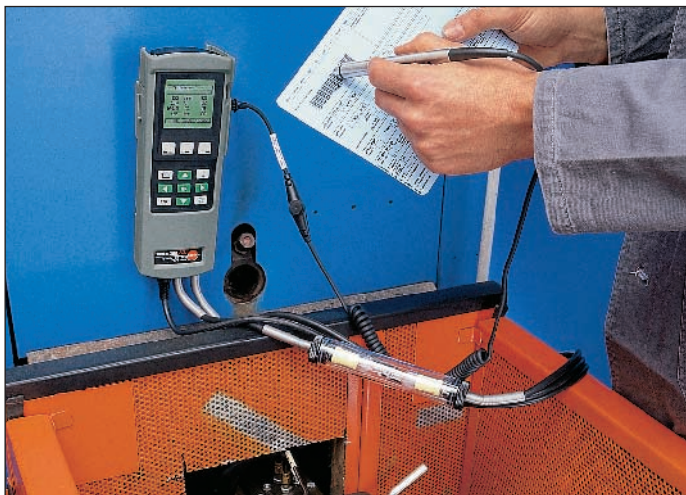


testo 300 XL, Set for control measurements on small-scale furnaces



- °C
- Vol. % O₂
- ppm CO
- Vol. % CO₂
- ppm NO
- λ

- ΔP
- effg
- effn



testo 300XL is highly popular with heating engineers because of its handy size, reliability and user-friendly operation. It has TÜV approval in accordance with latest requirements.

The SoftCase protects the analyser from impact and dirt. The magnetic plate enables hands-free operation. The data, consisting of up to 100 complete measurements (optional memory extension for 400 complete measurements) can be saved in the instrument.

Advantage: Customer data is read in via the barcode pen which guarantees quick and error-free allocation of the readings.

Recommended kit:	Part no.
testo 300 XL, flue gas analyser, incl. rech. battery and calibration protocol Measures O ₂ , CO ₂ , CO (H ₂ compensated), CO (ambient), effg/effn, draught/pressure, differential pressure, CH ₄ , °C, differential temperature	0563 0300
Mains unit 230 V/ 8 V/ 1 A, for instrument (European plug) For mains operation and battery recharging	0554 1084
Compact flue gas probe, 300 mm immersion depth with cone, NiCr-Ni thermocouple up to +500°C, built-in independent condensate trap and particle filter, 2.2 m hose	0600 9532
Mini amb. air probe, 60 mm imm. depth, w. probe stop, magnetic clip, Tmax +100°C, for dual wall clearance temp. meas. in sys. w. outside primary air intakes	0600 9797
SoftCase (protects instrument from dirt and impact) made of plastic, with carrier strap and magnetic plate	0516 0301
Barcode pen to read in measurement locations Quick and accurate allocation of reading to site	0554 0460
Economical software, Windows® software for data management With convenient analysis and graphics function, online measurement and barcode printout	0554 0310
RS232 cable Connects instrument to PC (1.8 m) for data transfer	0409 0178



Technical data

Technical data for both testo 300 M and testo 300 XL analysers

Probe type	Temperature measurement	O2 measurement	CO measurement	CO2	NO measurement	Efficiency	Flue gas loss	Draught/Pressure, diff. pressure
Meas. range	-40... +1200 °C	0... +21 Vol.% O2	0... +8000 ppm CO	0... CO2max Vol. % CO2	0... +3000 ppm NO	0... +120 %	0... +99.9 % qA	-80... +80 hPa
Accuracy ± 1 digit	±0.5% of mv (+100... +1200 °C) ±0.5 °C (0... +99.9 °C)	±0.2 Vol.% O2 (0... +21 Vol.% O2)	±5% of mv (+401... +2000 ppm CO) ±10% of mv (+2001... +8000 ppm CO) ±20 ppm CO (0... +400 ppm CO)		±5% of mv (+100.1... +2000 ppm NO) ±10% of mv (+2000.1... +3000 ppm NO) ±5 ppm NO (0... +100 ppm NO)			±0.03 hPa (-80... +80 hPa)
Resolution	0.1 °C (0... +999 °C) 1 °C (+1000... +1200 °C)	0.1 Vol.% O2 (0... +21 Vol.% O2)	1 ppm CO (0... +8000 ppm CO)	0.1 Vol. % CO2	1 ppm NO (0... +2000 ppm NO)	0.1 % (0... +120 %)	0.1 % qA (0... +99.9 % qA)	0.01 hPa (-80... +80 hPa)
Overload								±1000 hPa (-80... +80 hPa)
Reaction time		40 s	60 s	40 s	60 s			
Reaction type		t90	t90	t90	t90			
Accuracy class	Class 1							
Dimensions	250x85x65 mm	Additional technical data for testo 300 M: Memory: 20 data blocks Power via plug-in mains unit, batteries or exchangeable rechargeable batteries			Warranty on testo 300 M / testo 300 XL: Analysers: 2 years (excluding working parts e.g. measuring cells) CO/NO measuring cell: 1 year O2 measuring cell: 1 1/2 years			
Weight	700 g							
Storage temp.	-20... +50 °C							
Oper. temp.	+4... +45 °C							
Material/Housing	ABS							

°C

Vol. % O2

ppm CO

Vol. % CO2

ppm NO

λ

Additional technical data for testo 300 XL only

Probe type	CO probe	Gas leak probe	Additional technical data for testo 300 XL: Memory: 100 data blocks Gas leak measurement for combustible gases with gas leak detection probe 1st alarm limit: 200 ppm CH4 2nd alarm limit: 10,000 ppm CH4 Optical display (LED) for 1st and 2nd alarm limit, audible alarm
Meas. range	0... +500 ppm CO	0... +10000 ppm CH4	
Accuracy ± 1 digit	±5% of mv (+100... +500 ppm CO) ±5 ppm CO (0... +99 ppm CO)		
Resolution	1 ppm CO (0... +500 ppm CO)		

ΔP

effg

effn