

We measure it.



testo 320.

Combustion analysis in HD

High Def & Heavy Duty

For Residential
& Commercial
Applications

testo 320 - Combustion testing solutions in high def.

Combustion analysis in high definition is more than just a brilliant display. It's a combination of proven measurement standards, contractor-rugged design, and Testo's innovation. The result - testo 320 - **makes combustion analysis easier to perform, easier to control, and easier to understand.**

The 320 is designed for the job site and for the contractor that expects more. Use it for basic testing and tuning of all types of boilers, heater or furnaces. Use it to set up and commission more complex multi-stage, or modulating heating systems. Combustion analysis, draft, temperature, pressure, combustion efficiency and a host of other calculations and functions - **all shown in vivid color.** With simple icon navigation, you soon realize it will do more for HVAC testing.

With the testo 320 you gain more testing flexibility giving you more customer opportunities and greater profit potential. It provides all the parameters listed, plus the capabilities shows in the following pages.

Comprehensive combustion analysis.

- O₂, CO, CO₂, Ambient/room CO, CO Air free
- CO sensors with NOx filter
- Flue Draft, Pressure (vent or duct or switches)
- Temperature (flue & room)
- Combustion Efficiency, Excess air
- Flue Gas Matrix (w/ four user-defined combustion types)
- Oil flow and gas clock BTU calculator
- Memory to 500 readings plus customer site information
- Optional probes for:
 - Fine pressure, Gas Leak, Ambient CO₂ (IR), Ambient CO air, draft, pressure, differential temperature

Designed for the job site and the needs of a busy contractor.

The testo 320 gives you a wider measurement range that lets you test not only controlled or normal combustion applications but those that have problems. With a **CO measurement range up to 4000 ppm** (or optional 8000 ppm) you can test more combustion appliances.

CO sensor with integrated NOx filter.

The testo 320 eliminates the guess work and provides accurate readings. **Integrated NOx filters assure you of the highest CO measurement accuracy**, unlike other analyzers that add the NOx concentration to the CO measurement displayed. Whether you are measuring combustion, air free, or ambient CO – you need to make the decision on a correct measurement.



For better **combustion tuning.**

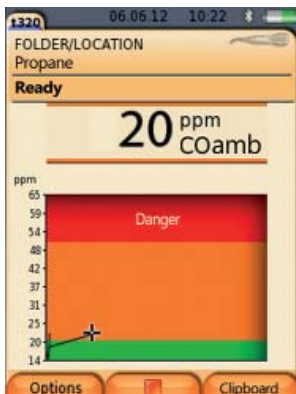
Faster, Easier, More **Accurate.**

Innovative features like the **“flue gas matrix”** will graphically display the combustion characteristics. This is an easy way show if the heating system is running **efficiently “in the green”** or **wasteful and unsafe “in the red.”** Simply make adjustments to the heating system until the cross-hair is “in the green” zone. Clever functions like this give you more information for easier adjustments and set-up.



The testo 320 makes your job easier by displaying two to eight user-defined parameters. With 8 parameters you see all the measurements simultaneously. No need to scroll up and down chasing the measurements and double guessing.

Magnets on the back of both the analyzer and the printer attach in a secure and convenient spot. The printout documents the results with your company’s contact information. This helps to remind your customer who to call for their next cleaning or yearly service check. easyHeat software (optional) can help schedule jobs and print reports with your company’s logo for a professional look. The testo 320 combines many combustion tools into one rugged package for faster combustion analysis so you can focus on growing your business.



Gas leak detection

The gas leak probe allows you to safely identify gas leaks. The results can be stored and documented. The test results are displayed in ppm.



Draft and Pressure measurement

Critical for proper combustion performance is the draft measurement to determine if flue gases are flowing correctly. With the simultaneous flue gas temperature displayed, you know if the probe is positioned properly. The pressure measurement gives you the flexibility to test a variety of flow pressures in lines and switches.

Ambient CO measurement

The 320’s ambient CO function (or optional probe) will display results graphically and sound audible alarms when levels are unsafe (user-defined levels). The optional CO probe can also be used for simultaneous measurement of flue gas and ambient CO.

Differential Temperature

This option measures the difference between the outgoing and return line temperatures. This provides critical information for flow rate adjustments and compliance with boiler specifications.

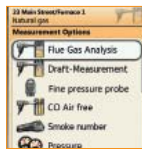


The testo 320 in detail.

See what makes the testo 320 unique.

High-definition graphic display

Not only is it bright and easy to see, it's easy to understand.



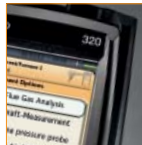
Sensor diagnostics & monitoring

Simple "traffic light" signal shows sensor health and readiness.



Ultra-rugged housing

Hard rubberized housing to withstand real-life abuse.



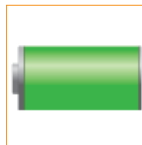
Get your job done

Fast 30 second start up.



Save on battery replacement costs

Work all day with lithium rechargeable battery technology.



Hands-free operation

Powerful magnets reside on the 320's housing.



Easy to see and replace filters

Protect the instrument's measurement accuracy with quick exchange probe filters.





Memory makes it smart

Store up to 500 tests printing on site or download to easyheat software.



Hardened cam-lock fittings

Provides leak-free operation and greater test confidence.



Longer lasting sensors

Typically last more than three years. Sensors are field replaceable and pre-calibrated.



Additional probes

A wide range of probes enable you to upgrade at a moment's notice and gives you greater customer flexibility.



Simple icon navigation

Simple push button operation with easy-to-follow menu icons.



Quick drain condensate trap

The sensor's integrity is protected by the 320's condensate trap.

Data management for combustion analysis

An infrared printer or optional Bluetooth printer is available for the testo 320, for printing out measurement values on site. The testo 320 has built-in memory that can save up to 500 measurements.

easyheat software option

easyheat software simplifies the management and archiving of your valuable customer data and measurement values on a laptop at the job site or on a PC at home. With easyheat, you can create customized individual reports.

You can transfer your data easily and securely through the USB port or Bluetooth (factory installed option) to a PC, printer, or other hardware. Thanks to easyheat software.



Wide variety of probes for any application

The testo 320 has a probe available for almost any measurement. Well-designed cam-lock couplings assure leak free operation and quick changes. Simply click in various lengths and diameters to fit different flue or stack configuration. Additional probes like the gas leak, ambient CO, CO₂, and the fine pressure probe provide more job site testing flexibility.

Probe Options	Part Number
 Compact flue gas probe 7" (contact Testo for more probe options)	0600 9740
 Flexible probe shaft modular 11.8"	0554 9764
 Gas leak probe	0632 3330
 Ambient CO probe	0632 3331
 Differential temperature set	0554 1208
 Fine pressure probe	0638 0330
 Ambient CO ₂ probe (connection line 0430 0143)	0632 1240
 Dual wall clearance probe for O ₂ air input measurement	0632 1260
 Combustion air probe with cone 7.5" Combustion air probe with cone 2.3"	0632 1260 0600 9797



testo 320 combustion kits and accessories.

testo 320 combustion kits

testo 320 combustion analyzer kit

Includes: testo 320 combustion analyzer with rechargeable battery, 12" probe with cone & hose assembly, AC power supply (with USB recharging), and rugged case.



Order no. 0563 3220 70

testo 320 combustion analyzer kit with printer

Includes: all items in kit (0563 3220 70) *plus* IR Fast printer (0554 0549), & 6 rolls of 10-year legibility thermal paper.



Order no. 0563 3220 71

Accessories

Smoke pump kit	0554 0307
Testo IRDA printer	0554 0549
Spare thermal paper for printer (6 rolls), (10-year legibility)	0554 0568
easyheat PC analysis software	0554 3332
AC power supply/recharger (USB)	0554 1105
testo 320 system case flat	0516 3334
testo 320 system case high	0516 3331
testo 320 spare rechargeable battery	0632 3200
Spare particle filters (compact probe) (10 yellow cone filters)	0554 0040

Technical data

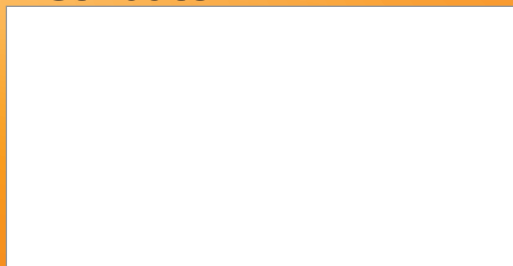
Parameter	Range	Accuracy	Parameter	Range	Accuracy
O₂ measurement	0 to 21 vol. %	±0.2 vol. %	Excess Air	0 - 99%	calculated
CO measurement	0 to 4000 ppm	±20 ppm (0 to 400 ppm) ±5% of m.v. (401 to 2000 ppm) ±10% of m.v. (2001 to 4000 ppm)	CO₂ calculation (digital calculation from O ₂)	0 to CO ₂ max	calculated
Temperature	-40° to 2192 °F	±2 °F (32° to 212 °F) ±0.5% of m.v. remaining range	Ambient CO measurement (with CO probe)	0 - 500 ppm	±5 ppm (0 to 100 ppm) ±5% of m.v. (>100 ppm)
Draft measurement	-4 to 16 "H ₂ O	±0.008 "H ₂ O or ±5% of m.v. (at -0.2 to +0.2 "H ₂ O) ±0.01 "H ₂ O (at 0.2 to 1.2 "H ₂ O) ±1.5% of m.v. (at 1.2 to 16 "H ₂ O)	Gas leak measurement for combustible gases (with gas leak detector probe)	0 to 10,000 ppm CH ₄ / C ₃ H ₈	Signal Optical display (LED)
Pressure measurement	0 to 120 "H ₂ O	±0.2 "H ₂ O (0.0 to 20 "H ₂ O) ±1% of m.v. (at 20 to 40 "H ₂ O) ±1.5% of m.v. (at 40 to 120 "H ₂ O)	Ambient CO₂ measurement (with ambient CO₂ 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)
Efficiency testing	0 - 100%	calculated			

General Technical data

Storage temp.	-4° to 122 °F	Display	Color graphic display 240 x 320 pixels
Operating temp.	23° to 113 °F	Weight	Approx. 1.3 lbs.
Power supply	Rechargeable battery: 3.7 V/2400 mAh Power supply: 6 V/1.2 A	Dimensions	9.5 x 3.3 x 2.5 in.
Memory	500 readings	Warranty	Instrument/probes/gas sensors: 24 mos. Rechargeable battery: 12 mos.



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