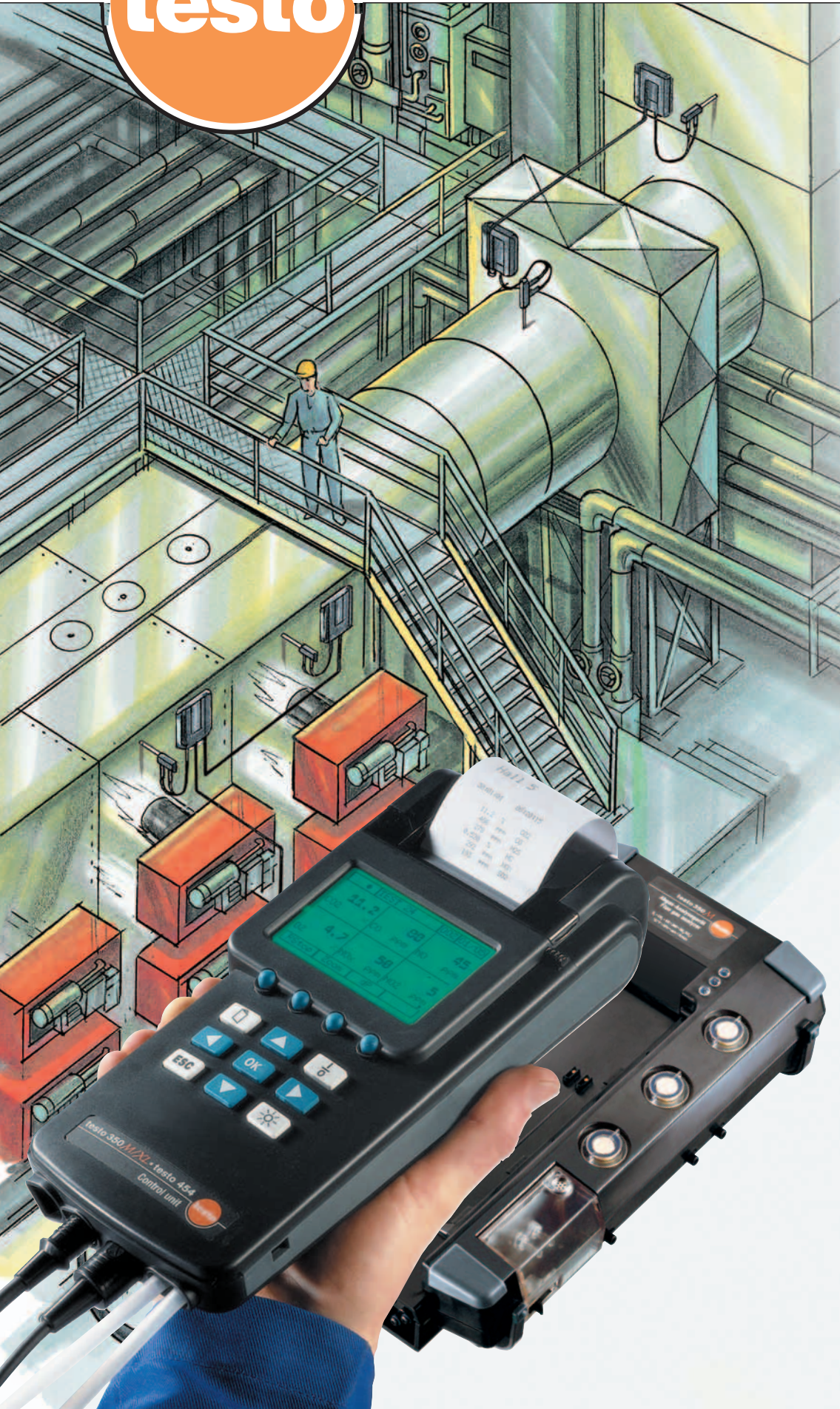


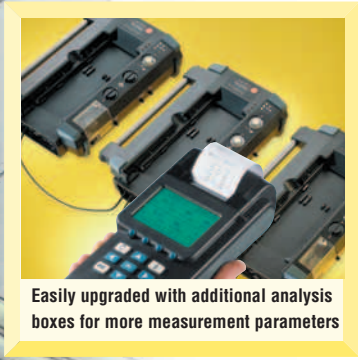


Complex thermal applications - Easy measurements!

Portable, modular flue gas analyser for industrial processes



testo 350 M testo 350 XL



Easily upgraded with additional analysis boxes for more measurement parameters



Remote, multi-point logging using one system (wireless link)



User-friendly operation (optional touchscreen)



Fully functional while inside case

Your partner in measurement

Testo is one of the leading manufacturers of portable electronic measuring instruments...worldwide.

We employ over 840 employees and are represented throughout the world by 22 subsidiaries in 19 countries.

Quality

We have more than 40 years' experience in the development and manufacture of electronic measuring instruments. More than one million Testo measuring instruments are in use throughout the world.

We have been certified to DIN EN ISO 9000 for over 10 years.

Service

120 service specialists worldwide guarantee fast service. There is a 10 year service guarantee on all Testo measuring instruments. Call us for details about your nearest service location.

Calibration

All products which leave our factory are subject to a 100% computer-controlled final check. Our high-tech calibration laboratories guarantee you the highest measurement standards during the manufacturing and calibration processes.

We have DKD calibration laboratories for temperature, humidity, velocity and pressure which provide highly accurate calibration with reference to the German Federal Physical and Technical Institute (national standard organisation).

Consultation

One of our major strengths is our highly developed competence in measurement technology which we offer to you during face to face meetings, in our technical manuals or during Testo seminars.

Testo has a wide range of measuring instruments and accessories specially designed to meet the demands of measuring industrial emissions.

- **testo 325 I**, single gas analyser for SO₂, NO, CO_{low} and CO_{high} (up to 40,000 ppm)
- **testo 300 M-I/XL-I**, compact hand-held measuring instruments for O₂, CO, NO/SO₂ and flue gas volume flow/mass flow measurement
- **testo 350 M/XL**, portable flue gas analysis system for O₂, CO, NO_x (NO + NO₂), SO₂, HC, H₂S
- **testo 360**, portable, approved reference analyser for the most demanding requirements. Measuring parameter: O₂, CO, NO_x (NO + NO₂), SO₂, HC, CO₂ (infrared), flue gas moisture

Complex thermal applications - Easy measurements!

Portable, modular flue gas analyser for industrial processes

The ultimate in flue gas measurement

Introducing our latest innovation:

The world's most advanced flue gas measuring system

testo 350 M/XL.

Portable, flexible and able to adapt to hundreds of different requirements.

For example, it can be used to adjust all types of industrial burners and to determine concentrations in raw and clean gas over a longer time period. It carries out accurate checks on atmospheres in all types of process burners, maintains stationary motors and checks gas pressures or gas speeds in flue gas and also in fresh air ducts.

The **testo 350 M/XL** flue gas measuring system - robust and easy to transport - ideal for portable use in industrial systems.

Contact us for advice on how to use this special measuring system to your greatest advantage.

°C

O₂

CO

NO

NO₂

NO_x

SO₂

Eff.

CO₂

HC

H₂S

mA

mV

hPa

m/s

t/y

m³/h

% RH

The “portable” concept

The **testo 350 M** basic version includes control unit, analysis box and a flue gas probe. Measurements include: O₂, CO, NO (optional), NO₂ or SO₂ (optional); (max. 4 measurement modules), temperature and differential pressure as well as the usual calculated variables CO₂ etc.

The detachable control unit can also be used as a separate analyser for temperature, velocity, differential pressure, relative humidity etc.

The readings can be printed on the integrated printer. A complete Peltier gas

preparation unit for controlled condensate removal is also built into the analysis box.

Building on the M version, the more advanced **testo 350 XL** includes NO and NO₂ parameters, a trigger event socket as well as the option of upgrading up to 6 measuring modules. The HC and H₂S measuring modules are new to the XL version. The analyser must be easy to transport and robust for portable use in industrial units. Ideally, the analyser should remain in the case during operation.

Typical applications for the portable testo 350

- Adjusts all types of industrial burners
- Measures concentrations in raw and clean gas over a longer time period
- Checks the atmospheres of all types of process furnaces
- Maintains stationary motors such as modular cogeneration stations
- Checks gas pressures and gas velocities in flue gas and also in fresh air ducts.

Additional advantages:

- Superb portability due to low weight (approx. 4.5 kg) and compact size
- Battery operation even with gas preparation unit
- Quick and easy operation via “Touch panel” display (option)
- Measuring range extension (option) for high CO concentration can be switched
- Service-friendly design; e.g. gas sensor exchange by user

Overview of measuring ranges

O ₂	0 to 25 Vol. %	CO ₂	0 to CO ₂ max.
CO	0 to 10,000 ppm*	ΔP	± 200 hPa
NO	0 to 3,000 ppm	m/s	40 m/s
NO ₂	0 to 500 ppm	Efficiency	0 to 120 %
SO ₂	0 to 5,000 ppm	Temp.	- 40 to 120 °C
H ₂ S	0 to 300 ppm	% RH	0 to 100 %
C _x H _y	0 to 4 Vol. %		

* Up to 400,000 ppm with measuring range extension (optional)



Built-in printer
Prints readings on site

4 user defined function buttons

Data communication via PC or barcode pen

Testo data bus

User defined probe socket

Connection for flue gas probe + additional °C probe

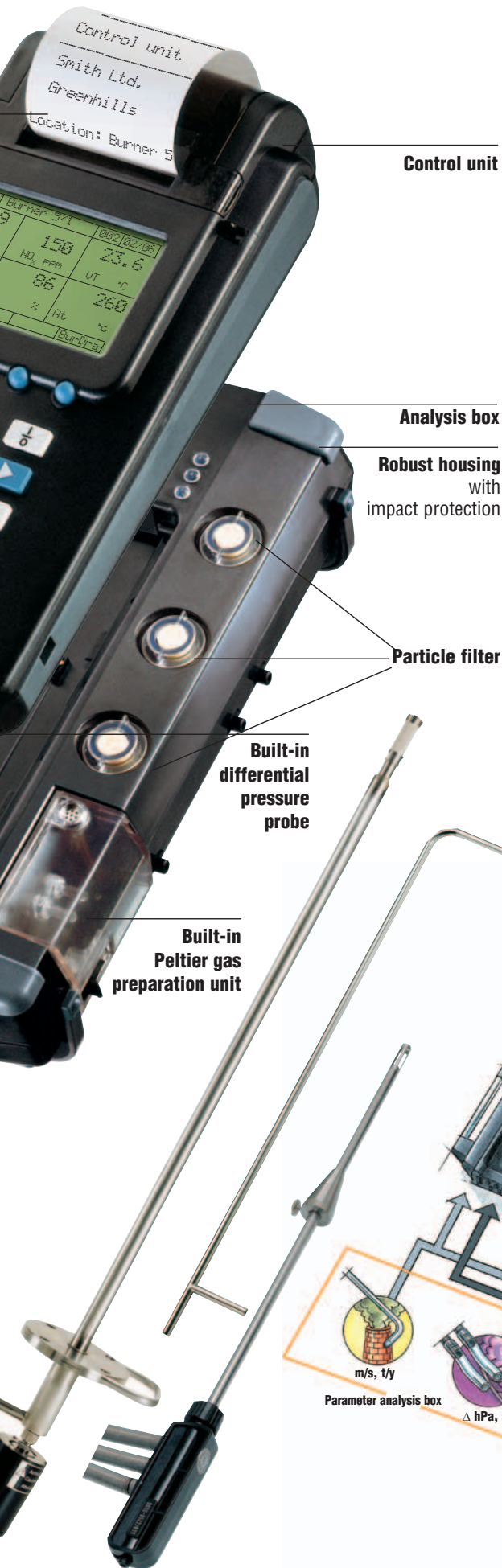
Built-in differential pressure/velocity measurement

testo 350 M/XL

Basic version for portable measurement

(Control unit, analysis box, flue gas probe, case, connection cable)





Novel system concept

Often you need more than a portable flue gas analyser for many applications in industrial processes and systems.

Typical requirements may be:

- Simultaneous gas analysis at different measurement points without constant or repeated change of location
- Additional measurements (such as °C; mA; mV etc.) are necessary
- Long-term measurements in order to assess different system cycles or set points
- Flexibility of system in order to adapt to changes in the process

Typical applications (examples)

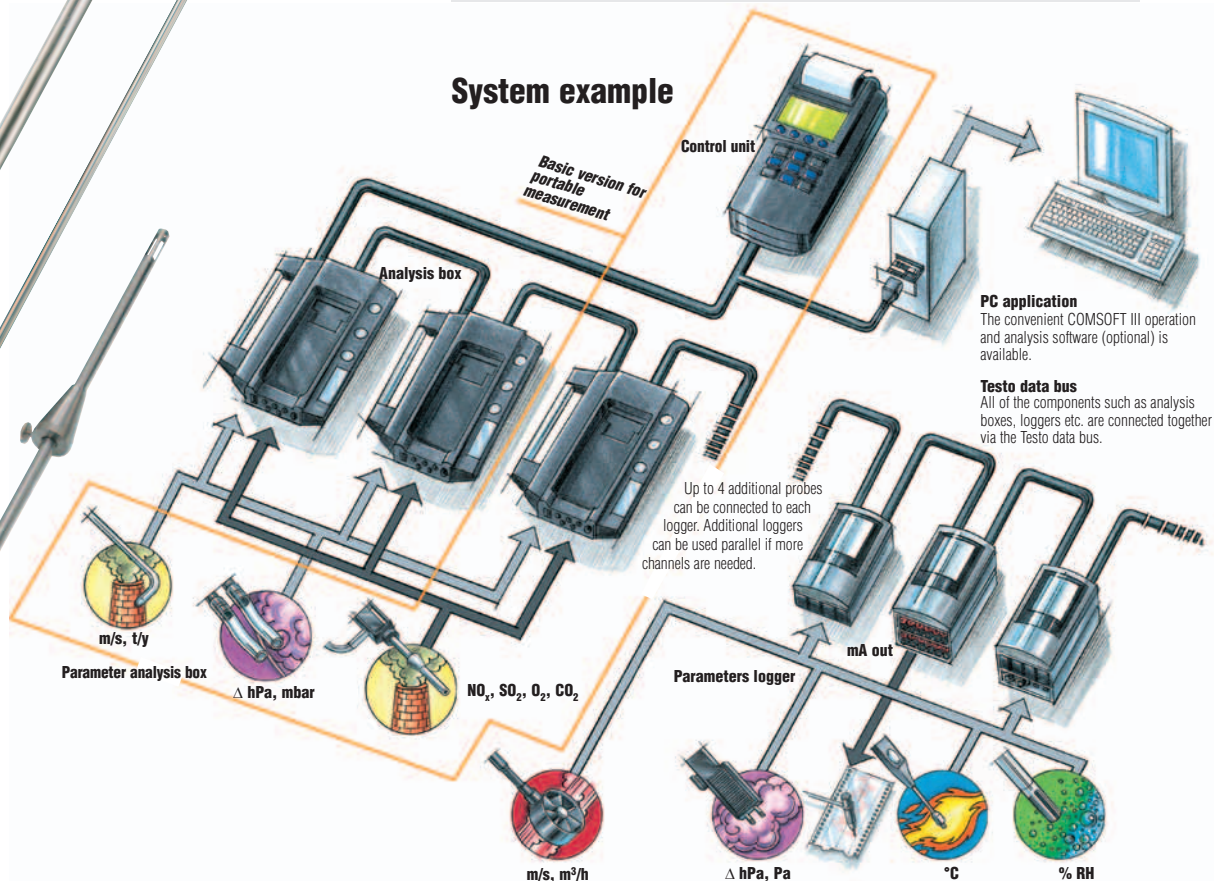
- Checks on tunnel burner in the different combustion zones
- Adjustment checks on filter systems (flue gas desulphurisation systems, catalytic converters) in burners
- Simultaneous inspection of several burners in a boiler
- In power stations to check the flue gases from combustion chamber to clean gas in flue
- Long-term monitoring of critical systems (logger operation)
- On test rigs for research and development (e.g. motors) etc.

The **testo 350** measuring system fulfills these requirements. Depending on the application, up to 8 analysis boxes with different sensors and up to 10 loggers can be connected together via the Testo data bus, even over long distances. All of the units are controlled, read out or programmed via the control unit or via the bus card of your computer.

Additional advantages:

- Connection of additional analysis boxes and loggers for additional parameters via Testo data bus
- Analysis box with data memory function (Stand-alone)
- User programmable measuring cycles per analysis box
- Simultaneous measurement at different locations
- Measuring system control via PC (with insert card)

System example



Copy this page as often as required and then return the completed order form to us by fax or mail

Name _____

Company _____

Department _____

Address _____

Telephone / Fax _____

Email _____

Date _____ Signature _____



Address: see above



Fax: see above

I have special requirements. Please send me a customised quotation.

Type of system(s): _____ (Brief description)

- Fuel(s)**
- Natural gas Light fuel oil Heavy fuel oil
- Coal Other _____

Size of system(s) in Megawatts (MW): _____

What measurements do you require?

- NO_x (Concentration approx. _____) CO (Concentration approx. _____) H₂S (Concentration approx. _____)
- SO₂ (Concentration approx. _____) O₂ (Concentration approx. _____) HC (Concentration approx. _____)
- CO₂ (Concentration approx. _____) Gas velocity (approx. _____) Differential pressure
- Flue gas temperature (approx. _____) Other temperatures _____ mA/mV _____
- Dust level in flue gas (approx. _____ mg/m³) Other _____

Duration/frequency of measurement(s):

- Lasting approx. _____ hours/days
- Operation control measurement. How often? _____ How long? _____ Simultaneously

Where do measurements take place?

- Clean gas after filter In the burner chamber
- Raw gas At the boiler output Other _____

Reason for measurement?

- Emission measurement/limit values Troubleshooting within the flue gas path
- Adjustment of combustion Process optimisation (Saving costs...)
- Trend Analysis Scheduled quality assurance checks in the
- (long-term measurement up to _____ days/hours) manufacturing process
- Spot checks at different points Experimental/research process Description _____
- Other _____

Remarks/Special requirements: _____

I would like to know more about the NEW testo 350 M/XL. Please call me.

Product information

Please send the following:

- testo 350 M/XL**
Detailed documentation
- testo 300 M-I/XL-I**
Compact flue gas analyser
- testo 325 I** single gas
analysers
- testo 360** reference flue gas
analyser
- testo 454** HVAC measuring
system
- Testo Product Catalogue 2001