



Committing to the future



testo 308
digital smoke meter



testo 308 –A Technology Breakthrough



- Old Technology:

1. Manually draw off of the flue gas
2. Manually evaluate the soot mark
3. Measurements must be manually documented



- Modern Approach:

testo 308

digital smoke meter

testo 308 i End user benefit: Save time, reduce errors

The Old Way:

Å 10 strokes on a manual hand pump to extract the sample of flue gas into a filter paper (errors induced?)

Å Visually judge the spot produced against a comparison scale. (errors induced?)

Å Process should be repeated 3 times for a good average.

Å Data should be documented via a manual process: input into instrument, PC or paperwork. (errors induced?)



The NEW way:

Time-saving via automatic evaluation of smoke spot and digital transfer of measured data



testo 308 - End user benefit: Ease of Use

- The Old Way

- Complicated readout process via smoke number comparison scale
- Moisture on the smoke paper undermines a correct reading
- Dirty hands can spoil the smoke spot
- Hard to read the spot under varying lighting conditions
- Inconsistent results
- Low resolution readings: ...Zero to 1, trace....



- The NEW Way

- automatic, digital smoke number readout with decimal place per ASTM D-2156
- Increased reliability via heated measuring point
- Precise smoke number due to sample volume control
- Steady sample gas flow in less than one minute



testo 308 i Reporting options

- Tamper-proof data
The Old way: filter paper is the only record



The New way:

- Filter paper with smoke spot still available, yet...
- Values can be sent to: PDA, PC and t330 via IrDA in addition to the printer via IR



testo digital smoke meter: product description - design

Design

• Ergonomic design- pistol grip



• Easy one-handed operation



• Well-known appearance (testo 330/327)



testo digital smoke meter: creature features

ÅFast & easy battery replacement



ÅSimple user interface



ÅEasy to read display



testo digital smoke meter: creature features

Å backlit display



Å low weight: < 1.5 lb.

Å Detachable hose

Å Easy empty condensate trap



testo digital smoke meter: Easy controls

Softkeys: no hidden functions

Start measurement

Accept reading

Oil derivative: selection*

on/off
backlight on/off

Reject reading

Stop measurement

Configuration:

with/without oil derivative*





Oil Derivative: What is it?

PER DIN 51402-2

If heating oil is not burned completely, flue gases can include oil derivatives, an environmental pollutant.

Oil derivatives are organic substances (not volatile) that become visible by means of Acetone application to the filter paper.

The TEST:

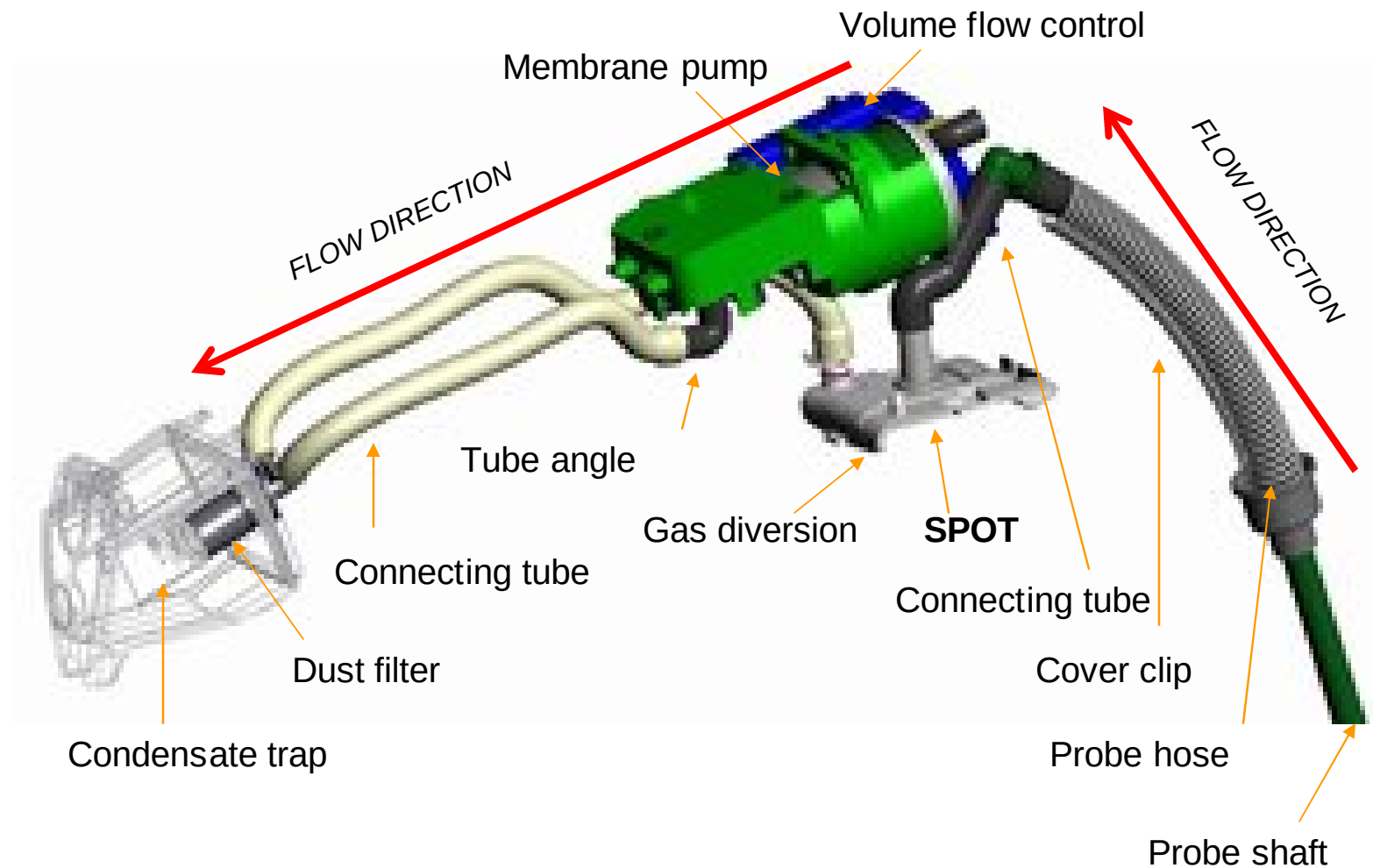
1 Apply drops of Acetone close to the Smoke Spot on the Smoke paper.

2 If a **distinct** yellow to brown color spreads from the spot, unburned oil is present in the flue gas

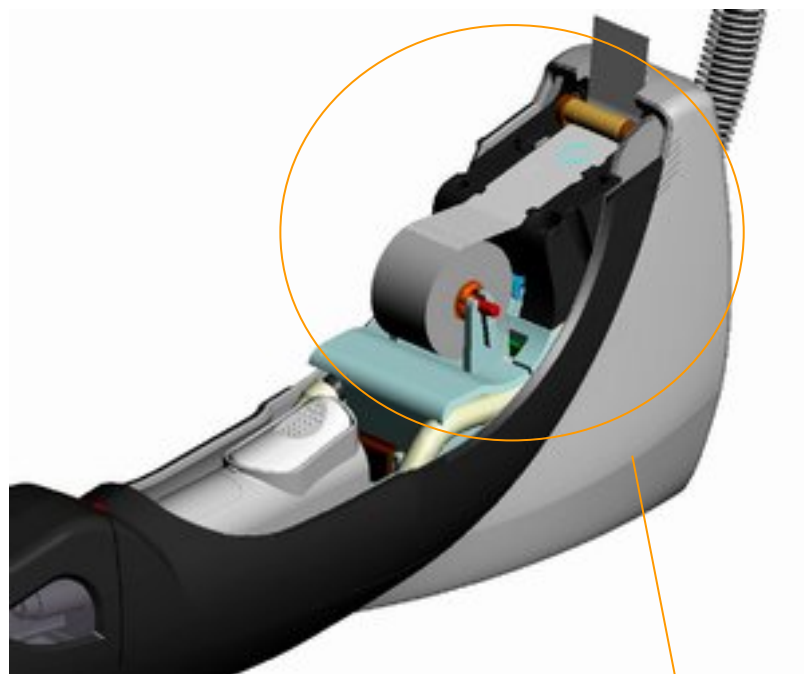
3 If the color is not present or weak the sample is OK



testo 308 i Enabling Technologies



testo 308 i Paperpath, Optics & sensor



Paperpath:

- Smoke paper travels a short path
- Easy paper loading
- Automatic paper feeding
- Paper sample may be kept, as in traditional method

Optics & sensor:

- Transmitter LED (light-emitting diode)
- Heated measuring platen (eliminates condensation on paper that could alter results)
- Receiver photodiode
- Diffusion of light at the receiver calibrated to the smoke number





testo 308 - Power supply

• Li-Ion storage battery, Power Rating: 2600mAh, enough for 45 individual smoke spot tests



• Comparable to the t330 battery

• Simple and fast change

• Charges in the instrument or in the charging station

• One charging station for 2+ instruments





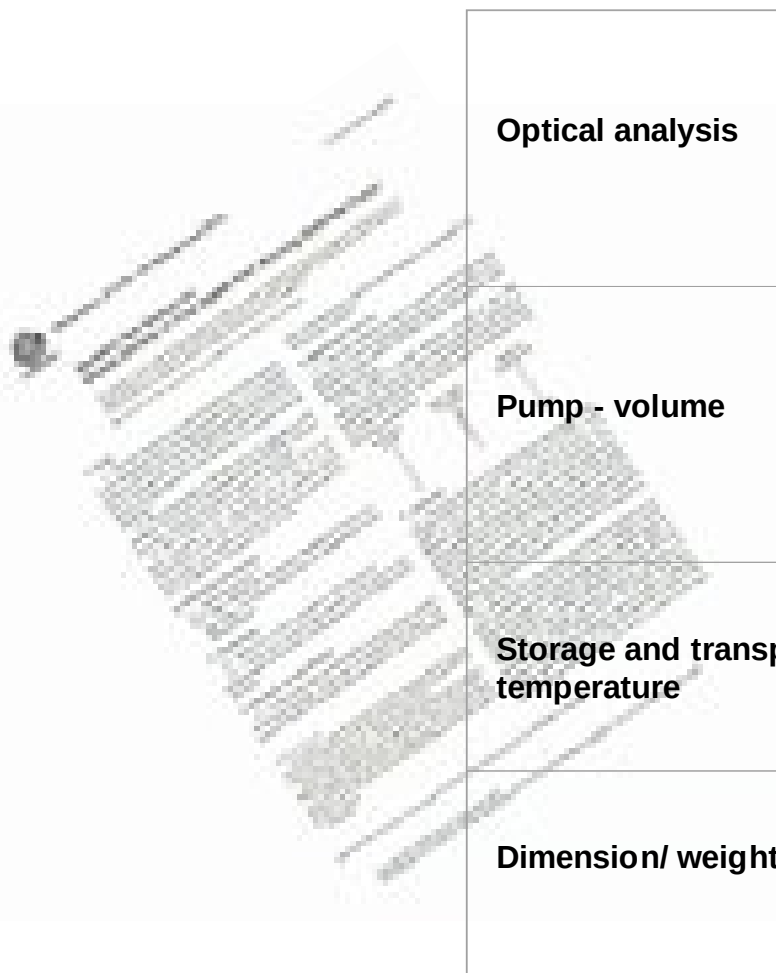
testo 308 i High reliability

- Fully automatic measuring
- Reproducible sampling volume per ASTM-D-2156
- Low battery indication
- No measuring errors due to condensate staining as measuring spot is heated
- Checked against all worldwide standards
- Non-depleting, optical sensor provides stable measurements
- 2 year warranty
- Clever accessories





testo digital smoke meter i Technical data



Optical analysis	- sensor: photodiode - measurement range: 0...5 smoke # - resolution: 0.1 smoke # - accuracy : ± 0.2 smoke #
Pump - volume	- pump capacity: 1.63 ± 0.1 liters (per ASTM D-2156 standard) - Reference liter at 990 mbar and 20° C temperature
Storage and transport temperature	- 4 °F ... +122 °F
Dimension/ weight	- 10.6 x 2.5 x 4.7 in. - <1.5 lb including battery



testo digital smoke meter i Technical data

Condensate trap	- condensate trap is removable - marked to show MAX fill
Power supply	- removable Li-ion-rechargeable battery (like the t327-1 & t-330) - Capacity: 2600 mA (45 individual measurements) - Can charge battery in the instrument - Can operate t308 with power supply
Display	Segment display with backlight
Readily Serviceable	- Easy smoke paper change out - Easy rechargeable battery replacement - Easy dust filter replacement - Pump cleaning / exchange via testo service



testo digital smoke meter i Technical data

Industry Standards	- ASTM D-2156 - 1. BImSchV - METAS - EU- Norm: 2004/108/EG
Compatible printers	· 0554 0545 (pre-2004) · 0554 0547 (post-2004)
Operating temperature	+41°F...+104°F
Protection category	IP 40 (NEMA 1 approx.)
Interfaces	· - IR-interface (t327-1) · - IRDA-interface (t330s)
Warranty	2 years
Sampling system	· brass tubing: approx. 8 in. · rubber hose: approx. 4 in.



testo 308 i Standard Kit: Order No. 40 0563 3080



Digital smoke tester
w/Wrist strap



Power supply



Li-Ion Battery



Soft case



Replacement filter paper
(8 paper rolls)



testo 308 i Individual Components



Digital smoke meter
Item.-No.: 0632 0308



New power supply Item.-
No.: 0554 1096
Can also use existing
power supply for t327/t330
(0554 1086)



Stack mount digital smoke meter
Item.-No.: 0554 0616



Spare rechargeable battery
for testo 308
Item.-No.: 0515 0107



Charging station for Spare
battery
Item.-No.: 0554 1103



Replacement filter paper (8 paper rolls)
Item.-No.: 0554 0146



testo 308 i Accessories



Smoke paper roll dispenser
for use with manual smoke pumps
Item.-No.: 0554 0600



replacement- particle filter
(10 pieces)
Item.-No.: 0554 1101



Acetone applicator
Item.-No.: 0554 0159



Probe stop
Item.-No.: 0554 9010



Carry Case
Item.-No.: 0516 0002



testo digital smoke meter: Why you need one!

Summary:

- ⇒ easy one-hand operation
- ⇒ simplify documentation via data transfer to combustion analyzer (t330) or printer
- ⇒ tamper-proof determination of smoke spot numbers
- ⇒ save time via a fully automatic measurement
- ⇒ More accurate readings in less time
- ⇒ Easy to use, high-tech instrument

