



# testo External Sample Gas Conditioner

Instruction manual




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# 1 Safety and disposal

## 1.1 Symbols and writing standards

Display	Explanation
	Note: basic or further information
1 2 ...	Action: several steps, the sequence must be followed.
▶	Result of an action
✓	Requirement

## 1.2 Security

- Do not operate the instrument if there are signs of damage on the housing, mains unit or connected cables.
- Do not carry out any contact measurements on uninsulated, live parts.
- Use only original spare parts from Testo.
- Only perform maintenance and repair work on this instrument that is described in this documentation. Follow the prescribed steps exactly when doing the work.
- Maintenance work that is not described in this documentation must only be carried out by trained service engineers.
- Temperature information given on probes/sensors relates only to the measuring range of the sensor technology. Do not expose handles and feed lines to temperatures in excess of 70 °C (158 °F), unless they are expressly authorized for use at higher temperatures.
- Do not use any leaky or damaged batteries.
- Make sure that the condensate has been fully emptied out of the condensate trap before storage in the packaging.

### 1.3 Disposal

- At the end of its useful life, deliver the product to the separate collection point for electric and electronic devices (observe local regulations) or return the product to Testo for disposal.
- Dispose of faulty rechargeable batteries and spent batteries in accordance with the valid legal specifications.

### 1.4 Using a powerbank



The power bank is not included in delivery and is not available from Testo. You can use any power bank that complies with the statutory regulations and fulfil the following specifications:

Output current: 5 VDC at least 3 A

Devices with a lower output current must not be used. There is a risk of overload.

#### CAUTION

##### **Damage to USB-capable devices.**

In order to avoid damage, the external sample gas conditioner must never be connected to other USB-capable devices (e.g. laptop, PC, etc.) via the adapter cable (0449 0131) for the powerbank.

#### CAUTION

##### **Malfunction on the external sample gas conditioner**

In order to avoid malfunctions, the external sample gas conditioner must only be connected to a powerbank using the connection cable supplied. Cables with a smaller cross-section can cause malfunctions.

## 2 Description of the instrument

The conditioning of the measurement gas via the external sample gas conditioner leads to a reduction of the water vapour present in the flue gas (dilution of the measurement result) to a minimum through condensing out. The gas path has been optimized to leach out the smallest possible amount of water-soluble flue gases and thus to ensure a very precise measurement result. The condensate collects in the condensate trap and is emptied by opening the sealing clip on the drain hose.

### Instrument / operating elements overview



- 1 Analyzer connection
- 2 Flue gas probe connection
- 3 Peltier element with cooling unit
- 4 LED status display
- 5 Ventilator
- 6 Sealing plugs
- 7 Sealing clip

### LED status display

Green	Target temperature reached. Measurement can be started.
Orange	Cooling active. Target temperature not yet reached.
Red	Fault status. Disconnect mains voltage and reconnect or contact Testo Service.

## 3 Using the product



The product is not suitable for unsupervised continuous operation, because there is no active fill level monitoring. This may lead to further accidental ingress of the condensate into the flue gas analyzer.



The product must not be used on the crude gas side if the crude gas contains a high proportion of hydrogen chloride (HCl). This can happen in the incineration of waste or coal, in which case the product may only be used on the clean gas side.



The analyzer's ventilation slits must not be covered.

- 1 Connect the measurement gas outlet to the analyzer.



- 2 Connect the probe to the measurement gas inlet.



The hoses must not be bent through 180°.

- 3 Connect the power supply to the external sample gas conditioner.



- 4 Connect a mains unit (0554 8808) or a powerbank as a power source



The LED now lights up orange and cools down to the target temperature.

- 5 If applicable, fix the powerbank with O-rings (available as an accessory).



- 6 Close the sealing clip to ensure leaktightness.



### 3 Using the product

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Make sure that the operating position of the gas conditioner has at least a 30° gradient. If the gradient is not adhered to, the condensate will come into contact with the cooling unit and the cooling capacity will be reduced.



- 7 Carry out a tightness test with the analyzer, see instruction manual for the testo 350 (0970 3510), chapter 5.5.2 Gas path check.
- 8 LED lights up green: The target temperature has been reached and the measurement can be started.



The condensate must not exceed the maximum fill level quantity, because otherwise the capacity may decrease and the condensate can be drawn in by the analyzer.

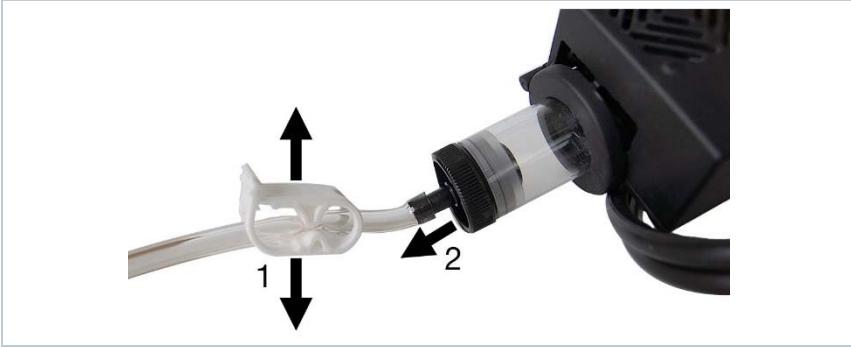


For accurate SO<sub>2</sub>/NO<sub>x</sub> measurements, we recommend using the SO<sub>2</sub> low-Set heated (0563 2251) or the SO<sub>2</sub> low-Set unheated (0563 1251). Keep the condensate level as low as possible and adjust it via the previously used (pre-moistened) system.



## 4 Maintenance

### Emptying the condensate container



- 1 Empty the condensate container by fully opening the sealing clip (1) before you put the instrument into storage.

**i** The sealing plug (2) of the condensate container can also be removed to fully empty it.

#### **⚠ CAUTION**

**The condensate may be acidic**

**Risk of burns to the hands!**

- Wear acid-resistant safety gloves, glasses and overalls to empty the condensate.

- 2 Put the instrument into storage or pack into the carry case.

**i** The condensate must be completely dried before the instrument is packed in the case.

## 5 Technical data

Feature	Value
Housing material	ABS-PC
Special material characteristics	UL94
Dimensions (W x H x D)	100 mm x 558 mm x 70 mm
Weight	550 g
Protection class	IP 30
Storage temperature	-20 to +50°C
Operating temperature	-5 to +50°C
Humidity	5 to 95% RH
Ambient pressure range	600 to 1100 hPa Pabs
Max. overpressure in the flue gas	Adhere to limits of the analyzer
Input voltage	5 VDC; 3 A
Powerbank specification	USB 5 V min. 3 A output
Cooling temperature	Control temperature 10°C (min. 10°C below ambient)
Dewpoint	Min. 10 k dewpoint distance
Measurement period/lifetime	testo 350 - 2 h at 60°C initial dew point 1 l/min - 3 h at 45°C initial dew point 1 l/min
Extension of response time	Non-water-soluble gases: <5 s
Other framework conditions	Can be used with testo 340, testo 350 and flue gas probes
EMC compliance	EN 50270 industrial requirements (type 2)

## 6 Accessories and spare parts

Description	Order no.
5 VDC / 4 A mains unit	0554 8808
Adapter cable	0449 0131
Clamp O-ring (2 x)	0135 0380
Fixing chain	0554 9356
Instrument bag	0516 0002



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