Be sure. testo

Robust flue gas probes for industrial emissions measurements.

For reliable measurements using testo 340 and testo 350, even in the harshest of conditions.

Introduction

The handy, easy-to-use testo 340 and testo 350 emission analyzers are suitable for a wide range of flue gas measurements. Their compact design, robust construction and reliable technology make them ideal tools for commissioning, servicing and maintenance work as well as for control measurements - whether this involves industrial burners, stationary industrial engines, gas turbines or thermal processes.

Flue gas analysis in industrial installations often needs to be carried out in extreme conditions, involving high temperatures, high humidity or a high dust content in the flue gas, for example. Emission applications are resource- and energy-intensive processes, during which lots of harmful emissions such as carbon monoxide (CO), carbon dioxide (CO_2), nitrogen oxides (NO_X) or sulphur dioxide (SO_2) are produced.

These emissions are subject to stringent environmental protection regulations, and need to be measured directly within the stack's flue gas stream in order to ensure compliance with the limit values.

Testo has developed a wide range of innovative flue gas probes specifically to cope with these extreme conditions. All of these can be used in combination with the tried-and-tested testo 340 and testo 350 flue gas analyzers.

This brochure contains an overview of suitable accessories and examples of typical applications, and offers a presentation of the flue gas probes.

Contents

The Testo probe concept

For a wide variety of applications in flue gas analysis

The probes for the testo 340/testo 350 provide reliable and accurate measurements, even when the applications involve extremely high temperatures, aggressive condensate, high dust concentrations or mechanical stress. Created by professionals for professionals.

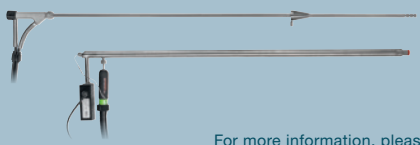
Modular flue gas probes
The standard gas sampling probes are available for different temperature ranges (+500 °C/+1000 °C), in different lengths (335 mm/700 mm) and even with a pre-filter for dusty flue gas.

For more information, please see P. 6/7

Flue gas probes for industrial engines
The gas sampling probes for industrial engines are particularly suitable for carrying out measurements on stationary industrial engines (e.g. gas/diesel engines). The probes are available for temperatures up to +1000 °C , in a length of 335 mm and also with a pre-filter (Ø 14 mm). The overpressure in the flue gas is relieved via a 4 m hose.

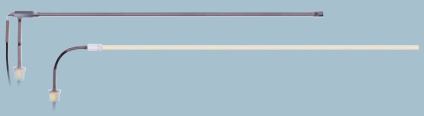
For more information, please see P. 8/9

SO_2 low probes
The unheated or heated SO_2 low kit is particularly suitable for carrying out measurements following flue gas after-treatment (e.g. scrubbers), in order to be able to determine the effectiveness in reducing SO_2 concentrations. For example, measurements are taken of the SO_2 concentration in the crude gas and in the clean gas.



For more information, please see P. 10/11

Industrial gas sampling probes
The unheated or heated industrial gas sampling probe is used for measurements involving high temperatures, high dust loads or wet flue gas. The probes are available for temperatures of +600 °C, +1200 °C and +1800 °C, in a length of 1 m.



For more information, please see P. 16/17, 18/19, 20/21

Application range for the flue gas probes

Application	Modular flue gas probes		Flue gas probes for industrial engines		SO_2 low probe kit		Industrial gas sampling probes	
	without pre-filter	with pre-filter	without pre-filter	with pre-filter	heated	un-heated	without pre-filter	with pre-filter
Service measurement on industrial engines	–	–	✓	✓	–	–	✓	✓ **
Service measurement on industrial burners	✓	✓	–	–	–	–	–	–
Service measurement on gas turbines	✓ (700 mm)	✓ (700 mm)	✓ ***	✓ ***	–	–	–	–
Analysis of thermal processes	✓	✓	–	–	–	–	✓	✓
Official emissions measurement/compliance testing	✓	✓	✓	✓	–	–	✓ ****	✓ ** ****
Service measurement on flue gas after-treatment systems	✓	✓	✓	✓	✓	✓	✓	✓ **
Measurement of low SO_2 concentrations	–	–	–	–	✓	✓	–	–

* The application range for the flue gas probes is a recommendation by Testo SE & CO. KGaA

** The probe pre-filter can be screwed directly onto the unheated probe shaft up to +1200 °C and the heated probe shaft up to +600 °C.

*** With heat protection plate

**** Heated; with a long measurement duration > 2 h and contaminated flue gas

For universal applications

Modular flue gas probes

The challenge

Whether they are used for heating, for generating electricity, steam or hot water, for the production or surface treatment of certain materials, or for incinerating waste and scrap materials: combustion plants serve a variety of purposes. This also means that different gas sampling probes are required for carrying out measurements in different applications, and at plant types using different fuels and with different degrees of pollution.

The solution

The modular flue gas probe (335 mm/700 mm) for flue gas sampling, flue gas temperature and flue draught measurement can be conveniently connected to the measuring instrument via a practical bayonet lock. Thanks to the quick-change click system on the handle, the probe shaft is easy to change depending on the application. The probe shafts differ in length and in terms of whether the probe is equipped with a pre-filter. The thermocouple built into the probe shaft enables temperature measurement for different temperature ranges (+500 °C/+1000 °C). The probe is also suitable for pressure measurement in flue gas ducts.

The advantages at a glance

- Easy probe shaft change via quick-change click system
- Flue gas duct and temperature channel can be connected to the instrument via a bayonet lock
- Integrated thermocouple probe for temperature measurements up to +1000 °C
- NO_2/SO_2 special hose, length 2.2 m
- Everything in one connector: gas, pressure and temperature input

Order no. 0600 9766*

* available in different variants, see P. 7

Typical applications

- Emissions measurement to monitor prescribed limit values
- Flue gas measurement on industrial engines (gas or diesel engines)
- Service measurement on industrial burners (production, surface treatment, incineration of waste and scrap materials)

The following variants are available

Modular flue gas probe, in 2 probe shaft lengths (335 mm/700 mm) including cone for attachment, Ø probe shaft 8 mm, thermocouple NiCr-Ni, NO_2/SO_2 special hose 2.2 m and dirt filter.

Variants	Order no.	
335 mm immersion depth, T_{max} +500 °C	0600 9766	
700 mm immersion depth, T_{max} +500 °C	0600 9767	
335 mm immersion depth, T_{max} +1000 °C	0600 8764	
700 mm immersion depth, T_{max} +1000 °C	0600 8765	
335 mm immersion depth, T_{max} +1000 °C, with pre-filter Ø 14 mm	0600 8766	
700 mm immersion depth, T_{max} +1000 °C, with pre-filter Ø 14 mm	0600 8767	

Probe accessories	Order no.	
Hose extension 2.8 m**	0554 1202	
Probe shaft with pre-filter Ø 14 mm, length selectable up to 2500 mm, T_{max} +500 °C	on request	
Probe shaft with pre-filter Ø 14 mm, length selectable up to 2500 mm, T_{max} +1000 °C	on request	
Spare probe pre-filter (sintered filter), 2 pcs.	0554 3372	
Sintered filter for solid fuel measurements	0554 3300	
Spare dirt filter for probe handle, 10 pcs.	0554 3385	
Probe shaft Ø 8 mm, length 700 mm, T_{max} +500 °C	0554 9767	
Probe shaft Ø 8 mm, length 335h, T_{max} +1000 °C	0554 8764	
Probe shaft Ø 8 mm, length 700 mm, T_{max} +1000 °C	0554 8765	
Transport bag for probes	0516 7600	

** Extension of up to 16.2 m

For more information on the accessories, please refer to the section “Accessories for gas sampling probes”, P. 12/13

For high pressure

Flue gas probes for industrial engines

The challenge

The engine is tuned to the optimum operating parameters to comply with the applicable limit value regulations – with measurements often being taken over several hours. In particular, the high and fluctuating levels of NO_2 in the engine exhaust gas make the separate measurement of NO and NO_2 necessary in order to measure the real NO_x value of the engine with a high degree of precision. In these applications, the flue gas probe is exposed to high temperatures (e.g. on the handle) and there are high pressures in the exhaust gas.

The solution

The flue gas probe performs outstandingly when carrying out professional flue gas measurement on stationary industrial engines (e.g. gas/diesel engines). Since it is made entirely of metal, this prevents the handle from melting due to the radiated heat from the flue gas duct. The flue gas probe can be used at flue gas temperatures of up to +1000 °C. Measurements are also possible at high overpressure (up to max. 100 mbar at the probe tip). An additional particle filter, which provides protection from contamination, is located in the hose of the flue gas probe. A thermocouple is also available to order. This enables parallel measurement of the temperature in the flue gas and contains a heat protection handle which prevents any burning on the metal handle.

Order no. 0600 7555*

* Flue gas probe also available with pre-filter, see P. 9

The advantages at a glance

- Made of metal: no melting of the handle due to radiated heat from the flue gas duct
- Additional particle filter in the hose provides protection from contamination
- Temperature measurement possible with optional thermocouple
- Probe shaft is easy to replace
- Additional output for overpressure regulation

Typical applications

- Flue gas measurement on industrial engines (gas or diesel engines)
- Flue gas measurement on catalytic converters
- Flue gas measurement on gas turbines
- Flue gas measurement on other industrial installations with a high overpressure

The following variants are available

Flue gas probe for industrial engines, stainless steel probe shaft (335 mm length), Ø probe shaft 8 mm, special hose for NO_2/SO_2 measurements (2-chamber sampling hose) including particle filter (4 m long), probe handle

Variants	Order no.	
335 mm immersion depth, T_{max} +1000 °C	0600 7555	
335 mm immersion depth, T_{max} +1000 °C, with probe shaft pre-filter Ø 14 mm*	0600 7556	

* particularly suitable for carrying out measurements on stationary diesel engines

Probe accessories	Order no.	
Thermocouple for flue gas temperature measurement (NiCr-Ni, length 400 mm, T_{max} +1000 °C) with 4 m connection cable and additional heat protection*	0600 8898	
Transport bag for probes	0516 7600	

* Heat protection prevents any burning on the metal handle

For more information on the accessories, please refer to the section “Accessories for gas sampling probes”, P. 12/13

For low sulphur dioxide levels

SO_2 low probe kits

The challenge

Starting up a plant with flue gas desulphurization (including SCR catalyst*) can take up to 2 hours. Reason: the temperature of the components that come into contact with flue gas is crucial for the correct timing of the NH_3 injection. In extreme flue gas conditions (e.g. wet scrubbers), low levels of SO_2 need to be measured with speed and precision. Aggressive flue gas components will corrode the sampling probe.

The solution

The SO_2 low sensor with special SO_2 low gas sampling probe and the SO_2 low sensor with heated gas sampling system have been specifically developed to carry out SO_2 low measurements in flue gas desulphurization plants. To carry out a measurement, both the unheated and also the heated SO_2 low kit must be combined with the testo 350 flue gas analyzer and a Peltier gas conditioning unit with peristaltic pump for automatic condensate drainage.

*Selective Catalytic Reduction

SO_2 low kit, unheated

Order no. 0563 1251

The advantages at a glance

- High degree of measuring accuracy
- Quick, convenient short-term measurements
- No electricity supply needed
- Easy to handle at the measuring point and during transport

SO_2 low kit, heated

Order no. 0563 2251

The advantages at a glance

- High degree of measuring accuracy, even in flue gases with high levels of NO_2 or SO_2
- Less contamination and deposition of dust particles
- For long-term measurements in the >1 day range
- Measurements in applications with flue gas temperatures of up to +600 °C

Typical applications

- Flue gas after-treatment (e.g. coal-fired power station with low SO_2 levels downstream of the scrubber)
- Waste incineration plants
- Large engines

The following variants are available

The SO_2 low probe is available in 2 different variants: unheated and heated.

Variants		Order no.	
SO_2 low kit, unheated	SO_2 low sensor: Measuring range 0 to 200 ppm; resolution 0.1 ppm, special gas sampling probe for SO_2 low measurement, probe shaft length 735 mm, including cone, thermocouple NiCr-Ni (TI), T_{max} probe shaft +220 °C, hose length 2.35 m, Ø probe shaft 8 mm	0563 1251	
SO_2 low kit, heated	SO_2 low sensor: 0 to 200 ppm; resolution 0.1 ppm, industrial probe kit, heated (0600 7630) consisting of heated probe shaft up to +600 °C flue gas temperature, heated gas sampling hose length 4 m, thermocouple NiCr-Ni (TI)	0563 2251	

Probe accessories	Order no.	
Spare thermocouple for SO_2 low kit, unheated (0563 1251)	0430 0053	
SO_2 low replacement sensor	0393 0251	
Transport bag for probes	0516 7600	

For more information on the accessories, please refer to the section “Accessories for gas sampling probes”, P. 12/13

Accessories
for gas sampling probes

Combustion air temperature probe
Enables parallel temperature and flue gas measurement.

- Immersion depth 60 mm
- Fixed cable length 4 m

Order no. 0600 9797

Pitot tube
For measuring the flow velocity.

- Length 350 or 1000 mm, Ø 7 mm
- Measuring range 1 to 100 m/s
- Operating temperature 0 to +600 °C

Order no. 0635 2145 (length 350 mm)

Order no. 0635 2345 (length 1000 mm)

Pitot tube including temperature measurement
For measuring the flow velocity and the temperature.

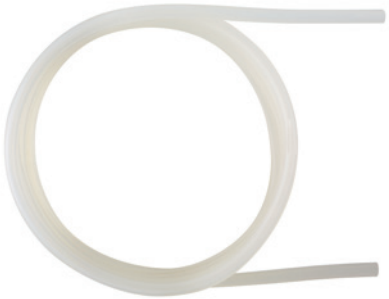
- Length 750 mm
- Includes connection hose (silicone), length 5 m, maximum load capacity 700 hPa (mbar)
- Includes heat protection plate

Order no. 0635 2042

Connection hose for connecting Pitot tube and pressure probe

- Length 5 m
- Maximum load capacity 700 hPa (mbar)

Order no. 0554 0440



Transport bag for probes

The transport bag is the ideal complementary product for all industrial probe kits. It is suitable for transporting unheated industrial probes and for modular flue gas probes with a total length > 335 mm. The transport bag can also be used to transport probes and sensors from the air-conditioning sector conveniently to their place of use.

- Length 1280 mm
- Height (left) 110 mm
- Height (right) 240 mm

Order no. 0516 7600

Overview
Industrial gas sampling probes

Both the unheated and heated industrial gas sampling probes are suitable for carrying out measurements involving high flue gas temperatures, high dust loads or humid flue gas.

Using compatible accessories, the industrial gas sampling probes can be individually tailored to different measuring tasks in a variety of applications.

Cement production

- High dust load in the process
- Flue gas temperatures up to +1400 °C
- High SO_2 and CO_2 concentrations possible

Steel production

- High dust load in the process
- Flue gas temperatures up to +1300 °C
- High CO concentrations (sometimes >15 000 ppm)
- Very high flow velocities in ducts

Glass production

- Flue gas can be very humid
- Flue gas temperatures up to +1600 °C
- High SO_2 and CO_2 concentrations possible
- Sometimes high dust levels

Overview of industrial gas sampling probes

Kit		Order no.	
Industrial probe kit +1200 °C consisting of - unheated handle - unheated sampling tube up to +1200 °C - unheated gas sampling hose - thermocouple type K		0600 7610	
Industrial probe kit +1800 °C consisting of - unheated handle - unheated sampling tube up to +1800 °C - unheated gas sampling hose		0600 7620	
Industrial probe kit, heated consisting of - heated sampling tube up to +600 °C - heated gas sampling hose - thermocouple type K		0600 7630	

Why use a heated gas sampling probe?

Because, depending on the application, there is sometimes a **very high humidity content** in the flue gas, and as the temperature falls, it drops **below the dew point** and the humidity starts to condense (forming water as a result). If the flue gas, for instance, contains sulphur dioxides (SO_2), then these combine with the condensing water vapour below the dew point.

This gives rise to **sulphurous acid or sulphuric acid**, which has a corrosive effect and may damage both the probe and the measuring instrument. Furthermore, the SO_2 and NO_2 values in particular can be distorted at low concentrations, because these substances are highly water-soluble.

The heated sampling line prevents condensate from forming and prevents the temperature within the sampling system from falling below the flue gas dew point (due to the heating > +120 °C). This ensures that all readings are recorded correctly and that the instrument is not damaged.

In some countries, the measurement of gas concentrations using a heated system is a **legal requirement** (this applies to both stationary and portable measuring instruments). It is absolutely essential to sample the gas there using a fully heated system.

For the harshest conditions

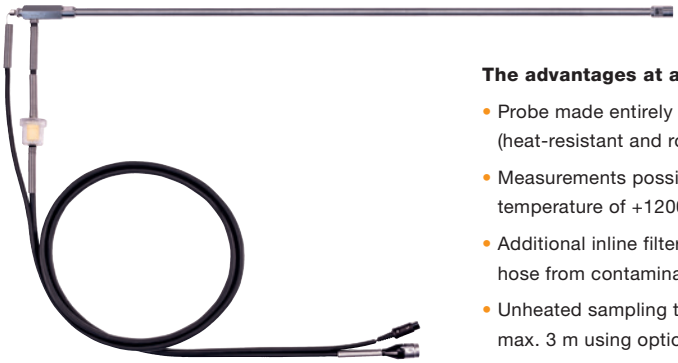
Industrial probe kit +1200 °C

The challenge

Cement production is a raw material- and energy-intensive process, during which a lot of harmful emissions such as carbon dioxide are generated. Since these emissions are subject to stringent environmental protection regulations, the emissions ideally need to be measured directly at the stack in order to ensure compliance with the limit values.

The solution

The industrial probe kit is suitable for the extractive sampling of flue gas to be analyzed at high flue gas temperatures of up to +1200 °C, and for applications involving large flue gas pipe diameters. With an optional pre-filter, the probe is ideal for measuring flue gases with a high dust content (e.g. for monitoring the furnace atmosphere during clinker production). At the rotary kiln outlet, measurements can be taken for up to 20 minutes to determine whether any unwanted air is getting in between the preheating inlet and the preheating outlet. It is equally important to monitor the furnace atmosphere at the preheater, where the temperature, oxygen content, carbon monoxide and nitrogen oxide parameters should be measured on a daily basis.



The advantages at a glance

- Probe made entirely of metal (heat-resistant and robust)
- Measurements possible up to a flue gas temperature of +1200 °C
- Additional inline filter to protect the gas sampling hose from contamination
- Unheated sampling tube can be extended to max. 3 m using optional extension tubes

Order no. 0600 7610

Typical applications

- Analysis of thermal processes (e.g. cement production)
- Measuring the furnace atmosphere
- Emissions measurement for efficiency monitoring/commissioning of industrial plants
- Emissions measurements for the prior checking of limit values
- Emissions measurements for checking flue gas cleaning systems
- Emissions measurement to monitor prescribed limit values

The following variants are available

Variants	Order no.	
Industrial probe kit +1200 °C consisting of - unheated handle - unheated sampling tube up to +1200 °C - unheated gas sampling hose - thermocouple type K	0600 7610	

Technical data			
Probe component	T_{max}	Length/diameter	Material
Probe shaft	+1200 °C	Length 1053 mm, Ø 12 mm	2.4856 alloy 625
Handle	+600 °C		1.4404 stainless steel
Gas sampling hose		Length 4.0 m	2-chamber hose with PTFE inner core
Particle filter to protect the measuring instrument from fine particles and dirt			PE porous 10 µm
Type K thermocouple	+1200 °C	Length 1.2 m, Ø 2 mm	

Probe accessories	Order no.	
Thermocouple type K, T_{max} +1200 °C, length 2.2 m, Ø 2 mm	0600 7615	
Industrial probe pre-filter, T_{max} +1000 °C, Ø 30 mm	0600 7616	
Extension tube, T_{max} +1200 °C, length 1 m, Ø 12 mm*	0600 7617	
Transport bag for probes	0516 7600	

* The probe shaft can be extended to max 3 m using two extension tubes.

For more information on the accessories, please refer to the section “Accessories for industrial gas sampling probes”, P. 22/23

For extreme heat

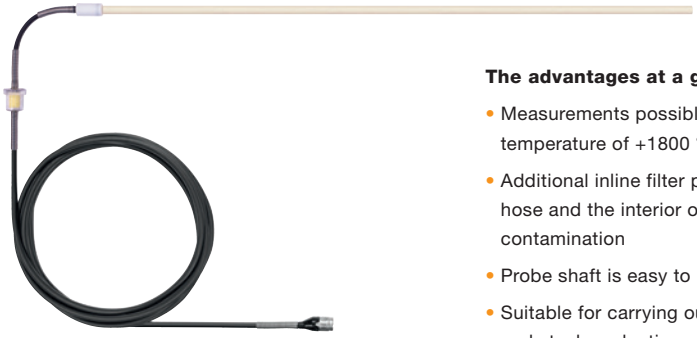
Industrial probe kit +1800 °C

The challenge

At high flue gas temperatures above +1000 °C, as is the case in steel and glass production, industrial probes are required in order to cope with these temperatures without any problems. Emissions measurements for efficiency monitoring, which should be carried out regularly, need to provide accurate measurement results even at high temperatures.

The solution

Thanks to the heat-resistant probe shaft, the industrial probe kit +1800 °C is ideal for these extreme requirements (e.g. in steel and glass production). Furnace atmosphere measurements can be carried out with this industrial probe at temperatures up to +1800 °C. Emissions measurements for efficiency monitoring pose no problem for the industrial probe kit. The kit also provides accurate readings at high temperatures for the efficient adjustment of industrial plants during commissioning.



The advantages at a glance

- Measurements possible up to a flue gas temperature of +1800 °C
- Additional inline filter protects the gas sampling hose and the interior of the instrument from contamination
- Probe shaft is easy to replace
- Suitable for carrying out measurements in glass and steel production

Order no. 0600 7620

Typical applications

- Analysis of thermal processes (e.g. steel and glass production)
- Measuring the furnace atmosphere
- Emissions measurement for efficiency monitoring/commissioning of industrial plants
- Emissions measurement to monitor prescribed limit values

The following variants are available

Variants	Order no.	
Industrial probe kit +1800 °C consisting of - unheated handle - unheated sampling tube up to +1800 °C - unheated gas sampling hose including inline filter	0600 7620	

Technical data			
Probe component	T_{max}	Length/diameter	Material
Probe shaft	+1800 °C	Length 1000 mm, Ø 12 mm	Al_2O_3 > 99.7%
Handle	+600 °C		1.4404 stainless steel
Gas sampling hose		Length 4.0 m	2-chamber hose with PTFE inner core

Probe accessories	Order no.	
Transport bag for probes	0516 7600	
Spare ceramic sampling tube	0440 0669	

For more information on the accessories, please refer to the section “Accessories for industrial gas sampling probes”, P. 22/23

For maximum precision

Industrial probe kit, heated

The challenge

Special requirements apply to industrial probes for carrying out measurements of flue gas with a high humidity content, for example in the lignite industry. In unheated probes, as the temperature in the probe shaft decreases, it drops below the dew point and any humidity is condensed. If the flue gas contains sulphur oxides, for example, then these combine with the water and form corrosive acids. These may cause damage to the measuring instrument. Moreover, the readings will be falsified if the substances to be measured dissolve in the condensate.

The solution

The heated industrial probe kit ensures that gaseous media are transported at a constant temperature. This prevents temperatures from falling below the flue gas dew point and condensate from forming. This ensures that all readings are recorded with a high degree of precision and that the instrument is not damaged. With its high degree of precision, the heated industrial probe kit is also suitable for carrying out flue gas measurements in laboratories. The probe shaft can be extended up to three metres by screwing on up to two extension tubes (order no. 0600 7617).

The advantages at a glance

- Measurements possible up to a flue gas temperature of +600 °C
- Ready for use within 15 min.
- No external controller required
- High degree of measuring accuracy, even if the flue gas contains high levels of NO_2 or SO_2
- Heated system prevents condensate from forming and prevents the temperature within the sampling system from falling below the flue gas dew point

Order no. 0600 7630

Typical applications

- Lignite industry
- Emissions measurement to monitor prescribed limit values
- Measurements in a variety of installations/trial set-ups in laboratories
- Emissions control measurements within the flue gas cleaning system
- Official emissions measurement (compliance testing)

The following variants are available

Variants	Order no.	
Industrial probe kit, heated consisting of - heated sampling tube up to +600 °C - heated gas sampling hose - thermocouple type K	0600 7630	

Technical data				
Probe component	T_{max}	Length/diameter	Material	Other information
Probe shaft	+600 °C	Length 1110 mm, Ø 25 mm	Stainless steel 1.4571	Heating temperature range: +200 °C Voltage supply: 230 V / 50 Hz
Gas sampling hose		Length: 4.0 m, outer diameter 34 mm	Corrugated hose with PTFE inner core	Heating temperature range: > +120 °C Voltage supply: 230 V / 50 Hz
Type K thermo-couple	+1200 °C	Length: 1.2 m, Ø 2 mm		
Pre-filter (optional)	+ 1000 °C	Length 110 mm, Ø 30 mm	Porous silicon carbide	Particle size: 10 µm

Probe accessories	Order no.	
Thermocouple type K, T_{max} +1200 °C, length 2.2 m, Ø 2 mm	0600 7615	
Industrial probe pre-filter, T_{max} +1000 °C, Ø 30 mm	0600 7616	
Extension tube +1200 °C, length 1000 mm, Ø 12 mm*	0600 7617	
Transport bag for probes	0516 7600	

* The probe shaft can be extended to max 3 m using two extension tubes.

For more information on the accessories, please refer to the section “Accessories for industrial gas sampling probes”, P. 22/23

Accessories
for industrial gas sampling probes

Type K thermocouple

Enables parallel temperature and flue gas measurement.

- Quick and easy to install
- Measuring range: -200 to +1200 °C
- Length 2.2 m (diameter 2 mm)

Order no. 0600 7615*

Industrial probe pre-filter

The industrial probe pre-filter is used for measurements involving flue gas with a high dust load. The filter prevents the probe shaft and sampling hose from becoming clogged with dust or particles. In addition, the pre-filter protects the probe shaft and sampling hose from dust damage.

- Can be changed without replacing the complete filter
- Max operating temperature +1000 °C
- Length 110 mm, diameter 30 mm

Order no. 0600 7616*

* Accessories for 0600 7610 and 0600 7630

Extension tube +1200 °C

Use the extension tube to adapt the industrial probe to the size of the flue gas duct. To also ensure accurate measurements in the case of dusty flue gases, the industrial probe pre-filter can easily be screwed onto the extension tube.

The probe shaft for the industrial probes can be extended using up to two extension tubes, to attain a total length of up to three metres.

- Compatible with pre-filter
- Can also be used as a spare tube for industrial probe kits
- Can be used up to +1200 °C

Order no. 0600 7617*

Transport bag for probes

This is suitable for transporting unheated industrial probes and modular standard gas sampling probes (length > 335 mm).

- Length 1280 mm
- Height (left) 110 mm
- Height (right) 240 mm

Order no. 0516 7600

Other probe accessories	Order no.	
Extension lead for temperature probe Length 5 m, between plug-in head cable and instrument	0409 0063	
Mounting flange with adjustable quick-action clamping device for all sampling tubes	0554 0760	
Heated gas sampling hose Length 4.0 m, Ø 34 mm, heating temperature range > +120 °C	on request	
Spare dirt filter (10 pcs.)	0554 3371	

* Accessories for 0600 7610 and 0600 7630

Be sure. testo

Do you need any more information?

Do you have any questions?

Please get in touch with us. We would be happy to help:
Give us a call on +603 9212 1592 or send us an e-mail to info@testo.my.

Would you prefer to browse through yourself?
You can find further information about emissions measurement at
www.testo.com