



Gas Sample Probe Series SP®

Version SP2500-H, SP2500-H/C/I/BB, SP2500-H/C/I/BB/F

2.4 03.03/04.12

Special Features

Extractable sample tube or prefilter, without dismounting the probe

Integrated back purge possibility with closing off the sample gas outlet

Optimum operational reliability

Universal applicability

Adaption to nearly all process conditions due to its compact and modular design

Easy mounting

Problem-free maintenance

Small stagnant space

Patented construction

M&C Application

The gas sample probes M&C type SP2500..., based on version SP2000-H (see data sheet 2.2.2), are used for continuous gas sampling in processes with gases of high dust content, high temperatures and/or high humidity. They make it possible to remove e.g. for cleaning purposes the preliminary filter or the sample tube out of the process without dismounting the complete gas sample probe.

The probes type SP2500-H/C/I/BB and SP2500-H/C/I/BB/F with special back purge possibility are used in case of very high dust content. For this purpose, they are equipped with an additional back purge valve and a pneumatic check valve in the sample gas outlet.

M&C Description

The M&C gas sample probes are designed for easy installation, reliable operation, trouble-free maintenance and universal applicability. Depending on the application, different sample tubes or prefilters (see data sheets 2-1.1.0.6 and 2-1.1.0.8), not included in the scope of delivery of the probe, are screwed into the thread (G3/4"i) of the filter housing.

The large surface ceramic filter element (also glass fiber elements or spun glass fillings are available) is placed in a housing with low stagnant space outside the process.

The M&C gas sample probes are designed so that changing a filter element does not involve the use of tools. In this operation the sample line does not need to be removed, thus avoiding contamination of the clean gas path and also maintaining the integrity of the system.

The cleaning of the sample tube or the preliminary filter can be effected by extracting the filter from the probe.

The special design of the heating element of the SP2500... (with protective hood) permits controlled heating of the complete filter housing, including the mounting flange up to 180 °C. This ensures reliable operation external to the process preventing the temperature falling below the dew-point.

The temperature of the standard probe is controlled by an integral compact design capillary sensor thermostat with an excess temperature limit switch and an alarm function for temperature failure. The probe SP2500-H provides the possibility to feed the test gas /C optionally via a check valve.

Additional functions of the probe SP2500-H/C/I/BB(/F):

- Calibration gas will be injected into the probe through a check valve /C directly to the sample outlet. No calibration gas is lost into the stack.
- An isolation valve with pneumatic control /I shuts off the sample outlet from the internal filter area.
- Through a high flow rate check valve /BB, which is fixed to the internal probe area, blow back of the filter housing area and the insitu probe tube will be done.
- Through a high flow rate check valve /BB/F, which is fixed to the filter housing wall, blow back of the incorporated ceramic filter will be done incl. the filter area and the insitu probe tube.

Gas Sample Probe Version	SP2500-H	SP2500-H/C/I/BB	SP2500-H/C/I/BB/F
Part No.	20S3510	20S3520	20S3530
Integrated backflush	no	via filter chamber	via filter element
Protective cover	yes		
Terminal box	IP54 EN60529		
Filter housing material	Stainless steel 316 / 316Ti*		
Sealing materials	FPM*		
Probe flange sealing material	Novapress		
Insitu probe tube/prefilter	Optional		
Sample pressure max.	0,4-6 bar* abs.		
Ambient temperature	-20 °C to +60 °C*** /PT100, /Fe-CuNi, /Ni-CrNi** = -20°C to +80°C		
Filter chamber volume	280 cm ³		
Filter element, porosity	S-2K150= Ceramic*, 2micron, /F-0, 1GF150= Glass fibre**, 0,1 micron, /FW= Spun glass**		
Thermostat, Temperature adjustment	0-180°C* /PT100** /Fe-CuNi** /Ni-CrNi**		
Ready for operation	after 40min		
Low temperature alarm contact	Change-over contact Contact rating: 250V, 3A~, 0,25A= Alarm point: ΔT 30°C		
Sample gas outlet connection	1x 1/4" NPTi* tube connectors ø 6, 8 or 10 mm**		
Backflush/Test gas connection	1/4" NPTi* /C**= tube ø 8mm	backflush: tube Ø 8mm, span: tube Ø 6mm	
Shut off valve connection /I		1/8" NPT i	
Pressure range control air /I	3 - 10 bar		
Power supply	230V 50/60 Hz, 800W /115V** = 115V 60Hz, 800W (fuse protection 10A)		
Electrical connections	Terminals max. 4mm ² , 2x PG 13,5 cable gland		
Electrical equipment standard	EN 61010, EN 60519-1		
Mounting flange	DN65 PN6-B, SS316Ti* >DN or ANSI possible**		
Weight	17kg*		

* Standard

** Options

*** In case of higher ambient temperatures use option PT100 (Part No. 20S9025) or thermocouple Fe-CuNi respectively Ni-CrNi (Part No. 20S9027 resp. 20S9028) instead of the thermostat controller. Then, an additional electronic temperature controller (see data sheet 2-5.1) is necessary.

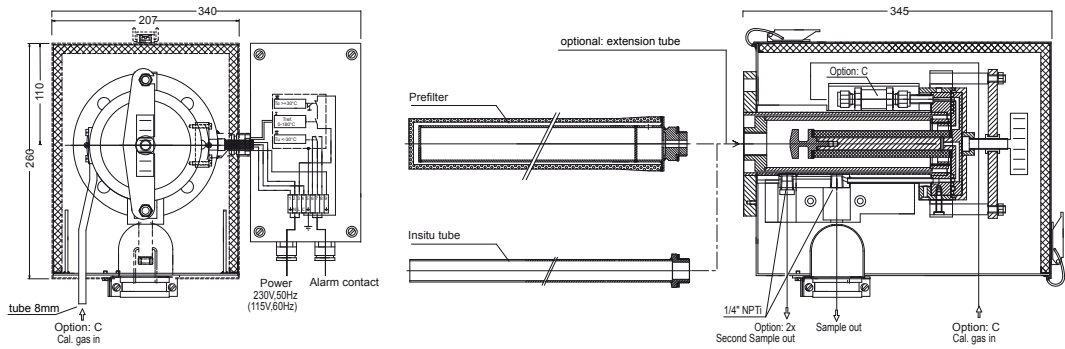
M&C | Differential pressure and T₉₀-time

ΔP and T ₉₀ at flow of:	100	200	500	1000	1500	NI/hr
ΔP with new filter element S-2K150/GF150	0,007	0,011	0,02	0,035	0,040	bar
T ₉₀ -time for SP2500-H.. without tube	8	5,5	3	1	0,5	s

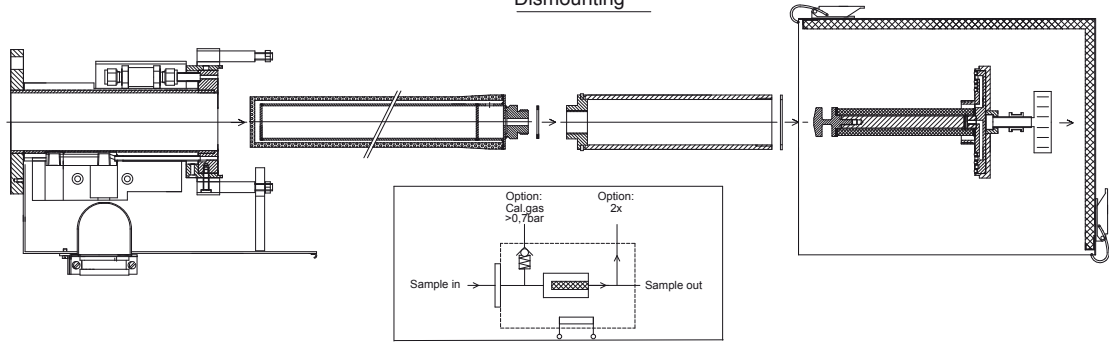
M&C | Versions and options (extract)

Executions	Data s.	Version	Part-No.
Basic execution, heated to 0-180 °C ,with weather protection shield, material SS 316Ti	2-1.1.5	SP2500-H	20 S 3510
Basic execution, heated to 0-180 °C ,with weather protection shield, material SS 316Ti	2-1.1.5	SP2500-H/C/I/BB	20 S 3520
Basic execution, heated to 0-180 °C ,with weather protection shield, material SS 316Ti	2-1.1.5	SP2500-H/C/I/BB/F	20 S 3530
Options (Extract)			
Execution with power supply 115V/60Hz		/115V	20 S 9030
Execution with second outlet for sample gas 1/4" NPTi*		/2x*	20 S 9015
Execution with back purge/calibration gas valve, opening pressure 0,7 bar, pipe 8 mm o.d.*		/C*	20 S 9435
Execution with fiber glass filter element 0,1GF150, filter porosity 0,1 μm, sealing PTFE		/GF150	20 S 9020
Execution with spec. filter housing lid and unscrewed cartridge incl. spun glass filling, sealing FPM, Novapress		/FW	20 S 9047
Execution with with PT00 sensor instead of the thermostat, without temp. controller		/PT100	20 S 9025
Execution with thermoelement FE-CuNi (type J) instead of thermostat, without temp. controller	i	/Fe-CuNi	20 S 9027
Execution with thermoelement Ni-CrNi (type K) instead of thermostat, without temp. controller		/Ni-CrNi	20 S 9028
Execution with second PT100 sensor		/2-PT100	20 S 9026
Execution with special adapter flange size DN..PN6 or ANSI..150 lbs		/DN	20 S 9004
Supporting adapter type SP2500H/SA500 to support long probe tubes and prefilters with extension tube, including flange gasket, material 1.4571		/SA500	20 S 9433
Execution with gas pre-heater GVW1, material SS304	2-1.2.5	/GVW1	20 S 9058
Execution with connection of the gas pre-heater to valve "BB" and to gas inlet	2-1.2.5	/GVW	20 S 9062
Execution with steam heating, without controller and valves		/D	20 S 9033

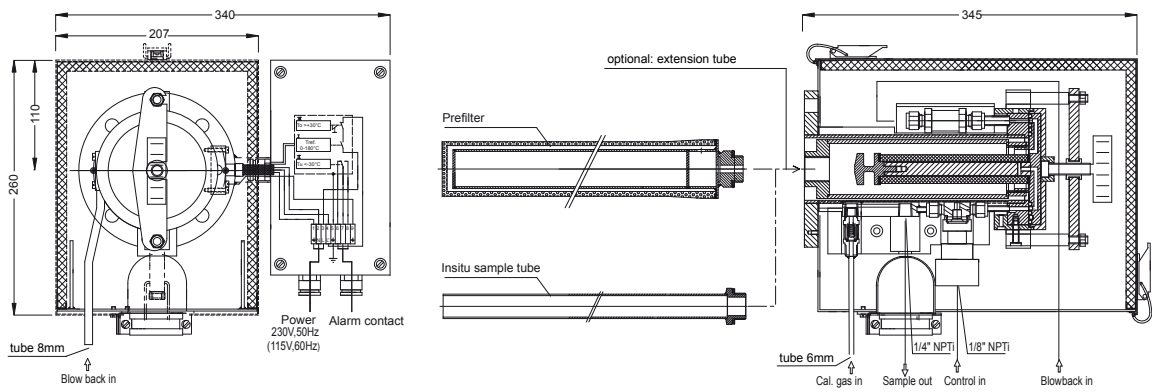
* only SP2500-H



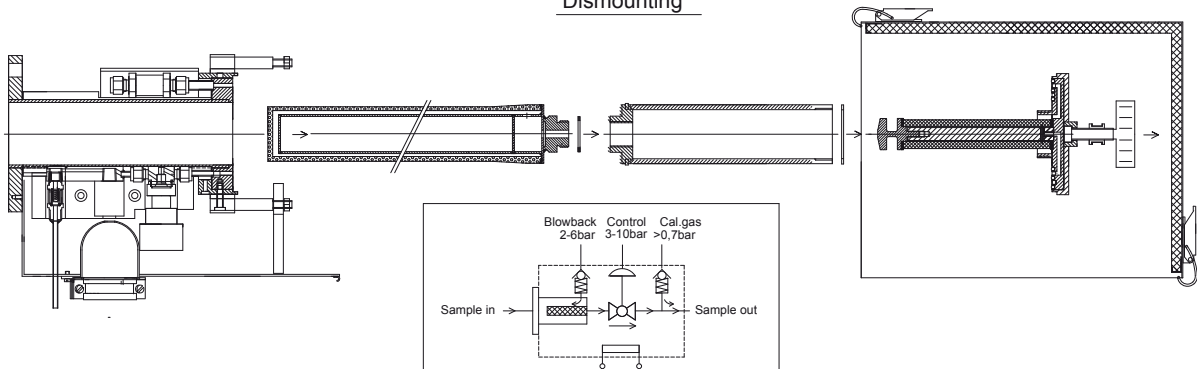
Dismounting



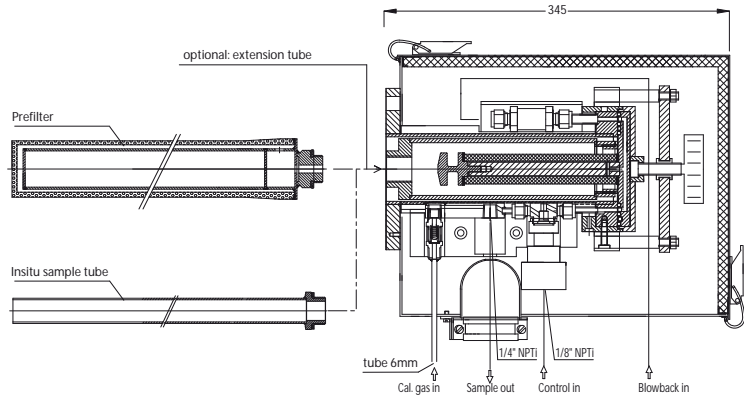
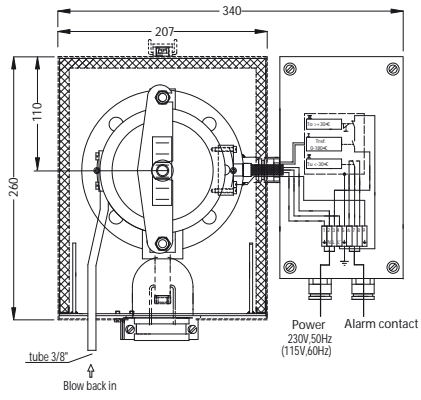
Dimensions in mm



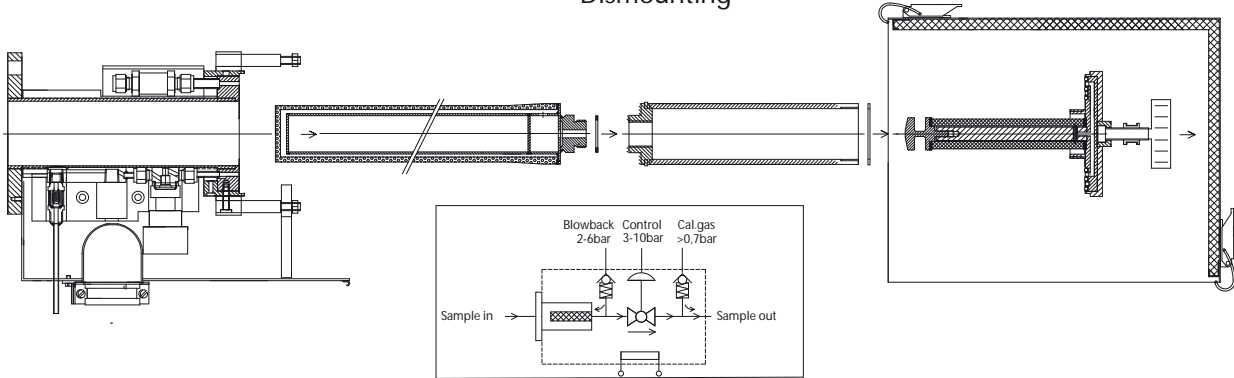
Dismounting



Dimensions in mm



Dismounting



Dimensions in mm