



Prefilters for series SP®

Prefilters for Gas Sample Probes Series SP®

Version SP2000/V20.. with G 3/4"-connection,
SP2000/V12 with flange connection,
Version SP2000/20SS 150 with tube connection

Special Features

- For dust loading up to 2 g/m³
- Point selective sampling
- Sampling after wet scrubber up to 90 °C (194 °F)
- Sampling temperature up to max. 1800 °C (3272 °F)
- Different lengths
- Great variety of materials
- Easy mounting

Application

The M&C-prefilters are used together with M&C gas sample probes series SP® for continuous gas sampling in processes with increased dust loading.

Description

The large active surface of the M&C prefilter guarantees a long moulding time. Even in case the flow rate of the sample gas is increased, there is only a small difference pressure on the filter matrix between clean gas and crude gas side. Therefore, the solid particles do not get into the filter's pore structure. They are deposited as filter cake on the filter's surface and cause a prolonged moulding time in its property as prefilter. The M&C-prefilters SP2000 / V20.. /V12.. /20SS are selected according to the specific application. The basis for selection are the process parameters, i.e. the gas compounds, dust loading, grain sizes, water vapour saturation, temperature, pressure and gas velocity.

The M&C prefilters /V20.. are equipped with a welded thread connector for mounting into the mounting flange of the M&C gas sample probe. For an optimal sampling position in the process, the prefilters /V20.. can be mounted to the sample probe via an extension tube /Vm... In case of a high velocity of the process gas, shape protection plates /AB.. are used in order to protect the prefilters /V20.. against abrasion.

The prefilters /V12... have got a mounting flange adapter of stainless steel, executed with 4 threaded bolts for easy mounting. The prefilter versions /V12-.. /SS, /V12-.. /IC are equipped with a welded protection tube of stainless steel or Incoloy on the mounting flange adaptor. The feeding of process gas is made via the three longitudinal slots distributed on 180° tube periphery. The special double-ply construction of the prefilter /V12-1, /V12-3 is granting a particularly high back purging efficiency.

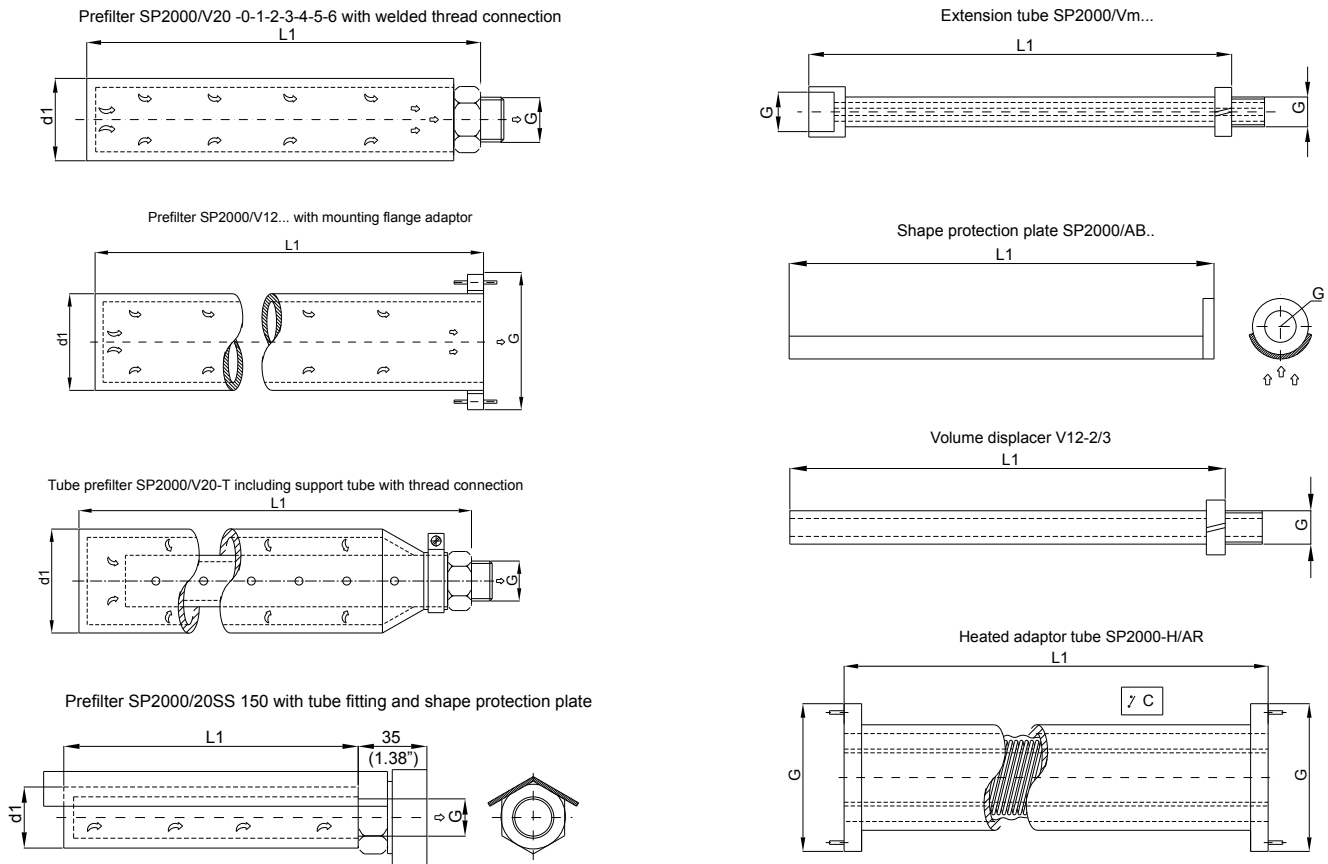
Depending on fabrication, the prefilters /V20.., /V12.. are partially made of different material combinations. See table. For reduction of the delay time in case of a small sample gas flow, prefilters with volume displacer have to be used.

The M&C tube prefilter /V20-T of PTFE cloth with interweaved metal filaments for reduction of the surface resistance (in order to avoid frictional electricity) disposes over an excellent back purging quality. It is used for example in case of gas sampling out of coal bunkers with a high content of superfine dust.

The prefilter /20SS 150 is used for direct mounting on the M&C sample tubes SP2000/SS. It is supplied with a shape protection plate and a tube fitting with double cutting ring.

If there are problems eg. in case the depth for assembling is too small or the flow velocity is too high, or the dust content or the temperature are too high, then the electrical heated adapter tube /AR should be used. It is equipped with a flange connection at both sides and is to be mounted on the plant's connection flange.

Dimensions



Dimensions in mm (Inch)

Technical Data

M&C Probe Prefilters Type	Part-No.	Temp. max. °C (°F)	Material Filter / Connection	Filter porosity micron	Dust content g/m ³	Inside volume displacer	Back-purging	Length „L1“ mm (Inch)	Filter ø „d1“ mm	Connection „G“
SP2000/20SS 150	20 S 9160	600 (1112)	stainl. steel 316/316Ti	20	2-10		yes	150 (5.91")	31	ø 25
SP2000/V20	20 S 9085	600 (1112)	stainl. steel 316/316Ti	2	2-10		yes	220 (8.66")	46	G 3/4"a
SP2000/V20-0	20 S 9105	600 (1112)	stainl. steel 316/316Ti	2	2-10	X	yes	220 (8.66")	46	G 3/4"a
SP2000/V20/HC	20 S 9095	900 (1652)	Hastelloy-C	2	2-10		yes	220 (8.66")	46	G 3/4"a
SP2000/V20-0/HC	20 S 9115	900 (1652)	Hastelloy-C	2	2-10	X	yes	220 (8.66")	46	G 3/4"a
SP2000/V20-T	20 S 9315	200 (392)	PTFE / stainl. steel 316Ti	3	> 10		yes ⁴⁾	400 (15.74")	65	G 3/4"a
SP2000/V20-2	20 S 9125	600 (1112)	stainl. steel 316/316Ti	2	> 10		yes	520 (20.47")	60	G 3/4"a
SP2000/V20-1	20 S 9145	600 (1112)	stainl. steel 316/316Ti	2	> 10	X	yes	520 (20.47")	60	G 3/4"a
SP2000/V20-2/HC	20 S 9135	900 (1652)	Hastelloy-C	2	> 10		yes	520 (20.47")	60	G 3/4"a
SP2000/V20-1/HC	20 S 9155	900 (1652)	Hastelloy-C	2	> 10	X	yes	520 (20.47")	60	G 3/4"a
SP2000/V20-4 ¹⁾	20 S 9290	600 (1112)	stainl. steel 316/316Ti	2	2-10		yes	¹⁾ 300(11.81")	31	G 3/4"a
SP2000/V20-3 ¹⁾	20 S 9300	600 (1112)	stainl. steel 316/316Ti	2	2-10	X	yes	¹⁾ 300(11.81")	31	G 3/4"a
SP2000/V20-5	20 S 9127	500 (932)	stainl. steel 316/316Ti	3	2-10		yes ⁴⁾	220 (8.66")	50	G 3/4"a
SP2000/V20-6	20 S 9128	500 (932)	stainl. steel 316/316Ti	3	> 10		yes ⁴⁾	520 (20.47")	60	G 3/4"a
SP2000/V12-1	20 S 9500	1000 (1832)	ceramic ⁵⁾ /stainl. steel 316Ti	1	> 10		yes ⁴⁾	500 (19.69")	40	DN65 PN6
SP2000/V12-3	20 S 9510	1000 (1832)	ceramic ⁵⁾ /stainl. steel 316Ti	1	> 10	optional	yes ⁴⁾	1000 (39.37")	60	DN65 PN6
SP2000/V12-2	20 S 9505	1000 (1832)	ceramic ⁵⁾ /stainl. steel 316Ti	2	> 10	optional	yes	1000 (39.37")	60	DN65 PN6
SP2000/V12-1/SS ²⁾	20 S 9525	600 (1112)	ceramic ⁵⁾ /stainl. steel 316Ti	1	> 10		yes ⁴⁾	500 (19.69")	40	DN65 PN6
SP2000/V12-3/SS ³⁾	20 S 9535	600 (1112)	ceramic ⁵⁾ /stainl. steel 316Ti	1	> 10	optional	yes ⁴⁾	1000 (39.37")	60	DN100 PN6
SP2000/V12-2/SS ³⁾	20 S 9530	600 (1112)	ceramic ⁵⁾ /stainl. steel 316Ti	2	> 10	optional	yes	1000 (39.37")	60	DN100 PN6
SP2000/V12-1/IC ²⁾	20 S 9540	1000 (1832)	ceramic ⁵⁾ / Incoloy - 316Ti	1	> 10		yes ⁴⁾	500 (19.69")	40	DN65 PN6
SP2000/V12-3/IC ³⁾	20 S 9550	1000 (1832)	ceramic ⁵⁾ / Incoloy - 316Ti	1	> 10	optional	yes ⁴⁾	1000 (39.37")	60	DN100 PN6
SP2000/V12-2/IC ³⁾	20 S 9545	1000 (1832)	ceramic ⁵⁾ / Incoloy - 316Ti	2	> 10	optional	yes	1000 (39.37")	60	DN100 PN6

¹⁾ Prefilter V20-3, V20-4 optional up to 1000 mm (39.37") length available.

²⁾ With protection tube V12-1.

³⁾ With protection tube V12-2/3.

⁴⁾ Prefilter with special construction for efficient back purge.

⁵⁾ Please pay attention to the characteristic feature of ceramic in case of high and changing temperatures!

Options

Type	Part-No.	Temperature max. °C (°F)	Material	Length „L1“ mm (Inch)	Connection „G“
Extension tubes for /V20...					
SP2000/Vm 500 mm (19.69")	20 S 9165	600 (1112)	stainl. steel 316Ti	500 (19.69")	G 3/4"/a
SP2000/Vm 1000 mm (39.37")	20 S 9170	600 (1112)	stainl. steel 316Ti	1000 (39.37")	G 3/4"/a
SP2000/Vm 1500 mm (59.1")	20 S 9175	600 (1112)	stainl. steel 316Ti	1500 (59.1")	G 3/4"/a
SP2000/Vm 2000 mm (78.74")	20 S 9176	600 (1112)	stainl. steel 316Ti	2000 (78.74")	G 3/4"/a
SP2000/VmHC 500 mm (19.69")	20 S 9180	900 (1652)	Hastelloy-C	500 (19.69")	G 3/4"/a
SP2000/VmHC 1000 mm (39.37")	20 S 9185	900 (1652)	Hastelloy-C	1000 (39.37")	G 3/4"/a
SP2000/VmHC 1500 mm (59.1")	20 S 9190	900 (1652)	Hastelloy-C	1500 (59.1")	G 3/4"/a
Shape protection plates for /V20(/HC), /V20-0(/HC), /V20-5:					
SP2000/AB-SS	20 S 9250	600 (1112)	stainl. steel 316Ti	220 (8.66")	ø 3/4"i
SP2000/AB-HC	20 S 9260	900 (1652)	Hastelloy-C	220 (8.66")	ø 3/4"i
Shapeprotection plates for /V20-1(/HC), /V20 -2(/HC), V20-6: (not for SP2500-H...)					
SP2000/AB1-SS	20 S 9255	600 (1112)	stainl. steel 316Ti	520 (20.47")	ø 3/4"i
SP2000/AB1-HC	20 S 9265	900 (1652)	Hastelloy-C	520 (20.47")	ø 3/4"i
Volume displacer for /V12-2(/IC), /V12-3(/IC):					
V12-2/3	20 S 9515	600 (1112)	stainl. steel 316Ti	950 (37.4")	G 3/4"a
V12-2/3IC	20 S 9520	1000 (1832)	Incoloy	950 (37.4")	G 3/4"a
Electrically heated adaptor tube for reception of /V12-1					
SP2000-H/AR-500-R 230 V	20 S 9398	max. 200 (392)	stainl. steel 316Ti	500* (19.69")*	DN65 PN6
SP2000-H/AR-500-R 115 V	20 S 9398a	max. 200 (392)	stainl. steel 316Ti	500* (19.69")*	DN65 PN6

Heated sampling tubes SP30, SP35 in case of decrease under dew point on process side, see data sheet 2.15.

Automatic back purging, other materials or executions on request.

Further technical information see sample probes SP 210/2100/2000.

* Others on request