



## Sample Tubes for Gas Sample Probes Series SP®

with G 3/4"-connection thread

Sample tubes for series SP®

### Special Features

- Sampling of dust loaded process gases
- Small volume, fast response time
- Easy mounting and maintenance
- Self-regulated electrical heater
- Alarm contact for low temperature
- Outdoor mounting with protective cover
- Insitu probe tube optional

### Application

The M&C sample tubes are used in combination with the M&C gas sample probes series SP® for point selective continuous gas sampling in processes with low dust loadings.

### Description

The M&C probe sample tubes SP210/SS and SP2000/... are selected according to the specific applications. Influencing process parameter are the gas composition, dust content, water vapour saturation, temperature, pressure and gas velocity.

Among the standard length "L1" other lengths up to "L max" are available on request.

For applications with low sample gas flow, sample tubes SP2000/SS-Vm are equipped with volume displacers to decrease the retention time.

Gas sampling downstream a wet scrubber with a high content of water carried out with the M&C sampling tube SP32, equipped with an integrated demister for liquid drop collection.

Depending on the selected material, the M&C sample tubes are equipped with a welded thread adapter or a support adapter. They are partly made of different material than the tubes, depending on fabrication. See below table.

The connection thread enables an easy mounting into the mounting flange of the M&C gas sample probes.

Further sampling accessories:

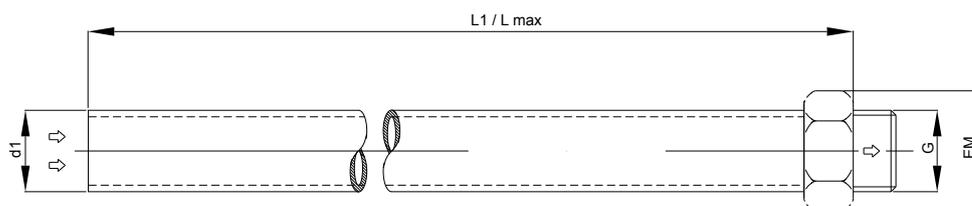
For a high dust load Pre-filter V20., V12...

For lower deviation of dew point on process side heated sample tubes SP30, SP35.

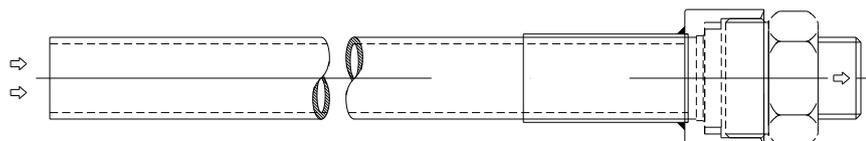
## Dimensions

### Sample tubes Series SP®

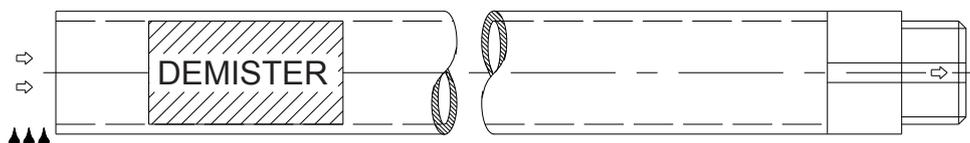
Sample tube SP210SS / SP2000... / CR-N with welded thread connection



Sample tube SP2000/ CR-2(20) /AO for >1300 C with support adapter



Sample tube SP32 with demister for gas sampling behind wet scrubber



Dimensions in mm

## Technical Data

M&C Probe sample tube Type	Part. No.	Temperature max. °C	Material Tube / connection part	Length „L1“ <sup>1)</sup> mm	Length „L max“ mm	Connection thread „G“	Tube ø o/i „d1“ mm	Connection ø a „EM“ mm
SP2000/PV	20S9070	90	PVDF/ PTFE-gfr.	1000	1500	G 3/4" a	25/21	50
SP32	20S9280	90	PVDF/ PTFE-gfr.	800	800	G 3/4" a	50/44	50
SP2000/T	20S9083	160	PTFE/ PTFE-gfr.	500	500	G 3/4" a	25/15	33
SP2000/Ti	20S9075	400	Titane	1000	2500	G 3/4" a	25/22	37
SP210/SS	02S9200	600	stainl. steel 316Ti	1000	2000	G 3/4" a	12/10	37
SP2000/SS	20S9065	600	stainl. steel 316Ti	1000	2500	G 3/4" a	25/22	37
SP2000/SS-Vm	20S9067	600	stainl. steel 316Ti	1000	2500	G 3/4" a	25/06	37
SP2000/HC	20S9090	900	Hastelloy C4	1000	2500	G 3/4" a	25/22	37
SP2000/KA	20S9080	1300	Kanthal / SS 316Ti	1000	1500	G 3/4" a	27/20	37
SP2000/IN	20S9077	1100	Inconel	1100	2000	G 3/4" a	25/22	37
SP2000/CR-2*	20S9098	1400	Cr AL <sub>2</sub> O <sub>3</sub> / Hastelloy C4	900	900	G 3/4" a	22,5/13	50
SP2000/CR-20*	20S9099	1400	Cr AL <sub>2</sub> O <sub>3</sub> / Hastelloy C4	1200	1200	G 3/4" a	22,5/13	50
SP2000/CR-N	20S9086	1400	Silicon nitride-ceramic / 1.4571	1000	on request	G 3/4" a	22/29	50
SP2000/AO + ↓	20S9385	1800	Aluminiumoxyde <sup>2)</sup> /	1000	1500		24/18	
Adapter	20S9395	(600)	/ stainless steel 316Ti			G 3/4" a		50
Adapter	20S9397	(900)	/ Hastelloy C4			G 3/4" a		50

\* Sample tube with support adapter. Max. Temperature concern the area of the support adapter on approx. 200 mm length depend on material 600/900 °C.

<sup>1)</sup> Standard

<sup>2)</sup> Please pay attention to the characteristic feature of ceramic in case of high and changing temperatures!

Other materials or executions on request.

For further technical information see Sample Probes SP 210 / 2100 / 2000.