



Sample tubes for series SP®

Sample Tubes for Gas Sample Probes Series SP®

with G 3/4" connection thread

Special Features

- For dust levels up to 2 g/m³
- Point-selective sampling
- Sampling downstream 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 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 levels.

Description

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

In addition to 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 downtime.

Gas sampling downstream a wet scrubber with a high content of water is carried out with the M&C sample tube SP32 equipped with an integrated demister for droplet separation.

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

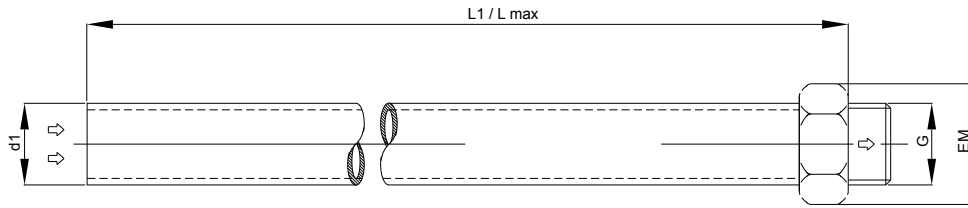
The connection thread enables easy mounting into the mounting flange of the M&C gas sample probes.

Further sampling accessories:

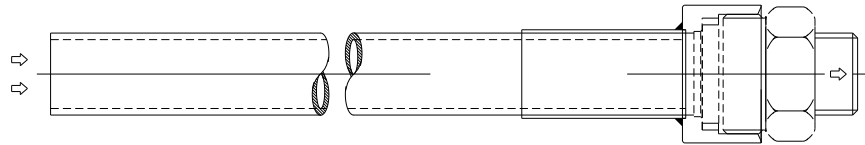
For a high dust load: pre-filter V20, V12

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

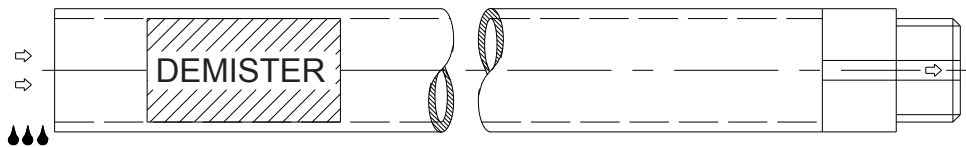
Sample tube SP210SS / SP2000... / CR-N with welded thread connection



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



Sample tube SP32 with demister for gas sampling behind wet scrubber



Technical Data

M&C Probe sample tube Type	Part. No.	Temperature max. °C [°F]	Material Tube/connection part	Length 'L1' ¹⁾ mm [inch]	Length 'L max' mm [inch]	Connection thread 'G'	Tube ø o/i 'd1' mm	Connection ø o 'EM' mm
SP2000/PV	20S9070	90 [194 °F]	PVDF/PTFE-fiber glass-reinforced	1000 [≈ 39.4"]	1500 [≈ 59.1"]	G 3/4" o	25/21	50
SP32	20S9280	90 [194 °F]	PVDF/PTFE-fiber glass-reinforced	800 [≈ 31.5"]	800 [≈ 31.5"]	G 3/4" o	50/44	50
SP2000/T	20S9083	160 [320 °F]	PTFE/PTFE-fiber glass-reinforced	500 [≈ 19.7"]	500 [≈ 19.7"]	G 3/4" o	25/15	33
SP2000/Ti	20S9075	400 [752 °F]	Titan	1000 [≈ 39.4"]	2500 [≈ 98.4"]	G 3/4" o	25/22	37
SP210/SS	02S9200	600 [1112 °F]	Stainl. steel 316Ti	1000 [≈ 39.4"]	2000 [≈ 78.7"]	G 3/4" o	12/10	37
SP2000/SS	20S9065	600 [1112 °F]	Stainl. steel 316Ti	1000 [≈ 39.4"]	2500 [≈ 98.4"]	G 3/4" o	25/22	37
SP2000/SS-Vm	20S9067	600 [1112 °F]	Stainl. steel 316Ti	1000 [≈ 39.4"]	2500 [≈ 98.4"]	G 3/4" o	25/06	37
SP2000/HC	20S9090	900 [1652 °F]	Hastelloy® C4	1000 [≈ 39.4"]	2500 [≈ 98.4"]	G 3/4" o	25/22	37
SP2000/KA	20S9080	1300 [2372 °F]	Kanthal®/SS 316Ti	1000 [≈ 39.4"]	1500 [≈ 59.1"]	G 3/4" o	27/20	37
SP2000/IN	20S9077	1100 [2012 °F]	Inconel®	1100 [≈ 43.3"]	2500 [≈ 98.4"]	G 3/4" o	25/22	37
SP2000/HR160	20S9103	1200 [2192 °F]	Alloy HR160®	1000 [≈ 39.4"]	2000 [≈ 78.7"]	G 3/4" o	27/21	37
SP2000/CR-2*	20S9098	1400 [2552 °F]	Cr AL ₂ O ₃ /Hastelloy® C4	900 [≈ 35.4"]	900 [≈ 35.4"]	G 3/4" o	22,5/13	50
SP2000/CR-20*	20S9099	1400 [2552 °F]	Cr AL ₂ O ₃ /Hastelloy® C4	1200 [≈ 47.2"]	1200 [≈ 47.2"]	G 3/4" o	22,5/13	50
SP2000/CR-N	20S9086	1400 [2552 °F]	Silicon nitride-ceramic/ Stainl. steel 316Ti	1000 [≈ 39.4"]	on request	G 3/4" o	29/22	50
SP2000/AO w/o connection part/adapter	20S9385	1800 [3272 °F]	Aluminiumoxyde ²⁾ /	1000 [≈ 39.4"]	1500 [≈ 59.1"]		24/18	
Adapter for SP2000/AO	20S9395	(600 [1112 °F])	/Stainless steel 316Ti			G 3/4" o		50
Adapter for SP2000/AO	20S9397	(900 [1652 °F])	/Hastelloy® C4			G 3/4" o		50

* Sample tube with support adapter. Max. temperature around the support adapter on approx. 200 mm [≈ 7.9"] length depending on material: 600/900 °C [1112/1652 °F].

¹⁾ Standard

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

Other materials or designs on request.

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

Hastelloy® is the brand name of a nickel-based alloy from Haynes International.

Kanthal® is a trademark of the Sandvik Group for various electrical heating products.

Inconel® is a Special Metals Corporation brand name for a range of corrosion-resistant nickel-based alloys.

Alloy HR160® is a trademark of Haynes International, USA.