



SP30-H1.1

# Electrically Heated Sample Probe Tube Series SP®

Versions SP30-H, SP30-H1.1-V, SP35-H  
for the stationary gas sample probe SP2000-H

## Special Features

- Completely heated sample tubes
- Different lengths
- Non-heated pre-filters or extensions possible
- Simultaneously heated pre-filters possible
- Easy installation
- Two temperature sensor versions

## Application

The electrically heated sample tube SP30/35-H is used wherever cooling down or falling below the dew point is to be avoided during gas extraction from the sampling point to the heated gas sample probe SP2000-H.

In dust-loaded processes which tend to fall below the dew point in the sampling area during operation or when the plant is at a standstill, it may be advisable to use the electrically heated sample tube SP30-H1.1-V with heated in-situ pre-filter V20-2/30. This prevents premature clogging or destruction.

The sample tubes are available with temperature sensors for max. 320 °C [608 °F] or 200 °C [392 °F] operating temperature.

## Description

The electrically heated M&C double-jacket sample tube SP30-H is available in lengths of 0.6/1.0/1.5/2.0/2.5 m [≈ 2.0/3.3/4.9/6.6/8.2 ft] and the SP35-H in 0.175 m [≈ 0.6 ft]. The standard lengths of the pre-filter version SP30-H1.1-V are 0.6/1.0 m [≈ 2/3.3 ft].

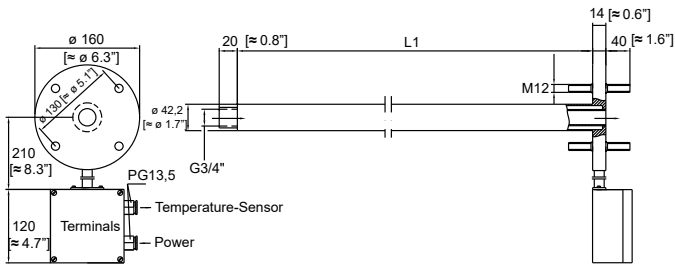
The sample tubes SP30-H/-V and SP35-H are equipped with a mounting flange with 4 threaded bolts welded on both sides for easy fixing at the sampling nozzle and for mounting the gas sample probe SP2000-H. At the end of the double-jacket tube of the SP30-H/SP35-H versions, there is a G 3/4" connection into which a non-heated sample tube or a pre-filter can be screwed as required.

The electrical heating is process-protected in the double jacket of the sample tubes SP30-H/-V and SP35-H. In the version SP30-H1.1-V, the large screw-on large pre-filter V20-2/30 is also heated by the sample tube.

The setpoint of the sample tube's temperature controller must be set accordingly high in line with the process conditions (see table). The sample tubes of versions SP30-H and SP35-H have an inner tube of  $\varnothing$  22 mm. The version SP30-H1.1-V is equipped with an inner tube of  $\varnothing$  6 mm in order to reduce the internal dead volume.

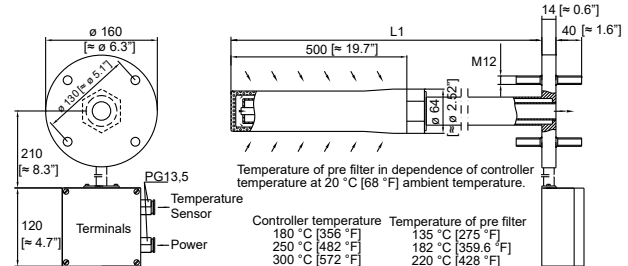
## Dimensions

### Probe tube SP30-H1.1/H2, SP35-H1.1/H2



Dimensions in mm [Inches]

### Probe tube with pre-filter SP30-H1.1-V



## Technical Data

Series SP <sup>*</sup> Type	Version SP35		Version SP30		
	H1.1	H2	H1.1	H2	H1.1-V
Temperature sensor	Fe-CuNi	PT100 2-wire	Fe-CuNi	PT100 2-wire	Fe-CuNi
Temperature controller	Optional, external				
Probe tube length L1	175 mm [≈ 0.6 ft]		Max. 2 m [≈ 6.6 ft]		Max. 1 m [≈ 3.3 ft]
Sample temperature max.	550 °C [1022 °F]				
Operating temperature max.	320 °C [608 °F]	200 °C [392 °F]	320 °C [608 °F]	200 °C [392 °F]	320 °C [608 °F]
Pre-filter length: 520 mm, ø 60 mm, filter porosity: 2 µm, integrated and heated					V20-2/30
Sample gas inlet connection	G 3/4" i DIN ISO 228/1				Pre-filter with G1 1/2" i DIN ISO 228/1
Dust load	Max. 2 g/m <sup>3</sup>				> 2 g/m <sup>3</sup>
Internal dead volume	380 ml/m				420 ml/m
Sample pressure max.	5 bar g				
Ambient temperature	-20 to +80 °C [-4 to 176 °F]				
Storage temperature	-30 to +90 °C [-22 to 194 °F]				
Ready for operation	After 2 hours				
Power supply	230 V AC, (115 V optional)		230/115V AC - switchable,		
Heating capacity	200 W		0.6 m: 600 W, 1 m: 800 W, 1.5 m: 1200 W, 2 m: 1200 W		
Electrical connections	Terminals, max. 2.5 mm <sup>2</sup> , 2 x PG 13.5 cable gland				
Electrical standard	EN 61010, EN 60519-1				
Degree of protection	IP54 EN 60529				
Mounting flange	DN 65 PN 6, Form B with mounting bolts on both sides M 12 x 40 mm				
Material of parts in contact with the sample	Stainless steel SS 904L, Version SP30-H1.1/HC: Hastelloy C				SS 904L, 316Ti/316

## Pressure difference and T90 time

ΔP and T <sub>90</sub> at a flow rate of:	100	200	500	1000	NI/h
ΔP pressure loss SP30-H, length 1 m [≈ 3.3 ft]	< 1	< 1	< 1	< 1	mbar
ΔP pressure loss SP30-H-V, length 1 m [≈ 3.3 ft] with new pre-filter V20-2/30	< 1	< 1	1.5	4	mbar
T <sub>90</sub> time	14	7	< 3	< 2	sec

## Part number and weight

	Version SP35	Version SP30				Type:	
Length "L1"	175 mm [≈ 0.6 ft]	0.6 m [≈ 2 ft]	1.0 m [≈ 3.3 ft]	1.5 m [≈ 4.9 ft]	2.0 m [≈ 6.6 ft]	2.5 m [≈ 8.2 ft]	
Part number	20S9320	02S9023	02S9025	02S9026	02S9024	02S9022	H1.1
		02S9096	02S9092	02S9093	02S9094	02S9095	H1.1/HC
	20S9322	02S9023p	02S9025p	02S9026p	02S9024p		H2
Weight	4.8 kg [≈ 10.6 lbs]	5 kg [≈ 14.1 lbs]	8.0 kg [≈ 17.6 lbs]	9.8 kg [≈ 21.6 lbs]	11.6 kg [≈ 25.6 lbs]		
Part number		02S9037	02S9038				H1.1-V
Weight		9.0 kg [≈ 19.8 lbs]	10.6 kg [≈ 23.4 lbs]				
	+ 02S9036	Standard, switchable					115 V AC

The corresponding temperature controller has to be ordered and mounted separately. See datasheet 4.3