



4-N/(M/H) 4/6 A,Y

Electrically Heated Sample Lines Type 3/4/5-N/M/H

**Type 3 with PTFE tube
non interchangeable**

Type 4 with PTFE tube interchangeable

Type 5 with stainless steel tube

- Regulation with external temperature controller
- Completely assembled
- PTFE-tube non interchangeable
- PTFE-tube interchangeable
- Stainless steel tube non interchangeable
- Tube 4/6 or 6/8 mm
- 3 temperature ranges
100 °C
200 °C
250 °C

Type 3/

Type 4/

Type 5/

DN..

**N
M
H**

Application

The electrically heated, "plug-in system", **M&C**-sample lines series **3/4/5-N/M/H** may be used with advantage in gas analysis systems. Their application helps avoid errors and acts as frost protection during transport of the sample gas from the sample point to the gas conditioning system or directly to a heated analyser (above dew point).

Description

The electrically heated **M&C**-sample lines **3/4/5-N/M/H** are supplied according to clients requirements completely fabricated in the factory with connections and ends to a fixed length.

Several options can be supplied: Three (3) different temperature versions (**N**-100 °C/ **M**-200 °C /**H**-250 °C), three (3) tube/pipe versions (**3/4/5**) with either DN 4/6 or DN 6/8 mm each as well as five (5) inlet connections (**A/B/C/D/E**) and four (4) end connections (**W/X/Y/Z**).

The robust construction of the sample line consists of a medium tube/pipe inside a thermally conductive stainless steel mesh which acts also as protection and support. The heat conductor is also coiled around the stainless steel protective mesh followed by a further two (2) layers of thermal insulation. The outer cover is a corrugated tube out of polyamide.

The ends of the sample line are finished with heat resistant Silicone materials, and the entire construction ensures that the complete sample line is properly heated, including the ends.

The sample line is equipped with a **PT100** for temperature detection.

Possible Connections and Styles of the Heated Sample Lines

Sample line	Inlet connection style	End connection style
Type 3 with PTFE tube non interchangeable		
Type 4 with PTFE tube interchangeable		
Type 5 with stainless steel tube		

← sample line length "L" →

Dimensions in mm

Technical Data

Sample lines Type 3/4/5-N/M/H	N	M	H
Operating temperature, max.	+100 °C	+200 °C	+250 °C
Power consumption at DN 4/6	85 W/m	110 W/m	120 W/m
Power consumption at DN 6/8	100 W/m	110 W/m	130 W/m
Pressure, max.	Type 3 = 5 bar g, Type 4 = 3 bar g, Type 5 = 100 bar g, *standard		
Ambient temperature, max.	-20 °C up to + 60 °C		
Tube DN	optional 4/6 or 6/8 mm		
Sample line inlet and end connections	see inlet and end connections A-E and W-Z		
Electrical connections*	1,5 m cable with 7 pins plug for max. 10A or plug 5 pins for max. 20A according to the necessary power consumption, for power and PT100-sensor connection		
Power supply	230V AC *standard, supplied via a temperature controller, see data sheet 2-6.2		
PT100-Sensor position	0,25 m from the power inlet connection - * standard		
Weight	first meter = 2 kg / each meter more = 0,9 kg standard execution		
Sample line max. length	30 m		
7 pins plug 10A at inlet connection A-E up to max. lengths of	23 m		18 m
5 pins plug 20A at inlet connection A-E up to max. lengths of	23,1 m to 30 m		18,1 m to 30 m
Sample line inlet and outlet seal connections	Type 3 = stainless steel 316Ti tube nipple ø 6 or 8 mm, on request, 26 mm long Type 4 = PTFE tube ø6 or 8 mm on request, 0,5 m on both sides Type 5 = stainless steel 316Ti tube ø 6 or 8 mm on request, 0,5 m on both sides		
Thermal insulation	glass fibre and bonded fabrics		
Outer cover	corrugated tube out of polyamide black		
Application fields / smallest bending radius	mobile and stationary, inside and outside mounting / 200 mm		

Description	Sample lines per meter	type	DN in mm	Part number
Electrically heated sample line type 3 with non interchangeable PTFE tube, max. 100 °C		3N	4/6	03B3000W
Electrically heated sample line type 3 with non interchangeable PTFE tube, max. 200 °C		3M	4/6	03B3010W
Electrically heated sample line type 3 with non interchangeable PTFE tube, max. 250 °C		3H	4/6	03B3020W
Electrically heated sample line type 3 with non interchangeable PTFE tube, max. 100 °C		3N	6/8	03B3030W
Electrically heated sample line type 3 with non interchangeable PTFE tube, max. 200 °C		3H	6/8	03B3040W
Electrically heated sample line type 3 with non interchangeable PTFE tube, max. 250 °C		3H	6/8	03B3050W
Electrically heated sample line type 4 with interchangeable PTFE tube, max. 100 °C		4N	4/6	03B4000W
Electrically heated sample line type 4 with interchangeable PTFE tube, max. 200 °C		4M	4/6	03B4010W
Electrically heated sample line type 4 with interchangeable PTFE tube, max. 250 °C		4H	4/6	03B4020W
Electrically heated sample line type 4 with interchangeable PTFE tube, max. 100 °C		4N	6/8	03B4030W
Electrically heated sample line type 4 with interchangeable PTFE tube, max. 200 °C		4M	6/8	03B4040W
Electrically heated sample line type 4 with interchangeable PTFE tube, max. 250 °C		4H	6/8	03B4050W
Electrically heated sample line type 5 with non interchangeable stainless steel 316 tube, max. 100 °C		5N	4/6	03B5000W
Electrically heated sample line type 5 with non interchangeable stainless steel 316 tube, max. 200 °C		5M	4/6	03B5010W
Electrically heated sample line type 5 with non interchangeable stainless steel 316 tube, max. 250 °C		5H	4/6	03B5020W
Electrically heated sample line type 5 with non interchangeable stainless steel 316 tube, max. 100 °C		5N	6/8	03B5030W
Electrically heated sample line type 5 with non interchangeable stainless steel 316 tube, max. 200 °C		5M	6/8	03B5040W
Electrically heated sample line type 5 with non interchangeable stainless steel 316 tube, max. 250 °C		5H	6/8	03B5050W
Inlet connections type A-E for DN 4/6 or DN 6/8 incl. PT100 and 1,5 m cable with plug: *see page 2				
Inlet connection part with PG36, for interchangeable tube, extension cable axial at the front		A	4/6	03B1000
Inlet connection part with PG36, for interchangeable tube, extension cable axial at the back		B	4/6	03B1010
Inlet connection part with pipe end, for interchangeable tube, extension cable axial at the back		C	4/6	03B1020
Inlet connection part with tube nipple, for non interchangeable tube, extension cable axial at the back		D	4/6	03B1030
Inlet connection part for stainless steel tube, extension cable axial at the back		E	4/6	03B1040
Inlet connection part with PG36, for interchangeable tube, extension cable axial at the front		A	6/8	03B1050
Inlet connection part with PG36, for interchangeable tube, extension cable axial at the back		B	6/8	03B1060
Inlet connection part with pipe end, for interchangeable tube, extension cable axial at the back		C	6/8	03B1070
Inlet connection part with tube nipple, for non interchangeable tube, extension cable axial at the back		D	6/8	03B1080
Inlet connection part for stainless steel tube, extension cable axial at the back		E	6/8	03B1090
End connections type X-W for DN 4/6 mm or DN 6/8 mm:				
End connection part with PG36, for interchangeable tube		X	4/6	03B2000
End connection part with pipe end, for interchangeable tube		Y	4/6	03B2010
End connection part with tube nipple, for non interchangeable tube		Z	4/6	03B2020
End connection part for stainless steel tube		W	4/6	03B2030
End connection part with PG36, for interchangeable tube		X	6/8	03B2040
End connection part with pipe end, for interchangeable tube		Y	6/8	03B2050
End connection part with tube nipple, for non interchangeable tube		Z	6/8	03B2060
End connection part for stainless steel tube		W	6/8	03B2070

Please specify with order:

- line type (3/4/5)
- line length in meter
- 1x inlet connection part (A-E)
- temperature range (N/M/H)
- tube dimension DN (4/6, 6/8)
- 1x end connection part (X-W)
- 1x temperature controller (TR N/M/H /20)

For example:

6x 03B4010 6 m electrically heated sample line, 4M4/6, max. 200 °C with interchangeable PTFE tube DN 4/6,

1x 03B1020 inlet connection part C,

1x 03B2010 end connection part Y.

– Temperature controller TR... see data sheet 2-6.2 –