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** **Type 3/**
- **PTFE-tube interchangeable** **Type 4/**
- **Stainless steel tube non interchangeable** **Type 5/**
- **Tube 4/6 or 6/8 mm** **DN..**
- **3 temperature ranges**
  - **100 °C** **N**
  - **200 °C** **M**
  - **250 °C** **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.

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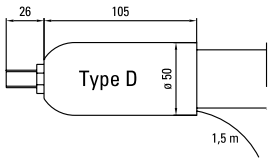
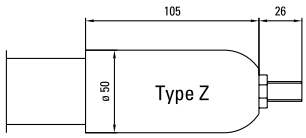
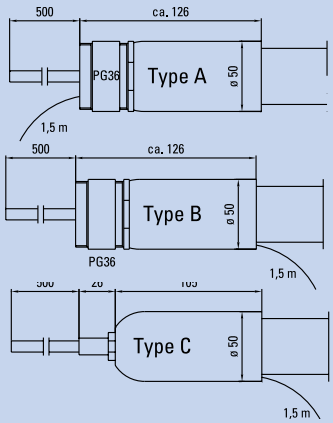
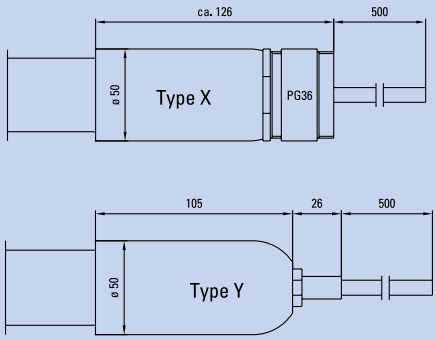
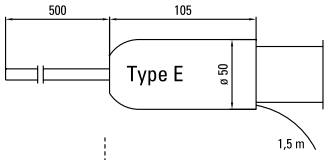
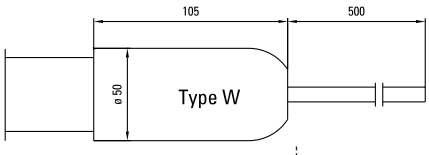
Possible Connections and Styles of the Heated Sample Lines

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**		

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 insulaction	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		

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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 staliness 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 –*

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