



Self-Regulating Heated Sample Lines

PSG Extruded SR

Application

The self regulating heated sample lines series **PSG Extruded SR** are used for continuous extractive gas analysis. They serve primarily for the transport of the humid sample gas stream from the sample point to the analyser house. The holding temperature of the line thereby has to be above water vapour resp. acid dew point of the sample gas. In this way uncontrolled condensation of water vapour on the way to the analyser and therefore washing out of gas components in condensate is prevented. Also failure of the measurement by a freezing line at ambient temperatures below 0°C is avoided.

Technology

The robust lines with thick-walled extruded flame resistant and extremely weather resistant TPU, PE or PVC outer jacket are equipped with high quality self-regulating Raychem® heating cable. Insulation is done with a thermal or glass fibre fleece. Depending on the used heating cable holding temperatures of up to 150°C at -20°C ambient temperature can be reached. Solutions down to -52°C are also possible. As standard holding temperatures of 30°C, 100°C and 120°C are offered. Up to 12 PTFE, PFA, stainless steel or special alloy tubes as internal line and also interchangeable internal tubes are available.

Functions

Because of the self-regulating heating cable for operation an additional temperature controller is not necessary. The heating cable consists of two parallel arranged supply conductors connected with an electrically conductive polymer plastic. During operation conductivity of the plastic is decreasing with increasing temperature due to molecular expansion until the heating cable specific maximum temperature is reached. When the heating cable temperature now drops the process reverses.

- ✓ No temperature controller necessary
- ✓ Raychem® heating cables
- ✓ 30 / 100 / 120 / 150°C holding temperature at -20°C ambient temperature
- ✓ Up to 300m at a stretch
- ✓ Arbitrary cut to length for assembly on-site (video tutorial on YouTube) or ready-made ex works
- ✓ Robust design with thick-walled extruded, flame resistant, extremely weather resistant PVC, PE or TPU outer jacket
- ✓ Internal tube made of PTFE, PFA, stainless steel or special alloy
- ✓ Up to 12 internal lines as option
- ✓ Interchangeable internal lines as option

Raychem



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Technical data and order numbers

| Construction data | | | | |
|--|------|--|---------------------|-----------------------|
| Holding temperature* | °C | 30 | 100 | 120 |
| Heat insulation / weight | kg/m | thermal or glass fibre fleece / 1 | | |
| Insulation thickness | mm | 10 | 10 | 14 |
| Heating cable type | | 5BTV | 12XTV | 15XTV |
| Outer jacket | | 2mm PVC, PE or TPU extruded | | |
| Outer diameter | mm | 40 | | 44 |
| Min. bending radius | mm | 8 - 10 x outer diameter | | |
| Ambient temperature | °C | -20 to +65 | | |
| Max. operating pressure abs. PTFE line | bar | DN4/6:10 / DN6/8: 7,8 | DN4/6: 8 / DN6/8: 6 | DN4/6: 6 / DN6/8: 4,7 |
| Max. operating pressure abs. SS316L line | bar | 400 | | |
| Protection class | | IP64 (EN60529) | | |
| Max. heating circuit (32A fuse protection) | m | 160 | 135 | 105 |
| Electrical data | | | | |
| Max. power (t _a = +10°C) | W/m | 16 | 38 | 47 |
| Electrical connection | | 3m silicone connection cable**, open ends (included in assembly) | | |
| Power supply | | 230V 50/60Hz or optional 120V 50/60Hz | | |
| Order numbers for 1m line 230V 50/60Hz | | | | |
| 1 x PTFE internal tube 6mm | 1m | 50010300 | 50011200 | 54002571 |
| 1 x Stainless steel internal tube 6mm | 1m | 50010100 | 50021000 | 54001828 |
| 1 x PTFE internal tube 8mm | 1m | 50010400 | 50011300 | 54003686 |
| 1 x Stainless steel internal tube 8mm | 1m | 50010200 | 50021100 | |
| Order numbers for assembly ex works | | | | |
| Silicone cap ending | | | 50084005 | |
| Silicone cap with electr. connection | | | 50085004 | |
| PTFE cap ending | | | 50085003 | |
| PTFE cap with electr. connection | | | 50085002 | |
| Hard cap ending | | 50084011 | | - |
| Hard cap electr. connection | | 50084010 | | - |
| POM cap ending | | 50085001 | | - |
| POM cap with electr. connection | | 50085000 | | - |
| Order numbers for assembly on-site | | | | |
| Silicone cap ending | | | 50084007 | |
| Silicone cap with electr. connection | | | 50050470 | |
| PTFE cap ending | | | 50084003 | |
| PTFE cap with electr. connection | | | 50084002 | |
| Hard cap ending | | 50084009 | | - |
| Hard cap electr. connection | | 50084008 | | - |
| POM cap ending | | 50084001 | | - |
| POM cap with electr. connection | | 50084000 | | - |

* 150°C on request ** to lead frontal or backwards through the cap

Assembly



PTFE or POM cap



Silicone cap



Hard cap

Options

- Up to 12 internal lines made of PTFE and/or PFA and/or stainless steel 316L and/or special alloys with dimensions DN4/6, DN6/8, DN8/10, DN10/12 or inch
- Interchangeable internal line
- Power supply 115V 50/60Hz
- Cable gland M63 x 1,5 (clamping range 36-48mm), PA, for cabinet wall mounting, IP68, mounted or separately

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