



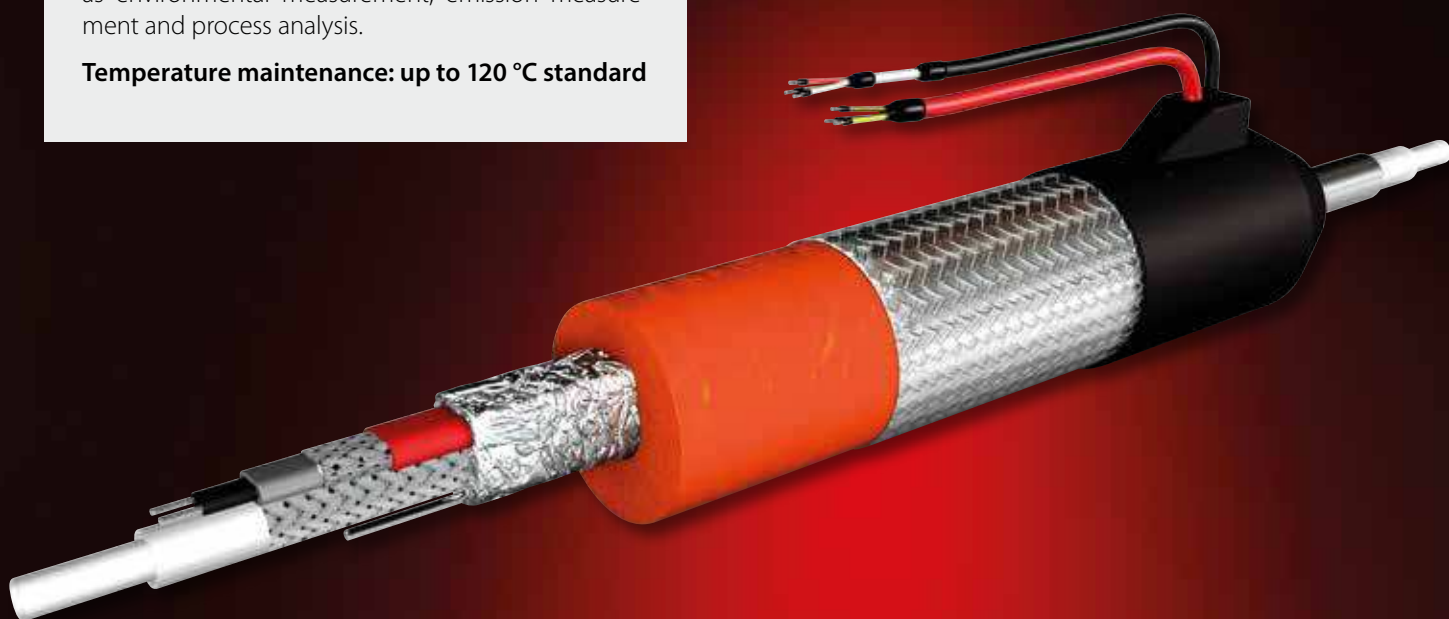
Self-regulating analytic heat hoses type ELHa...sb

Self-regulating analytic heat hoses serve to transport gaseous media from the point of withdrawal to an analytic measuring device (e.g. at the chimney, connection to a heated probe).

Self-regulating sample gas line of type ELH/a..sb are used in the range from low (frost protection) to medium temperature (up to 120 °C max.).

This includes applications in technological areas such as environmental measurement, emission measurement and process analysis.

Temperature maintenance: up to 120 °C standard

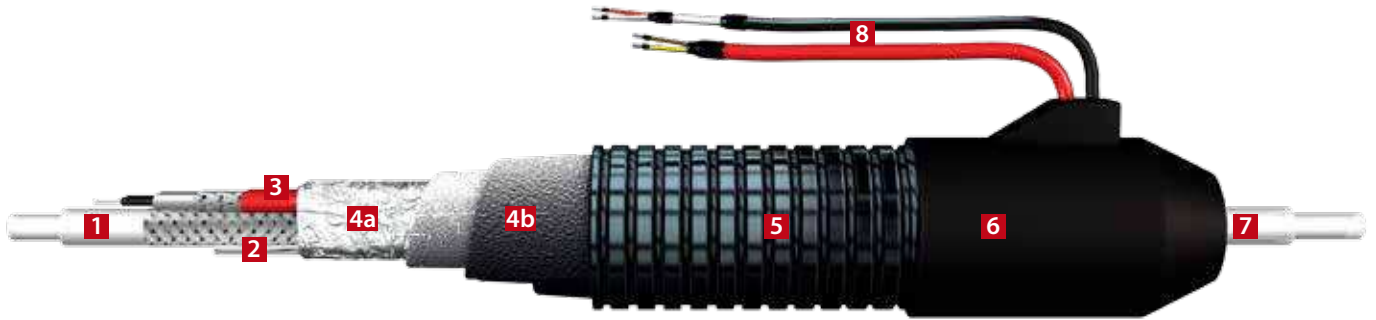


Application background

- Condensation in gas must be avoided. This will lead to sludge formation and blockage and generate acid drops as a result.
- Gas temperature deviations along the transport route distort measurement results.
- Prevention of lower dew point deviation, especially with combustion gases.
- Frost protection for measurement gas
- Frost protection for chemical liquids and waste water
- in the area of process metrology
- Frost protection in water analysis

Advantages

- Transport of gaseous media without temperature loss
- Operating temperature: 5 °C to 120 °C
- Nominal widths: 2 mm to 12 mm
- Length: 0.3 m to 130.0 m
- Can be shortened on site
- No adjustment required
- Output adjusts to the ambient temperature
- Heat output optimised for application
- Long heating circuit lengths
- Heating cables produced in-house



1 Inner liners: see types of inner liner

2 Sensor: for precise temperature control, an optional temperature sensor can be mounted between the inner liner and heating cable. Additional sensors can be mounted in any position for further temperature detection. We use PT-100 sensors in 2-wire technology as a standard. In addition, it is possible to integrate nearly any customary temperature sensor (e.g. thermocouple type K / J, PT-1000, etc.).

3 Self-regulating heating cable: the self-regulated heating cable is produced in-house. These heating cables consist of two parallel supply wires embedded in a networked plastic heating element doped with carbon particles. If the temperature increases during operation, the plastic will expand as a result of molecular expansion and the distances between the carbon particles will increase. This will cause resistance to increase and output to drop. This process is reversed during cool-down and the output will increase.

4a Aluminium foil: for improved heat distribution

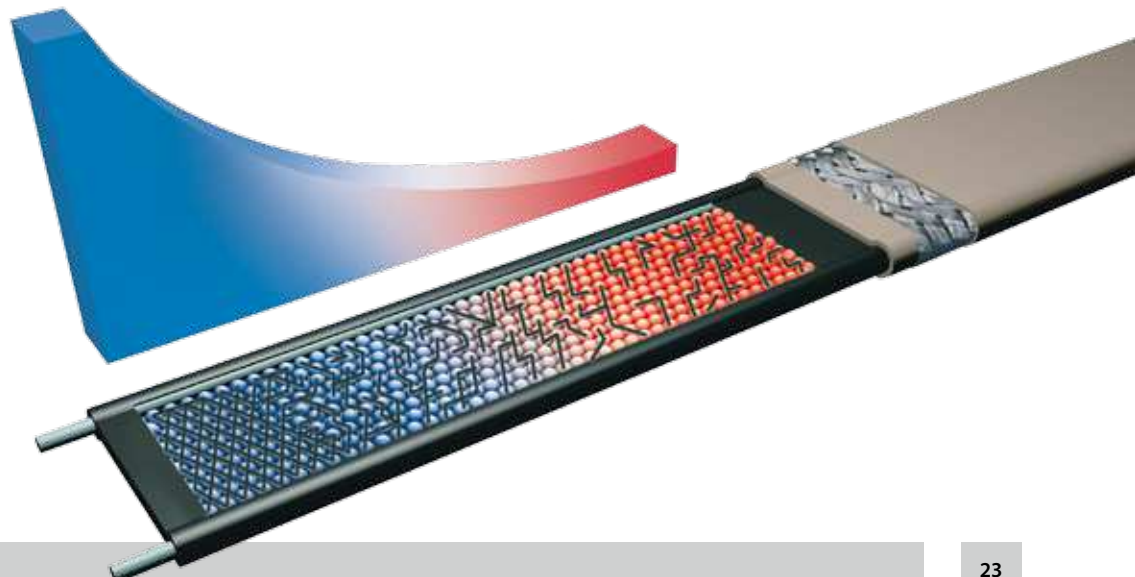
4b Insulation: insulation depends on max. operating temperature and selection of outer jacket (see hose configuration page) As a rule, special thermal fleece materials and foam hoses are used (up to 100 °C elastomer foam hose, up to 250 °C silicone foam hoses).

5 Outer jacket: outer jacket selection is determined by application, bending radius and ambient temperatures. The outer jacket provides heated hoses with reliable protection from humidity, weather, external environmental impact and mechanical strain.

6 End caps: end caps seal off heated hoses at both ends. The integrated strain relief provides reliable relief for the connecting cable. End caps are silicone by default and available in EPDM, plastic (polyamide) and galvanised metal.

7 Connecting fitting: connection to analyser or probe

8 Connecting cables: by default, the connecting cable is led out separately. (sensor cable and tracer cable). Default length of the connection cables is 1.5 m each. Upon request, any customary plug can be mounted to the connection cable.



Hose configuration Type ELH/a...sb... / w / T to 120 °C

1 Inner liner



200 °C

ELH/a: fixed PTFE or PFA core



200 °C

ELH/ai: fixed PTFE core
replaceable PTFE or PFA core

Note: temperatures provided below refer to max. operating temperatures of the inner liners. Max. operational temperature of the heated hose type ELH/a...sb... is 120 °C max. when switched on / 190 °C when switched off.

Additional inner liners on request.



250 °C

ELH/ad: fixed PTFE core
with VA braiding and RSL pipe stubs



250 °C

ELH/adi: fixed PTFE core
with VA braiding and RSL pipe stubs
replaceable PTFE or PFA core



250 °C

ELH/adi-SP: fixed PTFE core
with VA braiding and RSL pipe stubs
replaceable PTFE or PFA core



600 °C

ELH/ae: fixed stainless steel pipe

6 End caps



Silicone end cap
with anti-kink protection



Silicone end cap



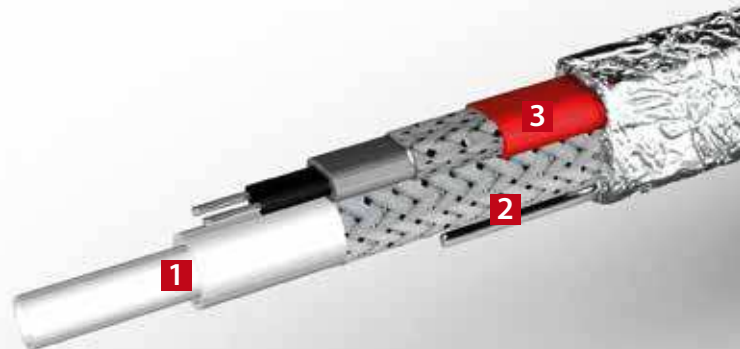
Plastic end cap



Plastic end cap
with terminal housing



Metal end cap





5 Outer jackets



-40 to 80 °C

Corrugated PA hose (PA-11/12)
Standard



-30 to 150 °C

Corrugated TPRI-B hose
highly flexible at high ambient
temperatures



-25 to 70 °C

**Corrugated hose with
PVC outer jacket / ANACONDA**
Tread-resistant, robust design.
Can also be used outdoors



4 Insulation



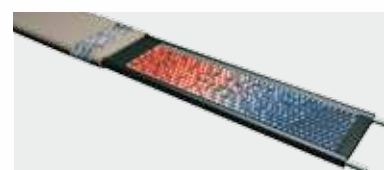
multi-layered thermal fleece

2 Sensor: optional



stationary-mounted temperature sensor

3 Heating cable



self-regulating