

templine-S

Electrically heated hose



Accessories:



Product description

Assembled heated-hose system with heating cables installed on surface, integrated and fixed in a temperature resistant braiding. Heating cables produce uniform heat spread on hose surface which can be precisely regulated at all times.

The heated hose can optionally be equipped with temperature controller templine-R and temperature limiter templine-B, assembled in adaptor housing

Applications

- flowability maintenance of solid, liquid, gaseous media, dusts or granulates
- frost protection, temperature maintenance, temperature increase
- mobile alternative to rigid pipes
- interior and exterior zones
- chemical industry
- machine building
- adhesive technology
- food industry
- pharma industry
- automation (robots) / motor industry
- and others

Properties

- uniform, constant heat distribution by heating cables covering the complete outer hose surface
- no punctual heat spots on medium hose surface developed by inadequate heat transfer
- up to 30% reduction in energy consumption compared with conventional heating systems
- outstanding flexibility and extreme bendable in all directions (360°)
- exact controlling of the medium temperature (temperature controller)
- media protection against accelerating temperature (temperature limiter)
- variable heating capacity, operating voltage up to 230 V and individual hose lengths
- construction and types in accordance with international norms and standards

Temperature range

- hose type I: max. +80°C
- hose type II: max. +200°C

Heating capacity

- up to 100 Watt per meter



Construction

- ① medium hose
- ② 4 heating cables
- ③ yarn braiding
- ④ intermediate insulation
- ⑤ thermal insulation
- ⑥ PA protective braid

templine-S

heated hose	type I	type II
operating temperature	max. +80 °C	max. +200 °C
storage temperature	-20 °C bis +60 °C	-20 °C bis +60 °C
medium hose	polyamide (PA)	PTFE
heating strand	resistance alloys	resistance alloys
yarn braiding	polyester yarn	glass-fibre yarn
intermediate insulation	polyurethane (PUR)	silicone (Si)
thermal insulation	elastomer foam	silicone foam
protective sheath / braiding	polyamide braid (PA)	polyamide braid (PA)
inside diameter	4, 6, 8, 10, 12, 14, 16, 20, 25 mm	
operating voltage	up to 230 V	
heating capacity	up to 100 Watt per meter	
pressure resistance	up to 44 bar (dependent on temperature and diameter)	
bending radius	10 x outside diameter of hose	
lengths of heated hose	as required	
protective class	I	
protection rating	IP 65 (templine-A, templine-R, templine-B)	
hose fittings	metal fittings DKOR, DJK (DIN 3861, DIN ISO 12151-2, others on request)	
	Materials: stainless steel and mild steel	

Foms of delivery

- heated hose system, ready-for-use, depending on selected configuration
- hoses sold by metre and component parts

Available on request:

- power controller
- other diameters
- other fabric sheathing materials
- higher pressure resistant types
- higher heating capacities

Prices on request

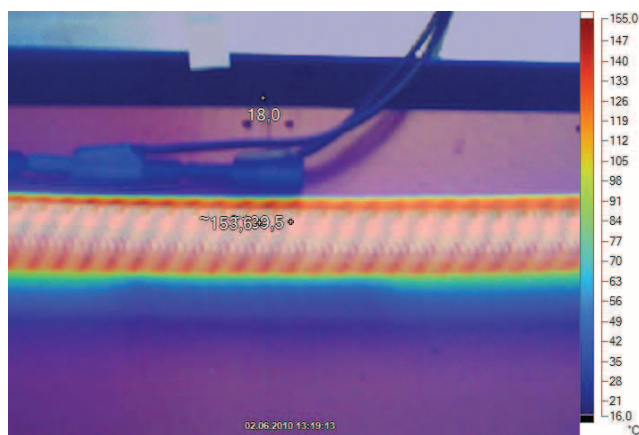
Available versions:

- templine-S heated hose, bulk stock
- templine-A heated hose, ready-for-use, with flexible supply cable for external power supply and control
- templine-R heated hose, ready-for-use, with integrated temperature controller
- templine-B heated hose, ready-for-use, with integrated temperature controller and temperature limiter

Component parts:

- templine-E hose end termination

Heat spread of a templine heated-hose system in service at +165 °C:



The thermograph shows the optimal heat distribution in the templine heated-hose system. The heat spreads evenly over the surface to be heated alongside the heating conductors. Annular and homogeneous heating of the medium with only limited temperature differences is thereby assured.

templine-R

Temperature controller

templine-B

Temperature limiter



Single components:



Product description

The temperature controller templine-R completes the heated hose to an integrated and ready-for-use system. The electronic monitors the temperature of the medium via sensors placed on the surface of the medium-carrying hose. Controller and sensor are built in an adaptor enclosure and calibrated / adjusted in the factory.

Temperature controller templine-R is outfitted with three indicator LED's. They display "system operation", "heating on" and "sensor status", and can be observed through inspection window.

In case of temperature sensitive media, the combination of templine-R and templine-B (temperature limiter) enables medium temperature surveillance and overheat prevention. Temperature range of both systems: +5 °C to +250 °C.

Applications

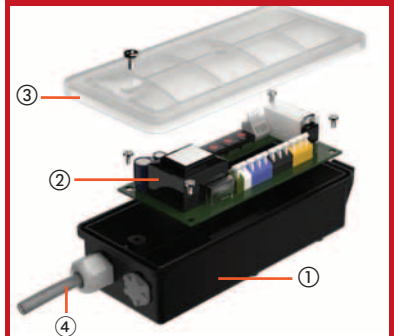
- flowability maintenance of solid, liquid, gaseous media, dusts or granulates
- frost protection, temperature maintenance, temperature increase
- optimal protection for temperature-sensitive media against overheating and material degression (controller and limiter)
- interior and exterior zones
- chemical industry
- machine building
- adhesive technology
- food industry
- pharma industry
- automation (robots) / motor industry
- and others

Properties

- compact design with reduced size ratio due to employment of SMD-technique
- single cable connection for power supply on all three versions (templine-A, -R and -B)
- temperature sensor PT100 in three-wire technique
- no supply net interferences caused by on-load operations
- protected against dust and water ingress (IP 65)
- approved safety by VDE-institute
- optional control modes: PD, PID, two-step control (factory setting)
- switching capacity 6 A / 230 V

Temperature ranges

- medium temperature: up to +200 °C, depending on hose type
- storage temperature: -20 °C up to +60 °C
- temperature control / temperature limitation: +5 °C up to +250 °C



Construction

- ① adaptor enclosure
- ② assembled temperature controller
- ③ transparent cover with inspection window
- ④ flexible supply cable

templine-R

Temperature controller

templine-B

Temperature limiter

Technical data

storage temperature	-20 °C bis +60 °C
nominal voltage	230 V (+10/-15 %)
switched current	max. 6 A
switching capacity	1380 W (with ohmic load)
temperature range	
● templine-R	+5 °C up to +250 °C
● templine-B	+5 °C up to +250 °C
control mode	PI (factory setting)
● optional (factory setting)	two-step control, PD, PID
protection class/rating	I / IP 65
connecting terminal	11 x 2,5 mm ² 4 x 0,5 mm ²
signalisation	three indicator LED's
	● sensor break, short circuit, exceeded set temperature
	● operation controller
	● heating operation
switching hysteresis	2 K templine-R
	5 K templine-B
temperature sensor	PT100
enclosure dimensions (length x width x height)	
● templine-R	150,0 x 67,5 x 76,5 mm
	160,0 x 71,0 x 96,5 mm
	196,0 x 91,0 x 116,5 mm
● templine-B	150,0 x 67,5 x 113,5 mm
	160,0 x 71,0 x 132,5 mm
	196,0 x 91,0 x 153,5 mm
● templine-A	150,0 x 51,0 x 90,5 mm
	160,0 x 71,0 x 109,5 mm
	196,0 x 91,0 x 130,5 mm
enclosure material	polyamide

Forms of delivery

- ready-for-use assembly as a combination of templine-S, templine-R /-B and end termination (templine-E)

Available on request:

- power controller
- single components
 - templine-A
 - templine-R
 - templine-B
 - templine-E
 - templine-S

Prices on request



templine-R temperature controller

templine-R completes the heated hose to a ready-for use system. The electronic monitors the temperature of the medium via sensors placed on the surface of the medium-carrying hose. Controller and sensor are built in an adaptor enclosure and calibrated / adjusted in the factory.



templine-B temperature limiter

The combination of templine-R and templine-B enables the operator to control required medium temperature and to limit the maximum operating temperature to avoid adverse effects on temperature sensitive media. Values can be adjusted referring to process applications.



templine-A connecting piece

templine-A has been designed for the connection between external supply / control and heated hose. The sensor lines are integrated part of the flexible supply cable.