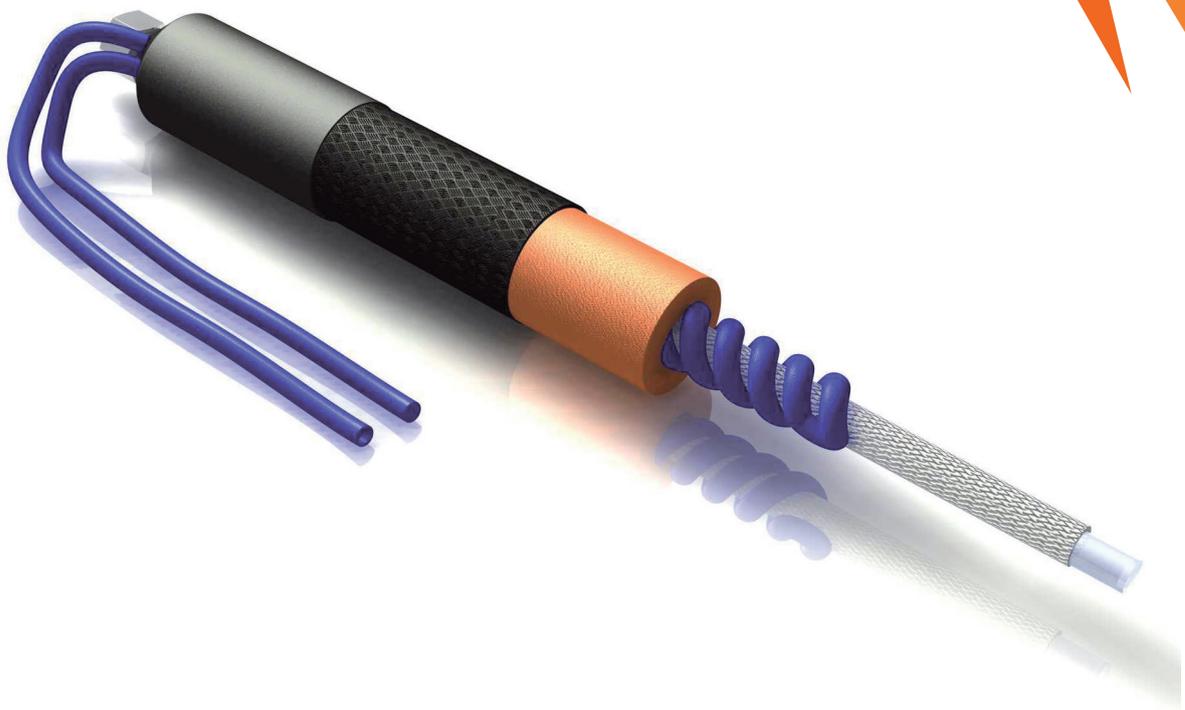
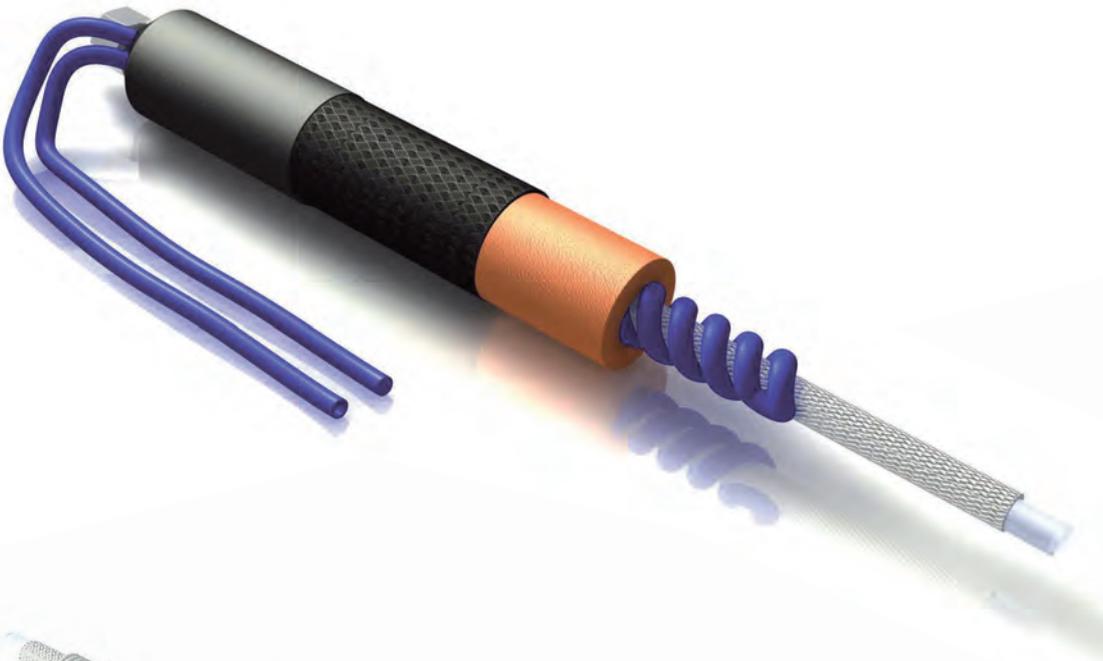


VARMESLANGER



**INDUSTRIELLE
VARMESLANGER**

INDUSTRIAL HEATING HOSES

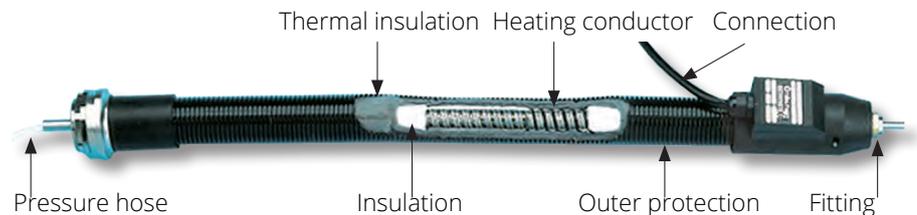


TYPE CODES

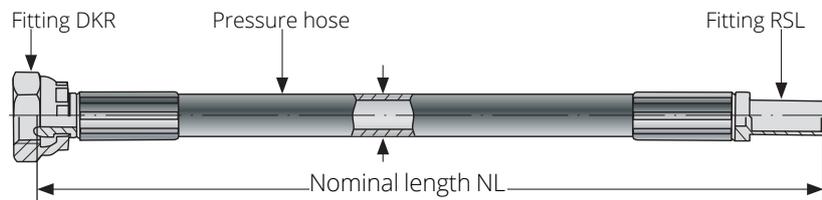
INDUSTRIAL HEATING HOSES

HEATING HOSE	SENSOR	OUTER PROTECTION	FITTING	PRESSURE HOSES
1 = H 100	0 = Fe-CuNi	0 = polyamide standard braiding	0 = without	T1 T2 T3 T4 T5 TAW T46
2 = H 200	1 = Fe-CuNi + limiter	1 = stainless steel braiding	1 = DKR steel	
4 = H 400	2 = PT100	2 = galv. steel braiding	2 = RSL/RSS steel	
5 = H 500	3 = PT100 + limiter	3 = PA corrugated hose	3 = DKR-V2 A	
6 = H 600	4 = NiCr-Ni	4 = metal ring corr. hose	4 = RSL/RSS-V2 A	
7 = H 700	5 = NiCr-Ni + limiter	5 = textile glass braiding	5 = DKR-V4 A	
8 = H 800	6 = limiter	6 = PU corrugated hose	6 = RSL/RSS-V4 A	
9 = H 900	7 = without sensor	7 = silicone outer skin	7 = DKJ steel	
	8 = HTI controller	8 = rubber hose	8 = DKL steel	
	9 = PT100 + 2 nd PT100		9 = BDN steel	

H					Nominal length in dm	DN	
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Determination of the nominal length



RATED POWER WATT/METRE AT 230 V ~ FOR STANDARD HEATING HOSES:

Type	DN mm	4	6	8	10	12	16	20	25	32	40	50
H 100	100°C	80	100	120	140	160	200	260	330	380	440	550
H 700	170°C	100	120	140	160	200	260	330	380	440	550	660
H 200	200°C											
H 800	250°C											
H 900	450°C / 350°C			220	250	280	310	400	460	610	660	880
H 900	600°C			330	375	420	465	600	690	900	990	1300
H 400	80°C	70	70	70	90	90	120	120				
Outer Ø with standard braiding:	approx. mm	40	40	40	45	45	50	50	55	60	70	85

Special power and voltage ratings on request.

Tolerances

Rated power / rated voltage	+ 5% / -10%
Diameter	± 10%
Length	± 2%
Test voltage for heating hoses (230 V measurement voltage)	2000 Volt high voltage test heating conductor - PE conductor

PRESSURE HOSES - INDUSTRIAL

T 1

Smooth PTFE hose with one braided layer of stainless steel wire (1.4301) max. operating temperature **250 °C**

DN (NW) mm	4	6	8	10	12	16	20	25
*operating pressure / bar	275	240	200	175	150	135	100	80
Bend radius / mm	50	75	100	120	135	160	200	250



T 2

Smooth PTFE hose with two braided layers of stainless steel wire (1.4301) max. operating temperature **250 °C**

DN (NW) mm	6	8	10	12	16	20	25	32	40
*operating pressure / bar	275	250	225	200	175	150	130	70	50
Bend radius / mm	75	100	120	135	160	200	250	500	850



T 3

Smooth PTFE hose with two wound layers and one braided layer of steel wire, max. operating temperature **250 °C**

DN mm	6	8	10	12	16	20	25	32
* operating pressure / bar	500	475	475	450	400	300	275	250
Bend radius / mm	60	85	110	150	175	200	240	275



TAW

Smooth PTFE hose with one braided layer of Aramid and one braided layer of steel wire, max. operating temperature **100 °C**

DN mm	16	20	25
operating pressure / bar	345	345	345
Bend radius / mm	150	200	300



T 4

Corrugated PTFE hose one layer of stainless steel wire. (1.4301), max. operating temperature **200 °C**

DN mm	25	32	40	50
* operating pressure / bar	62	62	51	34
Bend radius / mm	90	100	150	180





T 46

Corrugated PTFE hose inside smooth with stainless steel spirals and steel braiding, max. operating temperature **250 °C**

DN mm	12	16	20	25	32	40	50
* operating pressure / bar	50	50	60	40	45	40	25
Bend radius / mm	40	50	60	70	90	110	150

Also available antistatic

T 5

Corrugated stainless steel hose (1.4404 or 1.4571) with one braided layer of stainless steel wire (1.4301), max. operating temperature **550 °C**

Reference values for the **light** design:



DN mm	4	6	8	10	12	16	20	25	32	40	50
* operating pressure / bar	100	150	100	100	65	65	40	50	25	40	25
Bend radius / mm	80	80	120	130	140	160	170	190	260	300	320

Hoses made of stainless steel may be used virtually without limitation in the range -190°C up to max. +550°C for liquids and gaseous media in all industries, and are completely diffusion resistant; not suitable for chlorides, bromides and other halogens.

ATTENTION! – The pressure specifications in the table are defined at 20...50°C. Increasing temperatures reduce the pressure loading capacity. Please observe temperature correction factors



* Operating Pressure: temperature correction factor for T1 – T4, 100°C x 0,95; 150°C x 0,9; 200°C x 0,83; 250°C x 0,6

* Operating Pressure: temperature correction factor for T5, 100°C x 0,7; 200°C x 0,6; 250°C x 0,55; 350°C x 0,49; 500°C x 0,46; 550°C x 0,4

* Operating Pressure: temperature correction factor for T46 by de-sign

The hoses made of PTFE T1, T2, T3, T4, T46, can be universally employed in the range from -70°C to +250°C and are characterised by their unusual chemical stability; they are only unstable in the presence of compounds containing fluorine, as well as alkaline metals sodium or potassium and halogens.

It is essential that you observe the minimum bend radius, since if this is exceeded this will cause the pressure hose to leak thus making the complete heating hose unusable or no longer repairable. We accept no liability for such damage.

RECOMMENDATION: For dynamic load, double of the minimum bend radius should be kept, in order to achieve a longer life!

DKR

Universal conical nipple, union nut inch (BSP) *2

DN mm	G = thread / inch	
4	G 1/8"-28	G 1/4"-19
6	G 1/4"-19	
8	G 3/8"-19	
10	G 3/8"-19	G 1/2"-14
12	G 1/2"-14	G 5/8"-14
16	G 3/4"-14	
20	G 1"-11	
25	G 1"-11	G 1 1/4"-11
32	G 1 1/4"-11	G 1 1/2"-11
40	G 1 1/2"-11	



RSL/RSS

Pipe connection light / heavy duty series

DN mm	RSL		RSS	
	L (mm)	d (mm)	L (mm)	d (mm)
4	25	6	27	8
6	25	8	29	10
8	26	10	29	12
10	26	12	29	14
12	28	15	33	16
16	30	18	39	20
20	32	22	44	25
25	30	28	44	30
32	35	35	41	38
40	38	42		



DKL/DKM/DKS

Universal conical nipple, union nut metric thread
light / heavy duty series

DN mm	Thread DKL	DKM	DKS
4	12 x 1.5		
6	14 x 1.5		18 x 1.5
8	16 x 1.5		20 x 1.5
10	18 x 1.5		22 x 1.5
12	22 x 1.5		24 x 1.5
16	26 x 1.5		30 x 2
20	30 x 2	30 x 1.5	36 x 2
25	36 x 2	38 x 1.5	42 x 2
32	45 x 2	45 x 1.5	52 x 2
40	52 x 2	52 x 1.5	





DKJ

Nipple with 74° tapered JIC, union nut UNF thread

DN mm	UNF = thread
4	7/16" -20 UNF
6	1/2" -20 UNF
8	1/2" -20 UNF
8	9/16" -18 UNF
8	5/8" -18 UNF
10	9/16" -18 UNF
10	3/4" -16 UNF
12	3/4" -16 UNF
16	7/8" -14 UNF
20	1 1/16" -12 UNF
25	1 5/16" -12 UNF
32	1 5/8" -12 UNF
40	1 7/8" -12 UNF



BDN

Flanged nut flat packing, union nut inch / metric

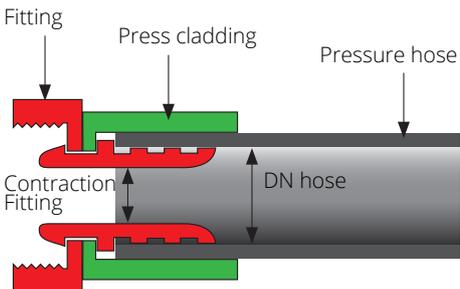
DN mm	G = thread / inch	Thread DKL	DKM	DKS
4	G 1/8"-28	12 x 1.5		
6	G 1/4"-19	14 x 1.5		18 x 1.5
8	G 3/8"-19	16 x 1.5		20 x 1.5
10	G 3/8"-19	18 x 1.5		22 x 1.5
12	G 1/2"-14	22 x 1.5		24 x 1.5
16	G 3/4"-14	26 x 1.5		30 x 2
20	G 1"-11	30 x 2	30 x 1.5	36 x 2
25	G 1"-11	36 x 2	38 x 1.5	42 x 2
32	G 1 1/4"-11	45 x 2	45 x 1.5	52 x 2
40	G 1 1/2"-11	52 x 2	52 x 1.5	

The stability of the heating hose must include the fitting. Normally the heating hose fittings are supplied in machining steel with Cr-VI free surface coating. Special fittings are available in 1.4305 and 1.4571 and in many other materials. In addition, heating hoses can also be supplied with flanges, small flanges, clamp pipe connections or pipe connections (DIN and ASA*1).

Fittings with internal PTFE *3 or PFA *4 coating are available.

- *1 ASA = US standard
- *2 BSP = British Standard Pipe
- *3 PTFE = polytetrafluorethylene
- *4 PFA = perfluoralkoxyl

*These fittings are also available as external thread.



DN mm	Inner Ø mm Fitting
4	3.0
6	4.5
8	6.0
10	7.5
12	10.0
16	12.5
20	16.0
25	20.1
32	27.5
40	31.5

Please note that the fittings cause a reduction in the hose throughput.

Inner Ø may vary depending on the fitting

OUTSIDE PROTECTIVE HOSES - INDUSTRIAL

PA STANDARD PROTECTIVE BRAIDING

Material	PA 6, polyamide
Temperature stability	+150°C *

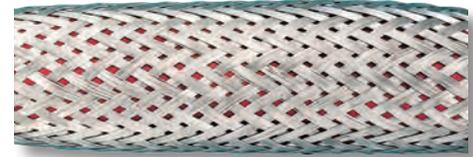
Very flexible, available in various colours



METAL PROTECTIVE BRAIDING

Material	steel, galvanised or stainless steel
Temperature stability	+300°C to +500°C *

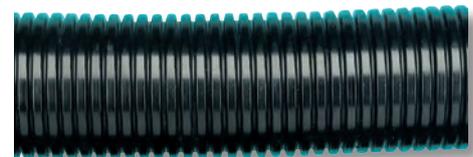
Very flexible, very good protection against abrasion



PA CORRUGATED HOSE / PUR CORRUGATED HOSE

Material polyamide	PA6	PA12	PUR
Temperature stability	+120°C *	+100°C *	+90°C

Very flexible, highly recommended for applications on robots, non-crush, flame-retardant, non halogen



PUR CORRUGATED HOSE WITH STEEL COIL

Material	PU (polyurethane)
Temperature stability	+90°C *

Very flexible, highly recommended for applications on robots, non-crush, flame-retardant, non halogen



METAL RING CORRUGATED HOSE

Material	steel, galvanised
Temperature stability	+250°C *

Very flexible, non-crush, very resistant against sharp objects and swarf



TEXTILE GLASS BRAIDING

Material	textile glass - black
Temperature stability	+400°C *

Very flexible, very good protection against abrasion, protection against falling glowing swarf etc. standard for H 900 series



SILICONE OUTER SKIN

Material	silicone smooth - black/white
Temperature stability	+200°C *

Very flexible, smooth surface, easy-to-clean, moisture-proof



RUBBER OUTER PROTECTION

Material	rubber / ATG-L dark
Temperature stability	+80°C *

Outer textile patterned, abrasion resistant, weather resistant, conductive



* The temperature stability relates to brief contact with a correspondingly hot environment. In case of prolonged use above the operating temperature of the external protective hose, the structure of the heating hose must also be changed accordingly.

END CAPS - INDUSTRIAL



HARD CAP TEAR AND TWIST PROTECTION

The fibreglass reinforced PA hard cap is firmly bonded with the basic hose. This prevents tearing or twisting of the cap due to heat expansion or strong movements of the heating hose.

BENDING PROTECTION

The hard cap shifts the bending point of the basic hose behind the fitting and therefore neutralises the critical transition hose - fitting and increases the service life of the heating hose.

CONNECTION

A terminal block is integrated in the connection space of the hard cap to which the connecting wires may be connected. This allows the connecting cable to be replaced without great effort.

The hard caps are available for heating hoses up to DN 25.

OPTION: Miniature control unit integrated in the hard cap

For further information see chapter Control technology



Rated voltage	230V / 50 Hz
Switching power	1000 W - 1500 W
Power switch	triac in zero-crossing
Control range	0 ... 254 °C
Setting	setpoint 2°C steps with a DIP switch
Housing material	PA glass-fibre reinforced
Protection type	IP42 / Cast: IP65
Response	two-point controller
Sensor	sensor PT100 / HTI
Inputs	cable glands

SOFT CAP TEMPERATURE STABILITY

The soft cap made of silicone or elastomer is characterised by its high temperature stability.

SPACE REQUIREMENT

Their suppleness means they fit snugly around the ends of the heating hose and thus require less space than hard caps.

KINK PROTECTION

Their kink protection and the inner strain relief prevents hoses kinking and the mains cable from being pulled out.

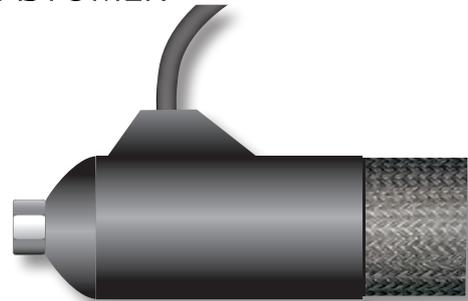
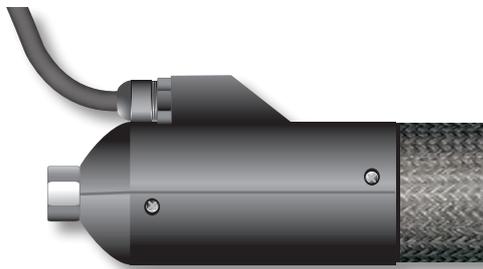


The soft caps are available for heating hoses up to DN 50.

CONNECTION CABLE OUTLET - INDUSTRIAL

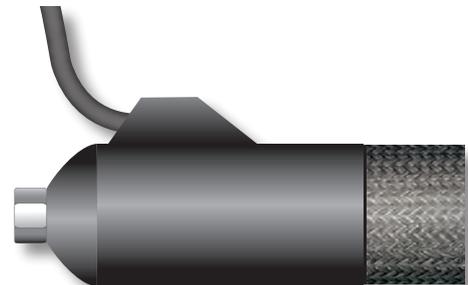
HARD CAP –
MADE OF POLYAMIDE
PA6 GLASS-FIBRE
REINFORCED

SOFT CAP –
MADE OF SILICONE OR
ELASTOMER



forward

bent up

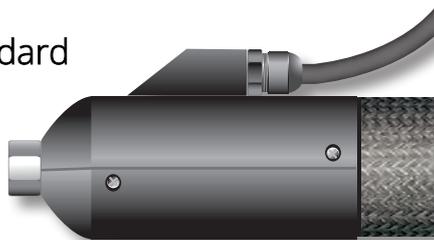


hose sided or frontal

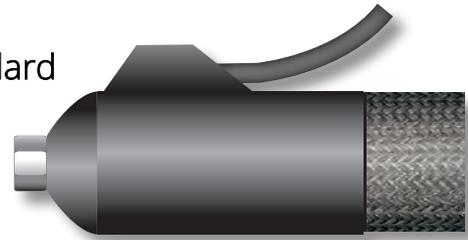
forward

hose sided or frontal

Standard

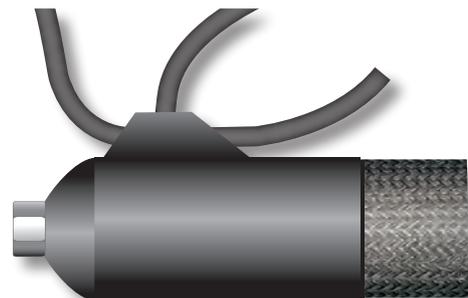


Standard



backward

backward



combined

INDUSTRIAL HEATING HOSES

H 100 / H 700 / H 200 / H 800 series 250°C



STANDARD HEATING HOSE

APPLICATIONS:

Heat-loss free transport of: oil, grease, resin, tar, paint, water, carbon dioxide, plastic, moulding compounds etc.

Deployable pressure hose made of PTFE of DN 4 – 50 mm; pressure load depending on the nominal diameter up to 600 bar.

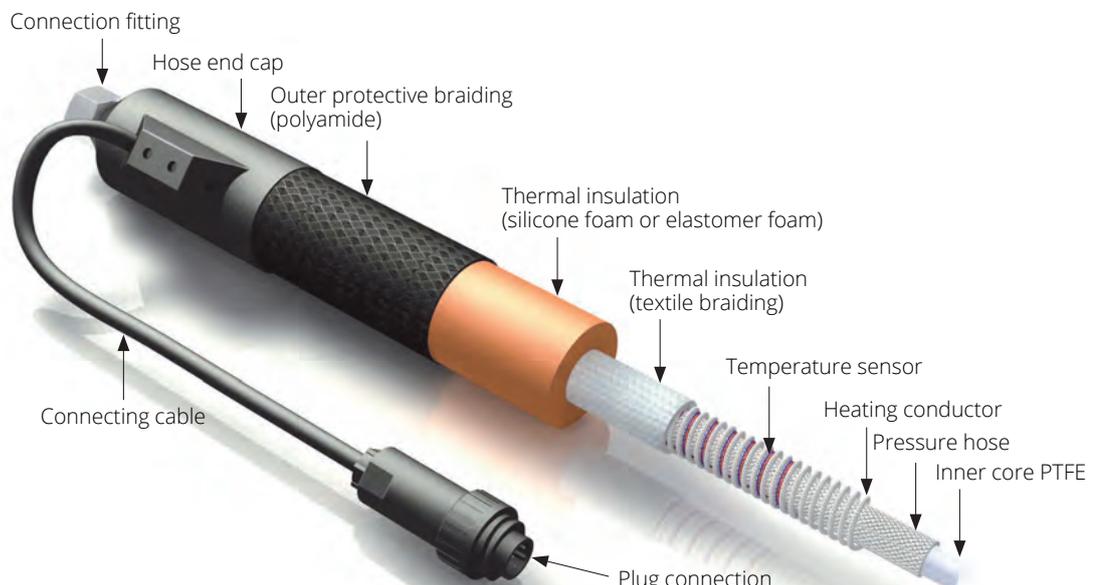
Operating temperature	H 100 100°C	H 700 170°C	H 200 200°C	H 800 250°C
Rated voltage	230 V AC/DC (other voltages up to 500 V)			
Rated power	Watt/metre, see type codes			
Pressure hose type	see Pressure hoses			
Connection fitting	steel / stainless steel, see Fittings			
Heating	heating conductor, structure according to DIN, moisture-proof with protective braiding			
Thermal insulation	heat stabilized, closed-pore silicone foam up to 250°C elastomer foam up to 170°C			
Outer protective braiding	polyamide, black, options possible			
Hose end caps	PA hard cap or elastomer cap			
Temperature sensor	Fe-CuNi type J, NiCr-Ni type K, PT100 and integral control system (HTI)			
Connecting cable	possible 1.5 m			
Plug connection	round connector			
Production lengths	from 0.3 to 50 m depending on DIN			
Protection type	up to IP54 (EN 60529), protection class I			

Tolerance

Operating temperature	±10°C
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Temperature control using our controllers, in chapter Control technology.

Extended usages according to customer requirements with special equipment possible.



INDUSTRIAL HEATING HOSES

H 200 SPECIAL SERIES

250°C

HEATING HOSE FOR ADHESIVE APPLICATION SYSTEMS

APPLICATIONS:

Heat-loss free transport of: adhesives, hot-melt etc.

Deployable pressure hose made of PTFE of DN 4 – 50 mm; pressure load depending on the nominal diameter up to 600 bar.

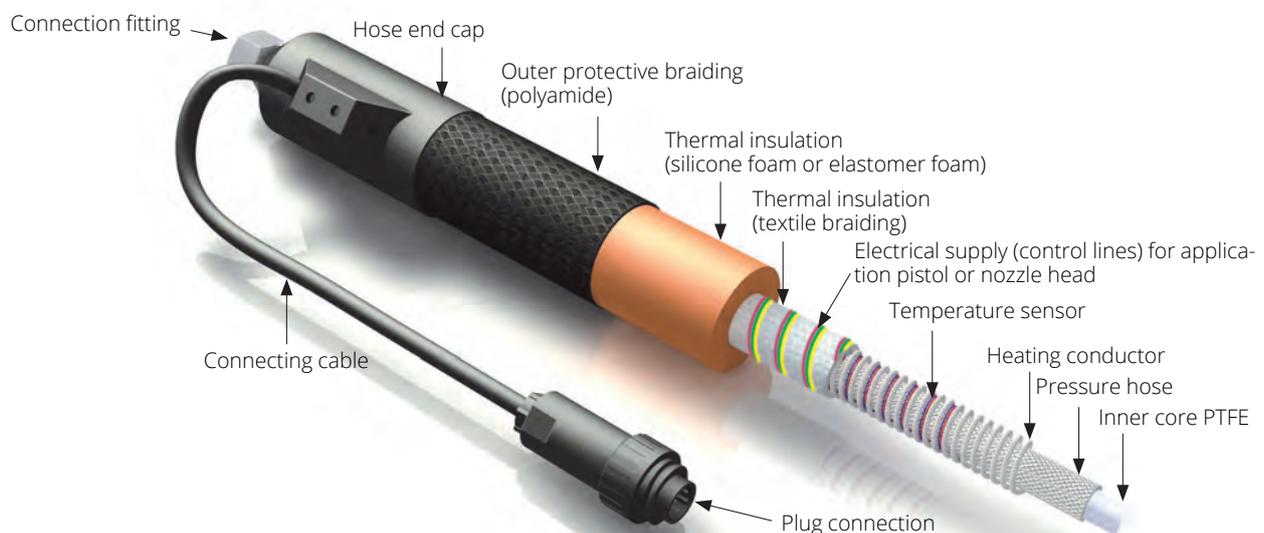
Operating temperature	100°C	170°C	200°C	250°C
Rated voltage	230 V AC/DC (other voltages up to 500 V)			
Rated power	Watt/metre depending on selection			
Pressure hose type	see Pressure hoses			
Connection fitting	steel /stainless steel, see fittings			
Heating	heating conductor, structure according to DIN, moisture-proof with protective braiding			
Thermal insulation	heat stabilized, closed-pore silicone foam up to 250°C elastomer foam up to 170°C			
Outer protective braiding	polyamide, black, options possible			
Hose end caps	PA hard cap or elastomer cap			
Temperature sensor	Fe-CuNi type J, NiCr-Ni type K, PT100 Ni 120			
Connecting cable	dependent on the installation			
Plug connection	special plug dependent on the installation			
Control lines	number according to customer requirements			
Production lengths	from 0.3 to 50 m depending on DIN			
Protection type	up to IP54 (EN 60529), protection class I			



Replacement hoses available for all common hot-melt application systems.

Tolerance	
Operating temperature	±10°C

Extended usages according or customer requirements with special equipment possible. (Manual - or robotic application, diffusion-sealed version).



INDUSTRIAL HEATING HOSES

H 800 SPECIAL

250°C



HEATING HOSE SYSTEM FOR CO-EXTRUSION IN THE PLASTICS INDUSTRY

For very high temperatures and pressure loads.

The H 800 series heating hose systems combined with the T3 PTFE series pressure hose are very often used as connection hoses between a co-extruder and a tool. Rigid connections and a multitude of connection elements are eliminated, which would normally need to be individually heated, insulated and controlled. The flexible connection considerably simplifies tool changing and maintenance. The H 800 also compensates thermal expansion and vibrations. The heating system can be easily fitted in your installation.

Operating temperature	250°C
Rated voltage	230 V AC/DC (other voltages up to 500 V)
Rated power	see table below
Pressure hose type	T3 PTFE, see Pressure hoses
Connection fitting	stainless steel, 1.4305; 1.4571; 1.2316; The fitting is tapered on the inside and polished so that little or no material can stick to it. See table below
Fitting (optional)	loose and fixed flanges according to DIN and ASA are possible
Heating	heating conductor, structure according to DIN, moisture-proof with protective braiding
Thermal insulation	heat stabilized, closed-pore silicone foam up to 250°C
Outer protective braiding	polyamide, black, options possible
Hose end caps	PA hard cap or elastomer cap
Temperature sensor	Fe-CuNi type J, NiCr-Ni type K, PT100
Connecting cable	1.5 m
Plug connection	optional
Production lengths	from 0.3 m to 50 m
Protection type	up to IP54 (EN 60529), protection class I

Tolerance

Operating temperature	±10°C
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DN	DKS	BDN	Pressure loading capacity	Fitting inner Ø	Bend radii	Rated power
T3	preferably heavy duty series; union nut metric	union nut in inch	at 250°C operating temperature		Minimum bend radius in operating state	
8	M 20 x 1.5	G 3/8"-28	285 bar	6.0 mm	85 mm	140 W/m
10	M 22 x 1.5	G 1/2"	285 bar	7.5 mm	110 mm	160 W/m
12	M 24 x 1.5	G 1/2"	270 bar	10.0 mm	150 mm	200 W/m
16	M 30 x 2.0	G 3/4"	240 bar	12.5 mm	175 mm	260 W/m

Other fittings and nominal diameters are available in our fittings table. Temperature control using our controllers, in chapter Control technology.

INDUSTRIAL HEATING HOSES

H 900 SERIES

550°C

HIGH TEMPERATURE HEATING HOSE WITH T5 STAINLESS STEEL PRESSURE HOSE

APPLICATIONS:

Heating or heat loss free transport of: oil, grease, resin, tar, paint, water, carbon dioxide, plastic, moulding compounds etc.

The pressurised hose made of stainless steel, corrugated version, allows very high temperatures up to 550°C. It is also diffusion sealed.



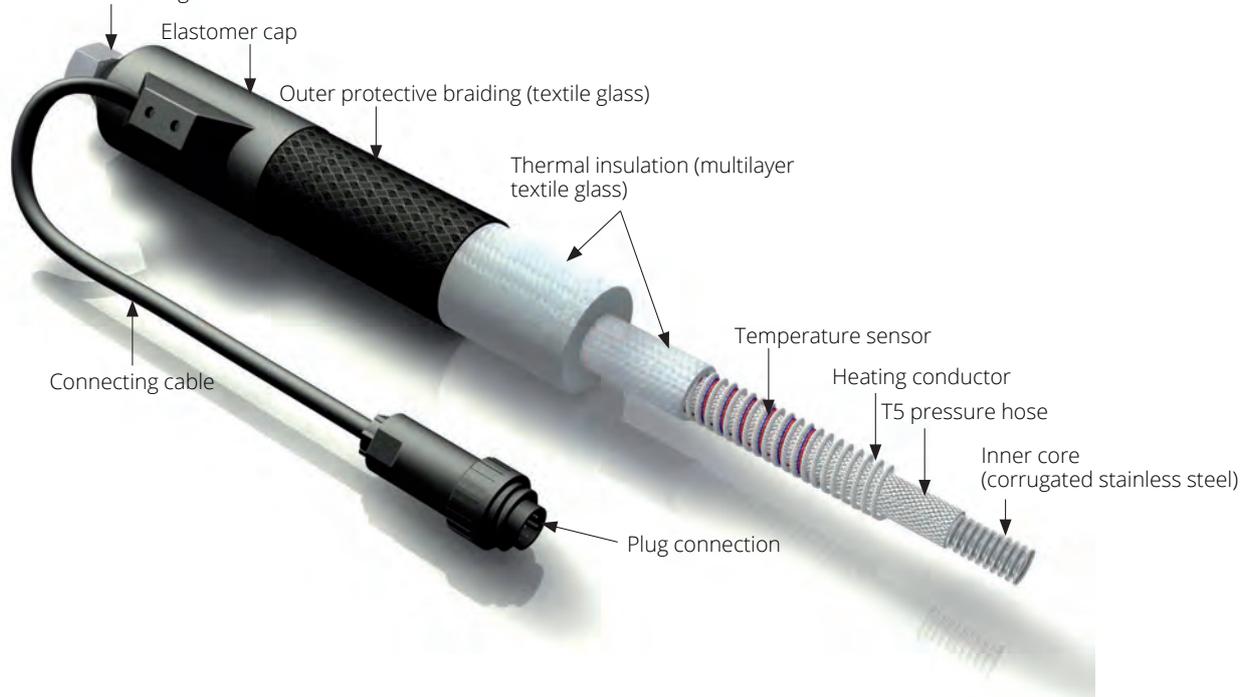
Operating temperature	350°C / 450°C / 250°C / 550°C
Rated voltage	230 V AC/DC (other voltages up to 500 V)
Rated power	Watt/metre, see type codes
Pressure hose type	T5 stainless steel, see Pressure hoses
Connection fitting	see Fittings
Heating	heating conductor, structure according to DIN, glass insulated with PE conductor
Thermal insulation	textile glass
Outer protective braiding	textile glass black
Hose end caps	elastomer with strain relief and kink protection
Temperature sensor	Fe-CuNi type J, NiCr-Ni type K, PT100
Connecting cable	1.5 m
Plug connection	round connector
Production lengths	from 0.3 to 10 m depending on DIN
Protection type	up to IP20 (EN 60529), protection class I

Tolerance	
Operating temperature	±20°C

Temperature control using our control equipment, in chapter Control technology.

Extended applications are possible with special equipment.

Connection fitting



INDUSTRIAL HEATING HOSES

H 400 SERIES

80°C



HEATED TWIN-HOSE FOR PU FOAM INSTALLATIONS

APPLICATIONS

Polyurethane foam processing, epoxy resin systems, paint spraying, dual-component casting systems.

Heating two separate pressure hoses prevents the components from cooling down during transportation from the machine to the working site and therefore not reacting together properly. A pneumatic hose made of PVC, with 6 mm inner diameter and rated for 8 bar pressure, is listed with outer protection.

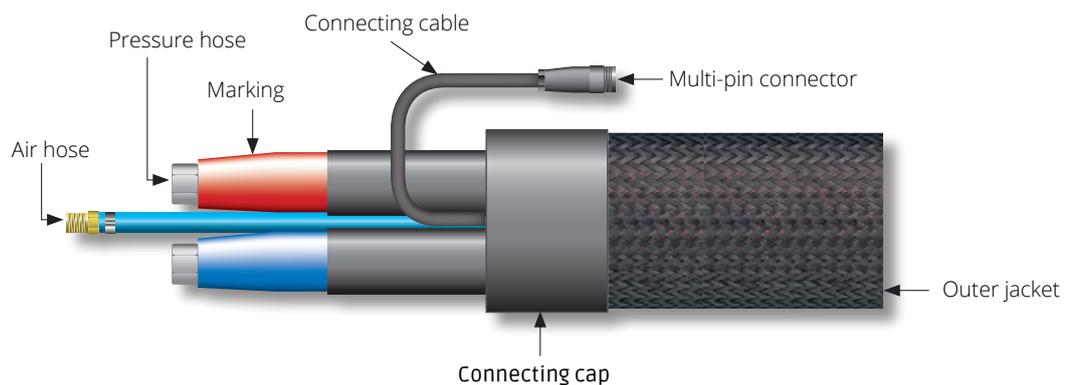
Special designs will be fabricated to your specifications.

Custom designs based on the H 100 / 200 hose series are available on request.

Operating temperature	max. 80 °C
Rated voltage	230 V AC/DC (other voltages up to 500 V)
Rated power	Watt/metre depending on configuration
Pressure hose type	T1 – T4, see Pressure hoses
Connection fitting	stainless steel / steel, see Pressure hoses
Heating	heating conductor, structure according to DIN, moisture-proof with protective braiding
Thermal insulation	inner protective hose and elastomer foam
Outer protective braiding	polyamide black, optional: Textile glass braiding
Outer diameter	approx. 70 mm / depending on DN
Hose end caps	PA hard caps
Temperature sensor	Fe-CuNi type J, NiCr-Ni type K, PT100 and integral control system (HTI) possible
Connecting cable	1.5 m
Plug connection	one plug / coupling per hose
Production lengths	7.5 m / 15 m / 30 m / 60 m, other lengths on request
Protection type	up to IP54 (EN 60529), protection class I

Tolerance	
Operating temperature	±10°C

Temperature control using our control equipment, see chapter Control technology



INDUSTRIAL HEATING HOSES

H 500 / HIF SERIES

100°C

HEATING HOSE WITH INNER HEATER

Temperature control using heating conductor with HTI controller

APPLICATIONS:

Heating low viscosity and gaseous media, such as water, oils, lyes, paints, acids or air.

The heating element inside the hose has direct contact with the media. This ensures optimum heat transfer.

This configuration means the heating hose has a small outer diameter and is very flexible.

No thermal insulation is required up to an operating temperature of 60°C.

Operating temperature	max. 100°C
Rated voltage	230 V AC
Rated power	approx. 60 W/m
Pressure hose type	PTFE DN 10 to 12 mm, T1 – T2
Connection fitting	AG or ½" union nut
Connector head	stainless steel or galvanised steel / 100 bar pressure
Heating	PTFE heating conductor, insulated
Outer protection	stainless steel braiding from the main hose
Temperature sensor	integral control system (HTI)
Connecting cable	1.5 m
Plug connection	Plug for HTI controller
Fuse protection	on-site circuit breaker (optional ex works)
Production lengths	10, 20, 40, 70 m
Protection type	up to IP54 (EN 60529), protection class I

Tolerance	
Operating temperature	±5°C

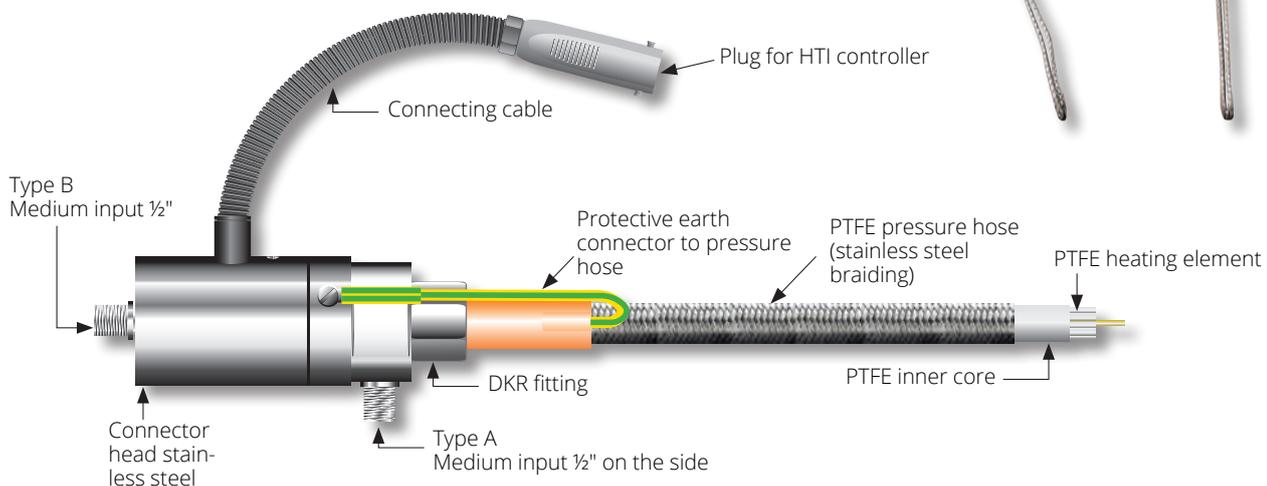
Temperature control from our HTI-16 controller, see chapter Control technology.

Other pressure hoses can be offered on request.

H500 with pressure hose



HIF without pressure hose



INDUSTRIAL HEATING HOSES

HIE-06 / HIE-16 SERIES

100°C

HIE INNER HEATER FOR HOSES AND PIPES

The HIE inner heater is very well suited for pre-installed and hoses - the customer can simply insert the single wire heating conductor into them via a screw system and seal using a brass compression fitting. A T-junction is required.

Two versions of the HIE are available. HIE-6 with mini controller on the screw fitting for max. 1500 W / 230 V.

HIE-16 for a separate controller HTI-16 up to 3600 W / 230 V.



HIE-16 type with plug (for HTI-16 controller)



HIE-6 type (with HTI-6 mini controller)

Operating temperature	max. 100°C
Rated voltage	230 V AC/DC (other voltages 115 to 400 V)
Rated power	depending on configuration 5-70 W/m
Heating conductor outer diameter	2 - 5 mm
Brass connector head	½" internal thread
Pressure-resistant	up to 15 bar
Temperature setting	0 - 100°C on controller
Temperature measurement	integral heating conductor HTI control system
Plug connection	HIE-06 German "Schuko" mains plug HIE-16 plug for HTI-16
Production lengths	3 - 100 m
Connecting cable	1.5 m
Protection type	IP42, cast IP44, protection class I

Operation of the HIE inner heater has to be protected with a circuit breaker. Temperature measurement using an integral controller, see chapter Control technology.

The HIE inner heater with mini controller can be used up to a length of max. 30 - 35 m.

The HIE-16 up to max. 100 m



Integral temperature controller HTI-16

INDUSTRIAL HEATING HOSES

HWI 19/25 SERIES

80°C

COMPACT HEATING HOSE WITH INTEGRATED INNER HEATER FOR DRINKING OR WASTE WATER.

Frost protection hose for mobile water supplies in winter and under cold ambient conditions.

APPLICATIONS:

Container settlements, stables, washing and cleaning plants, Christmas markets, catering, agriculture, road construction, construction sites.

The heating element of the HWI hose is located directly in the medium. This direct heating technique consumes a low level of energy. This hose no longer differs visibly or in its usage from an unheated hose. A mini-controller in its connector head keeps the temperature in the hose constant above freezing point. The water hoses are approved under BT-DVGW / KTW-A and may be used for drinking water applications. For service water applications, the HWI hose is also available without plastic - drinking water approval (KTW) and is thus more economical. The hose heater is to be connected by way of a fault current circuit breaker.



Operating temperature	-20 to +80°C
Rated voltage	230 V AC
Rated power	depending on configuration 10 - 20 W/m
Outer hose	drinking water hose with BT-DVGW / KTW-A approval EPDM - waste water hose without KTW
Structure	smooth inside, outer surface is ozone and weather resistant
Production lengths	15 / 20 / 30 / 35 / 40 / 45 and 60 m
Connector fittings	GEKA-plus in brass
Pressure rating	max. 10 bar
Smallest bend radius	200 mm
Dimensions Ø	19 or 25 mm, wall thickness approx. 4-5 mm
Connecting cable	1.5 m with German "Schuko" mains plug Optional: German "Schuko" mains plug with integrated fault current circuit breaker
Regulation	Control HTI-6 mini-controller set to +10°C, other temp 0-80°C on customer request, see chapter Control technology
Protection type	up to IP44 (EN 60529), protection class I



INDUSTRIAL HEATING HOSES

HDM 95 / 200 SERIES

95°C / 200°C



DOUBLE-JACKET HEATING HOSE / HEAT TRANSFER MEDIUM

APPLICATIONS:

Explosion hazard areas.

Dosing equipment, food industry, filling lines.

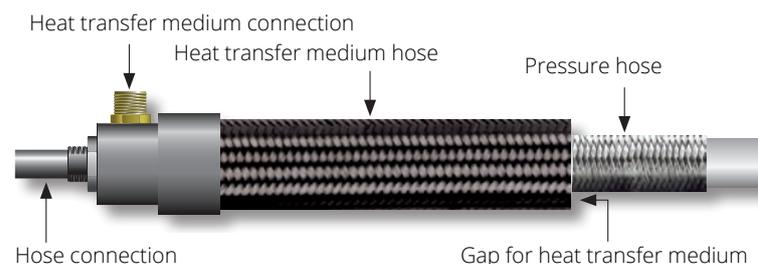
The HDM hose can be used as a HEATABLE ELEMENT, as a COOLABLE ELEMENT and as a SAFETY ELEMENT.

A temperature regulating unit which works with water or heat-transfer oil in a circulating system is required to operate HDM as a heating hose.

Operating temperature	95°C / 200°C
Pressure hose	T1 - T3, see Pressure hoses
Connection fitting	RSL pipe connector stainless steel / inner hose
Heat transfer medium connection	AGR 3/8" to 1/2"
Heat transfer hose	Elastomer hose, PTFE hose, Viton hose
Heat transfer fluid	water (70°C), oil (95/200°C)
Outer diameter	DN 4 - 10 approx. 35 mm DN 12 - 16 approx. 45 mm DN 20 - 25 approx. 55 mm
Bend radius	DN 4 - 10 200 mm DN 12 - 16 400 mm DN 20 - 25 500 mm
Production lengths	from 1 to 25 m
Option	thermal insulation with 10 mm foam insulation and PA external braiding, end caps on both sides, special pressure hose TA / DN 2 mm

* The pressure specification is valid for the heat transfer medium in the outer hose when the inner hose is filled and is under operating pressure. There must be no negative pressure difference between the outer hose and the inner hose, i.e. the pressure in the inner hose must always be higher than in the outer hose. A negative pressure difference (e.g. during filling) can cause the inner hose to collapse. If a negative pressure difference is unavoidable, the inner hose can be provided with an outer jacket. The outer jacket distributes the pressure over the stainless steel braiding and prevents the inner core collapsing.

In the case of an integrated inner pressure hose T3, only use oil or another heat transfer media. **No water! Braiding rusts!**



INDUSTRIAL HEATING HOSES

HDM 60 / 62 / 68 SERIES 60°C / 200°C / 250°C

HEAT TRANSFER MEDIUM HOSE

APPLICATIONS:

Plastics equipment, PU equipment, 2-component equipment, adhesive equipment.

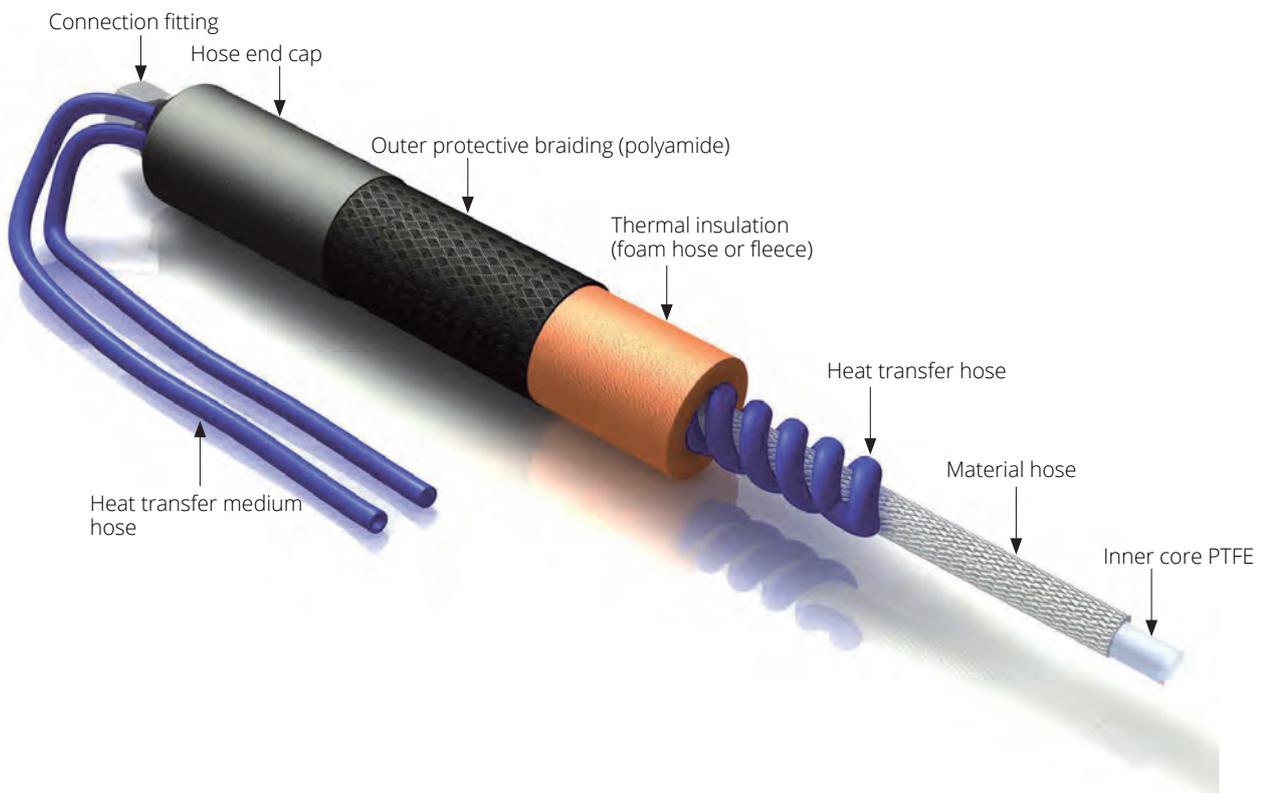
The HDM hose can be used as a HEATING or as a COOLING ELEMENT and as an antistatic version is also suitable for use in explosion hazard areas.

A temperature regulating unit which works with steam, water or heat-transfer oil in a circulating system is required to operate HDM as a heating hose.

A pressure hose is tightly coiled around the heat transfer medium hose, in which the heat transfer fluid flows in order to heat the material in the material hose. This construction precludes the type of fault which would allow an intrusion of heated material from the material hose into the heat transfer circulation system to destroy the temperature regulating unit.



Operating temperature	60°C / 200°C / 250°C
Pressure hose	T1 – T4, see Pressure hoses
Connector fittings material hose	see Fittings
Execution	HDM 60: PUR 6 mm 60°C Ø HDM 62: PTFE 6 200°C mm Ø HDM 68: PTFE 250°C
heat transfer medium hose	6 mm Ø Single or double ended extending 1.0 m out of the material hose
Heat transfer fluid	water (70°C), oil (60/200/250°C), steam (164°C) 8 bar max.
Production lengths	1 – 25 m
Connector fittings heat transfer hose	AG ¼", ¼" union nut special fittings possible
Thermal insulation	fleece of foam hose
Outer protective braiding	polyamide black
Hose end caps	PA hard cap or elastomer cap



INDUSTRIAL HEATING HOSES

HR SERIES

600°C



HEATED PIPE, TANKS, VALVES

APPLICATIONS:

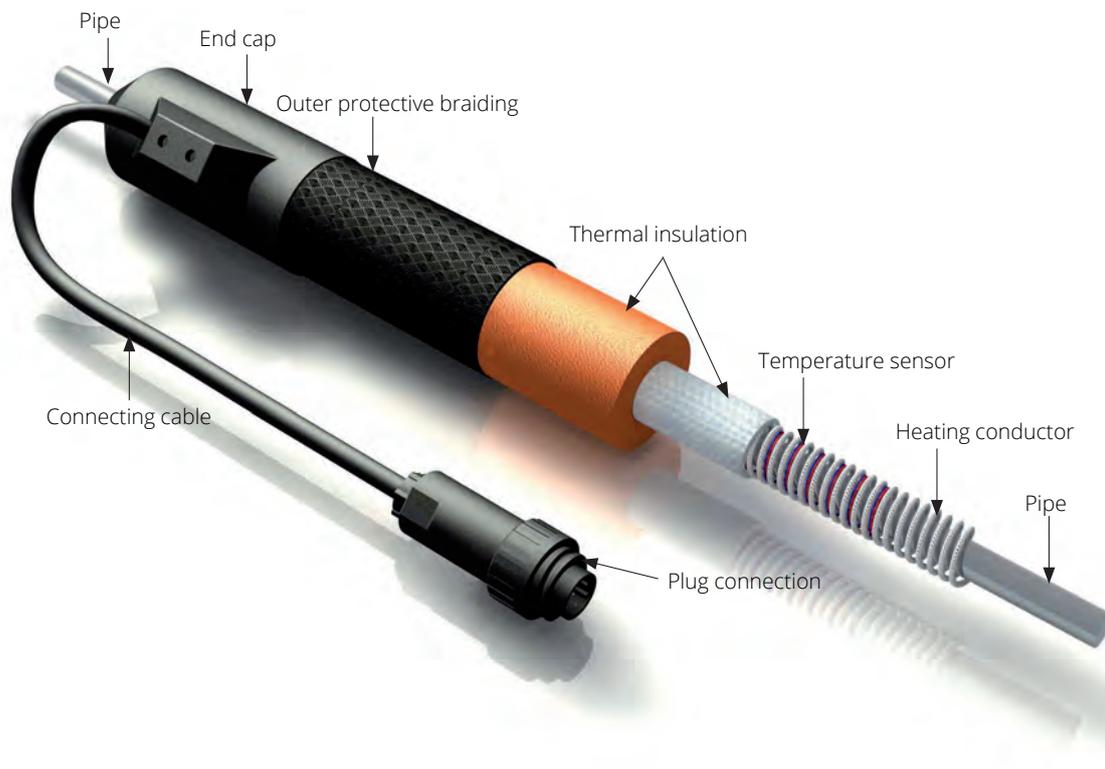
Filters, valves, measuring gas distributors, cold zones and tanks.

The HR series is manufactured in consultation with the customer and is specially matched to the respective application. Pre-formed pipes can be provided by the customer.

They are heated and insulated as straight pipe systems or in various shapes. With a multitude of heat transfer materials in stock, the pipes can be optimally matched to the different operating temperatures ranging from frost protection to 600°C. Optimal outside protection and end caps round off the system.

Operating temperature	from frost protection to 600°C
Rated voltage	230 V AC/DC (other voltages up to 500 V)
Rated power	depending on the configuration
Nominal diameters	4 – 100 mm
Pipe materials	metal, glass, quartz, plastic, etc.
End caps	PA hard cap, elastomer or aluminium cap
Built-on accessories	heated, thermally insulated with outer jacket
Temperature sensor	Fe-CuNi type J, NiCr-Ni type K, PT100 and integral control system (HTI) possible
Connecting cable	1.5 m
Plug connection	optional

Temperature control using our controller equipment, see chapter Control technology.



INDUSTRIAL HEATING HOSES

HFM SERIES – FLEXIBLE HEATING JACKETS

600°C

The flexible heating jackets are constructed from heating tape and insulation and are suitable as trace heaters for customer pipes, also pre-shaped pipes. Heating of bundles of pipes is also possible.

The HFM heating jackets are slid onto the pipes to be heated, so the customer has a heating system that is easy to install and can be replaced.



Operating temperature	from frost protection to 600°C
Rated voltage	230 V AC (other voltages up to 500 V)
Rated power	depending on configuration
Heat insulation	up to 250°C silicone up to 450°C textile glass up to 600°C silicate fibre
Heating jacket	lengths 0.3 m up to approx. 10 m; optionally can also be split into individual segments, so that greater lengths or complete installations can be incorporated in the system.
Temperature sensor	Fe-CuNi type J, NiCr-Ni type K, PT100 and integral control system (HTI) possible
Pipe diameter	from capillary to 50 mm outer diameter (larger diameters on request)
Inner hose	flexible metal corrugated hose
Bend radii	adaptable to the heating system
Connecting cable	1.5 m
Plug connection	optional

Temperature control using controller equipment, see chapter Control technology.

SIM SERIES

150°C

CLIP ATTACHMENT TRACER HEATER FOR HEATING THIN PIPES AND HOSES

This tracer heater for thin steel and copper pipes, as well as for hoses, consists of a silicone profile with parallel heating elements.

The slotted shape enables pre-installed pipe systems, e.g. in analytical cabinets, to be heated without having to dismantle them. This saves considerable assembly costs.

The version presently available covers piping from 4-12 mm OD. The lengths and power ratings are flexibly adapted to customer requirements. The tracer heaters are therefore very easy to replace.



Operating temperature	-20 to +150 °C
Rated voltage	12 - 230 V AC/DC
Rated power	depending on configuration 50 - 100 W/m
Heating	heating conductor, structure according to DIN, moisture-proof with protective braiding
Thermal insulation	heat-stabilised closed-pore silicone hose
Outer protection	silicone profile smooth
Pipe diameter	4 - 12 mm
End cap	PA hard cap / at the connecting end
Temperature sensor	PT100
Connecting cable	1.5 m
Plug connection	optional
Production lengths	max. 5 m
Protection type	up to IP54 (EN 60529), protection class I

INDUSTRIAL HEATING HOSES

HDM 90 / 200 SERIES

90°C / 200°C



TRANSFER AND DELIVERY HOSES WITH LARGE NOMINAL DIAMETERS DN > 200 MM

HE heating hose has a special structure, which makes it suitable for its special structure makes it suitable for maintaining the temperature of the most diverse types of media, such as chemicals, solvents, oils, greases, and abrasive materials etc. For example, this heated hose can be used for loading and delivery of lorries and ships. An antistatic version is also optional.



PTFE smooth hose T46

Operating temperature	90°C / 200°C
Rated voltage	230 V AC/DC (other voltages up to 500 V)
Rated power	depending on the configuration
Nominal diameters	20 to 200 mm
Pressure hose type	rubber (NR, NBR, EPDM, SBR), plastic hose (PTFE, PUR, PA, PE), stainless steel corrugated hose Optional: steel spring spiral / suction hose
Outer cover	abrasion resistant, weather resistant
Hose end caps	PA hard cap, elastomer or aluminium cap
Couplings / fittings	flange, couplings: Storz, TW, Kamlok, external thread special fittings: on request
Temperature sensor	PT100
Connecting cable	1.5 m
Production lengths	up to max. 40 m
Protection type	up to IP44 (EN 60529), protection class I

A range of devices is available for temperature control. The line extends from the HT 54 integral mini-controller with fixed temperature setting to convenient microprocessor controlled devices. See chapter Control technology for more detailed information.



Lever arm coupling



Flange



Tanker lorry

INDUSTRIAL HEATING HOSES

HL 40 / 80 SERIES

40°C / 80°C

HEATING HOSE WITH VULCANISED HEATING CONDUCTOR

APPROVAL FOR FOODSTUFFS

The HL foodstuffs hose stands out by virtue of its innovative construction. The heating element is spiral-wound on the NBR hose core and thus lies vulcanised in the inner hose material. This hose does no longer differs visibly or in its usage from an unheated hose, thus handling is simplified considerably. A temperature sensor is also integrated into the hose which measures temperature directly in the hose wall. Suitable for transporting fatty and non-fatty foodstuffs, as well as passing alcoholic and non-alcoholic beverages.

Operating temperature	40°C / 80°C
Rated voltage	230 V AC/DC (other voltages up to 500 V)
Rated power	see table below
Pressure hose structure	light NBR core, tension and compression-resistant fabric inserts, smooth inside surface, outer smooth textile patterned
Outer cover	abrasion resistant, weather resistant
Colour outer cover	blue/white or according to customer requirements
Connection fitting	bubble-free vulcanised and heated stainless steel fitting, milk pipe screw connector / RD
Optional fittings	conical hose connector, grove nut, threaded hose connector, flange (aseptic), clamp connector
Temperature sensor	integrated heating element with PT100 sensor
Connecting cable	1.5 m
Cleaning	short duration steam cleaning up to 130°C suitable for CIP and conventional cleaning
Protection type	up to IP44 (EN 60529), protection class I
Manufacturing length	up to max. 40 m



milk hose thread / RD

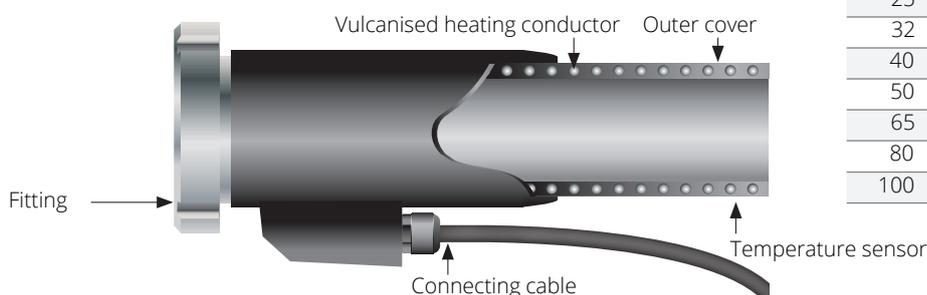
All the hose materials used meet the requirements (EC) no. 1935/2004 of the instructions from the Federal Institute for Risk Assessment (BfR) (Recommendation XXI, cat. 2) and FDA CFR § 177.2600 Approval for foodstuffs.

On request, we can also supply suction and pressure hoses with steel coil. Special hoses made of fluoropolymer (Viton) can be fabricated for higher temperatures. Connections with flanges, quick couplings or outer treads are also available on request.

A range of devices is available for temperature control. The line extends from the mini-controller with fixed temperature setting to convenient microprocessor controlled devices. See chapter Control technology.

DN (mm)	Fitting (RD)	Wall (mm)	BD (bar)	Bend radius approx. (mm)
20	44 x 1/6"	6	10	150
25	52 x 1/6"	6	10	175
32	58 x 1/6"	6	10	225
40	65 x 1/6"	7	10	280
50	78 x 1/6"	7	10	350
65	95 x 1/6"	7	10	455
80	110 x 1/4"	8	10	560
100	130 x 1/4"	8	10	700

DN (mm)	Power HL 40 (W/m)	Power HL 80 (W/m)
20	30	50
25	40	60
32	50	75
40	60	90
50	75	120
65	90	150
80	110	200
100	140	250





ELVARME



VORES PRODUKTSORTIMENT INKLUDERER:



ANALYSEMÅLING



ATEX



REGULATORER



ELPATRONER



TERMOFØLERE



WIRE WOUND HEATERS

VI FØRER PRODUKTER INDENFOR KATEGORIERNE:



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