

- Easy planning of heating circuits
- Simple installation on site
- Wide operating temperature range

The BARTEC HTSB heating system covers a wide range of applications in trace heating. Frost protection, no-flow heating system, temperature maintenance and also a combination of temperature increase and temperature maintenance is possible in Zone 1, 2, 21 and 22. The HTSB heating tape, which is a part of the HTSB system, can be supplied in power outputs between 15 W/m and 90 W/m at 10 °C. This makes it easy to adapt the output to the heat losses. The protective outer sheath of the cable is made of fluoropolymer plastic. A Limiter is not required. Direct entry in a junction box is possible.

Explosion protection

Certification Sira 10 ATEX 3268
TC RU C-DE.ГБ06.B.00230

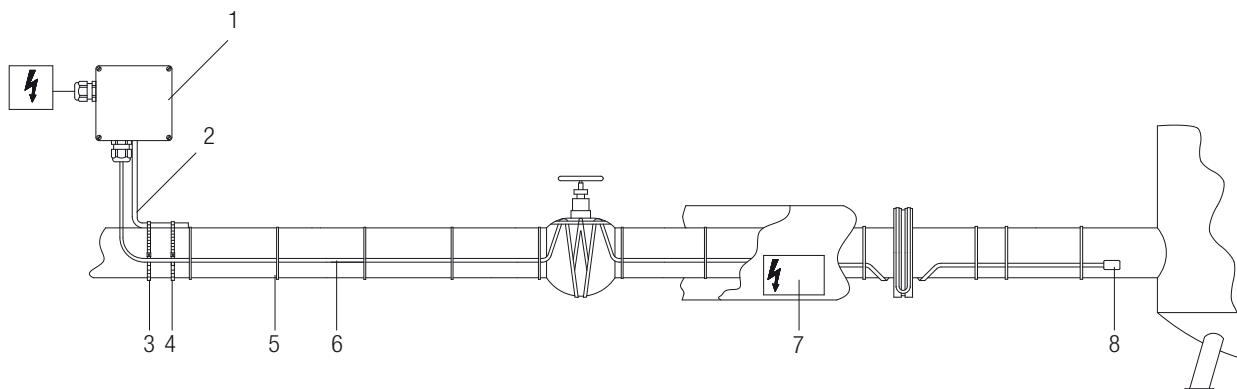
Other approvals and certificates, see www.bartec.de

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System overview

- Self-limiting parallel heating tape HTSB
- Silicone cold applied technology for connection and terminating
- Optional: Junction box
- Optional: mechanical or electronic thermostats or control systems

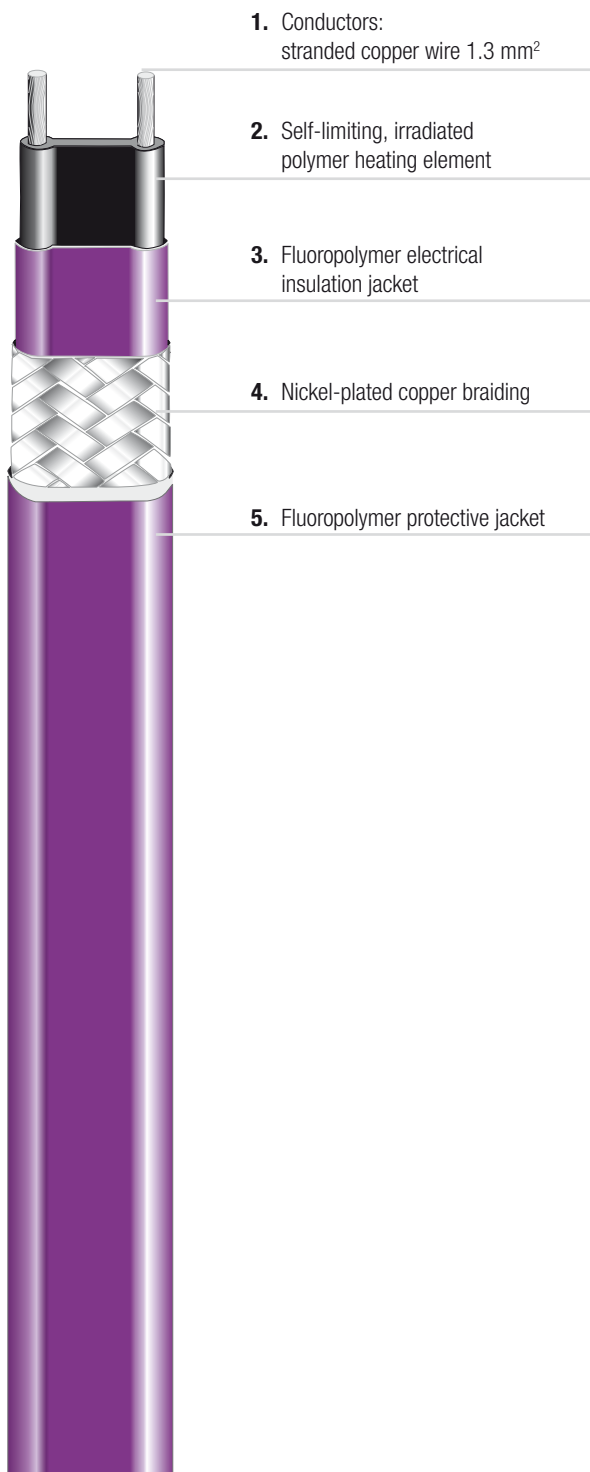
Application example HTSB heating system



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|-----------------------------------|---|---|
| 1 Junction box | 4 Buckle for fixing strap | 7 Caution label "Electrically Heated" |
| 2 Mounting bracket/Mounting plate | 5 Self adhesive glass fibre fixing tape | 8 Cold applied technology end termination |
| 3 Fixing strap | 6 Heating tape HTSB | |

- Steam purging possible
- Wide operating temperature range
- Can be used in explosive atmospheres without temperature limiter
- Simple installation thanks to its high flexibility
- Outer protective fluoropolymer jacket ensures resistance to corrosion and chemical influences

A temperature-dependent resistive element between the parallel copper conductors regulates and limits the power output of the heating tape. This output regulation is carried out automatically at every point of the heating tape depending on the prevailing ambient temperature. If the ambient temperature increases, the power output is reduced. The parallel design allows the heating tape to be cut to any length. This simplifies planning and installation. The heating tape is cut directly on the construction site according to the local circumstances. The heating system must be designed to ensure that the maximum operating temperature of +250 °C will not be exceeded when it is energized. When switched off, the heating tape may be exposed to a temperature of 250 °C for a short time, not more than 1,000 hours cumulated.



Applications

The HTSB heating tape is the right solution for frost protection or temperature maintenance in pipelines or vessels in the industrial area. It is particularly suitable for applications with high ambient temperatures or aggressive chemicals. For questions regarding the chemical resistance please contact your BARTEC sales representative.

Explosion protection

Marking Ⓔ II 2G Ex e IIC T2, T3 Gb
 Ⓔ II 2D Ex t IIIIC T200 °C, T300 °C IP 6x Db

Certification Sira 10 ATEX 3268
 TC RU C-DE.ГБ06.B.00230

Other approvals and certificates, see www.bartec.de

Technical data

Rated voltage	AC 208 V to 277 V
Max. exposure temperature	switched on +250 °C switched off +250 °C
Min. installation temperature	-40 °C
Min. start-up temperature	-40 °C
Max. braid resistance	<18.2 Ω/km
Dimensions with braiding and Fluoropolymer jacket	12.1 x 5.4 mm
Min. bending radius	35 mm

Power setting at +10 °C

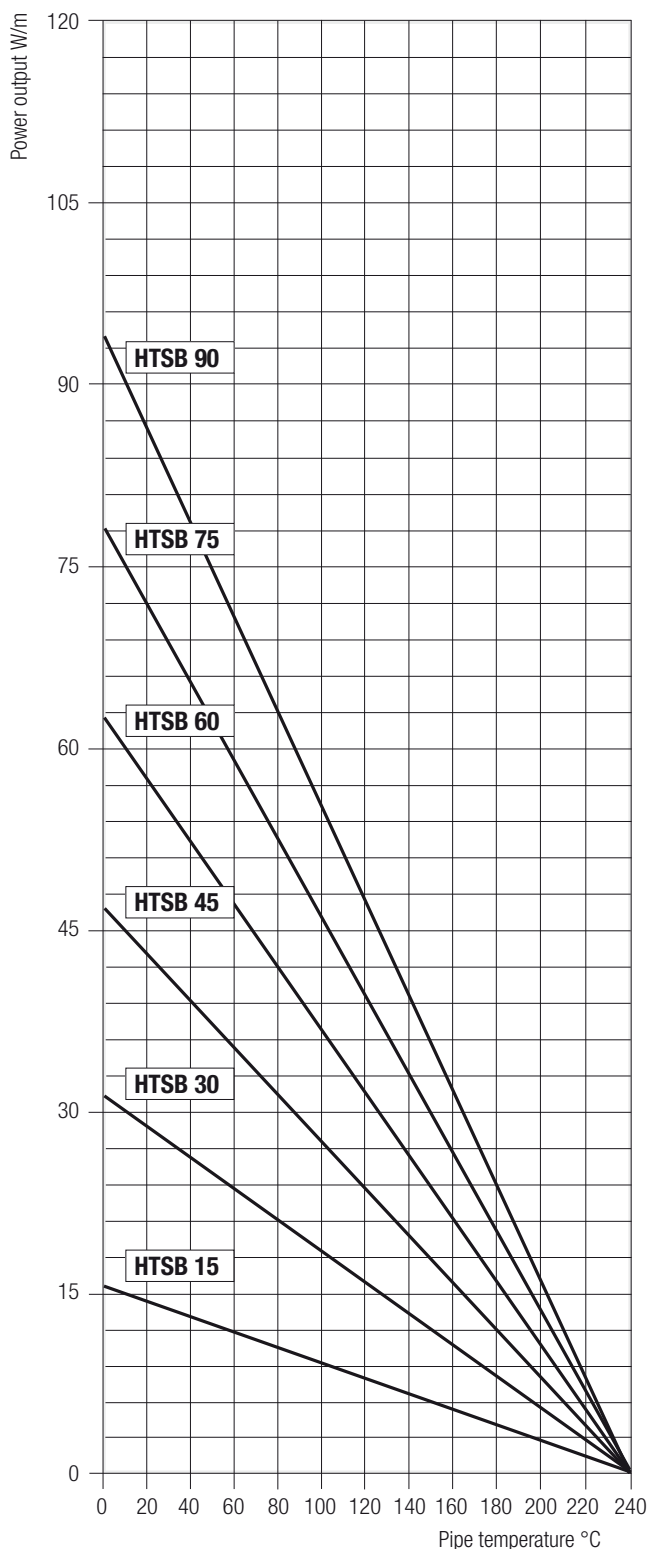
Power output at AC 230 V	HTSB 15 15 W/m	HTSB 30 30 W/m	HTSB 45 45 W/m
Power output at AC 230 V	HTSB 60 60 W/m	HTSB 75 75 W/m	HTSB 90 90 W/m

Ordering information

HTSB parallel heating tape	Type	Heating output	Order no.
AC 277 V self-limiting steam purging possible ⊕ explosion protected Ⓜ media protected	HTSB 15	15 W/m	07-5819-7152
	HTSB 30	30 W/m	07-5819-7302
	HTSB 45	45 W/m	07-5819-7452
	HTSB 60	60 W/m	07-5819-7602
	HTSB 75	75 W/m	07-5819-7752
	HTSB 90	90 W/m	07-5819-7902
AC 120 V self-limiting steam purging possible ⊕ explosion protected Ⓜ media protected	HTSB 15	15 W/m	07-5819-1152
	HTSB 30	30 W/m	07-5819-1302
	HTSB 45	45 W/m	07-5819-1452
	HTSB 60	60 W/m	07-5819-1602
	HTSB 75	75 W/m	07-5819-1752
	HTSB 90	90 W/m	07-5819-1902

Technical data subject to change without notice.

HTSB characteristics



Power output on insulated steel pipes at **230 V** under nominal conditions.



Max. length of heating circuit at AC 230 V for automatic circuit-breakers with C characteristic

Circuit breaker size	start-up temperature	HTSB 15	HTSB 30	HTSB 45	HTSB 60	HTSB 75	HTSB 90
6 A	+10 °C	48 m	30 m	24 m	18 m	16 m	12 m
	0 °C	46 m	30 m	22 m	18 m	14 m	12 m
	-20 °C	40 m	26 m	20 m	16 m	14 m	10 m
10 A	+10 °C	78 m	52 m	38 m	30 m	26 m	22 m
	0 °C	76 m	48 m	36 m	30 m	24 m	20 m
	-20 °C	68 m	44 m	34 m	26 m	22 m	18 m
16 A	+10 °C	126 m	82 m	62 m	50 m	42 m	34 m
	0 °C	120 m	78 m	58 m	46 m	40 m	32 m
	-20 °C	108 m	70 m	52 m	42 m	36 m	30 m
20 A	+10 °C	154 m	102 m	78 m	62 m	52 m	42 m
	0 °C	150 m	96 m	74 m	58 m	48 m	40 m
	-20 °C	136 m	88 m	66 m	52 m	44 m	36 m
25 A	+10 °C	-	108 m	88 m	76 m	64 m	54 m
	0 °C	154 m	108 m	88 m	72 m	60 m	50 m
	-20 °C	154 m	108 m	82 m	66 m	54 m	46 m
32 A	+10 °C	-	-	-	-	82 m	68 m
	0 °C	-	-	-	76 m	78 m	64 m
	-20 °C	-	-	88 m	76 m	70 m	58 m

Max. length of heating circuit at AC 120 V for automatic circuit-breakers with C characteristic

Circuit breaker size	start-up temperature	HTSB 15	HTSB 30	HTSB 45	HTSB 60	HTSB 75	HTSB 90
6 A	+10 °C	24 m	15 m	12 m	9 m	8 m	6 m
	0 °C	23 m	15 m	11 m	9 m	7 m	6 m
	-20 °C	20 m	13 m	10 m	8 m	7 m	5 m
10 A	+10 °C	39 m	26 m	19 m	15 m	13 m	11 m
	0 °C	38 m	24 m	18 m	15 m	12 m	10 m
	-20 °C	34 m	22 m	17 m	13 m	11 m	9 m
16 A	+10 °C	63 m	41 m	31 m	25 m	21 m	17 m
	0 °C	60 m	39 m	29 m	23 m	20 m	16 m
	-20 °C	54 m	35 m	26 m	21 m	18 m	15 m
20 A	+10 °C	77 m	51 m	39 m	32 m	26 m	21 m
	0 °C	75 m	48 m	37 m	30 m	24 m	20 m
	-20 °C	68 m	44 m	33 m	26 m	22 m	18 m
25 A	+10 °C	-	54 m	44 m	38 m	32 m	27 m
	0 °C	77 m	54 m	44 m	36 m	30 m	25 m
	-20 °C	77 m	54 m	41 m	33 m	27 m	23 m
32 A	+10 °C	-	-	-	-	41 m	34 m
	0 °C	-	-	-	38 m	39 m	32 m
	-20 °C	-	-	41 m	38 m	35 m	29 m



- Direct entry of a heating tape into the junction box
- Connection and termination in one set
- Space-saving and economic solution
- Easy design and assembling with silicone cold-applied technology

The heating tape is connected directly in the junction box, the two supply conductors of the self-limiting heating tape HTSB (Type no. 07-8519-..) are insulated with silicone glue and a silicone hose. A green/yellow protective tube is pulled over the braiding. The end of the self-limiting heating tape is insulated with silicone glue and an end cap.

Explosion protection

Marking	Ex II 2GD IP 6X
System	Ex e IIC T2 Gb Ex t IIIC T300 °C Db
Cable gland	Ex II 2GD Ex e II Ex tD A21 IP 68
Certification	Sira 10 ATEX3268 Sira 01 ATEX1270 X
Other approvals and certificates, see www.bartec.de	

Technical data

Ambient temperature range	-55 °C to +180 °C
Protection class in accordance with EN 60079-0	IP 66

Ordering information

Silicone cold applied technology set for HTSB heating tape with cable gland, grounding strap and nut, Set for cable connection and end termination **05-0091-0150**

Technical data subject to change without notice.



Up to three heating circuits can be connected to the supply voltage with the polyester junction boxes. The enclosures are available with the necessary cable glands resp. the threaded holes.

Explosion protection

Marking Ⓜ II 2G Ex e IIC T6 bzw. T5
 Ⓜ II 2D Ex tD A21 IP 6x T95 °C
 Ⓜ II 2D Ex tD A21 IP 6x T80 °C

Certification PTB 08 ATEX 1064
 IECEx 00 ATEX 1081

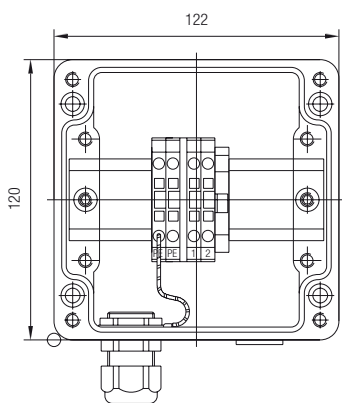
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Technical data

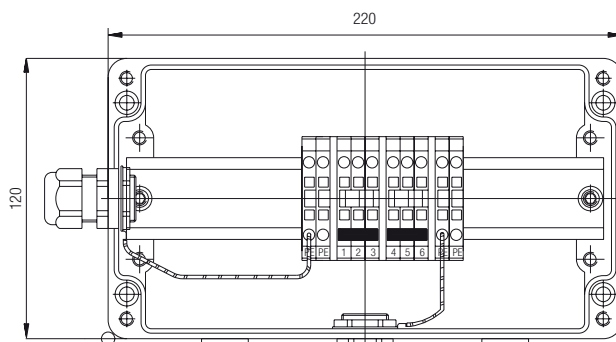
Ambient temperature range	-55 °C to +40 °C for T6 -55 °C to +55 °C for T5
Protection class according to EN 60529	Cover gasket IP 65
Supply voltage	max. AC 254 V
Thermal rated current*	recommended max. 20 A (at 254 V and T _a = +55 °C)
Supply cable, cross section	2.5 mm ² to 6.0 mm ²
Impact resistance	7 Joule
Material	Enclosure: polyester, glass-fibre reinforced Cable Gland: brass
Gland size cable diameter	M20 Ø 6 to 12 mm
Seals	-55 °C to +100 °C

* not tested as a system

Junction box single



Junction box double, triple



Ordering information

Connection system	Description	Dimensions (mm)	Cable glands for power supply	Threaded hole for heating circuit	Terminals (mm ²)	Order no.
Cold applied -50 °C to +55 °C	for 1 heating circuit	122 x 120 x 90	1 x M20 (Ø 6 to 12 mm)	1 x M20	4 x 6; 3 x PE	07-5103-9213
	for 2/3 heating circuits	220 x 120 x 90	1 x M20 (Ø 6 to 12 mm)	3 x M20	12 x 6; 6 x PE	07-5103-9214

Technical data subject to change without notice.