



**THORNE &
DERRICK**
INTERNATIONAL

Thorne & Derrick
+44 (0) 191 410 4292
www.heatingandprocess.com



At a Glance

Applications



Freeze prevention



Temperature maintenance



Valves, pumps



Silos, vessels, tanks

- › Chemistry and Petrochemistry
- › Oil and Gas Industry
- › Power plants

Benefits

- › Temperature classification T3*
- › Five nominal outputs
- › Moisture proof
- › Resistant to chemicals
- › Use in hazardous areas

*Except for 90 W/m: T2

Design

BOT Protective braid, fluoropolymer outer jacket

Approvals



- › Trace Heater classification
II 2G Ex 60079-30-1 IIC Gb
II 2D Ex 60079-30-1 IIIC Db
- › System classification
II 2G Ex 60079-30-1 eb IIC T2 Gb
II 2D Ex 60079-30-1 tb IIIC T220°C Db
- › Certification
EPS IECEx 18.0019U
EPS IECEx 18.0014X
EPS 18 ATEX 1 028 U
EPS 18 ATEX 1 020 X
- › Temperature class
T3/T2

Type ELSR-SH up to 250 °C



1 Bus wire	Nickel plated copper
2 Self-regulating heating element	
3 Insulation	Fluoropolymer
4 Protection	Protective braid (Nickel plated copper)
5 Outer jacket	Fluoropolymer

Checklist ELSR-SH

Power Connection & End Termination

ELVB-SREx-25	Power connection, glued, Gland M25 x 1,5, PE, Ex e	0X81PA1
ELVB-SREx-IT	Power connection, glued, without gland	091AIT1
EL-ECSH-Ex	Silicone termination cap, red, glued, with ex marking	0X81EH2
ELVB-SRASH-Ex-20	Power connection, glued, Gland M20, Ex d	0X81PSD
ELVB-SRAH-25	Power connection, glued, Gland M25 x 1,5, PE	091A040

Junction Boxes

ELAK-Ex-2.00	110 x 75 x 57 mm, polyester, IP66, 1 Trace heater, 1 Power cable	0X85200
ELAK-Ex-4.01	122 x 120 x 90 mm, polyester, IP66, 1 - 3 Trace heaters, 1 Power cable	0X85401
ELAK-5	122 x 120 x 90 mm, polyester, 3 breakouts M25, IP 66	0920013
Ex-it-R	ø 150 x 125 mm, 3 heaters, 1 Pt100 power supply lead, incl. mounting stand, IP 65	0X80070

Technical Information

Maximum maintain temperature	165 °C
Maximum exposure temperature (de-energized)	250 °C
Nominal voltage	230 V
Bending radius, min.	25 mm
Installation temperature, min.	- 60 °C

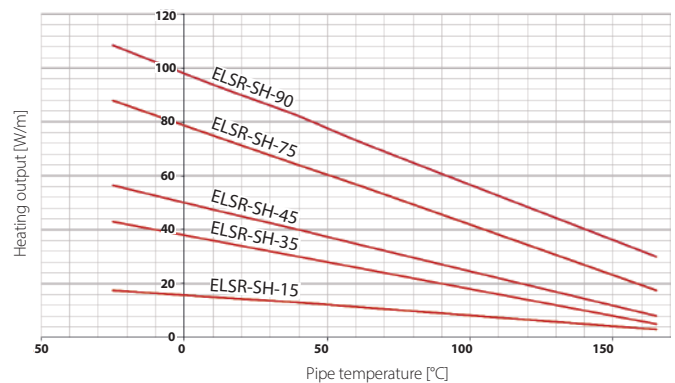
Heating circuit lengths on the following conditions

- 230 V nominal voltage
- Delayed action circuit breakers (C-characteristic) with 100 % load
- Maximum 10 % line voltage drop on heating cable bus wire
- Power connection to one heater end

Type	Nominal output	Dimensions approx. (mm)	Weight approx. (g/m)	Part No.
ELSR-SH-15-2-BOT	15 W/m at 10 °C	14 x 5,4	146	B0226153
ELSR-SH-35-2-BOT	35 W/m at 10 °C	14 x 5,4	146	B0226353
ELSR-SH-45-2-BOT	45 W/m at 10 °C	14 x 5,4	146	B0226453
ELSR-SH-75-2-BOT	75 W/m at 10 °C	14 x 5,4	146	B0226753
ELSR-SH-90-2-BOT	90 W/m at 10 °C	14 x 5,4	146	B0226903

ELSR-SH-...-2-BOT output

(on insulated metallic pipes according to 62395-1)



Switch-on temperature (°C)	Nominal cutout value (A)	Heating circuit length (m) for ELSR-SH				
		15-2 BOT	35-2 BOT	45-2 BOT	75-2 BOT	90-2 BOT
10	10	113	50.0	36.25	18.75	17.0
	16	172	80.0	58.0	30.0	27.0
	20	172	99.0	72.5	37.5	34.0
	25	172	107.5	90.625	47.0	42.5
	32	172	107.5	98.0	60.0	54.0
	40	172	107.5	98.0	73.0	68.0
0	10	106	47.0	34.5	17.75	16.0
	16	169	75.0	55.0	28.5	26.0
	20	172	94.0	69.0	35.5	32.0
	25	172	107.5	86.25	44.5	40.0
	32	172	107.5	98.0	57.0	52.0
	40	172	107.5	98.0	71.0	64.0
-10	10	99	44.0	32.5	16.5	15.5
	16	159	71.0	52.0	26.5	25.0
	20	172	89.0	65.0	33.0	31.0
	25	172	107.5	81.25	41.25	38.75
	32	172	107.5	98.0	53.0	50.0
	40	172	107.5	98.0	66.0	62.0

Switch-on temperature (°C)	Nominal cutout value (A)	Heating circuit length (m) for ELSR-SH				
		15-2 BOT	35-2 BOT	45-2 BOT	75-2 BOT	90-2 BOT
-20	10	94	42.0	30.0	15.5	15.0
	16	150	67.0	48.0	25.0	24.0
	20	172	84.0	60.0	31.0	30.0
	25	172	105.0	75.0	38.75	37.5
	32	172	107.5	96.0	50.0	48.0
	40	172	107.5	98.0	62.0	60.0
-30	10	89	40.0	27.5	15.0	14.5
	16	142.5	64.0	44.0	24.0	23.0
	20	172	80.0	55.0	30.0	29.0
	25	172	100.0	68.75	37.5	36.25
	32	172	107.5	88.0	48.0	46.0
	40	172	107.5	98.0	60.0	58.0
-40	10	84	38.0	25.0	14.0	14.0
	16	135	61.0	40.0	22.5	22.0
	20	169	76.0	50.0	28.0	28.0
	25	172	95.0	62.5	35.0	35.0
	32	172	107.5	80.0	45.0	44.0
	40	172	107.5	98.0	56.0	56.0