

## 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



<b>1 Bus wire</b>	Nickel plated copper
<b>2 Self-regulating heating element</b>	
<b>3 Insulation</b>	Fluoropolymer
<b>4 Protection</b>	Protective braid (Cu, tin plated)
<b>5 Outer jacket</b>	Fluoropolymer

## Checklist ELSR-SH

### Power Connection & End Termination

ELVB-SREx-25	Power connection, glued, Gland M25 x 1,5, PE, Ex e	OX81PA1
ELVB-SREx-IT	Power connection, glued, without gland	091AIT1
EL-ECSH-Ex	Silicone termination cap, red, glued, with ex marking	OX81EH2
ELVB-SRASH-Ex-20	Power connection, glued, Gland M20, Ex d	OX81PSD
ELVB-SRAH-25	Power connection, glued, Gland M25 x 1,5, PE	091A040

### Junction Boxes

ELAK-Ex-3.7	122 x 120 x 90, 1-3 heaters, power supply lead max. 10 mm <sup>2</sup> , IP66	OX80057
Ex-it-R	ø 150 x 125 mm, 3 heaters, 1 Pt100 power supply lead, incl. mounting stand, IP 65	OX80070
ELAK-Ex-3.5	122 x 120 x 90 mm, 1 heater, capillary thermostat, IP 66	OX80055
ELAK-5	122 x 120 x 90 mm, polyester, 3 breakouts M25, IP 66	0920013

### Temperature Sensors

ELTF-PTEx.2	Pt100, 4 conductors, 3 m PTFE cable	OX70002
ELTF-PTEx.4	2x Pt100, 3 conductors, 3 m cold lead	OX70030
ELTF-PT.1	Pt100, 5 x 50 mm PVC 5 m	0650001
ELTF-PT.3	Pt100, 2 conductors, 5 x 50 mm, 3 m PTFE cable	0650003
ELTF-PT.3.1	Pt100, 3 conductors, 5 x 50 mm, 3 m PTFE cable	0650002

## Technical Information

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

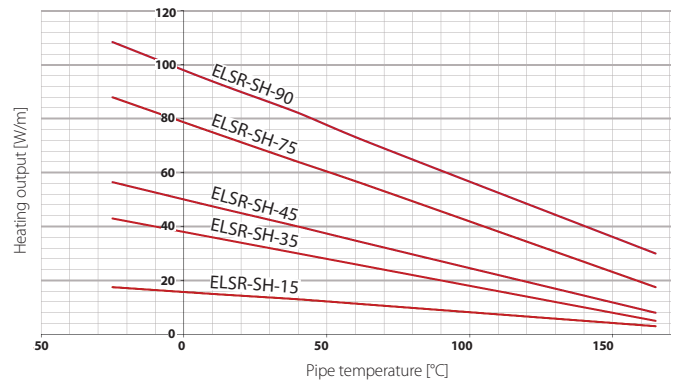
### Heating circuit lengths on the following conditions

- 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