

# BAND HEATERS



**eltop**  
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**ELTOP PRAHA s.r.o.**

# ABOUT THE COMPANY

ELTOP PRAHA s.r.o., established in 1992, has been part of NIBE Group headquartered in Sweden since 2001.

Its main activities cover production and delivery of electric heating elements. The product range includes tubular and ceramic heating elements, cartridge heaters, heating belts, complex customer - specific solutions incl. control and other related products for various industry sectors.

Band heaters are one of important product lines.



The quality control system implemented in ELTOP PRAHA s.r.o. is certified by certificate acc. to ISO 9001:2008, which was issued by DEKRA Certification GmbH. Achieved quality level is regularly audited according to valid standards.



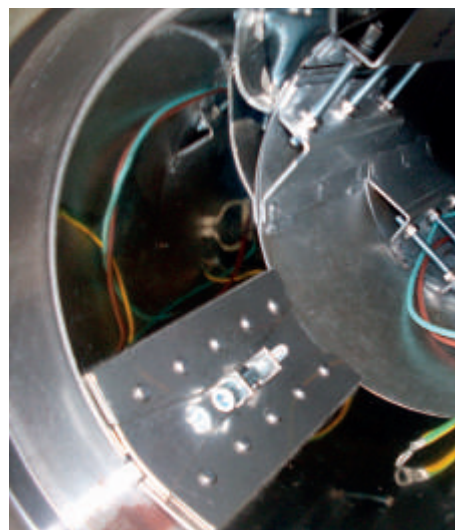
## BAND HEATERS AND HEATING PLATES

### BRIEF DESCRIPTION

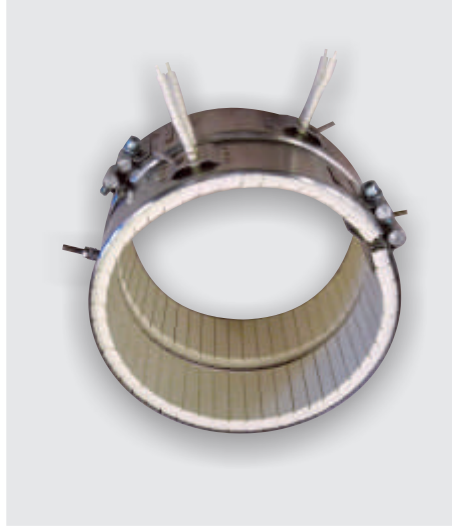
This product line can be characterized as solid heating elements with flat heating section, whose shape follows heated surface, mainly outer surface of cylindrical areas. Their design enables firm contact and fixing necessary to effective heat transfer. Fixing parts are usually part of structure, as well as electric connections and cables, holes or parts for fixing of temperature sensors.

### MAIN APPLICATION AREAS

- Heating of pipe for plastic granulate in injection moulding machines
- Heating of injection nozzle in moulding machine
- Internal heating of laminating machine cylinders
- External heating of pipes in chemical industry
- Internal heating of drying drums in textile machines
- Industrial heating of various cylindrical and flat surfaces
- Heating of metal plates in printing machines



## Ceramic Band Heaters



Diameter of heated surface [mm]	Band width	Max. surface load [W/cm <sup>2</sup> ]	Power supply options U[V]	Max. temperature [°C]
80 - 500	40 - 500	6 - 7	12/24/48/110/230/3x400	500

Heating elements of cylindrical shape with heating part formed by ceramic segments. Their related holes create space for passing heating spirals. The unit is supported and fixed by stainless steel sheets.

This proven solution enables achievement and transfer of high heating powers regarding built-up area. At the same time excellent mechanical resistance is achieved. This type of band heaters can be single- or multi-part with various power supply options. They can be fitted and equipped with different variants of special parts, see pp. 4 and 5.

### TYPICAL APPLICATION AREAS

Heating of main pipes in injection moulding machines; different industrial heating applications.

## Mica Band Heaters



Diameter of heated surface [mm]	Band width	Max. surface load [W/cm <sup>2</sup> ]	Power supply options U [V]	Max. temperature [°C]
50 - 500	20 - 500	3.5	12/24/48/110/230/3x400	400

Heating elements of cylindrical shape with heating part formed by mica plates wound by flat heating tape. The unit is housed in stainless bushing and fixed by outer clamping sheet.

This solution features small design thickness and enables wide range of product sizes with sufficient mechanical resistance. This type of band heaters can be single- or multi-part with various power supply options. They can be fitted and equipped with different variants of special parts, see pp. 4 and 5.

### TYPICAL APPLICATION AREAS

Heating in plastic industry; heating of transport piping; different industrial heating applications.

## Small Mica Bands



Diameter [mm]	Width [mm] - Power [W]								Voltage U [V]
	16	22	30	34	38	48	58	68	
40	130	180	240	260	300	380	440		230
45	140	200	260	280	330	410	460	540	230
50	150	230	280	310	350	440	500	600	230
55	160	250	300	350	400	480	550	650	230
60	180	270	340	360	430	500	600	700	230
65	220	280	350	380	440	540	650	770	230
70	230	300	360	400	450	550	700	830	230
75		310	400	450	500	590	750	890	230
80		330	450	500	530	580	790	940	230
90		375	500	550	640	820	890	1060	230
100		400	550	620	720	900	990	1180	230

Standard product range is given in the table above. Special solutions are available upon request and technical agreement.

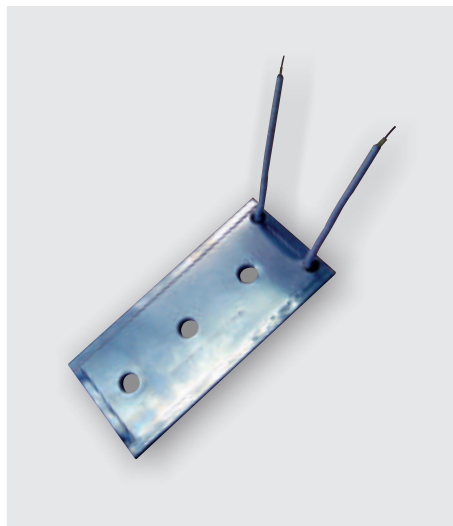
Diameter of heated surface [mm]	Band width	Max. surface load [W/cm <sup>2</sup> ]	Power supply options U [V]	Max. temperature [°C]
30 - 100	16 - 68	7	12/24/48/110/230/400	450

Usually single-part cylindrical heating elements produced in various sizes and input powers. Heating section from mica parts wound by heating tape and outer stainless steel sheet with mechanical components form compact and robust unit capable to withstand even more demanding conditions in industrial operations.

### TYPICAL APPLICATION AREAS

Heating of injection nozzles of moulding machines.

## Heating Plates



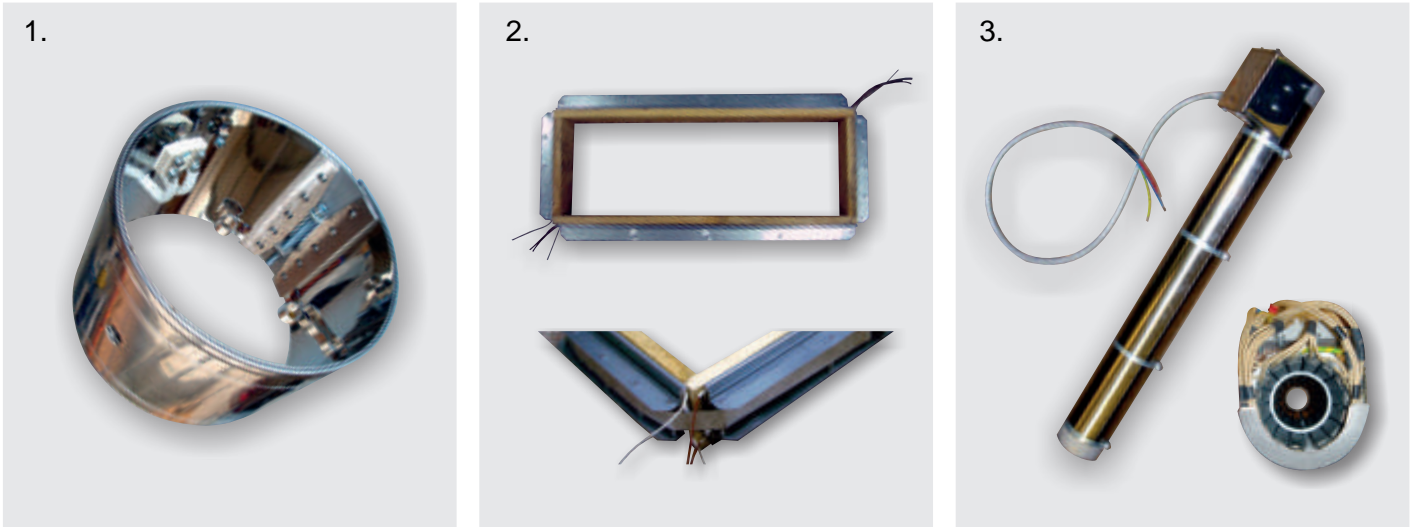
Max. size of heated surface [mm]	Thickness [mm]	Max. surface load [W/cm <sup>2</sup> ]	Power supply options U [V]	Max. allowed temperature [°C]
500 x 500	3.5 - 14	3.5 - 7	12/24/48/110/230/3x400	400 - 500

Flat heating elements. The heating section may be mica or ceramic. Design can be adjusted according to shape of heated surface, including holes for fixing and temperature sensors.

### TYPICAL APPLICATION AREAS

Heating of multi-stage moulds in rubber sector; heating of plates in printing machines, heating of pressing plates.

# Special Designs



Diameter of heated surface [mm]	Band width	Max. load surface [W/cm <sup>2</sup> ]	Power supply options U [V]	Max. temperature [°C]
Acc. to agreement	16 - 500	3.5 - 7	12/24/48/110/230/3x400	400 - 500

Heating elements, which can combine features specified above, as well as brand new, special designs.

Examples:

1. Band heater with special expansion mechanism for internal heating of cylinders.
2. Rectangular band heater. They are used for heating of rectangular shaped devices.
3. Band heater with extreme diameter/width ratio composed atypically from flat heating rods.

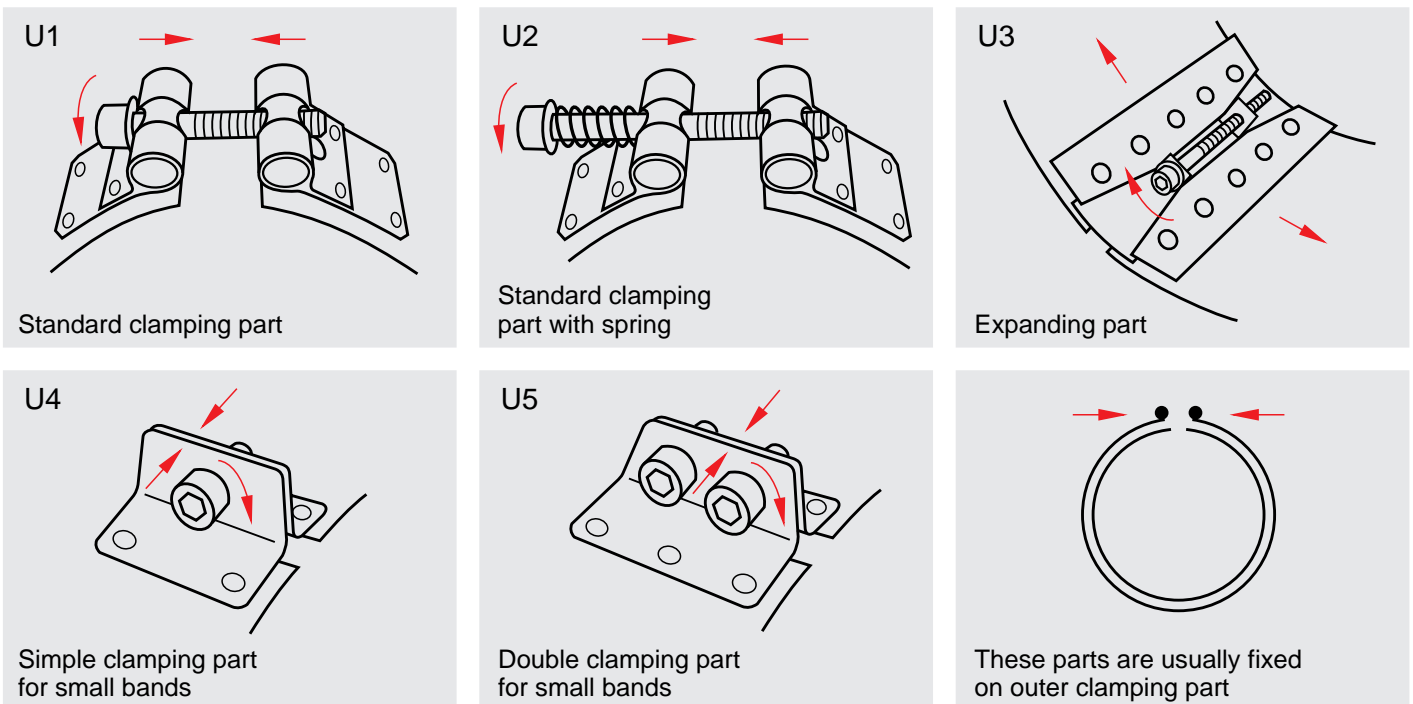
## TYPICAL APPLICATION AREAS

Special heating in plastic, chemical, textile and food processing industry.

# Typical parts

Band heaters can be equipped with numerous special parts facilitating assembly, improving their function and expanding application area.

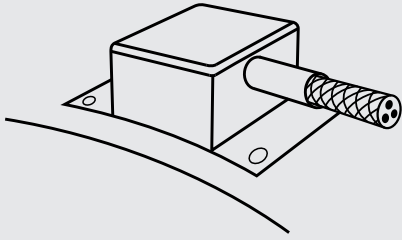
## FIXING PARTS



# Typical parts

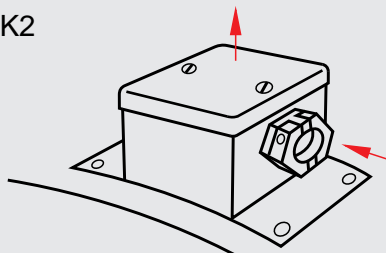
## SUPPLY CABLES CONNECTIONS

K1



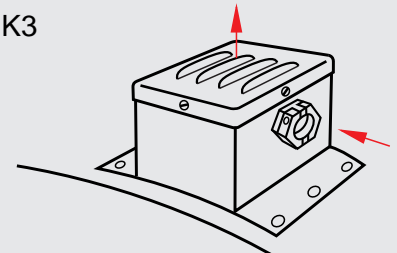
Firm cable connection with box

K2



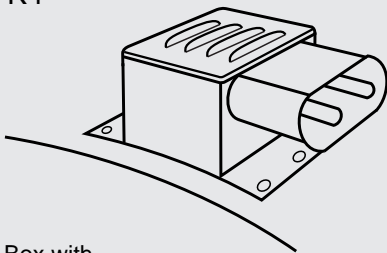
Box with terminal board for cable connection

K3



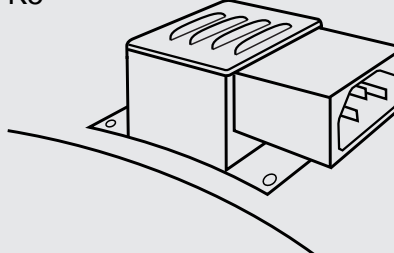
Big box with 3-phase terminal board for cable connection

K4



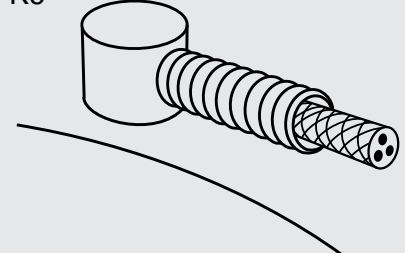
Box with classic two poles plug

K5



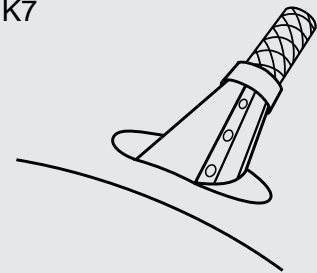
Box with three poles PC plug

K6



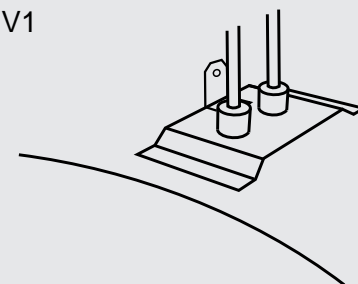
Waterproof cable connection

K7



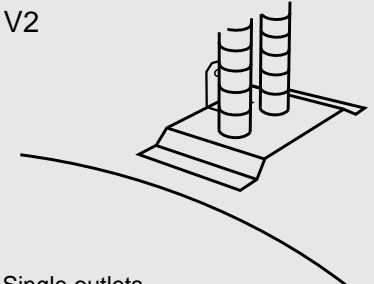
Firm angled cable connection

V1



Single outlets fibreglass isolated

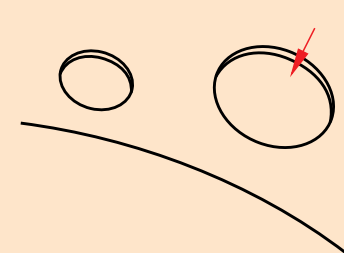
V2



Single outlets covered by ceramic beads

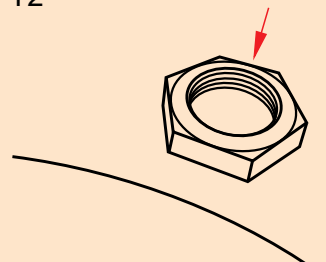
## THERMAL REGULATION COMPONENTS

T1



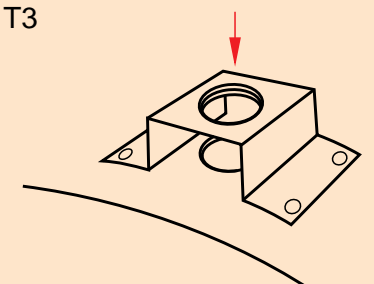
Holes for sensors in certain positions

T2



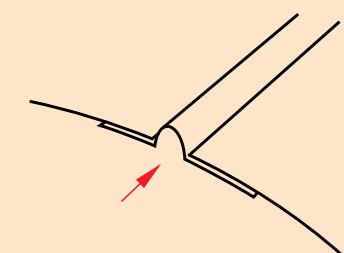
Sensor holder with thread

T3



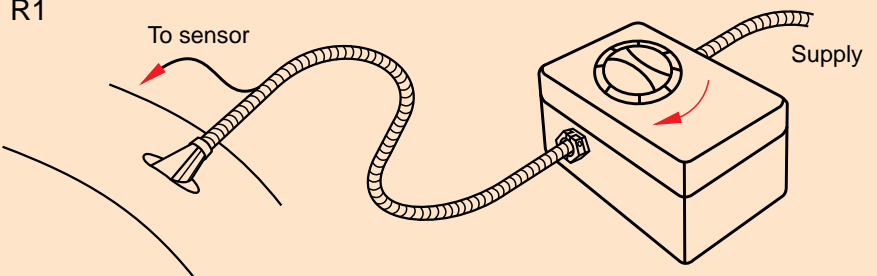
Clamp for sensor with thread

T4



Contact sensor holder

R1



External box for thermal regulation equipped by capillary thermostat

# INQUIRY FORM

MAIN PARAMETRES OF BAND HEATER

Please indicate required value or mark an option into relevant fields

Voltage [V]  Number of phases  Power [W]  Operating temperature [°C]

Internal $\varnothing$ [mm] <input type="text"/>	Width [mm] <input type="text"/>	Single part <input type="checkbox"/>	Two part <input type="checkbox"/>	Mica <input type="checkbox"/>
			Other <input type="checkbox"/>	Ceramic <input type="checkbox"/>

Position and arrangement of electrical supply

A =   $\alpha$  =  Outlets direction no.

Position and size of holes for sensor / no.

$\varnothing$  =    B =     $\beta$  =

Fixing of inlet cable or outlets

<input type="checkbox"/> Fixed cable with box	<input type="checkbox"/> Covered terminal board without cable	<input type="checkbox"/> Metal 2-pole plug	<input type="checkbox"/> Water-proof shield of cable
<input type="checkbox"/> Individual wires glass fibre insulated	<input type="checkbox"/> Wires insulated with ceramic pearls	<input type="checkbox"/> Firm connection of cable 90°	<input type="checkbox"/> Firm connection of cable 45°

Typical supply wires and cables

<input type="checkbox"/>		Ni core, glass fibre, 350°C
<input type="checkbox"/>		Ni core, ceramic pearls, 450°C
<input type="checkbox"/>		Cu core, silicone, 180°C
<input type="checkbox"/>		Ni core, glass fibre, metal braiding, 350°C
<input type="checkbox"/>		Ni core, glass fibre, metal bellow, 350°C

Length

Customer contact data

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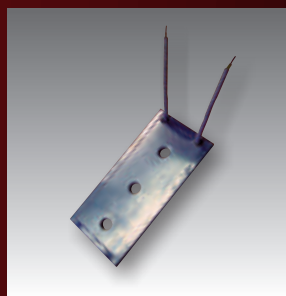
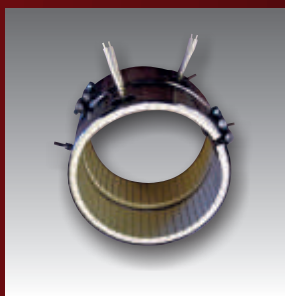
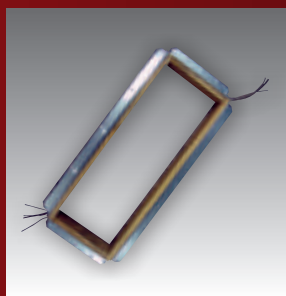
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NIBE group



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