

# VIADRUS

SUMMARY OF TECHNICAL INFORMATION  
FOR DESIGNING  
THE CAST-IRON HEATING BODIES

**Kalor / Kalor 3 / Termo**

**Bohemia / Bohemia R**

**Styl / Hellas**

ALUMINIUM HEATING BODIES

**Residence**

BIMETALLIC HEATING BODIES

**Duostar**



**CAST-IRON HEATING BODIES**

**KALOR 3**

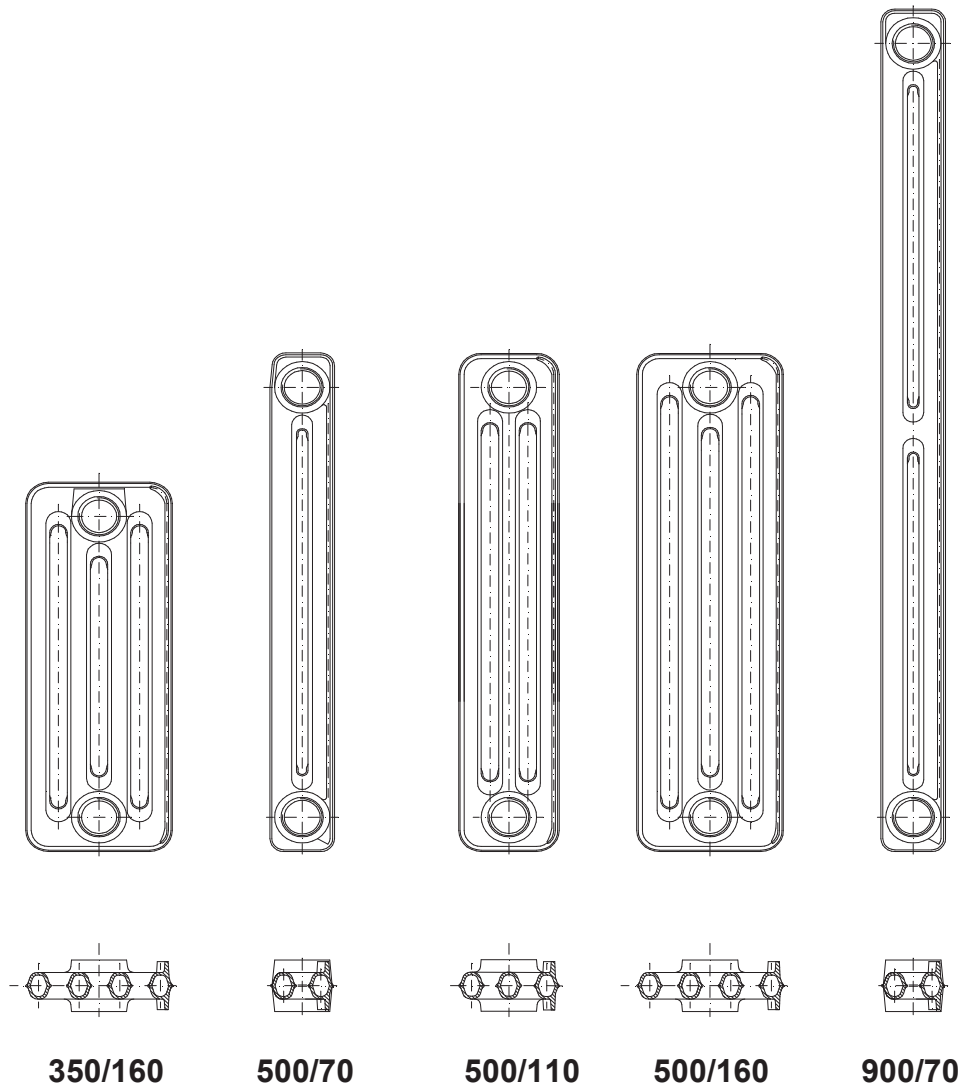
# KALOR 3

## DESCRIPTION

Cast-iron heating body consisting of sections with extended transfer surface forming the front panel area of the heating body connected into heating systems using steel nipples with external right-hand or left-hand thread G 5/4" is manufactured in five sizes:

**350/160 mm, 500/70 mm, 500/110 mm, 500/160 mm and 900/70 mm.**

Heating bodies comply with EN 442 – 1 and EN 442 – 2. The material used is a grey cast-iron corresponding to EN 1561. The design of castings ensures a long life cycle of products.



**Fig. 1 Heating sections of Kalor 3 type**

## USAGE

All heating bodies of Kalor 3 line are designed for warm-water central heating systems with gravity and forced circulation of heating water with the highest operating temperature not exceeding 115 °C and highest operating overpressure of up to 0.6 MPa. In addition to this all sizes are also designed for steam central heating systems with the maximum operating overpressure of up to 0.07 MPa.

## THERMAL AND TECHNICAL PARAMETERS

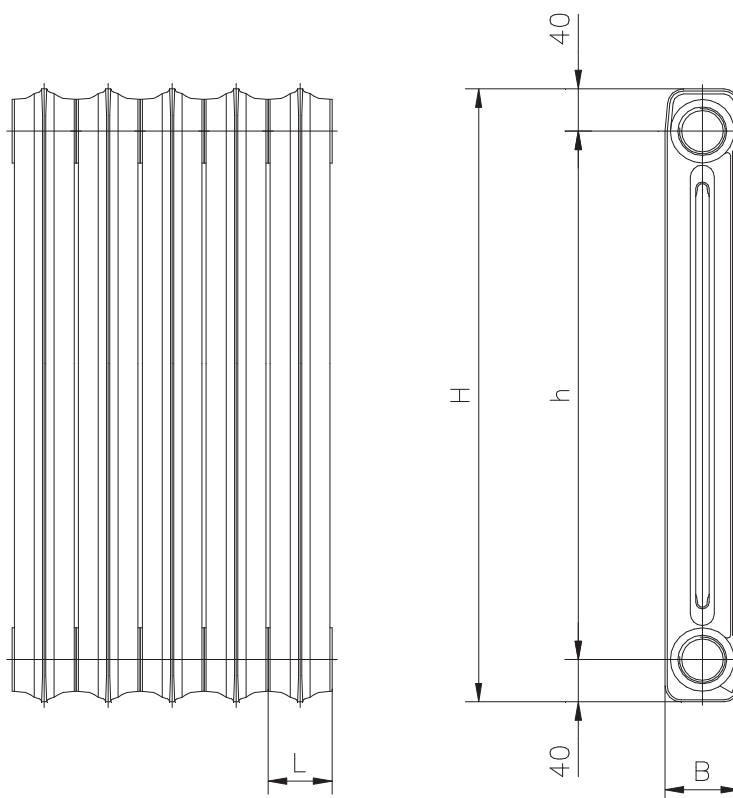
All types of Kalor 3 are certified by SZÚ Brno Thermal and technical parameters of the heat-transfer fluid (water) have been verified experimentally in compliance with EN 442-1 amendment A1.

The basic technical properties are provided in Table 1. Indicated thermal power applies to the heat-transfer fluid (water) with the temperature gradient of 75/65 °C. Connection of bodies is one-sided and the heat-transfer fluid is supplied at the top. The body is measured without covers.

Tables 2 through 21 provide thermal power values for various numbers of sections (2 – 30), various room temperatures, water temperature gradient of 55/45 °C and steam heating.

**Table 1 Significant thermal and technical parameters of Kalor 3 heating sections**

Property	Symbol	350/160	500/70	500/110	500/160	900/70
Identification number		17	19	21	23	25
Total height	H (mm)	430	580	580	580	980
Spacing	h (mm)	350	500	500	500	900
Depth	B (mm)	160	70	110	160	70
Width	L (mm)	60	60	60	60	60
Connection thread	G	5/4	5/4	5/4	5/4	5/4
Weight	M (kg/pc.)	4,90	3,70	4,70	6,20	6,10
Equivalent heating area	$S_L$ (m <sup>2</sup> /pc.)	0,208	0,163	0,215	0,290	0,240
Water volume	V (dm <sup>3</sup> /pc.)	0,8	0,5	0,8	1,1	0,8
Thermal power	$Q_{Tn}$ (W/section)	82,9	60,8	78,3	102,2	95,8
Thermal module	$Q_M$ (W/m)	1782	1305	1688	2216	2084
Temperature exponent	n (-)	1,251	1,26	1,255	1,294	1,306



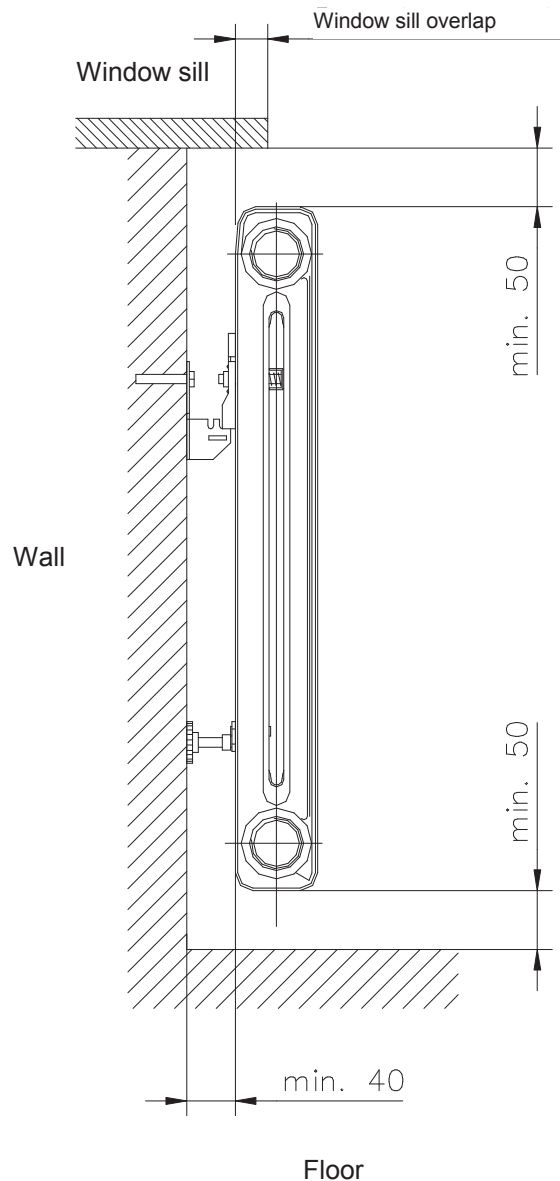
**Fig. 2 Standard dimensions of Kalor 3 sections**

## TESTING OVERPRESSURE

Units manufactured are subject to the pressure test performed in manufacturer's facility using overpressure of cold water equal to 1 MPa.

## **ASSEMBLY**

In order to achieve required thermal power it is necessary to maintain the installation position indicated on Fig. 3. In addition to this it is most beneficial to secure a minimum overlap of window sill from the viewpoint of thermal power.



**Fig. 3 Installation of Kalor 3 heating bodies**

Kalor 3 line heating bodies are connected to the distribution piping using roses provided with external thread G 5/4" with G 3/8", G 1/2", G 3/4" and G 1" bores (**warning: don't use hemp as sealing under these rosettes**).

When facing the front panel surface, the bodies are provided on the left side with rose with right-hand thread and on the right side with rose with left-hand thread G 5/4". Openings of the heating body on the opposite side to the connection are usually terminated by solid plugs provided with external left-hand thread G 5/4". The upper plug can be provided with a bore with eccentrically positioned thread G 1/4" for the air relief valve. Automatic air relief valves are suitable for this purpose. Prior to combining the individual units supplied it is necessary to perform a thorough cleaning of contact surfaces of sections. We recommend to seal joints by Clingerite, which is normally used during production and it is suitable both for warm-water and steam systems. The sections shall be coupled with the torque of min. 130 Nm and max. 150 Nm. by means of steel nipples.

Gyroscopic moment for tightening of rosettes is from 130 Nm to 150 Nm.

Other installation data are provided in the section of instruction manual common for all models of heating bodies manufactured.