

Figure 59: Elstein HLS (middle picture) and HLS/2 (lower left). Optional are MPO (top) and MPO/2 (lower right).

Elstein HLS high performance heaters are ceramic infrared rod heaters, which can be used for operating temperatures up to 1000 °C and surface ratings up to 87 kW/m².

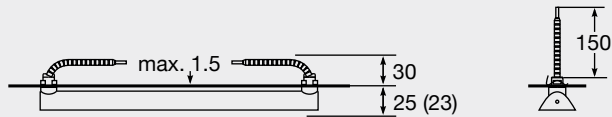
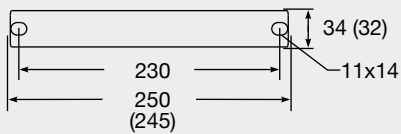
HLS series heaters have a gold-plated ceramic parabolic reflector and transfer up to 80% of the energy supplied as infrared radiation to the material to be heated.

In this way, HLS heaters allow material temperatures of up to 700 °C or high throughput speeds. The typical operating temperature of 1000 °C is reached in less than one minute.

HLS series heaters are therefore particularly suitable for use in plant construction, in which special solutions have to be drawn up for the customer's specific needs and for applications requiring high outputs.

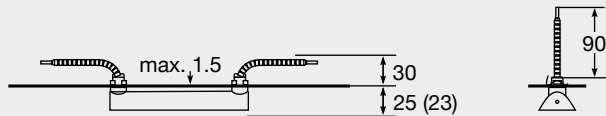
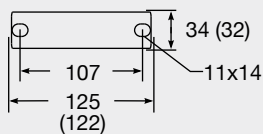
Elstein HLS high performance heaters are available in two designs with 750 W / 230 V and for pairwise serial connection with 375 W / 115 V.

HLS



T-HLS: The length 250 (245) extends due to the thermocouple clamp by 6 mm

HLS/2



T-HLS/2: The length 125 (122) extends due to the thermocouple clamp by 6 mm

T-HLS and T-HLS/2

HLS series with platinum thermocouple type S (blue printed), assembled

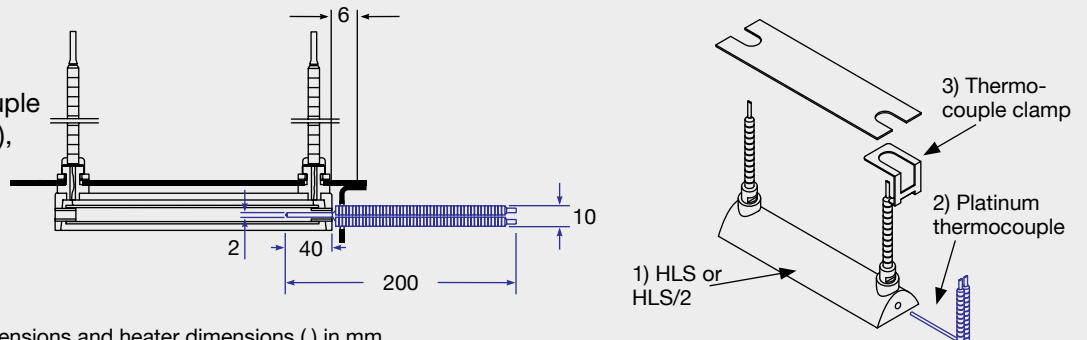
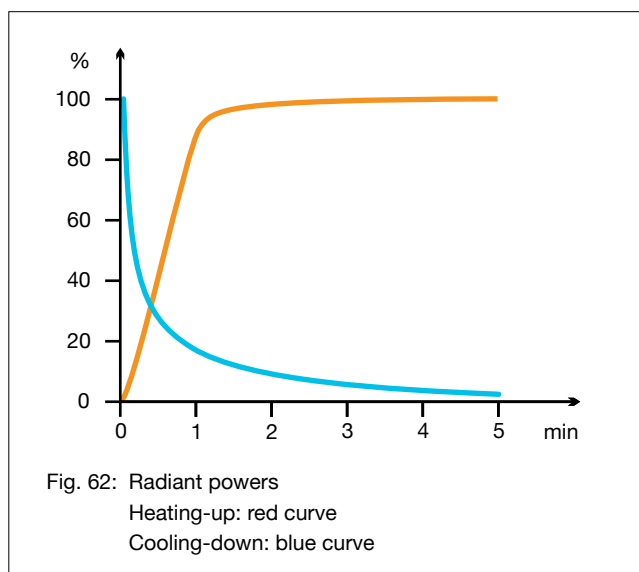
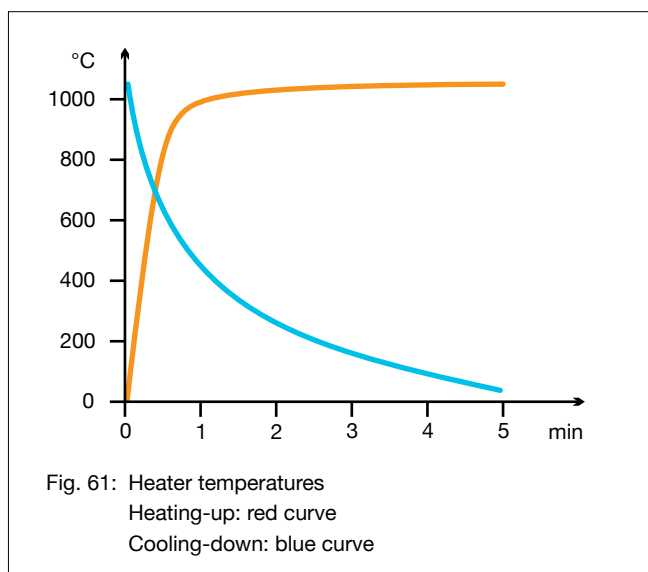


Figure 60: Mounting dimensions and heater dimensions () in mm



Type, weight, wattage	HLS	120 g	750	W
	HLS/2	60 g	375	W
Installable surface rating			87.0	kW/m ²
Typical operating temperature			to 1000	°C
Maximum permissible temperature			1100	°C
Wavelength range			2 - 10	μm

Standard design	Thermocouple heaters	Variants
HLS operating voltage 230 V HLS/2 operating voltage 115 V HLS leads 150 mm HLS/2 leads 90 mm Parabolic reflector gold-plated on the inside	Kit T-HLS and T-HLS/2 for self-assembly, consisting of 1) HLS or HLS/2 2) Platinum-thermocouple type S 3) Thermocouple clamp	Special wattages Special voltages Extended leads Leads with ring terminals
	<p>Figure: Assembly example of T-HLS/2 with mounting profile MPO/2</p>	

Elstein HLS heaters must be operated with temperature control to avoid damage due to overheating. The power can be controlled using proprietary sheathed thermocouples as well as Elstein platinum-thermocouples (both type S, Pt-PtRh) in conjunction with TRD 1 temperature controllers, TSE thyristor switching units and further accessories.

IR radiation areas can be assembled using MPO mounting profiles.

The national safety regulations must be complied with for the respective application, for example, the IEC or EN standard 60519-1, Safety in electrical heating installations.

Our instructions for mounting, operation and safety must be observed.

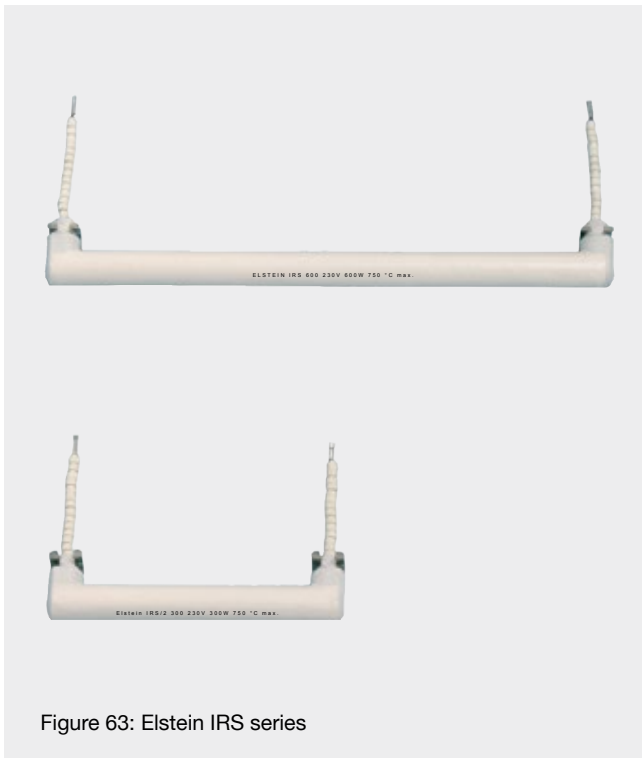


Figure 63: Elstein IRS series

Elstein IRS rod heaters are ceramic infrared heaters, designed for operating temperatures of up to 650 °C. With the help of MPO and MPO/2 mounting profiles, surface ratings of up to 72.0 kW/m² can be realised.

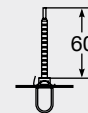
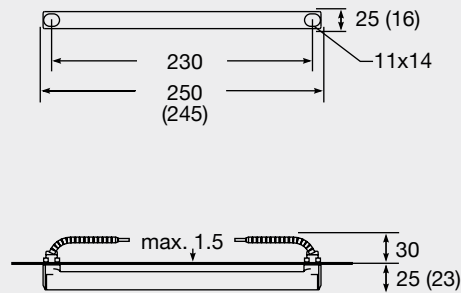
IRS series heaters have one mounting socket on each side, with which they can be fixed to a mounting profile with fixing springs.

The rod shaped design makes IRS heaters preferably suitable for linear heating tasks.

An example for linear heating tasks can be found in the timber industry, where IRS rod heaters are used to pre-heat edge strips.

Elstein IRS rod heaters are available in two designs and wattages of 400 and 600 W.

IRS



IRS/2

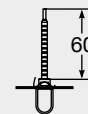
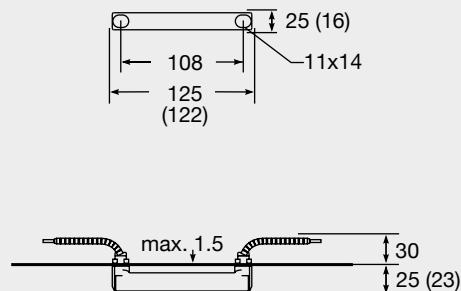
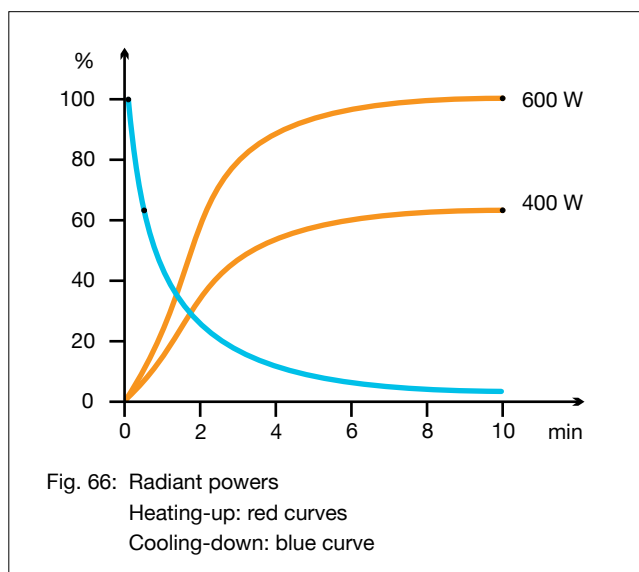
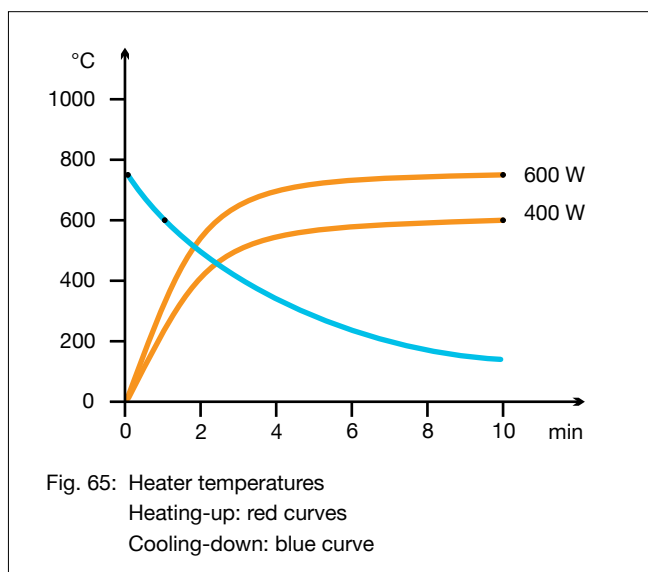



Figure 64: Mounting dimensions and heater dimensions () in mm



Type, weight, wattage	IRS	95 g	400	600	W
	IRS/2	50 g	200	300	W
Installable surface rating			48.0	72.0	kW/m ²
Typical operating temperature			to 550	to 650	°C
Maximum permissible temperature			750	750	°C
Wavelength range			2 - 10		µm

<p>Standard design</p> <p>Operating voltage 230 V Leads 60 mm Two mounting sockets Two fixing springs</p>	<p>Thermocouple heaters</p> <p>Designation T-IRS, T-IRS/2 Integrated thermocouple Type K (NiCr-Ni) TC leads 100 mm</p> 	<p>Variants</p> <p>Special wattages Special voltages Extended leads Leads with ring terminals</p>
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The power can be controlled using thermocouple heaters together with TRD 1 temperature controllers, TSE thyristor switching units and other accessories.

IR radiation areas can be assembled using MPO mounting profiles.

The national safety regulations must be complied with for the respective application, for example, the IEC or EN standard 60519-1, Safety in electrical heating installations.

Our instructions for mounting, operation and safety must be observed.