



Figure 1: Elstein FSF series

Elstein FSF panel heaters are ceramic infrared heaters with a low overall height. They are produced using a full-pour casting ceramic process and are designed for operating temperatures up to 720 °C and surface ratings up to 64 kW/m<sup>2</sup>.

Compared to other Elstein panel heaters, which have the standard socket, the overall height of the FSF heaters, measured from the radiation surface up to the mounting plate, has been reduced by approximately 45 %.

FSF series heaters can be used universally. The low overall height of the heaters enables space-saving installation, for example, which may be required to retrofit machines.

Elstein FSF heaters are available in four designs and cover the power range from 60 W to 1000 W. They have the customary market dimensions and can therefore be replaced with heaters with corresponding properties if the requirements change.

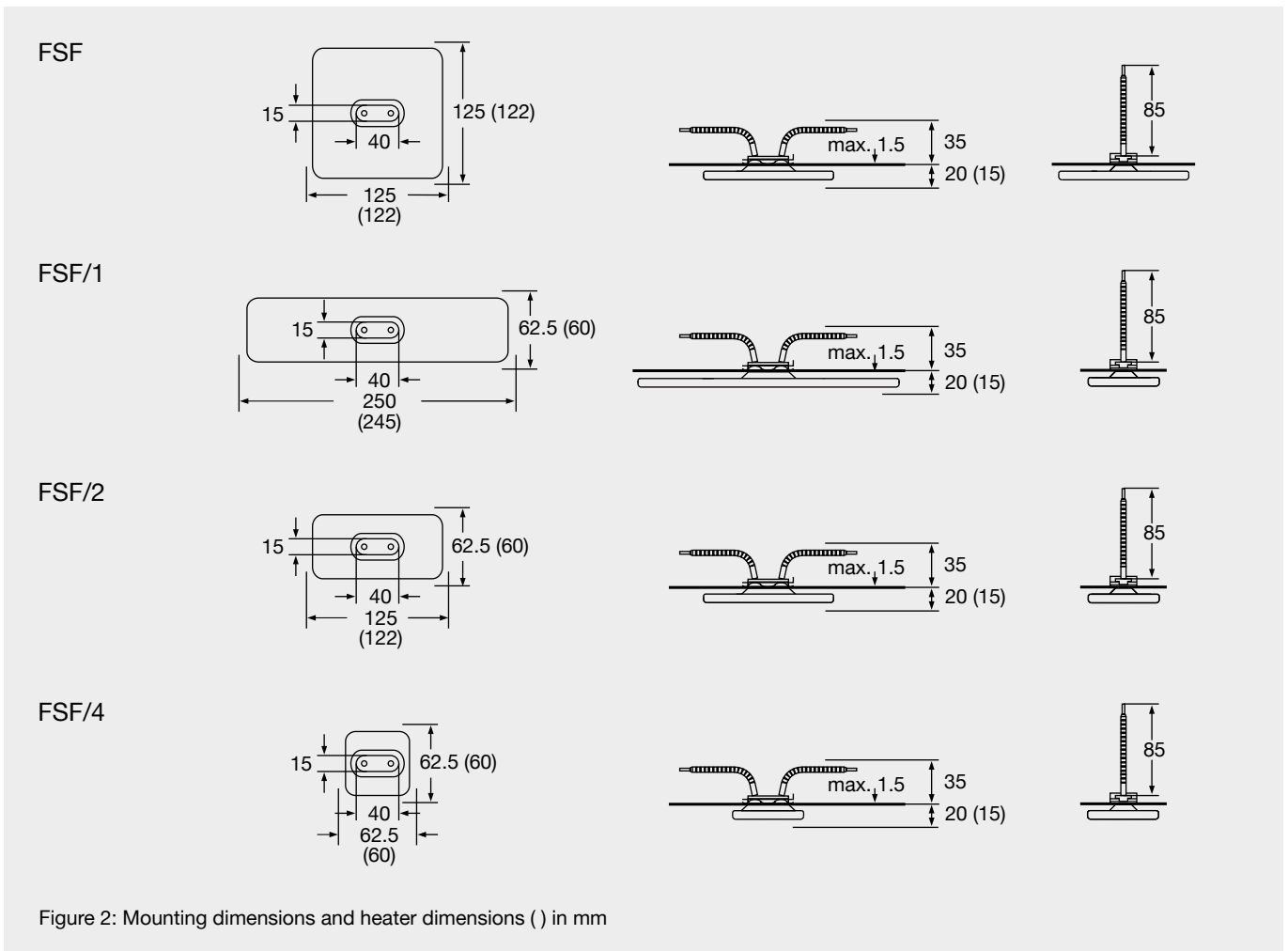
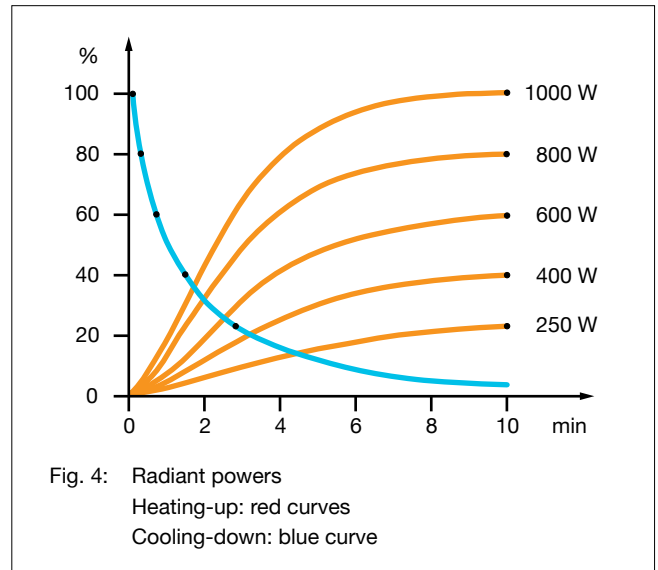
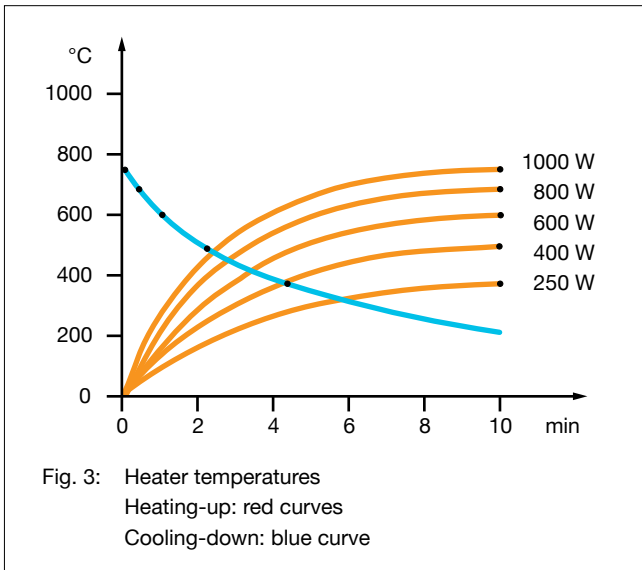



Figure 2: Mounting dimensions and heater dimensions ( ) in mm



Type, weight, wattage	FSF/1, FSF	220 g	250	400	600	800	1000	W
	FSF/2	125 g	125	200	300	400	500	W
	FSF/4	75 g	60	100	150	200	250	W
Installable surface rating			16.0	25.6	38.4	51.2	64.0	kW/m <sup>2</sup>
Typical operating temperature			to 400	to 500	to 590	to 670	to 720	°C
Maximum permissible temperature			750	750	750	750	750	°C
Wavelength range			2 - 10					µm

<b>Standard design</b> Operating voltage 230 V Ceramic full-pour casting White glaze Leads 85 mm Elstein standard socket Mounting set	<b>Thermocouple heaters</b> Designation T-FSF, T-FSF/1, T-FSF/2, T-FSF/4 Integrated thermocouple Type K (NiCr-Ni) TC leads 100 mm 	<b>Variants</b> Special wattages Special voltages Extended leads Leads with ring terminals Coloured glazes
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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 MBO mounting sheets.

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.