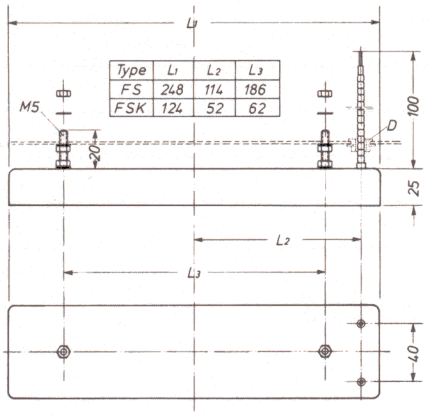
SAINT-GOBAIN
QUARTZ

High-power Infrared Heaters

FS FSK

- Medium wave quartz-infrared-heaters with short heating up time
- Due to the patented construction the emission spectrum is very broad and covers the absorption range of various materials
- Due to the IR-transmission of quartz tubing a homogeneous radiation within each heater and within the heating field is achieved
- The integral metal reflector ensures a high radiation output with low convection losses
- Automatic control with modern devices is possible. Due to low thermal mass the heaters respond to all changes instantly and visibly
- For "HIGH TECH"machines the types FS "FAST" were developped. During the heating up period the time constant is reduced by application of "overvoltage" to approx. 20%
- FS-quartz-heaters are available as modules in two sizes: FS (248x63x25mm) and FSK (124x63x25mm)and a range of different wattages
- Standard types: 220V for horizontal mounting

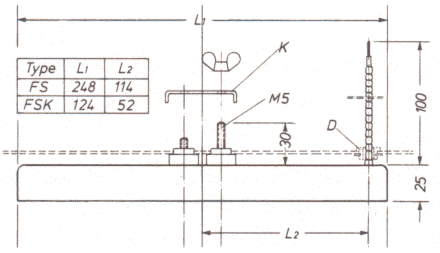


Type	L1	L2	L3
FS	248	114	186
FSK	124	52	62

Standard

Type	Watts	Reference Nos. Standard	„Fast“
FS 300	300	6716	
FS 400	400	6717	6771
FS 500	500	6718	6772
FS 600	600	6719	6773
FS 750	750	6721	
FSK 150	150	6723	
FSK 200	200	6724	6776
FSK 250	250	6725	
FSK 300	300	6726	
FSK 375	375	6727	

FS-heaters for different voltages and other versions can be manufactured.



Type	L1	L2
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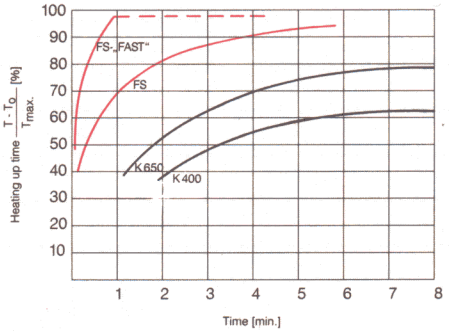
Central Fixing System H1

All specifications and designs are subject to change without notice or obligation.

On the right relative heating times of quartz and ceramic heaters are illustrated.

Ceramic heaters with reflector with two different wattages (400 W / 650 W) are compared with FS-heaters, where the heating up time is basicly independent of the power rating. All heaters were operated with 220 V. The voltage of the FS„FAST“ was reduced after 30 seconds.



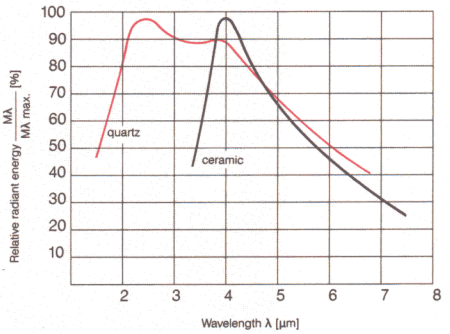
Modern machines demand fast cycling: short heating up of cold material followed by optimized reduction of power for final heating followed by stand-by at low power.

With their small time constant the FS-quartz-heaters can generate those demanding cycles.

The patented combination of heated and unheated quartz tubes achieves a uniform distribution of temperature and power witin the individual heater. The homogeneous spiral design ensures the same temperature level for all heaters. Pilot heaters are therefore not necessary for this result.

The partial absorption of the quartz tubes results in a small thermal mass and a very broad IR-band-width of the FS-Heaters.

The graph on the right shows the extreme band-widths of quartz- in comparison to ceramic heaters.



For materials with different or varying absorption bands the FS heaters will be an excellent choice: plastic materials, paints, especially water-soluble paints, etc.

Other products of our IR range:

- FS-Pilot-heaters with thermocouple
- FS-heaters with opening for pyrometer
- FS-heaters for plug-in connection
- Ring heaters
- Butterfly heaters
- Tube heaters
- Immersion heaters
- Heating fields
- Heating stands
- Special forms

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y by Georg Aug. Walter's Druckerei, Elrville – Oct. 1989 – 7/2/001/E