



FB-08C, Fluidised Bath

The FB-08C has been designed to allow for calibration of thermal sensors over the temperature range 50°C to 700°C with minimum supervision and works in conjunction with a supervisory computer via an RS232 interface. Basic control programmes are set by the operator allowing for the control of set temperature, incremental temperature steps, dwell times and control of dead bed state.

- Temperature range 50°C to 700°C
- Temperature stability, as good as $\pm 0.01^\circ\text{C}$
- Working volume diameter x depth 165 x 385mm
- PID temperature control
- Multiple set points and dwell times can be set by computer/programmable controller

This model is specially designed to allow the operating temperature of the fluidised bath to be adjusted from a remote source while the bath is unsupervised. An automatic fluidising air control system is fitted which adjusts the air flow rate accordingly to suit the set temperature of the bath.

This automatic air feature is controlled by a control system which switches five solenoid valves. These valves are opened and closed in various combinations, providing eighteen air flow rates corresponding to eighteen different temperatures throughout the operating range. Where an ultra stable temperature condition is required a "dead bed" state can be programmed into the control system. During this "dead bed" condition the air and electrical supply to the fluidised bed are switched off. For a period of up to 6 minutes the fluidised bed becomes an isothermal mass without heat input and very low heat loss. Under these conditions the stability at the centre of the aluminium oxide is $\pm 0.01^\circ\text{C}$ over the range of the unit.

A probe holder is available as an accessory (see page 42) that enhances the thermal conditions (control stability and uniformity) of the temperature zone within the baths (It is manufactured to special order to suit sensors under test).

The air flow to the fluidised thermal mass is automatically adjusted in order to maintain optimum isothermal conditions throughout the temperature range of the unit. Variable ramp rates of heating can be programmed with the Eurotherm 2408 controller or via a PC using the optional software package iTools.

Technical Information

	FB-08C
Temperature range $^\circ\text{C}$	50 to 700
Temperature stability $^\circ\text{C}$	
Dead bed	± 0.01
Short term @ 50 $^\circ\text{C}$	± 0.2
Long term @ 50 $^\circ\text{C}$.	± 0.5
Short term @ 600 $^\circ\text{C}$	± 0.3
Long term @ 600 $^\circ\text{C}$	± 0.5
Display resolution $^\circ\text{C}$	1
Type of Control	3 term (PID)
Sensor type	K Chromel/alumel thermocouple
Heat up time, minutes 20 $^\circ\text{C}$ to 700 $^\circ\text{C}$	105
Cooling time, minutes 700 $^\circ\text{C}$ to 200 $^\circ\text{C}$	165
Air pressure, kPa (psi)	420 (60)
Maximum flow, litres/minute	127
Weight of medium, kg	16
Overall size L x W x H, mm	870 x 515 x 600
Working volume Diameter x Depth, mm	165 x 385

Ordering Information

Model Number	Product Code	Voltage	Hz	Watts	Shipping weight, kg
FB-08C	F949J	240	50/60	3000	84



FB-08C

precision temperature fluidised sand baths



2408, Eurotherm FB-08C Controller

The Eurotherm controller provides superb control by using a combination of a highly developed three term control supported by both self and adaptive control algorithms with dual PID. The adaptive tuning runs continuously in the background. It monitors the process and modifies the control if a disturbance takes the process outside preset limits. The 2408 controller accepts one program of 16 Segments.



FB-08C, 2408 Controller

