

FB-08 Series

FB-08 Fluidised Baths are available in three models, the standard FB-08 covering temperatures of 50 to 700°C, the FB-08LT for low temperature operation, -100 to 200°C and the FB-08C designed for minimum supervision, works in conjunction with a supervisory computer via an RS232 (or optional IEEE488) interface.

All FB-08's are attractively finished free standing bench units with controls mounted on a recessed panel on the front of the unit. The inner container is well insulated and the outer case is vented so that it remains safe to touch even when the bath is operating at its maximum temperature.

The inner container is filled from the top with alumina. When fluidised this medium is heated by four immersion heaters close to the container wall; the control thermocouple is close to the heaters. The heater elements are protected (by a pressure switch operated by the fluidising air) from excessive surface temperatures if fluidisation is lost. Clean dry air from an external source passes through two filters and two regulators, to reduce the pressure for the cyclone extraction system and for fluidisation. The fluidising air passes through a flowmeter and then to a plenum chamber from which it is distributed evenly around the inner container.

The FB-08LT has provision for connection to a liquid nitrogen (LN2) supply and is fitted with an air drying system to avoid condensation of water when the fluidising air at ambient temperature is introduced into the cold fluidised bed. The LN2 supply is regulated by a flow meter on the front of the unit.

- PID temperature control
- Temperature range -100°C to 700°C
- Temperature stability, as good as $\pm 0.001^\circ\text{C}$
- Digital temperature indication/setpoint



Probe Holder

Dust extraction is by means of ambient air drawn down past the probe plate and through a peripheral slot round the top of the inner container, then through a cyclone to the exhaust filter. Entrained medium, removed by the cyclone and discharged into a special jar accessible from the front of the unit, can be emptied back into the bath at regular intervals.

Operating temperature is set by depressing and releasing the up/down buttons on the front panel of the control unit. Control of set temperature, incremental temperature steps, dwell times and control of dead bed state on the FB-08C can be programmed by the operator.

All FB-08 precision fluidised baths are supplied with the temperature controller and a probe plate to help keep items being processed away from the heating elements of the bath and to assist in the retrieval of items from the bath. A probe carrier is also available, which holds up to eight probes of varying sizes (customer specified). It is specially designed to allow free flow of the fluidising media assuring constant uniformity, reducing short term temperature fluctuations and improving calibration accuracy.

SPECIFICATIONS	FB-08	FB-08LT	FB-08C
Temperature Range °C	50 to 700	-100 to 200	50 to 700
Temperature Stability °C	Short Term @ 50°C ±0.2 Short Term @ 600°C ±0.3 Long Term @ 50°C ±0.5 Long Term @ 600°C ±0.5	@ 200°C ±0.2 @ -100°C ±0.5	Dead bed ±0.01 Short Term @ 50°C ±0.2 Short Term @ 600°C ±0.3 Long Term @ 50°C ±0.5 Long Term @ 600°C ±0.5
Display Resolution °C	1	1	1
Type of Control	3 term (PID)	3 term (PID)	3 term (PID)
Sensor Type	K Chromel/alumel thermocouple	Pt100	K Chromel/alumel thermocouple
Heat up Time, minutes	20 to 700°C, 105	20 to 200°C, 30	20 to 700°C, 105
Cooling Time, minutes	700 to 200°C, 165	200 to -100°C, 90	700 to 200°C, 165
Air Pressure, kPa (psi)	420 (60)	420 (60)	420 (60)
Maximum Flow,	127	170	127
Weight of Medium, kg	16	16	16
Overall Size L x W x H, mm	770 x 515 x 600	770 x 615 x 600	870 x 515 x 600
Working Volume: Diameter x Depth	165 x 385	165 x 385	165 x 385
RS232 Interface	NO	NO	YES
Automatic Air Supply	NO	NO	YES
Programmable	NO	NO	YES