

# Cole-Parmer®

## Cole-Parmer® Precision Fluidized Baths - FSB-200-P, FSB-200-P-AC

- Create, open and save programs with up to 20 set points
- Specify either °C or °F plus ramp rates and hold times
- Log data from the instrument while connected to the computer and export the data to an Excel spreadsheet
- Open, save, view and print logged data
- Run a program in real-time mode
- Specifying the logging interval from every 5 seconds to 60 seconds
- Program daily start and stop times to automatically turn unit off and on for weekly schedules



Precision Fluidized Bath FSB-200-P



Precision Fluidized Bath FSB-200-P

## Cole-Parmer® Precision Fluidized Baths - FSB-200-P, FSB-200-P-AC

The Cole-Parmer® FSB-200-P Precision fluidised bath has exceptional temperature stability and uniformity making it the ideal choice for critical temperature calibration and heat treatment processes. Our Fluidised baths have become the markets preferred choice for carrying out shape setting (heat treatment processing) of Stents from Nitinol wire in a safe, precisely controlled and uniform manner. Platinum/tungsten products are now also being processed successfully.

With lower running costs they are a safer alternative to salt baths giving much better results than with conventional ovens. These units offer fast temperature immersions as the fluidised alumina behaves like a liquid.

These unit are suitable for many other applications including thermal testing of sensitive components such as semiconductor devices, wire product testing, delicate transducers and they may also be used as a constant temperature environment for chemical reactions. When used with the optional Probe holder accessory for comparison calibrations of temperature sensors the stability and uniformity are better than 0.010°C in dead bed mode.

The Dust Suppression System accessory enables the FSB-200-P and FSB-200-P-AC user to bolt-on a probe holder and chimney assembly thus sealing the FSB-200-P and FSB-200-P-AC and making it suitable for use in a calibration lab where airborne dust must be avoided.

The user is then able to insert temperature probes for calibration purposes, whilst all aluminium oxide is fully contained within the bath. This accessory also allows silent running of the FSB-200-P and FSB-200-P-AC. The integrated chimney contains a filter in the upper section and a small exhaust pipe right at the top to prevent pressure build-up. The Dust Suppression System 12184-96 with Chimney is the best solution for calibrating probes in a fluidised bath within a calibration laboratory.

Replacement Alumina (fine, white aluminium oxide) see "FSB-200-P and FSB-200-P-AC Accessories"

To replace sand lost through normal operation and removal of items from the bath. Accept no other substitute as performance and functionality cannot be guaranteed with third party suppliers.

## Cole-Parmer® Precision Fluidized Baths - FSB-200-P, FSB-200-P-AC



Precision Fluidized Bath FSB-200-P-AC

The Cole-Parmer® The F949J Precision fluidised bath has exceptional temperature stability and uniformity as well as automatic airflow control and RS-232 comms. Our most popular Fluidised bath is used to carry out shape setting (heat treatment processing) of Stents from Nitinol wire in a safe, precisely controlled and uniform manner.

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.

Where an ultra stable temperature condition is required a dead bed state can be programmed into the control system. During this 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.

When used with the optional Probe holder accessory for comparison calibrations of temperature sensors the stability and uniformity are better than  $0.010^{\circ}\text{C}$  in dead bed mode.

## Technical Specification

Specification	FSB-200-P	FSB-200-P-AC
Temperature range	50°C to 700°C	50°C to 700°C
Dead Bed	-	-
Short Term Temperature stability at 50°C	±0.2°C	±0.2°C
Short Term Temperature stability at 600°C	±0.3°C	±0.3°C
Long Term Temperature stability at 50°C	±0.5°C	±0.5°C
Long Term Temperature stability at 600°C	±0.5°C	±0.5°C
Display resolution	°C	°C
Type of control	3 term PID	3 term PID
Sensor type	K type thermocouple	K type thermocouple
Heat up time 20°C to 700°C	105 minutes	105 minutes
Cool down time 700°C to 200°C	165 minutes	165 minutes
Air pressure kPa (psi)	420 (60)	420 (60)
Maximum flow Litres/minute	127	127
Nominal heater power at 240V (W)	3000	3000
Weight of medium	16	16
Working volume Diameter x depth (mm)	165 x 385	165 x 385
Overall size L x W x H (mm)	770 x 515 x 600	770 x 515 x 600
Net weight	76 kg	84 kg



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## Ordering Information

Description	Ordering Number	Series No.	Model No.	Legacy Sku.
Cole-Parmer® Precision Fluidized Bath, 230V 50/60Hz. Excludes alumina - 25kg	12184-03	FSB-200	FSB-200-P-AC	F949D
Cole-Parmer® Precision Fluidized Bath with Auto Air Circulation, 230V 50/60Hz. Excludes alumina - 25kg	12184-94	FSB-200	FSB-200-P	F949J

## Accessories

Description	Ordering Number	Series No.	Model No.	Legacy Sku.
Cole-Parmer® Dust Suppression System with Chimney	12184-96	FSB-200	-	FFB08DS1
Cole-Parmer Essentials® White Aluminum Oxide 25 Kg	01184-73	FSB-200	-	WHITE/ALO