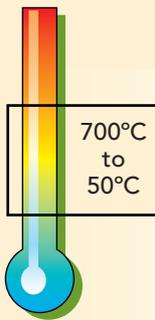


# 875 Fluidized

## Calibration Bath



The Isotech fluidised calibration bath out performs dangerous salt baths in all respects: wider temperature range, less hazardous and better uncertainties. The Isothermal Technology Limited patented fluidized bath is the result of 20 years research and development into flow patterns, powder technology and filtration. Recent developments have enabled the baths facilities to be extended even further, it is now eminently suitable for Liquid in glass thermometer calibration. To achieve this the filter and exhaust system were re-designed to cope with the increased level of powder needed for liquid in glass thermometer calibration.

The result is a calibration system to national standards. The performance is only matched by heat pipe technology. The profiles are so small that the bath has been used by National Laboratories for fixed points of Indium through Aluminium, with great success. In comparison mode 2 sigma uncertainties of  $\pm 0.020^{\circ}\text{C}$  at  $300^{\circ}\text{C}$  and  $\pm 0.035^{\circ}\text{C}$  at  $660^{\circ}\text{C}$  can be obtained.

This is the only product capable of covering a very wide temperature range without a change of thermal media. Like most fluidized bed baths, the 875 bath consists of a container of aluminium oxide powder with a porous baseplate. Sufficient air is passed through the baseplate to motivate the powder into a fluid like state so that it will flow, display buoyancy effects and have good heat transfer characteristics.

A disadvantage of many fluidized-bed baths is that good temperature stability and uniformity cannot be achieved in the fluidized medium itself. They are obtained by using large metal blocks or by inhibiting the fluidising action in the powder around the workpiece - either locally, or by completely collapsing the bed at the required temperature, this is not the case with the 875. A full evaluation report is available upon request.

*Wide temperature range, High Accuracy,  
Absolute  $\pm 0.0005$  to  $\pm 0.004^{\circ}\text{C}$  using Freeze Point Cells.  
Comparison Calibration  
 $\pm 0.020$  to  $\pm 0.035^{\circ}\text{C}$  at  $660^{\circ}\text{C}$ ,  
No powder loss into the Laboratory*

Model No.	875
Temperature Range	50°C to 700°C
Accuracy	Absolute $\pm 0.0005$ to $\pm 0.004$ using freeze point cells $\pm 0.020^{\circ}\text{C}$ to $\pm 0.035^{\circ}\text{C}$ at $660^{\circ}\text{C}$ using comparison calibration
Working Volume	67mm diameter } using 875/02 475mm deep }
Heaters	3 x 1 kW
Power	3kw, 208-240VAC, 50/60Hz
Warm Up Time	From 50°C to 700°C, 240 minutes
Supply Air Pressure	Less than 1 BAR 100 litres/minute max
Communications	Supplied as standard with serial interface, PC adaptor cable and Cal Notpad, see page 46
Safety	Safety melting fuse. Blocked filter cut-out Low flow indication. Elapsed time indication. Over pressure diaphragm
Installation	Via single phase supply
Dimensions	Height (overall) 1570mm Height (To top of body) 880mm Depth 640mm Width 580mm
Weight	Fluidising Medium 22kgs Overall Approx. 85kgs

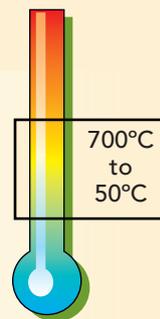
### How to Order

Model 875 Fluidized Calibration Bath



# 875 Fluidized

## Calibration Bath



### ACCESSORIES

The following options are available:

- 875/01** Equalising block & calibration tubes consisting of a large mass aluminium bronze block drilled with one perpendicular and 4 angled holes to accept 500mm long stainless steel calibration tubes, each with an inside diameter of 7.6mm. The angled tubes allow for the larger diameter of the sensor heads.
- 875/02** Calibration Tube. As fitted as standard. This enables a calibration volume of 67mm inside diameter and 475mm deep.  
This calibration tube is supplied and fitted as standard.
- 875/03** Compressor and connecting tube. Used to supply air to the fluidized bed where an independent air supply is not available within the laboratory.
- 875/04** Alumina powder specifically chosen for this application, supplied in a 25kg container.
- 875/06** Liquid in Glass Thermometer Support Gantry System consisting of a multi-tube probe holder with ten 10.80mm by 470mm deep pockets, four support pillars and an adjustable stainless steel gantry with holes corresponding to the probe holder, to locate up to ten thermometers simultaneously.  
Thermometer collars and 'O' rings (10 off) are included with the assembly.
- 875/07** The multi-tube probe holder, described under 875/06 is available separately upon request.
- 875/08** Monocular and Support. Useful for viewing and magnifying the liquid column within the thermometer being calibrated. This ancillary piece of equipment is used in conjunction with 875/06 Liquid in Glass Thermometer Support Gantry System.

**Note:** The bath is fully commissioned, tested and charged with the correct amount of aluminium oxide powder before despatch.

Accessories

