

DATASHEET

Model-875

Isotech

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50 to 700°C

Fluidised Calibration Bath

Model 875

- Wide Temperature Range, Deep Immersion & High Accuracy
- Clean & Safe: No salt, no powder loss
- Ideal for Comparison Calibration of Thermometers

The Isotech Model 875 Fluidised Calibration Bath is a high-precision solution for thermometer calibration across a broad temperature range. It outperforms traditional salt baths by offering safer operation, excellent thermal stability, and reduced maintenance. Developed over more than 20 years of research into powder flow, fluidisation, and filtration, the 875 is trusted by national laboratories, ISO 17025 accredited facilities, and demanding industrial users. It is particularly well-suited for the temperature calibration of long-stem MIMS thermocouples.

Designed to deliver consistent and repeatable results, the 875 excels in comparison calibration. Its fluidised powder medium provides exceptional temperature uniformity and thermal contact—without the risks associated with corrosive salt media.

A key advantage of the Model 875 is its deep immersion capability of up to 475 mm—significantly more than dry block calibrators. This reduces stem conduction errors which is critical for high-accuracy calibration. In our own ISO 17025 accredited laboratory, we use the 875 for comparison calibration of Platinum Resistance thermometers from 300°C to 700°C, achieving uncertainties as low as $\pm 0.020^\circ\text{C}$ at 300°C and $\pm 0.035^\circ\text{C}$ at 660°C.

The system uses high-purity aluminium oxide powder, fluidised by compressed air passing through a porous base plate. This creates a uniform, stable medium with excellent heat transfer properties. Unlike many fluidised baths that rely on metal blocks or collapsing the bed to improve stability, the 875 delivers full thermal performance with the powder in flow.



Model	875
Temp Range	50°C - 700°C
Volume (875/02)	67mm diameter, 475mm deep
Accuracy	Comparison Calibration: Uncertainties to $\pm 0.035^\circ\text{C}$ at 660°C See website for full details
Heating time	50°C to 700°C < 240 minutes
Compressed Air Supply	1 BAR, 30 litres/minute at 100°C (50 L max)
Communications	Includes Serial Interface, PC Cable and Software
Dimensions	580mm Wide, 640mm Deep, 1570mm High (880mm to Top Panel)
Weight	85kg (including 22Kg of Alumina Powder)
Safety	No Salt. Blocked filter cut-out, low air flow indication, thermal fuse
Power	3kW (3 x 1kW heaters), 208-240V, 50/60Hz
How to Order	Model 875 Fluidized Calibration Bath

Refer to Evaluation Report for Full Details

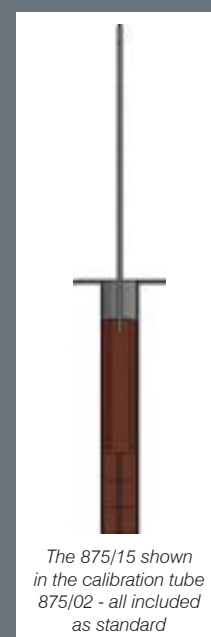


The 875 now includes the 875/15 equalising block with eight pockets 8mm diameter by 240mm deep - which can set to different heights using a range of three spacing blocks.

Accessories

The following options are available:

- 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** Oil free 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



The 875/15 shown in the calibration tube 875/02 - all included as standard