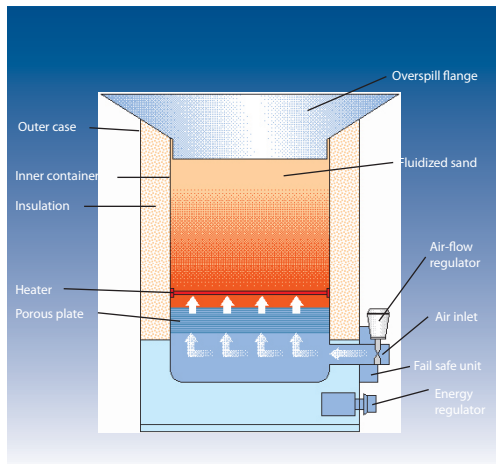


fluidized temperature baths



Fluidized Sand Baths

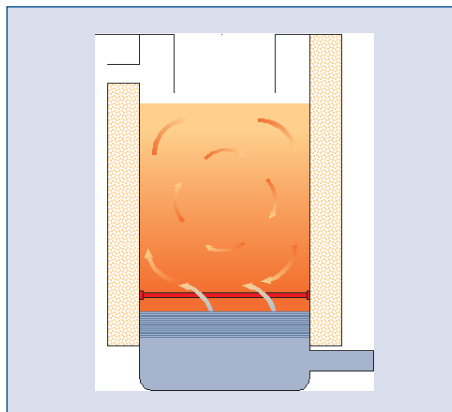
With more than 50 years of experience in the field of temperature control, Techne has established itself as a world leader in the design and manufacture of equipment used for both laboratory and on-site temperature calibration, providing the calibration engineer with a precise dynamic stable temperature source.

Exceptional temperature stability and uniformity make Techne fluidized baths the ideal choice for critical heat treatment procedures. Pioneers in the development of fluidized bath technology, Techne has a wide range of products capable of covering the temperature range -100°C to 700°C .

Techne Fluidized Baths, for laboratory, industrial, process, quality control and instrument shop use, provide rapid heat transfer and precise temperature control, enabling you to calibrate and maintain temperature sensitive instruments efficiently, economically, and safely. Techne Fluidized Baths offer outstanding advantages of being dry, inert and non-corrosive, as well as being non-abrasive to anything placed in them.

Aluminum oxide particles serve as the heat transfer medium and have no effect on shape or size of immersed objects. This medium consists of a loosely-packed mass of solid particles which are agitated by a vertical flow of gas. In the fluidized state, the aluminum oxide particles become mobile and the bath as a whole displays many of the properties of a liquid. Visually when fluidized the aluminum oxide looks like liquid boiling vigorously or molten lava bubbling. The bed of levitated particles presents a very large surface area through which heat is transferred to immersed objects. Typical heat transfer rates are 60 to 120 Btu-hr-sq ft- $^{\circ}\text{F}$. (To the left you can see the cutaway diagrams of a fluidized bath.)

Fluidized solids have no melting or boiling point, thus solidification which occurs in cooling salt baths and fumes from hot oil baths are eliminated. Heat transfer characteristics between the fluidized bed and the solid interface are similar to those of an agitated liquid - the key to fluidized bath calibration efficiency.



Circulation of aluminum oxide promotes temperature uniformity.

Applications include:

Aerospace

- Jet engine sensors particularly irregularly shaped sensors, which cannot be calibrated with Dri-Block or liquid baths.
- Wiring looms from battery and engine sensors on transport aircraft.

Fuel cells systems

- Heat source for a heating coil used to generate superheated steam, which is a safer alternative to electric ovens and oil baths.

Engineering

- Heat treatment of metals used in stress analysis testing.
- Heating of reactor vessels containing plastics samples.

Mining

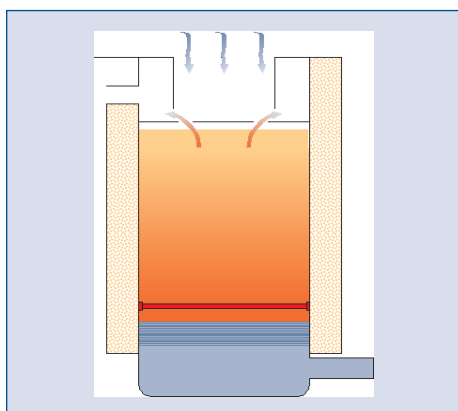
- Used to heat a reactor vessel with mineral samples when investigation oil and petroleum generation.

Petrochemical

- Used to test heavy ship oil in reactor vessels.

Shape setting

- Used by leading manufacturers to shape-set nitinol stents and platinum/tungsten coils.



Airborne particles created by the fluidized bed are drawn in to a peripheral extraction ring connected to a cyclone collector in the FB-08.



Laboratory Range

SBS-4

This compact fluidized bath has a working depth of 14cm, with a 17.7cm diameter. It's wide operating range of 50 to 600°C makes it a popular choice for a variety of heat source applications.



SBS-4

SBL-2D

This extra depth fluidized bath has an increased working depth of 35cm, as well as a larger diameter. Four 1kW heaters give a heat up time from ambient to 600°C of approximately 100 minutes.



SBL-2D

TC-8D

Designed to improve the temperature stability and temperature setting accuracies, the TC-8D is compatible with all of the SB series of fluidized baths.

The TC-8D is a self contained unit and is supplied complete with a chromel/alumel Type K thermocouple which fits into the sheath supplied with the SB baths. The unit has a digital set point of bath temperature on a LED display with PID control.

Technical Information

	SBS-4	SBL-2D	TC-8D
Temperature range °C	50 to 600	50 to 600	0 to 800
Temperature stability °C, @ 50°C	±0.3	±1	±0.3
Air pressure, psi	10	10	-
Air flow, maximum SCFM	-	5	-
Weight of medium, lbs supplied with unit	20	100	-
Overall size, cm			
Diameter (excluding tap)	33.5	38.5	Width 16.5
Height	46.2	69.5	Depth 24
			Height 14
Working volume, cm	-		
Diameter	17.7	22.8	-
Depth	14	35	-

Ordering Information

Model Number	Product Code	Voltage	Hz	Watts	Shipping weight, lbs
SBS-4	3010500	117V	50/60	1500	52
SBS-4	3010600	240V	50/60	1500	52
SBL-2D	3010900	240V	50/60	4000	148
SBL-2D	3011400	208V	50/60	4000	148
TC-8D	3012000	120/240V	50/60	-	8



TC-8D