Haven Automation Limited

Calibration Solutions for Industry

BFS

HIGH TEMPERATURE FLUIDISED BATH

- Temperature range 200°C to 1100°C
- Control stability ±0.5°C to ±3.5°C

Designed for Applications Requiring a Constant High Temperature Source for Calibration

The BFS is supplied with a TC-5 temperature controller, a separate air supply control unit which incorporates two flow-meters for monitoring the air supply, a charge of fluidising medium (aluminium oxide) and an air diffuser (zirconium oxide).

The BFS has a hinged lid and a cylindrical bath. Substantial firebrick insulation is incorporated within the outer container and the lid. The inner container holds a layer of zirconium oxide which acts as a heat insulator and a layer of aluminium oxide, the fluidising medium. The inner container is divided into inner and outer fluidised sections. Each area has a separate air supply which must be oil, water and dust free.

The air supply is adjustable to obtain uniform fluidisation in both sections of the bath. Heaters are mounted in the firebrick insulation between the inner and outer container. Heat is radiated inwards to the fluidised bath.

An air extraction tube enables dust created by the bath's operation to be removed if connected to an extraction duct or fan. The dust can also be trapped in a small tank of water.

The TC-5 is used for setting, controlling and indicating the bath temperature. The TC-5 uses a chromel/alumel thermocouple, which mounts on to the back of the BFS and fits into the pocket of the inner container and is also fitted to the air flow control unit.

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Specification	
Temperature range °C	200 to 1100
Temperature stability °C (short term)	±0.5 to 3.5
Display resolution °C	1
Type of control	3 term (PID) digital set/readout
Sensor type	K Chromel/Alumel Thermocouple
Air pressure, kPa (psi)	47 (7)
Maximum flow, litres/min	85
For immersed object: Maximum load size Maximum surface area	 2.2 litres 1080mm²
Weight of medium	16 kg (aluminium oxide) 16.8 kg (zirconium oxide)
Overall size (L x W x H)	686 x 686 x 876 mm 686 x 991 x 876 mm with airflow cooler
Working volume, diameter x depth	203 x 203 mm Top lid has a central opening 82.5mm square
Overall size of TC-5 (L x W x H)	430 x 305 x 140mm

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Due to our policy of continual product development we reserve the right to amend this specification without notice.

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