Isotech have a wide range of Dry Blocks to suit probes requiring a large immersion depth. These products feature large and deep calibration volumes. As such they are less portable than the earlier Dry Blocks, but have higher capacities and retain outstanding temperature uniformity, this uniformity is so good that these larger products are also apparatus for Secondary Laboratories to realize the Fixed Points of ITS-90.

Medusa 510 has a maximum operating temperature of 550°C. The Medusa Model 511 can be used to 700°C and features three zone control. In addition to the main heating zone there are additional top and bottom heaters which compensate for the end losses creating a constant temperature zone across the well.

For Comparison Calibration the Medusa should be used with an insert, the standard insert has six 8mm pockets 250mm deep. Also available is an insert 44mm diameter x 170mm deep which is suspended from the top of the block so that the height is user adjustable. For flexibility the Medusa can also be used with accessories for infrared thermometers and surface sensors. The Medusa is available in two models, the BASIC (B) and the SITE (S). The B model includes a sophisticated temperature controller with a dual display for Set Temperature and Dry Block Temperature.

The S model includes a built-in digital thermometer to which an external standard thermometer can be connected giving greater accuracy, eliminating temperature gradient and loading errors. Also included in the site model is a timer which can set the bath between two temperatures, and automate ITS-90 fixed point operation. For Surface Sensor and Blackbody use an external thermometer is recommended. For laboratory accuracy the Medusa can be used with a high-end temperature indicator such as an Isotech TTI model.

Includes as standard: Windows Software, Computer Interface and a Ramp to Set Point Feature. Increased resolution of ±0.01 available throughout the range via the PC interface and from 0.01 to +99.99 locally on the auto-ranging front display. The controller features multi-point block to display correction giving good absolute accuracy.

The S model has universal sensor input allowing Platinum Resistance Thermometers, Thermocouples (types K, N, R, S, L, B, PL2, T, J and E) along with Linear Process Inputs including 4-20mA current transmitters to be displayed on the in-built indicator. The indicator can be programmed with up to five calibration points to provide high accuracy digital probe matching. The indicator and controller are both addressable over the communications link.

<table>
<thead>
<tr>
<th>Material</th>
<th>Temperature (°C)</th>
<th>Uncertainty (°C)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gallium</td>
<td>29.7646</td>
<td>±0.0005</td>
</tr>
<tr>
<td>Indium</td>
<td>156.5985</td>
<td>±0.0007</td>
</tr>
<tr>
<td>Tin</td>
<td>231.928</td>
<td>±0.0008</td>
</tr>
<tr>
<td>Zinc</td>
<td>419.527</td>
<td>±0.001</td>
</tr>
<tr>
<td>Aluminium</td>
<td>660.323</td>
<td>±0.002</td>
</tr>
</tbody>
</table>

Premium calibration service uncertainties shown. See page 80 for full details.
SOLUTIONS FOR PRIMARY & SECONDARY LABORATORIES

510 Metal Block Insert
510-06-01 Standard Insert
510-06-02 Blank Insert
510-06-03 Insert without pockets for local machining
510-06-04 Special Insert
510-06-05 Adjustable Equalising Block

511 Metal Block Insert
511-06-01 Standard Insert
511-06-02 Blank Insert
511-06-03 Insert without pockets for local machining
511-06-04 Special Insert
511-06-05 Adjustable Equalising Block

510 Blackbody Kit
510-06-05 Includes a Blackbody target and Sensor

511 Blackbody Kit
511-06-05 Includes a Blackbody target and Sensor

510 Surface Sensor Kit
510-06-06 Includes an insert and angled thermocouple

511 Surface Sensor Kit
511-06-06 Includes an insert and angled thermocouple

Calibration and Uncertainty

A certificate, traceable to National Standards, is included as standard. Recommended is an optional UKAS five-point calibration.

The accuracy of the Medusa will depend very much on the mode of use, see the Uncertainty Graph for typical uncertainties. NTPL calculate the uncertainties to UKAS requirements. The Medusa meets the Calibration Capacity requirements of EA-10/13, "EA Guidelines on the Calibration of Temperature Block Calibrators."

510 Medusa Performance

Inducer units: °C, °F, K

Power: 108 to 130V or 208 to 240V
50 / 60Hz
510: 1000 Watts
511: 1800 Watts

Overall dimensions:
Height 430mm
Width 310mm
Depth 300mm

Weight:
510: 17kg
511: 25kg

How to Order
510 Medusa or 511 Medusa
Please specify model type, voltage and options required