



## MEDUSA 511

Large volume portable dry block,  
liquid bath, Blackbody source & Fixed  
Point system, 50°C to 700°C

Medusa 511 calibrates temperature probes from 50°C to 700°C, in three zone control of the substantially large calibration volume, 45 mm diameter by 285 mm deep. It can be used as a dry block, a liquid bath, as a blackbody source and as an ITS-90 Fixed Point system with calibration uncertainties as small as 0.001°C.

## Description

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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, Medusa 511 should be used with an insert, the standard one has six 8 mm holes of 250 mm deep. Also available is an insert of 44 mm diameter x 170 mm deep which is suspended from the top of the block so that the height is user adjustable.

Medusa 511 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 additionally includes an in-built temperature digital indicator to which an external temperature sensor can be connected, giving greater accuracy eliminating temperature gradient and loading errors. 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 to be displayed on the inbuilt 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.

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, Medusa 511 can be used with high-end temperature indicator.

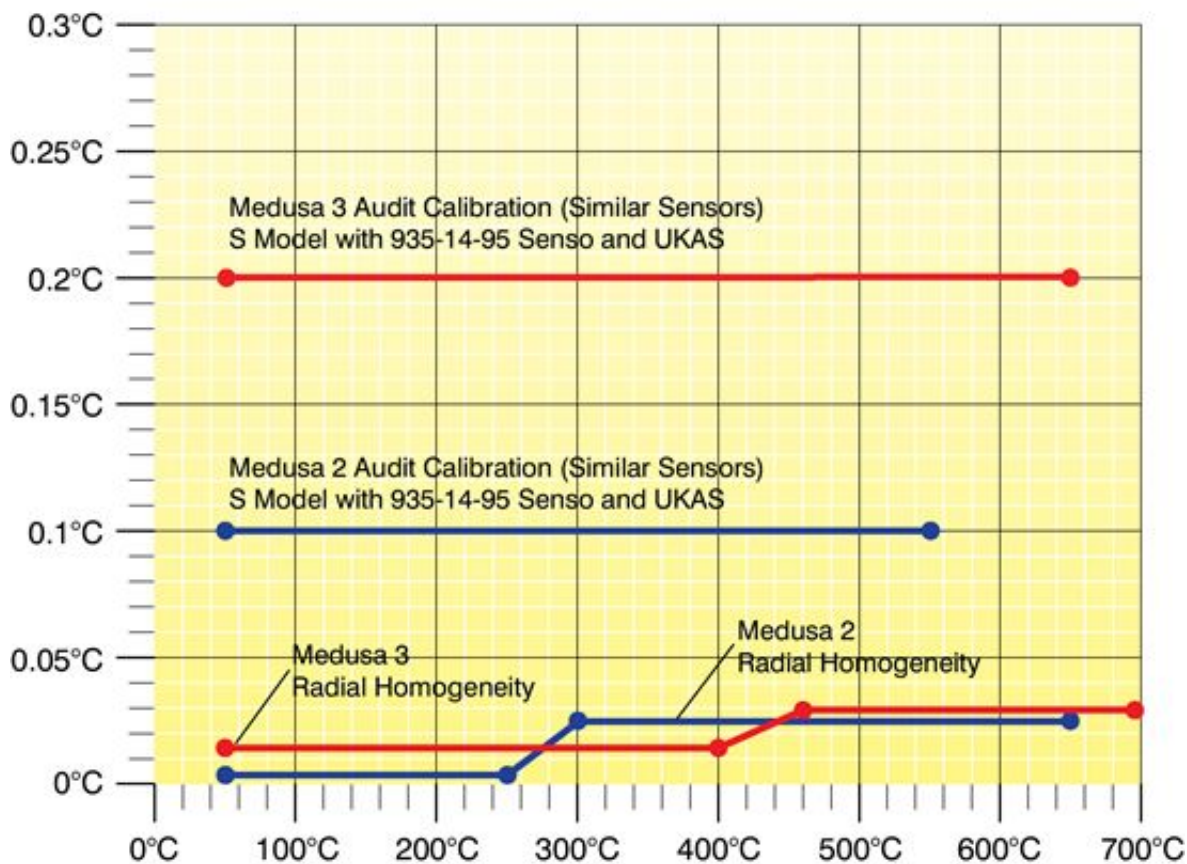
### Key features:

- Large calibration volume: 48 x 285 mm deep
- Wide temperature operation: 50°C to 700°C
- Use for comparison and Fixed Point calibration
- Use with very long thermometers

# Specifications

Temperature range	50°C to +700°C
Absolute stability over 30 min: Dry block Blackbody source Surface sensor calibration ITS-90 Fixed Point	±0.03°C ±0.1°C ±0.5°C ±0.001°C
Cooling time	550°C to 30°C: 5 h
Heating time	30°C to 550°C: 90 min
Calibration volume	45 x 285 mm depth
Standard insert	6 holes: 8 mm Depth: 250 mm

## 510 Medusa



## General specifications

Size	430 x 310 x 300 mm
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Weight	25 kg
Display	Resolution: 0.01 to 99.99 and 0.1 to 100.0 / 650.0 Units: °C, °F, K
Power supply	108 / 130 V (50 / 60 Hz) or 208 / 240 V (50 / 60 Hz) 1800 Watts
Communication ports	RS 232

## Models and accessories

### Instrument:

MEDUSA 511 B Dry block calibrator – Basic model

Delivered in standard with:

- Standard insert of 6 holes, diameter: 8 mm, depth: 250 mm
- Cal Notepad software
- Serial communication cable
- User manual
- Traceable certificate

MEDUSA 511 S Dry block calibrator – On Site model

Delivered in standard with:

- Standard insert of 6 holes, diameter: 8 mm, depth: 250 mm
- Cal Notepad software
- Serial communication cable
- User manual
- Traceable certificate
- Built-in digital indicator and timer

### Metal block bath:

511-06-01 Standard insert of 6 holes of diameter: 8 mm

Depth: 250 mm

511-06-02 Blank insert

511-06-03 Non-standard insert

510-06-04 Adjustable equalising block

Hole diameter: 6x 8 mm

Depth: 157 mm

935-14-95H/DB Semi standard platinum resistance thermometer Pt100

UKAS 5 Point comparison calibration

### Blackbody source:

511-06-05 Blackbody target

### Surface sensor calibrator:

511-06-06 Surface sensor calibrator kit

## ITS-90 Fixed Point Apparatus – Metal clad Slim Fixed Point cells:

M 17668ML	Slim Metal Clad Indium Fixed Point cell
M 17669ML	Slim Metal Clad Tin Fixed Point cell
M 17671ML	Slim Metal Clad Zinc Fixed Point cell
M 17672ML	Slim Metal Clad Aluminium Fixed Point cell

## ITS-90 Fixed Point Apparatus - Quartz Clad Slim Fixed Point Cells

M 17668	Slim Quartz Indium Fixed Point cell
M 17669	Slim Quartz Tin Fixed Point cell
M 17671	Slim Quartz Zinc Fixed Point cell
M 17672	Slim Quartz Aluminium Fixed Point cell

## Other accessories:

935-14-66	Replacement standard thermocouple for Blackbody target
935-14-49	Replacement surface sensor probe
510-02-02C	Replacement surface sensor calibrator insert
510-05-00	Inconel cell basket including insulators – Indium to Zinc cells
511-05-01	Inconel cell basket including insulators – Aluminium cell
931-22-58	Storage case

## Packing information:

Size	430 x 310 x 300 mm
Weight without packing	25 kg