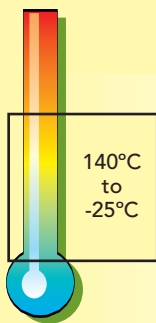# ISOTECH

580 Oceanus-6^{PLUS}

ISOCAL·6® Range

140°C to -25°C

The Oceanus-6^{PLUS} has all the advantages of the Isocal-6 models but with a substantially larger calibration volume, 52mm diameter by 300mm deep. The Oceanus-6 can be used as a Dry Block, a Liquid Bath, a Blackbody Source for infra red thermometers, a Surface Sensor Calibrator and for performance to a few mK (0.001°C) ITS-90 Fixed Points. The Oceanus-6^{PLUS} 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, refer to page 27 for further details.

The S model includes a built in digital thermometer to which an external standard thermometer can be connected, for Dry Block use this will give greater accuracy eliminating temperature gradient and loading errors.

For Liquid Bath, Surface Sensor or Blackbody use an external thermometer should always be used - either with the S model or the B model and a separate stand-alone indicator. For Lab use the Oceanus-6^{PLUS} can be used with a laboratory performance temperature indicator such as one of the Isotech True Temperature Indicators with performance, for similar sensors, down to hundredths of a degree. The Oceanus-6^{PLUS} offers unprecedented accuracies of ±0.0002°C (2 Sigma) at the Water triple point and the Gallium melt temperature of 29.7646°C and up to ±0.005°C in the stirred liquid bath option (by comparison).
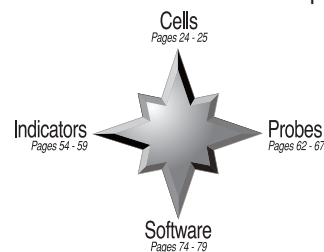
Includes as standard: Windows Software, Computer Interface and a Ramp to Set Point Feature. Increased resolution of ±0.01 available throughout the range via the PC interface and from -19.99 to +99.99 locally on the auto-ranging front display. The controller features multi-point block to display correction 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 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.

New Improved Temperature Range and the Site model can now be used with the supplied Cal Notepad software to test thermostats.

Plus FEATURES

Key Features

- **S Model Includes Universal Input Temperature Indicator** allowing for up to five "correction" points to be programmed.

- **Realise ITS-90 Fixed Points -** the Oceanus-6^{PLUS} can be used with the Gallium and Triple Point of Water Fixed Point Cells.

- **Calibrate as a Dry or Liquid Bath,** thermocouples, platinum resistance thermometers, thermistors, liquid in glass, thermostats, semiconductor types.

- **Windows Software and PC Interface as Standard.**

- **High Capacity Deep Block** 50mm diameter x 300mm Deep.

- **Use for Comparison and Fixed Point Calibration.**

- **Use with very long thermometers.**

Cells
Pages 24 - 25

Indicators
Pages 54 - 59

Probes
Pages 62 - 67

Software
Pages 74 - 79

580 Oceanus-6^{PLUS}

ISOCAL•6® Range

Options

1. Metal Block Insert	580-06-03	Standard Insert *Included*
	580-06-04	Blank Insert *Insert without pockets for local machining*
	580-06-05	Special Insert *Contact Isotech with your requirements*
	580-06-06	Adjustable Equalising Block

2. Stirred Liquid Bath	580-06-07	Includes a container, magnetic stirrer and probe guide
Thermometer Support Kit	580-06-00	*Allows three thermometers to be suspended in the bath, including liquid in glass types*
C20 Oil	936-06-07	1 Litre (-35°C to +140°C)

| 4. Blackbody Target | 580-02-12 | Use with Standard Probe (935-14-85) |

| 5. Surface Sensor Kit | 580-06-08 | Includes an Insert and angled thermocouple |

| 6. ITS-90 Fixed Point | B12/46 17401 | Water Triple Point Cell Gallium Cell |

| UKAS Calibration | | UKAS Calibration available to Order |

| Standard Probe | 935-14-85 | Platinum Resistance Thermometer for use up to 250°C |

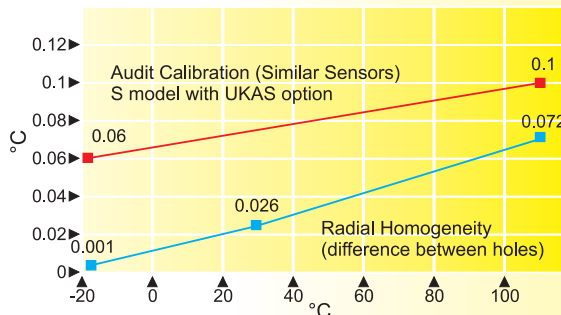| Carrying Case | 931-22-58 | Large sturdy case accommodates the unit with room for accessories |

To see the ISOCAL-6 in use ask for our 27 minute video supplied on CD-Rom

Calibration and Uncertainty

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

The accuracy will depend very much on the mode of use and the types of sensor to be used. Please contact Isotech for tutorials and uncertainty calculations and comprehensive evaluation reports. The 580 Oceanus-6^{PLUS} meets the Calibration Capacity requirements of EA I0/13, "EA Guidelines on the Calibration of Temperature Block Calibrators".

580 OCEANUS-6 Performance

Audit Calibration (Similar Sensors) S model with UKAS option: 0.06, 0.1

Radial Homogeneity (difference between holes): 0.001, 0.026, 0.072

For Evaluation Reports, Uncertainty Budgets and Calculations with regard to EA10-13 UKAS etc, please contact Isotech - also http://www.isotech.co.uk/refer.html

Model No.	OCEANUS-6	
Temperature Range	45°C below ambient to +140°C	
Absolute stability over 30 minutes	Dry Block Bath	±0.03°C
	Stirred Liquid Bath	±0.025°C
	Ice/Water Bath	±0.001°C
	Blackbody Source	±0.03°C
	Surface Sensor Calibrator	±0.5°C
	ITS-90 Fixed Point	±0.0002°C
Computer Interface	Included with Software	
Cools from	20°C to -10°C in 90 minutes	
Heats from	-10°C to 80°C in 60 minutes	
Best Performance	See Graph	
Calibration volume	50mm diameter by 300mm deep	
Standard Insert	6 pockets, all 8.0mm diameter and 250mm deep	
Display Resolution	0.01 -19.99 to 99.99	
	0.1 100.0 to 140.0	
	PC can display 0.01 across whole range with the software included	
Indicator units	°C, °F, K	
Power	108 to 130V (50 / 60 Hz) or 208 to 240V (50 / 60 Hz) 300 Watts	
Overall dimensions	Height 430mm	
	Width 310mm	
	Depth 300mm	
Weight	17kg	
How to Order	Oceanus^{PLUS} 580 Please specify model type required Please specify voltage required Please specify options required	