

CERTIFICATE OF CALIBRATION

ISSUED BY: LAMBDA CALIBRATION LTD

DATE OF ISSUE: 28th January 2015

CERTIFICATE No: 335036

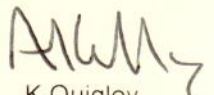


Lambda
CALIBRATION LTD

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APPROVED SIGNATORY


✓ A Kelly K Quigley
C Cookson

Customer: Premier Autoclaves Service & Solutions Ltd, Keighley, BD21 5LR

Item No: 552652-00586

Description: A Dry Block Temperature Calibrator, Ametek ETC-400 A 21
Insert type/material: Metal
Number of holes in the insert: 5
Depth of holes: 105mm
Position of test hole: 3 o'clock

Date of Cal: 28/01/2015

Basis: Lambda Procedure No: CIE-680

Method: A calibration thermometer was inserted into the test hole of the UUT.
Temperature readings from the UUT's display were compared with readings from the test thermometer after stabilisation at a number of test temperatures.
The reported min/max temperatures were measured over a 10 minute period.

Equipment Used: A metal sheathed Ref PRT (LTP-04), dia: 3.3mm, sensor length: 10mm,
A Chubb E4 temperature display (LTHE-159).

Temperature Scale: ITS-90

Lab Temperature: 20°C ± 3°C

Uncertainty: ± 0.09°C

UUT Visual Examination and Comments

Satisfactory

The reported expanded uncertainty is based on a standard uncertainty multiplied by a coverage factor k=2, providing a level of confidence of approximately 95%. The uncertainty evaluation has been carried out in accordance with UKAS requirements.

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UKAS ACCREDITED CALIBRATION LABORATORY No: 0495

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Display Accuracy Test Results (the calibration thermometer was fully inserted for this test)

UUT Set Point °C	UUT Indicated Temperature °C	Measured Temperature Full Immersion (Min) °C	Measured Temperature Full Immersion (Max) °C
50.0	50.0	50.097	50.113
200.0	200.0	200.458	200.471
400.0	400.0	400.632	400.724

Axial Uniformity Test Results (the calibration thermometer was withdrawn by 20mm for this test)

UUT Set Point °C	UUT Indicated Temperature °C	Measured Temperature with Immersion Reduced by 20mm (Min) °C	Measured Temperature with Immersion Reduced by 20mm (Max) °C
400.0	400.0	400.867	400.925

Radial Uniformity Test Results (the calibration thermometer was repositioned radially for this test)

UUT Set Point °C	UUT Indicated Temperature °C	Measured Temperature Full Immersion (Min) °C	Measured Temperature Full Immersion (Max) °C
400.0	400.0	400.945	401.012

Hysteresis Test Results (a test point was repeated, but approached from the opposite direction for this test)

UUT Set Point °C	UUT Indicated Temperature °C	Measured Temperature Full Immersion (Min) °C	Measured Temperature Full Immersion (Max) °C
200.0	200.0	200.498	200.530