

CERTIFICATE OF CALIBRATION

ISSUED BY ROTRONIC INSTRUMENTS (UK) LTD

DATE OF ISSUE: 27th November 2009 CERTIFICATE NUMBER: 16910a



rotronic

LEADING IN HUMIDITY MEASUREMENT

Calibrated by: C Aicken

Approved Signatory: R Gee



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Page 1 of 1

Dates Measurements Performed:
1st December 2009

Calibration Procedure Used: RUKP2

Customer Details	: Signatrol Ltd, 105 Church Street, Tewkesbury, Glos. GL20 5AB
Customer's Order Number	: 43302
Rotronic Ref Number	: 16910
Instrument Description	: Humidity and temperature probe
Manufacturer	: Rotronic AG
Model Type (s)	: HygroClip S
	:
	:
Serial Number (s)	: 44787 147
	:
	:

The probe was calibrated by comparison with platinum resistance thermometers, which are traceable to national standards, and the values taken from the instruments display. The calibration was conducted in a temperature chamber in controlled laboratory conditions $23\text{ }^{\circ}\text{C} \pm 2\text{ }^{\circ}\text{C}$.
The probe under calibration was immersed fully.

Applied Temperature $^{\circ}\text{C}$	Indicated Temperature ($^{\circ}\text{C}$)	Instrument Error ($^{\circ}\text{C}$)	Calibration Uncertainty ($^{\circ}\text{C}$)*
0.0	0.1	+0.1	± 0.26
39.9	39.7	-0.2	± 0.17

*The uncertainties quoted apply only to values obtained during the calibration and are not indicative of long-term stability of the instrument under calibration.

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.

This certificate is issued in accordance with the laboratory accreditation requirements of the United Kingdom Accreditation Service. It provides traceability of measurement to recognised national standards and to units of measurement realised at the National Physical Laboratory or other recognised national standards laboratories. This certificate may not be reproduced other than in full, except with the prior written approval of the issuing laboratory. (TSDC18 Issue 1)

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Dates Measurements Performed:
27th & 30th November 2009

Calibration Procedure Used:

RUKP2

Customer Details	: Signatrol Ltd, 105 Church Street, Tewkesbury, Glos. GL20 5AB
Customer's Order Number	: 43302
Rotronic Ref Number	: 16910
Instrument Description	: Humidity and temperature probe
Manufacturer	: Rotronic AG
Model Type (s)	: HygroClip S
	:
	:
Serial Number (s)	: 44787 147
	:
	:

The hygrometer was calibrated using ROTRONIC non-saturated salt relative humidity (RH) standards, certified as traceable to National Standards. The probe of the hygrometer was subjected to the relative humidity generated by the RH standard inside a calibration chamber, and the values taken from the instruments display. The calibration was conducted in controlled laboratory conditions 23 °C ± 2 °C.
Measurements recorded using HygroPalm3 equipment number: 0018

Applied Relative Humidity (%rh)	Calibration Uncertainty ** (%rh)	Indicated Relative Humidity (%rh)	Instrument Error (%rh)	Indicated temperature (°C) *	Ambient temperature (°C) *
9.7	0.5	10.9	+1.2	20.0	20.1
34.7	0.7	34.5	-0.2	20.0	20.1
75.1	1.3	73.7	-1.4	20.0	20.1

* Not included within the scope of the UKAS accreditation

**The uncertainties quoted apply only to values obtained during the calibration and are not indicative of long-term stability of the instrument under calibration.

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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(TSDC1 Issue 2)