

# Certificate of Calibration

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0513

Date of Issue: 23-Apr-2020

Certificate Number: 63303

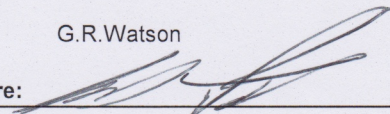
## Customers Details

Name: G.H.ZEAL LTD  
Address: 8 DEER PARK ROAD  
LONDON  
SW19 3UU

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### Approved Signatory

Name: G.R.Watson

Signature: 

## Customers Equipment Details

Description: SPIRIT IN GLASS THERMOMETER  
Specification Series: IP 75C SIMILAR  
Scale Range: - 31 TO + 81°C  
Serial Number: 1956527  
Manufacture: AMA  
Immersion: 89 mm  
Resolution: 0.5

## Method Used

The thermometer was calibrated by comparison with two reference standard instruments having known and traceable values of uncertainty, in closely controlled reference environments. Reading were taken with a telescope and the thermometer stem lightly tapped prior to each reading. Emergent column temperatures were determined by using a number of mercury in glass stem thermometers spaced at regular intervals along the stem of the thermometer (not applicable for total immersion). Readings are derived from a number of readings taken at or close to the stated calibration temperature.

## Ambient Conditions

Temperature: 20.8 °C

Date Instrument Received : 22-Apr-2020  
Date Calibration Completed : 23-Apr-2020  
Reference: 78345  
Customer Order N°: 18439

Calibrated By: G.R.Watson

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## Measurements

Calibration Temperature °C	Thermometer Reading °C	Emergent Column Mean Air Temp °C
-30.00	- 29.85	17.3
-20.00	- 19.95	17.8
0.00	- 0.20	19.8
40.00	40.10	23.6
80.00	80.30	27.8

The uncertainty of measurement for thermometer is.

Glass : Below 255°C = 0.1 °C      Above 265°C = 0.15 °C

## Notes

- 1 The thermometer was calibrated for the immersion stated on page one.
- 2 The temperature scale in use is the international temperature scale of 1990 ITS-90
- 3 The thermometer has not been tested for full compliance with the specification shown on page one.
- 4 The formula for the immersion column temperature is  $C = kN(t_1 - t_2)$ . C is the effect of differing average emergent column temperature. K is a constant-the apparent expansion coefficient of the liquid. N is temperature represented by the length of the emergent column on the engraved scale of the thermometer. t1 is the temperature at time of test and t2 is the temperature recorded by the customer.