# NABL

## National Accreditation Board for Testing and Calibration Laboratories

(An Autonomous Body under Department of Science & Technology, Govt. of India)

## CERTIFICATE OF ACCREDITATION

# ACTION ENGINEERS

has been assessed and accredited in accordance with the standard

**ISO/IEC 17025:2005**

"General Requirements for the Competence of Testing & Calibration Laboratories"

for its facilities at

Vadsar Bridge (West End), Vadodara, Gujarat

in the discipline of

THERMAL CALIBRATION

(To see the scope of accreditation of this laboratory, you may also visit NABL website www.nabl-india.org)

**Certificate Number** C-0778

**Issue Date** 05/12/2015

**Valid Until** 04/12/2017

This certificate remains valid for the Scope of Accreditation as specified in the annexure subject to continued satisfactory compliance to the above standard & the additional requirements of NABL.

Signed for and on behalf of NABL

| Avijit Das | Anil Relia | Prof. S. K. Joshi |
|---|---|---|
| Program Manager | Director | Chairman |

# NABL

## SCOPE OF ACCREDITATION

| | | | |
|---|---|---|---|
| Laboratory | Action Engineers, Vadsar Bridge (West End), Vadodara, Gujarat | | |
| Accreditation Standard | ISO/IEC 17025:2005 | | |
| Discipline | Thermal Calibration | Issue Date | 05.12.2015 |
| Certificate Number | C-0778 | Valid Until | 04.12.2017 |
| Last Amended on | - | Page | 1 of 2 |

| Quantity Measured / Instrument | Range/ Frequency | * Calibration Measurement Capability (±) | Remarks |
|---|---|---|---|
| **I. TEMPERATURE** | | | |
| 1. TEMPERATURE SENSOR WITH OR WITHOUT INDICATOR / CONTROLLER / SCANNER / TRANSMITTER / DATA LOGGER / TEMPERATURE SWITCH / DIAL THERMOMETER / DIGITAL THERMOMETER/ TEMPERATURE GAUGE/ DIAL TEMPERATURE GAUGE/ RECORDER # | (-) 35 °C to 50 °C<br>50 °C to 250 °C<br>250 °C to 600 °C<br>600 °C to1000 °C | 0.27 °C<br>0.30 °C<br>1.80 °C<br>2.66 °C | Using R-Thermocouple with Indicator, RTD-PT 100, Liquid Bath and Dry Block Furnace by Comparison Method |
| 2. LIQUID IN GLASS THERMOMETER# | (-) 35 °C to 250 °C | 0.82 °C | Using RTD with Indicator and Liquid Bath by Comparison Method |
| 3. INFRARED THERMOMETER / PYROMETER / THERMAL IMAGE CAMERA# | 30 °C to 400 °C<br>400 °C to 600 °C | 0.44 °C<br>1.54 °C | Using R-Thermocouple with Indicator, RTD-PT100, Black Body Source by Comparison Method |
| 4. TEMPERATURE INDICATOR OF LIQUID BATH / FREEZER / OVEN / DRY BLOCK TEMPERATURE CALIBRATOR / INCUBATOR / FURNACE/ TEMPERATURE CHAMBER# | (-) 60 °C to 250 °C<br>250 °C to 600 °C<br>600 °C to1000 °C | 0.42 °C<br>1.80 °C<br>3.20 °C | Using R-Thermocouple with Indicator and RTD-PT100 by Direct Method |
| 5. THERMO-HYGROMETER / TEMPERATURE SENSOR WITH INDICATOR / CONTROLLER / TRANSMITTER / DATA LOGGER / RECORDER# | 10 °C to 50 °C @ 70 % RH | 1.32 °C | Using Digital Temperature Indicator with Probe and Humidity Chamber by Comparison Method |

Naveen Jangra
Convenor

Avijit Das
Program Manager

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| Quantity Measured / Instrument | Range/ Frequency | * Calibration Measurement Capability (±) | Remarks |
|---|---|---|---|
| **II. SPECIFIC HEAT & HUMIDITY** | | | |
| 1. THERMO-HYGROMETER / HUMIDITY SENSOR WITH INDICATOR / CONTROLLER / TRANSMITTER / DATA LOGGER / RECORDER# | 40 % to 90 % RH @ 25 ± 4 °C | 2.90 % RH | Using Digital Humidity Indicator with Probe and Humidity Chamber by Comparison Method |
| 2. HUMIDITY INDICATOR OF HUMIDITY CHAMBER / GENERATOR / CALIBRATOR / CONTROLLER / TRANSMITTER# | 40 % to 90 % RH @ 25 °C | 2.90 % RH | Using Digital Humidity Indicator with Probe by Direct Method |

*** Measurement Capability is expressed as an uncertainty (±) at a confidence probability of 95%**

**# The laboratory is also capable for site calibration however, the uncertainty at site depends on the prevailing actual environmental conditions and master equipment used.**

Naveen Jangra
Convenor

Avijit Das
Program Manager