



NATIONAL CENTRE FOR QUANTITY CALIBRATION

4, Abhishree Corporate Park, Nr. Swagat Bungalows BRTS, Iskcon-Ambli Road, Ambli, Ahmedabad-380 058
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 Visit our Web Site : www.calibrationlaboratory.in



Precision Calibration with National / International Traceability for Temperature, Dimensional, Pressure, Vacuum, Time, Mass, Electrical, Noise, Airflow, Lux & all Special Purpose Instruments in all ranges.

Calibration Certificate

F/CR/T/O 10/03 Issue No. 02

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|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|
| Name of Customer National Centre for Quality Calibration 4, Abhishree Corporate Park, Nr. Swagat Bungalows BRTS, Iskcon – Ambli Road, Ambli, Ahmedabad – 380 058, Gujarat | Certificate No. NCQC-T/180223/005 Date of Issue 20/02/2023 Date of Calibration 18/02/2023 Suggested Due Date 17/02/2024 |
| | Date of Receipt / Ref.No.: 16/02/2023 |

| | |
|-------------------------------------|-----------------------------------------------------------------------|
| ULR No. : CC212823000000745F | Discipline : Thermal Calibration Specific Heat and Humidity |
|-------------------------------------|-----------------------------------------------------------------------|

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|---------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|
| Details of Observation of Unit Under Calibration | Identification No. : NCQC/T – 193 Serial No. : EF7186H00549 Name of Instrument : Temperature & Humidity Data Logger |
|---------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|

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|---------------------------------------------------------------------------------------------------------|-------------------------------------------------------|
| Range 0 to 99 % Rh Resolution 0.1 % Rh Make / Model Elitech/RC-4HC Location Laboratory | Visual Inspection Accuracy OK $\pm 5\% \text{ Rh}$ |
| Loc. of Calibration At Laboratory Environment Cond. $25 \pm 4\text{ }^\circ\text{C}$, 30 to 75 % Rh | Std. Ref. Used Cali.Method No. NCQC/CM/T/010 |

Master Instruments Detail

| NCQC SYS.NO. | Nomenclature | Make/ Model | Id / Serial No. | Traceable To | Certificate No. | Valid Upto |
|--------------|---------------------------|-----------------------------------------------------------------|-----------------------------------------------------------|--------------|-----------------|------------|
| 335 | Digital thermo Hygro Palm | Rotronic / HP32 | NCQC/T-161/ 5181935 / 20281776 | CC 2733 | 30056028 | 05/07/2023 |
| 435 | 4 wire RTD with Indicator | RTD - Tempsens / TPRT-100, Indicator - Tempsens / TEMPMET-09-02 | RTD-NCQC/T-235 / 23000299, Indicator - NCQC/T-236 / T0064 | CC-2840 | TL/022/1068.2.1 | 25/09/2023 |

Calibration Results of Humidity @ 25 °C

| Set point on Hybrid Temperature and Humidity Calibrator in % Rh | Reading observed by UUC in % Rh | Reading observed by Master instrument in % Rh | Absolute Error in % Rh | Expanded Uncertainty in % Rh (k =2) \pm |
|-----------------------------------------------------------------|---------------------------------|-----------------------------------------------|------------------------|-------------------------------------------|
| 20.0 | 20.7 | 20.08 | 0.62 | 3.20 |
| 40.0 | 41.0 | 40.20 | 0.80 | 3.20 |
| 50.0 | 51.2 | 50.25 | 0.95 | 3.20 |
| 70.0 | 71.5 | 70.35 | 1.15 | 3.20 |
| 95.0 | 94.0 | 95.51 | 1.51 | 3.20 |

NCQC
 Valid up to 17-02-2024
 Reviewed *Jigra*

Traceable To National / International Standards.

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|-------------------------------------------------------------|------------------------------------------------------------------------------|
| Calibrated By <i>Vishal Chauhan</i> Calibration Engineer | Reviewed & Approved By <i>Jigra</i> Jigar Panchal Calibration Incharge |
|-------------------------------------------------------------|------------------------------------------------------------------------------|

NCQC System Certificate No. 382



Since 1998

NATIONAL CENTRE FOR CALIBRATION

TRUE COPY

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CC-2128

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| | Date of Issue | 20/02/2023 |
| | Date of Calibration | 18/02/2023 |
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| ULR No. : CC212823000000745F | Discipline : Thermal Calibration Specific Heat and Humidity |
|------------------------------|----------------------------------------------------------------|

| | |
|---------------------------------------------------------|---------------------------------------------------------|
| Details of Observation of Unit Under Calibration | Identification No. : NCQC/T – 193 |
| | Serial No. : EF7186H00549 |
| | Name of Instrument : Temperature & Humidity Data Logger |

| | | | |
|-------------|--------------|----------|---------------------------------------------|
| Range | -30 to 60 °C | Accuracy | ± 0.5 °C up to - 20 to 40°C & Other ±1°C |
| Least Count | 0.1 °C | | |

Calibration Results of Temperature

| Set point on Hybrid Temperature and Humidity Calibrator in °C | Reading observed by UUC in °C | Reading observed by Master instrument in °C | Absolute Error in °C | Expanded Uncertainty in °C (k =2) ± |
|---------------------------------------------------------------|-------------------------------|---------------------------------------------|----------------------|-------------------------------------|
| -25.0 | -25.4 | -25.216 | 0.184 | 0.78 |
| -15.0 | -15.3 | -15.179 | 0.121 | 0.78 |
| 0.0 | 0.0 | 0.016 | 0.016 | 0.78 |
| 10.0 | 10.3 | 10.138 | 0.162 | 0.78 |
| 30.0 | 30.3 | 30.146 | 0.154 | 0.78 |
| 50.0 | 50.5 | 50.282 | 0.218 | 0.78 |

Remarks:

- Averages of minimum five readings are reported.
- Suggested due date is given based on customer requirements
- Calibration Points are given based on customer requirements.
- Condition of instrument found satisfactory during receipt.
- These results are obtained at the time of calibration.
- Any hand written corrections (except @) or photocopies of the report invalidates this certificate.
- The uncertainties are for a confidence probability of not less than 95% with coverage factor k = 2
- Our masters are directly calibrated through NABL accredited calibration laboratory having direct traceability with National / international standard.
- Portable Hybrid temperature and Humidity calibrator was used as a source of generating temperature and humidity as well as controlling temperature at specified set point.

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|----------------------------------------------------------------|----------------------------------------------------------------------------|--|
| Calibrated By Vishal Chauhan Calibration Engineer | Traceable To National / International Standards. | |
| | Reviewed & Approved By Jigar Panchal Calibration Incharge | |