



Since 1998

NATIONAL CENTRE FOR QUALITY CALIBRATION

ISO/IEC 17025 (NABL) Accredited Laboratory

4, Abhishree Corporate Park, Nr. Swagat Bungalows BRTS, Iskon-Ambli Road, Ambli, Ahmedabad-380 058
Ph. +91-79-29795322, 29795323 • Fax : +91-79-29795323, Cell No. +91-9327017517, +91-9328616370
E-mail : ncqc@calibrationlaboratory.in, • calibrationlab.ncqc@gmail.com



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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.

TRUE COPY

Calibration Certificate

| Name of Customer → National Centre For Quality Calibration 4, Abhishree Corporate Park, Nr. Swagat Banglows, BRTS, Iskon – Ambli Road, Ambli, Ahmedabad. – 380058. | | Certificate No. | NCQC-M/221220/03 |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|---------------------------------------------------------------------------------------------------|--------------------------------|
| | | Date of Issue | 22-12-2020 |
| | | Date of Calibration | 22-12-2020 |
| | | Suggested Due Date | 21-12-2021 |
| Date Of Receipt / Ref. No. → 22-12-2020 | | F/CR/M/001/02, Issue No.01 Page 1 of 2 | |
| ULR – CC212820100000112F | | Discipline → Mechanical Calibration, Dimension (Basic-Measuring Instrument, Gauges etc) | |
| Details of Observation of Unit Under Calibration | | Identification No. | : NCQC/M-133 |
| | | Serial No. | : 67198041 |
| | | Name of Instrument | : Digital Micrometer |
| Range | 0 – 150 mm | Flatness | Within 2 Micron |
| Least Count | 0.001 mm | Parallelism | Within 2 Micron |
| Make | Mitutoyo | Initial Error | Nil |
| Accuracy | ± 0.002 mm | | |
| Standard size of Slip Gauge Set in mm | Reading observed by UUC in mm | Error in mm | |
| 125.000 | 125.000 | 0.000 | |
| 127.500 | 127.500 | 0.000 | |
| 130.100 | 130.100 | 0.000 | |
| 132.700 | 132.700 | 0.000 | |
| 135.300 | 135.300 | 0.000 | |
| 137.900 | 137.900 | 0.000 | |
| 140.000 | 140.000 | 0.000 | |
| 142.600 | 142.600 | 0.000 | |
| 145.200 | 145.201 | 0.001 | |
| 147.800 | 147.801 | 0.001 | |
| 150.000 | 150.001 | 0.001 | |
| Calibration Results of Setting Pieces | | | |
| Standard Size of setting Piece in mm | Observed Reading in mm | Absolute Error in mm | ± Expanded Uncertainty (k = 2) |
| 25.000 | 25.0000 | 0.0000 | 6.4 µm |
| 50.000 | 49.9997 | 0.0003 | 6.4 µm |
| 75.000 | 75.0002 | 0.0002 | 6.4 µm |
| 100.000 | 99.9997 | 0.0003 | 6.4 µm |
| 125.000 | 124.9997 | 0.0003 | 6.4 µm |

NCQC System Certificate No. 285

| | |
|--------------------------------------------------|----------------------------|
| Traceable To National / International Standards. | |
| Calibrated By | Reviewed & Approved By |
| Arif Shaikh | Jigar Panchal |



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Calibration Certificate

| | | |
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| Name of Customer → National Centre For Quality Calibration 4, Abhishree Corporate Park, Nr. Swagat Banglows, BRTS, Iskon – Ambli Road, Ambli, Ahmedabad. – 380058. | Certificate No. | NCQC-M/221220/03 |
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| | Suggested Due Date | 21-12-2021 |
| Date Of Receipt / Ref. No. → 22-12-2020 | | F/CR/M/001/02, Issue No.01 Page 2 of 2 |

| | | |
|--------------------------------------------------|--------------------|-----------------------------|
| Details of Observation of Unit Under Calibration | Identification No. | : NCQC/M-133 |
| | Serial No. | : 67198041 |
| | Name of Instrument | : Digital Micrometer |

Remarks:

- ↘ All the errors are found within the acceptance criteria (i.e. ± 0.002 mm) specified by the customer.
- ↘ Instrument found '**ACCEPTED**' after calibration.
- ↘ Averages of minimum three readings are reported.
- ↘ These results are obtained at the time of calibration.
- ↘ Condition of instrument found satisfactory during receipt.
- ↘ Any hand written corrections (except @) or photocopies of the report invalidates this certificate.
- ↘ Environment condition during calibration: 20 ± 2°C, 40 to 60 % Rh.
- ↘ Location of Performance of Calibration → At Lab.
- ↘ Uncertainty of measurement at 95% confidence level is ± 1.52 micron by multiplying coverage factor k = 2.
- ↘ Reference calibration method no.: NCQC/CM/M/001 & 003.
- ↘ Reference IS standard no.: IS 2967.
- ↘ Our masters are directly calibrated through NABL accredited calibration Laboratory having direct traceability with national / international standard.

Details of Master Instrument Used for Calibration

| Nomenclature | Make / Model | Sr. No. / Id. No. | Calibration Due Date |
|---------------------------|---------------|-------------------------------------------|----------------------|
| Slip Gauge Set | Mikronix/=== | 3910/NCQC/M-107 | 15-09-2021 |
| Slip Gauge Set | Aditya / === | 2967/NCQC/M-109 | 15-09-2021 |
| Optical Parallel Set | Mitutoyo/=== | 021478,007579,007531,007740/NCQC/M-172 | 02-09-2021 |
| Optical Flat | Mitutoyo/=== | 003728/NCQC/M-171 | 02-09-2021 |
| Electronic Probe with DRO | Sylvac/=== | DRO: 11273017 & Prob : 13944 / NCQC/M-129 | 05-10-2021 |
| Surface Plate | Microflat/=== | 6543 / NCQC/M-09 | 31-08-2021 |

| NCQC System Certificate No. | Certificate no. & traceability of master with National Standards |
|-----------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 119 | ↘ Our master slip gauge set is calibrated and traceable to National Standard through NABL accredited Laboratory Mikronix Associates, Certificate no. SG 2485, Date – 15-09-2019. |
| 84 | ↘ Our master slip gauge set is calibrated and traceable to National Standard through NABL accredited Laboratory Mikronix, Aurangabad, Certificate no. SG 2486, Date – 16-09-2019. |
| 350 | ↘ Our master optical parallel set is calibrated and traceable to National Standard through Quality Solutions, Faridabad, Certificate no. QSI/0345/19/09,, Date – 03-09-2019. |
| 351 | ↘ Our master optical Flat is calibrated and traceable to National Standard through Quality Solutions, Faridabad, Certificate no., QSI/0344/19/09, Date – 03-09-2019. |
| 292 | ↘ Our master Electronic Probe with D.R.O. is in-house calibrated and traceable to National Standard through NABL accredited Laboratory as per Certificate no. NCQC-M/061020/01, Date – 06-10-2020. |
| 08 | ↘ Our master Granite Surface Plate is in-house calibrated and traceable to National Standard through NABL accredited Laboratory as per Certificate no. NCQC-M/010920/41, Date – 01-09-2020. |

| | |
|---------------------------------------------------------|----------------------------|
| Traceable To National / International Standards. | |
| Calibrated By | Reviewed & Approved By |