



COMMITTED TO THE  
CUSTOMER SINCE - 1996

# Vaidyanatheshwara INSTRUMENTS

## CERTIFICATE OF CALIBRATION



No. 301/A, 9th Main Road, 3rd Cross, Rajiv Gandhi Nagar, J.B. Kaval, Nandhini Layout Post, Bangalore - 560 096.  
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NABL Accredited Calibration Lab as per ISO/IEC 17025 : 2017 With vide Certificate No: CC-2473

Date of issue: 17 - 03 - 2023

Sheet: 1 OF 1

|                           |   |                              |
|---------------------------|---|------------------------------|
| Format No: VI-FRM-ME-022  | ULR No. : CC247323100010366F  | Report No.: VI/22-23/8525-08 |
| Customer Name and Address | M/s.: MAG ENGINEERING UNIT A.,<br>(A Unit of Sandhar Technologies Ltd.)<br>No. 46A, 3rd Main, 2nd Phase, Peenya,<br>Bangalore, Karnataka - 560 058. |                              |
| Customer Ref No & Date    | DC No.: SIA/RGP21-22/0365 & 13-03-2023  | Received Condition           |
| SRF No                    | 8525  | Date Of Receipt              |
|                           |   | Satisfactory                 |
|                           |   | 14-03-2023                   |

### CALIBRATED INSTRUMENT / EQUIPMENT DETAILS

|                     |                           |                                   |                       |
|---------------------|---------------------------|-----------------------------------|-----------------------|
| Nomenclature        | Radius Gauges (30 Leaves) | Make                              | Mitutoyo              |
| Range / Resolution  | 15.5 to 25 mm N/A         | Customer Instrument Reference No. | M104                  |
| Calibration Done At | VI Mechanical Lab         | Temperature / Humidity            | 20.0-20.3°C 51-53 %RH |
| Calibrated on       | 17 - 03 - 2023            | Calibration due on                | 16 - 03 - 2024        |
| Discipline          | Mechanical (Dimensional)  |                                   |                       |

### MASTER EQUIPMENT TRACEABILITY DETAILS

| Sl. No. | Nomenclature      | Make & Model  | Sl. No. / ID. No. | Traceable Cert. No. | Traceable To | Validity   |
|---------|-------------------|---------------|-------------------|---------------------|--------------|------------|
| 1       | Profile Projector | OMEGA & VL360 | 1035 / VI/PP/001  | VI/22-23/INT-016    | VI-Bangalore | 17-10-2023 |

The Master Equipment's used are traceable to National Standards Ref. Doc. IS: 5273-1969 (Reaffirmed 1995) & SOP-18

### CALIBRATION OF RADIUS GAUGES:

(All values are in mm)

| Sl. No. | Nominal size | Calibrated values |          | Sl. No. | Nominal size | Calibrated values |          |
|---------|--------------|-------------------|----------|---------|--------------|-------------------|----------|
|         |              | EXTERNAL          | INTERNAL |         |              | EXTERNAL          | INTERNAL |
| 1       | 15.5         | 15.464            | 15.528   | 9       | 19.5         | 19.447            | 19.547   |
| 2       | 16.0         | 15.959            | 15.937   | 10      | 20.0         | 19.962            | 20.071   |
| 3       | 16.5         | 16.449            | 16.561   | 11      | 21.0         | 20.937            | 21.054   |
| 4       | 17.0         | 16.937            | 17.032   | 12      | 22.0         | 21.954            | 22.053   |
| 5       | 17.5         | 17.471            | 17.537   | 13      | 23.0         | 22.953            | 23.047   |
| 6       | 18.0         | 17.943            | 17.964   | 14      | 24.0         | 23.964            | 24.065   |
| 7       | 18.5         | 18.425            | 18.564   | 15      | 25.0         | 24.939            | 25.053   |
| 8       | 19.0         | 18.948            | 19.045   | -       | -            | -                 | -        |

Allowable Values for Radius Gauges As Per IS: 5273-1969

(All Values in mm)

| NOMINAL SIZE    | PERMISSIBLE ERROR |
|-----------------|-------------------|
| 0.6 upto 0.8 mm | ±0.050            |
| 1 upto 6 mm     | ±0.063            |
| 7 upto 25 mm    | ±0.100            |

Note:

- Determination of Checking Arc of Circle of Radius Gauge by direct method using Profile Projector.

Conclusion:

- Uncertainty of calibration at 95.45 % Confidence level and Coverage Factor  $K = 2 : \pm 6.0\mu m$
- The Reported Results are valid only for the conditions of the received Instruments /gauges at the time of and under the stated conditions of the calibration.

Calibrated By  
*Hemanth Kumar G*  
Hemanth Kumar G  
(Calibration Engineer)

Checked By  
*P Santhosh Kumar*  
P Santhosh Kumar  
(Lab-In-Charge)

