

Laboratory **Accurate Engineering Co. Pvt. Ltd., Gala No. 1, AM-31, Udyog Bhavan, M.I.D.C., Satpur, Nashik, Maharashtra**

Accreditation Standard **ISO/IEC 17025: 2005**

Certificate Number **CC-2579 (in lieu of C-0265)**

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Validity **06.02.2018 to 05.02.2020**

Last Amended on **20.02.2018**

Sl.	Quantity Measured / Instrument	Range/Frequency	*Calibration Measurement Capability (\pm)	Remarks
<u>MECHANICAL CALIBRATION</u>				
I.	DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)			
1.	Thread Measuring Wires [§]	0.17 mm to 6.35 mm	0.60 μ m	Using Electronic Micro-Indicator
2.	Cylindrical Setting Masters [§]	1 mm to 100 mm 100 mm to 200 mm	1 μ m 1.30 μ m	Using Electronic Micro-Indicator
3.	Measuring Pins [§]	0.3 mm to 20 mm	1 μ m	Using Electronic Micro-Indicator
4.	Micrometer Setting Standard [§]	25 mm to 100 mm 100 mm to 200 mm	1.10 μ m 1.50 μ m	Using Electronic Micro-Indicator
5.	Feeler Gauge Set [§]	0.02 mm to 2.0 mm	0.80 μ m	Using Electronic Micro-Indicator
6.	Radius Gauge [§]	0.6 mm to 25 mm	11.50 μ m	Using Profile Projector
7.	Thread Pitch Gauge [§] Flank Angle Pitch	(-) 55°, 60° 0.3mm to 6.0 mm	7' 48" arc of min. 11.20 μ m	Using Profile Projector
8.	Thread Measuring Prisms [§] (Height Measurement)	A / B / C / D 3 mm to 5 mm	1.00 μ m	Using Electronic Micro-Indicator
9.	Slip Gauge Accessory Set [§]	0 to 300 mm	1.40 μ m	Using Gauge Blocks
10.	Master Foils for Coating Thickness Gauge [§]	0.009 mm to 1.25 mm	0.70 μ m	Using Electronic Micro-Indicator

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11.	Angle Plate [§] Squareness Flatness	400mm x 400mm x 350mm 400mm x 400mm x 350mm	5.00 μ m 4.50 μ m	Using 3D Co-ordinate Measuring Machine
12.	Sine Bar/ Sine Center [§]	Up to 300 mm & Up to 45° Center Distance between Roller	18 Arc sec. 4.20 μ m	Using 3D Co-ordinate Measuring Machine by In-direct Method
13.	Bevel Protractor [§] L.C.: 5 min.	0° to 90° to 0°	3 min. of arc	Using 3D Co-ordinate Measuring Machine by In-direct Method
14.	Combination Set / Angle Protractor [§] L.C.: 1 Deg.	0° to 180° to 0°	35 min. of arc	Using 3D Co-ordinate Measuring Machine by In-direct method
15.	Test Sieve [§]	0.032 mm to 3.5 mm	10 μ m	Using Profile Projector
16.	Thread Plug Gauge [§] (for Effective Dia.)	2 mm to 100 mm 100 mm to 200 mm	2.80 μ m 2.28 μ m	Using Floating Carriage Dia. Meas. M/c, Setting Master & Thread Meas. Wires Using Single Axis Measuring Machine
17.	Taper Thread Plug Gauge [§] (for Effective Dia.)	2 mm to 100 mm	3.80 μ m	Using Floating Carriage Dia. Meas. M/c, Setting Master & Thread Meas. Wires
18.	Thread Ring Gauge [§] (Effective Dia.)	3 mm to 100 mm 100 mm to 300 mm	2.30 μ m 2.50 μ m	Using Single Axis Measuring Machine

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19.	Plain Snap Gauge ^s	2 mm to 100 mm 100 mm to 250 mm	1.30 μ m 1.50 μ m	Using Gauge Blocks
20.	Plain Plug Gauge ^s	Up to 100 mm 100 mm to 250 mm 250 mm to 500 mm	1.00 μ m 1.50 μ m 3.50 μ m	Using Electronic Micro-Indicator & Gauge Blocks Using Single axis Measuring Machine
21.	Width Gauge ^s	Up to 100 mm 100 mm to 250 mm	1.20 μ m 1.50 μ m	Using Electronic Micro-Indicator & Grade "1" Gauge Blocks
22.	Setting/ Plain Ring Gauge ^s	2 mm to 7 mm 7 mm to 200 mm 200 mm to 280 mm 280 mm to 400 mm	2.20 μ m 2.30 μ m 3.10 μ m 3.90 μ m	Using Single Axis Measuring Machine & Master Ring Gauges
23.	Calipers ^s (Vernier/Dial/ Electronic) L.C.: 0.01 mm	0 to 600 mm 0 to 1000 mm	10.28 μ m 14.65 μ m	Using Caliper Checker
24.	Depth Gauge ^s (Vernier / Dial / Electronic) L.C.: 0.01 mm	0 to 300 mm	9 μ m	Using Depth Micro Checker
25.	Height Gauge ^s (Vernier / Dial / Electronic) L.C.: 0.01 mm	0 to 600 mm	10.50 μ m	Using Caliper Checker
26.	External Micrometer ^s L.C.: 0.001 mm	0 to 100 mm 100 mm to 250 mm	1.70 μ m 2.20 μ m	Using Grade "1" Gauge Blocks

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27.	Depth Micrometer ^s (Analog/ Digital) L.C.: 0.001 mm	0 to 300 mm	6.20 μ m	Using Depth Micro Checker
28.	Micrometer Head ^s L.C.: 0.0002 mm	0 to 25 mm	0.80 μ m	Using Electronic Micro-Indicator
29.	Dial Calibration Tester ^s L.C.: 0.0002 mm	0 to 25 mm	0.80 μ m	Using Electronic Micro-Indicator
30.	Plunger type Indicator ^s (Digital / Dial) L.C.:0.001mm	0 to1 mm 0 to25 mm 0 to100 mm	1.30 μ m 2.60 μ m 1.50 μ m	Using Electronic Dial Calibration Tester Using Single Axis Measuring Machine
31.	Lever Dial ^s L.C.:0.001mm	0 to 2 mm	1 μ m	Using Electronic Dial Calibration Tester
32.	Dial Bore Gauge ^s (For Transmission Mechanism) L.C.: 0.001mm	2 mm	1.50 μ m	Using Electronic Dial Calibration Tester
33.	Dial Snap Gauge ^s L.C.: 0.001mm	0 to 50 mm 50 mm to 200 mm	1 μ m 2 μ m	Using Grade "1" Gauge Blocks
34.	Comparator With Stand with DRO Probe ^s L.C.: 0.0001mm	Up to 25 mm Up to 200 mm	1 μ m 2 μ m	Using Gauge Blocks

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35.	Pistol Caliper ^s L.C.: 0.1mm	0 to 200 mm	59 μ m	Using Gauge Blocks
36.	Internal Dial Caliper ^s L.C.: 0.005 mm	5 mm to 300 mm	5 μ m	Using Gauge Blocks
37.	Taper Plug Gauge ^s	Up to 200 mm 0 to 15°	5 μ m 25.1 arc sec.	Using 3D Co-ordinate Measuring Machine
38.	Dial Thickness Gauge ^s L.C.: 0.01 mm	0 to 25 mm	2.90 μ m	Using Gauge Blocks
39.	Pitch Micrometer ^s L.C.: 0.01 mm For Anvil	0 to 50 mm Angle	4 μ m 8 arc min.	Using Gauge Blocks & Profile Projector
40.	Taper Scale ^s L.C.:1 mm	15 mm	11.40 μ m	Using Profile Projector
41.	V Block ^s Angular Flatness Squareness	150 mm x100 mm x 100 mm	15.70 arc of sec. 4.90 μ m 4.90 μ m	Using 3D to Co-ordinate Measuring Machine
42.	Spirit Level ^s L.C.: 0.02 mm/m	300 mm	9 μ m/m	Using Electronic Level
43.	Floating Carriage Dia. Measuring Machine ^s L.C.: 0.0002 mm	0 to 100 mm	1.10 μ m	Using Cylindrical Setting Masters & Gauge Blocks
44.	Slip Gauge ^s	0 to 25 mm 25 mm to 50 mm 50 mm to 100 mm	0.14 μ m 0.20 μ m 0.24 μ m	Using Gauge Block Calibrator, "k" grade Gauge Block Set

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45.	Taper Thread Ring Gauge [§]	Dia.: 3 mm to 100 mm	2 μ m	Using Single Axis Measuring Machine/ Thread Measuring Wire
46.	Taper Plain Ring Gauge [§]	Dia.: 3 mm to 100 mm Angle: 15°	5 μ m 25 .06 arc sec.	Using 3D-Co-ordinate Measuring Machine
47.	Profile Projector* Linear L.C.: 0.001 mm Magnification Accuracy Angular	0 to 100 mm 100 mm to 200 mm Up to 50 X 0 to 360°	5.42 μ m 6.00 μ m 0.60% 4 arc min.	Using Linear Glass Scale, Angular Glass Scale
48.	Surface Plate*	1600 mm X 3000 mm	0.7 $\sqrt{\frac{L+W}{125}}$ (L & W in mm)	Using Electronic Level
49.	Single Axis Measuring Machine* L.C.: 0.1 μ m	0 to 100 mm	1.40 μ m	Using "K" Grade Gauge Blocks
50.	Electronic (2D) Height Gauge* L.C.: 0.0001 mm	0 to 600 mm	4.20 μ m	Using Step Gauge & Gauge Blocks
II.	PRESSURE INDICATING DEVICES			
1.	Pressure Gauge – Hydraulic [§] (Analog/Digital)	70 bar to 700 bar	0.74 bar	Using Master Digital Pressure Gauge by Comparison based on DKD R- 6-1

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2.	Pressure Gauge – Pneumatic [§] (Analog/Digital)	0 to 25 bar	0.04 bar	Using Master Digital Pressure Gauge by Comparison based on DKD R- 6-1
3.	Vacuum Gauges – Pneumatic [§] (Analog/Digital)	-0.85 to 0 Bar	0.004 bar	Using Master Digital Pressure Gauge by Comparison based on DKD R- 6-1

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

[§] Only in Permanent Laboratory

^{*} Only for Site Calibration

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