

Laboratory Jems Calibration Services, 51/53 Industrial House, Nagdevi Cross Lane, Mumbai, Maharashtra

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number CC-2653

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Validity 26.04.2018 to 25.04.2020

Last Amended on -

Sl.	Quantity Measured / Instrument	Range/Frequency	*Calibration Measurement Capability (\pm)	Remarks
<u>MECHANICAL CALIBRATION</u>				
I.	DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)			
1.	Calipers ^s (Vernier/Dial/ Digital/Gear Tooth) LC. : 1 μ m L.C :10 μ m	0 to150 mm 0 to150 mm 150 mm to 600mm 0 to 1000mm 0 to 1500mm	2 μ m 6.20 μ m 16.0 μ m 20.0 μ m 25.0 μ m	Using Caliper Checker, Gauge Blocks and Accessories Set by Comparison Method as per IS 3651(Part I, II, and III) / P5.4-03
2.	Dial Caliper Gauge Inside ^s L.C. 10 μ m & Coarser	2.5 mm to 300 mm	40.8 μ m	Using Caliper Checker, Gauge Blocks and Accessories Set by Comparison Method as per IS 3651(Part I, II, and III)/ P5.4-03
3.	External Micrometer ^s (Inclusive of Point, Blade, Ball, Flange, Groove, Disc) L.C 1 μ m & Coarser	0 to 25 mm 25mm to 150 mm 150mm to 500 mm 500mm to 1000 mm	1.4 μ m 3.7 μ m 10.0 μ m 12.0 μ m	Using Gauge Block Cylindrical Setting Masters by Comparison Method as per IS 2967 / P5.4-04

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4.	'V' Anvil Type ^s L.C 1 μm^ϕ	0 to 85 mm	15.0 μm	Using Gauge Block Cylindrical Setting Masters by Comparison Method as per IS 2967 / P5.4-04
5.	Micrometer Setting Rods/Standard ^s	Upto 150mm 150mm to 500mm 500mm to 1000mm	5.0 μm 10.0 μm 12.0 μm	Using Gauge Block, Dial Indicator by Comparison Method as per IS 7014 / P5.4-11
6.	Depth Micrometer ^s L.C. :1 μm^ϕ	0 to 300mm	6.3 μm	Using Gauge Block by Comparison Method as per IS 2967 /P5.4-05
7.	Plunger Type Dial Gauge ^s L.C. : 0.1 μm L.C. :1 μm L.C. :10 μm	0 to 25mm 0 to1mm 0 to 25mm 0 to 50mm 0 to10mm 0 to 50mm 0 to100mm	1.1 μm 3.0 μm 3.3 μm 3.6 μm 3.0 μm 6.0 μm 6.0 μm	Using Gauge Block , Dial Calibration Tester Micrometer Head for Dial Tester by Comparison Method as per IS 2092/ P5.4-06
8.	Lever Type Dial Gauge ^s L.c. : 1 μm^ϕ	0 to1mm	3 μm	Using Dial Calibration Tester / Micrometer Head for Dial Tester by Comparison Method as per IS 11498/P5.4-07

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9.	Bore Dial Gauge ^{\$} (Transmission Accuracy Check Only) L.C. : 1 μ m	Up to 1mm	3 μ m	Using Dial Calibration Tester /Micrometer Head for Dial Tester by Comparison Method as per P5.4-08
10.	Dial Thickness Gauge ^{\$} L.C. :1 μ m L.C. :10 μ m	Upto 25mm Upto 50mm	1.4 μ m 8.0 μ m	Using Gauge Block by Comparison Method as per P5.4-09
11.	Height Gauge ^{\$} (Vernier /Dial/Digital) L.C : 10 μ m	0 to 300mm 0 to 600mm 0 to1000mm	16.0 μ m 17.0 μ m 20.0 μ m	Using Caliper Checker by Comparison Method as per IS 2921/P5.4-10
12.	Plain Plug Gauge Width Gauge ^{\$}	Up to 125mm 125mm to 500mm	4.7 μ m 6 μ m	Using Gauge Block by Comparison Method as per IS 919, IS 3455 & IS 11103/P5.4-11
13.	Pistol Caliper ^{\$} L.C :100 μ m	0 to 50mm 0 to 100mm	42 μ m 80 μ m	Using Gauge Block by Comparison Method as per /P5.4-12

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14.	Feeler Gauge Foils(SHIMS) for Coating Thickness Gauge ^s	Upto1000 μ m	4.0 μ m	Using Dial Gauge by Comparison Method (0.1 μ m)
	Step Block for Ultrasonic Thickness Gauge ^s	Upto 25mm	5.0 μ m	Using Gauge Blocks by Comparison Method as per IS 3179/P5.4-13
	Coating Thickness Gauge ^s L.C :1 μ m	Upto 2000 μ m	5.0 μ m	Using Master Foils by Comparison Method/ P5.4-13
15.	Depth Caliper ^s LC. :10 μ m	0 to150mm 0 to 300mm 300mm to 600mm	9.0 μ m 10.0 μ m 15.0 μ m	Using Gauge Block by Comparison Method as per IS 4213 P5.4-14

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16.	Internal Micrometer 2 Point Basic travel of Micrometer ^{\$} L.C:-10 μ m	50mm to 63mm Upto 300mm Upto 500mm Upto 1500mm Upto 2100mm	5.0 μ m 7.0 μ m 9.0 μ m 15.0 μ m 18.0 μ m	Using Gauge Block Accessories Set by Comparison Method as per IS 2966/P5.4-15
	Inside Micrometer Caliper type ^{\$} L.C. :1 μ m ^Φ	5mm to 50mm	10.0 μ m	
17.	Snap Gauge	Upto 300mm	3 μ m	Using Gauge Block & Dial Gauge by Comparison Method as per IS 919 & IS 3455 /P5.4-16
	Dial Snap Gauge Indicating Micrometer for parallelism of jaws ^{\$} L.C. :1 μ m ^Φ	Upto 50mm Upto 100mm Upto 175mm	1.4 μ m 1.5 μ m 2.1 μ m	
18.	Bevel protractor Inclinometer/ Clinometer ^{\$} L.C 5 min L.C 1 min Combination Set Degree Protractor	0-180°-0	5.7 min 3.6 min	Using Angle Gauge as per IS:4239 by Comparison Method Comparison Method/P5.4-17

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	L.C:1 Deg	0-180°-0	35'	
19.	Micrometer Head ^{\$} L.C. :0.2 μ m & Coarser L.C :1 μ m ^{ϕ} L.C. :10 μ m ^{ϕ}	0 to 25mm 0 to 25mm 0 to 50mm	0.8 μ m 2.6 μ m 7.0 μ m	Using Dial Gauge (0.1 μ m) Gauge Blocks by Comparison Method as per IS:9483 / P5.4-18
20.	Thread Plug Gauge ^{\$} (For Effective Dia.)	Up to 100mm	3.5 μ m	Using FCDM, Thread Measuring Wire, Gauge Blocks by Comparison Method as per IS:2334/IS:4218/P5.4-19
21.	Taper Thread Plug Gauges ^{\$} (For Effective Dia)	Upto \varnothing 100mm	5.0 μ m	Using FCDM, Thread Measuring Wires, Gauge Blocks by Comparison Method as per IS 9529/IS 2251/IS 9475/ P5.4-34
22.	'V' Block ^{\$} Parallelism, Squareness, Symmetry	Upto 150mm	7.0 μ m	Using Mandrel, Lever Dial by Comparison Method as per IS 2949, IS 4960/ P5.4-21
23.	Try Square Engineer's Square Angle Plate for Squareness ^{\$}	Upto 150mm	12.4 μ m	Using Granite Square & Gauge Block by Comparison Method as per IS:2103/ P5.4-22
24.	Ultrasonic Thickness			

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	Gauge ^{\$} L.C : 100 μ m ^{ϕ}	Upto 100mm	71 μ m	Using Gauge Block by Comparison Method as per P5.4-23
25.	Steel Scale ^{\$} L.C. 0.1 mm & Coarser	Upto 1000mm	330 μ m	Using Scale Calibrator by Comparison Method as per IS:1481/IS:1269,P5.4-24
	Measuring Tape ^{\$} L.C. 1 mm ^{$\phi$}	Upto 50000mm	330 \sqrt{L} L in mtrs	
	Pie Tape ^{\$} L.C. 1 mm ^{$\phi$}	Upto 5000mm	470 \sqrt{L} L in mtrs	
27.	Cylinder Setting Master Diameter Run out ^{\$}	0.5mm to 100mm	1.6 μ m 3.1 μ m	Using Gauge Block Dial indicator(0.1 μ m) FCDM by Comparison Method as per IS 4349 / P5.4-28
28.	Thread Measuring Cylinders Two/Three Wire set ^{\$}	0.17mm to 3.2mm	1.0 μ m	Using Dial indicator(0.1 μ m) by Comparison Method as per IS 11103 /P5.4-29
	Measuring Pins/Precision Steel Balls ^{\$}	0.1mm to 20mm	1.1 μ m	
29.	Wet Film thickness Gauge ^{\$} (Depth Measurement)	25 μ m to 200 μ m	5 μ m	Using Gauge Blocks by Comparison Method as per /P5.4-30

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30.	Bridge Cam Gauge/ Weld Gauge ^{\$} Depth Angle	Upto 50mm Upto 60degree	578 3 Deg of arc	Using Gauge Blocks/Angle Gauge by Comparison Method as per P5.4-31
31.	Steel Tape Calibrator ^{\$} L.C 10µm	Upto 1000mm	25.0 µm	Using Gauge Blocks & Accessories Set by Comparison Method as per P5.4-32
32.	Precision Spirit Level Square Level ^{\$} L.C. 0.01mm/m	±500 µ/mt	15.3 µm/mt	Using Indexing Table with Precision Micrometer Head by Comparison Method as per IS 5706, /P5.4-35
33.	Caliper Checker ^{\$}	Upto 600mm	6.5 µm	Using Gauge Block, Surface Plate, Lever Dial by Comparison Method as per IS 4349 /P5.4-36
34.	Hegman Gauge ^{\$}	Upto 100µm	5µm	Using Dial Gauge by Comparison Method as per IS 11103 /P5.4-37

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35.	Taper Scale ^{\$} L.C 1mm	0 to 150mm	58 μ m	Using Gauge Block by Comparison Method as per P5.4-39
36.	Slip Gauge Accessories Parallelism, Thickness Of Half Round Feeler ^{\$}	Upto 25mm	1.1 μ m	Using Gauge Blocks / Dial Gauge(0.1 μ m) by Comparison Method as per P5.4-40
II.	DIMENSION (PRECISION INSTRUMENTS)			
1.	Dial Gauge Calibration Tester ^{\$} L.C. 0.2 μ m	Upto 25mm	0.8 μ m	Using Gauge Block Set & Dial Indicator(0.1 μ m) by Comparison Method / IS 7599 /P5.4-25
III.	PRESSURE BALANCE OR DEAD WEIGHT TESTER			
1.	Pressure Gauge ^{\$} (Pneumatic)	0 to 30 Bar	0.7 bar	Using Digital Pressure Gauge with Pressure Pump by Comparison Method as per DKD R6-1
2.	Pressure Gauge ^{\$} (Hydraulic)	0 to 700 Bar	6.4 bar	Using Digital Pressure Gauge with Pressure Pump by Comparison Method as per DKD R6-1

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3.	Vacuum Gauge ^{\$}	(-)0.85 to 0 Bar	0.03 bar	Using Digital Vacuum Gauge with Vacuum Pump by Comparison Method as per DKD R6-2
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* Measurement Capability is expressed as an uncertainty (\pm) at a confidence probability of 95%

^{\$}Only in Permanent Laboratory

^ΦLaboratory can also calibrate instruments/devices of coarser resolution / least count within the accredited range using same reference standard/ master equipment under the scope of accreditation.

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