Laboratory	**Accurate Engineering Co. Pvt. Ltd., 3/842, Avadi Poonamallee Road, Senneerkuppam, Poonamallee, Chennai, Tamil Nadu**
Accreditation Standard	**ISO/IEC 17025: 2005**
Certificate Number	**CC-2706** **Page 1 of 8**
Validity	**28.05.2018 to 27.05.2020** **Last Amended on -**

Sl.	Quantity Measured / Instrument	Range/Frequency	*Calibration Measurement Capability (±)	Remarks
	MECHANICAL CALIBRATION			
I.	**DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)**			
1.	Gauge Blocks[$] (Grade "0" & Coarser)	Upto 25 mm >25 up to 50 mm > 50 up to 100 mm	0.12 µm 0.16 µm 0.22 µm	Using Gauge Block Comparator & Grade "K" Gauge Blocks By Comparison Method
2.	Thread Measuring Wires[$]	Ø 0.17 mm to 6.35 mm	1.1 µm	Using Electronic Comparator & Gauge Blocks By Comparison Method
3.	Cylindrical Setting Master[$]	Ø 1 mm to 100 mm Above 100 mm Up to 200 mm	1.0 µm 3.0 µm	Using Electronic Comparator & Gauge Blocks By Comparison Method
4.	Measuring Pins [$] (Grade "1" & Coarser)	0.3 mm to 25 mm	1.0 µm	Using Electronic Comparator & Gauge Blocks By Comparison Method
5.	Plain / Setting / Master Ring Gauge[$]	Ø 3 mm to 100 mm > Ø 100 mm to 200 mm	1.5 µm 2.5 µm	Using Universal Length Measuring M/c & Setting Ring Gauge By Comparison Method
6.	Micrometer Setting Standards[$]	25 mm up to 450 mm	(1+5X) µm "X" in m	Using Electronic Comparator & Gauge Blocks / ULM By Comparison Method

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7.	Thread Measuring Prism[$]	A/B/C/D	1.0 µm	Using Electronic Comparator By Comparison Method
8.	Riser Block[$]	Up to 150 mm > 150 mm to 300 mm	2.0 µm 3.0 µm	Using Lever Type Indicator, Surface Plate & Stand By Comparison Method
9.	Feeler Gauge[$]	0.1 mm to 2.0 mm	1.0 µm	Using Electronic Comparator By Comparison Method
10.	Master Foil for Coating Thickness Gauge[$]	Up to 1.25 mm	1.0 µm	Using Electronic Comparator Comparison Method
11.	Radius Gauge[$]	Up to 25 mm	13.2 µm	Using Video Measuring System By Comparison Method
12.	Gauge Block Accessories[$]	Up to 250 mm	1.0 µm	Using Electronic Comparator & Gauge Blocks By Comparison Method
13.	V-Block [$] (Perpendicularity, Flatness, Parallelism & Symmetry)	300 mm x 100 mm x 100 mm	6.5 µm	Using Co-ordinate Measuring Machine By Comparison Method
14.	Engineers Square / Try Square[$]	Upto 400 mm	6.0 µm	Using Co-ordinate Measuring Machine By Comparison Method

Sl.	Quantity Measured / Instrument	Range/Frequency	*Calibration Measurement Capability (±)	Remarks
15.	Plain Plug Gauge / Setting Master / Width Gauge / Thickness Gauge[$]	Upto 100 mm > Ø 100 mm to Ø 250 mm	1.4 µm 2.0 µm	Using Electronic Comparator & Gauge Blocks by Comparison Method
16.	Snap Gauge / Dial Snap Gauge / Adjustable Snap Gauge / Plain Gap Gauge[$]	1.2 mm to 50 mm > 50 mm to 100 mm >100 mm to 250 mm	2.0 µm 3.0 µm 4.0 µm	Using Gauge Blocks By Comparison Method
17.	Thread Plug Gauge[$]	Ø 2 mm to 200 mm	2.8 µm	Using Floating Carriage Dia. Measuring Machine, Thread Measuring wires/ ULM By Comparison Method
18.	Thread Ring Gauge[$]	Ø 3 mm to 100 mm > Ø 100 mm to 200 mm	1.9 µm 4.0 µm	Using Length Measuring Machine By Comparison Method
19.	Taper Thread Plug Gauge[$]	Ø 2 mm to 100 mm	6.5 µm	Using Floating Carriage Dia. Measuring Machine, Setting Master & Thread Measuring wires / ULM By Comparison Method
20.	Taper Thread Ring Gauge[$]	Ø 3 mm to 100 mm	2.0 µm	Using Universal Length Measuring Machine By Comparison Method
21.	Calipers[$] (Vernier/Dial/Digital) L.C.: 0.01 mm	Up to 1000 mm	(5+10x) µm “x” in m	Using Caliper Checker / Gauge Blocks / Length Bars By Comparison Method

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22.	Depth Gauge[$] (Vernier/Dial/Digital) L.C.: 0.01 mm	Up to 600 mm	(5+10x) µm "x" in m	Using Depth Micro Checker & Lever type Indicator By Comparison Method
23.	Height Gauge[$] (Vernier /Dial/ Digital) L.C.: 0.001mm	Up to 1000 mm	(1+4x) µm "x" in m	Using Caliper Checker / Gauge Blocks / Length Bars Comparison Method
24.	External Micrometer[$] L.C.: 0.001mm	Up to 100 mm >100 mm to 250 mm > 250 mm to 500 mm	1.5 µm 7.0 µm 9.0 µm	Using Grade "1" Gauge Blocks & Optical Flat By Comparison Method
25.	Internal Micrometer[$] L.C.: 0.01 mm	5 mm to 100 mm 100 mm to 250 mm	7.0 µm 9.0 µm	Using Master Ring Gauges by Comparison Method
26.	Depth Micrometer[$] LC.: 0.001 mm	Up to 150 mm > 150 mm to 250 mm	7.0 µm 8.0 µm	Using Depth Micro Checker & Gauge Blocks By Comparison Method
27.	Micrometer Head[$] L.C.: 0.0002 mm	Up to 25 mm	1.0 µm	Using Electronic Comparator By Comparison Method
28.	Height Micrometer[$] 0.0005 mm	Up to 300 mm	3.0 µm	Using Gauge Blocks & Lever type Indicator by Comparison Method
29.	Dial Calibration Tester[$] L.C.: 0.0001 mm	Up to 25 mm	1.0 µm	Using Electronic Comparator By Comparison method

Sl.	Quantity Measured / Instrument	Range/Frequency	*Calibration Measurement Capability (±)	Remarks
30.	Dial Gauge Plunger Type[$] L.C.: 0.001 mm	Up to 25 mm Up to 50 mm	1.2 µm 2.7 µm	Using Electronic Dial Calibration Tester By Comparison Method
31.	Dial Gauge Lever Type[$] L.C.: 0.001mm	Up to 2 mm	1.0 µm	Using Electronic Calibration Tester By Comparison Method
32.	Bore Gauge[$] (For Transmission) L.C.: 0.001 mm	Up to 2 mm (Ø 20 mm to 400 mm)	2.7 µm	Using Electronic Calibration Tester By Comparison Method
33.	Dial Snap Gauge / Dial Thickness Gauge/Pistol Caliper [$] 0.001 mm	Up to 200 mm	4.23 µm	Using Gauge Blocks By Comparison Method
34.	Comparator Stand[$]	Up to 300 mm	1.53 µm	Using Gauge Blocks & Lever type Indicator By Comparison based on IS: 14271
35.	Electronic Probe[$] Resolution: 0.1µm	Up to 300 mm	1.0 µm	Using Gauge Blocks by Comparison method
36.	Straight Edge[$]	Up to 600 mm	8.0 µm	Using CMM by Comparison method
37.	Three Point Bore Gauge[$] L.C.: 0.001 mm	Ø 6 mm Up to 100 mm	4.7 µm	Using Master Ring Gauges by Comparison method
38.	Sine Bar/Sine Centre[$]	Up to 300 mm & Up to 60º Center distance between Roller	6" Arc 4.0 µm	Using 3D Co-ordinate Measuring Machine By In-Direct Method

Sl.	Quantity Measured / Instrument	Range/Frequency	*Calibration Measurement Capability (±)	Remarks
39.	Angle Plate[$]	Upto 300 mm & Upto 90º	6.7 µm	Using 3D Co-ordinate Measuring Machine By In-direct Method
40.	Spirit Level[$] Sensitivity: 0.01mm/m	± 0.1 mm/m	0.01 mm/m	Using Electronic Level By Comparison method
41.	Bevel Protector / Combination Set[$] L.C.: 5 Arc Mins	0 to 360º	5' Arc	Using 3D Co-ordinate Measuring Machine By In-direct Method
42.	Pitch Micrometer For Anvil[$] L.C.: 0.001 mm	0 to 25 mm Angle	1.6 µm 7' 48"	Using Gauge Blocks and Video measuring Machine By Comparison Method
43.	Thread Pitch Gauge[$]	Flank Angle – 55º, 60º (Angle) Pitch 0.3 mm to 6.0 mm	7' 48" 10 µm	Using Video Measuring Machine By Direct Method
44.	Coating Thickness Gauge[$] L.C.: 0.001 mm	Up to 2 mm	4.5 µm	Using Master foils by Comparison Method
45.	Lobbing Micrometer / V – Anvil Micrometer[$] L.C.: 0.001 mm	Up to 25 mm	1.5 µm	Using Cylindrical Setting Masters By Comparison Method
46.	Spline Gauges[$] (Internal)	Up to 100 mm	2.0 µm	Using Gauge Blocks By Comparison Method
47.	Spline Gauges[$] (External)	Up to 100 mm	2.5 µm	Using FCDM / ULM By Comparison Method

Sl.	Quantity Measured / Instrument	Range/Frequency	*Calibration Measurement Capability (±)	Remarks
48.	Test Mandrel[$] Diameter Run Out	Up to 150 mm	 1.2 µm 5.0 µm	Using Electronic Comparator Probe By Comparison Method
49.	Surface Plate[♣]	2500 mm x 1600 mm	01.36 $\sqrt{\frac{W+L}{100}}$ µm W=Width, L=Length	Using Electronic Level In-direct Method
50.	Electronic Height Gauge [♣] L.C.: 0.0001 mm	Up to 600 mm Up to 1000 mm	4.0 µm 7.0 µm	Using Step Gauge / Check Master / Gauge Blocks By Comparison Method
51.	Metallurgical Microscope[♣]	100 x to 1000 x	0.4%	Using Glass Scale By Comparison Method
II.	**DIMENSION (PRECISION INSTRUMENTS)**			
1.	Caliper Checker / Depth Micro – Checker / Internal Micro Checker[$]	Up to 300 mm Above 300 mm to 600 mm	7.2 µm 8.0 µm	Using Co-ordinate Measuring Machine (CMM) by Comparison Method
2.	Floating Carriage Dia. Measuring Machine[$] L.C.: 0.0001µm	Up to 175 mm	2.0 µm	Using Cylinder Setting Master & Electronic Probe By Comparison Method
3.	Length Bars[$]	Up to 500 mm	3.8 µm	Using ULM By Comparison Method
4.	Reference Sphere Dia Measurement[$]	Dia 50 mm	1.5 µm	Using ULM By Comparison Method

Sl.	Quantity Measured / Instrument	Range/Frequency	*Calibration Measurement Capability (±)	Remarks
5.	Profile Projector Linear♣	Up to 100 mm	2.0 µm	Using Linear Glass Scale, Angular Glass Protractor By Comparison Method
	L.C.: 0.1 µm	Above 100 mm Up to 200 mm	7.0 µm	
	Angular L.C.: 1" Arc	0 to 360º	2" Arc	
	Magnification	10 x to 100 x	0.8 %	
6.	3-D Coordinate Measuring Machine♣ L.C.: 0.1 µm	1000 mm x1000 mm x 1000 mm	(2.3+2L) µm L in m	Using Check Master & Length Bars by Comparison Method
7.	Length Measuring Machine ♣ L.C.: 0.0001 mm	Up to 300 mm	0.5 µm Up to100 mm 3.0 µm Above100 mm Up to 300 mm	Using "K" Grade Gauge Blocks & Length Bar By Comparison Method

*** Measurement Capability is expressed as an uncertainty (±) at a confidence probability of 95%**
$Only in Permanent Laboratory
♣Only for Site Calibration