SCOPE OF ACCREDITATION

Laboratory Name : CALIBRATION CENTRE, BHARAT HEAVY ELECTRICALS LTD, BUILDING NUMBER-91, THIRUCHIRAPALLI, TAMIL NADU, INDIA

Accreditation Standard ISO/IEC 17025:2017

Certificate Number CC-2152 **Page No** 1 of 10

Validity 05/01/2023 to 04/01/2025 **Last Amended on** -

S.No	Discipline / Group	Measurand or Reference Material/Type of instrument or material to be calibrated or measured / Quantity Measured /Instrument	Calibration or Measurement Method or procedure	Measurement range and additional parameters where applicable(Range and Frequency)	* Calibration and Measurement Capability(CMC)(±)
Permanent Facility					
1	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Bevel Protractor L.C: 5 arc min	Using Profile Projector as per IS 4239 by comparison method	0 ° to 360 °	6 µm
2	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Bore Dial Gauge L.C:0.01 mm	Using Universal Length Measuring Machine as per JIS B 7515 by comparison method	0 to 1.2 mm	1.5 µm
3	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Bore Dial Gauge L.C:0.01 mm	Using Electronic Height master as per JIS B 7515 by comparison method	0 to 1.2 mm	5.12 µm
4	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Depth Micro checker	Using Electronic Height Master by Comparison Method.	0 to 300 mm	3.9 µm

SCOPE OF ACCREDITATION

Laboratory Name : CALIBRATION CENTRE, BHARAT HEAVY ELECTRICALS LTD, BUILDING NUMBER-91, THIRUCHIRAPALLI, TAMIL NADU, INDIA

Accreditation Standard ISO/IEC 17025:2017

Certificate Number CC-2152 **Page No** 2 of 10

Validity 05/01/2023 to 04/01/2025 **Last Amended on** -

S.No	Discipline / Group	Measurand or Reference Material/Type of instrument or material to be calibrated or measured / Quantity Measured /Instrument	Calibration or Measurement Method or procedure	Measurement range and additional parameters where applicable(Range and Frequency)	* Calibration and Measurement Capability(CMC)(±)
5	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Depth Micrometer L.C: 0.01 mm	Using Depth Micro Checker as per BS6468 by comparison method.	0 to 300 mm	8.17 µm
6	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Depth vernier L.C:0.01 mm	Using Depth Micro Checker as per IS 16491-2 by comparison method	0 to 300 mm	8.28 µm
7	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Depth vernier L.C:0.02 mm	Using Master Gauge Blocks as per IS 16491-2 by comparison method	0 to 600 mm	10.45 µm
8	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Dial Gauge - Lever Type L.C: 0.01 mm	Using Universal Length Measuring Machine as per IS 11498 by comparison method	0 to 1 mm	3 µm
9	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Dial Gauge - Lever Type L.C: 0.01 mm	Using Dial gauge Calibrator as per IS 11498 by comparison method	0 to 1 mm	3.4 µm

SCOPE OF ACCREDITATION

Laboratory Name : CALIBRATION CENTRE, BHARAT HEAVY ELECTRICALS LTD, BUILDING NUMBER-91, THIRUCHIRAPALLI, TAMIL NADU, INDIA

Accreditation Standard ISO/IEC 17025:2017

Certificate Number CC-2152 **Page No** 3 of 10

Validity 05/01/2023 to 04/01/2025 **Last Amended on** -

S.No	Discipline / Group	Measurand or Reference Material/Type of instrument or material to be calibrated or measured / Quantity Measured /Instrument	Calibration or Measurement Method or procedure	Measurement range and additional parameters where applicable(Range and Frequency)	* Calibration and Measurement Capability(CMC)(±)
10	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Dial Gauge - Plunger Type L.C: 0.001 mm	Using Universal Length Measuring Machine as per IS 2092 by comparison method	0 to 5 mm	0.79 µm
11	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Dial Gauge - Plunger Type L.C: 0.01 mm	Using Universal Length Measuring Machine as per IS 2092 by comparison method	0 to 10 mm	3 µm
12	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Dial Gauge - Plunger Type L.C: 0.01 mm	Using Dial gauge Calibrator as per IS 2092 by comparison method	0 to 10 mm	3.3 µm
13	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Electronic Comparator L.C:0.001 mm	Using Master Gauge Blocks by Comparison Method.	0 to 10 mm	0.9 µm
14	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Electronic Height Master L.C: 0.0001mm	Using Master Gauge Blocks by Comparison Method.	0 to 500 mm	3.6 µm

SCOPE OF ACCREDITATION

Laboratory Name : CALIBRATION CENTRE, BHARAT HEAVY ELECTRICALS LTD, BUILDING NUMBER-91, THIRUCHIRAPALLI, TAMIL NADU, INDIA

Accreditation Standard ISO/IEC 17025:2017

Certificate Number CC-2152 **Page No** 4 of 10

Validity 05/01/2023 to 04/01/2025 **Last Amended on** -

S.No	Discipline / Group	Measurand or Reference Material/Type of instrument or material to be calibrated or measured / Quantity Measured /Instrument	Calibration or Measurement Method or procedure	Measurement range and additional parameters where applicable(Range and Frequency)	* Calibration and Measurement Capability(CMC)(±)
15	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Engineer Square	Using Gauge blocks and Master Cylinder as per IS2103 by comparison method	Up to 300 mm	6 µm
16	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Extension rods	Using motorized setting bench by comparison method	25 mm to 1000 mm	10.74 µm
17	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Extension rods	Using electronic height master by comparison method	25 mm to 500 mm	4.4 µm
18	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Feeler Gauge	Using universal length measuring machine as per IS3179 by comparison method	0.05 mm to 1 mm	1.54 µm
19	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Height Gauge L.C:0.01 mm	Using Master Gauge Blocks as per IS 2921 by comparison method	0 to 600 mm	8.5 µm

SCOPE OF ACCREDITATION

Laboratory Name : CALIBRATION CENTRE, BHARAT HEAVY ELECTRICALS LTD, BUILDING NUMBER-91, THIRUCHIRAPALLI, TAMIL NADU, INDIA

Accreditation Standard ISO/IEC 17025:2017

Certificate Number CC-2152 **Page No** 5 of 10

Validity 05/01/2023 to 04/01/2025 **Last Amended on** -

S.No	Discipline / Group	Measurand or Reference Material/Type of instrument or material to be calibrated or measured / Quantity Measured /Instrument	Calibration or Measurement Method or procedure	Measurement range and additional parameters where applicable(Range and Frequency)	* Calibration and Measurement Capability(CMC)(±)
20	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Height Gauge L.C:0.02 mm	Using Master Gauge Blocks as per IS 2921 by comparison method	0 to 1000 mm	12.69 µm
21	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Inside Micro checker	Using Electronic Height Master by Comparison Method.	0 to 600 mm	5.8 µm
22	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Inside Micrometer L.C: 0.01 mm	Using motorized setting bench as per IS 2966 by comparison method	50 mm to 1000 mm	11.95 µm
23	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Inside Micrometer L.C:0.01 mm	Using electronic height master as per IS 2966 by comparison method	50 mm to 500 mm	5.1 µm
24	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Measuring Microscope (Linear) L.C: 0.0001 mm	Using gauge blocks as per ISO 10936-1 by comparison method	0 to 150 mm	2 µm

SCOPE OF ACCREDITATION

Laboratory Name : CALIBRATION CENTRE, BHARAT HEAVY ELECTRICALS LTD, BUILDING NUMBER-91, THIRUCHIRAPALLI, TAMIL NADU, INDIA

Accreditation Standard ISO/IEC 17025:2017

Certificate Number CC-2152 **Page No** 6 of 10

Validity 05/01/2023 to 04/01/2025 **Last Amended on** -

S.No	Discipline / Group	Measurand or Reference Material/Type of instrument or material to be calibrated or measured / Quantity Measured /Instrument	Calibration or Measurement Method or procedure	Measurement range and additional parameters where applicable(Range and Frequency)	* Calibration and Measurement Capability(CMC)(±)
25	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Measuring Microscope- Angular L.C: 1'	Using Master Angle Gauge Blocks by Comparison Method	0° to 180°	3arc minute
26	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Outside Micrometer L.C: 0.001 mm	Using Master Gauge Blocks as per IS 2967 by Comparison Method.	0 to 50 mm	12 µm
27	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Outside Micrometer L.C: 0.01 mm	Using Motorized setting bench as per IS 2967 by Comparison Method.	0 to 1000 mm	11.11 µm
28	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Outside Micrometer L.C: 0.01 mm	Using Master Gauge Blocks as per IS 2967 by Comparison Method.	0 to 1000 mm	9.9 µm
29	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Plain Plug Gauge	Using Universal Length Measuring Machine as per IS 3455 by comparison method	1 mm to 100 mm	1.7 µm

SCOPE OF ACCREDITATION

Laboratory Name : CALIBRATION CENTRE, BHARAT HEAVY ELECTRICALS LTD, BUILDING NUMBER-91, THIRUCHIRAPALLI, TAMIL NADU, INDIA

Accreditation Standard ISO/IEC 17025:2017

Certificate Number CC-2152 **Page No** 7 of 10

Validity 05/01/2023 to 04/01/2025 **Last Amended on** -

S.No	Discipline / Group	Measurand or Reference Material/Type of instrument or material to be calibrated or measured / Quantity Measured /Instrument	Calibration or Measurement Method or procedure	Measurement range and additional parameters where applicable(Range and Frequency)	* Calibration and Measurement Capability(CMC)(±)
30	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Plain Ring Gauge	Using Universal Length Measuring Machine as per IS 3485 by comparison method	14 mm to 100 mm	1.24 µm
31	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Radius Gauge	Using Measuring Microscope as per IS: 5273 by comparison method	7.5 mm to 15 mm	3.2 µm
32	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Spirit Level Sensitivity 0.010 mm/m	Using Electronic Level as per IS 5706	0 to 10 mm/m	0.006mm/m
33	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Steel Rule L.C: 1mm	Using Steel Tape and Steel Rule Calibration Unit as per IS 1481 by comparison method	1 mm to 1000 mm	51 µm
34	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Steel Tape L.C: 1 mm	Using Steel Tape and Steel Rule Calibration Unit as per IS 1269 – Part II by comparison method	1 mm to 30000 mm	16.171(L) + 7.9092µm Where L is meter

SCOPE OF ACCREDITATION

Laboratory Name : CALIBRATION CENTRE, BHARAT HEAVY ELECTRICALS LTD, BUILDING NUMBER-91, THIRUCHIRAPALLI, TAMIL NADU, INDIA

Accreditation Standard ISO/IEC 17025:2017

Certificate Number CC-2152 **Page No** 8 of 10

Validity 05/01/2023 to 04/01/2025 **Last Amended on** -

S.No	Discipline / Group	Measurand or Reference Material/Type of instrument or material to be calibrated or measured / Quantity Measured /Instrument	Calibration or Measurement Method or procedure	Measurement range and additional parameters where applicable(Range and Frequency)	* Calibration and Measurement Capability(CMC)(±)
35	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Steel Tape and Steel Rule Calibration Unit L.C: 0.001 mm	Using Master Gauge Blocks by Comparison Method	0 to 1000 mm	10µm
36	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Straight Edge	Using Gauge blocks and surface table as per IS2220 by comparison method	100 mm to 1000 mm	4 µm
37	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Surface plate	Using Coincidence Level as per IS 12397	0 to 1000 mm	3.7xSqrt (L+W)/100)µm; where L,W are in mm
38	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Surface plate	Using Electronic Level as per IS 12397	1000 mm to 1000 mm	1.8xSqrt (L+W)/150µm; where L,W are in mm
39	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Thread Measuring Cylinders	Using Universal Length Measuring Machine as per IS 6311	0.195 mm to 13.2 mm	0.8 µm

SCOPE OF ACCREDITATION

Laboratory Name : CALIBRATION CENTRE, BHARAT HEAVY ELECTRICALS LTD, BUILDING NUMBER-91, THIRUCHIRAPALLI, TAMIL NADU, INDIA

Accreditation Standard ISO/IEC 17025:2017

Certificate Number CC-2152 **Page No** 9 of 10

Validity 05/01/2023 to 04/01/2025 **Last Amended on** -

S.No	Discipline / Group	Measurand or Reference Material/Type of instrument or material to be calibrated or measured / Quantity Measured /Instrument	Calibration or Measurement Method or procedure	Measurement range and additional parameters where applicable(Range and Frequency)	* Calibration and Measurement Capability(CMC)(±)
40	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Thread Plug Gauge (Effective Diameter)	Using Universal Length Measuring Machine as per IS 2334	3 mm to 100 mm	0.8 µm
41	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Thread Ring Gauge (Effective Diameter)	Using Universal Length Measuring Machine as per IS 2334	5 mm to 90 mm	0.78 µm
42	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Vernier Caliper L.C:0.01 mm	Using motorized setting bench as per IS 16491-1 by comparison method	0 to 600 mm	10.27 µm
43	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Vernier Caliper L.C:0.01 mm	Using Master Gauge Blocks as per IS 16491-1 by comparison method	0 to 600 mm	9 µm
44	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Vernier Caliper L.C:0.02 mm	Using Motorized setting bench as per IS 16491-1 by comparison method	0 to 1000 mm	12.43 µm

SCOPE OF ACCREDITATION

Laboratory Name : CALIBRATION CENTRE, BHARAT HEAVY ELECTRICALS LTD, BUILDING NUMBER-91, THIRUCHIRAPALLI, TAMIL NADU, INDIA

Accreditation Standard ISO/IEC 17025:2017

Certificate Number CC-2152 **Page No** 10 of 10

Validity 05/01/2023 to 04/01/2025 **Last Amended on** -

S.No	Discipline / Group	Measurand or Reference Material/Type of instrument or material to be calibrated or measured / Quantity Measured /Instrument	Calibration or Measurement Method or procedure	Measurement range and additional parameters where applicable(Range and Frequency)	* Calibration and Measurement Capability(CMC)(±)
45	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Vernier Caliper L.C:0.02 mm	Using Master Gauge Blocks as per IS 16491-1 by comparison method	0 to 1000 mm	13.33 µm
46	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Wall thickness gauge L.C: 0.01 mm	Using Master Gauge Blocks as per IS 2092 by comparison method	0 to 20 mm	5.9 µm

*** CMCs represent expanded uncertainties expressed at approximately the 95% level of confidence, using a coverage factor of k = 2.**