



Laboratory Name :	INDUSTRIAL PREMISES, MIDC BHOSARI, PUNE, MAHARASHTRA, INDIA			
Accreditation Standard	ISO/IEC 17025:2017			
Certificate Number	CC-3863	Page No	1 of 63	
Validity	11/09/2024 to 10/09/2026	Last Amended on	27/09/2024	

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)(±)
		1.0	Permanent Facility	-	-
1	ELECTRO- TECHNICAL- Alternating Current (< 1 GHz) (Measure)	AC Current @ 50 Hz	Using 6½ DMM by Direct method	100 mA to 20 A	0.18 % to 0.51 %
2	ELECTRO- TECHNICAL- Alternating Current (< 1 GHz) (Measure)	AC current @ 50 Hz	Using 6½ DMM & Shunt by V/I method	30 A to 500 A	0.41 % to 1.63 %
3	ELECTRO- TECHNICAL- Alternating Current (< 1 GHz) (Measure)	AC current @ 50 Hz	Using 6½ DMM & Shunt by V/I method	500 A to 2000 A	1 % to 1.6 %
4	ELECTRO- TECHNICAL- Alternating Current (< 1 GHz) (Measure)	AC Current @50 Hz	Using 5 4/5 DMM by Direct/Comparison method	100 µA to 100 mA	0.4 % to 0.17 %





Laboratory Name :	CALITRON CALIBRATION LABORATORY (OPC) PRIVATE LIMITED, GALA NO. 40, PESH INDUSTRIAL PREMISES, MIDC BHOSARI, PUNE, MAHARASHTRA, INDIA			
Accreditation Standard	ISO/IEC 17025:2017			
Certificate Number	CC-3863	Page No	2 of 63	
Validity	11/09/2024 to 10/09/2026	Last Amended on	27/09/2024	

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	ELECTRO- TECHNICAL- Alternating Current (< 1 GHz) (Measure)	AC Current @50 Hz	Using 6½ DMM by Direct/Comparison method	2 A to 20 A	0.41 %
6	ELECTRO- TECHNICAL- Alternating Current (< 1 GHz) (Measure)	AC High Voltage @50 Hz	Using HV Probe and DMM by Direct/Comparison method	1 kV to 10 kV	2.8 %
7	ELECTRO- TECHNICAL- Alternating Current (< 1 GHz) (Measure)	AC Power/Energy	Using Power analyzer by Direct and Comparison method	(30V, 3.3mA. 0.1PF) 100mW to (300 V, 20.5 A, 1 PF 6 kW	1.6 % to 1.5 %
8	ELECTRO- TECHNICAL- Alternating Current (< 1 GHz) (Measure)	AC resistance @1 kHz	Using LCR meter by Comparison method	1 Ohm to 10 kohm	1.2 % to 0.5 %
9	ELECTRO- TECHNICAL- Alternating Current (< 1 GHz) (Measure)	AC voltage (50 Hz to 1 kHz)	Using 6½ DMM by Direct method	1 mV to 10 mV	0.7 % to 0.12 %





Laboratory Name :	CALITRON CALIBRATION LABORATORY (OPC) PRIVATE LIMITED, GALA NO. 40, PESH INDUSTRIAL PREMISES, MIDC BHOSARI, PUNE, MAHARASHTRA, INDIA		
Accreditation Standard	ISO/IEC 17025:2017		
Certificate Number	CC-3863	Page No	3 of 63
Validity	11/09/2024 to 10/09/2026	Last Amended on	27/09/2024

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	ELECTRO- TECHNICAL- Alternating Current (< 1 GHz) (Measure)	AC voltage (50 Hz to 1 kHz)	Using 6½ DMM by Direct method	10 mV to 100 mV	0.45 % to 0.2 %
11	ELECTRO- TECHNICAL- Alternating Current (< 1 GHz) (Measure)	AC voltage (50 Hz to 1 kHz)	Using 6½ DMM by Direct/ comparision method	100 V to 1000 V	0.12 % to 0.12 %
12	ELECTRO- TECHNICAL- Alternating Current (< 1 GHz) (Measure)	AC voltage (50 Hz to 10 kHz)	Using 6½ DMM by Direct/Comparison method	100 mV to 100 V	0.2 % to 0.18 %
13	ELECTRO- TECHNICAL- Alternating Current (< 1 GHz) (Measure)	Active Power & Energy (1Ph & 3Ph)	Using Power Reference Standard by Comparison method	(40 V, 0.01 A, 0.5 PF) to (300 V, 120 A, 1 PF)	0.29 % to 0.2 %
14	ELECTRO- TECHNICAL- Alternating Current (< 1 GHz) (Measure)	Capacitance @1 kHz	Using LCR meter by Direct/Comparison method	1 μF to 1 mF	0.4 % to 2.3 %





Laboratory Name :	INDUSTRIAL PREMISES, MIDC BHOSARI, PUNE, MAHARASHTRA, INDIA			
Accreditation Standard	ISO/IEC 17025:2017			
Certificate Number	CC-3863	Page No	4 of 63	
Validity	11/09/2024 to 10/09/2026	Last Amended on	27/09/2024	

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	ELECTRO- TECHNICAL- Alternating Current (< 1 GHz) (Measure)	Capacitance @1 kHz	Using LCR meter by Direct/Comparison method	100 pF to 1000 nF	0.6 % to 0.26 %
16	ELECTRO- TECHNICAL- Alternating Current (< 1 GHz) (Measure)	Current Harmonics @50 Hz	Using 3 phase power analyser by Comparison method	250 mA to 20 A	0.56 %
17	ELECTRO- TECHNICAL- Alternating Current (< 1 GHz) (Measure)	Current Transformer Ratio	Using Standard CT and 6½ DMM by V/I method	>20 A to 1000 A	0.35 %
18	ELECTRO- TECHNICAL- Alternating Current (< 1 GHz) (Measure)	Inductance @1 kHz	Using LCR meter by Direct/Comparison method	100 µH to 10 H	2.6 % to 1.7 %
19	ELECTRO- TECHNICAL- Alternating Current (< 1 GHz) (Measure)	Power Factor	Using Power analyzer by Direct method	(-)1 PF to 1 PF	0.02 PF





Laboratory Name :	INDUSTRIAL PREMISES, MIDC BHOSA	RY (OPC) PRIVATE LIMIT RI, PUNE, MAHARASHT	ED, GALA NO. 40, PESH RA, INDIA
Accreditation Standard	ISO/IEC 17025:2017		
Certificate Number	CC-3863	Page No	5 of 63
Validity	11/09/2024 to 10/09/2026	Last Amended on	27/09/2024

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	ELECTRO- TECHNICAL- Alternating Current (< 1 GHz) (Measure)	Reactive Power/ Energy	Using Reference Power Standard by Comparison method	0.4 mVA to 36 kVA	0.17 % to 0.2 %
21	ELECTRO- TECHNICAL- Alternating Current (< 1 GHz) (Measure)	Voltage Harmonics upto 50th harmonics	Using 3 phase power analyser by Comparison method	63.5 V to 230 V	0.6 %
22	ELECTRO- TECHNICAL- Alternating Current (< 1 GHz) (Source)	AC current (50 Hz to 1 kHz)	Using Multifunction Calibrator by Direct method	1 A to 20 A	0.066 % to 0.24 %
23	ELECTRO- TECHNICAL- Alternating Current (< 1 GHz) (Source)	AC current (50 Hz to 1 kHz)	Using Multifunction Calibrator by Direct method	30 µA to 30 mA	0.71 % to 0.066 %
24	ELECTRO- TECHNICAL- Alternating Current (< 1 GHz) (Source)	AC current (50 Hz to 1 kHz)	Using Multifunction Calibrator by Direct method	30 mA to 1 A	0.69 % to 0.066 %





Laboratory Name :	CALITRON CALIBRATION LABORATO	RY (OPC) PRIVATE LIMI <sup>-</sup> ARI, PUNE, MAHARASH1	red, gala no. 40, pesh rra, india
Accreditation Standard	ISO/IEC 17025:2017		
Certificate Number	CC-3863	Page No	6 of 63
Validity	11/09/2024 to 10/09/2026	Last Amended on	27/09/2024

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	ELECTRO- TECHNICAL- Alternating Current (< 1 GHz) (Source)	AC current @50 Hz	Using Multifunction Calibrator and Coil by Direct method	100 A to 500 A	0.41 % to 0.8 %
26	ELECTRO- TECHNICAL- Alternating Current (< 1 GHz) (Source)	AC current @50 Hz	Using Multifunction Calibrator and Coil by Direct method	20 A to 100 A	0.41 % to 1.6 %
27	ELECTRO- TECHNICAL- Alternating Current (< 1 GHz) (Source)	AC current @50 Hz	Using Multifunction Calibrator and Coil by Direct method	500 A to 1000 A	0.8 % to 1.6 %
28	ELECTRO- TECHNICAL- Alternating Current (< 1 GHz) (Source)	AC Power	Using Multifunction Calibrator by Direct method	30 V, 3.3 mA, 0.1 PF to 300 V, 20.5 A, 1 PF (0.01 to 6 kW)	1.61 % to 1.5 %
29	ELECTRO- TECHNICAL- Alternating Current (< 1 GHz) (Source)	AC voltage (50 Hz to 1 kHz)	Using Multifunction Calibrator by Direct method	1 mV to 10 mV	0.72 % to 0.09 %
30	ELECTRO- TECHNICAL- Alternating Current (< 1 GHz) (Source)	AC voltage (50 Hz to 1 kHz)	Using Multifunction Calibrator by Direct method	10 mV to 100 mV	0.09 % to 0.029 %





Laboratory Name :	CALITRON CALIBRATION LABORATORY (OPC) PRIVATE LIMITED, GALA NO. 40, PESH INDUSTRIAL PREMISES, MIDC BHOSARI, PUNE, MAHARASHTRA, INDIA			
Accreditation Standard	ISO/IEC 17025:2017			
Certificate Number	CC-3863	Page No	7 of 63	
Validity	11/09/2024 to 10/09/2026	Last Amended on	27/09/2024	

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)(±)
31	ELECTRO- TECHNICAL- Alternating Current (< 1 GHz) (Source)	AC Voltage (50 Hz to 1 kHz)	Using Multifunction Calibrator by Direct method	10 V to 100 V	0.026 % to 0.003 %
32	ELECTRO- TECHNICAL- Alternating Current (< 1 GHz) (Source)	AC Voltage (50 Hz to 1 kHz)	Using Multifunction Calibrator by Direct method	100 mV to 10 V	0.029 % to 0.026 %
33	ELECTRO- TECHNICAL- Alternating Current (< 1 GHz) (Source)	AC voltage (50 Hz to 1 kHz)	Using Multifunction Calibrator by Direct method	100 V to 1000 V	0.003 % to 0.037 %
34	ELECTRO- TECHNICAL- Alternating Current (< 1 GHz) (Source)	Capacitance @1 kHz	Using Decade Capacitance Box by Direct Method	100 pF to 10 μF	1.8 %
35	ELECTRO- TECHNICAL- Alternating Current (< 1 GHz) (Source)	Inductance @1 kHz	Using Grade 'A' decade Inductance box by Direct method	100 µH to 10 H	2.7 % to 1.7 %
36	ELECTRO- TECHNICAL- Alternating Current (< 1 GHz) (Source)	Power factor	Using Multifunction calibrator by Direct method	(-)1 PF to 1 PF	0.003 PF





Laboratory Name :	CALITRON CALIBRATION LABORATORY (OPC) PRIVATE LIMITED, GALA NO. 40, PESH INDUSTRIAL PREMISES, MIDC BHOSARI, PUNE, MAHARASHTRA, INDIA		
Accreditation Standard	ISO/IEC 17025:2017		
Certificate Number	CC-3863	Page No	8 of 63
Validity	11/09/2024 to 10/09/2026	Last Amended on	27/09/2024

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)(±)
37	ELECTRO- TECHNICAL- DIRECT CURRENT (Measure)	DC Current	Using Standard shunt & 6½ DMM by V/I method	>20 A to 1000 A	1.2 %
38	ELECTRO- TECHNICAL- DIRECT CURRENT (Measure)	DC Current	Using 6½ DMM by Direct method	10 μA to 100 μA	2.3 % to 0.12 %
39	ELECTRO- TECHNICAL- DIRECT CURRENT (Measure)	DC Current	Using 6½ DMM by Direct method	100 µA to 100 mA	0.2 % to 0.12 %
40	ELECTRO- TECHNICAL- DIRECT CURRENT (Measure)	DC Current	Using 6½ DMM by Direct method	100 mA to 2 A	0.07 % to 0.21 %
41	ELECTRO- TECHNICAL- DIRECT CURRENT (Measure)	DC Current	Using 6½ DMM & Shunt by V/I method	2 A to 20 A	0.38 % to 0.7 %
42	ELECTRO- TECHNICAL- DIRECT CURRENT (Measure)	DC High voltage	Using HV Probe and DMM by Direct/Comparison method	2 kV to 40 kV	3 % to 3.9 %





Laboratory Name :	INDUSTRIAL PREMISES, MIDC BHOSARI, PUNE, MAHARASHTRA, INDIA			
Accreditation Standard	ISO/IEC 17025:2017			
Certificate Number	CC-3863	Page No	9 of 63	
Validity	11/09/2024 to 10/09/2026	Last Amended on	27/09/2024	

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)(±)
43	ELECTRO- TECHNICAL- DIRECT CURRENT (Measure)	DC Power	Using Power analyzer by Direct method	10 W (10 V, 1 A) to 12 kW (600 V, 20 A)	0.73 % to 0.7 %
44	ELECTRO- TECHNICAL- DIRECT CURRENT (Measure)	DC Resistance	Using 6½ DMM by Direct method	>1 kohm to 1000 Mohm	0.014 % to 9.5 %
45	ELECTRO- TECHNICAL- DIRECT CURRENT (Measure)	DC Resistance	Using 6½ DMM by Direct method	1 Ohm to 1 kohm	1.4 % to 0.06 %
46	ELECTRO- TECHNICAL- DIRECT CURRENT (Measure)	DC Voltage	Using 6½ DMM by Direct method	1 mV to 100 mV	0.2 % to 0.12 %
47	ELECTRO- TECHNICAL- DIRECT CURRENT (Measure)	DC Voltage	Using 6½ DMM by Direct method	100 μV to 1 mV	4.2 % to 0.2 %
48	ELECTRO- TECHNICAL- DIRECT CURRENT (Measure)	DC Voltage	Using 6½ DMM by Direct Method	100 mV to 1000 V	0.12 % to 0.01 %





Laboratory Name :	INDUSTRIAL PREMISES, MIDC BHOSARI, PUNE, MAHARASHTRA, INDIA			
Accreditation Standard	ISO/IEC 17025:2017			
Certificate Number	CC-3863	Page No	10 of 63	
Validity	11/09/2024 to 10/09/2026	Last Amended on	27/09/2024	

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)(±)
49	ELECTRO- TECHNICAL- DIRECT CURRENT (Source)	DC Current	Using Multifunction Calibrator by Direct method	1 μΑ to 100 μΑ	2.3 % to 0.04 %
50	ELECTRO- TECHNICAL- DIRECT CURRENT (Source)	DC Current	Using Multifunction Calibrator by Direct method	10 mA to 1 A	0.015 % to 0.05 %
51	ELECTRO- TECHNICAL- DIRECT CURRENT (Source)	DC Current	Using Multifunction Calibrator by Direct method	100 µA to 10 mA	0.04 % to 0.015 %
52	ELECTRO- TECHNICAL- DIRECT CURRENT (Source)	DC Power	Using Multifunction Calibrator by Direct method	(10 V, 100 mA) to (600 V, 20.5 A)	0.06 % to 0.13 %
53	ELECTRO- TECHNICAL- DIRECT CURRENT (Source)	DC Resistance	Using Multifunction Calibrator by Direct method	1 Mohm to 1000 Mohm	0.004 % to 1.77 %
54	ELECTRO- TECHNICAL- DIRECT CURRENT (Source)	DC Resistance	Using Fixed resistances by Comparison method	1 mohm	0.8 %





Laboratory Name :	INDUSTRIAL PREMISES, MIDC BHOSARI, PUNE, MAHARASHTRA, INDIA			
Accreditation Standard	ISO/IEC 17025:2017			
Certificate Number	CC-3863	Page No	11 of 63	
Validity	11/09/2024 to 10/09/2026	Last Amended on	27/09/2024	

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)(±)
55	ELECTRO- TECHNICAL- DIRECT CURRENT (Source)	DC resistance	Using Precision Decade box by Direct method	10 mohm to 1 Ohm	1.3 % to 0.74 %
56	ELECTRO- TECHNICAL- DIRECT CURRENT (Source)	DC Resistance	Using Fixed resistances by Comparison method	250 µohm	0.28 %
57	ELECTRO- TECHNICAL- DIRECT CURRENT (Source)	DC Resistance	Using Multifunction Calibrator by Direct method	3 kohm to 1 Mohm	0.01 % to 0.006 %
58	ELECTRO- TECHNICAL- DIRECT CURRENT (Source)	DC Resistance	Using Multifunction Calibrator by Direct method	300 Ohm to 3 kohm	0.008 % to 0.01 %
59	ELECTRO- TECHNICAL- DIRECT CURRENT (Source)	DC Resistance	Using Fixed resistances by Comparison method	75 μohm	3.4 %
60	ELECTRO- TECHNICAL- DIRECT CURRENT (Source)	DC Resistance (4 wire)	Using Fixed resistance by Comparison method	35 μohm	0.80 %





Laboratory Name :	INDUSTRIAL PREMISES, MIDC BHOSA	RY (OPC) PRIVATE LIMIT RI, PUNE, MAHARASHT	ED, GALA NO. 40, PESH RA, INDIA
Accreditation Standard	ISO/IEC 17025:2017		
Certificate Number	CC-3863	Page No	12 of 63
Validity	11/09/2024 to 10/09/2026	Last Amended on	27/09/2024

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)(±)
61	ELECTRO- TECHNICAL- DIRECT CURRENT (Source)	DC Resistance(4W)	Using Multifunction Calibrator by Direct method	1 Ohm to 300 Ohm	1.2 % to 0.004 %
62	ELECTRO- TECHNICAL- DIRECT CURRENT (Source)	DC Voltage	Using Multifunction Calibrator by Direct method	1 mV to 1 V	0.16 % to 0.12 %
63	ELECTRO- TECHNICAL- DIRECT CURRENT (Source)	DC Voltage	Using Multifunction Calibrator by Direct method	1 V to 10 V	0.12 % to 0.002 %
64	ELECTRO- TECHNICAL- DIRECT CURRENT (Source)	DC Voltage	Using Multifunction Calibrator by Direct method	10 V to 1000 V	0.002 %
65	ELECTRO- TECHNICAL- DIRECT CURRENT (Source)	DC Voltage	Using Multifunction Calibrator by Direct method	100 μV to 1 mV	1.2 % to 0.16 %
66	ELECTRO- TECHNICAL- ELECTRICAL EQUIPMENT (Source)	Conductivity meter (10 mohm to 1 Tohm)	Using Decade Resistance Box by Simulation method	0.01 pS to 20000 μS	2.5 % to 0.3 %





Laboratory Name :	INDUSTRIAL PREMISES, MIDC BHOSARI, PUNE, MAHARASHTRA, INDIA			
Accreditation Standard	ISO/IEC 17025:2017			
Certificate Number	CC-3863	Page No	13 of 63	
Validity	11/09/2024 to 10/09/2026	Last Amended on	27/09/2024	

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)(±)
67	ELECTRO- TECHNICAL- ELECTRICAL EQUIPMENT (Source)	Oscilloscope (Bandwidth)	Using RF generator by Direct method	25 MHz to 12 GHz	5 %
68	ELECTRO- TECHNICAL- ELECTRICAL EQUIPMENT (Source)	Oscilloscope (Timebase)	Using Multifunction Calibrator and RF generator by Direct method	100 ps to 20 s	0.06 %
69	ELECTRO- TECHNICAL- ELECTRICAL EQUIPMENT (Source)	Oscilloscope (Vertical deflection)	Using Multifunction Calibrator and RF generator by Direct method	2 mV to 50 V	0.24 % to 0.03 %
70	ELECTRO- TECHNICAL- ELECTRICAL EQUIPMENT (Source)	pH meter (+414.12 mV to -414.12 mV)	Using Calibrator by Simulation method	0 pH to 14 pH	1.3 % to 1.3 %
71	ELECTRO- TECHNICAL- EMI/ EMC (Measure)	EFT Systems (Rise time)	Using Oscilloscope by Direct method	5±1.5 ns	15 %
72	ELECTRO- TECHNICAL- EMI/ EMC (Measure)	Electrical fast transient test systems (Amplitude)	Using Oscilloscope by Direct Method	250 V to 4 kV	8.67 %





Laboratory Name :	CALITRON CALIBRATION LABORATORY (OPC) PRIVATE LIMITED, GALA NO. 40, PESH INDUSTRIAL PREMISES, MIDC BHOSARI, PUNE, MAHARASHTRA, INDIA			
Accreditation Standard	ISO/IEC 17025:2017			
Certificate Number	CC-3863	Page No	14 of 63	
Validity	11/09/2024 to 10/09/2026	Last Amended on	27/09/2024	

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)(±)
73	ELECTRO- TECHNICAL- EMI/ EMC (Measure)	Electrical fast transient test systems (Burst Duration)	Using Oscilloscope by Direct Method	15±3 ms	7 %
74	ELECTRO- TECHNICAL- EMI/ EMC (Measure)	Electrical fast transient test systems (Burst Period)	Using Oscilloscope by Direct Method	300±60 ms	1%
75	ELECTRO- TECHNICAL- EMI/ EMC (Measure)	Electrical fast transient test systems (Pulse width)	Using Oscilloscope by Direct Method	50±1.5 ns ns	5.8 %
76	ELECTRO- TECHNICAL- EMI/ EMC (Measure)	Electrical fast transient test systems (Repetition Frequency)	Using Oscilloscope by Direct Method	5 kHz to 100 kHz	1 %
77	ELECTRO- TECHNICAL- TEMPERATURE SIMULATION (Measure)	E type Thermocouple	Using Multifunction calibrator by direct Method	0 °C to 800 °C	0.6 °C
78	ELECTRO- TECHNICAL- TEMPERATURE SIMULATION (Measure)	J type thermocouple	Using Multifunction Calibrator by Direct method	-180 °C to 750 °C	0.5 °C





Laboratory Name :	CALITRON CALIBRATION LABORATORY (OPC) PRIVATE LIMITED, GALA NO. 40, PESH INDUSTRIAL PREMISES, MIDC BHOSARI, PUNE, MAHARASHTRA, INDIA			
Accreditation Standard	ISO/IEC 17025:2017			
Certificate Number	CC-3863	Page No	15 of 63	
Validity	11/09/2024 to 10/09/2026	Last Amended on	27/09/2024	

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)(±)
79	ELECTRO- TECHNICAL- TEMPERATURE SIMULATION (Measure)	K type thermocouple	Using Multifunction Calibrator by Direct method	-200 °C to 1340 °C	0.46 °C
80	ELECTRO- TECHNICAL- TEMPERATURE SIMULATION (Measure)	N type Thermocouple	Using Multifunction calibrator by direct method	-200 °C to 1300 °C	0.46 °C
81	ELECTRO- TECHNICAL- TEMPERATURE SIMULATION (Measure)	R type Thermocouple	Using multifunction calibrator by direct method	50 °C to 1700 °C	1.2 °C
82	ELECTRO- TECHNICAL- TEMPERATURE SIMULATION (Measure)	RTD	Using 6½ DMM by Direct method	>0 °C to 600 °C	0.37 °C
83	ELECTRO- TECHNICAL- TEMPERATURE SIMULATION (Measure)	RTD	Using 6½ DMM by Direct method	-200 °C to 0 °C	0.17 °C
84	ELECTRO- TECHNICAL- TEMPERATURE SIMULATION (Measure)	S type Thermocouple	Using Multifunction Calibrator by direct method	50 °C to 1700 °C	1.2 °C





Laboratory Name :	CALITRON CALIBRATION LABORATORY (OPC) PRIVATE LIMITED, GALA NO. 40, PESH INDUSTRIAL PREMISES, MIDC BHOSARI, PUNE, MAHARASHTRA, INDIA			
Accreditation Standard	ISO/IEC 17025:2017			
Certificate Number	CC-3863	Page No	16 of 63	
Validity	11/09/2024 to 10/09/2026	Last Amended on	27/09/2024	

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)(±)
85	ELECTRO- TECHNICAL- TEMPERATURE SIMULATION (Source)	E type Thermocouple	Using Multifunction Calibrator by Direct method	0 °C to 800 °C	0.58 °C
86	ELECTRO- TECHNICAL- TEMPERATURE SIMULATION (Source)	K & J Thermocouple	Using Multifunction Calibrator by Direct method	-200 °C to 1200 °C	0.5 °C
87	ELECTRO- TECHNICAL- TEMPERATURE SIMULATION (Source)	N type Thermocouple	Using Multifunction Calibrator by Direct method	0 °C to 1000 °C	0.46 °C
88	ELECTRO- TECHNICAL- TEMPERATURE SIMULATION (Source)	R & S Type Thermocouple	Using Multifunction Calibrator by Direct method	2 °C to 1750 °C	0.7 °C
89	ELECTRO- TECHNICAL- TEMPERATURE SIMULATION (Source)	RTD	Using Multifunction Calibrator by Direct method	-250 °C to 800 °C	0.26 °C
90	ELECTRO- TECHNICAL- TEMPERATURE SIMULATION (Source)	T type thermocouple	Using Multifunction Calibrator by Direct method	-250 °C to 400 °C	0.8 °C





Laboratory Name :	CALITRON CALIBRATION LABORATO	DRY (OPC) PRIVATE LIMI SARI, PUNE, MAHARASHT	red, gala no. 40, pesh rra, india
Accreditation Standard	ISO/IEC 17025:2017		
Certificate Number	CC-3863	Page No	17 of 63
Validity	11/09/2024 to 10/09/2026	Last Amended on	27/09/2024

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)(±)
91	ELECTRO- TECHNICAL- TIME & FREQUENCY (Measure)	Frequency	Using High resolution counter by Direct/Comparison method	1 Hz to 1 GHz	0.11 % to 0.12 %
92	ELECTRO- TECHNICAL- TIME & FREQUENCY (Measure)	Time	Using Time interval meter by using Direct/Comparison method	1 s to 9000 s	0.04 s to 0.26 s
93	ELECTRO- TECHNICAL- TIME & FREQUENCY (Source)	Frequency	Using Multiproduct Calibrator by Direct method	100 Hz to 2 MHz	0.008 % to 0.0032 %
94	ELECTRO- TECHNICAL- TIME & FREQUENCY (Source)	Frequency	Using RF Signal Generator by Direct method	100 MHz to 2.5 GHz	0.0008 % to 0.00033 %
95	ELECTRO- TECHNICAL- TIME & FREQUENCY (Source)	Frequency	Using Multifunction Calibrator by Direct method	50 mHz to 100 Hz	1.52 % to 0.008 %
96	FLUID FLOW- FLOW MEASURING DEVICES	Flow Rate (Air Medium) Flow Meter / Flow Calibrator / Handy Sampler / Gas Sampler etc	Using Flow calibrator by Comparison method	2 lpm to 100 lpm	1 % Rdg





Laboratory Name :	CALITRON CALIBRATION LABORATORY (OPC) PRIVATE LIMITED, GALA NO. 40, PESH INDUSTRIAL PREMISES, MIDC BHOSARI, PUNE, MAHARASHTRA, INDIA			
Accreditation Standard	ISO/IEC 17025:2017			
Certificate Number	CC-3863	Page No	18 of 63	
Validity	11/09/2024 to 10/09/2026	Last Amended on	27/09/2024	

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)(±)
97	FLUID FLOW- FLOW MEASURING DEVICES	Flow Rate (Air Medium) Flow Meter / Flow Calibrator / Handy Sampler / Gas Sampler etc	Using Flow calibrator by Comparison method	600 cc/minute to 2000 cc/minute	1.2 % Rdg
98	FLUID FLOW- FLOW MEASURING DEVICES	Flow Velocity (Air Medium) Thermal Type(Hot wire) Anemometers / Sensor with Indicator	Using Thermo Anemometer by Comparison method	0.5 m/s to 3 m/s	8 % Rdg
99	FLUID FLOW- FLOW MEASURING DEVICES	Flow Velocity (Air Medium) Thermal Type(Hot wire) Anemometers / Sensor with Indicator	Using Thermo Anemometer by Comparison method	3 m/s to 9 m/s	1.8 % Rdg
100	MECHANICAL- ACCELERATION AND SPEED	Tachometer- Contact type	Using Tachometer and Tachometer Calibrator as per SANAS guideline TR45-01	10 rpm to 500 rpm	0.52 rpm
101	MECHANICAL- ACCELERATION AND SPEED	Tachometer- Contact type	Using Tachometer and Tachometer Calibrator as per SANAS guideline TR45-01	1000 rpm to 10000 rpm	3.2 rpm





Laboratory Name :	CALITRON CALIBRATION LABORATORY (OPC) PRIVATE LIMITED, GALA NO. 40, PESH INDUSTRIAL PREMISES, MIDC BHOSARI, PUNE, MAHARASHTRA, INDIA				
Accreditation Standard	ISO/IEC 17025:2017				
Certificate Number	CC-3863	Page No	19 of 63		
Validity	11/09/2024 to 10/09/2026	Last Amended on	27/09/2024		

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)(±)
102	MECHANICAL- ACCELERATION AND SPEED	Tachometer- Contact type	Using Tachometer and Tachometer Calibrator as per SANAS guideline TR45-01	500 rpm to 1000 rpm	2.2 rpm
103	MECHANICAL- ACCELERATION AND SPEED	Tachometer- Non contact type	Using Tachometer and Tachometer Calibrator as per SANAS guideline TR45-01	10 rpm to 1000 rpm	1 rpm
104	MECHANICAL- ACCELERATION AND SPEED	Tachometer- Non contact type	Using Tachometer and Tachometer Calibrator as per SANAS guideline TR45-01	1000 rpm to 10000 rpm	4 rpm
105	MECHANICAL- ACCELERATION AND SPEED	Tachometer- Non contact type	Using Tachometer and Tachometer Calibrator as per SANAS guideline TR45-01	10000 rpm to 90000 rpm	5.9 rpm
106	MECHANICAL- ACOUSTICS	Sound level meter @1 kHz	Using Sound calibrator by Comparison method	94 dB & 114 dB	0.7 dB
107	MECHANICAL- DENSITY AND VISCOSITY	Density of liquids	Using E1 class Weights and weighing balance of readability 0.01mg as per IS 4730 and OIML G14	0.6 g/ml to 1.5 g/ml	0.001 g/ml





### **SCOPE OF ACCREDITATION**

Laboratory Name :	INDUSTRIAL PRE		
Accreditation Standard	ISO/IEC 17025:2		
Certificate Number	CC-3863		
Validity	11/09/2024 to 1		

CALITRON CALIBRATION LABORATORY (OPC) PRIVATE LIMITED, GALA NO. 40, PESH EMISES, MIDC BHOSARI, PUNE, MAHARASHTRA, INDIA 2017

11/09/2024 to 10/09/2026

Page No	20 of 63
Last Amended on	27/09/20

27/09/2024
------------

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)(±)
108	MECHANICAL- DENSITY AND VISCOSITY	Density of Solids	Using E1 class weights and weighing balance of 0.1mg readability as per Hydrostatic weighing method and OIML G14	1 g/ml to 8 g/ml	0.007 g/ml
109	MECHANICAL- DENSITY AND VISCOSITY	Density or specific gravity / density Hydrometer, Specific gravity hydrometer, Brix hydrometer, Twaddle scale hydrometer etc	Using Weighing balance of 1mg readability with underside weighing arrangement and distilled water as per hydrostatic weighing and OIML G14	0.6 g/ml to 2 g/ml	0.0005 g/ml
110	MECHANICAL- DENSITY AND VISCOSITY	Flow cup: Ford cup B1 to B6 type / Zahn cup	Using Newtonian liquids and timing device as per ASTM D1200 and IS 3944	10 mm²/s to 1000 mm²/s	0.4 %
111	MECHANICAL- DENSITY AND VISCOSITY	Rotational Viscometer	Using calibrated Newtonian oils and thermometer, timing device	50 cp to 2500 cp	0.9 %
112	MECHANICAL- DENSITY AND VISCOSITY	Viscometer constant of Glass Capillary Viscometer	Using Newtonian liquids of known kinematic viscosity, temperature controlled bath and timing device as per ASTM D446 / ISO 3104	0.4 cst to 2500 cst	0.4 %





Laboratory Name :	CALITRON CALIBRATION LABORATORY (OPC) PRIVATE LIMITED, GALA NO. 40, PESH INDUSTRIAL PREMISES, MIDC BHOSARI, PUNE, MAHARASHTRA, INDIA				
Accreditation Standard	ISO/IEC 17025:2017				
Certificate Number	CC-3863	Page No	21 of 63		
Validity	11/09/2024 to 10/09/2026	Last Amended on	27/09/2024		

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)(±)
113	MECHANICAL- DENSITY AND VISCOSITY	Viscosity of unknown Oils	Using glass capillary viscometer, thermo controlled bath and timing device as per ASTM D446 / ISO 3104	0.4 cst to 2500 cst	0.4 %
114	MECHANICAL- DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Bevel Protractor L.C: 5' arc	Using Angle Gauge Set by Comparison method	0° to 360°	5' arc
115	MECHANICAL- DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Bore Gauge (For transmission mechanism upto 1mm) L.C: 0.2/1µm	Using Dial Calibration tester by Comparison method	Up to 1 mm	3.8 μm
116	MECHANICAL- DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Calipers all type L.C: 0.01mm	Using Caliper Checker by Comparison method	0 to 600 mm	14.4 µm
117	MECHANICAL- DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Depth Micrometer Gauges L.C: 0.001mm	Using Depth checker and Slip gauge set by Comparison method	0 to 300 mm	10.2 μm





Laboratory Name :	CALITRON CALIBRATION LABORATORY (OPC) PRIVATE LIMITED, GALA NO. 40, PESH INDUSTRIAL PREMISES, MIDC BHOSARI, PUNE, MAHARASHTRA, INDIA				
Accreditation Standard	ISO/IEC 17025:2017				
Certificate Number	CC-3863	Page No	22 of 63		
Validity	11/09/2024 to 10/09/2026	Last Amended on	27/09/2024		

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)(±)
118	MECHANICAL- DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Depth Vernier Caliper L.C: 0.01mm	Using Depth checker and Slip gauge set by Comparison method	0 to 300 mm	11 µm
119	MECHANICAL- DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Dial Gauge- Plunger dial L.C: 0.001mm	Using Dial Calibration Tester by Comparison method	0 to 25 mm	3.8 μm
120	MECHANICAL- DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	External micrometer L.C: 0.001mm	Using Mic check set and Slip gauge set by Comparison method	0 to 100 mm	1.25 μm
121	MECHANICAL- DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Feeler Gauge / Foils	Using Dial gauge with comparator by Comparison method	0.01 mm to 1 mm	3 μm
122	MECHANICAL- DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Height gauge all type L.C: 0.01mm	Using Caliper Checker by Comparison method	0 to 600 mm	14.1 μm





Laboratory Name :	CALITRON CALIBRATION LABORATORY (OPC) PRIVATE LIMITED, GALA NO. 40, PESH INDUSTRIAL PREMISES, MIDC BHOSARI, PUNE, MAHARASHTRA, INDIA				
Accreditation Standard	ISO/IEC 17025:2017				
Certificate Number	CC-3863	Page No	23 of 63		
Validity	11/09/2024 to 10/09/2026	Last Amended on	27/09/2024		

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)(±)
123	MECHANICAL- DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Lever Dial gauge L.C: 0.001mm	Using Dial Calibration tester by Comparison method	0 to 0.14 mm	3.8 μm
124	MECHANICAL- DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Lever Dial gauge L.C: 0.01mm	Using Dial Calibration tester by Comparison method	0 to 1 mm	6.9 μm
125	MECHANICAL- DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Measuring Pins	Using Dial gauge with comparator by Comparison method	1 mm to 20 mm	4.2 μm
126	MECHANICAL- DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Measuring scale/tape (L.C: 0.5 mm)	Using Tape and scale calibrator by Comparison method	1 mm to 1000 mm	65 μm
127	MECHANICAL- DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Measuring tape (L.C: 1 mm)	Using Tape and scale calibrator by Comparison method	1 mm to 15 m	60xSQRT(L/1000) μm, where L in mm





Laboratory Name :	CALITRON CALIBRATION LABORATORY (OPC) PRIVATE LIMITED, GALA NO. 40, PESH INDUSTRIAL PREMISES, MIDC BHOSARI, PUNE, MAHARASHTRA, INDIA			
Accreditation Standard	ISO/IEC 17025:2017			
Certificate Number	CC-3863	Page No	24 of 63	
Validity	11/09/2024 to 10/09/2026	Last Amended on	27/09/2024	

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)(±)
128	MECHANICAL- DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Micrometer setting rods	Using Dial gauge with comparator by Comparison method	25 mm to 275 mm	8.2 μm
129	MECHANICAL- DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Pi Tape (L.C: 0.5 mm)	Using Tape and scale calibrator by Comparison method	0 to 300 mm	0.230 mm
130	MECHANICAL- DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Pistol Caliper (L.C: 0.1 mm)	Using Slip Gauge Set by Comparison Method	0 to 100 mm	0.082 mm
131	MECHANICAL- DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Plain plug gauge	Using Dial gauge with comparator by Comparison method	1 mm to 200 mm	4.2 μm
132	MECHANICAL- DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Snap Gauge	Using Slip Gauge Set by Comparison Method	3 mm to 100 mm	4 μm





Laboratory Name :	CALITRON CALIBRATION LABORATORY (OPC) PRIVATE LIMITED, GALA NO. 40, PESH INDUSTRIAL PREMISES, MIDC BHOSARI, PUNE, MAHARASHTRA, INDIA			
Accreditation Standard	ISO/IEC 17025:2017			
Certificate Number	CC-3863	Page No	25 of 63	
Validity	11/09/2024 to 10/09/2026	Last Amended on	27/09/2024	

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)(±)
133	MECHANICAL- DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Tape and Scale Machine L.C: 0.001 mm	Using Long Slip gauge set by Comparison method	0 to 1000 mm	0.035 mm
134	MECHANICAL- DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Templates, Weld/ Hi- Lo gauge, Width gauge	Using Slip gauge set, Caliper or Tape & scale calibration machine by Comparison method	0 to 300 mm	0.040 mm
135	MECHANICAL- DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Test Sieve 5 mm to 125 mm size	Using Digital Caliper by Comparison method	5 mm to 125 mm	40 µm
136	MECHANICAL- DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Ultrasonic thickness gauge	Using slip gauge set	0.5 mm to 100 mm	2 μm
137	MECHANICAL- MOBILE FORCE MEASURING SYSTEM	Force push pull gauge (Push and pull mode)	Using slotted newton weights (0 to 1000) N with different loading frame Procedure based on VDI/VDE2624	100 N to 1000 N	1.08 %





### **SCOPE OF ACCREDITATION**

Laboratory Name : **Accreditation Standard** ISO/IEC 17025:2017 **Certificate Number** Validity

CALITRON CALIBRATION LABORATORY (OPC) PRIVATE LIMITED, GALA NO. 40, PESH INDUSTRIAL PREMISES, MIDC BHOSARI, PUNE, MAHARASHTRA, INDIA

CC-3863 11/09/2024 to 10/09/2026

Page No	26 of 63	
Last Amended on	27/09/2024	

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)(±)
138	MECHANICAL- MOBILE FORCE MEASURING SYSTEM	Force push pull gauge (Push and pull mode)	Using slotted newton weights (20 to 500) N with different loading frames as per Procedure based on VDI/VDE2624	20 N to 500 N	0.28 %
139	MECHANICAL- PRESSURE INDICATING DEVICES	Hydraulic pressure Indicator Instrument, Analog and Digital gauges	Using Hydraulic Pressure Pump and Digital pressure Indicator by Comparison method	0 bar to 700 bar	0.2 bar
140	MECHANICAL- PRESSURE INDICATING DEVICES	Pneumatic absolute pressure Indicating gauges-Analog and Digital Barometer	Using Pneumatic Pressure Pump with -ve pressure generation capacity and Digital Barometer by Comparison method	300 mbar to 1000 mbar	2.2 mbar
141	MECHANICAL- PRESSURE INDICATING DEVICES	Pneumatic pressure Indicator Instrument, Analog and Digital gauges	Using Pneumatic Pressure Pump with -ve pressure generation capacity and Digital pressure Indicator by Comparison method	0 bar to 2 bar	2 mbar





### **SCOPE OF ACCREDITATION**

Laboratory Name :	INDUSTRIAL PREMISES, MI
Accreditation Standard	ISO/IEC 17025:2017
Certificate Number	CC-3863
Validity	11/09/2024 to 10/09/2026

CALITRON CALIBRATION LABORATORY (OPC) PRIVATE LIMITED, GALA NO. 40, PESH INDUSTRIAL PREMISES, MIDC BHOSARI, PUNE, MAHARASHTRA, INDIA

Page No27 cLast Amended on27/0

27 of 63 27/09/2024

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)(±)
142	MECHANICAL- PRESSURE INDICATING DEVICES	Pneumatic pressure Indicator Instrument, Analog and Digital gauges	Using Pneumatic Pressure Pump with -ve pressure generation capacity and Digital pressure Indicator by Comparison method	0 bar to 35 bar	7 mbar
143	MECHANICAL- PRESSURE INDICATING DEVICES	Pneumatic pressure Indicator Instrument, Analog and Digital gauges	Using Pneumatic Pressure Pump with -ve pressure generation capacity and Digital pressure Indicator by Comparison method	-0.90 bar to 0 bar	1.2 mbar
144	MECHANICAL- PRESSURE INDICATING DEVICES	Pneumatic pressure Indicator Instrument, Analog and Digital gauges	Using Pneumatic Screw Pump and Digital pressure Indicator by Comparison method	-200 mbar to 200 mbar	0.2 mbar
145	MECHANICAL- TORQUE GENERATING DEVICES	Torque generating device of type I and type II	Using torque transducers with display unit as per ISO 6789, 2017	0.2 Nm to 2 Nm	1 %rdg.
146	MECHANICAL- TORQUE GENERATING DEVICES	Torque generating device of type I and type II	Using torque transducers with display unit as per ISO 6789, 2017	50 Nm to 500 Nm	1.3 % of rdg.





### **SCOPE OF ACCREDITATION**

Laboratory Name :	INDUSTRIAL PREMIS
Accreditation Standard	ISO/IEC 17025:2017
Certificate Number	CC-3863
Validity	11/09/2024 to 10/09

CALITRON CALIBRATION LABORATORY (OPC) PRIVATE LIMITED, GALA NO. 40, PESH TRIAL PREMISES, MIDC BHOSARI, PUNE, MAHARASHTRA, INDIA

63 11/09/2024 to 10/09/2026

Page No	28 of 63
Last Amended on	27/09/2024

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)(±)
147	MECHANICAL- TORQUE GENERATING DEVICES	Torque generating devices (Torque wrenches class I and II)	Using torque transducers with display unit as per ISO 6789, 2017	20 Nm to 100 Nm	1.3 % of rdg.
148	MECHANICAL- TORQUE GENERATING DEVICES	Torque generating devices of type I and type II	Using torque transducers with display unit as per ISO 6789, 2017	2 Nm to 20 Nm	2.3 % of rdg.
149	MECHANICAL- VOLUME	Glassware like pipette, Burette, Cylinders, Flask, Beaker, Can etc	Using E1 and F1 class weights and weighing balance of 1mg readability as per Gravimetric method based on IS/ISO 4787	100 ml to 500 ml	75 µl
150	MECHANICAL- VOLUME	Glassware like pipette, Burette, Measuring cylinders, Flasks, Beakers, Can etc	Using E1 and F1 class weights and weighing balance of 0.01mg readability as per Gravimetric method based on IS/ISO 4787	0.1 ml to 1 ml	2 µl
151	MECHANICAL- VOLUME	Glassware like pipette, Burette, Measuring cylinders, Flasks, Beakers, Can etc	Using E1 and F1 class weights and weighing balance of 0.01mg readability as per Gravimetric method based on IS/ISO 4787	10 ml to 100 ml	15 µl





Laboratory Name :	CALITRON CALIBRATION LABORATORY (OPC) PRIVATE LIMITED, GALA NO. 40, PESH INDUSTRIAL PREMISES, MIDC BHOSARI, PUNE, MAHARASHTRA, INDIA				
Accreditation Standard	ISO/IEC 17025:2017				
Certificate Number	CC-3863	Page No	29 of 63		
Validity	11/09/2024 to 10/09/2026	Last Amended on	27/09/2024		

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)(±)
152	MECHANICAL- VOLUME	Glassware like pipette, Burette, Measuring cylinders, Flasks, Beakers, Can etc	Using E1 and F1 class weights and weighing balance of 10mg readability as per Gravimetric method based on IS/ISO 4787	500 ml to 5000 ml	0.1 ml
153	MECHANICAL- VOLUME	Measuring cylinder/Volumetric Flask/Conical flask/Beaker/Measuri ng Can	Using Digital precision balance and weighing balance of 0.01mg readability and distilled water of known density as per ISO 4787	1 ml to 10 ml	4 μΙ
154	MECHANICAL- VOLUME	Micropipette or Piston pipette	Using E1 class weights and weighing balance of 0.001mg readability as per Gravimetric method based on ISO 8655 (part 6)	1 μl to 10 μl	0.05 μl
155	MECHANICAL- VOLUME	Micropipette or piston pipette	Using E1 class weights and weighing balance of 0.01mg readability as per Gravimetric method based on ISO 8655 (part 6)	1 ml to 5 ml	1.1 μΙ





Laboratory Name :	CALITRON CALIBRATION LABORATORY (OPC) PRIVATE LIMITED, GALA NO. 40, PESH INDUSTRIAL PREMISES, MIDC BHOSARI, PUNE, MAHARASHTRA, INDIA			
Accreditation Standard	ISO/IEC 17025:2017			
Certificate Number	CC-3863	Page No	30 of 63	
Validity	11/09/2024 to 10/09/2026	Last Amended on	27/09/2024	

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)(±)
156	MECHANICAL- VOLUME	Micropipette or Piston Pipette	Using E1 class weights and weighing balance of 0.01mg readability as per Gravimetric method based on ISO 8655 (part 6)	10 μl to 100 μl	0.2 μl
157	MECHANICAL- VOLUME	Micropipette or Piston pipette	Using E1 class weights and weighing balance of 0.01mg readability as per Gravimetric method based on ISO 8655 (part 6)	100 µl to 1000 µl	0.8 μl
158	MECHANICAL- VOLUME	Micropipette or piston pipette	Using E1 class weights and weighing balance of 0.01mg readability as per Gravimetric method based on ISO 8655 (part 6)	5 ml to 10 ml	4 μΙ
159	MECHANICAL- WEIGHING SCALE AND BALANCE	Weighing balance, Class I, d=0.001mg	Using E1 class weight based on OIML R76	1 mg to 3 g	0.007 mg
160	MECHANICAL- WEIGHING SCALE AND BALANCE	Weighing balance, Class I, d=0.01mg	Using E1 class weights as per OIML R76	1 mg to 250 g	0.06 mg





Laboratory Name :	CALITRON CALIBRATION LABORATORY (OPC) PRIVATE LIMITED, GALA NO. 40, PESH INDUSTRIAL PREMISES, MIDC BHOSARI, PUNE, MAHARASHTRA, INDIA			
Accreditation Standard	ISO/IEC 17025:2017			
Certificate Number	CC-3863	Page No	31 of 63	
Validity	11/09/2024 to 10/09/2026	Last Amended on	27/09/2024	

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)(±)
161	MECHANICAL- WEIGHING SCALE AND BALANCE	Weighing balance, Class I, d=0.1mg	Using E1 class weights as per OIML R76	10 mg to 200 g	0.12 mg
162	MECHANICAL- WEIGHING SCALE AND BALANCE	Weighing balance, Class II, d=100mg	Using E1 and F1 class weights as per OIML R76	2 g to 20 kg	0.13 g
163	MECHANICAL- WEIGHING SCALE AND BALANCE	Weighing balance, Class II, d=10mg	Using E1 and F1 class weights as per OIML R76	200 mg to 10 kg	10 mg
164	MECHANICAL- WEIGHING SCALE AND BALANCE	Weighing balance, Class II, d=1mg	Using E1 class weights as per OIML R76	20 mg to 1000 g	1.5 mg
165	MECHANICAL- WEIGHING SCALE AND BALANCE	Weighing balance, Class III, d=0.5g	Using F1 and M1 class weights as per OIML R76	1 g to 50 kg	7 g
166	MECHANICAL- WEIGHING SCALE AND BALANCE	Weighing balance, Class III, d=1g	Using F1 and M1 class weights as per OIML R76	20 g to 200 kg	29 g
167	MECHANICAL- WEIGHTS	Accuracy class F2 & coarser	Using F1 class weight by Substitution method / Comparison method based on OIMLR111-1	20 kg	80 mg





Laboratory Name :	CALITRON CALIBRATION LABORATORY (OPC) PRIVATE LIMITED, GALA NO. 40, PESH INDUSTRIAL PREMISES, MIDC BHOSARI, PUNE, MAHARASHTRA, INDIA				
Accreditation Standard	ISO/IEC 17025:2017				
Certificate Number	CC-3863	Page No	32 of 63		
Validity	11/09/2024 to 10/09/2026	Last Amended on	27/09/2024		

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)(±)
168	MECHANICAL- WEIGHTS	E1 class weight	Using E1 class weight by Subdivision method / Comparison method based on OIMLR111-1	1 g	0.003 mg
169	MECHANICAL- WEIGHTS	E1 class weight	Using E1 class weight by Subdivision method / Comparison method based on OIMLR111-1	1 mg	0.001 mg
170	MECHANICAL- WEIGHTS	E1 class weight	Using E1 class weight by Subdivision method / Comparison method based on OIMLR111-1	10 g	0.006 mg
171	MECHANICAL- WEIGHTS	E1 class weight	Using E1 class weight by Subdivision method / Comparison method based on OIMLR111-1	10 mg	0.001 mg
172	MECHANICAL- WEIGHTS	E1 class weight	Using E1 class weight by Substitution method / Comparison method based on OIMLR111-1	100 g	0.02 mg





Laboratory Name :	INDUSTRIAL PREMISES, MIDC BHOSARI, PUNE, MAHARASHTRA, INDIA				
Accreditation Standard	ISO/IEC 17025:2017				
Certificate Number	CC-3863	Page No	33 of 63		
Validity	11/09/2024 to 10/09/2026	Last Amended on	27/09/2024		

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)(±)
173	MECHANICAL- WEIGHTS	E1 class weight	Using E1 class weight by Subdivision method / Comparison method based on OIMLR111-1	100 mg	0.0016 mg
174	MECHANICAL- WEIGHTS	E1 class weight	Using E1 class weight by Subdivision method / Comparison method based on OIMLR111-1	2 g	0.004 mg
175	MECHANICAL- WEIGHTS	E1 class weight	Using E1 class weight by Subdivision method / Comparison method based on OIMLR111-1	2 mg	0.001 mg
176	MECHANICAL- WEIGHTS	E1 class weight	Using E1 class weight by Subdivision method / Comparison method based on OIMLR111-1	20 g	0.01 mg
177	MECHANICAL- WEIGHTS	E1 class weight	Using E1 class weight by Subdivision method / Comparison method based on OIMLR111-1	20 mg	0.001 mg





Laboratory Name :	CALITRON CALIBRATION LABORATORY (OPC) PRIVATE LIMITED, GALA NO. 40, PESH INDUSTRIAL PREMISES, MIDC BHOSARI, PUNE, MAHARASHTRA, INDIA				
Accreditation Standard	ISO/IEC 17025:2017				
Certificate Number	CC-3863	Page No	34 of 63		
Validity	11/09/2024 to 10/09/2026	Last Amended on	27/09/2024		

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)(±)
178	MECHANICAL- WEIGHTS	E1 class weight	Using E1 class weight by Substitution method / Comparison method based on OIMLR111-1	200 g	0.04 mg
179	MECHANICAL- WEIGHTS	E1 class weight	Using E1 class weight by Subdivision method / Comparison method based on OIMLR111-1	200 mg	0.002 mg
180	MECHANICAL- WEIGHTS	E1 class weight	Using E1 class weight by Subdivision method / Comparison method based on OIMLR111-1	5 g	0.006 mg
181	MECHANICAL- WEIGHTS	E1 class weight	Using E1 class weight by Subdivision method / Comparison method based on OIMLR111-1	5 mg	0.001 mg
182	MECHANICAL- WEIGHTS	E1 class weight	Using E1 class weight by Subdivision method / Comparison method based on OIMLR111-1	50 g	0.01 mg





Laboratory Name :	INDUSTRIAL PREMISES, MIDC BHOSARI, PUNE, MAHARASHTRA, INDIA				
Accreditation Standard	ISO/IEC 17025:2017				
Certificate Number	CC-3863	Page No	35 of 63		
Validity	11/09/2024 to 10/09/2026	Last Amended on	27/09/2024		

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)(±)
183	MECHANICAL- WEIGHTS	E1 class weight	Using E1 class weight by Subdivision method / Comparison method based on OIMLR111-1	50 mg	0.001 mg
184	MECHANICAL- WEIGHTS	E1 class weight	Using E1 class weights by Subdivision method / Comparison method	500 mg	0.002 mg
185	MECHANICAL- WEIGHTS	F1 class weight	Using E1 class weight by Substitution method / Comparison method based on OIMLR111-1	1 kg	0.8 mg
186	MECHANICAL- WEIGHTS	F1 class weight	Using E2 Class weight by Substitution method / Comparison method based on OIMLR111-1	10 kg	9 mg
187	MECHANICAL- WEIGHTS	F1 class weight	Using E2 Class weight by Substitution method / Comparison method based on OIMLR111-1	2 kg	8.0 mg





Laboratory Name :	CALITRON CALIBRATION LABORATORY (OPC) PRIVATE LIMITED, GALA NO. 40, PESH INDUSTRIAL PREMISES, MIDC BHOSARI, PUNE, MAHARASHTRA, INDIA				
Accreditation Standard	ISO/IEC 17025:2017				
Certificate Number	CC-3863	Page No	36 of 63		
Validity	11/09/2024 to 10/09/2026	Last Amended on	27/09/2024		

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)(±)
188	MECHANICAL- WEIGHTS	F1 class weight	Using E2 Class weight by Substitution method / Comparison method based on OIMLR111-1	5 kg	8.5 mg
189	MECHANICAL- WEIGHTS	F1 class weight	Using E1 class weight by Substitution method / Comparison method based on OIMLR111-1	500 g	0.8 mg
190	MECHANICAL- WEIGHTS	M2 class weight	Using F1 class weight by Substitution method / Comparison method based on OIMLR111-1	50 kg	1.0 g
191	THERMAL- SPECIFIC HEAT & HUMIDITY	Environment chambers	Using Multiposition Calibration with minimum 9 humidity dataloggers by Comparison method as per DKD R-5-7	20 %rh to 95 %rh (@25 °C)	2.17 %rh
192	THERMAL- SPECIFIC HEAT & HUMIDITY	Humidity Indicator with sensor of Climatic chamber @ 25 °C	Using temperature humidity meter with single position calibration by Comparison method	15 %rh to 95 %rh	0.6 %rh





Laboratory Name :	CALITRON CALIBRATION LABORATORY (OPC) PRIVATE LIMITED, GALA NO. 40, PESH INDUSTRIAL PREMISES, MIDC BHOSARI, PUNE, MAHARASHTRA, INDIA				
Accreditation Standard	ISO/IEC 17025:2017				
Certificate Number	CC-3863	Page No	37 of 63		
Validity	11/09/2024 to 10/09/2026	Last Amended on	27/09/2024		

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)(±)
193	THERMAL- SPECIFIC HEAT & HUMIDITY	Temperature Humidity meters @ 25 °C	Using temperature humidity meter in environment chamber by Comparison method	20 %rh to 95 %rh	0.64 %rh
194	THERMAL- TEMPERATURE	Calibration of chambers, Ovens and Furnaces	Using minimum 9 sensors with multichannel datalogger at multiposition calibration by Comparison method	660 °C to 1200 °C	4.5 °C
195	THERMAL- TEMPERATURE	Calibration of chambers, ovens liquid and fluid baths	Using 9 sensors with multichannel datalogger at multiposition calibration by Comparison method	-70 °C to 660 °C	1.6 °C
196	THERMAL- TEMPERATURE	Indicator with sensor of chamber, Oven or Furnace	Using PRT & RTD (4W) with 6½ DMM by Single position calibration by Comparison method	(-)70 °C to 660 °C	0.20 °C
197	THERMAL- TEMPERATURE	Liquid in Glass Thermometer	Using PRT and RTD (4W) with 6½ DMM by Comparison method	(-)80 °C to 50 °C	0.20 °C
198	THERMAL- TEMPERATURE	Liquid in Glass Thermometer	Using PRT & 6½ DMM in Oil bath by Comparison method	50 °C to 200 °C	0.20 °C





Laboratory Name :	CALITRON CALIBRATION LABORATORY (OPC) PRIVATE LIMITED, GALA NO. 40, PESH INDUSTRIAL PREMISES, MIDC BHOSARI, PUNE, MAHARASHTRA, INDIA			
Accreditation Standard	ISO/IEC 17025:2017			
Certificate Number	CC-3863	Page No	38 of 63	
Validity	11/09/2024 to 10/09/2026	Last Amended on	27/09/2024	

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)(±)
199	THERMAL- TEMPERATURE	Non contact pyrometer, IR thermometer (Emissivity 0.95)	Using IR pyrometer and Blackbody Calibrator as source by Comparison method	50 °C to 400 °C	1.8 °C
200	THERMAL- TEMPERATURE	Non contact pyrometer, IR thermometer (Emissivity 0.95)	Using IR pyrometer and Blackbody Calibrator by Comparison method	(-)15 °C to 50 °C	1.32 °C
201	THERMAL- TEMPERATURE	Non contact Pyrometer, IR thermometer (Emissivity 0.95)	Using IR pyrometer and blackbody by Comparison method	400 °C to 1200 °C	5.1 °C
202	THERMAL- TEMPERATURE	RTD / Thermocouple with and without Indicator	Using PRT with 6½ DMM and Boiling point of Liquid Nitrogen apparatus by Comparison method	(-)196 °C	0.065 °C
203	THERMAL- TEMPERATURE	RTD / Thermocouple with or without Indicator	Using PRT with 6½ DMM and Dry block calibrator with Comparison method	(-)30 °C to 400 °C	0.1 °C
204	THERMAL- TEMPERATURE	RTD / Thermocouple with or without Indicator	Using PRT with 6½ DMM in dry block by Comparison method	400 °C to 660 °C	0.19 °C
205	THERMAL- TEMPERATURE	RTD/Thermocouple with or without indicator, Temperature gauges	Using RTD (4W), liquid bath and 6½ DMM by Comparison method	(-)80 °C to (-)30 °C	0.09 °C





Laboratory Name :	CALITRON CALIBRATION LABORATORY (OPC) PRIVATE LIMITED, GALA NO. 40, PESH INDUSTRIAL PREMISES, MIDC BHOSARI, PUNE, MAHARASHTRA, INDIA				
Accreditation Standard	ISO/IEC 17025:2017				
Certificate Number	CC-3863	Page No	39 of 63		
Validity	11/09/2024 to 10/09/2026	Last Amended on	27/09/2024		

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)(±)
206	THERMAL- TEMPERATURE	Temperature Humidity meters	Using RTD & DMM and environmental chamber by Comparison method	(-)5 °C to 60 °C	0.18 °C
207	THERMAL- TEMPERATURE	Temperature indicator with sensor of liquid bath, Ovens, Furnaces and Temperature calibrators	Using Thermocouple (S type) with 6½ DMM at Single position calibration by Comparison method	660 °C to 1200 °C	1.72 °C
208	THERMAL- TEMPERATURE	Thermocouple with/without Indicator	Using Thermocouple S type with 6½ DMM in dry block by Comparison method	660 °C to 1200 °C	1.85 °C





Laboratory Name :	INDUSTRIAL PREMISES, MIDC BHOSARI, PUNE, MAHARASHTRA, INDIA				
Accreditation Standard	ISO/IEC 17025:2017				
Certificate Number	CC-3863	Page No	40 of 63		
Validity	11/09/2024 to 10/09/2026	Last Amended on	27/09/2024		

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)(±)
		1.0	Site Facility	-	
1	ELECTRO- TECHNICAL- Alternating Current (< 1 GHz) (Measure)	AC Current @ 50 Hz	Using 6½ DMM by Direct method	100 mA to 20 A	0.18 % to 0.51 %
2	ELECTRO- TECHNICAL- Alternating Current (< 1 GHz) (Measure)	AC current @ 50 Hz	Using 6½ DMM & Shunt by V/I method	30 A to 500 A	0.41 % to 1.63 %
3	ELECTRO- TECHNICAL- Alternating Current (< 1 GHz) (Measure)	AC current @ 50 Hz	Using 6½ DMM & Shunt by V/I method	500 A to 2000 A	1 % to 1.6 %
4	ELECTRO- TECHNICAL- Alternating Current (< 1 GHz) (Measure)	AC Current @50 Hz	Using 5 4/5 DMM by Direct/Comparison method	100 µA to 100 mA	0.4 % to 0.17 %





Laboratory Name :	INDUSTRIAL PREMISES, MIDC BHOSARI, PUNE, MAHARASHTRA, INDIA			
Accreditation Standard	ISO/IEC 17025:2017			
Certificate Number	CC-3863	Page No	41 of 63	
Validity	11/09/2024 to 10/09/2026	Last Amended on	27/09/2024	

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	ELECTRO- TECHNICAL- Alternating Current (< 1 GHz) (Measure)	AC Current @50 Hz	Using 6½ DMM by Direct/Comparison method	2 A to 20 A	0.41 %
6	ELECTRO- TECHNICAL- Alternating Current (< 1 GHz) (Measure)	AC High Voltage @50 Hz	Using HV Probe and DMM by Direct/Comparison method	1 kV to 10 kV	2.8 %
7	ELECTRO- TECHNICAL- Alternating Current (< 1 GHz) (Measure)	AC Power/Energy	Using Power analyzer by Direct and Comparison method	(30V, 3.3mA. 0.1PF) 100mW to (300 V, 20.5 A, 1 PF 6 kW	1.6 % to 1.5 %
8	ELECTRO- TECHNICAL- Alternating Current (< 1 GHz) (Measure)	AC resistance @1 kHz	Using LCR meter by Comparison method	1 Ohm to 10 kohm	1.2 % to 0.5 %
9	ELECTRO- TECHNICAL- Alternating Current (< 1 GHz) (Measure)	AC voltage (50 Hz to 1 kHz)	Using 6½ DMM by Direct method	1 mV to 10 mV	0.7 % to 0.12 %





# **SCOPE OF ACCREDITATION**

Laboratory Name :	INDUSTRIAL PREMISES, MIDC BHOSARI, PUNE, MAHARASHTRA, INDIA				
Accreditation Standard	ISO/IEC 17025:2017				
Certificate Number	CC-3863	Page No	42 of 63		
Validity	11/09/2024 to 10/09/2026	Last Amended on	27/09/2024		

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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	ELECTRO- TECHNICAL- Alternating Current (< 1 GHz) (Measure)	AC voltage (50 Hz to 1 kHz)	Using 6½ DMM by Direct method	10 mV to 100 mV	0.45 % to 0.2 %
11	ELECTRO- TECHNICAL- Alternating Current (< 1 GHz) (Measure)	AC voltage (50 Hz to 1 kHz)	Using 6½ DMM by Direct/ comparision method	100 V to 1000 V	0.12 % to 0.12 %
12	ELECTRO- TECHNICAL- Alternating Current (< 1 GHz) (Measure)	AC voltage (50 Hz to 10 kHz)	Using 6½ DMM by Direct/Comparison method	100 mV to 100 V	0.2 % to 0.18 %
13	ELECTRO- TECHNICAL- Alternating Current (< 1 GHz) (Measure)	Active Power & Energy (1Ph & 3Ph)	Using Power Reference Standard by Comparison method	(40 V, 0.01 A, 0.5 PF) to (300 V, 120 A, 1 PF)	0.29 % to 0.2 %
14	ELECTRO- TECHNICAL- Alternating Current (< 1 GHz) (Measure)	Capacitance @1 kHz	Using LCR meter by Direct/Comparison method	1 μF to 1 mF	0.4 % to 2.3 %





Laboratory Name :	INDUSTRIAL PREMISES, MIDC BHOSARI, PUNE, MAHARASHTRA, INDIA				
Accreditation Standard	ISO/IEC 17025:2017				
Certificate Number	CC-3863	Page No	43 of 63		
Validity	11/09/2024 to 10/09/2026	Last Amended on	27/09/2024		

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	ELECTRO- TECHNICAL- Alternating Current (< 1 GHz) (Measure)	Capacitance @1 kHz	Using LCR meter by Direct/Comparison method	100 pF to 1000 nF	0.6 % to 0.26 %
16	ELECTRO- TECHNICAL- Alternating Current (< 1 GHz) (Measure)	Current Harmonics @50 Hz	Using 3 phase power analyser by Comparison method	250 mA to 20 A	0.56 %
17	ELECTRO- TECHNICAL- Alternating Current (< 1 GHz) (Measure)	Inductance @1 kHz	Using LCR meter by Direct/Comparison method	100 µH to 10 H	2.6 % to 1.7 %
18	ELECTRO- TECHNICAL- Alternating Current (< 1 GHz) (Measure)	Power Factor	Using Power analyzer by Direct method	(-)1 PF to 1 PF	0.02 PF
19	ELECTRO- TECHNICAL- Alternating Current (< 1 GHz) (Measure)	Reactive Power/ Energy	Using Reference Power Standard by Comparison method	0.4 mVA to 36 kVA	0.17 % to 0.2 %





Laboratory Name :	CALITRON CALIBRATION LABORATORY (OPC) PRIVATE LIMITED, GALA NO. 40, PESH INDUSTRIAL PREMISES, MIDC BHOSARI, PUNE, MAHARASHTRA, INDIA			
Accreditation Standard	ISO/IEC 17025:2017			
Certificate Number	CC-3863	Page No	44 of 63	
Validity	11/09/2024 to 10/09/2026	Last Amended on	27/09/2024	

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	ELECTRO- TECHNICAL- Alternating Current (< 1 GHz) (Measure)	Voltage Harmonics upto 50th harmonics	Using 3 phase power analyser by Comparison method	63.5 V to 230 V	0.6 %
21	ELECTRO- TECHNICAL- Alternating Current (< 1 GHz) (Source)	AC current (50 Hz to 1 kHz)	Using Multifunction Calibrator by Direct method	1 A to 20 A	0.066 % to 0.24 %
22	ELECTRO- TECHNICAL- Alternating Current (< 1 GHz) (Source)	AC current (50 Hz to 1 kHz)	Using Multifunction Calibrator by Direct method	30 µA to 30 mA	0.71 % to 0.066 %
23	ELECTRO- TECHNICAL- Alternating Current (< 1 GHz) (Source)	AC current (50 Hz to 1 kHz)	Using Multifunction Calibrator by Direct method	30 mA to 1 A	0.69 % to 0.066 %
24	ELECTRO- TECHNICAL- Alternating Current (< 1 GHz) (Source)	AC current @50 Hz	Using Multifunction Calibrator and Coil by Direct method	100 A to 500 A	0.41 % to 0.8 %





Laboratory Name :	CALITRON CALIBRATION LABORATORY (OPC) PRIVATE LIMITED, GALA NO. 40, PESH INDUSTRIAL PREMISES, MIDC BHOSARI, PUNE, MAHARASHTRA, INDIA			
Accreditation Standard	ISO/IEC 17025:2017			
Certificate Number	CC-3863	Page No	45 of 63	
Validity	11/09/2024 to 10/09/2026	Last Amended on	27/09/2024	

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	ELECTRO- TECHNICAL- Alternating Current (< 1 GHz) (Source)	AC current @50 Hz	Using Multifunction Calibrator and Coil by Direct method	20 A to 100 A	0.41 % to 1.6 %
26	ELECTRO- TECHNICAL- Alternating Current (< 1 GHz) (Source)	AC current @50 Hz	Using Multifunction Calibrator and Coil by Direct method	500 A to 1000 A	0.8 % to 1.6 %
27	ELECTRO- TECHNICAL- Alternating Current (< 1 GHz) (Source)	AC Power	Using Multifunction Calibrator by Direct method	30 V, 3.3 mA, 0.1 PF to 300 V, 20.5 A, 1 PF (0.01 to 6 kW)	1.61 % to 1.5 %
28	ELECTRO- TECHNICAL- Alternating Current (< 1 GHz) (Source)	AC voltage (50 Hz to 1 kHz)	Using Multifunction Calibrator by Direct method	1 mV to 10 mV	0.72 % to 0.09 %
29	ELECTRO- TECHNICAL- Alternating Current (< 1 GHz) (Source)	AC voltage (50 Hz to 1 kHz)	Using Multifunction Calibrator by Direct method	10 mV to 100 mV	0.09 % to 0.029 %
30	ELECTRO- TECHNICAL- Alternating Current (< 1 GHz) (Source)	AC Voltage (50 Hz to 1 kHz)	Using Multifunction Calibrator by Direct method	10 V to 100 V	0.026 % to 0.003 %





Laboratory Name :	CALITRON CALIBRATION LABORATORY (OPC) PRIVATE LIMITED, GALA NO. 40, PESH INDUSTRIAL PREMISES, MIDC BHOSARI, PUNE, MAHARASHTRA, INDIA			
Accreditation Standard	ISO/IEC 17025:2017			
Certificate Number	CC-3863	Page No	46 of 63	
Validity	11/09/2024 to 10/09/2026	Last Amended on	27/09/2024	

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)(±)
31	ELECTRO- TECHNICAL- Alternating Current (< 1 GHz) (Source)	AC Voltage (50 Hz to 1 kHz)	Using Multifunction Calibrator by Direct method	100 mV to 10 V	0.029 % to 0.026 %
32	ELECTRO- TECHNICAL- Alternating Current (< 1 GHz) (Source)	AC voltage (50 Hz to 1 kHz)	Using Multifunction Calibrator by Direct method	100 V to 1000 V	0.003 % to 0.037 %
33	ELECTRO- TECHNICAL- Alternating Current (< 1 GHz) (Source)	Capacitance @1 kHz	Using Decade Capacitance Box by Direct Method	100 pF to 10 μF	1.8 %
34	ELECTRO- TECHNICAL- Alternating Current (< 1 GHz) (Source)	Inductance @1 kHz	Using Grade 'A' decade Inductance box by Direct method	100 µH to 10 H	2.7 % to 1.7 %
35	ELECTRO- TECHNICAL- Alternating Current (< 1 GHz) (Source)	Power factor	Using Multifunction calibrator by Direct method	(-)1 PF to 1 PF	0.003 PF
36	ELECTRO- TECHNICAL- DIRECT CURRENT (Measure)	DC Current	Using Standard shunt & 6½ DMM by V/I method	>20 A to 1000 A	1.2 %





Laboratory Name :	INDUSTRIAL PREMISES, MIDC BHOSARI, PUNE, MAHARASHTRA, INDIA			
Accreditation Standard	ISO/IEC 17025:2017			
Certificate Number	CC-3863	Page No	47 of 63	
Validity	11/09/2024 to 10/09/2026	Last Amended on	27/09/2024	

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)(±)
37	ELECTRO- TECHNICAL- DIRECT CURRENT (Measure)	DC Current	Using 6½ DMM by Direct method	10 μA to 100 μA	2.3 % to 0.12 %
38	ELECTRO- TECHNICAL- DIRECT CURRENT (Measure)	DC Current	Using 6½ DMM by Direct method	100 µA to 100 mA	0.2 % to 0.12 %
39	ELECTRO- TECHNICAL- DIRECT CURRENT (Measure)	DC Current	Using 6½ DMM by Direct method	100 mA to 2 A	0.07 % to 0.21 %
40	ELECTRO- TECHNICAL- DIRECT CURRENT (Measure)	DC Current	Using 6½ DMM & Shunt by V/I method	2 A to 20 A	0.38 % to 0.7 %
41	ELECTRO- TECHNICAL- DIRECT CURRENT (Measure)	DC High voltage	Using HV Probe and DMM by Direct/Comparison method	2 kV to 40 kV	3 % to 3.9 %
42	ELECTRO- TECHNICAL- DIRECT CURRENT (Measure)	DC Power	Using Power analyzer by Direct method	10 W (10 V, 1 A) to 12 kW (600 V, 20 A)	0.73 % to 0.7 %





Laboratory Name :	INDUSTRIAL PREMISES, MIDC BHOSARI, PUNE, MAHARASHTRA, INDIA				
Accreditation Standard	ISO/IEC 17025:2017				
Certificate Number	CC-3863	Page No	48 of 63		
Validity	11/09/2024 to 10/09/2026	Last Amended on	27/09/2024		

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)(±)
43	ELECTRO- TECHNICAL- DIRECT CURRENT (Measure)	DC Resistance	Using 6½ DMM by Direct method	>1 kohm to 1000 Mohm	0.014 % to 9.5 %
44	ELECTRO- TECHNICAL- DIRECT CURRENT (Measure)	DC Resistance	Using 6½ DMM by Direct method	1 Ohm to 1 kohm	1.4 % to 0.06 %
45	ELECTRO- TECHNICAL- DIRECT CURRENT (Measure)	DC Voltage	Using 6½ DMM by Direct method	1 mV to 100 mV	0.2 % to 0.12 %
46	ELECTRO- TECHNICAL- DIRECT CURRENT (Measure)	DC Voltage	Using 6½ DMM by Direct method	100 μV to 1 mV	4.2 % to 0.2 %
47	ELECTRO- TECHNICAL- DIRECT CURRENT (Measure)	DC Voltage	Using 6½ DMM by Direct Method	100 mV to 1000 V	0.12 % to 0.01 %
48	ELECTRO- TECHNICAL- DIRECT CURRENT (Source)	DC Current	Using Multifunction Calibrator by Direct method	1 μA to 100 μA	2.3 % to 0.04 %





Laboratory Name :	CALITRON CALIBRATION LABORATORY (OPC) PRIVATE LIMITED, GALA NO. 40, PESH INDUSTRIAL PREMISES, MIDC BHOSARI, PUNE, MAHARASHTRA, INDIA			
Accreditation Standard	ISO/IEC 17025:2017			
Certificate Number	CC-3863	Page No	49 of 63	
Validity	11/09/2024 to 10/09/2026	Last Amended on	27/09/2024	

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)(±)
49	ELECTRO- TECHNICAL- DIRECT CURRENT (Source)	DC Current	Using Multifunction Calibrator by Direct method	1 A to 20 A	0.05 % to 0.12 %
50	ELECTRO- TECHNICAL- DIRECT CURRENT (Source)	DC Current	Using Multifunction Calibrator by Direct method	10 mA to 1 A	0.015 % to 0.05 %
51	ELECTRO- TECHNICAL- DIRECT CURRENT (Source)	DC Current	Using Multifunction Calibrator by Direct method	100 µA to 10 mA	0.04 % to 0.015 %
52	ELECTRO- TECHNICAL- DIRECT CURRENT (Source)	DC Current	Using Multifunction calibrator with current coil by Direct method	20 A to 1000 A	0.12 % to 0.32 %
53	ELECTRO- TECHNICAL- DIRECT CURRENT (Source)	DC Power	Using Multifunction Calibrator by Direct method	(10 V, 100 mA) to (600 V, 20.5 A)	0.06 % to 0.13 %
54	ELECTRO- TECHNICAL- DIRECT CURRENT (Source)	DC Resistance	Using Multifunction Calibrator by Direct method	1 Mohm to 1000 Mohm	0.004 % to 1.77 %





Laboratory Name :	INDUSTRIAL PREMISES, MIDC BHOSARI, PUNE, MAHARASHTRA, INDIA				
Accreditation Standard	ISO/IEC 17025:2017				
Certificate Number	CC-3863	Page No	50 of 63		
Validity	11/09/2024 to 10/09/2026	Last Amended on	27/09/2024		

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)(±)
55	ELECTRO- TECHNICAL- DIRECT CURRENT (Source)	DC Resistance	Using Fixed resistances by Comparison method	1 mohm	0.8 %
56	ELECTRO- TECHNICAL- DIRECT CURRENT (Source)	DC resistance	Using Precision Decade box by Direct method	10 mohm to 1 Ohm	1.3 % to 0.74 %
57	ELECTRO- TECHNICAL- DIRECT CURRENT (Source)	DC Resistance	Using Fixed resistances by Comparison method	250 µohm	0.28 %
58	ELECTRO- TECHNICAL- DIRECT CURRENT (Source)	DC Resistance	Using Multifunction Calibrator by Direct method	3 kohm to 1 Mohm	0.01 % to 0.006 %
59	ELECTRO- TECHNICAL- DIRECT CURRENT (Source)	DC Resistance	Using Multifunction Calibrator by Direct method	300 Ohm to 3 kohm	0.008 % to 0.01 %
60	ELECTRO- TECHNICAL- DIRECT CURRENT (Source)	DC Resistance	Using Fixed resistances by Comparison method	75 μohm	3.4 %





Laboratory Name :	INDUSTRIAL PREMISES, MIDC BHOSARI, PUNE, MAHARASHTRA, INDIA				
Accreditation Standard	ISO/IEC 17025:2017				
Certificate Number	CC-3863	Page No	51 of 63		
Validity	11/09/2024 to 10/09/2026	Last Amended on	27/09/2024		

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)(±)
61	ELECTRO- TECHNICAL- DIRECT CURRENT (Source)	DC Resistance (4 wire)	Using Fixed resistance by Comparison method	35 μohm	0.80 %
62	ELECTRO- TECHNICAL- DIRECT CURRENT (Source)	DC Resistance(4W)	Using Multifunction Calibrator by Direct method	1 Ohm to 300 Ohm	1.2 % to 0.004 %
63	ELECTRO- TECHNICAL- DIRECT CURRENT (Source)	DC Voltage	Using Multifunction Calibrator by Direct method	1 mV to 1 V	0.16 % to 0.12 %
64	ELECTRO- TECHNICAL- DIRECT CURRENT (Source)	DC Voltage	Using Multifunction Calibrator by Direct method	1 V to 10 V	0.12 % to 0.002 %
65	ELECTRO- TECHNICAL- DIRECT CURRENT (Source)	DC Voltage	Using Multifunction Calibrator by Direct method	10 V to 1000 V	0.002 %
66	ELECTRO- TECHNICAL- DIRECT CURRENT (Source)	DC Voltage	Using Multifunction Calibrator by Direct method	100 μV to 1 mV	1.2 % to 0.16 %





Laboratory Name :	INDUSTRIAL PREMISES, MIDC BHOSARI, PUNE, MAHARASHTRA, INDIA			
Accreditation Standard	ISO/IEC 17025:2017			
Certificate Number	CC-3863	Page No	52 of 63	
Validity	11/09/2024 to 10/09/2026	Last Amended on	27/09/2024	

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)(±)
67	ELECTRO- TECHNICAL- ELECTRICAL EQUIPMENT (Source)	Conductivity meter (10 mohm to 1 Tohm)	Using Decade Resistance Box by Simulation method	0.01 pS to 20000 μS	2.5 % to 0.3 %
68	ELECTRO- TECHNICAL- ELECTRICAL EQUIPMENT (Source)	Oscilloscope (Bandwidth)	Using RF generator by Direct method	25 MHz to 12 GHz	5 %
69	ELECTRO- TECHNICAL- ELECTRICAL EQUIPMENT (Source)	Oscilloscope (Timebase)	Using Multifunction Calibrator and RF generator by Direct method	100 ps to 20 s	0.06 %
70	ELECTRO- TECHNICAL- ELECTRICAL EQUIPMENT (Source)	Oscilloscope (Vertical deflection)	Using Multifunction Calibrator and RF generator by Direct method	2 mV to 50 V	0.24 % to 0.03 %
71	ELECTRO- TECHNICAL- ELECTRICAL EQUIPMENT (Source)	pH meter (+414.12 mV to -414.12 mV)	Using Calibrator by Simulation method	0 pH to 14 pH	1.3 % to 1.3 %
72	ELECTRO- TECHNICAL- EMI/ EMC (Measure)	EFT Systems (Rise time)	Using Oscilloscope by Direct method	5±1.5 ns	15 %





Laboratory Name :	CALITRON CALIBRATION LABORATO	RY (OPC) PRIVATE LIMIT ARI, PUNE, MAHARASHT	TED, GALA NO. 40, PESH TRA, INDIA
Accreditation Standard	ISO/IEC 17025:2017		
Certificate Number	CC-3863	Page No	53 of 63
Validity	11/09/2024 to 10/09/2026	Last Amended on	27/09/2024

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)(±)
73	ELECTRO- TECHNICAL- EMI/ EMC (Measure)	Electrical fast transient test systems (Amplitude)	Using Oscilloscope by Direct Method	250 V to 4 kV	8.67 %
74	ELECTRO- TECHNICAL- EMI/ EMC (Measure)	Electrical fast transient test systems (Burst Duration)	Using Oscilloscope by Direct Method	15±3 ms	7 %
75	ELECTRO- TECHNICAL- EMI/ EMC (Measure)	Electrical fast transient test systems (Burst Period)	Using Oscilloscope by Direct Method	300±60 ms	1 %
76	ELECTRO- TECHNICAL- EMI/ EMC (Measure)	Electrical fast transient test systems (Pulse width)	Using Oscilloscope by Direct Method	50±1.5 ns ns	5.8 %
77	ELECTRO- TECHNICAL- EMI/ EMC (Measure)	Electrical fast transient test systems (Repetition Frequency)	Using Oscilloscope by Direct Method	5 kHz to 100 kHz	1 %
78	ELECTRO- TECHNICAL- TEMPERATURE SIMULATION (Measure)	E type Thermocouple	Using Multifunction calibrator by direct Method	0 °C to 800 °C	0.6 °C
79	ELECTRO- TECHNICAL- TEMPERATURE SIMULATION (Measure)	J type thermocouple	Using Multifunction Calibrator by Direct method	-180 °C to 750 °C	0.5 °C





Laboratory Name :	CALITRON CALIBRATION LABORATOR INDUSTRIAL PREMISES, MIDC BHOSA	RY (OPC) PRIVATE LIMIT \RI, PUNE, MAHARASHT	'ED, GALA NO. 40, PESH 'RA, INDIA
Accreditation Standard	ISO/IEC 17025:2017		
Certificate Number	CC-3863	Page No	54 of 63
Validity	11/09/2024 to 10/09/2026	Last Amended on	27/09/2024

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)(±)
80	ELECTRO- TECHNICAL- TEMPERATURE SIMULATION (Measure)	K type thermocouple	Using Multifunction Calibrator by Direct method	-200 °C to 1340 °C	0.46 °C
81	ELECTRO- TECHNICAL- TEMPERATURE SIMULATION (Measure)	N type Thermocouple	Using Multifunction calibrator by direct method	-200 °C to 1300 °C	0.46 °C
82	ELECTRO- TECHNICAL- TEMPERATURE SIMULATION (Measure)	R type Thermocouple	Using multifunction calibrator by direct method	50 °C to 1700 °C	1.2 °C
83	ELECTRO- TECHNICAL- TEMPERATURE SIMULATION (Measure)	RTD	Using 6½ DMM by Direct method	>0 °C to 600 °C	0.37 °C
84	ELECTRO- TECHNICAL- TEMPERATURE SIMULATION (Measure)	RTD	Using 6½ DMM by Direct method	-200 °C to 0 °C	0.17 °C
85	ELECTRO- TECHNICAL- TEMPERATURE SIMULATION (Measure)	S type Thermocouple	Using Multifunction Calibrator by direct method	50 °C to 1700 °C	1.2 °C





Laboratory Name :	CALITRON CALIBRATION LABORATO	RY (OPC) PRIVATE LIMI <sup>-</sup> ARI, PUNE, MAHARASH <sup>-</sup>	red, gala no. 40, pesh 'ra, india
Accreditation Standard	ISO/IEC 17025:2017		
Certificate Number	CC-3863	Page No	55 of 63
Validity	11/09/2024 to 10/09/2026	Last Amended on	27/09/2024

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)(±)
86	ELECTRO- TECHNICAL- TEMPERATURE SIMULATION (Measure)	T type Thermocouple	Using Multifunction calibrator by direct method	0 °C to 400 °C	0.7 °C
87	ELECTRO- TECHNICAL- TEMPERATURE SIMULATION (Source)	E type Thermocouple	Using Multifunction Calibrator by Direct method	0 °C to 800 °C	0.58 °C
88	ELECTRO- TECHNICAL- TEMPERATURE SIMULATION (Source)	K & J Thermocouple	Using Multifunction Calibrator by Direct method	-200 °C to 1200 °C	0.5 °C
89	ELECTRO- TECHNICAL- TEMPERATURE SIMULATION (Source)	N type Thermocouple	Using Multifunction Calibrator by Direct method	0 °C to 1000 °C	0.46 °C
90	ELECTRO- TECHNICAL- TEMPERATURE SIMULATION (Source)	R & S Type Thermocouple	Using Multifunction Calibrator by Direct method	2 °C to 1750 °C	0.7 °C
91	ELECTRO- TECHNICAL- TEMPERATURE SIMULATION (Source)	RTD	Using Multifunction Calibrator by Direct method	-250 °C to 800 °C	0.26 °C





Laboratory Name :	CALITRON CALIBRATION LABORATORY (OPC) PRIVATE LIMITED, GALA NO. 40, PES INDUSTRIAL PREMISES, MIDC BHOSARI, PUNE, MAHARASHTRA, INDIA			
Accreditation Standard	ISO/IEC 17025:2017			
Certificate Number	CC-3863	Page No	56 of 63	
Validity	11/09/2024 to 10/09/2026	Last Amended on	27/09/2024	

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)(±)
92	ELECTRO- TECHNICAL- TEMPERATURE SIMULATION (Source)	T type thermocouple	Using Multifunction Calibrator by Direct method	-250 °C to 400 °C	0.8 °C
93	ELECTRO- TECHNICAL- TIME & FREQUENCY (Measure)	Frequency	Using High resolution counter by Direct/Comparison method	1 Hz to 1 GHz	0.11 % to 0.12 %
94	ELECTRO- TECHNICAL- TIME & FREQUENCY (Measure)	Time	Using Time interval meter by using Direct/Comparison method	1 s to 9000 s	0.04 s to 0.26 s
95	ELECTRO- TECHNICAL- TIME & FREQUENCY (Source)	Frequency	Using Multiproduct Calibrator by Direct method	100 Hz to 2 MHz	0.008 % to 0.0032 %
96	ELECTRO- TECHNICAL- TIME & FREQUENCY (Source)	Frequency	Using RF Signal Generator by Direct method	100 MHz to 2.5 GHz	0.0008 % to 0.00033 %
97	ELECTRO- TECHNICAL- TIME & FREQUENCY (Source)	Frequency	Using Multifunction Calibrator by Direct method	50 mHz to 100 Hz	1.52 % to 0.008 %





Laboratory Name :	CALITRON CALIBRATION LABORATORY (OPC) PRIVATE LIMITED, GALA NO. 40, PESH INDUSTRIAL PREMISES, MIDC BHOSARI, PUNE, MAHARASHTRA, INDIA			
Accreditation Standard	ISO/IEC 17025:2017			
Certificate Number	CC-3863	Page No	57 of 63	
Validity	11/09/2024 to 10/09/2026	Last Amended on	27/09/2024	

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)(±)
98	FLUID FLOW- FLOW MEASURING DEVICES	Flow Rate (Air Medium) Flow Meter / Flow Calibrator / Handy Sampler / Gas Sampler etc	Using Flow calibrator by Comparison method	2 lpm to 100 lpm	1 % Rdg
99	FLUID FLOW- FLOW MEASURING DEVICES	Flow Rate (Medium Water) / Rotameter / Dial Flow meter, Digital Flow meter, Flow Transmitter, Flow transducers	Using Ultrasonic Flow meter by Comparison method	0.5 m³/hr to 100 m³/hr	1.3 % Rdg
100	FLUID FLOW- FLOW MEASURING DEVICES	Flow Rate (Medium Water) / Rotameter / Dial Flow meter, Digital Flow meter, Flow Transmitter, Flow transducers	Using Ultrasonic Flow meter by Comparison method	100 m³/hr to 1000 m³/hr	1.1 % Rdg
101	MECHANICAL- ACCELERATION AND SPEED	Speed measurement in rpm- Contact type	Using Tachometer as per SANAS guideline TR45-01	10 rpm to 500 rpm	0.52 rpm
102	MECHANICAL- ACCELERATION AND SPEED	Speed measurement in rpm- contact type	Using Tachometer as per SANAS guideline TR45-01	1000 rpm to 10000 rpm	3.2 rpm
103	MECHANICAL- ACCELERATION AND SPEED	Speed measurement in rpm- contact type	Using Tachometer as per SANAS guideline TR45-01	500 rpm to 1000 rpm	2.2 rpm
104	MECHANICAL- ACCELERATION AND SPEED	Speed measurement in rpm- Non Contact type	Using Tachometer as per SANAS guideline TR45-01	10 rpm to 1000 rpm	1 rpm





### **SCOPE OF ACCREDITATION**

Laboratory Name : **Accreditation Standard Certificate Number** Validity

CALITRON CALIBRATION LABORATORY (OPC) PRIVATE LIMITED, GALA NO. 40, PESH INDUSTRIAL PREMISES, MIDC BHOSARI, PUNE, MAHARASHTRA, INDIA

CC-3863 11/09/2024 to 10/09/2026

ISO/IEC 17025:2017

Page No	58 of
Last Amended on	27/09

9/2024

63

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)(±)
105	MECHANICAL- ACCELERATION AND SPEED	Speed measurement in rpm- Non Contact type	Using Tachometer as per SANAS guideline TR45-0	1000 rpm to 10000 rpm	4 rpm
106	MECHANICAL- ACCELERATION AND SPEED	Speed measurement in rpm- Non Contact type	Using Tachometer as per SANAS guideline TR45-0	10000 rpm to 90000 rpm	5.9 rpm
107	MECHANICAL- ACOUSTICS	Sound level meter @1 kHz	Using Sound calibrator by Comparison method	94 dB & 114 dB	0.7 dB
108	MECHANICAL- DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Tape and Scale Machine L.C: 0.001 mm	Using Long Slip gauge set by Comparison method	0 to 1000 mm	0.035 mm
109	MECHANICAL- PRESSURE INDICATING DEVICES	Hydraulic pressure Indicator Instrument, Analog and Digital gauges	Using Hydraulic Pressure Pump and Digital pressure Indicator by Comparison method	0 bar to 700 bar	0.2 bar
110	MECHANICAL- PRESSURE INDICATING DEVICES	Pneumatic pressure Indicator Instrument, Analog and Digital gauges	Using Pneumatic Pressure Pump with -ve pressure generation capacity and Digital pressure Indicator by Comparison method	0 bar to 2 bar	2 mbar





### **SCOPE OF ACCREDITATION**

Laboratory Name :	INDUS
Accreditation Standard	ISO/IE
Certificate Number	CC-38
Validity	11/09/

CALITRON CALIBRATION LABORATORY (OPC) PRIVATE LIMITED, GALA NO. 40, PESH TRIAL PREMISES, MIDC BHOSARI, PUNE, MAHARASHTRA, INDIA C 17025:2017

63 11/09/2024 to 10/09/2026

Page No	59 of 63
Last Amended on	27/09/20

2	7	/0	9	17	02	4

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)(±)
111	MECHANICAL- PRESSURE INDICATING DEVICES	Pneumatic pressure Indicator Instrument, Analog and Digital gauges	Using Pneumatic Pressure Pump with -ve pressure generation capacity and Digital pressure Indicator by Comparison method	0 bar to 35 bar	7 mbar
112	MECHANICAL- PRESSURE INDICATING DEVICES	Pneumatic pressure Indicator Instrument, Analog and Digital gauges	Using Pneumatic Pressure Pump with -ve pressure generation capacity and Digital pressure Indicator by Comparison method	-0.90 bar to 0 bar	1.2 mbar
113	MECHANICAL- PRESSURE INDICATING DEVICES	Pneumatic pressure Indicator Instrument, Analog and Digital gauges	Using Pneumatic Screw Pump and Digital pressure Indicator by Comparison method	-200 mbar to 200 mbar	0.2 mbar
114	MECHANICAL- UTM, TENSION CREEP AND TORSION TESTING MACHINE	Force measuring system of UTM compression	Using Class 1 and better load cells as per IS 1828 (part 1): 2022	50 kN to 500 kN	0.5 %
115	MECHANICAL- UTM, TENSION CREEP AND TORSION TESTING MACHINE	Force measuring system of UTM compression	Using Class 1 and better load cells as per IS 1828 (part 1): 2022	50 N to 50 kN	0.5 %





### **SCOPE OF ACCREDITATION**

Laboratory Name :	INDUSTRIAL PREMIS
Accreditation Standard	ISO/IEC 17025:2017
Certificate Number	CC-3863
Validity	11/09/2024 to 10/09

CALITRON CALIBRATION LABORATORY (OPC) PRIVATE LIMITED, GALA NO. 40, PESH AL PREMISES, MIDC BHOSARI, PUNE, MAHARASHTRA, INDIA

11/09/2024 to 10/09/2026

Page No	60 of 63
Last Amended on	27/09/20

27	100	171	12/
<b>Z</b> /	103	/ 2 (	724

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)(±)
116	MECHANICAL- UTM, TENSION CREEP AND TORSION TESTING MACHINE	Force measuring system of UTM tension	Using Class 1 and better load cells as per IS 1828 (part 1): 2022	50 N to 50 kN	0.5 %
117	MECHANICAL- WEIGHING SCALE AND BALANCE	Weighing balance, Class I, d=0.001mg	Using E1 class weight based on OIML R76	1 mg to 3 g	0.007 mg
118	MECHANICAL- WEIGHING SCALE AND BALANCE	Weighing balance, Class I, d=0.01mg	Using E1 class weights as per OIML R76	1 mg to 250 g	0.06 mg
119	MECHANICAL- WEIGHING SCALE AND BALANCE	Weighing balance, Class I, d=0.1mg	Using E1 class weights as per OIML R76	10 mg to 200 g	0.12 mg
120	MECHANICAL- WEIGHING SCALE AND BALANCE	Weighing balance, Class II, d=100mg	Using E1 and F1 class weights as per OIML R76	2 g to 20 kg	0.13 g
121	MECHANICAL- WEIGHING SCALE AND BALANCE	Weighing balance, Class II, d=10mg	Using E1 and F1 class weights as per OIML R76	200 mg to 10 kg	10 mg
122	MECHANICAL- WEIGHING SCALE AND BALANCE	Weighing balance, Class II, d=1mg	Using E1 class weights as per OIML R76	20 mg to 1000 g	1.5 mg





Laboratory Name :	CALITRON CALIBRATION LABORATORY (OPC) PRIVATE LIMITED, GALA NO. 40, PES INDUSTRIAL PREMISES, MIDC BHOSARI, PUNE, MAHARASHTRA, INDIA			
Accreditation Standard	ISO/IEC 17025:2017			
Certificate Number	CC-3863	Page No	61 of 63	
Validity	11/09/2024 to 10/09/2026	Last Amended on	27/09/2024	

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)(±)
123	MECHANICAL- WEIGHING SCALE AND BALANCE	Weighing balance, Class III, d=0.5g	Using F1 and M1 class weights as per OIML R76	1 g to 50 kg	7 g
124	MECHANICAL- WEIGHING SCALE AND BALANCE	Weighing balance, Class III, d=1g	Using F1 and M1 class weights as per OIML R76	20 g to 200 kg	29 g
125	THERMAL- SPECIFIC HEAT & HUMIDITY	Environment chambers	Using Multiposition Calibration with minimum 9 humidity dataloggers by Comparison method as per DKD R-5-7	20 %rh to 95 %rh (@25 °C)	2.17 %rh
126	THERMAL- SPECIFIC HEAT & HUMIDITY	Humidity Indicator with sensor of Climatic chamber @ 25 °C	Using temperature humidity meter with single position calibration by Comparison method	15 %rh to 95 %rh	0.6 %rh
127	THERMAL- TEMPERATURE	Calibration of chambers, Ovens and Furnaces	Using minimum 9 sensors with multichannel datalogger at multiposition calibration by Comparison method	660 °C to 1200 °C	4.5 °C





Laboratory Name :	CALITRON CALIBRATION LABORATORY (OPC) PRIVATE LIMITED, GALA NO. 40 INDUSTRIAL PREMISES, MIDC BHOSARI, PUNE, MAHARASHTRA, INDIA			
Accreditation Standard	ISO/IEC 17025:2017			
Certificate Number	CC-3863	Page No	62 of 63	
Validity	11/09/2024 to 10/09/2026	Last Amended on	27/09/2024	

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)(±)
128	THERMAL- TEMPERATURE	Calibration of chambers, ovens liquid and fluid baths	Using 9 sensors with multichannel datalogger at multiposition calibration by Comparison method	-70 °C to 660 °C	1.6 °C
129	THERMAL- TEMPERATURE	Indicator with sensor of chamber, Oven or Furnace	Using PRT & RTD (4W) with 6½ DMM by Single position calibration by Comparison method	(-)70 °C to 660 °C	0.20 °C
130	THERMAL- TEMPERATURE	Liquid in Glass Thermometer	Using PRT & 6½ DMM in Oil bath by Comparison method	50 °C to 200 °C	0.20 °C
131	THERMAL- TEMPERATURE	Non contact pyrometer, IR thermometer (Emissivity 0.95)	Using IR pyrometer and Blackbody Calibrator as source by Comparison method	50 °C to 400 °C	1.8 °C
132	THERMAL- TEMPERATURE	Non contact pyrometer, IR thermometer (Emissivity 0.95)	Using IR pyrometer and Blackbody Calibrator by Comparison method	(-)15 °C to 50 °C	1.32 °C
133	THERMAL- TEMPERATURE	Non contact Pyrometer, IR thermometer (Emissivity 0.95)	Using IR pyrometer and blackbody by Comparison method	400 °C to 1200 °C	5.1 °C





### **SCOPE OF ACCREDITATION**

Laboratory Name :	INDUSTRIAL PREMISES, MIDC BHOSA
Accreditation Standard	ISO/IEC 17025:2017
Certificate Number	CC-3863
Validity	11/09/2024 to 10/09/2026

RY (OPC) PRIVATE LIMITED, GALA NO. 40, PESH ARI, PUNE, MAHARASHTRA, INDIA

> Page No 63 of 63 Last Amended on

27/09/2024

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)(±)
134	THERMAL- TEMPERATURE	RTD / Thermocouple with or without Indicator	Using PRT with 6½ DMM and Dry block calibrator with Comparison method	(-)30 °C to 400 °C	0.1 °C
135	THERMAL- TEMPERATURE	RTD / Thermocouple with or without Indicator	Using PRT with 6½ DMM in dry block by Comparison method	400 °C to 660 °C	0.19 °C
136	THERMAL- TEMPERATURE	Temperature Humidity meters	Using RTD & DMM and environmental chamber by Comparison method	(-)5 °C to 60 °C	0.18 °C
137	THERMAL- TEMPERATURE	Temperature indicator with sensor of liquid bath, Ovens, Furnaces and Temperature calibrators	Using Thermocouple (S type) with 6½ DMM at Single position calibration by Comparison method	660 °C to 1200 °C	1.72 °C
138	THERMAL- TEMPERATURE	Thermocouple with/without Indicator	Using Thermocouple S type with 6½ DMM in dry block by Comparison method	660 °C to 1200 °C	1.85 °C

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