

Laboratory	Unitech Instrumentation & Controls, 608, Prabhat Centre Annexe, 6th Floor, Sector-1A, C.B.D. Belapur, Navi Mumbai, Maharashtra		
Accreditation Standard	ISO/IEC 17025: 2005		
Certificate Number	CC-2172	Page	1 of 8
Validity	17.03.2018 to 16.03.2020	Last Amended on	12.11.2018

Sl.	Quantity Measured / Instrument	Range/Frequency	*Calibration Measurement Capability ($\pm$)	Remarks
<u>ELECTRO-TECHNICAL CALIBRATION</u>				
I.	SOURCE			
1.	DC Voltage [#]	0 to 100 mV	0.38 % to 0.04 %	Using Portable Calibrator by Direct Method
2.	DC Current [#]	1 mA to 20 mA	1.27 % to 0.07 %	Using Portable Calibrator by Direct Method
3.	DC Resistance [#]	80 Ω to 400 Ω	3.4 % to 0.35 %	Using RTD Calibrator by Direct Method
	Temperature Simulation [#]			
	RTD (Pt-100)	(-) 50 °C to 400 °C	0.58 °C	Using Portable Calibrator by Direct Method
	J-Type Thermocouple	0 °C to 800 °C	0.59 °C	
	K-Type Thermocouple	0 °C to 1370 °C	0.58 °C	
	T-Type Thermocouple	(-) 100 °C to 400 °C	0.59 °C	
II.	MEASURE			
1.	DC Voltage [#]	0 mV to 100 mV	0.43 % to 0.04 %	Using Digital Multimeter/ Portable Calibrator by Direct Method
2.	DC Current [#]	1 mA to 20 mA	1.27 % to 0.13 %	Using Digital Multimeter/ Portable Calibrator / Radix (Microcal) by Direct Method

Sangeeta Kunwar
Convenor

Srikanth R.
Program Manager

Laboratory Unitech Instrumentation & Controls, 608, Prabhat Centre Annexe,
 6th Floor, Sector-1A, C.B.D. Belapur, Navi Mumbai, Maharashtra
Accreditation Standard ISO/IEC 17025: 2005
Certificate Number CC-2172 Page 2 of 8
Validity 17.03.2018 to 16.03.2020 Last Amended on 12.11.2018

Sl.	Quantity Measured / Instrument	Range/Frequency	*Calibration Measurement Capability (±)	Remarks
3.	DC Resistance [#]	10 Ω to 400 Ω	1.27 % to 0.11 %	Using Digital Multimeter/RTD Calibrator by Direct Method
	Temperature Simulation [#]			
	RTD (Pt-100)	(-) 50 °C to 400 °C	0.25 °C	Using Portable Calibrator by Direct Method
	J-Type Thermocouple	0 °C to 800 °C	0.58 °C	
	K-Type Thermocouple	0 °C to 1370 °C	0.58 °C	
	T-Type Thermocouple	(-) 100 °C to 400 °C	0.59 °C	
5.	Digital Stop Watch [#]	60 s to 86400 s	3.5 s to 3.61 s	Using Stop Watch by Comparison Method

Laboratory	Unitech Instrumentation & Controls, 608, Prabhat Centre Annexe, 6th Floor, Sector-1A, C.B.D. Belapur, Navi Mumbai, Maharashtra		
Accreditation Standard	ISO/IEC 17025: 2005		
Certificate Number	CC-2172	Page	3 of 8
Validity	17.03.2018 to 16.03.2020	Last Amended on	12.11.2018

Sl.	Quantity Measured / Instrument	Range/Frequency	*Calibration Measurement Capability ($\pm$)	Remarks
<u>MECHANICAL CALIBRATION</u>				
I.	MASS			
1.	Weights ^{\$} F2 Class Weights and Coarser	1 mg 2 mg 5 mg 10 mg 20 mg 50 mg 100 mg 200 mg 500 mg 1 g 2 g 5 g 10 g 20 g 50 g 100 g 200 g	0.02 mg 0.02 mg 0.02 mg 0.025 mg 0.030 mg 0.012 mg 0.016 mg 0.02 mg 0.025 mg 0.03 mg 0.04 mg 0.05 mg 0.06 mg 0.08 mg 0.10 mg 0.16 mg 0.3 mg	Using E2 class standard weights up to 5 kg and with Digital Weighing Balance up to 80 g / 200 g of d = 0.01 mg and d=0.1 mg Using ABBA method as per OIML R- 111 : 2004
2.	Weights ^{\$} M1 Class Weights and Coarser	500 g 1 kg 2 kg 5 kg 10 kg 20 kg	0.008 g 0.016 g 0.01 g 0.025 g 0.02 g 0.1 g	Using E2 (5 kg) Class weights and F1 (>5kg) Class weights and Digital Weighing Balance up to 10 kg with d = 10 mg and upto 35 kg with d = 0.1 g
II.	WEIGHING SCALE AND BALANCE			
		1 mg to 80 g d $\geq$ 0.01 mg	0.01 mg	
		>80g to 200 g d $>$ 0.1 mg	0.1 mg	

Laboratory Unitech Instrumentation & Controls, 608, Prabhat Centre Annexe,
6th Floor, Sector-1A, C.B.D. Belapur, Navi Mumbai, Maharashtra

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number CC-2172 **Page** 4 of 8

Validity 17.03.2018 to 16.03.2020 **Last Amended on** 12.11.2018

Sl.	Quantity Measured / Instrument	Range/Frequency	*Calibration Measurement Capability ($\pm$)	Remarks
2.	Weighing Balances Class II and Coarser [#]	>200 g to 10 kg $d \geq 10\text{mg}$	30.0 mg	Using F1 class standard weights >5 kg to 20 kg as per OIML R-76
		>10 kg to 35 kg $d \geq 100\text{mg}$	150.0 mg	
III.	VOLUME			
1.	Piston Pipette, Micro Pipettes ^{\$}	>10 μl to 100 μl >100 μl to 1000 μl >1000 μl to 5000 μl	0.05 μl to 0.5 μl 0.9 μl to 7.00 μl 10.0 μl to 32.0 μl	Using Digital Balance up to 80 g /200g readability 0.01/0.1 mg And up to 10 kg with $d= 10\text{ mg}$ with distilled water of known density as per IS 8655-6 & ISO/TR 20461
2.	Glass Pipettes (Graduated / Non Graduated) and Glass Burette ^{\$}	1 ml to 10 ml >10 ml to 50 ml > 50 ml to 100 ml	0.02 ml to 0.03 ml 0.03 ml to 0.1 ml 0.1 ml to 0.2 ml	
3.	Measuring Cylinder/ Volumetric Flask/ Conical Flask/ Beaker ^{\$}	5 ml to 100 ml >100 ml to 500 ml >500 ml to 1000 ml >1000 ml to 2000 ml	0.1 ml to 1.9 ml 1.9 ml to 3.5 ml 3.5 ml to 5.2 ml 5.2 ml to 10.0 ml	
IV.	PRESSURE INDICATING DEVICES			
1.	Pneumatic Pressure Gauges [#] (Analogue/Digital)	1 bar to 7 bar (g) 1 bar to 20 bar (g)	0.2% rdg 2.05 % rdg	Using Digital Pressure Gauge by Comparison Method as per DKD-R-6-1
2.	Pneumatic Low Pressure Gauges [#] (Analogue/Digital)	20 mmWc to 200 mmWc (g) (196 Pa to 1961 Pa)	0.8% rdg	Using Digital Pressure Gauge by Comparison Method as per DKD-R-6-1

Laboratory Unitech Instrumentation & Controls, 608, Prabhat Centre Annexe,
 6th Floor, Sector-1A, C.B.D. Belapur, Navi Mumbai, Maharashtra
Accreditation Standard ISO/IEC 17025: 2005
Certificate Number CC-2172 Page 5 of 8
Validity 17.03.2018 to 16.03.2020 Last Amended on 12.11.2018

Sl.	Quantity Measured / Instrument	Range/Frequency	*Calibration Measurement Capability ($\pm$)	Remarks
3.	Hydraulic Pressure Gauges # (Analogue/Digital)	7 bar to 70 bar (g) 70 bar to 689 bar (g)	0.3% rdg 0.5% rdg	Using Digital Pressure Gauge by Comparison Method as per DKD-R-6-1
4.	Vaccum Gauges # (Analogue/Digital)	0 mmHg to (-) 700mmHg (g) (0 to 93325.67 Pa)	0.92% rdg	Using Digital Manometer by Comparison Method as per DKD-R-6-2

Sangeeta Kunwar
 Convenor

Srikanth R.
 Program Manager

Laboratory Unitech Instrumentation & Controls, 608, Prabhat Centre Annexe,
 6th Floor, Sector-1A, C.B.D. Belapur, Navi Mumbai, Maharashtra
Accreditation Standard ISO/IEC 17025: 2005
Certificate Number CC-2172 Page 6 of 8
Validity 17.03.2018 to 16.03.2020 Last Amended on 12.11.2018

Sl.	Quantity Measured / Instrument	Range/Frequency	*Calibration Measurement Capability ($\pm$)	Remarks
<u>THERMAL CALIBRATION</u>				
I.	TEMPERATURE			
1.	Thermocouples, RTDs, Temperature Transmitter With Or Without Indicator / Data Logger, Digital Thermometer [#]	(-) 30 °C to 50 °C	0.44 °C to 0.49 °C	Using STD SPRT / PRT (Tempsens) Low Temp Bath & Temp Readout or DMM by Comparison Method
2.	Thermocouples, RTDs, Temperature Transmitter With Or Without Indicator / Data Logger, Digital Thermometer [#]	50 °C to 350 °C	0.45 °C to 0.46 °C	Using STD SPRT / PRT (Tempsens), Dry Block Furnace & Temp Readout or DMM by Comparison Method
3.	Liquid In Glass Thermometer [#]	(-) 30 °C to 250 °C	0.44 °C to 0.46 °C	Using STD SPRT / PRT (Tempsens), Low Temp Bath / Constant Temp Bath & Temp Readout Or DMM by Comparison Method
4.	Thermocouples, RTDs, Temperature Transmitter With Or Without Indicator / Data Logger, Digital Thermometer [#]	(-) 30 °C to 50 °C	0.59 °C	Using STD SPRT / PRT (Tempsens), Low Temp Chamber & Temp Readout or DMM by Comparison Method

Sangeeta Kunwar
 Convenor

Srikanth R.
 Program Manager

Laboratory **Unitech Instrumentation & Controls, 608, Prabhat Centre Annexe,**
6th Floor, Sector-1A, C.B.D. Belapur, Navi Mumbai, Maharashtra

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

Certificate Number **CC-2172** **Page** **7 of 8**

Validity **17.03.2018 to 16.03.2020** **Last Amended on** **12.11.2018**

Sl.	Quantity Measured / Instrument	Range/Frequency	*Calibration Measurement Capability ($\pm$)	Remarks
5.	Indicator of Freezers, Cold Chamber, Oven, Environment Chamber, Incubator (for Non-Medical Applications), BOD Incubator (for Non-Medical Applications) [#]	(-) 30 °C to 50 °C 50 °C to 350 °C	0.58 °C 0.46 °C	Using STD SPRT / PRT (Tempsens) & Temp Readout or DMM by Comparison Method (Single Position)
6.	Freezers, Cold Chamber, Oven, Environment Chamber [#]	(-) 30 °C to 200 °C	1.15 °C	Using Multipoint Data Logger and 4 Wire RTD (Pt-100) Sensors, Thermocouples by Mapping Method (Multi Position)
II.	SPECIFIC HEAT & HUMIDITY			
1.	Digital & Analog Hygrometers, RH Sensors / Transmitters With Controllers / Indicator / Recorder/ Data Logger, RH Sensor With Indicators [#]	30 % RH to 95 % RH @approx. 25 °C	1.53 % RH	Using STD Rotronics RH Sensor with Indicator and RH Generator by Comparison Method
2.	Humidity Indicator of Humidity Calibrator / Generator/Chamber [#]	30 % RH to 95 % RH	1.53 % RH	Using STD Rotronics RH Sensor with Indicator by Comparison Method (Single Position)

Laboratory Unitech Instrumentation & Controls, 608, Prabhat Centre Annexe,
 6th Floor, Sector-1A, C.B.D. Belapur, Navi Mumbai, Maharashtra
Accreditation Standard ISO/IEC 17025: 2005
Certificate Number CC-2172 Page 8 of 8
Validity 17.03.2018 to 16.03.2020 Last Amended on 12.11.2018

Sl.	Quantity Measured / Instrument	Range/Frequency	*Calibration Measurement Capability ($\pm$)	Remarks
3.	Humidity Indicator of Humidity Calibrator / Generator/Chamber [#]	30 % RH to 95 % RH	2.88 % RH	Using Rh Sensors, Transmitters with Data Loggers by Mapping Method (Multi Position)

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

^sOnly in Permanent Laboratory

[#] The laboratory is also capable for site calibration however, the uncertainty at site depends on the prevailing actual environmental conditions and master equipment used.

Sangeeta Kunwar
Convenor

Srikanth R.
Program Manager