

Laboratory

S.M. Enterprises, Plot No. 12, Sanjeevaiah Nagar, Co-operative Society, Sikh Village, Secunderabad, Telangana

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number

CC-2471

Page

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Validity

06.12.2017 to 05.12.2019

Last Amended on -

Sl.	Quantity Measured / Instrument	Range/Frequency	*Calibration Measurement Capability (\pm)	Remarks
<u>MECHANICAL CALIBRATION</u>				
I.	PRESSURE INDICATING DEVICES			
1.	Hydraulic Pressure Digital / Analogue Pressure Gauges, Pressure indicator with Transmitter / Transducer #	0 to 400 bar 0 to 1000 bar	0.2 bar 0.3 bar	Using Hydraulic Comparator Pump and Digital Pressure Gauge by Comparison Method
2.	Pneumatic Pressure Digital/Analogue Pressure Gauges, Transducers/ Transmitters / Switches #	0 to 20 bar	0.045 bar	Using Pressure/Vacuum Comparator Pump and Digital Compound Gauge by Comparison Method
3.	Pneumatic Pressure Digital/Analogue Vacuum Gauges, Transducers/ Transmitters, Switches#	0 to -0.85 bar	0.011 bar	Using Pressure/Vacuum Comparator Pump and Digital Compound Gauge by Comparison Method
4.	Low Pressure Gauges / Differential gauge #	0 to 100 mbar	1.40 mbar	Using Digital Differential Pressure indicator using low pressure by Comparison Method

Abhinav Thakur
Convenor

Avijit Das
Program Director

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II.	ACCOUSTICS			
1.	Sound Level Meter [†]	94 dB & 114dB	1.23 dB	Using Sound Level Calibrator by Direct Method
III.	ACCELERATION AND SPEED			
1.	Tachometer [§] (Non-contact type)	1000 rpm to 30000 rpm	25.3 rpm	Using digital Tachometer with speed generator(AC/DC Motor) by Comparison Method

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<u>THERMAL CALIBRATION</u>				
I. TEMPERATURE				
1.	Liquid Glass Thermometer ^{\$}	(-) 80 °C to 30 °C 30 °C to 200 °C	0.41 °C 0.41 °C	Using SPRT Sensor with Oil Bath / Low Temperature Bath by Comparison Method
2.	RTD (Pt-100) / SPRT / Thermocouples with or without Digital Temperature Indicators/ (Temp controllers of Muffle furnace , Ovens , Incubators)/ Temperature Data Loggers/ Scanners, Dial/Digital Temperature Gauges ^{\$}	(-) 80 °C to 30 °C	0.41 °C	Using SPRT Sensor with Oil Bath / Low Temperature Bath / Dry Block Calibrator b Comparison Method
3.	RTD (Pt-100) / SPRT / Thermocouples with or without Digital Temperature Indicators/ (Temp controllers of Muffle furnace , Ovens , Incubators)/ Temperature Data Loggers/ Scanners, Dial/Digital Temperature Gauges [#]	Amb °C to 400 °C 400 °C to 500 °C 500 °C to 650 °C	0.41 °C 0.69 °C 2.17 °C	Using SPRT Sensor / S Type Thermocouple with Dry Block Calibrator / High Temperature Calibrator / Bath by Comparison Method

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4.	Thermocouples Type- K, J-Type, T-Type, S-Type, E-Type, N Type, R Type, B Type With Or With & Without Temp Indicators / (Temp controllers of Muffle furnace , Ovens , Incubators)Data Loggers / Scanners Dial/Digital Temperature Gauges \$	(-) 80 °C to 30 °C	0.41 °C	Using SPRT Sensor with Oil Bath / Low Temperature Bath / Dry Block Calibrator by Comparison Method
5.	Thermocouples Type- K, J-Type, T-Type, S-Type, E-Type, N Type, R Type, B Type With or Without Temp Indicators /(Temp controllers of Muffle furnace , Ovens , Incubators) Data Loggers / Scanners Dial/Digital Temperature Gauges #	Amb °C to 400 °C 400 °C to 500 °C 500 °C to 1200 °C	0.41 °C 0.69 °C 2.17 °C	Using SPRT Sensor / S Type Thermocouple with Dry Block Calibrator / High Temperature Calibrator / Bath by Comparison Method
6.	Temperature Indicators with Sensor of Muffle Furnace , Refrigerators , Ovens *	(-)80 °C to 400 °C 400 °C to 500 °C 500 °C to 1200 °C	0.41 °C 0.69 °C 2.17 °C	Using SPRT Sensor / S Type Thermocouple and Multi Function indicator / Multi meter by Comparison method Single Point Calibration
7.	Digital Infrared Thermometer / Non contact Thermometers / Dial/Digital Pyrometers \$	Amb to 300 °C 300°C to 500 °C	2.53 °C 2.32 °C	Using IR thermometer with Black body Source by Comparison Method

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II	SPECIFIC HEAT AND HUMIDITY			
1.	RH & Temperature Indicators With Inbuilt Or External Sensors, Digital Thermohygrometers, Temp / RH Data logger [§]	Humidity : 30% RH to 99% RH in Temperature range (15°C to 60°C)	6.1 %RH 2.35 °C	Using Humidity / Temperature Chamber & Digital RH & Temperature Indicators by Comparison Method

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

[§] Only in Permanent Laboratory

* Only for Site Calibration

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

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