



National Accreditation Board for Testing and Calibration Laboratories

SCOPE OF ACCREDITATION

Laboratory Name :

R-TECH CALIBRATION, G1, 52/1 PATHAK PARA ROAD, KOLKATA, WEST BENGAL, INDIA

Accreditation Standard

ISO/IEC 17025:2017

Certificate Number

CC-3301

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Validity

05/10/2021 to 04/10/2023

Last Amended on

02/12/2021

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)(\pm)
Permanent Facility					
1	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Measure)	B-type thermocouple Temperature Simulation	Using Process Calibrator Nagman 25 by Direct Method	850 °C to 1800 °C	2.4°C
2	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Measure)	E-type thermocouple Temperature Simulation	Using Process Calibrator Nagman 25 by Direct Method	(-)50 °C to 1000 °C	1.75°C
3	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Measure)	J-type thermocouple Temperature Simulation	Using Process Calibrator Nagman 25 by Direct Method	(-)60 °C to 1200 °C	1.18°C
4	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Measure)	K-type thermocouple Temperature Simulation	Using Process Calibrator Nagman 25 by Direct Method	(-)100 °C to 1340 °C	1.53°C
5	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Measure)	N-type thermocouple Temperature Simulation	Using Process Calibrator Nagman 25 by Direct Method	(-)200 °C to 1300 °C	1.75°C



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6	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Measure)	R-type thermocouple Temperature Simulation	Using Process Calibrator Nagman 25 by Direct Method	150 °C to 1750 °C	2.31°C
7	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Measure)	RTD-(PT-100) Temperature Simulation	Using Process Calibrator Nagman 25 by Direct Method	-200 °C to 800 °C	0.98°C
8	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Measure)	S-type thermocouple Temperature Simulation	Using Process Calibrator Nagman 25 by Direct Method	150 °C to 1750 °C	2.5°C
9	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Measure)	T-type thermocouple Temperature Simulation	Using Process Calibrator Nagman 25 by Direct Method	-100 °C to 400 °C	1.16°C
10	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Source)	B-type thermocouple Temperature Simulation	Using Process Calibrator Nagman 25 by Direct Method	900 °C to 1800 °C	2.31°C
11	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Source)	E-type thermocouple Temperature Simulation	Using Process Calibrator Nagman 25 by Direct Method	(-)200 °C to 1000 °C	1.75°C



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12	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Source)	J-type thermocouple Temperature Simulation	Using Process Calibrator Nagman 25 by Direct Method	(-)200 °C to 1200 °C	1.19°C
13	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Source)	K-type thermocouple Temperature Simulation	Using Process Calibrator Nagman 25 by Direct Method	(-)140 °C to 1340 °C	1.42°C
14	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Source)	N-type thermocouple Temperature Simulation	Using Process Calibrator Nagman 25 by Direct Method	(-)110 °C to 1300 °C	1.75°C
15	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Source)	R-type thermocouple Temperature Simulation	Using Process Calibrator Nagman 25 by Direct Method	150 °C to 1750 °C	2.29°C
16	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Source)	RTD-(PT-100) Temperature Simulation	Using Process Calibrator Nagman 25 by Direct Method	-200 °C to 800 °C	0.95°C
17	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Source)	S-type thermocouple Temperature Simulation	Using Process Calibrator Nagman 25 by Direct Method	150 °C to 1750 °C	2.3°C



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18	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Source)	T-type thermocouple Temperature Simulation	Using Process Calibrator Nagman 25 by Direct Method	-200 °C to 400 °C	1.19°C
19	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Cube Mould	Using Digital Vernier Calipers , by comparison method	Up to 150 mm	27.3 µm
20	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Feeler Gauge	Using Digital External Micrometer By Comparison Method	0.015 mm to 1 mm	2.56µm
21	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Test Sieve	Using Digital Caliper By Comparison Method	4 mm to 150 mm	29.14µm
22	THERMAL-TEMPERATURE	Temperature Indicator with Sensor of Furnace / Oven/ Muffle	Using S-Type Thermocouple with Temperature Indicator (Single Position Calibration)by comparison method	250 °C to 650 °C	2.56°C



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23	THERMAL-TEMPERATURE	Temperature Indicator with Sensor of Furnace / Oven/ Muffle	Using 4 Wire RTD with indicator by comparison method	-30 °C to 300 °C	1.34°C
24	THERMAL-TEMPERATURE	Thermocouple with or without Indicator /Recorder / Controller , Digital Thermometer, Temperature Gauge	Using S-Type Thermocouple with indicator,(measure mode)& dry block furnace by comparison method	250 °C to 650 °C	2.21°C
25	THERMAL-TEMPERATURE	Thermocouple/RTD with or without Indicator /Recorder / Controller , Digital Thermometer, Temperature Gauge	Using 4 Wire RTD with indicator, Process Calibrator Nagman 25 (by measure mode) , and dry bath by comparison method	200 °C to 300 °C	1.33°C
26	THERMAL-TEMPERATURE	Thermocouple/RTD with or without Indicator /Recorder / Controller , Digital Thermometer, Temperature Gauge	Using 4 Wire RTD with indicator, Process Calibrator Nagman 25 (by measure mode) , and dry bath by comparison method	50 °C to 200 °C	0.93°C



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Site Facility					
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2	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Measure)	E-type thermocouple Temperature Simulation	Using Process Calibrator Nagman 25 by Direct Method	(-)50 °C to 1000 °C	1.75°C
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8	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Measure)	S-type thermocouple Temperature Simulation	Using Process Calibrator Nagman 25 by Direct Method	150 °C to 1750 °C	2.5°C
9	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Measure)	T-type thermocouple Temperature Simulation	Using Process Calibrator Nagman 25 by Direct Method	(-)-100 °C to 400 °C	1.16°C
10	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Source)	B-type thermocouple Temperature Simulation	Using Process Calibrator Nagman 25 by Direct Method	900 °C to 1800 °C	2.31°C
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15	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Source)	R-type thermocouple Temperature Simulation	Using Process Calibrator Nagman 25 by Direct Method	150 °C to 1750 °C	2.29°C
16	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Source)	RTD-(PT-100) Temperature Simulation	Using Process Calibrator Nagman 25 by Direct Method	(-)200 °C to 800 °C	0.94°C
17	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Source)	S-type thermocouple Temperature Simulation	Using Process Calibrator Nagman 25 by Direct Method	150 °C to 1750 °C	2.3°C



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18	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Source)	T-type thermocouple Temperature Simulation	Using Process Calibrator Nagman 25 by Direct Method	(-)200 °C to 400 °C	1.19°C
19	MECHANICAL-ACCELERATION AND SPEED	RPM Meter/ Centrifuge M/c (Non-contact type)	Digital Tachometer by Comparison Method	150 rpm to 15000 rpm	15.25%
20	MECHANICAL-PRESSURE INDICATING DEVICES	Hydraulic Pressure (Dial/Digital Pressure Gauge , Pressure Transducers, Pressure transmitters)	Using Digital Pressure Gauge, pressure comparator and process calibrator & as per DKD R6-1	0 bar to 700 bar	0.43bar
21	MECHANICAL-PRESSURE INDICATING DEVICES	Pneumatic Pressure (Dial/Digital Pressure Gauge , Pressure Transducers, Pressure transmitters)	Using Digital Pressure Gauge, hand pump and process calibrator & as per DKD R6-1	0 bar to 30 bar	0.075bar
22	MECHANICAL-PRESSURE INDICATING DEVICES	Vacuum Gauge (Dial /Digital vacuum Gauge , Vacuum Transducers , Vacuum Transmitters)	Using Digital Compound Gauge hand pump and process calibrator & as per DKD R6-2	-0.85 bar to 0 bar	0.02bar
23	THERMAL-TEMPERATURE	Indicator with sensor of Freezers	Using 4 Wire RTD with indicator by comparison method	-30 °C to 30 °C	0.83°C



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24	THERMAL-TEMPERATURE	Temperature indicator with sensor of chamber industrial incubator(non-medical application)/ Liquid Bath /Dry Block /oven	Using 4 Wire RTD with indicator by comparison method	200 °C to 300 °C	1.34°C
25	THERMAL-TEMPERATURE	Temperature indicator with sensor of chamber industrial incubator(non-medical application)/ Liquid Bath /Dry Block /oven	Using 4 Wire RTD with indicator by comparison method	-30 °C to 50 °C	0.83°C
26	THERMAL-TEMPERATURE	Temperature indicator with sensor of chamber industrial incubator(non-medical application)/ Liquid Bath /Dry Block /oven	Using 4 Wire RTD with indicator by comparison method	50 °C to 200 °C	0.83°C
27	THERMAL-TEMPERATURE	Temperature Indicator with Sensor of Furnace / Oven/ Muffle	Using S-Type Thermocouple with Temperature Indicator (Single Position Calibration)	250 °C to 650 °C	2.56°C



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28	THERMAL-TEMPERATURE	Thermocouple with or without Indicator /Recorder / Controller , Digital Thermometer, Temperature Gauge	Using S-Type Thermocouple with indicator,(measure mode)& dry block furnace	250 °C to 650 °C	2.21°C
29	THERMAL-TEMPERATURE	Thermocouple/RTD with or without Indicator /Recorder / Controller , Digital Thermometer, Temperature Gauge	Using 4 Wire RTD with indicator, Process Calibrator Nagman 25 (by measure mode) , and dry bath by comparison method	200 °C to 300 °C	1.34°C
30	THERMAL-TEMPERATURE	Thermocouple/RTD with or without Indicator /Recorder / Controller , Digital Thermometer, Temperature Gauge	Using 4 Wire RTD with indicator, Process Calibrator Nagman 25 (by measure mode) , and dry bath.	50 °C to 200 °C	0.93°C

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