

Laboratory

Calibration Lab-NTSC, NSIC Technical Services Centre, The National Small Industries Corporation Ltd., (A Govt. of India Enterprise), Sector B-24, Guindy Industrial Estate, Ekkaduthangal, Chennai, Tamil Nadu

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number

CC-2011
(in lieu of C-0601, C-0602, C-0603)

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Validity

27.02.2017 to 26.02.2019

Last Amended on --

Sl.	Quantity Measured / Instrument	Range/Frequency	*Calibration Measurement Capability (\pm)	Remarks
<u>ELECTRO-TECHNICAL CALIBRATION</u>				
I.	SOURCE			
1.	DC Voltage	10 mV to 100 mV 100 mV to 50 V	0.50 % to 0.05 % 0.05 % to 0.08 %	Using AOIP Calys 1000 Multifunction Calibrator by Direct Method
2.	DC Current	1 A to 20 mA	0.70 % to 0.1 %	Using AOIP Calys 1000 Multifunction Calibrator by Direct Method
3.	Resistance	10 Ω to 4000 Ω	0.50 %	Using AOIP Calys 1000 Multifunction Calibrator by Direct Method
4.	Temperature Simulation (Indicator Controller/ Recorder)			
	J Type Thermocouple	(-) 100 ^o C to 1200 ^o C	1.50 ^o C	Using AOIP Calys 1000 Multifunction Calibrator by Direct Method
	S Type Thermocouple	170 ^o C to 1500 ^o C	1.50 ^o C	Direct Method
	RTD (PT-100)	(-) 100 ^o C to 800 ^o C	0.50 ^o C	
II.	MEASURE			
1.	DC Voltage	10 mV to 100 mV 100 mV to 50 V	0.50 % to 0.46 % 0.46 % to 0.10 %	Using AOIP Calys 1000 Multifunction Calibrator by Direct Method

Abhinav Thakur
Convenor

Avijit Das
Program Director

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2.	DC Current	1 mA to 20 mA	0.60 % to 0.10 %	Using AOIP Calys 1000 Multifunction Calibrator by Direct Method
3.	Resistance	10 Ω to 4000 Ω	0.20 % to 0.15 %	Using AOIP Calys 1000 Multifunction Calibrator by Direct Method
4.	Temperature Simulation (Indicator Controller/ Recorder)			
	J Type Thermocouple	(-) 100 ⁰ C to 1500 ⁰ C	1.50 ⁰ C	Using AOIP Calys1000 Multifunction Calibrator by Direct Method
	S Type Thermocouple	170 ⁰ C to 1500 ⁰ C	1.50 ⁰ C	
	RTD (PT-100)	(-) 100 ⁰ C to 800 ⁰ C	0.50 ⁰ C	

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<u>MECHANICAL CALIBRATION</u>				
I.	PRESSURE INDICATING DEVICES			
1.	Pressure-Hydraulic ^s (Dial, Digital Pressure Gauges/ Indicators, Pressure Transducers and Pressure Transmitter)	1 kg/cm ² to 30 kg/cm ² 30 kg/cm ² to 600 kg/cm ²	0.24 % 0.22 %	Using Hydraulic Dead Weight Tester Low Pressure 1 to 30 kg/cm ² High Pressure 10 to 600 kg/cm ² based on DKD-R6-1
2.	Pressure-Hydraulic ^a (Industrial Dial, Digital Pressure Gauges/ Indicators, Pressure Switch and Pressure Transmitter)	0 kg/cm ² to 700 kg/cm ²	0.32 %	Using Digital Pressure Calibrator 0-700 & Hydraulic Pump based on DKD-R6:1
3.	Pressure-Pneumatic ^s (Dial, Digital Pressure Gauges/ Indicators, Pressure Transducers and Pressure Transmitter)	1 kg/cm ² to 30 kg/cm ²	0.27 %	Using Pneumatic Pump & Digital Pressure Calibrator based on DKD-R6-1

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4.	Pressure-Pneumatic* (Dial, Digital Pressure Gauges/ Indicators, Pressure Transducers and Pressure Transmitter)	0 kg/cm ² to 30 kg/cm ²	0.40 %	Using Digital Pressure Calibrator 1 to 30 kg/cm ² & Pneumatic Pump based on DKD-R6-1

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<u>THERMAL CALIBRATION</u>				
I.	TEMPERATURE			
1.	Temperature Sensor (RTD's Thermocouples and Thermistors with and without Indicator/ Controller and Temperature Gauges [#]	(-) 20 ⁰ C to 100 ⁰ C 100 ⁰ C to 600 ⁰ C 600 ⁰ C to 1200 ⁰ C 1200 ⁰ C to 1400 ⁰ C	0.67 ⁰ C 1.65 ⁰ C 5.1 ⁰ C 5.1 ⁰ C	Using RTD Pt-100, Thermocouple Type S, AOIP calys 1000 and Dry well by Comparison Method
2.	Temperature Baths, Oven [#]	(-) 20 ⁰ C to 100 ⁰ C 100 ⁰ C to 600 ⁰ C 600 ⁰ C to 1200 ⁰ C	0.67 ⁰ C 1.65 ⁰ C 5.1 ⁰ C	Using RTD Pt-100, Thermocouple Type S, AOIP calys 1000 and high temperature 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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