Laboratory	**Jain R & D, Jain Irrigation Systems Limited, Agripark, Jain Hills, Shirsoli Road, Jalgaon, Maharashtra**		
Accreditation Standard	**ISO/IEC 17025: 2005**		
Certificate Number	**CC-2524** ***(in lieu of C-0613, C-0614 & C-0615)***	**Page**	**1 of 6**
Validity	**01.03.2018 to 29.02.2020**	**Last Amended on**	**-**

Sl.	Quantity Measured / Instrument	Range/Frequency	*Calibration Measurement Capability (±)	Remarks
	ELECTRO-TECHNICAL CALIBRATION			
I.	**SOURCE**			
1.	Temperature Indicator, Controllers & Recorders[#]			
	K- Type J-Type RTD Pt – 100	(-) 90 °C to 1000 °C (-) 90 °C to 750 °C (-) 50 °C to 200 °C	0.3 °C 0.26 °C 0.1 °C	Using Multifunction Calibrator (Fluke 5522A) by Direct Method
2.	DC Voltage[#]	1 mV to 100 mV 0.1 V to 10 V 10 V to 100 V 100 V to 1000 V	0.057 mV 0.057 V 0.02 V 0.021 V	Using Multifunction Calibrator (Fluke 5522A) by Direct Method
3.	DC Current[#]	1 mA to 10 mA 10 mA to 100 mA 0.1 mA to 1 A 1 A to 10 A	0.0057 mA 0.059 mA 0.63 mA 8.6 mA	Using Multifunction Calibrator (Fluke 5522A) by Direct Method
4.	AC Voltage[#]	**50 Hz** 1 mV to 100 mV 0.1 V to 1 V 1 V to 10 V 10 V to 100 V 100 V to 1000 V	 0.1 mV 0.1 mV 0.009 V 0.08 V 0.67 V	Using Multifunction Calibrator (Fluke 5522A) by Direct Method
5.	AC Current[#]	**50 Hz** 1 mA to 10 mA 10 mA to 1 A 1 A to 10 A	 0.01 mA 0.93 mA 0.02 A	Using Multifunction Calibrator (Fluke 5522A) by Direct Method

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Convenor

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Program Director

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6.	Resistance[#]	1 Ω to 10 Ω 10 Ω to 100 Ω 0.1 K Ω to 10 K Ω 10 K Ω to 100 K Ω 0.1 M Ω to 1 M Ω 1 M Ω to 10 M Ω	0.057 Ω to 0.093 Ω 0.093 Ω to 0.15 Ω 0.15 Ω to 0.0056 KΩ 0.0056 Ω to 0.057 kΩ 0.057 kΩ to 0.004 MΩ 0.004 MΩ	Using Multifunction Calibrator (Fluke 5522A) by Direct Method

Sl.	Quantity Measured / Instrument	Range/Frequency	*Calibration Measurement Capability (±)	Remarks
	MECHANICAL CALIBRATION			
I.	**DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)**			
1.	Vernier Caliper[$] L.C.: 0.01 mm	0 to 200 mm	13.2 µm	Using Set of Slip Gauge with Slip Accessories and Surface Plate
2.	Micrometer[$] L.C.: 0.001 mm	0 to 25 mm	1 µm	Using Set of Slip Gauge
3.	Height Gauge[$] L.C.: 0.01 mm	0 to 200 mm	13.0 µm	Using Set of Slip Gauge with Slip Accessories and Surface Plate
II.	**PRESSURE INDICATING DEVICES**			
1.	Vacuum Gauge[$]	(-) 0.85 bar to 0.0 bar	0.1 bar	Using Pressure Calibrator By Comparison Method
2.	Pressure Gauge[$]	0 to 20 bar	0.1 bar	Using Pressure Calibrator By Comparison Method
		20 bar to 200 bar	0.6 bar	Using Pressure Gauge By Comparison Method
III.	**WEIGHTS**			
1.	Weight[$] Class E2 & coarser	1 mg 2 mg 5 mg 10 mg 20 mg	0.005 mg 0.005 mg 0.005 mg 0.003 mg 0.003 mg	Using E1 Class Standard Weight & Balance of 5 g / 1 µg Readability

Sl.	Quantity Measured / Instrument	Range/Frequency	*Calibration Measurement Capability (±)	Remarks
		50 mg 100 mg 200 mg 500 mg 1 g 2 g 5 g	0.003 mg 0.003 mg 0.003 mg 0.003 mg 0.006 mg 0.006 mg 0.008 mg	
	Class E2 & coarser	10 g 20 g 50 g	0.02 mg 0.03 mg 0.06 mg	Using E1 class standard weight & balance of 60 g / 0.01 mg Readability
		100 g	0.13 mg	Using E1 class standard weight & balance of 100g / 0.02 mg Readability
		200 g	0.25 mg	Using E1 class standard weight & balance of 200g / 0.05 mg Readability
	Class F2 & coarser	500 g	0.005 g	Using F1 Class Weights and Precision 600 g / 5 mg Readability
	Class F2 & coarser	1 Kg 2 kg	0.02 g 0.01 g	Using F1 Class Weights and Precision 2 Kg / 10 mg Readability

Sl.	Quantity Measured / Instrument	Range/Frequency	*Calibration Measurement Capability (±)	Remarks
IV.	**WEIGHING SCALE AND BALANCE**			
1.	Weighing Balance [#] Class I & Coarser L.C.: 0.001 mg L.C.: 0.01 mg L.C.: 0.02 mg L.C.: 0.05 mg	 Up to 5 g Up to 60 g Up to 100 g Up to 200 g	 0.1 mg 0.2 mg 0.3 mg 9 mg	Using E1, F1 Class standard weights
	Class II & Coarser L.C.: 5 mg L. C.: 10 mg L. C.: 100 mg	 Up to 600 g Up to 10 Kg Up to 20 Kg	 6 mg 40 mg 0.3 g	Using E1, F1 Class Standard Weights
V.	**VOLUME**			
1.	Micro Pipettes[$]	1 µl ≤ V ≤ 10 µl 10 µl ≤ V ≤ 100 µl 100 µl ≤ V ≤ 1000 µl	0.1 µl 0.48 µl 3.62 µl	Using E1 class standard weights & Precision Balance of 1 µl Readability by Gravimetric method as per ISO 8655 - 6
2.	Glassware[$] (Volumetric, Pipettes, Burettes, Flask, Cylinder etc.)	1 ml to 100 ml >100 ml to 250 ml	0.31 ml 0.130 ml	Using E1 & F1 class standard weights & Precision balance of 600 g / 5 mg Readability by Gravimetric method as per IS / ISO 4787
		>250 ml to 1000 ml	1.4 ml	Using E1 & F1 class standard weights & Precision balance of 2 Kg / 10 mg Readability by Gravimetric method as per IS / ISO 4787

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		THERMAL CALIBRATION		
I.	**TEMPERATURE**			
1.	Glass Thermometer[$]	0 °C to 100 °C	0.5 °C	Using Liquid Bath & Temperature Indicator with Sensor By Comparison Method
2.	Temperature Indicator with Sensor[$]	(-) 30 °C to 600 °C	0.5 °C	Using Liquid And Dry Bath along with Temperature Indicator with Sensor By Comparison Method
3.	Temperature Indicator with Sensor [♣]	(-) 30 °C to 135 °C	0.6 °C	Using Dry Bath Along with Temperature Indicator with Sensor By Comparison Method

*** Measurement Capability is expressed as an uncertainty (±) 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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