Name of Accreditation Program	JCSS Accreditation Program
Accreditation Identification	JCSS 0024 Calibration
Name of Conformity Assessment Body	Calibration Engineering Department, CHINO CORPORATION
Name of Legal Entity	CHINO CORPORATION JCN 9011401004118
Inquiry Point	Calibration Engineering Department TEL: +81-480-23-2511 FAX: +81-480-22-4597

*JCN: Japan Corporate Number

23・07・14-NITE-015
2024-03-08

Certificate of Accreditation

International Accreditation Japan (IAJapan) hereby accredits the following conformity assessment body as a calibration laboratory of Japan Calibration Service System.

Accreditation Identification: JCSS 0024 Calibration

Name of Conformity Assessment Body: Calibration Engineering Department, CHINO CORPORATION

Name of Legal Entity: CHINO CORPORATION

Location of Conformity Assessment Body: 18 Kawarai-cho, Kuki-shi, Saitama 346-0028, JAPAN

Scope of Accreditation: Temperature, Electricity (Direct Current & Low Frequency), Humidity (as the following pages)

Accreditation Requirement: ISO/IEC 17025:2017*

* The relevant accreditation requirements described in the Accreditation Scheme Document for JCSS are also applied.

Effective Date of Accreditation: 2024-03-26

Expiry Date of Accreditation: 2028-03-25

Date of Initial Accreditation: 1994-03-01

SAITO Kazunori
Chief Executive, International Accreditation Japan (IAJapan)
National Institute of Technology and Evaluation

- International Accreditation Japan (IAJapan) is a laboratory accreditation body which has signed MRAs of ILAC (International Laboratory Accreditation Cooperation) and APAC (Asia Pacific Accreditation Cooperation).
- MRA requirements are, in addition to relevant international standards and guides, requirements for participation in proficiency testing programs, surveillance and reassessment, and the policy for the traceability of measurement for MRA purpose.
- This laboratory fulfills ISO/IEC 17025:2017 General requirements for the competence of testing and calibration laboratories. This accreditation means this laboratory meets both the technical competence requirements and management system requirements that are necessary for it to consistently deliver technically valid test results and calibrations (refer to joint ISO-ILAC-IAF Communiqué dated April 2017).
- The latest accreditation information is publicly available on IAJapan Website as an accreditation certificate.

General Field of Calibration: Temperature
Date of Initial Accreditation of the Field: 1994-03-01
Laboratory's permanent facility/On-site Calibration: Laboratory's permanent facility
Calibration and Measurement Capabilities

Calibration Procedures# and Type of Instruments/Materials to be calibrated		Range		Expanded Uncertainty (Level of Confidence Approximately 95 %)	
Contact Type Thermometer	Fixed point apparatus	Triple point of water		0.6 mK	
		Triple point of Mercury		2 mK	
		Freezing point of Indium		3 mK	
		Freezing point of Tin		4 mK	
		Freezing point of Zinc		5 mK	
		Freezing point of Aluminum		12 mK	
		Freezing point of Silver		0.12 K	
		Freezing point of Copper		0.15 K	
	Resistance thermometer (Fixed point calibration)	—		$W(T_{90})$ (*1)	$R(T_{90})$ (*2)
		SPRT (Standard platinum resistance thermometer)	Triple point of water	-	2 mK
			Triple point of Mercury	4 mK	-
			Freezing point of Indium	5 mK	-
			Freezing point of Tin	6 mK	-
			Freezing point of Zinc	7 mK	-
			Freezing point of Aluminum	15 mK	-
		IPRT (Industrial platinum resistance thermometer)	Triple point of water	-	4 mK
			Triple point of Mercury	6 mK	-
			Freezing point of Indium	8 mK	-
			Freezing point of Tin	10 mK	-
			Freezing point of Zinc	13 mK	
	Resistance thermometer (Comparison calibration)	SPRT (Standard platinum resistance thermometer)	-196 ºC	-	12 mK
			0 ºC	-	10 mK
			From -60 ºC up to 250 ºC	-	28 mK
			More than 250 ºC up to 420 ºC	-	40 mK
		IPRT (Industrial platinum resistance thermometer)	-196 ºC	-	22 mK
			0 ºC	-	14 mK
			From -100 ºC less than -60 ºC	-	80 mK
			From -60 ºC up to 250 ºC	-	29 mK
			More than 250 ºC up to 420 ºC	-	42 mK
	Thermocouple (Fixed point calibration)	Freezing point of Indium		0.10 ºC	
		Freezing point of Tin		0.10 ºC	
		Freezing point of Zinc		0.10 ºC	
		Freezing point of Aluminum		0.10 ºC	
		Freezing point of Silver		0.15 ºC	
		Freezing point of Copper		0.20 ºC	
		Melting point of Palladium		1.4 ºC	

	Thermocouple (Comparison calibration)	From -100 ºC up to 250 ºC		0.2 ºC
		More than 250 ºC up to 400 ºC		0.3 ºC
		More than 400 ºC up to 1100 ºC		1.0 ºC
		More than 1100 ºC up to 1400 ºC		1.6 ºC
	Liquid-in-glass thermometer	0 ºC		0.03 ºC
		More than 0 ºC up to 50 ºC		0.03 ºC
		More than 50 ºC up to 100 ºC		0.04 ºC
		More than 100 ºC up to 150 ºC		0.04 ºC
		More than 150 ºC up to 200 ºC		0.04 ºC
		More than 200 ºC up to 250 ºC		0.06 ºC
		More than 250 ºC up to 300 ºC		0.06 ºC
		More than 300 ºC up to 350 ºC		0.07 ºC
	Temperature sensor with display unit (Fixed point calibration)	Resistance thermometer	Triple point of water	0.007 ºC
			Triple point of Mercury	0.007 ºC
			Freezing point of Indium	0.009 ºC
			Freezing point of Tin	0.010 ºC
			Freezing point of Zinc	0.013 ºC
			Freezing point of Aluminum	0.018 ºC
	Temperature sensor with display unit (Comparison calibration)	Resistance thermometer	-196 ºC	0.028 ºC
			0 ºC	0.014 ºC
			From -100 ºC less than -60 ºC	0.08 ºC
			From -60 ºC up to 250 ºC	0.029 ºC
			More than 250 ºC up to 420 ºC	0.043 ºC
		Thermocouple	From -100 ºC up to 250 ºC	0.2 ºC
			More than 250 ºC up to 400 ºC	0.3 ºC
			More than 400 ºC up to 1100 ºC	0.9 ºC
			More than 1100 ºC up to 1400 ºC	1.8 ºC
	Thermometer calibration equipment	From -100 ºC up to 155 ºC		0.15 ºC
		More than 155 ºC up to 400 ºC		0.2 ºC

#All Calibration Procedures are in-house procedures developed by this laboratory.
(*1) Temperature converted from the ratio of the resistance $R(T_{90})$ to $R(273.16K)$, $W(T_{90})$
(*2) Temperature converted from resistance $R(T_{90})$
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Calibration Procedures# and Type of Instruments/Materials to be calibrated		Range	Expanded Uncertainty (Level of Confidence Approximately 95 %)
Radiation Thermometer	Fixed point apparatus	Freezing point of Zinc	0.35 ºC
		Freezing point of Aluminium	0.35 ºC
		Freezing point of Silver	0.35 ºC
		Freezing point of Copper	0.35 ºC
	Near-infrared radiation thermometer / Visible radiation thermometer (Fixed-point calibration)	Freezing point of Zinc	0.4 ºC
		Freezing point of Aluminium	0.4 ºC
		Freezing point of Silver	0.4 ºC
		Freezing point of Copper	0.4 ºC
	Near-infrared radiation thermometer / Visible radiation thermometer (Comparison calibration)	From 400 ºC up to 1400 ºC	2 ºC
		More than 1400 ºC up to 1600 ºC	3 ºC
		More than 1600 ºC up to 2500 ºC	4 ºC
		More than 2500 ºC up to 2800 ºC	6 ºC

#All Calibration Procedures are in-house procedures developed by this laboratory.

Laboratory's permanent facility/On-site Calibration: On-site Calibration
Calibration and Measurement Capabilities

Calibration Procedures# and Type of Instruments/Materials to be calibrated		Range		Expanded Uncertainty (Level of Confidence Approximately 95 %)
Contact type thermometer	Temperature sensor with display unit (Comparison calibration)	Resistance thermometer	From 0 ºC up to 250 ºC	0.40 ºC
		Thermocouple	From 0 ºC up to 250 ºC	0.50 ºC
		Equipped within temperature controlled enclosures	From -40 ºC up to 250 ºC	0.86 ºC

#All Calibration Procedures are in-house procedures developed by this laboratory.

General Field of Calibration: Electricity (Direct Current & Low Frequency)
Date of Initial Accreditation of the Field: 2017-08-03
Laboratory's permanent facility/On-site Calibration: Laboratory's permanent facility, On-site Calibration
Calibration and Measurement Capabilities

Calibration Procedures# and Type of Instruments/Materials to be calibrated		Range			Expanded Uncertainty (Level of Confidence Approximately 95 %)
Direct Current & Low Frequency Measuring Equipment, etc.	Temperature Indicator	Thermocouple with Reference Junction	K	From -5.891 mV up to 54.819 mV (From -200 °C up to 1370 °C)	0.038 mV
			T	From -6.258 mV up to 20.872 mV (From -270 °C up to 400 °C)	0.040 mV
			R	From 0.000 mV up to 21.003 mV (From 0 °C up to 1760 °C)	0.036 mV
			E	From -9.835 mV up to 76.373 mV (From -270 °C up to 1000 °C)	0.046 mV
			J	From -7.890 mV up to 69.553 mV (From -200 °C up to 1200 °C)	0.078 mV
			N	From -3.990 mV up to 47.513 mV (From -200 °C up to 1300 °C)	0.048 mV
		Platinum Resistance Thermometer Sensor	Pt100	From 18.52 Ω up to 390.48 Ω (From -200 °C up to 850 °C)	0.14 Ω
			except for Pt100	From 17.14 Ω up to 284.02 Ω (From -200 °C up to 500 °C)	0.14 Ω
	DC Voltage Measuring Equipment	More than 0.1 V up to 10 V			5.2 mV
		From 0.001 mV up to 100 mV			46 μV
	Direct Current Measuring Equipment	From 0.001 mA up to 20 mA			57 μA

#All Calibration Procedures are in-house procedures developed by this laboratory.

General Field of Calibration: Humidity
Date of Initial Accreditation of the Field: 2005-07-07
Laboratory's permanent facility/On-site Calibration: Laboratory's permanent facility
Calibration and Measurement Capabilities

Calibration Procedures# and Type of Instruments/Materials to be calibrated		Range		Expanded Uncertainty (Level of Confidence Approximately 95 %)
Humidity Measuring Instrument, etc.	Dew point Hygrometers	Frost Point From -20 °C less than -10 °C		Frost Point 0.14 °C
		Dew Point From -10 °C less than 0 °C		Dew Point 0.12 °C
		Dew Point From 0 °C less than 30 °C		Dew Point 0.08 °C
		Dew Point From 30 °C up to 40 °C		Dew Point 0.10 °C
	Electronic Hygrometers	Calibration temperatures From 10 °C less than 20 °C	Relative humidity From 10 % up to 20 %	Relative Humidity 1.4 %
			Relative humidity More than 20 % up to 95 %	Relative Humidity 1.5 %
		Calibration temperatures From 20 °C up to 30 °C	Relative humidity From 5 % up to 50 %	Relative Humidity 1.1 %
			Relative humidity More than 50 % up to 95 %	Relative Humidity 1.3 %
		Calibration temperatures More than 30 °C up to 40 °C	Relative humidity From 5 % up to 50 %	Relative Humidity 1.2 %
			Relative humidity More than 50 % up to 90 %	Relative Humidity 1.5 %

#All Calibration Procedures are in-house procedures developed by this laboratory.