Name of Accreditation Program	JCSS Accreditation Program
Accreditation Identification	JCSS 0022 Calibration
Name of Conformity Assessment Body	Laboratory, Japan Bearing Inspection Institute
Name of Legal Entity	Japan Bearing Inspection Institute JCN 8010705001292
Inquiry Point	Laboratory TEL: +81-72-238-0641 FAX: +81-72-229-5853

*JCN: Japan Corporate Number



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 0022 Calibration Name of Conformity Assessment Body: Laboratory, Japan Bearing Inspection Institute Name of Legal Entity: Japan Bearing Inspection Institute Location of Conformity Assessment Body: 2-1-7 Minamishimizu-cho, Sakai-ku, Sakai-shi, Osaka 590-0005, JAPAN Scope of Accreditation: Length, Hardness (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: 2024-05-15 Expiry Date of Accreditation: 1994-03-01

K. Horisake

HORISAKA Kazuhide 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.

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

Calibration Procedures# and Type of Instruments/Materials to be calibrated		Range	Expanded Uncertainty (Level of Confidence Approximately 95 %) (<i>L</i> (mm): Nominal length)
Length Measuring Instrument	Gauge Blocks	From 0.1 mm up to 100 mm	0.04 μm
	(Interferometry method)	More than 100 mm up to 250 mm	$(0.011+2.8 \times 10^{-4}L) \mu$ m
	Gauge Blocks	From 0.1 mm up to 100 mm	0.08 µm
		More than 100 mm up to 250 mm	$(0.048+3.44 \times 10^{-4} L) \ \mu m$
	(Comparison Wealou)	More than 250 mm up to 500 mm	$(0.034+3.65 \times 10^{-4} L) \ \mu m$
	End Gauges with Flat Ends (Comparison Method)	From 0.1 mm up to 600 mm	$(0.88+2.78 \times 10^{-3} L) \mu$ m
		From 2 mm less than 10 mm	1.6 µm
		From 10 mm less than 30 mm	1.4 μm
	Ring gauges	From 30 mm up to 50 mm	1.1 μm
		More than 50 mm up to 100 mm	1.0 μ m
		More than 100 mm up to 200 mm	1.2 μm

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

General Field of Calibration: Hardness

Date of Initial Accreditation of the Field: 2004-03-15

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 %)	
			Laboratory	Calibration
Rockwell Hardness Testing Machines, etc.	Rockwell Hardness Reference Blocks	From 20 HRC up to 25 HRC	0.49 HRC	-
		More than 25 HRC less than 35 HRC	0.43 HRC	-
		From 35 HRC up to 45 HRC	0.40 HRC	-
		More than 45 HRC less than 55 HRC	0.39 HRC	-
		From 55 HRC up to 65 HRC	0.37 HRC	-
	Rockwell Hardness Testing Machines	From 20 HRC up to 25 HRC	0.35 HRC	0.35 HRC
		More than 25 HRC less than 35 HRC	0.35 HRC	0.35 HRC
		From 35 HRC up to 45 HRC	0.31 HRC	0.31 HRC
		More than 45 HRC less than 55 HRC	0.31 HRC	0.31 HRC
		From 55 HRC up to 65 HRC	0.31 HRC	0.31 HRC

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

The values in the Expanded Uncertainty column exclude sources of uncertainty attributed to a unit under test.

Calibration Procedures# and Type of Instruments/Materials to be calibrated		Range		Expanded Uncertainty (Level of Confidence Approximately 95 %)			
				Permanent Laboratory	On-site Calibration		
Vickers Hardness Testing Machines, etc.	Vickers Hardness Testing Machines	200 HV *	Test force 9.807 N	3.8 %	3.8 %		
			Test force 98.07 N	2.1 %	2.1 %		
			Test force 294.2 N	2.1 %	2.1 %		
		600 HV *	Test force 9.807 N	5.9 %	5.9 %		
			Test force 98.07 N	2.5 %	2.5 %		
			Test force 294.2 N	2.2 %	2.2 %		
		900 HV *	Test force 9.807 N	7.0 %	7.0 %		
			Test force 98.07 N	2.8 %	2.8 %		
			Test force 294.2 N	2.2 %	2.2 %		
		From 100 HV up to 900 HV except for * marked points above. (Test force from 0.09807 N up to 490.3 N)		a) $d < 134 \mu\text{m}$ 410 / d % b) $d \ge 134 \mu\text{m}$ $2 \times (2.25 + (50.8 / d)^2)^{1/2} \%$ Where: d is the length of a diagonal line of the indentation(μ m)	a) $d < 134 \mu\text{m}$ 410 / d % b) $d \ge 134 \mu\text{m}$ $2 \times (2.25 + (50.8 / d)^2)^{1/2} \%$ Where: d is the length of a diagonal line of the indentation(μ m)		
	Vickers Hardness Reference Blocks	From 85 HV up to 930 HV (Test force from 0.09807 N up to 490.3 N)		a) $d < 134 \mu\text{m}$ 398 / d % b) $d \ge 134 \mu\text{m}$ 3.0 % Where: <i>d</i> is the length of a diagonal line of the indentation(μ m)	-		

#All Calibration Procedures are in-house procedures developed by this laboratory. The values in the Expanded Uncertainty column exclude sources of uncertainty attributed to a unit under test.

Calibration Procedures# and Type of Instruments/Materials to be calibrated		Pange		Expanded Uncertainty (Level of Confidence Approximately 95 %)	
		i cu	iige	Permanent	On-site
				Laboratory	Calibration
			5/750	2.3 %	-
			10/500	2.2 %	-
		100 HBW	10/1000	2.2 %	-
			10/1500	2.1 %	-
			10/3000	2.2 %	-
		200 HBW	5/750	2.3 %	-
			10/1000	2.2 %	-
			10/1500	2.2 %	-
	Brinell Hardness		10/3000	2.1 %	-
	Reference Blocks		5/750	2.4 %	-
		300 HBW	10/1500	2.2 %	-
			10/3000	2.1 %	-
		400 11010	5/750	2.5 %	-
		400 HB W	10/3000	2.2 %	-
		500 LIDW	5/750	2.5 %	-
		200 HB W	10/3000	2.2 %	-
		(00 HDW	5/750	2.6 %	-
Brinell Hardness		600 HBW	10/3000	2.2 %	-
Testing Machines, etc.		100 HBW	5/750	3.0 %	3.0 %
	Brinell Hardness Testing Machines		10/500	2.9 %	2.9 %
			10/1000	2.8 %	2.8 %
			10/1500	2.8 %	2.8 %
			10/3000	2.9 %	2.9 %
		200 HBW	5/750	3.0 %	3.0 %
			10/1000	2.8 %	2.8 %
			10/1500	2.8 %	2.8 %
			10/3000	2.8 %	2.8 %
		300 HBW	5/750	3.1 %	3.1 %
			10/1500	2.8 %	2.8 %
			10/3000	2.8 %	2.8 %
		400 HBW	5/750	3.2 %	3.2 %
			10/3000	2.8 %	2.8 %
		500 HBW	5/750	3.2 %	3.2 %
			10/3000	2.8 %	2.8 %
		600 HBW	5/750	3.3 %	3.3 %
			10/3000	2.8 %	2.8 %

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

The values in the Expanded Uncertainty column exclude sources of uncertainty attributed to a unit under test.