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Accreditation No.	JCSS0064
Date of Initial Accreditation	1996-04-03
Latest Date of Issue	2018-07-26
Name and Address of Accredited Organization	Chubu Testing Center, Japan Quality Assurance Organization 39 Okiura, Okimura, Kitanagoya-shi, Aichi 481-0043, Japan JCN 9010005016585
Inquiry Point	Tel: +81-568-23-0111 FAX: +81-568-24-1191
Accreditation Standards	ISO/IEC 17025:2005 (Calibration)
Accreditation Scope	As attached

*JCN : Japan Corporate Number

General Field of Calibration : LengthDate of Initial Accreditation of the Field : 1996-04-03Permanent Laboratory/On-site Calibration : Permanent Laboratory

Calibration Procedures# and Type of Instruments/Materials to be calibrated		Range	CMC(Level of Confidence Approximately 95 %)
Length Measuring Instrument	Gauge Blocks (Comparison Method)	From 0.5 mm up to 50 mm	0.06 μm
		More than 50 mm up to 100 mm	0.07 μm
		More than 100 mm up to 150 mm	0.09 μm
		More than 150 mm up to 200 mm	0.11 μm
		More than 200 mm up to 250 mm	0.13 μm
		More than 250 mm up to 300 mm	0.15 μm
		More than 300 mm up to 400 mm	0.19 μm
		More than 400 mm up to 500 mm	0.23 μm
	End Gauges with Flat Ends (Comparison Method)	Up to 300 mm	1.0 μm
		More than 300 mm up to 500 mm	1.5 μm
		More than 500 mm up to 800 mm	2.5 μm
		More than 800 mm up to 1000 mm	3.0 μm
	Rules	Up to 1 m	11 μm
		More than 1 m up to 5 m	+(11 μm for every above 1 m)
	Rules (Starting Point of Edge)	Up to 3 m	0.07 mm
	Steel Tape Measures	Up to 5 m	0.10 mm
		More than 5 m up to 100 m	+(0.10 mm for every above 5 m)
	Dial gauges	Up to 5 mm	1.0 μm
		More than 5 mm up to 50.8 mm	1.1 μm
		More than 50.8 mm up to 100 mm	2.1 μm
	Dial test indicators	Up to 0.6 mm	1.0 μm
		More than 0.6 mm up to 1.6 mm	1.4 μm
	Calibration tester for dial gauges	Up to 25 mm	0.5 μm
Cylinder gauges	Form 18 mm up to 400 mm	1.5 μm	
Calipers	Up to 200 mm	0.03 mm	
	More than 200 mm up to 300 mm	0.04 mm	
	More than 300 mm up to 600 mm	0.05 mm	
	More than 600 mm up to 1000 mm	0.07 mm	
Height gauges	Up to 600 mm	0.005 mm	
Depth gauges	Up to 300 mm	0.02 mm	

	Micrometers	Up to 25 mm	0.6 μm
		More than 25 mm up to 50 mm	2 μm
		More than 50 mm up to 150 mm	3 μm
		More than 150 mm up to 200 mm	4 μm
		More than 200 mm up to 300 mm	5 μm
		More than 300 mm up to 400 mm	6 μm
		More than 400 mm up to 500 mm	7 μm

General Field of Calibration : Mass

Date of Initial Accreditation of the Field : 1999-10-13

Permanent Laboratory/On-site Calibration : Permanent Laboratory

Calibration Procedures# and Type of Instruments/Materials to be calibrated		Range	CMC (Level of Confidence Approximately 95 %) (Conventional Mass)
Weight	Weight	50 kg	0.50 g
		20 kg	19 mg
		10 kg	6.9 mg
		5 kg	4.0 mg
		2 kg	1.2 mg
		1 kg	0.59 mg
		500 g	0.32 mg
		200 g	0.14 mg
		100 g	0.090 mg
		50 g	0.050 mg
		20 g	0.031 mg
		10 g	0.023 mg
		5 g	0.018 mg
		2 g	0.014 mg
		1 g	0.012 mg
		500 mg	0.012 mg
		200 mg	0.0072 mg
		100 mg	0.0056 mg
		50 mg	0.0046 mg
		20 mg	0.0037 mg
		10 mg	0.0032 mg
		5 mg	0.0027 mg
		2 mg	0.0027 mg
		1 mg	0.0027 mg
	Deadweight	Up to 60 kg	2.0 g
		Up to 50 kg	1.0 g
		Up to 30 kg	0.50 g
		Up to 20 kg	0.20 g
		Up to 10 kg	0.10 g
		Up to 5 kg	0.050 g
		Up to 2 kg	0.020 g
		Up to 1 kg	0.010 g
		Up to 400 g	4.0 mg
Up to 300 g		3.0 mg	
Up to 200 g		2.0 mg	
Up to 100 g		1.0 mg	
Up to 90 g		0.90 mg	
Up to 80 g		0.80 mg	
Up to 70 g		0.70 mg	
Up to 60 g		0.60 mg	
Up to 50 g		0.50 mg	
Up to 40 g		0.40 mg	
Up to 30 g		0.30 mg	
Up to 20 g	0.25 mg		
Up to 10 g	0.20 mg		
Up to 7 g	0.15 mg		
Up to 3 g	0.12 mg		
Up to 1 g	0.10 mg		

Permanent Laboratory/On-site Calibration : Permanent Laboratory and On-site Calibration

Calibration Procedures# and Type of Instruments/Materials to be calibrated		Range	CMC (Level of Confidence Approximately 95 %)	
			Permanent Laboratory	On-site Calibration
Scale	Non-Automatic Electronic Weighing Instruments	More than 60 kg up to 500 kg	73 µg/g	73 µg/g
		More than 2 kg up to 60 kg	2.4 µg/g	2.4 µg/g
		From 1 kg up to 2 kg	0.86 µg/g	0.86 µg/g
		More than 500 g less than 1 kg	0.96 µg/g	0.96 µg/g
		500 g	0.98 µg/g	0.98 µg/g
		More than 200 g less than 500 g	1.1 µg/g	1.1 µg/g
		200 g	0.93 µg/g	0.93 µg/g
		More than 100 g less than 200 g	1.5 µg/g	1.5 µg/g
		100 g	1.2 µg/g	1.2 µg/g
		More than 50 g less than 100 g	1.8 µg/g	1.8 µg/g
		50 g	1.3 µg/g	1.3 µg/g
		More than 20 g less than 50 g	2.5 µg/g	2.5 µg/g
		20 g	2.2 µg/g	2.2 µg/g
		More than 10 g less than 20 g	5.2 µg/g	5.2 µg/g
		10 g	3.2 µg/g	3.2 µg/g
		More than 5 g less than 10 g	7.7 µg/g	7.7 µg/g
		5 g	5.1 µg/g	5.1 µg/g
		More than 2 g less than 5 g	13 µg/g	13 µg/g
		2 g	10 µg/g	10 µg/g
		More than 1 g less than 2 g	28 µg/g	28 µg/g
		1 g	17 µg/g	17 µg/g
		More than 500 mg less than 1 g	43 µg/g	43 µg/g
		500 mg	32 µg/g	32 µg/g
		More than 200 mg less than 500 mg	61 µg/g	61 µg/g
		200 mg	51 µg/g	51 µg/g
		More than 100 mg less than 200 mg	0.14 mg/g	0.14 mg/g
		100 mg	80 µg/g	80 µg/g
		More than 50 mg less than 100 mg	0.20 mg/g	0.20 mg/g
		50 mg	0.13 mg/g	0.13 mg/g
		More than 20 mg less than 50 mg	0.32 mg/g	0.32 mg/g
		20 mg	0.26 mg/g	0.26 mg/g
		More than 10 mg less than 20 mg	0.83 mg/g	0.83 mg/g
		10 mg	0.44 mg/g	0.44 mg/g
9 mg	1.2 mg/g	1.2 mg/g		
8 mg	1.4 mg/g	1.4 mg/g		
7 mg	1.1 mg/g	1.1 mg/g		
6 mg	1.2 mg/g	1.2 mg/g		
5 mg	0.72 mg/g	0.72 mg/g		
4 mg	1.8 mg/g	1.8 mg/g		
3 mg	2.4 mg/g	2.4 mg/g		
2 mg	1.8 mg/g	1.8 mg/g		
1 mg	3.6 mg/g	3.6 mg/g		

Scale	Non-Automatic Mechanical Weighing Instruments	More than 60 kg up to 500 kg	0.16 mg/g	0.16 mg/g
		60 kg	0.21 mg/g	0.21 mg/g
		More than 6 kg less than 60 kg	0.13 mg/g	0.13 mg/g
		6 kg	0.21 mg/g	0.21 mg/g
		From 5 kg less than 6 kg	0.1 mg/g	0.1 mg/g
		From 1 kg less than 5 kg	2.3 µg/g	2.3 µg/g
		More than 500 g less than 1 kg	4.5 µg/g	4.5 µg/g
		500 g	5.0 µg/g	5.0 µg/g
		More than 200 g less than 500 g	6.6 µg/g	6.6 µg/g
		200 g	1.5 µg/g	1.5 µg/g
		More than 100 g less than 200 g	2.0 µg/g	2.0 µg/g
		100 g	2.5 µg/g	2.5 µg/g
		More than 50 g less than 100 g	4.4 µg/g	4.4 µg/g
		50 g	7.0 µg/g	7.0 µg/g
		More than 20 g less than 50 g	11 µg/g	11 µg/g
		20 g	2.2 µg/g	2.2 µg/g
		More than 10 g less than 20 g	5.2 µg/g	5.2 µg/g
		10 g	3.3 µg/g	3.3 µg/g
		More than 5 g less than 10 g	7.8 µg/g	7.8 µg/g
		5 g	5.1 µg/g	5.1 µg/g
		More than 2 g less than 5 g	13 µg/g	13 µg/g
		2 g	10 µg/g	10 µg/g
		More than 1g less than 2 g	28 µg/g	28 µg/g
		1 g	17 µg/g	17 µg/g
		More than 500mg less than 1 g	43 µg/g	43 µg/g
		500 mg	32 µg/g	32 µg/g
		More than 200 mg less than 500 mg	61 µg/g	61 µg/g
		200 mg	51 µg/g	51 µg/g
		More than 100 mg less than 200 mg	0.14 mg/g	0.14 mg/g
		100mg	81 µg/g	81 µg/g
		More than 50 mg less than 100 mg	0.2 mg/g	0.2 mg/g
		50 mg	0.13 mg/g	0.13 mg/g
		More than 20 mg less than 50 mg	0.32 mg/g	0.32 mg/g
		20 mg	0.27 mg/g	0.27 mg/g
More than 10 mg less than 20 mg	0.83 mg/g	0.83 mg/g		
10 mg	0.46 mg/g	0.46 mg/g		
9 mg	1.2 mg/g	1.2 mg/g		
8 mg	1.4 mg/g	1.4 mg/g		
7 mg	1.1 mg/g	1.1 mg/g		
6 mg	1.3 mg/g	1.3 mg/g		
5 mg	0.76 mg/g	0.76 mg/g		
4 mg	1.9 mg/g	1.9 mg/g		
3 mg	2.5 mg/g	2.5 mg/g		
2 mg	1.9 mg/g	1.9 mg/g		
1 mg	3.8 mg/g	3.8 mg/g		

General Field of Calibration : TemperatureDate of Initial Accreditation of the Field : 1997-03-19Permanent Laboratory/On-site Calibration : Permanent Laboratory

Calibration Procedures# and Type of Instruments/Materials to be calibrated		Range	CMC (Level of Confidence Approximately 95 %)
Contact Type Thermometer	Resistance thermometer (Comparison calibration)	From -100 °C less than -80 °C	53 mK (*4)
		From -80 °C less than -40 °C	16 mK (*4)
		From -40 °C less than 0 °C	15 mK (*4)
		From 0 °C up to 100 °C	12 mK (*4)
		More than 100 °C up to 250 °C	13 mK (*4)
		More than 250 °C up to 420 °C	44 mK (*4)
	Liquid-in-glass thermometer (Comparative Calibration)	0 °C	0.027 °C
		From -50 °C less than 0 °C (*1)	0.05 °C
		More than 0 °C up to 150 °C (*1)	0.04 °C
		More than 150 °C up to 190 °C (*1)	0.05 °C
		More than 190 °C up to 200 °C (*1)	0.06 °C
		More than 200 °C up to 250 °C (*1)	0.07 °C
		More than 250 °C up to 300 °C (*1)	0.13 °C
		More than 300 °C up to 350 °C (*1)	0.15 °C
		From -100 °C less than -80 °C (*2)	0.35 °C
		From -80 °C less than -50 °C (*2)	0.30 °C
		From -50 °C less than 0 °C (*3)	0.03 °C
		More than 0 °C up to 140 °C (*3)	0.02 °C
		More than 140 °C up to 190 °C (*3)	0.03 °C
		More than 190 °C up to 200 °C (*3)	0.05 °C
		More than 200 °C up to 240 °C (*3)	0.03 °C
		More than 240 °C up to 250 °C (*3)	0.06 °C
	More than 250 °C up to 300 °C (*3)	0.12 °C	
	More than 300 °C up to 350 °C (*3)	0.13 °C	
	Temperature sensors with display unit (Comparison calibration)	From -100 °C less than -80 °C	0.055 °C
		From -80 °C up to 250 °C	0.020 °C
		More than 250 °C up to 420 °C	0.050 °C
	Thermocouple K,E,J,T,N (Comparison calibration)	From -100 °C less than -80 °C	0.3 °C
		From -80 °C up to 250 °C	0.2 °C
		More than 250 °C up to 420 °C (*5)	0.4 °C

Contact Type Thermometer	Thermometer calibration equipment	From -100 °C less than -80 °C	0.09 °C
		From -80 °C less than -50 °C	0.07 °C
		From -50 °C up to 100 °C	0.030 °C
		More than 100 °C up to 250 °C	0.050 °C

(*1) Calibration using working standard of liquid-in-glass thermometer

(*2) Calibration using digital thermometer

(*3) Calibration using working standard of platinum resistance thermometer

(*4) Temperature converted from the ratio of the resistance $R(T_{90})$ to $R(273.16K)$, $W(T_{90})$

(*5) Type T thermocouple : Maximum calibration scope is up to 400 °C

General Field of Calibration : VolumeDate of Initial Accreditation of the Field : 2014-11-13Permanent Laboratory/On-site Calibration : Permanent Laboratory

Calibration Procedures# and Type of Instruments/Materials to be calibrated		Range	CMC (Level of Confidence Approximately 95 %)
Volumetric Apparatus	Pipette	1 μL	0.070 μL
		More than 1 μL up to 2 μL	0.070 μL
		More than 2 μL up to 5 μL	0.13 μL
		More than 5 μL up to 10 μL	0.15 μL
		More than 10 μL up to 20 μL	0.25 μL
		More than 20 μL up to 50 μL	0.30 μL
		More than 50 μL up to 100 μL	0.50 μL
		More than 100 μL up to 200 μL	1.5 μL
		More than 200 μL up to 500 μL	3.3 μL
		More than 500 μL up to 1 mL	6.2 μL
		More than 1 mL up to 2.5 mL	21 μL
		More than 2.5 mL up to 5 mL	40 μL
		More than 5 mL up to 10 mL	80 μL

General Field of Calibration : Electricity (Direct Current & Low Frequency)

Date of Initial Accreditation of the Field : 2014-02-06

Permanent Laboratory/On-site Calibration : Permanent Laboratory

Calibration Procedures# and Type of Instruments/Materials to be calibrated		Range		CMC (Level of Confidence Approximately 95 %)	
Direct Current & Low Frequency Measuring Equipment, etc.	Temperature Indicators	Thermocouple with Reference Junction	R	From -0.226 mV up to 5.583 mV (From -50 °C up to 600 °C)	0.004 mV
				More than 5.583 mV up to 21.101 mV (More than 600 °C up to 1768 °C)	0.005 mV
			K	From -6.458 mV up to -2.920 mV (From -270 °C up to -80 °C)	0.009 mV
				More than -2.920 mV up to 54.886 mV (More than -80 °C up to 1372 °C)	0.010 mV
			E	From -9.835 mV up to -8.379 mV (From -270 °C up to -130 °C)	0.013 mV
				More than -8.379 mV less than 0.000 mV (More than -200 °C less than 0 °C)	0.014 mV
				From 0.000 mV up to 76.373 mV (From 0 °C up to 1000 °C)	0.015 mV
			J	From -8.095 mV less than -7.123 mV (From -210 °C up to -170 °C)	0.011 mV
				From -7.123 mV less than 0.000 mV (From -170 °C less than 0 °C)	0.012 mV
				From 0.000 mV up to 69.553 mV (From 0 °C up to 1200 °C)	0.013 mV
			T	From -6.258 mV up to -1.819 mV (From -270 °C up to -50 °C)	0.009 mV
				More than -1.819 mV less than 0.000 mV (More than -50 °C less than 0 °C)	0.010 mV
				From 0.000 mV up to 20.872 mV (From 0 °C up to 400 °C)	0.011 mV
			N	From -4.345 mV up to -4.313 mV (From -270 °C up to -250 °C)	0.006 mV
				More than -4.313 mV less than 0.000 mV (More than -250 °C less than 0 °C)	0.007 mV
				From 0.000 mV up to 47.513 mV (From 0 °C up to 1300 °C)	0.008 mV

Calibration Procedures# and Type of Instruments/Materials to be calibrated		Range		CMC (Level of Confidence Approximately 95 %)		
Direct Current & Low Frequency Measuring Equipment, etc.	Temperature Indicators	Thermocouple without Reference Junction	R	From -0.226 mV up to 14.629 mV (from -50 °C up to 1300 °C)	0.003 mV	
				More than 14.629 mV up to 21.101 mV (More than 1300 °C up to 1768 °C)	0.004 mV	
			K		From -6.458 mV up to -5.891 mV (From -270 °C up to -200 °C)	0.003 mV
					More than -5.891 mV up to -2.243 mV (More than -210 °C less than -60 °C)	0.004 mV
					From -2.243 mV up to 54.886 mV (More than -60 °C up to 1372 °C)	0.006 mV
			E		From -9.835 mV up to -9.604 mV (From -270 °C up to -240 °C)	0.003 mV
					More than -9.604 mV up to -7.963 mV (More than -240 °C less than -170 °C)	0.004 mV
					More than -7.963 mV less than 0.000 mV (More than -170 °C less than 0 °C)	0.006 mV
					From 0.000 mV up to 76.373 mV (From 0 °C up to 1000 °C)	0.009 mV
			J		From -8.095 mV up to -7.403 mV (From -210 °C up to -180 °C)	0.004 mV
					More than -7.403 mV up to -1.482 mV (More than -180 °C up to -30 °C)	0.005 mV
					From -1.482 mV up to 69.553 mV (More than -30 °C up to 1200 °C)	0.008 mV
			T		From -6.258 mV up to -5.070 mV (From -270 °C up to -170 °C)	0.003 mV
					More than -5.070 mV less than 0.000 mV (More than -170 °C less than 0 °C)	0.005 mV
					From 0.000 mV up to 20.872 mV (From 0 °C up to 400 °C)	0.007 mV
			N		From -4.345 mV up to -3.884 mV (From -270 °C up to -190 °C)	0.003 mV
				More than -3.884 mV less than 0.000 mV (More than -190 °C less than 0 °C)	0.004 mV	
				From 0.000 mV up to 47.513 mV (From 0 °C up to 1300 °C)	0.006 mV	
			Resistance Thermometer Sensor		From 18.52 Ω up to 100.00 Ω (From -200 °C up to 0 °C)	0.008 Ω
					More than 100.00 Ω up to 138.51 Ω (More than 0 °C up to 100 °C)	0.017 Ω
					More than 138.51 Ω up to 197.71 Ω (More than 100 °C up to 260 °C)	0.018 Ω
					More than 197.71 Ω up to 390.48 Ω (More than 260 °C up to 850 °C)	0.019 Ω

General Field of Calibration : Density & Refractive Index

Date of Initial Accreditation of the Field : 2002-08-19

Permanent Laboratory/On-site Calibration : Permanent Laboratory

Calibration Procedures# and Type of Instruments/Materials to be calibrated		Range	CMC (Level of Confidence Approximately 95 %)
Hydrometers	Density Hydrometer (Weighing method)	From 0.60 g/cm ³ up to 0.94 g/cm ³	0.000 09 g/cm ³
		More than 0.94 g/cm ³ up to 1.24 g/cm ³	0.000 10 g/cm ³
		More than 1.24 g/cm ³ up to 1.44 g/cm ³	0.000 11 g/cm ³
		More than 1.44 g/cm ³ up to 1.60 g/cm ³	0.000 12 g/cm ³
		More than 1.60 g/cm ³ up to 1.72 g/cm ³	0.000 13 g/cm ³
		More than 1.72 g/cm ³ up to 1.84 g/cm ³	0.000 14 g/cm ³
		More than 1.84 g/cm ³ up to 1.96 g/cm ³	0.000 15 g/cm ³
		More than 1.96 g/cm ³ up to 2.00 g/cm ³	0.000 16 g/cm ³
	Specific Gravity Hydrometers (Weighing method)	From 0.60 up to 0.94	0.000 09
		More than 0.94 up to 1.24	0.000 10
		More than 1.24 up to 1.44	0.000 11
		More than 1.44 up to 1.60	0.000 12
		More than 1.60 up to 1.72	0.000 13
		More than 1.72 up to 1.84	0.000 14
		More than 1.84 up to 1.96	0.000 15
		More than 1.96 up to 2.00	0.000 16
	Alcohol Hydrometers (Weighing method)	From 0 vol% up to 100 vol%	0.09 vol%
	Sake Hydrometers (Weighing method)	From -40 Nihonshu-do up to +30 Nihonshu-do	0.6 Nihonshu-do
	Baume Hydrometers (heavy scale) (Weighing method)	From 0 degrees Baume (heavy) up to 72 degrees Baume (heavy)	0.06 degrees Baume (heavy)

General Field of Calibration : Force

Date of Initial Accreditation of the Field : 1999-12-06

Permanent Laboratory/On-site Calibration : Permanent Laboratory

Calibration Procedures# and Type of Instruments/Materials to be calibrated		Range		CMC (Level of Confidence Approximately 95 %)
Force-proving Instruments	According to JIS B 7728 (ISO 376))	Compression	From 10 N up to 50 N	0.021 %
			From 0.05 kN up to 30 kN	0.012 %
			From 30 kN up to 300 kN	0.020 %
			From 300 kN up to 3000 kN	0.029 %
		Tension	From 10 N up to 50 N	0.050 %
			From 50 N up to 500 N	0.028 %
			From 0.5 kN up to 20 kN	0.013 %
			From 20 kN up to 100 kN	0.018 %
	Applying JIS B 7721)	Compression	From 1 N up to 300 N	0.018 %
			From 10 N up to 500 N	0.032 %
			From 0.1 kN up to 5 kN	0.032 %
			From 0.5 kN up to 30 kN	0.032 %
			From 3 kN up to 300 kN	0.048 %
			From 30 kN up to 3000 kN	0.070 %
		Tension	From 1 N up to 300 N	0.017 %
			From 10 N up to 500 kN	0.032 %
	According to ASTM E74)	Compression	From 10 N up to 500 N	0.041 %
			From 0.1 kN up to 5 kN	0.033 %
			From 0.5 kN up to 30 kN	0.030 %
			From 3 kN up to 300 kN	0.064 %
			From 30 kN up to 3000 kN	0.077 %
		Tension	From 10 N up to 500 N	0.12 %
			From 0.1 kN up to 5 kN	0.081 %
			From 1 kN up to 30 kN	0.056 %
		From 3 kN up to 300 kN	0.077 %	

General Field of Calibration : TorqueDate of Initial Accreditation of the Field : 2006-09-06Permanent Laboratory/On-site Calibration : Permanent Laboratory

Calibration Procedures# and Type of Instruments/Materials to be calibrated		Range	CMC (Level of Confidence Approximately 95 %)
Torque measuring devices	Reference torque wrenches	Clockwise Torque and Counterclockwise Torque From 5 N·m up to 1000 N·m	0.15 %
Torque testing machines	Torque wrench testers	Clockwise Torque and Counterclockwise Torque From 5 N·m up to 1000 N·m	0.90 %(*)

(*) The case of recognizing only the increasing torque as calibration results.

General Field of Calibration : PressureDate of Initial Accreditation of the Field : 2003-03-25Permanent Laboratory/On-site Calibration : Permanent Laboratory

Calibration Procedures# and Type of Instruments/Materials to be calibrated		Range			CMC (Level of Confidence Approximately 95 %)
Pressure Gauge	Pressure Balance	Gas	Gauge Pressure	From 18 kPa up to 5 000 kPa	The larger one of the two 0.0045 % or 1.4 Pa
			Absolute Pressure	From 18 kPa up to 350 kPa	The larger one of the two 0.0055 % or 6.6 Pa
		Liquid	Gauge Pressure	From 1 MPa up to 100 MPa	The larger one of the two 0.0065 % or 0.65 kPa
Liquid Manometer	Mercury Type	Mercury Type	Gauge Pressure (*2)	From 13 kPa up to 220 kPa	0.10 kPa
			Gauge Pressure (*2)	From 2 kPa up to 20 kPa	0.010 kPa
Pressure Gauges (Digital Pressure Gauges, Pressure Transducers)	Gas	Gauge Pressure (*1)		From 18 kPa up to 100 kPa	0.0040 kPa
				More than 100 kPa up to 500 kPa	0.0040 %
				More than 500 kPa up to 5000 kPa	0.0060 %
		Gauge Pressure (*2)		From -100 kPa up to -2 kPa	0.016 kPa
				From 2 kPa up to 100 kPa	0.014 kPa
				More than 100 kPa up to 500 kPa	0.014 %
				More than 500 kPa up to 700 kPa	0.022 %
				More than 700 kPa up to 5 000 kPa	0.018 %
		Absolute Pressure (*1)		From 18 kPa up to 100 kPa	0.0050 kPa
				More than 100 kPa Up to 350 kPa	0.0050 %
		Absolute Pressure (*2)		From 18 kPa up to 100 kPa	0.015 kPa
				More than 100 kPa Up to 350 kPa	0.015 %
		Gauge Pressure (*2)		From -20 kPa less than -15 kPa	1.8 Pa
				From -15 kPa less than -10 kPa	1.5 Pa
				From -10 kPa less than -7.5 kPa	1.2 Pa
				From -7.5 kPa less than -1 kPa	0.75 Pa
				From -1 kPa up to -0.005 kPa	0.55 Pa
				From 0.005 kPa up to 1 kPa	0.55 Pa
				More than 1 kPa up to 7.5 kPa	0.75 Pa
	More than 7.5 kPa up to 10 kPa		1.2 Pa		
	More than 10 kPa up to 15 kPa		1.5 Pa		
	More than 15 kPa up to 20 kPa	1.8 Pa			
Absolute Pressure (*2)		From 75 kPa up to 115 kPa	0.050 kPa		
Difference Pressure (*2)		From -20 kPa up to -15 kPa [Line Pressure:100 kPa± 5 kPa(Absolute Pressure)]	1.8 Pa		

Pressure Gauge	Pressure Gauges (Digital Pressure Gauges, Pressure Transducers)	Gas	Difference Pressure (*2)	From -15 kPa up to -10 kPa [Line Pressure:100 kPa± 5 kPa(Absolute Pressure)]	1.5 Pa
				From -10 kPa up to -7.5 kPa [Line Pressure:100 kPa± 5 kPa(Absolute Pressure)]	1.2 Pa
				From -7.5 kPa up to -1 kPa [Line Pressure:100 kPa± 5 kPa(Absolute Pressure)]	0.75 Pa
				From -1 kPa up to -0.005 kPa [Line Pressure:100 kPa± 5 kPa(Absolute Pressure)]	0.50 Pa
				From 0.005 kPa up to 1 kPa [Line Pressure:100 kPa± 5 kPa(Absolute Pressure)]	0.50 Pa
				More than 1 kPa up to 7.5 kPa [Line Pressure:100 kPa± 5 kPa(Absolute Pressure)]	0.75 Pa
				More than 7.5 kPa up to 10 kPa [Line Pressure:100 kPa± 5 kPa(Absolute Pressure)]	1.2 Pa
				More than 10 kPa up to 15 kPa [Line Pressure:100 kPa± 5 kPa(Absolute Pressure)]	1.5 Pa
				More than 15 kPa up to 20 kPa [Line Pressure:100 kPa± 5 kPa(Absolute Pressure)]	1.8 Pa
				Liquid	Gauge Pressure (*1)
	From 1 MPa Up to 100 MPa	0.20 MPa			
	Mechanical Type Pressure Gauges	Gas	Gauge Pressure (*2)	From -100 kPa less than -2 kPa	The larger one of the two 0.16 % of minimum pressure or 80 Pa
				From 2 kPa less than 5 000 kPa	The larger one of the two 0.16 % of maximum pressure or 80 Pa
			Absolute Pressure (*2)	From 18 kPa up to 350 kPa	The larger one of the two 0.18 % of maximum pressure or 0.18 kPa
				Gauge Pressure (*2)	From -20 kPa less than -0.3 kPa
			From -0.3 kPa up to -0.005 kPa		1.2 Pa
			From 0.005 kPa up to 0.3 kPa		1.2 Pa
			More than 0.3 kPa up to 20 kPa		0.40 % of maximum pressure
			Absolute Pressure (*2)	From 75 kPa up to 115 kPa	0.050 kPa
Difference Pressure (*2)				From -20 kPa less than -0.3 kPa [Line Pressure:100 kPa± 5 kPa(Absolute Pressure)]	0.40 % of minimum pressure
			From -0.3 kPa up to -0.005 kPa [Line Pressure:100 kPa± 5 kPa(Absolute Pressure)]	1.2 Pa	
			From 0.005 kPa up to 0.3 kPa [Line Pressure:100 kPa± 5 kPa(Absolute Pressure)]	1.2 Pa	

Pressure Gauge	Mechanical Type Pressure Gauges	Gas	Difference Pressure (*2)	More than 0.3 kPa up to 20 kPa [Line Pressure:100 kPa± 5 kPa(Absolute Pressure)]	0.40 % of maximum pressure
		Liquid	Gauge Pressure (*1)	From 1 MPa up to 100 MPa	The larger one of the two 0.19 % of maximum pressure or 6.7 kPa
			Gauge Pressure (*2)	From 1 MPa up to 100 MPa	The larger one of the two 0.5 % of maximum pressure or 0.15 MPa
Vacuum Gauge	Vacuum Gauge	From 0.001 Pa less than 0.01 Pa			1.4 %
		From 0.01 Pa up to 1 Pa			1.2 %
		More than 1 Pa up to 13 Pa			1.4 %
		More than 13 Pa up to 133 Pa			1.7 %
		More than 133 Pa up to 300 Pa			0.9 %
		More than 300 Pa up to 20 000 Pa			0.7 %
		More than 20 000 Pa up to 101 000 Pa			0.4 %

(*1): Secondary Standard or Working Standard (Pressure Balances for Calibration)

(*2): Working Standard (Pressure Controller/Calibrator for Calibration)

General Field of Calibration:Acoustics & UltrasoundDate of Initial Accreditation of the Field: 2009-07-01Permanent Laboratory/On-site Calibration: Permanent Laboratory

Calibration Procedures# and Type of Instruments/Materials to be calibrated		Range		CMC (Level of Confidence Approximately 95 %)
Acoustics Measuring Equipment, etc.	Sound Level Meter (Free-Field Frequency Response Level)	From 125 Hz less than 500 Hz		0.6 dB
		From 500 Hz up to 1600 Hz		0.4 dB
		More than 1600 Hz up to 8000 Hz		0.5 dB
	Sound Calibrator (Sound Pressure Level Type LS1 Microphone)	250 Hz		0.10 dB
		1000 Hz		0.10 dB
	Sound Calibrator (Sound Pressure Level Type LS2 Microphone)	250 Hz		0.10 dB
		1000 Hz		0.10 dB
	Audiometers (WS1 Microphone)	Sound Pressure Level	From 125 Hz up to 4000 Hz	0.6 dB
			More than 4000 Hz up to 8000 Hz	0.6 dB
	Audiometers (WS2 Microphone)	Sound Pressure Level	From 125 Hz up to 4000 Hz	0.7 dB
More than 4000 Hz up to 8000 Hz			0.9 dB	

General Field of Calibration : HumidityDate of Initial Accreditation of the Field : 2016-06-30Permanent Laboratory/On-site Calibration : Permanent Laboratory

Calibration Procedures# and Type of Instruments/Materials to be calibrated		Range	CMC (Level of Confidence Approximately 95 %)	
Humidity Measuring Instrument, etc	Dew point hygrometers	Dew Point From -10 °C up to 50 °C	Dew point 0.14 °C	
		Dew Point More than 50 °C up to 85 °C	Dew point 0.15 °C	
	Electronic hygrometers	Relative humidity from 40 % up to 50 % at calibration temperatures from 5 °C less than 10 °C	Relative humidity 1.2 %	
		Relative humidity from 35 % up to 50 % at calibration temperatures from 10 °C less than 15 °C		
		Relative humidity from 30 % up to 50 % at calibration temperatures from 15 °C less than 20 °C		
		Calibration temperature from 5 °C less than 20 °C	Relative humidity More than 50 % up to 80 %	Relative humidity 1.7 %
			Relative humidity More than 80 % up to 95 %	Relative humidity 2.0 %
		Calibration temperature from 20 °C up to 90 °C	Relative humidity from 25 % up to 30 %	Relative humidity 0.7 %
			Relative humidity More than 30 % up to 50 %	Relative humidity 1.0 %
			Relative humidity More than 50 % up to 80 %	Relative humidity 1.5 %
	Relative humidity More than 80 % up to 95 % where Dew point is up to 85 °C		Relative humidity 1.8 %	

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