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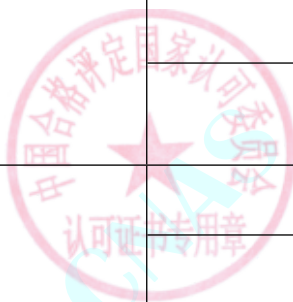
Registration No. CNAS L0854

Accreditation Criteria: ISO/IEC 17025:2017 and relevant requirements of CNAS

Effective Date: 2026-04-21 Expiry Date: 2030-02-03

SCHEDULE 5 ACCREDITED CALIBRATION AND MEASUREMENT CAPABILITY SCOPE

Note: The instruments with * represents onsite calibration can be performed.

No	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty ($k=2$)	Note	Effective Date
1、Length measuring instrument							
1	*Coordinate Measuring Machines	Length	C.S.for Coordinate Measuring Machines JJF 1064	(0~1500) mm	$U=0.3 \mu m + 1.5 \times 10^{-6}L$		
2	*Bore Dial Indicators	Length	C.S.for Bore Dial Indicators JJF 1102	(2~450)mm/Dividing: 0.01mm	$U=4 \mu m$		
				(10~400)mm/Dividing:0.001mm	$U=1.2 \mu m$		
3	Squares	Verticality	V.R.of Squares JJG 7	Wide seat squares H (63~100)mm	$U=0.9 \mu m$		
				Wide seat squares H (125~200)mm	$U=1.4 \mu m$		



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No	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty ($k=2$)	Note	Effective Date
		length		Wide seat squares H (250~315)mm	$U=1.8 \mu m$		
				Wide seat squares H (400~500)mm	$U=2.4 \mu m$		
				Linear steel squares: H (150~200) mm	$U=1.4 \mu m$		
				Linear steel squares: H (150~500) mm	$U=0.05mm$		
				Linear steel squares: H (400~500) mm	$U=2.4 \mu m$		
				Linear steel squares (0~500)mm	$U=0.05mm$		
4	*Common Normal Micrometer	Length	V.R. of Common Normal Micrometer JJG 82	(0~25)mm	$U=1.1 \mu m$		
				(25~100)mm	$U=1.3 \mu m$		
				(100~200)mm	$U=1.9 \mu m$		
				Proof bar: 25mm、50mm	$U=0.7 \mu m$		
				Proof bar: 75mm、100mm	$U=0.9 \mu m$		
				Proof bar: (125~175)mm	$U=1.0 \mu m$		
5	*Micrometer	Length	V.R. of Micrometer JJG 21	(0~25)mm	$U=1.1 \mu m$		
				(25~100)mm	$U=1.3 \mu m$		
				(100~200) mm	$U=1.9 \mu m$		
				(200~300) mm	$U=2.7 \mu m$		
				(300~500)mm	$U=4.0 \mu m$		



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№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty ($k=2$)	Note	Effective Date
				Proof bar:25mm、50mm	$U=0.7 \mu m$		
				Proof bar:75mm、100mm	$U=0.9 \mu m$		
				Proof bar: (125~200)mm	$U=1.0 \mu m$		
				Proof bar: (225~450)mm	$U=1.2 \mu m$		
6	*Dial Test Indicator	Length	V.R.of Dial Test Indicator JJG 35	(0~1)mm/d: 0.01	$U=3 \mu m$		
				(0~0.4)mm/d : 0.001mm	$U=0.7 \mu m$		
7	*Depth Micrometers	Length	V.R.of Depth Micrometers JJG 24	(0~25)mm	$U=1.1 \mu m$		
				(25~100)mm	$U=1.3 \mu m$		
				(100~200)mm	$U=1.9 \mu m$		
				(200~300)mm	$U=2.7 \mu m$		
8	*Callipers for Welding Inspection	Length	Calibration Specification for Welding Inspection Callipers JJF 2161	(0~10)mm	$U=21 \mu m$		
		Angle		(0~150)°	$U=8'$		
9	*Straight Edges	straightness	C.S.for Straight Edges JJF 1097	(400~5000)mm	$U=0.2\mu m+0.3L$		
10	*Micrometers with Gauge	Length	V.R.of Micrometers with Gauge JJG 427	(0~25)mm	$U=1.1 \mu m$		
				(25~100)mm	$U=1.3 \mu m$		
11	*Gear Tooth Calipers	Length	C.S.for Gear Tooth Calipers JJF 1072	module(1~50)mm	$U=10 \mu m$		
12	*Micrometers with Dial Comparator	Length	V. R. of Micrometers with Dial Comparator and Indication Snap Gauge JJG	(0~50)mm	$U=1.1 \mu m$		
				(50~100)mm	$U=1.3 \mu m$		



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№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
			26	(100~200) mm	$U=1.8 \mu\text{m}$		
13	*Height Measuring Instrument with Digital Display	Length	C.S.for Height Measuring Instrument with Digital Display JJF1254	(0~50)mm	$U=0.4 \mu\text{m}$		
				(50~1000)mm	$U=0.7 \mu\text{m} + 1.2 \times 10^{-6}L$		
14	*Vernier/dial type angle ruler	Angle	C.S.for General Bevel Protractors JJF 1959	(0~360)°	$U=2'$		
15	*Depth Dial Gauge	Length	V. R. of Depth Dial Gauge JJG 830	(0~300)mm	$U=2.4 \mu\text{m}$		
16	*Current Calipers	Length	V.R.of Current Calipers JJG 30	(0~300)mm	$U=0.01\text{mm}$		
				(300~500)mm	$U=0.01\text{mm}$		
				(500~1000)mm	$U=0.02\text{mm}$		
				(1000~2000)mm	$U=0.03\text{mm}$		
17	Feeler Gauges	Length	V.R.of Feeler Gauges JJG 62	(0.02~0.10)mm	$U=2.0 \mu\text{m}$		
				(0.10~3.00) μm	$U=2.7 \mu\text{m}$		
18	*Micrometers with Measuring Range from 500mm to 3000mm	Length	C.S.for Micrometers with Measuring Range from 500mm to 3000mm JJF 1088	(500~1000)mm	$U=7.2 \mu\text{m}$		
				(1000~1500)mm	$U=9.4 \mu\text{m}$		
				(1500~2000)mm	$U=12 \mu\text{m}$		
19	*Combined Type Angle Rules	Length	C.S.for Combined Type Angle Rules JJF 1132	(0~100) mm	$U=0.03\text{mm}$		
		Angle		(0~180) °	$U=4'$		
20	*Height Caliper	Length	V. R. of Height Caliper JJG 31	(0~300)mm	$U=0.01\text{mm}$		
				(300~500)mm	$U=0.01\text{mm}$		



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№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
				(500~1000)mm	U=0.02mm		
				(1000~1500)mm	U=0.03mm		
21	*Snap Gauges Reading in 0.01mm	Length	V.R. of Snap Gauges Reading in 0.01mm JJG 109	(0~1000)mm	U=4 μm		
22	Steel Rule	Length	V.R. of Steel Rule JJG 1	(0~300)mm	U=0.03mm		
				(300~1000)mm	U=0.05mm		
23	Steel Measuring Tapes	Length	V. R. of Steel Measuring Tapes JJG 4	(0~200)m	U=0.1mm+2×10 ⁻⁶ L		
24	*Dial Snap Gauges	Length	C.S. for Dial Snap Gauges JJF 1253	(5~100)mm	U=0.01mm		
25	*Dial Gauges	Length	V.R. of Dial Gauges JJG 34	(0~10)mm/Dividing : 0.01mm	U=5 μm		
				(10~50)mm/Dividing : 0.01mm	U=11 μm		
				Dial gage: (0~2)mm	U=1.5 μm		
26	*Surface Plates	Flatness	V. R. of Surface Plates JJG 117	(300×300~800× 500)mm	U=1.2 μm		
				(800×500~1600× 1000)mm	U=2.4 μm		
				(1600×1000~2500× 1600)mm	U=4.2 μm		
				(2500×1600~4000× 2500)mm	U=9.6 μm		
27	*Thickness Gauges	Length	C.S. for Thickness Gauges JJF 1255	(0~30)mm	U=2.0 μm		
28	*Magnetic and Eddy Current Measuring	Length	V.R. of Magnetic and Eddy Current Measuring Instrument for Coating	(52.9~100) μm	U=0.9 μm		

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№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty ($k=2$)	Note	Effective Date
	Instrument for Coating Thickness		Thickness JJG 818	(100~250) μm	$U=2.0 \mu\text{m}$		
				(250~500) μm	$U=4.0 \mu\text{m}$		
				(500~1012) μm	$U=8.0 \mu\text{m}$		
29	Fiber Tapes And Measuring Ropes	Length	V. R. of Fiber Tapes and Measuring Ropes JJG5	(0~5)m	$U=1.6\text{mm}$		
				(5~10)m	$U=2.6\text{mm}$		
				(10~15)m	$U=3.2\text{mm}$		
				(15~20)m	$U=3.8\text{mm}$		
				(20~25)m	$U=4.2\text{mm}$		
				(25~30)m	$U=4.6\text{mm}$		
				(30~35)m	$U=5.0\text{mm}$		
				(35~40)m	$U=5.4\text{mm}$		
				(40~45)m	$U=6.0\text{mm}$		
				(45~50)m	$U=6.4\text{mm}$		
30	Gauge Blocks	Length	V. R. of Gauge Blocks JJG 146	(0.5~100)mm	$U=0.5 \mu\text{m} + 5 \times 10^{-6}L (k=2.7)$		
31	*Length Measuring Instrument	Length	C.S. for Length Measuring Instrument JJF1189	(0~1000)mm	$U=0.1 \mu\text{m} + 3.5 \times 10^{-6}L$		
32	Cylindrical thread Gauges	Length	C.S. for Cylindrical thread Gauges JJF 1345	M(3~100)mm	$U=3 \mu\text{m}$	Accredited only for single pitch diameter of plug gauge	



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№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
33	Wooden Rule	Length	V.R.of Wooden Rule JJG 2	(0~500)mm	U=0.2mm		
				(500~1000)mm	U=0.4mm		
34	*Articulated arm coordinate measuring machines	Length	C.S.for Articulated arm coordinate measuring machines JJF1408	R:(0~1000)mm	U=9 μ m		
2、Temperature measuring instrument							
1	Base Metal Thermocouples	Temperature	C.S.for Base Metal Thermocouples JJF1637	(-30~300) °C	U=0.3°C		
2	Liquid-in-Glass Thermometers for Working	Temperature	V.R.of Liquid-in-Glass Thermometers for Working JJG130	(-30~300) °C	U=0.08°C	Accredited only for ordinary thermometer	
3	Bimetallic Thermometers	Temperature	C.S.for Bimetallic Thermometers JJF 1908	(-30~300) °C	U=0.2°C		
4	Digital Thermometer	Temperature	C.S.for Digital Thermometer JJF (su) 95	(-30~300) °C	U=0.1°C		
5	*Digital Temperature Indicators and Controllers	Temperature	V.R.of Digital Temperature Indicators and Controllers JJG617	J: (-40~0) °C	U=0.5°C	Except for: Time Proportional Control and PID Controller	
				J: (0~800) °C	U=0.3°C		
				K: (-200~0) °C	U=0.7°C		
				K: (0~1000) °C	U=0.4°C		
				K: (1000~1372) °C	U=0.6°C		
				T: (-250~0) °C	U=0.7°C		
				T: (0~400) °C	U=0.3°C		



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No	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
				E: (-250~-100) °C	U=0.7°C		
				E: (-100~1000) °C	U=0.5°C		
				R: (-20~0) °C	U=2.1°C		
				R: (0~1767) °C	U=1.4°C		
				S: (-20~0) °C	U=2.1°C		
				S: (0~1767) °C	U=1.4°C		
				B: (600~800) °C	U=1.4°C		
				B: (800~1000) °C	U=1.5°C		
				B: (1000~1820) °C	U=1.8°C		
				C: (0~1000) °C	U=0.7°C		
				C: (1000~2316) °C	U=2.7°C		
				N: (-200~0) °C	U=0.9°C		
				N: (0~1300) °C	U=0.5°C		
				Pt100: (-200~0) °C	U=0.2°C		
				Pt100: (0~400) °C	U=0.3°C		
				Pt100: (400~800) °C	U=0.4°C		
				Cu50: (-50~150) °C	U=0.6°C		
		Voltage		(0.1~20) V	U=0.03%FS		
		Current		(0.1~24) mA	U=0.03%FS		



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No	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
6	*Analogue Temperature Indicators and Controllers	Temperature	V.R.of Analogue Temperature Indicators and Controllers JJG951	J: (-40~0) °C	U=0.5°C	Except for:Time Proportionali ng Control and PID Controller	
				J: (0~800) °C	U=0.3°C		
				K: (-200~0) °C	U=0.7°C		
				K: (0~1000) °C	U=0.4°C		
				K: (1000~1372) °C	U=0.6°C		
				T: (-250~0) °C	U=0.7°C		
				T: (0~400) °C	U=0.3°C		
				E: (-250~-100) °C	U=0.7°C		
				E: (-100~1000) °C	U=0.5°C		
				R: (-20~0) °C	U=2.1°C		
				R: (0~1767) °C	U=1.4°C		
				S: (-20~0) °C	U=2.1°C		
				S: (0~1767) °C	U=1.4°C		
				B: (600~800) °C	U=1.4°C		
				B: (800~1000) °C	U=1.5°C		
				B: (1000~1820) °C	U=1.8°C		
				C: (0~1000) °C	U=0.7°C		
				C: (1000~2316) °C	U=2.7°C		
				N: (-200~0) °C	U=0.9°C		



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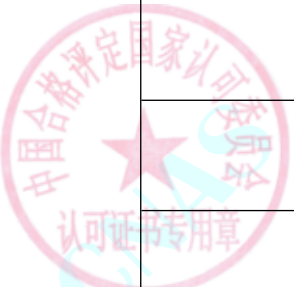
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				N: (0~1300) °C	U=0.5°C		
				Pt100: (-200~0) °C	U=0.2°C		
				Pt100: (0~400) °C	U=0.3°C		
				Pt100: (400~800) °C	U=0.4°C		
				Cu50: (-50~150) °C	U=0.6°C		
		Voltage		(0.1~20) V	U=0.03%FS		
		Current		(0/1~24) mA	U=0.03%FS		
7	Mechanical Thermo hygrometers/Meteorological liquid-in-class thermometers	Temperature	V.R.of Mechanical Thermo hygrometers JJG205	(5~50) °C	U=0.2°C		
		Relative Humidity		30%~90% (20°C)	U=0.9%~1.1%		
8	*Liquid Constant Temperature Testing Equipment	Temperature	M.S.for Temperature Performance of Liquid Constant Temperature Testing Equipment JJF2019	(0~100) °C	U=0.2°C		
9	*Environmental Testing Equipment	Temperature	C.S.for the Equipment of the Environmental Testing for Temperature and Humidity parameters JJF1101	(-80~300) °C	U=0.3°C		
		Relative Humidity		10%~95% (20°C)	U=2.0%		
10	*Salt Mist Testing Chambers	Salt fog settlement rate	Calibration Specification for Salt Mist Testing Chamber JJF 2168	(1~2)ml/h • 80cm ²	U=0.2ml/(h • 80cm ²)		
		Temperature		(35~55) °C	U=0.3°C		
11	Radiation Thermometers	Temperature	V.R.of Radiation Thermometers JJG856	(50~100) °C	U=0.7°C		

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No	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
				(100~400) °C	U=1.2 °C		
				(400~600) °C	U=1.6 °C		
12	Temperature Itinerant Detecting Instrument	Temperature	C.S.for Temperature and Humidity Itinerant Detecting Instrument JJF1171	(-80~300) °C	U= (0.03~0.04) °C		
				(300~1200) °C	U=(0.4~0.6) °C		
		Relative Humidity		10%~90% (20 °C)	U=0.9%~1.1%		
13	Sheathed Thermocouples	Temperature	C.S.of the Sheathed Thermocouples JJF1262	(-30~300) °C	U=0.3 °C		
14	Electric Contact Mercury-in-Glass Thermometers	Temperature	V.R.of Electric Contact Mercury-in-Glass Thermometers JJG131	(-30~100) °C	U=0.05 °C		
				(100~300) °C	U=0.08 °C		
15	Filled System Thermometers	Temperature	C.S.for Filled System Thermometers JJF 1909	(-30~300) °C	U=0.2 °C		
16	*Oxygen bomb,air bomb aging test oven	Temperature	V.P.for test equipment of rubber plastic wire and cable -Part 9: Oxygen bomb,air bomb aging test oven JB/T 4278.9	(0~300) °C	U=0.3 °C		
17	Temperature Transmitter	Temperature	C.S.of the Temperature Transmitter JJF1183	Pt100: (-30~300) °C (With temperature sensors)	U=0.25 °C		
				J/N/K: (-30~300) °C (With temperature sensors)	U=0.5 °C		
				E: (-30~300) °C (With temperature sensors)	U=0.5 °C		



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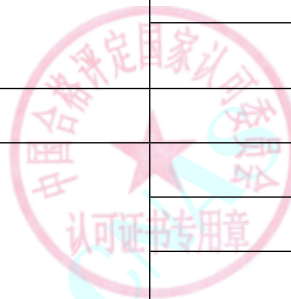
№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty ($k=2$)	Note	Effective Date
				T: $(-30 \sim 300) ^\circ\text{C}$ (With temperature sensors)	$U=0.5^\circ\text{C}$		
				Pt100: $(-200 \sim 100) ^\circ\text{C}$ (Without Temperature Sensor)	$U=0.4^\circ\text{C}$		
				Pt100: $(100 \sim 600) ^\circ\text{C}$ (Without Temperature Sensor)	$U=0.5^\circ\text{C}$		
				Pt100: $(600 \sim 800) ^\circ\text{C}$ (Without Temperature Sensor)	$U=0.6^\circ\text{C}$		
				K: $(-200 \sim 0) ^\circ\text{C}$ (Without Temperature Sensor)	$U=1.1$		
				K: $(0 \sim 1000) ^\circ\text{C}$ (Without Temperature Sensor)	$U=0.8^\circ\text{C}$		
				K: $(1000 \sim 1370) ^\circ\text{C}$ (Without Temperature Sensor)	$U=1.0^\circ\text{C}$		
				J: $(-40 \sim 0) ^\circ\text{C}$ (Without Temperature Sensor)	$U=0.9^\circ\text{C}$		
				J: $(0 \sim 800) ^\circ\text{C}$ (Without Temperature Sensor)	$U=0.7^\circ\text{C}$		



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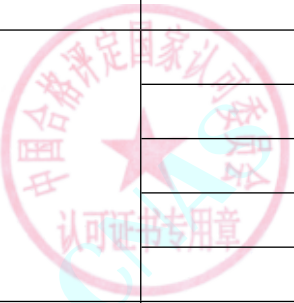
№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (<i>k</i> =2)	Note	Effective Date
				T: (-200～0) °C (Without Temperature Sensor)	U=1.0℃		
				T: (0～400) °C (Without Temperature Sensor)	U=0.6℃		
				E: (-250～-100) °C (Without Temperature Sensor)	U=0.9℃		
				E: (-100～1000) °C (Without Temperature Sensor)	U=0.7℃		
				N: (-200～0) °C (Without Temperature Sensor)	U=1.4℃		
				N: (0～1300) °C (Without Temperature Sensor)	U=0.9℃		
18	Digital Temperature-hygrometers	Temperature	Calibration Specification for Digital Temperature-hygrometers JJF 1076	(5～50)℃	U=0.2℃		
		Relative Humidity		10%～90%	U=0.9%～1.1%		
3、Mechanics measuring instrument							
1	*Electronic Balances	Mass	C.S. for Electronic Balances JJF 1847	(1 ～100)mg	U=0.1mg		
				(0.1～10)g	U=0.1mg		
				(10～500)g	U=(0.1～1.5)mg		
				(0.5～30)kg	U=1.5mg～0.2g		

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2	Weight	Quality	V.R. of weights JJG 99	1g, 2g, 5g, 10g, 20g, 50g	$U=0.2\text{mg}$		
				100g	$U=0.4\text{mg}$		
				200g	$U=0.6\text{mg}$		
				500g	$U=2\text{mg}$		
				1kg	$U=4\text{mg}$		
				2kg	$U=7\text{mg}$		
				5kg	$U=17\text{mg}$		
				10kg	$U=83\text{mg}$		
				20kg	$U=0.1\text{g}$		
3	*Table Balances	Mass	V.R. for Table Balances JJG 156	(0.1~10)g	$U=0.03\text{g}$		
				(10~500)g	$U=(0.03\sim0.1)\text{g}$		
				(0.5~2)kg	$U=0.3\text{g}$		
				(2~5)kg	$U=1\text{g}$		
4	*Digital Indicating Weighing Instruments	Mass	V.R. for Digital Indicating Weighing Instruments JJG 539	(0.1~10)g	$U=0.06\text{g}$		
				(0.01~1)kg	$U=(0.06\sim0.6)\text{g}$		
				(1~50)kg	$U=(0.6\sim3)\text{g}$		
				(50~100)kg	$U=(3\sim9)\text{g}$		
				(100~500)kg	$U=(9\sim70)\text{g}$		
5	*Metallic Brinell	Hardness	V.R. of Metallic Brinell	(75~125)HBW10/1000	$U_{\text{rel}}=3.0\%$		

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№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty ($k=2$)	Note	Effective Date
	Hardness Testers		Hardness Testers JJG 150	(125~225)HBW10/3000	$U_{rel}=2.0\%$		
6	*Metallic Rockwell Hardness Testers	Hardness	V.R.of Metallic Rockwell Hardness Testing Machines (Scales A,B,C,D,E,F,G,H,K,N,T) JJG 112	(20~70)HRC	$U=0.8HRC$		
7	*Digital Pressure Gauges	Pressure	V.R.of Digital Pressure Gauges JJG 875	(-0.1~60)MPa	$U=0.1\%FS$		
				(60~250)MPa	$U=0.2\%FS$		
8	*Elastic Element Pressure Gauges, Pressure-Vacuum Gauges and Vacuum Gauges for General Use	Pressure	V.R.of Elastic Element Pressure Gauges, Pressure-Vacuum Gauges and Vacuum Gauges for General Use JJG 52	(-0.1~250) MPa	$U=0.5\%FS$		
9	Working Dynamometers	Force	V.R.of Working Dynamometers JJG 455	(1~5000) N	$U_{rel}=0.3\%$		
10	Torque Wrenches	Torque	V.R.of Torque Wrenches JJG 707	(2~1000)Nm	$U_{rel}=1.0\%$		
11	*Analogue Indicating Weighing Instruments	Mass	V.R.of Analogue Indicating Weighing Instruments JJG 13	(1~3)kg	$U=1.2g$		
				(3~10)kg	$U=3g$		
				(10~20)kg	$U=6g$		
12	*Non-self-Indicating Weighing Instruments	Mass	V.R.of Non-self-Indicating Weighing Instruments JJG 14	(1~20)kg	$U=0.3g$		
				(20~50)kg	$U=2g$		
				(50~100)kg	$U=10g$		



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№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty ($k=2$)	Note	Effective Date
				(100~500)kg	$U=40\text{g}$		
13	*Elastic Element Precise Pressure Gauges and Vacuum Gauges	Pressure	V.R. of Elastic Element Precise Pressure Gauges and Vacuum Gauges JJG49	(-100~-5) kPa	$U=0.1\%\text{FS}$		
				(0.005~60) MPa	$U=0.1\%\text{FS}$		
14	*Working Force Measuring Machines for Special Purpose	Force	C.S.for Working Force Measuring Machines for Special Purpose JJF 1134	20N~100kN	$U_{\text{rel}}=0.4\%$		
15	*Electronic Universal testing Machines	Force	V.R. of Electronic Universal Testing Machine JJG 475	20N~100kN	$U_{\text{rel}}=0.4\%$		
16	*Tension,Compression and Universal testing machines	Force	V.R.of Tension,Compression and Universal Testing Machines JJG 139	20N~100kN	$U_{\text{rel}}=0.4\%$		
17	Locomotive Pipette	Volume	V.R.of Locomotive Pipette JJG 646	(10~50) μL	$U_{\text{rel}}=1.0\%$		
				(50~300) μL	$U_{\text{rel}}=0.6\%$		
				(300~1000) μL	$U_{\text{rel}}=0.4\%$		
				(1000~10000) μL	$U_{\text{rel}}=0.3\%$		
18	Working Glass Container	Volume	V.R.of Working Glass Container JJG 196	(0.05~0.25)mL	$U=0.002\text{mL}$		
				(0.5~2)mL	$U=0.004\text{mL}$		
				(2~5)mL	$U=0.006\text{mL}$		
				10mL	$U=0.007\text{mL}$		
				15mL	$U=0.009\text{mL}$		
				20mL	$U=0.011\text{mL}$		

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No	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
				25mL	U=0.012mL		
				50mL	U=0.017mL		
				100mL	U=0.021mL		
				(200~250)mL	U=0.05mL		
				500mL	U=0.08mL		
				1000mL	U=0.13mL		
				2000mL	U=0.20mL		
4、Electric Mechanics							
1	*Multi-function Standard Source	DC Voltage	C.S.for Multimeters JJF1587	10mV~20mV	U _{rel} =0.6%~0.3%		
				20mV~100mV	U _{rel} =0.3%~0.12%		
				100mV~1000V	U _{rel} =0.12%		
		AC Voltage		10mV~1000V（50Hz~400Hz）	U _{rel} =0.15%		
		DC Current		20 μ A~50 μ A	U _{rel} =0.3%0~.12%		
				50 μ A~20A	U _{rel} =0.12%		
		AC Current		1mA~20A（50Hz~400Hz）	U _{rel} =0.15%		
		Resistance		10 Ω ~100k Ω	U _{rel} =0.2%		
				100k Ω ~1M Ω	U _{rel} =0.3%		
2	*Multimeter	DC Voltage	V.R.ofAmperemeters,Voltmeters,Wattmeters and	10mV~1000V	U _{rel} =0.3%		



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N ₂	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date	
		AC Voltage	Ohmmeters JJG124	10mV~1000V（50Hz~400Hz）	U _{rel} =0.35%			
		DC Current		20 μ A~20A	U _{rel} =0.3%			
		AC Current		1mA~20A （50Hz~400Hz）	U _{rel} =0.35%			
		Resistance		10 Ω ~ 100k Ω	U _{rel} =0.2%			
				100k Ω ~ 1M Ω	U _{rel} =0.3%			
3	*Clamp Ammeters	AC Current	C.S. for Clamp Ammeters JJF 1075	0.1A~20A(50Hz~400Hz)	U _{rel} =0.1%~0.4%			
				20A~1000A(50Hz~400Hz)	U _{rel} =0.4%~1%			
		DC Current		0.1A~20A	U _{rel} =0.1%~0.3%			
				20A~1000A	U _{rel} =0.3%~0.5%			
4	*Earth Resistance Meters	Resistance	V.R.of Earth Resistance Meters JJG 366	0.1 Ω ~ 1 Ω	U _{rel} = 0.6%			
				1 Ω ~ 100 Ω	U _{rel} = 0.12%			
				100 Ω ~ 10k Ω	U _{rel} =0.06%			
5	*Wrist Strap and Footwear Tester	Resistance	C.S.for Wrist Strap and Footwear Tester JJF(electrical)31502	100k Ω ~ 100M Ω	U _{rel} =0.3%			
				100M Ω ~ 200M Ω	U _{rel} = 1.2%			
6	*Clamp Earth Resistance Meters	Resistance	V.R. of Clamp Earth Resistance Meters JJG1054	1 Ω ~ 10 Ω	U _{rel} =0.3%			
				10 Ω ~ 100 Ω	U _{rel} =0.3%			
				100 Ω ~ 200 Ω	U _{rel} =0.5%			
				200 Ω ~ 400 Ω	U _{rel} =1.0%			



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№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty ($k=2$)	Note	Effective Date
7	*Digital Megohm-meter	Resistance	V.R. of Electronic Insulation Resistance Meters JJG 1005	400 Ω ~ 600 Ω	$U_{rel}=2.0\%$		
				600 Ω ~ 1500 Ω	$U_{rel}=3\%$		
				100 Ω ~ 1M Ω	$U_{rel}=0.15\%$		
				1M Ω ~ 10M Ω	$U_{rel}=0.26\%$		
				10M Ω ~ 100M Ω	$U_{rel}=0.58\%$		
				100M Ω ~ 10G Ω	$U_{rel}=1.2\%$		
				10G Ω ~ 100G Ω	$U_{rel}=2.4\%$		
				100G Ω ~ 500G Ω	$U_{rel}=5.8\%$		
		Voltage		(50~5000)V	$U_{rel}=1.2\%$		
8	*Megohm-meter	Resistance	V.R. of Megohmmeter JJG 622	100 Ω ~ 1M Ω	$U_{rel}=0.3\%$		
				1M Ω ~ 10M Ω	$U_{rel}=0.38\%$		
				10M Ω ~ 100M Ω	$U_{rel}=1\%$		
				100M Ω ~ 10G Ω	$U_{rel}=2\%$		
				10G Ω ~ 100G Ω	$U_{rel}=5\%$		
				100G Ω ~ 500G Ω	$U_{rel}=6\%$		
		Voltage		(50~5000)V	$U_{rel}=1.5\%$		
9	*Megohm-Tester	Resistance	V.R. of High Insulation Resistance Meters JJG 690	100 Ω ~ 1M Ω	$U_{rel}=0.15\%$		
				1M Ω ~ 10M Ω	$U_{rel}=0.26\%$		
				10M Ω ~ 100M Ω	$U_{rel}=0.58\%$		



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No	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
				100M Ω ~ 10G Ω	U _{rel} =1.2%		
				10G Ω ~ 100G Ω	U _{rel} =2.4%		
				100G Ω ~ 500G Ω	U _{rel} =5.8%		
		Voltage		10V~1kV	U _{rel} =0.1%		
10	Surface Resistance Tester	Resistance	C.S.for Surface Resistance Tester JJF1285	1k Ω ~ 1M Ω	U _{rel} =0.15%		
				1M Ω ~ 10M Ω	U _{rel} =0.26%		
				10M Ω ~ 100M Ω	U _{rel} =0.58%		
				100M Ω ~ 10G Ω	U _{rel} =1.2%		
				10G Ω ~ 100G Ω	U _{rel} =2.4%		
				100G Ω ~ 500G Ω	U _{rel} =5.8%		
		Voltage		10V~250V	U _{rel} =0.1%		
		5、Chemical Mechanics					
1	*Ultraviolet,Visible Spectrophotometer	Wave- length	V.R.of Ultraviolet,Visible,Near-Infrared Spectrophotometers JJG 178	190 nm~900 nm	U=0.4 nm		
		Transmittance		5%~45%	U=0.4%		
2	*Atomic Absorption Spectrophotometer	Detected Limit	V.R.of Atomic Absorption Spectrophotometers JJG 694	Flame Atomization: ≤ 0.02 μg/mL (Cu)	U=0.01 μg/mL		
				Graphite Furnace Atomization: ≤4 pg (Cd)	U=0.5 pg		
3	*Inductively Coupled Plasma Emission	Detection Limit	V.R.of Emission Spectrometer JJG768	Zn: ≤0.003 mg/L	U=0.0008 mg/L		
				Ni: ≤0.01 mg/L	U=0.0010 mg/L		



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№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty ($k=2$)	Note	Effective Date
	Spectrometer			Mn: ≤ 0.002 mg/L Cr: ≤ 0.007 mg/L Cu: ≤ 0.007 mg/L Ba: ≤ 0.001 mg/L	$U=0.0011$ mg/L $U=0.0016$ mg/L $U=0.0012$ mg/L $U=0.0002$ mg/L		
4	*Gas Chromatography	Sensitivity	V.R.of Gas Chromatography JIG 700	TCD (benzene) : ≥ 800 mV · mL/mg	$U_{rel}=4.3\%$		
		Detection Limit		FID (n-hexadecane) : $\leq 5 \times 10^{-10}$ g/s FPD: $\leq 5 \times 10^{-10}$ g/s (S)、 $\leq 1 \times 10^{-10}$ g/s (P) NPD: $\leq 5 \times 10^{-12}$ g/s (N)、 $\leq 1 \times 10^{-11}$ g/s (P) ECD: $\leq 1 \times 10^{-12}$ g/mL	$U_{rel}=4.4\%$ $U_{rel}=4.0\%$ $U_{rel}=4.1\%$ $U_{rel}=4.0\%$		
5	*Liquid Chromatography	minimum detection	V.R.of Liquid Chromatography JIG 705	UV-VIS、DAD: $\leq 5 \times 10^{-8}$ g/mL FLD : $\leq 5 \times 10^{-9}$ g/mL RID : $\leq 5 \times 10^{-6}$ g/mL ELSD : $\leq 5 \times 10^{-6}$ g/mL	$U_{rel}=5.6\%$ $U_{rel}=5.6\%$ $U_{rel}=6.9\%$ $U_{rel}=6.9\%$		
6	*Ion Chromatograph	minimum detection	V.R. for Ion Chromatograph JIG823	Conductivity detector: $\leq 0.02 \mu\text{g/mL}$ (Cl ⁻) Conductivity Detector: $\leq 0.02 \mu\text{g/mL}$ (Li ⁺)	$U_{rel}=8\%$ $U_{rel}=8\%$		



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No	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
				Ultraviolet visible detector: $\leq 0.02 \mu\text{g/mL}$ NO_2^- (I^-)	$U_{\text{rel}}=8\%$		
				Electrochemical detector: $\leq 0.02 \mu\text{g/mL}$ (I^-)	$U_{\text{rel}}=8\%$		
7	*Gas Chromatograph-Mass Spectrometer	Sign-to-noise-ratio	C.S.for Gas Chromatography-Mass Spectrometers JJF 1164	$\text{EI}^+ : \geq 10:1$ (Ion trap, Single quadrupole, Triple quadrupole) $\text{CI}^+ : \geq 10:1$ (Ion trap, Single quadrupole, Triple quadrupole) $\text{CI}^- : \geq 10:1$ (Ion trap, Single quadrupole)	$U_{\text{rel}}=15\%$ $U_{\text{rel}}=15\%$ $U_{\text{rel}}=15\%$		
8	*Instrument for KF Coulometry Titration	Water Content	V.R. of Instrument for KF Coulometry Titration JJG 1044	$(10 \sim 100) \mu\text{g}$ $(1000 \sim 5000) \mu\text{g}$	$U_{\text{rel}}=3.6\%$ $U_{\text{rel}}=2.2\%$		
9	*Thermogravimetric Moisture Meter	Mass	V. R. of Thermogravimetric Moisture Meters JJG 658	$1 \text{ mg} \sim 200 \text{ g}$	$U=0.2 \text{ mg}$		
		Water Content		$94\% \sim 96\%$			
10	Flow Cups Viscometer	Flow time	V.R of Flow Cup Viscometers JJG 743	$(30 \sim 100)\text{s}$	$U_{\text{rel}}=2.6\%$		
11	Rotational Viscometer	Viscosity	V.R of Rotational Viscometer JJG 1002	$(1 \sim 1.5 \times 10^5)\text{mPa}\cdot\text{s}$	$U_{\text{rel}}=2.8\%$		
12	*Extrusion Plastometer	Melt mass-flow rate	V.R of Extrusion plastometer JJG878	$(1 \sim 7)\text{g}/10\text{min}$	$U=0.20 \text{ g}/10\text{min}$		
		Temperature		$125^\circ\text{C} \sim 300^\circ\text{C}$	$U=0.1^\circ\text{C}$		
13	*Laboratory pH Meters	pH	V.R.of Laboratory pH Meters JJG 119	Electric meter: $0 \sim 14$ Instrument: $4.00 \sim 9.18$	$U=0.01$ $U=0.02$	Except for class 0.001	



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№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		voltage		(-2000~2000)mV	$U=0.3 \text{ mV}$		
14	*Automatic Potentiometric Titrator	voltage	V.R.of Automatic Potentiometric Titrators JJG 814	(-2000~2000)mV	$U=0.3 \text{ mV}$		
		Concentration		0.1mol/L	$U_{\text{rel}}=0.5\%$		
15	*Electrolytic Conductance Meter	Electrolytic conductivity	V.R. of Electrolytic Conductance Meter JJG 376	Electric meter: $(1\sim 2.5\times 10^4) \mu\text{S}\cdot\text{cm}^{-1}$ Instrument: $(140\sim 1500) \mu\text{S}\cdot\text{cm}^{-1}$	$U_{\text{rel}}=0.2\%$ $U_{\text{rel}}=0.3\%$		
16	*Electrochemical Oxygen Meter	Concentration	V.R.of Electro-chemical Electrode Gas Oxygen Analyzer JJG365	$(5\sim 25)\times 10^{-2}\text{mol/mol}$	$U_{\text{rel}}=2\%$		
17	*Zirconia Oxygen Analyzer	concentration	V.R.of Zirconia Oxygen Analyzers JJG 535	$(5\sim 25)\times 10^{-2}\text{mol/mol}$	$U_{\text{rel}}=2\%$		
18	*Thermomagnetic Oxygen Analyzer	concentration	V.R.of Paramagnetic Oxygen Analyzers JJG662	$(5\sim 25)\times 10^{-2}\text{mol/mol}$	$U_{\text{rel}}=1.5\%$		
19	*Monoxide Carbon and Carbon Dioxide Infrared Gas Analyzer	Concentration	V.R.of Monoxide Carbon and Carbon Dioxide Infrared Gas Analyzer JJG635	CO: $(1\sim 1000)\times 10^{-6}\text{mol/mol}$ CO ₂ : $(0.01\sim 1.00)\times 10^{-2}\text{mol/mol}$	$U_{\text{rel}}=3\%$ $U_{\text{rel}}=3\%$		
20	*Carbon Monoxide Detector	concentration	V.R.of Carbon Monoxide Detectors JJG 915	$(1\sim 500)\times 10^{-6}\text{mol/mol}$	$U_{\text{rel}}=3\%$		
21	*Alarmer Detector of Combustible Gas	Concentration	V.R.of the Alarmer Detectors of Combustible Gas JJG 693	1%LEL~100%LEL	$U_{\text{rel}}=2.3\%$	Accredited only for CH ₄ 、i-C ₄ H ₁₀	
22	*Sulfur Dioxide Gas Detector	concentration	V.R.of Sulfur Dioxide Gas Detectors JJG 551	$(1\sim 100)\times 10^{-6}\text{mol/mol}$	$U_{\text{rel}}=3\%$		



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№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
23	*Ammonia Gas Detector	concentration	V.R. of Ammonia Gas Detectors JJG 1105	$(1\sim 500)\times 10^{-6}\text{mol/mol}$	$U_{\text{rel}}=3\%$		
24	*Sulfur Hydrogen Gas Detector	concentration	V.R.of Sulfur Hydrogen Gas Detectors JJG 695	$(1\sim 100)\times 10^{-6}\text{mol/mol}$	$U_{\text{rel}}=3\%$		
25	*Alarmer Detector of Sulfur Hexafluoride	concentration	C.S. for the Alarmer Detector of Sulfur Hexafluoride JJF 1263	$(1\sim 500)\times 10^{-6}\text{mol/mol}$	$U_{\text{rel}}=2\%$		
26	*Chlorine Alarm Detector	concentration	C.S. for Chlorine Alarm Detectors JJF 1433	$(1\sim 100)\times 10^{-6}\text{mol/mol}$	$U_{\text{rel}}=3\%$		
27	*Melting-Point Measuring Instrument	Melting-Point	V.R.of Melting-point Measurement Instruments JJG701	$(40\sim 300)^{\circ}\text{C}$	$U=0.3^{\circ}\text{C}$		
6、Optics measuring instruments							
1	*Specular Gloss Meters	Specular Gloss	V.R.of Specular Gloss Meters and Gloss Plates JJG696	$(0\sim 120)\text{GU}$	$U=1.3\text{ GU}$	Except for standard Gloss meters	
2	*Colorimeters and Colour Difference Meter	Chroma	V.R.of Colorimeters and colour difference meters JJG595	Y: $0\sim 100$	$U=2.2$	Accredited only for d/0 optical condition	
				x、y: $0\sim 0.9$	$U=0.007$		
7、MotorVehicle special measuring instrument							
1	Tire Tread Depth Gauges	Length	C.S.for Tire Tread Depth Gauges JJF 1477	$(0\sim 30)\text{mm}$	$U=0.02\text{mm}$		
8、Construction and transportation special measuring instrument							
1	Wedge-Shape Filler Gauges	Length	C.S.for Wedge-Shape Filler Gauges JJF1548	type II : $(0\sim 15)\text{mm}$	$U=0.01\text{mm}$		



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