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Registration No. CNAS L0893

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SCHEDULE 5 ACCREDITED CALIBRATION AND MEASUREMENT CAPABILITY SCOPE

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

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
Ⅰ Geometry measuring instrument							
1	Steel tape	Length	Verification Regulation of Steel Measuring Tapes JJG 4	(0～100)m	U=((0.02+0.02L)mm (L:m)		
2	Class 3 line ruler of metal	Length	Verification Regulation of Standard Metallic Scale(Grade Ⅲ) JJG 71	(0～1000)mm	U=(5+5L) μm(L:m)		
3	Standard steel tape	Length	Verification Regulation of Standard Steel Tapes JJG 741	(0～20)m	U=(5+5L) μm(L:m)		
4	*Toolmaker’s microscope	Length	Verification Regulation of Toolmaker's Microscope JJG 56	(1000×200)mm	U=(0.3+L/300) μm (L:mm)		
5	Reading Microscope	Length	Verification Regulation of Reading Microscope and Measuring Microscope JJG 571	(0～8)mm	U=1 μm		

The scope of the accreditation in Chinese remains the definitive version.

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
6	Measuring Microscope	Length	Verification Regulation of Reading Microscope and Measuring Microscope JJG 571	(0～50)mm	U=(1+L/50) μ m (L:mm)		
7	Linear comparator	Length	Verification Regulation of Linear comparator JJG 72	(0～200)mm	U=(0.2+2L) μ m L:m		
8	Steel rulers	Length	Verification Regulation of Steel Rule JJG 1	(0～2000)mm	U=(0.02+0.02L)mm (L:m)		
9	Projector Ruler	Length	Projector Ruler NIMTT(CM) 024	(0～200)mm	U=(0.5+2.5L) μ m(L:m)		
10	Cable Length Meter	Length	Verification Regulation of Cable Length Meter JJG 987	(1～1000)m	U_{rel}=0.05%		
11	*Projector	Length	Calibration Specification for Projectors JJF 1093	200×100mm	U=(1+L/200) μ m(L:mm)		
12	633nm Frequency Stabilized Lasers	Wavelength	633nm Frequency Stabilized Lasers JJG 353	633nm	$U_{rel}=5\times10^{-10}$		
13	Micrometer for outside dimension	Length	Calibration Specification for Micrometers with Measuring Range from 500mm to 3000mm JJF 1088	(500～3000)mm	U=(1+L/200) μ m L:mm		
14	Height Caliper	Length	Verification Regulation of Height Caliper JJG 31	(0～2000)mm	U=(0.01+0.01L)mm (L:m)		
15	Micrometer for inside dimension	Length	Calibration Specification for Micrometers for Measuring Inside Dimension JJF 1411	(5～200)mm	U=(1+L/200) μ m L:mm		
16	Micrometer	Length	Verification Regulation of Micrometer JJG 21	(0～500)mm	U=(0.5+L/200) μ m L:mm		
17	Current Calipers	Length	Verification Regulation of Current Calipers JJG 30	（0～2000）mm	U=(0.01+0.01L)mm (L:m)		

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18	Instruction sheet	Length	Verification Regulation of Dial Gauges(dial and digital) JJG 34	(0～10)mm/Dividing ： 0.001mm	U=1.6 μ m		
				(0～50)mm reading 0.01mm	U=4 μ m		
19	Dial indicator gauges	Length	Verification Regulation of Tester for Dial Indicator Gauges JJG 201	(0～50)mm	U=(0.3+L/40) μ m L:mm		
20	PortableVertical Deviation Measuring Instrument	Length	Verification Regulation of Vertical Metal Tank Diametrical Deviation Measuring Instrument JJG 988	(0～300)mm	U=0.02mm		
21	Wide Range Dauges Reading in 0.01mm	Length	Verification Regulation of Wide Range Dauges Reading in 0.01mm JJG 379	(0～100)mm	U=(0.005+0.1L)mm L:m		
22	Thickness Gauges	Length	Calibration Specification for Thickness Gauges JJF 1255				
23	Depth Micrometers	Length	Depth Micrometers JJG 24	(0～300)mm	U=1.5 μ m		
24	Micrometers with Dial Comparator and Indication Snap Gauge	Length	Verification Regulation of Micrometers with Dial Comparator and Indication Snap Gauge JJG 26	Indication Snap Gauge(0～200)mm	U=0.5 μ m		
				Micrometers with Dial Comparator(0～100)mm	U=1 μ m		
25	Internal Micrometers	Length	Verification Regulation of Internal Micrometers JJG 22	(50～6000)mm	U=(2+L/250) μ m(L:mm)		
26	Dial Test Indicator	Length	Verification Regulation of Dial Test Indicator JJG 35	(0～1)mm	U=1 μ m		
27	Depth Dial Gauge	Length	Verification Regulation of Depth Dial Gauge JJG 830	(0～300)mm	U=2 μ m		

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28	Bore Dial Indicators	Length	Calibration Specification for Bore Dial Indicators JJF 1102	Bore dial indicators for 0.001(10～400)mm	U=1.6 μ m		
				Bore dial indicators for 0.01(2～450)mm	U=3 μ m		
29	Micro-alignment Telescopes	Length	Calibration Specification of Micro-alignment Telescopes JJF 1077	(-1.2～+1.2)mm	U=3 μ m		
30	Gauge Blocks	central length	Gauge Blocks JJG 146	(0.5～100)mm	U=0.02 μ m+0.2×10^{-6}L(k=2.7)		
		central length		(＞100～1000)mm	U=0.05 μ m+0.5×10^{-6}L(k=2.7)		
31	*Gear Degree dais	Angle	Verification Regulation of Precise Angle Dividing Table JJG 472	0° ～360°	U=0.06″		
32	*Measure angle instrument	Angle	Verification Regulation of Goniometers JJG 97	0° ～360°	U=0.5″		
33	*Small Angle Tester	Angle	Verification Regulation of Small Angle Testers JJG 300	(0～40)′	U=0.3″		
34	Angle gauge blocks	Angle	Verification Regulation of Angle Gauge Blocks JJG 70	10° ～100°	U=1″		
35	Angular polygon	Angle	Verification Regulation of Angular Polygon JJG 283	0° ～360°	U=0.2″		
36	Opticai clinometer	Angle	Calibration Specification for Clinometers JJF 1915	0° ～240°	U=6″		
37	Electronic Ievel	Angle	Verification Regulation of Electronic levels and Coincidence levels JJG 103	(-10mm/m～+10mm/m)	U=0.001mm/m		
38	Dividing head	Angle	Verification Regulation of Optical Digital Dividing Head JJG 57	0° ～360°	U=1″		

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39	Optics-electricity angle coded senso	Angle	Calibration Specification for Photoelectric Shaft Encoders JJF 1115	0° ～360°	U=0.25″		
40	General bevel proractors	Angle	Calibration Specification for General Bevel Protractors JJF 1959	0° ～360°	U=1′		
41	Autocollimator	Angle	Verification Regulation of Autocollimator JJG 202	(0～10)′	U=0.1″		
42	Angle gauges	perpendicularity	Verification Regulation of Squares JJG 7	H:(63～1000)mm	U=(1+H/500) μm H:mm		
43	Coinciolence level	Angle	Verification Regulation of Electronic Levels and Coincidence Levels JJG 103	(0～20)mm/m	U=0.005mm/m		
44	Frame levels and shaft levels	Angle	Calibration Specification for Frame Levels and Shaft Levels JJF 1084	(0.01～20)mm/m	U_{rel}=6%		
45	Right-angle Edge	Straightness	Verification Regulation of Squares JJG 7	H:(50～200)mm	U=1 μm		
46	*Square Testers	perpendicularity	Calibration Specification for Square Testers JJF 1140	H:(63～1000)mm	U=0.8 μm		
47	*Optical Comparators for Angle Measurement	Angle	Calibration Specification for Optical Comparators for Angle Measurement JJF 1078	(0～60)′	U=2″		
48	*Calibrators for the Levels	Angle	Verification Regulation of Calibrators for the Leve JJG 191	(0.001～1.5)mm/m	U_{rel}=2%		
49	Square Gauge	Perpendicularity	Verification Regulation of Square Gauge JJG 1046	(100～500)mm	U=0.3 μm		
50	*Optical rotary table	Angle	Calibration Specification for Optical & Digital Dividing Table JJF 1114	(0～360)°	U=1″		

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51	Milling Straight Edges	Flatness	Verification Regulation of Milling Straight Edges JJG 740	(200～500)mm	U=0.05 μ m		
52	Straight Edge	Straightness	Verification Regulation of Straight Edge JJG 63	75mm	U=0.4 μ m		
				(＞75~225)mm	U=0.7 μ m		
				(＞225～500)mm	U=1.3 μ m		
53	Taper gauges	Angle	Taper gauges JJG 177	(0～45)°	U= 2"		
		Straightness		L:(0～200)mm	U=1 μ m		
54	Sine bars	Angle	Sine bars JJG 37	(0～30)°	U= 2"		
		Flatness		(0～200)mm	U=1 μ m		
55	Theodolites	Angle	Optical Theodolites JJG 414	Horizontal angle:(0～360)° Vertical angle:±31°	U=0.2″		
56	Level	Angle	Verification Regulation of Levels JJG 425	±25″ (2m～∞)	U=2.0″		
57	Plumb Instruments	Angle	Calibration Specification for Plumb Instruments JJF 1081	±1′	U=1.2"		
58	Electronic Theodolite	Angle	Verification Regulation of Electronic Tachometer Total Ststion JJG 100	Horizontal angle:(0～360)° Vertical angle:±31°	U=0.2"		
59	Height Measuring Instrument with DigitalDisplay	Length	Calibration Specification for Height Measuring Instrument with Digital Display JJF 1254	(0～1000)mm	U=(1+L/1000) μ m(L:mm)		

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60	*Theodolite Verification Device	Angle	Verification Regulation of Theodolite Verification Devices JJG 949	(0～360)°	U=0.1″		
61	Gear Helix Master	Length	Gear Helix Master JJG 408	rb（20～50）mm	U=2.0 μm		
				rb（>50～100）mm	U=2.3 μm		
				rb（>100～150）mm	U=2.5 μm		
				rb（>150～300）mm	U=2.8 μm		
62	Screw Templates	Length	Screw Templates JJG 60	(0.4～6)mm	U=(3+L/100) μm(L:mm)		
63	Instruments of Thread Inspection of Casing,Tubing,Line Pipe and New Rotary Shouldered Connection	Length	Calibration Specification for Instruments of Thread Inspection of Casing,Tubing,Line Pipe and New Rotary Shouldered Connection JJF 1063	briquette（0.1～300）mm	U=(1+L/100) μm(L:mm)		
				dial（0～50）mm	U=0.5 μm		
64	Bearing Inside and Outside Diameter Testers	Length	Bearing Inside and Outside Diameter Testers JJG 471	(0.1～100)mm	U=0.7 μm		
65	*The universer involute gear teste	Length	Calibration Specification for Gear involute Measuring instrument JJF 1124	rb(0.05～3)m	U=2 μm		
66	*Lead Tester of gear	Length	Calibration Specification for Gear Helix Measuring Instruments JJF 1122	rb(0.05～3)m	U=2 μm		
67	*Gear Pitch Measuring Instruments	Length	Calibration Specification for Gear Pitch Measuring Instruments JJF 1209	(0～100)mm	U=1 μm		

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68	Micrometers with Prismatically Arranged Measuring Faces	Length	Verification Regulation of Micrometers with Prismatically Arranged Measuring Faces JJG 182	(1～100)mm	U=(1+L/100) μm（L：mm）		
69	*Measuring Instrument for Axial Clearance of Ball Bearings	Length	Verification Regulation of Measuring Instrument for Axial Clearance of Ball Bearings JJG 626	(9～250)mm	U=2 μm		
70	Common Normal Micrometer	Length	Verification Regulation of Common Normal Micrometer JJG 82	(0～150)mm	U=2 μm		
71	Screw Thread Micrometers	Length	Verification Regulation of Screw Thread Micrometers JJG 25	(0～200)mm	U=2 μm		
72	*Concentricity Tester	Length	Calibration Specification for Concentricity Tester JJF 1109	L:（50～1000）mm	U=2 μm		
73	*Base Circle Pitch Comparator	Length	Calibration Specification for Base circle pitch comparator JJF 1123	gear modulus m(2～20)	U=1 μm		
74	*OCTG Thread Working Gauges	pitch diameter	C.S for OCTG Thread Working Gauges JJF 1108,Threading, Gauging, and Inspection of Casing, Tubing, and Line Pipe Threads API API Spec5B,Threading and Gauging of Rotary Shouldered Connections API Spec7-2	（0～500）mm	U=（3.3+L/400） μm（L:mm）		
		taper		（0～5）mm	U=1 μm		
		pitch		（0.5～10）mm	U=（3.3+L/400） μm（L:mm）		
		Standoff		（5～20）mm	U=8 μm		
		Angle		(0～45)°	U=3′		
75	Multiple score Specimen	Roughness	C.S.for multiple score Specimen NIMTT(CM) 002	(0.01～100) μm	U_{rel}=5%		

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76	Roughness Comparison Specimens	Roughness	C.S.for Roughness Comparison Specimens JJF 1099	*Ra*:(0.012～25) μ m	U_{rel}=6%		
77	Smooth limit gauge	Length	V.R.of Smooth limit gauge JJG 343	Outside Size:(0.9～500)mm	U=0.35 μ m+3×10^{-6}L		
				Inside Size:(20～500)mm	U=1.0 μ m+3×10^{-6}L		
78	Cylindrical Measuring Pin	Length	C.S for Cylindrical Measuring Pin JJF 1207	Pin gauge:(0.1～25)mm	U=0.4 μ m		
				Three stitches:(0.118～6.585)mm	U=0.4 μ m		
79	Gear InvoluteMasters	Length	Verification Ragulation of Gear Involute Masters JJG 332	rb（20～50）mm	U=2.0 μ m		
				rb（＞50～100）mm	U=2.3 μ m		
				rb（＞100～150）mm	U=2.5 μ m		
				rb（＞150～300）mm	U=2.8 μ m		
80	Step gauges	Length	C. S. for Step Gauges JJF 1258	(10～1000)mm	U=0.4 μ m+1.2×10^{-6}L		
81	Cylindrical Thread Gauges	Length	C.S for Cylindrical Thread Gauges JJF 1345	Thread Ring Gauge:(1.2～500)mm	U=2.8 μ m+2×10^{-6}L		
				Thread Plug Gauge:(1～500)mm	U=2.8 μ m+2×10^{-6}L		
		Angle		Dental Angle:(29～60)°	U=3′		
82	Test sieves	Length	Calibration Specification for Test Sieves JJF 1175	(0.02～4)mm	U=2 μ m		
				(＞4～125)mm	U=0.03mm		
83	Spline Gauges	Length	Calibration Specification for Straight Cylindrical Involute Spline Gauges JJF 1557	gear modulus m（0.3～1.5）	U=2.1 μ m		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
				gear modulus m（＞1.5～3.0）	U=2.4 μm		
				gear modulus m（＞3.0～5.0）	U=2.6 μm		
				gear modulus m（＞5.0～8.0）	U=2.8 μm		
84	*System of coordinate Teste	Length	Calibration Specification for Coordinate Measuring Machine JJF 1064	(0～6)m	U=(0.2+L/1000) μm (L:mm)		
				6～20)m	U=(1+0.2L) μm (L:m)		
85	*Flatness Interferometer with Parallel Light Brightening	Plane degree	Calibration Specification for Flat Equal Thickness Interferometers JJF 1100	D:150 mm	U=0.01 μm		
86	Optical flat	Flatness	V.R.of Optical flat JJG 28	Plane Optical flats:D(30～200)mm	U=0.007 μm		
				Plane Optical flats:H(15～91) mm	U=0.014 μm		
				Long Optical flats::210mm、310mm	U=0.007 μm		
87	Magnetic and Eddy Current Measuring Instrument for Coating Thickness	Length	V.R.of Magnetic and Eddy Current Measuring Instrument for Coating Thickness JJG 818	Thickness measuring(0.01～0.05)mm	U=0.1 μm		
				Thickness measuring(0.05～10）mm	U=(0.6%×H/2) μm(H: μm)		
				Standard thickness sheet：H≤50 μm	U=0.2 μm		
				Standard thickness sheet：H＞50 μm	U=0.4%H(H:mm)		

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88	Ultrasonic Thickness Instruments	Length	Calibration Specification for Ultrasonic Thickness Instruments JJF 1126	（0.1～10）mm	U=0.02 mm		
				（10～200）mm	U=(0.003+H/600)mm(H:mm)		
89	Fineness of Grind Gage	Length	V.R.of Fineness of Grind Gage JJG 905	(0～150) μm	U=(0.5+L/500) μm(L: μm)		
90	Roundness Flick Calibration Standard	Length	Calibration Specification for Roundness Flick Calibration Standard JJF 1485	(0.2～50) μm	U_{rel}=2%		
91	*Extensometer	Length	V.R.of Extensometer JJG 762	(0～0.3)mm	U=0.5 μm		
				(0.3～25)mm	U_{rel}=0.15%		
92	Coullomb Thickness Measurement Instrument	Length	Calibration Specification for Electrolytic (Coulometric) Coating InstrumentsThickness JJF 1707	(0.5～50) μm	U_{rel}=3%		
93	Coordinate Measuring Spheres	Length	C.S. for Coordinate Measuring Spheres JJF 1422	Roundness: Φ(5～100)mm	U=0.02 μm+5×$10^{-8}D$		
				Diameter: Φ(5～100)mm	U=0.2 μm+5×$10^{-7}D$		
94	Single score Speumen	Length	C. S.for single score Speumen NIMTT(CM) 001	(0.1～0.5) μm	U_{rel}=5%		
				(＞0.5～1.5) μm	U_{rel}=3%		
				(＞1.5～50) μm	U_{rel}=2%		
95	Standard Ring Gauge	Length	V.R.of Standard ring gauge JJG 894	D:(1～400)mm	U=0.35 μm+3×$10^{-6}D$		
96	Radius Gauge	Length	V.R.of Radius Gauge JJG 58	R:(1～25)mm	U=2 μm+$10^{-4}L$		
97	*Length measuring machine	Length	C.S. for Length Measuring Machine JJF 1066	Decimeter scale:(0～6000)mm	U=0.3 μm+4×$10^{-6}L$		

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				Millimeter scale:(0～100)mm	U=0.1 μm+4×10^{-6}L		
				Micron scale::(-100～+100) μm	U=0.09 μm		
98	Light-section Microscope	Roughness	C. S.for Light-Section Microscopes JJF 1092	(1.0～80)μm	U_{rel}=5%		
99	Interferal microscope	Roughness	V.R.of Interference Microscopes JJG 77	(0.01～1.0)μm	U_{rel}=5%		
100	Contact (Stylus) Instruments of Surface Roughness Measurement by the Profile Method	Roughness	C.S.for Contact (Stylus) Instruments of Surface Roughness Measurement by the Profile Method JJF 1105	Ra:(0.025～25)μm	U_{rel}=4%		
101	*Measurement Standard instrument of roundness and cylindricity	Roundness	V.R.of Measurement Standard Instrument of Roundness and Cylindricity JJG 429	(50～500)mm	U_{rel}=2%		
102	standard sphere and standard hemisphere	Roundness	V. R. of standard sphere and standard hemisphere GJB 8627	Standard Hemisphere: Φ (25～50)mm	U=0.02 μm+5×10^{-8}L		
103	Torsional comparator	Length	V.R.of Microcator JJG 118	(-100～+100)μm	U=0.2 μm		
104	*Spherometer	Length	Calibration Specification for Spherometers JJF 1831	(-15～+15)mm	U=0.4 μm		
105	*Pneumatic Measuring Instrument for Micrometers	Length	V.R.of Pneumatic Measuring Instrument for Micrometers JJG 356	(0～60) μm	U=0.4 μm		

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106	Wedge-feet Calibrator for Micrometers	Length	V.R.of Wedge-feet Calibrator for Micrometers JJG 525	(0～2)mm	U=0.1 μm+1×10^{-4}L		
107	*Flatness interferomter with Isoclinic Circle Fring	Length	V.R.of Flatness Interferometer with Isoclinic Circle Fringe JJG 661	(0～500)mm	U=0.009 μm		
108	*Capacitance Comparators	Length	C.S.for Capacitance Comparators JJF 1944	(0～2)mm	U=0.1 μm+1×10^{-4}L		
109	Dial Snap Gauges	Length	C.S.for Dial Snap Gauges JJF 1253	(5～100)mm	U=5 μm+1×10^{-4}L		
110	*Laser Diameter Measuring Gauges	Length	C.S.for Laser Diameter Measuring Gauges JJF 1250	(0.1～30)mm	U=0.3 μm		
111	Measuring Instrument for Laser Paralleism of Micrometers	Length	C.S. for Measuring Instrument for Laser Paralleism of Micrometers JJF 1252	(150～2000)mm	U=0.7 mm		
112	Precision Bore Diameter Measuring Instrument	Length	C. S. for Measuring Equipment of Diameter of Micro and Small JJF 1806	(1～20)mm	U=0.2 μm		
113	Inductive Micrometers	Length	C.S. for Inductive Micrometers JJF 1331	(-1000～-0.01) μm; (+0.01～+1000) μm	U_{rel}=0.1%		
114	Reinforced Concrete Covermeter and Floorslab Thickness Tester	Length	C.S.for reinforced concrete covermeter and floorslab thickness tester JJF 1224	(10～200)mm	U=0.7 mm		
				Reinforcing Bar Shield block:(6～200)mm	U=0.1 mm		
				Slab thickness block:(50～200)mm	U=0.1 mm		
115	Feeler Gauges	Length	V.R.of Feeler Gauges JJG 62	(0.02～3.00)mm	U=2 μm		

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116	*Measuring System of Coordinate Position	Length	C.S. for Measuring System of Coordinate Position JJF 1251	(0～20)m	U=0.1 μm+1×10^{-7}L		
117	*Contact type inter-ferometer	Length	V.R.of Contact-type interferometer JJG 101	(-10～+10) μm	U=0.01 μm		
118	*Optimerer	Length	V.R.of Optimerer JJG 45	(-100～+100) μm	U=0.02 μm		
119	*Horizontal metro-scope	Length	C.S. for Length Measuring Instrument JJF 1189	(0～500)mm	U=0.2 μm+2×10^{-6}L		
120	Calibration Specification for Grating Micrometers	Length indication error	C.S. for Grating Micrometers JJF1682	(0～100)mm	U=0.1 μm+2×10^{-6}L		
121	Calibrator of Extensometers	Length	C. S. for Calibrator of Extensometers JJF1096	(0～0.3)mm	U=0.2 μm		
				(＞0.3～50)mm	U_{rel}=0.04%		
122	Callipers for Welding Inspection	Length	V. R.of Callipers for Welding Inspection JJG704	(0～60)mm	U=0.02 mm		
123	*Surface Plates	Flatness	V. R.of Surface Plates JJG 117	(160×160～5000×3000)mm	U=0.8 μm+1×10^{-6}L（L：Span of deck）		
124	*Straight Edges	Straightness	C.S.for Straight Edges JJF 1097	(300～6300)mm	U=0.4 μm+3×10^{-7}L		
125	*Articulated Arm Coordinate Measuring Machine	length	C.S. for Articulated Arm Coordinate Measuring Machine JJF 1408	(30～5000)mm	U=23 μm		
126	Standard Grid Plate	Length	V. R. of Standard glass grid plate JJG 832	(0～400)mm	U=1 μm		

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127	*Orifice Plate Comprehensive Measurement System	Length	C. S. for Orifice Plate Comprehensive Measurement System NIMTT(CM) 033	(12.5～300)mm	U_{rel}=2%		
128	*Optical 3D measuring systems - Optical systems based on area scanning	Geometric Quantity	C. S. for Optical 3D measuring systemsOptical systems based on area scanning VDI/VDE 2634 Blatt 2	(16～1500)mm	U=5 μm		
129	*Clearance Detector of Rolling Stock Gauge for Standard Gauge Railway	length	V. R. of Clearance Detector of Rolling Stock Gauge for Standard Gauge Railway JJG（tiedao）180	(0～5)m	U=0.6 mm		
130	Laser Interferometers	Angle	V. R. of Laser Interferometers JJG 739-2005 JJG 739	(0～360)°	U=0.3″		
		Length		Wavelength:633nm	U_{rel}=2.5×10^{-8}		
131	*self-calibration measuring instrument with automobile model cutting system	Length	C.S.for self-calibration measuring instrument with automobile model cutting system NIMTT(CM) 138	(0～40)m	U=3 μm+1.6×10^{-6}L		
132	Moulds	Roughness	C.S. for Moulds JJF 1307	Ra:(1.6～3.2) μm	U_{rel}=6%		
		Length		(100～600)mm	U=0.30 mm		
133	Standard stick of Measuring spheres	Length	V.R.for Standard stick of Measuring spheres JJG（jun gong）177-2019	(0～2000)mm	U=3.0 μm		
134	*Equator	Length	C. S. for Equator NIMTT(CM) 147	(0～1000)mm	U=1.2 μm+1.5×10^{-6}L		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
135	*Scanning Probe Microscopes	Length	C.S. for Scanning Probe Microscopes JJF 1351	(0～200) μm	U=5 nm		
136	3D Optial Area Sanning Measurement Instrments	Length	C.S. for 3D Optial Area Sanning Measurement Instrments JJF(jun gong）116	(16～1500)mm	U=5 μm		
137	Pi Tapes	Length	C.S.for Pi Tapes JJF 1423	(0.009～16)m	U=0.02 mm+1×$10^{-5}D$		
138	Wedge-Shape Filler Gauges	Length	C.S.for Wedge-Shape Filler Gauges JJF 1548	(1～60)mm	U=11 μm		
139	Calibration Specification for Linear Displacement Sensors	length	C.S.for Linear Displacement Sensors JJF 1305	(0～3000)mm	U=0.08%FS	Calibration only for linear displacement sensors with direct digital output length	
140	Calibration Specification for Calibration Devices of Four-wheel Aligner	Angle	C.S.for Calibration Devices of Four-wheel Aligner JJF 1489	(-30～+30)°	U=28″		
141	Crack width measuring instrument	length	C.S. for Concrete Width and Depth Measuring Instruments JJF 1334	breadth(0.01～10)mm	U=3 μm		
				depth(20～500)mm	U_{rel}=0.2%		
				Width standard plate（0.01～6）mm	U=3 μm		
				Depth standard block（20～500）mm	U=1 mm		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
142	Image measuring instrument	length	C.S. for Imaging Probe Measuring Machines JJF 1318	(0～1000)mm	U=0.4 μm+0.4×$10^{-6}L$		
143	Tread depth ruler	length	C.S.for Tire Tread Depth Gauges JJF 1477	(0～100)mm	U=0.01 mm		
144	Borehole inclinometer	Angle	C.S.for Borehole Clinometers JJF 1550	(-30～+30)°	U=0.008%FS		
145	Block comparator	length	C.S.for Gauge Block JJF 1304	(-100～+100) μm	U=0.017 μm		
146	*White Light Interference Profiler	Length	C. S. for White Light Interference Profiler JJF(jun gong） 201	(0～300)mm	U=8 nm		
147	Step Profiler	Length	C.S. for Step Profiler JJF(jungong) 129	0.1 μm～5mm	U=3 nm		
148	Pipe Robot	length	C. S. for Pipe Robot Mobile Positioning NIMTT(CM) 144	(0～100)m	U=0.59 mm+9×$10^{-2}L$	Calibration only for Mobile Positioning	
		angle		(0～90)°	U=0.51°		
149	three-dimensional spherical center distance calibrator	Length	C.S. for three-dimensional spherical center distance calibrator NIMTT(CM) 137	Center distance:(0～1)m	U=1.2 μm		
				Diameter:(0～100)m	U=0.5 μm		
				Roundness:(0～100)m	U=0.7 μm		
150	Laser Marker	angle	C. S. for Laser Marker JJF（jin）01	(-8.5～+8.5)°	U=6.6″		
		Length		(0～10)mm	U=0.3 mm		
151	*digital laser plane interferometer	Length	C. S. for digital laser plane interferometer GJB 8704	D:150mm	U=0.06 μm		
152	Ultrasonic test block	Length	C.S. for Blocks used in Ultrasonic Testing JJF 1487	(0～1000)mm	U=0.020mm		
		Roughness		Ra:(0.025～10) μm	U_{rel}=6%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
153	Master Gears	Length	V. R. of Master Gears JJG 1008	(3～100)mm			
				（＞100～280）mm	U=2.5 μm		
154	Taper Thread Gauges	Length	Calibration Specification for Taper Thread Gauges JJF（川）185	Thread Ring Gauge:(5～500）mm	U=2.8 μm+2×10^{-6}L		
				Thread Plug Gauge:(1～500）mm	U=2.8 μm+2×10^{-6}L		
		Angle		(0～45)°	U=3′		
155	Total station	angle	V. R. of Electronic TachometerTotal Station JJG100,V. R. of Industrial Measurement Total Stations JJG1152	Horizontal :(0～360)°	U=0.3″	Length：Just calibrate Point-to-point Length error	
				Horizontal :(-60～+60)°	U=0.3″		
		Length		(0～14)m	U=0.2mm		
156	Two-dimensional Optics Calibration Target	length	C.S.for Two-dimensional Optics Calibration Target NIMTT(CM) 140	(20～400)mm	U=1.0 μm+2×10^{-5}L		
157	Calibration Specification for Paint Film Scriber	Length	C. S. for Paint Film Scriber JJF（ji） 137	Knife spacing:(1～3)mm	U=2 μm		
		Angle		(20～30)°	U=0.1°		
158	Metallographic microscope	length	Calibration Specification for Metallurgical Microscopes JJF 1914	Objective Lens:(1～100)X	U_{rel}=1.2%		
159	Biological microscope	length	C.S. for Biological Microscopes JJF 1402	Objective Lens:(1～100)X	U_{rel}=1.2%		
160	*Thread Gauge Scanners	length	Calibration Specification for Thread Gauge Scanners JJF1950	(0～500)mm	U=(0.8～3.0) μm		
		angle		(0～80)°	U=6″ ～4′		
	Le	length	V. R. of Le Chatelier,Tester for Determining Expansion of	（0～200）mm	U=5 μm		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
	for Determining Expansion of Le Chatelier Needles	quality	Le Chatelier Needles JJG（jiao tong）093	(0～300)g	U=0.03 g		
162	Surface Profile Gauges	Length	C. S. for Surface Profile Gauges JJF 1476	（0～6.5）mm	U=1.7 μm		
163	Material Measures of Length Measuring Instrument with Optical Principle	Length	C. S. for Material Measures of Length Measuring Instrument with Optical Principle JJF 1941	(0～500)mm	U=0.5 μm		
		Angle		0°～360°	U=0.4″		
		Straightness		(0～500)mm	U=(0.02+0.005L) μm(L:mm)		
		Surface roughness		Ra(0.01～10) μm	U_{rel}=5.0%		
		circel run-out		(0～40)mm	U=(0.02+0.005L) μm(L:mm)		
		Flatness		（70×70） mm ～（400×500）mm	U=(0.02+0.007L) μm(L:mm)		
		parallelism		(0～600)mm	U=(0.02+0.009L) μm(L:mm)		
		verticality		H:(0～70）mm	U=(0.02+0.010L) μm(L:mm)		
		offset		(0～200)mm	U=(0.02+0.011L) μm(L:mm)		
164	Step Wedge Used in Radiographic Testing	length	C. S. for Step Wedge Used in Radiographic Testing JJF(jixie)1016	（0～500）mm	U=0.004 mm		
		Surface roughness		Ra(0.01～10) μm	U_{rel}=6.0%		
165	Micropattern Standards	Length	C. S. for micropattern standards JJF 1917	line spacing:（0~20）mm	U=0.2 μm		
				grid spacing:（0~50）mm	U=0.5 μm		
				diameter:（0~50）mm	U=0.5 μm		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		Angle		（0～360）°	U=0.01°		
166	measuring instruments for contact wire geometric parameter	length	V.R.of measuring instruments for contact wire geometric parameter JJG(tie dao)150	gauge:（1410～1470）mm	U=0.2mm	Calibtation only portabble	
				superelevation:（-185～185）mm	U=0.2 mm		
				stagger value:（-600～600）mm	U=1.1 mm		
				Height of contct line:（5100～6500）mm	U=1.1 mm		
				Mast gauge:（2400～6500）mm	U=0.9 mm		
167	*calibrater for measuring instruments for contact wire geometric parameter	length	calibrater for measuring instruments for contact wire geometric parameter JJG(tie dao)210	gauge:（1410～1470）mm	U=0.1 mm		
				superelevation:（-185～185）mm	U=0.1 mm		
				stagger value:（-610～610）mm	U=0.5 mm		
				Height of contct line:（5100～6500）mm	U=0.5 mm		
				mast gauge:（2400～6500）mm	U=0.5 mm		
168	Liquid Level Transducer	length	C. S. for Liquid Level Transducer NIMTT(CM) 166	（0.01～3000）mm	U_{rel}=0.07%		
169	Industrial electronic endoscope	Illuminance	C. S. for Industrial Electronic Endoscope JJF（liao）437	(50～3000)lx	U_{rel}=1.3%		
		length		(0～30)mm	U=0.08 mm		
170	Straightness measuring instrument	straightness accuracy	C. S. of straightness measuring instrument JJF 1890	（0～1000）mm	U=1.0 μm		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
171	Conduit Detection Robots	Length	C. S. of Conduit Detection Robots JJF（e）60	（0～100）m	U=0.2 mm+2×10^{-4}L		
172	Digital Levels	Angle	V. R. of Digital Levels JJG（ce hui）2101	（-25～+25）″	U=2.8″		
173	*Optical 3D Measuring Systems Based on Structured Light Scanning	Length	C. S. for Optical 3D Measuring Systems Based on Structured Light Scanning JJF 1951	（0～1.5）m	U=5 μm		
174	*Scanning Electronic Microscopes (SEM)	Length	C. S. for Scanning Electronic Microscope（SEM） JJF 1916	（100nm～10 μm）	U=3 nm		
175	Standard Ball Bars	Length	C. S. for Standard Ball Bars JJF 1859	sphere diameter：（0～300）mm	U=0.5 μm		
				spherical shape error：（0～10）mm	U=0.7 μm		
				from its：（0～1.5）m	U=2 μm+0.2L		
176	Ground Penetration Radar	speed	Calibration Specification for Ground Penetration Radar JJF（qian）58	Radar wave velocity:（280～320）mm/ns	U=0.8%		
		Length		Measuring thickenee:（0～0.5）m	U=1.0%		
177	Step Specimen	Length	V. R. of Single Groove Specimen and Step Specimen JJG（军工）175	H:（0.01～0.02） μm	U=1.3 nm+2.4%H		
				H:（＞0.02～0.1） μm	U=1.8 nm+2.0%H		
				H:（＞0.1～2） μm	U=2.5 nm+0.8%H		
				H:（＞2～10） μm	U=3 nm+0.5%H		
				H:（＞10～25） μm	U=3 nm+0.3%H		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
				H:（>25～100）μm	*U*=3 nm+0.2%*H*		
178	*Measuring contact angle with image method	Angle	C. S. for Instrument for measuring contact angle with image method JJF（su）219	6°～180°	*U*=0.06°		
179	Standard Angle slice	Angle	C. S. for Instrument for measuring contact angle with image method JJF（su）219	6°～180°	*U*=0.03°		
180	Ringelmann smoke telescope	Length	C. S. for Ringelmann smoke telescope JJF（jin）144	（0～5）ringelmann number	*U*=0.04ringelmann number		
181	Coating thickness standard sheet	Length	C. S. For X-Ray Fluorescence Coating Thickness Instruments JJF 1306	（0.01～80）μm	U_{rel}=7.0%		
182	X-Ray Fluorescence Coating Thickness Instruments	Length	Calibration Specification For X-Ray Fluorescence Coating Thickness Instruments JJF 1306	（0.01～80）μm	U_{rel}=6.5%		
183	Resolution Target	Length	V.R.of Resolution Target JJG 827	(0.0005～400)mm	*U*=1 μm		
184	Check the sample	Length	C. S. for Check the sample JJF（chuan）110	（0～200）mm	*U*=0.008 mm		
185	Laser Tunnel Section Detector	Length	C. S. for Laser Tunnel Section Detector JJF（e）50	（0～50）m	*U*=1 mm		
		Angle		(30～330)°	*U*=0.08°		
186	Bridge Deflection Instrument	Length	C. S. for Bridge Deflection Instrument JJF(min)1077	（10～400）mm	U_{rel}=0.4%		
187	*Contact（Stylus）Surface Contour Tester	Length	C. S. for Contact（Stylus）Surface Contour Tester JJF（min）1043	（0～100）mm	*U*=0.8 μm		
		angle		0°～360°	*U*=41″		

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№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
188	*Steel tape inspection platform based on image measurement	Length	Specification for calibration of Steel tape inspection platform based on image measurement JJF（chuan）184	（0～20）m	U=0.07 mm		
189	*Auto Tester For Steel Rule	Length	C. S. for Auto Tester For Steel Rule JJF（zhe）1129	(0～1000)mm	U=8 μm		
190	Industrial Endoscope	Angle	Calibration specification for Industrial Endoscope JJF(Ji）69	0.5° ～360°	U_{rel}=2%		
				（0.1～200）klx	U_{rel}=5%		
191	*	Length	Calibration Specification for Industrial X-ray CT Coordinate Measuring Machine JJF（军工）284	（0～116）mm	U=4.0 μm		
192	Spirit level	Angle	Calibration Specification for Level Rules JJF1085	（0.5～10）mm/m	U_{rel}=6%		
193	Slit lamp Microscopes	Length	Calibration specification for Slit lamp Microscopes JJF（浙）1169	（0～10）mm	U_{rel}=0.07		
194	Stereomicroscope	Length	Calibration Specification for Stereomicroscope JJF(闽)1063	（0.1～10）mm	U_{rel}=(0.4+0.1γ)%		
195	Laser Centering Instrument	Length	Laser Centering Instrument NIMTT(CM) 168	（0.1～200）mm	U_{rel}=1%		
		Angle		（0~±360）°	U=6"		
196	Gyrotheodolites	angle	C. S.for Gyrotheodolites JJF 1350	(0～360）°	U=1.5″		
197	Baseline and Basenet	Length	C. S.for Baseline and Basenet JJF 1214	(0～100)km	U=0.10mm+0.34×10^{-6}D		
198	Spherical	Length	Calibration Specification for Large-Scale Laser Scanners	(0～24)m	U=0.03mm		

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№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
	Scanner	Length	Base on Spherical Coordinate JJF (Military) 283	(＞24～1018)m	U=0.5mm+0.8×10^{-6}D		
199	Global Positioning System(GPS)Receiver	measurement error	Calibration Specification for GPS Receiver of Surveying Model JJF1118	(0～1.2)km	U=1.0mm+1.0x10-6D(short base line)		
				（＞1.2～20）km	U=3.0mm+1.0x10-6D(Long base line)		
		Consistency of antenna phase center		(0～8.5)m	U=0.8 mm		
200	GNSS Receivers Working at Navigation	positioning error	Calibration Specification for GNSS Receivers Working at Navigation JJF 1942	4m～42km	U=2.72m		
		Speed error		（0～15）km/s	U=0.04m/s		
		acceleration error		(0～1000)m/s^2	U=0.05m/s^2		
201	GNSS Vehicle Travelling Data Recorders	Positioning deviation	Calibration Specification for GNSS Vehicle Travelling Data Recorders JJF 1921	（0～1000）km	U=1.0m		
		Speed deviation		（0～15）km/s	U=0.02m/s		
		mileage		(0～1000)km	U=6.2m		
		Time recording error		(0～24)h	U=0.1 s		
		sensitivity		(-150～-100)dBm	U=0.3dB		
202	Ground Penetrating Radar	Length	Highway Structure Defect and Layer Thickness Ground Penetration Radar JJG（交通）124	（50～100）mm	U=0.74mm		
		Length		（＞100～715）mm	U_{rel}=1.1%		
		wave velocity		（180～300）mm/ns	U_{rel}=0.2%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
203	Deflection /Camber instrument	Length	Bridge Deflection Measuring Instrument JJG（交通）143	(0～500)mm	U=0.05mm		
204	erification Regulation of Measure for Gauge for Measuring Distance Between Inside Rim Faces of Railway Wheels	Geometry	Verification regulation of internal distance gauge of railway locomotive and rolling stock wheel JJG 1159	（1345～1365）mm	U=0.08 mm		
205	Rules for Measuring Center Height of Coupler for Railway Locomotive and Vehicle	Geometry	Rules for Measuring Center Height of Coupler for Railway Locomotive and Vehicle JJG 1150	（650～950）mm	U=0.11mm		
206	Verification Regulation of Gauges for Measuring Distance Between Inside Rim Faces of Railway Wheels	Geometry	Calibrators of Wheel-Checkers for Railway Locomotives and Vehicles JJG 1153	（1345～1365）mm	U=0.06mm		
207	Calibrators of Wheel-Checkers for Railway Locomotives and Vehicles	Geometry	Calibrators of Wheel-Checkers for Railway Locomotives and Vehicles JJG 1155	（3～70）mm	U=0.02 mm		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
208	Verification regulation of height measuring device of railway frog structure	Geometry	Verification regulation of height measuring device of railway frog structure JJG 1183	（-15～+15）mm	U=0.05 mm		
209	Calibrators for Railway Switch Offset Rule	Geometry	Calibrators for Railway Switch Offset Rule JJG 1109	（100～1800）mm	U=0.12 mm		
210	Railway Switch Offset Rules	Geometry	Railway Switch Offset Rules JJG 1108	（100～1800）mm	U=0.18 mm		
211	Inspecting Instruments for Railway Track	Geometry	Inspecting Instruments for Railway Track JJG 1090	1410～1470）mm	U=0.10mm		
212	Calibrater for Inspecting Instruments for Railway Track	Geometry	Calibrater for Inspecting Instruments for Railway Track JJG 1091	1410～1470）mm	U=0.04 mm		
213	Measuring Scale for Wheel-Diameter	Geometry	Means of Measuring Instrument for Wheel-Diameter of Railway Locomotives and Vehicles-Part1:Means of Ruler for Wheel-Diameter JJG 1081.1	（760～1270）mm	U=0.06 mm		
214	Measuring Instrument for Wheel-Diameter of Railway	Geometry	Measuring Instrument for Wheel-Diameter of Railway Locomotives and Vehicles-Part2:Measuring Tools for Wheel-Diameter JJG 1081.2	（760～1270）mm	U=0.04mm		
215	Wheel-Checker for Railway Locomotives and Vehicles	Geometry	Wheel-Checker for Railway Locomotives and Vehicles JJG 1080	（3～95）mm	U=0.03mm		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
216	Measuring Ruler for Difference of Wheels Set Position and Brake Discs Set Position of Railway Vehicles	Geometry	Measuring Ruler for Difference of Wheels Set Position and Brake Discs Set Position of Railway Vehicles JJG 1110	（0～500）mm	U=0.07mm		
217	Inspection of rail straightness measuring instrument	Geometry	JJG(铁道)167	（0～3000）mm	U=0.02mm		
218	Verification Regulation of Wheel Contour Gauge for Railway Locomotive and Vehicle	Geometry	Verification Regulation of Wheel Contour Gauge for Railway Locomotive and Vehicle JJG (铁道) 175	（-69～100）mm	U=5 μ m		
219	Wear Tools for Rail	Geometry	Wear Tools for Rail JJG 1127	（0～25）mm	U=0.15mm		
Ⅱ Thermology measuring instrument							
1	*Temperature and Humidity Standard Chambers	Temperature	Calibration Specification fo Temperature and Humidity Standard Chambers JJF1564	uniformity:(5～50)℃	U=0.05℃		
				fluctuation:(5～50)℃	U=0.02℃		
		Humidity		uniformity:10%RH～90%RH	U=0.5%RH		
				fluctuation:10%RH～90%RH	U=0.1%RH		
2	*recorders for industrial-process measurement	Temperature	Verification regulation of the recorders for industrial-process measurement JJG 74	RTD：(-200～850)℃	U=(0.10～0.15)℃		
				K、N、J:(-200～0)℃	U=(0.18～0.12)℃		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
				K、N、J:(0～1200)℃	U=(0.12～0.19)℃		
				S:(0～1600)℃	U=(0.7～0.4)℃		
				B:(800～1800)℃	U=(0.5～0.4)℃		
				T：（-200～400）℃	U=（0.27～0.11）℃		
				E:（-200～1000）℃	U=（0.21～0.12）℃		
3	*Digital temperature indicators and/controllers	Temperature	Verification regulation of digital temperature indicators and controller JJG 617	RTD：(-200～850)℃	U=(0.10～0.15)℃		
				K、N、J:(-200～0)℃	U=(0.18～0.12)℃		
				K、N、J:(0～1200)℃	U=(0.12～0.19)℃		
				S:(0～1600)℃	U=(0.7～0.4)℃		
				B:(800～1800)℃	U=(0.5～0.4)℃		
				T:(-200～400)℃	U=(0.27～0.11)℃		
				E:（-200～1000）℃	U=（0.21～0.12）℃		
4	*Temperature transmitter	Temperature	Calibration specification of the temperature transmitter JJF 1183	RTD：(-200～850)℃	U=(0.08～0.20)℃		
				K：(-200～1200）℃	U=0.5℃		
				E：(-200～1000）℃	U=0.4℃		
				S：(0～1600）℃	U=(0.9～0.6)℃		
				Match RTD:(-60～300)℃	U=(0.1～0.2)℃		
				Match S:(300～1100)℃	U=1.3℃		
				Match K,N(-40～1200)℃	U=(0.5～1.5)℃		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
5	Temperature itinerant detecting instrument	Temperature	Calibration specification for temperature itinerant detecting instrument JJF 1171	(-60～100)℃	U=0.08℃		
				(100～300)℃	U=0.11℃		
6	Standard platinum-30% rhodium/platinum-6%rhodium thermocouple	Temperature	Verification regulation of the standard platinum-30% rhodium/platinum-6% rhodium thermocouple JJG 167	1100℃	U=2.0℃		
				1200℃	U=1.9℃		
				1300℃	U=1.9℃		
				1400℃	U=1.9℃		
				1500℃	U=1.9℃		
7	Standard platinum-10% rhodium/platinum thermocouple	Temperature	verification regulation of the standard platinum-10% rhodium/platinum thermocouple JJG 75	419.527℃	U=0.24℃		
				660.323℃	U=0.26℃		
				1084.62℃	U=0.29℃		
8	The working noble metal thermocouples	Temperature	Verification regulation of the working noble metal thermocouples JJG 141	S：419.527℃	U=0.48℃		
				S：660.323℃	U=0.49℃		
				S：1084.62℃	U=0.55℃		
				B:1100℃	U=2.0℃		
				B:1300℃	U=2.0℃		
				B:1500℃	U=2.0℃		
9	Standard platinum resistance thermometer	Temperature	Verification regulation of standard platinum resistance thermometer JJG 160	(83.8058 ～273.16)K	U=3.4mK（83.8058K）		
				• (83.8058～273.16)K	U=1.6mK（234.3156K）		
				(83.8058～273.16)K	U=1.0mK（273.16K）		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
				(273.16 ～933.473)K	U=2.3mK（505.078K）		
				(273.16～933.473)K	U=3.5mK（692.677K）		
				(273.16～933.473)K	U=4.5mK（933.473K）		
10	Industry platinum copper resistance thermo-meters	Temperature	Verification Regulation of industry platinum and copper resistance thermometers JJG 229	（-80～+300）℃	U=（0.02～0.05）℃		
				-196℃	U=0.03℃		
11	Standard clinical thermometer	Temperature	Verification regulation of standard clinical thermometer JJG 881	(35～45)℃	U=0.018℃		
12	*On-line Temperature Measuring System	Temperature	Calibration Specification for On-line Temperature Measuring System JJF（Chuan）143	(-30～300)℃	U=0.1℃		
				(300～650)℃	U=1.0℃		
13	Temperature Calibration Devices for Polymerase Chain Reaction Analyzers	Temperature	Calibration Specification of Temperature Calibration Devices for Polymerase Chain Reaction Analyzer JJF 1821	(0～110)℃	U=0.04℃		
14	Clinical Electronic Thermometers	Temperature	Verification Regulation of Clinical Electronic Thermometers JJG 1162	（35.0～41.3）℃	U=0.03℃		
15	*Blood culture device	Temperature	Calibration Specification for Blood Culture device JJF(Chuan） 171	(20～50)℃	U=0.2℃		
16	*hot aging test chambers	Temperature	Calibration Specification of Hot Aging Test Chambers JJF（Chuan）162	(30～100)℃	U=0.3℃		
				(100～300)℃	U=0.5℃		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
				(300～500)℃	U=1.3℃		
		air change rate		(5～200) times/h	U_{rel}=5%		
17	*Temperature Controller for Transformers	Temperature	Calibration Specification of Temperature Controller for Transformers JJF（Chuan）151	(-20～160)℃	U=0.4℃		
18	*Passive Medical Cold Boxes	Temperature	Calibration Specification for Temperature Parameter of Passive Medical Cold Boxes JJF 1676	(-20～20)℃	U=0.16℃		
19	*Envirnmental testingequipment	Temperature	Calibration Specification for Environmental Testing Equipment for Temperature and Humidity Parameters JJF 1101	(-80～0)℃	U=0.2℃		
				(0～100)℃	U=0.1℃		
				(100～300)℃	U=0.3℃		
		Humidity		10%RH～95%RH	U=1.5%RH		
20	Electric Ventilation Psychrometer	Temperature	Verification Regulation of Meteorological Ventilation Psychrometer JJG 993	(5～50)℃	U=0.07℃		
		Humidity		10%RH～90%RH	U=0.8%RH		
21	Meteorological Ventilation Psychrometer	air speed	Verification Regulation of Electric Ventilation Psychrometer JJG 204	(2～5)m/s	U=0.6m/s		
		Time		(4～8)min	U=0.2s		
22	Mechanical Thermo - hygrometers	Humidity	Verification Regulation of Mechanical Thermo - hygrometers JJG 205	30%RH～95%RH	U=1%RH		
		Temperature		(5～50)℃	U=0.07℃		
23	Precision Dew-point Hygrometers	Temperature	Verification Regulation of Precision Dew-point Hygrometers JJG 499	Dew-point：(-80～+20）℃	U=(0.2～0.4)℃		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
24	Resistance and Capacitance Dew Point Hygrometer	Temperature	Calibration Specification for Resistance and Capacitance Dew Point Hygrometer JJF 1272	Dew-point：(-80～+20）℃	U=(0.2～0.4)℃		
25	Electrolytic hygrometers	Moisture	Verification Regulation of Electrolytic Hygrometers JJG 500	(0.1～1000) μ L/L	U_{rel}=4.4%～0.5%		
26	Secondary Standard Divided Flow Humidity Generator	Humidity	Verification Regulation of Secondary Standard Divided Flow Humidity Generator JJG 826	10%RH～95%RH	U=0.8%RH		
27	Tempurature and Humidity Generator	Humidity	Calibration Specification for Temperature and humidity generator NIMTT(CM) 121	10%RH～95%RH	U=0.8%RH		
		temperature		（5～50）℃	U=0.1 ℃		
28	Index detector	Temperature	Calibration Specification for WBGT index thermometer calibration specification JJF 1407	(5～50)℃	U=0.07℃		
29	Base metal thermocouples	Temperature	Calibration Specification for Base Metal Thermocouples JJF 1637	K、N:(-40～1200)℃	U=(0.26～1.2)℃		
				E:(-40～900)℃	U=(0.26～0.80)℃		
				J:(-40～750)℃	U=(0.26～0.70)℃		
30	Standard Mercury-in-Glass thermometers	Temperature	Verification regulation of standard mercury-in-glass thermometers JJG 161	(-60～300)℃	U=(0.03～0.05)℃		
31	Liquid-in-Glass thermometers for working	Temperature	Verification regulation of liquid-in-class thermometer for working JJG 130	High precision: (0～150)℃	U=(0.012～0.024)℃		
				Working:(-60～300)℃	U=(0.05～0.09)℃		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
32	*Bimetallic thermometers	Temperature	Calibration Specification for Bimetallic Thermometers JJF 1908	(-60～300)℃	U=0.3℃		
33	Filled system thermometers	Temperature	Calibration Specification for Filled System Thermometers JJF 1909	(-60～300)℃	U=0.4℃		
34	*Thermocouple calibration furnaces	Temperature	Testing Specification of temperature uniformity in thermocouple calibration furnaces JJF 1184	(300～1500)℃	U=0.3℃		
35	Temperature data collector	Temperature	Calibration specification for temperatur data collector NIMTT(CM) 018	RTD：(-200～850)℃	U=(0.01～0.03)℃		
				K,N,J：(-200～1200)℃	U=(0.12～0.19)℃		
				S：(0～1600)℃	U=(0.7～0.4)℃		
				E：(-200～1000)℃	U=(0.21～0.11)℃		
				B:(800～1800)℃	U=(0.5～0.4)℃		
36	*Thermostatic bath	Temperature	Measurement and Test Norm of Thermostatic Bath's Metrological Characteristics JJF 1030	Uniformity:(-100～40)℃	U=(0.006～0.002)℃		
				Uniformity:(40～300)℃	U=(0.002～0.005)℃		
				Volatility:(-100～300)℃	U=0.003℃		
37	*Auto-measuring system of thermocouples and resistance thermometers	Temperature	Calibration Specification for Auto-measuring System of Thermocouples and Resistance Thermometers JJF 1098	Industry platinum resistance:0℃	U=0.05℃		
				Industry platinum resistance:100℃	U=0.07℃		
				Base metal thermocouples:(300～1200)℃	U=(0.9～1.1)℃		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
				Working noble metal thermocouples419.527℃	U=0.70℃		
				Working noble metal thermocouples660.323℃	U=0.72℃		
				Working noble metal thermocouples1084.62℃	U=0.80℃		
				Standard thermocouples419.527℃	U=0.50℃		
				Standard thermocouples660.323℃	U=0.60℃		
				Standard thermocouples1084.62℃	U=0.60℃		
38	*Temperature block calibrators	Temperature	Calibration guideline of the temperature block calibrators JJF 1257	(-80～660)℃	U=(0.03～0.36)℃		
				(660～1300)℃	U=(0.5～1.2)℃		
39	*Fixed-Point Devices for Standard Platinum Resistance Thermometer	Temperature	Calibration specification of fixed-point devices for standard platinum resistance thermometer JJF 1178	83.8058K	U=2.0mK		
				234.3156K	U=1.2mK		
				273.16K	U=0.35mK		
				302.9146K	U=1.2mK		
				505.078K	U=1.7mK		
				692.677K	U=2.0mK		
				933.473K	U=4.5mK		
40	*The Triple Point of Water Cell (Cell comparison)	Temperature	Calibration Specification of The Triple Point of Water Cell (Cell comparison) NIMTT(CM) 017	273.16K	U=0.30mK		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
41	*Box-type Resistance Furnace	Temperature	Calibration Specification for Box-type Resistance Furnace JJF 1376	(300～1100)℃	U=(1.2～1.5)℃		
42	Temperature Data Acquisition Instruments	Temperature	Calibration Specification of Temperature Data Acquisition Instruments JJF 1366	（-80～300）℃	U=0.03℃		
43	*Thermomerers of Clinic Autoclave	Temperature	Calibration Specification for Thermometers of Clinic Autoclave JJF1308	(25～140)℃	U=0.4℃		
		Pressure		(101～400)kPa	U=2.8kPa		
44	*Digital Thermometer	Temperature	Calibration Specification for Digital Thermometer JJF（Chuan）139	(-196～660.323)℃	U=(0.010～0.018)℃		
				（660.323～1200）℃	U=1.2℃		
45	Sheathed Thermocouples	Temperature	Calibration specification for sheathed thermocouples JJF 1262	K、N:(-40～1100)℃	U=(0.26～1.2)℃		
				E:(-40～900)℃	U=(0.26～0.80)℃		
				J:(-40～750)℃	U=(0.26～0.70)℃		
46	Device of verification and measurement of temperature meter	Temperature	Calibration specification of temperature Indicators and simulators by electrical simulation and measurement JJF 1309	RTD：(-200～850)℃	U=(0.01～0.03)℃		
				K、N、J：(-200～1200）℃	U=(0.08～0.05)℃		
				S：(0～1600)℃	U=(0.09～0.06)℃		
				E：(-200～1000)℃	U=(0.08～0.05)℃		
				T：(-200～400)℃	U=0.05℃		
				B:(800～1800)℃	U=(0.08～0.06)℃		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
47	Temperature Switches	Temperature	Calibration Specification for Temperature Parameters of Temperature Switches JJF1632	(-30～300）℃	U=0.4℃		
48	*Microwave Digestion Instrument	Temperature	Calibration Specification for Temperature Parameters of Microwave Digestion Instrument JJF(Chuan)142	（0～170）℃	U=0.15℃～0.25℃		
49	*Temperature Indicators	Temperature	Calibration Specification for Temperature Indicators JJF1664	（-200～1800）℃	TCU=0.38℃，RTDU=0.16℃，DCU=0.12℃		
50	Digital Temperature-hygrometer	Humidity	C. S. for Digital Temperature-hygrometers JJF 1076	10%RH～95%RH	U=0.6%RH		
		Temperature		（5～50）℃	U=0.1℃		
51	Heat flow meter	Heat flux	Calibration Specification of Contact Heat Flow Meters of Absolute method NIMTT(CM) 157	（2～200）W/m^2	U_{rel}=2.8%		
52	*Thermal imagers	Temperature	Calibration Specification for Thermal Imagers JJF 1187	(-20～2000)℃	U=(0.3～4.6)℃		
53	*Infrared Thermometers for Measurement of Human Temperature	Temperature	Calibration Specification of Infrared Thermometers for Measurement of Human Temperature JJF 1107	(22.0～42.0) ℃	U=0.11 ℃		
54	Infrared Ear Thermometer	Temperature	Verification Regulation of Infrared Ear Thermometer JJG 1164	(35.0～42.0) ℃	U=0.04 ℃		
55	*Blackbody radiators in -50℃～+90℃	Temperature	Calibration Specification of Blackbody Radiators in -50℃～+90℃ JJF 1080	（-50～+90）℃	U=(0.15～0.20) ℃		
		Emissivity		0.5～1.0	U_{rel}=0.6%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
56	*Blackbody radiators at the 500K～1000K	Temperature	Verification Regulation of Blackbody Radiators at the 500K～1000K JJG 309	(500～1000)K	U=(0.4～1.3)K		
		Emissivity		0.5～1.0	U_{rel}=0.6%		
57	*Blackbody radiators	Temperature	Calibration specification of Blackbody Radiators NIMTT(CM) 112	（-50～3000）℃	U=(0.07～5.9) ℃		
		Emissivity		0.5～1.0 (Range:-50℃～1600℃)	U_{rel}=0.6%		
58	*Blackbody radiation sources of radiation thermometry from -10℃ to 200℃	Temperature	Calibration Specification for Blackbody Radiation Sources of Radiation Thermometry from -10℃ to 200℃ JJF 1552	（-10～200）℃	U=(0.07～0.4) ℃		
59	*Blackbody radiators for radiation thermometry calibration from -50℃～1000℃	Temperature	Verification Regulation of Reference Blackbody Radiator for Radiation Thermometry from -50℃ to 1000℃ JJG(JUNGONG)162	(-50～1000)℃	U=(0.07～1.5) ℃		
60	*Radiation temperature of 800℃～3000℃ blackbody radiators	Temperature	Verification Regulation of Reference Blackbody Radiators for Radiation Thermometry from 800℃ to 3000℃ JJG(JUNGONG)161	（800～3000）℃	U=(1.2～5.9) ℃		
61	*Radiation thermometers	Temperature	Verification Regulation of Radiation Thermometers JJG 856	(-50～3000)℃	U=(0.04～6.7)℃		
62	Standard tungsten ribbon lamps	Temperature	Verification Regulation of Standard Tungsten Ribbon Lamps JJG 110	(800～2000)℃	U=(1.5～2.8)℃		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
63	Standard photoelectric pyrometers	Temperature	Verification Regulation of Standard Photoelectric Pyrometers JJG 1032	(800～3200)℃	U=(0.9～5.9)℃		
Ⅲ Mechanics measuring instrument							
1	Elevator Overspeed Governor	Speed	Calibration Specification for Elevator Overspeed Governor Testers JJF 1374	(0.1～10.0) m/s	U_{rel}=0.2%		
2	*Speed and mileage meter for motor vehicles	mileage	Verification Regulation of Speed and mileage meter for non-disintegrated cars JJG 750	(1～999)km	U_{rel}=1.0%		
		speed		（1～120）km/h	U_{rel}=3.2%		
3	Test Equipment for Vehicle Speed Radar Measurement Meters	Frequency	Verification Regulation of Test Equipment for Vehicle Speed Radar Measurement Meters JJG 771	(1～40000) Hz	U=0.56Hz		
4	Verification Regulation of Standard Equipment for Taximeter	rotational speed	Verification Regulation of Standard Equipment for Taximeter JJG 738	(50～10000)r/min	U_{rel}=0.12%		
		rotational number		(1～999999)r	U_{rel}=0.03%		
		speed		40km/h	U_{rel}=0.4%		
		noise		(1～500)mm	U_{rel}=0.1%		
5	*Point-to-point Vehicle Speed Monitor Systems for Road Traffic	Mileage	Point-to-point Vehicle Speed Monitor Systems for Road Traffic JJF(Chuan) 109	(1～60000)m	U_{rel}=0.8%		
		Time Interval		(1～99999) s	U_{rel}=0.5%		
6	*Vehicles radar measuring speedometers	Simulation speed	Mobile Radar Vehicle Speed Measurement Device JJG 528,Fixed Radar Vehicle	(0～180) km/h	U=0.7km/h		
		Field speed		(20～100) km/h	U=1.5km/h		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
			Speed Measurement Device JJG 527	(>100～180) km/h	U=2.3km/h		
		Microwave emission frequency		(0～40)GHz	U=2.0MHz		
7	Speed and mileage meter for motor vehicles	speed	Speed and mileage meter for motor vehicles JJG 559	(20～240)km/h	U=1.5km/h		
		mileage		(3～1000)km	U=0.01km		
8	Standard Equipment for Revolution Speed	revolution speed	Verification Regulation of Standard Equipment for Revolution Speed JJG 326	(30～40000)r/min	U_{rel}=0.01%(k=3)		
9	Tachometer	revolution speed	Verification Regulation of Tachometer JJG 105	(20～33000)r/min	U_{rel}=0.02%		
10	*Mixer	revolution speed	Calibration Specification for Mixer for cement paste JJF(Building materials) 104	(0～300)r/min	U=1.7r/min		
		Time		(0～6000)s	U=0.33s		
		Length		(0～300)mm	U=0.33mm		
11	*Weights	mass	Verification Regulation of Weights JJG 99	E_1:1mg～500mg	U=0.0004mg～0.0006mg		
				E_1:1g～500g	U=0.0008mg～0.02mg		
				E_1:1kg～20kg	U=0.04mg～1.1mg		
				E_2:1mg～500mg	U=0.0006mg~0.0008mg		
				E_2:1g～500g	U=0.0012mg~0.024mg		
				E_2:1kg～20kg	U=0.04mg~1.5mg		
				F_1:1mg～500mg	U=0.001mg~0.0012mg		
				F_1:1g～500g	U=0.0016mg~0.026mg		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
				F_1:1kg～20kg	U=0.04mg~1.7mg		
				F_2:1mg～500mg	U=0.001mg~0.0012mg		
				F_2:1g～500g	U=0.0016mg~0.026mg		
				F_2:1kg～500kg	U=0.04mg~1.2g		
				M_1:1mg～500mg	U=0.001mg~0.0012mg		
				M_1:1g～500g	U=0.0084mg~0.44mg		
				M_1:1kg～20kg	U=0.44mg~1.9mg		
				M_2:100m～500mg	U=0.05mg~0.06mg		
				M_2:1g～500g	U=0.08mg~1.0mg		
				M_2:1kg～20kg	U=2.6mg~50mg		
				M_3:1g～500g	U=0.46mg~2.6mg		
				M_3:1kg～20kg	U=5.0mg~0.1g		
12	*Mechanical Balance	Quality	Verification Regulation of Mechanical Balance JJG 98	Max:(0～20)g d=0.01mg	U=0.08mg		
				Max:(0～200)g d=0.1mg	U=0.3mg		
				Max:(0～20)kg d>0.1mg	U=0.72mg~42mg		
13	*Electronic Balance	Quality	Verification Regulation of Electronic Balance JJG 1036	Max:(0～500) g e=0.001mg～0.1mg,(0～5×10^4)e	U=4.4 μ g~0.15mg		
				Max:(0～500) g e=0.001mg～0.1mg,(5×10^4～2×10^5)e	U=11 μ g~0.18mg		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
				Max:(0～500) g e=0.001mg～0.1mg,(＞2×10^5)e	U=7.4 μ g~0.19mg		
				Max:500g～5kg e=1mg～10mg,(0～5×10^4)e	U=0.44mg~0.62mg		
				Max:500g～5kg e=1mg～10mg (5×10^4～2×10^5)e	U=0.57mg~16mg		
				Max:500g～5 kg e=1mg～10mg (＞2×10^5)e	U=1.5mg~18mg		
				Max:(5～20) kg e=20mg～50mg (0～5×10^4)e	U=1.4mg~2.0mg		
				Max:(5～20) kg e=20mg～50mg (5×10^4～2×10^5)e	U=2.0mg～2.4mg		
				Max:(5～20) kg e=20mg～50mg (＞2×10^5)e	U=2.5mg~32mg		
				Max:(20～100) kg (e=0.1g～0.2g) (0～5×10^4)e	U=(0.0047~0.046)g		
				Max:(20～100) kg (e=0.1g～0.2g) (5×10^4～2×10^5)e	U=(0.0061~0.18)g		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
				Max:(20～100) kg (e=0.1g～0.2g) (＞2×10^5)e	U=(0.015~0.18)g		
				Max:(100～3000) kg (e=1g～10g) (0～5×10^4)e	U=(0.20~1.8)g		
				Max:(100～3000) kg(e=1g～10g) (5×10^4～2×10^5)e	U=(0.21~2.2)g		
				Max:(100～3000) kg (e=1g～10g) (＞2×10^5)e	U=(0.32~2.4)g		
14	*Calibration Specification for Mass Comparators	Quality	Calibration Specification for Mass Comparators JJF1326	Max:(0～3000) kg d=0.1 μg～50g	U=0.002mg~11g		
15	*Relative Density Balance for Liquid	Quality	Verification Regulation of Relative Density Balance for Liquid JJG 171	0.001～2.0000	U_{rel}=0.043%		
16	*Table Balances	Quality	Verification Regulation of Table Balances JJG 156	(0～20)kg	U=(0.1～10)g		
17	*Non-self-indicating Weighing Instruments	Quality	Verification Regulation of Non-self-indicating Weighing Instruments JJG 14	Max:(0～100) kg (e=5g～50g) (0～500)e	U=0.69g~7.0g		
				Max:(0～100) kg (e=5g～50g) (500～2000)e	U=0.77g~9.0g		
				Max:(0～100) kg (e=5g～50g) (2000～10000)e	U=0.8g~8.0g		
				Max:(100～1000) kg (e=50g～500g) (0～500)e	U=7.0g~70g		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
				Max:(100～1000) kg (e=50g～500g) (500～2000)e	U=9.0g~89g		
				Max:(100～1000) kg (e=50g～500g) (2000～10000)e	U=9.0g~92g		
				Max:(1～30) t (e=1kg～10kg) (0～500)e	U=90g~0.21kg		
				Max:(1～30) t (e=1kg～10kg) (500～2000)e	U=92g~0.34kg		
				Max:(1～30) t (e=1kg～10kg) (2000～10000)e	U=95g~0.41kg		
18	*Digital Indicating Weighing Instruments	Quality	Verification Regulation of Digital Indicating Weighing Instruments JJG 539	Max:(0～30) kg e=1g～10g (0～500)e	U=0.06g~0.6g		
				Max:(0～30) kg e=1g～10g (500～2000)e	U=(0.06~1.2)g		
				Max:(0～30) kg e=1g～10g (2000～10000)e	U=(0.15~2.0)g		
				Max:(30～1000) kg e=20g～500g (0～500)e	U=1.4g~31g		
				Max:(30～1000) kg e=20g～500g (500～2000)e	U=1.4g~54g		
				Max:(30～1000) kg e=20g～500g (2000～10000)e	U=(1.8~57)g		
				Max:(1～30) t e=1kg～10kg (0~500)e	U=(0.07~1.2)kg		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
				Max:(1～30)t e=1kg～10kg (500～2000)e	U=(0.07~1.4)kg		
				Max:(1～30) t e=1kg～10kg (2000～10000)e	U=(0.10~2.0)kg		
				Max:(30～150) t e=10kg～50kg (0～500)e	U=(1.0~4.2)kg		
				Max:(30～150) t e=10kg～50kg (500～2000)e	U=(1.2~5.3)kg		
				Max:(30～150) t e=10kg～50kg (2000～10000)e	U=(2.1~6.4)kg		
19	*Analogue Indicating Weighing Instruments	Quality	Verification Regulation of Analogue Indicating Weighing Instruments JJG 13	Max:(0～10) kg e=10g～50g (0～50)e	U=(1.0~5.7)g		
				Max:(0～10) kg e=10g～50g (50～200)e	U=(1.3~6.3)g		
				Max:(0～10) kg e=10g～50g (200～1000)e	U=(1.4~6.4)g		
				Max:(10～120) kg e=100g～500g (0～50)e	U=(10~53)g		
				Max:(10～120) kg e=100g～500g (50～200)e	U=(14~61)g		
				Max:(10～120) kg e=100g～500g (200～1000)e	U=(16~65)g		
20	*Automatic Gravimetric Filling Instruments	Quality	Verification Regulation of Automatic Gravimetric Filling Instruments JJG 564	10g～100t	U_{rel}=0.09%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
21	*Continuous Totalizing Automatic Weighing Instruments (Belt Weigher)	Quality	Verification Regulation of Continuous Totalizing Automatic Weighing Instruments (Belt Weigher) JJG 195	(0.2～1000)t/h	U_{rel}=0.09%		
22	*Discontinuous Totalizing Automatic Weighing Instruments	Quality	Verification Regulation of Discontinuous Totalizing Automatic Weighing Instruments(Totalizing Hopper Weighers) JJG 648	0.1t～1t	U_{rel}=0.08%		
				>1t～10t	U_{rel}=0.05%		
				>10t～200t	U_{rel}=0.07%		
23	*Automatic Instruments for Weighing Road Vehicles in Motion	Quality	Verification Regulation of Automatic Instruments for Weighing Road Vehicles in Motion JJG 907	(1～150)t	U_{rel}=0.36%		
24	Digital Weighing Indicators (Weighing Indicators)	Quality	Verification Regulation of Digital Weighing Indicators (Weighing Indicators) JJG 649	n:100～10000	U=0.5d~1d		
25	*Taking Blood Electronic Scale	Quality	Verification Regulation of Taking Blood Electronic Scale JJG 815	Max:(0～600) g d=1g (0～50)d	U=0.12g		
				Max:(0～600) g d=1g (50～200)d	U=0.14g		
				Max:(0～600) g d=1g (＞200)d	U=0.26g		
				Max:(0～1000) g d=2g (0～50)d	U=0.24g		
				Max:(0～1000) g d=2g (50～200)d	U=0.26g		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
				Max:(0～1000) g d=2g (＞200)d	U=0.48g		
				Dynamic:200g	U_{rel}=0.1%		
				Dynamic:400g	U_{rel}=0.1%		
26	*Steelyard Scales	Quality	Verification Regulation of Steelyard Scale JJG 17	Max:(0～500) g e=(1～2)g	U=(0.14~0.28)g		
27	Load Cell	mass	Verification Regulation of Load Cell JJG 669	(10g～1kg)	U_{rel}=0.01%		
				(1kg～1t)	U_{rel}=0.01%		
				(1t～100t)	U_{rel}=0.03%		
				(100～200)t	U_{rel}=0.05%		
28	Interface Tensiometers	Force value	C. S. for Interface Tensiometers JJF 1464	(0.1～100)N	U_{rel}=0.2%		
		Length		(0.1～25)mm	U=(1+L/100) μ m, (L: mm)		
29	Dynamie Force Sensors	Dynamie Force	V. R. of Dynamic Force Sensors JJG 632	200N～10kN	U_{rel}=5.0%		
30	Working Force Measuring Machines for Special Purposes	Force value	C. S. for Working Force Measuring Machines for Special Purposes JJF 1134	(0.5～15)N	U_{rel}=0.1%		
31	Standard Dynamometers	Force value	V. R. of Standard Dynamometers JJG 144	0.1N～10kN	U_{rel}=0.01%		
				(10～3600)kN	U_{rel}=0.03%		
32	Force Transducers	Force value	V. R. of Force Transducers JJG 391	0.1N～10kN	U_{rel}=0.01%		
				(10～3600)kN	U_{rel}=0.03%		
33	Working	Force value	V. R. of Working	0.1N～10kN	U_{rel}=0.01%		

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№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
	Dynamometers		Dynamometers JJG 455	(10～3600)kN	U_{rel}=0.03%		
34	*Deadweight and Lever Force Standard Machines	Force value	V. R. of Force Standard Machines JJG 734	10N～1MN	U_{rel}=0.003%		
35	*Hydraulic-amplification Force Standard Machines	Force value	V. R. of Hydraulic-amplification Force Standard Machines JJG 1117	10N～1MN	U_{rel}=0.003%		
				(＞1～3)MN	U_{rel}=0.01%		
36	*Build-up Force Standard Machines	Force value	V. R. of Build-up Force Standard Machines JJG 1116	10N～1MN	U_{rel}=0.003%		
				(＞1～3)MN	U_{rel}=0.01%		
				(＞3～3.6)MN	U_{rel}=0.03%		
				(＞3.6～10)MN	U_{rel}=0.1%		
				(＞10～30)MN	U_{rel}=0.3%		
37	Hydraulic Jacks	Force value	V. R. of Hydraulic Jacks JJG 621	10N～3.6MN	U_{rel}=0.5%		
38	Measuring Instrumentations for Strain Gauge Transducer	Voltage ratio	C. S. for Measuring Instrumentations for Strain Gauge Transducer JJF 1469	±(0.1~100)mV/V	U_{rel}=0.0005%		
39	*Tension,Compression and Universal Testing Machines	Force value	V. R. of Tension,Compression and Universal Testing Machines JJG 139,Metallic materials — Calibration and verification of static uniaxial testing machines — Part 1:	0.1N～300kN	U_{rel}=0.2%		
				(＞0.3～30)MN	U_{rel}=0.3%		
		Coaxality		0.1%～40%	U=2%		
		Displacement		(0.05～1)mm	U=1μm		
				(1～500)mm	U_{rel}=0.1%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		Deformation	Tension/compression testing	(0.1～1)mm, (Extensometer)	U=1μm		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
			machines — Calibration and verification of the force-measuring system ISO 7500-1,Metallic materials — Calibration and verification of static uniaxial testing machines — Part 1: Tension/compression testing machines — Calibration and verification of the force-measuring system BS EN ISO 7500-1,Metallic materials -- Verification of static uniaxial testing machines -- Part 2: Tension creep testing machines -- Verification of the applied force ISO 7500-2,Metallic materials -- Verification of static uniaxial testing machines -- Part 2: Tension creep testing machines -- Verification of the applied force DIN EN ISO 7500- 2,Standard Practices for Force Verification of Testing Machines ASTM E4,Standard Practice for Verification of Testing Frame and Specimen Alignment Under Tensile and Compressive Axial Force Application ASTM E1012,Standard Practices for Verification of Displacement Measuring Systems and	(1～300)mm, (Extensometer)	U_{rel}=0.1%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
40	*Flexure Testing Machines	Force value	V. R. of Flexure Testing Machines JJG 476	0.1N～300kN	U_{rel}=0.2%		
				(＞0.3～30)MN	U_{rel}=0.3%		
41	*Electronic Universal Testing Machine	Force value	V. R. of Electronic Universal Testing Machine JJG 475,Metallic materials — Calibration and verification of static uniaxial testing machines — Part 1: Tension/compression testing machines — Calibration and verification of the force-measuring system ISO 7500-1,Metallic materials —	0.1N～300kN	U_{rel}=0.2%		
				(＞0.3～30)MN	U_{rel}=0.3%		
		Coaxality		0.1%～40%	U=2%		
		Displacement		(0.05～1)mm	U=1μm		
				(1~500)mm	U_{rel}=0.1%		
		Speed		(0.05~500)mm/min	U_{rel}=0.2%		
		Deformation		(0.1～1)mm, (Extensometer)	U=1μm		

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№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
			Calibration and verification of static uniaxial testing machines — Part 1: Tension/compression testing machines — Calibration and verification of the force-measuring system BS EN ISO 7500-1,Metallic materials -- Verification of static uniaxial testing machines -- Part 2: Tension creep testing machines -- Verification of the applied force ISO 7500-2,Metallic materials -- Verification of static uniaxial testing machines -- Part 2: Tension creep testing machines -- Verification of the applied force DIN EN ISO 7500- 2,Standard Practices for Force Verification of Testing Machines ASTM E4,Standard Practice for Verification of Testing Frame and Specimen Alignment Under Tensile and Compressive Axial Force Application ASTM E1012,Standard Practices for Verification of Displacement Measuring Systems and Devices Used in Material Testing Machines ASTM E2309/E2309M,Standard Practices for Verification of	(1~300)mm, (Extensometer)	U_{rel}=0.1%		

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№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
42	*High-Temperature Creep and Stress-Rupture Testing Machines	Force value	V. R. of High-Temperature Creep and Stress-Rupture Testing Machines JJG 276,Metallic materials — Calibration and verification of static uniaxial testing machines — Part 1: Tension/compression testing	0.1N～300kN	U_{rel}=0.2%		
				(＞0.3～30)MN	U_{rel}=0.3%		
		Coaxality		0.1%～40%	U=2%		
		Time		(0~86400)s	U=0.1s		
		Deformatin		(0.1～1)mm, (Extensometer)	U=1μm		

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№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
			machines — Calibration and verification of the force-measuring system ISO 7500-1,Metallic materials — Calibration and verification of static uniaxial testing machines — Part 1: Tension/compression testing machines — Calibration and verification of the force-measuring system BS EN ISO 7500-1,Metallic materials -- Verification of static uniaxial testing machines -- Part 2: Tension creep testing machines -- Verification of the applied force ISO 7500-2,Metallic materials -- Verification of static uniaxial testing machines -- Part 2: Tension creep testing machines -- Verification of the applied force DIN EN ISO 7500- 2,Standard Practices for Force Verification of Testing Machines ASTM E4,Standard Practices for Verification of Displacement Measuring Systems and Devices Used in Material Testing Machines ASTM E2309/E2309M,Standard Practice for Verification of Testing Frame and Specimen	(1~300)mm, (Extensometer)	U_{rel}=0.1%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
43	*Electro-hydraulic Servo Universal Testing Machines	Force value	V. R. of Electro-hydraulic Servo Universal Testing Machines JJG 1063	10N～3MN	U_{rel}=0.2%		
44	*Working Force Measuring Machines for Special Purposes	Force value	C. S. for Working Force Measuring Machines for Special Purposes JJF 1134	0.1N～300kN	U_{rel}=0.2%		
				(＞0.3～30)MN	U_{rel}=0.3%		
45	*Pendulum Impact Testing Machines	Length	V. R. of Pendulum Impact Testing Machines JJG 145	(0～800)mm, (Center distance)	U=0.33mm		
		Energy		(0.1～300)J	U_{rel}=0.33%		
46	Calibration Instrument for Torque Wrenches	Torque	V. R. of Calibration Instrument for Torque Wrenches JJG 797	(0.1～1)Nm	U_{rel}=0.12%		
				(＞1～3000)Nm	U_{rel}=0.1%		
47	Torque Wrenches	Torque	V. R. of Torque Wrenches JJG 707	(0.4～3000)Nm	U_{rel}=0.3%		
48	*Electric and Pneumatic Torque Wrenches	Torque	C. S. for Electric and Pneumatic Torque Wrenches JJF 1610	(2～2500)Nm	U_{rel}=0.3%		
49	*Torsion Testing Machines	Torque	V. R. of Torsion Testing Machines JJG 269	(2～10000)Nm	U_{rel}=0.05%		
50	Static Torque Measuring Devices	Torque	V. R. of Static Torque Measuring Devices JJG 995	(0.1～50)Nm	U_{rel}=0.12%		
				(＞50～5000)Nm	U_{rel}=0.06%		
51	Tacho-Torque Measuring Device	Torque	V. R. of Tacho-Torque Measuring Device JJG 924	(0.1～50)Nm	U_{rel}=0.12%		
				(＞50～5000)Nm	U_{rel}=0.06%		
		Rotating velocity		(50～10000)r/min	U_{rel}=0.12%		
52	*Centrifuge	Rotating velocity	Calibration Specification for Centrifuges NIMTT(CM) 106	(20～33000)r/min	U_{rel}=0.02%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		Temperature		(-20～40)℃	U=0.8℃		
53	Dynamic Elastic Modulus Measurement Instruments	Frequency	C. S. for Dynamic Elastic Modulus Measurement Instruments JJF 1373	(5～5000)Hz	U_{rel}=1.0%		
54	Equipment of Power Measuring	Rotating velocity	V. R. of Equipment of Power Measuring JJG 653	Non-contact: (50～10000)r/min	U_{rel}=0.12%		
		Torque		Non-contact: (1～2500)Nm	U_{rel}=0.2%		
		Driving force		Contact: (1～10^4)N	U_{rel}=0.6%		
		Speed		Contact: (1～200)km/h	U_{rel}=0.2%		
55	Diamond Pressure Head	Angle	Calibration Specification for Diamond Pressure Head NIMTT（CM）025	(90～140)°	U=2′		
		Length		((0.2～10)mm	U=1.2 μ m		
56	*MetallicRockwell HardnessTestingMachines	Hardness	Verification Regulation of Metallic Rockwell Hardness Testing Machines （(ScalesA,B,C,D,E,F,G,H,K,N,T) JJG 112	(20～88)HRA	U=0.6HRA		
				(20～100)HRBW	U=0.6HRBW		
				(20～70)HRC	U=0.4HRC		
				(12～93)HRN/TW	U=(1.0～1.5)HRN/TW		
		Angle		90° ～140°	U=0.25°		
		Length		(0.2～10)mm	U=1.2um		
		Force		(0.1～1.5)kN	U_{rel}=0.3%		
57	MetallicRickwellHardnessReferenceB	Hardness	Verification Regulation of Metallic Rockwell Hardness Reference Blocks(Scales	(20～88)HRA	U=0.5HRA		
				(20～100)HRBW	U=0.5HRBW		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
	locks		A,B,C,D,E,F,G,H,K,N,T) JJG 113	(20～70)HRC	U=0.5HRC		
				(89～91)HR15N	U=0.64HR15N		
				(74～80)HR30N	U=0.64HR30N		
				(42～54)HR30N	U=0.75HR30N		
				(32～61)HR45N	U=0.80HR45N		
				(88～93)HR15TW	U=0.76HR15TW		
				(70～82)HR30TW	U=0.76HR30TW		
58	Brinell Hardness Reference Blocks	Hardness	Verification Regulation of Metallic Brinell Hardness Reference Blocks JJG 147	(8～650)HBW(S)	U_{rel}=(0.8~1.0)%		
59	*Brinell Hardness Testers	Hardness	Verification Regulation of Metallic Brinell Hardness Testers JJG 150	(8～125) HB	U_{rel}=1.3 %		
				(125～225)HB	U_{rel}=1.0 %		
				(225～650)HB	U_{rel}=0.9 %		
60	Vickers Hardness Reference Blocks	Hardness	Verification Regulation of Vickers Hardness Reference Blocks JJG 148	(5～225)HV	U_{rel}=2.1 %		
				(225～400)HV	U_{rel}=1.3 %		
				(400～1000)HV	U_{rel}=1.6 %		
61	*Vickers Hardness Testers	Hardness	Verification Regulation of Metallic Vickers Hardness Testers JJG 151	(5～225)HV	U_{rel}=2.7%		
				(225～400)HV	U_{rel}=2.1%		
				(400～1000)HV	U_{rel}=2.3 %		
62	Epuotip Hardness	Hardness	Verification Regulation of Epuotip Hardness Testers JJG	(465～847)HLD	U=5HLD		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
	Reference Blocks		747	(465～847)HLD	U=7HLD		
				(448～645)HLG	U=5HLG		
				(448～645)HLG	U=7HLG		
63	ShoreHardness Reference Blocks	Hardness	Verification Regulation of Shore Hardness Reference Blocks JJG 347	(91～99)HSD	U=1.1HSD		
				(56～64)HSD	U=0.9HSD		
				(26～34)HSD	U=0.8HSD		
64	Shore Hardness testers	Hardness	Verification Regulation of Shore Hardness tester JJG 346	(26～99)HSD	U=2.0HSD		
65	Shore A Durometers	Force	Verification Regulation of Shore A Durometers JJG 304	(0～100)HA	U=1.0HA		
		Length		(0.79±0.03)mm	U=0.1mm		
		Angle		0° ～360°	U=0.5°		
66	Measuring Instrument for Cement Bright Degumming Equipment	Frequency	Verification Regulation of Measuring Instrument for Cement Bright Degumming Equipment JJG 974	(20～100)Hz	U_{rel}=1.0%		
		Acceleration		(0.1～1000)m/s^2	U_{rel}=3.0%		
		Displacement		(10～1000) μm	U_{rel}=3.0%		
67	Acceleration Sensor	Acceleration	Verification Regulation of Piezoelectrle Accelerometer JJG 233	(1～300)m/s^2，160Hz	U_{rel}=1.0%		
				(1～300)m/s^2，(10～2000)Hz	U_{rel}=2.0%		
				shock:(200～14000)m/s^2	U_{rel}=5.0%		
68	Measuring Instrument for Shock	Acceleration	Calibration Specification for Shock Measuring Instruments JJF 1943	(200～14000)m/s^2	U_{rel}=5.0%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		Time		(1～100) ms	U_{rel}=3.0%		
69	*Calibration Set of Shock Acceleration by lmpact Force	Acceleration	Verification Regulation of Calibration Set of Shock Acceleration by lmpact Force JJG 791	(0.5～1000)m/s^2	U_{rel}=3.0%		
70	Dynamic Balance Measuring Instruments	Acceleration	Calibration Specification for Dynamic Balance Measuring Instruments JJF1570	(0.1～100)m/s^2，(1Hz～400Hz)	U_{rel}=3.0%		
		Phase		0°～360°，（1Hz～400Hz）	U=3.0°		
		revolution speed		(30～30000)r/min	U_{rel}=0.02%		
71	*Quantitative Filling Machine for Liquit State Material	Weight	Verification Regulation of Quantitative Filling Machine for Liquid Material JJG 687	Set the heavy type:(0～20)kg	U=17g		
72	Electromagnetic Velocity Transducer	Velocity	Verification Regulation of Electromagnetic Velocity Transducer JJG 134	(0.1～50)cm/s，(10～2000)Hz	U_{rel}=3.0%		
73	*Verification regulation for cement Mortar mixer complying	revolution speed	Calibration Specification for Mixer for Mixing Mortars JJF （Building materials） 123	(0～300)r/min	U=1.7r/min		
		time		(0～6000)s	U=0.33s		
		Length		(0～300)mm	U=0.33mm		
74	High Strength Bolt Testers	torque	Calibration Specification for High Strength Bolt Testers JJF 1478	（50～3000）Nm	Urel=0.2%		
75	*Digital Electrodynamic Vibration Testing System	Frequency	Digital Electrodynamic Vibration Testing System JJG 948	(5～5000)Hz	U_{rel}=1.0%		
		Acceleration		(0.1～1000)m/s^2	U_{rel}=5.0%		

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№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		Displacement		(10～1000) μm	U_{rel}=5.0%		
76	*Cement mortar specimen jolting table	Time	C.S.for cement mortar specimen jolting table compiying with ISO 679 JJF(Building materials) 124	(0～6000)s	U=0.33s		
		displacement		(0～300)mm	U=0.33mm		
77	Verification Regulation of Vibration meters	Frequency	Verification Regulation of Vibration meters JJG 676	(10～2000)Hz	U_{rel}=0.2%		
		Acceleration		(0.1～300) m/s^2	U_{rel}=2.0%		
		Velocity		(0.1～50)cm/s	U_{rel}=2.0%		
		Displacement		(0.01～10)mm	U_{rel}=2.0%		
78	*Verification Regulation of Mechanical Vibration Genetator for Testing	Frequency	Verification Regulation of Mechanical Vibration Genetator for Testing JJG 189	(5～5000)Hz	U_{rel}=1.0%		
		Acceleration		(0.1～1000)m/s^2	U_{rel}=5.0%		
		Displacement		(10～1000) μm	U_{rel}=5.0%		
79	*Standard Vibrators	Frequency	Verification Regulation of Standard Vibrators JJG 298	(0.1～5000)Hz	U_{rel}=1.0%		
		Acceleration		(0.1～1000)m/s^2	U_{rel}=3.0%		
		Displacement		(10～1000) μm	U_{rel}=3.0%		
80	*Hydraulic Vibration Testing System	Frequency	Hydraulic Vibration Testing System JJG 638	(0.1～5000)Hz	U_{rel}=1.0%		
		Acceleration		(0.1～1000)m/s^2	U_{rel}=5.0%		
		Displacement		(10～1000) μm	U_{rel}=5.0%		

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№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
81	Vibration Displacement Transducer	Displacement	Vibration Displacement Transducer JJG 644	Dynamic：(0.01～10)mm，(10～2000)Hz	U_{rel}=3.0%		
				Static：(0.01～300)mm	U_{rel}=0.1%		
82	Charge Amplifiers	Charge	Charge Amplifiers JJG 338	(0.1～10^4)pC	U_{rel}=0.05%		
83	Resistance Strain Gauge Indicators	Frequency	Resistance Strain Gauge Indicators JJG 623	10Hz～500kHz	U=0.5dB		
		Strain		(0.1～10^5) μ ε	U_{rel}=0.1%		
84	Calibration Specification for IEPE Amplifiers	Voltage	Calibration Specification for IEPE Amplifiers JJF 1269	(0.01～10)V	U_{rel}=0.05%		
85	Dynamical Signal Analyzer	Frequency	Dynamical Signal Analyzer JJG 834	(1～200k)Hz	U_{rel}=1×10^{-4}		
		Voltage		(0.02～10)V	U_{rel}=0.2%		
Ⅳ Acoustics measuring instrument							
1	Standard Sound Source	Sound Power Level	V. R. of Reference Sound Sources JJG 277	(36～148)dB，(100～500) Hz	U=1.0dB		
				(36～148)dB，(＞500～2500) Hz	U=0.5dB		
				(36～148)dB，(＞2.5～10) kHz	U=0.8dB		
2	Sound Calibrators	SPL	V.R. of Sound Calibrators JJG 176	(30～130)dB，(31.5Hz～16kHz)	U=0.50dB		
				94dB，1kHz	U=0.12dB		
				114dB，1kHz	U=0.15dB		
				124dB，250Hz	U=0.10dB		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		Frequency		20Hz～20kHz	U_{rel}=0.01%		
		Distortion		0.05%～100%	U=10%rdg		
3	Working Standard Microphoes	Frequency response of Sensitivitylevel	V.R. of Working Standard Microphones(Electrostatic Actuator Method) JJG 175,V.R. of Working Standard Microphones(Coupler Comparison Method) JJG 1019,V.R. of Working Standard Microphones (Free-field Comparison Method) JJG 1172	(-60～20)dB，20Hz～20kHz	U=0.5dB		
				(-60～20)dB，20Hz～20kHz	U=0.2dB		
		Sensitivitylevel		-80dB～0dB	U=0.15dB		
		Free-field Sensitivity Level		(-80～0)dB，20 Hz～20 kHz	U=0.4dB		
				(-80～0)dB，(20 ～40) kHz	U=2.0dB		
4	Octave andFraction OctaveBand Filter	Relative Attenuation	V.R. of Octave-Band and Fractional-Octave-Band Filters JJG 449	Stopband：(0～130)dB	U=0.08dB		
				Passband：(0～130)dB	U=0.05dB		
5	LaboratoryStandardMicrophones	Free-field Sensitivity Level	V.R. of Laboratory Standard Microphones(Free-field Reciprocity Method) JJG 482,V.R. of Laboratory Standard Microphones(Coupler Reciprocity Method) JJG 790	-80dB～0dB，(1～20)kHz	U=0.16dB		
				-80dB～0dB，(>20～25)kHz	U=0.20dB		
		Pressure FieldSensitivityLevel		-80dB～0dB，(20～31.5)Hz	U=0.05dB		
				-80dB～0dB，(63～4000)Hz	U=0.04dB		
				-80dB～0dB，8kHz	U=0.05dB		
				-80dB～0dB，10kHz	U=0.06dB		
				-80dB～0dB，25kHz	U=0.11dB		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
6	Personal SoundExposureMeters	PersonalSoundExposureMeters	V.R.of Personal Sound Exposure Meters JJG 980	(0.3～100)Pa²h，(20～800)Hz	U_{rel}=11%		
				(0.3～100)Pa²h，(1～4)kHz	U_{rel}=9%		
				(0.3～100)Pa²h，(5～8)kHz)	U_{rel}=14%		
7	Measurement Instruments of SoundIntensity	Sound Intensity Level	V.R. of The Measurement Instruments of Sound Intensity JJG 992	30dB～130dB，45Hz～7.1kHz	U=0.5dB		
8	*Anechoic Rooms and Hemi-anechoic Rooms	SPL	C. S. for Acoustic Performance of Anechoic Rooms and Hemi-anechoic Rooms JJF 1147	0dB～130dB，20Hz～20kHz	U=0.8dB		
9	*Reverberation Rooms	Reverberation Time	C. S.for Acoustic Performance of Reverberation Rooms JJF 1143	0.05ms～30s	U_{rel}=8.7%		
10	Sound Level meters	SPL	Verification Regulation of Sound Level Meters JJG 188	(40～120)dB，(10～200)Hz	U=0.4dB		
				(40～120)dB，(250 Hz～1.25kHz)	U=0.3dB		
				(40～120)dB，(1.6～10)kHz	U=0.5dB		
				(40～120)dB，(12.5 ～20)kHz	U=0.9dB		
				(120～160)dB，100Hz	U=0.5dB		
		Time Weighing		F:(1～50)dB/s，4kHz	U=3.0dB/s		
				S:(1～50)dB/s，4kHz	U=0.2dB/s		
		Burst Response		(-40～10)dB，(0.25～1000)ms	U=0.2dB		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		Level Linearity		(10～160)dB,(10Hz～20kHz)	U=0.2dB		
11	Psophometers	Impedance	Calibration Specification forCalibration Specification for Psophometers JJF 1167	600 Ω	U=0.7 Ω		
				10k Ω	U=12 Ω		
				10M Ω	U=10k Ω		
		Level		(-90～40)dB	U=0.05dB		
12	Noise Level Statistical Analyzers	SoundPressureLevel	Verification Regulation of Noise Level Statistical Analyzers JJG 778	(40～140)dB，(10～200)Hz	U=0.4dB		
				(40～140)dB，(250Hz～1.25kHz)	U=0.3dB		
				(40～140)dB，(1.6～10)kHz	U=0.5dB		
				(40～140)dB，(12.5 ～20)kHz	U=0.9dB		
13	Audio-frequency Signal Generator	Amplitude Frequency Characteristics	Verification Regulation of Audio-frequency Signal Generator JJG 607	-80dB～20dB，(20Hz～20kHz)	U=0.2dB		
				-80dB～20dB，(＞20～200)kHz	U=0.3dB		
14	Electro-acoustical Measurement Instruments for Telephone Set	Frequency Response	Verification Regulation of Electro-acoustical Measurement Instruments for Telephone Set JJG 869	(0～10)dB，(100Hz～8kHz)	U=0.4dB		
15	Measuring Amplifiers	Sensitivity	Calibration Specification for Measuring Amplifiers JJF 1157	-26.0dB，1kHz	U=0.05dB		
		Frequency Weighting		-80dB～20dB，10Hz～20kHz	U=0.08dB		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		Frequency Response		(-80～20)dB，2Hz～200kHz	U=0.08dB		
16	Preamplifiers	Frequency Response	Calibration Specification for Microphone Preamplifiers JJF 1137	(-20～20)dB，10Hz～50kHz	U=0.09dB		
		Transmission Lost		-20dB～20dB，10Hz～50kHz	U=0.09dB		
17	Audio-frequency Power Amplifiers	Frequency Response	Calibration Specification for Audio-frequency Power Amplifiers JJF 1200	(-20~40)dB，10Hz～20kHz	U=0.05dB		
		Distortion		0.05%～100%	U=10%rdg		
18	Electrostatic Actuators	Response Level	Calibration Specification for Electrostatic Actuators JJF 1293	WS1:-60dB～20dB，DC～20kHz	U=0.06dB		
				WS2:-60dB～20dB，DC～20kHz	U=0.10dB		
19	Tone Burst Generators	Duration	Verification Regulation of Tone Burst Generators JJG 199	0.1 ms～5 s	U_{rel}=0.5%		
		Repeat Cycle		0.1 ms～5 s	U_{rel}=0.5%		
20	Sonic Belt Tension Meters	Frequency	Calibration Specification for Sonic Belt Tension Meters JJF 1216	(0～100)Hz	U=0.3Hz		
				(＞100～1000)Hz	U=3.0Hz		
				(＞1000～20000)Hz	U_{rel}=0.3%		
21	Measurement Instruments of Otoacoustic Emissions	SPL	Calibration Specification for Measurement Instruments of Otoacoustic Emissions JJF 1289	(30～90)dB	U=1.0dB		
		Frequency		0.5kHz～8kHz	U_{rel}=0.01%		
		Distortion		(0.05～100)%	U=10%		
22	Impedance Audiometers	Hearing Level	Verification Regulation of Audiometric Equipment—Instruments for the Measurement of Aural	-20dB～100dB，250Hz～8kHz	U=0.9dB		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		SpoundPressureLevel	Acoustic Impedance/Admittance JJG 991	0dB～130dB，(226Hz、678Hz、1000Hz)	U=0.8dB		
23	*Audiometry Rooms	SPL	Calibration Specification for Acoustic Performance of Audiometry Rooms JJF 1191	0dB～60dB，20Hz～20kHz	U=0.8dB		
24	Pure-tone Audiometer	Frequency	Verification Regulation of Audiological Equipment Pure-tone Audiometers JJG 388	(100～20000)Hz	U_{rel}=0.01%		
		Distortion		0.05%～100%	U=10%rdg		
		RETSPL		(-10～110)dB，(125～4000)Hz	U=1.0dB		
				(-10～110)dB，(6000～12500)Hz	U=1.5dB		
		RETFL		(-10～70)dB，(250～4000)Hz	U=1.5dB		
				(-10～70)dB，(6000～8000)Hz	U=2.0dB		
25	*Anechoic Watertank	Echoic interference value	Calibration Specification for Acoustic Characteristics of Anechoic Water Tank JJF 1146	(80～160)dB，(500Hz～200kHz)	U_{rel}=2.4%		
26	Standard hydrophone	Sound Pressure Sensitivity Level	Standard Hydrophones in the Frequency Range 0.5 MHz to 5 MHz (Two-transducer Reciprocity Method) JJG	(-220～-160)dB，1Hz～1kHz	U=0.9dB		
				(-270～-180)dB，(＞1～100)kHz	U=0.9dB		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
			1070,Standard Hydrophones in the Frequency Range 1kHz to 1 MHz JJG 1017,Standard Hydrophones in the Frequency Range 1 Hz to 2 kHz(Closed-chamber Comparison Method) JJG 340	(-270～-180)dB，＞100kHz～5MHz	U=1.1dB		
27	Equipment of Ultrasonic Inspection Detectors	Freguency	C.R for Equipment of Ultrasonic Inspection Detectors NIMTT(CM) 097	(0.5～15)MHz	U_{rel}=0.07%		
		Attenuation		(0～81)dB	U=0.06dB		
		Voltage		(0.1～10)V	U_{rel}=4.0%		
28	Acoustic Detector	Time oftransmitted sound	Verification Regulation of Acoustic Detector JJG 990	1 μs～10s	$U_{rel}=6.7\times10^{-4}\times(0.047/d^2+1.6^2)^{0.5}\times100\%$		
29	Ultrasonic Standard Test Tube	Length	Ultrasonic Standard Test Tube NIMTT（CM）041	(1～400)mm	U=(1.5+L) μm	L is the length，m	
30	Air Ultrasound Measuring Instruments	Frequency	Calibration Specification for Air Ultrasound Measuring Instruments JJF 1504	100Hz～50kHz	U=2.5dB		
31	Acoustic Emission Instrumentation	Sound pressure level	Calibration Specification for Acoustic Emission Instrumentation JJF 1505	(0～60)dB	U=0.4dB		
		frequency		10Hz～100MHz	U_{rel}=5%		
32	Environmental Noise Automatic Monitors	SPL	Verification Regulation of Environmental Noise Automatic Monitors JJG 1095	(0～120)dB，((31.5～2k)Hz	U=0.5dB		
				(0～120)dB，(＞2k～16k)Hz	U=0.9dB		
		Time Weighing		(60～120)dB，(10Hz～20kHz)	U=0.3dB/s(S)；U=1.5dB/s(F)		

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		Burst Response		(60～120)dB	U=0.2dB		
		Level Linearity		(10～160)dB	U=0.2dB		
33	Multi-Channels Sound Analyzers	SPL	Calibration Specification for Multi-Channels Sound Analyzers JJF 1288	(10～160)dB，(10Hz～20kHz)	U=0.2dB		
		Level Linearity		(10～150)dB	U=0.2dB		
				(0～50)dB	U=0.2dB		
		Time Weighing		(60～120)dB，(10Hz～20kHz)	U=0.3dB/s(S)； U=1.5dB/s(F)		
		amplitude frequency characteristics		(10～160)dB，(10Hz～20kHz)	U=0.2dB		
		Frequency		0%～100%	U=0.05%		
		Amplitude		0%～100%	U=0.3%		
		requency spectrum features		(10～160)dB，(10Hz～20kHz)	U=0.2dB		
34	High Sound Pressure Measuring Microphones	Level Linearity	Calibration Specification of the Upper Limit of Dynamic Range of High Sound Pressure Measuring Microphones JJF 1738	(-2.0～2.0)dB	U=0.2dB		
		Total harmonic distortion		0%～20%	U=0.8%		
		upper limit for dynamic rang		0dB～171dB	U=2dB		
35	Elastic Wave-Based Measurement Apparatus	time indication	Calibration Specification for Elastic Wave-Based Measurement Apparatus NIMTT(CM) 031	0.1%～100%	U_{rel}=0.3%		

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№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		voltage amplitude		0.1%～100%	U_{rel}=2.0%		
36	Ultrasonic Flaw Detectors by Time-of-Flight Diffraction	Receiver bandwidth	Calibration Specification for Ultrasonic Flaw Detectors by Time-of-Flight Diffraction JJF 1447	100kHz～1MHz	U_{rel}=2.5%		
37	Acoustic Emission Sensors	Sensitivity Level	Calibration Specification for Acoustic Emission Sensors(Comparative Method) JJF 1337	(40～120)dB，100kHz～1MHz	U=3.1 dB		
38	Ultrasonnic Flaw Detector for Rail	attenuator	Calibration Specification for Ultrasonnic Flaw Detector for Rail JJG(铁道)130	40dB	U=0.5dB		
39	*Ultrasonic Flaw Detectors	Attenuation	V.R. for Ultrasonic Flaw Detectors JJG 746	(0～81)dB，(0.5～15)MHz	U=0.2 dB		
		Electrical noise		(0～100%)	U=5.0%		
		horizontal linearity		(0～100)%，(0.5～15)MHz	U=0.2%		
		Voltage		(-4×10^8～4×10^8) μV，(0.5～15)MHz	U=40 μV		
		Dynamic range		(0～81)dB，(0.5～15)MHz	U=3 dB		
		Linearity of Vertical Display		(0～100)%，(0.5～15)MHz	U=0.7%		
40	*Ultrasonic Phased Array Flaw Detectors	length	Calibration Specification for Ultrasonic Phased Array Flaw Detectors JJF 1338	(0.1～55)mm	U_{rel}=2.0%		
		angle		angle:(0.1～90)°	U_{rel}=2.0%		
41	Transducers of Ultrasonic flaw	requency	Calibration Specification for Transducers of Ultrasonic	(0.5～15)MHz	U_{rel}=2.3%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
	detector	relative pulse echo	flaw detector JJF 1294	(-100～-0.1)dB	U_{rel}=1.5%		
		Length		(0.1～50)mm	U_{rel}=2.1%		
		angle		35°～85°	U_{rel}=3.6%		
42	Ultrasonic Power Meter for Mill watt Level	power	Verification Regulation of Ultrasonic Power Meter for Milliwatt Level JJG665	(1～5)mW	U_{rel}=7%		
		power		(5～100)mW	U_{rel}=5.8%		
		power		(100～150)mW	U_{rel}=10%		
43	Ultrasound Phantoms	Sound velocity	Calibration Specification for Ultrasound Phantoms JJF 1556	(1000～3000)m/s	U_{rel}=0.3%		
		Attenuation		(0.1～80)dB/cm	U_{rel}=6%		
44	*Ultrasonic Source for Medical Ultrasonic Diagnostic Equipment	sound intensity	V.R. of Ultrasonic Source for Medical Ultrasonic Diagnostic Equipment JJG 639	(1～10)mW/cm^2	U_{rel}=11%		
		definition		(0～190)mm	U=0.1mm		
Ⅴ Electromagnetism measuring instrument							
1	Withstanding Voltage Tester	AC Voltage	Withstanding Voltage Tester JJG795,C. S. of Withstanding Voltage Tester （15kV~100kV) NIMTT(CM) 022	(0.1～100)kV	U_{rel}=0.05%		
		DC Voltage		(0.1～100)kV	U_{rel}=0.1%		
		Breakdown current		0.1mA～2A	U_{rel}=0.1%		
		Time		0.1s～999s	U_{rel}=1.0%		
2	High VoltageElectrostatic Voltmeter	AC Voltage	High Voltage Electrostatic JJG494	(0.1～100)kV,50Hz	U_{rel}=0.26%		
		DC Voltage		(0.1～100)kV	U_{rel}=0.16%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
3	Digitalhigh-Voltage meter	AC Voltage	Digital high-voltage meter verification regulation JJG(川)101	(0.1～300)kV, 50Hz	U_{rel}=0.05%		
		DC Voltage		(0.1～300)kV	U_{rel}=0.1%		
4	High Voltage Divider at Power Frequency	Voltage	Verification Regulation of High Voltage Divider at Power Frequency JJG496	(0.1～300)kV, 50Hz	U_{rel}=0.05%		
5	DC High VoltageDividers	Voltage	DC High Voltage Dividers JJG1007	(0.1～300)kV	U_{rel}=0.1%		
6	high-voltage prob	DC Voltage	C.S.of high-voltage prob NIMTT(CM) 020	(0.1～100)kV	U_{rel}=0.1%		
		AC Voltage		(0.1～100)kV,50Hz	U_{rel}=0.05%		
		SpikeVoltage		(1～15)kV	U_{rel}=2.0%		
7	Industrial frequency,dc spark machine	voltage	vorification porcedure for test equipmet of rubber plastic wire and cable-part 10:spark tester JB/T 4278.10	(1～50)kV	U_{rel}=0.5%		
8	Contactless electrostatic voltmeter	voltage	Contactless electrostatic voltmeter calibration specifications JJF 1517,Contactless electrostatic voltmeter calibration specifications GJB/J 5972	(0.1～20)kV	U_{rel}=0.1%		
9	*Voltage Transformers of MeasUring Service	Difference value	V.R. of Voltage Transformers of MeasUring Service JJG 314	20%Un:(100/ √3～500000/ √3)/(100～100/ √3)V	U=2.4×10^{-5}		
				50%Un:(100/ √3～500000/ √3)/(100～100/ √3)V	U=1.8×10^{-5}		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
				80%～120%Un:(100/√3～500000/√3)/(100～100/√3)V	U=1.2×10^{-5}		
		Phase difference		20%Un:(0～0.29)rad	U=2.4×10^{-5}rad		
				50%Un:(0～0.29)rad	U=1.8×10^{-5}rad		
				80%～120%Un:(0～0.29)rad	U=1.2×10^{-5}rad		
10	*Instrument Transformers in Power System	Difference value	V. R. of Instrument Transformers in Power System JJG1021,Instrument Transformers—Part 3:Current Transformers in Power System JJG 1189.3,Instrument Transformers—Part 4:Voltage Transformers in Power System JJG 1189.4	（80～120）%Un:(100/√3～500000/√3)/(100～100/√3)V	U=0.01%		
		Phase difference		（80～120）%Un:(0～999.9)’	U=0.8’		
		Difference value		1%In:(0.1～10000)/(1、5)A	U=0.02%		
				5%In:(0.1～10000)/(1、5)A	U=0.01%		
				20%～120%In:(0.1～10000)/(1、5)A	U=0.01%		
		Phase difference		1%In:(0～999.9)’	U=1.2’		
				5%In:(0～999.9)’	U=1.0’		
				20%～120%In:(0～999.9)’	U=0.8’		
11	Inductive Voltage Divider	Difference value	V.R of Inductive Voltage Divider JJG 244	（10～1000）/（10～200）V	U=1.2×10^{-5}		
		Phase difference		（0~0.29)rad	U=1.2×10^{-5}rad		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
12	Standard Cell	Electromotive force	Verification Regulation of Standard Cell JJG 153	1.018V(rating voltage)	$U_{rel}=2\times10^{-7}$		
13	Standard Cell	Electromotive force	Verification Regulation of Working Sandard of DC Electromotive Force JJG 719	1.018V(rating voltage)	$U_{rel}=3\times10^{-8}$		
14	DC Volt Ratio Box	Voltage Ratio	Verification Regulation of The DC Resistive Volt Ratio Box JJG531	10:1，10V～1.0 kV	$U_{rel}=5\times10^{-5}$		
				100:1，10V～1.0 kV	$U_{rel}=2\times10^{-5}$		
				200:1，10V～1.0 kV	$U_{rel}=7\times10^{-5}$		
				500:1，10V～1.0 kV	$U_{rel}=7\times10^{-5}$		
15	Residual Current Operated Protective Decice Operated Characteristic Tester	DC Current	Calibtation Specification for Residual Current Operated Protective Device Operated Chataceristic Tester JJF1283	(3～1500)mA	$U_{rel}=0.02\%$		
		AC Current		(3～1500)mA.(40～65)Hz	$U_{rel}=0.05\%$		
		Time		(0.01～999999)ms	U=0.02ms～3.9ms		
16	Leakage current tester	voltage	V.R. of Leakage current tester JJG843,Medical Leakage Current Testers JJG 1188	(1～1000)V	$U_{rel}=0.1\%$		
		current		0.01mA～10A	$U_{rel}=0.1\%$		
17	*Current Transformers of MeasUring Service	Difference value	V.R. of Current Transformers of MeasUring Service JJG 313	1%In:(0.1～10000)/(1、5)A	$U=5\times10^{-6}$		
				5%In:(0.1～10000)/(1、5)A	$U=4\times10^{-6}$		
				20%～120%In:(0.1～10000)/(1、5)A	$U=3\times10^{-6}$		
		Phase difference		1%In:(0～0.29)rad	$U=5\times10^{-6}$rad		
				5%In:(0～0.29)rad	$U=4\times10^{-6}$rad		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
				20%～120%In:(0～0.29)rad	U=3×10^{-6}rad		
18	DC Electronic Loads	DC Voltage	Calibration Specification for DC Electronic Loads JJF1462	(1～240)V	U_{rel}=0.01%		
		DC Current		(0.1～240)A	U_{rel}=0.02%		
		DC Power		1W～12kW	U_{rel}=0.02%		
19	lightning element tester	DC Voltage	Calibration method of lightning element tester NIMTT(CM) 084	10mV～2000V	U_{rel}=0.2%		
		DC Current		1 μA～10A	U_{rel}=0.2%		
		Resistance		0.1 Ω～100M Ω	U_{rel}=0.2%		
20	Galvanometer	Current	Verification Regulation of DC Magnetoelectric Galvanometers JJG495	10^{-4}A～10^{-7}A	U_{rel}=0.1%,		
				10^{-7}A～10^{-8}A	U_{rel}=（0.1%～0.5%）		
				10^{-8}A～10^{-10}A	U_{rel}=（0.5%～2%）		
				10^{-10}A～10^{-12}A	U_{rel}=（2%～5%）		
21	DC Resistors	Resistances	DC Standard Resistors JJG 166	Working standard:(10^{-3}～10^{5}) Ω	U_{rel}=(0.25～1)×10^{-6}		
				Grade 1:(10^{-3}～10^{5}) Ω	U_{rel}=(0.5～3)×10^{-6}		
				Grade 2:(10^{-3}～10^{5}) Ω	U_{rel}=3×10^{-5}		
22	DC Bridges for MeasUring TemperatUre	Resistances	Verification Regulation of DC Bridges for MeasUring TemperatUre JJG484	(10^{-2}～10^{-1}) Ω	U_{rel}=1×10^{-3}		
				(10^{-1}～1) Ω	U_{rel}=1×10^{-4}		
				(1～10^{4}) Ω	U_{rel}=1×10^{-5}		
23	DC Low Resistance Meters	Resistances	Verification Regulation of DC Low Resistance Meters	(10^{-6}～10^{-4}) Ω	U_{rel}=1×10^{-3}		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
			JJG837	$(10^{-4}\sim10^{-1})\ \Omega$	$U_{rel}=5\times10^{-4}$		
				$(10^{-1}\sim10^{5})\ \Omega$	$U_{rel}=5\times10^{-5}$		
24	Loop Resistance Tester and DC Resistance Meters	Resistances	Verification Regulation of Loop Resistance Tester and DC Resistance Meters JJG1052	$(10^{-6}\sim10^{-4})\ \Omega$	$U_{rel}=1\times10^{-3}$		
				$(10^{-4}\sim10^{-1})\ \Omega$	$U_{rel}=5\times10^{-4}$		
				$(10^{-1}\sim10^{5})\ \Omega$	$U_{rel}=5\times10^{-5}$		
25	DC Bridge	Resistances	Verification Regulation of DC Bridge JJG125	$(10^{-4}\sim1)\ \Omega$	$U_{rel}=1\times10^{-3}$		
				$(1\sim10)\ \Omega$	$U_{rel}=1\times10^{-4}$		
				$(10\sim10^{7})\ \Omega$	$U_{rel}=1\times10^{-5}$		
26	DC Comparison Bridge	Resistances	Verification Regulation of DC Comparison Bridge JJG546	$(10^{-2}\sim1)\ \Omega$	$U_{rel}=1\times10^{-3}$		
				$(1\sim10^{4})\ \Omega$	$U_{rel}=1\times10^{-5}$		
27	DC Shunts	Resistances	Verification Regulation of DC Shunts JJG1069	$(10^{-6}\sim1)\ \Omega$,Rate Current: （5~10000） A	$U_{rel}=5\times10^{-5}$		
28	Earth Resistance Meter	Resistance	Verification Regulation of Earth Resistance Meters JJG366	0.01 Ω ～10 Ω	U_{rel}=（0.5%～1%）		
				10 Ω ～2000 Ω	U_{rel}=（0.5%～5%）		
29	Clamp Earth Resistance Meters	Resistance	Verification Regulation of Clamp Earth Resistance Meters JJG1054	0.01 Ω ～10 Ω	U_{rel}=（0.5%～1%）		
				10 Ω ～2000 Ω	U_{rel}=（0.5%～5%）		
30	surface resistance tester	Resistance	Calibration specification for surface resistance tester JJF1285	$10^{2}\ \Omega\sim10^{6}\ \Omega$	U_{rel}=（0.001%～0.002%）		
				$10^{6}\ \Omega\sim10^{8}\ \Omega$	U_{rel}=（0.002%～0.005%）		
				$10^{8}\ \Omega\sim10^{10}\ \Omega$	U_{rel}=（0.005%～0.2%）		
				$10^{10}\ \Omega\sim10^{13}\ \Omega$	U_{rel}=（0.2%～5%）		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
				$10^{13}\,\Omega$ ～$10^{15}\,\Omega$	U_{rel}=（5%～10%）		
31	Industry Frequerncy Single-Phase Phase Meter	Mutually Phase(power Factor)	Verification Regulation of Industry Frequerncy Single-Phase Phase Meter JJG440	0° ～360°	U=0.05°		
32	Low-frequency Phase Meters	Mutually Phase(power Factor)	Calibration Specification for Low-frequency Phase Meters JJF1756	0° ～360° ,(45~65)Hz	U=0.005°		
33	Instrument Transformer Test Set	Ratio variant	Verification Regulation of Instrument Transformer Test Set JJG 169	1×10^{-9}～1.111×10^{-2}	U_{rel}=0.4%～0.2%		
		Angular Difference		1×10^{-9}～11.11×10^{-2}	U_{rel}=0.4%～0.2%		
		Impedance		(10-3～111.1) Ω	U_{rel}=0.8%～0.4%		
		Admittance		(10^{-8}～0.1111)S	U_{rel}=0.4%		
34	Burden Box of Instrument Transformers	Impedance	Calibration Specification for Burden Box of Instrument Transformers JJF1264	(10-3～111.1) Ω	U_{rel}=0.8%～0.4%		
		Admittance		(10^{-8}～0.1111)S	U_{rel}=0.4%		
35	Volt-ampere characteristic and polarity Measuring Instrument	Current Transformation Ratio	Calibration Specification for Volt-ampere characteristic and polarity Measuring Instrument NIMTT(CM) 048	0.1/5A～10000/5A	U_{rel}=0.01%		
		Voltage Transformation Ratio		(100/100V～10000/100V)	U_{rel}=0.01%		
				10000/100V ～35/0.1kV	U_{rel}=0.01%～0.05%		
		Current		(0.1～50)A	U_{rel}=0.5%～0.2%		
				(50～100)A	U_{rel}=0.2%～0.1%		
				(100～1000)A	U_{rel}=0.1%		
				(1000～10000)A	U_{rel}=0.1%～0.5%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		Voltage		(0.1～50)V	U_{rel}=0.5%～0.1%		
				50V～35kV	U_{rel}=0.1%		
		resistant		(0.01~1000) Ω	U_{rel}=0.1%		
		load		(0.01～80) kVA	U_{rel}=0.1%		
36	AC and DC converter	Voltage	Calibration method for AC and DC converter NIMTT(CM) 088	5 V～600V	U_{rel}=0.01%		
		Current		25mA ～10A	U_{rel}=0.01%		
		Power		5V～600V/25mA～10A	U_{rel}=0.01%		
37	Magnetic field coil	Coils constant	Calibration Specification for Magnetic Field Coil NIMTT(CM) 003	(1×10^{-4}～2×10^{-2})T/A	U_{rel}=0.02%		
38	Power amplifier	Power Gain	calibration specification for RF and microwave power amplifier JJF1678	(0～80)dB,（9kHz～18GHz）	U=0.49dB		
		1dB compression point Gain		(0～80)dB,（9kHz～18GHz）	U=0.49dB		
		harmonic suppression		0～80)dBc,(9kHz～18GHz)	U=0.49dB		
39	Magnetometer	Magnetic induction intensity	Verification Regulation of Tesla-Meter JJF 1832	(1~43)mT	U_{rel}=0.1%		
				（43~2000）mT	U_{rel}=0.02%		
40	Fluxmeter	Magnetic flux	Calibration Specification for Magnetic Flux Meters JJF 1905	(0.1～1)mWb	U=0.002mWb		
				1mWb~10Wb	U_{rel}=0.1%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
41	Alternating magnetic intensity meter	Magnetic induction intensity	Verification Regulation of Alternating Tesla-Meter for Weak Magnetic Field JJG 1049	(1～1000) μT	U=(0.12～5) μT		
42	Magnetometers Based Magnetic Force	Magnetic induction intensity	Calibration Specification for Magnetometers Based Magnetic Force JJF 1656	(0.05~10)mT	U_{rel}=1.3%		
43	DC Potentiometer	voltage	Verification Regulation of DC Potentiometer JJG 123	0.01 μV～ 10mV	U=0.01 μV		
				10mV～ 2.1111111V	$U_{rel}=1\times10^{-5}$		
44	DC Comparison Potentiometer	voltage	Verification Regulation of DC Comparison Potentiometer JJG 505	0.01 μV～ 10mV	U=0.01 μV		
				10mV～ 2.1111111V	$U_{rel}=1\times10^{-6}$		
45	DC Current Comparator Bridge	Resistances	Verification Regulation of DC Current Comparator Bridge JJG 506	$(10^{-3}$～$10^{5})$ Ω	$U_{rel}=(0.5\sim1)\times10^{-6}$		
		ratio		0.95～1.05	$U_{rel}=5\times10^{-8}$		
				0.01～0.95	$U_{rel}=1\times10^{-7}$		
				1.05～100	$U_{rel}=1\times10^{-7}$		
46	DC Comparator Bridge for measuring temperatures	Resistances	Calibration specification for DC Comparator Bridge for measuring temperatures JJF 1444	$(10^{-3}$～$10^{5})$ Ω	$U_{rel}=(0.5\sim1)\times10^{-6}$		
		ratio		0.95～1.05	$U_{rel}=5\times10^{-8}$		
				0.01～0.95	$U_{rel}=1\times10^{-7}$		
				1.05～100	$U_{rel}=1\times10^{-7}$		
47	Electromechanical watt hour meters	Alternating-current Electrical Energy	V.R. of Electromechanical Meters for Measuring Alternating-current Electrical Energy JJG 307	57.7V～380V,25mA～100A	U_{rel}=0.2%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
48	Electrical energy meters	Alternating-current Electrical Energy	V.R. of Electrical Meters for Measuring Alternating-current Electrical Energy JJG 596,V.R. of Multi-Rate Electricity Meters for Measuring Alternating-current Electrical Energy JJG 691,V.R. of Pre-payment Electrical Meters for Measuring Alternating-current Electrical Energy JJG 1099,V.R. of Electricity Meters with Maximun Demand Measurement Functions JJG 569	57.7V～380V,1mA～100A	U_{rel}=4×10^{-4}		
		time		（-99.99 ～99.99）s/d	U=0.06s/d		
49	Reference meters for electrical energy	Alternating-current Electrical Energy	V.R. of Reference Meters for Electrical Energy JJG 1085	3P4W active0.05A～100A,57.7V～380V	U_{rel}=8×10^{-5}		
				3P3W active0.05A～100A,57.7V～380V	U_{rel}=1×10^{-4}		
				3P4W reactive0.05A～100A,57.7V～380V	U_{rel}=1.3×10^{-4}		
				3P4W active0.01A～0.05A,57.7V～380V	U_{rel}=1.3×10^{-4}		
				3P3W active0.01A～0.05A,57.7V～380V	U_{rel}=1.6×10^{-4}		
				3P4W active0.001A～0.01A,57.7V～380V	U_{rel}=2.5×10^{-4}		
50	Electrical energy performance field	Alternating-current Electrical	C.S. for Electrical Energy Meter on-site calibrator NIMTT(CM) 074	57.7V～380V,port：0.1～20A	U_{rel}=1.2×10^{-4}		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
	calibrator	Energy		57.7V～380V,clamp：0.1～100A	U_{rel}=2×10^{-4}		
		voltage		57.7V～380V	U_{rel}=1.2×10^{-4}		
		current		port：0.1～20A	U_{rel}=1.2×10^{-4}		
				clamp：0.1～100A	U_{rel}=2×10^{-4}		
		power		57.7V～380V,port：0.1～20A	U_{rel}=1.2×10^{-4}		
				57.7V～380V,clamp：0.1～100A	U_{rel}=2×10^{-4}		
		phase		(0～360)°	U=0.01°		
51	*verification equipment for AC electrical energy meters	Alternating-current Electrical Energy	V.R. Verification Equipment for AC Electrical Energy Meters JJG 597	0.1A～100A,57.7V～380V	U_{rel}=1.2×10^{-4}		
				0.001A～0.1A,57.7V～380V	U_{rel}=3×10^{-4}		
		voltage		57.7V～380V	U_{rel}=1.2×10^{-4}		
		current		0.1A～100A	U_{rel}=1.2×10^{-4}		
				0.001A～0.1A	U_{rel}=3×10^{-4}		
		power		0.1A～100A,57.7V～380V	U_{rel}=1.2×10^{-4}		
				0.001A～0.1A,57.7V～380V	U_{rel}=3×10^{-4}		
		phase		0° ～360°	U=0.01°		
		frequency		45Hz～65Hz	U=0.001Hz		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
52	*DC Digital Wattmeter	DC Power	Calibration method of DC digital power meter NIMTT(CM) 076	0.1V～600V,10μA～400A	U_{rel}=0.02%		
53	*Testers for Relaying Protection	DC Voltage	V.R. of Testers for Relaying Protection JJG 1112	10mV～1000V	U_{rel}=0.002%		
		DC Current		1mA～100A	U_{rel}=0.02%		
		AC Voltage		10mV～750V,10Hz～1kH	U_{rel}=0.02%		
		AC Current		1mA～100A,10Hz～1kHz	U_{rel}=0.02%		
		Mutually Phase		(0～360)°,10Hz～1kHz	U=0.006°		
		Time		(1～999999)ms	U=0.02ms～3.9ms		
		Frequency		10Hz～1kHz	U_{rel}=0.001%		
54	*Harmonious and Flicker Analysis System（Power Quality Analyzer）	Voltage	Calibration Specification for Harmonious and Flicker Analysis System JJF 1205	(3～1000)V,45Hz～65Hz	U_{rel}=0.01%		
		Current		(0.05～100)A ,45Hz～65Hz	U_{rel}=0.01%		
				(100～3000)A,45Hz～65Hz	U_{rel}=0.2%		
		Power		(3～1000)V,(0.05～100)A ,45Hz～65Hz	U_{rel}=0.02%		
				(3～1000)V,(100～1000)A,45Hz～65Hz	U_{rel}=0.2%		
		Frequency		16Hz～850Hz	U_{rel}=0.001%		
		Phase		(0～360)° ,16Hz～180Hz	U=0.003°		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		Harmonic Voltage		(0.03～300)V ,(2～60)Times	U_{rel}=0.01%～0.02%		
		Harmonic Current		(0.005～30)A,(2～60)Times	U_{rel}=0.01%～0.02%		
				(30～100)A,(2～60)Times	U_{rel}=0.2%		
		Flicker		(0.40～13.62)%	U_{rel}=0.06%		
55	Transformer with load tap changer	Time	Calibration method of transformer with load tap changer NIMTT(CM) 078	(0.01～2000)ms	U=0.02ms		
		Resistance		(0.1～100) Ω	U=0.10 Ω		
56	Electrical Quantities Transducer	AC Current	Power Frequency A.C.Electrical Quantities Measuring Transducers JJG 126	(0.1～100)A,40Hz～1kHz	U_{rel}=0.02%		
		AC Voltage		10mV～1000V,40Hz～1kHz	U_{rel}=0.01%		
		ACPower		3×(30～600)V,(0.005～100)A,40Hz～65Hz	U_{rel}=0.02%		
		Frequency		10Hz～100kHz	U_{rel}=0.01%		
57	*DC Stabilized Power Supplies	DC Voltage	Calibration Specification for DC Stabilized Power Supplies JJF 1597	(0.01～1000)V	U_{rel}=0.002%		
		DC Current		(0.01～10000)A	U_{rel}=0.005%		
		AC Voltage		10mV～10V40Hz～100kHz	U_{rel}=0.01%		
58	*Battery charging and discharging tester	DC Voltage	Calibration method for battery charging and discharging tester NIMTT(CM) 082	(0.01～1000)V	U_{rel}=0.01%		
		DC Current		(0.01～1000)A	U_{rel}=0.01%		
				(1000～10000)A	U_{rel}=0.5%		
		Resistance		1m Ω ,10m Ω ,100m Ω ,1 Ω	U_{rel}=0.02%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
59	*Digital AC Electrical Parameters Meter	AC Voltage	Calibtation Specification for Digital AC Electrical Parameters Meter JJF 1491	0.01V～1000V,40Hz～1kHz	U_{rel}=0.01%		
		AC Current		30μA～100A,(40～65)Hz	U_{rel}=0.01%		
				0.2A～10A,65Hz～1kHz	U_{rel}=0.05%		
		AC Power		3V～600V,0.005A～100A,(40～65)Hz	U_{rel}=0.01%		
				5V～600V,0.025A～10A,65Hz～1kHz	U_{rel}=0.05%		
		Frequency		40Hz～1kHz	U_{rel}=1×10^{-5}		
		Phase		0°～360°,(40～69)Hz	U=0.005°		
				0°～360°,(69～450)Hz	U=0.03°		
60	Process Calibrators	DC Voltage	Calibration Specification for Process Calibrators JJF 1472	0.01 V～1000V	U_{rel}=0.001%		
		AC Voltage		0.01V～1000V,40Hz～10kHz	U_{rel}=0.01%		
		DC Current		10μA ～50A	U_{rel}=0.01%		
		AC Current		100μA～100A,(40～65)Hz	U_{rel}=0.01%		
				0.2A～10A,65Hz～5kHz	U_{rel}=0.05%		
		Frequency		1Hz～100kHz	U_{rel}=1×10^{-5}		
		Resistance		10Ω～1MΩ	U_{rel}=0.01%～0.002%		
				1MΩ～100MΩ	U_{rel}=0.01%		
	De high		C.S. for DC high voltagesource, dc highvoltage	(0.1～1)kV	U_{rel}=0.1%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
	generator		generatorcalibration specifications NIMTT(CM) 054	(＞1～300)kV	U_{rel}=0.2%		
		current		10μA～1A	U_{rel}=0.1%		
62	*Lightning impulse voltage test system.	voltage	calibration specification of impulse voltage divider NIMTT(CM) 129	(0.1～500)kV	U_{rel}=1.0%		
		time		(1～3000)μs	U_{rel}=3.0%		
63	*Lightning impulse current test system.	voltage	Lightning impulse current test system.Calibration specification NIMTT(CM) 011	（1～100）kA	U_{rel}=1.5%		
		current		（1～500）μs	U_{rel}=3.0%		
64	Multifunction standard Source	DCV	Calibration Specification for Multifunction Standard Sources JJF 1638	10mV～100mV	$U_{rel}=5.5\times10^{-6}$～1.0×10^{-5}		
				100mV～1V	$U_{rel}=4.5\times10^{-6}$～5.0×10^{-6}		
				1V～10V	$U_{rel}=1.5\times10^{-6}$～5.0×10^{-6}		
				10V～100V	$U_{rel}=2.7\times10^{-6}$～3.6×10^{-6}		
				100V～1000V	$U_{rel}=3.7\times10^{-6}$～4.5×10^{-6}		
		ACV		10mV～220mV,10Hz～40Hz	$U_{rel}=2.5\times10^{-4}$		
				10mV～220mV,40Hz～20kHz	$U_{rel}=1.0\times10^{-4}$		
				10mV～220mV,20kHz～100kHz	$U_{rel}=3.4\times10^{-4}$		
				10mV～220mV,100kHz～1MHz	$U_{rel}=1.8\times10^{-3}$		
				220mV～2.2V,10Hz～40Hz	$U_{rel}=2.5\times10^{-4}$		
				220mV～2.2V,40Hz～20kHz	$U_{rel}=0.5\times10^{-4}$		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
				220mV～2.2V,20kHz～100kHz	$U_{rel}=2.0\times10^{-4}$		
				220mV～2.2V,100kHz～1MHz	$U_{rel}=1.5\times10^{-3}$		
				2.2V～22V,10Hz～40Hz	$U_{rel}=2.5\times10^{-4}$		
				2.2V～22V,40Hz～20kHz	$U_{rel}=0.5\times10^{-4}$		
				2.2V～22V,20kHz～100kHz	$U_{rel}=2.0\times10^{-4}$		
				2.2V～22V,100kHz～1MHz	$U_{rel}=5.0\times10^{-3}$		
				22V～220V,10Hz～40Hz	$U_{rel}=2.5\times10^{-4}$		
				22V～220V,40Hz～20kHz	$U_{rel}=1.0\times10^{-4}$		
				22V～220V,20kHz～100kHz	$U_{rel}=2.0\times10^{-4}$		
				22V～220V,100kHz～500kHz	$U_{rel}=5.0\times10^{-3}$		
				220V～1000V,50Hz～1kHz	$U_{rel}=1.0\times10^{-4}$		
		ACI		10μA～220mA,10Hz～40Hz	$U_{rel}=2.0\times10^{-4}$		
				10μA～220mA,40Hz～1kHz	$U_{rel}=1.5\times10^{-4}$		
				10μA～220mA,1kHz～5kHz	$U_{rel}=2.0\times10^{-4}$		
				220mA～2.2A,20Hz～1kHz	$U_{rel}=1\times10^{-4}$		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
				220mA～2.2A,1kHz～5kHz	$U_{rel}=4.5\times10^{-4}$		
				2.2A～50A,20Hz～1kHz	$U_{rel}=1\times10^{-4}$		
				2.2A～20A,1kHz～5kHz	$U_{rel}=1.0\times10^{-3}$		
		DCI		10μA～22mA	$U_{rel}=3.0\times10^{-5}$		
				22mA～220mA	$U_{rel}=5.0\times10^{-5}$		
				220mA～2.2A	$U_{rel}=5.8\times10^{-5}$		
				2.2A～20A	$U_{rel}=6.5\times10^{-5}$		
		Resistive		1Ω～100Ω	$U_{rel}=6.5\times10^{-5}$		
				100Ω～100kΩ	$U_{rel}=1.0\times10^{-5}$		
				100kΩ～10MΩ	$U_{rel}=5.0\times10^{-5}$		
				10MΩ～100MΩ	$U_{rel}=5.0\times10^{-4}$		
65	Insulation resistance meterMegohm-meter	Resistance	Verification regulation of megohmmeter JJG 622	100Ω～100MΩ	U_{rel}=1%～5%		
				100MΩ～1TΩ	U_{rel}=5%～10%		
		Voltage		10V～5000V	U_{rel}=0.5%～5%		
66	Megohm-meter(High Resistance meter)	Resistance	Verification Regulation of High Insulation Resistance Meters JJG 690	100Ω～100MΩ	U_{rel}=0.2%～2%		
				100MΩ～10GΩ	U_{rel}=2%～5%		
				10GΩ～1TΩ	U_{rel}=5%～10%		
				10V～1000V	U_{rel}=0.5%		
67	High Voltage	Resistance	Verification Regulation of	10^2Ω～10^6Ω	U_{rel}=0.001%～0.002%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
	and Value D.C.Resistors		High Voltage and Value D.C.Resistors JJG 1072	$10^6\ \Omega \sim 10^8\ \Omega$	U_{rel}=0.002%～0.005%		
				$10^8\ \Omega \sim 10^{10}\ \Omega$	U_{rel}=0.005%～0.2%		
				$10^{10}\ \Omega \sim 10^{12}\ \Omega$	U_{rel}=0.2%～5%		
68	PicoampereSource	Current	Calibration Specification for Micro Current Source(Micro Current Tester) NIMTT(CM) 019	10^{-4}A～10^{-7}A	U_{rel}=0.1%		
				10^{-7}A～10^{-8}A	U_{rel}=0.1%～0.5%		
				10^{-8}A～10^{-10}A	U_{rel}=0.15%～0.5%		
				10^{-10}A～10^{-11}A	U_{rel}=0.5%～2%		
				10^{-11}A～10^{-12}A	U_{rel}=2%～5%		
69	Electronic Insulation Resistance Meters	Resistive	Verification Regulation of Electronic Insulating Resistance Meters JJG 1005	100 Ω～100M Ω	U_{rel}=1%～5%		
				100M Ω～1T Ω	U_{rel}=5%～10%		
		Voltage		10V～5000V	U_{rel}=0.5%～5%		
70	Calibration device of leakage current switch tester	DC Current	Calibration Specification for Calibration device of leakage current switch tester NIMTT(CM) 102	(5～3000)mA	U_{rel}=0.08%		
		AC Current		(5～3000)mA,50Hz	U_{rel}=0.10%		
		Time		(20～5000)ms	U=0.08ms		
71	Calibration device of Transformer with load tap changer	Resistance	Calibration Specification for Calibration device of Transformer with load tap changer NIMTT(CM) 094	（0.1～10） Ω	U_{rel}=0.06%		
				（10～40) Ω	U_{rel}=0.10%		
		Time		(1～10)ms	U_{rel}=2.5×10^{-5}		
				(10～100)ms	U_{rel}=2.5×10^{-6}		
				(100～10000)ms	U_{rel}=3×10^{-7}		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
72	Calibration device of Fluxmeter（Volt-Second generator）	DC voltage	Calibration Specification for Calibration device of Fluxmeter NIMTT(CM) 100	(10～100)mV	U_{rel}=1×10^{-4}		
				(100～10000)mV	U_{rel}=2×10^{-5}		
		Time		(1～10)ms	U_{rel}=3×10^{-5}		
				(10～10000)ms	U_{rel}=3×10^{-6}		
73	Multi Function Clamp Meter Calibrator	DC Voltage	Calibration Specification for Multi Function Clamp Meter Calibrator NIMTT(CM) 114	0.01 V～1000V	U_{rel}=0.002%		
		AC Voltage		0.01V～1000V,(40～1000)Hz	U_{rel}=0.01%		
		DC Current		0.1A ～1000A	U_{rel}=0.02%		
		AC Current		0.1A ～2000A,(45～65)Hz	U_{rel}=0.02%		
		Resistance		0.1 Ω ～100M Ω	U_{rel}=0.01%～0.05%		
74	Insulating Oil electrical Strength Tester	Voltage	Calibration Specification for Dielectric strength detector of insulating oils NIMTT(CM) 126	5kV～100kV	U_{rel}=0.6%		
		time		0.1s～600s	U_{rel}=1.0%		
75	Withstanding Voltage calibration device	Voltage	Calibration specification for safety gauge NIMTT(CM) 131	(1～500)V,(50Hz)	U_{rel}=0.05%		
				＞0.5kV～100kV,(50Hz)	U_{rel}=0.1%		
		Voltage		(1～500)V	U_{rel}=0.05%		
				＞0.5kV～100kV	U_{rel}=0.1%		
		current		0.1mA～100A,(DC,50Hz)	U_{rel}=0.1%		
		resistance		10m Ω ～500m Ω	U_{rel}=0.2%		
				1M Ω ～1000M Ω	U_{rel}=0.2%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		Time		0.1s～999s	U_{rel}=0.1%		
76	Testing transformer	Voltage	Calibration specification for high voltage tester devices NIMTT(CM)133	1kV～100kV,(DC,50Hz)	U_{rel}=0.2%		
				＞100kV～600kV,(DC,50Hz)	U_{rel}=1%		
		current		0.1mA～1A,(DC,50Hz)	U_{rel}=0.2%		
				＞1A～1000A,(DC,50Hz)	U_{rel}=0.3%		
		Time		0.1s～600s	U_{rel}=1.0%		
77	Zinc oxide lightning arrester test instrument	Voltage	Calibration specification for Resistive current testers for zinc oxide surge arrester NIMTT(CM) 128	1V～200V,(50Hz)	U_{rel}=0.2%		
		current		0.01mA～20mA,(50Hz)	U_{rel}=0.2%		
78	DC Spark Detector(Needle-hole Detector)	Voltage	Calibration Specification for Electric Spark Leak Detectors NIMTT(CM) 123	0.01kV～50kV	U_{rel}=1.2%		
79	Impulse Voltage Testers for Winding Interturn Insulation	Voltage	Calibration Specification for Impulse Voltage Testers for Winding Interturn Insulation JJF 1691,(15~50)kVCalibration Specification for Impulse Voltage Testers for Winding Interturn Insulation NIMTT(CM) 155	0.1kV～50kV	U_{rel}=1.2%		
		time		0.1 μs～100 μs	U_{rel}=3%		
80		Voltage	calibration specification for Electrostatic analyzer NIMTT(CM) 115	1V～1kV	U_{rel}=0.1%		
				＞1kV～20kV	U_{rel}=0.2%		
		time		0.1s～20s	U_{rel}=5%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
81	Concrete Resistivity Tester	resistivity	Calibration specification for Concrete Resistivity Tester NIMTT(CM) 148	(1～2000)kΩ・cm	U_{rel}=0.05%		
82	Digital Multmeter	DC Voltage	Calibration Specification for Multimeters JJF 1587	10mV～100mV	$U_{rel}=5.5\times10^{-6}$～1.0×10^{-5}		
				100mV～1V	$U_{rel}=4.5\times10^{-6}$～5.0×10^{-6}		
				1V～10V	$U_{rel}=1.5\times10^{-6}$～5.0×10^{-6}		
				10V～100V	$U_{rel}=2.7\times10^{-6}$～3.6×10^{-6}		
				100V～1000V	$U_{rel}=3.7\times10^{-6}$～4.5×10^{-6}		
		AC Voltage		10mV～220mV,10Hz～40Hz	$U_{rel}=2.5\times10^{-4}$		
				10mV～220mV,40Hz～20kHz	$U_{rel}=1.0\times10^{-4}$		
				10mV～220mV,20kHz～100kHz	$U_{rel}=3.4\times10^{-4}$		
				10mV～220mV,100kHz～1MHz	$U_{rel}=1.8\times10^{-3}$		
				220mV～2.2V,10Hz～40Hz	$U_{rel}=2.5\times10^{-4}$		
				220mV～2.2V,40Hz～20kHz	$U_{rel}=0.5\times10^{-4}$		
				220mV～2.2V,20kHz～100kHz	$U_{rel}=2.0\times10^{-4}$		
				220mV～2.2V,100kHz～1MHz	$U_{rel}=1.5\times10^{-3}$		
				2.2V～22V,10Hz～40Hz	$U_{rel}=2.5\times10^{-4}$		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
				2.2V～22V,40Hz～20kHz	$U_{rel}=0.5\times10^{-4}$		
				2.2V～22V,20kHz～100kHz	$U_{rel}=2.0\times10^{-4}$		
				2.2V～22V,100kHz～1MHz	$U_{rel}=5.0\times10^{-3}$		
				22V～220V,10Hz～40Hz	$U_{rel}=2.5\times10^{-4}$		
				22V～220V,40Hz～20kHz	$U_{rel}=1.0\times10^{-4}$		
				22V～220V,20kHz～100kHz	$U_{rel}=2.0\times10^{-4}$		
				22V～220V,100kHz～500kHz	$U_{rel}=5.0\times10^{-3}$		
				220V～1000V,40Hz～10kHz	$U_{rel}=1.0\times10^{-4}$		
		AC Current		10μA～220mA,10Hz～40Hz	$U_{rel}=2.0\times10^{-4}$		
				10μA～220mA,40Hz～1kHz	$U_{rel}=1.5\times10^{-4}$		
				10μA～220mA,1kHz～5kHz	$U_{rel}=2.0\times10^{-4}$		
				220mA～2.2A,20Hz～1kHz	$U_{rel}=1\times10^{-4}$		
				220mA～2.2A,1kHz～5kHz	$U_{rel}=4.5\times10^{-4}$		
				2.2A～50A,20Hz～1kHz	$U_{rel}=1\times10^{-4}$		
				2.2A～20A,1kHz～5kHz	$U_{rel}=1.0\times10^{-3}$		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
				50A～100A,40Hz～65Hz	U_{rel}=1×10^{-4}		
		DC Current		10μA～22mA	U_{rel}=3.0×10^{-5}		
				22mA～220mA	U_{rel}=5.0×10^{-5}		
				220mA～2.2A	U_{rel}=5.8×10^{-5}		
				2.2A～20A	U_{rel}=6.5×10^{-5}		
				20A～100A	U_{rel}=1×10^{-4}		
		Resistances		(10^{-4}～1)Ω	U_{rel}=5×10^{-4}		
				1Ω～100Ω	U_{rel}=5×10^{-5}		
				100Ω～100kΩ	U_{rel}=1.0×10^{-5}		
				100kΩ～10MΩ	U_{rel}=5.0×10^{-5}		
				10MΩ～10GΩ	U_{rel}=5.0×10^{-4}		
83	*Amperemeters, Voltmeters, Wattmeters	DC Current	V.R. of Amperemeters, Voltmeters, Wattmeters and Ohmmeters JJG 124	10μA ～50A	U_{rel}=0.05%		
		AC Current		100μA ～100A,40Hz～65Hz	U_{rel}=0.05%		
				0.2A～10A,65Hz～5kHz	U_{rel}=0.06%		
		DC Voltage		10mV～1000V	Urel =0.05%		
		AC Voltage		0.1V～1000V,40Hz～10kHz	U_{rel}=0.05%		
		DC Power		0.1V～600V,10μA～100A	U_{rel}=0.02%		
		AC Power		10V～600V,5mA～100A,(40～65)Hz	U_{rel}=0.05%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
				5V～600V,0.025A～10A, 65Hz～1kHz	U_{rel}=0.05%		
84	*DigitalAC./DC. Voltmeter	AC Voltage	V.R. of AC Digital VoltMeter JJG(JG) 72	0.01V～1000V,40Hz～10kHz	U_{rel}=0.01%		
85	*DigitalAC./DC. Amperemeter	AC Current	V.R. of AC Digital Current Meter JJG(JG) 68	100μA～100A,40Hz～65Hz	U_{rel}=0.01%		
				0.2A～10A,65Hz～5kHz	U_{rel}=0.05%		
86	Calibrators for Electrical Meters	DC Voltage	Calibration Specification of Calibrators for Electrical Meters JJF 1284	0.01 V～1000V	U_{rel}=0.001%		
		AC Voltage		0.01V～1000V,40Hz～10kHz	U_{rel}=0.01%		
		DC Current		10μA ～100A	U_{rel}=0.01%		
		AC Current		100μA ～100A,(40～65)Hz	U_{rel}=0.01%		
				0.2A～10A,65Hz～5kHz	U_{rel}=0.05%		
		Frequency		1Hz～100kHz	U_{rel}=1×10^{-5}		
		Resistance		0.1Ω～10Ω	U_{rel}=1%～0.05%		
				10Ω～1MΩ	U_{rel}=0.01%～0.002%		
				1MΩ～100MΩ	U_{rel}=0.01%		
87	Electrical （Safety） Analyzer	AC Voltage	Calibration Specification for Electrical (Safety) Analyzer NIMTT(CM) 113	10V～300V,40Hz～65Hz	U_{rel}=0.02%		
		AC Current		0.1A ～20A,40Hz～65Hz	U_{rel}=0.02%		
		DC Leakage Current		10μA ～1A	U_{rel}=0.3%～0.05%		
		AC Leakage Current		30μA ～1A,40Hz～5kHz	U_{rel}=0.5% ～0.1%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		Resistance		0.01Ω～100Ω	U_{rel}=5%～0.02%		
				100Ω～100MΩ	U_{rel}=0.3%～1.5%		
88	AC Digital Powermeter	AC Power	V.R. of AC Digital Powermeter JJG 780	3×3V～600V,0.005A～100A,(40～65)Hz	U_{rel}=0.01%		
				5V～600V,0.025A～10A,65Hz～1kHz	U_{rel}=0.05%		
89	*Clamp Meter	AC Current	Calibration Specification of Clamp-on Multifunctional Electricity Meter NIMTT(CM) 085	(0.001～1000)A45Hz～65Hz	U_{rel}=0.02%		
				(0.001～1000)A65Hz～1kHz	U_{rel}=0.3%		
		DC Current		(0.001～1000)A	U_{rel}=0.02%		
		AC Power		(0.1～1000)V,(1～1000)A(45Hz～65Hz)	U_{rel}=0.2%		
		DC Voltage		0.01V～1000V	U_{rel}=0.002%		
		AC Voltage		0.01V～1000V40Hz～10kHz	U_{rel}=0.01%		
		Resistance		10Ω～1MΩ	U_{rel}=0.01%～0.002%		
				1MΩ～100MΩ	U_{rel}=0.01%		
		Phase		0°～360°(16～69)Hz	U=0.005°		
				0°～360°(69～450)Hz	U=0.03°		
		Frequency		10Hz～100kHz	U_{rel}=0.001%		
90	*Clamp Ammeters	AC Current	Calibration Specification for Clamp Ammeters JJF1075	(0.1～1000)A,(45～65)Hz	U_{rel}=0.02%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
				(0.1～1000)A,(65～400)Hz	U_{rel}=0.3%		
		DC Current		(0.1～2000)A	U_{rel}=0.02%		
91	Large current tester	DC Current	Calibration Specification of Large Current Tester NIMTT(CM) 087	(0.001～10000)A	U_{rel}=0.005%		
		AC Current		(0.001～0.1)A,(45～65)Hz	U_{rel}=0.012%		
				(0.1～10000)A,(45～65)Hz	U_{rel}=0.005%		
		Time		0.5s～10s	0.01s		
92	Single phase and three phase multifunction calibration source	DC Voltage	Calibration method for single phase and three phase multifunction calibration source (calibration method for multi-functional instrument calibration source) NIMTT(CM) 079,Calibration Specification for Verification Equipment of Electrical Measuring Devices JJF1923	0.01V～1000V	U_{rel}=0.001%		
		AC Voltage		0.01V～1000V40Hz～10kHz	U_{rel}=0.01%		
		DC Current		10μA～100A	U_{rel}=0.01%		
		AC Current		100μA～100A(40～65)Hz	U_{rel}=0.01%		
				0.2A～10A65Hz～10kHz	U_{rel}=0.05%		
		AC Power		3×3V～600V/0.005A～100A(40～65)Hz	U_{rel}=0.01%		
				5V～600V/0.025A～10A65Hz～1kHz	U_{rel}=0.05%		
		DC Power		(3～1000)V/(0.001～500)A	U_{rel}=0.02%		
		Frequency		1Hz～100kHz	U_{rel}=1×10^{-5}		
		Resistance		0.1Ω～10Ω	U_{rel}=1%～0.05%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
				10Ω～1MΩ	U_{rel}=0.01%～0.002%		
				1MΩ～100MΩ	U_{rel}=0.01%		
		Phase		0°～360°(16～69)Hz	U=0.005°		
				0°～360°(69～450)Hz	U=0.03°		
		Harmonic Voltage		(0.03～300)V,(2～60)times	U_{rel}=0.012%～0.05%		
		Harmonic Current		(0.005～30)A,(2～60)times	U_{rel}=0.012%～0.05%		
93	Grounding (conduction) resistance tester	resistance	Earth-continuity testers JJG984	0.1mΩ～11Ω	U_{rel}=0.05%~0.2%		
		current		(1～100)A	U_{rel}=0.05%		
		voltage		10mV～20V	U_{rel}=0.1%		
94	field meter	Low Frequency Electric-Field Strength	Calibration Specification for Electric Field meters JJF(川)154,Calibration Specification for Electromagnetic Field Probes from 10kHz to 100MHz JJF 1884,Calibration Specification for Electric Field Probes JJF 1886	10H～400kHz1V/m～100V/m	U=0.46～0.83dB		
				(0.1～10)kV/m(50Hz)	U=0.46～0.62dB		
		high Frequency Electric-Field Strength		10kHz～100MHz0.2V/m～300V/m	U=0.6～0.8dB		
				100MHz～1GHz0.01A/m～1A/m	U=1.04～1.33dB		
				10kHz～100MHz0.01A/m～1A/m	U=0.6～0.8dB		
				1GHz～18GHz0.1V/m～300V/m	U=0.76～1.25dB		
				100MHz～1GHz1V/m～300V/m	U=1.04～1.33dB		

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№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
95	DC total electric field strength measuring instrument	Electric-Field Strength	Calibration Specification for DC total electric field strength measuring instrument NIMTT(CM) 009	(-40～40)kV/m	U_{rel}=4.2%		
96	AC charging sport tester	Alternating-current Electrical Energy	C.S. for AC charging sport tester NIMTT(CM) 092	57.7V～380V,0.01A～100A	$U_{rel}=1.2\times10^{-4}$		
		AC voltage		57.7V～380V,50Hz	$U_{rel}=1.2\times10^{-4}$		
		AC current		0.01A～100A,50Hz	$U_{rel}=1.2\times10^{-4}$		
		AC power		57.7V～380V,0.01A～100A,50Hz	$U_{rel}=1.2\times10^{-4}$		
97	Off-board charger tester	Electrical Energy	C.S. for Off-board charger tester NIMTT(CM) 086	100mV～1000V,100 μA～400A	$U_{rel}=1.2\times10^{-4}$		
		DC voltage		100mV～1000V	$U_{rel}=1.2\times10^{-4}$		
		DC current		100 μA～400A	$U_{rel}=1.2\times10^{-4}$		
		DC power		100mV～1000V,100 μA～400A	$U_{rel}=1.2\times10^{-4}$		
98	*DC Standard Resister	Resistances	Verification Regulation of DC Standard Resister JJG982,Calibration specification of Calibrators for DC Low-resistance Meters JJF(川)173	(10^{-6}～10^{-5}) Ω	$U_{rel}=3\times10^{-3}$		
		Resistances		(10^{-5}～10^{-4}) Ω	$U_{rel}=1\times10^{-3}$		
		Resistances		(10^{-4}～10^{-2}) Ω	$U_{rel}=1\times10^{-4}$		
		Resistances		(10^{-2}～1) Ω	$U_{rel}=3\times10^{-5}$		
		Resistances		(1～10^{7}) Ω	$U_{rel}=1\times10^{-5}$		
		Resistances		(10^{7}～10^{8}) Ω	$U_{rel}=5\times10^{-4}$		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
99	Hall Current (Voltage) Transduce	DC Current	Hall Current (Voltage) Transduce JJG(川)136	(0.001～10000)A	U_{rel}=0.005%		
		AC Current		(0.001～0.1)A,(45～65)Hz	U_{rel}=0.012%		
				(0.001～1000)A,65Hz～1kHz	U_{rel}=0.3%		
				(0.1～10000)A ,45Hz～65Hz	U_{rel}=0.005%		
		DC Voltage		10mV～1000V	U_{rel}=0.002%		
		AC Voltage		10mV～1000V,45Hz～1kHz	U_{rel}=0.005%		
100	*Electric recorders	DC Voltage	Calibration Specification of Electric recorders NIMTT(CM) 150	0.01V～1000V	U_{rel}=0.001%		
		AC Voltage		0.01V～1000V,45Hz～10kHz	U_{rel}=0.01%		
		DC Current		10 μ A～20A	U_{rel}=0.01%		
		AC Current		10mA～20A,(45～65)Hz	U_{rel}=0.01%		
		AC Current		0.2A～10A,65Hz～1kHz	U_{rel}=0.05%		
		Frequency		10Hz～100kHz	U_{rel}=0.001%		
101	*Current Clamp、Current Coil	DC Current	Calibration Specification for Current Clamp、Current Coil NIMTT(CM) 151	(0.001～10000)A	U_{rel}=0.1%		
		AC Current		(0.001～10000)A45Hz～65Hz	U_{rel}=0.1%		
		AC Current		(0.001～1000)A65Hz～1kHz	U_{rel}=0.3%		
102	Electronic Meters for Measuring Direct-current Electrical	Electrical Energy	Electronic Meters for Measuring Direct-current Electrical Energy JJG 842	100mV～1000V10mA～500A	$U_{rel}=3\times10^{-4}$		

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№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
	Energy	time		（-99.99～99.99）s/d	U=0.06s/d		
103	*Off-board Charger for Electric Vehicles	Electrical Energy	Off-board Charger for Electric Vehicles JJG1149	100V～1000V5A～250A	$U_{rel}=1\times10^{-3}$		
104	*AC Charging Spot for Electric Vehicles	Electrical Energy	AC Charging Spot for Electric Vehicles JJG1148	220V1A～70A	$U_{rel}=1\times10^{-3}$		
105	Calibration Device of Power Capacitance Inductance Tester	Capacitance	Calibration Specification for Calibration Device of Power Capacitance Inductance Tester NIMTT(CM) 152	1μF～25000μF	U_{rel}=0.02%		
		Inductance		1mH～10H	U_{rel}=0.02%		
106	Calibration Device of Zinc Oxide Arrester Tester	AC Voltage	Calibration Specification for Calibration Device of Zinc Oxide Arrester Tester NIMTT(CM) 153	1V～250V 50Hz	U_{rel}=0.02%		
		AC Current		0.1mA～20mA 50Hz	U_{rel}=0.02%		
		Phase		0°～360°, 50Hz	U=0.01°		
107	Textile Frictional Static Charges Tester	charge quantity	Calibration Specification for Textile Frictional Static Charges Tester JJF(纺织)071	(0.01~2) μC	U_{rel}=0.1%		
108	Eddy Current Conductivity Meters	conductivity	Calibration Specification for Eddy Current Conductivity Meters JJF 1692	(1.05~95)%IACS	U=(0.05~0.5)%IACS		
109	power transformers winding deformation tester	frequency	Calibration specification of power transformers winding deformation tester DL/T 1952	1kHz~1MHz	U_{rel}=0.01%		
		amplitude radio		(0,-10,-20,-40,-60,-80)dB	U=(0.01~0.3)dB		
110	*DC high- current source	Current	DC high-current source NIMTT(CM) 154	(1000～10000)A	$U_{rel}=1\times10^{-5}$		
111	*Buchholz relay & overspeed shut-off	velocity of flow	Buchholz relay & overspeed shut-off valve detection	(1～100)m^3/h((0.566～5.662)m/s)	U_{rel}=1%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
	valve detection device	volume	device NIMTT(CM) 072	(10～1000)mL	U_{rel}=1.2%		
		pressure		(10～250)kPa	U_{rel}=1%		
112	Medical Diagnostic X-ray Non-invasive Current Meters	Current	Calibration Specification for Medical Diagnostic X-ray Non-invasive Current Meters JJF 1473	0.1mA～1A	U_{rel}=0.4%		
113	*Magnetic particle Flaw Detectors	Current	Calibration Specification for Maangnetic Particle Flaw Detectors JJF 1273	（0.1～10000）A,(DC,50Hz)	U_{rel}=1.5%		
		Magneticinductionintensity		(0～1)mT	U=0.04 mT		
		Illuminance		(50～3000)lx	U_{rel}=1.6%～3.2%		
		UltravioletIrradiance（UVA）		(1～10000) μ W/cm2	U_{rel}=19%		
114	Magnetic Yoke Detectors	Irradiance	Calibration Specification for Magnetic Yoke Detectors JJF 1458	（0.1～500）N	U_{rel}=4.0%		
		Current		(0.1～40)A,(DC,50Hz)	U_{rel}=2.2%～5.1%		
115	Eddy Current Flaw Detector	Friquncy	V.R. of Eddy CUrrent Flaw Detector JJG(MH) 0061	1Hz～10MHz	U_{rel}=0.02%		
		Voltage		（0.1～10）V,(1kHz～1MHz）	U_{rel}=1.2%		
Ⅵ Radio measuring instrument							
1	Electronic Voltmeter	Frequency response	Verification Regulation of ElectronicVoltmeter JJG250,Calibration Specification for Low-frequency Volt-meters JJF1925	10Hz～500MHz	U_{rel}=3%		
		Voltage		1mV～1V	U_{rel}=0.5%		
				1V～300V	U_{rel}=1%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
2	UHF Electronic Mill voltmeter	Voltage	Verification Regulation of RF Voltmeters JJG308	1 mV～1 V (DC～1000MHz)	U_{rel}=1%		
				1 V～10 V (DC～1000MHz)	U_{rel}=2%		
3	Frequency Response Test Set	Voltage	Verification Regulation of 300 MHz Frequency Response Test Set JJG359	50mV～300mV (1MHz～300MHz)	U_{rel}=5%		
4	Network analyzer	Reflection	Verification Regulation for automatic network analyzer GJB/J3608,Calibration Specification for Vector network analyzers JJF1495	1.00～2.00(50MHz～50GHz)	U=0.02～0.06		
		Transmission		(0～50)dB(50MHz～50GHz)	U=0.20dB～0.50dB		
		Source output frequency		10Hz～40GHz	U_{rel}=1×10-9		
		Source output power		(-80～+20)dBm	U=0.15dB～0.20dB		
		Background noise		(-160~-50)dB	U=2.3dB～3.0dB		
		Crosstalk		(-160~-50)dB	U=1.1dB～3.0dB		
		Modulus value Trace noise		(0~ 1)dB	U=0.0013dB		
		Phase Trace noise		（0～1）°	U=0.012°		
		Modulus dynamic accuracy		(0~ 90)dB	U=0.033dB		
5	Underground pipeline detector	frequency	calibration specification for Underground pipeline detector NIMTT(CM) 010	20Hz~1MHz	U_{rel}=4.3×10^{-6}		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
6	Digital Signal Generator	Level	Calibration Specification for Digital Signal Generator JJF1174	20dBm～-120dBm（100kHz～6GHz）	U=0.2dB～0.5dB		
		Frequency		100kHz～6GHz	$U_{rel}=1\times10^{-9}$		
		Harmonics		0dBc～100dBc（100kHz～6GHz）	U=0.5dB～2dB		
		Vector Magnitude		0.5%～18%(FSK、MSK、16QAM)	U=0.5%		
		RMS Phase		0.5°～15°(FSK、MSK、16QAM)	U=0.5°		
		RMS frequency		1kHz～250kHz(FSK、MSK、16QAM)	U=2Hz		
7	Data Acquisition System	Voltage	Calibration Specification for Data Acquisition System JJF1048	1mV～1V	U_{rel}=0.3%		
				1V～100V	U_{rel}=0.2%		
		Frequency		(0.1～250)MHz	$U_{rel}=4\times10^{-8}$		
				250MHz～2.7GHz	$U_{rel}=6\times10^{-8}$		
8	Standard Capacitors	Capacitance	Verification Regulation of Standard Capacitors JJG183	1pF～1μF (1 kHz)	$U_{rel}=2\times10^{-5}$		
				(1～99999)μF (100 Hz)	$U_{rel}=5\times10^{-4}$		
9	Standard Inductors	Inductance	Verification Regulation of Standard Inductors JJG726	1μH～10μH (1kHz)	U_{rel}=2%		
				10μH～100μH (1kHz)	U_{rel}=0.1%		
				100μH～1H (1kHz)	U_{rel}=0.01%		
				1H～99999H (100Hz)	U_{rel}=0.05%		
	Alternating	Resistances	Verification Regulation of	1Ω～1MΩ (1kHz)	Urel =0.01%		

The scope of the accreditation in Chinese remains the definitive version.

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
	Current Bridge （Capacitance Bridge ）	Inductances	Alternating Current Bridge JJG441	10 μH～1H (1kHz)	U_{rel}=0.01%		
		Capacitances		1pF～1 μF (1kHz)	U_{rel}=0.01%		
11	High Voltage Capacitance Bridge	ratio of capacitances	Verification Regulation of High Voltage Capacitance Bridges JJG563	X:(0.1～1)	U_{rel}=0.002%		
				X: (1～1000)	U_{rel}=0.2%		
		dissipation factor		1×10^{-4}～0.1	U_{rel}=0.2%		
12	Dielectric Dissipation Factor Tester	capacitances	High Voltage Standard Capacitors JJG1075	10pF～100nF	U_{rel}=0.05%		
		dissipation factor		1×10^{-5}～1×10^{-3}	U=6×10^{-5}		
13	High frequency Q meter	Q	Calibration Specification of HF Q Meter JJF1073	10～500	U_{rel}=5%～10%		
		Frequency		50kHz～500kHz	U_{rel}=2%		
				500kHz～50MHz	U_{rel}=2.4%		
14	Transistor Character Scope	Voltage	Calibration Specification for Semiconductor Device Curve Tracers JJF1236	(0.1～1)V	U_{rel}=1%		
				(1～200)V	U_{rel}=0.5%		
		Current		200 μA～1mA	U_{rel}=0.8%		
				1mA～1A	U_{rel}=0.6%		
				1A～10A	U_{rel}=0.5%		
15	Radio CommunicationTester	RF frequency	Ca1ibration Specification for RF Communication Test Set JJF1065	20kHz～6GHz	U_{rel}=2×10^{-9}		
		RF power		20dBm～-120dBm(20kHz～6GHz)	U=0.2dB		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		Frequency modulation (FM)		20Hz～200kHz	U_{rel}=3%		
		amplitude modulation(AM)		1%～99%	U_{rel}=3%		
		AF frequency		10Hz～20kHz	$U_{rel}=2\times10^{-9}$		
		AF level		0.1V～750V(10Hz～20kHz)	U_{rel}=0.1%		
		DC level		0.1V～1000V	U_{rel}=0.01%		
16	Bluetooth tester	output frequency	Calibration Specification for Bluetooth Test Set JJF1278	0.1Hz～3GHz	$U_{rel}=5\times10^{-8}$		
		output level		（-127~30）dBm(0.1Hz～3GHz)	U=0.5dB		
		Output signal frequency response		(-60～-20)dBm(0.1Hz～3GHz)	U=0.5dB		
		Output signal harmonic		(0～-120)dBc(0.1Hz～3GHz)	U=1dB		
		Modulation frequency deviation		10Hz~350kHz(GFSK、8DPSK)	U_{rel}=2%		
17	Wireless LAN tester	output frequency	Calibration Specification for WLAN Test Set JJF1277	0.01Hz~13GHz	$U_{rel}=5\times10^{-8}$		
		output level		(-127~30)dBm(0.01Hz～13GHz)	U=0.5dB		
		Output signal harmonic		(0～-120)dBc	U=1dB		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		Single side band phase noise of output signal		(0～-120)dBc/Hz	U=1dB		
		modulation		5%~20%	U_{rel}=2%		
		Level		(-127~30)dBm(0.01Hz～13GHz)	U=0.3dB		
		Vector Magnitude		0.5%～18%	U_{rel}=1%		
18	CDMA digital mobile communication comprehensive test instrument	output frequency	Ca1ibration Specification for CDMA Digital Radio Communication Testers JJF1177	0.1GHz～3GHz	$U_{rel}=2\times10^{-8}$		
		output level		(-120~-5)dBm(0.1GHz～3GHz)	U=0.5dB		
		Output signal harmonic		(0～-120)dBc	U=0.8dB		
		Single side band phase noise of output signal		(0～-120)dBc/Hz	U=1.0dB		
		CDMA signal generator Rho		0.9~1.0(0.1GHz～3GHz)	U=0.0005		
		CDMA generator EVM		1.5%~50%(0.1GHz～3GHz)	U=2.0%		
		CDMA power level		(-75~-5)dBm	U=0.5dB		
		Audio generator frequency		100Hz~50kHz	U=0.0008Hz		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		Audio generator level		1V~5V(100Hz～5kHz)	U_{rel}=0.04%		
19	TD-SCDMA digital mobile communication comprehensive test instrument	output frequency	Calibration Specification for TD-SCDMA Digital Radio Communication Testers JJF1204	30MHz~2.7GHz	U_{rel}=2×10^{-8}</-8>		
		output level		(-120~-10)dBm(30MHz~2.7GHz)	U=0.5dB		
		Output signal harmonic		(0～-120)dBc	U=0.8dB		
		Single side band phase noise of output signal		(0～-120)dBc/Hz	U=1.0dB		
		CDMA signal generator Rho		0.9~1.0(30MHz~2.7GHz)	U=0.0005		
		CDMA generator EVM		1.5%~50%(30MHz~2.7GHz)	U=2.0%		
		Audio generator frequency		100Hz~5kHz	U=0.0008Hz		
		Audio generator level		1V~5V(100Hz~5kHz)	U_{rel}=0.06%		
20	*artificial mains network	Voltage Division Factor	Calibration Specification of Artificial Mains Networks JJF 1705 2018	0dB～30dB（9kHz~108MHz）	U=1.6dB		
		Impedance		0Ω~300Ω（9kHz~108MHz）	U_{rel}=6%		
		phase		0°~360°	U=2.8°		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
21	*coupling/Decoupling network	Insert Loss	calibration specification of Coupling/decoupling network JJF(苏)213-2018	0dB～30dB（150kHz~200MHz）	U=0.8dB		
		common-mode impedance		10Ω~300Ω（150kHz~200MHz）	U_{rel}=7.3%		
22	Standard Dissipation Factor	capacitance	High Voltage Standard Capacitors JJG 1075,Calibration Regulation of Standard Dissipation Factor NIMTT(CM) 050	10pF～500nF	U_{rel}=0.05%		
		dissipatin factor		1×10^{-5}～1×10^{-1}	$U=6\times10^{-5}$～6×10^{-4}		
23	*Dielectric Dissipation Factor Tester	capacitances	High Voltage Dielectric Loss Tester JJG 1126	100pF～500nF	U_{rel}=0.1%		
		dissipatin factor		0.000%～10%	$U=0.5\%\times tg\,\delta+5\times10^{-5}$		
24	Cable and Antenna Analyzers	Level	Calibration Specification for SWR Tester JJF(川) 137,Calibration Specification for Cable and Antenna Analyzers JJF 1740	(-70～20)dBm(2MHz～18GHz)	U=0.07dB		
		Frequency		2MHz～18GHz	$U_{rel}=2\times10^{-7}$		
		Attenuation		(-30～0)dB(2MHz～18GHz)	U=0.05dB		
		SWR		1.00～2.00(2MHz～18GHz)	U=0.02~0.06		
25	Spectrum Analyzer	Frequency	Calibration Specification for Spectrum JJF 1396	20Hz～50GHz	$U_{rel}=3\times10^{-10}$		
		Amplitude		(-30～20)dBm(20Hz～50GHz)	U=0.12dB～0.5dB		
		Amplitude		(0～80)dB(20Hz～50GHz)	U=0.08dB～0.5dB		
		Sweep Width		1kHz～50GHz	$U_{rel}=2\times10^{-4}$		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
26	Attenuator	Attenuation	Verification Regulation of Coaxial Attenuator JJG 387	(0～120)dB (250kHz～26.5GHz)	U=0.09dB～0.14dB		
		Attenuation		(0～50)dB (26.5GHz～40GHz)	U=0.14dB～0.30dB		
		Attenuation		(0～50)dB (40GHz～50GHz)	U=0.30dB～0.40dB		
		SWR		1.00～2.00	U=0.02~0.06		
27	Power divider/Coupler	Insertion loss	Calibration Specification for Microwave Components NIMTT(CM) 101,Calibration Specification for Directional Coupler and SWR Bridges JJF1680	0～80dB(250kHz～40GHz)	U=0.2dB		
		Standing wave ratio		1.00～2.00(250kHz～40GHz)	U=0.02~0.06		
28	Low Frequency Signal Generator	Voltage	Verification Regulation of Low Frequency Signal Generator JJG 602	1mV～1V	U_{rel}=3%		
		Voltage		1V～300V	U_{rel}=1.5%		
		Frequency		10mHz～1MHz	$U_{rel}=1\times10^{-7}$		
		Distortion		0.01%～20%	U_{rel}=3%		
29	Signal Generator	Level	Calibration Specification for Signal Generators JJF 1931	20dBm～-120dBm（20Hz～40GHz）	U=0.16dB～0.50dB		
		Frequency		20Hz～40GHz	$U_{rel}=5\times10^{-10}$		
		Amplitude modulation		6%～99%(fm:50Hz～400kHz)	U_{rel}=0.7%~1.8%		
		Frequency modulation		4kHz～400kHz(fm:10Hz~200kHz)	U_{rel}=0.6%~3.5%		
		Phase modulation		(4～400)rad (50Hz～100kHz)	U_{rel}=0.6%~1.2%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
30	Distortion Meter	Distortion	Calibration Specification for Distortion Meters JJF 1852	0.3%～100%(10Hz～10kHz)	U_{rel}=1%		
		Distortion		0.3%～100%(10kHz～100kHz)	U_{rel}=3%		
		Distortion		0.3%～100%(100kHz～200kHz)	U_{rel}=3.5%		
		Distortion		0.003%～0.3%(10Hz～10kHz)	U_{rel}=6%		
		Distortion		0.003%～0.3%(10kHz～100kHz)	U_{rel}=6.5%		
		Distortion		0.003%～0.3%(100kHz～200kHz)	U_{rel}=9%		
		Voltage		(0.001～300)V	U_{rel}=1%		
31	Digital Oscilloscope	Vertical deflection coefficient	Calibration Specification for Digital Storage Oscilloscope JJF 1057,Verification Regulation of Digital Oscilloscope GJB 7691	(1mV～20V)/div	U_{rel}=0.6%		
		Frequency bandwidth		50kHz～50GHz	U_{rel}=2.5%		
		Rise time		17ps～500ns	U_{rel}=2%		
		Sweep time		200ps～5s	U_{rel}=0.6%		
32	Analog Oscilloscope	Vertical deflection coefficient	Verification Regulation of Analogue Oscilloscope JJG 262	(1mV～20V)/div	U_{rel}=0.6%		
		Frequency bandwidth		50kHz～500MHz	U_{rel}=2.5%		
		Rise time		350ps～500ns	U_{rel}=20%		
		Sweep time		200ps～5s	U_{rel}=0.6%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
33	Sampling Oscilloscope	Vertical deflection coefficient	Verification Regulation of 1 GHz Sampling Oscilloscope JJG 491	10mV～200V	U_{rel}=0.6%		
		Frequency bandwidth		50kHz～50GHz	U_{rel}=3%		
		Time base		200ps～5s	U_{rel}=0.6%		
		Rise time		17ps～500ns	U_{rel}=2%		
34	Oscilloscope Calibrator	Voltage	Verification Regulation of Oscilloscope Calibrator JJG 278	1mV～200V	U_{rel}=0.05%		
		Time base		25ps～5s	U_{rel}=4×10^{-8}		
		Rise Time		25ps～500ns	U_{rel}=3%		
35	Pulse Generator	Frequency	Verification Regulation of Pulse Generator JJG 490	0.1Hz～3GHz	U_{rel}=3.4×10^{-8}		
		Pusle wide		10000s～1ns	U_{rel}=0.35%		
		Amplitude		1mV～100V	U_{rel}=1.0%		
		Rise Time		17ps～500ns	U_{rel}=3%		
36	Audio Analyzer	Voltage	Calibration Specification for Audio Analyzer JJF 1395	(1～220)mV(10Hz～1MHz)	U_{rel}=0.07%～0.35%		
				(0.22～22)V(10Hz～1MHz)	U_{rel}=0.06%～0.28%		
				(22～220)V(10Hz～1MHz)	U_{rel}=0.06%～1.16%		
				(220～300)V(15Hz～1kHz)	U_{rel}=0.04%～0.01%		
		Distortion		0.003%～0.05%(10Hz～10kHz)	U_{rel}=10%～2%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
				0.05%～0.3%(10Hz～200kHz)	U_{rel}=1%～10%		
				0.3%～100%(10Hz～200kHz)	U_{rel}=1%～4%		
		Source Frequency		10Hz～1MHz	$U_{rel}=1\times10^{-6}$		
		Source Voltage		(1～220)mV(10Hz～1MHz)	U_{rel}=0.08%～0.40%		
				(0.22～22)V(10Hz～1MHz)	U_{rel}=0.10%～0.48%		
				(22～220)V(10Hz～1MHz)	U_{rel}=0.08%～1.26%		
				(220～300)V(15Hz～1kHz)	U_{rel}=0.04%～0.01%		
37	Measuring Receiver	Frequency	Calibration Specification for Measuring Receivers JJF 1173	250kHz～67GHz	$U_{rel}=1.3\times10^{-9}$		
		Level		(0～-120)dB (250kHz~50GHz)	U=0.006dB～0.15dB		
		Amplitude modulation		5%～99%	U_{rel}=0.2%~0.5%		
		Frequency modulation		1Hz～400kHz	U_{rel}=0.2%~0.5%		
		Phase modulation		(1～400)rad	U_{rel}=0.5%~2%		
38	EMI Receiver	Frequency	Calibration Specification for EMI Testing Receivers JJF1144	9kHz～40GHz	$U_{rel}=1\times10^{-8}$		
		Level		(0～125)dBμV	U=0.3dB		
		Attenuation		(0～100)dB	U=0.2dB		
		Standing wave ratio		1.00～2.00	U=0.02		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		Impulse frequency response		(0～70)dB	U=1.2dB		
39	LCR Digital Bridge(LCR Meter)	Resistances	Verification regulation for wide range digital RLC meter GJB/J5412	1Ω～1MΩ	Urel =0.01%		
		Inductances		10μH～100μH	U_{rel}=0.05%		
		Inductances		100μH～1H	U_{rel}=0.01%		
		Inductances		1H～9999H	U_{rel}=0.05%		
		Capacitances		1pF～1μF	U_{rel}=0.01%		
		Capacitances		1μF～9999μF	U_{rel}=0.05%		
		Dielectric Dissipation Factor		1×10^{-5}~1	$U=5\times10^{-5}$		
40	Power Meter	Standing wave ratio	Verification Regulation of Lower Power Mount GJB/J3598,Calibration Specification for RF & Microwave Power Sensors JJF1887	1.00～2.00(9kHz～40GHz)	U=0.02～0.07		
		Calibration factor		30%～200%(250kHz～40GHz)	U_{rel}=2.0%～3.0%		
		Calibration factor		30%～200%(40GHz～50GHz)	U_{rel}=3.0%～5.0%		
41	Function Signal Generator	Frequency	Verification Regulation of Function Generators JJG840,Calibration Specification for Arbitrary Waveform Ge-nerator JJF1152	0.1Hz～2.7GHz	$U_{rel}=4\times10^{-8}$		
		Voltage		1mV～55V	U_{rel}= 1%		
		Distortion		0.003%～30%	U_{rel}= 1%～6%		
42	*Insulating Oil Dielectric	Capacitors	Calibration Specification for Insulating Oil Dielectric Dissipation Factor and	100pF	U_{rel}=0.1%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
	and Volume Resistivity Testers	Dielectric Dissipation Factor	Volume Resistivity Testers JJF1618	0.001%~10%	U_{rel}=0.5%		
		Volume Resistivity		1MΩ~1TΩ	U_{rel}=0.5%~3%		
43	*A.C.Resistance Boxes	Resistance	Calibration Specification for A.C.Resistance Boxes JJF1636	1Ω～100Ω	U_{rel}=0.03%		
		Resistance		100Ω～100kΩ	U_{rel}=0.02%		
		Resistance		100kΩ～10MΩ	U_{rel}=0.1%		
44	Oscilloscope voltage probes	Attenuation ratio	Calibration Specification for Oscilloscope Voltage Probes JJF1437	1～1000	U_{rel}=0.6%		
		Bandwidth		250kHz～2GHz	U_{rel}=5%		
		Rise time		58ps～50ns	U_{rel}=5%		
Ⅶ Time and frequency measuring instrument							
1	Crystal OscillatorsInside the ElectricalMeasuring Instrument	Frequency	Calibration Specification for Crystal Oscillators inside the Electrical Measurement Instruments JJF 1984	1 MHz，5MHz，10MHz	U_{rel}=2×10^{-9}		
2	Quartz crystal frequency standard	Frequency	Verification Regulation of Quartz Crystal Frequency Standards JJG181	1 MHz，5MHz，10MHz	U_{rel}=1×10^{-10}		
3	Frequency Meters	Frequency	Verification Regulation of Frequency Meters JJG603	10Hz～20kHz	U_{rel}=5×10^{-5}		
4	Frequency Comparator	Comparator uncertainty	Verification Regulation of Frequency Comparator JJG545	0.1s～10s	U_{rel}=1×10^{-11}/τ		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
5	Vibrating Wire Frequency Readouts	Frequency	Calibration Specification for Vibrating Wire Frequency Readouts JJF1401	(300～6000)Hz	U=(0.03～0.6)Hz		
6	High Voltage Capacitance Bridges	Time	High Voltage Switch Operation Characteristic Testers JJG1120	(0.01～9999.99)ms	U=0.02ms	变更	
		Length		(0～300)mm	U=0.03mm		
7	Mechanical stopwatch	Time	Verification Regulation of Stopwatches JJG237	分度盘 T 240s/900s/1800s/3600s	$U=2\times10^{-7}\times T+3ms$		
				秒盘 T 60s/30s/6s	$U=2\times10^{-7}\times T+3ms$		
8	Electronic stopwatch	Time	Verification Regulation of Stopwatches JJG237	(0～24)h、10s、10min、1h、1d	$U=2\times10^{-7}\times T+3ms$		
9	Timer and Charge System of SPC Exchange	Time Length	Verification Regulation of the Timer and Charge System of SPC Exchange JJG(川)87	(0.1～864000)s	U_{rel}=0.1%		
10	Time Interval Generator	Frequency	Calibration Specification for Time Interval Generators JJF 1902	5MHz，10MHz	$U_{rel}=2\times10^{-9}$		
		Time		10ns～10000s	$U=2\times10^{-7}\times T+3\ \mu s$		
11	Time Interval Meter	Crystal oscillator Frequency accuracy	Verification Regulation of Time Interval Meters JJG238	5MHz 10MHz	$U_{rel}=5\times10^{-9}$		
		Time Interval		1 μs～10000s	$U=2\times10^{-7}\times T+3\ \mu s$		
12	Coast-down Time Testers	Velocity	Calibration Specification for Coast-down Time Testers JJF1360	0.1km/h～20km/h	U=0.01km/h		
				20km/h～130km/h	$U_{rel}=4.6\times10^{-4}$		
		Time		0.1s～150s	U=1.1ms		
		Diameter		0mm～300mm	U=0.03mm		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
13	GNSS Vehicle Comprehensive Performance Tester	Response time of localization	Calibration Specification for Vehicle Comprehensive Performance Tester JJF(Mechanics)1017	(0～1000)s	U=0.02s		
		Time		(0～1000)s	U=0.02s		
		Velocity		(5～300)km/h	U=0.08km/h		
		Distance		（0.1～10000）m	U_{rel}=0.02%		
		Positioning accuracy		经度(0～180)°,纬度(0～90)°	U=0.0002′		
14	GNSS Signal Simulators	Power range	Calibration Specification for GNSS Signal Simulators JJF1471	（-50～-90）dB	U=0.2dB		
		Power resolution		0.1dB～2dB	U=0.06dB		
		Harmonic		(-100～0)dBc	U=2.0dB		
		Frequency		1GHz～2.7GHz	$U_{rel}=3.6\times10^{-10}$		
		1s Frequency stability		5×10^{-11}/s	$U_{rel}=1.6\times10^{-12}$		
		Speed range		(0～2.0×10^{5})m/s	U=0.04m/s		
		Acceleration range		(0～2×10^{4})m/s^2	U=0.02m/s^2		
		Acceleration range		(0～2×10^{3})m/s^3	U=0.01m/s^3		
		Pseudorange resolution		(0.01～0.1)m	U=0.06m		
		Pseudorange ratio resolution		(0.01～0.1)m/s	U=0.006m/s		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
15	Calibration device of high voltage switch characteristic tester	Time	Calibration device of high voltage switch characteristic tester NIMTT(CM) 070	(1~20000)ms	U=2×10^{-4}ms		
16	Time calibrator	Crystal oscillator Frequency accuracy	Verification Regulation of Time Interval Generator JJG601	5MHz 10MHz	U_{rel}=5×10^{-9}		
		Time Interval		1ms~1s	U=2×10^{-7}×T+3 μ s		
		Time Interval		1s~1d	U=2×10^{-7}×T+3ms		
17	Microwave Frequency Counter	Crystal oscillator Frequency accuracy	Verification Regulation of Microwave Frequency Counters JJG841	5MHz 10MHz	U_{rel}=5×10^{-10}		
		Frequency		100kHz～67GHz	U_{rel}=5×10^{-10}		
18	Universal Counters	Crystal oscillator Frequency accuracy	Verification Regulation of Universal Counters JJG349	5MHz 10MHz	U_{rel}=5×10^{-10}		
		Frequency		0.1Hz～18GHz	U_{rel}=5×10^{-10}		
Ⅷ Optics measuring instrument							
1	Illuminance Meter	Illuminance	Illuminance Meter JJG245	(10^{-3}～10^{-1})lx	U_{rel}=(2.5%～2.0%)		
				(10^{-1}～10)lx	U_{rel}=(2.0%～1.0%)		
				(10～3000)lx	U_{rel}=1.0%		
				(3000～10000)lx	U_{rel}=(1.0%～2.5%)		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
2	Standard Lamp of Luminous Intensity	Luminance	Standard Lamp of Luminous Intensity JJG 246	(1～10)cd	U_{rel}=(1.2%～0.8%)		
				(10～1200)cd	U_{rel}=0.8%		
				(1200～5000)cd	U_{rel}=(0.8%～2.0%)		
3	Standard Incandescent Lamp	Total Luminous Flux	Standard Incandescent Lamp for Total Luminous Flux JJG 247	(50～2×10^4)lm	U_{rel}=1.0%		
4	Luminance Meter(Chromatic Luminance Meter)	Luminance	Luminance Meter JJG 211	（0.05～0.3）cd/m^2/	U_{rel}=2.4%		
				（0.3～3000）cd/m2	U_{rel}=2.0%		
				（3000～50000）cd/m^2	U_{rel}=3.0%		
				x,y:0.0～0.9	U(x)=0.0004,U(y)=0.0004		
5	Spectral Radiometers	Wavelength	Spectral Radiometers NIMTT(CM) 060,Calibration Specification for Color Temperature Meters JJF 2100,Calibration Specification for Spectralradiometers JJF1975	(250～2500)nm	U=0.1nm		
		Chromaticity Coordinate		x,y:0.0～0.9	U(x)=0.0008,U(y)=0.0006		
		Color Temperature		(2042～9500)K	(2042～3200)K:U=(6～15)K,(3200~9500)K:U=(15～80)K		
		spectral radioation		(250～2500)nm	(250～400)nm:U_{rel}=(4.1～2.8)%,(400～800)nm:U_{rel}=2.8%,(800～2500)nm:U_{rel}=(2.8～5.3)%		
				(200-250) nm	U_{rel}=12%~4.1%		
				（250～400）nm	U_{rel}=(4.1～2.8)%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
				(250～2500)nm	U_{rel}=(250～400)nm:U_{rel}=(4.1～2.8)%,(400～800)nm:U_{rel}=2.8%,(800～2500)nm:U_{rel}=(2.8～5.3)%		
		Stray Light		(0～5)%	U=0.2%		
		Rendering Index		0～100	U=0.3		
6	Color Analyzers	Color Temperature	Calibration Specification of Cathode Ray Tubes(CRT) Analyzers JJF 1079	6500K~9300K	U=1.0×10^{2}K		
		Chromaticity Coordinate		x,y:0.0～0.9	U=0.002		
		Luminance		(50～500)cd/m^2	U_{rel}=3.5%		
7	Lovibond Comparable Colormeter	Lovibond Chromaticness	Lovibond Comparable Colormeter JJG 758	R:(0.1～79.9)	U=0.6		
				Y:(0.1～79.9)	U=0.6		
				B:(0.1～49.9)	U=0.6		
				N:(0.1～3.9)	U=0.6		
8	Colormeters andColor DifferenceMeters	Stimulus value Y	Colormeters andColor DifferenceMeters JJG 595	Y:0～100	U=0.9～1.3		
		Chromaticity coordinate		x,y:0.0～0.9	U=0.0074～0.0086		
9	Color StandardPlates	Spectral reflectance	Color Standard Plates JJG 453,Whiteness Meter JJG 512,Filter-Type Smokemeters JJG 847,V. R. of Colorimeters and Color Difference Meters JJG 595	（0～100）%	U=0.96%		
		Spectral reflection		（0～100）%	U=1.0%～1.3%		
		Stimulus value		X:0～100,Y:0～100,Z:0～150	U=0.13~1.3		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		Stimulus value		X:0～100,Y:0～100,Z:0～150	U=0.01~0.77		
		Chromaticity coordinate		x,y:0.0～0.9	U=0.0017~0.0046		
		Chromaticity coordinate		x,y:0.0～0.9	U=0.0013～0.0025		
		Lightness index		0～100	U=0.36～0.53		
		Chroma index		a^*:（-100～100）,b^*:（-100～100）	U=0.53~2.0		
		Chromatic aberration		0～100	U=0.4		
		Blue Whiteness		0～100	U=1.0～1.2		
		G-s Whiteness		0～100	U=1.2～1.3		
		Light tone index		（-3～3）	U=0.5		
		Hunter Whiteness		0～100	U=1.1～1.4		
		Smokemetric tablet		0.1～10.0	U=0.3		
10	Whiteness Meter and standard white plate	Whiteness	Whiteness Meter JJG 512	W:0～100	U=1.0～1.3		
11	Laser for Medicine	Laser Power	Verification Regulation of Laser for Medicine JJG 581	0.1mW～100mW	U_{rel}= 2.0%		
		Laser Power		0.1W～150W	U_{rel}= 5.0%		
12	Laser Energy Meter	Laser Energy	Verification Regulation of laser energy meter JJG312	0.4mJ～850mJ	U_{rel}=4%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
13	laser beams Analysis	Laser beam width	Calibration Specification for laser beam Analysis NIMTT(CM) 118	0.2mm～5mm	U_{rel}=5%		
14	Laser Power Meter	Laser Power	Verification Regulation of 0.1mW～200W laser power meter JJG249	0.1mW～100mW	U_{rel}=2.0%		
		Laser Power		0.1W～150W	U_{rel}=4.0%		
15	Irradiance Meter	Ultraviolet Irradiance（UVA）	Ultraviolet Irradiance Meters JJG 879,Calibration Specification for Wide-band Irradiance Meters JJF 1660	UVA:(1～30000)uW/cm^2	U_{rel}=16%		
		Ultraviolet Irradiance(UVB&UVC)		UVB:(1～1000)uW/cm^2,UVC:(1～1000)uW/cm^2	U_{rel}=13%		
		Radiation Exposure Amount		(100～5000)mJ/cm^2	U_{rel}=16%		
		Wide-band Irradiance		250nm～2500nm	(250～400)nm:U_{rel}=(6.1～5.1)%,(400～800)nm:U_{rel}=5.1%,(800～2500)nm:U_{rel}=(5.1～6.6)%		
16	Standard Light Source	Spectral Irradiance	Verification Regulation of Spectral Irradiance Standard Lamp JJG 384,Verification Regulation of Spectral Radiance Standard Lamp JJG 383,Calibration Specification of radiometers used in aging test JJF 1525,V. R. of Standard Lamps for Distribution (Colour) Temperature JJG 213,	(250～2500)nm	(250～400)nm:U_{rel}=(4.1～2.8)%,(400～800)nm:U_{rel}=2.8%,(800～2500)nm:U_{rel}=(2.8～5.3)%		
		Color Rendering Index		(250～2500)nm	(250～400)nm:U_{rel}=(4.6～3.5)%,(400～800)nm:U_{rel}=3.5%,(800～2500)nm:U_{rel}=(3.5～5.7)%		
		Color Temperature		(2042～2353)K	U=(5.0～6.5)K		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
			NIMTT(CM) 060	(2353～2856)K	U=(6.5～9.0)K		
				(2856～3200)K	U=(9.0～14)K		
				(3200～6500)K	U=(14～30)K		
				(6500～9000)K	U=(30～50)K		
		Chromaticity Coordinate		x,y:0.0～0.9	U(x)=0.0008,U(y)=0.0006		
17	Radiation Fluxmeters	Irradiance	VerificationRegulation of Radiation Fluxmeters JJF1572	(0.1 ～2.0)kW/m^2	U_{rel}=5%		
18	Stabilized Laser Sources	output power	Verification Regulation of Stabilized Laser Sources for Optical Transmit JJG 958	(-70~30)dBm	U=0.09dB		
		Central wavelength		(600~1700)nm	U=0.05nm		
		Spectral bandwidth		(600~1700)nm	U=0.05nm		
19	Optical Attenuator	Attenuation value	Calibration Specification of Optical Attenuator for Telecommunications JJF1199	(800~1700)nm：(0~60)dB	U=0.08dB		
		Insertion loss		(800~1700)nm：(0~60)dB	U=0.08dB		
20	Optical Return Loss Meters	Optical return loss	Calibration Specification of Optical Return Loss Meters for Telecommunications JJF1325	(800～1700) nm, (0～60) dB	U=(0.4～0.6) dB		
21	Filter	Spectraltransmittance	Interference filter JJG 812,Light filter NIMTT(CM) 066	(0.01～100)%	U_{rel}=0.3%		
		Absorbance		(0～3) A	U=0.003		
		Haze		0.1～30.0	U=0.2		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		centerwavelength		(200～850) nm	U=0.2 nm		
				(850～2600) nm	U=(0.2～0.5) nm		
		Full of halfmaximum		(200～850) nm	U=0.2 nm		
				(850～2600) nm	U=(0.2～0.5) nm		
		Absorptance		（0～100）%	U=0.3%		
		Effective Absorptance		（0~100）%	U=0.3%		
22	Fiber Optica power meter	Optica power	Verification Regulation of Fiber Optical Power Meters JJG813	(-70～10)dBm	U_{rel}=2.3%		
23	Passive Optical Network Power Meters	Burst optical power	Calibration Specification for Passive Optical Network Power Meters JJF 1755	(-50～10)dBm	U=0.2dB		
		Continuous optical power		(-70～10)dBm	Urel =2.3%		
24	*Solar simulator	Spectral match	Calibration Specification of Solar Simulator JJF 1615	(300～1100)nm	U_{rel}=9.0%		
		Non-uniformity of irradiance		(200～2000)W/m^2	U_{rel}=2.6%		
		Temporal instability ofirradiance		(200～2000)W/m^2	U_{rel}=2.6%		
25	Verification device of Pupil Distance Meters	Length	Calibration specification for verification device of pupillary distance meter JJF（川）177	(55～85)mm	U=(3+L/100) μ m(L:mm)		
26	Reflectometers	Reflectivity	Calibration Specification for Reflectometers JJF 1232	0～100	U=0.9～1.3		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
27	Standard Lenses ofVertex Power	Vertex Power	Verification Regulation of Standard Lenses of Vertex Power JJG 866	(-25.0～+25.0)m^{-1}	U=（0.02～0.03）m^{-1}		
28	Trial case lenses	Vertex Power	VerificationRegulation of Trialcase lenses JJG 579	(-25.0～+25.0)m^{-1}	U=（0.02～0.03）m^{-1}		
29	Focimeters	Vertex Power	Verification Regulation of Focimeters JJG 580	(-25.0～+25.0)m^{-1}	U=（0.02～0.03）m^{-1}		
30	EyeRefractometers	Vertex Power	Verification Regulation of Eye Refractometers JJG 892	Objective:(-20～+20)m^{-1}	U=(0.07～0.10) m^{-1}		
		Vertex Power		Subjective:(-15～+15)m^{-1}	U=0.04m^{-1}		
31	Black and White Step Tablet	Black and White Step Tablet	Black and White Step Tablet JJG 452	D:(0.0~4.0)	U=0.02		
				D:(4.0~5.10)	U=0.03		
32	VisualDensitometer	Density	VerificationRegulation of DiffuseTransmission VisualDensitometer JJG 920	D:(0.00～4.00)	U=0.02		
				D:(4.00～5.00)	U=0.03		
33	AbbeRefractometer	Refractiveindex	Abbe Refractometer JJG 625	n_D:1.47001～1.67248	U=1×10^{-4}		
		Dispersion		n_F-n_C:0.00708～0.02086	U=7×10^{-5}		
34	Specular Gloss Meters and Gloss Plates	Gloss	V.R. of Specular Gloss Meters and Gloss Plates JJG 696	Specular Gloss Meters：(0.0～120.0)GU	U=1.0 GU		
				Gloss Plates(0.0～120.0)gloss unit	U=1.2 GU		
35	Transmittance Measuring Equipment For Ophthalmic Products	Spectraltransmittance	CalibrationSpecification ofTransmittanceMeasuring EquipmentFor OphthalmicProducts JJG 1106	0.1%～100%	U=1.5%		
		Spectral	Calibration Specification for Relative Spectral	(300～400)nm	U_{rel}=3.0%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
			Responsivity for Photoelectric Detectors JJF 1150	(400～1100)nm	U_{rel}=2.0%		
37	Retroreflection Meters	Coefficient of Retroreflection	Galibration Specification Of Retroreflection Coefficient Meters for Mator Vehicle's Reflecting Marking JJF 1747,C. S. for Retroreflectometer JJF 1809	(0.1~1999) cd•lx^{-1}•m^{-2}	U_{rel}=7.5%		
		Coefficient of Retroreflected Luminance		(0.1~1999) mcd•lx^{-1}•m^{-2}	U_{rel}=12%		
		Coefficient of luminous intensity		(1~1999) mcd•lx^{-1}	U_{rel}=12%		
38	Water Colorimeter	Water Chromaticness	Water Colorimeter JJF 1689	（0～100）PCU	U=0.8 PCU		
39	Reflection densitometer	Optical Density	Reflection densitometer JJF 1492	0.07～1.00	U=0.03		
				1.00～2.04	U=0.04		
40	Transmittance meter	Transmittance	Transmittance meter NIMTT(CM) 146	（0～100）%	U=0.8%		
		Stimulus value Y		Y:0～100	U=1.0		
		Chromaticity coordinate		x,y：0.0~0.9	U=0.0064		
41	*UV pretreatment test chamber of photovoltaic module	Distribution of UV spectrum radiation	Calibration Specification for UV Preconditioning Test of Photovoltaic Module NIMTT(CM) 143	(250～400) nm	U_{rel}=12%		
		Nonuniformity of UV irradiance		(0.1～40) mW/cm^2	U_{rel}=8%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		UV irradiance		(0.1～40)mW/cm^2	U_{rel}=15%		
42	UV Analyzers	Peak Wavelength	Calibration Specification for UV Analyzers JJF 1936	(250-400) nm	U=0.5 nm		
		UV Irradiance		(1~1000) μ W/cm2	U_{rel}=15%		
43	Standard Lamps of Distribution Temperature	Distribution Temperature	Standard lamps for Distribution(Colour) Temperature JJG 213	(2042～2353)K	U=(5.0～6.5)K		
				(2353～2856)K	U=(6.5～9.0)K		
				(2856～3200)K	U=(9.0～14)K		
44	*I-V Curve measuring instrument	Open circuit voltage	Calibration Specification of I-V Curve Measuring Instrument NIMTT(CM) 120	10mV～80V	U_{rel}=1.0%		
		Short-circuit current		(0.1～20) A	U_{rel}=1.4%		
45	*Hazemeter	Haze	Calibration Specification for Hazemeter JJF1303	1～30	U=0.31		
		Transmission ratio		0.7～0.9	U=0.008		
46	*Transmittance Reference Filter	Wavelength	Verification Regulation of Transmittance Reference Filter JJG1034	(200～2600)nm	U=(0.10～0.35)nm		
		Transmittance		0.02～1.00	U_{rel}=(0.26～0.40)%		
Ⅸ Chemistry measuring instrument							
1	*Wavelength Dispersive X-Ray Fluorescence Spectrometers	Count rate	Verification Regulation for Wavelength Dispersive X-Ray Fluorescence Spectrometers JJG810	(10～2000)kcps	U_{rel}=0.3%		
2	*Hand Saccharimeter （Content-meter）and Hand Refractometer	Sugar content	Verification Regulation of Hand Saccharimeter （Content-meter） and Hand Refractometer JJG820	（0～60）%	U=0.06%		
		Refractive index		n_D:（1.3～1.5）	U_{rel}=1%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
3	*Colorimeter	content	Calibration Specification for Colorimeter NIMTT(CM) 073	（0.2～10.0）mg/L	U_{rel}=1%		
4	*Polarimeter and Polarimetric Saccharimeters	specific rotation	Verification Regulation of Polarimeter and Polarimetric Saccharimeters JJG536	(-45～+45)°	U=0.002°		
5	*Mercury Analyzers	Detection limit	Verification Regulation of Mercury Analyzers JJG548	absorption：≤1.0 ng	U_{rel}=48%		
				Fluorescence：≤0.1 ng	U_{rel}=48%		
6	*Flame Photometer	Detection limit	Verification Regulation of Flame Photometer JJG630	K：≤0.004 mmol/L	U_{rel}=48%		
				Na：≤0.008 mmol/L	U_{rel}=48%		
7	*UV-VIS-NIR Spectrophotometers	Wavelength	Verification Regulation of UV-VIS-NIR Spectrophotometers JJG178	(200～700)nm	U=0.01 nm		
				(700～900)nm	U=0.2 nm		
				(900～2600)nm	U=0.1 nm		
		Transmittance		(7～55)%	U_{rel}=0.37%		
8	*Fourier Transform Infrared Spectrometer	wave number	Calibration Specification for Fourier Transform Infrared Spectrometer JJF1319	(900～3300)cm^{-1}	U=(0.03～0.10) cm^{-1}		
9	*Dispersive Infrared Spectrophotometers	wave number	Verification Regulation of Dispersive Infrared Spectrophotometers JJG681	(900～3300)cm^{-1}	U=(0.03～0.10) cm^{-1}		
10	*Atomic Absorption Spectrophotometers	Wavelength	Verification Regulation of Atomic Absorption Spectrophotometers JJG694	(190～1000)nm	U=0.1 nm		
		detection limit		Cu:≤0.02 μg/mL	U_{rel}=48%		
				Cd:≤4 pg	U_{rel}=48%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
11	*Fluorescence Spectrophotometer	Wavelength	Verification Regulation of Fluorescence Spectrophotometer JJG537	(240～550)nm	U=0.1 nm		
		Detection limit		type A：≤5×10^{-10} g/mL	U_{rel}=48%		
				type B：≤1×10^{-8} g/mL	U_{rel}=48%		
12	*Atomic Fluorescence Spectrophotometers	Detection limit	Verification Regulation of Atomic Fluorescence Spectrophotometers JJG939	As、Sb：≤0.4 ng	U_{rel}=48%		
13	*Emission Spectrometer	Wavelength	Emission Spectrometer JJG768	(190～1000)nm	U=0.01 nm		
		Detection limit		Zn：≤0.01 mg/L(ICP)	U_{rel}=48%		
				Ni：≤0.03 mg/L(ICP)	U_{rel}=48%		
				Mn：≤0.005 mg/L(ICP)	U_{rel}=48%		
				Cr：≤0.02 mg/L(ICP)	U_{rel}=48%		
				Cu：≤0.02 mg/L(ICP)	U_{rel}=48%		
				Ba：≤0.005 mg/L(ICP)	U_{rel}=48%		
				C：≤0.02%(Direct reading spectrometer)	U_{rel}=48%		
				Si：≤0.02%(Direct reading spectrometer)	U_{rel}=48%		
				Mn：≤0.02%(Direct reading spectrometer)	U_{rel}=48%		
				Cr：≤0.01%(Direct reading spectrometer)	U_{rel}=48%		
				Ni：≤0.02%(Direct reading spectrometer)	U_{rel}=48%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
				V：≤0.01%(Direct reading spectrometer)	U_{rel}=48%		
				Spectrograph：≤0.003%	U_{rel}=48%		
14	*Flow Analyzers with Spectrophotography	Detection limit	Calibration Specification for Flow Analyzers with Spectrophotography JJF 1568	cyanide：≤0.002 mg/L	U_{rel}=48%		
				Volatile phenol：≤0.002 mg/L	U_{rel}=48%		
				Cr^{6+}：≤0.004 mg/L	U_{rel}=48%		
				sulfide:≤0.005 mg/L	U_{rel}=48%		
				TP：≤0.01 mg/L	U_{rel}=48%		
				TN：≤0.04 mg/L	U_{rel}=48%		
				Amino Nitrogen：≤0.04 mg/L	U_{rel}=48%		
				Anion Active Detergent：≤0.05 mg/L	U_{rel}=48%		
		wavelength		（210～1100）nm	U=0.2 nm		
15	*Capillary Electrophoresis Instruments	Detection limit	Verification Regulation of Capillary Electrophoresis Instruments JJG964	≤1×10^{-6} g/mL（VB_6）	U_{rel}=10%		
16	*Gas Chromatographs	Temperature	Verification Regulation of Gas Chromatographs JJG700	(20～300)℃	U=0.06℃		
		Sensitivity		TCD：≥800 mV・mL / mg	U_{rel}=3.5%		
		Detection limit		FID:≤5 ng/s	U_{rel}=14%		
				FPD:≤0.5 ng/s (S)	U_{rel}=14%		
				FPD:≤0.1 ng/s (P)	U_{rel}=14%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
				NPD:≤5 pg/s （N）	U_{rel}=14%		
				NPD:≤10 pg/s （P）	U_{rel}=14%		
				ECD:≤5 pg/mL	U_{rel}=14%		
17	*on-line Gas Chromatograph	Temperature	Verification Regulation of On-line Gas Chromatograph JJG1055	(20～300)℃	U=0.06℃		
		Sensitivity		TCD：≥1000 mV·mL/mg	U_{rel}=3.5%		
		Detection limit		PID：≤5×10^{-12} g/mL	U_{rel}=14%		
18	*Liquid Chromatographs	Flow	Verification Regulation of Liquid Chromatographs JJG705	(0.5～10) mL/min	U_{rel}=0.3%		
		Temperature		(10～90)℃	U=0.06℃		
		Wavelength		(200～400)nm	U=0.2nm		
		Detection limit		UV-VIS/DAD：≤5×10^{-8} g/mL	U_{rel}=10%		
				FLD：≤5×10^{-9} g/mL	U_{rel}=10%		
				RID：≤5×10^{-6} g/mL	U_{rel}=10%		
				ELSD：≤5×10^{-6} g/mL	U_{rel}=10%		
19	*Gel Chromatograph	Flow	Verification Regulation of Gel Chromatograph JJG342	(0.5～10) mL/min	U_{rel}=0.3%		
		Temperature		(10～90)℃	U=0.06℃		
		molecular weight		Organic phase：（1×10^3～5×10^5）g/mol	U_{rel}=8%		
				Water phase：（1×10^3～5×10^5）g/mol	U_{rel}=8%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
20	*Ion Chromatograph	Flow	Verification Regulation of Ion Chromatograph JJG823	(0.5～10) mL/min	U_{rel}=0.3%		
		Temperature		(10～90)℃	U=0.06℃		
		Detection limit		Conductivity detector（Cl^-、Li^+）：≤0.02 μg/mL	U_{rel}=10%		
				UV-VIS detector（NO_2^-）：≤0.02 μg/mL	U_{rel}=10%		
				Electrochemical detector（I^-）：≤0.02 μg/mL	U_{rel}=10%		
21	*Portable Gas Chromatography-Mass Spectrometers	SNR	Calibration Specification for Portable Gas Chromatography-Mass Spectrometers NIMTT(CM) 015	≥10:1	U_{rel}=14%		
22	*Quadrupole Inductively Coupled Plasma Mass Spectrometers	detection limit	Calibration Specification for Quadrupole Inductively Coupled Plasma Mass Spectrometers JJF1159	Be：≤30 ng/L	U_{rel}=48%		
				In：≤10 ng/L	U_{rel}=48%		
				Bi：≤10 ng/L	U_{rel}=48%		
23	*Bench Top Gas Chromatography-Mass Spectrometers	SNR	Calibration Specification for Gas Chromatography-Mass Spectrometries JJF1164	≥10:1	U_{rel}=14%		
24	*Liquid Chromatography-Mass Spectrometers	SNR	Calibration Specification for Liquid Chromatography-Mass Spectrometers JJF1317	≥10:1	U_{rel}=14%		
25	*Time of Flight Mass Spectrometers	M/R	Calibration Specification for Time of Flight Mass Spectrometers JJF1528	(100～5000)	U_{rel}=1×10^{-5}		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
26	*Nitrate-Nitrogen Automatic Analyzers	concentration	Verification Regulation of Nitrate-Nitrogen Automatic Analyzers JJG656	（0～500）μg/mL	U=(0.30～6.0)mg/L		
27	*Analyzers for Oil Content in Water	concentration	Verification Regulation of Analyzers for Oil Content in Water JJG950	（0～1000）mg/L	U=（0.2～20）mg/L		
28	*Silicate Analyzers	Concentration	Calibration Specification for Silicate Analyzers JJF1539	(0.02～100) μg/mL	U_{rel}=(4~2)%		
29	*Ammonia-Nitrogen Automatic Analyzers	Concentration	Verification Regulation of Ammonia-Nitrogen Automatic Analyzers JJG631	(0.01～500) μg/mL	U_{rel}=1.5%		
30	*Total OrganicCarbon Analyzer	Concentration	Verification Regulation of Total Organic Carbon Analyzer JJG821	TOC：(0.01～1000) μg/mL	U_{rel}=2.1%		
		Concentration		TIC：(0.01～1000) μg/mL	U_{rel}=2.1%		
31	*Chemical Oxygen Demand(COD) Meters	Concentration	Verification Regulation of Chemical Oxygen Demand(COD) Meters JJG975	A type instrument: （0.01～1500）(mg/L)	U_{rel}=1%		
		Concentration		B type instrument: （0.01～1500）(mg/L)	U=0.52 mg/L		
		Temperature		（100～200）℃	U=0.06℃		
32	*On-line Automatic Determination of Chemical Oxygen Demand (COD)	Concentration	Verification Regulation of On-line Automatic Determination of Chemical Oxygen Demand (COD) JJG1012	（16～1000）mg/L	U_{rel}=1%		
33	*Water Quality On-line Analyzers of Total Phosphorus and Total Nitrogen	Concentration	Verification Regulation of Water Quality On-line Analyzers of Total Phosphorus and Total Nitrogen JJG1094	TP：(0.01～500) mg/L	U_{rel}=2.3%		
		Concentration		TN：(0.01～100) mg/L	U_{rel}=2.2%		

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The scope of the accreditation in Chinese remains the definitive version.

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
34	*Turbidimeter	Turbidity	Verification Regulation of Turbidimeter JJG880	(0.1～400)NTU	U_{rel}=3.1%		
35	*Dissolved Oxygen Meters	Dissolved Oxygen	Verification Regulation of Dissolved Oxygen Meters JJG291	(0～20)mg/L	U=0.02 mg/L		
		Temperature		（0~50）℃	U=0.18℃		
36	*Water Quality On-line Analyzers of Heavy Metals	Concentration	Calibration Specification for Water Quality On-line Analyzers of Heavy Metals JJF1565	Pb、Cd、Hg、As、Cr^{6+}、Cr、Cu、Zn、Ni、Fe、Mn：（0.001～100）mg/L	U_{rel}=(1～3)%		
37	*Instrument for KF Coulometry Titration	weight	Verification Regulation of Instrument for KF Coulometry Titration JJG1044	10 μg	U=1.4 μg		
				100 μg	U=14 μg		
				1000 μg	U=71 μg		
				5000 μg	U=71 μg		
38	*Thermogravimetric Moisture Meters	weight	Verification Regulation of Thermogravimetric Moisture Meters JJG658	(0～210)g	U=0.5mg		
		Concentration		(94.98～95.02)%	U=0.20%		
39	*Instruments for measuring the moisture content of grain with capacitance and resistance method	Moisture	Verification Regulation of Instruments for Measuring the Moisture Content of Grain with Capacitance and Resistance Method JJG891	(8～33)%	U=0.1%		
40	*Wood moisture content measuring meters	Concentration	Verification Regulation of Wood Moisture Content Measuring Meters JJG986	(0～50)%	U=0.04%		
41	*Moisture	Concentration	Calibration Specification for Moisture meter NIMTT(CM) 110	(0～100)%	U=0.8%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
42	Roution Capillary Viscometer	Kinematic viscosity	Verification Regulation of RoUtion Capillary Viscometer JJG155	(1～10^5)mm^2/s	U_{rel}=（0.16%～0.61%）		
43	Viscosiuefer for Roll-Doun Ball Type	Kinematic viscosity	Verification Regulation of Viscosiuefer for Roll-Doun Ball Type JJG214	(1～10^5)mm^2/s	U_{rel}=（0.16%～0.61%）		
44	*Rotational Viscometers	Viscosity	Verification Regulation of Rotational Viscometers JJG1002	(1～10^5)mPa.s	U_{rel}=（0.16%～0.61%）		
45	Engler Viscosimeter	time	Verification Regulation of Engler Viscosimeter JJG742	(50～52)s	U_{rel}=0.2%		
46	Flow Cup Viscometers	Kinematic viscosity	Verification Regulation of Flow Cup Viscometers JJG743	(1～10^5)mm^2/s	U_{rel}=（0.16%～0.61%）		
47	*Kinematic Viscosity Tester	Kinematic viscosity	Calibration Specification for Kinematic Viscosity Tester JJF1274	(0.3～30000)mm^2/s	U_{rel}=(0.24～0.61)%		
		Temperature		(20～100)℃	U=0.003℃		
48	*Oscilloscopic Polarograph	Concentration	Verfication Regulation of Oscilloscopic Polarograph JJG748	Cd：（0.01～100）mg/L	U_{rel}=(1.2～2)%		
49	Verificating Meterfor pH Meters	potential	Verification Regulation of Verificating Meter for pH Meters JJG919	(-2000～+2000)mV	U=(0.00058～0.048)mV		
		pH		pH：(0～14)	pH：U=(0.00006～0.00018)		
50	*pH Meters	pH	Verification Regulation of Laboratory pH Meters JJG119	electric unit：(0～14)	U=0.001		
				instrument：(1～14)	U=0.006		
		Voltage		（-2000～2000）mV	U=0.1 mV		
51	*Ion Meters	pX	Verification Regulation of Laboratory Ion Meters JJG757	(0～14)	U=0.001		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		Potential		（-2000～2000）mV	U=0.1 mV		
52	*Automatic Potentiometric Titrators	Potential	Verification Regulation of Automatic Potentiometric Titrators JJG 814	(-2000～2000) mV	U=0.1 mV		
		Capacity		(0.1～50) mL	U=0.001 mL		
		Concentration		（0.09～0.11） mol/L	U_{rel}=0.3%		
53	*Electrolytic Conductivity Meters	Conductance	Verification Regulation of Electrolytic Conductivity Meters JJG376	(100 pS • m^{-1} ～0.25 μS • cm^{-1}(electronic unit)	U_{rel}=0.7%		
				(>0.25～2.5) μS • cm^{-1}(electronic unit)	U_{rel}=0.2%		
				(>2.5 μS • cm^{-1} ～10 S • cm^{-1}(electronic unit)	U_{rel}=0.05%		
				(0.000118～0.13110)S • cm^{-1}（instrument）	U_{rel}=0.3%		
54	*On-line pH Meters	pH	Calibration Specification for on-line pH Meters JJF 1547	pH:(0～14)	U=0.001 (electric unit)		
				pH:(1～14)	U=0.01(instrument)		
		Potential		(-2000～2000) mV	U=0.1 mV		
		Temperture		(0～60)℃	U=0.18 ℃		
55	*alarmer detectors of combustible gas	gas concentration	Verification regulation of alarmer detectors of combustible gas JJG693	Methane, isobutane,propane, hydrogen：(1～100)%LEL	U_{rel}=0.7%		
				Methane, hydrogen：(3～98)×10^{-2}	U_{rel}=0.7%		
56	*carbon monoxide detector	gas concentration	Verification Regulation of carbon monoxide detector	(10.0～200.0)×10^{-6}	U_{rel}=2.0%～0.8%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
			JJG915	(>200～1000)×10^{-6}	U_{rel}=0.8%		
				(>1000～3000)×10^{-6}	U_{rel}=0.7%		
57	*carbon monoxide and carbon dioxide infrared gas analyzer	gas concentration	Verification Regulation of carbon monoxide and carbon dioxide infrared gas analyzer JJG635	CO:(10.0～200.0)×10^{-6}	U_{rel}=1.7%～1.1%		
				CO:(>200～1000)×10^{-6}	U_{rel}=1.4%～1.2%		
				CO:(>1000～10000)×10^{-6}	U_{rel}=1.1%		
				CO:(>1.00～5.00)×10^{-2}	U_{rel}=2.1%～1.4%		
				CO:(>5.00～20.00)×10^{-2}	U_{rel}=1.2%		
				CO_2:(0.050～1.000)×10^{-2}	U_{rel}=1.7%～1.1%		
				CO_2:(>1.00～5.00)×10^{-2}	U_{rel}=1.4%～1.2%		
				CO_2:(>5.00～20.00)×10^{-2}	U_{rel}=1.1%		
58	*Electrochemical Oxygen Meter	gas concentration	Verification Regulation of Electrochemical Oxygen Meter JJG 365	0.1×10^{-2}～10×10^{-2}	U_{rel}=2.8%～0.9%		
				>10×10^{-2}～50×10^{-2}	U_{rel}=0.8%		
				>50×10^{-2}～100×10^{-2}	U_{rel}=0.7%		
59	*Zirconia Oxygen Analyzers	gas concentration	Verification Regulation of Zirconia Oxygen Analyzers JJG 535	0.1×10^{-2}～10×10^{-2}	U_{rel}=2.8%～0.9%		
				>10×10^{-2}～50×10^{-2}	U_{rel}=0.8%		
				>50×10^{-2}～100×10^{-2}	U_{rel}=0.7%		
60	*Paramagnetic Oxygen Analyzer	gas concentration	Verification Regulation of Paramagnetic Oxygen Analyzer JJG 662	0.1×10^{-2}～10×10^{-2}	U_{rel}=2.7%～0.9%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
				＞10×10^{-2}～50×10^{-2}	U_{rel}=0.8%		
				＞50×10^{-2}～100×10^{-2}	U_{rel}=0.7%		
61	*thermal conductivity hydrogen analyzer	gas content	verification regulation of thermal conductivity hydrogen analyzer JJG663	$(0.50\sim9.99)\times10^{-2}$	U_{rel}=1.4%～0.8%		
				$(10.0\sim100.0)\times10^{-2}$	U_{rel}=1.1%～0.8%		
62	*Sulfur Hydrogen Gas Detectors	gas concentration	Verification Regulation of Sulfur Hydrogen Gas Detectors JJG 695	5×10^{-6}～100×10^{-6}	U_{rel}=2.5%～1.5%		
				＞100×10^{-6}～500×10^{-6}	U_{rel}=1.7%～1.5%		
63	*Micro Oxygen Analyzers	gas concentration	Verification Regulation of Micro Oxygen Analyzers JJG 945	1×10^{-6}	U_{rel}=3.5%		
				2×10^{-6}～10×10^{-6}	U_{rel}=2.4%～1.6%		
				＞10×10^{-6}～100×10^{-6}	U_{rel}=1.4%～0.8%		
				＞100×10^{-6}～1000×10^{-6}	U_{rel}=0.7%		
64	*Volatile Organic Compounds Photo Ionization Detectors	gas concentration	Calibration Specification for Volatile Organic Compounds Photo Ionization Detectors JJF 1172	1×10^{-6}～2000×10^{-6}	U_{rel}=3.0%～1.4%		
65	*Ammonia Gas Detectors	Gas concentration	Verification Regulation of Ammonia Gas Detectors JJG1105	$(20\sim300)\times10^{-6}$	U_{rel}=3.4%～2.1%		
66	*Chlorine Alarm Detectors	Gas concentration	Calibration Specification for Chlorine Alarm Detectors JJF1433	$(10\sim100)\times10^{-6}$	U_{rel}=4.8%～2.2%		
67	*Alarmer detector of Sulfur Hexafluoride	Gas concentration	Calibration Specification for the Alarmer Detector of Sulfur Hexafluoride JJF1263	$(10\sim100)\times10^{-6}$	U_{rel}=6.2%～1.6%		
				($>100\sim1000$)$\times10^{-6}$	U_{rel}=1.5%～1.2%		
68	*Chemiluminescent NO/NO	Gas concentration	Verification Regulation of Chemiluminescent NO/NO_x	NO：$(10\sim1000)\times10^{-6}$	U_{rel}=3.8%～0.8%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
	Analyzers		Analyzers JJG801	NO：（＞1000～5000)×10^{-6}	U_{rel}=0.7%		
69	*Air Samplers	Flow	Verification Regulation of Air Samplers JJG956	(0.1～6)L/min	U_{rel}=1.4%		
		Time		（0～3600）s	U=0.1s		
70	*Dust Sampler	Flow	Verification Regulation of Dust Sampler JJG520	(0.1～60)L/min	U_{rel}=1.2%		
		Time		（0～3600）s	U=0.1s		
71	Flue Gas Samplers	Flow	Flue Gas Samplers JJG 1169	(0.1～2)L/min	U_{rel}=1.4%		
		Temperature		(0～300)℃	U=0.11℃		
		pressure		（-20～0）kPa	U=0.15kPa		
		atmospheric pressure		（80～106）kPa	U=2.9 kPa		
		time		（10～3600）s	U=0.1s		
72	*Flue Gas Analyzers	gas concentration	Verification Regulation of Flue Gas Analyzers JJG 968	CO:10×10^{-6}～1000×10^{-6}	U_{rel}=2.0%～1.2%		
				CO:＞1000×10^{-6}～10000×10^{-6}	U_{rel}=1.1%		
				O_2:1×10^{-2}～3×10^{-2}	U_{rel}=2.0%～1.1%		
				O_2:＞3×10^{-2}～30×10^{-2}	U_{rel}=0.8%		
				SO_2:2×10^{-6}～500×10^{-6}	U_{rel}=2.7%～1.4%		
				SO_2:＞500×10^{-6}～10000×10^{-6}	U_{rel}=1.4%		
				NO:10×10^{-6}～500×10^{-6}	U_{rel}=2.0%～0.7%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
				NO:＞500×10^{-6}～10000×10^{-6}	U_{rel}=0.7%		
73	Samplers for Stack Dust	Flow	Samplers for Stack Dust JJG 680	(0.1～100)L/min	U_{rel}=1.4%		
		Temperature		(80～300)℃	U=0.9℃		
74	*Total Suspended Particulares Sampler	Flow	Verification Regulation of Total Suspended Particulares Sampler JJG943	(80～150)L/min	U_{rel}=1.4%		
				(0.8～1.2)m^3 /min	U_{rel}=1.4%		
		Time		（0～3600）s	U=0.1s		
75	*Airborne Particle Counter	Particles concentration	Calibration Specificatian for Airborne Particle Counter JJF1190	(35～350×10^6)particale/$m^{3</su}$	U_{rel}=14%		
		Time		（0～3600）s	U=0.1s		
76	Ozone Gas Analyzers	Gas concentration	Verification Regulation of Ozone Gas Analyzers JJG1077	(0.1～400)×10^{-6}	U_{rel}=(2.3～1.7)%		
77	*Static Light Scattering Particle Size Analyzers	Length	Calibration Specification for Static Light Scattering Particle size Analyzers JJF1211	Median particle size：(1～150) μ m	U_{rel}=(4.6～1.6)%		
78	Calibration device for formaldehyde gas analyzers	Gas concentration	Calibration Specification of Calibration Device for Formaldehyde Gas Analyzers NIMTT(CM) 091	(0.1～10)mg/m^3	U_{rel}=2.9%		
79	formaldehyde gas analyzer	Gas concentration	Verification Regulation of Formaldehyde Gas Analyzers JJG 1022	(0.08～2.0)×10^{-6}	U_{rel}=2.6%		
80	*Verificating Meter for Breath Alcohol Analyzers	Gas concentration	Calibration Specification of Verification Device for for Breath Alcohol Analyzers	(0.05～2) mg/L	U_{rel}=(1.4～1.1)%		
		temperature		(0～40) ℃	U=0.2 ℃		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		flow rate	NIMTT(CM) 059	(50～50000) mL/min	U_{rel}=0.8%		
		pressure		(0～2500) Pa	U=10 Pa		
81	Breath Alcohol Analyers	concentration	Verification Regulation of Breath Alcohol Analyers JJG 657	(0.05～2)mg/L	U_{rel}=1.1%		
82	*Melting-pointMeasurement Instruments	Temperature	Verification Regulation of Melting-point Measurement Instruments JJG701	Melting-point：(50～300)℃	U=0.13℃		
83	*Bomb Calorimeter	Calorific Value	Verification Regulation of The bomb calorimeter JJG672	（26000～27000）J/g	U=27J/g		
84	*Differential Scanning Calorimeters	Temperature	Verification Regulation of the Differential Scanning Calorimeters JJG936	Fusion Temperature：(50～600)℃	U=0.06℃		
		Heat		Fusion heat：(20～110)J/g	U=0.18J/g		
85	*Open/Closed Cup Flash Point Testers	Temperature	Calibration Specification for Open/Closed Cup Flash Ponint Testers JJF1384	Open cup flash point：(80～260)℃	U=(6.2～8.8)℃		
				Closed cup flash point：(60～200)℃	U=(3.2～4.4)℃		
86	*Osmometer	Osmometer	Verification Regulation of Osmometers JJG1089	(99～101)mOsmol/kg	U=1.5mOsmol/kg		
				(199～201)mOsmol/kg	U=1.5mOsmol/kg		
				(299～301)mOsmol/kg	U=1.5mOsmol/kg		
				(399～401)mOsmol/kg	U=1.9mOsmol/kg		
				(499～501)mOsmol/kg	U=2.3mOsmol/kg		
				(599～601)mOsmol/kg	U=2.8mOsmol/kg		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
				(699～701)mOsmol/kg	U=3.2mOsmol/kg		
87	*Automatic Amino Acid Analyzer	Detection limit	Verification Regulation of Automatic Amino Acid Analyzer JJG1064	histidine：≤1nmol/L	U_{rel}=20%		
88	*Elemental Analyzers	Content	Calibration Specification for Elemental Analyzers JJF 1321	Carbon, hydrogen and nitrogen analyzer、Hydrogen detector C：50%～80%	U_{rel}=0.9%～0.3%		
				Carbon, hydrogen and nitrogen analyzer、Hydrogen detector H：2%～5%	U_{rel}=6.5%～2%		
				Carbon, hydrogen and nitrogen analyzer、Hydrogen detector N：0.5%～2%	U_{rel}=7.5%～2%		
				Full (semi) automatic nitrogen analyzer N：（0.5～20）mg/mL	U_{rel}=0.4%		
				Oxygen, nitrogen and hydrogen detector O：0.00058%～0.0120%	U_{rel}=19%～5%		
				Oxygen, nitrogen and hydrogen detector N：0.00075%～0.142%	U_{rel}=15%～3%		
				Oxygen, nitrogen and hydrogen detector H：（0.9～6.6）×10^{-6}	U_{rel}=23%～3.5%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
89	*Determinators for Total Sulfur in Coal	Content	Verification Regulation of Determinators for Total Sulfur in Coal JJG 1006	0.1%～＜1.00%	U=0.02%		
				1.00%～4.00%	U=0.05%		
				＞4.00%～6.00%	U=0.06%		
90	*Carbon-sulfur Analyzers	Content	Verification Regulation for carbon-sulfur Analyzers JJG 395	Automatic high-speed carbon-sulfur analyzer(C)：0.030%～0.100%	U=0.001%		
				Automatic high-speed carbon-sulfur analyzer(C)：＞0.100%～0.500%	U=0.003%		
				Automatic high-speed carbon-sulfur analyzer(C)：＞0.500%～1.000%	U=0.007%		
				Automatic high-speed carbon-sulfur analyzer(C)：＞1.00%～4.00%	U=0.01%		
				Infrared carbon-sulfur analyzer(C)：0.005%～0.010%	U=0.0002%		
				Infrared carbon-sulfur analyzer(C)：＞0.010%～0.100%	U=0.001%		
				Infrared carbon-sulfur analyzer(C)：＞0.100%～1.00%	U=0.003%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
				Infrared carbon-sulfur analyzer(C)：＞1.00%～4.00%	U=0.01%		
				Automatic high-speed carbon-sulfur analyzer(S)：0.003%～0.010%	U=0.0002%		
				Automatic high-speed carbon-sulfur analyzer(S)：＞0.010%～0.050%	U=0.001%		
				Automatic high-speed carbon-sulfur analyzer(S)：＞0.050%～0.100%	U=0.001%		
				Automatic high-speed carbon-sulfur analyzer(S)：＞0.100%～0.200%	U=0.003%		
				Infrared carbon-sulfur analyzer(S)：0.003%～0.010%	U=0.0002%		
				Infrared carbon-sulfur analyzer(S)：＞0.010%～0.100%	U=0.001%		
				Infrared carbon-sulfur analyzer(S)：＞0.100%～0.200%	U=0.003%		
91	*Industrial Analyzers	Content	Verification Regulation of Industrial Analyzers JJG	ash content：1%～15%	U=0.10%～0.11%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
			1140	ash content：＞15%～30%	U=0.13%～0.19%		
				ash content：＞30%～40%	U=0.12%		
				volatile matter：1%～20%	U=0.19%～0.33%		
				volatile matter：＞20%～40%	U=0.31%～0.34%		
92	*Hand-held X-ray Fluorescence Spectrometer	Detection limit	Calibration Specification for Hand-held X-ray Fluorescence Spectrometer JJF(chuan) 165	Cr：≤0.05%	U_{rel}=48%		
				Ni：≤0.05%	U_{rel}=48%		
93	*Low-level Total Organic Carbon Analyzer	Concentration	Calibration Specification for Low-level Total Organic Carbon Analyzer JJF(chuan) 141	（200～1000）μg/L	U_{rel}=5%		
94	*Oxidation-reduction Potential Meters	Potential	Calibration Specification for Oxidation-reduction Potential Meters NIMTT(CM) 052	electronic unit：-2000 mV～+2000 mV	U=0.1 mV		
				solution：(30～500)mV（25 ℃）	U=0.4 mV		
		temperature		（0～50）℃	U=0.1 ℃		
95	*Liquid chromatograph-Atomic Fluorescence Spectrometers	Minimum detection quantity	Verification Regulation of Liquid chromatograph-Atomic Fluorescence Spectrometers JJG 1151	As(V)≤1.0ng；DMA、MMA≤0.7ng	U_{rel}=58%		
96	*Gas Chromatographs with Helium Ionization Detector	LOD	C. S. for Gas Chromatographs with Discharge Helium Ionization Detector JJF(Chuan) 167	≤10 pg/s	U_{rel}=14%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
97	*Gas Chromatographs with Discharge Helium Ionization Detector	LOD	Calibration Specification for Gas Chromatographs with Sulfur Chemiluminescence Detector JJF 1953	≤10 pg/s	U_{rel}=25%		
98	*Residual Chlorine Meter	Concentration	C. S. for Residual Chlorine Meter JJF 1609	（0.1～10）mg/L	U_{rel}=1.6%		
99	*Alarmer Detectors of Benzene	gas concentration	Calibration Specification for Alarmer Detectors of Benzene JJF 1674	1×10^{-6}～10×10^{-6}	U_{rel}=5.1%～2.3%		
				＞10×10^{-6}～100×10^{-6}	U_{rel}=2.1%		
100	*Sulfur Hexafluoride Decomposition Products Detectors	gas concentration	Calibration Specification for Sulfur Hexafluoride Decomposition Products Detectors JJF 1711	SO_2: 1×10^{-6}～100×10^{-6}	U_{rel}=3.3%～2.4%		
				H_2S: 1×10^{-6}～100×10^{-6}	U_{rel}=3.3%～2.4%		
				CO: 10×10^{-6}～500×10^{-6}	U_{rel}=2.5%～2.3%		
101	*Alarms and Detectors of Chloroethylene Gas	gas concentration	Verification Regulation of Alarms and Detectors of Chloroethylene Gas JJG 1125	10×10^{-6}～100×10^{-6}	U_{rel}=2.2%		
102	Optical Cavity Ring-Down Moisture Meter	Dew temperature	Calibration Specification of Optical Cavity Ring-Down Moisture Meter JJF(chuan) 166	(-90～+20) ℃	U=(0.4～0.2) ℃		
		moisture content		(0.096～23625)×10^{-6}mol/mol	U_{rel}=0.3%~0.8%		
103	*Ammonia-Nitrogen Analyzers	Concentration	Calibration Specification for Off-line Ammonia-Nitrogen Analyzers JJF(chuan)181—2021	(0.01～1000)mg/L	U_{rel}=1.1%		
104	*Total Phosphorus Meters	Concentration	Calibration Specification for Total Phosphorus Meters NIMTT(CM) 162	(0.01～100)mg/L	U_{rel}=2.3%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
105	*Total Nitrogen Meters	Concentration	Calibration Specification for Total Nitrogen Meters NIMTT(CM) 161	(0.01～100)mg/L	U_{rel}=2.3%		
106	*Nitrite Meters	Concentration	Calibration Specification for Nitrite Meters NIMTT(CM) 159	Nitrite：(0.001～500)mg/L	U_{rel}=1.4%		
				Nitrite Nitrogen：(0.001～100)mg/L	U_{rel}=2.5%		
107	*Gas-phase Molecular Absorption Spectrometers	detection limit	Calibration Specification for Gas-phase Molecular Absorption Spectrometers NIMTT(CM) 158	Nitrite Nitrogen：≤0.01 mg/L	U_{rel}=45%		
				Nitrate Nitrogen：≤0.01 mg/L	U_{rel}=45%		
				Sulfide：≤0.01 mg/L	U_{rel}=45%		
				Ammonia Nitrogen：≤0.02 mg/L	U_{rel}=45%		
				Total Nitrogen：≤0.05 mg/L	U_{rel}=45%		
108	*Water Quality Meters of Heavy Metals	Concentration	Calibration Specification for Water Quality Meters of Heavy Metals NIMTT(CM) 160	Cr(VI), Cr, Fe, Cu, Ni, Zn, Pb, Cd, Hg, As, Mn：(0.001～100)mg/L	U_{rel}=0.5%~1.6%		
109	*Ultraviolet Fluorescence Sulfur Analyzers	Concentration	Calibration Specification for Ultraviolet Fluorescence Sulfur Analyzers JJF 1685	(1～10)mg/L	U=0.11 mg/L		
				(>10～200)mg/L	U_{rel}=2.2%		
110	*Karl Fischer Volumetric Titrators for Water Content	quality	Verification Regulation of Karl Fischer Volumetric Titrators for Water Content JJG 1154	(1～20)mg	U_{rel}=(1.6~1.3)%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
111	*Energy Dispersive X-Ray Fluorescence Spectrometers	content	Calibration Specification for Energy Dispersive X-Ray Fluorescence Spectrometers JJF（min）1047	≤30 mg/kg	Urel=45%		
112	*Urea Analyzers of Water Sample Detection	Urea	Calibration Specification for Urea Analyzers of Water Sample Detection JJF1822	(0.1～5)mg/L	U_{rel}=0.6%		
113	*on-line Automatic Monitors of Permanganate Index	Concentration	Calibration Specification for on-line Automatic Monitors of Permanganate Index JJF1875	(0.01～20)mg/L	U_{rel}=3.2%		
114	*Sulfur Dioxide Gas Detectors	gas concentration	Verification Regulation of Sulfur Dioxide Gas Detectors JJG 551	2×10^{-6}～5000×10^{-6}	U_{rel}=1.8%～1.4%		
115	Dust Concentration Measuring Instruments	dust concentration	Dust Concentration Measuring Instruments JJG 846	(0.01～50)mg/m^3	U_{rel}=(8.5～7.4)%		
116	*Dilution device	flow	Calibration Specification for Dilution device NIMTT(CM)016	(5～50000)mL/min	U_{rel}=0.33%		
		dilution ratio		0.1%～100%	U_{rel}=0.96%		
117	*Pour Point and Cloud Point Testers of Petroleum Product	Temperature	Calibration Specification for Pour Point and Cloud Point Testers of Petroleum Products JJF 1869	Pour Point：(-30.0～0)℃	U=2.8℃		
				Cloud Point：(-17.0～2.0)℃	U=1.8℃		
118	McFarland Bacterial Turbidity Analyzer	Turbidity	Calibration Specification for McFarland Bacterial Turbidity Analyzers JJF 1825	(0.1～6)MCF	U=(0.04～0.22)MCF		
119	*Nucleic acid extraction	Temperature	(Automatic) nucleic acid extractor calibration	(30～90)℃	U=0.5℃		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
	apparatus	Frequency	specification JJF 1874	(1～100)Hz	U=0.6Hz		
		Volume		(10～1000) μL	U=1.3 μL		
		Recovery rate		(40～120)%	U=2.0%		
120	*Colony Counter	Colony count	Calibration Specificationg for Colony Counter JJF 1751	(20～350)CFU	U_{rel}=3%		
121	*Polymerase Chain Reaction Analyzers	Temperature	Calibration Specification for Polymerase Chain Reaction Analyzers JJF1527	(10～110)℃	U=(0.20～0.34)℃		
		Concentration		1×10^{2}～1×10^{8}copies/μL	U_{rel}=6.4%		
122	*Gel imaging system	Illuminance	Gel imaging system calibration specifications JJF 1530	(50～3000)lx	U_{rel}=3%		
123	*Thermogravimetric Analyzers	mass	Verification Regulation of Thermogravimetric Analyzers JJG 1135	（0～20）mg	U=0.15 mg		
		temperature		(100～800)℃	U=2 ℃		
Ⅹ Ionizing radiation measuring instrument							
1	α、β Surface Contamination Monitors	Activity	Verification Regulation of α、β Surface Contamination Monitors JJG 478	α：（2.0×10^{2}～7.84×10^{5}）(min • 2π sr)$^{-1}$	U_{rel}=10%		
				β：（3.0×10^{3}～8.15×10^{5}）(min • 2π sr)$^{-1}$	U_{rel}=10%		
2	Radon Measuring Instruments	Activity	Verification Regulation of Radon Measuring Instruments JJG 825	（100～12000）Bq/m^{3}	U_{rel}=7.1%		
3	Radioactivity Meter	activity	Verification Regulation of Radioactivity Mete JJG 377	(3.7×10^{4}～3.7×10^{10})Bq	U_{rel}=4.5%		
4	*Gamma Radio-immunoassay Counters	activity	Verification Regulation of Gamma Radio-immUnoassay CoUnters JJG 969	(500～3300)Bq	U_{rel}=6.0%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
5	**Germanium Gamma-ray Spectrometers	activity	Calibration Specification for Germanium Gamma-ray Spectrometers JJF 1850	(10～4×10^4)Bq	U_{rel}=5.0%		
6	*Low Background Alpha/Beta Measuring Instruments	Activity	Verification Regulation of Low Background Alpha/Beta Measuring Instruments JJG 853	α：（0.005～2.46×10^4）（min・2π）$^{-1}$	U_{rel}=7.0%		
				β：（0.15～1.45×10^4）（min・2π）$^{-1}$	U_{rel}=7.0%		
7	*Medical Diagnostic X-ray Radiation Source for Spiral Computed Tomography (CT)	dose index	Verification Regulation of Medical Diagnostic X-ray Radiation Source for Spiral Computed Tomography (CT) JJG 961	(1.0～1000)mGy	U_{rel}=7.5%		
		CT number		（-4～4）HU	U=0.1HU		
		slice thickness		(0.5～15)mm	U=0.04mm		
8	*Medical Diagnostical X-ray RadiationSource	Air kerma	Verification Regulation of Medical Diagnostical X-ray Radiation SoUrce JJG 744	(0.01～199)mGy	U_{rel}=4.2%		
9	*Medical Diagnostical X-ray RadiationSource	Air kerma	Verification Regulation of Medical Diagnostic X-ray Source for Dental Panorama JJG 1101	(0.01～199)mGy	U_{rel}=4.2%		
10	*Medical Diagnostical X-ray RadiationSource	Air kerma	Verification Regulation of Medical Diagnostic X-ray Radiation Source for Medical Digital Subtraction Angiography JJG 1067	(0.01～199)mGy	U_{rel}=4.2%		
11	*Medical Diagnostical X-ray RadiationSource	Air kerma	Verification Regulationof X-ray Radiation Sources for Medical Computed Radiography System and Digital Radiography System JJG 1078	(0.01～199)mGy	U_{rel}=4.2%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
12	*Medical Diagnostical X-ray RadiationSource	Air kerma	Verification Regulation of X-ray Radiation Source for Radiotherapy Simulating Localization JJG 1028	(0.01～199)mGy	U_{rel}=4.2%		
13	*Appartus for Gamma Radiography	Air kerma rate	Verification Regulation of AppartUs for Gamma Radiography JJG 933	(0.01~10)Gy/min	U_{rel}=5.0 %		
14	*X-ray Flaw Detectors	Air kerma rate	Verification Regulation of X-ray Flaw Detectors JJG 40	(0.01～10)Gy/min	U_{rel}=5.0%		
15	*Radiotherapyunit	Absorbed Dose	Verification Regulation of Radiation SoUrce Used in the External Beam Radiotherapy JJG 589	Photon Beam:(0.01～10.00)Gy	U_{rel}=3.8%		
				Electron Beam:(0.01～10.00)Gy	U_{rel}=4.0%		
		Absorbed Doserate		Photon Beam:(0.01～10.0)Gy/min	U_{rel}=3.8%		
				Electron Beam:(0.01～10.0)Gy/min	U_{rel}=4.0%		
16	Portable Ambient Dose Equivalent (Rate) Meters and Monitors for X and γ Radiations	air kerma	Verification Regulation of Portable Ambient Dose Equivalent (Rate) Meters and Monitors for X and γ Radiations JJG 393	1 μGy～1 Gy	U_{rel}=3.8%		
		Air kerma rate		1 μGy/h～400 mGy/h	U_{rel}=3.8%		
		dose equivalent		10 μSv～1 Sv	U_{rel}=5.6%		
		dose equivalent rate		1 μSv/h～700 mSv/h	U_{rel}=5.6%		
17	Personal dose equivalent Hp(10) Monitors for X and γ Radiations	dose equivalent	Verification Regulation of Personal dose equivalent Hp(10) Monitors for X and γ Radiations JJG 1009	10 μSv～1 Sv	U_{rel}=5.6%		
		dose equivalent rate		1 μSv/h～700 mSv/h	U_{rel}=5.6%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
18	*X-ray Security Inspection Equipment	Air kerma rate	Calibration Specification for X-ray Security Inspection Equipment JJF 1275	0.01 μ Sv/h～50mSv/h	U_{rel}=8.7%		
19	*Installed Personnel α、β Surface Contamination Monitoring Assemblies	activity	Verification Regulation of Installed Personnel α、β Surface Contamination Monitoring Assemblies JJG 1102	α：（10^4～10^6）/（min▪2 π sr） β：（10^4～10^6）/（min▪2 π sr）	U_{rel}=6.0%		
20	Diagnostic dosimeters for X-ray	Air kerma rate	Calibration Specification for Diagnostic Dosimeters JJF1621,Calibration Specification in Diagnostic Dosimeters for X-ray NIMTT(CM)032,Calibration Specification for Non-invasive X-ray Tube Voltage Meters Used in Medical Diagnosis JJF1474,Calibration Specification for Medical Non- invasive X-ray Tube Voltage Testers NIMTT(CM) 042,Calibration Specification for Medical Diagnostics X-ray Non- invasive Exposure Time JJF1432	(6×10^{-5}～1)Gy/min	U_{rel}=2.0%		
		Air kerma lenth		(1×10^{-6}～50)Gycm	U_{rel}=2.0%		
		tube voltage		(20～50)kV	U_{rel}=1.0%		
				（＞50～150）kV	U_{rel}=0.8%		
		Exposure time		(10～6000)ms	U=0.05ms		
21	Dose Área Product	Dose area product	Calibration Specification for Dose Area Product Meters JJF1479	(0.01～5×10^3) μ Gym^2	U_{rel}=2.0%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
22	Monitor of Radiouclide Identification	Dose equivalent rate	Calibration Specification for Hand-held Radiation Monitors for Detection and Identification of Radianuclides JJF1687	（2×10^{-6}～1×10^{-4}）Sv/h	U_{rel}=4.8%		
23	γ Ray Spectrometers of Scintillation Detectors	activity	Calibration Specification of γ Ray Spectrometers of Scintillation Detectors JJF1744	（5×10^{2}～1×10^{4}）Bq	U_{rel}=12%		
24	real-time focus meter	focal spot	Calibration Specification for Real-time Focus Meters JJF1688	(0.1～6.0) mm	U=0.04mm		
25	3D-watertank	position	Calibration Specification for 3D-Watertank NIMTT(CM) 049	（0～200）mm	U=0.05mm		
26	Half-value Layer Instrument	Half-value Layer	Calibration Specification for Half-value Layer Instrument NIMTT 045	(0.1～14)mmAl	U_{rel}=2.0%		
27	*Medical X-ray Radiation Sources for Mammographic Equipment	Absorbed dose	Verification Regulation of Medical X-ray Radiation Sources for Mammographic Equipment JJG1145	(0.1～199)mGy	U_{rel}=4.2%		
XI Special measuring instrument							
1	*Loading Method Automobile Brake Testers	Lifting Height	Loading Method Automobile Brake Testers JJG 1160	(0～500) mm	U=0.5mm		
		Braking force		(1～50)kN	U_{rel}=1.0%		
		Slip adhesion coefficient of roller		0.01～1	U=0.012		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		Slip ratio of driving motor stop		5%～40%	U=4.8%		
		Mass		1kg～15t	U_{rel}=0.62%		
2	*Vehicle Contour Dimensions Testers	Length	Calibration Specification of Vehicle Contour Dimensions Testers JJF 1749	(1～30)m	U_{rel}=0.4%		
3	Detecting device of vehicle travelling data recorder	Speed	Calibration Specification for Detecting device of vehicle travelling data recorder NIMTT(CM) 029	(20～180) km/h	U_{rel}=0.6%		
		Mileage		(1～5000) m	U_{rel}=0.6%		
		Time		(0～3600) s	U=0.7s		
4	*Chassis Dynamometers for Automobile Emissions	torque force	Calibration Specification for Chassis Dynamometers for Automobile Emissions Testing JJF 1221	(1N～8kN	U_{rel}=0.8%		
		speed		(0～80)km/h	U=0.12km/h		
		dynamometer inertia weight		(1～2000)kg	U_{rel}=0.62%		
		slipping time under fixed load		(1～150)s	U_{rel}=0.28%		
		slipping time under varying load		(1～150)s	U_{rel}=0.34%		
		load response time		(0～150)s	U=12ms		
		mean time between failure		(0～150)s	U=12ms		
		internal loss power		(0.1～2.5)kW	U_{rel}=3.8%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
5	*Slip plate type automobile side slip tester	indication error of side slip	Verification Regulation of Slip plate type automobile side slip tester JJG 908	(-10～10)m/km	U=0.07m/km		
6	*Tester for wheel deviation of motorcycles	indication error of wheel deviation	Verification Regulation of Slip plate type automobile side slip tester JJG 910	（1～10）mm	U=（0.07mm		
7	*Tester for wheel deviation of motorcycle	Mass	Verification Regulation of Tester for wheel deviation of motorcycles JJG 1014	1kg～15t	U_{rel}=0.62%		
8	*Roller type speedometer tester	indication error of speed	Verification Regulation of Roller type speedometer tester J JJG 909	（1～120）km/h	U_{rel}=0.32%		
9	*Roller opposite forces type brake tester	Brake force	Verification Regulation of Roller opposite forces type brake tester JJG 906	(1～50)kN	U_{rel}=1.0%		
		Adhesion Coefficient		0.01～1	U=0.012		
		Slip Ratio		5%～40%	U=4.8%		
10	*Head lamp tester for motor vehicle	luminous intensity	Verification Regulation of Headlamp tester for motor vehicle JJG 745	(5～60)kcd	U_{rel}=5.0%		
		offset of ray axes		up:1° ~down:2° ,Left:2° ~right:2°	U=5.2′		
11	*Filter-Type Smoke Meter	Smoke thickness	Verification Regulation of Filter-type smoke meter JJG 847	(1～10)BSU	U=0.22BSU		
12	*Vehicle exhaust emission measuring instruments	Exhaust emission concentration	Verification Regulation of vehicle exhaust emission measuring instruments JJG 688	CO:(1～16)×10^{-2}mol/mol	U_{rel}=1.4%		
				C_3H_8：(1～9999)×10^{-6}mol/mol	U_{rel}=1.2%		
				CO_2：(1～18)×10^{-2}mol/mol	U_{rel}=1.2%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
				NO：(1～5000)×10^{-6}mol/mol	U_{rel}=1.3%		
				O_2：(1～25)×10^{-2}mol/mol	U_{rel}=1.5%		
13	Vehicle travelling data recorder	Velocity	Verification Regulation of Vehicle travelling data recorder JJG(CHUAN)90	(0～180) km/h	U=0.3km/h		
		Mileage		(0～10)km	U=0.02km		
14	Calibrators for headlamp tester of motor vehicle	luminous intensity	Verification Regulation of Calibrators for headlamp tester of motor vehicle JJG 967	(1～60)kcd	U_{rel}=1.5%		
		light axis		up:3°～down:3°,Left:3°～right:3°	U=1.9′		
15	Motor Vehicle Testers for Steering Force and Steering Angle	Steering force	Calibration Specification for Motor Vehicle Testers for Steering Force and Steering Angle JJF 1196	(1～1000)N	U_{rel}=0.6%		
		Steering angle		(0～1080°)	U=1.0°		
16	*Turning Angle Testers for Automobile	angle	Calibration Specification for Turning Angle Testers for Automobile JJF 1141	(-50°～50°)	U=0.32°		
17	Non-contact Automotive Speedmeter	Speed	Calibration Specification for Non-contact Automotive Speedmeter JJF 1193	(10～50)km/h	U=0.30 km/h		
				(＞50～180) km/h	U_{rel}=0.30%		
		Distance		(1.0～30)m	U=0.10m		
				（>30～9999.9）m	U_{rel}=0.32%		
18	*Automotive Suspension Tester	Mass	Calibration Specification for Automotive Suspension Tester JJF 1192	1kg～15t	U_{rel}=0.62%		
		vibration frequency		(0.83～1333.3)Hz	U_{rel}=0.96%		
19	*Four-wheel Aligner	angle	Calibration Specification for Four-wheel Aligners JJF 1154	toe：-3° ～3°	U=1.2′		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
				camber：-10°～10°	U=2.8′		
				caster：-15°～15°	U=3.6′		
20	*Opacimeter	light absorptance	Verification Regulation of Opacimeters JJG 976	light absorptance N:（0～98.6）%	U=0.68%		
				light absorption factor K:（0～9.99)m-1	U=0.016 m^{-1}		
21	portable braking performance tester for vehicles	deceleration	Calibration Specification for portable braking performance tester for vehicles JJF 1168	static:（0～4.9）m/s²	U=0.04 m/s²		
				static:（>4.9～9.8）m/s²	U_{rel}=0.82 %		
				dynamic:（1～9.8）m/s²	U_{rel}=1.6 %		
22	Automobile fuel consumption meter	mass	Calibration Specification for Oil Consumption Meters of Mass Method JJF 1670,Verification Regulation of Calibration Specification for Four Pistons Linkage Type Consumption Meter JJG (Traffic) 009	(1～160)g	U_{rel}=0.16%		
		volume		(1～500)mL	U_{rel}=0.16%		
				(>500～1500)mL	U_{rel}=0.26%		
23	Calibration Specification for Transmittance Meter of Automobile	transmittance	Calibration Specification for Transmittance Meter of Automobile JJF1225	0～100%	U=0.40%		
24	*Platform Brake Tester	Brake force	Verification Regulation of Platform Brake Tester JJG 1020	(1～50)kN	U_{rel}=0.9%		
		Mass		1kg～15t	U_{rel}=0.62%		
		adhesion coefficient		0～1	U=0.011		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		levelness		(0～50）mm/m	U=0.8mm/m		
25	*Flow Analyzer for Short Transient Loaded Mode of Gasoline Vehicle	Flow	Calibration Specification for Flow Analyzer for Short Transient Loaded Mode of Gasoline Vehicles JJF 1385	(95～180)L/s	U_{rel}=2.0%		
		concentration		5.0%～20.9%	U=1.6%		
26	*Motor Vehicle Engine speed Measuring Instrument	Rotate speed	Calibration Specification for Motor Vehicle Engine Speed Measuring Instruments JJF 1375	(500～6000)r/min	U_{rel}=0.32%		
27	Manipulating force tester for automotive brake	Force value	Calibration Specification for Manipulating force tester for automotive brake JJF 1169	(1～1000)N	U_{rel}=1.2%		
28	*Bump Testing Machines	Acceleration	Shock and Bump Testing Machines JJG 1174	(0.5～1000)m/s^2	U_{rel}=5.0%		
		Time		(1～100) ms	U_{rel}=3.0%		
29	Pyranometer	Sensitivity	Verification Regulation of Pyranometer JJG 458	(7～20) μV・W^{-1}・m^2	U_{rel}=2.4%		
		Irradiance		(1～2000)W・m^{-2}	U_{rel}=2.4%		
30	Sphygmomano-metersDigital electronic Sphygmomano-meters	PressUre	Non-Automated Sphygmomanometers JJG 692	（0～40）kPa	U=0.14kPa		
31	*Multi-Parameter Patient Monitor	heart rate	Verification Regulation for Multifunction Patient Monitoring Instruments JJG1163	(30～300)min^{-1}	U=1.4min^{-1}		
		pressure		(0.1～30)kPa	U=0.16kPa		
		oxygen saturation		40%～<75%	U=3.5%		
				75%～100%	U=2.4%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		Respiratory rate		（10～120）min^{-1}	U=0.2 min^{-1}		
32	*cardiac defibrillators	tidal volume	Calibration Specification for Cardiac Defibrillators JJF1149	(0～<100)J	U=3.6J		
				(100～360)J	U=5.7J		
		heart rate		(30～300)min^{-1}	U=1.4min^{-1}		
33	*Electroencephalograph	Volt	Verification Regulation of Electroencephalograph JJG1043	30 μV～30V	U=15 μV		
34	respiratory rhythm generator	respiratory rate	Calibration Specification for respiratory rhythm generator NIMTT(CM)043	(3～60)min^{-1}	U=0.22min^{-1}		
35	Defibrillators Analyzer	heart rate	Calibration Specification for Defibrillator Analyzers JJF 1860	（30～300）min^{-1}	U_{rel}=0.08%		
		Respiratory		(10～2000）Ω	U_{rel}=0.84%		
		output energy		（2～360）J	U_{rel}=1.4%		
		Amplitude		（0.1～3）mV	U_{rel}=1.2%		
		Square wave signal frequency		(0.125～10)Hz	U_{rel}=0.08%		
36	*lung ventilators	tidal volume	Calibration Specification for Lung Ventilators JJF1234	(10～1000)mL	U=（0.023V+1.7）mL		
		frequency		(1～150)min^{-1}	U=（0.0024f+0.14）min^{-1}		
		Pressure		(0.1～12)kPa	U=（0.0035P+0.014）kPa		
37	hemodialysis equipment	conductivity	Calibration Specification for Hemodialysis Equipment JJF1353	（13.5～14.5）mS/cm	U_{rel}=1.2%		
		temperature		（35～ 40）℃	U_{rel}=0.60%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		pH		（7.1～7.5）	U_{rel}=0.78%		
		Flow		（450～550）mL/min	U_{rel}=1.5%		
38	*Baby IncuBator	temperature	Calibration Specification for Baby Incubator JJF1260	（25～40）℃	U=0. 14℃		
		relative humidity		（25～85）%	U=3.6%		
39	*Electrosurgical Generator	output power	Calibration Specification for Electrosurgical Generator JJF1217	（1～400）W	U=（0.063P-0.12）W		
		leakage curren		（30～300）mA	U_{rel}=3.0%		
40	*the pulmonary function Measuring instrumen	VC	Calibration Specification for the Pulmonary Function Measuring Instrument JJF1213	(0.5～＜2) L	U=0.026L		
				(2～8)L	U_{rel}=0.74%		
		Flow		(0～＜3) L/s	U=0.072 L/s		
				(3～14) L/s	U_{rel}=2.4%		
41	Multiparameter Physiological Simulators	Amplitude of ECG signal	Calibration Specification for Multiparameter Physiological Simulators JJF1470	（0.1～3.0）mV	U_{rel}=1.2%		
		heart rate		（30～300）min^{-1}	U_{rel}=0.08%		
		Respiratory impedance		(100～3000） Ω	U_{rel}=0.84%		
		Analogue signal of blood pressure		（0.1～200）mV	U_{rel}=0.7%		
		Cardiac output signal		（10～20）k Ω	U_{rel}=0.8%		
		Temperature analog signal		（1～100）k Ω	U_{rel}=0.7%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		Amplitude of Reference waveforms		（0.1～3）mV	U_{rel}=1.2%		
		rate of Reference waveforms		(0.05～150)Hz	U_{rel}=0.08%		
42	Medical Syring Pump and Infusion Pump Analyzers	flow rate	Verification Regulation of Medical Syring Pump and Infusion Pump Analyzers JJG1098	(5～<20)mL/h	U=0.06 mL/h		
				(20～200) mL/h	U=0.3mL/h		
				(>200～1000) mL/h	U=0.98 mL/h		
		occlusion pressure		(1～200）kPa	U_{rel}=0.8%		
43	Precision microinjection pump	flow rate	Calibration Specification for Precision microinjection pump NIMTT(CM) 098	（1～ 1000）mL/h	U=0.01mL/h		
44	Electrosurgical Generator Analyzers	power	Calibration Specification for Electrosurgical Generator Analyzers NIMTT(CM) 104	（1～300）W	U_{rel}=1.2%		
		leakage current		（5～1000）mA	U_{rel}=0.42%		
		Respiratory		(50～10000） Ω	U_{rel}=0.84%		
45	Spo2 Simulator	oxygen saturation	Calibration Specification for Spo2 Simulator JJF1542	35%～100%	U=1.4%		
		pulse rate value		(30～250) min^{-1}	U=1.2min^{-1}		
46	Baby Incubator Detector	temperature	Calibration Specification for Baby Incubator Analyzers NIMTT(CM) 096	（20～50）℃	U=0.04° C		
		relative humidity		（10%～90%）	U=1.3%		
47	Hemodialysis Equipment Tester	conductivity	Calibration Specification for Hemodialysis Equipment Tester JJF1541	(12.5～15.5)mS/cm	U=0.04mS/cm		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		temperature		(10～50)℃	U=0.03℃		
		pressure		(-110～150)kPa	U=0.12kPa		
		pH		(0～14)	U=0.01		
		Flow		（100～2000）mL/min	U_{rel}=0.4%		
48	*Medical Magnetic Resonce Image	Magnetic field intensity	Calibration Specification of Medical Magnetic Resonce Image NIMTT(CM) 047	(0.02～2)T	U_{rel}=2.5%		
49	*Electrocardiogram machine	Volt	Electrocardiograph JJG543	30 μV～30V	U=15 μV		
50	Lung Ventilators Analyzer	flow	Calibration Specifications of Lung Ventilator Analyzer NIMTT(CM) 099	(0.5～180) L/min	U_{rel}=1.0%		
		tidal volume		（5～2000）mL	U_{rel}=1.0%		
		pressure		(－2～12) kPa	U=0.012kPa		
				(>12～60) kPa	U=0.15kPa		
		Breathing rate		（1～150）min^{-1}	U_{rel}=1.0%		
		oxygen concentration		（21%～100%）	U=1.0%		
51	Standard respiratory simulator	VC	Standard respiratory simulator of calibration specifications NIMTT(CM) 040	（0.1～9）L	U=（1.2+0.67V）mL		
		PEF		（1～100）Nm^3/h	U_{rel}=1.4%		
52	NIBP Simulators	Analogue blood pressure indication repeatability	Calibration Specification for NIBP Simulators JJF1626	（1.3～34.0）kPa	U=0.08 kPa		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		Pulse rate		（30～250）min^{-1}	U_{rel}=1.0%		
		Static pressure		（1～53.3）kPa	U=0.052 kPa		
		Volume		（50～3000）mL	U=0.19mL～1.7mL		
53	Ultrasonic Partial Discharge Tester	Frequency	Calibration Specification for Ultrasonic Partial Discharge Tester NIMTT(CM) 127	(20～500)kHz	U_{rel}=0.1%		
		Amplitude linear		-200dB～200dB	U=1.8dB		
		Sensitivity		-80dB～85dB	U_{rel}=1%		
		Stability		-200dB～200dB	U=1.8dB		
54	elecreostaticdischargesimulators	charging voltage	calibration specification for electrostatic discharge simulators JJF1397	±(0.1～30)kV	U_{rel}=3.2%		
		discharge current(peak)		±(0.1～30)A	U_{rel}=6%		
		rise time		(0.7～1.0)ns	U_{rel}=13%		
		discharge current		±(0.1～30)A	U_{rel}=10%		
55	Electric Fast Transient Burst generator	Voltage(Peak)	calibration specification for electrical fast transient/burst simulators JJF1672	(0.25～4)kV	U_{rel}=5%		
		Single pulse rise time		(1～10)ns	U_{rel}=7%		
		Single pulse duration time		(10～150)ns	U_{rel}=7%		
		repetition frequency		(5～100)kHz	U_{rel}=6%		
		Burst Duration		(0.75～300)ms	U_{rel}=8%		
56	Surge generator	Voltage(Peak)	Calibration Specification for Surge Simulators JJF 1741	0.1kV～6kV	U_{rel}=4%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		Voltage rise time		(0.5～10) μs	U_{rel}=4%		
		Voltage duration time		(10～1000) μs	U_{rel}=4%		
		current(peak)		0.01kA～8kA	U_{rel}=3%		
		current rise time		(0.5～10) μs	U_{rel}=4%		
		current duration time		(10～1000) μs	U_{rel}=4%		
57	Voltage dips, short interruptions and voltage variations generator	voltage amplitude	calibration specification for voltage dips, short interruptions and voltage variation tests generator JJF1673	0.1V～400V	U_{rel}=2%		
		Time at Reduced Voltage		1ms～10s	U_{rel}=6%		
		Load current		.0.1A～40A	U_{rel}=5%～7%		
58	*Power frequency magnetic field generator	current	Calibration Specification for Power Frequency Magnetic Field Simulators JJF 1737	(0.01～1000)A	U_{rel}=3%		
		Magnetic field intensity		(1～5000)A/m	U_{rel}=11%		
59	*Impulse Voltage generator	Voltage(Peak)	calibration specification for impulse voltage generator NIMTT(CM) 122	1V～7000V	U_{rel}=4%		
		Voltage rise time		1ns～1s	U_{rel}=4%		
		Voltage duration time		0.1 μs～60s	U_{rel}=4%		
		current (Peak)		0.1A～8000A	U_{rel}=3%		
		current rise time		5ns～1s	U_{rel}=4%		
		current duration time		0.1 μs～60s	U_{rel}=4%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
60	Microwave radiation and leakage measuring instrument(Including Microwave field probe)	Power density	Verification Regulation for Microwave Radiation and Leakage Energy Measuring Instruments JJG776	(1～1000) μ W/cm^2 ,(915MHz,2450MHz)	U=1.7dB		
				(1000～5000) μ W/cm^2 , (915MHz,2450MHz)	U=1.7dB		
61	Current Probe(EMC)	Transfer impedance	calibration specification for Current probe NIMTT(CM) 064	(-40～80)dBΩ, (10kHz～10MHz)	U=0.5dB		
				(-40～80)dBΩ,(10MHz～200MHz)	U=0.6dB		
62	Voltage Probe(EMC)	Insert Loss	calibration specification for voltage probe NIMTT(CM) 065	(0～80)dB,(10kHz～10MHz)	U=2.0dB		
				(0～80)dB,(10MHz～200MHz)	U=2.3dB		
63	Calibration Device for Electrocardiograph and Electroencephalograph	Distortion	Verification Regulation of Verification Instrument for Electrocardiograph and Electroencephalograph JJG749	0.1%～30%,(10Hz～200Hz)	U_{rel}=10%		
		Voltage		0.1mV～20V	U_{rel}=0.7%		
		Frequency		0.01Hz～500Hz	U_{rel}=8×10^{-5}		
64	vehicles transient disturbance/load dump simulators	voltage	calibration specification for vehicles transient disturbance simulators NIMTT(CM) 008	(-700～-1)V,(1～300)V	U_{rel}=4%		
		rise time		1ns～10ms	U_{rel}=7%		
		duration time		1ms～5s	U_{rel}=4%		
65	*Tester for Ductility of Bituminous Materials	Temperature	Verification Regulation of Tester for Ductility of Bituminous Materials JJG（Traffic）023	（0～50）℃	U=0.12℃		
66	*Apparatus for	geometrical dimensions	Verification Regulation of Apparatus for Softening Point	（0～200）mm	U=0.05mm		

The scope of the accreditation in Chinese remains the definitive version.

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
	of Bitumen	weight	of Bitumen JJG（Traffic）057	（0～200）g	U=1.2mg		
		heating rate		（0～20）℃/min	U=0.4℃/min		
		Temperature		(0～200)℃	U=0.07℃		
67	*Asphalt Aging Oven	geometrical dimensions	Verification Regulation of Asphalt Aging Oven JJG（Traffic）056	（0～200）mm	U=0.06mm		
		Temperature		(0～300)℃	U=0.3℃		
68	*Asphalt Mixture's Mixing Machine	Temperature	Verification Regulation of Asphalt Mixture's Mixing Machine JJG(Traffic）064	(0～250）℃	U=0.6℃		
		heating rate		（0～250）℃/min	U=0.4℃/min		
69	*Verification Regulation of Vibrator for Compacting Mortar Specimen	Frequency	Calibration Specification for Cement Mortar Vibration Compaction Equipment JJF 1867-2020	(5～5000)Hz	U_{rel}=1.0%		
		Displacement		(10～1000) μ m	U_{rel}=5.0%		
70	*Vibrating Table for Concrete Test	Frequency	Calibration Specification of Vibrating Table for Concrete Test JJF(chuan) 170	(20～100)Hz	U=2.0%		
		Amplitude		(0.1～10)mm	U=3.0%		
71	Pile Dynamic Measuring Instruments	Acceleration	V. R. of Pile Dynamic Measuring Instruments JJG 930	(0.1～300)m/s^2	U_{rel}=3.0%		
		Velocity		(0.1～50)cm/s	U_{rel}=3.0%		
		Dynamic strain		(10～1000)μ ε	U_{rel}=5.0%		
		Frequency		(10～2000)Hz	U_{rel}=1.0%		
72	Apparatus for Determining Penetration of	Length	C. S. for Apparatus for Determining Penetration of Bituminous Materials JJF	(0～100)mm	U=0.1mm		
				Φ: (0.01～20)mm	U=(3+6L) μ m, (L: m)		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
	Bituminous Materials	Surface roughness	1208	*Ra*: (0.02～10) μm	U_{rel}=4.0%		
		Angle		0°～30°	U=1′		
		Mass		(50～150)g	U=0.014g		
		Temperature		(0～50)℃	U=0.1℃		
73	Rebound Test Hammer	Rebound Value	V. R. of Rebound Test Hammer JJG 817	74、80、83、88	U_{rel}=3.0%		
74	Measuring instruments of paper-thickness	Length	Paper measuring instrumentsJJG(chuan)(54-75)-1999 JJG（川）（54-75）	(0～2)mm	U=1 μm		
75	Standard Gauge Railway	Length	Verification Regulation of Track Gage for Standard Gauge Railway JJG219	(1338～1470)mm	U=0.07mm		
76	Railway Track Gage	Length	Verification Regulation of Calibrator for Railway Track Gage JJG404	(1410～1470)mm	U=0.01mm		
77	Anemometer	air speed	Calibration Specification for The pitot static tube anemometer NIMTT(CM) 107,Verification Regulation of portable 3-CUP anemometer JJG431,Verification Regulation of hot ball shaped anemometer JJG(JS)0001	(0.2～30)m/s	U=0.56m/s+1.4%V		
		air flow hood		(1~3500)m^3/h	U_{rel}=2.0%		
78	*Urine Analyzers	pH	Calibration Specification of Urine Analyzers JJF1129	pH：5.5～7.5	U_{rel}=4%		
		PRO		PRO：（0.01～3）g/L	U_{rel}=4%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		GLU	Verification Regulation of Blood Cell Analyzers JJG 714	GLU：（0.1～60）mmol/L	U_{rel}=2%		
		SG		SG：1.005～1.08	U=0.003		
		time		（0～3600）s	U=0.1 s		
79	*Blood Cell Analyzers	WBC		（2～25）×10^9/L	U_{rel}=2.5%		
		RBC		（1～8）×10^{12}/L	U_{rel}=2.0%		
		HGB		（40～180）g/L	U_{rel}=2.0%		
		PLT		（40～500）×10^9/L	U_{rel}=3.0%		
80	*Semiautomatic Clinical Chemistry Analyzers	wavelength	Verification Regulation of Semiautomatic Clinical Chemistry Analyzers JJG 464	（300～800）nm	U=0.3 nm		
		absorbance		0.5～1.0	U=0.002		
81	*ELISA Analytical Instruments	Wavelength	Verification Regulation of ELISA Analytical Instruments JJG861	(360～800)nm	U=0.3 nm		
		Absorbance		0.2～1.5	U=0.002～0.006		
82	*apparatus of fluidity of cement mortar	Length	Calibration Specification for Flow Table for Determine Cement Mortar Fluidity JJF(chuan) 164	(9～11)mm	U=0.1mm		
		Time		(0～86400)s	U=0.1s		
		Mass		(0～5000)g	0.2g		
83	*cement testing apparatus of the onrmal consistency and setting time	Length	Calibration Specification for Nonmetal Building Materials Plastic Limit Measuring Instruments JJF1090	(0～300)mm	0.03mm		
		Mass		(0～5000)g	0.2g		
		Angle		0° ～320°	U=0.08°		
Mechanics measuring instrument							
XII Capacity measuring instrument							

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
1	Working Glass Container	Capacity	Working Glass Container JJG 196	(0.001～0.1)ml	U=0.00006ml		
				（0.1~25）ml	U=0.002ml		
				(25～100)ml	U=0.005 ml		
				(100～500)ml	U=0.03 ml		
				(500～2000)ml	U=0.09ml		
				(2000～20000)ml	U=0.16 ml		
2	Standard Capacity MeasUres(glass)	Capacity	Standard Capacity MeasUres(glass) JJG 20	(0.001～0.1)ml	U=0.00006ml		
				(0.1～25)ml	U=0.002 ml		
				(25～100)ml	U=0.005 ml		
				(100～500)ml	U=0.03 ml		
				(500～2000)ml	U=0.09ml		
				(2000～20000)ml	U=0.16 ml		
3	Color Tubes	Capacity	Color Tubes JJG 10	(0.001～0.1)ml	U=0.00006ml		
				(0.1～25)ml	U=0.002 ml		
				(25～100)ml	U=0.005 ml		
				(100～500)ml	U=0.03 ml		
				(500～2000)ml	U=0.09ml		
				(2000～20000)ml	U=0.16 ml		
4	Locomotive pipette	Capacity	Locomotive pipette JJG 646	(0.1～20) μL	U=0.006 μL		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
				(20～10000) μL	U=0.12 μL		
				(10～100)ml	U=0.005 ml		
				(100～250)ml	U=0.03 ml		
5	Standard Glass Hydrometers	Density	Verification Regulation of Standard Glass Hydrometers JJG 86	(650～1500) kg/m^3	U=0.08 kg/m^3		
		alcohol		q:(0～100)%	U=q:0.04%		
6	Digital Liquid Density Meter-Weighed Method	Density	Verification Regulation of Digital Liquid Density Meter-Weighed Method JJG 999	(650～2000)kg/m^3	U=(0.08～0.20)kg/m^3		
7	Laboratory Oscillation-type Liquid Density meters	Density	Verification Regulation of Laboratory Oscillation-type Liquid Density meters JJG 1058	(650～2000)kg/m^3	U=(0.08～0.20)kg/m^3		
8	Special capacity	Capacity	Special capacity self-calibration specification NIMTT(CM) 111	(0.0001～0.1)ml	U=0.00006ml		
				(0.1～25)ml	U=0.002 ml		
				(25～100)ml	U=0.005 ml		
				(100～500)ml	U=0.03 ml		
				(500～2000)ml	U=0.09ml		
				(2000～20000)ml	U=0.16 ml		
9	Working Glass Hydrometers	Density	Verification Regulation of Working Glass Hydrometers JJG 42	(650～2000)kg/m^3	U=(0.08～0.20)kg/m^3		
		alcohol		q:(0～100)%	U=q：0.04%		
		latex		(1010～1040)kg/m^3	U=0.10kg/m^3		
		Baume		(0～70)Bh	U=0.04Bh		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		sugar		p:(0～80)%	U=p:0.03%		
10	*Vertical Metal Tank	Capacity（Volume）	Verification Regulation of Vertical Metal Tank Capacity JJG 168	（20～100）m^3	$U_{rel}=(2.8\times10^{-3}\sim1.3\times10^{-3})$		
				（100～700）m^3	$U_{rel}=(1.3\times10^{-3}\sim9.8\times10^{-4})$		
				（700 ～200000）m^3	$U_{rel}=(9.8\times10^{-4}\sim4.2\times10^{-4})$		
11	*Standard Metal Tank	capacity	Verification Regulation of Standard Metal Tank JJG 259	(10～2500)L	$U_{rel}=0.86\times10^{-4}$		
12	*Tank Cars Capacity	capacity	Verification Regulation of Tank Cars Capacity JJG 133	(3～40)m^3	U_{rel}=0.21%		
13	*Horizontal Metallic Tank	Capacity（Volume）	Verification Regulation of the Volume of Horizontal MetallicTank JJG266	（10 ～200）m^3；	$U_{rel}=(1.9\times10^{-3}\sim8.7\times10^{-4})$		
14	*Spherical metal Tank	Capacity（Volume）	Verification Regulation of Spherical Metal Tank Capacity JJG642	（80～5000）m^3	$U_{rel}=(2.6\times10^{-3}\sim6.6\times10^{-4})$		
15	Mud Density Meter	Density	Verification RegUlation of Mud Density Meter JJG1045	(700～3000)kg/m^3	U=2 kg/m^3		
16	Syringes for Medical Use	Capacity	Syringes for Medical Use JJG 18	(0.25～25)ml	U=0.002ml		
				(25～100)ml	U=0.005 ml		
XIII Flow measuring instrument							
1	*Float Meter	flow	Verification Regulation of Float Meter JJG 257	DN2～DN100, (0.0001～0.3)L/min(Gas)	U_{rel}=0.92%～0.60%		
				DN2～DN100, (0.3～6)L/min(Gas)	U_{rel}=0.60%～0.98%		
				DN2～DN100, (0.2～40)m^3/h(Gas)	U_{rel}=0.68%～0.54%		
				DN2～DN100, (40～240)m^3/h(Gas)	U_{rel}=0.54%～0.55%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
				DN2～DN100, (250～2000)kg/h(Gas)	U_{rel}=1.5%		
				DN2～DN100, (0.004～50)m^3/h(liquid)	U_{rel}=0.3%		
2	*Ultrasonic Flowmeters	flow	Verification Regulation of Ultrasonic Flowmeters JJG 1030	DN15～DN100,(0.01～1)m^3/h(Gas)	U_{rel}=0.40%～0.26%		
				DN15～DN100,(1～40)m^3/h(Gas)	U_{rel}=0.26%～0.22%		
				DN15～DN100,(40～240)m^3/h(Gas)	U_{rel}=0.22%～0.23%		
				DN15～DN300,(0.024～0.5)m^3/h(liquid)	U_{rel}=0.17%～0.16%		
				DN15～DN300,(0.5～5)m^3/h(liquid)	U_{rel}=0.17%～0.16%		
				DN15～DN300,(5～20)m^3/h(liquid)	U_{rel}=0.16%		
				DN15～DN300,(20～180)m^3/h(liquid)	U_{rel}=0.17%		
				DN15～DN300,(1～780)m^3/h(liquid)	U_{rel}=0.26%～0.20%		
				DN50～DN1600, (2～50000)m^3/h(liquid) (2～50000)m^3/h	U_{rel}=1.2%		
3	Water Gas Meters	flow	Calibration Specification for Water Gas Meters JJF 1357	(0.01～10)m^3/h	U_{rel}=0.15%		
4	Gas Laminar Flow Transducers	flow	Verification Regulation of Gas Laminar Flow Transducers JJG 736	(0.0001～0.3)L/min	U_{rel}=0.92%～0.60%		
				(0.3～6)L/min	U_{rel}=0.60%～0.98%		
				(6～60)L/min	U_{rel}=0.60%～0.98%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
5	Target Flowmeter	flow	Verification Regulation of Target Flowmeter JJG 461	DN15～DN100,(0.01～5)m^3/h	U_{rel}=0.59%～0.36%		
				DN15～DN100,(5～40)m^3/h	U_{rel}=0.36%～0.29%		
				DN15～DN100,(40～240)m^3/h	U_{rel}=0.29%～0.25%		
6	*Standard Facilities for Liquid Fowerate	vloumemass	Verification Regulation of Standard Facilities for Liquid Fowerate JJG 164	(10～25000)L	U_{rel}=0.05%		
				(10～50000)kg	U_{rel}=0.02%		
7	*Vretical Facility for Water meters	volume	Verification Regulation of Vretical Facility for Water meters JJG 1113	(10～10000)L	U_{rel}=0.1%		
8	*Pipe Prover	volume	Verification Regulation of Pipe Prover JJG 209	(10～10000)L	U_{rel}=0.02%～0.04%		
9	Critical Flow Venturi Nozzle	flow	Verification Regulation of Critical Flow Venturi Nozzle JJG 620	(0.01～10)m^3/h	U_{rel}=0.09%		
				(0.016～1.6) m^3/h	U_{rel}=0.20%		
10	*Flow Standard Facilitise by Master Meter Method	flow	Verification Regulation of Flow Standard Facilitise by Master Meter Method JJG 643	(0.01～10)m^3/h	U_{rel}=0.23%		
				DN2～DN1000, (0.01～50000)m^3/h	U_{rel}=0.1%		
11	*Weirs and Flumes for Flow Measurement	flow	Verification Regulation of Weirs and Flumes for Flow Measurement JJG 711	(0.1×10^{-3}～1300)m^3/s	U_{rel}=(3～5)%		
12	Vortex Prscession Flowmeters	flow	Verification Regulation of Vortex Precession Flowmeters JJG 1121	DN15～DN300,(1～780)m^3/h(liquid)	U_{rel}=0.26%		
		flow		DN15～DN100,(0.01～1.2)m^3/h(Gas)	U_{rel}=0.40%～0.25%		
				DN15～DN100,(1.2～40)m^3/h(Gas)	U_{rel}=0.25%～0.21%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
				DN15～DN100,(40～240)m^3/h(Gas)	U_{rel}=0.21%～0.26%		
13	*Flow Integration Meters	flow	Verification Regulation of Flow Integration Meters JJG 1003	(1～999999)Flow engineering unit；frequency: (>0～10)kHz electricity：(>0～20)mA，voltage: (>0～10)V,resistance: (50～1000) Ω	U_{rel}=0.01%		
					U_{rel}=0.05%；（with pressure temperature feedback）		
14	Diaphragm Gas Meters	flow	Verification Regulation of Diaphragm Gas Meters JJG 577	(0.016～40)m^3/h	U_{rel}=0.56%～0.47%		
				(40～160)m^3/h	U_{rel}=0.47%～0.50%		
15	*Standard Bell Porvers of Gas Flow	volume	Verification Regulation of Standard Bell Porvers of Gas Flow JJG 165	(10～10000)L	U_{rel}=0.12%		
16	Thermal Mass Gas Flowmeters	flow	Verification Regulation of Thermal Mass Gas Flowmeters JJG 1132	DN2～DN100, (0.01～10)m^3/h	U_{rel}=0.48%		
				DN2～DN100, (0.0001～0.3)L/min	U_{rel}=0.92%～0.60%		
				DN2～DN100, (0.3～6)L/min	U_{rel}=0.60%～0.98%		
				DN2～DN100, (0.2～40)m^3/h	U_{rel}=0.49%～0.30%		
				DN2～DN100, (40～240)m^3/h	U_{rel}=0.30%～0.36%		
17	*Liquid Positive Displacement Flowmeter	flow	Verification Regulation of Liquid Positive Displacement Flowmeter JJG 667	DN10～DN300, (0.6～20)m^3 /h	U_{rel}=0.10%～0.08%		
				DN10～DN300, (20～60)m^3/h	U_{rel}=0.10%～0.08%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
				DN10～DN300, (1～780)m³/h	U_{rel}=0.21%～0.16%		
				DN10～DN300, (0.024～0.5)m³/h	U_{rel}=0.076%～0.070%		
				DN10～DN300, (0.5～5)m³/h	U_{rel}=0.076%～0.072%		
				DN10～DN300, (5～20)m³/h	U_{rel}=0.072%～0.069%		
				DN10～DN300, (20～180)m³/h	U_{rel}=0.076%～0.075%		
18	Gas Displacement Meters	flow	Verification Regulation of Gas Displacement Meters JJG 633	DN10～DN100, (0.01～1.2)m³/h	U_{rel}=0.51%～0.42%		
				DN10～DN100, (1.2～40)m³/h	U_{rel}=0.42%～0.25%		
				DN10～DN100, (40～240)m³/h	U_{rel}=0.25%～0.32%		
19	Differential Pressure Flowmeters	flow	Verification Regulation of Differential Pressure Flowmeters JJG 640	DN10～DN100, (0.01～1.2)m³/h(Gas)	U_{rel}=0.85%～0.64%		
				DN10～DN100, (1.2～40)m³/h(Gas)	U_{rel}=0.64%～0.39%		
				DN10～DN100, (40～240)m³/h(Gas)	U_{rel}=0.39%～0.32%		
				DN4～DN300, (1～780)m³/h(liquid)	U_{rel}=0.21%～0.16%		
		Surface roughness		Ra:(0.1～25) μ m	U_{rel}=6%		
		Length		d:(12.5～300)mm	U=(3+L/100) μ m(L:mm)		
20	Vortex-shedding Flowmeter	flow	Verification Regulation of Vortex-shedding Flowmeter	DN10～DN100, (0.01～5)m³/h(Gas)	U_{rel}=0.49%～0.28%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
			JJG 1029	DN10～DN100, (5～40)m^3/h(Gas)	U_{rel}=0.28%～0.22%		
				DN10～DN100, (40～240)m^3/h(Gas)	U_{rel}=0.22%～0.29%		
				DN15～DN300,(1～780)m^3/h(liquid)	U_{rel}=0.21%～0.16%		
21	*Cold Potable Water Meters	flow	Verification Regulation of Cold Potable Water Meters JJG 162	DN15～DN50,(0.004～50)m^3/h water flow standard device	U_{rel}=0.58%		
				DN15～DN300,(1～780)m^3/h standard meter method	U_{rel}=0.60%～0.47%		
				DN50～DN1600, (2～50000)m^3/h ultrasonic flowmeter	U_{rel}=1.2%		
22	*Electromagnetic Flowmeters	flow	Verification Regulation of Electromagnetic Flowmeters JJG 1033	DN4～DN300,(0.024～0.5)m^3/h	U_{rel}=0.13%～0.12%		
				DN4～DN300,(0.5～5)m^3/h	U_{rel}=0.13%～0.12%		
				DN4～DN300,(5～20)m^3/h	U_{rel}=0.12%		
				DN4～DN300,(20～180)m^3/h	U_{rel}=0.13%		
				DN4～DN300,(1～780)m^3/h	U_{rel}=0.24%～0.17%		
				DN50～DN1600, (2～50000)m^3/h	U_{rel}=1.2%		
23	Hot meters	flow	Verification Regulation of Hot water meters JJG 686	DN15～DN50,(0.004～50)m^3/h DN(15～50)mm	U_{rel}=0.62%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
24	*Gas Flow Calibration Facility by Means of Critical Flow Venturi Nozzles	flow	Calibration Specification for Gas Flow Calibration Facility by Means of Critical Flow Venturi Nozzles JJF 1240	(0.01～10)m³/h	U_{rel}=0.23%		
				DN2～DN600, (0.01～50000)m³/h	U_{rel}=0.2%		
25	*Goriolis Mass Flow meters	flow	Verification Regulation of Goriolis Mass Flow meters JJG 1038	DN2～DN200, (0.024～0.5)t/h	U_{rel}=0.051%～0.042%		
		flow		DN2～DN200,(0.5～5)t/h	U_{rel}=0.051%～0.046%		
		flow		DN2～DN200, (5～20)t/h	U_{rel}=0.041%～0.046%		
		flow		DN2～DN200, (20～180)t/h	U_{rel}=0.051%～0.050%		
		flow		DN2～DN200, （0.0001～6）L/min, （0.00012～7.2）g/min	U_{rel}=0.6%～0.92%		
		flow		DN2～DN200, （0.005～50）L/min, （0.006～60）g/min	U_{rel}=0.32%		
		flow		DN2～DN200, （0.2～60）L/min,（0.22～66）g/min	U_{rel}=0.15%～0.3%		
		flow		DN2～DN200, (0.01～1.2)m³/h,（0.011～1.3）kg/h	U_{rel}=0.51%～0.42%		
		flow		DN2～DN200, (0.2～40)m³/h,（1.3～44）kg/h	U_{rel}=0.42%～0.25%		
		flow		DN2～DN200, (40～240)m³/h,（44～260）kg/h	U_{rel}=0.25%～0.32%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		flow		DN2～DN200, (0.5～1000)m³/h,（0.55～1100）kg/h	U_{rel}=0.32%		
26	*Verification Regulation of Soap Film Flow meter	flow	Verification Regulation of Soap Film Flow meter JJG 586	（0.0001～6）L/min	U_{rel}=0.6%～0.92%		
		flow		（0.005～50）L/min	U_{rel}=0.32%		
		flow		（0.2～60）L/min	U_{rel}=0.15%～0.3%		
27	*Turbine Flowmeter	flow	Verification Regulation of Turbine Flowmeter JJG 1037	DN15～DN100,(0.01～5)m³/h(Gas)	U_{rel}=0.43%～0.22%		
				DN15～DN100,(5～40)m³/h(Gas)	U_{rel}=0.22%～0.21%		
				DN15～DN100,(40～240)m³/h(Gas)	U_{rel}=0.21%～0.26%		
				DN4～DN300,(1～780)m³/h(liquid)	U_{rel}=0.21%～0.16%		
				DN4～DN300,(0.024～0.5)m³/h(liquid)	U_{rel}=0.13%～0.12%		
				DN4～DN300,(0.5～5)m³/h(liquid)	U_{rel}=0.13%～0.12%		
				DN4～DN300,(5～20)m³/h(liquid)	U_{rel}=0.12%		
				DN4～DN300,(20～180)m³/h(liquid)	U_{rel}=0.13%		
28	*Compressed Natural Gas Dispensers	Flow	Verification Regulation of Compressed Natural Gas Dispensers JJG 996	（1～80）kg/min	U_{rel}=0.22%		
29	*Liquefied Natural Gas Dispensers	Flow	Verification Regulation of Liquefied Natural Gas Dispensers JJG 1114	（1～80）kg/min	U_{rel}=0.32%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
30	*Compressed Hydrogen Dispensers	Flow	Calibration Specification of Compressed Hydrogen Dispensers NIMTT(CM) 013	（0.1～10）kg/min	U_{rel}=0.66%		
31	Heat Water Meters	flow	Verification Regulation of Heat Meters JJG 225	(0.004～50)m^3/h，DN(15～50)	U_{rel}=0.7%		
32	Dry piston flow calibrator	flow	Calibration Specification of Dry piston flow calibrator NIMTT(CM) 057	（0.005～50）L/min	U_{rel}=0.28%～0.32%		
		flow		（0.2～60）L/min	U_{rel}=0.2%～0.3%		
33	*Electromagnetic Flowmeters	flow	Online Calibration Specification for Liquid Flowmeter JJF（川） 159	DN50～DN3000,（2～50000）m^3/h	U_{rel}=1.2%		
34	*p.V.T.t technique	vloume	Gas Flow Calibration to p.V.T.t technique JJG 619	（10～30000）L	U_{rel}=0.03%		
		flow		（0.01～4000）kg/h	U_{rel}=0.05%		
35	*measuring systems for natural gas	flow	Calibration Specification of Measuring Systems for Natural Gas NIMTT(CM) 165	（0~9999999）流量工程单位	U_{rel}=0.7～1%		
36	Standand Leak	flow	Calibration Specification for Reference Leaks by Soap Film Flowmeter JJF 1627	(0.0001～0.3)L/min	U_{rel}=(0.92～0.60)%		
				(>0.3～6)L/min	U_{rel}=(0.60～0.98)%		
37	*Gasoline Vapor Recovery Detectors	flow	Calibration Specification for Gasoline Vapor Recovery Detectors JJF1948	（18~38）L/min	U_{rel}=0.2～0.5%		
		pressure		（-5.0~5.0）kPa	U=6Pa		
38	*Calibration Specification for Door and window performance detection device	flow	Calibration Specification for Door and window performance detection device NIMTT(CM) 164	（10~600）m^3/h	U_{rel}=0.52%		
		flow		（100~1000）L/h	U_{rel}=0.48%		
		pressure		（-5000~5000）Pa	U=6Pa		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		Displacement		（1~10）mm	U=7 μ m		
39	*Syringe Pump and Infusion Pump	flow	Calibration Specification for Syringe Pumps and Infusion Pumps JJF 1259	(5～20)mL/h	U= 0.84 mL/h		
				（＞20～200）mL/h	U= 0.27 mL/h		
				（＞200～1000）mL/h	U=12 mL/h		
		occlusion pressure		(40～106.7) kPa	U= 4.9 kPa		
XIV、Pressure measuring instrument							
1	*Piezoresistive Vacuum Gauge	Pressure	Verification Regulation of Piezoresistive Vacuum Gauge JJG 932	$(1\times10^{2}$～$1\times10^{5})$Pa	U_{rel}=0.9%～0.6%		
2	Pressure Transducer	Pressure	V.R. of Pressure Transducer(static) JJG 860	(-0.1～100)MPa	U=0.016%FS		
				(100～250)MPa	U_{rel}=0.027%		
3	Compensated Micro-manometer	Pressure	V.R.of Compensated Micro-manometer JJG 158	-2.5kPa～2.5kPa	U=0.018%FS		
4	Tilting Tube Micro-manometers	Pressure	V.R.of Tilting Tube Micro-manometers JJG 172	(0～2000)Pa	U=0.15%FS		
5	Aneroid Barometer & Aneroid Barograph	Pressure	V.R.of Aneroid Barometer & Aneroid Barograph JJG 272	(500～1060)hPa	U=0.85hPa		
6	Piston Gauge	Pressure	Liquid-medium Piston Gauges JJG 59	(0.02～250)MPa	U_{rel}=0.012%		
7	Pneumatic Piston Gauge	Pressure	V.R.of Pneumatic Piston Gauge JJG 1086	(0.0015～10)MPa	U_{rel}=0.012%		
8	Precise Pressure Gauge	Pressure	V.R.of Elastic Element Precise Pressure Gauges and Vacuum Gauges JJG 49	(-0.1～0)MPa	U=0.11%FS		
				(0～250)MPa	U=0.14%FS		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
9	Pressure Gauge	Pressure	V.R.of Elastic Element Precise Pressure Gauges,Pressure-Vacuum Gauges and Vacuum Gauges for General Use JJG 52	(-0.1～250)MPa	U=0.6%FS		
10	Sphygmomanometer	Pressure	V.R.of Sphygmomanometer JJG 270	(0～40)kPa	U=0.6%FS		
11	Record Pressure Gauges	Pressure	V.R.of Record Pressure Gauges、Pressure Vacuum Gauges and Vacuum Gauges JJG 926	(-0.1～250)MPa	U=0.6%FS		
12	Piston Pressure Vacuum Gauge	Pressure	V.R.of Piston Pressure Vacuum Gauges JJG 236	-0.1MPa～-10kPa	U_{rel}=0.015%		
				10kPa～0.6MPa	U_{rel}=0.015%		
13	Piston Pressure-Vaccum Gauge with Equilibrium Liquid Column	Pressure	V.R.of Piston Pressure-Vacuum Gauge with Equilibrium Liquid Column JJG 51	-0.1MPa～0.4MPa	U=0.015%FS		
14	Standard Dual Piston Pressure Vacuum Gauge	Pressure	V.R.of Standard Dual Piston Pressure Vacuum Gauge JJG 159	-0.1MPa～1MPa	U=0.015%FS		
15	Pressure Controllers	Pressure	V.R.of Pressure Controllers JJG 544	（-0.1～250）MPa	U=0.8%FS		
16	Precision Liquid Manometer for Cistern	Pressure	V.R.of Precision Liquid Manometer for Cistern and U-tube JJG 241	（-40～40）kPa	U=0.4%FS		

The scope of the accreditation in Chinese remains the definitive version.

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
17	Digital Measuring Device for Optical Interference Methane Detector	Pressure	V.R.of Digital Measuring Device for Optical Interference Methane Detector JJG 1040	(0～100)kPa	U=0.033%FS		
18	Pressure SF6 Gas Density Monitors	Pressure	V.R.of Pressure Type SF6 Gas Density Monitors JJG 1073	(-0.1～0.9)MPa	U=0.6%FS		
19	*Thermal Conductiviey Vacuum Gauge	Pressure	Calibration Specification of Working Thermal Conductivity Vacuum Gauge JJF 1050	$(1\times10^{-1}$～$3\times10^{3})$Pa	U_{rel}=5.3%～3.9%		
				$(3\times10^{3}$～$1\times10^{5})$Pa	U_{rel}=3.9%～4.9%		
20	Liquid Manometers for Working	Pressure	V. R. of Liquid Manometers for Working JJG 540	(0～2.5)kPa	U=0.27%FS		
				（2.5～25）kPa	U_{rel}=0.55%		
21	Tyre Pressure Gauges	Pressure	V.R.of Tyre Pressure Gauges JJG 927	(0～6)MPa	U=0.6%FS		
22	Ball Pneumatic Dead Weight Testers	Pressure	V.R.of Ball Pneumatic Dead Weight Testers JJG 942	2kPa～10MPa	U_{rel}=0.015%		
23	Calibration Specification for Pressure Regulators with Bourdon Tube Pressure Gauge	Pressure	Calibration Specification for Pressure Regulators with Bourdon Tube Pressure Gauge JJF 1328	(0～25)Mpa	U=0.6%FS		
24	Liquid Level Gauges	Pressure	V.R of Liquid Level Gauges JJG 971	(0～10)MPa	U=0.023%FS		
25	Digital Pressure Gauges	Pressure	V. R. of Digital Pressure Gauges JJG 875	(-0.1～100)MPa	U=0.008%FS		
				（100～250）MPa	U_{rel}=0.021%		

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
26	Digital Barometers	Pressure	V.R. of Digital Barometers JJG 1084	(0～130)kPa abs	U=0.07hPa		
27	Pressure Transmitter	Pressure	V. R. of Pressure Transmitter JJG 882	(-0.1～100)MPa	U=0.016%FS		
				（100～250）MPa	U_{rel}=0.027%		
28	*Ionization Vacuum Gauge	Pressure	Calibration Specification of Ionization Vacuum Gauge JJF 1062	(3×10^{-7}～1)Pa	U_{rel}=16%～1.5%		
				(>1～20)Pa	U_{rel}=4.2%		
29	Mass Spectrometer for Partial Pressure	Pressure	Calibration Specification of Mass Spectrometer for Partial Pressure in the Pressure Range of （1×10^{-9}～1×10^{-1}）Pa JJF（军工）152	(1×10^{-6}～1×10^{-1})Pa	U_{rel}=7.4%～6.2%		
30	*Capacitance Diaphragm Vacuum Gauges	Pressure	Calibration Specification for Capacitance Diaphragm Vacuum Gauges JJF 1503	(1×10^{-1}～1×10^{5})Pa	U_{rel}=2.6%～0.02%	MPE:±0.5% for field calibration only	
31	*Reference Leaks for Gases	leak rate	Non Destructive Testing - Leak Testing - Calibration of Reference Leaks for Gases ISO 20486,Calibration Specification for Vacuum Helium Leaks JJF 1833	（1×10^{-10}～<1×10^{-3}）Pa • m^3/s	U_{rel}=7.6%～0.88%	Calibration by comparison and calibration by pressure change in a known volume only for ISO 20486	

№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
32	Pressure Reference Leaks	leak rate	Calibration Specification for Reference Leaks by Soap Film Flowmeter JJF 1627,Calibration Specification for Pressure Reference Leaks NIMTT(CM) 012	（5×10^{-7}～50）Pa • m^3/s	U_{rel}=6.2%～0.7%		
33	*Mass Spectrometer Leak Detector	leak rate	Calibration Specification of Helium Mass Spectrometer Leak Detector JJF（军工）186,Calibration Specification of Helium Mass Spectrometer Leak Detector NIMTT（CM） 119	（1×10^{-10}～<1×10^{-5}）Pa • m^3/s	U_{rel}=14%～12%		
34	*Halogen Leak Detector	leak rate	Calibration Specification for Halogen Leak detector JJF1964	（1×10^{-6}～1×10^{-5}）Pa • m^3/s	U_{rel}=24%～13%		
		Time		(0～10)s	U=1.1s		
35	Impression Tonometers	mass	V.R.of Impression Tonometers JJG 574	(0～100)g	U=0.012g		
		length		（0～5）mm	U=0.013mm		