Name: Shenzhen Huapu Metrology and Detection Co., Ltd.

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Registration No. CNAS L11340

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

SCHEDULE OF ACCREDITATION CERTIFICATE

Effective Date: 2026-10-08 Expiry Date: 2030-08-28

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
testshebei							
Mechanical measuring instrument							
1	*Table Balance	Mass	V.R.of Table Balances JJG156	(0.1～500)g	U=(0.03～0.08)g		
				500g～2kg	U=(0.08～0.3)g		
				(2～5)kg	U=(0.3～0.8)g		
2	*Machine balance	Mass	V. R. of Mechanical Balance JJG98	1mg～20g	U=0.01mg		
				(20～200)g	U=0.06mg		
				200g～1kg	U=0.29mg		
				(1～5)kg	U=4.4mg		

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№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
3	*Analogue Indication Weighing Instruments	Mass	V.R.of Analogue Indication Weighing Instruments JJG13	(0.1～1)kg	U=0.3g		
				(1～10)kg	U=1g		
				(10～30)kg	U=5g		
4	*Electron Balance	Mass	V.R. of Electronic Balance JJG1036,Calibration Specification for Electronic Balances JJF1847	1mg～50g	U=(0.004～0.045)mg		
				(50～500)g	U=(0.05～0.45)mg		
				500g～5kg	U=(0.5～14)mg		
				(5～40)kg	U=14mg～0.1g		
				(40～500)kg	U=(0.1～16)g		
5	*Analogue indicating weighing instrument	Mass	V.R.of analogue indicating weighing instrument JJG14	1g～1kg	U=(0.1～0.3)g		
				(1～10)kg	U=(0.3～1.2)g		
				(10～40)kg	U=(1.2～3)g		
				(40～500)kg	U=3g～0.1kg		
6	*elenment pressure Gauge, pressure vacuum gauge and vacuum gauge for general ues	Pressure	Verification Regulation of elenment pressure Gauge, pressure vacuum gauge and vacuum gauge for general ues JJG 52	（-0.1～60）MPa	U=0.2%FS		
7	*Pressure sensor (static)	Pressure	Verification Regulation of Pressure Sensor (Static) JJG 860	（-0.1～60）MPa	U=0.08%FS		
8	*Pressure Transmitters	Pressure	Verification Regulation of Pressure Transmitter JJG 882	（-0.1～60）MPa	U=0.08%FS		

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№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
9	U-shaped liquid pressure gauge	Pressure	Verification Regulations for Precision Cup-shaped and U-shaped Liquid Pressure Gauges JJG 241	(-8～8)kPa	U=0.12%FS		
10	Weights	Mass	Verification Regulation of Weights JJG 99	（1～500）mg	U=(0.003～0.10)mg		
				(1～200)g	U=(0.012～0.2)mg		
				(200～500)g	U=(0.2～1)mg		
				(1～5)kg	U=(2～14)mg		
				(5～30)kg	U=18mg～0.2g		
11	*Working dynamometer	Force	Verification Regulation of working dynamometer JJG 455	0.01N～20kN	U_{rel}=0.4%		
12	*Tension,Compression and Universal Testing Machines	Force value	Verification Regulation of Tension,Compression and Universal Testing Machines JJG 139	1N～3000kN	U_{rel}=0.4%		
		Displacement		(0.01～1000)mm	U_{rel}=0.24%		
		Coaxiality		(0～30)%	U=4%		
13	*Electronic universal testing machine	Force	Verification Regulation of Electronic Universal Testing Machine JJG 475	1N～3000kN	U_{rel}=0.4%		
		Displacement		(0.01～1000)mm	U_{rel}=0.24%		
		Coaxiality		(0～30)%	U=4%		
14	*Metallic Rockwell Hardness Testing Machines	Hardness	Verification Regulation of Metallic Rockwell Hardness Testing Machines(Scales A,B,C,D,E,F,G,H,K,N,T) JJG 112	(20～88)HRA	U=0.6HRA		
				(20～100)HRBW	U=0.7HRBW		
				(20～70)HRC	U=0.7HRC		
				(20～91)HRN	U=0.9HRN		

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№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
				(88～93)HR15TW	U=0.9HR15TW		
				(70～82)HR30TW	U=0.9HR30TW		
				(55～72)HR45TW	U=0.9HR45TW		
15	*Metallic Webster Hardness Testing Machines	Hardness	Verification Regulation of Metallic Webster Hardness Testing Machines JJG 944	(5～18)HW	U=0.4 HW		
16	*Metal Brinell Hardness Tester	Hardness	Verification Regulation of Metal Brinell Hardness Tester JJG 150	（75～600）HBW	U_{rel}=2.0%		
17	*Metal Vickers Hardness Tester	Hardness	Verification Regulation of Metal Vickers Hardness Tester JJG 151	(175～225)HV0.05	U_{rel}=4.3％		
				(175～600)HV0.1	U_{rel}=4.3%		
				(175～800)HV0.2	U_{rel}=3.8%		
				(175～800)HV0.3	U_{rel}=3.2%		
				(175～800)HV0.5	U_{rel}=3.2％		
				(175～800)HV1	U_{rel}=3.2％		
				(175～800)HV2	U_{rel}=1.6％		
				(175～800)HV3	U_{rel}=2.6%		
				(175～800)HV5	U_{rel}=3.0％		
				(175～800)HV10	U_{rel}=2.2%		
				(175～800)HV20	U_{rel}=2.0％		
				(175～800)HV30	U_{rel}=2.6％		

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№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
				(400～800)HV50	U_{rel}=2.0%		
				(400～800)HV100	U_{rel}=1.3%		
18	*Leeb Hardness Tester	Hardness	Verification Regulation of Leeb Hardness Tester JJG 747	(490～830)HLD	U=7HLD		
19	*Shore A Durometers	length	Verification Regulations of Shore A Durometers JJG 304	（0～2.54）mm	U=0.008mm		
		angle		34° ～36°	U=0.25°		
		Force		(2～10)N	U=0.04N		
20	*Shore D Durometers	length	Verification Regulations of Shore D Durometers JJG 1039	（0～2.54）mm	U=0.008mm		
		angle		29° ～31°	U=0.3°		
		Foece		(4.4～44.5)N	U=0.2N		
21	*Shore AO Durometers	Length	Calibration Specification for Shore AO Durometers JJF 1312	（0～2.52）mm	U=0.006mm		
		foece		(2.05～8.05)N	U=0.04N		
22	*Wire Bending Testing Machine	Mass	Verification Regulations of Wire Bending Testing Machine JJG （Yue）022	（10～2000）g	U=0.5 g		
		Frequency		(10～100)min^{-1}	U=0.6min^{-1}		
		Angle		-90° ～90°	U=8′		
23	*Working Force Measuring Machines for Special Purposes	Force	Calibration specification for Working Force Measuring Machines for Special Purposes JJF 1134	0.1N～50kN	U_{rel}=0.4%		
24	Working Glass Container	Volume	Verification Regulation of Working Glass Container JJG 196	(0.05～1)mL	U=0.001mL		
				（1～10）mL	U=0.006mL		

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№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
				（10～50）mL	U=0.012mL		
				（50～100）mL	U=0.024mL		
				（100～250）mL	U=0.08mL		
				（250～2000）mL	U=0.18mL		
25	Special Glassware	Capacity	Verification Regulation of Special Glassware JJG 10	（1～10）mL	U=0.004mL		
				（10～20）mL	U=0.008mL		
				（20～100）mL	U=0.018mL		
26	Locomotive Pipette	Volume	Verification Regulation of Locomotive Pipette JJG 646	(0.1～0.5) μL	U_{rel}=8%		
				(0.5～2) μL	U_{rel}=4%		
				(2～10) μL	U_{rel}=2.5%		
				(10～50) μL	U_{rel}=1.0%		
				(50～300) μL	U_{rel}=0.5%		
				（0.3～1）mL	U_{rel}=0.3%		
				（1～10）mL	U_{rel}=0.2%		
27	*Cantilever-Beam(Izod-Type) Impact Testing Machine	Energy	Verification Regulation of Cantilever-Beam(Izod-Type) Impact Testing Machine JJG 608	Potential Energy:(1～22)J	U_{rel}=0.35%		
				Energy loss:(0.1～2)J	U_{rel}=0.40%		
		Length		(100～1000)mm	U_{rel}=0.20%		
28	Tilting Tube Micromanometers	Pressure	Verification Regulation of Tilting Tube Micromanometers JJG 172	(-2000～2000)Pa	U=0.21%FS		

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№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
29	*Pendulum Impact Testing Machines	Length	Verification Regulation of Pendulum Impact Testing Machines JJG 145	(0.01～150)mm	U=0.04mm		
		Energy		(0～40)J	U=0.7J		
				(40～180)J	U_{rel}=2%		
30	Torque Wrenches	Torque	Verification Regulation of Torque Wrenches JJG 707	(0.2～3000)N・m	U_{rel}=1.3%		
31	Calibration Instrument for Torque Wrenches	Torque	Verification Regulation of Calibration Instrument for Torque Wrenches JJG 797	(0.005～400) N・m	U_{rel}=0.4%		
32	*Digital Indicating Weighing Instruments	Mass	Verification Regulation for Digital Indicating Weighing Instruments JJG 539	(0.1～10)g	U=0.02g		
				(10～1000)g	U=(0.02～0.04)g		
				(1～20)kg	U=(0.04～0.7)g		
				(20～500)kg	U=(0.7～16)g		
				(500～5000)kg	U=(0.02～0.11)kg		
33	Digital Pressure Gauges	Pressure	Verification Regulation of Digital Pressure Gauges JJG 875	(-0.095～60)MPa	U=0.07%FS		
34	Elastic Element Precise Pressure Gauges and Vacuum Gauges	Pressure	Verification Regulation of Elastic Element Precise Pressure Gauges and Vacuum Gauges JJG 49	（-0.095～60）MPa	U=0.08%FS		
35	*Friability Surveymeters	Rotating Speed	Calibration Specification for Friability Surveymeters JJF（Ji）168	(20～200)r/min	U_{rel}=1.1%		
		Time		(10～300)s	U=1.2s		

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№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
36	Screen Tension Meters	Tension	Calibration Specification for Screen Tension Meters JJF 1465	(7～50)N/cm	U=2%FS		
37	Tachometers	Rotating Speed	Verification Regulation of Tachometers JJG 105	(30～30000)r/min	U_{rel}=0.03%		
38	*Hydraulic Jacks	Force	Verification Regulation of Hydraulic Jacks JJG 621	（0.2～20）kN	U_{rel}=0.6%		
39	*Mechanical Vibration Genetator for Testing	Frequency	Verification Regulation of Mechanical Vibration Genetator for Testing JJG 189	(10～5000)Hz	U_{rel}=0.12%		
		Acceleration		（1～400）m/s^2,(10Hz～5000Hz)	U_{rel}=3.0%		
		Displacement		（0.01～10)mm	U_{rel}=3.0%		
		distortion		0.1%～30%	U_{rel}=3.0%		
40	*Electrodynamic Vibration Testing Systems	Frequency	Verification Regulation of Electrodynamic Vibration Testing Systems JJG 948	(10～5000)Hz	U_{rel}=0.12%		
		Acceleration		（1～400）m/s^2,(10Hz～5000Hz)	U_{rel}=3.0%		
		Distortion		0.1%～30%	U_{rel}=3.0%		
		Accuracy of frequency sweep vibration determination		（-100～100）dB	U=0.4dB		
41	*Standard Vibrators	Frequency	Verification Regulation of Standard Vibrators JJG 298	(10～5000)Hz	U_{rel}=0.12%		
		Acceleration		（1～400）m/s^2,(10Hz～5000Hz)	U_{rel}=3.0%		
		Distortion		0.1%～30%	U_{rel}=3.0%		
42	*Hydraulic Vibration Testing	Frequency	Verification Regulation of Hydraulic Vibration Testing	(10～5000)Hz	U_{rel}=0.12%		

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№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
	System	Acceleration	System JJG 638	（1～400）m/s^2,(10Hz～5000Hz)	U_{rel}=3.0%		
		Displacement		（0.01～10)mm	U_{rel}=3.0%		
		distortion		0.1%～30%	U_{rel}=3.0%		
43	*Electrodynamic Horizontal Vibration Generator for Testing	Frequency	Verification Regulation of Electrodynamic Horizontal Vibration Generator for Testing JJG 1000	(10～5000)Hz	U_{rel}=0.12%		
		Acceleration		（1～400）m/s^2,(10Hz～5000Hz)	U_{rel}=3.0%		
		Displacement		（0.01～10)mm	U_{rel}=3.0%		
		Distortion		0.1%～30%	U_{rel}=3.0%		
44	Piezoelectric Accelerometer	Acceleration	Verification Regulation of Piezoelectric Accelerometer JJG 233	(1～250)m/s^2,(160Hz)	U_{rel}=1.0%	Accredited only for Comparative method calibration working level Accelerometer	
				(1～250)m/s^2,（10～5000）Hz(Except for 160Hz)	U_{rel}=2.0%		
				Impact acceleration：(70～5×10^4) m/s^2	U_{rel}=5%		
45	Electromagnetic Velocity Transducers	Speed	Verification Regulation of Electromagnetic Velocity Transducers JJG 134	（0.1～1000）mm/s,(10Hz～5000Hz)	U_{rel}=2%		
46	Spring Hammers	Energy	Calibration Specification for Spring Hammers JJF 1475	（0.20～2.00）J	U_{rel}=2.0%		
		Length		（0～50）mm	U=0.04mm		
		Force		（2～10）N	U=0.2N		
47	*Falling Weight Impact Testing	Mass	Calibration Specification for Falling Weight Impact	0.1g～1kg	U=0.2g	Accredited only for drop	

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№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
	Machines		Testing Machines JJF 1445	1kg～30kg	U=2g	hammer impact tester for safety test of automobile glass and impact resistance test of plastic thin film plate	
		Length		(0～2)m	U=2mm		
48	*Equipment of Power Measuring	Torque	Verification Regulation of Equipment of Power Measuring JJG 653	(0.005～400) N・m	U_{rel}=0.3%		
		Rotation Speed		(100～30000)r/min	U_{rel}=0.1%		
49	*Flexure Testing Machine	Force value	Verification Regulation of Flexure Testing Machine JJG 476	(0.1～10)kN	U_{rel}=0.4%		
		Speed		（45～55）N/s	U=0.5N/s		
50	*Abrasion Resistance Instruments	length	Calibration Specification for Abrasion Resistance Instruments JJF(ZJ)1070	(0～25)mm	U=0.04mm		
		Rotation Speed		(100～300)r/min	U_{rel}=0.2%		
		quality		(5～2000)g	U=1g		
		time		(1～3600)s	U=0.2s		
51	Working Glass Hydrometers	Density	Verification Regulation of Working Glass Hydrometers JJG 42	(650～2000) kg/m^3	U=0.4 kg/m^3	Accredited only for Direct comparison method	
		Alcohol degree		0～100%	U=0.4%		
52	Vibration Meters	Acceleration	Verification Regulation of Vibration Meters JJG 676	(1～500)m/s^2,(10Hz～5000Hz)	U_{rel}=2.4%		

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№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
				(1～500)m/s^2,(160Hz)	U_{rel}=1.2%		
		Displacement		(0.01～10)mm	U_{rel}=3.0%		
		Speed		(0.1～1000)mm/s	U_{rel}=3.0%		
		Frequency		(10～5000)Hz	U_{rel}=0.12%		
53	Bottle Top Dispenser	Capacity	Calibration Specification for Bottle Top Dispenser JJF(HE)181	(0.1～10)mL	U=0.005mL		
				（10～25)mL	U=0.01mL		
				(25～100)mL	U=0.03mL		
54	Pressure Regulators with Bourdon Tube Pressure Gauge	Pressure	Calibration Specification for Pressure Regulators with Bourdon Tube Pressure Gauge JJF 1328	(0.1～25)MPa	U=0.8%FS		
55	*Electro-hydraulic Servo Universal Testing Machines	Force value	Verification Regulation of Electro-hydraulic Servo Universal Testing Machines JJG 1063	1N～3000kN	U_{rel}=0.4%		
56	Pressure Controllers	pressure	Verification Regulation of Pressure Controllers JJG 544	（-0.1～60）MPa	U=0.12%FS		
57	*Refrigerant Leak Detector	Leakage rate	Calibration Specification for Refrigerant Leak Detector JJF(Light Industry)125	（1×10^{-7}～1×10^{-4}）Pa • m^3/s	U_{rel}=15%		
		Time		（0～3600)s	U=0.5s		
58	Pressure Regulators with Flowmeter	Pressure	Calibration Specification for Pressure Regulators with Flowmeter JJF(HE)177	（0.1～25）MPa	U=0.8%FS		
		Flow		（0.05～25）L/min	U=1.5%FS		
59	*Halogen Leak Detectors	Leakage rate	Calibration Specification for Halogen Leak Detectors JJF 1964	（1×10^{-6}～1×10^{-5}）Pa•m^3/s	U_{rel}=17%		

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№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		Time		(0～3600)s	U=0.2s		
60	*Type A Barcol Hardness Testers	Hardness	Verification Regulation of Type A Barcol Hardness Testers JJG 610	(42～88)HBa	U=1.3HBa		
61	*Quantitative Filling Machine for Liquid Material	Quality	Verification Regulation of Quantitative Filling Machine for Liquid Material JJG 687	5g～30kg	U_{rel}=0.1%	Accredited only for Fixed-weight type Quantitative Filling Machine	
62	Plastic Containers	Volume	Calibration Specification for Plastic Containers JJF(JL) 108	（1～10）mL	U=0.006mL		
				（10～50）mL	U=0.012mL		
				（50～100）mL	U=0.024mL		
				（100～250）mL	U=0.08mL		
				（250～2000）mL	U=0.16mL		
63	*Tablet Hardness Tester	Force value	Calibration Specification for Tablet Hardness Tester JJF(HB)46	（1～500）N	U_{rel}=0.4%		
64	Float Meter	Flow	Verification Regulation of Float Meter JJG 257	(0.1～1000)mL/min	U_{rel}=1.5%	Accredited only for Gas	
				(0.04～12)m^3/h,DN4～DN25	U_{rel}=0.4%		
65	*Liquid Flowmeter(online)	Flow	Online Calibration Specification for Liquid Flowmeter JJF(SC)159	（0.1～23000）m^3/h	U_{rel}=1.7%		

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№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
66	*Electromagnetic Flowmeters (online)	Flow	Online Calibration Specification for Electromagnetic Flowmeters JJF 2216	（0.1～23000）m^3/h	U_{rel}=1.7%	Accredited only for Standard table method	
67	Interface Tensiometers	Tension	Calibration Specification for Interface Tensiometers JJF 1464	(20～80)mN/m	U_{rel}=0.14%		
68	*Flow Integration Meters	Flow	Verification Regulation of Flow Integration Meters JJG 1003	(0.01～20000)m^3/h	U_{rel}=0.2%		
69	Aneroid Barometer & Aneroid Barograph	Pressure	Verification Regulation of Aneroid Barometer & Aneroid Barograph JJG 272	（500～1060)hPa	U=0.5hPa		
70	*Helium Mass Spectrometer Leak Detector	Leakage rate	Calibration Specification of Helium Mass Spectrometer Leak Detector JJF(Defense Industry)186	（5×10^{-10}～5×10^{-8}）Pa • m^3/s	U_{rel}=18%	Accredited only for Vacuum standard leak group method	
71	Turbine Flowmeter	Flow	Verification Regulation of Turbine Flowmeter JJG 1037	(0.04～12)m^3/h,DN4～DN25	U_{rel}=0.3%	Accredited only for Gas	
72	Displacement Gas Meters	Flow	Verification Regulation of Displacement Gas Meters JJG 633	(0.04～12)m^3/h,DN4～DN25	U_{rel}=0.3%		
73	Vortex-shedding Flowmeter	Flow	Verification Regulation of Vortex-shedding Flowmeter JJG 1029	(0.04～12)m^3/h,DN4～DN25	U_{rel}=0.3%	Accredited only for gas	
74	Thermal Mass Gas Flowmeters	Flow	Verification Regulation of Thermal Mass Gas Flowmeters JJG 1132	(0.04～12)m^3/h,DN4～DN25	U_{rel}=0.3%	Accredited only for Standard table method	

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№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
75	*Peristaltic Pumps	Flow	Calibration Specification for Peristaltic Pumps JJF(FJ)1115	（0.1～6）L/min	U_{rel}=1.2%		
		Rotation Speed		(60～600)r/min	U_{rel}=0.5%		
76	Wet Gas Meters	Flow	Calibration Specification for Wet Gas Meters JJF 1357	(0.04～12)m^3/h,DN4～DN25	U_{rel}=0.3%		
77	*Differential Pressure Air Leakage Testers	pressure	Calibration Specification for differential pressure air leakage testers JJF 1986	working pressure：（0.5～700）kPa	U=0.2%FS		
				Differential pressure：（-2.5～2.5）kPa	U=3Pa		
		Flow		Leakage rate:(0.1～100)mL/min	U_{rel}=1.6%		
78	*Shock and Bump Testing Machines	acceleration	Verification Regulation of Shock and Bump Testing Machines JJG 1174	(1～10000)m/s^2	U_{rel}=5.0%		
		Time		(0.2～30)ms	U_{rel}=3.5%		
		Speed		(0.1～20)m/s	U_{rel}=5.0%		
79	Gerber butyrometer	Capacity	Calibration Specification for Gerber butyrometer JJF(NM) 070	(0.01～1.125)mL	U=0.002mL		
80	*Tap Density Tester	Capacity	Calibration Specification for Tap Density Tester JJF(HL)22	(25～100)mL	U=0.12mL		
		Frequency		(50～600)次/min	U=0.6 次/min		
81	Pyknometers	Capacity	Calibration Specification for Pyknometers JJF(JL) 107	(0.1～500)mL	U=(0.01～0.15)mL		
82	*Pull-off adhesion tester	Force	Calibration specification for pull-off adhesion tester JJF(TJ) 122	(0.05～10)kN	U_{rel}=0.4%		
83	Micro Sampling Syringes	Capacity	Calibration Specification of Micro Sampling Syringes JJF(SD) 173	(0.1～0.6) μL	U_{rel}=8%～5%		
				(0.6～1000) μL	U_{rel}=5%～0.3%		

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№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
84	*Long Distance Transmissible Pressure Gauges	Pressure	Verification Regulation of Long Distance Transmissible Pressure Gauges JJG 1202	（-0.1～60）MPa	U=0.2%FS		
		Output resistance		(1～400) Ω	U_{rel}=0.1%		
		Direct current		(1～20)mA	U_{rel}=0.08%		
85	Liquid Level Gauges	Liquid level	Verification Regulation of Liquid Level Gauges JJG 971	(0.1～2)m	U=0.7mm		
86	*Electric and Pneumatic Torque wrenches	Torque	Calibration Specification for Electric and Pneumatic Torque wrenches JJF 1610	(1～500)N・m	U_{rel}=1%		
87	*Working Torque-meters	Torque	Verification Regulation of Working Torque-meters JJG 1146	(0.005～400)N・m	U_{rel}=0.4%		
88	*Cereals-instruments for Measuring the Bulk Density	Capacity	Verification Regulation of Cereals-instruments for Measuring the Bulk Density JJG 264	(800～1000)mL	U=0.4mL	Accredited Only For Geometric Measurement Method	
		Mass		(0～1)kg	U=0.02g		
				(1～5)kg	U=0.02g～0.09g		
89	*Torsion Testing Machines	Torque	Verification Regulation of Torsion Testing Machines JJG 269	(1～500)N・m	U_{rel}=0.4%		
		Angle		(0.05～360)°	U_{rel}=0.05%		
90	*FilterIntegrity Testers	Pressure	Calibration Specification or FilterIntegrity Testers JJF 2142	(0～1)MPa	U=0.1%FS		
		Flow		(0～100)mL/min	U_{rel}=1.4%		
91	Dry-type Gas Meters	Flow	Calibration Specification for Dry-type Gas Meters JJF(XJ)81	(0.04～12)m^3/h	U_{rel}=0.33%		
92	Goriolis Mass Flow Meters	Flow	Verification Regulation of Goriolis Mass Flow Meters JJG 1038	(0.04～12)m^3/h	U_{rel}=0.33%	Accredited Only For Gas Medium	

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93	Soap Film Flow meter	Flow	Verification Regulation of Soap Film Flow meter JJG 586	(0.04～12)m^3/h	U_{rel}=0.3%		
		Capacity		(10～5000)mL	U=(0.02～5.0)mL		
94	Target Flowmeters	Flow	Verification Regulation of Target Flowmeters JJG 461	(0.04～12)m^3/h	U_{rel}=0.33%	Accredited Only For Gas Medium	
95	Vortex Precession Flowmeters	Flow	Verification Regulation of Vortex Precession Flowmeters JJG 1121	(0.04～12)m^3/h	U_{rel}=0.33%	Accredited Only For Gas Meters	
96	Gas Laminar Flow Transducers	Flow	Verification Regulation of Gas Laminar Flow Transducers JJG 736	(0.04～12)m^3/h	U_{rel}=0.33%		
97	*International Rubber Hardness Degrees Testers (Scales N,H,L)	Hardness	Calibration Specification for International Rubber Hardness Degrees Testers (Scales N,H,L) JJF 2075	(30～100)IRHD	U=0.9IRHD		
		Force		(0.05～10)N	U_{rel}=0.18%		
		Length		（0～200）mm	U=0.006mm		
98	Fruits Hardness Testers	Force	Verification Regulation for Fruits Hardness Testers JJG 450	(0～50)N	U_{rel}=0.18%		
				(50～300)N	U_{rel}=0.4%		
		Length		(0.001～200)mm	U=0.006mm		
		Angle		(1～90)°	U=0.05°		
99	*Plastic Rock Well Hardness Testing Machine	Hardness	Verification Regulation of Plastic Rock Well Hardness Testing Machine JJG 884	(58～94)HRE	U=1.0HRE		
				(100～120)HRL	U=0.9HRL		
				(85～105)HRM	U=0.9HRM		
				(114～125)HRR	U=0.9HRR		

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№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
100	*Shore Hardness Tester	Hardness	Verification Regulation of Shore Hardness Tester JJG 346	(25～100)HSD	U=1.3HSD		
101	Hardness Testers for Casting Moulds of Sand	Hardness	Verification Regulation of Hardness Testers for Casting Moulds of Sand JJG 831	（0～100)HCS	U=0.3HCS		
		Force		(1～20)N	U_{rel}=0.18%		
		Length		(0～200)mm	U=0.006mm		
		Angle		(1～180)°	U=0.1°		
102	*Portable Brinell Hardness Testers	Hardness	Calibration Specification for Portable Brinell Hardness Testers JJF 1595	(75～225)HBW	U_{rel}=2.0%		
				(225～650)HBW	U_{rel}=1.8%		
				(100～400)HBS10/3000	U_{rel}=1.4%		
				(175～225) HBS5/750	U_{rel}=1.4%		
		Force		(0.2～30)kN	U_{rel}=0.5%		
103	*Portable Rockwell Hardness Testers	Hardness	Calibration Specification for Portable Rockwell Hardness Testers JJF 1594	(20～88)HRA	U=0.6HRA		
				(20～100)HRBW	U=0.7HRBW		
				(20～70)HRC	U=0.7HRC		
				(70～91)HR15N	U=0.9HRN		
				(42～80)HR30N	U=0.9HRN		
				(20～70)HR45N	U=0.9HRN		
				(73～93)HR15TW	U=0.9HR15TW		
				(43～82)HR30TW	U=0.9HR30TW		

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				(12～72)HR45TW	U=0.9HR45TW		
		Force		(10～2000)N	U_{rel}=0.4%		
104	*Torsion Balance	Mass	Verification Regulation for Torsion Balance JJG 46	(1～25)mg	U=(0.004～0.010)mg		
				(25～2500)mg	U=(0.010～0.5)mg		
105	*Electronic Solid Density Balances	Mass	Calibration Specification for Electronic Solid Density Balances JJF 2166	(1～500)g	U=6mg		
		Density		(4.000～9.000)g/cm^3	U=0.004g/cm3		
106	*Body Scale	Mass	Calibration Specification for Body Scale JJF 2256	(5～75)kg	U=0.02kg		
				(75～300)kg	U=(0.02～0.05)kg		
107	*Electronic Lift Truck Scales	Mass	Calibration Specification for Electronic Lift Truck Scales JJF 2283	(0.1～200)kg	U=0.05kg		
				(200～3000)kg	U=(0.05～0.20)kg		
108	Reference Leaks by Soap Film Flowmeter	Leak rate	Calibration Specification for Reference Leaks by Soap Film Flowmeter JJF 1627	20mL/min～10L/min	U_{rel}=5%		
109	*Digital Barometers	Pressure	Verification Regulation of Digital Barometers JJG 1084	(100～1050)hPa	U=0.3hPa		
110	Portable Vibration Calibrator	Frequency	Verification Regulation of Portable Vibration Calibrator JJG 1062	(10～5000)Hz	U_{rel}=0.12%		
		Acceleration		(1～100)m/s^2(10Hz～5000Hz)	U_{rel}=1.6%		
				(1～100)m/s^2(160Hz)	U_{rel}=1.4%		
		distortion		0.01%～100%	U_{rel}=1.5%		
111	*High-Temperature Creep and Stress-	Force	Verification Regulation of High-Temperature Creep and Stress-Rupture Testing	0.3N～3000kN	U_{rel}=0.4%		
		Temperature		(50～1100)℃	U=1.1℃		

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	Rupture Testing Machines	Time	Machines JJG 276	(0.1～24)h	U_{rel}=0.07%		
				(0～40)%	U=4%		
112	*Cupping Testing Machine	Force	Verification Regulation of Cupping Testing Machine JJG 583	(2～20)kN	U_{rel}=0.4%		
		Length		(0.75～75)mm	U=0.04mm		
		IE		(0～16)mm	U=0.01mm		
113	*Wire and Cable Flexing Test Equipment	Voltage	Wire and Cable Flexing Test Equipment JJF(HB)145	(1～400)V	U=0.6V		
		Current		(0.1～30)A	U=0.02A		
		Speed		(0.01～1)m/s	U=0.01m/s		
		Quality		(0.1～10)kg	U=0.6g		
		Length		(58～202)mm	U=0.05mm		
114	*Luer Taper Performance Testers	Force	Calibration Specification for Luer Taper Performance Testers JJF(BJ) 139	(1～5400)cN	U_{rel}=0.2%		
		Torque		(0.01～1)Nm	U_{rel}=0.4%		
		Pressure		(100～1000)kPa	U_{rel}=0.3%		
115	*Pressure Type SF6 Gas Density Monitors	Pressure	Verification Regulation of Pressure Type SF_6 Gas Density Monitors JJG 1073	(-0.1～0.9)MPa	U=0.4%FS		
116	*Vibrometer (Velocity) of Rolling Bearings	Speed	Calibration Specification for Vibrometer (Velocity) of Rolling Bearings JJF 1185	(0.1～250)mm/s,160Hz	U_{rel}=1.2%		
				(0.1～250)mm/s,(5～5000)Hz	U_{rel}=2.4%		
		Length		(0.001～1)mm	U=2 μ m		
		Force		(0.1～50)N	U_{rel}=1.2%		

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		Rotating Speed		(30～20000)r/min	U_{rel}=0.5%		
117	*Dynamic Balancing Machines	Minimum Reachable Residual Imbalance	Calibration Specification forDynamic Balancing Machines JJF (SH,JS,ZJ,AH)4013	(0.1～200)g・mm	U=1.6g・mm		
		Speed		(20～30000)r/min	U_{rel}=0.16%		
		Phase		(0.1～360)°	U=1.0°		
118	*Laboratory Oscillation-type Liquid Density Meters	Density	Calibration Specification for Laboratory Oscillation-type Liquid Density Meters JJF 2165	(690～1875) kg/m^3	U=(0.021～1) kg/m^3		
119	*Concrete Batching Scales	Quality	Verification Regulation of Concrete Batching Scales JJG 1171	(1～200)kg	U=0.5kg		
				(200～1000)kg	U=0.7kg		
				(1000～2000)kg	U=0.7kg		
				(2000～5000)kg	U=1.0kg		
120	Pile Dynamic Measuring Instruments	acceleration	Verification Regulation of Pile Dynamic Measuring Instruments JJG 930	(0.1～250)m/s^2,(10～5000)Hz	U_{rel}=3%		
		Time		(0.2～500)ms	U_{rel}=0.2%		
		Frequency		(10～5000)Hz	U_{rel}=0.2%		
		Voltage		(0.01～10)mV	U_{rel}=0.5%		
Chemical Measuring instrument							
1	*Gas Chromatograph	Detection Limit	Verification Regulation of Gas Chromatograph JJG 700	FID：≤0.5ng/s （C16H34-C8H18）	U_{rel}=10%		

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				FID：≤0.5ng/s（CH4）	U_{rel}=5%		
				FPD：≤0.5ng/s(S)	U_{rel}=10%		
				FPD：≤0.1ng/s(P)	U_{rel}=10%		
				ECD：≤5pg/mL	U_{rel}=10%		
				NPD：≤5pg/s（N）	U_{rel}=10%		
				NPD:≤10pg/s（P）	U_{rel}=10%		
		Sensitivity		TCD：≥800 mV•mL/mg（C6H6-C7H8）	U_{rel}=10%		
				TCD：≥800 mV•mL/mg（CH4）	U_{rel}=4%		
2	*Liquid Chromato-graph	Minimum Detectable Concentra-tion	Verification Regulation of Liquid Chromatograph JJG 705	VWD/DAD:≤5×10^{-8}g/mL	U_{rel}=8%		
				FLD:≤5×10^{-6}g/mL	U_{rel}=8%		
				RID:≤1×10^{-9}g/mL	U_{rel}=8%		
				ELSD:≤5×10^{-6}g/mL	U_{rel}=8%		
		Temperature		(10～45)℃	U=0.4℃		
		Flow		(0.1～10)mL/min	U_{rel}=0.9%		
3	*Ion Chromato-graph	Minimum Detectable Concentra-tion	Verification Regulation for Ion Chromatograph JJG 823	Conductivity detector :≤0.02 μg/mL	U_{rel}=8%		
				Electrochemical detector:≤0.02 μg/mL	U_{rel}=8%		
				UV-Vis detector：≤0.02 μg/mL	U_{rel}=8%		

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4	*Laboratory pH Meters	acidity	Verification Regulation of Ph (acidity) meter in laboratory JJG 119	Electric meter：0～14	U=0.01		
				Instrument：3～10	U=0.02		
		Voltage		(-2000～2000)mV	U=0.9mV		
5	*Online pH meter	acidity	Calibration Specification for On-line pH Meters JJF 1547	Electric meter:（0～14）	U=0.02		
				Instrument：3～10	U=0.02		
		Voltage		(-2000～2000)mV	U=0.9mV		
6	*Automatic potentiometric titrator	Voltage	Verification Regulation of Automatic Potentiometric Titrator JJG 814	(-2000～2000)mV	U=0.5mV		
		Capacity		(2～20)mL	U=0.01mL		
				(20～50)mL	U=0.015mL		
				(50～100)mL	U=0.03mL		
		Concentration		0.1mol/L	U_{rel}=1%		
7	*conductivity meter	Conductivity	Verification Regulation of Conductivity Meter JJG 376	Electronic unit:(0.05～20000) μS/cm	U_{rel}=0.2%		
				Instrument:(100～2000) μS/cm	U_{rel}=0.4%		
8	*Hand-held sugar (content) meter and hand-held refractometer	Content	Verification Regulations of Hand Saccharimeter(Content-meter) and Hand Refractometer JJG 820	10%～50%	U=0.6%		
		Refractive index		1.3300～1.6600	U=0.0003		
9	*Melt flow rate meter	temperature	Verification Regulation of Melt Flow Rate Meter JJG 878	(189～231) ℃	U=0.5 ℃		
		Load		(300～6000) g	U_{rel}=0.09 %		
		Time		(1～60) s	U_{rel}=0.32 %		

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		Length		(0.10～150) mm	U=0.03 mm		
		Flow rate		PE：(4.5～8) g/10min	U_{rel}=6.4 %		
				PP：(2～4.5) g/10min	U_{rel}=7.8 %		
10	Rotary viscometer	Viscosity	Verification Regulation of Rotary Viscometer JJG 1002	(2～10^5)mPa • s	U_{rel}=3.0%		
11	Outflow cup viscometer	Viscosity	Verification Regulation of Outflow Cup Viscometer JJG 743	(2～1000)mm^2/s	U_{rel}=4%		
12	*Combustible gas detection alarm	Concentration	Verification Regulations for Combustible Gas Detection Alarm JJG 693	i- C_4H_{10}、CH_4、C_3H_8、H_2、C_2H_2：(0.1～100) %LEL：(0.1～60) %LEL	U=1.5 %FS		
				C_2H_5OH：(10～500) μmol/mol	U=1.0 %FS		
		Time		(1～60) s	U=1.0 s		
13	*Differential Scanning Calorimeter	Temperature	Verification Regulations of Differential Scanning Calorimeters JJG 936	(29～422)℃	U=0.6℃		
		Heat of fusion		(22～110)J/g	U=1.3J/g		
14	*Ultraviolet, Visible and Near-Infrared Spectrophotometers	Wavelength	Verification Regulations of Ultraviolet, Visible and Near-Infrared Spectrophotometers JJG178	(240～810) nm	U=0.5nm		
		Transmittance		5%～35%	U=0.6%		
15	*Total organic carbon analyzer	Concentration	Verification Regulations of Total Organic Carbon Analyzer JJG 821	IC:(0.5～1000)mg/L	U_{rel}=3.0%		
				TOC:(0.5～1000)mg/L	U_{rel}=3.0%		
16	*Atomic absorption spectrophotometer	Detection limit	Verification Regulation of Atomic Absorption Spectrophotometers JJG 694	Flame measurement of copper:≤0.02 μg/mL	U=0.007 μg/mL		

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				Graphite furnace method for measuring cadmium: ≤4pg	U=0.3pg		
17	*Laser particle size analyzer	Particle size	Calibration Specification for Static Light Scattering Particle Size Analyzers JJF1211	(1.0～120) nm	U_{rel}=2.5 %		
18	*Drying method moisture analyzer	Mass	Verification Regulation of Drying Moisture Analyzer JJG 658	10mg～1g	U=0.2 mg		
				1g～10g	U=6mg		
				10g～200g	U=0.02 g		
		Water content		95%	U=0.05%		
19	*Zirconia Oxygen Analyzers	Concentration	Verification Regulation of Zirconia Oxygen Analyzers JJG 535	(20～85)×10^{-2}mol/mol	U_{rel}=2%		
20	*Dust Sampler	Flow	Verification Regulation of Dust Sampler JJG 520	(0.1～260)L/min	U_{rel}=2.0%		
		Time		(0～5)min	U=0.3s		
21	*Samplers for Stack Dust	Flow rate	Verification Regulation of Samplers for Stack Dust JJG 680	(0.1～60)L/min	U_{rel}=2.0%		
		Time		(0～10)min	U=0.2s		
		Temperature		(10～200)℃	U=0.3℃		
22	*Pesticide Residue Detectors	Wavelength	Calibration Specification for Pesticide Residue Detectors JJF 1729	(400～420) nm	U=1.5nm		
		Transmittance		5%～35%	U=0.4 %		
		Sensitivity		≥50 %	U_{rel}=9 %		
23	*Chemical Oxygen Demand（COD）	Concentration	Verification Regulation of Chemical Oxygen Demand	(10～1000)mg/L	U_{rel}=3%		

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№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
	Meters	Temperature	（COD）Meters JJG 975	(100～200) ℃	U=0.3℃		
24	*On-line Automatic Determinators of Chemical Oxygen Demand（COD）	Concentration	Verification Regulation of On-line Automatic Determinators of Chemical Oxygen Demand（COD） JJG 1012	(16～1000)mg/L	U_{rel}=3%		
25	*Carbon-sulfur Analyzers	Concentration	Verification Regulation for Carbon-sulfur Analyzers JJG 395	C:0.005%～0.010%	U=0.001%		
				C:0.010%～0.100%	U=0.003%		
				C:0.100%～1.00%	U=0.007%		
				C:1.00%～4.00%	U=0.02%		
				S:0.003%～0.010%	U=0.001%		
				S:0.010%～0.100%	U=0.002%		
				S:0.100%～0.200%	U=0.005%		
26	*Ammonia-Nitrogen Automatic Analyzers	Concentration	Verification Regulation of Ammonia-Nitrogen Automatic Analyzers JJG 631	(0.1～1000)mg/L	U_{rel}=4%		
		Time		(0.1～6)min	U=0.3s		
27	*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 JJG 1094	Total phosphorus ：(0.1～1000)mg/L	U_{rel}=4%		
				Total nitrogen:(0.1～1000)mg/L	U_{rel}=4%		
28	*Polarimeter and Polarimetric Saccharimeters	Optical rotation	Verification Regulation of Polarimeter and Polarimetric Saccharimeters JJG 536	-45° ～+45°	U=0.005°		
		Optical sugar		-20° Z～+105° Z	U=0.02° Z		

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№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
29	Dissolved Oxygen Meters	Concentration	Verification Regulation of Dissolved Oxygen Meters JJG 291	(5～12)mg/L	U=0.2 mg/L		
30	*Flue Gas Analyzers	Concentration	Verification Regulation of Flue Gas Analyzers JJG 968	SO_2:(300～2000) μmol/mol	U_{rel}=1.5%		
				CO:（70～5000）μmol/mol	U_{rel}=1.5%		
				O_2:(5～25)×10^{-2}mol/mol	U_{rel}=2.0%		
				NO:(900～5000) μmol/mol	U_{rel}=1.5%		
		Time		(0.1～90) s	U=1.0s		
31	Wood Moisture Content Measuring Meters	Moisture content	Verification Regulation of Wood Moisture Content Measuring Meters JJG 986	6%～28%	U_{rel}=0.9%		
32	*Fourier Transform Infrared Spectrometers	Wave number	Calibration Specification for Fourier Transform Infrared Spectrometers JJF 1319	4000cm^{-1}～2000cm^{-1}	U=1.7cm^{-1}		
				2000cm^{-1}～400cm^{-1}	U=0.4cm^{-1}		
33	*Gas Chromatography-Mass Spectrometries	Signal-to-noise ratio	Calibration Specification for Gas Chromatography-Mass Spectrometries JJF 1164	Ion trap, single quadrupole（EI^+、CI^+、CI^-）： S/N≥10:1	U_{rel}=15%		
				Triple quadrupole (EI^+、CI^+)：S/N≥10：1	U_{rel}=15%		
				Time of flight, electrostatic orbit(EI^+：S/N≥50：1	U_{rel}=15%		
34	*Liquid Chromatography-Mass Spectrometries	Signal-to-noise ratio	Calibration Specification for Liquid Chromatography-Mass Spectrometries JJF 1317	Triple quadrupole(ESI+、APCI+)：≥30:1	U_{rel}=11%		

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				Triple quadrupole（ESI-）：≥10：1	U_{rel}=11%		
				Single quadrupole、Ion trap：（ESI+、ESI-、APCI+）：≥10:1	U_{rel}=11%		
35	*Atomic Fluorescence Spectrophotometers	Detection limit	Verification Regulation for Atomic Fluorescence Spectrophotometers JJG 939	As、Sb：≤0.4 ng	U=0.1ng		
36	*Direct Reading Spectrometer	Detection limit	Verification Regulation of Emission Spectrometer JJG 768	C≤0.02%	U=0.002%		
				Si≤0.02%	U=0.002%		
				Mn≤0.02%	U=0.002%		
				Cr≤0.01%	U=0.002%		
				Ni≤0.02%	U=0.002%		
				V≤0.01%	U=0.001%		
37	*ICP spectrometer	Wavelength	Verification Regulation of Emission Spectrometer JJG 768	(190～900)nm	U=0.02nm		
		Detection limit		Zn：≤0.01mg/L	U_{rel}=4%		
				Ni：≤0.03mg/L	U_{rel}=4%		
				Mn：≤0.005mg/L	U_{rel}=4%		
				Cr：≤0.02mg/L	U_{rel}=4%		
				Cu：≤0.02mg/L	U_{rel}=4%		
				Ba：≤0.005mg/L	U_{rel}=4%		

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№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
38	*Residual Chlorine Meters	Concentration	Calibration Specification for Residual Chlorine Meters JJF 1609	(0.01～50)mg/L	U_{rel}=4%		
39	*Karl Fischer Volumetric Titrators for Water Content	Water content	Verification Regulation of Karl Fischer Volumetric Titrators for Water Content JJG 1154	1mg～100mg	U_{rel}=4%		
40	*Energy dispersive X-ray fluorescence spectrometer	Concentration	Calibration specification of energy dispersive X-ray fluorescence spectrometry used for screening test of hazardous substances in electrical and electronic products JJF2024	PP：Cd (6.5～120) mg/kg	U_{rel}=9%		
				PP：Cr (69～1270) mg/kg	U_{rel}=9%		
				PP：Hg (65～1200) mg/kg	U_{rel}=9%		
				PP：Pb (69～1275) mg/kg	U_{rel}=9%		
				Cu-OFE：Pb (94.5～1453) mg/kg	U_{rel}=9%		
				PE：Br(120～1860) mg/kg	U_{rel}=9%		
				PE：As(3.3～22)mg/kg	U_{rel}=9%		
41	*Electochemical Oxygen Meter	Concentration	Verification Regulation of Electochemical Oxygen Meter JJG 365	(20～85)×10^{-2}mol/mol	U_{rel}=2%		
42	*Total Suspended Particulates Sampler	Flow rate	Verification Regulation of Total Suspended Particulates Sampler JJG 943	(40～120)L/min	U_{rel}=2%		
				1050 L/min	U_{rel}=2%		
		Time		(0～20)min	U=0.3s		
43	*Air Samplers	Flow rate	Verification Regulation of Air Samplers JJG 956	(100～6000)mL/min	U_{rel}=2%		

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№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		Time		(0～60)min	U=0.3s		
44	*Turbidimeters	Turbidity	Verification Regulation of Turbidimeters JJG 880	(0.1～400)NTU	U_{rel}=4%		
45	*Volatile Organic Compounds Photo Ionization Detectors	Concentration	Calibration Specification for Volatile Organic Compounds Photo Ionization Detectors JJF 1172	(400～2000) μ mol/mol	U_{rel}=3%		
46	*Airborne Particle Counter	Particle size distribution	Calibration Specification for Airborne Particle Counter JJF 1190	(0.1～10) μ m	U_{rel}=11%		
		Particle concentration		（1000～100000）A/28.3 litres	U_{rel}=14%		
		Flow		（0.05～50）L/min	U_{rel}=1.5%		
		Time		(0～60) min	U=0.1 s		
47	*Automatic Amino Acid Analyzer	Detection limits	Verification Regulation of Automatic Amino Acid Analyzer JJG 1064	Histidine：≤1nmol	U_{rel}=15%		
48	*Air Microorganism Samplers	Flow	Calibration Specification for Air Microorganism Samplers JJF 1826	(0.1～200)L/min	U_{rel}=1.5%		
		Time		（0～30）min	U=0.3s		
49	*On-line Conductivity Meters	Conductivity	Calibration Specification for On-line Conductivity Meters JJF(Xin)19	Electronic unit：（0.05～20000） μ S/cm	U_{rel}=0.2%		
				Equipment：（100～2000） μ S/cm	U_{rel}=0.4%		
50	*Melting-point Measurement Instruments	Temperature	Verification Regulation of Melting-point Measurement Instruments JJG 701	（50～300）℃	U=0.6℃		
		Heating rate		（0.1～5.0）℃/min	U=0.2℃/min		
51	*Kinematic Viscosity Tester	Viscosity	Calibration Specification for Kinematic Viscosity Testers JJF 1274	(2～30000) mm^2/s	U_{rel}=0.58%		

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		Temperature		Integral：(20～100) ℃	U=0.002 ℃		
				Detachable：(20～100) ℃	U=0.01 ℃		
		Constant		(0.001～50) mm²/s²	U_{rel}=0.48 %		
52	*Water Hardness Meters	Concentration	Calibration Specification for Water Hardness Meters JJF 1949	(0.1～1000)mg/L	U_{rel}=3%		
53	*Colony Counters	Colony count	Calibration Specification for Colony Counters JJF 1751	(36～290)CFU	U_{rel}=3%		
		Color temperature		(2500～7000)K	U_{rel}=2%		
54	*Flue Gas Samplers	Flow	Verification Regulation of Flue Gas Samplers JJG 1169	(0.1～2)L/min	U_{rel}=2.0%		
		Time		(0.1～30)min	U=0.2s		
		Temperature		(10～50)℃	U=0.2℃		
		Atmospheric pressure		(80～106)kPa	U_{rel}=0.2%		
		Stress		(-40～40)kPa	U=0.15kPa		
55	*Total Dissolved Solids（TDS）Meters	Concentration	Calibration Specification for Total Dissolved Solids(TDS)Meters JJF(Min)1097	(0.1～5000)mg/L	U_{rel}=2%		
		Temperature		(15～35)℃	U=0.2℃		
56	*Osmometers	Molar Concentration	Verification Regulation of Osmometers JJG 1089	(100～400)mOsmol/kg^{-1}	U=2.0mOsmol/kg		
				(400～700)mOsmol/kg^{-1}	U_{rel}=0.5%		
57	*Particulate Analyzer	Particle count	Calibration Specification for Particulate Analyzer JJF 1290	(1000～5000)/mL	U_{rel}=4.8%		

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58	*Thermogravimetric Analyzers	Temperature	Verification Regulation for Thermogravimetric Analyzers JJG 1135	Melting Point:(150～420)℃	U=0.6℃		
				Curie:(150～780)℃	U=1.8℃		
		Quality		(1～20)mg	U=0.02 mg		
59	*Micro Oxygen Analyzers	Concentration	Verification Regulation of Micro Oxygen Analyzers JJG 945	(1～1000) μ mol/mol	U_{rel}=2.0%		
60	*Oxygen Transmittance Meter	Transmission rate	Calibration Specification for Oxygen Transmittance Meter JJF(Qian)41	（12～70）cm^3/（m^2 • 24h）	U_{rel}=5%		
61	*Gas Transmittance Meter	Amount of penetration	Calibration Specification for Gas Transmittance Meter JJF(Qian)42	(4～12)cm^3/(m^2•24h•0.1MPa)	U_{rel}=19%		
62	Water Vapor Transmission Rate Testor	Amount of water vapor permeation	Calibration Specification for Water Vapor Transmission Rate Testor JJF(Ji)191	4.4g /（m^2 • 24h）	U=0.9g/（m^2 • 24h）		
				1.8g /(m2 • 24h)	U=0.4g/（m^2 • 24h）		
		Temperature		(5～50)℃	U=0.7℃		
		Humidity		(10～95)%RH	U=2.0%RH		
63	*Bomb Calorimeters	Calorific value	Verification Regulation of Bomb Calorimeters JJG 672	(26430～26490）J/g	U=36J/g		
64	*Phosphate Analyzers	Concentration	Calibration Specification for Phosphate Analyzers JJF 1567	（0.1～200）mg/L	U_{rel}=1.5%		
65	*Electrode Salinometer	salinity	Verification Regulation of Electrode Salinometer JJG 761	5～40	U=0.005		
66	*Induction Salinometer	salinity	Verification Regulation of Induction Salinometer JJG 392	5～40	U=0.006		

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№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		Temperature		(0～50) ℃	U=0.1℃		
67	*Flame Photometer	Detection limit	Verification Regulation of Flame Photometer JJG 630	K: ≤0.004 mmol/L	U_{rel}=4%		
				Na: ≤0.008 mmol/L	U_{rel}=4%		
68	*Hand-held X-ray Fluorescence Spectrometer	Detection limit	Calibration Specification for Hand-held X-ray Fluorescence Spectrometer JJF(Chuan)165	Cr：≤0.05%	U=0.001 %		
				Ni：≤0.05%	U=0.001 %		
69	*Oxygen Index Instrument	Oxygen Index	Verification Regulation for Oxygen Index Instrument JJG(JG)16	（10～30）%	U_{rel}=3.1%		
				（30～50）%	U_{rel}=4.0%		
		Oxygen concentration		（20～85）%	U_{rel}=2.0%		
70	*Antibiotics Potency Analyzers	Diameter	Calibration Specification for Antibiotics Potency Analyzers JJF 1614	（10～25）mm	U=0.03mm	Tube dish method only	
71	*Open/Closed Cup Flash Point Testers	Flashpoint	Calibration Specification for Open/Closed Cup Flash Point Testers JJF 1384	Open：(100～150)℃	U=6.8℃		
				Closed:(100～150) ℃	U=4.8℃		
72	*Acid Number Tester	Concentration	Calibration Specification for Acid Number Tester JJF(Xin)69	0.1mol/L	U_{rel}=1%		
73	*Laboratory Ion Meters	Ionic activity	Verification Regulation of Laboratory Ion Meters JJG 757	Electricity meter:pX：0～14	U=0.01		
				Equipment:pX：2～4	U=0.02		
		Potential		（-2000～2000）mV	U=0.2mV		
74	*Carbon Monoxide and Carbon Dioxide	Concentration	Verification Regulation of Carbon Monoxide and Carbon Dioxide Infrared Gas	CO：(20～5000）μmol/mol	U_{rel}=1.6%		

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№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
	Infrared Gas Analyzer		Analyzer JJG 635	CO_2：（20～5000）μmol/mol	U_{rel}=1.6%		
75	*Carbon Monoxide Detectors	Concentration	Verification Regulation of Carbon Monoxide Detectors JJG 915	（20～2000）μmol/mol	U_{rel}=2.3%		
76	*Sulfur Dioxide Gas Detectors	Concentration	Verification Regulation of Sulfur Dioxide Gas Detector JJG 551	(20～2000) μmol/mol	U_{rel}=3%		
77	Routine Capillary Viscometers	Viscometer	Verification Regulation of Routine Capillary Viscometers JJG 155	(2～10^5)mm^2/s	U_{rel}=0.7%		
78	*Breathing Resistance and Airtightness Testers for Mask	Stress	Verification Regulation of Breathing Resistance and Airtightness Testers for Mask JJG(Yue)060	（-2.5～2.5）kPa	U=0.4%FS		
		Traffic		(0.05～260)L/min	U_{rel}=1.3%		
79	*Filtering Efficiency Testers for Mask	Flow	Verification Regulation of Particle Filtering Efficiency Testers for Mask JJG(Yue)061	（15～100）L/min	U_{rel}=1.6%		
		Resistance		Manometer method：(50～1000)Pa	U_{rel}=1.0%		
		Filter efficiency		Standard photometric method：80%～99.999%	U=1.6%		
80	*Sulfur Hydrogen Gas Detectors	Concentration	Verification Regulation of Sulfur Hydrogen Gas Detectors JJG 695	(10～100) μmol/mol	U_{rel}=3.0%		
		Time		(0.1～90) s	U=1.0s		
81	*Ammonia Gas Detectors	Concentration	Verification Regulation of Ammonia Gas Detectors JJG 1105	(10～100) μmol/mol	U_{rel}=3.0%		
		Time		(5～180) s	U=1.0s		
82	*Alarmer Detector of Sulfur Hexafluoride	Concentration	Calibration Specification for the Alarmer Detector of Sulfur Hexafluoride JJF 1263	(100～1000) μmol/mol	U_{rel}=1.4%		
		Time		(5～30) s	U=1.0s		

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№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
83	*Chlorine Alarm Detectors	Concentration	Calibration Specification for Chlorine Alarm Detectors JJF 1433	(100～1000) μ mol/mol	U_{rel}=3.0%		
		Time		(5～60) s	U=1.0s		
84	*Gas Detectors and Alarms of Hydrogen Fluoride	Concentration	Calibration Specification for Gas Detectors and Alarms of Hydrogen Fluoride JJF(SH) 047	(1～10) μ mol/mol	U=0.3 μ mol/mol		
		Time		(5～120) s	U=1.0 s		
85	*Gas Detectors of Ethylene Oxide	Concentration	Calibration Specification for Gas Detectors of Ethylene Oxide JJF 2288	(10～100) μ mol/mol	U_{rel}=2.4 %		
		Time		(5～160) s	U=1.0s		
86	*Oxidation-reduction Potential Meters	Potential	Calibration Specification for Oxidation-reduction Potential Meters JJF(Liao) 474	Electric meter:(-2000～+2000) mV	U=0.12%FS		
				Instrument:(-120～+250) mV	U=1.0 mV		
87	*Thermomechanical Analyzers	Distance	Calibration Specification for Thermomechanical Analyzers JJF 2069	(1～5) mm	U=0.15 μ m		
		Temperature		(20～100) ℃	U=0.2 ℃		
				(100～350) ℃	U=0.4℃		
				(350～500) ℃	U=0.6℃		
		Mean coefficient of linear thermal expansion		(1×10^{-5}～1×10^{-4}) K^{-1}	U_{rel}=3.3 %		
88	*Plastic Apparent Shear Viscosity Testers(Capillary Rheometers)	Shear rate	Calibration Specification for Plastic Apparent Shear Viscosity Testers(Capillary Rheometers) JJF 2070	(18～3350) s^{-1}	U_{rel}=5%		
		Viscosity		(80～1000) Pa • s	U_{rel}=11%		
89	*Polymerase chain	Temperature	Calibration Specification for	(25～100) ℃	U=0.3 ℃		

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№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
	reaction analyzer	Concentration	Polymerase Chain Reaction Analyzers JJF 1527	(10～1.1×10^7) copies/μl	U_{rel}=10%		
90	*Gelatin Transparency Testers	Transmittance	Calibration Specification of Gelatin Transparency Testers JJF(Min) 1129	20%～80%	U=0.6%		
91	*Water Quality On-line Analyzers of Heavy Metals	Concentration	Calibration Specification for Water Quality On-line Analyzers of Heavy Metals JJF 1565	Ⅱ：Cd、Hg：(0.001～5) mg/L	U_{rel}=1.4%		
				Ⅰ：Pb、Cr^{6+}、Cr：(0.0001～1.0) mg/L	U_{rel}=2.0%		
				Ⅰ：As、Cu、Zn、Ni、Fe、Mn：(0.0001～2.0) mg/L	U_{rel}=2.0%		
				Ⅰ：Cd、Hg：(0.0001～0.5) mg/L	U_{rel}=2.0%		
				Ⅱ：As、Cu、Zn、Ni、Fe、Mn：(0.001～20) mg/L	U_{rel}=1.4%		
				Ⅱ：Pb、Cr^{6+}、Cr：(0.001～10) mg/L	U_{rel}=1.4%		
92	Surfaceion contamination tester	Concentration	Calibration Specification Of Surfaceion contamination tester JJF(DZ) 0070	(0.1～44) μg/cm^2	U_{rel}=2.7%		
		Electrolytic conductivity		(0.1～200) μS/cm	U_{rel}=0.8%		
		Temperature		(5～40) ℃	U=0.10℃		
93	*Quadrupole Inductively Coupled Plasma Mass Spectrometers	Detection limit	Calibration Specification for Quadrupole Inductively Coupled Plasma Mass Spectrometers JJF 1159	Be：≤30 ng/L	U=1.7ng/L		
				Bi：≤10 ng/L	U=0.4ng/L		
				In：≤10 ng/L	U=1.0ng/L		

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№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
94	Ozone Gas Analyzers	Concentration	Verification Regulation of Ozone Gas Analyzers JJG 1077	(0.05～1) μmol/mol	U=2.4%FS		
				(1～400) μmol/mol	U=4.8%FS		
		Time		(0.1～180) s	U=1.0s		
95	*Dynamic Light Scattering Particle Size Analyzers	Particle size	Verification Regulation of Dynamic Light Scattering Particle Size Analyzers JJG 1104	(50～100) nm	U_{rel}=2.5%		
				(100～500) nm	U_{rel}=2.0%		
				(500～1500) nm	U_{rel}=1.0%		
		Temperature		(0.1～95) ℃	U=0.14℃		
96	*Silicate Analyzers	Concentration	Calibration Specification for Silicate Analyzers JJF 1539	(0.1～100) μg/L	U=1.6 μg/L		
				(100～5000) μg/L	U_{rel}=1.6%FS		
97	*Physisorption Analyzers	Specific Surface Area	Calibration Specification for Physisorption Analyzers JJF 2135	Ⅱ：(0.1～2) m^2/g	U_{rel}=10%		
				Ⅱ：(2～120) m^2/g	U_{rel}=3.0%		
				Ⅳ：(80～550) m^2/g	U_{rel}=5%		
		Total Pore Volume		Ⅳ：(0.1～0.9) cm^3/g	U_{rel}=6%		
		Average Pore Diameter		Ⅳ：(6～11) nm	U=0.30nm		
		Most Frequent Pore Diameter		Ⅳ：(5～7) nm	U=0.12nm		
		Micropore Volume		Ⅰ：(0.2～0.3) cm^3/g	U=0.010 cm^3/g		
		Micropore Diameter		Ⅰ：(0.6～0.7) nm	U=0.024nm		

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№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
98	*Biochemical Oxygen Demand(BOD)Speedy Testing Instruments	Concentration	Calibration Regulation of Biochemical Oxygen Demand(BOD) Speedy Testing Instruments JJF(Jin) 02	(0.01～1000) mg/L	U_{rel}=5.8%		
99	*Dead-stop Titration Instruments	Voltage	Verification Regulation of Dead-stop Titration Instruments JJG(Yue) 017	(10～1000) mV	U_{rel}=1.2%		
100	*Raw-Milk Freezing Point Testers	Freezing point	Calibration Specification for Raw-Milk Freezing Point Testers JJF 1816	(-395～-605) m℃	U=1 m℃		
101	*Capillary Electrophoresis Instrument	Detection limit	Verification Regulation of Capillary Electrophoresis Instrument JJG 964	≤1×10^{-6}g/mL	U_{rel}=3.8%		
		Wavelength		(230～360) nm	U=0.8nm		
102	*Liquid-borne Particle Counters	Particle count	Verification Regulation of Liquid-borne Particle Counters JJG 1061	Water:(1000～3000) 个/mL	U_{rel}=4 %		
				Oil:(20～11400) 个/10mL	U_{rel}=11 %		
		Particle size		(9～110) μm	U_{rel}=2.2%		
103	*Ultraviolet Fluorescence Sulfur Analyzers	Concentration	Calibration Specification for Ultraviolet Fluorescence Sulfur Analyzers JJF 1685	(0.1～10) mg/L	U=0.15 mg/L		
				(10～100) mg/L	U_{rel}=2.5%		
				(100～200) mg/L	U_{rel}=1.7%		
104	Digital Refractometers and Digital Content-meters	Content	Calibration specification of Digital Refractometers and Digital Content-meters JJF(Zhe) 1207	10%～50%	U=0.6%		
		Refractive index		1.3325～1.6585	U=0.0003		
		Temperature		(0.1～50) ℃	U=0.1 ℃		

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№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
105	*Cyclic Voltammetry Stripping Analyzers	Direct voltage	Calibration Specification of Cyclic Voltammetry Stripping Analyzers JJF(DZ) 0043	±(0.01～15) V	U_{rel}=0.3 %		
		Current voltage		±(0.01～1000) mA	U_{rel}=0.7 %		
106	Zahn Cup Viscometers	Correction coefficient	Calibration Specification for Zahn Cup Viscometers JJF(E) 120	0.9～1.1	U_{rel}=2.7 %		
107	*Gas Chromatographs with Sulfur Chemiluminescence	Detection limit	Calibration Specification for Gas Chromatographs with Sulfur Chemiluminescence Detector JJF 1953	$C_8H_{10}NO_5PS$:≤10 pg/s	U_{rel}=25%	Liquid-Phase Only	
108	*Elemental Analyzers	Concentration	Calibration Specification for Elemental Analyzers JJF 1321	Carbon, Hydrogen, Nitrogen, Sulfur Elemental Analyzer:C:(40.80～42.46) %	U_{rel}=0.6 %		
				Carbon, Hydrogen, Nitrogen, Sulfur Elemental Analyzer:H:(3.954～4.198) %	U_{rel}=0.9 %		
				Carbon, Hydrogen, Nitrogen, Sulfur Elemental Analyzer:N:(7.687～8.496) %	U_{rel}=1.6 %		

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№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
				Carbon, Hydrogen, Nitrogen, Sulfur Elemental Analyzer:S:(17.53～19.38) %	U_{rel}=1.6 %		
				Nitrogen Analyzer:N:(20～50) %	U_{rel}=0.9 %		
				Carbon, Hydrogen, Nitrogen Elemental Analyzer:C:(61.5～84.9) %	U_{rel}=0.8 %		
				Carbon, Hydrogen, Nitrogen Elemental Analyzer:H:(3.00～4.46) %	U_{rel}=4.0 %		
				Carbon, Hydrogen, Nitrogen Elemental Analyzer:N:(0.92～1.50) %	U_{rel}=4.8 %		
				Oxygen, Nitrogen, Hydrogen Elemental Analyzer:O:(0.0071～0.1620) %	U_{rel}=6.6 %		
				Oxygen, Nitrogen, Hydrogen Elemental Analyzer:N:(0.0045～0.0680) %	U_{rel}=13 %		
				Oxygen, Nitrogen, Hydrogen Elemental Analyzer:H: (0.00003～0.0310) %	U_{rel}=32 %		

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№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
109	*Rotational Rheometers	Temperature	Calibration Specification for Rotational Rheometers JJF 2134	(5～100) ℃	U=0.14 ℃		
		Viscosity		(0.1～30) Pa • s	U_{rel}=5 %		
				(30～130) Pa • s	U_{rel}=6 %		
110	pH Meters	Voltage	Verification Regulation of Verificating Meters for pH Meters JJG 919	0.0006level：(-2001～2001) mV	U=0.002 %FS		
				0.003level：(-2001～2001) mV	U=0.006 %FS		
		Acidity		pH：0.0006level：0～14	U=0.0002		
				pH：0.003level：0～14	U=0.0008		
111	*Liquid Chromatographs with Charged Aerosol Detector	Minimum Detectable Concentra-tion	Calibration Specification for Liquid Chromatographs with Charged Aerosol Detector JJF(Liao) 553	≤5 μg/mL	U=0.07 μg/mL		
112	*Ammonia-nitrogen Meters	Concentration	Calibration Specification for Ammonia-nitrogen Meters JJF 2289	(0.01～2) mg/L	U=0.04 mg/L		
				(2～1000) mg/L	U_{rel}=2.4 %		
113	*On-line Sodium Ion Meters	Voltage	Calibration Specification for On-line Sodium Ion Meters JJF 2293	(-2001～2001) mV	U=0.08 %FS		
		Activity		pNa：0～9	U=0.004		
		Temperature		(10～50) ℃	U=0.15 ℃		
		Concentration		(0.1~230) mg/L	U_{rel}=1.8 %		
114	*On-line Analyzers for Residual Chlorine	Concentration	Calibration Specification for On-line Analyzers for Residual Chlorine JJF 2341	(0.01～0.5) mg/L	U=0.007 mg/L		
				(0.5～2) mg/L	U_{rel}=1.7 %		
				(2～20) mg/L	U_{rel}=1.5 %		

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№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
115	*Online Airborne Particle Counters	Rate	Calibration Specification for Online Airborne Particle Counters JJF 2295	(0.1～30) L/min	U_{rel}=1.5 %		
		Particle counting		(3000～10000) pcs/28.3L	U_{rel}=13 %		
		Particle size		(0.1～1) μm	U_{rel}=18%		
116	*Specific Surface Area Analyzerbased on Nitrogen Adsorption Method	Specific surface area	Calibration Specification for the Specific Surface Area Analyzer based on Nitrogen Adsorption Method JJF（Xiang）70	(8～100)m^2/g	U_{rel}=3.4%		
117	*Specific Surface Apparatus	Length	Calibration Specification for Specific Surface Apparatus JJF(Zhe) 1198	(0.5~71)mm	U=0.03mm		
		Specific area		(2000~6000）cm^2/g	U_{rel}=0.6%		
Geometric measurement instrument							
1	*micrometer	Length	Verification Regulation of Micrometer JJG 21	（0～25）mm	U=0.7 μm		
				（25～50）mm	U=0.8 μm		
				（50～100）mm	U=0.9 μm		
				（100～200）mm	U=1.1 μm		
				（200～300）mm	U=1.2 μm		
				（300～500）mm	U=1.8 μm		
				Calibration gauge rod：（25～475）mm	U=0.4 μm+3.2×$10^{-6}L$		
2	*Depth micrometer	Length	Verification Regulation of Depth Micrometers JJG 24	（0～25）mm	U=1.1 μm		
				（25～50）mm	U=1.2 μm		

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				（50～75）mm	U=1.4 μ m		
				（75～100）mm	U=1.6 μ m		
3	*Common normal micrometer	Length	Verification Regulation of Common Normal Micrometer JJG 82	（0～50）mm	U=1.3 μ m		
				（50～100）mm	U=1.6 μ m		
				（100～150）mm	U=2 μ m		
				（150～200）mm	U=2.3 μ m		
4	Internal Micrometers	Length	Verification Regulation of Internal Micrometers JJG 22	（50～300）mm	U=2μm		
				（300～500）mm	U=4μm		
				（500～800）mm	U=5μm		
				（800～1000）mm	U=6μm		
5	Squares	Verticality	Verification Regulation of Squares JJG 7	other types of squares:H：(50～500)mm	U=2.2 μ m	except for Cylinder Square	
				Graduated steel square:H:(0～400)mm	U=0.02mm		
		Length		L:(0～500)mm	U=0.1mm		
6	*Dial Test Indicator	Length	Verification Regulation of Dial Test Indicator JJG 35	Lever dial indicator：（0～1）mm	U=8 μm		
				Lever dial indicator：（0～0.4）mm	U=2.5 μm		
7	*Snap Gauges Reading in 0.01mm	Length	Verification Regulation of Snap Gauges Reading in 0.01mm JJG109	（0～10）mm	U=3.2 μ m		
				（10～30）mm	U=3.5 μ m		

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№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
				（30～100）mm	U=4.0 μ m		
8	*Bore Dial Indicators	Length	Calibration Specification for Bore Dial Indicators JJF 1102	Inside diameter dial gauge：（6～450）mm	U=6μm	Expansion spring internal dial gauges are exempt from on-site calibration.	
				Dial indicator：（10～400）mm	U=2.3μm		
9	*Depth Dial Gauge	Length	Verification Regulation of Depth Dial Gauge JJG 830	Dial indicator:（0～10）mm	U=6μm		
				Dial indicator：>（10～100）mm	U=10μm		
				Dial indicator：（0～10）mm	U=4μm		
				Dial indicator:（10～100）mm	U=5μm		
				Digital dial indicator：（0～10）mm	U=3μm		
				Digital dial indicator：（10～100）mm	U=4μm		
				Digital dial indicator：（0～10）mm	U=7μm		
				Digital dial indicator：（10～100）mm	U=10μm		
10	*Current Calipers	Length	Verification Regulation of Current Calipers JJG 30	（0～300）mm	U=0.01mm		
				(300～500)mm	U=0.02mm		
				(500～1000)mm	U=0.03mm		

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№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
				（1000～2000）mm	U=0.04mm		
11	*Height caliper	Length	Verification Regulations of Height Calipers JJG 31	（0～300）mm	U=0.01mm		
				（300～1000）mm	U=0.02mm		
12	*Dial Snap Gauges	Length	Calibration specification for Dial Snap Gauges JJF 1253	Range：（5～100）mm	U=0.018mm		
13	*Thickness Gauges	Length	Calibration specification for Thickness Gauges JJF 1255	（0～30）mm	U=2.0μm		
14	*Height Measuring Instrument with Digital Display	Length	Calibration Specification for Height Measuring Instrument with Digital Display JJF 1254	（0～300）mm	U=0.8 μ m		
				（300～1000）mm	U=1.5 μ m		
15	*Coordinate measuring machine	length	Calibration Specification for Coordinate Measuring Machine JJF 1064	（0～1000）mm	U=0.9 μ m+2.5×$10^{-6}L$	Calibration only for CMM basic configuration	
				（1～5）m	U=0.1 μ m+1.9×$10^{-6}L$		
				Detection error:25mm	U=0.4 μ m		
16	Steel Measuring Tapes	Length	Verification Regulation of Steel Measuring Tapes JJG 4	（0～50）m	U=0.1mm+2×$10^{-5}L$		
17	Steel Rule	Length	Verification Regulations of Steel Rule JJG 1	（0～1000）mm	U=0.05mm		
				（1000～2000）mm	U=0.10mm		
18	*Biological Microscopes	Length	Calibration Specification for Biological Microscopes JJF 1402	（0～50）mm	U=4 μ m		
				Magnification:（4～100）×	U_{rel}=1.2%		
19	*Metallurgical microscope	Length	Calibration Specification for Metallurgical Microscopes JJF 1914	（0～1）mm	U=1.6 μ m		
				Magnification:(1～100)×	U_{rel}=2%		
20	*Reading Microscope and	Length	Verification Regulations of Reading Microscope and	Reading Microscope：（0～8）mm	U=2 μ m		

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	Measuring Microscope		Measuring Microscope JJG 571	Measuring Microscope：（0～50）mm	U=2 μm		
21	*Imaging Probe Measuring Machines	Length	Calibration Specification of Imaging Probe Measuring Machines JJF 1318	（0～500）mm	U=0.6 μm+5×10^{-6}L		
22	*projector	Length	Projector Calibration Specification for Projector JJF 1093	（0～100）mm	U=1.4 μm		
				(100～200)mm	U=1.6 μm		
				(200～500)mm	U=2.1 μm		
23	Feeler Gauges	Length	Verification Specification of Feeler Gauges JJG 62	（0.02～3.00）mm	U=3 μm		
24	Inductive Micrometers	Length	Calibration Specification forInductive Micrometers JJF 1331	Digital:(-10～+10)μm，0.01 μm/div	U=0.03 μm		
				Digital:(-100～+100)μm，0.1 μm/div	U=0.3 μm		
				Digital:(-1000～+1000)μm，1 μm/div	U=2 μm		
				Pointer:(-3～+3)μm，0.1 μm/div	U=0.03 μm		
				Pointer:(-10～+10)μm，0.5 μm/div	U=0.09 μm		
				Pointer:(-30～+30)μm，1 μm/div	U=0.3 μm		
				Pointer:(-100～+100)μm，5 μm/div	U=1.4 μm		
				Pointer:(-300～+300)μm，10 μm/div	U=3 μm		

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№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
				Electron column:(-10～+10)μm，0.2 μm/div	U=0.09 μm		
				Electron column:(-25～+25)μm，0.5 μm/div	U=0.17 μm		
				Electron column:(-50～+50)μm，1.0 μm/div	U=0.28 μm		
				Electron column:(-100～+100)μm，2 μm/div	U=0.56 μm		
				Electron column:(-500～+500)μm，10 μm/div	U=1.9 μm		
25	*Articulated arm coordinate measuring machine	Length	Calibration Specification for Articulated Arm Coordinate Measuring Machine JJF1408	(0～1000)mm	U=14 μm		
26	Radius Gauges	Length	Calibration Specification for Radius Gauges JJF 2187	R(0.1～25)mm	U=0.007mm		
				R(25～50)mm	U=0.017mm		
				R(50～100)mm	U=0.028mm		
27	General Bevel Protractors	angle	Calibration Specification for General Bevel Protractors JJF 1959	Type I：0°～320°	U=1′		
				Type II 、dial type、digital type：0°～360°	U=2′		
28	Combined Tybe Angle Rules	angle	Calibration Specification for Combined Tybe Angle Rules JJF 1132	0°～180°	U=3.4′		
29	*Ultrasonic Thickness Instruments	Length	Calibration Specification for Ultrasonic Thickness Instruments JJF 1126	(0.5～10)mm	U=0.01mm		
				（10～50）mm	U=0.03mm		
				（50～200）mm	U=0.05mm		

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№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
30	*Extensometer	Length	Verification Regulation of Extensometer JJG 762	（0～0.3）mm	U=1.0 μm		
				（0.3～20）mm	U_{rel}=0.2%		
				Gauge length:(0～200)mm	U=0.04mm		
				Gauge length：(200～500)mm	U=0.06mm		
31	*Conductor Pencentage Elongation Instrument	Length	Verification Regulation of Conductor Pencentage Elongation Instrument JJG（Yue）005	(0.1～60)%	U_{rel}=0.2%		
32	*Surface Plates	Length	Verification Regulation of Surface Plates JJG 117	（160×160～ 400×400）mm	U=2 μm		
				（400×400～ 1000×630）mm	U=4 μm		
				（1000×630～1500×1000）mm	U=5 μm		
				（1500×1000～ 2500×1600）mm	U=8 μm		
33	Plain Limit Gauges	Length	Verification Regulation of Plain Limit Gauges JJG 343	Cylindrical Smooth Gauges：D(0.1～100) mm	U=1.4 μm		
				Cylindrical Smooth Gauges：Φ(100～500) mm	U=2.0 μm		
				Ring Gauges：D(3～11)mm	U=1.0 μm		
				Ring Gauges：D(11～100)mm	U=1.6 μm		

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				Ring Gauges：D(100～200)mm	U=2.0 μm		
				Snap Gauge：(14～100)mm	U=1.6 μm		
				Snap Gauge：(100～200)mm	U=2.0 μm		
34	Cylindrical thread gauge	Length	Calibration Specification for Cylindrical Thread Gauge JJF 1345	Screw plug gauge：(1～150)mm	U=3.4 μm		
				Thread ring gauge：(2.5～160)mm	U=3.8 μm		
35	*Cable meter counter	Length	Verification Regulation of Cable Length Meter JJG 987	（0.1～9999.99）m	U_{rel}=0.2%		
36	Welding Inspection Callipers	Length	Calibration Specification for Welding Inspection Callipers JJF 2161	Main scale:（0～50）mm	U=0.005mm		
				Height gauge:（0～15）mm	U=0.01mm		
				Bite depth ruler:（0～30）mm	U=0.04mm		
				Gap gauge:（0～5）mm	U=0.04mm		
				Width ruler:（0～50）mm	U=0.07mm		
				Standard block of Width ruler:（6～48）mm	U=0.003mm		
		angle		(0～160)°	U=9′		
37	*Magnetic and Eddy Current Measuring Instrument for Coating Thickness	Length	Verification Regulations of Magnetic and Eddy Current Measuring Instrument for Coating Thickness JJG 818	H：（10～1036）μm	U=0.1 μm+0.4%H (H: Actual value of thickness gauge block， μm)		

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				Thickness sheet：（0～50）μm	U=0.3 μm		
				Thickness sheet：（50～2000）μm	U_{rel}=0.4%		
38	*Laser Diameter Measuring Gauges	Length	Calibration Specification for Laser Diameter Measuring Gauges JJF 1250	（0.1～3）mm	U=0.8 μm		
				（3～15）mm	U=1.5 μm		
				（15～30）mm	U=2.0 μm		
39	Frame Levels and Shaft Levels	angle	Calibration Specification for Frame Levels and Shaft Levels JJF 1084	The graduation value：（0.02～0.10）mm/m	U_{rel}=6.9%		
40	Level Rules	angle	Calibration Specification for Level Rules JJF 1085	The graduation value：（0.5～10）mm/m	U_{rel}=8%		
41	*Length measuring instrument	Length	Calibration Specification for Length Measuring Instrument JJF 1189	(0～100)mm	U=0.4 μm		
42	*Optimeter	Length	Verification Regulation for Optimeter JJG 45	(0～±100) μm	U=0.1 μm		
43	Cylindrical Measuring Pin	Length	Calibration Specification for Cylindrical Measuring Pin JJF 1207	Three needles Φ(0.1～6.585)mm	U=0.3 μm		
				Needle gauge Φ(0.1～10)mm	U=0.4 μm		
44	Wide Range Digital-indicator Gauges	Length	Calibration Specification for Wide Range Digital-indicator Gauges JJF 2383	The Dial Indicator：（100～200）mm	U=10 μm		
				Dial Indicator：（30～50）mm	U=2.3 μm		
				Dial Indicator：（50～100）mm	U=3.0 μm		

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				Dial Indicator：（100～200）mm	U=5.0 μm		
45	Straight Edge	length	Verification Regulation of Straight Edge JJG 63	（75～175）mm	U=0.4 μm		
				（175～300）mm	U=0.6 μm		
				（300～500）mm	U=0.8 μm		
46	*Micrometers of Measuring Inside Dimension	length	Calibration Specification for Micrometers of Measuring Inside Dimension JJF 1411	（5～50）mm	U=1.4 μm	Three-point internal micrometers and digital three-point internal micrometers shall only be calibrated for sizes up to 100 mm.	
				（50～100）mm	U=1.6 μm		
				（100～150）mm	U=1.9 μm		
				（150～200）mm	U=2.2 μm		
47	Screw Templates	Length	Verification Regulation of Screw Templates JJG 60	P：（0.4～6.0）mm	U=3.3 μm		
48	*Point Micrometers	Length	Calibration Specification for Point Micrometers JJF（Zhe）1045	（0～25）mm	U=0.7 μm		
				（25～50）mm	U=0.8 μm		
				（50～100）mm	U=1.0 μm		
				（100～150）mm	U=1.2 μm		
49	*Rubber and Plastic Film Gage	Length	Calibration Specification for Rubber and Plastic Film Gage JJF 1488	（0～30）mm	U=3 μm		
		Force		(0.01～10)N	U=0.01N		

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№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
50	*Concentricity Tester	Length	Calibration Specification for Concentricity Tester JJF 1109	（0～300）mm	U=2μm		
51	Pi Tapes	Length	Calibration Specification for Pi Tapes JJF 1423	D:(9～2100)mm	U=0.02mm		
52	Clinometers	angle	Calibration Specification for Clinometers JJF 1915	Digital display Clinometer:（0～90）°	U=0.01″		
				Optical tiltmeter:（0～90）°	U=6.8″		
53	Fiber Tapes And Measuring Rope	Length	Verification Regulation of Fiber Tapes And Measuring Ropes JJG 5	Fiber Tapes:（0～50）m	U=0.2mm +1.4×10^{-4}L		
				Measuring Ropes:（0～200）m	U=0.2mm +1.4×10^{-4}L		
54	*Pneumatic Measuring Instrument for Micrometers	Length	Verification Regulation of Pneumatic Measuring Instrument for Micrometers JJG 356	Floating：(0～±80) μm	U=(0.3～0.7) μm		
				Digital display:(0～±50) μm	U=(0.3～0.8) μm		
55	*Electrolytic（Coulometric）Coating Thickness Instruments	Length	Calibration Specification for Electrolytic（Coulometric）Coating Thickness Instruments JJF 1707	(0.1～20) μm	U_{rel}=5.2%		
56	Wooden Rule（Wooden Folded Rule）	length	Verification Regulation of Wooden Rule （Wooden Folded Rule） JJG 2	（0～1000）mm	U=0.3mm		
				（1000～3000）mm	U=0.5mm		
57	*Optical Contact Angle Measuring Instruments	Angle	Calibration Specification for Optical Contact Angle Measuring Instruments JJF 2099	(0～120)°	U=0.14°		

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№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
58	*Measurement Standard Instrument of Roundness	Roundness	Verification Regulation for Measurement Standard Instrument of Roundness and Cylindricity JJG 429	(1.5～10.0) μm	U_{rel}=3%		
59	Fineness of Grind Gage	Length	Verification Regulation of Fineness of Grind Gage JJG 905	（0～25） μm	U=0.5 μm		
				（25～100） μm	U=0.8 μm		
				（100～150） μm	U=1.1 μm		
60	Box Plates	Flatness	Verification Regulation of Box Plates JJG 194	(100×100)mm～(400×400)mm	U=3 μm		
		Verticality		(100×100)mm～(400×400)mm	U=3 μm		
		Parallelism		(100×100)mm～(400×400)mm	U=3 μm		
61	Micrometers with Dial Comparator and Indication Snap Gauge	Length	Verification Regulation of Micrometers with Dial Comparator and Indication Snap Gauge JJG 26	Lever micrometer：(0～100)mm	U=1.1 μm		
				Indicates a table:(-60～+60) μm/The graduation value0.001mm	U=0.4 μm		
				Indicates a table(-60～+60) μm/The graduation value0.002mm	U=0.6 μm		
62	*Screw Thread Micrometers	Length	Verification Regulation of Screw Thread Micrometers JJG 25	(0～200)mm	U=2.6 μm+1.1×10^{-5}L		
				Micrometer head: (0～100)mm	U=1 μm		
				Micrometer head: (100～200)mm	U=0.5 μm+7.4×10^{-6}L		
				Calibrating rod:（25～175）mm	U=0.4 μm+8×10^{-6}L		

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№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
63	*Blade Micrometer	Length	Calibration Specification for Blade Micrometer JJF(Zhe)1090	（0～100）mm	U=1 μm		
				（100～200）mm	U=2 μm		
64	*circle anvil micrometer	Length	Calibration Specification for circle anvil micrometer JJF(Zhe)1132	（0～100）mm	U=1 μm		
65	*Calibrators for Levels	Length	Verification Regulation of Calibrators for Levels JJG 191	(0～1.5)mm/m	U_{rel}=2%		
66	Step Gauges	Length	Calibration Specification for Step Gauges JJF 1258	(0～1000)mm	U=2 μm+1×10^{-6}L		
67	*X-ray fluorescence coating thickness gauge	Length	Calibration specification for X-ray fluorescence coating thickness gauge JJF 1306	(0.2～55) μm	U_{rel}=7%		
68	*Stylus type surface roughness measuring instrument	Roughness	Calibration Specification for Contact(Stylus)Instruments of Surface Roughness Measurement by Profile Method JJF 1105	*Ra*:（0.1～8） μm	U_{rel}=5.5%		
69	*Micrometers with Prismatically Arranged Measuring Faces	Length	Verification Regulation of Micrometers with Prismatically Arranged Measuring Faces JJG 182	（1～81.5）mm	U=1.6 μm		
70	*Hall Effect Thickness Gauge	length	Verification Regulation of Hall Effect Thickness Gauge JJG(Yue)034	（0～25.4）mm	U=6.0 μm		
				Thickness slice for calibration: (0～25)mm	U=2.0 μm		
71	*Optical 3D Measuring Systems Based on Structured Light	length	C. S. for Optical 3D Measuring Systems Based on Structured Light Scanning JJF 1951	Distance of the center of the ball:(25～500)mm	U=6 μm		

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№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
	Scanning	Detection error		PF、PS:Φ(5、10、25)mm	U=2.5 μ m		
				SD:50mm×50mm、50mm×150mm、50mm×300mm	U=3 μ m		
72	*Center Distance Calipers	Length	C. S. for Center Distance Calipers JJF(Ji) 180	(0～300)mm	U=0.01mm		
				(300～500)mm	U=0.02mm		
				(500～1000)mm	U=0.03mm		
73	*Digital Step Gauge	Length	C. S. for Digital Step Gauge JJF(Zhe) 1130	(-50～+50)mm	U=0.01mm		
74	*Gear Tooth Calipers	Length	C. S. for Gear Tooth Calipers JJF 1072	Module:(1～50)mm	U=0.01mm		
75	*dial gauges	Length	V. R. of Dial Gauges JJG 34	The Dial Indicator:(0～10)mm	U=5μm		
				The Dial Indicator:(10～30)mm	U=6 μ m		
				The Dial Indicator:(30～100)mm	U=10 μ m		
				Dial Indicator:(0～5)mm	U=1.8μm		
				Dial Indicator:(5～30)mm	U=2.3μm		

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76	*Grating Micrometers	Length	C. S. for Grating Micrometers JJF 1682	(0～100)mm	U=0.3 μm	①Accredited only for Measuring block method；②Accredited only for Grade 1 μm and below	
77	*Large Dimension Outside Micrometers	Length	C. S. for Large Dimension Outside Micrometers JJF 1088	(500～1000)mm	U=2.6 μm+4×10^{-6}L	Except for Calibration rod When Onsite calibration	
				Micrometer head:(0～50)mm	U=1.4 μm		
				Calibrating rod:(500～1000)mm	U=0.4 μm+5.2×10^{-6}L		
78	Blocks used in Ultrasonic Testing	Length	C. S. for Blocks used in Ultrasonic Testing JJF 1487	(0～300)mm	U=4 μm		
79	Step Gauges	Length	C. S. for Step Gauges JJF(Ji) 154	Plastic face difference ruler:(0.1～20)mm	U=5 μm		
				Vernier, digital display area difference ruler:(-50～+50)mm	U=0.01mm		
80	*Testers for Dial Gauges	Length	V. R. of Testers for Dial Gauges JJG 201	Micrometer calibrator:(0～5)mm	U=0.3 μm+1.5×10^{-5}L		
				Dial gauge calibrator:(0～50)mm	U=0.5 μm+1.5×10^{-5}L		
				Indicator gauge calibrator:(0～100)mm	U=0.3 μm+1.5×10^{-5}L		
81	Micropattern Standards	Length	C. S. for Micropattern Standards JJF 1917	(0～200)mm	U=2.1 μm	Accredited only for the type of line	

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		Angle		0° ～360°	U=3′	width > 2 μm	
82	Gauge Blocks	Length	V. R. of Gauge Blocks JJG 146	(0.5～1000)mm	U=0.20 μm+2×10^{-6}Ln(k=2.6)		
83	*Straight Edges	straightness	C. S. for Straight Edges JJF 1097	L:(300～6300)mm	U=1.1 μm+1×10^{-6}L	Accredited only for Level 0 and below	
84	*Solder Paste Inspection Instruments	Length	C. S. for Solder Paste Inspection Instruments JJF 1965	H:(20～450) μm	U=1.5 μm		
85	Multifunction Slope Scale	Angle	C. S. for Multifunction Slope Scale JJF(Ji) 140	-90° ～+90°	U=0.3°		
86	*Comparators of Machine Type	Length	V. R. of Comparators of Machine Type JJG 39	The graduation value 0.5 μm:(-25～+25) μm	U=0.08 μm		
				The graduation value 1 μm:(-100～+100) μm	U=0.13 μm		
				The graduation value 2 μm:(-100～+100) μm	U=0.24 μm		
				The graduation value 5 μm:(-200～+200) μm	U=0.59 μm		
				The graduation value 10 μm:(-300～+300) μm	U=1.4 μm		
87	*Microcator	Length	V. R. of Microcator JJG 118	The graduation value 0.5 μm:(-50～+50) μm	U=0.08 μm		
				The graduation value 1 μm:(-100～+100) μm	U=0.13 μm		
				The graduation value 2 μm:(-30～+30) μm	U=0.24 μm		

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88	*Track of the Light Source	Length	C. S. for Track of the Light Source JJF(Su) 270	ranging tape measure:(0～6)m	U=0.05mm		
		straightness		(0～4)mm,(L:(0～6)m)	U=0.05mm		
89	*Grating Linear Displacement Measuring Device	Length	V. R. of Grating Linear Displacement Measuring Device JJG 341	Laser interferometer method:(0～3)m	$U=0.6\ \mu m+1\times10^{-6}L$	Accredited only for Grade 3	
90	*Groove Micrometer	Length	C. S. for Groove Micrometer JJF(Wan) 222	(0～101.5)mm	U=1.2 μ m		
91	*Inside Calipers	Length	C. S. for Inside Calipers JJF(Zhe) 1091	(0～300)mm	U=0.01mm		
				(300～500)mm	U=0.02mm		
92	*Calibrator of Extensometers	Length	C. S. for Calibrator of Extensometers JJF 1096	(0～0.3)mm	U=0.13 μ m	Accredited only for Grade 0.5 and below	
				(0.3～25)mm	U_{rel}=0.04%		
93	*Micrometers with Gauge	Length	V. R. of Micrometers with Gauge JJG 427	(0～25)mm	U=0.7 μ m		
				(25～50)mm	U=0.8 μ m		
				(50～75)mm	U=0.9 μ m		
				(75～100)mm	U=1.1 μ m		
94	*Vertical Axis Deviation Measuring Instrument	Vertical Axis Deviation	C. S. for Vertical Axis Deviation Measuring Instrument JJF(Ji) 153	(0～2)mm,(Φ100mm)	U=0.008mm		
95	*Contact-type Interferometers	Length	V. R. of Contact-type Interferometers JJG 101	(-10～+10) μ m	U=0.014 μ m		
96	*Length Measuring Machine	Length	C. S. for Length Measuring Machine JJF 1066	Micrometer scale:(-100～+100) μ m	U=0.1 μ m		

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				Milimeter scale:(0～100)mm	U=0.2 μm+2×10^{-6}L		
				Decimeter ruler:(0～3000)mm	U=0.4 μm+3×10^{-6}L		
97	Protection of person and equipment by enclosures-Probe for verification	Length	C. S. for Protection of person and equipment by enclosures-Probe for verification JJF(Liao) 288	(0～200)mm	U=0.01mm		
				(200～300)mm	U=0.05mm		
				(300～500)mm	U=0.06mm		
		Angle		14°、37°	U=4′		
98	*Concentricity Testers	Concentricity	C. S. for Concentricity Testers JJF(Su) 279	(20～50) μm	U=1.5 μm		
99	*Pointer Angle Gauge	Angle	C. S. for Pointer Angle Gauge JJF(Jin) 107	0°～180°	U=0.06°		
100	The Protractors for Multiple Point Tool	Angle	V. R. of The Protractors for Multiple Point Tool JJG 275	15°～60°	U=4′		
101	Phelin Rule	Length	C. S. for Phelin Rule JJF(Meng) 107	Scale line indication:(0～300)mm	U=2.8 μm+6×10×10^{-5}L		
				Line width:(0.01～10)mm	U=3.2 μm		
				Diameter:(0.01～10)mm	U=3.2 μm		
102	*Stereomicroscope	Magnification	C. S. for Stereomicroscope JJF(Min) 1063	Objective Amplification: (0.5～5)X	U_{rel}=1.0%		
				Objective Amplification: (5～10)X	U_{rel}=1.3%		
103	Electronic Levels and Coincidence Levels	Angle	V. R. of Electronic Levels and Coincidence Levels JJG 103	Electronic Levels:(0～5)mm/m	U=0.6 μm/m		
				Coincidence Levels:(0～10)mm/m	U=1.8 μm/m		

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104	*Surface Profile Gauges	Length	C. S. for Surface Profile Gauges JJF 1476	(0～6.5)mm	U=1.2 μm		
105	*Conical Ruler	Length	C. S. for Conical Ruler JJF(Wan) 89	Diameter:(1～60)mm	U=0.01mm		
106	*Linear Displacement Sensors	Length	C. S. for Linear Displacement Sensors JJF 1305	(0～1000)mm	U=1.3 μm+3.4×10^{-6}L	Accredited only for the type of Inductive, resistive, wire (rope), laser	
107	*Contact (Stylus) Surface Contour Tester	Length	C. S. for Contact (Stylus) Surface Contour Tester JJF(Su) 276	X:(0～150)mm	U=0.9 μm		
				X:(0～60)mm	U=0.9 μm		
				R:(5～80)mm	U=1.0 μm		
		Angle		0°～180°	U=1.5′		
108	*Sharp Edge Tester	Length	C. S. for Sharp Edge Tester JJF(Xiang) 88	Φ9.53mm	U=0.04mm		
		Speed		23mm/s	U=0.12mm/s		
		Force value		6N	U=0.07N		
109	*Image Size Measuring Instruments	Length	C. S. for Image Size Measuring Instruments JJF(DZ) 0096	(0～200)mm	U=0.6 μm+7.6×10^{-6}L		
				(200～500)mm	U=0.4 μm+9.7×10^{-6}L		
		Detection error		Φ0.5mm、Φ25mm	U=0.4 μm		
110	toys safety testing device	Length	C. S. for toys safety testing device TSZMS 0010	(0～600)mm	U=2.1 μm+4×10^{-6}L	Accredited only for Small Parts Cylinder、	

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		Angle		0°～360°	U=1.3′	Rattle Test Block、Bite Test Fixture、Pacifier Test Block、Test Rod、Drop Test Floor	
111	*Projectors for Detecting The Notch of Test Sample	Angle	C. S. for Projectors for Detecting The Notch of Test Sample JJF(Zhe) 1133	Standard template diagram:43°、45°、47°	U=2′	Except for Standard template diagram When on-site calibration.	
		Length		Gap height and scale mark indication of Standard Template Diagram:(0～100)mm	U=0.05mm		
				Notch Arc of Standard Template Diagram:R(11.25、12.5、13.75、46.5、50、53.5)mm	U=0.05mm		
				Workbench ruler:(0～100)mm	U=0.06mm		
		Magnification		50X	U_{rel}=0.25%		
112	Industrial Endoscopes	Illuminance	C. S. for Industrial Endoscopes JJF(Su) 269	(1000～5000)lx	U_{rel}=7%		
		Angle		0°～180°	U=7°		
		Length		(0.5～5)mm	U=2.5 μm		

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113	*Roller Length Meter	Length	C. S. for Roller Length Meter JJF(Lu) 206	(0.1～9999)m	U_{rel}=0.13%	Accredited only for Online-Calibration	
114	Taper Thread Gauges	Length	C. S. for Taper Thread Gauges JJF 2279	plug gauge:$d2$(1～150)mm	U=3.4 μm+3.5×10^{-6}d		
				Ring gauge:$D2$(3～160)mm	U=3.5 μm+6×10^{-6}D		
115	*Measuring System of Coordinate Position	Length	C. S. for Measuring System of Coordinate Position JJF 1251	(0～10)m	U=0.2 μm+2.3×10^{-6}L	Except for type of Rotary axis	
116	*Optical Shaft Measuring Instrument	Length	C. S. for Optical Shaft Measuring Instrument JJF 1933	d:(25～120)mm	U=0.8 μm+4.4×10^{-6}d		
				L:(100～600)mm	U=1.4 μm+5.8×10^{-6}L		
117	*Micrometers for Measuring Gear	Length	V. R. of Micrometers for Measuring Gear JJG(Yue) 074	(0～75)mm	U=1.0 μm	Except for Calibration rod When Onsite calibration	
				(75～150)mm	U=1.5 μm		
				(150～225)mm	U=2.0 μm		
				(225～275)mm	U=2.4 μm		
				(275～300)mm	U=2.7 μm		
				Calibrating rod:(25～275)mm	U=0.4 μm+6.6×10^{-6}L		
118	*X-ray Three Dimensional Size Measuring Machine	Length	C. S. for X-ray Three Dimensional Size Measuring Machine JJF(BGMP) 0022	Distance of the center of the ball:(25～400)mm	U=2.6 μm		
		Detection error		PF、PS:Φ(3、6、8)mm	U=1.5 μm		

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119	Square Gauge	Verticality	V. R. of Square Gauge JJG 1046	H:(100～500)mm	U=0.4 μm+1×10^{-6}H	Accredited only for level 00 and below	
120	Thread Depth Gauge	Length	C. S. for Thread Depth Gauge JJF(Shan) 070	Depth Reading:(0～80)mm	U=0.01mm		
				Thread Gauge:M(2～30)mm	U=3 μm		
121	*Creepage Distance (Clearance) Test Card	Length	C. S. for Creepage Distance (Clearance) Test Card JJF(Shan) 105	(0～25)mm	U=0.003mm		
122	*Online Laser Thickness Gauge	Length	C. S. for Online Laser Thickness Gauge JJF(HSZW) 4018	(0.5～3)mm	U=0.5 μm	Accredited only for Online-Calibration	
123	*Copper Clad Thickness Measuring Instrument	Length	C. S. for Copper Clad Thickness Measuring Instrument JJF(Su) 258	(8～10) μm	U_{rel}=9%		
				(10～50) μm	U=0.7 μm		
				(50～200) μm	U_{rel}=1.5%		
				Standard copper foil thickness sheet:(0.1～10) μm	U_{rel}=9%		
				Standard copper foil thickness sheet:(10～50) μm	U=0.4 μm		
				Standard copper foil thickness sheet:(50～500) μm	U_{rel}=1.3%		
124	Hand-held Laser Distance Meters	Length	V. R. of Hand-held Laser Distance Meters JJG 966	(0～5)m	U=0.3mm+1×10^{-4}L		

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				(5～30)m	U=0.7mm+1×10^{-5}L		
Electromagnetism measuring instrument							
1	*Withstand Voltage Tester	DC voltage	Withstanding Voltage Testers JJG 795	(0.1～15)kV	U_{rel}=0.90%		
		AC voltage		(0.1～15)kV,(45～65)Hz	U_{rel}=0.90%		
		Direct current		(0.1～200)mA	U_{rel}=0.90%		
		Alternating current		(0.1～200)mA,(45～65)Hz	U_{rel}=0.90%		
		Time		(1.00～999.99)s	U_{rel}=1.0%		
2	*Digital multimeter	DC voltage	Calibration Specification for Multimetrs JJF 1587	±(10mV～3.3V)	U_{rel}=0.012%		
				±(3.3～33)V	U_{rel}=0.012%		
				±(33～330)V	U_{rel}=0.014%		
				±(330～1000)V	U_{rel}=0.024%		
		AC voltage		(10～330)mV,(45 Hz～10kHz)	U_{rel}=0.08%		
				(10～330)mV,(10～20)kHz	U_{rel}=0.14%		
				(10～330)mV,(20～50)kHz	U_{rel}=0.23%		
				(0.33～3.3)V,(45 Hz ～10kHz)	U_{rel}=0.04%		
				(0.33～3.3)V,(10～20)kHz	U_{rel}=0.10%		
				(0.33～3.3)V,(20～50)kHz	U_{rel}=0.20%		

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				(3.3～33)V,（45 Hz ～10kHz)	U_{rel}=0.05%		
				(3.3～33)V,(10～20)kHz	U_{rel}=0.12%		
				(3.3～33)V,(20～50)kHz	U_{rel}=0.28%		
				(33～330)V,(45 Hz～1kHz)	U_{rel}=0.07%		
				(33～330)V,(1～10)kHz	U_{rel}=0.10%		
				(33～330)V,(10～20)kHz	U_{rel}=0.14%		
				(330～1000)V,(45 Hz～1kHz)	U_{rel}=0.08%		
				(330～1000)V,(1～5)kHz	U_{rel}=0.26%		
				(330～1000)V,(5～10)kHz	U_{rel}=0.35%		
		DC		±(0.1～3.3)mA	U_{rel}=0.026%		
				±(3.3～330)mA	U_{rel}=0.015%		
				±(0.33～2.2)A	U_{rel}=0.074%		
				±(2.2～10)A	U_{rel}=0.074%		
		Alternating current		(0.1～0.33)mA,(45 Hz～1kHz)	U_{rel}=0.44%		
				(0.1～0.33)mA,(1～5)kHz	U_{rel}=0.64%		
				(0.33～3.3)mA,(45 Hz～1kHz)	U_{rel}=0.18%		
				(0.33～3.3)mA,(1～5)kHz	U_{rel}=0.28%		

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				(0.33～3.3)mA,(5～10)kHz	U_{rel}=0.73%		
				(3.3～33)mA,(45 Hz ～1kHz)	U_{rel}=0.18%		
				(3.3～33)mA,(1～5)kHz	U_{rel}=0.28%		
				(3.3～33)mA,(5～10)kHz	U_{rel}=0.73%		
				(33～330)mA,(45 Hz ～1kHz)	U_{rel}=0.18%		
				(33～330)mA,(1～5)kHz	U_{rel}=0.28%		
				(33～330)mA,(5～10)kHz	U_{rel}=0.73%		
				(0.33～2.2)A,(45 Hz～1kHz)	U_{rel}=0.28%		
				(0.33～2.2)A,(1～5)kHz	U_{rel}=0.90%		
				(2.2～10)A,(45～65)Hz	U_{rel}=0.12%		
				(2.2～10)A,(65 Hz ～500Hz)	U_{rel}=0.16%		
				(2.2～10)A,(500Hz～1kHz)	U_{rel}=0.44%		
		DC Resistance		(1～330) Ω	U_{rel}=0.03%		
				0.33k Ω ～1M Ω	U_{rel}= 0.02%		
				(1～100) M Ω	U_{rel}= 0.12%		
3	*DC Stabilized Power supplies	DC voltage	Calibration Specification for DC Stabilized Power supplies JJF 1597	(0.1～10)V	U_{rel}=0.04%		
				(10～30)V	U_{rel}=0.02%		

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				(30～100)V	U_{rel}=0.03%		
				(100～1000)V	U_{rel}=0.04%		
		DC		(0.1～10)A	U_{rel}=0.08%		
				(10～100)A	U_{rel}=0.10%		
				(100～1000)A	U_{rel}=0.09%		
		Voltage regulation rate		(0.005～1)%	U_{rel}=0.5%		
		Loadadjustment rate		(0.005～1)%	U_{rel}=0.5%		
		Load transient recovery time		10 μs～1s	U_{rel}=0.3%		
4	*Amperemeters ,Voltmeters,Wattmeters and Ohmmeters	DC voltage	Amperemeters ,Voltmeters,Wattmeters and Ohmmeters JJG 124	10mV～1000V	U_{rel}=0.07%		
		AC voltage		10mV～33V,(45Hz～65Hz)	U_{rel}=0.09%		
				33V～1000V,(45Hz～65Hz)	U_{rel}=0.13%		
		DC current		0.1mA～10A	U_{rel}=0.17%		
				10A～100A	U_{rel}=0.20%		
		Alternating current		0.1mA～10A,(45Hz～65Hz)	U_{rel}=0.22%		
				10A～100A,(45Hz～65Hz)	U_{rel}=0.30%		
		DC power		1W～5 kW	U_{rel}=0.16%		
		AC power		1W～10 kW,(45Hz～65Hz)	U_{rel}=0.16%		

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		Resistance		10 Ω～10 MΩ	U_{rel}=0.5%		
5	*Multi-function calibration source	DC voltage	calibration specification for multifunction standard sources JJF 1638	10mV～100mV	U_{rel}=0.0015%		
				100mV～1V	U_{rel}=0.0012%		
				(1～10)V	U_{rel}=0.0011%		
				(10～1000)V	U_{rel}=0.0014%		
		AC voltage		10mV～10V,(40Hz～1kHz)	U_{rel}=0.012%		
				(10～100)V,(40Hz～1kHz)	U_{rel}=0.027%		
				(100～1000)V,(40Hz～1kHz)	U_{rel}=0.05%		
		DC		100 μA～10mA	U_{rel}=0.0029%		
				(10～100)mA	U_{rel}=0.0046%		
				100mA～1A	U_{rel}=0.014%		
				(1～20)A	U_{rel}=0.03%		
		Alternating current		10mA～100mA,(40Hz～1kHz)	U_{rel}=0.10%		
				100mA～1A,(40Hz～1kHz)	U_{rel}=0.14%		
				(1～20)A,(40Hz～1kHz)	U_{rel}=0.10%		
		Resistance		1 Ω～10 Ω	U_{rel}=0.003%		
				10 Ω～100 kΩ	U_{rel}=0.0014%		

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				100kΩ～1 MΩ	U_{rel}=0.0022%		
				(1～10)MΩ	U_{rel}=0.007%		
				(10～100)MΩ	U_{rel}=0.06%		
6	*Clamp ammeter	DC	Calibration Specification for Clamp Ammeter JJF 1075	(0.1～20)A	U_{rel}=0.1%		
				(20～200)A	U_{rel}=0.1%		
				(200～2000)A	U_{rel}=0.38%		
		Alternating current		(0.(0.1～20)A，45Hz～400Hz	U_{rel}=0.15%		
				(20～200)A，45Hz～400Hz	U_{rel}=0.28%		
				(200～2000)A，45Hz～400Hz	U_{rel}=0.40%		
7	*Leakage current tester	Current	Leakage Current Tester JJG 843	(0.1～100)mA,(DC、50Hz)	U_{rel}=0.5%		
		Voltage		(1～200)V,(DC、50Hz)	U_{rel}=0.4%		
				(200～750)V,(DC、50Hz)	U_{rel}=0.5%		
		time		(1～999.9)s	U_{rel}=0.6%		
		Input Resistance		10Ω～2.5kΩ	U_{rel}=0.6%		
		Input impedance		100Ω～3kΩ(20Hz～1MHz)	U_{rel}=0.3%		
8	*Ground Continuity Resistance Tester	resistance	Earth- Continuity Testers JJG 984	(10～600)mΩ	U_{rel}=0.5%		
		Current		(0.1～60)A,(DC、50Hz)	U_{rel}=0.2%		

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9	*DC low resistance meter	resistance	D.C .Iow Resistance Meters JJG 837	0.001 Ω ～200k Ω	U_{rel}=0.016%		
				1 μ Ω ～0.001 Ω	U_{rel}=0.3%		
10	DC resistance box	resistance	D.C. Resistance Boxes JJG 982	(1 ～ 10) Ω	U_{rel}=0.01%		
				(10 ～ 10^5) Ω	U_{rel}=0.004%		
				(10^5 ～ 10^7) Ω	U_{rel}=0.015%		
11	*Shunt	resistance	DC Shunts JJG 1069	0.01m Ω ～10 Ω ,(10mA～2000A)	U_{rel}=0.03%		
12	*AC parameter measuring instrument	Alternating voltage	Calibration specification for digital AC Electrical parameter meter JJF 1491	(1～600)V,(45Hz～65 Hz)	U_{rel}=0.05%		
		Alternating current		10mA～20A,（45Hz～65 Hz)	U_{rel}=0.06%		
				20A～40A,(45Hz～65 Hz)	U_{rel}=0.10%		
		AC power		(0.1～10) kW,(45Hz～65 Hz)	U_{rel}=0.09%		
		Power factor		(0～1)(45Hz～65 Hz)	U=0.2%		
		Frequency		(45～65) Hz			
13	*Electronic Insulation Resistance Meters	Resistance	Electronic Insulating Resistance Meters JJG 1005	100 Ω ～100M Ω	U_{rel}=0.7%		
				100M Ω ～100G Ω	U_{rel}=2.5%		
		Voltage		(25～5000)V	U_{rel}=1.0%		
14	*Megohmmeter	Resistance	Megohmmeter JJG 622	100 Ω ～100M Ω	U_{rel}=0.7%		
				100M Ω ～100G Ω	U_{rel}=2.5%		

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№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		Voltage		(50～2500)V	U_{rel}=1.0%		
15	*High Insulation Resistance Meters	Resistance	Calibration Specification for High Insulation Resistance Meters JJF 2225	100kΩ～100MΩ	U_{rel}=0.7%		
				100MΩ～100GΩ	U_{rel}=2.5%		
		Voltage		(10～1000)V	U_{rel}=1.4%		
16	*Electrostatic wrist strap/foot plate tester	Resistance	Wrist Strap and Footwear Tester JJF (DZ)31502	1kΩ～10MΩ	U_{rel}=2.0%		
				(10～100)MΩ	U_{rel}=2.0%		
				(100～1000)MΩ	U_{rel}=2.4%		
17	*Ground resistance meter	resistance	Verification Regulation of Earth Resistance Meter JJG 366	(0.1～1000)Ω	U_{rel}=1.0%		
18	*DC bridge	resistance	D.C Bridges JJG 125	0.001Ω～1Ω	U_{rel}=0.03%		
				1Ω～1kΩ	U_{rel}=0.017%		
				(1～100)kΩ	U_{rel}=0.015%		
19	*Surface resistance tester	resistance	Calibration specification for surface resistance tester JJF 1285	(10^3～10^{11})Ω	U_{rel}=2.4%		
				(9～250)V	U_{rel}=0.04%		
20	*Precision AC test power supply	AC voltage	Calibration Specificatin of Single Phase AC Voltage Power Supply JJF(MI)85	(1～400)V,(45Hz～1kHz)	U_{rel}=0.2%		
		Alternating current		(0.1～20)A,(45Hz～1kHz)	U_{rel}=0.3%		
		frequency		45Hz～1kHz	U_{rel}=0.1%		
21	*High precision AC and DC ammeter	current	DC Standard Current Source JJG（JG）69	10mA～50A	U_{rel}=0.10%		

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№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
22	*DC High Voltage Dividers	DC voltage divider ratio	DC High Voltage Dividers JJG 1007	1～10000，(1～100)kV	U_{rel}=0.5%		
23	*Loop Resistance Testers	Current	Verification Regulation of Loop Resistance Testers JJG 1052	(100～200)A	U_{rel}=0.3%		
		resistance		0.01mΩ～10Ω	U_{rel}=0.3%		
24	*High Voltage Electrostatic Voltmeters	DC voltage	High Voltage Electrostatic Voltmeters JJG 494	±(0.6～50)kV	U_{rel}=0.6%		
25	*Process Calibrators	Thermocouple output	Calibration Specifcation for Process Calibrators JJF 1472	(-200～1800)℃	U=0.5℃		
		Thermocouple measurement		(-200～1300)℃	U=0.5℃		
				(1300～1800)℃	U=0.6℃		
		Thermal resistance output		(-200～800)℃	U=0.02℃		
		Thermal resistance measurement		(-200～800)℃	U=0.14℃		
		Voltage output		1mV～10mV	U_{rel}=0.02%		
				10mV～100V	U_{rel}=0.01%		
		Voltage measurement		1mV～300V	U_{rel}=0.01%		
		Current output		(1～100)mA	U_{rel}=0.01%		
		Current measurement		(1～100)mA	U_{rel}=0.01%		
		Resistance output		(1～10)Ω	U_{rel}=0.02%		

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№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
				10 Ω～10k Ω	U_{rel}=0.01%		
		Resistance output		(1～10) Ω	U_{rel}=0.02%		
				10 Ω～100k Ω	U_{rel}=0.01%		
26	Contactless Electrostatic Voltage Measuring Instruments	Electrostatic voltage	Calibration Specification for Contactless Electrostatic Voltage Measuring Instruments JJF 1517	±(0.1～20)kV	U_{rel}=1.3%	Only use the standard table method	
27	(1mT～2.5T) Magnetometers	Magnetic Induction	Calibration Specification for (1mT～2.5T) Magnetometers JJF 1832	50mT ～ 2T	U_{rel}=0.6%～0.1%		
28	*AC/DC Digital High Voltage Meters	AC Voltage	Verification Regulation of AC/DC Digital High Voltage Meters JJG(Yue)041	(1～100)kV,50Hz	U_{rel}=0.4%		
		Direct Current Voltage		(1～100)kV	U_{rel}=0.4%		
29	*Clamp Earth Resistance Meters	Resistance	Verification Regulation of Clamp Earth Resistance Meters JJG 1054	(0.01～0.1) Ω	U_{rel}=6%		
				(0.1～1) Ω	U_{rel}=0.6%		
				(1～10) Ω	U_{rel}=0.3%		
				10 Ω～10k Ω	U_{rel}=0.1%		
30	*DC High Voltage Generators	Direct Current Voltage	Calibration Specification for DC High Voltage Generators JJF 2393	(1～100)kV	U_{rel}=0.4%		
		Direct Current		10 μA～100mA	U_{rel}=0.2%		
31	*High Current Generator	Alternating Current	Calibration Specification of High Current Generator JJF(JX)1037	(1～2000)A,50 Hz	U_{rel}=0.3%		
32	Magnetic Flux Meters	Magnetic flux	Calibration Specification for Magnetic Flux Meters JJF1905	0.1mWb～10Wb	U_{rel}=0.3%	Volt-second method	

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33	*AC Standard Voltage Source	AC Voltage	Verification Regulation for AC Standard Voltage Source JJG(JG)71	100mV～10V(10Hz～1MHz)	U_{rel}=0.012%		
				(10～100)V(10Hz～500kHz)	U_{rel}=0.027%		
				(100～1000)V(40Hz～50kHz)	U_{rel}=0.05%		
34	*Eddy Current Conductivity Meters	Conductivity	Calibration Specification for Eddy Current Conductivity Meters JJF 1692	(0.58～20.3)MS/m,60kHz	U=0.07MS/m		
				(20.3～58)MS/m,60kHz	U=0.2MS/m		
35	High-voltage Divider at Power Frequency	AC Voltage (partial voltage ratio)	Verification Regulation of High-voltage Divider at Power Frequency JJG 496	(1～100)kV/(1～100)V，50Hz	U_{rel}=0.3%		
36	*Magnetic Yoke Detectors	Magnetized current	Calibration Specification for Magnetic Yoke Detectors JJF 1458	(0.1～20)A	U_{rel}=4%		
		Lift		(1～300)N	U_{rel}=5%		
37	*Power Analyzer	Direct Current Voltage	Calibration Specification for Power Analyzers JJF 2040	10mV～10V	U_{rel}=0.042%		
				(10～1000)V	U_{rel}=0.03%		
		Direct Current		1mA～10A	U_{rel}=0.06%		
				(10～50)A	U_{rel}=0.11%		
				(50～100)A	U_{rel}=0.30%		
		DC Power		100mW～5kW	U_{rel}=0.08%		
		AC Voltage		10mV～10V,(50Hz～1kHz)	U_{rel}=0.42%		
				(10～1000)V,(50Hz～1kHz)	U_{rel}=0.12%		

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		Alternating Current		(1mA～10A),(50Hz～1kHz)	U_{rel}=0.16%		
				(10～100)A (50～400)Hz	U_{rel}=0.07%		
		AC power		100mW～5kW (50Hz～400Hz)	U_{rel}=0.18%		
				(5～10)kW,(45Hz～60Hz)	U_{rel}=0.24%		
		Frequency		50Hz～10kHz	U_{rel}=0.01%		
		Phase		0° ～360°	U=0.06°		
38	Current Sensors	DC Current Ratio	Calibration Specification for Current Sensors JJF(JG)264	10:1～2000:1(Input Current 10A～2kA)(Output Current 0.05A～10A)	U_{rel}=0.01%		
		AC Current Ratio		10:1～2000:1(Input Current：10A～2kA)(output Current：0.05A～10A),50Hz～400Hz	U_{rel}=0.02%		
		DC Current to Voltage Conversion Ratio		10:1～2000:1 (Input Current：(10～2000)A,Output Current：10mV～10V)	U_{rel}=0.01%		
		AC Current to Voltage Conversion Ratio		10:1～2000:1(Input Current：(0.05～10)A, 50Hz～400Hz,Output Current：10mV～10V, 50Hz～400Hz)	U_{rel}=0.02%		

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39	*power quality analyzer	AC Voltage	Verification code for power quality analyzer DL/T 1028	50mV～1000V(45～65)Hz	U_{rel}=0.16%		
		Frequency		(45～65)Hz	U=0.02Hz		
		Phase		(0～360)°	U=0.16°		
		Harmonic Voltage		50mV～1000V ,(2～60)Subharmonic	U_{rel}=1.6%		
		Harmonic Current		10mA～50A ,(2～60)Subharmonic	U_{rel}=1.6%		
		Three-phase voltage unbalance		(0.1～30)%	U_{rel}=0.06%		
		Three-phase current unbalance		(0.1～30)%	U_{rel}=0.33%		
40	*DC Magnetic Properties Measuring Instruments for Magnetically Soft Materials	Primary current	Calibration Specification for DC Magnetic Properties Measuring Instruments for Magnetically Soft Materials JJF 1830	(0.01～10)A	U_{rel}=0.06%		
		Flux		(0.2～20)mWb	U_{rel}=0.10%		
41	*High-voltage Withstanding Voltage Tester	DC Voltage	Verification Regulations of High-voltage Withstanding Voltage Tester JJG(JG)18	(0.1～100)kV	U_{rel}=0.6%		
		AC Voltage		(0.1～100)kV ,(50Hz)	U_{rel}=0.9%		
		DC		(0.1～100)mA	U_{rel}=0.9%		
		Alternating Current		(0.1～100)mA,(50Hz)	U_{rel}=1.0%		
		Time		(1～999.9)s	U_{rel}=1.0%		

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42	*Instrument Current Transformers	Ratio difference	Verification Regulation of Instrument Current Transformers JJG 313	(5～2000)A/5A、(5～2000)A/1A,(1%～5%)In	U_{rel}=0.04%		
				(5～2000)A/5A、(5～2000)A/1A,(20%～120%)In	U_{rel}=0.04%		
		Phase Difference		(0.01～1000)′,(5%、100%)In	U=0.4′		
43	DC Shunts	AC Resistance	Calibration Specification for AC shunts JJF(DZ)0020	0.01mΩ～10Ω,(10mA～2000A,(45～65)Hz)	U_{rel}=0.06%		
44	*Voltage transformer	Mass	Verification Regulation of Instrument Voltage Transformers JJG 314	-19.99%～19.99%,(6、10、35)kV/100V,(6/√3、10/√3、35/√3)kV/100/√3V,(20%Un)	U=0.12%		
				-19.99%～19.99%,(6、10、35)kV/100V,(6/√3、10/√3、35/√3)kV/100/√3V,(50%Un)	U=0.10%		
				-19.99%～19.99%,(6、10、35)kV/100V,(6/√3、10/√3、35/√3)kV/100/√3V,(80%Un～100%Un)	U=0.06%		
		Phase		(0.1～500)'20%Un	U=4.6'		
				(0.1～500)'50%Un	U=3.5'		
				(0.1～500)' (80%Un～100%Un)	U=2.4'		
45	Volt-second generator	Output voltage	Calibration Specification for Volt-second Generators JJF	2mV～2V	U_{rel}=0.04%		

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		Time interval	2178	10ms～10s	$U_{rel}=3\times10^{-6}$		
		magnetic flux		0.1mWb～10Wb	U_{rel}=0.04%		
46	*ResistivityMeasuring Instruments with Four-Probe Array Method	Resistivity	Verification Regulation of Resistivity Measuring Instruments with Four-Probe Array Method JJG 508	(0.005～1000) Ω•cm	U_{rel}=0.5%		
		Block resistance		0.01Ω/□～10000Ω/□	U_{rel}=0.5%		
47	*DC welding machine welding power supply	Welding current	Calibration Specification for Welding Power Sources of DC Electric Welding Machines JJF1985	(1～1000)A	U_{rel}=0.6%		
		No-load voltage		(20～141)V	U_{rel}=0.1%		
		Load voltage		(10～44)V	U_{rel}=0.5%		
48	*Standard Digital Power Meters	DC voltage	Calibration Specification for Standard Digital Power Meters JJF 2226	(0.1～1000)V	U_{rel}=0.042%		
		AC voltage		(0.1～600)V(45～65)Hz	U_{rel}=0.08%		
		DC current		(0.01～10)A	U_{rel}=0.06%		
				10A～50A	U_{rel}=0.11%		
				50A～100A	U_{rel}=0.30%		
		AC current		(0.1～20)A(45～65)Hz	U_{rel}=0.16%		
		DC power		100mW～5kW	U_{rel}=0.08%		
		AC power		1W～10kW(45～65)Hz	U_{rel}=0.16%		
		Power factor		(0～1)(45～65)Hz	U=0.002		
		Frequency		(45～65)Hz	U_{rel}=0.04%		

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49	*Permanent magnet magnetic field source	Magnetic induction	Calibration Specification for Permanent Magnet Magnetic Field Sources JJF 2235	10mT～2T	U_{rel}=0.2%		
		Magnetic field uniformity		0.1%～5%	U_{rel}=0.3%		
50	*AC and DC meter calibrator	DC voltage	Calibration Specification of Calibratorsfor Electrical Meters JJF 1284	10mV～1000V	U_{rel}=0.003%		
		AC voltage		10mV～10V(50Hz～1000Hz)	U_{rel}=0.013%		
				(10～100)V(50Hz～1000Hz)	U_{rel}=0.027%		
				100V～1000V(50Hz～1000Hz)	U_{rel}=0.05%		
		DC current		10μA～10mA	U_{rel}=0.03%		
				10mA～100mA	U_{rel}=0.005%		
				100mA～1A	U_{rel}=0.014%		
				1A～20A	U_{rel}=0.03%		
		AC current		100μA～100mA(50Hz～1000Hz)	U_{rel}=0.10%		
				100mA～1A(50Hz～1000Hz)	U_{rel}=0.14%		
				1A～20A(50Hz～60Hz)	U_{rel}=0.10%		
		Resistance		1Ω～100MΩ	U_{rel}=0.003%～0.06%		
		Frequency		(10～1000)Hz	U_{rel}=1×10^{-5}		
		Ripple content		(0.01～10)%	U_{rel}=0.4%		

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№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
51	*Ratio Tester	Poor ratio	Calibration Specification for Ratio Tester JJF(Qian)67	1～1000	U=0.07		
52	*DC resistance tester	DC current	Verification Regulation of DC Resistance Meters JJG 1205	(0.1～200)A	U_{rel}=0.3%		
		Resistance		0.01mΩ～200Ω	U_{rel}=0.3%		
53	*DC high ammeter	DC current	Verification Regulation for DC High Current Meters JJG(JG) 195	(100～2000)A	U_{rel}=0.03%		
54	*Clamp phase voltammetry table	AC voltage	Calibration Specification for Clamp Phase Volt-Ampere Meters JJF 2227	(1～600)V(45～65)Hz	U_{rel}=0.3%		
		AC current		20mA～600A(45～65)Hz	U_{rel}=0.2%		
		phase		(0～360)°	U=0.06°		
		Frequency		(45～65)Hz	U_{rel}=0.04%		
55	*Standard AC Power Source	AC voltage	Verification Regulation for Standard AC Power Source JJG(JG)6	1mV～750V,45Hz～65Hz	U_{rel}=0.027%		
		AC current		10mA～1A,45Hz～65Hz	U_{rel}=0.32%		
				1A～80A,45Hz～65Hz	U_{rel}=0.14%		
		AC power		30V～480V,100mA～80A,45Hz～65Hz	U_{rel}=0.07%		
		phase		0° ～360°	U=0.06°		
56	*AC peak voltmeter	AC peak voltmeters	Verification Regulation of AC Peak Voltmeters JJG 1168	(1～33)V,(10～45)Hz	U_{rel}=0.18%		
				(1～311)V(45～500)Hz	U_{rel}=0.06%		
				(311～1414)V(45～500)Hz	U_{rel}=0.07%		
57	High Voltage and Value D.C.	Resistance	Verification Regulation ofHigh Voltage and Value	0.1 kΩ～10MΩ	U_{rel}=0.09%		

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	Resistors		D.C. Resistors JJG 1072	10MΩ～1GΩ	U_{rel}=0.3%		
				(1～10)GΩ	U_{rel}=0.8%		
				(10～300)GΩ	U_{rel}=1.5%		
				(300～1000)GΩ	U_{rel}=2.5%		
58	*Transformer Ratio Bridge	Transformer ratio	Verification Regulation of Transformers Turn Ratio Test Sets JJG 970	(1～10000)	U_{rel}=0.02%		
59	*Transformer Capacity Tester	AC voltage	Calibration Specification for Transformer Capacity Tester JJF(Shan)087	(40～660)V(45～65)Hz	U_{rel}=0.10%		
		AC current		(0.1A～100A)(45～65)Hz	U_{rel}=0.09%		
		AC power		(1W～10kW)(45～65)Hz	U_{rel}=0.09%		
		phase		(0～360)°	U=0.1°		
		Frequency		(45～65)Hz	U_{rel}=0.04%		
60	*Measuring Transducers for Coverting DC Electrical Quantities	DC voltage	Verification Regulation of MeasuringTransducers for Coverting DC Electrical Quantities JJG(JG)191	±(10mV～1000V)	U_{rel}=0.03%		
		DC current		±(1mA～100A)	U_{rel}=0.12%		
				±(100A～2000A)	U_{rel}=0.08%		
61	*DC High Current Sources	DC current	Verification Regulation of DC High Current Sources JJG(JG)196	100A～2000A	U_{rel}=0.03%		
62	*Varistor Tester	DC current	Verification Regulation of Varistor Tester JJG(Yue）023	(0.1～100)mA	U_{rel}=0.1%		
		DC voltage		(5～1999)V	U_{rel}=0.2%		
		DC current		(0.01～10)mA	U_{rel}=0.1%		

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		Voltage division ratio		0.01～1.2	U=0.002		
Radio measuring instrument							
1	*Bluetooth Test Set	Reference crystal oscillator frequency	Calibration Specification for Bluetooth Test Set JJF 1278	10MHz	$U_{rel}=1\times10^{-7}$		
		Output frequency		2.4GHz～2.5GHz	$U_{rel}=1\times10^{-7}$		
		Output level		(-90～0)dBm(2.4GHz～2.5GHz)	U=0.24dB～0.36dB		
		Spectral purity		(-100～0)dBc(2.4GHz～2.5GHz)	U=1.0dB		
		SSB Phase Noise(Generator)		-140dBc/Hz～-10dBc/Hz(f_0:2.4GHz～2.5GHz, Δf:10Hz～2MHz)	U=0.9dB		
		Power measurement		(-60～10)dBm(2.4GHz～2.5GHz)	U=0.46dB		
		Frequency measurement		2.4GHz～2.5GHz	$U_{rel}=1\times10^{-7}$		
		FSK Error(Generator)		0.1%～10%(2.4GHz～2.5GHz)	U=1.2%		
		Deviation Error(Modulation Index)(Generator)		100kHz～250kHz (2.4GHz～2.5GHz）	U_{rel}=1.2%		

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		DEVM(Generator)		0.1%～10%(2.4GHz～2.5GHz)	U_{rel}=1.2%		
		FSK Error Measurement(Analyzer)		0.1%～10%(2.4GHz～2.5GHz)	U=1.2%		
		Deviation Error(Modulation Index) Measurement(Analyzer)		100kHz～250kHz (2.4GHz～2.5GHz)	U_{rel}=1.2%		
		DEVM Measurement (Analyzer)		0.1%～10%(2.4GHz～2.5GHz)	U=1.2%		
		RF Port VSWR		1.001～4（2.4GHz～2.5GHz）	U=0.020		
2	*TDMA-GSM Radio Communication Testers	Crystal oscillator frequency	Calibration Specification for TDMA-GSM Radio Communication Testers JJF 1131	10MHz	$U_{rel}=6\times10^{-9}$		
		Output frequency		810MHz～2GHz	$U_{rel}=6\times10^{-9}$		
		Output level		(-50～0)dBm(810MHz～2GHz)	U=0.35dB		
				(-120～-50)dBm(810MHz～1.3GHz)	U=0.50dB		
		Spectral purity		(-100～30)dBc(10kHz～6GHz)	U=1.0dB		
		Signal generator rms phase error		0.1°～10°（810MHz～2GHz)	U=0.3°		

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№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		Signal generator peak phase error value		-15°～15°（810MHz～2GHz)	U=1°		
		Signal generator frequency error		(-10～10)kHz(810MHz～2GHz)	U=1.2Hz		
		Power measurement		(-50～20)dBm(810MHz～2GHz)	U=0.35dB		
		Root mean square phase error measurement		0.1°～10°（810MHz～2GHz)	U=0.3°		
		Peak phase error measurement		-15°～15°（810MHz～2GHz)	U=1°		
		Frequency error measurement		(-10～10)kHz(810MHz～2GHz)	U=1.2Hz		
		SSB Phase Noise(Generator)		-140dBc/Hz～-10dBc/Hz(f_0:810MHz～2GHz, Δf:10Hz～1MHz)	U=0.9dB		
		RF Port VSWR		1.001～4(810GHz～2GHz)	U=0.020		
		Output Frequency (AF Generator)		10Hz～50kHz	U_{rel}=1.0×10^{-6}		

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		Output Level (AF Generator)		10mV～10V (10Hz～50kHz)	U_{rel}=0.5%		
		Signal Distortion (AF Generator)		0.001%～10%(10Hz～50kHz)	U_{rel}=14%		
		AC Level Measurement (AF Analyzer)		(0.22～30)V (10Hz～50kHz)	U_{rel}=0.5%		
		Frequency Measurement (AF Analyzer)		10Hz～50kHz	U_{rel}=1.0×10^{-5}		
		Distortion Measurement (AF Analyzer)		(0.005～10)% (20Hz～50kHz)	U_{rel}=1.8%		
3	*CDMA Digital Radio Communication Testers	Crystal oscillator frequency	Calibration Specification of CDMA Digital Radio Communication Testers JJF 1177	10MHz	U_{rel}=6×10^{-9}		
		Output carrier frequency		100MHz～2GHz	U_{rel}=6×10^{-9}		
		Output level		(-50～0)dBm(100MHz～2GHz)	U=0.30dB		
				(-120～-50)dBm(100MHz～2GHz)	U=0.35dB		

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		Signal generator waveform quality factor		0.8～1.0(100MHz～2GHz)	U=0.0012		
		Signal generator error vector magnitude		0.5%～20%(100MHz～2GHz)	U=0.6%		
		Spectral purity		(-100～0)dBc(10kHz～6GHz)	U=1.0dB		
		Level measurement		(-50～10)dBm(100MHz～2GHz)	U=0.36dB		
		Analyzer waveform quality factor measurement		0.8～1.0(100MHz～2GHz)	U=0.0012		
		Analyzer error vector magnitude measurement		0.1%～20%(100MHz～2GHz)	U=0.6%		
		SSB Phase Noise(Generator)		-140dBc/Hz～-10dBc/Hz(f_0:100MHz～2GHz, Δf:10Hz～2MHz)	U=0.9dB		
		Occupied bandwidth		(1～200)kHz(100MHz～2GHz)	U_{rel}=0.5%		
		RF Port VSWR (Analyzer)		1.001～4(100MHz～2GHz)	U=0.020		

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		Output Frequency (AF Generator)		10Hz～50kHz	U_{rel}=1.0×10^{-6}		
		Output Level (AF Generator)		10mV～10V (10Hz～H50kz)	U_{rel}=0.5%		
		Signal Distortion (AF Generator)		0.001%～10%(10Hz～50kHz)	U_{rel}=14%		
		Frequency Measurement (AF Analyzer)		10Hz～50kHz	U_{rel}=1.0×10^{-5}		
		Distortion Measurement (AF Analyzer)		0.005%～10% (20Hz～50kHz)	U_{rel}=1.8%		
		AC Level Measurement (AF Analyzer)		0.22V～30V(10Hz～50kHz)	U_{rel}=0.5%		
4	*WCDMA Digital Radio Communication Testers	Crystal oscillator frequency	Calibration Specification for WCDMA Digital Radio Communication Testers JJF 1276	10MHz	U_{rel}=6×10^{-9}		
		Frequency		30MHz～2.7GHz	U_{rel}=6×10^{-9}		
		Output level		(-50～0)dBm(30MHz～2.7GHz)	U=0.28dB		

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				(-120～--50)dBm(30MHz～2.7GHz)	U=0.35dB		
		WCDMA signal error vector magnitude		(0.1～10)%(30MHz～2.7GHz)	U=0.6%		
		WCDMA signal waveform quality factor		0.7～1.0(30MHz～2.7GHz)	U=0.0012		
		WCDMA signal frequency error		(-10～10)kHz(30MHz～2.7GHz)	U=6Hz		
		Spectral purity		(-100～30)dBc(30MHz～6GHz)	U=1.0dB		
		Level measurement		(-50～10)dBm(30MHz～2.7GHz)	U=0.36dB		
		Analyzer waveform quality factor measurement		0.5～1.0(30MHz～2.7GHz)	U=0.0012		
		Analyzer error vector magnitude measurement		0.1%～10%(30MHz～2.7GHz)	U=0.9%		
		Analyzer frequency error measurement		-3kHz～3kHz(30MHz～2.7GHz)	U=6Hz		

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		Occupied bandwidth(Generator)		(3～5)MHz(30MHz～2.7GHz,70dB)	U_{rel}=0.5%		
		Adjacent channel power ratio(Generator)		(10～60)dB(30MHz～2.7GHz)	U=1.2dB		
		SSB Phase Noise(Generator)		-140dBc/Hz～-10dBc/Hz(f_0:30MHz～2.7GHz, Δf:10Hz～2MHz)	U=0.9dB		
		RF Port VSWR (Analyzer)		1.001～4(30MHz～2.7GHz)	U=0.020		
		Output Frequency (AF Generator)		10Hz～50kHz	$U_{rel}=1.0\times10^{-6}$		
		Output Level (AF Generator)		10mV～10V(10Hz～50kHz)	U_{rel}=0.5%		
		Frequency Measurement (AF Analyzer)		10Hz～50kHz	$U_{rel}=1.0\times10^{-5}$		
		AC Level Measurement (AF Analyzer)		(0.22～30)V(10Hz～50kHz)	U_{rel}=0.5%		

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5	*LTE Digital Radio Communication Testers	Crystal oscillator frequency	Calibration Specification for LTE Digital Radio Communication Testers JJF 1443	10MHz	U_{rel}=6×10^{-9}		
		output frequency		600MHz～3.8GHz	U_{rel}=6×10^{-9}		
		Output level		(-50～0)dBm(600MHz～3.8GHz)	U=0.28dB		
				(-120～-50)dBm(600MHz～3.8GHz)	U=0.35dB		
		Output LTE Signal EVM		(0.5～15)%(600MHz～3.8GHz)	U=0.6%		
		Output LTE signal origin offset		(-80～-20)dB(600MHz～3.8GHz)	U=1.0dB		
		Occupied bandwidth(Generator)		1.2MHz～20MHz(600MHz～3.8GHz)	U_{rel}=%		
		ACPR(Generator)		(-90～-0)dBc(600MHz～3.8GHz)	U=0.32dB		
		Spectral purity		(-100～0)dBc(600MHz～3.8GHz)	U=1.0dB		
		Level measurement		(-50～10)dBm(600MHz～3.8GHz)	U=0.36dB		
		Frequency error measurement		(-10～+10)kHz(600MHz～3.8GHz)	U=6Hz		

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		EVM measurement		0.01%～17.5%(600MHz～3.8GHz)	U=0.5%		
		RF Port VSWR		1.001～4(600MHz～3.8GHz)	U=0.020		
6	*RF Shielding Box	Shielding effectiveness	Calibration Specifications for RF Shielding Box JJF(TX)048	(0～90)dB(300MHz～18GHz)	U=2dB		
		VSWR		1.001～8(300MHz～6GHz)	U=0.020		
7	*Passive Intermodulation Analyzers	Output frequency	Calibration Specification for Passive Intermodulation Analyzers JJF 1463	50MHz～6GHz	$U_{rel}=1\times10^{-7}$		
		Output Power		(20～48)dBm (50MHz～6GHz)	U=0.22dB		
		Passive Intermodulation Measurement		(-60～-120)dBm (50MHz～6GHz)	U=0.5dB		
8	*Waveform Recorders	DC voltage	Calibration Specification for Waveform Recorders JJF 1876	± (10mV～1000V)	U_{rel}=0.08%～0.2%		
		AC voltage		10mV～1000V,50Hz	U_{rel}=0.17%～0.6%		
		frequency bandwidth		10kHz～2MHz	U_{rel}=2%		
		input resistance		40 Ω ～10M Ω	U_{rel}=0.3%		
		DC gain		0.8～1.2(-1000V～-10mV,10mV～1000V)	U_{rel}=0.2%		
9	*Vector Signal Generators	output frequency	Calibration Specification for Vector Signal Generators JJF 1174	250kHz～26.5GHz	$U_{rel}=7\times10^{-9}$		

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		Output level		(-120～-60)dBm(150kHz～1.3GHz)	U=0.38dB		
				(-60～20)dBm(150kHz～18GHz)	U=0.30dB		
		Spectral purity		(-120～0)dBc(250kHz～26.5GHz)	U=1.0dB		
		AM depth		5%～99%(f_c:0.25MHz～1.3GHz, f_m:20Hz～50kHz)	U_{rel}=1.2%～1.8%		
		FM deviation		(1～400)kHz(f_c:0.25MHz～1.3GHz, f_m:20Hz～200kHz)	U_{rel}=1.2%		
		phase deviation		(1～400)rad(f_c:0.25MHz～1.3GHz, f_m:200Hz～100kHz)	U_{rel}=1.2%		
		Waveform quality factor (Rho)		0.8～1.0(250kHz～26.5GHz)	U=0.0012		
		Rms error vector magnitude		0.3%～10%(250kHz～26.5GHz)	U=0.7%		
		Root mean square amplitude error		0.5%～10%(250kHz～26.5GHz)	U=0.7%		
		rms phase error		0.2°～15°(250kHz～26.5GHz)	U=0.6°		

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		FSK error		0.01%～5%(250kHz～26.5GHz)	U=0.6%		
		Internal Modulation Distortion		0.001%～30% (5Hz～110kHz)	U_{rel}=14%		
		Pulse Modulation On/Off Ratio		0dB～100dB (150kHz～1.3GHz)	U=1.0dB		
		Internal Modulation Level		10mV～10V (10Hz～200kHz)	U_{rel}=0.7%		
		Internal Modulation Frequency		10Hz～200kHz	U_{rel}=1×10^{-7}		
10	*Signal Generators	Crystal Oscillator Frequency	Calibration Specification for Signal Generators JJF 1931	10MHz	U_{rel}=6×10^{-9}		
		frequency		5kHz～26.5GHz	U_{rel}=1×10^{-6}～6×10^{-9}		
		Level		(-120～-60)dBm(150kHz～1.3GHz)	U=0.38dB		
				(-60～20)dBm(150kHz～18GHz)	U=0.30dB		
		AM depth		1%～5%(f_c:0.15MHz～1.3GHz, f_m:20Hz～100kHz)	U_{rel}=1.2%		
				5%～99%(f_c:0.15MHz～1.3GHz, f_m:20Hz～100kHz)	U_{rel}=1.2%		

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		FM deviation		0.1kHz～400kHz(f_c:0.15MHz～1.3GHz, f_m:20Hz～100kHz)	U_{rel}=1.2%		
		harmonic		(-100～-25)dBc（9kHz～26.5GHz）	U=(1.1～1.6)dB		
		phase modulation deviation		0.1rad～400rad(f_c:0.15MHz～1.3GHz, f_m:20Hz～100kHz)	U_{rel}=1.2%		
		Internal Modulation Distortion		0.001%～30%(5Hz～110kHz)	U_{rel}=14%		
		Pulse Modulation On/Off Ratio		0dB～100dB (150kHz～1.3GHz)	U=1.0dB		
		Internal Modulation Level		100mV～10V (10Hz～200kHz)	U_{rel}=0.7%		
		Internal Modulation Frequency		10Hz～200kHz	U_{rel}=1×10^{-7}		
11	*Vector Network Analyzers	frequency	Calibration Specification for Vector Network Analyzers JJF 1495	9kHz～20GHz	U_{rel}=6×10^{-9}		
		Internal signal source power		(-120～0)dBm(150kHz～1.3GHz)	U=0.50dB		
				(-50～20)dBm(150kHz～18GHz)	U=0.30dB		

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		S11/S22(Magnitude Of Reflection Coefficient)		0～1(45MHz～18GHz)	U=0.015		
		Crosstalk		(-150～-70)dB(9kHz～18GHz)	U=1.1dB		
		Trace Noise		(0～0.1)dB(9kHz～18GHz)	U=0.002dB		
				(0～1)°（9kHz～18GHz)	U=0.01°		
		Background Noise		(-140～-60)dBm	U=2.3dB		
		S12/S21 (Mag)		(0～70)dB(9kHz～18GHz)	U=0.20dB		
		S12/S21 (Pha)		0°～180°（45MHz～18GHz)	U=2°		
		Modular dynamic accuracy		(0～40)dB(9kHz～18GHz)	U=0.018dB		
				50dB(9kHz～18GHz)	U=0.012dB		
				60dB(9kHz～18GHz)	U=0.014dB		
				70dB(9kHz～18GHz)	U=0.022dB		
				80dB(9kHz～18GHz)	U=0.026dB		
				90dB(9kHz～18GHz)	U=0.21dB		
				100dB(9kHz～18GHz)	U=0.28dB		
12	*Modulation Meters	Modulation amplitude	Calibration Specification for Modulation Meters JJF 1111	1%～10%(f_c:0.15MHz～1.3GHz, f_m:20Hz～100kHz)	U_{rel}=1.2%		

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				(10～99)%,(carrier frequency:150kHz～1.3GHz，modulation frequency:20Hz～100kHz)	U_{rel}=1.6%		
		FM deviation		(0.1～200)kHz(f_c:0.15MHz～1.3GHz, f_m:20Hz～100kHz)	U_{rel}=1.2%		
				(200～400)kHz(f_c:0.15MHz～1.3GHz, f_m:20Hz～100kHz)	U_{rel}=1.6%		
13	*Spectrum Analyzer	Reference frequency	Calibration Specification for Spectrum Analyzer JJF 1396	10MHz	U_{rel}=7×10^{-7}		
		frequency		1kHz～26.5GHz	U_{rel}=4×10^{-7}		
		Calibration signal level		(-30～0)dBm(50MHz～200MHz)	U=0.20dB		
		Sweep frequency width		1kHz～26.5GHz	U_{rel}=0.2%		
		Reference level		(-90～10)dBm(10MHz～18GHz)	U=(0.4～0.6)dB		
		Resolution bandwidth		1Hz～10MHz	U_{rel}=5%		
		Noise sideband		-140dBc/Hz～-30dBc/Hz(f_0:10MHz～26.5MHz, Δf:100Hz～1MHz)	U=1.4dB		

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		Vertical display scale		(0～70)dB	U=0.22dB		
		Absolute amplitude		(-50～0)dBm	U=0.22dB		
		Input frequency response		(-5～5)dB(250kHz～18GHz)	U=0.20dB		
		Input attenuator conversion effect		(-5～5)dB(10MHz～18GHz)	U=0.34dB		
		RBW Switching Uncertainty		-3dB～3dB(RBW:1Hz～30MHz,f_c:9kHz～18GHz）	U=0.20dB		
		Residual FM		(0.1～50)Hz(9kHz～26.5GHz)	U=2Hz		
		Residual Response		(-150～-80)dBm(100kHz～18GHz)	U=3.4dB		
		Image Response		(-130～-70)dBc(10MHz～18GHz)	U=3.7dB		
		Sweep Time		1ms～2000s(9kHz～26.5GHz)	$U_{rel}=1.4\times10^{-6}$		
		Display Average Noise Level		-160dBm～-90dBm(9kHz～18GHz)	U=1.1dB		
		Harmonic distortion		(-80～-20)dBc(9kHz～26.5GHz)	U=(0.6～2.8)dB		

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		Third order intermodulation distortion		(-100～-50)dBc(10MHz～18GHz)	U=2.8dB		
		Gain Compression		(0～1)dB(9kHz～18GHz)	U=0.5dB		
		VSWR		1.001～5.0(1MHz～6GHz)	U=0.020		
14	*Audio Analyzer	AC voltage measurement	Calibration Specification for Audio Analyzer JJF 1395	10mV～30V(10Hz～50kHz)	U_{rel}=0.2%～0.46%		
		Frequency measurement		10Hz～200kHz	$U_{rel}=1\times10^{-5}$～1×10^{-6}		
		Distortion measurement		0.01%～0.05%(10Hz～10kHz)	U_{rel}=8.2%		
				0.05%～0.1%(10Hz～50kHz)	U_{rel}=3.5%		
				0.1%～0.3%(10Hz～200kHz)	U_{rel}=2.4%		
				0.3%～30%(10Hz～200kHz)	U_{rel}=1.3%		
		Output Frequency		10Hz～200kHz	$U_{rel}=3\times10^{-6}$		
		output level		10mV～20V(10Hz～200kHz)	U_{rel}=0.20%～0.32%		
		Output sine wave distortion		0.01%～1% (10Hz～200kHz)	U_{rel}=14%		
15	*WLAN Test Set	Reference crystal oscillator frequency	Calibration Specification for WLAN Test Set JJF 1277	10MHz	$U_{rel}=6\times10^{-9}$		

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		Output frequency		2.4GHz～6GHz	$U_{rel}=6\times10^{-9}$		
		Output level		-60dBm～0dBm(2.4GHz～6GHz)	U=0.24dB～0.36dB		
		Spectral purity		(-100～0)dBc(1.2GHz～18GHz)	U=1.2dB		
		Digital modulation signal quality parameters		EVM(rms):0.5%～10%(2.4GHz～6GHz)	U=1.2%		
				Frequency Error:(-100～+100)kHz(2.4GHz～6GHz)	U=10Hz		
				symbol clock error:(-100～+100)×10^{-6}(2.4GHz～6GHz）	$U=1.2\times10^{-6}$		
		Power measurement		(-50～10)dBm(2.4GHz～6GHz)	U=0.24dB～0.47dB		
		Digital demodulation analysis quality parameters		EVM:(0.5%～10%)(2.4GHz～6GHz)	U_{rel}=1.2%		
				Frequency error:(-100～+100)kHz(2.4GHz～6GHz)	U=10Hz		
		RF port VSWR		1.001～4(2.4GHz～6GHz)	U=0.020		
16	Standard capacitor	Capacitance	Verification Regulation of Standard Capacitor JJG 183	10 pF～1nF(1kHz～1MHz)	U_{rel}=0.28%		
				1nF～100nF(1kHz～1MHz)	U_{rel}=0.12%		
				100nF～1mF(100Hz～1kHz)	U_{rel}=0.07%		

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17	Standard inductor	Inductance	Verification Regulation of Standard inductors JJG 726	10 μH～10 mH(1kHz)	U_{rel}=0.08%		
				10mH～1H(1kHz)	U_{rel}=0.12%		
18	*wide range digital RLC meter	Inductance	V.R of wide range digital RLC meter GJB 8817	0.1mH～1H(1kHz)	U_{rel}=1.2%～0.2%		
				1H～10H(100Hz)	U_{rel}=0.6%		
		Capacitance		1pF～1000pF(100Hz～1MHz)	U_{rel}=0.2%		
				1nF～100nF(100Hz～1MHz)	U_{rel}=0.2%		
				100nF～1000 μF(1kHz、100Hz)	U_{rel}=0.3%		
		Resistance		0.1 Ω～1 Ω(100Hz～10kHz)	U_{rel}=3%		
				1 Ω～10 Ω(100Hz～10kHz)	U_{rel}=1.2%		
				10 Ω～100 Ω(100Hz～10kHz)	U_{rel}=0.3%		
				100 Ω～1k Ω(100Hz～10kHz)	U_{rel}=0.2%		
				1k Ω～100k Ω(100Hz～10kHz)	U_{rel}=0.2%		
		frequency		10Hz～10MHz	U_{rel}=0.04%		
		Dissipation Factor		0～0.1(100Hz～10kHz)	U=0.0007		
				0.1～1(100Hz～10kHz)	U=0.002		
		Output level		10mV～10V,100Hz～1MHz	U_{rel}=0.2%		

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19	*Low frequency electronic voltmeter	AC voltage	C. S. for Low-frequency Volt-meters JJF 1925	(10～300)mV(20Hz～1MHz)	U_{rel}=0.5%～2%		
				300mV～100V(20Hz～20kHz)	U_{rel}=0.4%～2%		
				300mV～30V(20kHz～50kHz)	U_{rel}=0.6%～3%		
				100V～300V(60Hz～10kHz)	U_{rel}=2%		
				10mV～3V(20Hz～30MHz)	U_{rel}=0.5%～3%		
20	*Low frequency signal generator	Frequency	Verification Regulation of low frequency signal generator JJG 602	10Hz～1MHz	U_{rel}=4×10^{-7}		
		Voltage		10mV～300V(10Hz～1kHz)	U_{rel}=0.2%		
				10mV～300V(1kHz～100kHz)	U_{rel}=0.4%		
				10mV～300V(100kHz～300kHz)	U_{rel}=0.6%		
		attenuation		(0～70)dB(20Hz～100kHz)	U=0.2dB		
		Distortion		(0.03～2)%(20Hz～100kHz)	U_{rel}=14%		
21	*Function signal generator	Frequency	Verification Regulations of Function Generators JJG 840	10Hz～200MHz	U_{rel}=3.7×10^{-6}～1×10^{-5}		
		Amplitude		10mV～10V(20Hz～300kHz)	U_{rel}=0.5%		
		DC voltage		±(0.1～20)V	U_{rel}=0.05%		
		Distortion		(0.03～2)%(1kHz)	U_{rel}=14%		
		Rise Time		10ns～10 μs	U_{rel}=5%		

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		Overshoot		(0～20)%	U=0.5%		
		Duty Cycle		1%～99%	U_{rel}=0.1%		
22	*Ultrasonic Flaw Detectors	attenuation	Verification Regulations of Ultrasonic Flaw Detectors JJG 746	(0.5～60)dB(500kHz～15MHz)	U=0.1dB		
		Amplitude Linearity		0.1%～10%	U_{rel}=1.2%		
		Timing Linearity		0.1～5.0%	U_{rel}=0.8%		
23	*Transistor Characteristic Grapher	voltage	C. S. for Semiconductor Device Curve Tracers JJF 1236	10 mV～1000 V	U_{rel}=0.4%		
		Current		100 μA～10A	U_{rel}=0.5%		
		Resistance		100 Ω～1M Ω	U_{rel}=0.015%		
24	*Oscilloscope	Vertical deflection coefficient	Calibration Specification for Digital Storage Oscilloscope JJF 1057	1mV/div～20V/div	U_{rel}=0.5%		
		Horizontal scan time		2ns/div～5s/div	U_{rel}=0.2%		
		Bandwidth		250kHz～18GHz	U_{rel}=5%		
		Input resistance		50 Ω～1M Ω	U_{rel}=0.3%		
		Rise Time		1ns～100ns	U_{rel}=6.8%		
		Calibration signal frequency		100Hz～1MHz	U_{rel}=3×10^{-5}		
		Calibration signal amplitude		50mV～10V(100Hz～200kHz)	U_{rel}=0.35%		
				50mV～10V(200kHz～1MHz)	U_{rel}=0.36%		

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25	*Analog oscilloscope	Vertical deflection coefficient	Verification Regulation of Analog Oscilloscope JJG 262	1mV/div～20V/div	U_{rel}=0.5%		
		Horizontal scan time		2ns/div～5s/div	U_{rel}=0.2%		
		Bandwidth		250kHz～1GHz	U_{rel}=5%		
		Input resistance		50Ω～1MΩ	U_{rel}=0.3%		
		Rise Time		1ns～100ns	U_{rel}=6.8%		
		Calibration signal frequency		100Hz～1MHz	U_{rel}=3×10^{-5}		
		Calibration signal amplitude		50mV～10V(100Hz～200kHz)	U_{rel}=0.35%		
				50mV～10V(200kHz～1MHz)	U_{rel}=0.36%		
26	*Arbitrary Waveform Signal Generator	Amplitude	C.S. for Arbitrary Wave Generator Calibration Specification JJF 1152	10mV～10V(20Hz～300kHz)	U_{rel}=0.5%		
		frequency		10Hz～200MHz	U_{rel}=3.7×10^{-6}～1×10^{-5}		
		AM		5%～98%(f_c:0.15MHz～1MHz, f_m:1kHz)	U_{rel}=1.8%		
		FM		(1～400)kHz(f_c:0.15MHz～1MHz, f_m:1kHz)	U_{rel}=2.3%		
		distortion		0.03%～2%(1kHz)	U_{rel}=14%		
		Rise Time		1ns～10μs	U_{rel}=5.0%		
27	*RF Impedance/Materia	Frequency	Calibration Specification for RF Impedance/Material	1MHz～3GHz	U_{rel}=1×10^{-7}		

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	l Analyzers	Level	Analyzers JJF 1127	(-60～20)dBm(1MHz～3GHz)	U=0.2dB		
		Impedance		1Ω～50kΩ(1MHz～3GHz)	U_{rel}=0.5%～3%		
		DC Bias Voltage		±(10mV～40V)	U_{rel}=0.04%		
28	*TD-SCDMA Digital Radio Communication Testers	Crystal Oscillator Frequency	Calibration Specification for TD-SCDMA Digital Radio Communication Testers JJF 1204	10MHz	U_{rel}=6×10^{-9}		
		Output Frequency		30MHz～2.7GHz	U_{rel}=6×10^{-9}		
		Output Level		(-60～-10)dBm(30MHz～2.7GHz)	U=0.30dB		
				(-120～-60)dBm(30MHz～1.3GHz)	U=0.38dB		
		Spectrum Purity		(-100～0)dBc(10kHz～6GHz)	U=1.0dB		
		Single Sideband Phase noise		(-70～-120)dBc/Hz(30MHz～2.7GHz)	U=1.0dB		
		Error vector amplitude(Generator)		0.1%～20%(30MHz～2.7GHz)	U=0.6%		
		Waveform quality factor(Generator)		0.8～1.0(30MHz～2.7GHz)	U=0.0012		

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		Frequency error(Generator)		(-7～7)kHz(30MHz～2.7GHz)	U=6Hz		
		Occupied bandwidth(Generator)		(1～2)MHz(30MHz～2.7GHz)	U_{rel}=1.5%		
		Adjacent channel power ratio(Generator)		(20～60)dB(30MHz～2.7GHz)	U=1.2dB		
		Code power ratio(Generator)		(20～60)dB(30MHz～2.7GHz)	U=1.2dB		
		phase error (Generator)		0.01°～15°(30MHz～2GHz)	U=1°		
		Level measurement(Signal analyzer)		(-50～10)dBm(30MHz～2.7GHz)	U=0.36dB		
		Error vector amplitude (Signal analyzer)		0.1%～20%(30MHz～2.7GHz)	U=0.6%		
		Waveform quality factor (Signal analyzer)		0.8～1.0(30MHz～2.7GHz)	U=0.0012		
		Frequency error (Signal analyzer)		(-7～7)kHz(30MHz～2.7GHz)	U=6Hz		

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		phase error (Signal analyzer)		0.01° ～15° (30MHz～2GHz)	U=1°		
		Output frequency accuracy (audio signal generating unit)		10Hz～50kHz	$U_{rel}=1.0\times10^{-6}$		
		Output voltage (audio signal generating unit)		10mV～10V(10Hz～50kHz)	U_{rel}=0.5%		
		Frequency accuracy (audio analysis unit)		10Hz～50kHz	$U_{rel}=1.0\times10^{-5}$		
		Voltage (audio analysis unit))		10mV～10V(10Hz～50kHz)	U_{rel}=0.5%		
		Voltage standing wave ratio		1.001～4(30MHz～2.7GHz)	U=0.020		
29	*Television Video Signal Generator	Luminance level	Calibration Specification for Television Video Signal Generator JJF 1235	(10～700)mV	U_{rel}=2%		
		Chroma level		(10～700)mV	U_{rel}=2%		
		Phase		(0.1～360)°	U=1°		
		Pulse width		1 μs～1ms	U_{rel}=1%		

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		Drive signal frequency		10Hz～5MHz	U_{rel}=1×10^{-7}		
		Drive signal amplitude		(0.01～10)V(10Hz～5MHz)	U_{rel}=2.2%		
30	*Artificial Mains Networks	Impedance	Calibration Specification for Artificial Mains Networks JJF 1705	(4～60) Ω (9kHz～108MHz)	U_{rel}=7%		
		Partial pressure coefficient		(-15～0)dB(9kHz～108MHz)	U=0.34dB		
		Phase angle		(-90～90)° (9kHz～108MHz)	U=2.8°		
31	*A.C.Resistance Boxes	A. C. Resistance	Calibration Specification for A.C.Resistance Boxes JJF1636	1 Ω～1M Ω (50Hz～10kHz)	U_{rel}=0.2%		
32	*Logic Analyzers	Threshold level	Calibration Specification for Logic Analyzers JJF 2274	(-10～+10)V	U=0.003V		
		Minimum pulse width		7ns～50 μ s	U=0.04 ns		
		Data Creation/retention time		180ps～10ns	U=0.04 ns		
33	*Coupling/Decoupling Networks of Conducted Disturbances Induced by Radio-Frequency Fields Testing	Common mode impedance modulus at EUT end	Calibration Specification for Coupling/Decoupling Networks of Conducted Disturbances Induced by Radio-Frequency Fields Testing JJF 2079	(50～300) Ω (0.15～300) MHz	U=8.5 Ω		
		150 Ω /50 Ω adapter pair insertion loss		9.5dB	U=0.2dB		
		Coupling coefficient		(-20～0)dB(0.15～230)MHz	U=0.5dB		

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		Coupling attenuation		(20～60)dB(0.15～230)MHz	U=0.5dB		
34	*Rf And Microwave Power Meters	Reference Source Power	Calibration Specification for RF and Microwave Power Meters JJF 1885	1mW(50MHz)	U_{rel}=1.4%		
		Calibration Factor		30%～130%(10MHz～1GHz)	U_{rel}=2.6%		
				30%～130%(1GHz～6GHz)	U_{rel}=2.8%		
				30%～130%(6GHz～18GHz)	U_{rel}=3.4%		
		Linearity		(-70～20)dBm(10MHz～18GHz)	U=0.1dB		
		VSWR		1.00～2.00(50MHz～26GHz)	U=0.02		
35	*Attenuators From Radiofrequency To Micrewave Frequency	Attenuation	Calibration Specification for Attenuators from Radio Frequency to Micrewave Frequency JJF 2092	(0～110)dB(9kHz～100MHz)	U=0.05dB		
				(0～110)dB(100MHz～2GHz)	U=0.07dB		
				(0～110)dB(2GHz～8.5GHz)	U=0.08dB		
		VSWR		1.00～2.00(50MHz～6GHz)	U=0.02		
36	*Directional Coupler And SWR Bridges	Port Return Loss	Calibration Specification for DIdirectional Couplers and SWR Bridges JJF 1680	(15～60)dB(9kHz～8.5GHz)	U=0.2dB		
		Insertion Loss		(0.01～20)dB(9kHz～8.5GHz)	U=0.12dB		
		Reflection Coefficient Measurement		0.001～1(9kHz～8.5GHz)	U=0.01		

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		Coupling Coefficient		(5～50)dB(9kHz～8.5GHz)	U=0.2dB		
		Directional		(20～60)dB(9kHz～8.5GHz)	U=0.3dB		
37	*Rf Communication Test Set	Frequency	Calibration Specification for RF Communication Testers JJF 1065	10kHz～6GHz	$U_{rel}=1.2\times10^{-9}$		
		Crystal oscillator frequency		10MHz	$U_{rel}=6\times10^{-9}$		
		Level		(-90～20)dBm(10kHz～6GHz)	U=0.22dB		
				(-120～-90)dBm(10kHz～6GHz)	U=0.35dB		
		FM		(0.1～400)kHz(f_c:0.15MHz～1300MHz, f_m:20Hz～100kHz)	U_{rel}=2.4%		
		AM		1%～5%(f_c:0.15MHz～1300MHz, f_m:20Hz～100kHz)	U_{rel}=2.4%		
				5%～99%(f_c:0.15MHz～1300MHz, f_m:20Hz～100kHz)	U_{rel}=1.2%		
		PM		0.1rad～400rad(f_c:0.15MHz～1300MHz, f_m:20Hz～100kHz)	U_{rel}=2.4%		

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		Modulation And Demodulation Distortion		0.001%～30%(2Hz～110kHz)	U_{rel}=14%		
		Pulse Modulation On-Off Ratio		0dB～120dB (10kHz～6GHz)	U=1dB		
		SSB Phase Noise		-140dBc/Hz～-10dBc/Hz(f_0:0.01MHz～6GHz, Δf:10Hz～2MHz)	U=1dB		
		Signal Spectrum Purity		(-120～0)dBm(10kHz～6GHz)	U=1.2dB		
		Measurement Of Occupied Bandwidth		(1～200)kHz(0.01MHz～6GHz)	U_{rel}=0.5%		
		ACPR		(0～-90)dBc(0.01MHz～6GHz)	U=1.2dB		
		Span		100Hz～1GHz	U_{rel}=0.44%		
		Resolution Bandwidth		1Hz～10MHz	U_{rel}=5%		
		The Impact Of Resolution Bandwidth Conversion On Amplitude Measurement		-3dB～3dB(1Hz～1MHz)	U=0.2dB		
		Reference Level		(-80～10)dBm	U=(0.4～0.6)dB		
		Vertical Display Scale		(0～70)dB	U=0.22dB		

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№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		Input Frequency Response		-3dB～3dB(0.01MHz～6GHz)	U=0.30dB		
		AF Frequency		1Hz～50kHz	U_{rel}=1.6×10^{-6}		
		Af Voltage		0.1mV～10V(1Hz～50kHz)	U_{rel}=0.5%		
		AF Output Voltage Frequency Response		1mV～5V(1Hz～50kHz)	U_{rel}=0.2%		
		AF Voltage Distortion		(0.01～30)%(20Hz～20kHz)	U_{rel}=14%		
		AF DC Voltage Measurement		50mV～100V	U_{rel}=0.5%		
		AF Acceptance Measurement		(10～70)dB(10Hz～20kHz)	U=(0.2～0.35)dB		
		AF Filter Cut-Off Frequency		20Hz～300kHz	U_{rel}=1.0%		
38	*Two-Port Microwave Devices	VSWR	Calibration Specification for Two-Port Microwave Devices JJF (JG) 76	1.00～2.00(50MHz～6GHz)	U_{rel}=2.5%		
		Insertion Loss		0～80dB(9kHz～8.5GHz)	U=0.20dB		
		Lsolation		0～80dB(9kHz～8.5GHz)	U=0.20dB		
		Coupling degree, directionality		0～60dB(9kHz～8.5GHz)	U=0.20dB		

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39	*Digital Oscilloscope	DC Gain	Verification Regulations for Digital Oscilloscopes GJB 7691	5mV～100V(1MΩ)	U_{rel}=0.5%		
				10mV～5V(50Ω)	U_{rel}=0.5%		
		Scanning Time/Time Base		5ns～5s	$U_{rel}=2.8\times10^{-6}$		
		Band Bandwidth		50kHz～18GHz	U=(0.5～2)dB		
		Rise Time		300ps～1μs	U=0.12ns		
		Calibrate Signal Frequency		5Hz～300kHz	$U_{rel}=3\times10^{-5}$		
		Calibrate Signal Amplitude		10mv～10V	U_{rel}=0.35%		
		Input Resistance		50Ω～1MΩ	U_{rel}=0.3%		
40	*Digital Tv Test Signal Transmitter	Carrier Frequency	Calibration Specification for Digital Television Test Signal Transmitters JJF 1924	(45～3000)MHz	$U_{rel}=6\times10^{-9}$		
		Sine Wave Continuous Wave Level		(-120～-50) dBm	U=0.50dB		
				(-50～20) dBm	U=0.35dB		
		Unilateral Phase Noise		-150dBc/Hz～-50dBc/Hz(f_0:45MHz～3GHz, Δf:10Hz～2MHz)	U=1.1dB		
		Harmonic		(-100～-20)dBc(45MHz～10GHz)	U=0.9dB		
		Non-Harmonics		(-130～-20)dBc(45MHz～10GHz)	U=0.9dB		

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№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		Modulation Wave Frequency Deviation		45MHz～3GHz	U=12Hz		
		Modulation Of Power Within The Frequency Band		(-70～20) dBm	U=1.0dB		
		Modulation Error Ratio (MER)		(22～37) dB	U=1.0dB		
				(37～51) dB	U=3.4dB		
		Error Vector Magnitude (EVM)		0.01%～1.2%	U=0.24%		
				1.2%～2%	U=0.12%		
				2%～8%	U=0.24%		
		Signal To Noise Ratio (SNR)		(18～30)dB	U=0.29dB		
				(30～55)dB	U=0.46dB		
		Carrier Suppression		(25～45) dB	U=1.3dB		
				(45～60)dB	U=3.5dB		
		Amplitude Imbalance		0.001%～5%	U_{rel}=0.52%		
		Phase Error (Orthogonal Error)		0° ～5°	U=0.11°		
41	Sonic belt tensiometer	Frequency	Calibration specification for acoustic belt tension meter JJF 1216	10Hz～5kHz	U_{rel}=0.5%		

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42	*Broadband Coaxial Noise Generators	ENR	Calibration Specification for Broadband Coaxial Noise Generators JJF 1442	10MHz～26.5GHz(1～30)dB	U=0.47dB		
43	*Inductance Boxes	Inductance	Calibration Specification for Inductance Boxes JJF 2238	10 μ H～10H(1kHz)	U_{rel}=0.06%		
44	*Capacitor Boxes	Capacior	Calibration Specification for Capacitor Boxes JJF 2237	10 pF～1000pF (1kHz～1MHz)	U_{rel}=(0.1～0.18)%		
				1nF～1000nF (100Hz～1kHz)	U_{rel}=(0.1～0.18)%		
				1 μ F～1mF (100Hz～1kHz)	U_{rel}=(0.1～0.3)%		
Time and frequency measuring instrument							
1	*Electronic time relay	Time Delay Setting	Calibration Specification for Electronic time relay JJF 1282	Electronical time relay(0.01～9999)s	U=0.01s		
				Mechanical time relay(0.1～3600)s	U=0.6s		
2	Instantaneous Daily Clock Time Difference Testers	Instantaneous daily difference	Verification Regulation of Instantaneous Daily Clock Time Difference Testers JJG 488	（-99.99～99.99）s	U=0.01s		
		Instantaneous monthly difference		（-999.9～999.9）s	U=0.6s		
		Crystal Output Frequency		1MHz,2MHz,5MHz,10MHz	U_{rel}=2×10^{-10}		
3	Universal Counters	Frequency Deviation	Calibration Specification for Universal Counters JJF 2196	1MHz,5MHz,10MHz	U_{rel}=6×10^{-11}		
		Warm up		1MHz,5MHz,10MHz	U_{rel}=6×10^{-10}		

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		1-second frequency stability		1MHz,5MHz,10MHz	$U_{rel}=6\times10^{-10}$		
		Frequency accuracy		1MHz,5MHz,10MHz	$U_{rel}=6\times10^{-10}$		
		Daily aging rate		1MHz,5MHz,10MHz	$U_{rel}=6\times10^{-10}$		
		Frequency measurement		10Hz～18GHz	$U_{rel}=1.1\times10^{-11}$		
		Periodic measurement		1ns～10s	$U=5.8\times10^{-11}$s		
		Time Interval measurement		2ns～10s	$U_{rel}=7\times10^{-9}$		
4	Stopwatches	Time Interval	Calibration Specification for Stopwatches JJF 2195	electronic stopwatch：（1～3600）s	U=0.01s		
				stopwatch daily rate:-5s～5s	U=0.02s		
				Mechanical stopwatch：（1～3600）s	U=0.1s		
				Pointer type electric stopwatch：（1～600）s	U=0.05s		
				Digital stopwatch：1ms～600s	U_{rel}=0.1%		
5	Crystal Oscillators inside the Electrical Measurement Instruments	Relative frequency deviation	Calibration Specification for Crystal Oscillators inside the Electrical Measurement Instruments JJF 1984	5MHz、10MHz	$U_{rel}=6\times10^{-10}$		
		Daily aging rate		5MHz、10MHz	$U_{rel}=6\times10^{-10}$		
		1s frequency stability		5MHz、10MHz	$U_{rel}=6\times10^{-10}$		

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№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
6	*Pulse Counters	Built-in time base	Calibration Specification for Pulse Counters JJF 1686	1MHz、2MHz、2.5MHz、5MHz、10MHz	$U_{rel}=5\times10^{-9}$		
		Pulse count		1～1000000	U=1.6		
7	*Bullet Speed meter	Speed Measurement Spacing	Calibration Specification for Bullet Speed Measuring Devices JJF 1808	200mm～2000mm	U=0.4mm	onle for simulation method	
		Speed		10m/s～1000m/s	U_{rel}=0.1%		
8	*Frequency Meters	Frequency	Verification Regulation of Frequency Meters JJG 603	10Hz～10kHz	$U_{rel}=2.0\times10^{-4}$		
9	Time Interval Meters	Relative frequency deviation	Verification Regulation of Time Interval Meters JJG 238	1MHz、5MHz、10MHz	$U_{rel}=6\times10^{-10}$		
		Startup Features		1MHz、5MHz、10MHz	$U_{rel}=6\times10^{-10}$		
		Frequency reproducibility		1MHz、5MHz、10MHz	$U_{rel}=6\times10^{-10}$		
		Time interval/pulse width		10ns～10ms	U=1.0ns		
				10ms～10s	U=6.0ns		
				10s～100s	U=15ns		
10	*Online timer	Time Interval	Calibration Specification for Online Timers JJF(Liao) 492	(1～18000)s	U=1s		
11	*Time Relay Testers	Time	Calibration Specification for Time Relay Testers JJF 1400	1ms～10ms	U=1.1 μ s		
				10ms～9999s	U=1.1ms		
		Frequency		(1～10)MHz	$U_{rel}=6\times10^{-10}$		

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№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		AC voltage		（10～400）V	U_{rel}=0.2%		
		DC voltage		（10～400）V	U_{rel}=0.03%		
		Distortion		(0.001～10)% 20Hz～20kHz	U_{rel}=14%		
		Ripple Factor		0.01%～5%	U_{rel}=1.8%		
Optical Measuring Instrument							
1	*Hazemeter	Haze	Calibration Specification for Hazemeter JJF 1303	1～30	U=0.50		
		Transmittance		0.920～0.950	U=0.010		
2	*Colorimeters and Color Difference Meters	Chromaticity	Verification Regulation of Colorimeters and Color Difference Meters JJG 595	Y：1.0～100	U=1.3		
				x，y: 0～1	U=0.009		
3	*Whiteness meter	Whiteness	Verification Regulation of the Whiteness Meter JJG 512	60～95	U=1.2		
4	*Abbe Refractometer	Refractive index	Verification Regulation of Abbe Refractometer JJG 625	1.4～1.7	U=6.5×10^{-5}		
		Mean dispersion		0.007～0.021	U=7×10^{-5}		
5	*Reflection Densitometers	Optical density	Calibration Specification for Reflection Densitometers JJF 1492	0.00～2.00	U=0.03		
6	*Optical Power Meter in Telecommunication	Optical power	Verification Regulation of Optical Power Meter in Telecommunication JJG 965	(-50～0)dBm,(1310nm、1550nm）	U=0.4dB	accreditde only for photoelectric optical power meter	
7	*Clarity Tester	Llluminance	Calibration specification for clarity detector JJF 1287	(1000～4000)lx	U_{rel}=11%		

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№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		Time		15s、20s	U=0.3s		
8	Ultraviolet Radiometers	UV Irradiance	Verification Regulation of Ultraviolet Radiometers JJG 879	UV-A1:(5～40)mW/cm^2	U_{rel}=15%		
				UV-B:(50～200) μW/cm^2	U_{rel}=15%		
				UV-C:(50～160) μW/cm^2	U_{rel}=15%		
9	Illuminance Meter	Illuminance	Verification Regulation of Illuminance Meter JJG 245	(5～50) lx	U_{rel}=3.0%		
				(50～3000) lx	U_{rel}=1.6%		
10	Luminance Meters	Luminance	Verification Regulation of Luminance Meters JJG 211	(10～1000)cd/m^2	U_{rel}=2.5%	except for luminance source method，except for obscura luminometer.	
		Chromaticity		x，y:0～1	U=0.02		
11	*Diffuse Transmission Visual Densitometers	Transmission density	Verification Regulation of Diffuse Transmission Visual Densitometers JJG 920	D: 0.0～5.0	U=0.02		
12	Colour Temperature Meters	Color temperature	Calibration Specification for Color Temperature Meters JJF 2100	(2000～3400)K	U=20K		
				(3400～9500)K	U=1.2×10^{2}K		
13	*The Light and Color Comprehensive Testing System of Integrating Sphere	Wavelength	Calibration Specification for The Light and Color ComprehensiveTesting System of Integrating Sphere JJF(Shan)082	(400～765)nm	U=0.2nm		
		Luminous flux		(450～5000) lm	U_{rel}=1.8%		
		Chromaticity		x，y: (0.4～0.5)	U=0.002		

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		Average color temperature		2356K、2795K、2856K	U=18K		
14	*UV Analyzers	Wavelength	Calibration Specification for UV Analyzers JJF 1936	(250～380)nm	U=1.3nm		
		UV Irradiance		(30～1000) μ W/cm^2	U_{rel}=12%		
15	*Water Colorimeters	Chromaticity	Calibration Specification for Water Colorimeters JJF 1689	Digital display instrument：(1～100)PCU	U=1PCU		
				Visual instrument：(1～100)PCU	U=9PCU		
16	*Specular Gloss Meters and Gloss Plates	Gloss	Verification regulation for Specular Gloss Meters and Gloss Plates JJG 696	(0.1～120.0)GU	U=1.5GU	accredited only for gloss meter and gloss plates	
17	Ultraviolet Radiant Exposure Meter	Radiant exposure	Calibration Specification for Ultraviolet Radiant Exposure Meters JJF 2130	(10～3000)mJ/cm^2	U_{rel}=19%		
18	*Reflectometers	Reflectance	Calibration Specification for Reflectometers JJF 1232	Y:50～100	U=1.3	Do not calibrate, use the Working White Standard and the Working Black Standard instead.	
19	*Platinum-Cobalt Colorimeters	Platinum-cobalt chromaticity	Calibration Specification for Platinum-Cobalt Colorimeters JJF 1947	(1～500)PCU	U_{rel}=3%		
20	Color Standard	Chromaticity	Verification regulation for	Y:0.01～100	U=1.4	accredited	

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	Plates		Color Standard Plates JJG 453	x,y:0.01～0.80	U=0.010	only for reflective standard color tiles; only measures under d/0 geometry; does not comply with the Spectrophotometer method.	
21	Interference Filter	Wavelength	Verification regulation for Interference Filter JJG 812	(340～650)nm	U=0.5nm		
		Transmittance		0.05～0.36	U=0.007		
22	ResolutionTarget	Length	Verification regulation for ResolutionTarget JJG 827	(0～20)mm	U=2.6 μ m	accredited only for A1 to A5.	
Thermal measuring instrument							
1	Mechanical Thermo-hygrometers	Temperature	Verification Regulation of Mechanical Thermo-hygrometers JJG205	（5～50）℃	U=0.6℃		
		Humidity		30%～95%（20℃）	U=2.0%		
2	Digital Temperature-hygrometers	Temperature	Calibration Specification for Digital Temperature-hygrometers JJF 1076	（5～50）℃	U=0.3℃		
		Humidity		10%～95%（20℃）	U=1.1%～1.5%		
3	*Digital temperature indicator	temperature	Verification Regulation of digital temperature indicating regulator JJG 617	With the thermocouple：（-200～1300）℃	U=0.4℃		

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				With RTD ：(-200～800)℃	U=0.2℃		
4	*Industrial process measurement recorder	temperature	Verification Regulations for Industrial Process Measurement Recorders JJG 74	(-200～1300）℃	U=1.2℃		
5	Temperature Transmitters	temperature	Calibration Specification of the Temperature Transmitter JJF 1183	Temperature (without sensor)：(-200～300)℃	U=0.3℃		
				Temperature (without sensor)：(300～1800)℃	U=(0.3～0.6)℃		
				Temperature (with sensor)：(-80～300)℃	U=(0.03～0.10)℃		
				Temperature (with sensor)：(300～1100)℃	U=(0.10～0.60)℃		
6	Industrial platinum and copper resistance thermometers	temperature	Verification Regulations of Industrial platinum and copper resistance thermometers JJG 229	(-80～0)℃	U=0.05℃		
				(0～50)℃	U=0.06℃		
				(50～300)℃	U=0.07℃		
7	*Box type resistance furnace	temperature	Calibration Specification for Box Type Resistance Furnace JJF 1376	(300～1000) ℃	U=2.0℃		
8	*Steam sterilizer	temperature	Calibration Specification for Temperature and Pressure Parameter of Stream Sterilizer JJF (Zhe)1120	(RT～150)℃	U=0.2℃		
		pressure		(0～500)kPa	U=1.6 kPa		
9	*Salt Mist Testing Chambers	temperature	Calibration Specification for Salt Mist Testing Chambers JJF 2168	(20～80)℃	U=0.22℃		
		Settling rate		(1.0～2.0)mL/(h•80cm^2)	U=0.05mL/(h•80cm^2)		
10	*Environmental Testing Equipment	temperature	Calibration Specifications for Environmental Testing	(-80～300)℃	U=0.2℃		

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		Humidity	Equipment for Temperature and Humidity Parameters JJF 1101	10%～95%	U=1.6%		
11	Glass liquid thermometer for work	temperature	Verification Regulation of Glass Liquid Thermometer for Work JJG 130	（-80～-30）℃	U=0.10℃		
				（-30～100）℃	U=0.08℃		
				（100～300）℃	U=0.12℃		
12	Armoured thermocouple	temperature	Calibration specification for sheathed thermocouple JJF 1262	(-40～300)℃	U=0.6℃		
				(300～1100)℃	U=1.0℃		
13	Copper-copper-nickel thermocouple for work	temperature	Verification regulation of copper-copper-nickel thermocouple for work JJG 368	(-80～300)℃	U=0.3℃		
14	*Temperature calibrator	temperature	Calibration Specification for Temperature Calibrator JJF1309	With the thermocouple：（-200～1300）℃	U=0.4℃		
				With RTD：（-200～850）℃	U=0.2℃		
15	Base Metal Thermocouples	temperature	Calibration Specification for Base Metal Thermocouples JJF 1637	(-40～300)℃	U=0.3℃		
				(300～1100)℃	U=0.8℃		
16	*Analogue Temperature Indicators and Controllers	temperature	Verification Regulations of Analogue Temperature Indicators and Controllers JJG 951	With the thermoc ouple：（-200～1300）℃	U=（0.4～0.9）℃		
				With RTD：(-200～800)℃	U=0.5℃		
17	Radiation Thermometers	temperature	Verification Regulation of Radiation Thermometers JJG 856	（-15～500）℃	U=1.2℃		
				(50～500)℃	U=1.5℃		

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				(500～1200)℃	U=3.0℃		
18	Thermal Imagers	temperature	Calibration Specification for Thermal Imagers JJF 1187	（-15～150）℃	U=1.2℃		
				(50～500)℃	U=1.5℃		
				(500～1200)℃	U=3.0℃		
19	*Thermostatic Baths	temperature	Measurement and Test Norm of Metrological Characteristics of Thermostatic Baths for Temperature Calibration JJF 1030	uniformity：(-80～300)℃	U=0.004℃		
				volatility: (-80～300)℃	U=0.006℃		
20	*Rain Testing Equipments	Rainfall intensity	Calibration Specification for Rain Testing Equipments JJF (JG)17	(102±10.2)mm/h	U_{rel}=1.2%		
		Wind speed		(18±1.8)m/s	U_{rel}=4%		
		length		Raindrop Diameter：(0.5～6)mm	U=0.1mm～0.3mm		
21	Digital Thermometer	temperature	Calibration Specification for Digital Thermometer JJF(Su)95	(-80～300)℃	U=0.03℃		
				(300～1000)℃	U=0.8℃		
22	Calibration Specification for Temperature and Humidity Itinerant Detecting Instrument	temperature	Calibration Specification for Temperature Itinerant Detecting Instrument JJF 1171	(-80～300)℃	U=0.05℃		
				(300～1000)℃	U=0.7℃		
		Humidity		10%～95%（20℃）	U=(0.8～1.6)%		
23	*the Temperature Block Calibrators	temperature	Calibration Guideline of the Temperature Block Calibrators JJF 1257	(-80～400)℃	U=0.4℃		
				(400～1100)℃	U=0.7℃		

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24	Temperature Data Acquisition Instruments	temperature	Calibration Specification of Temperature Data Acquisition Instruments JJF 1366	Inner Sensor:(-30～150)℃	U=0.08℃		
				Outer Sensor:(-80～300)℃	U=0.08℃		
				Outer Sensor:(300～500)℃	U=0.8℃		
25	*Temperature Indicators	temperature	Calibration Specification for Temperature Indicators JJF 1664	With the thermoc ouple:（-200～1300）℃	U=0.4℃		
				With RTD：(-200～800)℃	U=0.2℃		
26	*the Intelligent Recorder	temperature	Verification Regulation of the Intelligent Recorder JJG（Jing）36	With the thermoc ouple:（-200～1300）℃	U=0.4℃		
				With RTD：(-200～800)℃	U=0.2℃		
27	*Electronic Moisture Proof Cabinets	temperature	Calibration Specification of Electronic Moisture Proof Cabinets for Humidity and Temperature Deviation JJF（E）118	(10～35)℃	U=0.5℃		
		humidity		5%～60%	U=1.6%		
28	*Dust and Sand Testing Equipments	temperature	Calibration Specification for Dust and Sand Testing Equipments JJF(JG）18	(0～100)℃	U=0.3℃		
		humidity		10%～95%	U=1.5%		
		Sand and dust deposition rate		(6±1)g/(m^2 • d)	U_{rel}=5%		
		Sand dust concentration		(0.28±0.1)g/m^3	U=0.03g/m^3		
				(1.1±0.3)g/m^3	U=0.08g/m^3		
				(2.2±0.5)g/m^3	U=0.16g/m^3		

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№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
				(10.6±7)g/m^3	U=0.8g/m^3		
		Wind speed		(1.5±1)m/s	U=0.4 m/s		
				(8.9±1.2)m/s	U=0.5 m/s		
				(18～29)m/s	U_{rel}=4%		
29	*Dry Block Digester	temperature	Verification Regulation of Dry Block Digester JJG(Yue) 029	(RT～300)℃	U=0.3℃		
30	Filled System Thermometers	temperature	Calibration Specification for Filled System Thermometers JJF 1909	(-80～300)℃	U=0.5℃		
31	Bimetallic Thermometers	temperature	Calibration Specification for Bimetallic Thermometers JJF 1908	(-80～300)℃	U=0.4℃		
32	Short Base Metal Thermocouples	Temperature	Calibration Specification for Short Base Metal Thermocouples JJF 1991	(-40～300)℃	U=0.3℃		
				(300～1000)℃	U=0.8℃		
33	Clinical Thermometers	Temperature	Verification Regulation of Clinical Thermometers JJG 111	(30～43)℃	U=0.05℃		
34	Clinical Electronic Thermometers	Temperature	Verification Regulation of Clinical Electronic Thermometers JJG 1162	(30～43)℃	U=0.05℃		
35	Thermistor Thermometers	Temperature	Calibration Specification of Thermistor Thermometers JJF 1379	(-50～200)℃	U=0.08℃		
36	*Vacuum Ovens	Temperature	Calibration Specification for Vacuum Ovens JJF(Min)1093	(-30～135)℃	U=0.6℃		
		Stress		(-0.1～0)MPa	U=0.7kPa		

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№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
37	*Air Thermal Aging Test Oven	Temperature	Calibration Specification of Air Thermal Aging Test Oven JJF(Meng)038	(RT～300)℃	U=0.3℃		
		Air changes per hour		(8～20)Times/hours	U=2Times/hours		
38	Infrared Thermometers for Measurement of Human Temperature	Temperature	Calibration Specification of Infrared Thermometers for Measurement of Human Temperature JJF 1107	（30～42）℃	U=0.1℃		
39	*Temperature/Humidity/Vibration Combined Environmental Testing System	Temperature	Calibration Specification for Temperature/Humidity/Vibration Combined Environmental Testing System JJF 1270	（-70～200）℃	U=0.3℃		
		Temperature change rate		（0.5～60）℃/min	U=0.4℃/min		
		humidity		10%～95%	U=1.6%		
		Vibration acceleration		（5～1000）m/s^2 (10～5000）Hz	U_{rel}=3.0%		
		wind speed		（0.5～29）m/s	U_{rel}=4.0%		
40	*Temperature and Humidity Standard Chambers	Temperature	Calibration Specification for Temperature and Humidity Standard Chambers JJF 1564	(5～50)℃(Uniformity)	U=0.1℃		
				(0.1～5)℃/min(Rate of change)	U=0.06℃/min		
				(5～50)℃（Volatility）	U=0.06℃		
		Relative humidity		5%～95%（Uniformity）	U=0.6%		
				(0.1～5.0)%/min（Rate of change）	U=0.6%/min		
				5%～95%（Volatility）	U=0.3%		
41	*Environment Parameters	Temperature	Calibration Specification for Environment Parameters	(15～30)℃	U=0.2℃		

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№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
	Constant Temperature and Humidity Laboratories	Relative humidity	Constant Temperature and Humidity Laboratories JJF 2058	30%～80%	U=1.6%		
		IIIumination		(50～1000)lx	U=(2.3～47)lx		
		Wind speed		(0.1～10)m/s	U=(0.04～0.63)m/s		
		Noise		(0～100)dB	U=0.6dB		
		Static pressure difference		(0.1～50)Pa	U=1Pa		
		Air cleanliness		(1～3.52×10^7)pcs/m^3	U_{rel}=13%		
42	Standard Mercury-in-Glass Thermometers	Temperature	Verification Regulation of Standard Mercury-in-Glass Thermometers JJG 161	(-60～100)℃	U=0.05℃		
				(100～200)℃	U=0.06℃		
				(200～300)℃	U=0.08℃		
43	Temperature and Humidity Transmitter	Temperature	Calibration Specification for hydro-transmitter JJF(Xin)07	(5～50)℃	U=0.4℃		
		Relative humidity		30%～95%	U=1.6%		
44	*Ultraviolet Test Chambers of Photovoltaic Modules	Irradiance	Calibration Specification for Ultraviolet Test Chambers of Photovoltaic Modules JJF 2062	（0.001～199.9）mW/cm^2	U_{rel}=13%		
45	*Disintegration Analyzers	Temperature	Calibration Specification for Disintegration Analyzers JJF 1449	(0～50)℃	U=0.2℃		
		Length		（0～100）mm	U=0.1mm		
		Collapse time		（1～600）s	U_{rel}=11%		
		Frequency		（20～40）Time/minutes	U_{rel}=0.3%		

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		Time		（1～600）s	U_{rel}=0.3%		
46	*Equipment of Biological Artificial Climate	Temperature	Calibration Specification for Equipment of Biological Artificial Climate JJF(Zhe)1102	(5～40)℃	U=0.15℃		
		Relative humidity		50%～95%	U=1.6%		
		Illuminance		(50～5000)lx	U_{rel}=5%		
47	*Liquid Constant Temperature Testing Equipment	Temperature	Measurement Specification for Temperature Performance of Liquid Constant Temperature Testing Equipment JJF 2019	Temperature Deviation:(-80～300)℃	U=0.24℃		
				Temperature Uniformity:(-80～300)℃	U=0.02℃		
				Temperature Fluctuation:(-80～300)℃	U=0.10℃		
48	*Soldering Iron Thermometers	Temperature	Calibration Specification for Soldering Iron Thermometers JJF 1629	(50～600)℃	U=(1.0～1.4)℃		
49	*Auto-measuring System of Thermocouples and Resistance Thermometers	Thermopower	Calibration Specification for Auto-measuring System of Thermocouples and Resistance Thermometers JJF 1098	(0～10) mV	U=0.05 μ V		
50	*Constant Temperature Heating Platform	Temperature	Calibration Specification for Constant Temperature Heating Platform JJF(JG) 256	(50～400)℃	U=2.5℃		
51	*SurfaceThermometers	Temperature	Calibration Specification for the Surface Thermometers JJF 1409	(35～400)℃	U=(0.9～1.5)℃		
52	*Surface Temperature Source	Temperature	Calibration Specification for Surface Thermometers Appendix D: Measurement Methods for Temperature	Temperature control stability: (35～400) ℃	U=0.5℃		

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№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
			Control Stability and Temperature Uniformity of Surface Temperature Sources JJF 1409	Temperature uniformity: (35～400) ℃	U=0.5℃		
53	*Surface Platinum Resistance Thermometers	Temperature	Calibration Specification for Surface Platinum Resistance Thermometers JJF 2137	(35～400)℃	U=0.8℃		
54	*Microwave Digestion Instruments	Temperature	Calibration Specification for Temperature Parameters of Microwave Digestion Instruments JJF 2143	(50～200)℃	U=0.18℃		
55	*Carbon Dioxide Incubator	Temperature	Calibration Specification for Carbon Dioxide Incubator JJF(Liao) 463	(15～55)℃	U=0.10℃		
		Carbon Dioxide Concentration		1%～20%	U=0.26%		
56	*Constant Temperature Culture Oscillator	Temperature	Calibration Specification for the Constant Temperature Culture Oscillator JJF(Liao)359	(0～100)℃	U=0.2℃		
		Frequency		(30～300)r/min	U=2.0r/min		
		Amplitude		(1～50)mm	U=0.06mm		
57	*Ozone Aging Test Chambers	Temperature	Calibration Specification for Ozone Aging Test Chambers JJF 2051	(0～100)℃	U=0.8℃		
		Relative humidity		5%～95%	U=2.6%		
		Ozone Concentration		(0.1～400) μ mol/mol	U_{rel}=6.0%		
58	*Drug Stability Lllumination Test Chambers	Temperature	Calibration Specification of Drug Stability Lllumination Test Chambers JJF(Wan)150	(5～65)℃	U=0.14℃		
		Relative humidity		10%～90%	U=1.8%		
		IIIuminance		(10～5000)lx	U_{rel}=6.0%		

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№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		Exposure radiation dose		(216～720)W • h/m^2	U_{rel}=12%		
59	*Atmospheric pressure test chambers	Pressure (ABS)	Calibration Specification for Atmospheric Pressure Test Chambers JJF 2119	(0.1～120)kPa	U=0.11kPa		
		Temperature		(-80～200)℃	U=0.3℃		
		Boosting rate		（1～10）kPa/min	U=0.9kPa/min		
		Time		（1～3600）s	U=0.2s		
60	*Rotary Evaporators	Temperature	Calibration Specification for Rotary Evaporators JJF(Meng) 082	Temperature Deviation:(15～200)℃	U=0.16℃		
				Temperature Fluctuation:（15～200）℃	U=0.02℃		
				Temperature Uniformity:（15～200）℃	U=0.03℃		
		Pressure		(-90～0)kPa	U=0.36kPa		
		Rotational Speed		(10～300)r/min	U=0.70r/min		
61	*Large Steam Sterilizers	Temperature	Calibration Specification for Temperature,Pressure and Time Parameters of Large Steam Sterilizers JJF 2088	(0～135)℃	U=0.10℃		
		Pressure		（0～500）kPa	U=0.96kPa		
		Time		1s～120min	U=2s		
62	*Artificial Accelerated Weathering Apparatus of XenonArc Lamp	UV Irradiance	Calibration Specification for Lrradiance of Artificial Accelerated Weathering Apparatus of Xenon Arc Lamp JJF 1525	（0.9～9.5）W/m^2,(300nm～800nm)	U_{rel}=18%	Uncalibrated water-cooled xenon arc lamp method	
63	Coal Mine Temperature Transducer	Temperature	Verification Regulation of Coal Mine Temperature Transducer JJG(Jin)15	(-10～100)℃	U=0.2℃		

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№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
64	Electric Contact Mercury-in-Glass Thermometers	Temperature	Verification Regulation of the Electric Contact Mercury-in-Glass Thermometers JJG 131	(-30～0)℃	U=0.08℃		
				(0～100)℃	U=0.06℃		
				(100～300)℃	U=0.16℃		
65	Temperature Calibration Devices for Polymerase Chain Reaction Analyzers	Temperature	Calibration Specification for Temperature Calibration Devices for Polymerase Chain Reaction Analyzers JJF 1821	(0～120)℃	U=0.04℃		
66	*Thermocouple Calibration Furnaces	Temperature	Testing Specification forTemperature Uniformity in Thermocouple Calibration Furnaces JJF 1184	(300～1100)℃	U=0.5℃		
67	*Hanging pipe rain test device	Length	Specification of Calibration for Pipe Rain Test Device JJF (JX) 1052	（0.1～200）mm	U=0.04mm		
		Angle		（1～360）°	U=0.2°		
		Angular velocity		（0.1～360）°/s	U=0.1°/s		
		Traffic		（0.1～100）L/min	U_{rel}=0.52%		
68	*Tubular Resistance Furnace	Temperature	Calibration Specification for Tubular Resistance Furnaces JJF (Nonferrous Metals) 0016	(300～1000)℃	U=1.1℃		
69	*Thermostatic Metal Baths	Temperature	Calibration Specification for Thermostatic Metal Baths JJF 2333	Temperature deviation:(-30～150)°C	U=0.40℃		
				Temperature Fluctuation: (-30～150)℃	U=0.04℃		
				Temperature Uniformity: (-30～150)℃	U=0.04℃		

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№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
70	Temperature and Humidity Alarms	Temperature	Calibration Specification for Temperature and Humidity Alarms JJF 2310	External Temperature Sensor: (-50～100)° C	U=0.08℃		
				Built-in Temperature Sensor: (5～50)° C	U=0.3℃		
		Relative humidity		10%～95% (20℃)	U=1.1%～1.5%		
Specialized Measuring Instruments for Electrical, Electronic and Electrical Appliances							
1	Electrostatic discharge simulator	Voltage	calibration specification forElectrostatic Discharge Simulators JJF 1397	（1～30）kV	U_{rel}=1.5%		
		Discharge Current		(1～30)A	U_{rel}=3.6%		
		Rise Time		(0.5～60)ns	U_{rel}=5.5%		
2	*Battery internal resistance tester	DC voltage	Calibration specification for battery internal resistance tester JJF 1620	(0.1～800)V	U_{rel}=0.08%		
		resistance		20mΩ～600mΩ（1kHz）	U_{rel}=0.13%		
				600mΩ～1Ω(1kHz）	U_{rel}=2.8%		
				1Ω～10Ω(1kHz）	U_{rel}=1.2%		
				10Ω～100Ω(1kHz）	U_{rel}=0.24%		
				100Ω～3kΩ(1kHz）	U_{rel}=0.12%		
3	*Cable tester	On resistance	Calibration Specification for Cable Tester JJF 1457	(1～10)Ω	U_{rel}=0.25%		
				10Ω～1kΩ	U_{rel}=0.28%		
				(1～100)kΩ	U_{rel}=0.30%		
		Insulation resistance		100Ω～10MΩ	U_{rel}=0.7%		
				(10～100)MΩ	U_{rel}=0.9%		

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№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
				100MΩ～1GΩ	U_{rel}=1.2%		
		DC voltage		(10～1000)V	U_{rel}=0.1%		
		AC voltage		(10～1000)V(45～65)Hz	U_{rel}=0.1%		
		Leakge Current		(0.1～20)mA,(45～65)Hz	U_{rel}=0.5%		
		Capcture		1pF～1μF,1kHz	U_{rel}=1.2%		
		Distortion		(0.01～10)%,(45～65)Hz	U_{rel}=14%		
4	*Coil number tester	Number of coil turns	Calibration Specification for Coil Number Measuring Instrument JJF（Zhe）1065	（1～20000）T	U_{rel}=0.14%		
5	*Spark Testing Machine	DC voltage	Calibration Specification for Spark Testing Machine JJF 2239	（1～30）kV	U_{rel}=1.2%		
		AC voltage		（1～30）kV,（50Hz）	U_{rel}=1.2%		
		Ripple Factor		0.01%～5%	U_{rel}=3%		
6	*Glow-wire Apparatus	length	Calibration Specification for Glow-wire Apparatus JJF（Jin）96	(0～25)mm	U=0.004mm		
		Displayed Temperature		(500～1000)℃	U=0.8℃		
		Melting Temperature		960℃	U=3℃		
		Current		(50～150)A	U_{rel}=2.4%		
		Force value		(0.5～2)N	U=0.01N		
7	*Spark Testing Machine for Wire and Cable	DC voltage	Calibration Specification for Spark Testing Machine for Wire and Cable JJF(JX)1047	（1～30）kV	U_{rel}=1.2%		
		AC voltage		（1～30）kV,(50Hz～1MHz)	U_{rel}=1.2%		

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		Frequency		45Hz～1MHz	U_{rel}=1.2%		
		Length		0～150mm	U=0.04mm		
8	*Online Testers of Winding Temperature Rise	Resistance	Calibration Specification for Online Testers of Winding Temperature Rise JJF 1540	0.01 Ω～100k Ω	U_{rel}=0.05%		
9	*High Voltage Switch Operation Characteristic Testers	time	Verification Regulation of High Voltage Switch Operation Characteristic Testers JJG 1120	Opening：10ms～2s	U_{rel}=0.3%		
				Closing：10ms～2s	U_{rel}=0.3%		
				Bounce：(1～1000)ms	U_{rel}=0.3%		
10	*DC Electronic Loads	DC Voltage	Calibration Specification for DC Electronic Loads JJF 1462	10mV～10V	U_{rel}=0.01%		
				（10～1000）V	U_{rel}=0.02%		
		Direct Current		1mA～10A	U_{rel}=0.02%		
				(10～100)A	U_{rel}=0.04%		
				(100～1000)A	U_{rel}=0.06%		
		DC power		1W～5.5kW	U_{rel}=0.05%		
		Resistance		0.1 Ω～1k Ω	U_{rel}=0.08%		
11	*AC Electronic Load	AC Voltage	Calibration Specification for AC Electronic Load JJF 2236	100mV～500V,（45～65）Hz	U_{rel}=0.09%		
		Alternating Current		(0.1～100)A,（45～65）Hz	U_{rel}=0.13%		
		Resistance		2.5 Ω～1k Ω （45～65）Hz	U_{rel}=0.7%		
		AC power		1W～10kW,（45～65）Hz	U_{rel}=0.2%		

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№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		Power factor		0～1,（45～65）Hz	U=0.006		
12	*Needle-flame Tester	Length	Calibration Specification for Needle-flame Tester JJF (Gui)93	(0～200)mm	U=0.03mm		
		Temperature		(50～700)℃	U=0.7℃		
		Angle		(0～360)°	U=0.2°		
		Time		(0.1～3600)s	U=0.2s		
13	*Surge Simulators	Open circuit voltage	Calibration Specification for Surge Simulators JJF 1741	（0.5～20）kV	U_{rel}=3.5%		
		Contiue time		0.5 μs～1ms	U_{rel}=5.5%		
		ShortcircuitCurrent		5A～10kA	U_{rel}=4.0%		
		Front time		1 μs～10 μs	U_{rel}=5%		
14	*Damped Oscillatory Wave Simulators	Oscillating Frequency	Calibration Specification for Damped Oscillatory Wave Simulators JJF 2016	10kHz～100MHz	U_{rel}=0.5%		
		Peak open-circuit voltage		(0.1～10)kV	U_{rel}=2.5%		
		Short Circuit Current		(1～200)A	U_{rel}=3%		
		Signal repetition rate		(10～1000)Hz	U_{rel}=0.5%		
		Voltage rise time		10ns～10 μs	U_{rel}=2.4%		
		Current rise time		10ns～10 μs	U_{rel}=2.4%		
		Duration of burst		1ms～10s	U_{rel}=2%		
		Sudden onset cycle		(100～500)ms	U_{rel}=2%		

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№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
15	*Thermal extension tester	Temperature	Calibration Specification for Thermal extension tester JJF(Gui)75	(0～300)℃	U=0.3℃		
		Quality		(1～500)g	U=0.2g		
		Length		(0～600)mm	U=0.1mm		
		Time		（0.1～3600）s	U=0.3s		
16	*Power Battery Testing Systems	Charge and Discharge Voltage	Verification Regulation for Power Battery Testing Systems JJG(Yue)044	100mV～1000V	U_{rel}=0.01%		
		Charge and Discharge Current		10mA～2000A	U_{rel}=0.04%		
		Charge and Discharge Time		(0.1～3600)s	U_{rel}=0.03%		
17	*Road vehicles-Electrical Transient Conduction Disturbance Simulator	Pulse voltage	Calibration Specification for Road vehicles-Electrical Transient Conduction Disturbance Simulator JJF (DZ)0019	(1～1000)V	U_{rel}=3.5%		
		Rise/fall time		3ns～10ms	U_{rel}=5.4%		
		Pulse width/repetition time		100ns～3s	U_{rel}=1.2%		
		Direct current voltage		(10～100)V	U_{rel}=0.16%		
18	*Voltage Dips,Short Interruptions and Voltage Variations Test Generators	Output voltage	Calibration Specification for Voltage Dips,Short Interruptions and Voltage Variations Test Generators JJF 1673	(0.1～500)V	U_{rel}=1.6%		
		Voltage rise time and fall time		（1～50）μs	U_{rel}=2.0%		
		Voltage overshoot and undershoot		(0～20)%	U=2.4%		

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№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		Phase angle		(0～360)°	U=1°		
		Duration		1 ms～10s	U_{rel}=3%		
		Interval time		1 ms～10s	U_{rel}=3%		
		Peak impulse current		(1～2000)A	U_{rel}=2.0%		
19	Oscilloscope current probe	DC attenuation coefficient	Calibration Specification for Oscilloscope current probe JJF(DZ)0036	1～100	U_{rel}=0.3%		
		AC current measurement		10mA～2000A	U_{rel}=1.2%		
		AC current measurement		10mA～2000A,40Hz～65Hz	U_{rel}=1.2%		
		Bandwidth		10Hz～120MHz	U_{rel}=4.6%		
		Rise Time		1ns～10 μ s	U_{rel}=5%		
20	*Oscilloscope differential probe	Common mode rejection ratio	C.S. for Oscilloscope differential probe calibration specification JJF(DZ)30306	（18～70）dB	U=1.5dB		
		DC attenuation coefficient		1～1000	U_{rel}=0.3%		
		Bandwidth		10kHz～1000MHz	U_{rel}=4.6%		
		Rise Time		1ns～1 μ s	U_{rel}=5%		
		Input resistance		（0.1～100）MΩ	U_{rel}=0.6%		
21	*Oscilloscope voltage probe	DC Voltage Attenuation Ratio	C.S.for Oscilloscope voltage probe calibration specification JJF 1437	1～1000,(0.1～1000)V	U_{rel}=0.6%		

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№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		Frequency Response		1kHz～300MHz	U=0.8dB		
		Rise Time		1ns～350 μ s	U_{rel}=5%		
		Input resistance		10M Ω ～100M Ω	U_{rel}=1.0%		
22	*Battery charge and discharge tester	Voltage	Calibration Specification for Battery Charge & Discharge Testers JJF 2039	(1～10)V	U_{rel}=0.006%		
				(10～100)V	U_{rel}=0.008%		
				(100～1000)V	U_{rel}=0.010%		
		Current		10mA～1A	U_{rel}=0.011%		
				(1～100)A	U_{rel}=0.028%		
				(100～2000)A	U_{rel}=0.05%		
		Rise time		10 μ s～10ms	U_{rel}=0.9%		
		DC Power		（1～1000）W	U_{rel}=0.08%		
		TEMP		（-20～100）℃	U=0.2℃		
		discharge capacity		（0.1～100）Ah	U_{rel}=0.09%		
		Resistance		（0.1～1000） Ω	U_{rel}=0.09%		
23	*Lghtning Protection Component Tester	Initial operating voltage	Calibration Specification for Lghtning Protection Component Tester JJF 2177	(5～2000)V	U_{rel}=0.8%		
		Breakdown Voltage		(5～2000)V	U_{rel}=0.8%		
		Current		(1～20) μ A	U_{rel}=0.3%		

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№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
24	*Unidirectional Scraping Tester of Enamelled Winding Wire	Diameter of scraping needle	Calibration Specification for Unidirectional Scraping Tester of Enamelled Winding Wire JJF(Su)167	(0～25)mm	U=0.003mm		
		Speed of movement		(50～500)mm/min	U=5mm/min		
		Test voltage		(6～7)V	U_{rel}=1.2%		
		Short Circuit Current		(19.5～20.5)mA	U_{rel}=0.3%		
		Force value		(0.1～50)N	U=0.015N		
25	*Motor comprehensive tester	AC voltage	Calibration Specification for Motor Stator Testing System JJF(Min)1060	(0.1～3)kV,（45Hz～65Hz）	U_{rel}=0.90%		
		Leakage current		(0.1～100)mA,（45Hz～65Hz）	U_{rel}=1.3%		
		Insulation voltage		(0.1～1)kV	U_{rel}=1.3%		
		Insulation resistance		100Ω～100MΩ	U_{rel}=0.9%		
				(100～1000)MΩ	U_{rel}=2.4%		
		DC Resistance		0.1Ω～20kΩ	U_{rel}=0.2%		
		Peak insulation impulse voltage between turns		(0.5～3)kV	U_{rel}=3%		
		Front time		（0.2～1.2）μs	U_{rel}=5%		
26	*Testers for Relaying Protection	DC voltage	V.R.of Testers for Relaying Protection JJG 1112	10mV～1000V	U_{rel}=0.02%		

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№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		AC voltage		100mV～1000V (45Hz～65Hz)	U_{rel}=0.05%		
		DC current		1mA～100A	U_{rel}=0.06%		
		AC current		10mA～100A (45Hz～65Hz)	U_{rel}=0.10%		
		Time		0.01ms～999.9s	U=0.3ms		
		Reponse Time		（1～200）μs	U_{rel}=1.2%		
27	*Charged Plate Monitor	Electrostatic voltage	C.S. for Charged Plate Monitor JJF(DZ) 31003	±(0.1～1000)V	U_{rel}=0.2%		
		Decay time		(0.1～99.9)s	U_{rel}=1.2%		
28	*Electric spark leak detector	Pulse voltage	C.S.for Electric spark leak detector JJF(Lu)101	（0.1～30）kV	U_{rel}=3.5%		
29	*Electrolytic Capacitor Leakege Current Tester	DC Polarized Voltage	Verification Regulation of Electrolytic Capacitor Leakege Current Tester JJG(DZ)306003	(1～1000)V	U_{rel}=0.3%		
		Leakage current		10μA～30mA	U_{rel}=0.3%		
30	*Insulating Oil Dielectric Strength Test	Voltage	Calibration Specification For Insulating Oil Dielectric Strength Test JJF(Jin) 143	(1～100)kV	U_{rel}=0.6%		
		Boost speed		(0.2～10)kV/s	U_{rel}=2.0%		
		distortion		(0～5)%	U=0.3%		
31	*Three Phase Variable-Frequency Power Supply	AC Voltage	Calibration Specification for Three Phase Variable-Frequency Power Supply JJF(DZ)0026	(1～480)V,30Hz～1kHz	U_{rel}=0.1%		
		Alternating Current		(1～30)A,(45～65)Hz	U_{rel}=0.2%		
		Frequency		30Hz～1kHz	U_{rel}=0.005%		
		Distortion		(0.01～10)%,(45～65)Hz	U_{rel}=14%		

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№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		Phase Difference		(0.01～120)°	U=0.1°		
32	*Turn-to-turn tester	Voltage	Calibration specification for Impulse Voltage Testers for Winding Interturn Insulation JJF1691	（0.1～15 ）kV	U_{rel}=3.8%		
		Front time		（0.2～1.2） μs	U_{rel}=5%		
33	*Proof Tracking Index Testers	Drip interval	Calibration Specification for Proof Tracking Index Testers JJF(Zhe)1087	(0.1～999) s	U=0.3s		
		Test voltage		(0.1～600)V	U_{rel}=0.3%		
		Electrode current		(0.1～1)A	U_{rel}=0.3%		
34	*Testing Transformer Operating Box	AC Voltage	Calibration Specification for Testing Transformer Operating Box JJF(Min)1090	(1～750)V,(45Hz～65Hz)	U_{rel}=0.3%		
		Alternating Current		1mA～30A,(45Hz～65Hz)	U_{rel}=0.3%		
		Time		(1～600)s	U=0.28s		
35	*Zinc-oxide Arrester Tester	Full Current	Calibration Specification for Zinc-oxide Arrester Tester JJF 2194	（0.1～20)mA/(45～65)Hz	U_{rel}=0.5%		
		Resistive Current		（0.1～20)mA/(45～65)Hz	U_{rel}=0.5%		
		Capacitive Current		（0.1～20)mA/(45～65)Hz	U_{rel}=0.5%		
		Phase Angle		(0～90)°	U=0.04°		
		Reference Voltage		(10～250)V/(45～65)Hz	U_{rel}=0.3%		
36	*Test Devices for Action Characteristics of	Alternating Current	Calibration Specification for Test Devices for Action Characteristics of Low	1A～20kA	U_{rel}=0.5%		
		Time		（0.01～1）s	U_{rel}=1.2%		

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№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
	Low Voltage Circuit Breakers		Voltage Circuit Breakers JJF 1799	（1～999.99）s	U_{rel}=0.3%		
37	*Electrical Fast Transient /Burst Simulators	Peak pulse voltage	Calibration Specification for Electrical Fast Transient /Burst Simulators JJF 1672	（0.1～8）kV	U_{rel}=3.7%		
		Pulse repetition frequency		4kHz～100kHz	U_{rel}=1.8%		
		Burst period		250ms～350ms	U_{rel}=0.8%		
		Pulse rise time		（1～10）ns	U_{rel}=6%		
		Burst duration		（0.5～20）ms	U_{rel}=1.8%		
		Pulse Width		（35～150）ns	U_{rel}=7%		
38	*Enthalpy Potential Testing Appaeatus	Voltage	Calibration Specification for Enthalpy Potential Testing Appaeatus JJF(JX) 1005	50V～280V (Single-Phase), 100V~450V (Three-Phase)	U_{rel}=0.15%		
		Current		0.5A～100A	U_{rel}=0.13%		
		Power		100W～16kW (Single-Phase), 300W～48kW (Three-Phase)	U_{rel}=0.13%		
		Frequency		45Hz～65Hz(Power frequency)	U_{rel}=0.04%		
				20Hz～400Hz(Compressor frequency)	U_{rel}=0.04%		
		Platinum resistance temperature		(-50～150)℃	U=0.03℃		

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№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
		Thermocouple temperature		(-50～300)℃	U=0.1℃		
		Temperature		（-40～100）℃	U=0.2℃		
		Humidity		10%RH～95%RH	U=1.6%RH		
		pressure		(-0.1～15)MPa	U=0.5%FS		
		wind speed		(5～30)m/s	U_{rel}=3.2%		
		Rotational Speed		(30～10000) r/min	U_{rel}=0.03%		
		Internet Traffic		(0.1～40)t/h	U_{rel}=1.7%		
39	*Compressor Cooling Capacity Testing Device	Testing Voltage	Calibration specification for compressor cooling capacity testing device JJF(JX) 1015	(50～450)V	U_{rel}=U_{rel}=0.15%		
		Working Current		(0.5～100)A	U_{rel}=0.13%		
		Input Power		100W～16kW	U_{rel}=0.13%		
		Test Frequency		(5～400)Hz	U_{rel}=0.04%		
		Power Factor		(0.5～1.0)	U=0.002		
		Winding Resistance		(0.1～1000) Ω	U_{rel}=0.05%		
		Platinum Resistance Temperature		(0～150)℃	U=0.03℃		
		Thermocouple Temperature		(0～300)℃	U=0.6℃		
		Pressure		(0～6)MPa	U=0.05%FS		

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№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
				(0～15)MPa	U=0.5%FS		
		Rotational Speed		(30～10000)r/min	U_{rel}=0. 03%		
		Internet Traffic		(0.1～40)t/h	U_{rel}=1.7%		
40	*Electromagnetic Clamps	Coupling Coefficient	Calibration Specification of Electromagnetic Clamps JJF(DZ) 0031	(-30～30)dB(9kHz～1000MHz)	U=2.0dB		
		Decoupling Coefficient		(-60～0)dB(9kHz～1000MHz)	U=2.0dB		
		Impedance		(50～1000) Ω	U_{rel}=1.5%		
41	*Cable Fault Flash Tester	Distance	Calibration Specification for Cable Fault Flashover Testers JJF(Liao) 564	(2～100)m	U_{rel}=0.7%		
				(0.1～20)km	U=1.6m		
42	Oscilloscope High Voltage Probe	DC Voltage Attenuation Ratio	Calibration Specification for High Voltage Probes of Oscilloscope JJF(DZ) 30304	1～1000，(1～40)kV	U_{rel}=0.6%		
		AC Voltage Attenuation Ratio		1～1000，(1～40)kV	U_{rel}=0.8%		
		Frequency Bandwidth		DC～300MHz	U_{rel}=3.0%		
		Input Resistance		10MΩ～100MΩ	U_{rel}=0.10%		
		Input Capacitance		5pF～50pF,(1kHz)	U_{rel}=0.5%		
43	*reference ballast	Voltage Current Ratio	Calibration specification for reference ballasts JJF 1502	(50～300)V/(0.1～20)A,50Hz,60Hz	U_{rel}=0.16%		
		Power Factor		0.01～1	U=0.002		

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44	*Residual voltage tester	Residual Voltage	Calibration specification for residual voltage tester JJF(DZ) 0091	(10～200)V	U_{rel}=0.3%		
		AC Output Voltage		(10～250)V,(45Hz～65Hz)	U_{rel}=0.3%		
		Duration (Holding) Of AC Output Voltage		10s～99.9s	U_{rel}=0.32%		
		Power Outage Timing Error		(-5～5)ms	U=0.3ms		
		Test Time		(1～10)s	U_{rel}=0.32%		
		Input Impedance		100MΩ～1GΩ	U_{rel}=9%		
45	*ESD Current Targets	Insertion Loss	Calibration Specification for ESD Current Targets JJF 2324	(-50dB～-40dB)，(9kHz～4GHz)	U_{rel}=0.8%		
		Transfer Impedance		(0.08～0.25)V/A	U=0.005V/A		
		Input Impedance		(0.95～2.1)Ω	U_{rel}=0.3%		
46	*Ringing wave generator	Open Circuit Voltage	Calibration Specification for Ring Wave Generator JJF(DZ) 0007	±(0.25～4)kV	U_{rel}=2.5%		
		Short-Circuit Current		±(10～500)A	U_{rel}=3.0%		
		Voltage Rise Time		1ns～10μs	U_{rel}=3.0%		
		Current Rise Time		1ns～10μs	U_{rel}=3.0%		
		Frequency		100kHz	U_{rel}=0.13%		
		Decay		10%～100%	U_{rel}=4.0%		

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		Source Impedance		10 Ω～300 Ω	U_{rel}=3.0%		
47	*PV Modules Bypass Diode Test System	DC Voltage	Calibration Specification for PV Modules Bypass Diode Test System JJF(Jin) 141	(0.1～150)V	U_{rel}=0.04%		
		DC Current		(0.1～100)A	U_{rel}=0.1%		
		Constant Voltage		(0.1～150)V	U_{rel}=0.04%		
		Direct current		(0.1～80)A	U_{rel}=0.1%		
		Pulse power supply voltage		(0.1～150)V	U_{rel}=3.5%		
		Pulsed Current		(0.1～30)A	U_{rel}=4.0%		
		Pulse width		(0.1～10ms)	U_{rel}=1.6%		
		Collection Voltage		(0.1～5)V	U_{rel}=0.008%		
		Collected Current		(0.1～5)A	U_{rel}=0.028%		
		Temperature		(0～250)℃	U=0.2℃		
48	*Current Injection Probe	Insertion Loss	Calibration Specification for Electromagnetic Emission and Sensitivity Measuring Apparatus Part 7: Current Injection Probe JJF (JG) 27.7	0～80dB(1kHz～500MHz)	U=1.3dB		
49	*Current Probe	Transfer Impedance	Calibration Specification for Electromagnetic Emission and Sensitivity Measuring Apparatus Part 6: Current Probe JJF (JG) 27.6	(-100～40)dB Ω (10Hz～500MHz)	U=1.3dB		

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50	*Safety comprehensive tester	DC voltage	Calibration Specification for Safety Pameter Tester JJF(DZ)0004	(0.1～6)kV	U_{rel}=0.9%		
		AC voltage		(0.1～5)kV, 50Hz	U_{rel}=0.9%		
		DC		(0.1～50)mA	U_{rel}=0.9%		
		Alternating current		(0.1～50)mA, 50Hz	U_{rel}=0.9%		
		time		(1～999.9)s	U_{rel}=1.3%		
		Insulation resistance		1MΩ～100MΩ	U_{rel}=0.7%		
				100MΩ～10GΩ	U_{rel}=2.4%		
		Insulation voltage		(0.1～1)kV	U_{rel}=1.3%		
		Leakage test voltage		(1～750)V,(50Hz)	U_{rel}=0.4%		
		Leakage current		100μA～50mA,(50Hz)	U_{rel}=0.5%		
		Ground resistance		(10～600)mΩ	U_{rel}=0.4%		
		Ground current		(3～30)A,(50Hz)	U_{rel}=0.2%		
51	*Ionizing blower	Residual voltage	Calibration Specification for Ionizer JJF(DZ)0110	（0.1～50)V	U_{rel}=4.0%		
		Decay time		(0.1～99.9)s	U_{rel}=3.4%		
Special measuring instruments for construction and traffic							
1	*the Expansion Tester for Cement Le Chatelier Needles	Length	V.R of Le Chatelier,Tester for Determining Expansion of Le Chatelier Needles JJG (JT)093	(0.01～190)mm	U_{rel}=0.4%		
		Mass		(290～310)g	U=0.02g		

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2	*Apparatus to Determine Chloride Coulomb Electric Flux of Concrete	DC voltage	Calibration Specification for Apparatus to Determine Chloride Coulomb Electric Flux and Rapid chloride Migration Coefficient of Concrete JJF (Min)1053	(1～60)V	U_{rel}=0.05%		
		DC current		(1～300)mA	U_{rel}=0.08%		
		Temperature		(4～100)℃	U=0.06℃		
		Time		(3000～4000)s	U=0.3s		
3	*Concrete Air Content Meters	Pressure	Calibration Specification for Concrete Air Content Meters JJF 2332	(0～0.25)MPa	U=0.6kPa		
		Volume		(6950～7050)mL	U=3.5mL		
		Gas content		（0～8）%	U=(0.02～0.10)%		
4	*Inspecting Specification for Apparatus of Fluidity of Cement Mortar	Mass	V.R.of Flow Table for Determine Cement Mortar Fluidity JJG (JT)096	(4～5)kg	U=3g		
		Time		(20～30)s	U=0.3s		
		Length		(8～310)mm	U=(0.01～0.1)mm		
5	*Mixer for Cement Paste	Rotation Speed	Calibration Specification for Mixer for Cement Paste JJF (JC)104	(50～150)r/min	U=1.5r/min		
		Time		(10～200)s	U=0.3s		
		Length		(1～10)mm	U=0.06mm		
6	*Abrasion Resistance for Cement Mortar and Concrete	Force value	V.R.of Apparatus of Abrasion Resistance for Cement Mortar and Concrete JJG (JT)097	(200～500)N	U_{rel}=0.4%		
		Length		(2～25)mm	U=0.005mm		
				(25～200)mm	U=0.05mm		
		Rotation Speed		(15～700)r/min	U=(0.1～1）r/min		
7	*Los Angeles Testing Machine	Mass	V.R.of Los Angeles Testing Machine JJG (JT)108	(350～6000)g	U=1.0g		

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		Length		(40～50)mm	U=0.3mm		
		Rotata speed		(25～40)r/min	U=0.6r/min		
8	*Apparatus for Softening Point of Bitumen	Length	Verification Regulation of Apparatus for Softening Point of Bitumen JJG (JT)057	(6～20)mm	U=0.01mm	Except for non fixed site positioning holes	
				(21～150)mm	U=0.04mm		
		Mass		(3～4)g	U=0.017g		
		Temperature		(5～200)℃	U=0.24℃		
		Heating rate		(4～6)℃/min	U=0.25℃/min		
9	*Needle and Flake Gages	Length	Calibration Specification for Needle and Flake Gages JJF 1593	(2～100)mm	U=0.04mm	except for non fixed site flake gages	
10	*Testing Instrument for Crushing Value	Length	Calibration Specification for Testing Instrument for Crushing Value JJF(Su)54	(5～160)mm	U=0.04mm		
11	*Cement Mortar Vibration Compaction Equipment	Frequency of vibration	Calibration Specification for Cement Mortar Vibration Compaction Equipment JJF 1867	(40～60)Hz	U=0.6Hz		
		Amplitude		(0.1～1.0)mm	U=0.013mm		
		Length		(35～170)mm	U=0.04mm		
		Time		(0.5～125)s	U=0.3s		
		Mass		(1.00～7.00)kg	U=0.7g		
12	*Jolting Tabler for Complying Mortars Specimen	Mass	Calibration Specification for Jolting Tabler for Complying Mortars Specimen JJF (JC)124	(12～13)kg	U=0.02kg		
		Amplitude		(14.7～15.3)mm	U=0.06mm		
		Time		(0～70)s	U=0.6s		

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№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
13	Apparatus for Determining Penetration of Bituminous Materials	Length	Calibration Specification for Apparatus for Determining Penetration of Bituminous Materials JJF 1208	(0.1～50)mm	U=0.01mm		
		Mass		(90～110)g	U=0.02g		
		Temperature		(20～30)℃	U=0.2℃		
14	*Apparatus to Measure Water Permeability of Concrete	Pressure	Calibration Specification of Apparatus to Measure Water Permeability of Concrete JJF 1812	(0～4)MPa	U=0.006MPa		
15	Cement Fineness Negative Pres	Rotation Speed	Calibration Specification for Cement Fineness Negative Pres JJF 1827	(20～40)r/min	U=0.4r/min		
		Stress		(-100～0)hPa	U=0.4 hPa		
16	Le Chatelier Flask for Determining Density of Hydraulic Cement	Capacity	V.R. of Le Chatelier Flask for Determining Density of Hydraulic Cement JJG (JT)092	(0.1～24)mL	U=0.02mL		
17	*Rapid Measuring Instrument for Chloride Ion of Concrete	Concentration	Verification Regulation of Rapid Measuring Instrument for Chloride Ion of Concrete JJG (JT)134	(0.001～0.100)mol/L	U_{rel}=1%		
18	*Mortar Setting Tme Meter	Force value	Calibration Specification for Mortar Setting Tme Meter JJF (Ji)197	(1～100)N	U_{rel}=0.4%		
		Length		(5～142)mm	U=0.04mm		
19	*Methylene Blue Mixer	Rotation Speed	Calibration Specification for Methylene Blue Mixer JJF (Gui)82	(360～660)r/min	U_{rel}=0.5%		
		Time		(1～8)min	U_{rel}=0.4%		
		Length		(65～85)mm	U=0.1mm		

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20	*Portable Drawing Instruments Used in Building	Force value	Calibration Specification for Portable Drawing Instruments Used in Building JJF (JC)142	(0.1～1000)kN	U_{rel}=0.5%		
21	*Testing Apparatus for Asphalt Content by Burning Method	Temperature	V.R. of Testing apparatus for asphalt content by burning method JJG (JT) 072	（300～1000）℃	U=1.2℃		
		Mass		（0.1～5）kg	U=0.02g		
22	*Compaction Instrument of Soil	Mass	V.R.of Compaction Instrument of Soil JJG (JT)058	(2000～5000)g	U=0.4g		
		Length		(40～60)mm	U=0.05mm		
				(200～500)mm	U=0.6mm		
23	*Carbonization Depth Measuring Instruments and Calipers	Length	Calibration Specification for Carbonization Depth Measuring Instruments and Calipers JJF 1721	(0～70)mm	U=0.01mm		
24	*Waterproof Roll Material Impervious Instrument	Pressure	Calibration Specification for Waterproof Roll Material Impervious Instrument JJF (Jin)03	(0～0.6)MPa	U=0.5%FS		
25	*Measurer forResistance to Impact of Raised Pavement Markers	Length	Verification Regulation of Measurer forResistance to Impact of Raised Pavement Markers JJG (JT) 080	(990～1010)mm	U=1.6mm		
		Mass		(1000～1100)g	U=0.6g		
26	*Instrument of Testing Mortar-strength by Penetration Resistance Method	Force value	Calibration Specification for Instrument of Testing Mortar-strength by Penetration Resistance Method JJF 1372	(500～1000)N	U_{rel}=0.4%		
		Length		(0～41)mm	U=0.04mm		
27	*Drop Test Machine for Packages	Length	Verification Regulation of Drop Test Machine for Packages JJG (Yue)045	(10～1000)mm	U=0.6mm		

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№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
28	Wedge-Shape Filler Gauges	Length	Calibration Specification for Wedge-Shape Filler Gauges JJF 1548	Type I：(1～60)mm	U=11 μ m		
				Type II：(0～15)mm	U=11 μ m		
				Digital display：(0～40)mm	U=10 μ m		
29	*Magnetic heating stirrer	Temperature	Calibration Specification for Magnetic Heating Stirrer JJF(Hei)12	(20～300)℃	U=0.3℃		
		Speed		(100～2500)r/min	U_{rel}=0.6%		
30	*Steel Anvil	Hardness	Calibration Specification for Steel Anvil JJF（Ji）32	(55～65)HRC	U=0.8HRC		
		Mass		(1～45.6)kg	U=0.010kg		
31	*Rebound Test Hammer	Length	Verification Regulation of Rebound Test Hammer JJG 817	(10～150)mm	U=0.05mm		
		Force		(0.2～1)N	U=0.02N		
		Rated		70～90	U=1		
		Stiffness		(10～1100)N/m	U=3.2N/m		
32	Ccmcnl Lcnglh Comparalor	Length	Calibration Specification for Cement Length Comparator JJF(Su) 217	(156～540)mm	U=7 μ m		
33	*Cement Mortar Strength Accelerated Maintenance Tanks	Temperature	Calibration specification for Cement Mortar Strength Accelerated Maintenance Tanks JJF (JC) 207	(40～90)℃	U=0.4℃		
34	Concrete ShrinkageDilatometer	Length	Calibration Specification for Concrete Shrinkage Dilatometer JJF(Ji) 139	(0～10)mm	U=6 μ m		
				(100～540)mm	U=6 μ m		
35	*Mortar Consistency	Mass	Verification Regulation of Mortar Consistency Meters	(100～500)g	U=0.01g		

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№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
	Meters	Length	JJG(JT)204	(5～300)mm	U=0.04mm		
		Angle		10° ～50°	U=6′		
36	*Normal Consistencyand Setting Time of Cement Paste	Length	Verification Regulation of Apparatus for Normal Consistency and Setting Time of Cement Paste JJG (JT) 050	(1～10)mm	U=0.03mm		
				(40～75)mm	U=0.04mm		
		Mass		（295～305）g	U=0.01g		
37	Apparatus for Concrete Slump Test	Length	Calibration Specification for Apparatus for Conerete Slump Test JJF(zhe)1093	（0.1～20）mm	U=0.03mm		
				（20～610）mm	U=0.1mm		
38	*Apparatus for Time of $etting of Concrete Mixture by Penetration Resistance	Force	Verification Regulation of Apparatus for Time of $etting of Concrete Mixture by Penetration Resistance JJG(JT) 095	（100～1100）N	U=2.8N		
		Length		（1～20）mm	U=0.003mm		
				（21～300）mm	U=0.04mm		
39	*Mixerof Mixing Mortar	Speed	Calibration Specification for Mixerof Mixing Mortar JJF 2094	（50～300）r/min	U=0.9r/min		
		Time		（25～95）s	U=0.2s		
		Length		（2～10）mm	U=0.04mm		
40	*Mortar layering Tester	Length	Calibration Specification of Mortar layering Tester JJF(Xiang) 36	(100～200)mm	U=0.18mm		
41	*Nonmetal BuildingMaterials Plastic Limit Measuring Instruments	Length	Calibration Specification for Nonmetal Building Materials Plastic Limit Measuring Instruments JJF 1090	other sizes:（30～150）mm	U=0.04mm		
				diameter:（1～55）mm	U=0.01mm		
		Mass		（0.1～310）g	U=0.1g		
		Angle		0.1° ～80°	U=0.1°		

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№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
42	*Mortar Density Meters	Volume	Calibration Specification for Mortar Density Meters JJF(JC) 219	(0.9～1.1)L	U=0.003L		
		Mass		（0.5～2.5）kg	U=6mg~0.2g		
43	*Steel bar bending testing equipment	Angle	Calibration specification for steel bar bending testing equipment JJF(Ji) 106	0°～180°	U=0.67°		
		Length		(0.01～300)mm	U=0.1mm		
44	*Test sieve	Length	Calibration specification for Test sieve JJF 1175	（0.045～0.25）mm	U=0.002mm		
				（0.25～4）mm	U=0.005mm		
				（4～125）mm	U=0.04mm		
45	*Moulds	Length	Calibration Specification for Moulds JJF 1307	（0～600）mm	U=0.05mm		
46	*Brick Calipers	Length	Verification Regulation of Calipers for Measuring Brick JJG(Yue) 072	(-15～30)mm	U=0.06mm		
				(45～500)mm	U=0.17mm		
47	*Thermal Conductivity Tester (Heat Flow Meter Method)	Thermal conductivity	Calibration Specification for Thermal Conductivity Tester (Heat Flow Meter Method) JJF(Zhe)1175	（0.002～1）W/(m • K)	U_{rel}=2.4%		
48	*Coefficient of Friction Tester	Mass	Calibration Specification for Coefficient of Friction Tester JJF (Ji)125	(1～500)g	U_{rel}=0.3%		
		Force value		(0.3～10)N	U_{rel}=0.2%		
		Speed		(1～600)mm/min	U=1mm/min		
Special measuring instruments for meteorology and ocean							
1	Thermo-anemoscopes	Wind speed	Calibration Specification for Thermo-anemoscopes JJF 1939	（2～30）m/s	U=（0.08～0.29）m/s		

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№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
2	Portable 3-cup Anemometers	Wind speed	Verification Regulation of Portable 3-cup Anemometers JJG 431	(2～30) m/s	U=（0.08～0.29）m/s		
3	Wheel Type Digital Anemometers	Wind speed	Verification Regulation of Wheel Type Digital Anemometers JJG 1194	(2～30) m/s	U=（0.08～0.40）m/s		
4	Fanning Mill Anemometers	Wind speed	Calibration Specification for Fanning Mill Anemometers JJF 1971	(2～30) m/s	U=（0.08～0.29）m/s		
5	Digital Air Flow Hood	Wind volume	Calibration Specification for Digital Air Flow Hood JJF(Min)1068	(30～5000)m^3/h	U_{rel}=1.8%		
6	Wind Speed Transducer	Wind speed	Calibration Specification for Wind Speed Transmitters JJF(Ji) 252	(2～30)m/s	U=（0.08～0.29）m/s		
7	Bucket Thermometers	Temperature	Verification Regulation of Bucket Thermometers JJG 289	(-5～40)℃	U=0.04℃		
Special measuring instruments for textiles and leather (including footwear measuring instruments)							
1	*Light and Weather Fastness Testers	Temperature	Calibration Specification for Light and Weather Fastness Testers JJF (FZ)051	Test chamber:(5～150)℃	U=0.3℃		
				Black label:(5～150)℃	U=0.8℃		
		Humidity		5%RH～95%RH	U=2.0%RH		
		Irradiance		(300～400)nm：(30.0～50.0)W/m^2	U_{rel}=14%		
				420nm：(0.09～1.10)W/m^2	U_{rel}=14%		
2	*Textiles Horizontal Burning Rate	Length	Calibration Specification forTextiles Horizontal Burning Rate Testers JJF	(0.10～0.50)mm	U=0.004mm		
				(0.5～150)mm	U=0.04mm		

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№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
	Testers		(FZ)094	(150～500)mm	U=0.4mm		
		Time		(1～3600)s	U=0.2s		
3	*Vertical Combustion Testers	Length	Calibration Specification for Vertical Combustion Testers JJF (FZ)068	(10～20)mm	U=0.06mm		
				(28～780)mm	U=0.4mm		
		Angle		20°～30°	U=0.3°		
		Mass		(50～500)g	U_{rel}=0.02%		
		Time		(1～3600)s	U=0.2s		
4	*Standard Color Assessment Cabinets	Color temperature	Calibration Specifications for Standard Color Assessment Cabinets JJF (FZ)055	(2700～7500)K	U=1.2×10²K		
		illuminance		(200～5000)lx	U_{rel}=10%		
5	*Textile Frictional Static Charges Tester	Charge quantity	Calibration Specification for Textile Frictional Static Charges Tester JJF (FZ)071	(0.05～1.1) μC	U=0.002 μC		
6	*Raw Cotton Moisture Tester	Return Rate	Verification Regulation of Raw Cotton Moisture Tester JJG 845	(3～13)%	U=0.04%		
		Temperature		(1～50)℃	U=0.3℃		
7	*Fiber Cutters	Length	Calibration Specification for Fiber Cutters JJF (FZ)022	(0～50)mm	U=3 μm		
8	*Colour Fastness to Friction Testers	Length	Calibration Specification for Colour Fastness to Friction Testers JJF (FZ)027	(10～50)mm	U=0.04mm		
				(100～120)mm	U=0.06mm		
		Force		(5～10)N	U=0.07N		
		Rotating speed		(50～70) r/min	U=0.8r/min		

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9	*Eight- Basket Ovens	temperature	Calibration Specification for Eight- Basket Ovens JJF (FZ）011	(50～150)℃	U=0.3℃		
		Quality		(0.1～500)g	U=3mg		
10	Sharp-pointTesters	Length	Calibration Specification for Sharp-pointTesters JJF (FZ)113	(0.4～1.5)mm	U=5 μ m		
		Force value		(3～10)N	U=0.03N		
11	*Circle Sample Cutters	Area	Calibration Specification for Circle Sample Cutters JJF(FZ) 061	(50～150)cm²	U_{rel}=0.3%		
12	*Electronic Single Yarn Strength Machines	Force	Calibration Specification for Electronic Single Yarn Strength Machine JJF(FZ) 047	（0.01～5000）cN	U_{rel}=0.3%		
		Length		(0.01～500)mm	U=0.1mm		
13	Traversing Thread Counters	Length	Calibration Specification for Traversing Thread Counters JJF(FZ) 023	(0.01～50)mm	U=0.014mm		
14	*Fabric Thickness Testers	Time	Calibration Specification for Fabric Thickness Testers JJF(FZ) 020	（1～3600）s	U=0.2s		
		Area		(100～10000)mm²	U_{rel}=0.2%		
		Length		(0.1～20)mm	U=0.002mm		
		Force		（10～500）cN	U_{rel}=0.3%		
15	*Colour Fastness to Perspiration Testers	Mass	Calibration Specification for Colour Fastness to Perspiration Testers JJF(FZ) 028	（4200～6000）g	U=0.20g		
16	*Circular Locus Method Fuzzing and Pilling Testers	Length	Calibration Specification for Circular Locus Method Fuzzing and Pilling Testers JJF(FZ) 031	(0.01～150)mm	U=0.04mm		
		Speed		（1～100）r/min	U=0.12r/min		
		Force		（0.1～1000）cN	U=0.6cN		

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17	*Fabric Shrinkage Testers	Speed	Calibration Specification for Fabric Shrinkage Testers JJF(FZ)052	（50～520）r/min	U_{rel}=0.28%		
		Temperature		（0.01～100）℃	U=1.0℃		
		Length		(0～600)mm	U=0.4mm		
		Time		（1～3600）s	U=0.2s		
18	*Colour Fastness to Washing Testers	Capacity	Calibration Specification for Colour Fastness to Washing Testers JJF(FZ) 026	（1～600）mL	U=3mL		
		Length		（0.01～150）mm	U=1mm		
		Speed		（0.1～50）r/min	U=0.2r/min		
		Time		（1～3600）s	U=0.3s		
		Temperature		（0.1～100）℃	U=0.4℃		
19	*Fabric Water Vapor Transmission Testers	Temperature	Calibration Specification for Fabric Water Vapor Transmission Testers JJF(FZ)085	(0～50)℃	U=0.2℃		
		Humidity		30%RH～95%RH	U=1.3%RH		
		Airflow velocity		(0.3～0.5)m/s	U=0.10m/s		
		Length		(20～65)mm	U=0.04mm		
		Time		（1～180）s	U_{rel}=0.02%		
20	*Color Fastness to Scorch and Sublimation Testers	Force	Calibration Specification for Color Fastness to Scorch and Sublimation Testers JJF(FZ)029	（12～20）N	U=0.4N		
		Time		（15～30）s	U=0.2s		
		Temperature		（0～300）℃	U=0.7℃		
21	*Fabrics Water Spray Testers	Length	Calibration Specification for Fabrics Water Spray Testers JJF(FZ)083	（0～1）mm	U=0.01mm		
				（10～300）mm	U=（0.04～0.6）mm		

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		Time		（20～60）s	U=0.4s		
		Angle		45°	U=0.3°		
22	*Yarn Twist Tester	Force	Calibration Specification for Yarn Twist Tester JJF(FZ) 010	（0.01～5）N	U_{rel}=0.6%		
		Speed		（1～2000）r/min	U_{rel}=1.2%		
23	*Fabrics Bursting Tester	Length	Calibration Specification for Fabrics Bursting Tester JJF(FZ) 048	（0～100）mm	U=0.04mm		
		Time		（1～3600）s	U=0.2s		
		Pressure		（0～10）MPa	U=0.2%FS		
24	*Fabric Flat-Rubbing Tester	Mass	Calibration Specification for Fabric Flat-Rubbing Tester JJF(FZ) 036	（0.1～5）kg	U=0.6g		
		Rotation speed		（40～100）r/min	U=0.6r/min		
		Length		（20～65）mm	U=0.06mm		
25	*Color Fastness to Light Yellowing Tester	Temperature	Calibration Specification for Color Fastness to Light Yellowing Tester JJF(FZ) 079	（40～120）℃	U=0.3℃		
		Irradiance		（0.1～50）W/m^2	U_{rel}=12%		
		Time		（1～3600）s	U=0.3s		
		Speed		(0～10)r/min	U=0.3r/min		
26	*Horizontal and vertical combustion tester	Temperature	Calibration Specification for Horizontal and vertical combustion tester JJF(Gui) 76	（100～700）℃	U=0.8℃		
		Length		（1～150）mm	U=0.04mm		
		Time		（1～3600）s	U=0.2s		
		Angle		0° ～90°	U=0.2°		
27	*Yarn Wrap Reel Machines	Length	Calibration Specification for Yarn Wrap Reel Machines	(30～1000)mm	U=0.5mm		

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		Force	JJF(FZ) 019	0.1N～10N	U_{rel}=2%		
28	*Fiber Diameter Analyzer	Length	Calibration Specification for Fiber Diameter Analyzer JJF(FZ) 065	(0～1000) μ m	U=0.3 μ m		
29	*Winding Black Board Tester	Length	Calibration Specification for the Winding Black Board Tester JJF(FZ)012	(10～500)mm	U=0.5mm		
		Mass		(5～50)g	U=0.06g		
		Density		(7～19)cm^{-1}	U=1 cm^{-1}		
Special measuring instruments for motor vehicles							
1	*Tire Tread Depth Gauges	Length	C. S. for Tire Tread Depth Gauges JJF 1477	(0～100)mm	U=0.01mm		
2	Tyre Pressure Gauges	Pressure	V. R. of Tyre Pressure Gauges JJG 927	(0～2.5)MPa	U=0.3%FS		
3	*Transmittance Meter of Automobile	Transmittance	C. S. for Transmittance Meter of Automobile JJF 1225	30%～80%	U=0.7%		
4	Digital Tyre Pressure Gauges	Pressure	V. R. of Digital Tyre Pressure Gauges JJG 1201	(0～2.5)MPa	U=0.1%FS		
5	*Opacimeters	Opacity	V. R. of Opacimeters JJG 976	Ns:10%～90%	U=0.7%	Except for the type with engine oil temperature and speed measurement function	
Special measuring instruments for paper and papermaking							
1	*Compression Strength Tester for Corrugated Box	Force value	Verification Regulation of Compression Strength Tester for Corrugated Box JJG	50N～50kN	U_{rel}=0.4%		

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		Length	(QG)115	(1～50)mm	U=0.3mm		
2	*Compression Strength Tester for Board	Force value	Verification Regulation of Compression Strength Tester for Board JJG (Yue)018	50N～3kN	U_{rel}=0.4%		
3	*Bursting Tester Strength Testers for Paper(Board)	Pressure	Calibration Specification for Bursting Tester Strength Testers for Paper(Board) JJF 1811	Buersting presure：(0～6)MPa	U=0.04%FS		
				Clamping pressure：(0～1)MPa	U=0.02MPa		
4	*Stiffness Tester for Board	Torque	Verification Regulation of Stiffness Tester for Board JJG(QG) 57	（10～500）mN • m	U_{rel}=0.3%		
		Speed		200°/min	U=4°/min		
5	*Air Permeance Tester for Paper and Board	Volume	Verification Regulation of Air Permeance Tester for Paper and Board JJG(QG) 51	(250～1000)mL	U=(0.24～1.2)mL		
		Area		(0～10)cm^2	U=0.02cm^2		
6	*MIT Type Folding Endurance Tester	Force	Verification Regulation of MIT Type Folding Endurance Tester JJG(QG) 59	（4～50）N	U=0.07N		
		Angle		135 °	U=0.8°		
		Speed		175 min^{-1}	U=3min^{-1}		
		Count		（1～200）次	U=1times		
7	*Smoothness Tester for Paper and Board (Bekk method)	Pressure	Calibration Specification for Smoothness Tester for Paper and Board (Bekk method) JJF(QG) 139	(-60～0)kPa	U=0.03kPa		
		Time		1000 s	U=0.30s		
		Volume		(1～400)mL	U=0.4mL		
8	*Softness Tester	Force	Verification Regulation of Softness Tester JJG(QG) 64	(10～1000)mN	U_{rel}=0.14%		
9	*Puncture Resistance Tester for Board	Strength	Verification Regulation of Puncture Resistance Tester for Board JJG(QG) 56	(1～48)J	U_{rel}=0.3%		

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№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
10	*Absorption Velocity Tester forPaper Sanitary Product	Volume	Calibration Specification for Absorption Velocity Tester forPaper Sanitary Product JJF(QG)117	（0.1～50）mL	U=0.1mL		
		Time		（1～3600）s	U=0.3s		
11	*Thickness Tester for Paper and Board	Length	Verification Regulation of Thickness Tester for Paper and Board JJG(QG) 50.1	（0～50）mm	U=1 μ m		
12	*ThicknessTester for Corrugated Fibreboard	Length	Verification Regulation of Thickness Tester for Corrugated Fibreboard JJG(QG) 50.2	（0～100）mm	U=0.02mm		
13	*Absorption Tester for Paper and Board	Area	Verification Regulation of Absorption Tester for Paper and Board JJG(QG) 55	100cm^2	U=0.08cm^2		
14	*Tear Tester for Paper and Board	Force	Verification Regulation of Tear Tester for Paper and Board JJG(QG) 63	(1～100)N	U_{rel}=0.18%		
15	*Tensile StrengthTesting Machines for Paper and Board	Force	Calibration Specification for Tensile Strength Testing Machines for Paper and Board JJF (QG)115	(0.1～2000)N	U_{rel}=0.4%		
		Speed		(1～500)mm/min	U_{rel}=1.2%		
		Elongation		(1～200)mm	U=0.08mm		
Special measuring instruments for Medical							
1	*Dissolution Tester	Temperature	Verification Regulation of Dissolution Tester JJG(Yue) 048	Resolution0.01℃：(30～40)℃	U=0.12℃		
				Resolution0.1℃：(30～40)℃	U=0.2℃		
		Rotation Speed		（25～200）r/min	U_{rel}=0.9%		

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№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
2	*ELISA Analytical Instruments	Absorbance	Verification Regulation of ELISA Analytical Instruments JJG 861	0.1～2.0	U=0.012		
3	*Medical Suction Equipment	Pressure	Calibration Specification for Medical Suction Equipment JJF 1810	1.6level：(-100～0) kPa	U=0.6 kPa		
				2.5level：(-100～0) kPa	U=0.8 kPa		
4	*Automatic Chemistry Analyzers	Absorbance	Calibration Specification for Automatic Chemistry Analyzers JJF 1720	0.45～1.05	U=0.005		
		Concentration		ALT：(45～120) U/L	U_{rel}=5%		
				GLU：(6.5～14) mmol/L	U_{rel}=3.2 %		
5	*Automatic Closed Luminescence Immunoassay Analyzers	Concentration	Calibration Specification for Automatic Closed Luminescence Immunoassay Analyzers JJF 1752	Insulin：(38～165) pmol/L	U_{rel}=5 %		
6	*Non-invasive Automated Sphygmomanometers	Pressure	Verification Regulation of Non-invasive Automated Sphygmomanometers JJG 692	(0.1～50.0) kPa	U=0.2 kPa		
7	*Sphygmomanometer	Pressure	Verification Regulation of Sphygmomanometer JJG 270	(0.1～40.0) kPa	U=0.2 kPa		
8	*Light Beam Sphygmomanometer	Pressure	Verification Regulation of Light Beam Sphygmomanometer JJG(Su) 263	(0.1～40.0) kPa	U=0.2 kPa		
9	*Medical Centrifuges	Rotating speed	Calibration Specification for Medical Centrifuge JJF2004	(30～30000)r/min	U_{rel}=0.2%		
		Temperature		(-30～85)℃	U=0.6℃		
		Time		(10～1800)s	U_{rel}=0.07%		

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Special measuring instruments for petroleum and chemical industry							
1	*Pencil Hardness Testers	Mass	C. S. for Pencil Hardness Testers JJF(SH) 007	(500、750、765、1000)g	U=3g		
		Angle		45°	U=0.2°		
2	*Film Impact Tester	Length	C. S. for Film Impact Tester JJF(SH) 002	(0～500)mm	U=0.2mm		
		Mass		(1000、2000)g	U=0.2g		
3	Paint Film Scribers	Length	C. S. for Paint Film Scribers JJF 2163	Tooth spacing:(1、2、3)mm	U=3 μm		
		angle		30°	U=0.2°		
4	Wet Film Thickness Gauges	Length	C. S. for Wet Film Thickness Gauges JJF 1484	Comb Gauge:(5～100) μm	U=0.4 μm		
				Comb Gauge:(100～3000) μm	U=2.4 μm		
				Wheel gauge:(0～50) μm	U=0.4 μm		
				Wheel gauge:(50～125) μm	U=0.6 μm		
				Wheel gauge:(125～1500) μm	U=4.0 μm		
5	*Scratch Testers	Mass	C. S. for Scratch Testers JJF(SH) 009	(50、100、200、500、1000)g	U=0.1g		
		length		(0～1000)mm	U=0.06mm		
		Speed		(10、35)mm/s	U=1.1mm/s		
6	*Film Adhesion Testers (Circle-drawing method)	Length	C. S. for Film Adhesion Testers (Circle-drawing method) JJF(SH) 036	Diameter of rotation:10.5mm	U=0.03mm		

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№	Instrument	Measurand	Calibration Method	Range	Expanded Uncertainty (k=2)	Note	Effective Date
7	*Coating Flexibility Testers	Length	C. S. for Coating Flexibility Testers JJF(SH) 006	Diameter:(4、5、10、15)mm	U=6 μ m		
				Thickness:(1、2、3)mm	U=0.04mm		
8	*Heat Deflection and Vicat Softening Temperature Testers	Temperature	C. S. for Heat Deflection and Vicat Softening Temperature Testers JJF(Ji) 3043	temperature deviation:(0～300)℃	U=0.2℃		
				Temperature Uniformity:(0～300)℃	U=0.05℃		
		Heating rate		(50～120)℃/h	U=0.2℃/h		
		length		(0.5～20)mm	U=2 μ m		
		Mass		(0.5～5000)g	U=(0.03～0.08)g		

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