

附表 4

任务编号: L23623-2018-01

推荐认可的校准和测量能力范围 (英文)

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No	instru ment	Param eter	Code of field	Title, Code of calibration method	Range	Expanded Uncertaint y (k=2)	Note	Expans ion or change
一 Geometric quantity								
1	*Outsi de Mi cromet er	Length	600204	Verification Regulation of Micrometer JJG 21, Calibratio n Specification for Dimension Outside Micrometers JJF1088	(0~25) mm	$U=1.6\mu\text{m}$		
					(>25~ 100) mm	$U=2.0\mu\text{m}$		
					(>100~ 200) mm	$U=2.9\mu\text{m}$		
					(>200~ 500) mm	$U=6.4\mu\text{m}$		
					(>500mm~ 700) mm	$U=8.8\mu\text{m}$		
					(>700~ 900) mm	$U=12\mu\text{m}$		
					(>900~ 1000) mm	$U=13\mu\text{m}$		
2	*Depth Micr ometer	Length	600205	Verification Regulation of Depth Micrometers JJG 24	(0~100) mm	$U=1.3\mu\text{m}$		
					(>100~ 200) mm	$U=1.8\mu\text{m}$		
					(>200~ 300) mm	$U=2.5\mu\text{m}$		
3	*Micro meter With Comp arator	Length	600206	Verificaiton Regulation of the Micrometers with Dial Comparator and Indicating Snap Gauge JJG 26	(0~25) mm	$U=1.2\mu\text{m}$		
					(25~50) mm	$U=1.3\mu\text{m}$		
					(50~75) mm	$U=1.4\mu\text{m}$		
					(75~ 100) mm	$U=1.5\mu\text{m}$		
4	*Commo	Length	600511	Verification	(0~50) mm	$U=1.6\mu\text{m}$		

No	instrument	Parameter	Code of field	Title, Code of calibration method	Range	Expanded Uncertainty (k=2)	Note	Expansion or change
	Normal Micrometer			Regulation of Common Normal Micrometer JJG 82	(>50~100) mm	$U=1.8\mu\text{m}$		
					(>100~150) mm	$U=1.9\mu\text{m}$		
5	*Micrometer With Gauge	Length	600207	Verification Regulation of Micrometers with Gauge JJG 427	(0~100) mm	$U=1.3\mu\text{m}$		
6	*Micrometers of Measuring Inside Dimension	Length	600203	Calibration Specification for Micrometers of Measuring Inside Dimension JJF 1411	Internal test (6~100) mm	$U=1.6\mu\text{m}$		
					Three point inner diameter: (6~100) mm	$U=1.8\mu\text{m}$		
7	Internal Micrometers	Length	600202	Verification Regulation of Internal Micrometers JJG 22	(50~300) mm	$U=2.1\mu\text{m}$		
					(>300~600) mm	$U=3\mu\text{m}$		
					(>600~800) mm	$U=4.2\mu\text{m}$		
					(>800~1000) mm	$U=5.2\mu\text{m}$		
8	*Universal Bevel Protractors	Length	600312	Verification Regulation of Universal Bevel Protractors JJG 33	(0~320) °	$U=1.2'$		
					(0~360) °	$U=1.6'$		
9	*Vernier Calipers	Length	600213	Verification Regulation of Current Calipers JJG 30	(0~300) mm	$U=0.01\text{mm}$		
					(>300~500) mm	$U=0.02\text{mm}$		
					(>500~1000) mm	$U=0.03\text{mm}$		
10	*Digital	Length	600217	Verification Regulation of	(0~500) mm	$U=0.01\text{mm}$		

No	instrument	Parameter	Code of field	Title, Code of calibration method	Range	Expanded Uncertainty (k=2)	Note	Expansion or change
	Calipers			Current Calipers JJG 30	(>500~1000)mm	$U=0.02\text{mm}$		
11	*Depth Calipers	Length	600214	Verification Regulation of Current Calipers JJG 30	(0~500)mm	$U=0.01\text{mm}$		
					(>500~1000)mm	$U=0.02\text{mm}$		
12	*Dial Caliper	Length	600216	Verification Regulation of Current Calipers JJG 30	(0~200)mm	$U=0.02\text{mm}$		
					(>200~500)mm	$U=0.03\text{mm}$		
13	*Height Caliper	Length	600215	Verification Regulation of Height Caliper JJG 31	(0~300)mm, Resolution 0.02mm	$U=0.01\text{mm}$		
					(0~300)mm, Resolution 0.05mm	$U=0.02\text{mm}$		
					(0~300)mm, Resolution 0.10mm	$U=0.04\text{mm}$		
14	*Digital Height Caliper	Length	600215	Verification Regulation of Height Caliper JJG 31	(0~300)mm, Resolution 0.01mm	$U=0.01\text{mm}$		
15	*Dial Height Caliper	Length	600215	Verification Regulation of Height Caliper JJG 31	(0~300)mm, Resolution 0.01mm	$U=0.01\text{mm}$		
					(0~300)mm, Resolution 0.02mm	$U=0.02\text{mm}$		

No	instru ment	Param eter	Code of field	Title, Code of calibration method	Range	Expanded Uncertaint y (k=2)	Note	Expans ion or change
					(0~ 300) mm, Res olution 0.05mm	$U=0.05\text{mm}$		
16	*Gear Tooth Calipe rs	Length	600510	Calibration Specification for Gear Tooth Calipers JJF 1072	Gear Tooth Calipers M(1~26)	$U=0.02\text{mm}$		
					Digital Gear Tooth Calipers M(1~26)	$U=0.01\text{mm}$		
17	*Dial Gauges Readin g In 0.01mm	Length	600208	Verification Regulation of Dial Gauges (Dial and Digital) JJG 34	(0~10) mm	$U=3.2\mu\text{m}$		
18	*Dial Gauges Readin g In 0.001m m	Length	600208	Verification Regulation of Dial Gauges (Dial and Digital) JJG 34	(0~1) mm	$U=1.6\mu\text{m}$		
					(>1~2) mm	$U=2.1\mu\text{m}$		
					(>2~5) mm	$U=2.4\mu\text{m}$		
					(>5~10) mm	$U=2.5\mu\text{m}$		
19	*Dial Test Indica tor Readin g In 0.01mm	Length	600209	Verification Regulation of Dial Test Indicator JJG 35	(0~1) mm	$U=2.0\mu\text{m}$		

No	instrument	Parameter	Code of field	Title, Code of calibration method	Range	Expanded Uncertainty (k=2)	Note	Expansion or change
20	*Dial Test Indicator Reading In 0.001mm	Length	600209	Verification Regulation of Dial Test Indicator JJG 35	(0~0.4)mm	$U=1.2\mu\text{m}$		
21	*Wide Range Dages Reading In 0.01mm	Length	600210	Verification Regulation of Wide Range Dages Reading in 0.01mm JJG 379	(10~50)mm	$U=5.2\mu\text{m}$		
22	*Bore Dial Indicators Reading In 0.01mm	Length	600211	Calibration Specification for Bore Dial Indicators JJF 1102	(>2~50)mm	$U=2\mu\text{m}$		
					(>50~450)mm	$U=2.5\mu\text{m}$		
23	*Bore Dial Indicators Reading In 0.001mm	Length	600211	Calibration Specification for Bore Dial Indicators JJF 1102	(>6~450)mm	$U=1.8\mu\text{m}$		
24	Feeler Gauges	Length	600608	Verification Regulation of Feeler Gauges JJG 62	(0.02~0.10)mm	$U=1.5\mu\text{m}$		
					(>0.10~3.00)mm	$U=2.5\mu\text{m}$		
25	Common Screw Templates	Length	600527	Verification Regulation of Screw Templates JJG 60	Screw Pitch (0.40~6.00)mm	$U=3.3\mu\text{m}$		

No	instrument	Parameter	Code of field	Title, Code of calibration method	Range	Expanded Uncertainty (k=2)	Note	Expansion or change
26	Uniform Screw Templates	Length	600527	Verification Regulation of Screw Templates JJG 60	Screw Pitch (0.907~6.350) mm	$U=3.3\mu\text{m}$		
27	Radius Gauges	Length	600640	Verification Regulation of Radius Gauges JJG 58	R: (1~25) mm	$U=5\mu\text{m}$		
28	*Surface Plates	Length	600606	Verification Regulation of Surface Plates JJG 117	($\leq 400 \times 400$) mm	$U=1.5\mu\text{m}$		
					(> (600×400) ~ (1600×1000)) mm	$U=1.9\mu\text{m}$		
					(> (2000×1000) ~ (4000×2500)) mm	$U=4.3\mu\text{m}$		
29	*Straight Edges	Length	600315	Calibration Specification for Straight Edges JJF 1097	(0~400) mm	$U=0.3\mu\text{m}$		
					(>400~1600) mm	$U=0.8\mu\text{m}$		
					(>1600~3000) mm	$U=1.4\mu\text{m}$		
					(>3000~6300) mm	$U=2.1\mu\text{m}$		
30	*Straight Edge	Length	600308	Verification Regulation of Straight Edge JJG 63	(0~175) mm	$U=0.3\mu\text{m}$		
					(>175~300) mm	$U=0.7\mu\text{m}$		
31	*Machine Type	Length	600622	Verification Regulation of Comparators of Machine Type JJG 39	($\pm 30 \sim \pm 100$) (Degree), Resolution $\geq 1\mu\text{m}$	$U=0.15\mu\text{m}$		

No	instrument	Parameter	Code of field	Title, Code of calibration method	Range	Expanded Uncertainty (k=2)	Note	Expansion or change
32	*Microcator	Length	600622	Verification Regulation of Microcator JJG 118	(±30~±100) (Degree), Resolution ≥ 1 μm	U=0.12 μm		
33	Plain Limit Gauges	Length	600609	Verification Regulation of Plain Limit Gauges JJG 343	(0~50) mm	U=0.5 μm		
					(>50~100) mm	U=0.7 μm		
					(>100~200) mm	U=1.0 μm		
					(>200~300) mm	U=1.4 μm		
34	Cylindrical Measuring Pin	Length	600616	Calibration Specification for Cylindrical Measuring Pin JJF 1207	Needle gauge: (0.1~25) mm	U=0.26 μm		
					Three needles: (0.118~6.212) mm	U=0.26 μm		
35	*Thickness Gauges	Length	600219	Calibration Specification for Thickness Gauges JJF 1255	(1~30) mm, Resolution 0.01 mm	U=4 μm		
					(1~30) mm, Resolution 0.1 mm	U=16 μm		
					(0~1) mm, Resolution 0.001 mm	U=1.2 μm		
					(1~10) mm, Resolution 0.002 mm	U=1.5 μm		
36	*Dial Snap Gauges	Length	600611	Calibration Specification for Dial Snap Gauges JJF	(0~100) mm, Resolution 0.01 mm	U=8 μm		

No	instrument	Parameter	Code of field	Title, Code of calibration method	Range	Expanded Uncertainty (k=2)	Note	Expansion or change
				1253	(0~100) mm, Resolution 0.1mm	$U=24\mu\text{m}$		
					(0~100) mm, Resolution 0.02mm	$U=10\mu\text{m}$		
					(0~100) mm, Resolution 0.05mm	$U=16\mu\text{m}$		
					(0~100) mm, Resolution 0.005mm	$U=4\mu\text{m}$		
37	Squares	Angle	600308	Verification Regulation of Squares JJG 7	(50~100) mm	$U=1.2\mu\text{m}$		
					(100~200) mm	$U=1.4\mu\text{m}$		
					(250~315) mm	$U=1.6\mu\text{m}$		
					(400~500) mm	$U=1.8\mu\text{m}$		
38	Levels	Angle	600313	Calibration Specification for Frame Levels and Shaft Levels JJF 1084	(0.02~0.10) mm/m	$U_{\text{rel}}=4.6\%$		
39	Extensometer	Displacement	600648	Verification regulation of Extensometer JJG 762	(0~0.5) mm	$U=0.9\mu\text{m}$		
					(0.5~25) mm	$U_{\text{rel}}=0.22\%$		
二、Thermology								

No	instrument	Parameter	Code of field	Title, Code of calibration method	Range	Expanded Uncertainty (k=2)	Note	Expansion or change
1	*Digital Temperature Indicators And Controllers	Temperature	610208	Calibration Specification for Temperature Indicators JJF 1664	(-200~1800) °C	$U=(0.3\sim 0.8)^\circ\text{C}$		
2	*Recorders for Industrial - Process Measurement	Temperature	610203	Verification Regulation of the Recorders for Industrial - Process Measurement JJG 74	(-200~1800) °C	$U=(0.3\sim 0.8)^\circ\text{C}$		
3	*Analogue Temperature Indicators And Controllers	Temperature	610207	Calibration Specification for Temperature Indicators JJF 1664	(-100~200) °C	$U=0.4^\circ\text{C}$		
					(> 200~800) °C	$U=2^\circ\text{C}$		
					(>800~1800) °C	$U=4^\circ\text{C}$		
4	*Temperature Indicators And	Temperature	610201	Calibration Specification of Temperature Indicators and	(-200~800) °C	$U=(0.01\sim 0.13)^\circ\text{C}$		
					(> 800~1000) °C	$U=(0.08\sim 0.14)^\circ\text{C}$		

No	instrument	Parameter	Code of field	Title, Code of calibration method	Range	Expanded Uncertainty (k=2)	Note	Expansion or change
	Simulators by Electrical Simulation And Measurement			Simulators by Electrical Simulation and Measurement JJF 1309	(> 1000~1800) °C	$U=(0.09\sim 0.12)^\circ\text{C}$		
5	Mechanical Thermometers - Hygrometers	Temperature	610603	Verification Regulation of Mechanical Thermometers JJG 205	(5~50) °C	$U=0.5^\circ\text{C}$		
		Humidity	610603		(30~90)%RH	$U=(1.5\sim 2.0)\%RH$		
6	Digital Thermometers - Hygrometers	Temperature	610604	Verification Regulation of Digital Thermometers JJG (SU) 99	(5~50) °C	$U=0.4^\circ\text{C}$		
		Humidity	610604		(30~90)%RH	$U=(1.5\sim 1.9)\%RH$		
7	Humidity Sensors	Temperature	610607	Calibration Specification of Humidity Sensors JJF 1076	(5~50) °C	$U=0.4^\circ\text{C}$		
		Humidity	610607		(30~90)%RH	$U=(1.5\sim 1.9)\%RH$		
8	Filled System Thermometers	Temperature	610117	Verification Regulation of Filled System Thermometers JJG 310	(-80~300) °C	$U=(0.4\sim 1)^\circ\text{C}$		
9	Bimetallic Thermometers	Temperature	610116	Verification Regulation of Bimetallic Thermometers JJG 226	(-80~300) °C	$U=(0.4\sim 1)^\circ\text{C}$		

No	instrument	Parameter	Code of field	Title, Code of calibration method	Range	Expanded Uncertainty (k=2)	Note	Expansion or change
10	Liquid - In - Glass Thermometers for Working	Temperature	610113	Verification Regulation of Liquid - in - Glass Thermometers for working JJG 130	(-80~300) °C	$U=(0.04\sim 0.16)^\circ\text{C}$		
11	Electric Contact Mercury - In - Glass Thermometers	Temperature	610114	Verification Regulation of the Electric Contact Mercury - in - Glass Thermometers JJG 131	(-30~300) °C	$U=(0.04\sim 0.16)^\circ\text{C}$		
12	Meteorological Liquid - In - Glass Thermometers	Temperature	700301	Verification Regulation of Meteorological Liquid - in - Glass Thermometers JJG 207	(-60~80) °C	$U=(0.10\sim 0.15)^\circ\text{C}$		
13	Temperature Indication Controller	Temperature	610202	Verification Regulation of Temperature Indication Controller JJG 874	(-50~300) °C	$U=0.2^\circ\text{C}$		
14	Thermistor Thermometers	Temperature	610122	Calibration Specification of Thermistor Thermometers JJF 1379	(-50~200) °C	$U=0.2^\circ\text{C}$		

No	instrument	Parameter	Code of field	Title, Code of calibration method	Range	Expanded Uncertainty (k=2)	Note	Expansion or change
15	Working Base Metal Thermocouple	Temperature	610106	Calibration Specification for Base Metal Thermocouples JJF 1637	(0~1200) °C	$U=(0.3\sim 1.3)^{\circ}\text{C}$		
16	Dry And Wet Bulb Thermometer	Temperature	610603	Verification Regulation of Meteorological Liquid - in - Glass Thermometers JJG 207	(5~50) °C	$U=0.07^{\circ}\text{C}$		
17	Working Noble Metal Thermocouples	Temperature	610105	Verification Regulation of Working Noble Metal Thermocouples JJG 141	(419.527~1084.62) °C	419.527°C : $U=0.8^{\circ}\text{C}$; 660.323°C : $U=0.8^{\circ}\text{C}$; 1084.62°C : $U=0.8^{\circ}\text{C}$		
18	Sheathed Thermocouples	Temperature	610109	Calibration Specification for Sheathed Thermocouples JJF 1262	(300~1100) °C	$U=(0.3\sim 1.3)^{\circ}\text{C}$		
19	Temperature Transmitter	Temperature	610210	Calibration Specification of the Temperature Transmitter JJF 1183	(0~300) °C	$U=((0.09\sim 0.24)^{\circ}\text{C})$		
					(> 300~1000) °C	$U=(1.2\sim 1.5)^{\circ}\text{C}$		

No	instrument	Parameter	Code of field	Title, Code of calibration method	Range	Expanded Uncertainty (k=2)	Note	Expansion or change
20	The Standard Platinum - 10% Rhodium/Platinum Thermocouple	Temperature	610102	Verification Regulation of the Standard Platinum - 10% Rhodium/Platinum Thermocouple JJG 75	(419.527~1084.62) °C	419.527°C : U=0.8°C ; 660.323°C : U=0.9°C ; 1084.62°C : U=0.9°C		
21	Industry Platinum Resistance Thermometers	Temperature	610110	Verification Regulation of Industry Platinum and Copper Resistance Thermometers JJG 229	(-80~300) °C	0°C : U=0.026 °C ; 100°C : U=0.034 °C		
22	Industry Copper Resistance Thermometers	Temperature	610111	Verification Regulation of Industry Platinum and Copper Resistance Thermometers JJG 229	(-50~150) °C	U=(0.026~0.040) °C		
23	Standard Mercury - In - Glass Thermometers	Temperature	610112	Verification Regulation of Standard Mercury - in - Glass Thermometers JJG 161	(-30~300) °C	U=(0.04~0.06) °C		

No	instrument	Parameter	Code of field	Title, Code of calibration method	Range	Expanded Uncertainty (k=2)	Note	Expansion or change
24	Digital Thermometer	Temperature	610119	Calibration Specification for Digital Thermometer JJF(SU)95	(-80~300) °C	$U=(0.07\sim 0.11)^\circ\text{C}$		
25	Electric Temperature Transmitter	Temperature	610210	Calibration Specification of the Temperature Transmitter JJF 1183	(-200~1800) °C	$U=(0.05\% \text{ F.S}+0.2^\circ\text{C})$		
26	Semiconductor Point Thermometer	Temperature	610122	Calibration Specification of Thermistor Thermometers JJF 1379	(-30~150) °C	$U=0.2^\circ\text{C}$		
27	Thermocouple Calibration Furnaces	Temperature	610301	Testing Specification of Temperature Uniformity in Thermocouple Calibration Furnaces JJF 1184	(300~1300) °C	$U=0.6^\circ\text{C}$		
28	Temperature Block Calibrators	Temperature	610303	Calibration Guideline of the Temperature Block Calibrators JJF 1257	(-80~650) °C	$U=0.6^\circ\text{C}$		

No	instrument	Parameter	Code of field	Title, Code of calibration method	Range	Expanded Uncertainty (k=2)	Note	Expansion or change
29	Temperature Itinerant Detecting Instrument	Temperature	610204	Calibration Specification for Temperature Itinerant Detecting Instrument JJF 1171	(-80~300) °C	U=0.1°C		
30	The Working Platinum - 10% Rhodium/Platinum Thermocouple With Short Length	Temperature	610105	Verification Regulation of the Working Platinum - 10% Rhodium/Platinum and Platinum - 13% Rhodium/Platinum Thermocouple with Short Length JJG 668	(300~1200) °C	U=419.52 7°C; U=0.8°C; 660.323°C : U=0.8°C ; 1084.62°C : U=0.8°C		
31	Surface Thermometers	Temperature	610118	Calibration Specification for the Surface Thermometers JJF 1409	(35~400) °C	U=(0.9~2.0)°C		
32	Surface Platinum Resistance Thermometer	Temperature	610118	Verification Regulation of Surface Platinum Resistance Thermometer JJG 684	(35~400) °C	U=(0.9~1.9)°C		

No	instrument	Parameter	Code of field	Title, Code of calibration method	Range	Expanded Uncertainty (k=2)	Note	Expansion or change
33	*Thermostatic Bath's	Temperature	610302	Measurement and Test Norm of Thermostatic Bath's Metrological Characteristics JJF 1030	(-80~300) °C	$U=0.004$ °C		
34	*Dampness And Heat Test Equipment	Temperature	610305	Calibration Specification for the Equipment of the Environmental Testing for Temperature and Humidity JJF 1101	(10~60) °C	$U=0.3$ °C		
		Humidity	610305		(20~100)%RH	$U=(1.7\%~1.9\%)RH$		
35	*High Temperature Test Chamber	Temperature	610306	Calibration Specification for the Equipment of the Environmental Testing for Temperature and Humidity JJF 1101	(30~300) °C	$U=0.3$ °C		
36	*Low Temperature Test Chamber	Temperature	610306	Calibration Specification for the Equipment of the Environmental Testing for Temperature and Humidity JJF 1101	(-60~0) °C	$U=0.3$ °C		

No	instrument	Parameter	Code of field	Title, Code of calibration method	Range	Expanded Uncertainty (k=2)	Note	Expansion or change
37	*Salt Spray Test Chamber	Temperature	610311	Calibration Specification for Salt Mist Testing Chambers JJF (Zhe) 1125	(0~100) °C	$U=0.3\text{ }^{\circ}\text{C}$		
		Salt fog sedimentation rate	610311		(1.0~2.0) mL/80cm ² ·h	$U=0.2\text{mL}/80\text{cm}^2\cdot\text{h}$		
38	*High And Low Temperature Test Chamber	Temperature	610306	Calibration Specification for the Equipment of the Environmental Testing for Temperature and Humidity JJF 1101	(-60~300) °C	$U=0.3\text{ }^{\circ}\text{C}$		
39	*Box - Type Resistance Furnace	Temperature	610308	Calibration Specification for Box - type Resistance Furnace JJF 1376	(0~800) °C	$U=4.3^{\circ}\text{C}$		
					(>800~1300) °C	$U=1.7^{\circ}\text{C}$		
40	*Drying Oven	Temperature	610304	Calibration Specification for the Equipment of the Environmental Testing for Temperature and Humidity JJF 1101	(0~300) °C	$U=0.3^{\circ}\text{C}$		

No	instru ment	Param eter	Code of field	Title, Code of calibration method	Range	Expanded Uncertaint y (k=2)	Note	Expans ion or change
41	*Heat Aging Test Chambe r	Temper ature	610314	Calibration Specification for the Equipment of the Environmental Testing for Temperature and Humidity JJF 1101	(0~300) °C	$U=0.3^{\circ}\text{C}$		
42	*Bioch emical Incuba tor	Temper ature	610315	Calibration Specification for the Equipment of the Environmental Testing for Temperature and Humidity JJF 1101	(0~80) °C	$U=0.3^{\circ}\text{C}$		
43	*Tempe rature Circul ation Test Box	Temper ature	610307	Calibration Specification for the Equipment of the Environmental Testing for Temperature and Humidity JJF 1101	(0~300) °C	$U=0.3^{\circ}\text{C}$		
三、Mechanics								
1	*Tensi on, Com pressi on And Univer sal	Force Value	620710	Verifica tion regulation of Tension, Compr ession and Universal Testing	1cN~3kN	$U_{\text{rel}}=0.10$ %		
					3kN~1MN	$U_{\text{rel}}=0.12$ %		

No	instru ment	Param eter	Code of field	Title, Code of calibration method	Range	Expanded Uncertaint y (k=2)	Note	Expans ion or change
	Testin g Machin es			Machines JJG 139	1MN~3MN	$U_{rel}=0.4\%$		
2	*Elect ronic Univer sal Testin g Machin e	Force Value	620711	Verification Regulation of Electronic Universal Testing Machine JJG 475	1cN~3kN	$U_{rel}=0.10$ %		
					3kN~1MN	$U_{rel}=0.12$ %		
					1MN~3MN	$U_{rel}=0.4\%$		
3	*Elect ro-Hyd raulic Servo Univer sal Testin g Machin es	Force Value	620711	Verification regulation of Electro-hydra ulic Servo Universal Testing Machines JJG 1063	1cN~3kN	$U_{rel}=0.10$ %		
					3kN~1MN	$U_{rel}=0.15$ %		
					1MN~3MN	$U_{rel}=0.4\%$		
4	*Build ing Materi al Testin g Machin e of Consta nt Loadin g Speed	Force Value	620799	Verification regulation of Building Material Testing Machine of Constant Loading Speed JJG 1025	1cN~3kN	$U_{rel}=0.10$ %		
					3kN~1MN	$U_{rel}=0.12$ %		
					1MN~3MN	$U_{rel}=0.4\%$		

No	instrument	Parameter	Code of field	Title, Code of calibration method	Range	Expanded Uncertainty (k=2)	Note	Expansion or change
5	*Flexure Testing Machine	Force Value	620713	Verification regulation of Flexure Testing Machine JJG 476	10N~10kN	$U_{rel}=0.2\%$		
6	*Working Dynamometers	Force Value	620799	Verification regulation of Working Dynamometers JJG 455	1cN~3kN	$U_{rel}=0.2\%$		
					3kN~600kN	$U_{rel}=0.4\%$		
7	*Spring Tension And Pressure Testing Machines	Force Value	620704	Calibration Specification for Working Force Measuring Machines for Special Purposes JJF 1134	1cN~3kN	$U_{rel}=0.10\%$		
					3kN~1MN	$U_{rel}=0.17\%$		
8	*Pressure Transmitter	Pressure	620512	Verification regulation of Pressure Transmitter JJG 882	(-0.1~60) MPa	$U=0.06\%$ FS		
9	*Precision Pressure Gauge	Pressure	620502	Verification regulation of elastic element precision pressure gauges and vacuum gauges JJG 49	(-0.1~60) MPa	$U=0.07\%$ FS		

No	instru ment	Param eter	Code of field	Title, Code of calibration method	Range	Expanded Uncertaint y (k=2)	Note	Expans ion or change
10	*Digit al Pressu re Gauges	Pressu re	620504	Verification regulation of digital pressure gauges JJG 875	(-0.1~ 60)MPa	$U=0.07\%$ FS		
11	*Pendu lum Impact Testin g Machin es	Energy	621019	Verification regulation of Pendulum Impact Testing Machines JJG 145	(20~40) J	$U=1.0J$		
					(40~300) J	$U_{rel}=2.5\%$		
12	*Metal lic Brinel l Hardne ss Tester s	Hardne ss	620901	Verification regulation of Metallic Brinell Hardness Testers JJG 150	(75~125) HBW2.5/62. 5	$U_{rel}=1.0\%$		
					(75~650) HBW2.5/187. 5	$U_{rel}=1.5\%$		
					(75~650) HBW10/3000	$U_{rel}=1.0\%$		
					(75~650) HBW5/750	$U_{rel}=1.2\%$		
					(75~125) HBW5/250	$U_{rel}=1.0\%$		
					(75~125) HBW10/1000	$U_{rel}=1.5\%$		
13	*Membr ane Box Pressu re Gauges	Pressu re	620505	Verification regulation of elastic element pressure gauges, pressu re-vacuum gauges and vacuum gauges for general use JJG 52	(-0.1~ 60)MPa	$U=0.6\%F$ S		

No	instru ment	Param eter	Code of field	Title, Code of calibration method	Range	Expanded Uncertaint y (k=2)	Note	Expans ion or change
14	*Gener al Pressu re Gauge, Pressu re Vacuum Meter And Vacuum Meter	Pressu re	620503	Verification regulation of elastic element pressure gauges, pressu re-vacuum gauges and vacuum gauges for general use JJG 52	(-0.1~ 60)MPa	$U=0.6\%F$ S		
15	*Tyre Pressu re Gauges	Pressu re	700216	Verification regulation of Tyre Pressure Gauges JJG 927	(0~ 2.5)MPa	$U=0.6\%F$ S		
16	*Equot ip Hardne ss Tester	Hardne ss	620910	Verification regulation of Equotip Hardness tester JJG 747	(530± 40)HLD	$U=7HLD$		
					(630± 40)HLD	$U=7HLD$		
					(790± 40)HLD	$U=8HLD$		
17	*Metal lic Rockwe ll Hardne ss Testin g Machin es	Hardne ss	620904	Verification regulation of Metallic Rockwell Hardness Testing Machines(A, B, C, D, E, F, G, H, K, N, T scale) JJG 112	(20~ 88)HRA	$U=0.5HR$ A		
					(20~ 100)HRB	$U=0.8HR$ B		
					(20~ 70)HRC	$U=0.6HR$ C		
					(20~ 94)HRN	$U=0.6HR$ N		
					(20~ 93)HRTW	$U=1.0HR$ TW		

No	instrument	Parameter	Code of field	Title, Code of calibration method	Range	Expanded Uncertainty (k=2)	Note	Expansion or change
18	*Calibration Instrument for Torque Wrenches	Torque	620803	Verification regulation of Torque Wrenches calibrator JJG 797	(2~3000)Nm	$U_{rel}=0.2\%$		
19	*Shore A Durometers	Hardness	620916	Verification regulation of shore A Durometes JJG 304	(0~100)HA	$U=0.4HA$		
20	*Shore D Durometers	Hardness	620916	Verification regulation of shore D durometer JJG 1039	(0~100)HD	$U=0.4HD$		
21	*Shore A0 Durometers	Hardness	620916	Calibration Specification for Shore A0 Durometers JJF 1312	(0~100)HA0	$U=0.4HA0$		
22	*Mechanical Balance	Quality	620104	Verification regulation of mechanical balance JJG 98	1mg~1kg	$U=0.12mg$		
					1kg~5kg	$U=12mg$		
23	*Electronic Balance	Quality	620105	Verification regulation of electronic balance JJG 1036	1mg~50g	$U=0.01mg \sim 0.1mg$		
					50g~1kg	$U=0.1mg \sim 1mg$		
					1kg~5kg	$U=1mg \sim 10mg$		
24	*Metallic Vickers	Hardness	620914	Verification regulation of metal Vivtorinox	(175~800) HV ₅	$U_{rel}=3.0\%$		
					(175~600) HV ₁₀	$U_{rel}=3.0\%$		

No	instrument	Parameter	Code of field	Title, Code of calibration method	Range	Expanded Uncertainty (k=2)	Note	Expansion or change
	Hardness Testers			hardness meter JJG 151	(175~800) HV ₃₀	U _{rel} =3.0%		
25	*Micro Hardness Tester	Hardness	620914	Verification regulation of metal Vivtorinox hardness meter JJG 151	(175~225) HV _{0.05}	U _{rel} =3.0%		
					(400~600) HV _{0.1}	U _{rel} =3.0%		
					(400~800) HV _{0.2}	U _{rel} =3.0%		
					(400~800) HV _{0.3}	U _{rel} =3.0%		
					(175~800) HV _{0.5}	U _{rel} =3.0%		
					(175~800) HV ₁	U _{rel} =3.0%		
四、Electricity								
1	*Megohmmeter	DC Resistance	640308	Verification Regulation of Megohmmeter JJG 622	0.1 kΩ~10 MΩ	U _{rel} =1.3%		
					(10~100) MΩ	U _{rel} =1.6%		
					(0.1~1) GΩ	U _{rel} =2.0%		
					(1~10) GΩ	U _{rel} =2.6%		
		DC Voltage	640308		(10~100) GΩ	U _{rel} =6.0%		
					(50~100) V	U _{rel} =5.9%		
					(0.1~0.5) kV	U _{rel} =3.5%		
					(0.5~5) kV	U _{rel} =1.8%		

No	instrument	Parameter	Code of field	Title, Code of calibration method	Range	Expanded Uncertainty (k=2)	Note	Expansion or change
2	*AC Voltmeter	AC Voltage	640104	Verification Regulation of Amperemeters, Voltmeters, Wattmeters and Ohmmeters JJG 124	(0.1~1000)V, (40 Hz~65 Hz)	$U_{rel}=0.10$ %		
3	*AC Amperemeter	AC Current	640203	Verification Regulation of Amperemeters, Voltmeters, Wattmeters and Ohmmeters JJG 124	0.2 mA~20 A, (40 Hz~65 Hz)	$U_{rel}=0.10$ %		
4	*AC Wattmeter	AC Power	640401	Verification Regulation of Amperemeters, Voltmeters, Wattmeters and Ohmmeters JJG 124	2.025 W~20 kW, (40 Hz~65 Hz, $\cos \phi=1$)	$U_{rel}=0.14$ %		
5	*DC Voltmeter	DC Voltage	640103	Verification Regulation of Amperemeters, Voltmeters, Wattmeters and Ohmmeters JJG 124	(0.1~1000)V	$U_{rel}=0.10$ %		
6	*DC Amperemeter	DC Current	640202	Verification Regulation of Amperemeters, Voltmeters, Wattmeters and Ohmmeters JJG 124	0.2 mA~20 A	$U_{rel}=0.10$ %		

No	instru ment	Param eter	Code of field	Title, Code of calibration method	Range	Expanded Uncertaint y (k=2)	Note	Expans ion or change
7	*DC Wattme ter	DC Power	640401	Verification Regulation of Amperemeters, Voltmeters, Wattmeters and Ohmmeters JJG 124	225 mW~20 kW	$U_{rel}=0.10$ %		
8	*Wire Spark Tester	AC Volutag e	701014	Verification Regulation of Wire Spark Tester JJG(SU) 74	(0.5~ 30)kV, (50 Hz)	$U_{rel}=1.8\%$		
		DC Volutag e	701014		(0.5~ 30)kV	$U_{rel}=1.8\%$		
9	*High Insula tion Resist ance Meter	DC Resist ance	640309	Verification Regulation of High Insulation Resistance Meters JJG 690	(0.1~10)M Ω	$U_{rel}=0.25$ %		
					(10~100)M Ω	$U_{rel}=0.60$ %		
					(0.1~1)G Ω	$U_{rel}=1.2\%$		
					(1~10)G Ω	$U_{rel}=2.4\%$		
					(10~100)G Ω	$U_{rel}=6.0\%$		
		DC Volutag e	640309		(25~100)V	$U_{rel}=3.5\%$		
				(0.1~1)kV	$U_{rel}=1.4\%$			
10	*Digit al Oscill oscope	Vertic al Deflec tion Coeffi cien	650211 ,65021 2	Calibratiion Specification of Digital Storage Oscillscope JJF	100 mV~6.6 V, (50 Ω)	$U_{rel}=1.1\%$ ~1.0%		
				1057, Verifica tion Regulation of	100 mV~130 V, (1 M Ω)	$U_{rel}=1.1\%$ ~0.96%		
		Range	650211 ,65021 2	1057, Verifica tion Regulation of	1 mV _{p-p} ~6.6 V _{p-p} , (50 Ω)	$U_{rel}=5.0\%$ ~1.0%		

No	instrument	Parameter	Code of field	Title, Code of calibration method	Range	Expanded Uncertainty (k=2)	Note	Expansion or change
				Anologue Oscilloscope JJG 262	1 mV _{v-p} ~130 V _{v-p} , (1 MΩ)	$U_{rel}=4.9\%$ ~0.98%		
		Time	650211, 650212		2 ns~5 s	$U_{rel}=0.58\%$		
		Scanning Time Coefficient	650211, 650212		2 ns~5 s	$U_{rel}=0.58\%$		
		Bandwidth	650211, 650212		50 kHz~100 MHz	$U_{rel}=4.5\%$		
					(100~300)MHz	$U_{rel}=5.1\%$		
					(300~600)MHz	$U_{rel}=7.4\%$		
					600 MHz~1 GHz	$U_{rel}=8.5\%$		
		Rise Time	650211, 650212		(0.35~50) ns	$U_{rel}=17\%$ ~1.0%		
		Signal Voltage Amplitude	650211, 650212		(2.5~5)V _{v-p}	$U_{rel}=0.30\%$		
Signal voltage frequency	650211, 650212	1 kHz~1 MHz	$U_{rel}=1.9 \times 10^{-5}$					
11	*D.C. Bridge	DC Resistance	640307	Verification Regulation of D.C. Bridges JJG 125	(0.1~1) Ω	$U_{rel}=3.2\%$		
					(1~10) Ω	$U_{rel}=0.39\%$		

No	instrument	Parameter	Code of field	Title, Code of calibration method	Range	Expanded Uncertainty (k=2)	Note	Expansion or change
					(10~100) Ω	$U_{rel}=0.06$ 6%		
					(0.1~1)k Ω	$U_{rel}=0.06$ 6%		
					(1~10)k Ω	$U_{rel}=0.01$ 2%		
					(10~100)k Ω	$U_{rel}=0.01$ 2%		
五、Chemistry								
1	*Automatic Potentiometric Titrators	Voltage	680704	V. R. of Automatic Potentiometric Titrators JJG 814	(-2000~2000)mV	$U_{rel}=0.02$ %FS		
		Capacity	680704		(0~20)mL	$U=0.007$ mL		
2	*Laboratory pH Meters (Acidity Meters)	pH Value	680701	V. R. of Laboratory pH Meters JJG 119	Electricmeter: 0~14	$U=0.01$		
					Instrument: 0~14	$U=0.02$		
3	*Turbidimeters	Turbidity	680402	V. R. of Turbidimeters JJG 880	(0.1~400)NTU	$U_{rel}=4%$		
4	*Electrolytic Conductivity	Electrolytic Conductivity	680709	V. R. of Electrolytic Conductivity Meters JJG 376	Electricmeter: (0.05~2×10 ⁵) μS/cm	$U_{rel}=0.2%$		

No	instrument	Parameter	Code of field	Title, Code of calibration method	Range	Expanded Uncertainty (k=2)	Note	Expansion or change
	tivity Meters				Instrument : (100~2000) μ S/cm	$U_{rel}=0.4\%$		
5	*Ultraviolet Visible Spectrophotometers	Wave length	680102, 680103	V. R. of Ultraviolet, Visible, Near-Infrared Spectrophotometers JJG 178	(190~900) nm	$U=0.4nm$		
		transmittancy	680102, 680103		(0~100)%	$U=0.4\%$		
6	*Visible Spectrophotometers	Wave length	680104	V. R. of Ultraviolet, Visible, Near-Infrared Spectrophotometers JJG 178	(340~900) nm	$U=1.1nm$		
		Transmittancy	680104		(0~100)%	$U=0.4\%$		
7	*Atomic Absorption Spectrophotometers	Detection Limit	680108	V. R. of Atomic Absorption Spectrophotometers JJG 694	Flame Atomizer Cu: $\leq 0.02 \mu$ g/mL	$U_{rel}=10\%$		
					Graphite Fournace Atomizer Cd: $\leq 4pg$	$U_{rel}=12\%$		
8	*Gas Chromatographs	Sensitivity	680201	V. R. of Gas Chromatographs JJG 700	TCD: $\geq 800mV \cdot mL/mg$	$U_{rel}=7\%$		
		Detection Limit	680201		FID: $\leq 0.5ng/s$	$U_{rel}=12\%$		
					ECD: $\leq 5pg/mL$	$U_{rel}=12\%$		
					FPD: $\leq 0.5ng/s(S)$	$U_{rel}=12\%$		
					FPD: $\leq 0.1ng/s(P)$	$U_{rel}=12\%$		