

SCOPE OF ACCREDITATION TO ISO/IEC 17025-2005 & KS Q ISO/IEC 17025-2006

Korea Instrument Co., Ltd. Branch
 45, Gwangjang-ro 56beon-gil, Sasang-gu, Busan 46976
 Phone : 051-322-0880, Fax : 051-322-4066, E-mail : calworld@hanmail.net

CALIBRATION

Valid To : 26-Oct-19

Accreditation No : KC07-220(1/29)

In recognition of the successful completion of the KOLAS evaluation process, accreditation is granted this laboratory to perform the following calibrations

Field Code	Measured Quantity Instrument or Gauge	on-site	Field Code	Measured Quantity Instrument or Gauge	on-site	Field Code	Measured Quantity Instrument or Gauge	on-site
102. Linear dimension			10503	Contact coordinate measuring machines	Y	20413	Dial type vacuum gauges	Y
10206	Balls	N				210. Hardness		
10206	Dial/Cylinder gauge testers	N	10504	Non-Contact coordinate measuring machines	Y	21002	Brinell hardness testers	Y
10209	End bars	N				21003	Rockwell hardness testers	Y
10210	Extensometers, linear displacement transducers	Y	10511	Measuring microscopes, Profile projectors	Y	21004	Shore hardness testers	Y
10211	Filler gauges	N				21005	Vickers hardness testers	Y
10213	Gap gauges	N	10517	Stylus type Roughness testers	Y	21006	Durometer hardness testers	N
10214	Gauge blocks, by comparison	N				21007	Leeb (D Type) hardness testers	N
10216	Height gauges / measuring machines	Y	10519	Roughness standard/ comparison specimens	N	401. DC voltage & current		
10220	Standard measuring machines	Y	10525	Thread plug gauges	N	40101	DC ammeters	Y
10223	Electronic micrometers	N	10527	Thread ring gauges	N	40103	DC voltage/current calibrators	Y
10224	High micrometers, Riser blocks	N	10529	V-blocks, box blocks	N	40108	DC power supplies	Y
10228	Cylindrical plug/pin gauge, Thread measuring wire gauges	N	106. Various dimensional			40112	DC voltmeters	Y
10229	Radius gauges	N	10601	Inside/Outside/Gear tooth calipers, Caliper gauges	Y	402. Resistance, Capacitance and inductance		
10230	Cylindrical ring gauges	N	10603	Cylinder/Bore gauges	Y	40205	Earth testers	Y
10232	Step gauges	N	10604	Depth gauges, Depth micrometers	Y	40210	Insulation testers	Y
10233	Taper thickness gauges	N	16005	Dial/Digital gauges	Y	40214	Resistance meters	Y
10234	Ultrasonic Thickness gauges	Y	10609	Micro indicators, Test indicators	Y	40217	Impedance bridges/LCR meters	Y
10235	Ultrasonic/coating thickness specimens	N	10611	3-Point micrometers	Y	403. AC voltage, current & power		
10236	Coating thickness testers	Y	10612	Inside micrometers	Y	40301	AC ammeters	Y
103. Angle			10613	Outside micrometers	Y	40302	Clamp ammeters/voltmeters	Y
10304	Blvel protractors	N	10617	Standard sieves	N	40311	AC power meters	Y
10311	Plate/Square/Electric levels	N	10620	Welding gauges	N	40312	AC power supplies	Y
10318	Squareness testers, Right angle testers	N	201. Mass			40313	Puncture/safety testers	Y
10319	Cylindrical Squares	N	20109	Electric balances	Y	40318	AC voltmeters	Y
10320	Precision surface	N	20113	Spring scale balances	Y	404. Other DC & LF Measurements		
104. Form			20116	Weights	N	40416	Leakage current testers	Y
10401	Form testers	Y	202. Force			40417	Electronic AC/DC loads	Y
10405	Optical parallels	N	20203	Tension/compression testing machines	Y	40419	Analog/Digital multimeter	Y
10407	Precision surface plates	Y	20204	Push-pull gauges	N	40421	Oscilloscopes	Y
10409	Roundness measurement instruments	Y	203. Torque			40424	Volt/Current recorders	Y
10412	Straight edges	N	20303	Torque wrenches/drivers	Y	40435	AC/DC high voltage probes	Y
105. Complex geometry			204. Pressure			501. Contact thermometry		
10502	Bench centers	N	20408	Compound pressure gauges	Y	50501	Temperature generators; ovens, furnaces, isothermal liquid baths, ice-point baths, dry-block calibrators	Y
			20409	Differential pressure gauges	Y	50102		
			20411	Gauge pressure gauges	Y	Temperature indicators /recorders/controllers, temperature calibrators		
			20412	Pressure transducers/transmitters	Y			

102. Linear dimension

Measured Quantity Instrument or Gauge	Field Code	Range	CMC (The Confidence Level is about 95 %)	Comments	
Balls	10201	(0 ~ 50) mm	$\sqrt{0.40^2 + (0.003\ 0 \times l)^2} \mu\text{m}$ (l of the unit mm)	Standard measuring machines, Gauge block / KIC-102-01	
Dial/Cylinder gauge testers	10206	(0 ~ 100) mm	$\sqrt{0.26^2 + (0.003\ 0 \times l)^2} \mu\text{m}$ (l of the unit mm)	Electronic micrometers, Gauge block / KIC-102-06	
End bars	10209	(25 ~ 1 000) mm	$\sqrt{1.0^2 + (0.003\ 0 \times l)^2} \mu\text{m}$ (l of the unit mm)	Electronic micrometers, Gauge block / KIC-102-09	
Extensometers, linear displacement transducers	10210	(0 ~ 100) mm	$\sqrt{0.96^2 + (0.016 \times l)^2} \mu\text{m}$ (l of the unit mm)	Gauge block / KIC-102-10	
		(100 ~ 300) mm	$\sqrt{1.4^2 + (0.016 \times l)^2} \mu\text{m}$ (l of the unit mm)		
		(300 ~ 500) mm	$\sqrt{1.9^2 + (0.016 \times l)^2} \mu\text{m}$ (l of the unit mm)		
Filler gauges	10211	(0 ~ 5) mm	0.46 μm	Standard measuring machines / KIC-102-11	
Gap gauges	10213	(0 ~ 200) mm	$\sqrt{2.3^2 + (0.002\ 8 \times l)^2} \mu\text{m}$ (l of the unit mm)	Electronic micrometers, Hight micrometers / KIC-102-13	
Gauge blocks, by comparison	10214	(0 ~ 100) mm	$\sqrt{82^2 + (1.2 \times l)^2} \text{nm}$ (l of the unit mm)	Gauge block comparators, Standard gauge block / KIC-102-14	
Height gauges/measuring machines	10216	(0 ~ 1 000) mm	$\sqrt{1.2^2 + (0.003\ 0 \times l)^2} \mu\text{m}$ (l of the unit mm)	Step gauge, Gauge block / KIC-102-16	
Standard measuring machines	10220	(0 ~ 500) mm	$\sqrt{0.22^2 + (0.003\ 0 \times l)^2} \mu\text{m}$ (l of the unit mm)	Gauge block / KIC-102-20	
Electronic micrometers	10223	(0 ~ 10) mm	0.18 μm	Gauge block / KIC-102-23	
Height micrometers, Riser blocks	10224	Height micrometers Head	(0 ~ 30) mm	1.0 μm	Electronic micrometers, Gauge block, Precision surface plates / KIC-102-24
		Block	(0 ~ 600) mm	$\sqrt{1.0^2 + (0.003\ 0 \times l)^2} \mu\text{m}$ (l of the unit mm)	
		Riser blocks Height	(0 ~ 600) mm	$\sqrt{1.5^2 + (0.003\ 1 \times l)^2} \mu\text{m}$ (l의 단위는 mm)	
		Parallelism	(0 ~ 600) mm	1.5 μm	
Cylindricas plug/pin gauges, Thread measuring wire gauges	10228	Cylindricas plug/pin gauges	(0 ~ 200) mm	$\sqrt{0.41^2 + (0.002\ 7 \times l)^2} \mu\text{m}$ (l of the unit mm)	Standard measuring machines / KIC-102-28
		Thread measuring wire gauges	(0 ~ 3.2) mm	0.41 μm	Standard measuring machines / KIC-102-28-1
Radius gauges	10229	(0.1 ~ 60.0) mm	2.2 μm	Non-contact cooldinate measuring machines / KIC-102-29	
Cylindrical ring gauges	10230	(2 ~ 300) mm	$\sqrt{0.54^2 + (0.003\ 0 \times l)^2} \mu\text{m}$ (l의 단위는 mm)	Standard, ring gauges Standard measuring machines / KIC-102-30	
Step gauges	10232	(0 ~ 1 010) mm	$\sqrt{1.0^2 + (0.003\ 0 \times l)^2} \mu\text{m}$ (l of the unit mm)	Electronic micrometers Gauge block / KIC-102-32	
Taper thickness gauges	10233	(0 ~ 60) mm	2.7 μm	Non-contact cooldinate measuring machines / KIC-102-33	
Ultrasonic thickness gauges	10234	(0 ~ 50) mm	2.5 μm	Ultrasonic thickness specimens / KIC-102-34	

		(50 ~ 200) mm	8.0 μm	
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102. Linear dimension

Measured Quantity Instrument or Gauge	Field Code	Range	CMC (The Confidence Level is about 95 %)	Comments
Ultrasonic/coating thickness specimens Coating thickness specimens Ultrasonic thickness specimens	10235	(0 ~ 10) mm (0 ~ 300) mm	0.46 μm $\sqrt{0.82^2 + (0.0030 \times l)^2}$ μm (l of the unit mm)	Standard measuring machines / KIC-102-35-1 Gauge block, Long gauge blocks, Electronic micrometers / KIC-102-35-2
Coating thickness testers	10236	(0 ~ 15) mm	1.7 μm	Coating thickness specimens / KIC-102-36

103. Angle

Measured Quantity Instrument or Gauge	Field Code	Range	CMC (The Confidence Level is about 95 %)	Comments
Blvel protractors	10304	(0 ~ 360)°	0.8'	Measuring microscopes / KIC-103-04
Plate/Square/Electric levels Accuracy flatness Square levels	10311	 ± 200" (0 ~ 300) mm (0 ~ 300) mm	 2.9 μm/m 1.6 μm 3.8 μm	 Level Tester, Precision surface plates, Electronic micrometers, Gauge block / KIC-103-11-1 Precision surface plates, Electronic micrometers, Gauge block, Squareness testers / KIC-103-11-2
Squareness testers Squareness	10318	 (0 ~ 500) mm	 2.4 μm	 Precision surface plates, Electronic micrometers, Cylindrical squares / KIC-103-18
Cylindrical squares Squareness	10319	 (0 ~ 500) mm	 2.4 μm	 Precision surface plates, Electronic micrometers, Squareness testers / KIC-103-19
Precision squares Squareness	10320	 (0 ~ 500) mm	 2.7 μm	 Precision surface plates, Electronic micrometers, Squareness testers / KIC-103-20

104. Form

Measured Quantity Instrument or Gauge	Field Code	Range	CMC (The Confidence Level is about 95 %)	Comments
Form testers Z-axis X-axis	10401	 (0 ~ 100) mm (0 ~ 50) mm	 $\sqrt{0.59^2 + (0.0030 \times l)^2}$ μm 1.2 μm	 Standard specimen, Gauge block, Pin Gauge / KIC-104-01
Optical parallels Flatness Parallelism	10405	 (0 ~ 30) mm (0 ~ 30) mm	 0.05 μm 0.06 μm	 Monochromatic light Optical flat Gauge block comparators / KIC-104-05

104. Form

Measured Quantity Instrument or Gauge	Field Code	Range	CMC (The Confidence Level is about 95 %)	Comments
Precision surface plates	10407	(0 ~ 2 500) cm ² (2 500 ~ 10 000) cm ² (10 000 ~ 40 000) cm ² (40 000 ~ 90 000) cm ²	1.6 μm 3.2 μm 4.6 μm 6.0 μm	Electronic level / KIC-104-07
Roundness measurement instruments Rotating accuracy Detect accuracy	10409	(0 ~ 100) μm (0 ~ 100) μm	0.06 μm 0.51 μm	Roundness standard specimens, Gauge block / KIC-104-09
Straight edges Straightness Parallrlism	10412	(0 ~ 500) mm (500 ~ 1 000) mm (1 000 ~ 1 500) mm (0 ~ 500) mm (500 ~ 1 000) mm (1 000 ~ 1 500) mm	1.9 μm 2.9 μm 4.8 μm 2.0 μm 3.0 μm 4.8 μm	Electronic level, Precision surface plates, Electronic micrometers / KIC-104-12

105. Complex geometry

Measured Quantity Instrument or Gauge	Field Code	Range	CMC (The Confidence Level is about 95 %)	Comments
Bench centers Center parallelism Height difference between both center Plan view of the bed sureface parallelism	10502	(0 ~ 400) mm	2.1 μm 2.0 μm 1.5 μm	Electronic micrometer, Tester bar, Precision surface / KIC-105-02
Contact coordinate measuring machines Directed accuracy Straightness Squareness	10503	(0 ~ 1 000) mm	$\sqrt{0.56^2 + (0.0034 \times l)^2}$ μm (l of the unit mm) 2.0 μm 1.8"	Gauge block, Step gauge, Precision squares / KIC-105-03
Non-Contact coordinate measuring machines The accuracy of the scale Squareness	10504	(0 ~ 300) mm	$\sqrt{0.61^2 + (0.0029 \times l)^2}$ μm (l of the unit mm) 6.4"	Standard scale, Precision squares / KIC-105-04

105. Complex geometry

Measured Quantity Instrument or Gauge	Field Code	Range	CMC (The Confidence Level is about 95 %)	Comments
Measuring microscopes, Profile projectors	10511			
Measuring microscopes				
The accuracy of the scale		(0 ~ 300) mm	$\sqrt{1.3^2 + (0.0029 \times l)^2} \mu\text{m}$ (l of the unit mm)	Standard scale, Precision squares
Squareness			6.4"	/ KIC-105-11-1
Profile projectors				
The accuracy of the scale		(0 ~ 300) mm	$\sqrt{1.5^2 + (0.0029 \times l)^2} \mu\text{m}$ (l of the unit mm)	Standard scale, Precision squares
Scaling error			0.024 %	/ KIC-105-11-2
Squareness			3.3 μm	
Angle split			1.3'	
Stylus type Roughness testers	10517			Standard specimen / KIC-105-17
Ra		(0 ~ 15) μm	0.041 μm	
Rz		(0 ~ 40) μm	0.11 μm	
H		(0 ~ 100) μm	0.079 μm	
Roughness standard/ comparison specimens	10519			
Roughness standard specimens				
Arithmetical mean(Ra)		(0 ~ 5) μm	0.051 μm	Roughness standard specimens, Stylus type roughness tester / KIC-105-19-1
Maximum height(Rz)		(0 ~ 15) μm	0.173 μm	
Roughness comparison specimens				
Arithmetical mean(Ra)		(0 ~ 50) μm	0.060 μm	Roughness standard specimens, Stylus type roughness tester / KIC-105-19-2
Maximum height(Rz)		(0 ~ 100) μm	0.175 μm	
Thread plug gauges	10525			Non-contact coordinate measuring machines, Standard measuring machines, Thread measuring wire gauges
Major Dia'		(0 ~ 200) mm	1.0 μm	
Effective Dia'		(0 ~ 200) mm	2.4 μm	
Pitch		(0 ~ 5) mm	1.7 μm	/ KIC-105-25
Half Angle		(0 ~ 90)°	1.5'	
Thread ring gauges	10527			Standard measuring machines, ring gauges, 3-Points micrometers
Effective Dia'		(4 ~ 100) mm	$\sqrt{2.8^2 + (0.0028 \times l)^2} \mu\text{m}$ (l의 단위는 mm)	
Major Dia'		(4 ~ 100) mm	$\sqrt{1.5^2 + (0.0028 \times l)^2} \mu\text{m}$ (l의 단위는 mm)	
Pitch		(0 ~ 5) mm	1.3 μm	/ KIC-105-27

105. Complex geometry

Measured Quantity Instrument or Gauge	Field Code	Range	CMC (The Confidence Level is about 95 %)	Comments
V-blocks, box blocks	10529			
V-blocks				
On the bottom of the floor plan		(0 ~ 160) mm	1.5 μm	Electronic micrometer, Tester bar, Precision surface, Squareness testers / KIC-105-29
V, floor plan			1.5 μm	
Parallelism of the circle on the underside			2.2 μm	
Tilt to the bottom of the V-groove			1.0 μm	
parallelism of the upper cylinder walls v			2.2 μm	
A pair of v-block for v, the height of the mutual difference Box blocks			2.2 μm	
For the bottom of the side of the perpendicularity		(0 ~ 300) mm	2.7 μm	
On the underside of the top of the for parallelism			1.5 μm	
The underside of the v, above, won Saturday and parallelism			2.1 μm	

106. Various dimensional

Measured Quantity Instrument or Gauge	Field Code	Range	CMC (The Confidence Level is about 95 %)	Comments
Inside/Outside/Gear tooth calipers, Caliper gauges	10601			
Inside/Outside calipers		(0 ~ 2 000) mm	$\sqrt{9.1^2 + (0.003\ 0 \times l)^2}$ μm (l of the unit mm)	Gauge block, Step gauges, Gauge block accessory / KIC-106-01-1
Caliper gauges		(0 ~ 200) mm	$\sqrt{4.6^2 + (0.003\ 0 \times l)^2}$ μm (l of the unit mm)	
Cylinder/Bore gauges	10603	(0 ~ 800) mm	0.89 μm	Dial gauge testers / KIC-106-03
Depth gauges, Depth micrometers	10604			
Depth gauges		(0 ~ 200) mm	$\sqrt{1.1^2 + (0.003\ 0 \times l)^2}$ μm (l of the unit mm)	Gauge block / KIC-106-04-1
		(200 ~ 1 000) mm	$\sqrt{9.5^2 + (0.003\ 0 \times l)^2}$ μm (l of the unit mm)	
Depth micrometers		(0 ~ 300) mm	$\sqrt{1.2^2 + (0.002\ 9 \times l)^2}$ μm (l of the unit mm)	Precision surface plates, Gauge block / KIC-106-04-2

106. Various dimensional

Measured Quantity Instrument or Gauge	Field Code	Range	CMC (The Confidence Level is about 95 %)	Comments
Dial/Digital gauges	10605	(0 ~ 100) mm	$\sqrt{0.78^2 + (0.003\ 0 \times l)^2} \mu\text{m}$ (l of the unit mm)	Dial gauge testers, Gauge block / KIC-106-05
Micro indicators, Test indicators	10609	(0 ~ 100) μm	0.67 μm	Dial gauge testers / KIC-106-09-1
		(0 ~ 2) mm	0.88 μm	Dial gauge testers / KIC-106-09-2
3-Points micrometers	10611	(2 ~ 200) mm	$\sqrt{1.1^2 + (0.005\ 5 \times l)^2} \mu\text{m}$ (l of the unit mm)	Ring gauges, / KIC-106-11
Inside micrometers	10612	(5 ~ 300) mm	$\sqrt{0.96^2 + (0.003\ 0 \times l)^2} \mu\text{m}$ (l of the unit mm)	Gauge block, Gauge block accessory / KIC-106-12-1
		(50 ~ 2 100) mm	$\sqrt{0.94^2 + (0.003\ 0 \times l)^2} \mu\text{m}$ (l of the unit mm)	Gauge block, Gauge block accessory / KIC-106-12-2
Outside micrometers	10613	(0 ~ 2 000) mm	$\sqrt{0.87^2 + (0.003\ 0 \times l)^2} \mu\text{m}$ (l of the unit mm)	Gauge block / KIC-106-13-1
		(1 ~ 70) mm	$\sqrt{0.90^2 + (0.004\ 3 \times l)^2} \mu\text{m}$ (l of the unit mm)	Plug gauge / KIC-106-13-2
Standard sieves	10617	(0 ~ 10) mm	2.3 μm	Non-contact coordinate measuring machines, / KIC-106-17
		(0 ~ 100) mm	3.2 μm	
Welding gauges	10620	(0 ~ 40) mm	0.32 mm	Measuring microscopes, Gauge block
Height & leg length scale ruler		(0 ~ 90) mm	0.24 mm	/ KIC-106-20

201. Mass

Measured Quantity Instrument or Gauge	Field Code	Range	CMC (The Confidence Level is about 95 %)	Comments
Electric balances	20109	(0 ~ 80) g	0.32 mg	Weights / KIC-201-09
		(80 ~ 220) g	0.56 mg	
		(220 ~ 2 300) g	5.4 mg	
		(2.3 ~ 8.1) kg	0.02 g	
		(8.1 ~ 31) kg	0.05 g	
		(31 ~ 61) kg	0.46 g	
		(61 ~ 101) kg	1.5 g	
		(101 ~ 150) kg	4.7 g	
		(150 ~ 500) kg	10 g	

201. Mass

Measured Quantity Instrument or Gauge	Field Code	Range	CMC (The Confidence Level is about 95 %)	Comments
Spring scale balances	20113	(1 ~ 2) kg (2 ~ 5) kg (5 ~ 10) kg (10 ~ 30) kg (30 ~ 50) kg (50 ~ 100) kg	5.8 g 12 g 29 g 58 g 0.12 kg 0.29 kg	Weights / KIC-201-13
Weights	20116	(1 mg ~ 20 kg) 1 mg 2 mg 5 mg 10 mg 20 mg 50 mg 100 mg 200 mg 500 mg 1 g 2 g 5 g 10 g 20 g 50 g 100 g 200 g 500 g 1 kg 2 kg 5 kg 10 kg 20 kg	Class M1 or less 21 μg 21 μg 21 μg 23 μg 24 μg 29 μg 29 μg 32 μg 38 μg 43 μg 53 μg 63 μg 73 μg 93 μg 0.10 mg 0.19 mg 0.33 mg 1.3 mg 1.8 mg 12 mg 13 mg 0.11 g 0.11 g	Weights, Electric balances / KIC-201-16

202. Force

Measured Quantity Instrument or Gauge	Field Code	Range	CMC (The Confidence Level is about 95 %)	Comments
Tension/compression testing machines	20203			Electrical force measuring devices / KIC-202-03
Tension		(10 ~ 100) N	1.4×10^{-3}	
		(100 ~ 200) N	1.1×10^{-3}	
		(200 ~ 500) N	9.0×10^{-4}	
		(500 ~ 1 000) N	1.2×10^{-3}	
		(1 ~ 2) kN	9.4×10^{-4}	
		(2 ~ 5) kN	1.1×10^{-3}	
		(5 ~ 10) kN	1.4×10^{-3}	
Compression		(10 ~ 100) N	1.1×10^{-3}	
		(100 ~ 200) N	1.4×10^{-3}	
		(200 ~ 500) N	9.1×10^{-4}	
		(500 ~ 1 000) N	1.0×10^{-3}	
		(1 ~ 2) kN	8.9×10^{-4}	
		(2 ~ 5) kN	9.3×10^{-4}	
		(5 ~ 10) kN	1.1×10^{-3}	
		(10 ~ 30) kN	1.2×10^{-3}	
		(30 ~ 50) kN	1.2×10^{-3}	
		(50 ~ 100) kN	1.1×10^{-3}	
		(100 ~ 300) kN	1.4×10^{-3}	
		(300 ~ 500) kN	1.5×10^{-3}	
		(500 ~ 1 000) kN	1.6×10^{-3}	
Push-pull gauges	20204			Weights / KIC-202-03
Tension/compression		(1 ~ 1 000) N	1.6×10^{-3}	

203. Torque

Measured Quantity Instrument or Gauge	Field Code	Range	CMC (The Confidence Level is about 95 %)	Comments
Torque wrenches/drivers	20303	(0 ~ 1) N · m	9.8×10^{-3}	Torque measuring devices / KIC-203-03
		(1 ~ 10) N · m	4.8×10^{-3}	
		(10 ~ 50) N · m	2.4×10^{-3}	
		(50 ~ 100) N · m	7.7×10^{-3}	
		(100 ~ 500) N · m	2.5×10^{-3}	
		(500 ~ 1 000) N · m	3.8×10^{-3}	
		(1 000 ~ 2 000) N · m	7.0×10^{-3}	

204. Pressure

Measured Quantity Instrument or Gauge	Field Code	Range	CMC (The Confidence Level is about 95 %)	Comments
Compound pressure gauges	20408	(-95 ~ 100) kPa	7.2×10^{-3}	Modular pressure controller / KIC-204-08
		(0.1 ~ 7) MPa	2.0×10^{-3}	
Differential pressure gauges	20409	(0 ~ 5) MPa	1.5×10^{-3}	Modular pressure controller / KIC-204-09
Gauge pressure gauges	20411	(0.05 ~ 5) MPa	6.8×10^{-5}	Piston gauges, air deadweight Piston gauges, hydraulic deadweight /KIC-204-11
Pressure transducers/ transmitters	20412	(0.05 ~ 5) MPa	7.5×10^{-5}	Piston gauges, air deadweight Piston gauges, hydraulic deadweight /KIC-204-12
Dial type vacuum gauges	20413	(-95 ~ 0) kPa	1.2×10^{-3}	Automatic handheld pressure calibrator / KIC-204-13

210. Hardness

Measured Quantity Instrument or Gauge	Field Code	Range	CMC (The Confidence Level is about 95 %)	Comments
Brinell hardness testers	21002	(100 ~ 225) HBW 10/3000	2.6 HBW 10/3000	Force measuring devices, electrical
Hardness Standard Block		(225 ~ 500) HBW 10/3000	4.7 HBW 10/3000	Non-contact coordinate measuring machines
		250 HBW 10/500 <	2.2 HBW 10/500	Hardness Standard Block /KIC-210-02
		(250 ~ 450) HBW 10/500	4.3 HBW 10/500	Brinell hardness testers /KIC-210-02-01
		450 HBW 10/500 >	6.9 HBW 10/500	
		250 HBW 10/1000 <	2.2 HBW 10/1000	
		(250 ~ 450) HBW 10/1000	4.2 HBW 10/1000	
		450 HBW 10/1000 >	6.4 HBW 10/1000	
		250 HBW 10/3000 <	2.6 HBW 10/3000	
		(250 ~ 450) HBW 10/3000	4.2 HBW 10/3000	
	450 HBW 10/3000 >	6.2 HBW 10/3000		
Rockwell hardness testers	21003	(20 ~ 70) HRC	0.41 HRC	Force measuring devices, electrical
Hardness test blocks		(20 ~ 100) HRBW	0.73 HRBW	Non-contact coordinate measuring machines
		(42 ~ 86) HR30N	0.62 HR30N	Hardness Standard Block /KIC-210-03
		(29 ~ 82) HR30TW	1.05 HR30TW	
		(20 ~ 95) HRA	0.38 HRA	Hardness Tester
		(10 ~ 100) HRBW	0.63 HRBW	/ KIC-210-03-01
		(10 ~ 70) HRC	0.33 HRC	
		(70 ~ 94) HR15N	0.65 HR15N	
		(42 ~ 86) HR30N	0.65 HR30N	
		(20 ~ 77) HR45N	0.65 HR45N	
		(67 ~ 93) HR15TW	1.10 HR15TW	
		(29 ~ 82) HR30TW	1.09 HR30TW	
		(10 ~ 72) HR45TW	1.09 HR45TW	

210. Hardness

Measured Quantity Instrument or Gauge	Field Code	Range	CMC (The Confidence Level is about 95 %)	Comments			
Shore hardness testers	21004	(25 ~ 35) HS	0.49 HS	Hardness Standard Block /KIC-210-04			
		(45 ~ 55) HS	0.49 HS				
		(55 ~ 65) HS	0.30 HS				
		(75 ~ 85) HS	1.2 HS				
		(85 ~ 100) HS	1.6 HS				
Vickers hardness testers	21005	225 HV 0.2 below	10 HV 0.2	Non-contact coordinate measuring machines Electric balances Hardness Standard Block /KIC-210-05			
		(400 ~ 600) HV 0.2	23 HV 0.2				
		700 HV 0.2 above	36 HV 0.2				
		225 HV 10 below	2.1 HV 10				
		(400 ~ 600) HV 10	5.1 HV 10				
		700 HV 10 above	9.2 HV 10				
		225 HV 30 below	2.0 HV 30				
		(400 ~ 600) HV 30	5.2 HV 30				
		700 HV 30 above	9.4 HV 30				
		Hardness test blocks			275 HV 0.1 below	4.3 HV 0.1	Hardness Tester / KIC-210-05-01
					(275 ~ 650) HV 0.1	14.2 HV 0.1	
					650 HV 0.1 above	20.1 HV 0.1	
					275 HV 0.2 below	3.0 HV 0.2	

210. Hardness

Measured Quantity Instrument or Gauge		Range	CMC (The Confidence Level is about 95 %)	Comments
		(275 ~ 650) HV 0.2	14.3 HV 0.2	
		650 HV 0.2 above	20.0 HV 0.2	
		275 HV 0.3 below	2.6 HV 0.3	
		(275 ~ 650) HV 0.3	12.0 HV 0.3	
		650 HV 0.3 above	18.8 HV 0.3	
		275 HV 0.5 below	4.8 HV 0.5	
		(275 ~ 650) HV 0.5	10.6 HV 0.5	
		650 HV 0.5 above	19.4 HV 0.5	
		275 HV 1 below	2.5 HV 1	
		(275 ~ 650) HV 1	13.3 HV 1	
		650 HV 1 above	18.2 HV 1	
		275 HV 10 below	2.2 HV 10	
		(275 ~ 650) HV 10	5.5 HV 10	
		650 HV 10 above	9.5 HV 10	
		275 HV 30 below	2.1 HV 30	
		(275 ~ 650) HV 30	5.4 HV 30	
		650 HV 30 above	9.3 HV 30	
Durometer hardness testers	21006	(0 ~ 100) HDA	0.37 HDA	Electric balances
		(0 ~ 100) HDD	0.37 HDD	/KIC-210-06
Leeb(D Type) hardness testers	21007	(0 ~ 800) HLD	4.6 HLD	Hardness Standard Block / KIC-210-07

401. DC voltage & current

Measured Quantity Instrument or Gauge	Field Code	Range	CMC (The Confidence Level is about 95 %)	Comments
DC ammeters	40101	10 μ A (10 ~ 100) μ A (0.1 ~ 10) mA (10 ~ 100) mA (0.1 ~ 1) A (1 ~ 10) A (10 ~ 100) A	8.6×10^{-4} 1.6×10^{-4} 1.1×10^{-4} 1.2×10^{-4} 1.4×10^{-4} 7.9×10^{-4} 4.8×10^{-4}	FLUKE/5700A / KIC-401-01
DC voltage/current calibrators	40103	(0 ~ 90) mV (0.09 ~ 900) V DC A (0 ~ 0.9) mA (0.9 ~ 9) mA (9 ~ 90) mA (0.09 ~ 0.9) A (0.9 ~ 10) A (10 ~ 100) A R 0 Ω ~ 10 k Ω (10 ~ 100) k Ω (0.1 ~ 1) M Ω	7.8×10^{-5} 6.7×10^{-5} 1.0×10^{-4} 1.2×10^{-4} 1.7×10^{-4} 2.2×10^{-4} 9.4×10^{-4} 8.3×10^{-4} 3.0×10^{-5} 1.9×10^{-4} 6.2×10^{-4}	WAVETEK/1271 / KIC-401-03
DC Power supplies	40108	100 mV (0.1 ~ 1) V (1 ~ 10) V (10 ~ 100) V (100 ~ 1 000) V DC A (10 ~ 100) mA (+) (0.1 ~ 1) A (1 ~ 10) A (10 ~ 100) A (100 ~ 300) A (300 ~ 600) A (600 ~ 1 000) A DC A (-) 1 A (1 ~ 10) A	6.1×10^{-5} 6.0×10^{-5} 6.1×10^{-5} 6.3×10^{-5} 6.0×10^{-5} 1.0×10^{-4} 2.0×10^{-4} 7.2×10^{-4} 5.4×10^{-3} 3.3×10^{-4} 2.3×10^{-4} 2.2×10^{-4} 6.0×10^{-4} 7.2×10^{-4}	WAVETEK/1271 / KIC-401-08

401. DC voltage & current

Measured Quantity Instrument or Gauge	Field Code	Range	CMC (The Confidence Level is about 95 %)	Comments
DC Power supplies DC A (-)	40108	(10 ~ 100) A (100 ~ 300) A (300 ~ 600) A (600 ~ 1 000) A	5.4×10^{-4} 3.3×10^{-4} 2.3×10^{-4} 2.2×10^{-4}	WAVETEK/1271 / KIC-401-08
DC voltmeters	40112	(0 ~ 100) mV (0.1 ~ 1) V (1 ~ 10) V (10 ~ 1 000) V	1.6×10^{-5} 9.0×10^{-6} 8.0×10^{-6} 1.0×10^{-5}	FLUKE/5700A / KIC-401-12

402. Resistance, Capacitance and inductance

Measured Quantity Instrument or Gauge	Field Code	Range	CMC (The Confidence Level is about 95 %)	Comments
Earth testers R AC V	40205	(10 ~ 100) mΩ (0.1 ~ 1) Ω 1 Ω ~ 10 kΩ 40 Hz (0.1 ~ 100) V 40 Hz ~ 1 kHz (0.1 ~ 100) V	1.4×10^{-3} 2.2×10^{-4} 1.1×10^{-4} 3.0×10^{-4} 2.0×10^{-4}	I.E.T/HARSX-B-6-0.01 / KIC-402-05
Insulation testers R AC V	40210	(0.1 ~ 10) kΩ (10 ~ 100) kΩ (0.1 ~ 1) MΩ (1 ~ 10) MΩ (10 ~ 100) MΩ (0.1 ~ 1) GΩ (1 ~ 10) GΩ (10 ~ 100) GΩ (0.1 ~ 1) TΩ 50 Hz (1 ~ 100) V (0.1 ~ 1) kV	2.0×10^{-4} 2.0×10^{-4} 2.0×10^{-4} 2.0×10^{-4} 8.0×10^{-4} 7.0×10^{-4} 1.1×10^{-3} 1.4×10^{-3} 7.0×10^{-3} 3.0×10^{-4} 5.0×10^{-4}	(I.E.T / HRRS-B-7-10K) / KIC-402-10

402. Resistance, Capacitance and inductance

Measured Quantity Instrument or Gauge	Field Code	Range	CMC (The Confidence Level is about 95 %)	Comments
Insulation testers AC V DC V	40210	50 Hz ~ 1 kHz (1 ~ 100) V (0.1 ~ 1) kV (1 ~ 50) V (50 ~ 100) V (0.1 ~ 0.5) kV (0.5 ~ 1) kV (1 ~ 3) kV (3 ~ 5) kV	 2.0×10^{-4} 2.0×10^{-4} 4.0×10^{-5} 1.0×10^{-4} 2.0×10^{-4} 1.2×10^{-2} 8.3×10^{-3} 7.6×10^{-3}	(I.E.T / HRRS-B-7-10K) / KIC-402-10
Resistance meters R	40214	100 mΩ 1 Ω 10 Ω 100 Ω 1 kΩ 10 kΩ 100 kΩ 1 MΩ 10 MΩ	 1.1×10^{-5} 1.0×10^{-5} 1.0×10^{-5} 1.0×10^{-5} 1.0×10^{-5} 1.0×10^{-5} 1.4×10^{-5} 2.1×10^{-5} 2.6×10^{-5}	Guildline/9330/0.1 / KIC-402-14
Impedance bridges/LCR meters R C	40217	1 kHz 1 Ω 10 Ω 100 Ω 1 kΩ 10 kΩ 100 kΩ 1 MΩ 1 kHz 1 nF 10 nF 100 nF 1 uF	 1.2×10^{-3} 6.5×10^{-4} 3.2×10^{-4} 3.8×10^{-4} 2.7×10^{-4} 2.7×10^{-4} 3.0×10^{-4} 1.3×10^{-4} 1.3×10^{-4} 1.5×10^{-4} 1.5×10^{-4}	(General radio L.C.R SET) / KIC-402-17

402. Resistance, Capacitance and inductance

Measured Quantity Instrument or Gauge	Field Code	Range	CMC (The Confidence Level is about 95 %)	Comments
Impedance bridges/LCR meters L	40217	1 kHz 1 mH 10 mH 100 mH 1 H	3.3×10^{-4} 3.2×10^{-4} 3.2×10^{-4} 3.2×10^{-4}	(General radio L.C.R SET) / KIC-402-17

403. AC voltage, current & power

Measured Quantity Instrument of Gauge	Field code	Range	CMC (The Confidence Level is about 95%)	Comments
AC ammeters DC A	40301	40 Hz (10 ~ 100) μ A (0.1 ~ 1) mA (1 ~ 100) mA (0.1 ~ 1) A 40 Hz ~ 500 Hz (10 ~ 100) μ A (0.1 ~ 100) mA (0.1 ~ 1) A 500 Hz ~ 1 kHz (10 ~ 100) μ A (0.1 ~ 100) mA (0.1 ~ 1) A 1 kHz ~ 10 kHz (10 ~ 100) μ A (0.1 ~ 100) mA (0.1 ~ 1) A 60 Hz (1 ~ 10) A 60 Hz ~ 100 Hz (1 ~ 10) A 100 Hz ~ 1 kHz (1 ~ 10) A 40 Hz ~ 400 Hz (10 ~ 100) A	1.2×10^{-3} 8.0×10^{-4} 5.0×10^{-4} 8.0×10^{-4} 1.2×10^{-3} 2.2×10^{-4} 7.1×10^{-4} 8.1×10^{-3} 2.2×10^{-4} 7.1×10^{-4} 7.1×10^{-3} 2.5×10^{-5} 8.7×10^{-5} 1.4×10^{-3} 1.8×10^{-3} 4.2×10^{-3} 3.1×10^{-3}	FLUKE/5700A / KIC-403-01

403. AC voltage, current & power

Measured Quantity Instrument of Gauge	Field code	Range	CMC (The Confidence Level is about 95%)	Comments
Clamp ammeters/voltmeters	40302			FLUKE/5500A / KIC-403-02
DC V		(0 ~ 1 000) V	9.0×10^{-5}	
AC V		40 Hz		
		(1 ~ 100) mV	3.1×10^{-4}	
		(0.1 ~ 100) V	2.1×10^{-4}	
		40 Hz ~ 500 Hz		
		(1 ~ 100) mV	2.1×10^{-4}	
		(0.1 ~ 100) V	1.4×10^{-4}	
		500 Hz ~ 1 kHz		
		(1 ~ 100) mV	2.1×10^{-4}	
		(0.1 ~ 1 000) V	1.4×10^{-4}	
		50 Hz		
		(100 ~ 1 000) V	4.3×10^{-4}	
		50 Hz ~ 500 Hz		
(100 ~ 1 000) V	1.3×10^{-4}			
DC A		(0 ~ 100) μ A	1.6×10^{-4}	
		0.1 mA ~ 1 A	1.4×10^{-4}	
		(1 ~ 10) A	7.9×10^{-4}	
		(10 ~ 1 000) A	3.3×10^{-3}	
AC A		40 Hz		
		(0.01 ~ 1) mA	7.1×10^{-4}	
		(1 ~ 100) mA	4.1×10^{-4}	
		(0.1 ~ 1) A	7.1×10^{-4}	
		40 Hz ~ 500 Hz		
		(0.01 ~ 100) mA	2.2×10^{-4}	
		(0.1 ~ 1) A	7.1×10^{-4}	
		500 Hz ~ 1 kHz		
		(0.01 ~ 100) mA	2.2×10^{-4}	
		(0.1 ~ 1) A	7.1×10^{-4}	
		60 Hz		
		(1 ~ 10) A	1.4×10^{-3}	

403. AC voltage, current & power

Measured Quantity Instrument of Gauge	Field code	Range	CMC (The Confidence Level is about 95%)	Comments
Clamp ammeters/voltmeters AC A R	40302	60 Hz ~ 100 Hz (1 ~ 10) A 100 Hz ~ 1 kHz (1 ~ 10) A 45 Hz ~ 65 Hz (10 ~ 100) A (100 ~ 500) A (500 ~ 1 000) A 0 Ω ~ 10 MΩ	 1.7×10^{-3} 4.2×10^{-3} 3.6×10^{-3} 3.8×10^{-3} 4.0×10^{-3} 1.0×10^{-4}	FLUKE/5500A / KIC-403-02
AC power meters AC V AC A Power	40311	60 Hz (1 ~ 1 000) V 60 Hz (0 ~ 0.1) A (0.1 ~ 1 A (1 ~ 10) A (10 ~ 20) A (20 ~ 30) A (30 ~ 40) A (40 ~ 50) A 60 Hz (1 ~ 12) W (12 ~ 24) W (24 ~ 600) W (600 ~ 1 200) W (1.2 ~ 2.4) kW (2.4 ~ 4.8) kW (4.8 ~ 7.2) kW (7.2 ~ 9.6) kW (9.6 ~ 12.0) kW	 1.0×10^{-4} 3.0×10^{-4} 7.8×10^{-4} 1.7×10^{-3} 7.5×10^{-4} 7.3×10^{-4} 7.3×10^{-4} 7.6×10^{-4} 6.7×10^{-4} 3.6×10^{-4} 2.4×10^{-4} 3.2×10^{-4} 2.9×10^{-4} 2.9×10^{-4} 4.4×10^{-4} 4.2×10^{-4} 3.9×10^{-4}	ROTEK/8100 / KIC-403-11

403. AC voltage, current & power

Measured Quantity Instrument of Gauge	Field code	Range	CMC (The Confidence Level is about 95%)	Comments
AC power supplies AC V	40312	50 Hz (0 ~ 90) mV (0.09 ~ 90) V (90 ~ 600) V 50 Hz ~ 100 Hz (0 ~ 90) mV (0.09 ~ 90) V (90 ~ 600) V 100 Hz ~ 1 kHz (0 ~ 90) mV (0.09 ~ 90) V (90 ~ 600) V	 2.3×10^{-4} 1.2×10^{-4} 1.8×10^{-4} 2.3×10^{-4} 1.2×10^{-4} 1.8×10^{-4} 2.3×10^{-4} 1.2×10^{-4} 2.0×10^{-4}	HP/34401A / KIC-403-12
Puncture/safety testers DC V AC V	40313	(0.1 ~ 2) kV (2 ~ 4) kV (4 ~ 6) kV (6 ~ 8) kV (8 ~ 9) kV (9 ~ 10) kV (10 ~ 20) kV (20 ~ 30) kV (30 ~ 40) kV (40 ~ 50) kV (50 ~ 60) kV (60 ~ 70) kV (70 ~ 80) kV (80 ~ 90) kV (90 ~ 100) kV 60 Hz (0.1 ~ 1) kV (1 ~ 2) kV (2 ~ 3) kV (3 ~ 4) kV (4 ~ 5) kV	 8.5×10^{-3} 7.5×10^{-3} 7.2×10^{-3} 7.0×10^{-3} 6.9×10^{-3} 7.0×10^{-3} 1.5×10^{-2} 1.0×10^{-2} 1.0×10^{-2} 1.0×10^{-2} 1.5×10^{-2} 1.6×10^{-2} 1.4×10^{-2} 1.4×10^{-2} 1.3×10^{-2} 2.2×10^{-2} 1.8×10^{-2} 1.8×10^{-2} 1.7×10^{-2} 1.6×10^{-2}	KIKUSUI/149-10A / KIC-403-13

403. AC voltage, current & power

Measured Quantity Instrument of Gauge	Field code	Range	CMC (The Confidence Level is about 95%)	Comments
Puncture/safety testers AC V	40313	60 Hz		KIKUSUI/149-10A / KIC-403-13
		(5 ~ 6) kV	1.6×10^{-2}	
		(6 ~ 10) kV	1.3×10^{-2}	
		(10 ~ 20) kV	2.5×10^{-2}	
		(20 ~ 30) kV	2.4×10^{-2}	
		(30 ~ 40) kV	2.0×10^{-2}	
		(40 ~ 50) kV	2.0×10^{-2}	
		(50 ~ 60) kV	1.9×10^{-2}	
		(60 ~ 70) kV	2.0×10^{-2}	
		(70 ~ 80) kV	1.9×10^{-2}	
		(80 ~ 90) kV	1.9×10^{-2}	
		(90 ~ 100) kV	1.8×10^{-2}	
DC A		(0.1 ~ 0.5) mA	2.0×10^{-2}	
		(0.5 ~ 1) mA	2.0×10^{-2}	
		(1 ~ 2) mA	1.5×10^{-2}	
		(2 ~ 5) mA	1.6×10^{-2}	
		(5 ~ 10) mA	1.5×10^{-2}	
AC A		60 Hz		
	(0.1 ~ 0.5) mA	2.0×10^{-2}		
	(0.5 ~ 1) mA	2.0×10^{-2}		
	(1 ~ 2) mA	1.5×10^{-2}		
	(2 ~ 5) mA	1.6×10^{-2}		
	(5 ~ 10) mA	1.5×10^{-2}		
AC voltmeters	40318	40 Hz		FLUKE/5700A / KIC-403-18
		(0 ~ 100) mV	3.1×10^{-4}	
		(0.1 ~ 100) V	2.1×10^{-4}	
		40 Hz ~ 500 Hz		
		(0 ~ 100) mV	2.1×10^{-4}	
		(0.1 ~ 100) V	1.4×10^{-4}	
		500 Hz ~ 1 kHz		
		(0 ~ 100) mV	2.1×10^{-4}	
	(0.1 ~ 100) V	1.4×10^{-4}		

404. Order DC & LF Measurementd

Measured Quantity Instrument of Gauge	Field code	Range	CMC (The Confidence Level is about 95%)	Comments
Leakage current testers	40416			FLUKE/5700A
DC A		(10 μA ~ 100 mA)	6.9×10^{-4}	/ KIC-404-16
AC A		40 Hz		
		(10 ~ 100) μA	3.9×10^{-4}	
		(0.1 ~ 1) mA	8.5×10^{-4}	
		(1 ~ 100) mA	6.2×10^{-4}	
AC V		40 Hz ~ 1 kHz		
		(10 ~ 100) μA	9.8×10^{-4}	
		(0.1 ~ 100) mA	5.2×10^{-4}	
		40 Hz		
		(0.1 ~ 100) V	2.1×10^{-4}	
		40 Hz ~ 1 kHz		
		(0.1 ~ 100) V	1.4×10^{-4}	
		50 Hz		
		(100 ~ 1 000) V	4.3×10^{-4}	
		50 Hz ~ 1 kHz		
		(100 ~ 1 000) V	1.3×10^{-4}	
Electronic AC/DC loads	40417			FLUKE/5700A
DC V		(0 ~ 100) mV	9.0×10^{-4}	/ KIC-404-17
		(0.1 ~ 10) V	6.7×10^{-4}	
		(10 ~ 1 000) V	9.0×10^{-5}	
		(10 ~ 100) V	8.0×10^{-5}	
		(100 ~ 1 000) V	8.0×10^{-5}	
DC A		(0.1 ~ 1) A	7.0×10^{-4}	
		(1 ~ 30) A	1.1×10^{-3}	
		(30 ~ 50) A	7.2×10^{-4}	
		(50 ~ 100) A	9.0×10^{-4}	
Analogue/Digital multimeters	40419			FLUKE/5700A
DC V		(0 ~ 100) mV	1.5×10^{-5}	/ KIC-404-19
		(0.1 ~ 1) V	8.2×10^{-6}	

404. Order DC & LF Measurementd

Measured Quantity Instrument of Gauge	Field code	Range	CMC (The Confidence Level is about 95%)	Comments
Analogue/Digital multimeters	40419			FLUKE/5700A / KIC-404-19
DC V		(1 ~ 10) V	7.5×10^{-6}	
		(10 ~ 1 000) V	1.0×10^{-5}	
DC A		(0 ~ 100) μ A	1.3×10^{-4}	
		(0.1 ~ 10) mA	5.9×10^{-5}	
		(10 ~ 100) mA	6.9×10^{-5}	
		(0.1 ~ 1) A	1.1×10^{-4}	
		(1 ~ 10) A	7.8×10^{-4}	
AC V		40 Hz ~ 1 kHz		
		(0 ~ 100) mV	1.9×10^{-4}	
		(0.1 ~ 10) V	9.1×10^{-5}	
		(10 ~ 100) V	9.8×10^{-5}	
		1 kHz ~ 20 kHz		
		(0 ~ 100) mV	1.9×10^{-4}	
		(0.1 ~ 10) V	9.1×10^{-5}	
		(10 ~ 100) V	9.8×10^{-5}	
		20 kHz ~ 50 kHz		
		(0 ~ 100) mV	4.1×10^{-4}	
		(0.1 ~ 10) V	1.4×10^{-4}	
		(10 ~ 100) V	2.6×10^{-4}	
		50 kHz ~ 100 kHz		
		(0 ~ 100) mV	1.1×10^{-3}	
		(0.1 ~ 10) V	3.3×10^{-4}	
		(10 ~ 100) V	5.9×10^{-4}	
		50 Hz ~ 1 kHz		
		(100 ~ 1 000) V	1.0×10^{-4}	
AC A		40 Hz ~ 1 kHz		
		(0 ~ 100) μ A	9.0×10^{-4}	
		(0.1 ~ 100) mA	2.0×10^{-4}	
		(0.1 ~ 1) A	7.0×10^{-4}	
		50 Hz ~ 1 kHz		
		(1 ~ 10) A	4.2×10^{-3}	

404. Order DC & LF Measurementd

Measured Quantity Instrument of Gauge	Field code	Range	CMC (The Confidence Level is about 95%)	Comments
Analogue/Digital multimeters R	40419	(0 ~ 1) Ω (1 ~ 10) Ω (10 ~ 100) Ω (0.1 ~ 1) kΩ (1 ~ 100) kΩ (0.1 ~ 1) MΩ (1 ~ 10) MΩ	1.0×10^{-4} 3.0×10^{-5} 1.8×10^{-5} 1.4×10^{-5} 1.8×10^{-5} 2.3×10^{-5} 4.5×10^{-5}	FLUKE/5700A / KIC-404-19
Oscilloscopes DC Voltage square Wave Voltage	40421	(1 ~ 5) mV (5 ~ 10) mV (10 ~ 20) mV (20 ~ 50) mV (50 ~ 100) mV (100 ~ 200) mV (200 ~ 500) mV (0.5 ~ 1) V (1 ~ 2) V (2 ~ 5) V (5 ~ 10) V (10 ~ 20) V (20 ~ 50) V (1 ~ 5) mV (5 ~ 10) mV (10 ~ 20) mV (20 ~ 50) mV (50 ~ 100) mV (100 ~ 200) mV (200 ~ 500) mV (0.5 ~ 1) V (1 ~ 2) V (2 ~ 5) V (5 ~ 10) V (10 ~ 20) V (20 ~ 50) V	0.031 mV 0.033 mV 0.037 mV 0.049 mV 0.091 mV 0.14 mV 0.34 mV 0.8 mV 1.2 mV 2.6 mV 7.7 mV 12 mV 26 mV 0.010 mV 0.014 mV 0.021 mV 0.041 mV 0.095 mV 0.16 mV 0.47 mV 0.97 mV 3.4 mV 4.7 mV 9.6 mV 16 mV 36 mV	Oscilloscope Calibrator FLUKE/5820A / KIC-404-21

404. Order DC & LF Measurementd

Measured Quantity Instrument of Gauge	Field code	Range	CMC (The Confidence Level is about 95%)	Comments
Oscilloscopes Time Marker	40421	(1 ~ 5) ns (5 ~ 50) ns (50 ~ 500) ns (0.5 ~ 5) μs (5 ~ 50) μs (50 ~ 500) μs (0.5 ~ 5) ms (5 ~ 50) ms (50 ~ 500) ms (0.5 ~ 5) s	0.000 8 ns 0.008 ns 0.08 ns 0.000 8 μs 0.008 μs 0.08 μs 0.000 8 ms 0.008 ms 0.08 ms 0.000 8 s	Oscilloscope Calibrator FLUKE/5820A / KIC-404-21
Bandwidth (at 600 mV)		50 kHz (0.05 ~ 100) MHz (100 ~ 300) MHz (300 ~ 500) MHz (500 ~ 600) MHz (0.6 ~ 1.5) GHz (1.5 ~ 2.1) GHz	15 mV 25 mV 29 mV 39 mV 43 mV 49 mV 56 mV	
Calout signal Volt		40 Hz ~ 20 kHz (10 ~ 100) mV (0.1 ~ 1) V (1 ~ 5) V (5 ~ 10) V	0.2 mV 2 mV 8 mV 11 mV	
Calout Signal Frequency		(100 ~ 500) Hz (0.5 ~ 2) kHz	0.08 Hz 0.8 Hz	
Volt/Current recorders DC V DC A	40424	1 mV ~ 100 V (100 ~ 1 000) V 1 μA ~ 1 A (1 ~ 10) A	1.7×10^{-5} 6.8×10^{-5} 1.6×10^{-4} 7.4×10^{-4}	FLUKE/5700A / KIC-404-24
AC/DC high voltage probes Ratio (1 000 : 1) DC AC	40435	(0.5 ~ 1) kV 50 Hz (0.5 ~ 1) kV	6.0×10^{-4} 1.2×10^{-3}	FLUKE/5700A / KIC-404-35

404. Order DC & LF Measurement

Measured Quantity Instrument of Gauge	Field code	Range	CMC (The Confidence Level is about 95%)	Comments
AC/DC high voltage probes AC	40435	50 Hz ~ 1 kHz (0.5 ~ 1) kV	1.1×10 ⁻³	FLUKE/5700A / KIC-404-35

501. Contact thermometry

Measured Quantity Instrument of Gauge	Field code	Range	CMC (The Confidence Level is about 95%)	Comments
Temperature generators; ovens, furnaces, isothermal liquid baths, ice-point baths, dry-block calibrators Temperature controlled chambers/ovens Dry-Block Calibrators furnaces Isothermal liquid baths	50101	 (-40 ~ 250) °C (-40 ~ 250) °C (250 ~ 1 100) °C (100 ~ 1 100) °C (1 100 ~ 1 300) °C (-40 ~ 250) °C	 0.68 °C 0.1 °C 0.93 °C 1.0 °C 2.8 °C 0.1 °C	SPRT, Noble Metal Thermocouple / KIC-501-01
Temperature indicators /recorders/controllers, temperature calibrators Include Sensor(Resistance) (Thermocouple) Exclude Sensor(Resistance) (Thermocouple)	50102	 (-40 ~ 250) °C (-40 ~ 250) °C (250 ~ 1 100) °C (1 100 ~ 1 300) °C (-40 ~ 250) °C (-40 ~ 1 300) °C	 0.13 °C 0.13 °C 0.98 °C 2.7 °C 0.16 °C 0.26 °C	Noble Metal Thermocouple SPRT, Calibrator / KIC-501-02
Glass thermometers; liquid-in-glass, Beckmann liquid-in-glass thermometers	50103	 (-40 ~ 250) °C	 0.11 °C	SPRT / KIC-501-03
Resistance thermometers; SPRT, IPRT, thermistors, etc. IPRT(Temperature)	50104	 (-40 ~ 250) °C	 0.044 °C	SPRT / KIC-501-04
Thermal expansion thermometers ; bimetal, gas or liquid type Bimetal thermometers	50105	 (-40 ~ 250) °C	 0.29 °C	SPRT / KIC-501-05

501. Contact thermometry

Measured Quantity Instrument of Gauge	Field code	Range	CMC (The Confidence Level is about 95%)	Comments
Thermomecoules:noble metal , base metal, pure metal, special type, etc. Base metal	50106	(-40 ~ 250) °C (250 ~ 1 100) °C (1 100 ~ 1 300) °C	0.18 °C 1.2 °C 2.8 °C	SPRT Noble Metal Thermocouple / KIC-501-06
Temperature transducers Temperature	50107	(-40 ~ 250) °C (250 ~ 1 100) °C (1 100 ~ 1 300) °C	0.18 °C 1.1 °C 2.8 °C	SPRT Noble Metal Thermocouple / KIC-501-07

503. Humidity

Measured Quantity Instrument of Gauge	Field code	Range	CMC (The Confidence Level is about 95%)	Comments
Relative humidity hygrometers; polimer thinfilm, hair, etc. Hygrometers, hair (Relative Humidity) (Temperature) Polimer thinfilm (Digital hygro meter) (Relative humidity) (Temperature)	50302	(25 ~ 40) % R.H. (40 ~ 60) % R.H. (60 ~ 80) % R.H. (80 ~ 90) % R.H. (0 ~ 50) °C (25 ~ 90) % R.H. (-20 ~ 50) °C	2.6 % R.H. 2.8 % R.H. 3.0 % R.H. 3.9 % R.H. 0.39 °C 2.2 % R.H. 0.37 °C	DewPoint Meter / KIC-503-02
Psychrometers; assmann ventilated, PRT type, etc. PRT type(Relative humidity)	50303	(25 ~ 40) % R.H. (40 ~ 60) % R.H. (60 ~ 80) % R.H. (80 ~ 90) % R.H.	2.5 % R.H. 2.6 % R.H. 2.9 % R.H. 3.8 % R.H.	DewPoint Meter / KIC-503-03
Temperature humidity recorders ; Hygrothermograph, etc Relative humidity Temperature	50304	(25 ~ 40) % R.H. (40 ~ 60) % R.H. (60 ~ 80) % R.H. (80 ~ 90) % R.H. (0 ~ 50) °C	2.7 % R.H. 2.8 % R.H. 3.0 % R.H. 4.0 % R.H. 0.73 °C	DewPoint Meter / KIC-503-04
Transducers ; dew-point/ relative humidity Relative humidity	50305	(25 ~ 90) % R.H.	2.3 % R.H.	DewPoint Meter / KIC-503-05

503. Humidity

Measured Quantity Instrument of Gauge	Field code	Range	CMC (The Confidence Level is about 95%)	Comments
Humidity generators; two-pressure, two-temperature, flow mixing humidity generator, constant temperature and humidity chamber, etc.	50306			DewPoint Meter Recorder / KIC-503-06
Constant Temperature and humidity chamber (Relative humidity)		(25 ~ 40) % R.H. (40 ~ 60) % R.H. (60 ~ 80) % R.H. (80 ~ 95) % R.H.	2.1 % R.H. 2.2 % R.H. 2.4 % R.H. 2.5 % R.H.	
Temperature		(-40 ~ 200) °C	0.68 °C	