



# J.A. KING

PRECISION MEASUREMENT PROFESSIONALS

## MASTER ISO 17025 ACCREDITED PARAMETER LIST

This list is a compilation of ISO 17025 accredited parameters across the entire network of J.A. King laboratories. Inclusion of parameters on this list does not necessarily indicate those capabilities exist at every branch however they are available throughout the network.

**Please see individual accreditation scopes at [jaking.com](http://jaking.com) for specific parameters at each branch.**

Category	Parameter/Equipment	Range/Frequency/Method
Acoustical Quantities	Sound Measuring Equipment - 74 to 114 dB	(125 to 4000 Hz)
Chemical	Conductivity Meters	0.77 to 100,000 $\mu$ S/cm
Chemical	pH Meters	4 pH, 7 pH, 10 pH
Dimensional	Angle Blocks/Angle Indicators/Protractor Indicators	1° to 90°
Dimensional	Angle Gages	Up to 180°
Dimensional	Angle Plates	Up to 18 in
Dimensional	Interim Verification of CMM-Articulated Arm	Up to 40" (1000mm)
Dimensional	Bench Micrometers - Flatness and Parallelism	Up to 12 in
Dimensional	Bench Micrometers - Force	Up to 80 oz
Dimensional	Bench Micrometers - Linearity	Up to 4 in
Dimensional	Bore Gages	Up to 7 in
Dimensional	Caliper Masters	Up to 20 in
Dimensional	Calipers	Up to 80 in
Dimensional	Coating Thickness Gauges - Film	Up to 60 Mils
Dimensional	Coating Thickness Gauges - Ultrasonic	Up to 60 Mils
Dimensional	Combination Squares	Up to 180°
Dimensional	Crimpers - Crimp Handle Force	Up to 100 lb
Dimensional	Crimpers - Crimp Pull Force	Up to 50 lb
Dimensional	Crimpers - Functional Diameter	(0.011 to 0.250) in
Dimensional	Cylindrical Disks	Up to 14 in
Dimensional	Cylindrical Pins	Up to 13 in
Dimensional	Depth Gages	Up to 48 in

Dimensional	Dial Indicators	Up to 12 in
Dimensional	Diameter/Radius/Fixture Gages - Diameter	Up to 12 in
Dimensional	Diameter/Radius/Fixture Gages - Length	Up to 25 ft
Dimensional	Diameter/Radius/Fixture Gages - Radius	Up to 12 in
Dimensional	Feeler Gages	Up to 1 in
Dimensional	Fixture Gauges	Up to 40 in
Dimensional	Gage Block Comparators - Amplifier Gain	0.002 in
Dimensional	Gage Block Comparators - Contact Force	(0 to 150) g
Dimensional	Gage Blocks	0.05 to 12 in
Dimensional	Height Gauges	Up to 48 in
Dimensional	Interim Verification of Coordinate Measuring Machines - Volumetric Performance	Up to 10 in
Dimensional	Interim Verification of Coordinate Measuring Machines - X,Y,Z Linearity	Up to 36 in
Dimensional	Micrometer Head	Up to 2 in
Dimensional	Micrometer Master	Up to 20 in
Dimensional	Micrometer Standards / Length Standards	Up to 60 in
Dimensional	Micrometers - Inside	Up to 120 in
Dimensional	Micrometers - Outside	Up to 80 in
Dimensional	Optical Comparators - Angle	0° to 90°
Dimensional	Optical Comparators - X-Y Linearity	Up to 36 in
Dimensional	Optical Comparators - Magnification	10x to 250x
Dimensional	Parallels	Up to 36 in
Dimensional	Pin Gages Z	Up to 1 in
Dimensional	Pin Gages ZZ	Up to 2 in
Dimensional	Plain Cylindrical Plugs	Up to 13 in
Dimensional	Plain Cylindrical Rings	Up to 13 in
Dimensional	Protractors	Up to 180°
Dimensional	Radius Gages	Up to 12 in
Dimensional	Snap Gauges	Up to 40 in
Dimensional	Spheres - External Diameter	Up to 20 in
Dimensional	Spline/Gear Gages (Plugs-Diameter/Rings-Diameter)	Up to 8 in
Dimensional	Squares	Up to 36 in

Dimensional	Steel Rules	Up to 300 in (25ft)
Dimensional	Surface Plates - Grades AA, A, and B - Flatness	Up to 120 DL in
Dimensional	Surface Plates - Grades AA, A, and B - Repeatability	0.002 in
Dimensional	Tape Measures	Up to 25 ft
Dimensional	Test Indicators	Up to 0.1 in
Dimensional	Thread Measuring Wires	(0.008 to 1.5) in
Dimensional	Thread Plugs - Major Diameter	.05 to 8 in
Dimensional	Thread Plugs - Pitch Diameter	.05 to 8 in
Dimensional	Thread Rings - Pitch Diameter (Solid/Adjustable)	0.05 to 8 in
Dimensional	Universal Length Measuring Machines - Flatness and Parallelism	Up to 8 in
Dimensional	Universal Length Measuring Machines - Force	Up to 80 oz
Dimensional	Universal Length Measuring Machines - Linearity	Up to 4 in
Dimensional	Vision Systems - X-Y Linearity	Up to 18 in
Dimensional	Vision Systems - Z Axis	Up to 4 in
Dimensional Inspection	Length - X Axis	Up to 29 in (750 mm)
Dimensional Inspection	Length - Y Axis	Up to 39 in (1000 mm)
Dimensional Inspection	Length - Z Axis	Up to 25 in (500 mm)
Dimensional Inspection	Length - Volumetric	39 in (1000 mm)
Dimensional Inspection	Length - X-Y Measurements	6 in x 10 in
Dimensional Inspection	Roundness Measuring	4 $\mu$ in (0.35 $\mu$ m)
Dimensional Inspection	Surface Roughness	2 to 500 $\mu$ in
Electrical	AC Current - Generate - Up to 100 Amps	10 Hz to 100 kHz*
Electrical	AC Power - Generate - Up to 20.9 kWatts	45 to 65 Hz
Electrical	AC Voltage - Generate - Up to 1100 Volts	10 Hz to 2MHz
Electrical	Amplitude Modulation - 5 to 99 %	0.15 to 1.3 GHz**
Electrical	Capacitance - Generate	40 pF to 11 mF
Electrical	DC Current - Generate	Up to 100 A
Electrical	DC Current - Generate - Clamp-On Meters	Up to 1000 A
Electrical	DC Current - Measure	Up to 300 A
Electrical	DC Power Generate	Up to 20.5 kW
Electrical	DC Voltage - Generate	Up to 1100 V

Electrical	DC Voltage - Measure	Up to 100 kV
Electrical	Distortion - Measure 0 to 99.9 %	20Hz to 100 kHz
Electrical	Frequency Modulation - Dev: 100 to 400 kHz	250 kHz to 1.3 GHz**
Electrical	Inductance - Generate	100 $\mu$ H to 100 H
Electrical	Insulation Resistance - Generate	10 $\Omega$ to 100 G $\Omega$
Electrical	Oscilloscopes - DC Voltage Amplitude (1 M $\Omega$ Load)	(0 to $\pm$ 130) V
Electrical	Oscilloscopes - DC Voltage Amplitude (50 $\Omega$ Load)	(0 to $\pm$ 6.6) V
Electrical	Oscilloscopes - Level Sine Wave: Amplitude	50 kHz 1100 MHz
Electrical	Oscilloscopes - Level Sine Wave: Flatness (Bandwidth)	50 kHz 1100 MHz
Electrical	Oscilloscopes - Level Sine Wave: Frequency	Up to 1100 MHz
Electrical	Oscilloscopes - Square Wave Amplitude (1 M $\Omega$ at 1 kHz)	1.0 mV to 130 Vpk - pk
Electrical	Oscilloscopes - Square Wave Amplitude (50 $\Omega$ at 1 kHz)	1.0 mV to 6.6 Vpk - pk
Electrical	Oscilloscopes - Time Markers (Into a 50 $\Omega$ Load)	5 s to 1 ns
Electrical	Oscilloscopes - Time Markers (Rise Time - 1 kHz to 2 MHz)	$\leq$ 300 ps
Electrical	Oscilloscopes - Time Markers [Rise Time - (2 to 10 MHz)]	$\leq$ 350 ps
Electrical	Phase Modulation - 200 Hz to 20 kHz	150 kHz to 1.3 GHz**
Electrical	Phase Source - (10 to 65) Hz	0 to 179 $^{\circ}$
Electrical	Relative Power - Measure (10 MHz to 1.3 GHz)	(0 to -120) dB
Electrical	Resistance - Generate	Up to 1100 M $\Omega$
Electrical	Resistance - Measure	Up to 1 G $\Omega$
Electrical	RF Power - Measure (100 kHz to 18 GHz)	(-70 to 30) dBm / 100 pW to 100 mW
Electrical	RTD - Simulation (Pt 385, 100 $\Omega$ )	(-200 to 800) $^{\circ}$ C
Electrical	Thermocouples - Simulation/Measure (Type B)	(600 to 1820) $^{\circ}$ C
Electrical	Thermocouples - Simulation/Measure (Type E)	(-250 to 1000) $^{\circ}$ C
Electrical	Thermocouples - Simulation/Measure (Type J)	(-210 to 1200) $^{\circ}$ C
Electrical	Thermocouples - Simulation/Measure (Type K)	(-200 to 1372) $^{\circ}$ C
Electrical	Thermocouples - Simulation/Measure (Type N)	(-210 to 1300) $^{\circ}$ C
Electrical	Thermocouples - Simulation/Measure (Type R)	(0 to 1768) $^{\circ}$ C
Electrical	Thermocouples - Simulation/Measure (Type S)	(0 to 1768) $^{\circ}$ C
Electrical	Thermocouples - Simulation/Measure (Type T)	(-250 to 400) $^{\circ}$ C
Fluid Quantities	Viscosity Meters (Fixed Points)	16300 cP

Fluid Quantities	Gas Flow -Air and N2 - Laminar Flow	(0.01 to 10) slpm
Fluid Quantities	Gas Flow -Air and N2 - Sonic Flow	(10 to 120) slpm
Mechanical	Air Velocity	70 to 3000 FMP
Mechanical	Durometer Calibration (Type A, B, C, D, DO, O, OO) - Indentor Display	0 to 100 durometer units
Mechanical	Durometer Calibration (Type A, B, C, D, DO, O, OO) - Indentor Extension & Shape	25° to 40°
Mechanical	Durometer Calibration (Type A, B, C, D, DO, O, OO) - Indentor Extension & Shape	Up to 0.105 in
Mechanical	Durometer Calibration (Type A, B, C, D, DO, O, OO) - Indentor Extension & Shape	Up to 0.105 in
Mechanical	Durometer Calibration (Type A, B, C, D, DO, O, OO) - Indentor Extension & Shape	up to 0.125 in
Mechanical	Durometer Calibration (Type A, B, C, D, DO, O, OO) - Spring Calibration - Force	Up to 45 N
Mechanical	Field Check Weight Comparison	Up to 1000 g
Mechanical	Force - Compression (Generate)	0 to 100,000 lbf
Mechanical	Force - Compression (Measure) (Field Only)	0 to 500,000 lbf
Mechanical	Force - Tension (Generate)	0 to 100,000 lbf
Mechanical	Force - Tension (Measure)	0 to 100,000 lbf
Mechanical	Indirect Verification of Brinell Hardness Testers	95.5 to 650 HBW
Mechanical	Indirect Verification of Rockwell Hardness Testers - HR15N	70 to 92
Mechanical	Indirect Verification of Rockwell Hardness Testers - HR15TW	74 to 93
Mechanical	Indirect Verification of Rockwell Hardness Testers - HR30N	42 to 82
Mechanical	Indirect Verification of Rockwell Hardness Testers - HR30TW	43 to 83
Mechanical	Indirect Verification of Rockwell Hardness Testers - HR45N	20 to 72
Mechanical	Indirect Verification of Rockwell Hardness Testers - HR45TW	15 to 73
Mechanical	Indirect Verification of Rockwell Hardness Testers - HRA	20 to 84
Mechanical	Indirect Verification of Rockwell Hardness Testers - HRBW	40 to 100
Mechanical	Indirect Verification of Rockwell Hardness Testers - HRC	20 to 65
Mechanical	Indirect Verification of Rockwell Hardness Testers - HREW	70 to 100
Mechanical	Load Fixtures, Hangers, Package & Check Weights	Up to 70 lb
Mechanical	Mass - Fixed Points (Various)	1 mg to 50 lbs
Mechanical	Piston Operated Volumetric Apparatus	(1 to 10,000) µL
Mechanical	Pressure - Absolute	(0 to 60) inHg
Mechanical	Pressure - Differential	(0 to 28) inH2O
Mechanical	Pressure - Hydraulic	Up to 30,000 psig

Mechanical	Pressure - Pneumatic	Up to 10000 psig
Mechanical	Rotary Torque Tools - Pneumatic, DC, Pulse	(02 to 500) Nm
Mechanical	Scales and Balances	1 (mg) up to 120,000 (lb)
Mechanical	Speed (Contact) - RPM	(0.5 to 20 000) rpm
Mechanical	Speed (Non-Contact) - RPM	(0.5 to 200 000) rpm
Mechanical	Speed/RPM/Rate - Simulation	(2.5 to 200 000) rpm
Mechanical	Torque - Measuring Equipment (Wrenches)	4 in-lbf to 2000 ft-lbf
Mechanical	Torque Testers / Analyzers	Up to 2000 ft-lbf
Mechanical	Totalizer Meters - Distance Meter/Yardage Meters	Up to 2000 yds
Mechanical	Vacuum	(0.01 to 30) inHg
Mechanical	Volumetric Measuring Devices	Up to 5000 mL
Optical Quantities	Illuminance – Light Meters (360 to 780 nm)	0.1 to 10,000 Lux
Thermodynamics	Plate Temperature - Infrared Devices	Ambient to 500 °C
Thermodynamics	Relative Humidity - Measure	(10 to 90) %RH
Thermodynamics	Temperature - Source	(-25 to 700) °C
Thermodynamics	Temperature - Measure	(-196 to 1450) °C
Time and Frequency	Frequency - Measure	Up to 26.5 GHz
Time and Frequency	Frequency - Source	Up to 3 GHz
Time and Frequency	Photo Tachometers	1 to 200,000 RPM
Time and Frequency	Timers and Stopwatches	1 to 86,400 s (24 Hours)
* Frequency Ranges vary by output		
** Carrier Signal Frequency		
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