


Schedule of Accreditation

issued by

United Kingdom Accreditation Service

2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

 0373 Accredited to ISO/IEC 17025:2005	Metrology and Quality Services Ltd	
	Issue No: 032 Issue date: 09 October 2017	
	Unit 3 24-26 Boulton Road Stevenage Hertfordshire SG1 4QX	Contact: Mr G J Wilson Tel: +44 (0) 1438 900080 Fax: +44 (0) 1438 318386 E-Mail: enquiries@mqs.co.uk Website: www.mqs.co.uk
Calibration performed by the Organisations at the locations specified below		

Locations covered by the organisation and their relevant activities

Laboratory locations:

Location details	Activity	Location code
Address Unit 3 24-26 Boulton Road Stevenage Hertfordshire SG1 4QX	Local contact Mr G J Wilson	Dimensional A
Address 37 Western Parkway Business Centre Lower Ballymount Road Dublin 12 IRELAND	Local contact Mr P Roche Tel No: +353 [0] 1 4502 666	Dimensional B
Address 23 Brindley Road Bayton Road Ind Estate Exhall Coventry West Midlands CV7 9EP	Local contact Mr G J Wilson	Dimensional & Torque C

Site activities performed away from the locations listed above:

Location details	Activity	Location code
At customers premises	Local contact Mr G J Wilson	Dimensional D



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DETAIL OF ACCREDITATION

Measured Quantity Instrument or Gauge	Range	Calibration and Measurement Capability (CMC) Expressed as an Expanded Uncertainty ($k = 2$)	Remarks	Location Code
RANGE IN MILLIMETRES AND UNCERTAINTY IN MICROMETRES UNLESS OTHERWISE STATED				
LENGTH			NOTES	
Gauge blocks Inch (Steel and tungsten carbide)	As BS 4311:Part 1 2007 0.05 Inch to 0.4 inch 0.4 Inch to 1 inch 2 inch 3 inch 4 inch	Class (see Notes) C 3.0 4.0 5.0 6.0 7.0 μ inch	Class C uncertainties apply to the measurement of steel, ceramic and tungsten carbide gauges by comparison with grade K standards of length of a similar material. Class C uncertainties apply to grade 0, 1 and 2 gauges to BS EN ISO 3650:1999 and BS 4311:Part 1:2007	A
Millimetre (Steel, Ceramic and tungsten carbide)	As BS EN ISO 3650: 1999 0.5 to 10 10 to 25 30, 40, 50 60, 70, 75 80, 90, 100	C 0.080 0.10 0.12 0.15 0.18	1. The uncertainty quoted is for the departure from flatness, straightness, parallelism or squareness, i.e. the distance separating the parallel planes which just enclose the surface under consideration.	A
Thread measuring cylinders	As BS 5590:1978 and specials 0.1 to 5.0 diameter	0.50	2. Single & multi-start, symmetrical thread forms only.	B & C
Precision pin gauges (parallel)	0.1 to 10 diameter	0.25	3. Functional test of size using check plugs.	B & C
Plain plug gauges (parallel)	1 to 50 diameter 50 to 100	0.50 0.80	4. Calibration may also be given in lbf.ft and lbf.in	A
Plain plug gauges (parallel)	1 to 50 diameter 50 to 100 100 to 150 150 to 200 200 to 300	0.50 0.80 1.0 1.2 2.0	5. Brown & Sharpe PMI Ltd products only.	B & C
Plain plug gauges (taper) including check plugs Taper up to 1 in 8 on diameter	5 to 50 diameter 50 to 100	3.0 on diameter 4.0	6. All linear calibrations may be given in inch units.	B & C C
Tapers above 1 in 8	5 to 50 diameter 50 to 100	5.0 on diameter 6.0	7. Features and associated parts of these gauges / fixtures can be measured to the uncertainties given for equivalent items listed in this schedule.	B & C C
Plain ring gauges (parallel) and setting standards	1 to 10 diameter 10 to 25 25 to 50 50 to 100 100 to 150 150 to 200	0.80 0.50 0.80 1.0 1.5 2.5		C



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RANGE IN MILLIMETRES AND UNCERTAINTY IN MICROMETRES UNLESS OTHERWISE STATED				
LENGTH (cont'd)				
Plain ring gauges (parallel) and setting standards	2 to 10 diameter	1.2	NOTES continued 8. Simple height gauges - vernier, dial and digital instruments designed only for measuring distances parallel to the beam. 9. Conformance statements cannot be made against specifications whose magnitudes are smaller than the specified CMC values	A & B
	10 to 25	1.0		
	25 to 50	1.2		
	50 to 100	1.5		
	100 to 150	2.0		
Plain ring gauges (taper)	5 to 50 diameter	4.0 on diameter		B & C
	50 to 100	5.0		C
	100 to 200	6.0		C
Taper up to 1 in 8 on diameter	5 to 50 diameter	6.0 on diameter		B & C
	50 to 100	7.0		C
	100 to 200	8.0		C
Tapers above 1 in 8 on diameter	5 to 50 diameter	1.0 + (8.0 x length in m)		A
	50 to 100	1.0 + (8.0 x length in m)		B & C
	100 to 200	1.0 + (8.0 x length in m)		B & C
Length gauges, flat and spherical ended	25 to 300	3.0		B & C
	100 to 200	5.0		
	200 to 300	8.0		
Length gauges, flat and spherical ended	0.5 to 100	1.5 to 5.0	B & C	
	100 to 200	1.5 to 5.0		
	200 to 300	1.5 to 5.0		
Plain gap gauges (parallel)	As BS 906:1972	2.5 on pitch diameter	A & B & C	
	0 to 50 x 100 x 400	1.5 on pitch		
		5.0 minutes of arc on flank angle		
Parallels	As BS 3731:1987	See note 3	C	
	20 to 150 diameter, vee capacity	5.0 on pitch diameter		
		6.0 on pitch diameter		
Vee blocks	0 to 100	1.5 on pitch	B	
		5.0 minutes of arc on flank angle		
		5.0 on pitch diameter		
Screw plug gauges (parallel) including check and setting plugs See Note 2	1 to 12	See note 3	C	
	10 to 100	5.0 on pitch diameter		
	100 to 150	6.0 on pitch diameter		
Screw ring gauges (parallel) See Note 2	1 to 12	See note 3	B	
	5 to 100	5.0 on pitch diameter		
		5.0 minutes of arc on flank angle		
Receiver, position and profile gauges, jigs and fixtures	0 to 450 x 300 x 300	3.0 + (10 x length in m) See note 7	C	



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RANGE IN MILLIMETRES AND UNCERTAINTY IN MICROMETRES UNLESS OTHERWISE STATED				
ANGLE				
Squares Blade type	As BS 939:2007 0 to 300 300 to 450	3.0 On 4.0 squareness See Note 1		B & C C
Cylindrical	As BS 939:2007 0 to 300 300 to 600	2.0 On 4.0 squareness See Note 1		C
Angle plates and box angle plates	As BS 5535:1978 50 to 600	Squareness 3.0 + (1.0 per 100 mm) Parallelism 1.0 + (1.0 per 100 mm) See Note 1		B & C
Bevel protractors	As BS 1685:2008 0° to 360°	6.0 minutes of arc		B & C
Sine bars	As BS 3064:1978 100 to 300	1.0 + (10 x length in m) 3.0 Seconds of arc		C
Sine tables	As BS 3064:1978 100 to 500	1.0 + (10 x length in m) 3.0 Seconds of arc		C
FORM				
Surface plates Granite Cast iron	As BS 817:2008 and above 160 x 100 to 4000 x 4000	1.5 + (0.80 x diagonal in m) See Note 1		B & C & D
Straightedges Cast iron	As BS 5204:Part 1:1975 300 to 4000	1.0 + (2.0 x length in m) See Note 1		C
Steel Granite	As BS 5204:Part 2:1977 300 to 2000			
Straightedges Cast iron	As BS 5204:Part 1:1975 200 to 1000	2.0 + (2.0 x length in m) See Note 1		B
Steel Granite	As BS 5204:Part 2:1977 200 to 1000			
Roundness External Internal	As BS 3730 1 to 350 diameter 3 to 350	0.050 on radius		C



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RANGE IN MILLIMETRES AND UNCERTAINTY IN MICROMETRES UNLESS OTHERWISE STATED				
MEASURING INSTRUMENTS AND MACHINES				
Micrometers External	As BS 870:2008 0 to 600	Heads 2.0 between any two points. Setting and extension rods 1.0 + (8.0 x length in m)		C
	0 to 150			A & B
Internal	As BS 959:2008 0 to 900			B & C
Depth	As BS 6468:2008 0 to 300			A & B & C
Indicating micrometers	0 to 100	Indicators 0.50 Overall performance 1.5		A & B & C
Bore micrometers (three- point)	5 to 100	3.0		B & C
Combination sets	0° to 360° (Protractor) 0 to 500 (Rule)	30 minutes of arc 5.0 + (10 x length in m)		C
Height gauges - (Simple) including vernier, dial and digital types (See note 8 and note 9)	As BS EN ISO 13225:2012 (0 to 1000)	Length measurement error (E): 5.0 + (10 x length in m)		B & C
Vernier gauges Caliper	As BS 887:2008 0 to 300	Overall performance 10 + (30 x length in m)		A
Height	including dial and digital type As BS 1643:2008 withdrawn 0 to 300			
Depth	As BS 6365:2008 0 to 300			
Vernier gauges Caliper	As BS 887:2008 0 to 1000	Overall performance 10 + (30 x length in m)		B & C
Height	including dial and digital type As BS 1643:2008 withdrawn 0 to 1000			
Depth	As BS 6365:2008 0 to 600			
Dial gauges and dial test indicators	As BS 907:2008 and BS 2795:1981 0 to 50	1.0		A & B & C



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MEASURING INSTRUMENTS AND MACHINES (cont'd)				
Comparators (external)	As BS 1054:1975 250 to 20 000 magnifications	1.0 % of range Minimum 0.10		C
Displacement transducers	0 to 100	0.30 + (4.0 x length in m)		B & C
Air gauging units (See Note 5)	0 to 5000 magnifications	0.50 % of range		C
Feeler Gauges	As BS 957:2008 0.03 to 1.00	3.0		A & B & C
Internal and External Caliper Gauges	0 to 150	1.0		A & B & C
Clinometers	0 to 360 degrees	10 seconds of arc		C
Electronic indicating levels	0 to 20 minutes of arc	1.0 % of range Minimum 0.50 seconds of arc		B & C
Spirit levels	As BS 3509:1962 and BS 958:1968 5 seconds of arc to 60 minutes of arc nominal sensitivity	Mean sensitivity: 10 % of nominal Minimum 0.50 seconds of arc		B & C
Micrometer heads	As BS 1734:1951 0 to 100	1.0		B & C
Height setting micrometer	300	Heads 1.20 Stepped column 2.0 Overall performance 2.5		C
Riser blocks for above	150 300	2.0 4.0		C
Precision scales (linear)	0 to 300	1.5 + (3.0 x length in m)		C
Steel rules	As BS 4372:1968 0 to 500 500 to 1000	5.0 + (10 x length in m) 10 + (10 x length in m)		C
Dividing heads Rotary tables Inclinable rotary tables	100 to 450 capacity 100 to 450 100 to 450	Overall angular performance 3.0 seconds of arc		C & D C & D C & D
Profile projectors	10 to 100 magnifications	125 at the screen 2.5 linear scales 1.5 minutes of arc		B & C & D



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MEASURING INSTRUMENTS AND MACHINES (cont'd)				
Height gauges – (Complex) (See note 9)	As BS EN ISO 13225:2012 0 to 1 m	Length measurement error (E): $1.0 + (5.0 \times \text{length in m})$ Length measurement error (B): $1.0 + (5.0 \times \text{length in m})$		C & D
Electronic microprocessor controlled height gauges	0 to 1 m	$1.0 + (5.0 \times \text{length in m})$		B & C & D
Horizontal & vertical measuring machines	0 to 1 m	$0.20 + (1.0 \times \text{length in m})$		C & D
Evaluation of electrical contact unit for internal measurement		Overall performance 1.0 on diameter.		C & D
Hand Torque Tools	As BS EN ISO 6789:2003 1 to 1000 Nm	1.6 % of maximum reading (see note 4)		C
END				