



**BOWERS GROUP**

**PRODUCT CATALOGUE 15/16**



Partners in Precision





**BOWERS GROUP**

## Introduction

The Bowers range of precision measuring instruments can be found in over 50 countries, across 6 continents, supported by a network of exclusive agents. The Bowers brand is strong throughout the world and is associated with the highest quality in measuring equipment.

Maintaining our leading position in the increasingly competitive Metrology industry has required us to stay at the forefront of product innovation.

Bowers' principal product range centres on internal measuring equipment; in particular bore gauging and internal micrometers – both mechanical and electronic. Core products include the Bowers XT range of Bore Gauges; XT Analogue, XTA Micro, XT Digital, XT Hometric and the new XT3 with optional Bluetooth. The MicroGauge small diameter bore gauge, XTL lever gauge and XT500 large diameter gauge extend this range even further.

Complementing the Bore Gauging range sits an array of allied products; including Universal Gauging, Large Diameter Gauges, SmartPlugs, Snap Gauges and Air Gauges, providing Bowers' customers with innovative solutions to a wide range of measuring tasks.

Although Bowers produces the most comprehensive series of bore gauges and internal measuring equipment available, not all applications can be covered by our standard instrument range. Bowers' Special Applications team has earned a reputation for manufacturing special heads for measuring non-standard applications; such as threads, splines and grooves.

Added to the superior range of precision measuring instruments, Bowers' on-site UKAS calibration laboratory ensures many of its products receive a certificate of calibration fully traceable to National Standards, giving its customers confidence in the high quality of the products and services supplied by Bowers Group.



## Contents

XTA / XTA Micro Analogue Bore Gauge	Pages 4-5
XT3 Digital Bore Gauge	Pages 6-7
XT3 Holematic Digital Pistol Grip Bore Gauge	Pages 8-9
MicroGauge 2-point Bore Gauge	Pages 10-11
XT Digital Lever Bore Gauge	Page 12
XTHSY Pistol Grip Bore Gauge with Indicator	Page 13
Ultima Electronic Bore Gauge	Pages 14-16
XT500 Large Diameter 3-point Bore Gauge	Page 17
Bowers Air Gauging	Pages 18-21
Special Bore Measurement	Pages 22-27
SmartPlugs	Pages 28-33
Digital and Mechanical Cylinder Bore Gauges	Pages 34-35
Universal Gauge	Pages 36-40
Universal Gauge Special Applications	Page 41
Checkmaster Comparator	Pages 42-44
INTEX Comparator Beam Gauge	Page 45
Carbon Fibre Comparator Beam Gauge	Page 46
Snapmic Digital Micrometer	Page 47
Snapmatic Snap Gauge	Page 48
Rivet Height Gauge/Digital Countersink Gauge	Page 49
UniCal Universal Digital Caliper	Page 50
Major Calipers	Page 51
Wireless Data Output Options	Page 52

## Analogue Bore Gauges

Bowers XT Analogue Bore Gauges are an economical solution to accurate shop-floor bore measurement. The extended mechanical travel of these advanced two or three point gauges ensures that exchanging measuring anvils is now unnecessary. Their wide application range, 2-300mm, rugged construction and easy read scale, ensure both accuracy and ease of use. XT measuring heads and setting rings are supplied with UKAS certification.

For 2015, Bowers has launched the XTA Micro to cover the measuring range 2-20mm. The XTA Micro incorporates a more compact mechanical controller and Vernier scale for improved resolution.



### NEW XTA Micro Features

- More compact mechanical controller
- Lighter and ergonomically designed
- Improved functionality
- Vernier scale added to improve resolution from 5µ to 2µ



MXTA10M – NEW XTA Micro

### Features

- Range 2-300mm (0.080"-12")
- 2-6mm 2 point / 6-300mm 3 point measurement
- Graduation XTA Micro 2-6mm: 0.001mm, 6-20mm: 0.002mm
- Graduation XTA 20-300mm: 0.005mm
- Tungsten carbide measuring faces on all 3-point heads from 12.5mm
- Blind bore measurement from 2mm-6mm and above 12.5mm (0.500")
- Extensions available above 6mm for deep hole measurement
- Ratchet stop to ensure consistent measurement
- Setting rings included with individual instruments and sets
- UKAS certificates supplied as standard with all setting rings
- UKAS certificate supplied as standard with all XT mechanical gauges
- Serial number on all gauges
- Bore gauges manufactured according to DIN 863, part 4
- Supplied in fitted wooden case

### XT SETTING RINGS

Code No	Setting Ring (mm)	Code No	Setting Ring (inch)
XTR3M	2.5	XTR3i	0.1000
XTR5M	4.00	XTR5i	0.1600
XTR7M	5.00	XTR7i	0.2000
XTR8M	8.00	XTR8i	0.3125
XTR12M	12.50	XTR12i	0.500
XTR20M	20.00	XTR20i	0.750
XTR35M	35.00	XTR35i	1.375
XTR65M	65.00	XTR65i	2.625
XTR80M	80.00	XTR80i	3.250
XTR125M	125.00	XTR125i	5.000
XTR175M	175.00	XTR175i	7.000
XTR225M	225.00	XTR225i	9.000
XTR275M	275.00	XTR275i	11.000



## Analogue Bore Gauges

**XTA MICRO:** Individual instruments supplied with setting ring and UKAS

Code No	Code No (without Ring)	Range (mm)	Accuracy (mm)	Depth (mm)	Setting Ring (mm)	Code No	Range (inch)	Accuracy (inch)	Depth (inch)	Setting Ring (inch)
MXTA1M	MXTA1W	2-2.5	0.004	9	2.50	MXTA1i	0.080-0.100	0.00015	0.35	0.1000
MXTA2M	MXTA2W	2.5-3	0.004	9	2.50	MXTA2i	0.100-0.120	0.00015	0.35	0.1000
MXTA3M	MXTA3W	3-4	0.004	12	4.00	MXTA3i	0.120-0.160	0.00015	0.47	0.1600
MXTA4M	MXTA4W	4-5	0.004	18	4.00	MXTA4i	0.160-0.200	0.00015	0.70	0.1600
MXTA5M	MXTA5W	5-6	0.004	18	5.00	MXTA5i	0.200-0.250	0.00015	0.70	0.2000
MXTA6M	MXTA6W	6-8	0.004	58	8.00	MXTA6i	1/4-5/16	0.00015	2.28	0.3125
MXTA8M	MXTA8W	8-10	0.004	58	8.00	MXTA8i	5/16-3/8	0.00015	2.28	0.3125
MXTA10M	MXTA10W	10-12.5	0.004	58	12.50	MXTA10i	3/8-1/2	0.00012	2.28	0.500
MXTA12M	MXTA12W	12.5-16	0.004	62	12.50	MXTA12i	1/2-5/8	0.00015	2.44	0.500
MXTA16M	MXTA16W	16-20	0.004	62	20.00	MXTA16i	5/8-3/4	0.00015	2.44	0.750

**XTA STANDARD:** Individual instruments supplied with setting ring and UKAS

Code No	Range (mm)	Accuracy (mm)	Depth (mm)	Setting Ring (mm)	Code No	Range (inch)	Accuracy (inch)	Depth (inch)	Setting Ring (inch)
XTA20M	20-25	0.004	66	20.00	XTA20i	3/4-1	0.00015	2.62	0.750
XTA25M	25-35	0.004	66	35.00	XTA25i	1-1 3/8	0.00015	2.62	1.375
XTA35M	35-50	0.004	80	35.00	XTA35i	1 3/8-2	0.00015	3.15	1.375
XTA50M	50-65	0.005	80	65.00	XTA50i	2-2 5/8	0.00020	3.15	2.625
XTA65M	65-80	0.005	80	65.00	XTA65i	2 5/8-3 1/4	0.00020	3.15	2.625
XTA80M	80-100	0.005	100	80.00	XTA80i	3 1/4-4	0.00020	3.94	3.250
XTA100M	100-125	0.006	115	125.00	XTA100i	4-5	0.00025	4.53	5.000
XTA125M	125-150	0.006	115	125.00	XTA125i	5-6	0.00025	4.53	5.000
XTA150M	150-175	0.007	115	175.00	XTA150i	6-7	0.00030	4.53	7.000
XTA175M	175-200	0.007	115	175.00	XTA175i	7-8	0.00030	4.53	7.000
XTA200M	200-225	0.008	118	225.00	XTA200i	8-9	0.00030	4.65	9.000
XTA225M	225-250	0.008	118	225.00	XTA225i	9-10	0.00030	4.65	1.375
XTA250M	250-275	0.009	118	275.00	XTA250i	10-11	0.00035	4.65	11.000
XTA275M	275-300	0.009	118	275.00	XTA275i	11-12	0.00035	4.65	11.000

**XTA MICRO SETS:** Supplied with individual instrument, setting rings and UKAS

Code No	Code No (without Ring)	Range (mm)	Measuring Heads	Setting Rings	Code No	Range (inch)
SMXTA1M	SMXTA1W	2-3	2	1	SMXTA1i	0.080-0.120
SMXTA2M	SMXTA2W	3-6	3	2	SMXTA2i	0.120-0.250
SMXTA3M	SMXTA3W	6-10	2	1	SMXTA3i	1/4-3/8
SMXTA4M	SMXTA4W	10-20	3	2	SMXTA4i	3/8-3/4



SMXTA3M

**XTA STANDARD SETS:** Supplied with individual instrument, setting rings and UKAS

Code No	Range (mm)	Measuring Heads	Setting Rings	Code No	Range (inch)
SXTA5M	20-50	3	2	SXTA5i	3/4-2
SXTA6M	50-100	3	2	SXTA6i	2-4
SXTA7M	100-150	2	1	SXTA7i	4-6
SXTA8M	150-200	2	1	SXTA8i	6-8

### EXTENSIONS

Code No	Length (mm)	Length (inch)	To Fit Heads (mm)	To Fit Heads (inch)
EGX0200	63	2.5	6-10	1/4-3/8
EGX0400	76	3.0	10-12.5	3/8-1/2
EGX0500	100	4.0	12.5-20	1/2-3/4
EGX0001	150	6.0	20-50	3/4-2
EGX0004	150	6.0	50-300	2-12





## NEW XT3 Digital Bore Gauge

Bowers' XT3 digital internal micrometers offer a new ergonomic design - including a larger and clearer LCD display - along with IP67 electronics protection, proximity output with optional built-in Bluetooth; both allow bi-directional communication giving greater flexibility for data acquisition and storage. The extended mechanical travel of the XT range means that special heads can also be manufactured to accommodate users most awkward measuring problems. Measuring heads for threads, splines, slots, grooves, deep-holes and many more applications are available.



### Features

- New ergonomic design with larger and clearer LCD display
- IP67 electronics
- Simple 2-button operation
- 4 preset memories
- Proximity RS232/USB output with optional built-in Bluetooth Low Energy (BLE)
- Bi-directional communication
- Range 2-300mm (0.080"-12")
- 2-6mm 2 point / 6-300mm 3 point measurement
- Resolution 0.001mm/0.00005"
- Tungsten carbide measuring faces on all 3-point heads from 12.5mm
- Blind bore measurement from 2mm - 6mm and above 12.5mm (0.500")
- Extensions available above 6mm for deep hole measurement
- Ratchet stop to ensure consistent measurement
- Setting rings included with individual instruments and sets
- UKAS certificates supplied as standard with all setting rings
- UKAS certificates supplied as standard with all gauges
- Serial number on all digital readouts and measuring heads
- Heads with special anvils available to suit specific customer requirements (e.g. Threads, grooves, 2-point, spherical, splines etc)
- Bore gauges manufactured according to DIN 863, part 4
- Supplied in fitted wooden case



## NEW XT3 Digital Bore Gauge

**TECHNICAL SPECIFICATION:** Individual instruments supplied with digital display unit, head, ring and UKAS

**DISPLAY UNITS ONLY**

Code No	Code No (with BT)	Range (mm)	Accuracy (mm)	Depth (mm)	Setting Ring (mm)
XTD1M-XT3	XTD1M-BT	2-2.5	0.004	9	2.50
XTD2M-XT3	XTD2M-BT	2.5-3	0.004	9	2.50
XTD3M-XT3	XTD3M-BT	3-4	0.004	12	4.00
XTD4M-XT3	XTD4M-BT	4-5	0.004	18	4.00
XTD5M-XT3	XTD5M-BT	5-6	0.004	18	5.00
XTD6M-XT3	XTD6M-BT	6-8	0.004	58	8.00
XTD8M-XT3	XTD8M-BT	8-10	0.004	58	8.00
XTD10M-XT3	XTD10M-BT	10-12.5	0.004	58	12.50
XTD12M-XT3	XTD12M-BT	12.5-16	0.004	62	12.50
XTD16M-XT3	XTD16M-BT	16-20	0.004	62	20.00
XTD20M-XT3	XTD20M-BT	20-25	0.004	66	20.00
XTD25M-XT3	XTD25M-BT	25-35	0.004	66	35.00
XTD35M-XT3	XTD35M-BT	35-50	0.004	80	35.00
XTD50M-XT3	XTD50M-BT	50-65	0.005	80	65.00
XTD65M-XT3	XTD65M-BT	65-80	0.005	80	65.00
XTD80M-XT3	XTD80M-BT	80-100	0.005	100	80.00
XTD100M-XT3	XTD100M-BT	100-125	0.006	115	125.00
XTD125M-XT3	XTD125M-BT	125-150	0.006	115	125.00
XTD150M-XT3	XTD150M-BT	150-175	0.007	115	175.00
XTD175M-XT3	XTD175M-BT	175-200	0.007	115	175.00
XTD200M-XT3	XTD200M-BT	200-225	0.008	118	225.00
XTD225M-XT3	XTD225M-BT	225-250	0.008	118	225.00
XTD250M-XT3	XTD250M-BT	250-275	0.009	118	275.00
XTD275M-XT3	XTD275M-BT	275-300	0.009	118	275.00

Code No	Code No (with BT)	Range (inch)	Accuracy (inch)	Depth (inch)	Setting Ring (inch)
XTD1i-XT3	XTD1i-BT	0.080-0.100	0.00015	0.35	0.1000
XTD2i-XT3	XTD2i-BT	0.100-0.120	0.00015	0.35	0.1000
XTD3i-XT3	XTD3i-BT	0.120-0.160	0.00015	0.47	0.1600
XTD4i-XT3	XTD4i-BT	0.160-0.200	0.00015	0.70	0.1600
XTD5i-XT3	XTD5i-BT	0.200-0.250	0.00015	0.70	0.2000
XTD6i-XT3	XTD6i-BT	1/4-5/16	0.00015	2.28	0.3125
XTD8i-XT3	XTD8i-BT	5/16-3/8	0.00015	2.28	0.3125
XTD10i-XT3	XTD10i-BT	3/8-1/2	0.00015	2.28	0.5000
XTD12i-XT3	XTD12i-BT	1/2-5/8	0.00015	2.44	0.5000
XTD16i-XT3	XTD16i-BT	5/8-3/4	0.00015	2.44	0.7500
XTD20i-XT3	XTD20i-BT	3/4-1	0.00015	2.62	0.7500
XTD25i-XT3	XTD25i-BT	1-1 3/8	0.00015	2.62	1.3750
XTD35i-XT3	XTD35i-BT	1 3/8-2	0.00015	3.15	1.3750
XTD50i-XT3	XTD50i-BT	2-2 5/8	0.00020	3.15	2.6250
XTD65i-XT3	XTD65i-BT	2 5/8-3 1/4	0.00020	3.15	2.6250
XTD80i-XT3	XTD80i-BT	3 1/4-4	0.00020	3.94	3.2500
XTD100i-XT3	XTD100i-BT	4-5	0.00025	4.53	5.0000
XTD125i-XT3	XTD125i-BT	5-6	0.00025	4.53	5.0000
XTD150i-XT3	XTD150i-BT	6-7	0.00030	4.53	7.0000
XTD175i-XT3	XTD175i-BT	7-8	0.00030	4.53	7.0000
XTD200i-XT3	XTD200i-BT	8-9	0.00030	4.65	9.0000
XTD225i-XT3	XTD225i-BT	9-10	0.00030	4.65	9.0000
XTD250i-XT3	XTD250i-BT	10-11	0.00035	4.65	11.0000
XTD275i-XT3	XTD275i-BT	11-12	0.00035	4.65	11.0000

Display Unit	Display Unit (with BT)
XTDU2-XT3	XTDU2-BT
XTDU2-XT3	XTDU2-BT
XTDU2-XT3	XTDU2-BT
XTDU2-XT3	XTDU2-BT
XTDU2-XT3	XTDU2-BT
XTDU6-XT3	XTDU6-BT
XTDU6-XT3	XTDU6-BT
XTDU10-XT3	XTDU10-BT
XTDU10-XT3	XTDU10-BT
XTDU10-XT3	XTDU10-BT
XTDU20-XT3	XTDU20-BT
XTDU20-XT3	XTDU20-BT
XTDU20-XT3	XTDU20-BT
XTDU50-XT3	XTDU50-BT
XTDU50-XT3	XTDU50-BT
XTDU50-XT3	XTDU50-BT
XTDU100-XT3	XTDU100-BT
XTDU100-XT3	XTDU100-BT
XTDU100-XT3	XTDU100-BT
XTDU100-XT3	XTDU100-BT
XTDU200-XT3	XTDU200-BT
XTDU200-XT3	XTDU200-BT
XTDU200-XT3	XTDU200-BT
XTDU200-XT3	XTDU200-BT

**SETS:** Supplied with one digital display unit, heads, rings and UKAS

Code No	Code No (with BT)	Range (mm)	Measuring Heads	Setting Rings	Code No	Code No (with BT)	Range (inch)
SXTD1M-XT3	SXTD1M-BT	2-6	5	3	SXTD1i-XT3	SXTD1i-BT	0.080-0.250
SXTD3M-XT3	SXTD3M-BT	6-10	2	1	SXTD3i-XT3	SXTD3i-BT	1/4-3/8
SXTD4M-XT3	SXTD4M-BT	10-20	3	2	SXTD4i-XT3	SXTD4i-BT	3/8-3/4
SXTD5M-XT3	SXTD5M-BT	20-50	3	2	SXTD5i-XT3	SXTD5i-BT	3/4-2
SXTD6M-XT3	SXTD6M-BT	50-100	3	2	SXTD6i-XT3	SXTD6i-BT	2-4
SXTD7M-XT3	SXTD7M-BT	100-150	2	1	SXTD7i-XT3	SXTD7i-BT	4-6
SXTD8M-XT3	SXTD8M-BT	150-200	2	1	SXTD8i-XT3	SXTD8i-BT	6-8
SXTD9M-XT3	SXTD9M-BT	100-200	4	2	SXTD9i-XT3	SXTD9i-BT	4-8

**DEPTH STOP**

Code No	Range (mm)	Range (inch)
DSTOP01	2-6	0.080-0.25

**SETS:** Supplied with digital display unit with each head, rings and UKAS

Code No	Code No (with BT)	Range (mm)	Measuring Heads	Setting Rings	Note
SXTD3U-XT3	SXTD3U-BT	6-10	2	1	with 2 display units
SXTD4U-XT3	SXTD4U-BT	10-20	3	2	with 3 display units
SXTD5U-XT3	SXTD5U-BT	20-50	3	2	with 3 display units
SXTD6U-XT3	SXTD6U-BT	50-100	3	2	with 3 display units

**EXTENSIONS**

Code No	Length (mm)	Length (inch)	To Fit Heads (mm)	To Fit Heads (inch)
EGX0200	63	2.5	6-10	1/4-3/8
EGX0400	76	3.0	10-12.5	3/8-1/2
EGX0500	100	4.0	12.5-20	1/2-3/4
EGX0001	150	6.0	20-50	3/4-2
EGX0004	150	6.0	50-300	2-12



SXTD5M-XT3

Note: BT denotes Bluetooth

## NEW XT3 Digital Pistol Grip Bore Gauge

Bowers' NEW XT3 Holematic offers a new ergonomic design - including a larger and clearer LCD display - along with IP67 electronics protection, proximity output with optional built-in Bluetooth; both allow bi-directional communication giving greater flexibility for data acquisition and storage. The extended mechanical travel of the XT range means that special heads can also be manufactured to accommodate users most awkward measuring problems.

Measuring heads for threads, splines, slots, grooves, deep-holes and many more applications are available.



### Features

- New ergonomic design with larger, clearer LCD swivel display
- IP67 electronics
- Simple 2-button operation
- 4 preset memories
- Proximity RS232/USB output with optional built-in Bluetooth Low Energy (BLE)
- Bi-directional communication
- Range 2-300mm (0.080"-12")
- 2-6mm 2 point / 6-300mm 3 point measurement
- Resolution 0.001mm/0.00005"
- Tungsten carbide measuring faces on all 3-point heads from 12.5mm
- Blind bore measurement from 2mm - 6mm and above 12.5mm (0.500")
- Extensions available above 6mm for deep hole measurement
- Setting rings included with individual instruments and sets
- UKAS certificates supplied as standard with all setting rings
- UKAS certificates supplied as standard with all gauges
- Serial number on all digital readouts and measuring heads
- Heads with special anvils available to suit specific customer requirements (e.g. Threads, grooves, 2-point, spherical, splines etc)
- Bore gauges manufactured according to DIN 863, part 4
- Supplied in fitted wooden case





## NEW XT3 Digital Pistol Grip Bore Gauge

**TECHNICAL SPECIFICATION:** Individual instruments supplied with digital pistol grip, head, ring and UKAS

**DISPLAY UNITS ONLY**

Code No	Code No (with BT)	Range (mm)	Accuracy (mm)	Depth (mm)	Setting Ring (mm)
XTH1M-XT3	XTH1M-BT	2-2.5	0.004	9	2.50
XTH2M-XT3	XTH2M-BT	2.5-3	0.004	9	2.50
XTH3M-XT3	XTH3M-BT	3-4	0.004	12	4.00
XTH4M-XT3	XTH4M-BT	4-5	0.004	18	4.00
XTH5M-XT3	XTH5M-BT	5-6	0.004	18	5.00
XTH6M-XT3	XTH6M-BT	6-8	0.004	58	8.00
XTH8M-XT3	XTH8M-BT	8-10	0.004	58	8.00
XTH10M-XT3	XTH10M-BT	10-12.5	0.004	58	12.50
XTH12M-XT3	XTH12M-BT	12.5-16	0.004	62	12.50
XTH16M-XT3	XTH16M-BT	16-20	0.004	62	20.00
XTH20M-XT3	XTH20M-BT	20-25	0.004	66	20.00
XTH25M-XT3	XTH25M-BT	25-35	0.004	66	35.00
XTH35M-XT3	XTH35M-BT	35-50	0.004	80	35.00
XTH50M-XT3	XTH50M-BT	50-65	0.005	80	65.00
XTH65M-XT3	XTH65M-BT	65-80	0.005	80	65.00
XTH80M-XT3	XTH80M-BT	80-100	0.005	100	80.00
XTH100M-XT3	XTH100M-BT	100-125	0.006	115	125.00
XTH125M-XT3	XTH125M-BT	125-150	0.006	115	125.00
XTH150M-XT3	XTH150M-BT	150-175	0.007	115	175.00
XTH175M-XT3	XTH175M-BT	175-200	0.007	115	175.00
XTH200M-XT3	XTH200M-BT	200-225	0.008	118	225.00
XTH225M-XT3	XTH225M-BT	225-250	0.008	118	225.00
XTH250M-XT3	XTH250M-BT	250-275	0.009	118	275.00
XTH275M-XT3	XTH275M-BT	275-300	0.009	118	275.00

Code No	Code No (with BT)	Range (inch)	Accuracy (inch)	Depth (inch)	Setting Ring (inch)
XTH1i-XT3	XTH1i-BT	0.080-0.100	0.00015	0.35	0.1000
XTH2i-XT3	XTH2i-BT	0.100-0.120	0.00015	0.35	0.1000
XTH3i-XT3	XTH3i-BT	0.120-0.160	0.00015	0.47	0.1600
XTH4i-XT3	XTH4i-BT	0.160-0.200	0.00015	0.70	0.1600
XTH5i-XT3	XTH5i-BT	0.200-0.250	0.00015	0.70	0.2000
XTH6i-XT3	XTH6i-BT	1/4-5/16	0.00015	2.28	0.3125
XTH8i-XT3	XTH8i-BT	5/16-3/8	0.00015	2.28	0.3125
XTH10i-XT3	XTH10i-BT	3/8-1/2	0.00015	2.28	0.500
XTH12i-XT3	XTH12i-BT	1/2-5/8	0.00015	2.44	0.500
XTH16i-XT3	XTH16i-BT	5/8-3/4	0.00015	2.44	0.750
XTH20i-XT3	XTH20i-BT	3/4-1	0.00015	2.62	0.750
XTH25i-XT3	XTH25i-BT	1-1 3/8	0.00015	2.62	1.375
XTH35i-XT3	XTH35i-BT	1 3/8-2	0.00015	3.15	1.375
XTH50i-XT3	XTH50i-BT	2-2 5/8	0.00020	3.15	2.625
XTH65i-XT3	XTH65i-BT	2 5/8-3 1/4	0.00020	3.15	2.625
XTH80i-XT3	XTH80i-BT	3 1/4-4	0.00020	3.35	3.250
XTH100i-XT3	XTH100i-BT	4-5	0.00025	3.94	5.000
XTH125i-XT3	XTH125i-BT	5-6	0.00025	3.94	5.000
XTH150i-XT3	XTH150i-BT	6-7	0.00030	3.94	7.000
XTH175i-XT3	XTH175i-BT	7-8	0.00030	3.94	7.000
XTH200i-XT3	XTH200i-BT	8-9	0.00030	3.94	9.000
XTH225i-XT3	XTH225i-BT	9-10	0.00030	4.05	9.000
XTH250i-XT3	XTH250i-BT	10-11	0.00035	4.05	11.000
XTH275i-XT3	XTH275i-BT	11-12	0.00035	4.05	11.000

Display Unit	Display Unit (with BT)
XTPG01-XT3	XTPG01-BT
XTPG01-XT3	XTPG01-BT
XTPG01-XT3	XTPG01-BT
XTPG01-XT3	XTPG01-BT
XTPG01-XT3	XTPG01-BT
XTPG02-XT3	XTPG02-BT
XTPG02-XT3	XTPG02-BT
XTPG02-XT3	XTPG02-BT
XTPG02-XT3	XTPG02-BT
XTPG02-XT3	XTPG02-BT
XTPG03-XT3	XTPG03-BT
XTPG03-XT3	XTPG03-BT
XTPG03-XT3	XTPG03-BT
XTPG03-XT3	XTPG03-BT
XTPG03-XT3	XTPG03-BT
XTPG03-XT3	XTPG03-BT
XTPG03-XT3	XTPG03-BT
XTPG04-XT3	XTPG04-BT
XTPG04-XT3	XTPG04-BT
XTPG04-XT3	XTPG04-BT
XTPG04-XT3	XTPG04-BT
XTPG04-XT3	XTPG04-BT
XTPG04-XT3	XTPG04-BT
XTPG04-XT3	XTPG04-BT
XTPG04-XT3	XTPG04-BT
XTPG04-XT3	XTPG04-BT

**SETS:** Supplied with digital pistol grip, heads, rings and UKAS

Code No	Code No (with BT)	Range (mm)	Measuring Heads	Setting Rings	Code No	Code No (with BT)	Range (inch)
SXTH1M-XT3	SXTH1M-BT	2-6	5	3	SXTH1i-XT3	SXTH1i-BT	0.080-0.250
SXTH3M-XT3	SXTH3M-BT	6-10	2	1	SXTH3i-XT3	SXTH3i-BT	1/4-3/8
SXTH4M-XT3	SXTH4M-BT	10-20	3	2	SXTH4i-XT3	SXTH4i-BT	3/8-3/4
SXTH5M-XT3	SXTH5M-BT	20-50	3	2	SXTH5i-XT3	SXTH5i-BT	3/4-2
SXTH6M-XT3	SXTH6M-BT	50-100	3	2	SXTH6i-XT3	SXTH6i-BT	2-4
SXTH7M-XT3	SXTH7M-BT	100-150	2	1	SXTH7i-XT3	SXTH7i-BT	4-6
SXTH8M-XT3	SXTH8M-BT	150-200	2	1	SXTH8i-XT3	SXTH8i-BT	6-8

**LARGE SETS:** Supplied with digital pistol grip, heads, rings and UKAS

Code No	Code No (with BT)	Range (mm)	Measuring Heads	Setting Rings	Code No	Code No (with BT)	Range (inch)
SXTH10M-XT3	SXTH10M-BT	6-20	5	3	SXTH10i-XT3	SXTH10i-BT	1/4-3/4
SXTH11M-XT3	SXTH11M-BT	20-100	6	4	SXTH11i-XT3	SXTH11i-BT	3/4-4
SXTH9M-XT3	SXTH9M-BT	100-200	4	2	SXTH9i-XT3	SXTH9i-BT	4-8

### EXTENSIONS

Code No	Length (mm)	Length (inch)	To Fit Heads (mm)	To Fit Heads (inch)
EGX0200	63	2.5	6-10	1/4-3/8
EGX0400	76	3.0	10-12.5	3/8-1/2
EGX0500	100	4.0	12.5-20	1/2-3/4
EGX0001	150	6.0	20-50	3/4-2
EGX0004	150	6.0	50-300	2-12

### DEPTH STOP

Code No	Range (mm)	Range (inch)
DSTOP01	2-6	0.080-0.25

Note: BT denotes Bluetooth



SXTH5M-XT3

## Bowers MicroGauge 2-Point Bore Gauge

The new MicroGauge 2-point bore gauging system has been designed specifically for the measurement of small bores between 1.0-10.0mm. Featuring a completely new digital readout and extremely compact overall dimensions, the MicroGauge is truly a pocket-sized instrument. Digital readout and measuring head together are about the same size and format as a ballpoint pen which represents a big advantage for those needing to measure small precision parts and who need to have their gauge with them all the time. The clear LCD display is easily set using only two buttons and results are shown with switchable 0.01/0.001/0.0005mm resolution. Data transfer is via Proximity-RS232 or Proximity-USB output. The measuring heads are equipped with spherical hard-chromed contact points and are set in appropriate setting rings. Like all Bowers bore gauging products the MicroGauge system is available as individual instruments or as full sets. All setting rings are supplied as standard with UKAS certification.



Depth Stop

### Features

- System range: 1-10mm
- New slimline digital display
- Switchable resolution 0.01/0.001/0.0005mm
- Simple 2-button operation
- Clear LCD display
- Data output: RS232 / USB proximity sensor
- Linearity: Diameter 1.0-1.5 max 2% of measuring travel, min 0.001mm.  
Diameter 1.5-10 max 1% of measuring travel, min 0.001mm
- Repeatability: 0.001mm
- Available as individual instruments or sets
- UKAS-certificates as standard with all setting rings
- Hard-chromed ball-contacts
- Depth-stops available
- Stand available as an option



EST0001 - MicroGauge Stand



## Bowers MicroGauge 2-Point Bore Gauge

**TECHNICAL SPECIFICATION:** Individual measuring heads, readouts and setting rings

Head Code No	Range (mm)	Range (inch)	Measuring Depth (mm)	Digital Readout	Cone	Setting Ring	Setting Ring (mm)
MG011W	0.95-1.15	0.037-0.045	0.6-11	MGU1	MGC1	MGR100	1.00
MG012W	1.07-1.25	0.042-0.049	0.6-11	MGU1	MGC1	MGR110	1.10
MG013W	1.17-1.35	0.046-0.053	0.6-11	MGU1	MGC1	MGR120	1.20
MG014W	1.27-1.45	0.050-0.057	0.6-11	MGU1	MGC1	MGR130	1.30
MG015W	1.37-1.55	0.054-0.061	0.6-11	MGU1	MGC1	MGR140	1.40
MG016W	1.50-1.90	0.059-0.075	0.9-17	MGU2	MGC2	MGR175	1.75
MG017W	1.80-2.20	0.071-0.087	0.9-17	MGU2	MGC2	MGR200	2.00
MG018W	2.05-2.45	0.081-0.096	0.9-17	MGU2	MGC2	MGR225	2.25
MG019W	2.25-2.75	0.089-0.108	1.2-22	MGU2	MGC3	MGR250	2.50
MG020W	2.50-3.00	0.098-0.118	1.2-22	MGU2	MGC3	MGR275	2.75
MG021W	2.75-3.25	0.108-0.128	1.2-22	MGU2	MGC3	MGR300	3.00
MG022W	3.00-3.50	0.118-0.138	1.2-22	MGU2	MGC3	MGR325	3.25
MG023W	3.25-3.75	0.128-0.148	1.2-22	MGU2	MGC3	MGR350	3.50
MG024W	3.50-4.00	0.138-0.157	1.2-22	MGU2	MGC3	MGR375	3.75
MG025W	3.75-4.25	0.148-0.167	1.2-22	MGU2	MGC3	MGR400	4.00
MG026W	3.65-4.35	0.144-0.171	2.0-40	MGU2	MGC4	MGR400	4.00
MG027W	4.15-4.85	0.163-0.191	2.0-40	MGU2	MGC4	MGR450	4.50
MG028W	4.65-5.35	0.183-0.211	2.0-40	MGU2	MGC4	MGR500	5.00
MG029W	5.15-5.85	0.203-0.230	2.0-40	MGU2	MGC4	MGR550	5.50
MG030W	5.65-6.35	0.222-0.250	2.0-40	MGU2	MGC4	MGR600	6.00
MG031W	6.15-6.85	0.242-0.270	2.0-40	MGU2	MGC4	MGR650	6.50
MG032W	6.65-7.35	0.262-0.290	2.0-40	MGU2	MGC4	MGR700	7.00
MG033W	7.15-7.85	0.281-0.309	2.0-40	MGU2	MGC4	MGR750	7.50
MG034W	7.65-8.35	0.301-0.329	2.0-40	MGU2	MGC4	MGR800	8.00
MG035W	8.15-8.85	0.321-0.349	2.0-50	MGU2	MGC4	MGR850	8.50
MG036W	8.65-9.35	0.340-0.368	2.0-50	MGU2	MGC4	MGR900	9.00
MG037W	9.15-9.85	0.360-0.388	2.0-50	MGU2	MGC4	MGR950	9.50
MG038W	9.65-10.35	0.380-0.408	2.0-50	MGU2	MGC4	MGR1000	10.00

**Note:** MicroGauge individual set configurations available on request

**SETS:** including digital readout, measuring heads and setting rings with UKAS certificate

Code No	Range (mm)
SMG001M	0.95-1.55
SMG002M	1.50-2.45
SMG003M	2.25-4.25
SMG004M	3.65-6.35
SMG005M	6.15-10.35

**LARGE SETS:** including digital readout, measuring heads and setting rings with UKAS certificate

Code No	Range (mm)
SMG010M	0.95-2.45
SMG011M	1.50-4.25
SMG012M	2.25-6.35

### STANDARD DEPTH STOP

Code No	Range (mm)
MGSTOP1	0.95-1.55
MGSTOP2	1.50-2.45
MGSTOP3	2.25-4.25
MGSTOP4	3.65-6.35
MGSTOP5	6.15-10.35

### DATA TRANSMISSION

Code No	Description
30-926-6721	Sylvac Proximity USB
25-604-064	Wireless Proximity Module Transmitter
25-604-001	USB Receiver



SMG004M

## Digital Lever Bore Gauge

The robust Bowers XTL Lever range is perfect for vertical bore measurement, providing accurate and repeatable bore gauging under inspection department or shop-floor conditions. The XTL has a simple ergonomic action and can be fitted with a wide variety of analogue and digital indicators or even transducer probes. The range can be provided with IP65 rated digital indicators, rendering it resistant to coolant, water and airborne particles. A 'wireless' gauge module is also available, enabling cable free communication with remote data collectors, PCs etc.

The cost-effective new XTL boasts hardwearing extended travel carbide measuring anvils and is able to measure diameters up to 100mm.

### Features

- Measuring range 6-100mm (diameters above 100mm on request)
- Excellent for vertical bore measurement
- Simple 2-button operation
- Large easy-to-read swivel display (20-100 sizes only)
- 2 preset memories
- RS-232C output
- Self-entering heads
- Constant measuring pressure
- Fast, accurate measurement
- Resolution 0.001mm (0.00005")
- Tungsten carbide measuring faces on all 3-point heads from 12.5mm
- Blind bore measurement above 12.5mm (0.500")
- Extensions available above 6mm for deep hole measurement
- Setting rings included with individual instruments and sets
- UKAS certificates supplied as standard with all setting rings
- UKAS certificates supplied with all gauges
- Serial number on all gauges and measuring heads
- Heads with special anvils available to suit specific customer requirements (e.g. Threads, grooves, 2-point, spherical, splines etc)
- Bore gauges manufactured according to DIN863, part4
- Bluetooth indicator option available over 20mm



### INDIVIDUAL INSTRUMENTS: Supplied with head, ring and UKAS certificates

Code No	Range (mm)	Accuracy (mm)	Depth (mm)	Setting Ring (mm)
XTL6M	6-8	0.004	58	8.00
XTL8M	8-10	0.004	58	8.00
XTL10M	10-12.5	0.004	58	12.50
XTL12M	12.5-16	0.004	62	12.50
XTL16M	16-20	0.004	62	20.00
XTL20M	20-25	0.004	66	20.00
XTL25M	25-35	0.004	66	35.00
XTL35M	35-50	0.004	80	35.00
XTL50M	50-65	0.005	80	65.00
XTL65M	65-80	0.005	80	65.00
XTL80M	80-100	0.005	85	80.00

Code No	Range (inch)	Accuracy (inch)	Depth (inch)	Setting Ring (inch)
XTL6i	1/4-5/16	0.00015	2.28	0.312
XTL8i	5/16-3/8	0.00015	2.28	0.312
XTL10i	3/8-1/2	0.00015	2.28	0.500
XTL12i	1/2-5/8	0.00015	2.44	0.500
XTL16i	5/8-3/4	0.00015	2.44	0.750
XTL20i	3/4-1	0.00015	2.62	0.750
XTL25i	1-1 3/8	0.00015	2.62	1.375
XTL35i	1 3/8-2	0.00015	3.15	1.375
XTL50i	2-2 5/8	0.00020	3.15	2.625
XTL65i	2 5/8-3 1/4	0.00020	3.15	2.625
XTL80i	3 1/4-4	0.00020	3.35	3.250

### SETS: Supplied with heads, rings and UKAS certificates

Code No	Range (mm)	Description	Range (inch)	Code No
SXTL3M	6-10	Mini Indicator	1/4-3/8	SXTL3i
SXTL4M	10-20	Mini Indicator	3/4-2	SXTL5i
SXTL5M	20-50	Standard Indicator	3/8-3/4	SXTL4i
SXTL6M	50-100	Standard Indicator	2-4	SXTL6i

### 6-20MM LEVER GAUGE DATA TRANSMISSION

Code No	Description
30-926-6821	Powered Opto / USB
25-604-013	Wireless Powered Opto Module

### 20-100MM LEVER GAUGE DATA TRANSMISSION

Code No	Description
30-926-6721	Sylvac Proximity USB
25-604-064	Wireless Proximity Module Transmitter



SXTL4M





## XTHSY Pistol Grip Bore Gauge with Indicator

The XTHSY Pistol Grip bore gauge is a useful option for those requiring pistol ergonomics with a large digital indicator. The LCD digital indicator fits into a standard 8mm clamping shaft at the rear of the pistol-grip. Pistols of this type are available for all measuring heads in the XT range.



### Features

Standard: DIN 863 - Part 4

- Measurement range from 6-100mm
- Ergonomically designed pistol grip body
- Functions include 2 pre-set memories, tolerance indicator lights and mm/inch conversion
- Proximity RS-232 data output facility
- Self centring measuring heads with tungsten carbide contact points
- Setting rings provided with each instrument complete with traceable certification
- Blind bore measurement on all instruments above 12.5mm
- Bluetooth indicator option available over 20mm



### BOXED SETS

Code No	Code No (with BT)	Range (mm)	Depth (mm)	Accuracy (mm)
SXTHSY3M	SXTHSY3M-BT	6-10	58	0.004
SXTHSY4M	SXTHSY4M-BT	10-20	62	0.004
SXTHSY5M	SXTHSY5M-BT	20-50	66	0.004
SXTHSY6M	SXTHSY6M-BT	50-100	82	0.005
SXTHSY10M	SXTHSY10M-BT	6-20	58-62	0.004
SXTHSY11M	SXTHSY11M-BT	20-100	66-82	0.005

### DATA TRANSMISSION

Code No	Description
30-926-6821	Powered Opto / USB
30-926-6721	Sylvac Proximity USB

Note: BT denotes Bluetooth



## Electronic Bore Gauge - Ultima

Bowers Ultima Bore Gauge offers a choice of resolutions up to 0.0001mm. Featuring the NEW Bowers 'FASTFIT' measuring heads with extended measuring range (above 14mm), the Ultima boasts a simple lever operation and a constant measuring force, ensuring outstanding ease of use and repeatability under laboratory or shop-floor conditions.

WiFi

Option

RS232



### ULTIMA HOLDERS

Code No	Range (mm)	Description
PH2	2-6	With Probe
PH3	6-20	With Probe
PH4	20-100	With Probe
PH5	100-310	With Probe
PW2	2-6	Without Probe
PW3	6-20	Without Probe
PW4	20-100	Without Probe
PW5	100-310	Without Probe

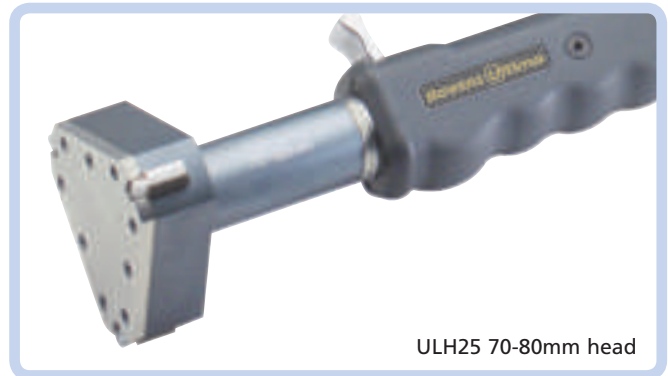
### Features

- UKAS certificates standard for all measuring heads and setting rings
- Measuring range 2-310mm (0.080"-12.000")
- Resolution: 0.0001mm (0.00001")
- Constant spring pressure for improved repeatability
- Good positive feel as heads self-centre in the bore
- Bowers Fastfit measuring heads for rapid changeover
- Ceramic anvils on heads above 12mm
- Blind-bore measurement standard above 12mm
- Possible to connect several probe holders to one single readout to measure different bore sizes at one measuring station
- The complete range of Bowers special heads is available for the Ultima (grooves, threads, splines, deep-bores etc)
- Depth stops available for all heads
- Available without digital readout unit (if not required)
- Interchangeable probe option, to allow use of other manufacturers probes and displays



## ULTIMA SPECIFICATION

Code No	Range (mm)	Range (inch)	Accuracy (mm)	Accuracy (inch)	Repeatability (mm)	Repeatability (inch)	Measuring Depth (mm)	Measuring Depth (inch)	Code No	Setting Ring (mm)	Setting Ring (inch)	Holder Type
ULH6	2.0-2.5	0.078-0.098	0.0010	0.00004	0.0010	0.00004	9	0.35	ULR2	2.5	0.098	PH2
ULH7	2.5-3.0	0.098-0.118	0.0010	0.00004	0.0010	0.00004	9	0.35	ULR2	2.5	0.098	PH2
ULH8	3.0-4.0	0.118-0.157	0.0010	0.00004	0.0010	0.00004	12	0.47	ULR4	4	0.157	PH2
ULH9	4.0-5.0	0.157-0.197	0.0010	0.00004	0.0010	0.00004	18	0.71	ULR5	5	0.197	PH2
ULH10	5.0-6.0	0.197-0.236	0.0010	0.00004	0.0010	0.00004	18	0.71	ULR5	5	0.197	PH2
ULH11	6-8	0.236-0.315	0.0010	0.00004	0.0010	0.00004	60	2.36	ULR8	8	0.315	PH3
ULH12	8-10	0.315-0.393	0.0010	0.00004	0.0010	0.00004	60	2.36	ULR8	8	0.315	PH3
ULH13	10-12	0.393-0.472	0.0010	0.00004	0.0010	0.00004	61	2.40	ULR12	12	0.472	PH3
ULH14	12-14	0.472-0.550	0.0010	0.00004	0.0010	0.00004	61	2.40	ULR12	12	0.472	PH3
ULH15	14-17	0.550-0.670	0.0010	0.00004	0.0010	0.00004	61	2.40	ULR17	17	0.670	PH3
ULH16	17-20	0.670-0.787	0.0010	0.00004	0.0010	0.00004	61	2.40	ULR17	17	0.670	PH3
ULH17	20-24	0.787-0.945	0.0010	0.00004	0.0010	0.00004	69	2.72	ULR24	24	0.945	PH4
ULH18	24-28	0.945-1.100	0.0010	0.00004	0.0010	0.00004	69	2.72	ULR24	24	0.945	PH4
ULH19	28-32	1.100-1.260	0.0010	0.00004	0.0010	0.00004	69	2.72	ULR32	32	1.260	PH4
ULH20	32-38	1.260-1.500	0.0010	0.00004	0.0010	0.00004	72	2.83	ULR32	32	1.260	PH4
ULH21	38-44	1.500-1.730	0.0010	0.00004	0.0010	0.00004	72	2.83	ULR44	44	1.730	PH4
ULH22	44-50	1.730-1.970	0.0010	0.00004	0.0010	0.00004	72	2.83	ULR44	44	1.730	PH4
ULH23	50-60	1.970-2.360	0.0015	0.00006	0.0015	0.00006	80	3.15	ULR60	60	2.360	PH4
ULH24	60-70	2.360-2.756	0.0015	0.00006	0.0015	0.00006	80	3.15	ULR60	60	2.360	PH4
ULH25	70-80	2.756-3.150	0.0015	0.00006	0.0015	0.00006	80	3.15	ULR80	80	3.150	PH4
ULH26	80-90	3.150-3.543	0.0015	0.00006	0.0015	0.00006	80	3.15	ULR80	80	3.150	PH4
ULH27	90-100	3.543-3.940	0.0015	0.00006	0.0015	0.00006	80	3.15	ULR100	100	3.940	PH4
ULH28	100-110	3.940-4.330	0.0015	0.00006	0.0015	0.00006	80	3.15	ULR100	100	3.940	PH5
ULH29	110-120	4.330-4.725	0.0015	0.00006	0.0015	0.00006	80	3.15	ULR120	120	4.725	PH5
ULH30	120-130	4.725-5.120	0.0015	0.00006	0.0015	0.00006	80	3.15	ULR120	120	4.725	PH5
ULH31	130-140	5.120-5.510	0.0015	0.00006	0.0015	0.00006	80	3.15	ULR140	140	5.510	PH5
ULH32	140-150	5.510-5.900	0.0015	0.00006	0.0015	0.00006	80	3.15	ULR140	140	5.510	PH5
ULH33	150-160	5.900-6.300	0.0015	0.00006	0.0015	0.00006	80	3.15	ULR160	160	6.300	PH5
ULH34	160-170	6.300-6.690	0.0015	0.00006	0.0015	0.00006	80	3.15	ULR160	160	6.300	PH5
ULH35	170-180	6.690-7.090	0.0015	0.00006	0.0015	0.00006	80	3.15	ULR180	180	7.090	PH5
ULH36	180-190	7.090-7.480	0.0015	0.00006	0.0015	0.00006	80	3.15	ULR180	180	7.090	PH5
ULH37	190-200	7.480-7.875	0.0015	0.00006	0.0015	0.00006	80	3.15	ULR200	200	7.875	PH5
ULH38	200-210	7.875-8.270	0.0015	0.00006	0.0015	0.00006	80	3.15	ULR200	200	7.875	PH5
ULH39	210-220	8.270-8.661	0.0020	0.00008	0.0020	0.00008	80	3.15	ULR220	220	8.661	PH5
ULH40	220-230	8.661-9.055	0.0020	0.00008	0.0020	0.00008	80	3.15	ULR220	220	8.661	PH5
ULH41	230-240	9.055-9.449	0.0020	0.00008	0.0020	0.00008	80	3.15	ULR240	240	9.449	PH5
ULH42	240-250	9.449-9.842	0.0020	0.00008	0.0020	0.00008	80	3.15	ULR240	240	9.449	PH5
ULH43	250-260	9.842-10.236	0.0020	0.00008	0.0020	0.00008	80	3.15	ULR260	260	10.236	PH5
ULH44	260-270	10.236-10.630	0.0020	0.00008	0.0020	0.00008	80	3.15	ULR260	260	10.236	PH5
ULH45	270-280	10.630-11.024	0.0020	0.00008	0.0020	0.00008	80	3.15	ULR280	280	11.024	PH5
ULH46	280-290	11.024-11.417	0.0020	0.00008	0.0020	0.00008	80	3.15	ULR280	280	11.024	PH5
ULH47	290-300	11.417-11.811	0.0020	0.00008	0.0020	0.00008	80	3.15	ULR300	300	11.811	PH5
ULH48	300-310	11.811-12.200	0.0020	0.00008	0.0020	0.00008	80	3.15	ULR300	300	11.811	PH5



## Electronic Bore Gauge - Ultima



USET8 20-50mm Set

### ULTIMA SETS

Code No	Range (mm)	Description
USET2	2-6	With Sylvac D50S display
USET3	6-10	With Sylvac D50S display
USET4	10-20	With Sylvac D50S display
USET7	6-20	With Sylvac D50S display
USET8	20-50	With Sylvac D50S display
USET9	50-100	With Sylvac D50S display
USET10	20-100	With Sylvac D50S display
USET2W	2-6	Without Sylvac D50S display
USET3W	6-10	Without Sylvac D50S display
USET4W	10-20	Without Sylvac D50S display
USET7W	6-20	Without Sylvac D50S display
USET8W	20-50	Without Sylvac D50S display
USET9W	50-100	Without Sylvac D50S display
USET10W	20-100	Without Sylvac D50S display

### ULTIMA STANDARD EXTENSIONS

Code No	Length (mm)	To Fit Heads (mm)
UEXT0200	63	6-10
UEXT0300	75	10-12
UEXT0001	100	12-20
UEXT0002	150	20-50
UEXT0004	150	50+

### ULTIMA SHORT EXTENSIONS

Code No	Length (mm)	To Fit Heads (mm)
UXSH4	50	20-50
UXSH5	50	50+



## XT500 Large Diameter 3-point Bore Gauge

The Bowers XT500 large diameter 3-point bore-gauge has been designed specifically for the measurement of internal diameters between 300 and 500mm. The newly designed constant-force digital readout ensures that the measuring pressure remains constant throughout the measurement whilst radiussed measuring anvils provide optimum centralisation in the part. Anvil sets are supplied in 25mm steps (300-325, 325-350 etc) and each set has been manufactured to the exact toleranced size. The 300-325mm anvils are the master reference set and are used for setting the gauge in the setting ring. The other anvil sets are then fitted as required without further re-setting. This means that only one 300mm setting ring is required to set the gauge for all diameters in the full 300-500mm range of the instrument.



### Features

- Measuring range: 300-500mm
- New constant-force digital readout
- Single 300mm setting ring covers full range
- Radiussed anvils of tool-steel for optimum centering
- Accuracy: 15µm
- Repeatability: 3µm
- IP65 electronics
- RS-232 output
- Resolution 0.01/0.001mm. Metric/inch switchable
- Fast accurate measurement
- Extensions available for deeper bores
- UKAS certificate with setting ring
- Certificate of conformity with bore gauge
- Supplied in fitted case



The Bowers XT500 with extension for deeper bores

**INDIVIDUAL INSTRUMENTS:** Supplied with digital display unit, measuring head with exchangeable anvils and setting ring with UKAS certificate

Code No	Code No (with BT)	Range (mm)	Accuracy (µm)	Depth (mm)	Setting Ring (mm)
XT5001M-XT3	XT5001M-BT	300-325	15	120	300
XT5002M-XT3	XT5002M-BT	300-325, 325-350	15	120	300
XT5003M-XT3	XT5003M-BT	300-325, 350-375	15	120	300
XT5004M-XT3	XT5004M-BT	300-325, 375-400	15	120	300
XT5005M-XT3	XT5005M-BT	300-325, 400-425	15	120	300
XT5006M-XT3	XT5006M-BT	300-325, 425-450	15	120	300
XT5007M-XT3	XT5007M-BT	300-325, 450-475	15	120	300
XT5008M-XT3	XT5008M-BT	300-325, 475-500	15	120	300

**SETS:** Supplied with digital display unit, measuring head with exchangeable anvils and setting ring with UKAS certificate

Code No	Code No (with BT)	Range (mm)
SXT3000M-XT3	SXT3000M-BT	300-400
SXT4000M-XT3	SXT4000M-BT	300-325, 400-500
SXT5000M-XT3	SXT5000M-BT	300-500

### DATA TRANSMISSION

Code No	Description
30-926-6721	Sylvac Proximity USB
25-604-064	Wireless Proximity Module Transmitter
25-604-001	USB Receiver

Note: BT denotes Bluetooth

## Air Gauging

Air Gauging is a fast, user friendly method of providing high precision results in even the most challenging of shop-floor environments. Using air flow volumes and pressures to measure parts, air gauging is a reliable, repeatable technology well-suited for applications such as precision medical tapers where tolerances are tight. Air gauging technology is flexible; enabling measurement of not only dimensions but geometric and relational characteristics, such as squareness and parallelism; ovality, taper, and straightness of bores; and distance between hole centres.

## Air / Electronic Columns

The Bowers PC-2200 is a state of the art flexible electronic/air column capable of operating with air gauging products and measuring probes. The advanced new column contains a multitude of measuring functions including static and dynamic gauging, classification grading, probe mixing, (A+B), (A-B), etc.

### 55-MCOL2 Features

- Metric/Imperial digital display
- 3 colour LED graphic display
- 1, 2 or 4 probe input options
- Probe mixing (A+B), (A+B+C) etc.
- Air/Electronic converter 1 or 2 inputs
- Static or Dynamic mode (Max, Min, TIR)
- Tolerance and Approach limit settings
- Accuracy 0.5% full scale +/- resolution
- Resolution 0.1, 0.2, 0.5, 1.0 and 2.0µm
- RS-232, PLC or Logic controller output
- Dual supply voltage (220 / 100 volt)

### 55-2045-AEP Features

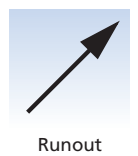
- Metric/Imperial digital display
- 3 colour LED graphic display
- 1 air probe input
- Memory 16 programs (on board)
- External air balance screw
- Static or Dynamic mode (Max, Min, TIR)
- Tolerance and Approach limit settings
- Accuracy 0.5µm
- Resolution 0.001/0.0001µm
- RS-232 data output
- Voltage 230V, 50Hz



55-MCOL2-Air

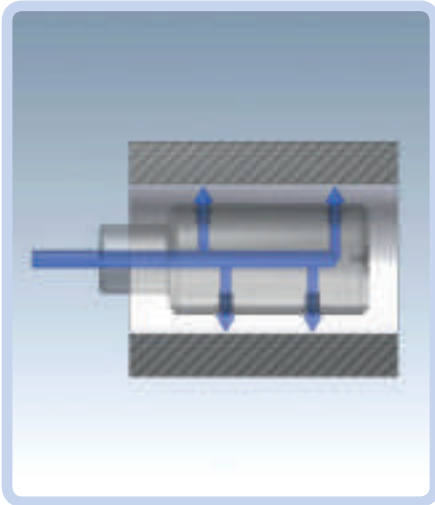


55-2045-AEP

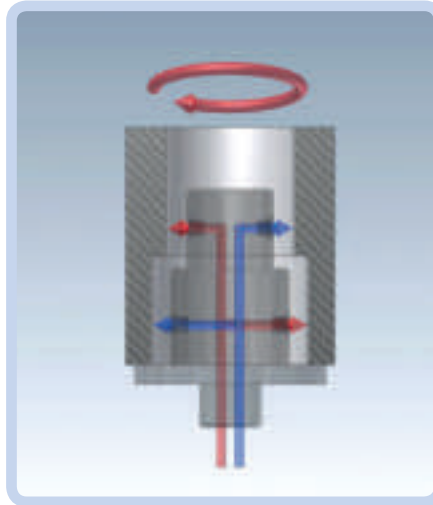




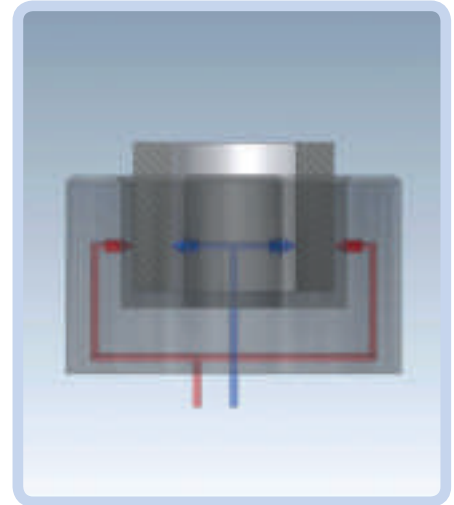
## Air Gauging Options and Applications



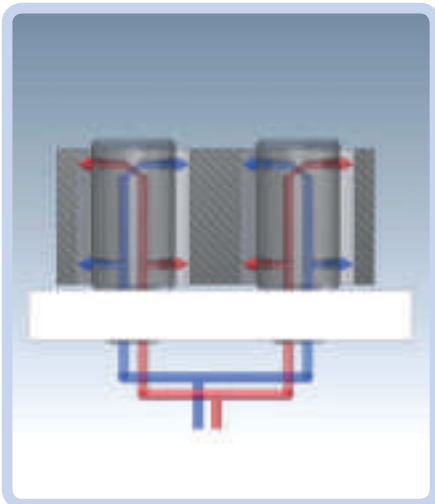
Straightness



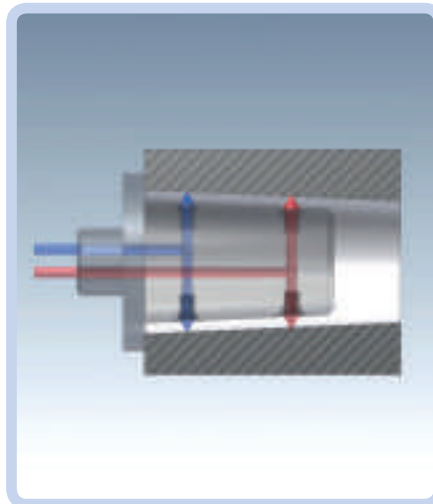
Concentricity of 2 Inside Diameters



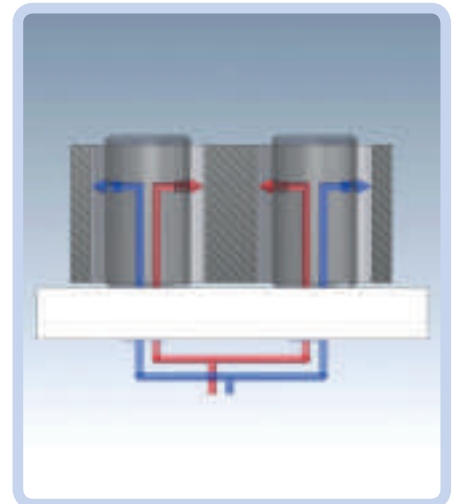
Simultaneous Int/Ext Measurement



Parallelism of 2 Bores



Taper



Centre Distance of 2 Holes

### ELECTRONIC COLUMN (PC2200)

Code No	Description
55-MCOL2	PC-2200 Column mm/inch
55-MAIND2	A-IND2 analogue board (HBT)-2 channels
55-MAIND4	A-IND4 analogue board (HBT)-4 channels
55-MALVD2	A-IND2 analogue board (LVDT)-2 channels
55-MALVD4	A-IND4 analogue board (LVDT)-4 channels
55-MACAP2	A-CAP2 analogue board (Sylvac)-2 channels
55-MACAP4	A-CAP4 analogue board (Sylvac)-4 channels
55-MC	AIR Converter + regulator
55-MAIR1	AIR1 1 channel analogue board
55-MAIR2	AIR2 2 channels analogue board
55-PC2332	Cable, column to A/E converter
55-WKXT4248	Air Regulator / Filter

### ELECTRONIC COLUMN (2045-AEP)

Code No	Description
55-2045-AEP	Air Electronic Column
55-WKXT4248	Air Regulator / Filter
55-FOOTSWITCH-AEP	Footswitch for Data send
30-925-5608	RS232 connecting cable

### ACCESSORIES (PC2200)

Code No	Description
55-PC2302	Power jump cable
55-PC2311	RS232 cable (9p/M/F)
55-PC2312	Output cable (9p/M-> no connector)
55-PC2321	Foot pedal with cable for 1 col.
55-PC2341	Switch box (4 functions)
55-PC2332	Cable, column to A/E converter
55-SOFTWARE	Programming Software

### ALUMINIUM BASE PLATES (PC2200)

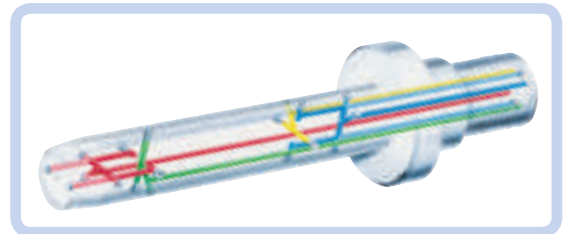
Code No	Description
55-MALP1	For 1 Column
55-MALP2	For 1 Column & 1 Converter
55-MALP3	For 1 Column & 2 Converters
55-MALP4	For 2 Column & 2 Converters
55-MALP5	For 2 Column & 3 Converters
55-MALP6	For 2 Column & 4 Converters

## Bowers Air Plugs and Rings

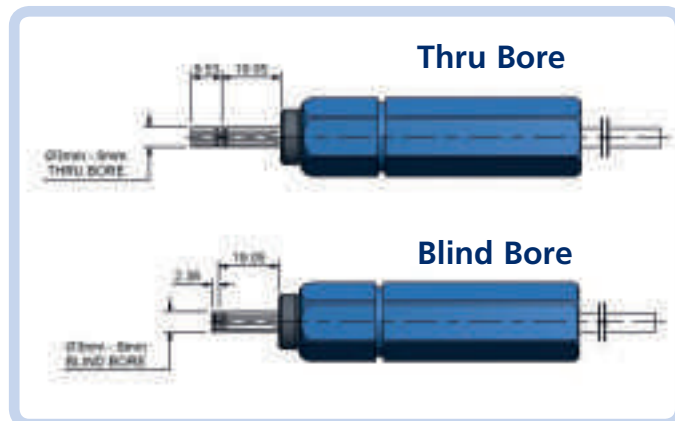
Bowers offers the most comprehensive range of standard air plugs, rings, calipers, etc, currently available. To complement this service we also produce bespoke air gauging products to help solve customer's specific measuring problems. Our hi-tech manufacturing plant incorporates a first class UKAS calibration laboratory, ensuring the quality and accuracy of our air gauging products.

### Features

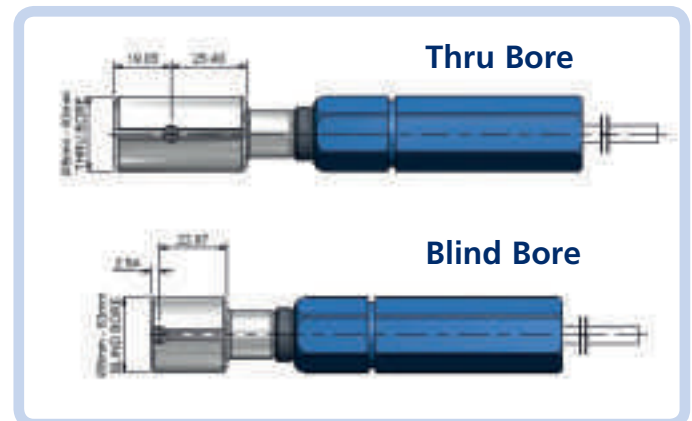
- High resolution
- 3mm to 150mm diameter
- High repeatability
- Non contact
- Static or dynamic measurement
- Multi parameter measurement
- Compatible with instruments from other sources
- Air plugs for internal measurement
- Air rings and calipers for external measurement
- In-cycle, in-process and post-process



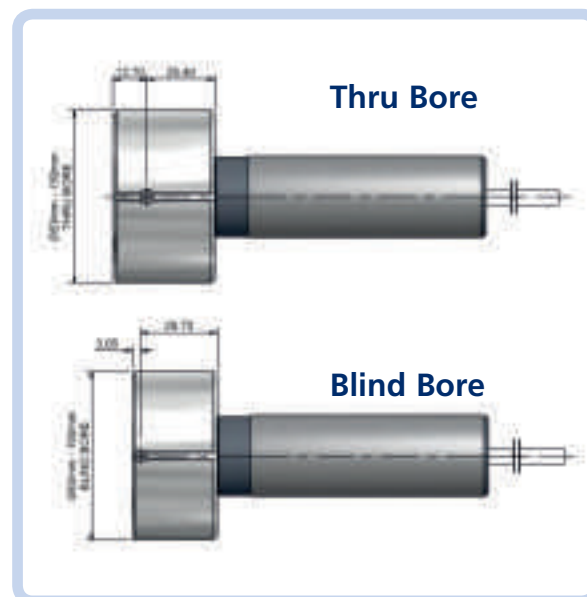
### Standard: 3-8mm



### Standard: 8-63mm



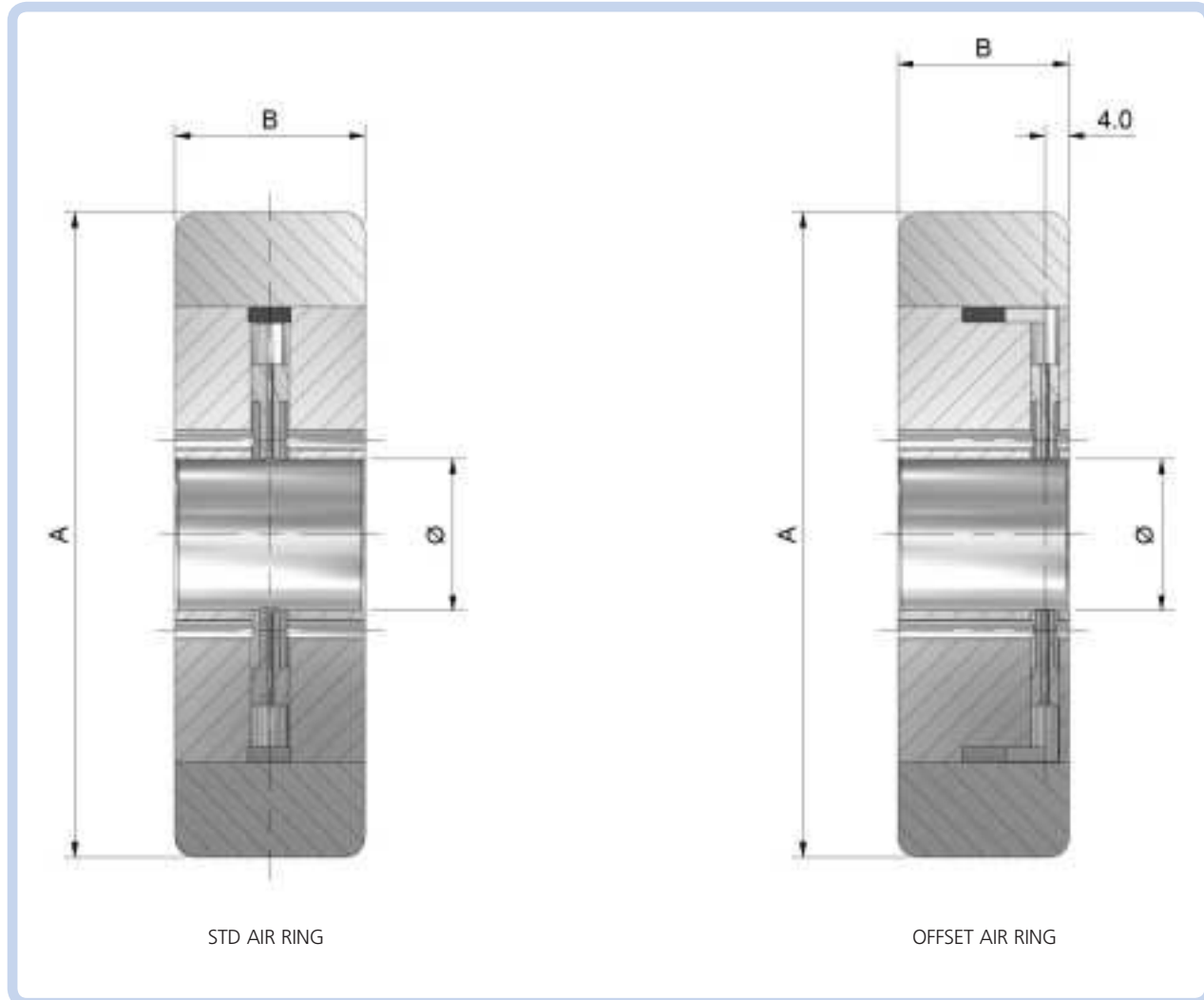
### Standard: 63-150mm





## Bowers Air Rings

### Air Rings-Standard & Offset



#### AIR RINGS - SPECIFICATION

Size Range (mm)	Size Range (inch)	Dia A (mm)	Dia A (inch)	Dia B (mm)	Dia B (inch)
3.17-6.35	1/8-1/4	63.50	2.5	19.05	3/4
6.35-25.40	1/4-1	82.55	3 1/4	25.40	1
25.40-38.10	1-1.5	107.95	4 1/4	28.58	1 1/8
38.10-50.80	1.5-2	120.65	4 3/4	28.58	1 1/8
50.80-63.5	2-2.5	133.35	5 1/4	28.58	1 1/8

## Special Bore Measurement

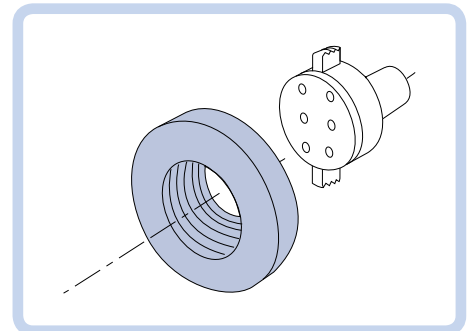
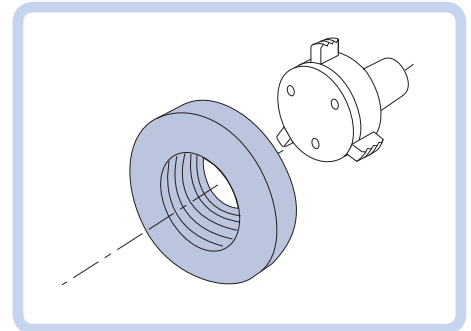
Although Bowers produces the most comprehensive series of bore gauges and internal measuring equipment available, not all applications can be covered by our standard instrument range. In line with our customer care ethos, Bowers has earned a reputation for manufacturing special heads for measuring non-standard applications. The following information illustrates some of the many difficult measuring problems easily solved by these special heads.



### Threads

#### Screw Threads

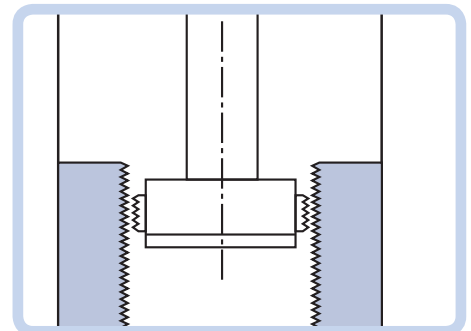
To measure effective (functional) diameter, pitch diameter, major diameter, between M4 - 300mm. / No. 8 UN - 12" diameter.



2 Point



3 Point



#### Ball Screw Threads

From Ø M10.



#### External Threads



External Thread



## Special Bore Measurement - Grooves

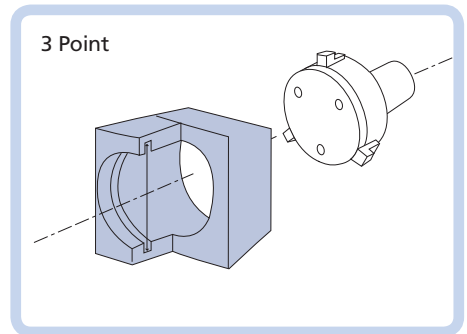
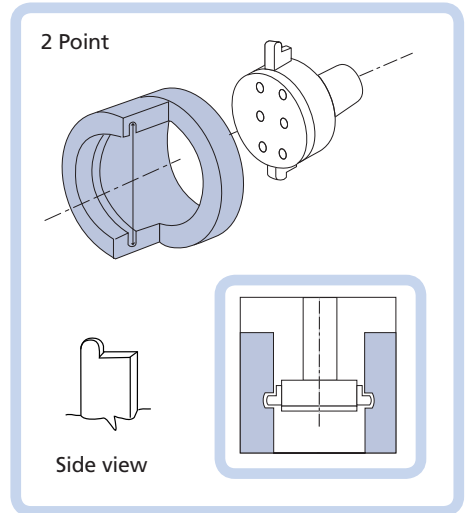
- Interchangeable with standard heads
- Suits Bowers XTD, XTH and Ultima
- Special forms, radius, ball contacts
- Depth stops available for quick location
- Annular grooves possible

### Grooves

For sizes from 2-300mm diameter.



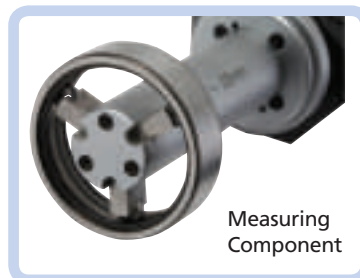
Groove Head with Depth Stop



## Brake Caliper Measurement



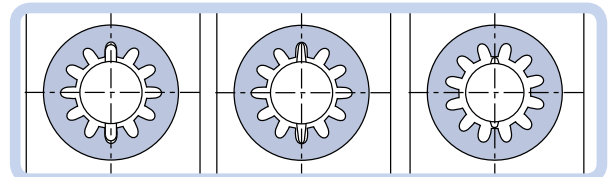
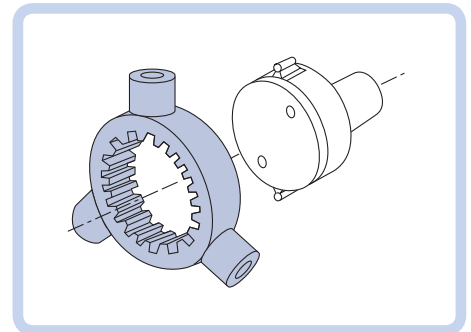
## Ball Race Measurement





## Special Bore Measurement - Internal Spline

2 and 3 point heads available.  
Anvils manufactured from tool steel.  
Between pin, major and minor diameter heads available.  
Diameters from 8-300mm diameter (5/16"-12").



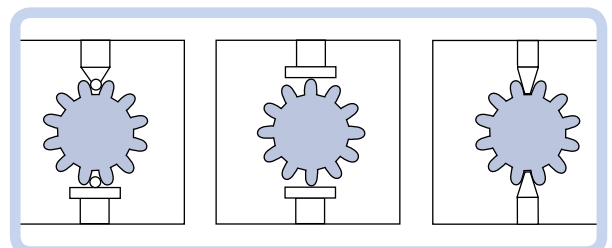
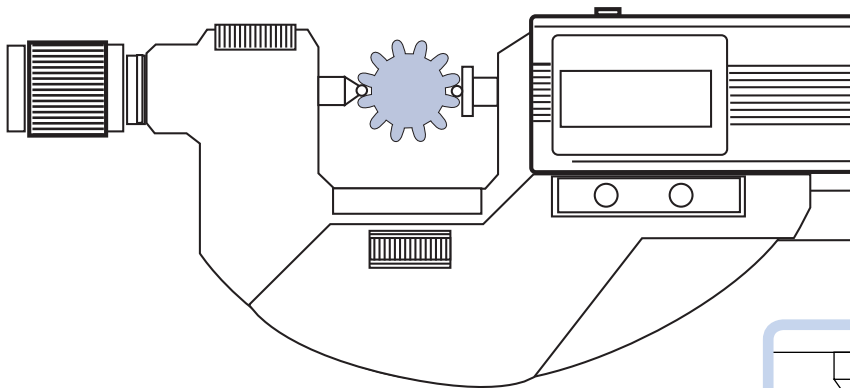
Pitch Diameter

Major Diameter

Minor Diameter

## Special Measurement - External Spline

Frames fitted with 1 x ball and 1 x pin.



Pitch Diameter

Major Diameter

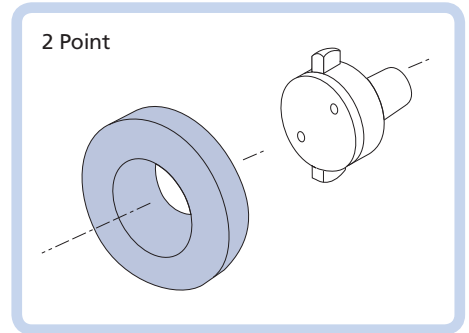
Minor Diameter



## Special Bore Measurement - Spherical

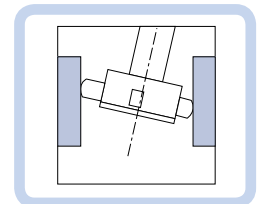
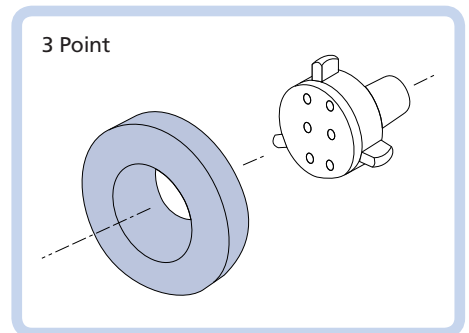
### 2 Point Spherical

Measurement of ovality in bore.  
Measurement of bores with irregularities.



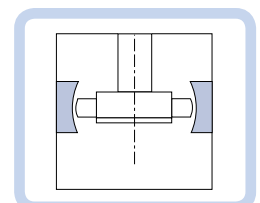
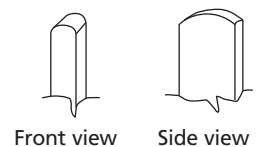
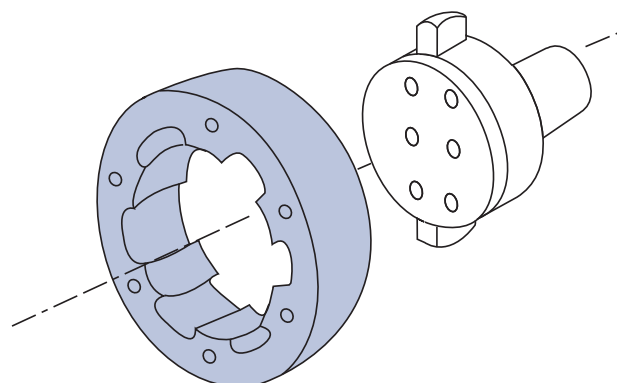
### 3 Point Spherical

Gives good repeatability even when out of line with bore centre.  
Available from 6-300mm diameter on digital systems.



### Spherical Radius

Can be supplied as a 2 point  
(for ovality) or 3 point contact.  
Available from 6-300mm.



## Special Bore Measurement - Deep Hole Pneumatic

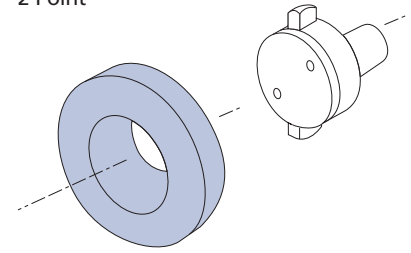
Operated by a pneumatic actuator powered by a 3 bar compressed air supply - either from a compressor or a workshop air-line. The measurement data is collected by a capacitive probe fitted just behind, and in constant contact with the measuring head. This direct contact ensures high-quality transducer-type accuracy, even at great depths. Measurements are taken by pressing a footswitch connected to the airline and the data is then passed automatically via cable back down the bore to the digital readout at the operator end.

### Features

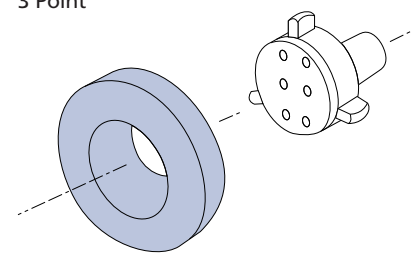
- Measures diameters from 50-310mm, up to 15m deep
- Spherical, Tungsten Carbide anvils
- 2 point and 3 point heads available
- Accuracy +/-0.005mm (subject to bore condition)
- Quick set-up time
- Easy to use
- Not adversely effected by temperature fluctuation
- Robust design
- Various readouts available



2 Point



3 Point

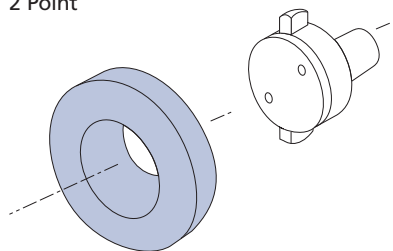


## Deep Hole XT - Under 2 Metres

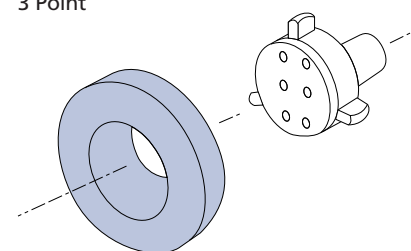
Up to 2.0 metres deep with standard extensions.



2 Point



3 Point

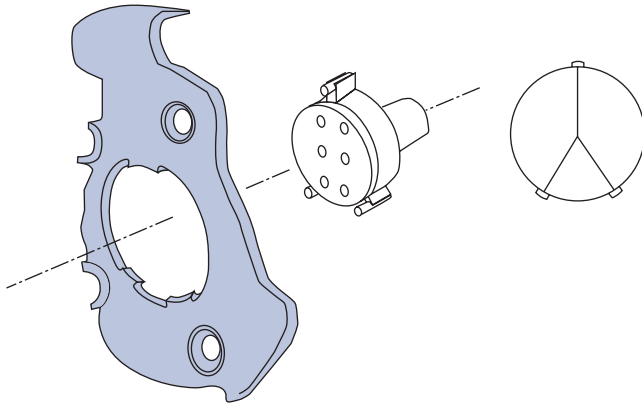




## Special Bore Measurement - Miscellaneous

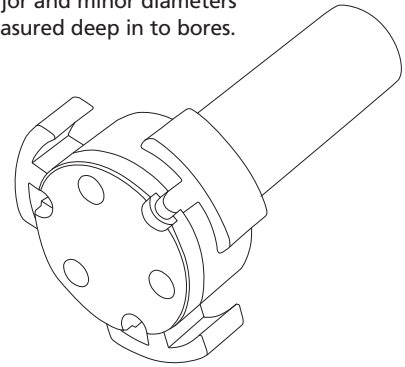
### Irregular Spacing

Available between 16-300mm diameter to measure between odd spaced lobes.



### Gun Barrel Head

Measurement of smooth bore and rifled bore gun barrels. Major and minor diameters measured deep in to bores.

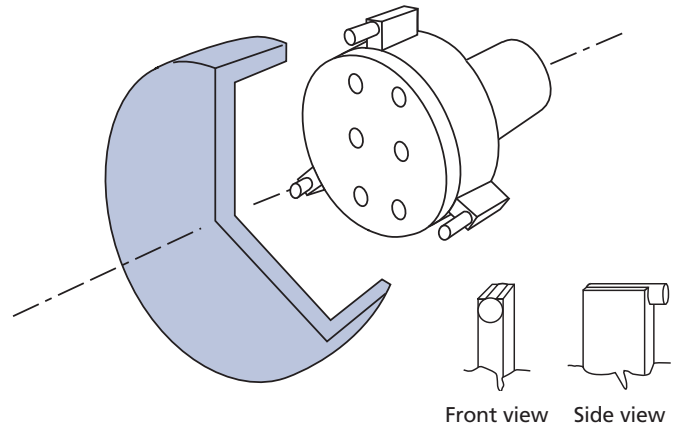


### Right Angled Adaptor



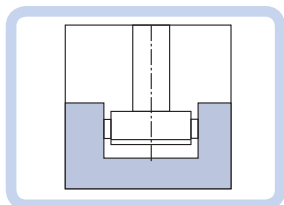
### Blind Bore

Standard between 2-6mm and 12.5-300mm. Between 6-12.5mm on request.



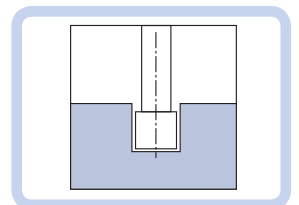
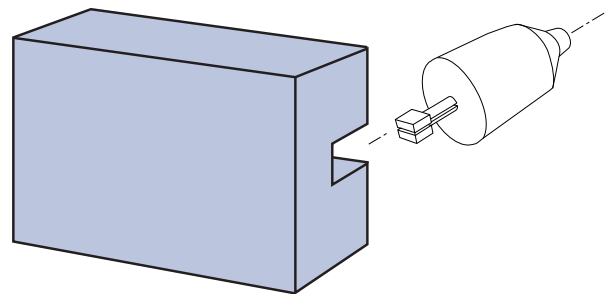
### Slot Width (Large)

Slot widths from 6-100mm.



### Slot Width (Small)

Slot widths from 2-6mm.



## SmartPlugs

The robust, easy to use SmartPlug range is designed to give the operator greater speed of use, unmatched measuring accuracy and superb repeatability, especially in harsh shop-floor environments. Advanced hand held ergonomics allied to an ingenious mechanical / electronic system render SmartPlugs the easiest to operate Bowers bore gauging system to date. The flexible nature of Bowers SmartPlugs range means that they can be supplied fitted with easy to read electronic indicators (ideal for automatic data collection), conventional analogue indicators, or transducer probes linked to remote digital readout units.

**Bluetooth**  
SMART  
Option

**WiFi**

Option

**RS232**

**USB**



### Features

- Range 6-280mm
- Tough, robust construction
- Easy-to-use
- Long life
- High accuracy dedicated plug-gauges
- Flexible, modular
- Hand-held measurement
- Can be incorporated into automated measuring systems (in-series)
- Cost-effective
- Short delivery times
- High visibility display
- Protective indicator shroud (with some indicators)
- All setting rings supplied as standard with UKAS calibration certificates
- Coverplates as standard on all SmartPlugs
- Specials (e.g. blind bore) on request
- Repeatability  $\leq 1\mu\text{m}$
- Setting by means of a setting ring
- Quick and reliable measurement
- 2-point measurement as standard
- Blind bore available on request
- Depth-stops available
- Extensions available for deeper bores
- Guide chamfer for easy entry into bore
- High durability, long-life plugs and contacts
- Easy to clean
- Plug body coatings: Hard-chrome (standard), T.i.N., Plain steel
- Measuring contacts: Tungsten carbide, (standard), hard-chrome, ruby, ceramic





## SmartPlugs

### Indicators



**Type A**  
Waterproof Mini Indicator with Shroud  
Preset value maximum 130mm



**Type B**  
Mechanical Dial Gauge



**Type C**  
Standard Digital Indicator  
also available with shroud



**P10**  
Transducer Probe



**P5**  
Transducer probe



**MGU2**  
MicroGauge Display

### Holders



**SMA001M**  
M6 Holder short  
8mm stem



**SMA002M**  
M6 Holder long  
8mm stem



**SMA003**  
M6 100mm extension



**SMA004**  
M6 Probe holder  
8mm stem



**SMA007**  
M10 100mm extension



**SMA006M**  
M10 Holder long  
8mm stem



**SMA005M**  
M10 Holder short  
8mm



**SMA028**  
M6-M10 Adapter  
(to use M10 holders with M6 plugs)



**SMPDS00-09**  
Depth Stop



**SMA008**  
M10 Probe holder  
8mm stem

**SMPDS00-09**  
Depth Stop

### SmartPlugs

**THREAD RANGE 6 - 280mm**  
Please state size to be measured



**M10 THREAD RANGE 15 - 280mm**  
Please state size to be measured



**Contact Options:** Tungsten Carbide (standard), Hard Chrome, Ruby, Ceramic  
**Plug-Body options:** Hard Chrome Plated (standard), Titanium Nitride, Plain Steel

## SmartPlugs

### SmartPlug Applications & Options



SmartPlug with TiN coated body



SmartPlug with MicroGauge head



SmartPlug with ceramic contacts



SmartPlug for blind bore measurement



SmartPlug with depth stop



SmartPlug with extension



SmartPlug with transducer holder and standalone display

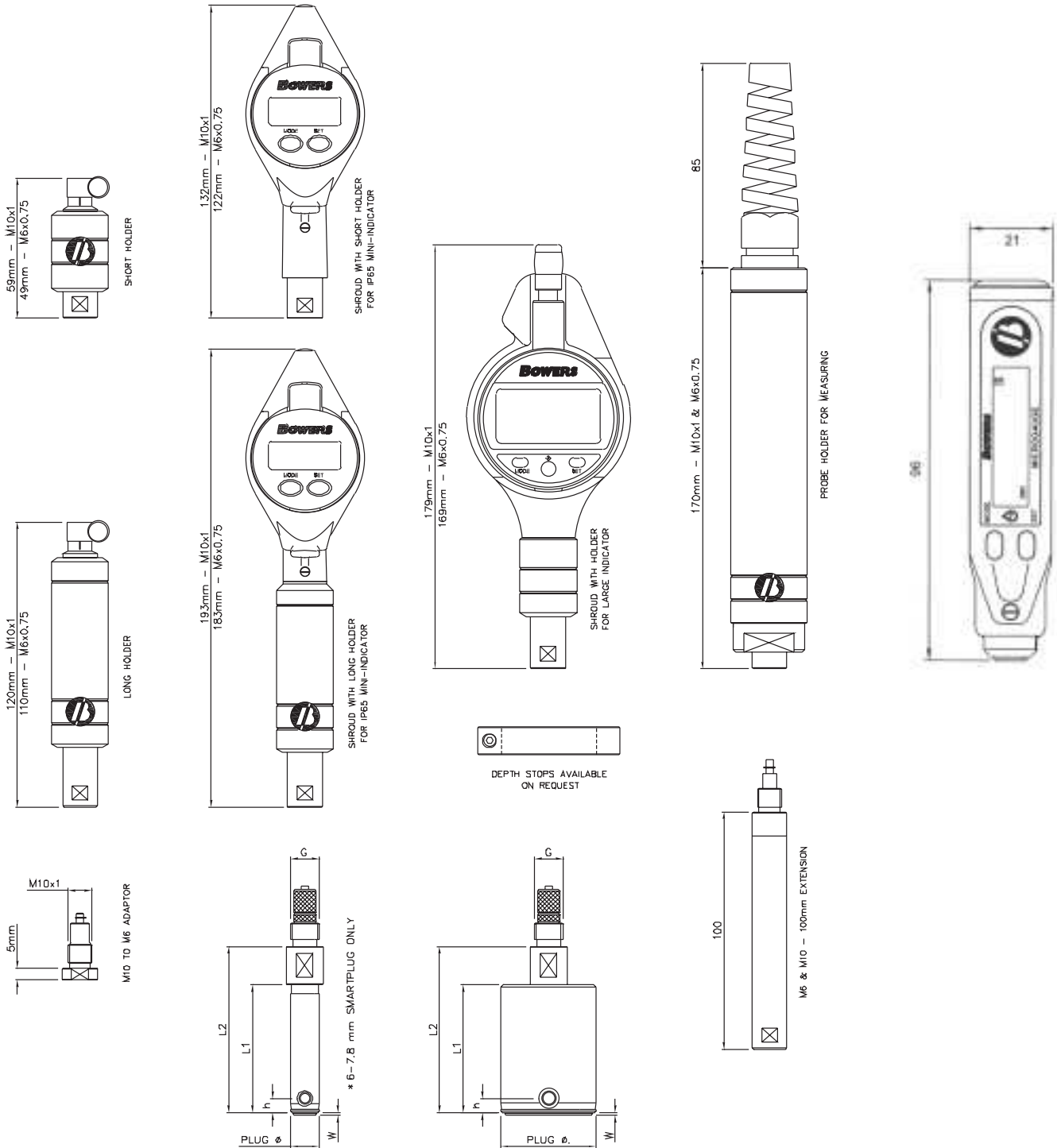


SmartPlug for large diameters (up to 280mm)



## SmartPlugs

### SmartPlug Technical Detail



#### SMARTPLUGS

Size (mm)	Range	h	L1	L2	W	G
6-7.8*	0.15	3	27	35	0.5	M6x0.75
7.9-20	0.15	3	27	35	0.5	M6x0.75
15-45	0.2	3.5	28	43.5	1	M10x1
45.1-70	0.2	4	28	44	1.5	M10x1
70.1-280	0.2	4	35	44	1.5	M10x1

\* max measuring depth 27mm between 6 and 7.8mm

## SmartPlugs

### SMARTPLUG STANDARD

Code No	Description	Accessory
SMP010	>6-20mm / 0.236"-0.787"	M6x0.75
SMP012	>15-25mm / 0.590"-0.984"	M10x1
SMP014	>25-35mm / 0.984"-1.378"	M10x1
SMP016	>35-45mm / 1.378"-1.772"	M10x1
SMP018	>45-60mm / 1.772"-2.362"	M10x1
SMP020	>60-80mm / 2.362"-3.150"	M10x1
SMP022	>80-100mm / 3.150"-3.937"	M10x1
SMP024	>100-125mm / 3.937"-4.921"	M10x1
SMP026	>125-150mm / 4.921"-5.906"	M10x1
SMP028	>150-175mm / 5.906"-6.890"	M10x1
SMP030	>175-200mm / 6.890"-7.874"	M10x1
SMP032	>200-225mm / 7.874"-8.858"	M10x1
SMP034	>225-250mm / 8.858"-9.843"	M10x1
SMP036	>250-280mm / 9.843"-11.025"	M10x1

### SMARTPLUG BLIND-BORE

Code No	Description	Accessory
SMP010BB	>6-20mm / 0.236"-0.787"	M6x0.75
SMP012BB	>15-25mm / 0.590"-0.984"	M10x1
SMP014BB	>25-35mm / 0.984"-1.378"	M10x1
SMP016BB	>35-45mm / 1.378"-1.772"	M10x1
SMP018BB	>45-60mm / 1.772"-2.362"	M10x1
SMP020BB	>60-80mm / 2.362"-3.150"	M10x1
SMP022BB	>80-100mm / 3.150"-3.937"	M10x1
SMP024BB	>100-125mm / 3.937"-4.921"	M10x1
SMP026BB	>125-150mm / 4.921"-5.906"	M10x1

Sizes above 150mm on request

### SMARTPLUG ACCESSORIES

Code No	Description
SMA001M	M6 Holder short 8mm stem
SMA002M	M6 Holder long 8mm stem
SMA003	M6 100mm extension
SMA004	M6 Probe holder 8mm stem
SMA009M	*Type A Mini indicator with shroud & M6 short holder 8mm stem
SMA011M	*Type A Mini indicator with shroud & M6 long holder 8mm stem
SMA013	Type C Indicator with shroud & M6 holder 8mm stem
SMA013-BT	Type C Indicator with shroud & M6 holder 8mm stem (with Bluetooth)
SMA028	M6-M10 Adapter (to use M10 holders with M6 plugs)

Code No	Description
SMA005M	M10 Holder short 8mm
SMA006M	M10 Holder long 8mm stem
SMA007	M10 100mm extension
SMA008	M10 Probe holder 8mm stem
SMA015M	*Type A Mini indicator with shroud & M10 short holder 8mm stem
SMA017M	*Type A Mini indicator with shroud & M10 long holder 8mm stem
SMA019	Type C Indicator with shroud & M10 holder 8mm stem
SMA019-BT	Type C Indicator with shroud & M10 holder 8mm stem (with Bluetooth)

\* Type A Mini indicators preset values up to 130mm only.

### SMARTPLUG INDICATING UNITS

Code No	Description
SMA021	*Type 'A' digital Mini indicator. Res. 0.001mm
SMA022	Type 'B' mechanical dial-gauge. 0.001mm graduation
SMA023	Type 'C' digital indicator. Res. 0.001mm
SMA023-BT	Type 'C' digital indicator. Res. 0.001mm (with Bluetooth)
MGU2	MicroGauge Display
30-900-1001	Sylvac P5 Transducer Probe
30-804-1050	D50S digital readout 0.001 / 0.0001mm Res.
30-804-1080	D80S digital readout unit
30-804-1300	D300S Display Unit 2 Probes 6USB

\* Type A Mini indicators preset values up to 130mm only.

TiN coated body

Ceramic contacts

Ruby contacts

WiFi

Option

RS232



Note: BT denotes Bluetooth



## SmartPlug Setting Rings

- Complete with UKAS Calibration Certificates

### SETTING RING (MM) GRADE NOMINAL

Code No	Size
SPR002N	1.5-2mm
SPR003N	2-3mm
SPR004N	3-4mm
SPR005N	4-5mm
SPR006N	5-6mm
SPR010N	6-10mm
SPR020N	10-20mm
SPR025N	20-25mm
SPR030N	25-30mm
SPR040N	30-40mm
SPR050N	40-50mm
SPR060N	50-60mm
SPR070N	60-70mm
SPR080N	70-80mm
SPR090N	80-90mm
SPR100N	90-100mm
SPR115N	100-115mm
SPR130N	115-130mm
SPR145N	130-145mm
SPR160N	145-160mm
SPR170N	160-170mm
SPR180N	170-180mm
SPR190N	180-190mm
SPR200N	190-200mm
SPR210N	200-210mm
SPR220N	210-220mm
SPR230N	220-230mm
SPR240N	230-240mm
SPR250N	240-250mm
SPR260N	250-260mm
SPR270N	260-270mm
SPR280N	270-280mm

### SETTING RING (MM) GRADE "X"

Code No	Size
SPR002X	1.5-2mm
SPR003X	2-3mm
SPR004X	3-4mm
SPR005X	4-5mm
SPR006X	5-6mm
SPR010X	6-10mm
SPR020X	10-20mm
SPR025X	20-25mm
SPR030X	25-30mm
SPR040X	30-40mm
SPR050X	40-50mm
SPR060X	50-60mm
SPR070X	60-70mm
SPR080X	70-80mm
SPR090X	80-90mm
SPR100X	90-100mm
SPR115X	100-115mm
SPR130X	115-130mm
SPR145X	130-145mm
SPR160X	145-160mm
SPR170X	160-170mm
SPR180X	170-180mm
SPR190X	180-190mm
SPR200X	190-200mm
SPR210X	200-210mm
SPR220X	210-220mm
SPR230X	220-230mm
SPR240X	230-240mm
SPR250X	240-250mm
SPR260X	250-260mm
SPR270X	260-270mm
SPR280X	270-280mm

### SETTING RING (MM) GRADE "XX"

Code No	Size
SPR002XX	1.5-2mm
SPR003XX	2-3mm
SPR004XX	3-4mm
SPR005XX	4-5mm
SPR006XX	5-6mm
SPR010XX	6-10mm
SPR020XX	10-20mm
SPR025XX	20-25mm
SPR030XX	25-30mm
SPR040XX	30-40mm
SPR050XX	40-50mm
SPR060XX	50-60mm
SPR070XX	60-70mm
SPR080XX	70-80mm
SPR090XX	80-90mm
SPR100XX	90-100mm
SPR115XX	100-115mm
SPR130XX	115-130mm
SPR145XX	130-145mm
SPR160XX	145-160mm
SPR170XX	160-170mm
SPR180XX	170-180mm
SPR190XX	180-190mm
SPR200XX	190-200mm
SPR210XX	200-210mm
SPR220XX	210-220mm
SPR230XX	220-230mm
SPR240XX	230-240mm
SPR250XX	240-250mm
SPR260XX	250-260mm
SPR270XX	260-270mm
SPR280XX	270-280mm

(+/- 0.005mm and marked to actual size)



### DEPTH STOPS

Code No	Range (mm)
SMPDS00	below 6
SMPDS01	6-8.5
SMPDS02	8.5-13
SMPDS03	13-17.5
SMPDS04	17.5-25
SMPDS05	25-32.5
SMPDS06	32.5-40
SMPDS07	40-47.5
SMPDS08	47.5-55
SMPDS09	55-62.5
SMPDS10	62.5-70
SMPDS11	70-77.5
SMPDS12	77.5-85
SMPDS13	85-92.5
SMPDS14	92.5-100





## Digital Cylinder Bore Gauge

Bowers Cylinder Bore Gauges now include an easy-to-use digital variant, bringing the benefits of a clear digital display and data output to this dependable gauge. Speed and accuracy is further increased by the ability of the instrument's advanced electronics to 'freeze' and display the diameter of the bore after 'sweeping'.

### Features

- Measuring range 12.5-600mm (1/2-24")
- Fast simple checking for bore size, ovality, taper, etc
- 0.002mm / 0.0005", 0.01mm / 0.0001" Dial gauge options (on mechanical system)
- 0.001mm / 0.00005", 0.01mm / 0.0005" switchable (on digital system)
- Tungsten carbide contact points
- Lightweight glass reinforced nylon gauge shroud for extra strength and protection
- Thermally insulated for extra stability
- Proximity RS-232 output (on digital system)
- Inch/metric conversion (on digital system)
- Displays actual bore diameter or comparative results (on digital system)
- Bore gauges available up to 3m (10 feet) long for deep hole measurement
- Bluetooth indicator option available



### DIGITAL CYLINDER BORE GAUGE

Code No	Description	Range (mm)	Range (inch)	Resolution (mm)	Resolution (inch)	Measuring Depth (mm)	Measuring Depth (inch)	Note
CBGD010	600D Series	12.5-22	1/2-7/8	0.001/0.01	0.00005/0.0005	150	6	75, 300mm or 3, 12" measuring depth available
CBGD020	700D Series	22-50	7/8-2	0.001/0.01	0.00005/0.0005	150	6	75, 300, 450, 600, 760, 910mm or 3, 12, 18, 24, 30, 36" measuring depth available
CBGD030	750D Series	50-150	2-6	0.001/0.01	0.00005/0.0005	250	10	75, 450, 600, 760, 910mm or 3, 18, 24, 30, 36" measuring depth available
CBGD040	800D Series	150-300	6-12	0.001/0.01	0.00005/0.0005	380	15	600, 760, 910mm or 24, 30, 36" measuring depth available
CBGD050	820D Series	150-600	6-24	0.001/0.01	0.00005/0.0005	380	15	600, 760, 910mm or 24, 30, 36" measuring depth available



## Mechanical Cylinder Bore Gauge

Bowers Mechanical Cylinder Bore Gauges have been further improved giving even greater ease of use and reliability. The introduction of tungsten carbide contact points ensures superior wear resistance. Suitable for use in most environments, these gauges are particularly useful for detecting ovality, or taking measurements relatively deep inside bores.



### MECHANICAL CYLINDER BORE GAUGE - METRIC

Code No	Description	Range (mm)	Resolution (mm)	Graduation	Measuring Depth (mm)	Note
TGB652M	600 Series	12.5-22	0.01	0-50-0	150	75, 300mm measuring depth available
TGB655M	600 Series	12.5-22	0.002	0-10-0	150	75, 300mm measuring depth available
TGB702M	700 Series	22-50	0.01	0-50-0	150	75, 300, 450, 600, 760, 910mm measuring depth available
TGB717M	700 Series	22-50	0.002	0-10-0	150	75, 300, 450, 600, 760, 910mm measuring depth available
TGB752M	700 Series	50-150	0.01	0-50-0	250	75, 450, 600, 760, 910mm measuring depth available
TGB765M	700 Series	50-150	0.002	0-10-0	250	75, 450, 600, 760, 910mm measuring depth available
TGB802M	800 Series	150-300	0.01	0-50-0	380	600, 760, 910mm measuring depth available
TGB812M	800 Series	150-300	0.002	0-10-0	380	600, 760, 910mm measuring depth available
TGB821M	800 Series	150-600	0.01	0-50-0	380	600, 760, 910mm measuring depth available
TGB851M	800 Series	150-600	0.002	0-10-0	380	600, 760, 910mm measuring depth available

### MECHANICAL CYLINDER BORE GAUGE - IMPERIAL

Code No	Description	Range (inch)	Resolution (inch)	Graduation	Measuring Depth (inch)	Note
TGB564i	600 Series	1/2-7/8	0.0005	0 - 25 - 0	6	3, 12" measuring depth available
TGB653i	600 Series	1/2-7/8	0.0001	0 - 50 - 0	6	3, 12" measuring depth available
TGB701i	700 Series	7/8-2	0.0005	0 - 25 - 0	6	3, 12, 18, 24, 30, 36" measuring depth available
TGB703i	700 Series	7/8-2	0.0001	0 - 50 - 0	6	3, 12, 18, 24, 30, 36" measuring depth available
TGB751i	700 Series	2-6	0.0005	0 - 25 - 0	10	3, 18, 24, 30, 36" measuring depth available
TGB753i	700 Series	2-6	0.0001	0 - 50 - 0	10	3, 18, 24, 30, 36" measuring depth available
TGB801i	800 Series	6-12	0.0005	0 - 25 - 0	15	24, 30, 36" measuring depth available
TGB803i	800 Series	6-12	0.0001	0 - 50 - 0	15	24, 30, 36" measuring depth available
TGB820i	800 Series	6-24	0.0005	0 - 25 - 0	15	24, 30, 36" measuring depth available
TGB822i	800 Series	6-24	0.0001	0 - 50 - 0	15	24, 30, 36" measuring depth available

## Universal Gauge

The Bowers Universal Gauge's ingenious modular format enables it to be quickly configured to suit almost any measuring challenge. Whether measuring internally or externally, the Universal's clever constant pressure device ensures accuracy and consistency of reading. The gauge's findings are displayed on its built in clear digital readout.

The unique modular construction of the Bowers Universal Gauge facilitates the fitting of a large variety of measuring contacts and adaptors, enabling countless measuring tasks to be completed with ease. Accessories for the measurement of threads, grooves, splines, gears, hole centres, and many others are available as standard, whilst special adaptations for more unusual applications can be quoted on request.

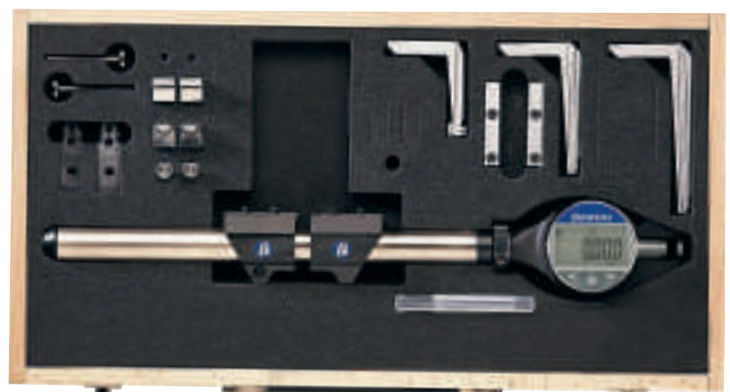


### Features

- Internal and external measurement
- Large measuring range possible 0-3000mm (0-118")
- Constant measuring force
- Supplied with digital readout
- Large range of accessories for standard measurement of threads, grooves, splines, diameters, lengths, shallow spigots and recess diameters etc
- Special anvil designs available P.O.A

### UNIVERSAL GAUGE

Code No	Description
TGUDEMO	Universal Gauge Full Set
TGUDEMO-BT	Universal Gauge Full Set (with Bluetooth)
TGU1000	Universal Gauge - supplied boxed. Compatible with extensions
TGU1000-BT	Universal Gauge - supplied boxed (with Bluetooth) Compatible with extensions
TGUA001	Digital indicator with cowl
TGUA001-BT	Digital indicator with cowl (with Bluetooth)
TGUA006	Measuring arms 50mm (pair)
TGUA007	75mm Measuring Arms
TGUA008	100mm Measuring Arms
TGUA013	20mm Disc Anvils for measuring grooves
TGUA014	12mm Disc Anvils Int/Ext for measuring grooves
TGUA011	Shoulder anvils flat outside spigot diameter
TGUA012	Semi-cylindrical anvils for inside register diameters
TGUA010	Depth-stops (pair)
TGUA003	Clamping inserts (each)
TGUA004	Flat Measuring Anvil
TGUA005	Spherical contacts (each)
TGUA009	Mounting Attachment



TGUDEMO

Note: BT denotes Bluetooth



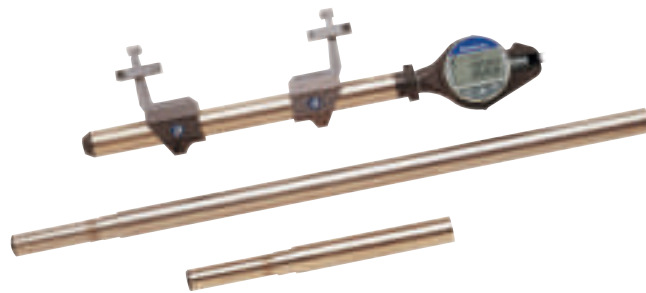
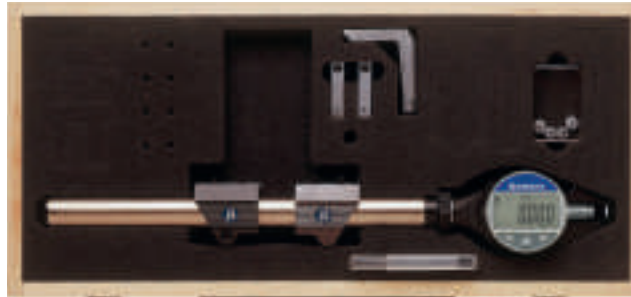
## Universal Gauge Sets

### Universal Gauge (extension compatible version) standard features:

- Range 30-250mm internal / 0-215mm external 15mm anvil travel
- Constant measuring pressure
- Digital or mechanical readout
- 150mm and 500mm extensions available. Can be screwed together in multiples (up to maximum 3m recommended)
- Measuring table and supports available for conversion to bench gauge for the measurement of small components
- Covers approx 90% of all applications



TGUDEMO2



### SET CONTENTS - STANDARD VERSION

Code No	Description
TGUDEMO2	Set with box
TGUDEMO2-BT	Set with box (with Bluetooth)
TGU1000	Universal Gauge - supplied boxed. Compatible with extensions
TGU1000-BT	Universal Gauge - supplied boxed (with Bluetooth) Compatible with extensions
TGUA001	Digital indicator with cowl
TGUA003	Clamping inserts (each)
TGUA005	Spherical contacts (each)
TGUA006	Measuring arms 50mm (pair)
TGUA010	Depth-stops (pair)

### Universal Gauge (slide guideway version) standard features:

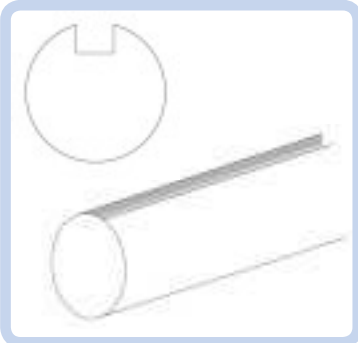
- Range 30-335mm internal / 0-300mm external 15mm anvil travel
- Slide guideway for rapid measuring contact alignment
- Constant measuring pressure
- Digital or mechanical readout
- Measuring table and supports available for conversion to bench gauge for the measurement of small components
- Covers approx 90% of all applications

TGUGSET01



### SET CONTENTS - SLIDE GUIDEWAY VERSION

Code No	Description
TGUGSET01	Slide Guideway version-Set
TGUGSET01-BT	Slide Guideway version-Set (with Bluetooth)
TGU1000G	Universal Gauge - supplied boxed. Not Compatible with Extensions
TGU1000G-BT	Universal Gauge - supplied boxed (with Bluetooth). Not Compatible with Extensions
TGUA001	Digital indicator with cowl
TGUA003	Clamping inserts (each)
TGUA005	Spherical contacts (each)
TGUA006	Measuring arms 50mm (pair)
TGUA010	Depth-stops (pair)



Slide Guideway

Note: BT denotes Bluetooth

## Universal Gauge and Accessories

### Standard Gauge

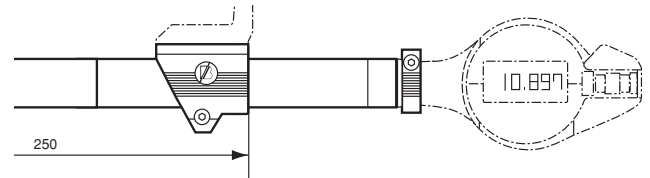
Code No	Range - Internal (mm)	Range - Internal (inch)	Range - External (mm)	Range - External (inch)
TGU1000	30-250	1.2-10.030	0-215	0.8-50

### Slide Guideway Version

Code No	Range - Internal (mm)	Range - Internal (inch)	Range - External (mm)	Range - External (inch)
TGU1000G	30-335	1.2-13.20	0-300	0-11.80

#### EXTENSIONS: (for standard gauge only)

Dimn - A	Code No	Range - Internal (mm)	Range - Internal (inch)	Range - External (mm)	Range - External (inch)
150	TGUA033	30-400	1.2-15.00	0-365	0-14
500	TGUA032	30-750	1.2-29.00	0-715	0-28.0



Intermediate and additional lengths can be made up by using 150 or 500mm extensions

### Digital Indicator and Protective Shroud

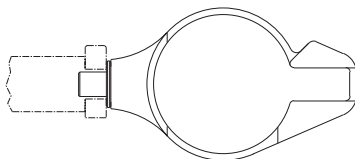
Code No
TGUA001
TGUA001-BT



Note: BT denotes Bluetooth

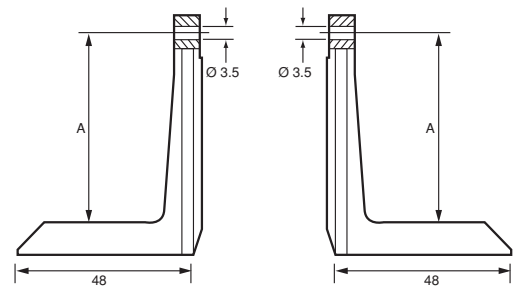
### Protective Shroud for Dial/Digital Indicator

Code No
TGUA002



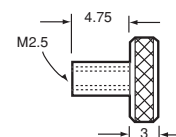
### Measuring Arms

Dimn - A	Code No
50	TGUA006
75	TGUA007
100	TGUA008

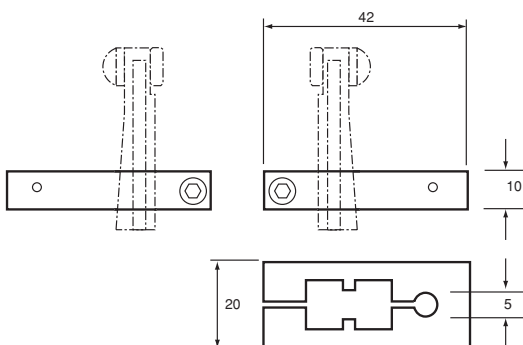


### Clamping Insert

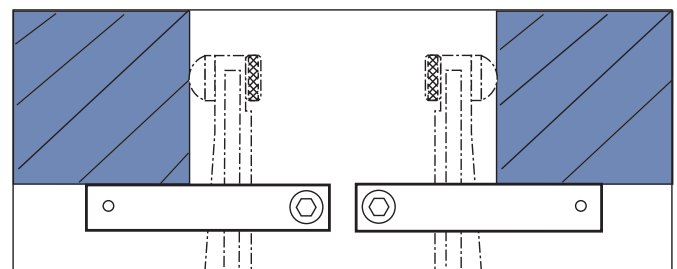
Code No
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### Adjustable Depth Stops for Measuring Arms



Code No
TGUA010



### Spherical Tips

Code No
TGUA005

### Flat Tips

Code No
TGUA004

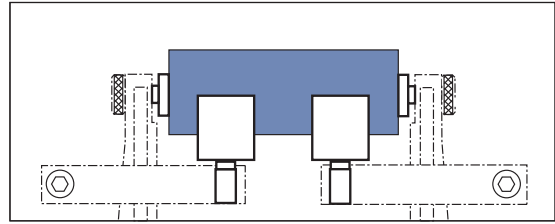
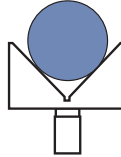
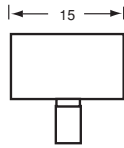
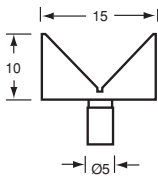




## Universal Gauge

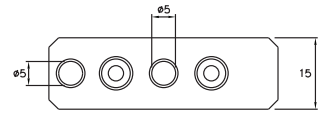
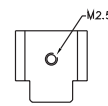
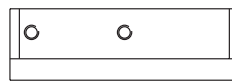
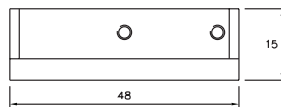
### Vee Support for Length Measurement

Code No  
TGUA022



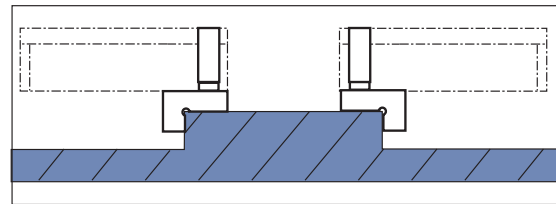
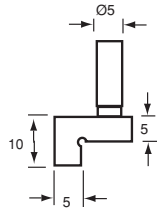
### Mounting Attachments for use with the following Anvils

Code No  
TGUA009



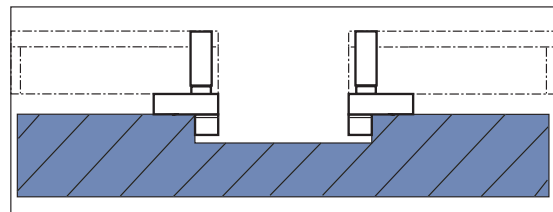
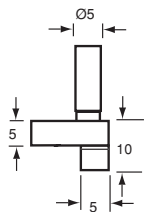
### Shoulder Anvils Flat Outside Spigot Diameter

Code No  
TGUA011



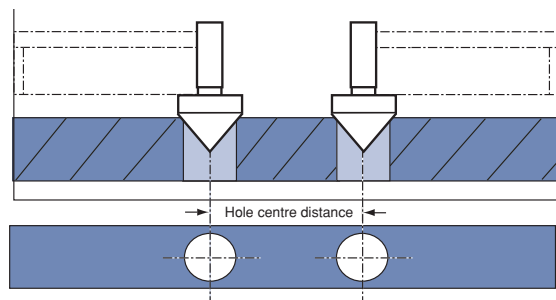
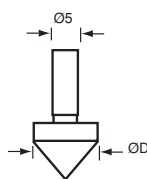
### Semi-Cylindrical Anvils for Inside Register Diameters

Code No  
TGUA012



### Cone Anvils for Measuring Hole Centre Distance

Code No	Dimn - D
TGUA019	13
TGUA020	25
TGUA021	50

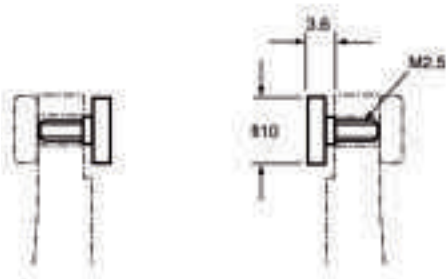


## Universal Gauge

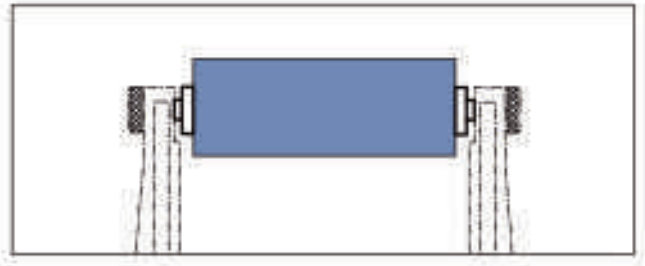
Although extremely comprehensive, the collection of Universal Gauge accessories cannot cover every measuring application. If your particular gauging need is not catered for within our standard range, specialised adaptors, contact points, etc can be quoted from a customer supplied component drawing.

### CONTACTS FOR USE WITH MEASURING ARMS

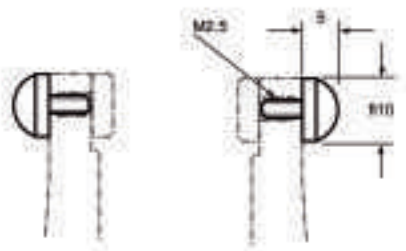
#### Flat Tips



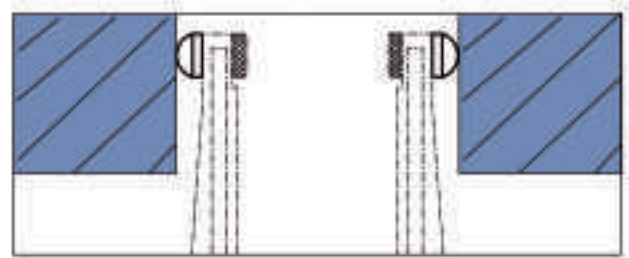
Code No  
TGUA004



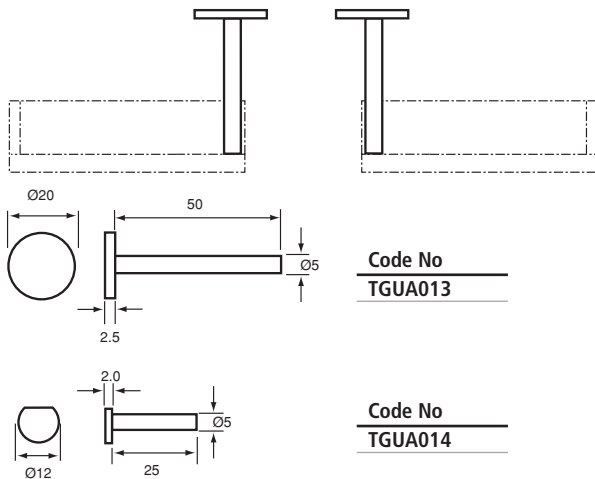
#### Spherical Tips



Code No  
TGUA005

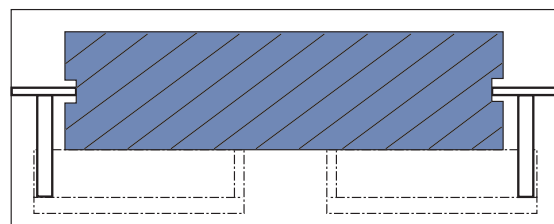
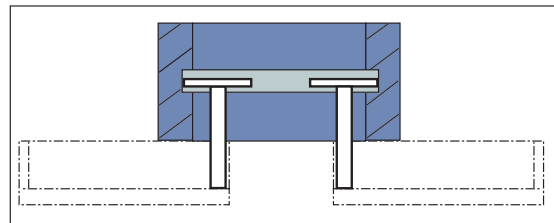


#### DISC Anvils for measuring Groove Diameter



Code No  
TGUA013

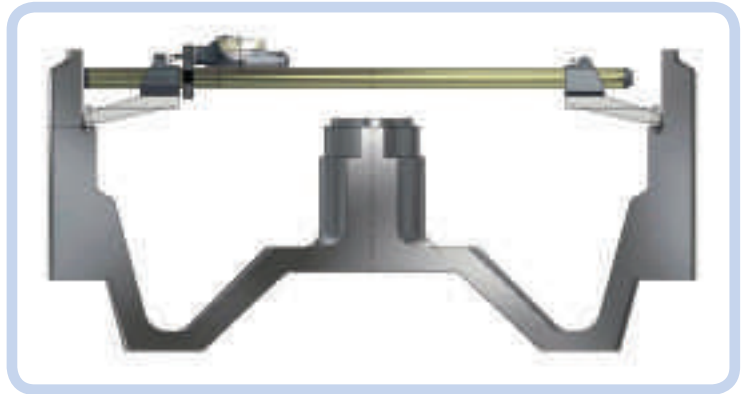
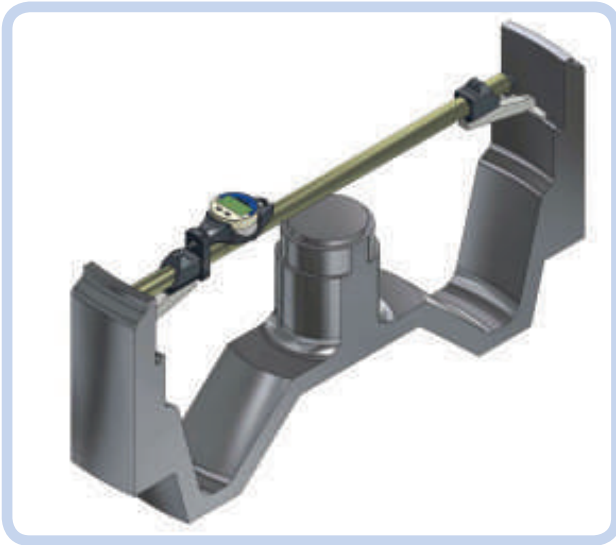
Code No  
TGUA014



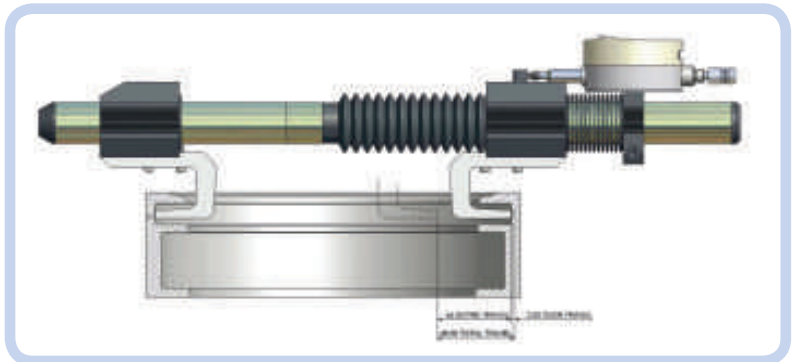
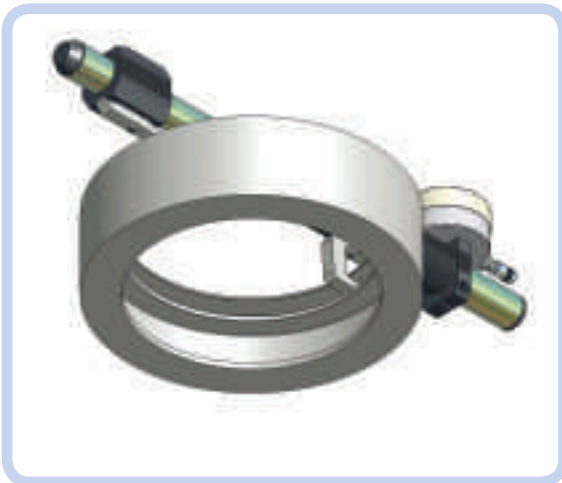


## Bowers Universal Gauge Specials

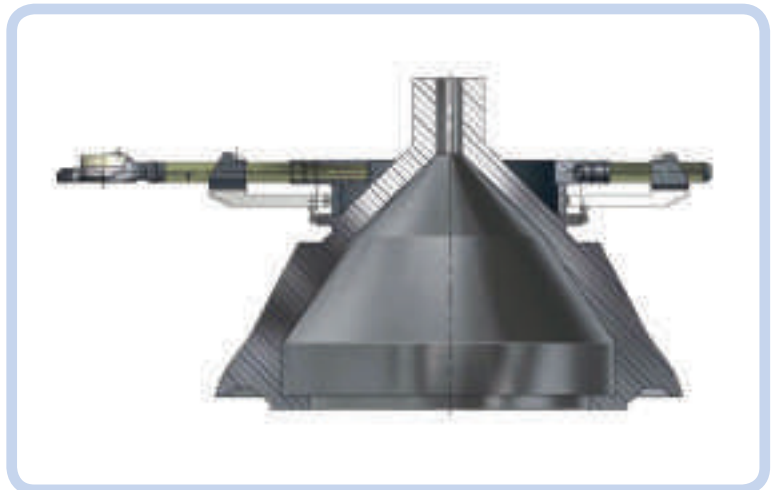
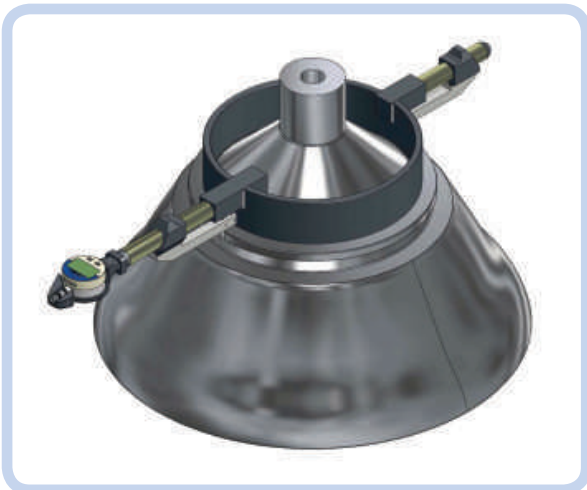
Universal Gauge incorporating on-board indicator and extra reach contact points.



Extended Travel Special Application Universal Gauge.



Special Universal Gauge measuring across large diameter component with central boss.



## Checkmaster Comparator

Available in two sizes, Checkmaster is the flexible gauging solution for short production runs. Simply setup your Universal Tooling set to suit your application (see opposite), fit your preferred indicator and zero against a master for fast accurate and incredibly repeatable results. Gauging force can be adjusted for softer materials and biased for either internal or external dimensions by a simple lever selection. This enables multi-dimension setups to be easily catered for.

### Need absolute results?

Using Bowers' standard digital indicator, the master size can be pre-set. Now the results are displayed as Absolute dimensions. Tolerances can be entered and an out of tolerance symbol will flash for even quicker reference.

### Tooling:

The Universal Tooling Set includes 2 x universal tooling blocks, combination blade / radius anvil, Mushroom anvils and mounting bars to allow a variety of internal and external features to be measured.

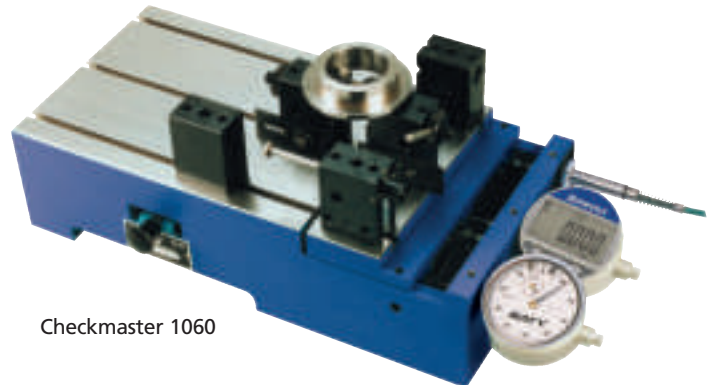
Checkmasters can be supplied with or without indicators. If ordered 'Less Indicator' the Checkmaster will be supplied with a set of split bushes to suit any 8mm or 3/8" stem mount gauge with a suitable reach.

### Features

- Unique 3 gauge station and readout capability
- Remarkable versatility and repeatability
- Accepts most dial indicators, digital indicators (12.7mm travel) and Gauging Probes
- Excellent gauge repeatability and reproducibility (G.R. & R.) capability
- Exceptionally tough for shopfloor on-line inspection
- Measuring force, with adjustable setting
- Multi functional
- Ideal for SPC and 100% inspection
- Left or right hand operation



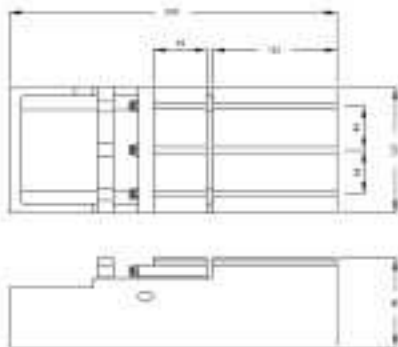
Checkmaster 1050



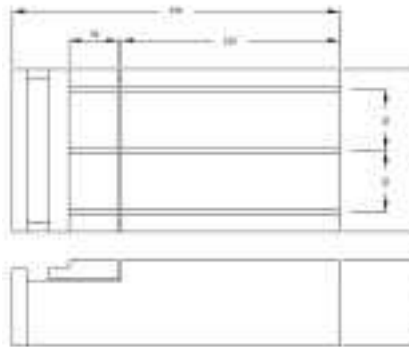
Checkmaster 1060

## Checkmaster Dimensions

**Checkmaster 1050**  
Code No: 1050



**Checkmaster 1060**  
Code No: 1060





## Checkmaster Comparator

Need SPC, printed reports data storage?

Replacing the conventional indicator with a transducer linked to our Sylvac D300S digital readout will allow you to setup and store multiple parts each with pre-toleranced dimensions. Just setup the correct tooling situation, select the part / job number required from the D300S memory and you are ready to go.

SPC Data from previous measurements of the same part type can be viewed on the large colour screen and even printed direct from the D300S or transferred to a PC.

Full maths functionality included: take dynamic measurements such as roundness / concentricity or solve more complex applications by using multiple transducers.



Checkmaster 1050



1060-UTS

### CHECKMASTER COMPARATOR

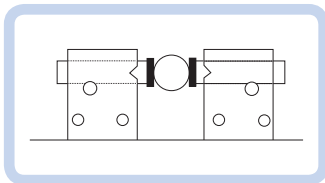
Code No	Description
1060-UTS	Universal Tooling Set for 1050 or 1060 Checkmaster



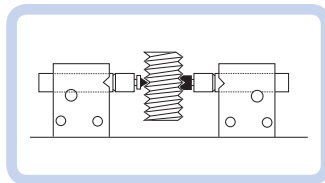
## Checkmaster Tooling Applications

### Features

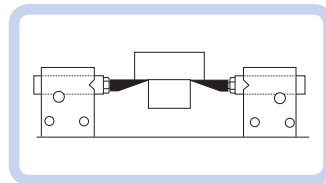
- Diameters, internal and external
- Undercuts, O ring grooves, ball tracks internal and external
- Gear and spline pitch diameter internal and external
- Rolling gear test, gear to gear or gear to master
- Gear pitch diameter to shaft bore run out
- Holes centre to centre
- Concentricity bore to O.D.
- Step height, lengths, depths



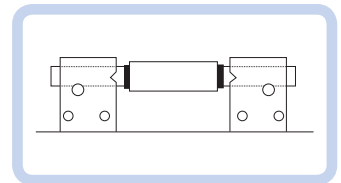
Outside Diameter



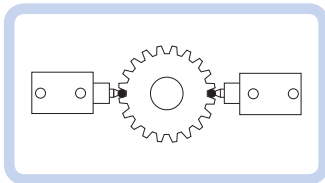
Thread Features



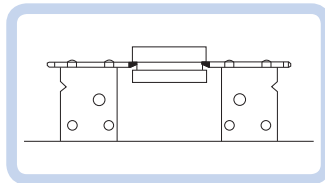
Undercut Depth



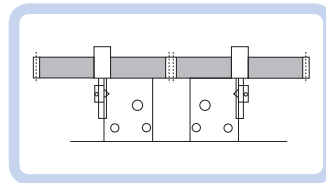
Length



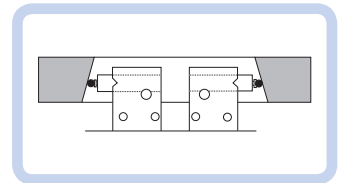
External Spline / Gear PCD



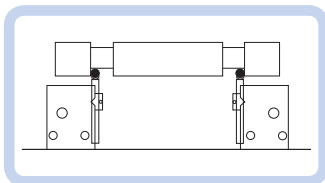
External Diameter



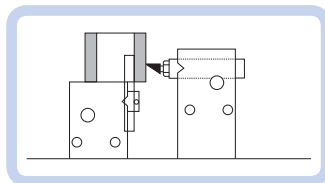
Rolling Gear Test



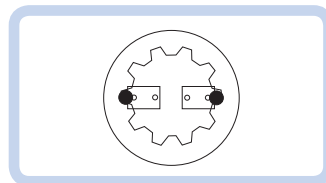
Internal Taper



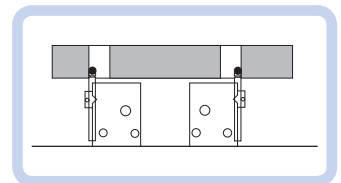
Bearing Face Distance



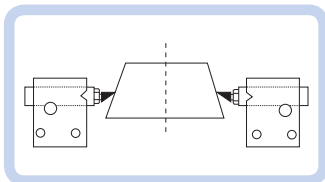
Concentricity / Wall Thickness



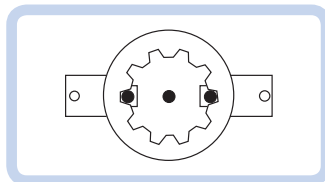
Internal Spline (Large Diameter)



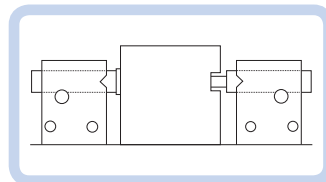
Hole / Slot Position



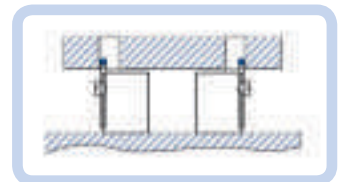
External Taper



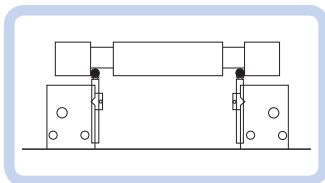
Internal Spline (Small Diameter)



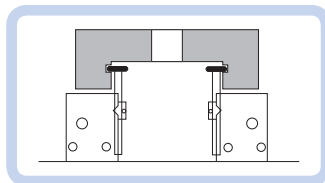
Slot Depth



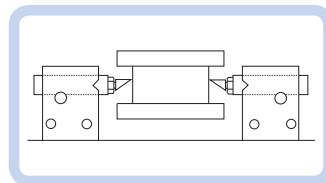
Hole Centres



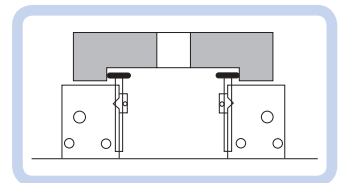
Web Thickness



Internal Recess Diameter



Recess Diameter



Bore Diameter



## INTEX Comparator Beam Gauge

Developed to measure both internal and external diameters and lengths, the Intex gauge's aluminium extrusion beam gives it a rigid yet lightweight quality, making it ideal for shop-floor environments. The simple release of a locking thumbscrew enables the gauge's measuring direction to be changed quickly and easily.

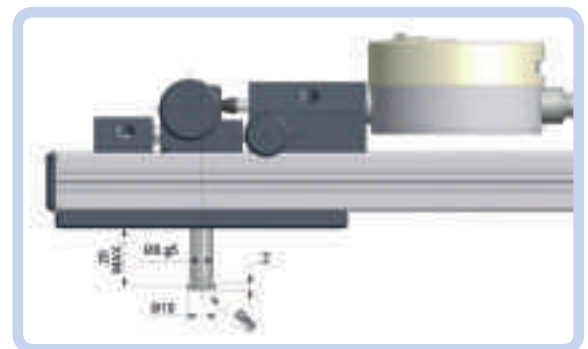
**Bluetooth**  
SMART  
Option

**WiFi**  
Option

**RS232**

### Features

- Lightweight and rigid
- Measuring ranges: 200-400mm, 400-600mm, 600-800mm, 800-1000mm
- Sizes over 1000mm available on request
- Internal and external measurement
- 2mm travel on moving contacts
- Adjustable fixed contacts with up to 250mm adjustment range
- Digital or analogue indicator available
- Hardened steel wear pads locate gauge onto component aiding repeatability and prolonging service life
- Setting master required to set the instrument



INTEXA01

### INTEX BEAM GAUGE - Without Indicator

Code No	Range (mm)
INTEX01	200-400
INTEX02	400-600
INTEX03	600-800
INTEX04	800-1000

Code No	Description
INTEXA01	Standard contacts - 10 diameter (pair)

### INTEX BEAM GAUGE - With Indicator

Code No	Range (mm)
INTEX01IND	200-400
INTEX02IND	400-600
INTEX03IND	600-800
INTEX04IND	800-1000

### INTEX BEAM GAUGE - With Indicator (Bluetooth)

Code No	Range (mm)
INTEX01IND-BT	200-400
INTEX02IND-BT	400-600
INTEX03IND-BT	600-800
INTEX04IND-BT	800-1000

Note: BT denotes Bluetooth

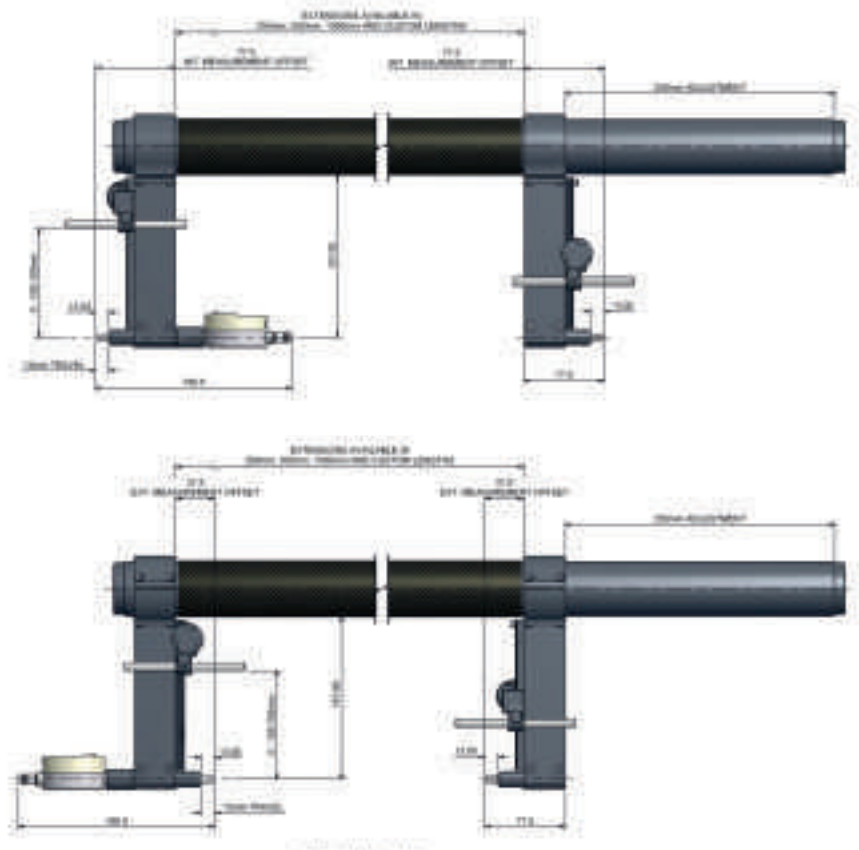
## Carbon Fibre Comparator Beam Gauge

Designed to measure both internal and external diameters and lengths, the high modulus carbon fibre beam is stiff, lightweight and has an extremely low co-efficient of thermal expansion (CTE). Suitable for measuring high accuracy diameters and lengths up to 4000mm+.



### Features

- Extremely lightweight even at 4m span
- Extremely low co-efficient of thermal expansion
- Measuring capacity of standard set:  
External: 0 > 1930mm  
Internal: 150 > 2150mm
- Modular design of beam allows infinite level of adjustment within the above ranges
- Additional 1000mm extensions add quickly and cost effectively to the gauge capacity
- Internal and external measurement:  
0 > 105 (150)mm measurement depth from component face
- 12mm anvil travel
- Digital or mechanical readout
- Tooling included for presetting gauge on Trimos horizontal machines
- Bluetooth option available



### Sets include:

- Pair gauge legs
- Fixed leg tube
- Moving leg tube
- 250mm Carbon Fibre Extension Tube
- 500mm Carbon Fibre Extension Tube
- 1000mm Carbon Fibre Extension Tube
- Tooling to suit Trimos setting machine and storage/travel case



CFBG01 - Carbon Fibre Beam Gauge Set



## Bowers Snapmic

The revolutionary Bowers Snapmic shares the best attributes of a high quality digital micrometer and a flexible snap gauge. Its wide application range, adjustable support platen and ingenious snap action enable the rapid and accurate measuring of a wide range of parts.

An adjustable support stand is available to aid the speed of batch part measurement.

As well as its many standard uses the flexible nature of the Bowers Snapmic allows it to be configured to suit a multitude of specialised external measuring applications, the gauge can be supplied with special anvils to facilitate the trouble-free measurement of threads, splines, grooves, etc. The optional sturdy Snapmic stand permits the rapid accurate measurement of batch parts.



### Features

- Measuring range 0-30mm & 30-60mm
- 2 preset memories
- Preset recall
- Zero set
- Max / min / Tolerance / Hold function
- Metric / inch conversion
- Switchable resolution 0.01 / 0.001mm  
0.0005 / 0.00005"
- RS-232 output
- Half duplex transmission
- Bench stand available
- 8mm diameter anvils
- Special contact tips available for threads,  
gear tooth measurement, splines, grooves etc
- Adjustable backstop
- Repeatability: 1µm / 0.00005"



### STANDS

Code No	Description
EST0001	Stand

### BOWERS SNAPMIC

Code No	Range (mm)	Resolution (mm)	Flatness (µm)	Parallelism (µm)	Accuracy (µm)
EIM030M	0-30	0.001	0.3	1.0	4
EIM060M	30-60	0.001	0.6	2.0	5

## Bowers Universal "Snap" Gauge

The Bowers SNAPMATIC snap gauge has been designed specifically for quick, reliable and accurate measurement of external cylindrical diameters. Particularly suitable for use in series production, the instrument is tough and solid enough to use on the machine in the workshop and flexible enough to be used in the measuring room for sample measurements (bench-stand available). The measuring surfaces are of top-quality tungsten carbide mounted on a no-maintenance spring-operated mechanism.

### Features

- Measuring ranges: 0-25mm (0-1"), 25-50mm (1-2"), 50-75mm (2-3"), 75-100mm (3-4"), 100-125mm (4-5"), 125-150mm (5-6")
- Gauging travel: 0.5mm
- Constant measuring pressure
- Adjustable depth-stop
- 8mm diameter indicator locking bush as standard (3/8" on request)
- Can be used with dial-gauges, digital indicators or measuring probes
- 16mm wide tungsten carbide measuring surfaces for positive-feel measurement (see table for flatness and parallelism)
- Measuring force: 13 N ± 3N
- Indicator protection
- Indicator can be swivelled through 360°
- Bench stand available
- Heat-resistant polymer grip



Indicator **not** included in price of gauge.

**Bluetooth**  
SMART  
Option

**WiFi**  
Option

**RS232**

**USB**  
Depending on  
Indicator option

### BOWERS 'SNAP' GAUGE

Code No	Range (mm)	Range (inch)	Flatness (µm)	Flatness (inch)	Parallelism (µm)	Parallelism (inch)
SPM25X	0-25	0-1	0.3	0.000012	2	0.00008
SPM50X	25-50	1-2	0.3	0.000012	2	0.00008
SPM75X	50-75	2-3	0.3	0.000012	3	0.000012
SPM100X	75-100	3-4	0.3	0.000012	3	0.000012
SPM125X	100-125	4-5	0.3	0.000012	4	0.000016
SPM150X	125-150	5-6	0.3	0.000012	4	0.000016

### INDICATOR OPTIONS

Code No	Description
SMA023	Type 'C' digital indicator. Res. 0.001mm
SMA023-BT	Type 'C' digital indicator. Res. 0.001mm (with Bluetooth)

Note: BT denotes Bluetooth





## Bowers Aerospace Specials - Rivet Height Gauge

The Bowers Rivet Height Gauge has been specially designed to measure the height of rivets used on aircraft outer skin. If the top of the rivet is too high above or too low below the level of the rivet-hole, the streamlining of the aircraft will be affected. This wind-resistance will be magnified many times depending on the number of rivets present in the outer hull of the aircraft. The rivet-height gauge measures the height of the top of the rivet in relation to the level of the surrounding aircraft skin, enabling tolerances to be maintained and providing a valuable reference measurement to help determine the streamlining of the aircraft and the consequent effects on it's aerodynamics and fuel efficiency.



### Features

- Rivet diameters : 3/16", 1/4", 5/16", 3/8" available as standard
- Other rivet diameters available on request
- Digital display with mm / inch conversion and preset function
- Resolution : 0.0005" / 0.001mm
- Repeatability +/- 0.003µm
- RS-232 data output
- Scalloped base to facilitate visual location over the rivet
- Very easy to use
- Small portable format
- Robust construction
- Bluetooth option available

Different diameter and contact point options are available on request.



## Bowers Aerospace Specials - Digital Countersink Gauge

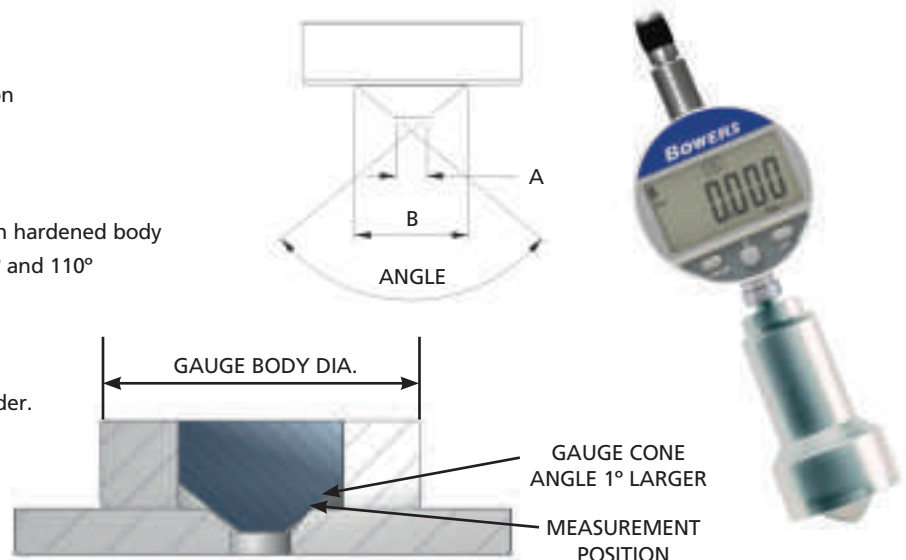
The Bowers Countersink Gauge can be used to check the major diameters of countersinks in the aircraft outer skin, prior to the application of rivets. The gauge can also be used for countersink measurement in general applications within the aerospace, automotive and other related industries.



### Features

- Standard range diameter 6-16mm / 1/4-5/8"
- Switchable resolution - inch/metric true conversion
- Preset facility
- Tolerance mode
- RS-232 data output
- Robust construction, hardened plunger, induction hardened body
- Standard plungers available to measure 90°, 100° and 110°
- Other angles available on request
- Setting master supplied as standard
- Bluetooth option available

Alternative size ranges can be manufactured to order.



## UNICAL 2 Universal Digital Caliper

Available in four standard sizes covering most large caliper applications, these revolutionary NEW digital gauges have lightweight reinforced main beams, giving them both incredible strength and lightness, aiding both accuracy and ease of use. All gauges have integrated Bluetooth transmission and IP67 protection. A range of flexible accessories further improves the usability of these advanced gauges.



### Features

- Integrated Bluetooth Smart Low Energy data transmission
- Maximum speed of displacement: 2 m/sec
- Internal and external measurement
- System ensures smooth carriage movement and protects the beam against shocks
- Displays upper and lower tolerances
- Extremely light instrument
- IP67 protection
- 2 references
- Min/Max function
- Tolerance limit indicators
- Supplied complete with adapters for Bowers Universal accessories



UNICAL2-400 with accessories

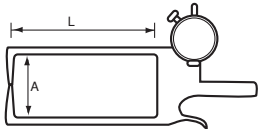
### UNICAL 2 UNIVERSAL DIGITAL CALIPER

Code No	Range (mm)	Maximum Error (µm)	Repeatability (µm)	Force	Output	Weight
UNICAL2-400	0-400	30	20	5-10N	Bluetooth / RS232 / USB	1.5kg
UNICAL2-600	0-600	40	20	5-10N	Bluetooth / RS232 / USB	1.6kg
UNICAL2-1000	0-1000	50	20	5-10N	Bluetooth / RS232 / USB	1.9kg
UNICAL2-1500	0-1500	90	20	5-10N	Bluetooth / RS232 / USB	2.3kg



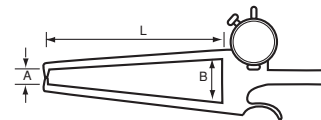
# Bowers TGM Analogue Major Calipers

The major versions of Bowers TGM calipers include hard wearing carbide contact points as standard. As with other Bowers TGM products, non-standard applications can be quoted against a component drawing.



### Model TGIC

External caliper allowing clearance over such obstructions as flanges, pipes etc.



### Model TGEC

External caliper for use where access is limited.

#### EXTERNAL CALIPERS - METRIC

Code No	Dimn – A	Dimn – B	Length (mm)	Resolution (mm)	Range (mm)
TGIC063	55	-	150	0.02	0-50
TGEC063	25	55	150	0.02	0-50
TGIC064	55	-	150	0.1	0-50
TGEC064	25	55	150	0.1	0-50
TGIC103	55	-	250	0.02	0-50
TGEC103	25	55	250	0.02	0-50
TGIC104	55	-	250	0.1	0-50
TGEC104	25	55	250	0.1	0-50

#### EXTERNAL CALIPERS - IMPERIAL

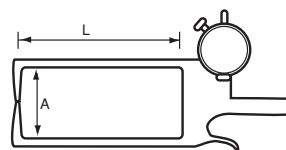
Code No	Dimn – A	Dimn – B	Length (inch)	Resolution (inch)	Range (inch)
TGIC061	55	-	6	0.001	0-2
TGEC061	25	55	6	0.001	0-2
TGIC062	55	-	6	0.01	0-2
TGEC062	25	55	6	0.01	0-2
TGIC101	55	-	10	0.001	0-2
TGEC101	25	55	10	0.001	0-2
TGIC102	55	-	10	0.01	0-2
TGEC102	25	55	10	0.01	0-2

# Bowers TGM Digital Major Calipers

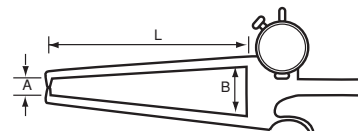
Digital Major Calipers have a direct Inch/Metric indicator with switchable resolution 0.01mm / 0.0005". They have zero and preset facility for both absolute and comparative measurement.

### Features

- High contrast digital display
- Switchable resolution
- Zero and preset facility for absolute and comparative readings
- Proximity USB output
- Carbide measuring faces as standard
- Hold function for ease of reading
- Min / max function



### Model TGIC



### Model TGEC

#### EXTERNAL SPECIFICATION

Code No	Dimn – A	Dimn – B	Length (mm)	Length (inch)	Resolution (mm)	Resolution (inch)	Range (mm)	Range (inch)
TGIC060	55	-	150	6	0.02	0.001	0-50	0-2
TGEC060	25	55	150	6	0.02	0.001	0-50	0-2
TGIC100	55	-	250	10	0.02	0.001	0-50	0-2
TGEC100	25	55	250	10	0.02	0.001	0-50	0-2
TGIC200	55	-	550	22	0.1	0.005	0-50	0-2
TGEC200	25	55	550	22	0.1	0.005	0-50	0-2

## Wireless Data Output Options

Allowing the wireless transmission of measurement values from gauge to PC, the IBRit-rf1 Radio Module is the latest development in interface technologies.

Communicating with up to 120 gauges, and with a maximum transmission distance of up to 200m, the wireless data transfer module connects via a port to your PC. The PC transmits address numbers to each gauge radio module where they are stored. The transmission of a measurement value is triggered simply by pressing the data key on the gauge module or on the gauge itself. An audible tone and visible light confirms a successful data transmission. Special data coding between the PC and the gauge radio module guarantees absolute data security.

### Special versions of radio modules

Gauge radio modules with external antenna The Standard IBRit - rf1 radio modules are delivered with an integrated antenna. For max. transmission power, all radio modules can be delivered with an external antenna.

Gauge radio modules with terminal strips The IBRit - rf1 radio modules can be delivered optional with terminal strips for the connection of external switches for data transmission.



### Features

- User-friendly
- Full data security
- Low cost
- Compact size
- Long transmitter battery life
- Long transmission distance
- CE & FCC approval
- Audible/visual transmission confirmation
- Individually programmable
- Connects to all types of gauges
- Up to 120 transmitters per receiver
- Allows integration into SPC software

### IBRit - rf1 - usb

The radio module IBRit - rf1 - usb serves as PC station for the wireless data transmission of measured values. The module is connected to an USB Port. The program IBR\_SimKey is a simple PC software for the IBRit - rf1 series with following functions:

1. Programming of the gauge radio modules.
2. Displaying of received values for testing.
3. Data transfer to all Windows programs.

Code No: 25-604-001



### IBRit - rf1 - mit1

Radio module for gauges with Mitutoyo Digimatic interface.

*Pluggable in calipers and dial gauges.*

Code No: 25-604-011



### IBRit - rf1 - digi

Radio module for gauges with Mitutoyo Digimatic interface. *Use with Mitutoyo cables.*

Code No: 25-604-007



### IBRit - rf1 - opto

Radio module for gauges with Opto RS-232 interface.

Code No: 25-604-014



### Opto / 232

Adapter to connect IBRit - rf1 - opto radio modules to 9 pin. Sub-D connectors. *Connection to Height gauges...*

Code No: 25-604-004



### IBRit - rf1 - prox

Radio module for gauges with Proximity interface.

Code No: 25-604-064



### IBRit - rf1 - S233

Radio module for gauges with Power RS-232 interface.

Code No: S233 25-604-013



### IBRit - rf1 - SDial

Radio module for gauges with Power RS-232 interface.

Code No: SDial 25-604-013A



### IBRit - rf1 - tesa

Radio module for Tesa dial gauges of series Digico 2xx... 7xx.

Code No: 25-604-014T



### IBRit - rf1 - mahr

Radio module for gauges with MarConnect interface.

Code No: 25-604-006



### IBRit - rf1 - 232

The radio module IBRit - rf1 - 232 allows the connection of stationary gauges with RS-232 output and is universally programmable.

Code No: 25-604-008









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