

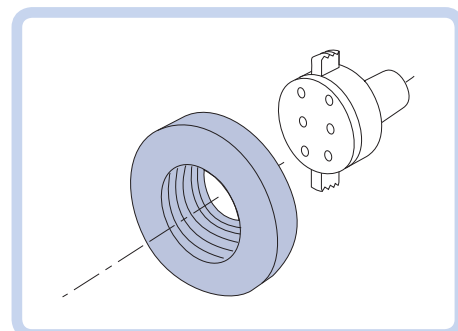
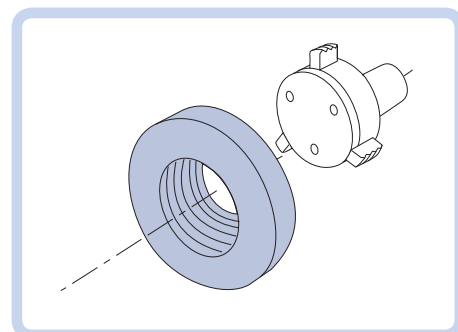
Special Bore Measurement

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

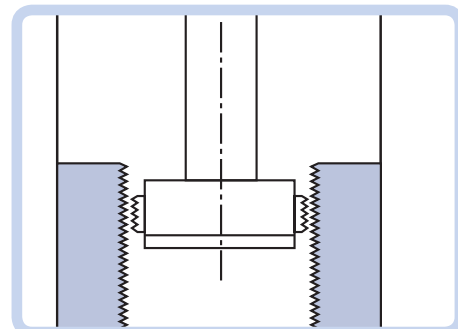
To measure effective (functional) diameter, pitch diameter, major diameter, between M4 - 300mm. / No. 8 UN - 12" diameter.



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

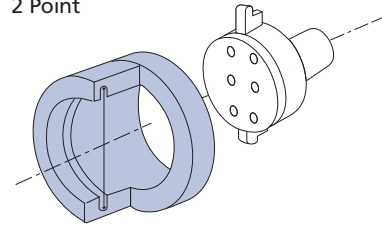
Grooves

For sizes from 2-300mm diameter.



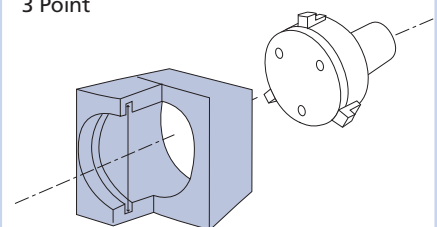
Groove Head
with Depth Stop

2 Point



Side view

3 Point



Brake Caliper Measurement



Caliper Groove
Measurement

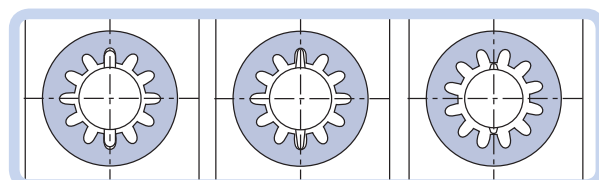
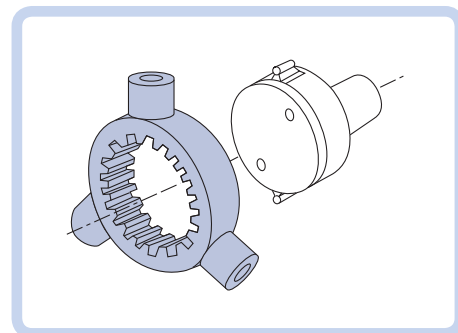
Ball Race Measurement



Measuring
Component

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").



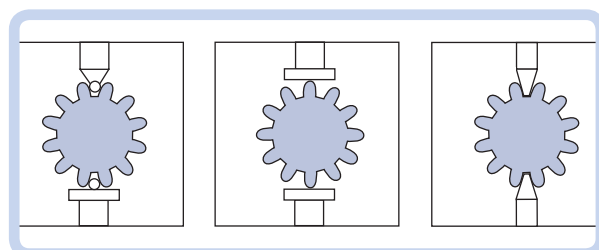
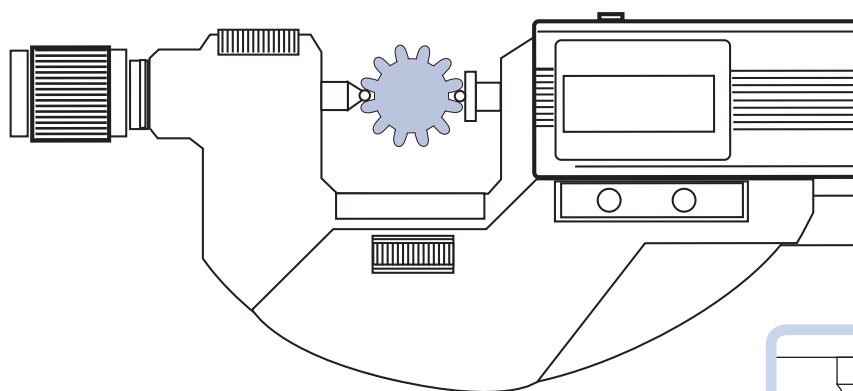
Pitch Diameter

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

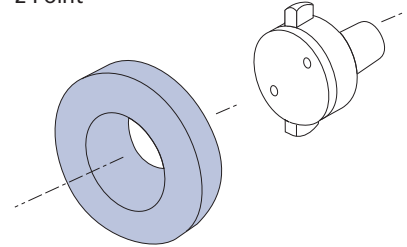
2 Point Spherical

Measurement of ovality in bore.

Measurement of bores with irregularities.



2 Point



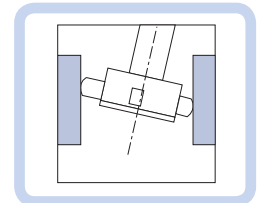
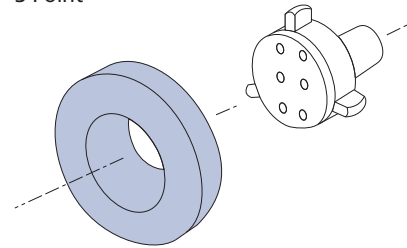
3 Point Spherical

Gives good repeatability even when out of line with bore centre.

Available from 6-300mm diameter on digital systems.



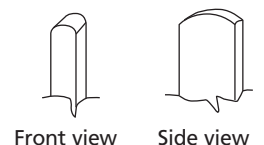
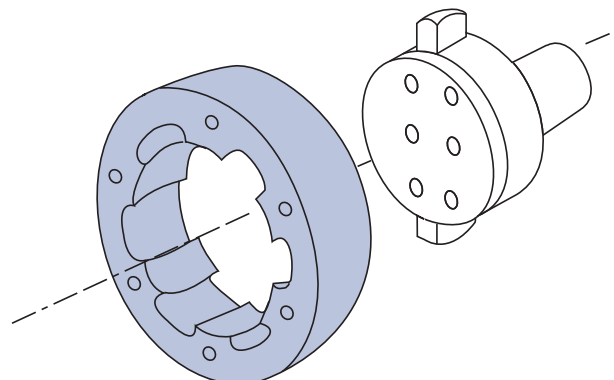
3 Point



Spherical Radius

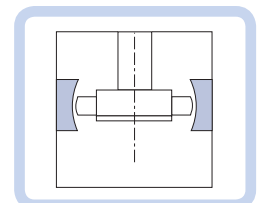
Can be supplied as a 2 point (for ovality) or 3 point contact.

Available from 6-300mm.



Front view

Side view



Special Bore Measurement - Deep Hole Pneumatic

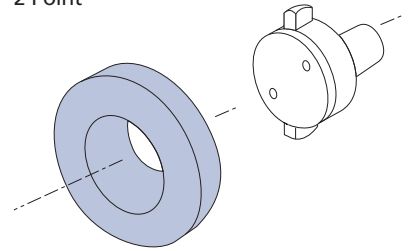
Operated by a pneumatic actuator powered by a 3 bar compressed air supply - either from a compressor or a workshop air-line. The measurement data is collected by a capacitive probe fitted just behind, and in constant contact with the measuring head. This direct contact ensures high-quality transducer-type 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

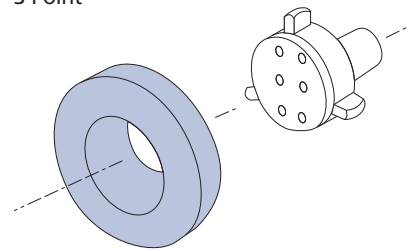
- Measures diameters from 50-310mm, up to 15m deep
- Spherical, Tungsten Carbide anvils
- 2 point and 3 point heads available
- Accuracy $\pm 0.005\text{mm}$ (subject to bore condition)
- Quick set-up time
- Easy to use
- Not adversely effected by temperature fluctuation
- Robust design
- Various readouts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



2 Point



3 Point

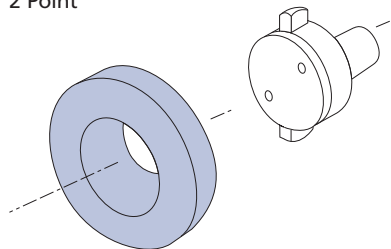


Deep Hole XT - Under 2 Metres

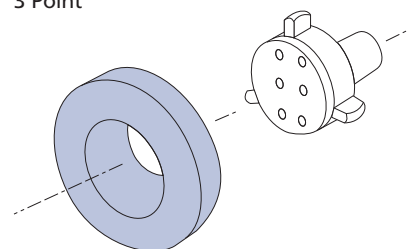
Up to 2.0 metres deep with standard extensions.



2 Point



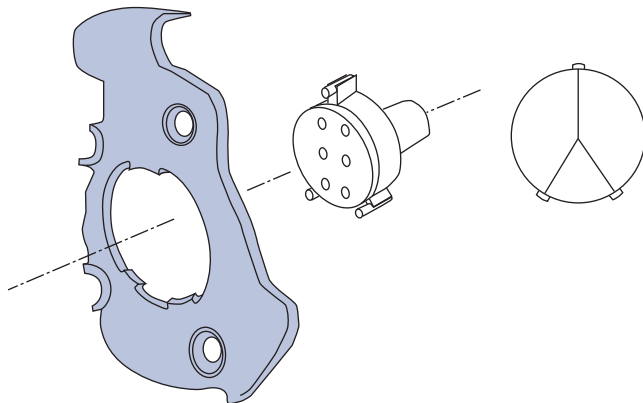
3 Point



Special Bore Measurement - Miscellaneous

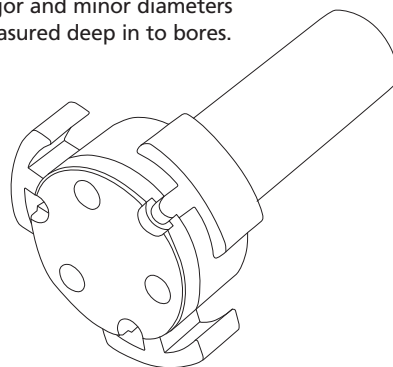
Irregular Spacing

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.

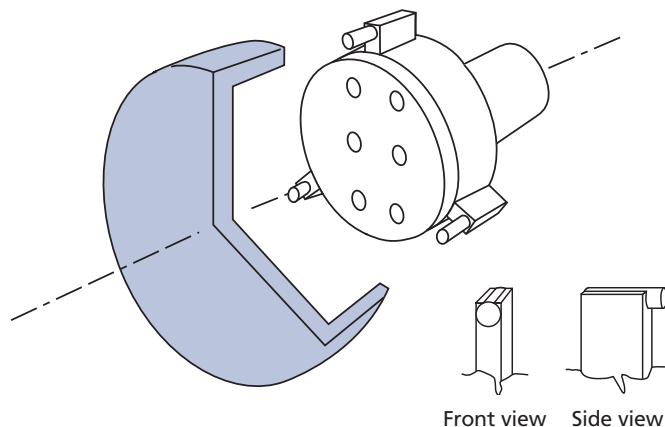


Right Angled Adaptor



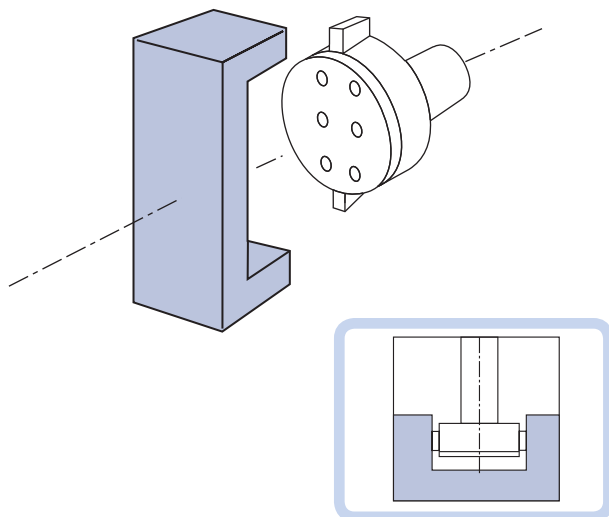
Blind Bore

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.

