FORK

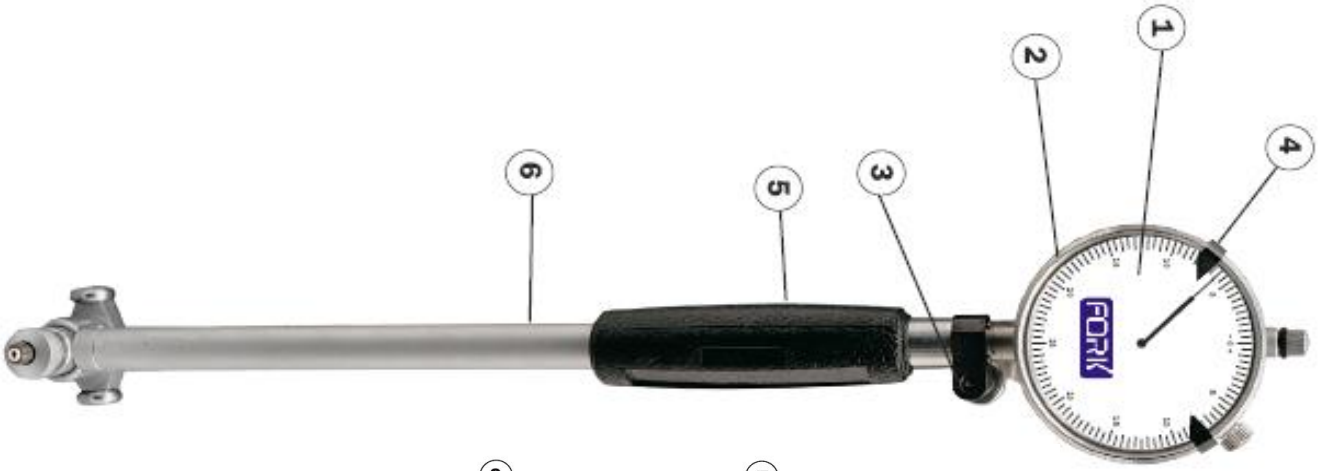
FORK MEASURING COMPANY
Vavdi Sr.No. 17, Plot No 55B, Rani Industrial Estate
Gondal Road, Rajkot-360002

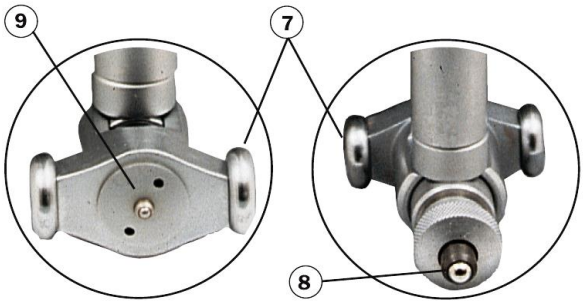
INSTRUCTION MANUAL FOR DIAL BORE GAUGE (701-010)

• Introduction

The series of dial bore gauges are the special tools widely used in measuring the inner diameter of mechanical processing industry. We can measure the inner diameter and the shape error of hole by the comparison method. They are most suitable to measure the precision hole (grade IT7 to IT9) in mass production.

• Name and Construction





1. Dial Indicator
2. Bezel
3. Knurled Holder Locking Screw
4. Limit Hands
5. Insulating Handle
6. Satin Finish Gauge Stem
7. Contact Shoes
8. Interchangeable Fixed Anvil
9. Moving anvil

• Assembling

- ✓ Atteched the indicator

1. Inserting the indicator's spindle into the joint.
2. The hand of indicatorturns about 1 revolution.
3. Locking the indicator with the screw.

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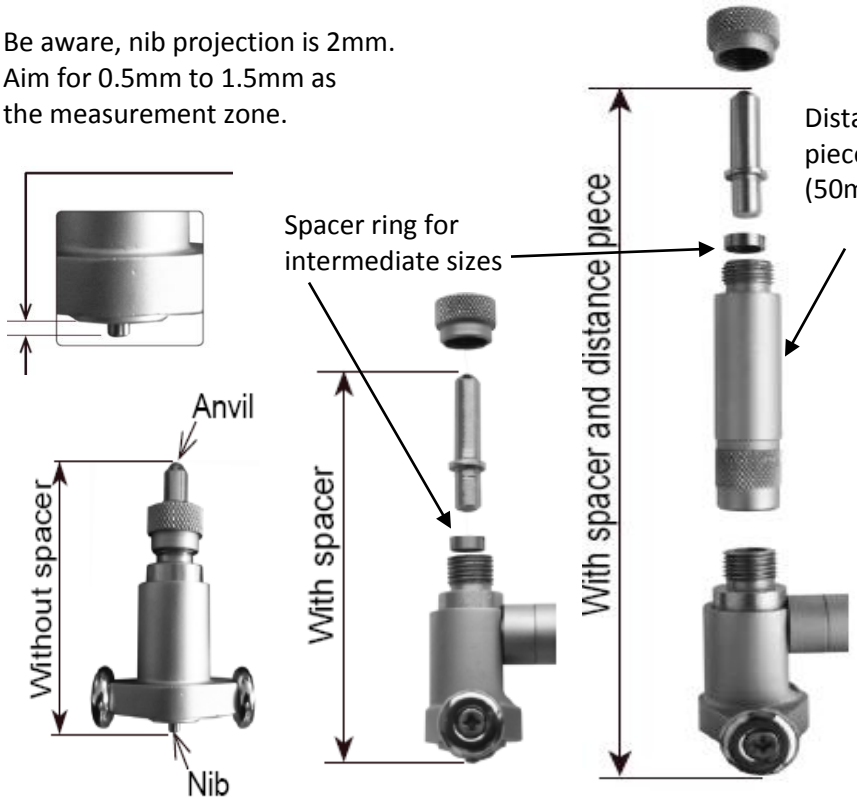
- ✓ Select the anvils or combination anvil or washer.

Be aware, nib projection is 2mm.
Aim for 0.5mm to 1.5mm as
the measurement zone.



1. Removing the anvil locking nut and the anvils or washers not use.
2. Install correct anvil (s) or washers or combination anvil.
3. Select the Min.number of anvils or washers.
4. Install the knurled locking nut tightly.

- **Speifications**

Measuring Range	Measuring Depth	Anvil	Washer	Component
6 - 10 mm (0.24-0.4 In)	40 mm (1.57 In)	9	—	—
10 – 18 mm (0.4-0.7 In)	100 mm (4 In)	9	1	—
18 – 35 mm (0.7-1.5 In)	125 mm (5 In)	7 (8)	—	—
18 – 35 mm (0.7-1.5 In)	150 mm (6 In)	9 (10)	2	—
35 – 50 mm (1.4-2.4 In)	150 mm (6 In)	4 (6)	4 (3)	—
50 – 100 mm (2 – 4 In)	150 mm (6 In)	11	4 (3)	—
50 – 160 mm (2 – 6 In)	150 mm (6 In)	12 (11)	4 (3)	1
160 – 250 mm (6 – 10 In)	400 mm (16 In)	5 (6)	5	1
250 – 450 mm (10 – 16 In)	400 mm (16 In)	5 (6)	5	2

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• Dimention Setting

Attaching the dial indicator
First, loose the locking screw and insert the indicator's spindle into the joint. Then, make the hand of indicator turns about 1 revolution. Last, lock the indicator with screw.

Zero adjustment
First, remove the anvil locking nut. Then, select and install the correct anvils and washers last install the anvil-locking nut tightly.

The zero adjustment is accomplished by the following two methods.

- ✓ Adjustment with master ring.

Figure 2

Please insert the gauge into the master gauge; slowly swing as shown in Figure 2 direction to find the position D, at the position D, the long hand of indicator at the Max. position, rotate the bezel of indicator to make the long hand of indicator points to zero. The method is suitable for a mass-production or regular model because of simple operation and high precision.

- ✓ Adjustment with outside micrometer

Set the outside micrometer to exact dimension to be measured Place the dial bore gauge measuring contacts across the micron meter faces as shown in Figure 3; adjust the measuring contacts to position thelong hand of the dial indicator at the Max. Position, rotate the bezel of- indicator to make the long hand of indicator points to zero. It facilitates zero adjustment in condition of no master gauge in the workshop, but it requires some skills to ensure the accuracy. So, need to test again and again to find the correct position.

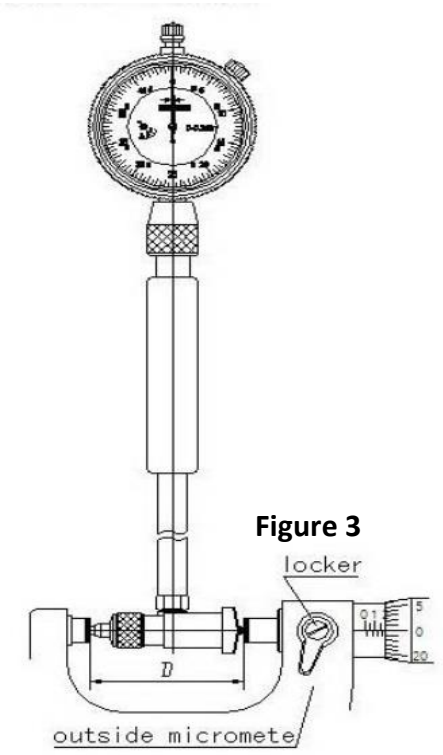

Figure 3

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• Measuring diameter of the hole

After zero setting, don't loose the locking nut. Please insert the dial bore gauge obliquely into the hole, Make hand shank parallel to the axis of hole, and find the Min. reading of indicator. This is correct diameter data of the hole.

Measuring the shape of the hole:

Measure different position on the Radial plane can get the roundness of the hole, axial measure different position can get the cylindricity of the hole.

Clean and apply antirust after using, disassemble the indicator, place the gauge in the box.

• Maintenance

1. Keep all components dry and clean with a soft micro fibre cloth.
2. Do not attempt to disassemble the instrument.
3. Store indoors in a temperature controlled dry environment, circa 21°C.
4. This is a precision instrument intended for use by engineers and engineering inspectors, keep out of reach of children.
5. Avoid any sudden impacts to instrument.
6. Clean the interchangeable anvil and washer after use and apply light oil to protect components against corrosion.
7. Only use the anvils supplied with that instrument. Do not use them with any other instrument.
8. Store in case supplied. Return all items to the presentation case after use.