

1. Pin gage is a kind of measuring tool used to measure the diameter of round hole of workpiece. It has the characteristics of high measuring precision and easy operation, and is widely used in manufacturing, construction, automobile repair and other fields.

2. Before use, clean fine cotton yarn or soft cloth should be used to wipe the oil and dust on the surface, so as not to affect the accuracy of the measurement value.

3. Operation method:

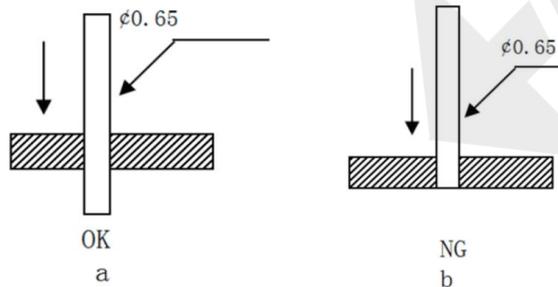
Before measurement, the pin gage should be isothermal with the measuring tool or the measured workpiece to eliminate the measurement error caused by the expansion coefficient.

When measuring, the pin gage should be inserted or pulled out along the axis of the hole, and cannot be tilted; Insert the pin gage into the hole. Do not turn or shake the pin gage. The use of pin gage, that is, hold the measured part in the left hand, hold the pin gage in the right hand, align with the round hole of the part and gently insert it vertically. In addition, do not use too much force to prevent damage to the pin gage and inaccurate measurement data.

③ Measurement and judgment method of circular hole diameter:

Lower limit determination (input value):(e.g. $40.70 \pm 0.05\text{mm}$)

When the pin gage of 40.65mm can pass freely or get stuck after passing, it is OK(see Figure a). If the pin gage of 40.65mm can enter the hole, but when the bottom is blocked (see Figure b), gently tap the working part. If the pin gage can continue to pass, it is also judged that the hole is OK. If it cannot continue to fall, determine the hole NG; However, it is also necessary to carefully observe the entry of pin gage to see whether it is caused by burr at the bottom of the hole; If the aperture is small due to burr, it must also be added a measurement value that avoids burr, and the inlet value of the hole is the maximum value at the burr, so as to be used as a reference for mold repair.



④ After the pin gage is used, it should be inserted and refueling, put it back in its place, and keep it properly.

Note: If the measured workpiece has burrs or dirt, it needs to be cleaned before measurement, so as not to damage the pin gage or affect the measurement result.

4. Precautions and maintenance:

- ① When using, you must wear gloves and do not touch the pin gage with your hand to prevent rust.
- ② Wipe the pin gage oil before use.
- ③ After measuring, it must be rubbed with oil and put into the pin gage box.
- ④ Do not collide or fall to the ground.