How to inspection slide bearings, oilless bushings, plain bearings,wrapped bushes?

Plain bearings and wrapped bushes are produced according to ISO3547 standard, so inspection ways, data also included in this standard.

● Standard Dimensions and Inspection way & data related to:
ISO 3547-1:2006 Part 1: Dimensions
ISO3547-2:2006 Part 2: Test data for outside and inside diameters

Here is a brief introduction on how to test the wrapped bush plain bearings.

1. Outer Diameter
Tools: Outer diameter of bush is tested by Ring Gauges, there are two Ring Gauges made according to the tolerance limits of OD.
Operation: When testing, push the bush through hole of Ring Gauge:
- Up limit of OD Ring Gauge: Go = OK ;   (the bush OD is too big if NO GO)
- Down limit of OD Ring Gauge: NO GO = OK ;   (the bush OD is too small if GO)

2. Flange Diameter (only flanged bushes required)
**Tools:** Flange diameter of bush is tested by vernier caliper
Operation: When testing, put the bush into Ring Gage, then measure by vernier caliper

3. Inner Diameter
Tools: Plug Gauge and Housing(or Ring Gauge), there is a Ring Gauge made according to the tolerance limits of ID.
Operation: Put the bush into a block housing with certain pressure or Ring Gauge first:
- Up limit of ID Plug Gauge: NO GO = OK ; (the bush ID is too big if GO)
- Down limit of ID Plug Gauge: GO = OK ; (the bush ID is too small if NO GO)

Test A to ISO 3547-2

Checking block and setting plug

Checking load

Limit for
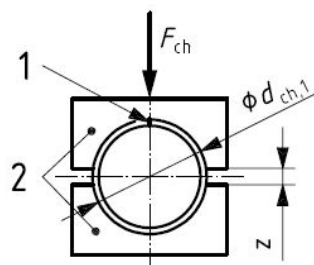
Outside diameter

Key
1   position of split
2   checking block

Table 6 — Ring gauge inside diameter, $d_{ch,1}$, for checking bush inside diameter, $D_{i,ch}$

Dimensions in millimetres

D_o nominal		$d_{ch,1}$ [a]
	⩽ 10	$D_o + 0,008$
> 10	⩽ 18	$D_o + 0,009$
> 18	⩽ 30	$D_o + 0,011$
> 30	⩽ 50	$D_o + 0,013$
> 50	⩽ 80	$D_o + 0,015$
> 80	⩽ 120	$D_o + 0,018$
> 120	⩽ 175	$D_o + 0,020$
[a] The size of $d_{ch,1}$ is made up of D_o and the rounded average value of the tolerance class H7.		

Here is the pressure list for split type housing

Table 5 — Formulae for F_{ch}

Dimensions in millimetres

D_o nominal		F_{ch}
	⩽ 6	$1\,500 \times \dfrac{A_{cal}}{d_{ch,1}}$ (rounded up 100 N)
> 6	⩽ 12	$3\,000 \times \dfrac{A_{cal}}{d_{ch,1}}$ (rounded up 250 N)
> 12	⩽ 80	$6\,000 \times \dfrac{A_{cal}}{d_{ch,1}}$ (rounded up 500 N)
> 80	⩽ 180	$12\,000 \times \dfrac{A_{cal}}{d_{ch,1}}$ (rounded up 500 N)
NOTE When calculating F_{ch}, the factor 1 500, 3 000, 6 000 or 12 000 has the unit N/mm.		

4. Height

Height is measured by vernier caliper directly

Contact us to know more: www.spboilles.com