VALVE GUIDES

ILLINOIS OFFERS A WIDE RANGE OF VALVE GUIDES FOR OVER 600 APPLICATIONS.

- Anti-friction properties.
- Excellent thermal conductivity.
- Resistant to high temperatures, cavitation and rust.

The valve guides have the function of absorbing the forces transverse that affect the valve stem, centering it on the seat insert and conducting part of the heat from the head and valve stem to cylinder head.

Due to this extreme stress, the material used in the manufacture It is a decisive factor in product performance.

MATERIALS

We use gray cast iron and brass materials with selected alloy components.
ILLINOIS valve guides are manufactured from materials that provide excellent thermal conductivity and anti-slip properties.

- G1
  Gray cast iron with pearlitic structure. This material It is characterized by good wear resistance and It is suitable for guides under normal stresses.
- G2
  Gray cast iron with basic pearlitic and larger structure proportion of phosphorus. The reticular formation of the phosphorus provides increased wear resistance and better performing properties. Foruse in motors with medium voltage.
- G3
  Gray cast iron with basic pearlitic and larger structure proportion of phosphorus, as well as higher content of chrome. For use in highly supercharged.
- B1
  CuZnAl Alloy. This material is characterized by a good wear resistance with high properties sliding. The guide is suitable for use in motors with normal and medium voltage.

MAXIMUM QUALITY:
Product tested in accordance with international standards, subject to strict quality control throughout the manufacturing process.
It features the combination of state-of-the-art O.E.M. materials and maximum quality.

FOR EXPORT

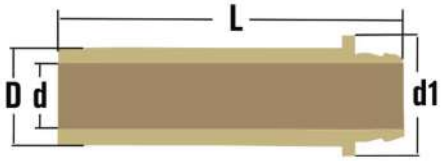
ISO QUALITY SYSTEM ISO 9001

ISO QUALITY SYSTEM ISO 9001

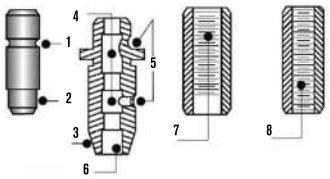
ILLINOIS®

MAIN DIMENSIONS OF A VALVE GUIDE

D = external diameter
d1 = flange diameter
d = hole diameter
L = total length



1. Outer groove for the clamping ring seat.
2. Lower.
3. Conical end.
4. Internal camera.
5. Hole for lubrication.
6. Internal chamber at the end of the guide.
7. Lubrication fillet.
8. Total lubrication fillet.



INSTALLATION

The valve guide contracts radially when it is pressed into the cylinder head bore and the cylinder head bore expands. The extent of this deformation depends, on the one hand, on the ratio between the diameter of the housing hole and the outer diameter of the guide and, on the other hand, on the stiffness of the components. If there are strong differences in the stiffness of the cylinder head wall, the radial distortion can differ significantly along its length.

ASSEMBLY

When installing and removing the valve guides, make sure the cylinder head is heated properly (specified by the motor manufacturer). Use suitable mounting chucks for installation and removal. An additional cooling of the valve guides facilitates assembly.

AFTER ASSEMBLY

Before installing the valves, check if the guide hole is cylindrical, that is, that it has the diameter required for the application. If necessary, correct with a reamer. Distortions in the valve guide bore can adversely affect its function.

Standard values for valve guide to valve stem clearance:

DIAMETER OF THE STEM	SETTLEMENT ADMISSION VALVES	SETTLEMENT EXHAUST VALVES
6 A 7MM	10 - 40 µm	25 - 55 µm
8 A 9MM	20 - 50 µm	35 - 65 µm
10 A 12MM	40 - 70 µm	55 - 85 µm

The clearance between the valve stem and the guide diameter interior must not exceed the specified values. If the clearance it is too big or the valve guides are worn or conical, they must be replaced.