Ceramic Seal for Pumps

Ceramic seals for pumps is a technology of sealing device made up of engineering **ceramic materials** to prevent leakage of fluid medium. In recent decades, the application of engineering ceramics in various fields of national economy has been greatly developed. It has small specific gravity, high melting point, high hardness, good chemical stability, corrosion resistance, etc. As a part of mechanical seals, it has gradually replaced the potential of metal materials.

The application of ceramic seal technology

Engineering ceramics as the seal has been used in the industrial products for many years, as the engineering **ceramic materials** used in the whole contact type sealing device is still very rare, such as the valve parts, because most of the metal seal, the valve opens frequently, resulting in poor sealing performance, easy corrosion. The valve seals are often repaired and replaced. Therefore, selecting engineering ceramics instead of the **original metal sealing materia**l can solve some of these defects. With the characteristics of high hardness, high compressive strength and good chemical stability, the engineering ceramic materials (such as Al2O3) can be used to make contact seals, and the material of the two contact body is replaced by the original metal materials with the engineering ceramic materials. The following are the concrete structures of the two types of contact sealing parts.

Distributary seal structure

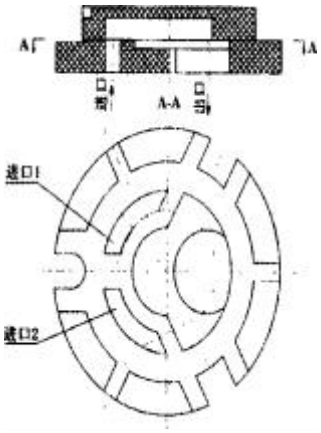
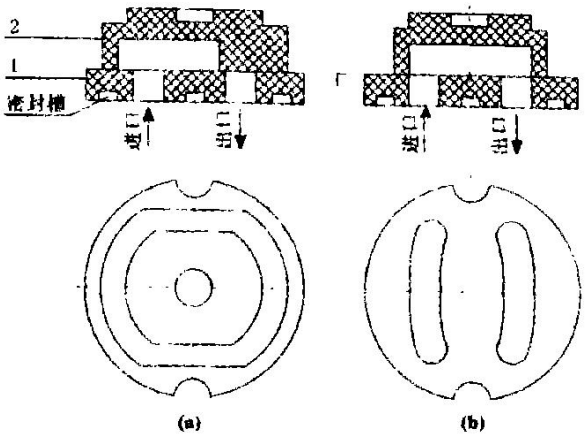


Figure 1 distributary seal structure

The ceramic sealing structure consists of two parts, one is a fixed part and the other part is an active part. From Figure 1, we can see that there are two imports on the left, that is, the different fluids are entered separately, the right has one exit, the dotted line part of the lower figure is the position of the type cavity of the active chip. At this time, the fluid enters and the maximum flow from the import 2, if it is clockwise. A revolving activity chip, another kind of fluid can be entered from the 1 inlet. At this time, two kinds of fluid enter the cavity and then flow out from the outlet. The proportion of the mixed fluid is controlled by the active chip. This structure is characterized by the size of the adjustable flow and the proportion and quantity of the mixed fluid. It can be used to make some people. Products, such as cold and hot water heaters, throttling valves in industrial products, etc.

Internal flow Pattern Seal Structure

The sealing structure is also made up of two parts, one is a fixed part and the other part is an active part. As shown in Figure 2, figure 2 (a) is in the cut-off state, that is, the state of sealing. When the activity chip rotates to 90 degrees (such as the figure 2 (B)) the fluid flows from the left to the right, and the flow is in the maximum state, when the activity chip is 0 to 90 degrees. the flow rate can be adjusted. The sealing structure is suitable for cut-off valves and water control devices.



fixed chip active chip

The two kinds of sealing structures listed above have the advantages of good sealing performance, high wear resistance, simple structure and easy manufacturing. They are installed on industrial products, easy to operate and maintain, and have great application value.