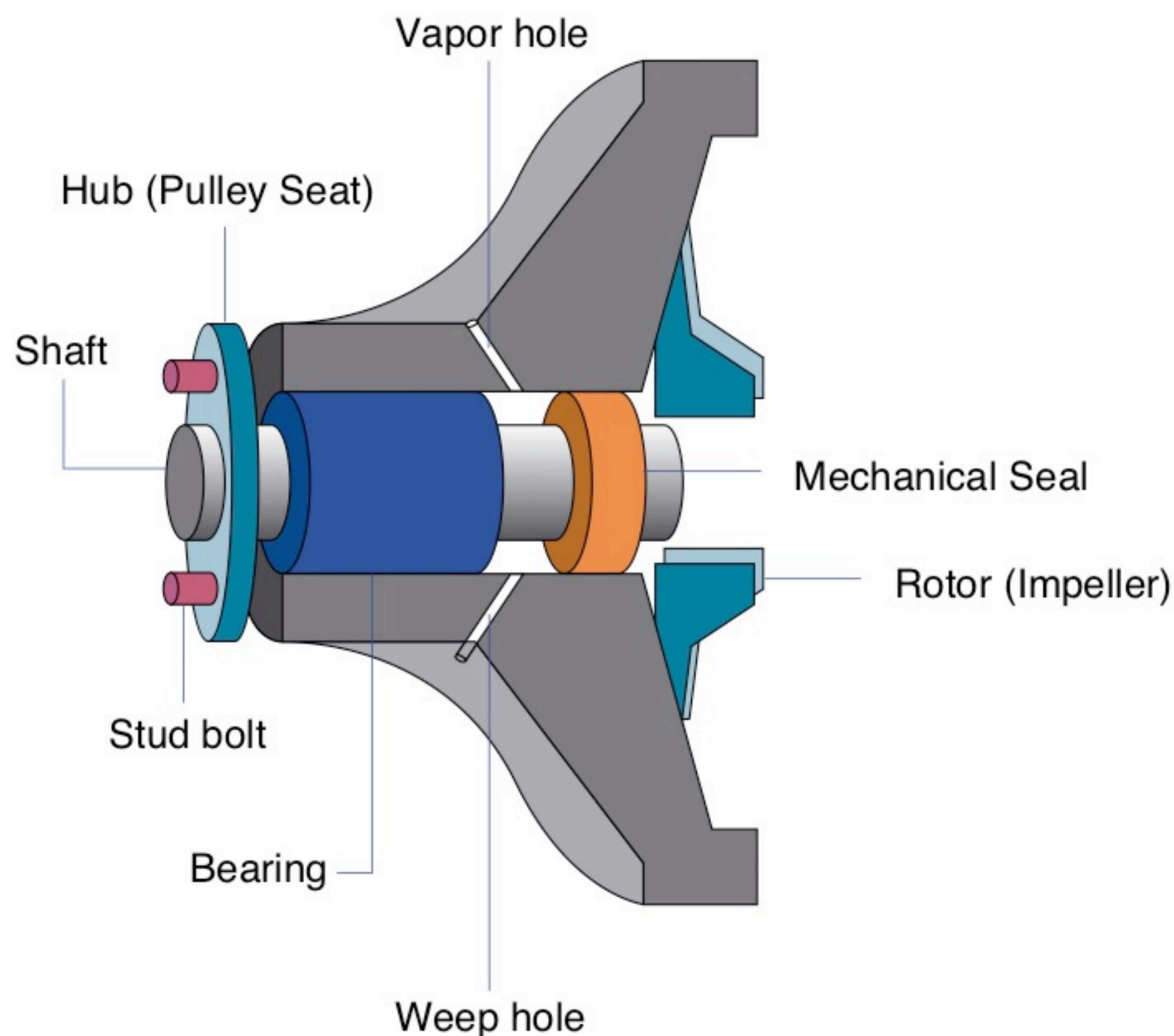


# Structure and Components

The structure of the water pump is comprised of the following components: pulley hub, body, shaft, bearing, mechanical seal and rotor (impeller). The shaft is mounted onto a bearing which is pressed into the water pump body. On one hand of the shaft, a pulley hub is attached, while on the other hand is a rotor (impeller). The pulley hub transfers energy from the fan or timing belt into a rotation, spinning the shaft, therefore spinning the rotor. The rotor then circulates the coolant. A mechanical seal is installed to prevent leakage of coolant into the bearing and also supports the shaft for smooth rotation. The pulley hub transfers energy from the fan or timing belt into a rotation, spinning the shaft, therefore spinning the rotor. The rotor then circulates the coolant. A mechanical seal is installed to prevent leakage of coolant into the bearing and also supports the shaft for smooth rotation.

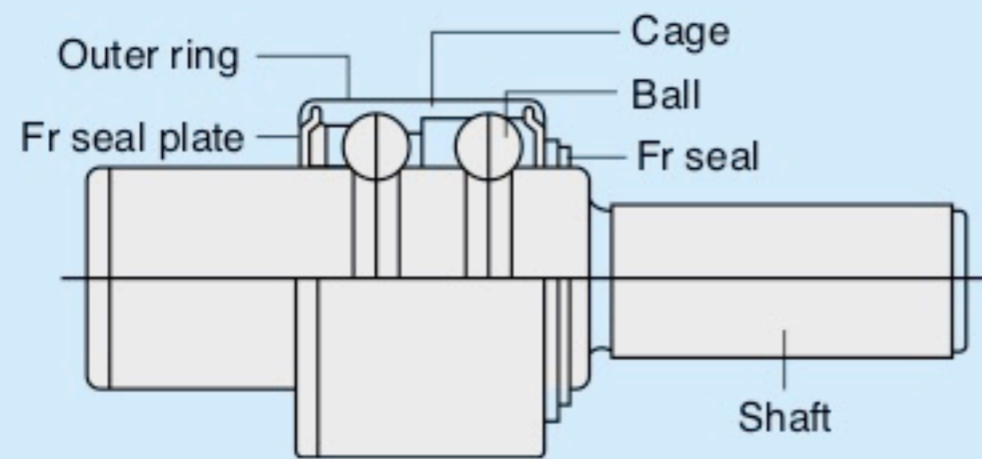


The body of the water pump is equipped with a vapor hole and a weep hole. The vapor hole relieves excess gas pressure seeping through the mechanical seal. The weep hole bleeds off excess coolant seeping through the mechanical seal. Both holes function as a safety to protect the shaft and the bearing from contamination.

# AISIN Water Pump Characteristics

## Bearing

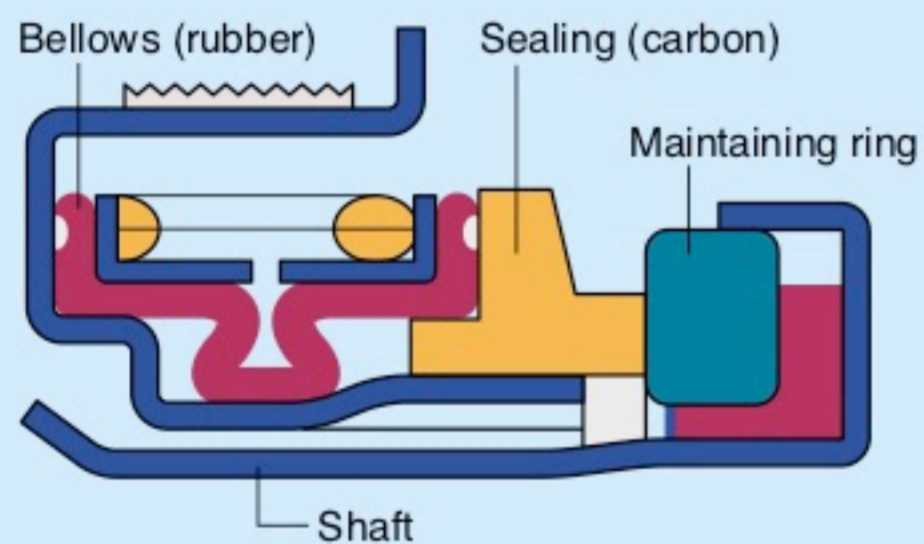
Wear Resistance



The bearing relieves pressure on the shaft from the tension created by the fan or timing belt. Since pressure is continuously applied, a high quality bearing is of utmost importance to protect the water pump from failing.

## Mechanical Seal

Leakage Resistance



The mechanical seal prevent coolant leak as well as support the rotation of the shaft. The structure of the airtight seal and durable materials also used prevent unneeded noise and vibrations.

## Pump Rotor

Corrosion Resistance



Quality materials for the rotor are a necessity to create and maintain geometrical complex for the optimization of coolant flow, as well as resisting corrosion from rust, scaling of coolant and cavitation.

## Pump Body

Vapor hole



Weep hole

Quality materials are used to withstand heat, vibration and corrosion. Water channel is designed with optimal flow of coolant. Positioning of vapor hole and weep hole are key to prevent excess coolant from bearing and shaft contamination.