**Bearing**

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 the utmost importance to protect the water pump from failing.

**Mechanical Seal**

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

**Pump Rotor**

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

**Pump Body**

Quality materials are used 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.