

**SEAL PRESSURE RELIEF PORTS**

All Tsurumi pumps designed to exceed 98.4 Feet at shut off incorporate seal pressure relief ports. This feature offers the following advantages:



1. The mechanical seal is only subject to the submergence pressure, so the pump can operate at high head even in deep water installations.
2. The mechanical seal is protected from excess pressure (i.e. water hammer).
3. The flow path (shown below) takes particulate away from seals. This prevents abrasion damage to the seal faces.

**LABYRINTH RING**, A critical protective device in rotating equipment that seals high pressure areas from low pressure areas. Designed with grooves to provide a tortuous path that prevents fluids of different pressures from meeting. In the image below, the labyrinth ring prevents high pressure flow from contacting the mechanical seal.



Figure 1 Labyrinth Ring

