

Labyrinth Ring

One of the most common problems in submersible pumps is the water incursion into the motor chamber due to the mechanical seal failures caused by abrasive solid particles. To prevent this from occurring, various kinds of seals are used in submersible pumps. The role of these seals becomes more prominent in pumps that need to operate in high pressure condition, especially with abrasive particles at high head duty points. As some series of Tsurumi pumps need to operate in such extreme conditions in high head duty, requiring pressure release mechanism, selected series and models are equipped with special sealing parts called labyrinth ring (labyrinth seal).



Labyrinth ring are non-contact seals which protects the mechanical seals from the high pressure generated inside the pump casing, which prolongs the life of mechanical seal.

Furthermore, as the labyrinth ring does not come into contact with rotating parts like shaft or mechanical seal, the wear in them is also less. Most of Tsurumi's competing pump manufacturers use external mechanical seal, which comes into direct contact with pumping liquid and abrasive particles in it. As they are external mechanical seals, they do not require labyrinth ring protection.

For Tsurumi pumps, labyrinth rings are provided on the upper pump casing, seal housing, and other parts that are directly above the impeller for selected models in series like KTZ, LH, LH-W and GSZ.



Labyrinth Ring on the upper pump casing of LH6110