

Submersible High Head Drainage Pumps: LH Series General Features

Extremely popular Tsurumi's high head heavy duty submersible LH series pumps are available in a wide lineup and variations, available from 3 to 110kW motor output and 18 to 250 m (including tandem version*) head operation. The LH series has played an active role in various fields, from small/medium-scale civil engineering and construction work that requires high reliability, to large-scale projects for constructing tunnels, bridges and dams. And, because of their slim body, these pumps have proven to be particularly useful and well-liked for deep well dewatering and mine pit drainage where limited workplace is available.

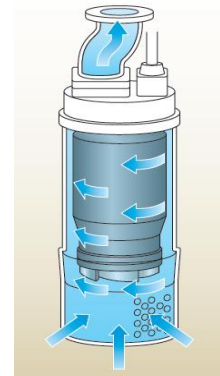


On top of all the Tsurumi's original features, like anti-wicking cable entries, oil lifter, dual inside SiC mechanical seals, there are few other features in LH pumps, which are the unique selling propositions of LH series. In this issue of TOPPI, some of these features is described briefly.

*Tandem version will be introduced in future issue of TOPPI

Top discharge flow through design

Most of the times the sites operating pumps like LH does not have consistent water level. Continuous operation at low water levels is possible for LH pumps due to its positioning of discharge over the motor, which provides continuous cooling to the motor by the pumping media even at low water level. This top discharge system also allows the pump to remain slim and be installed in limited space, like deep well application.



Labyrinth ring

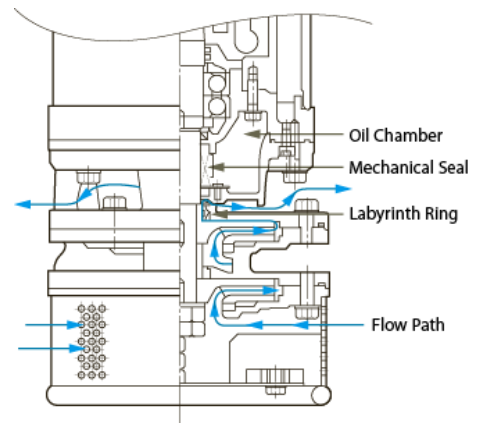
All models of LH pumps from 15kW and tandem version from 3kW are provided with labyrinth ring as a standard feature. Most of the times, LH pumps are required to operate in water containing solid particles which can causes abrasion and wear. Due to the presence of labyrinth ring, these materials are prevented from reaching the mechanical seal along with the pressurized liquid in pump casing.

Cathodic Protection Plate

Aluminum galvanic anode is provided, also as standard feature, on the structure steel strainer stand to protect corrosion for all the models of LH series pumps (excluding 3kW model). Due to this anode in high turbulent flow area inside the strainer stand, any chance of corrosion of pump parts are eliminated and the pump can be used in various operating conditions. For applications in severely corrosive application, fully stainless steel pump or seawater resistant kit is also available as an option.

Seal Pressure Relief Port

A submersible pumps mechanical seal withstands the pressure exerted by the depth of water where it is installed and also the pressure generated inside the pump casing during the operation. During high head application the pressure generated inside the pump casing is extremely high. To protect the mechanical seal from this pressure, pressure relief ports have been facilitated in LH series pumps (excluding 3kW model). Abrasive particles are also discharged out from this port, which acts as another protective mechanism for the seal surfaces.



Bearing Lubrication Port

All LH pumps 75kW and above are provided with grease refilling port. Pumps do not need to be dismantled up to the motor part during timely maintenance to refill the bearing grease.

High-chromium Cast Iron Impeller & Mouth Ring

To prevent pump parts from wear and abrasion, impeller and mouth ring of LH series pumps are made with high chromium cast iron. This maintains the pumps original performance for extended period of time. (Not applicable to mouth ring for 3kW model)