

VERTICAL PUMP

ABSTRACT

Provided is a vertical pump that, even in a large-capacity pump, facilitates replacement of a submerged bearing, with the pump remaining installed, without lifting the pump, and improves reliability of the submerged bearing.

A vertical pump of the present invention includes: a guide casing (1); a suspension pipe (3) that suspends the guide casing (1) inside a water tank (5); a curved discharge pipe (4) that is connected to the upper end of the suspension pipe (3); an impeller (10) that is accommodated inside the guide casing (1); and a rotating shaft (6) to which the impeller (10) is fixed. The rotating shaft (6) is rotatably supported by a submerged bearing unit (12) and an external bearing (11). The submerged bearing unit (12) is positioned below the impeller (10), and supports the lower end of the rotating shaft (6). The rotating shaft (6) extends from the external bearing (11) through the impeller (10), without passing through any bearing other than the external bearing (11). The submerged bearing unit (12) has an inner contact bearing that supports a sliding part of the rotating shaft (6) on a bearing inner circumferential surface, and an outer contact bearing that supports a sliding part of the rotating shaft (6) on a bearing outer circumferential surface.

Figure 2