

Performance of Swash-plate Type Axial Piston Pump

[The swash plate axial piston pump](#) on the traditional research on the flow characteristics and pressure characteristics in low speed conditions, to improve the series piston pump, which can meet in low-speed conditions as power element pump control system provides a reference. For the measurement of swash plate axial piston pump, through the simulation and experiment, we can draw the following conclusions:

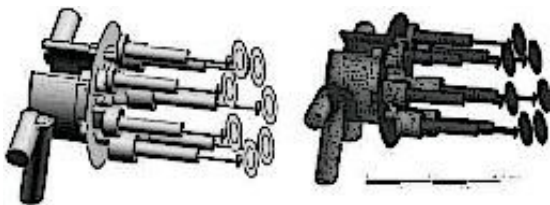
(1) the piston pump will generate $2Z$ times per revolution (Z is the number of plungers). For plunger pumps, the flow of oil and oil will fluctuate. At the same time of load pressure, the lower the speed is. The greater the volume pulsation is.

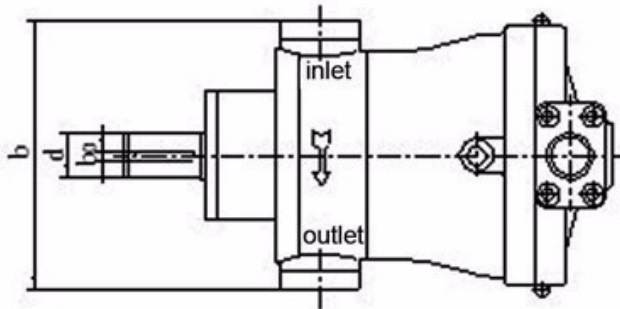
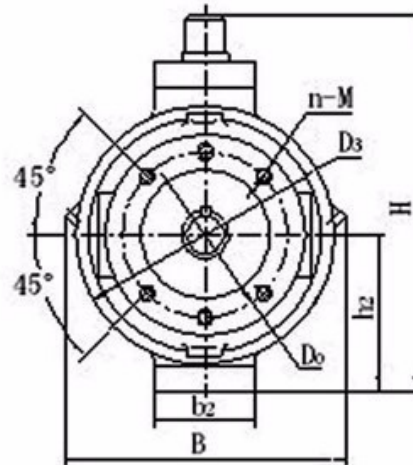
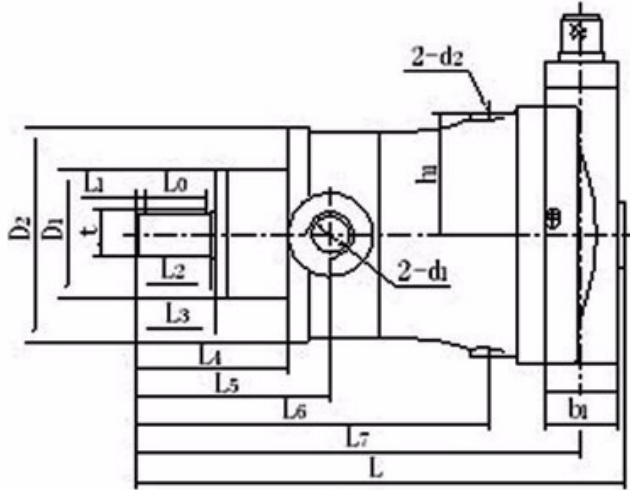
(2) the leakage rate of the [plunger pump](#) has nothing to do with the speed, and its value is mainly determined by the load pressure. Because of this reason, when the piston pump speed decreases, its volumetric efficiency will be greatly reduced. The loss of volumetric efficiency caused by leakage is inversely proportional to the first power of the speed.

(3) when the pump speed is too low, the leakage accounted for a larger proportion of export pressure that cannot establish stable, significant pressure fluctuation.

In summary, in order to servo motor direct drive pump control system makes the swash plate axial piston pump can work efficiently in different speed conditions, especially reliable low speed, need in-depth on the structure

The control system is introduced to meet its high volumetric efficiency at different speeds.





When the displacement over 108ml/rev,
the connect type is flanged joint.

