

## P30 gear pump

### First, Features

1. Multiple mounting and connection options: SAE-B-2 and 4-bolt mounting flanges, SAE-B splined shafts, and side and rear ports for pump/motor bi-directional rotary applications, offering a wide range of porting, mounting, and shaft options.
2. Compact and robust design: roller bearing design, compact structure, small frame size; the main body for the positioning pin connection of high-strength cast iron structure, light weight, such as with 2-inch gears it weighs only 34.5 pounds.
3. Good working performance: flow rate up to 6 to 33 gpm (@2000 rpm), working pressure up to 2000 psi, speed up to 2000 rpm, cubic inch displacement between 1.00 to 4.00.
4. High efficiency and durability: Special ring seals and pressure-balanced wear plates maintain high pump and motor efficiencies in all operating ranges and are 100% factory tested to application specifications.

### Second, the principle of operation

[P30 gear pumps](#) are usually external gear pumps, the pump casing has an external meshing gear, the gear before and after the end cover, and each gear tooth groove to form a sealed working chamber. When the active gear drives the follower gear to rotate, the gear teeth in the suction chamber are gradually disengaged, the sealing chamber volume increases, and the pressure drops to absorb the oil; the gear teeth on the side of the pressure chamber are gradually meshed, and the sealing chamber volume decreases, the oil is extruded, and the pressure rises, so as to realize the transmission of hydraulic oil.

### Third, application fields

1. Industrial field: widely used in injection molding machines, die-casting machines, hydraulic stations, metal processing, rubber and plastic processing equipment, to provide power hydraulic source.
2. Engineering machinery: such as excavators, loaders, cranes, etc., used to realize a variety of actions of the hydraulic drive.
3. Vehicle field: including automobiles, ships, agricultural machinery, etc., can be used for vehicle steering, braking, suspension and other hydraulic systems.

### Fourth, [P30 gear pump](#) working pressure adjustment method:

#### 1. Mechanical adjustment

Adjustment through the regulating valve: the regulating valve can change the spool position to regulate the hydraulic system pressure. In the P30 gear pump, the regulating valve regulates the pressure by changing the pump's oil intake or discharge. Open the regulating valve, the pump's oil intake increases, the pressure rises; close the regulating valve, the pump's oil intake decreases, the pressure decreases.

Adjustment through the relief valve: the relief valve by changing the opening pressure to adjust the system pressure. When the opening pressure of the relief valve increases, the pump's oil discharge increases and the pressure decreases; when the opening pressure of the relief valve decreases, the pump's oil discharge decreases and the pressure rises.

#### 2. Electronic regulation

Using electronic control valve: electronic control valve is through the electronic device to change the spool position to regulate the pressure. Open the electronic control valve, the pump's oil intake increases, the pressure rises; close the electronic control valve, the pump's oil intake

decreases, the pressure decreases.

Use electronic relief valve: electronic relief valve through the electronic device to change the relief valve opening pressure to regulate the pressure. When the electronic relief valve opening pressure increases, the pump's oil discharge increases and the pressure decreases; when the electronic relief valve opening pressure decreases, the pump's oil discharge decreases and the pressure rises.

Parker p30 hydraulic pump

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