

How to Identify and Specify Hydraulic Pumps



REPLACING AN EXISTING PUMP

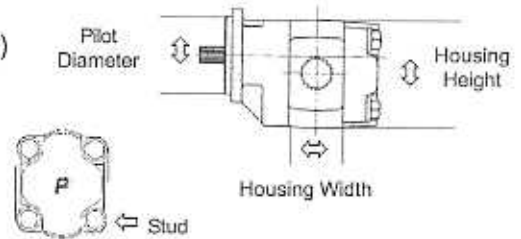
1. Identify Series, use chart below if necessary.

| SERIES | STUDS | HOUSING HEIGHT | HOUSING WIDTH = | THREADED BEARING |
|------------|-------------|----------------|-----------------------------|------------------|
| | No. & Diam. | | Gear Width + Thrust Plates: | |
| P1200 | 10 - 1/2" | 7" | 1/2" | NO |
| P1500 | 4 - 1/2" | 5.5" | 3/4" | NO |
| P2100 | 4 - 9/16" | 5.00" | 3/4" | NO |
| P2500 | 4 - 5/8" | 6.25" | 3/4" | YES |
| P3700 | 8 - 1/2" | 7.3125" | 1" | YES |
| P3000/3100 | 4 - 5/8" | 5.5" | 3/4" | NO |
| P5000/5100 | 4 - 5/8" | 6.25" | 3/4" | NO |
| P7500/7600 | 8 - 5/8" | 8.00" | 1" | NO |

2. Gear Width: Housing Width minus Thrust Plates (see chart above)

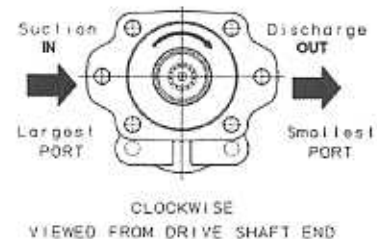
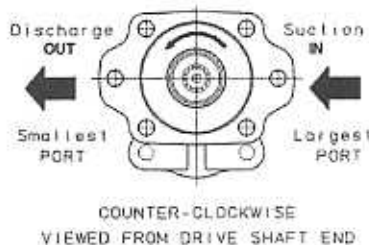
3. Shaft Diameter and Configuration (# splines or key size if round)

4. Mounting Flange: Bolt Circle Diameter _____
Pilot Diameter _____ Number Studs _____



5. Porting: Inlet NPT _____ ODT _____ Split Flange _____ Location _____
Outlet NPT _____ ODT _____ Split Flange _____ Location _____

6. Rotation: Looking at the shaft end, belly down, inlet on the left = Clockwise
Looking at the shaft end, belly down, inlet on the right = Counterclockwise
Bi-rotation Pumps usually have equal size ports but still must be plumbed correctly.



Helpful Formulas

- PUMP INPUT HORSEPOWER
- PUMP INPUT TORQUE
- PUMP OUTPUT FLOW RATE
- DISPLACEMENT OF PUMP
- PUMP INPUT SPEED
- GPM USING PTO

$$HP = GPM \times PSI / 1714 / E \quad E = \text{Efficiency}$$

$$T = GPM \times PSI \times 3.06 / RPM / E \quad D = \text{Displacement}$$

$$GPM = D \times RPM \times E / 231$$

$$D = GPM \times 231 / RPM / E$$

$$RPM = GPM \times 231 / D / E$$

$$GPM = Eng \text{ RPM} \times \%PTO \times D \times E / 231$$