



Bell Hydromatics

Variable Displacement

PVF – Single Pumps



Ordering Code

| PVF | -12 | | -70 | | -11 |
|---------------------------|---|-------------------|-----------------------------------|----------------|------------|
| Series No. | Outlet Flow (lpm) at 3.5 bar, 1800 rpm | | Operating Pressure range (bar) | | Design No. |
| PVF Flange Mounting | Code | Outlet Flow (lpm) | Code | Pressure Range | |
| | 12 | 12 lpm | 20 | 8 ~ 20 bar | |
| | 20 | 20 lpm | 35 | 15 ~ 35 bar | |
| | 30 | 30 lpm | 55 | 30 ~ 55 bar | |
| | 40 | 40 lpm | 70 | 55 ~ 70 bar | |
| | Factory Setting Qmax. | | Factory Setting Pmin. | | |

Operating Data

ROTARY DIRECTION

Clockwise rotation viewed from shaft end is standard.

FLUIDS PERMISSIBLE

When working pressure lower than 70 bar, hydraulic oil with a viscosity ranging from 30~50 cSt(ISO VG32). When working pressure higher than 71 bar ,hydraulic oil with a viscosity ranging from 50-70 cSt(ISO VG68) at 40°C is recommended.(ISO VG32) at 40 °C is recommended.

DRAIN PORT PIPING

Drain connection must be piped directly to tank and below the oil level with a back pressure not exceed 0.3 bar.

OIL TEMPERATURE RANGE

Oil temperature range should be between 15-60°C for continuous operation and should be higher than 7°C at starting.

ALIGNMENT AND INSTALLATION OF PUMP

The shaft alignment for pump and electric motor shall be limited to 0.05mm TIR. and 1 degree angular error.

INLET PORT PRESSURE

Inlet port pressure should be -0.3 bar to +0.3 bar.

FLOW ADJUSTMENT

The flow will be reduced when the flow adjusting screw is turned clockwise and increased when anti-clockwise.

PRESSURE ADJUSTMENT

The pressure will be increased when the pressure adjusting screw is turned clockwise and reduced when anti-clockwise.

P-Q CHARACTERISTICS (EX-WORK SET) Flow setting:The max. flow as catalogue shown. Pressure setting:The min. operating pressure range.

SLIDE SCREW

The slide screw is non-adjustable and set at factory. Unauthorized persons cannot tamper with the desired setting.

CAUTIONS FOR STARTING

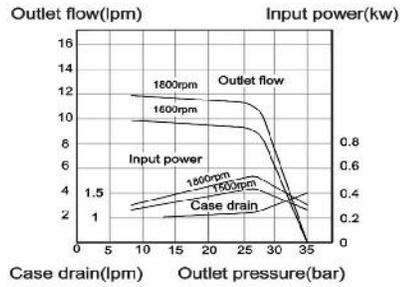
Start up the pump under No-Load condition and repeat to start and stop the motor several times to extract the air from inside of the pump and piping.Then keep a 10 minutes continuous running for a better de-airing.

PEAK-PRESSURE

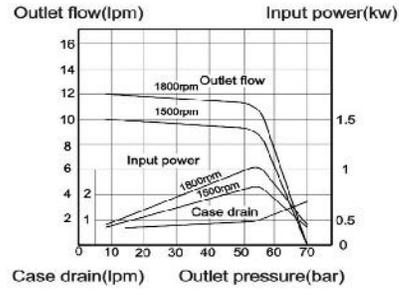
The peak pressure is 140 bar for code * 2 & * 3,and 210 bar for A4 & A5.

Performance Curves

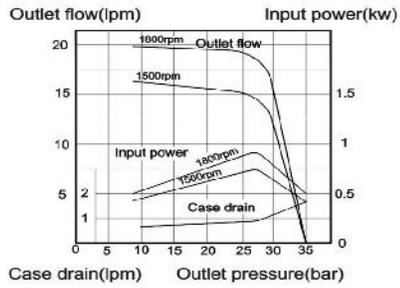
PVF-12-35-11



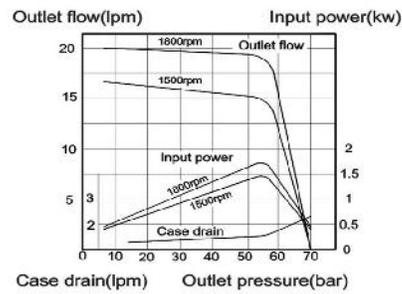
PVF-12-70-11



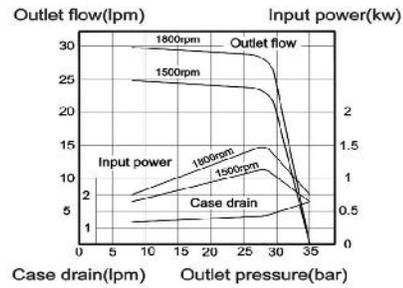
PVF-20-35-11



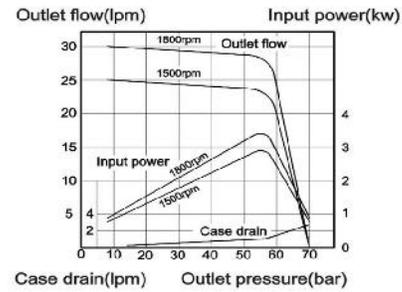
PVF-20-70-11



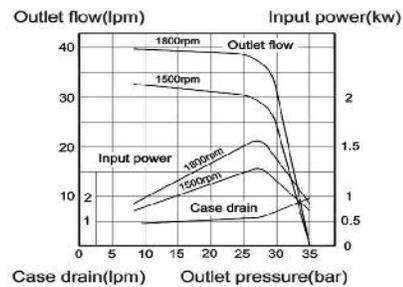
PVF-30-35-11



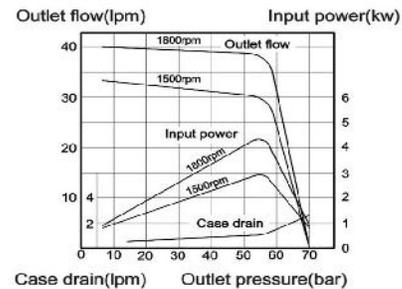
PVF-30-70-11



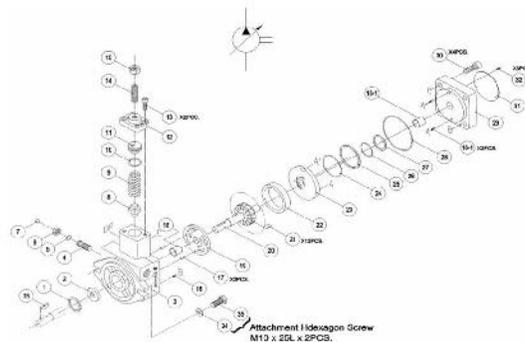
PVF-40-35-11



PVF-40-70-11



Assembly



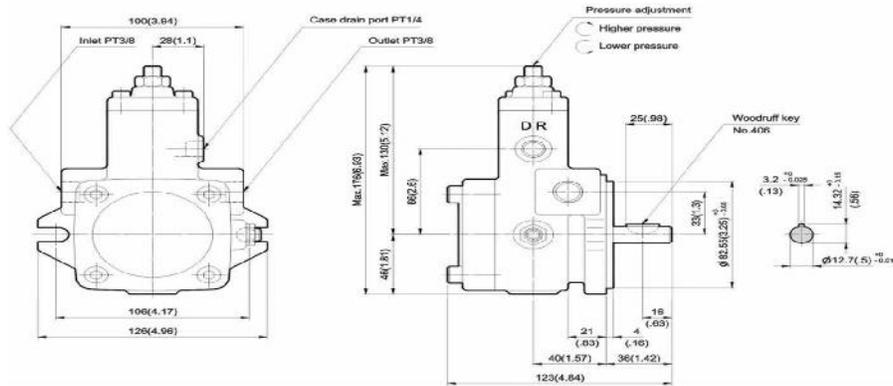
Parts List:

| No. | Part Name | Specification | Quantity |
|------|-----------------------|---------------|----------|
| 1 | Retainer Ring | R28 | 1 |
| 2 | Shaft Seal | TCV 14287 | 1 |
| 3 | Pump Body | | 1 |
| 4 | Slide Screw | | 1 |
| 5 | O-Ring | 1A-P8 | 1 |
| 6 | Hexagon Nut | | 1 |
| 7 | Plastic Plug | | 1 |
| 8 | Piston | | 1 |
| 9 | Spring | | 1 |
| 10 | O-Ring | 1A-P20 | 1 |
| 11 | Spring Retainer | | 1 |
| 12 | Cover | | 1 |
| 13 | Socket Head Cap Screw | M6xP1.0x20L | 2 |
| 14 | Socket Set Screw | M10xP1.5x35L | 1 |
| 15 | Hex Nut | M10xP1.5 | 1 |
| 16 | Spring Pin | ø3×8 | 1 |
| 16-1 | Spring Pin | ø3×8 | 2 |
| 17 | Straight Pin | ø3×8 | 2 |

| No. | Part Name | Specification | Quantity |
|------|-----------------------|--------------------|----------|
| 18 | Engine Bush | DIADO(Japan)DD1415 | 1 |
| 18-1 | Engine Bush | DIADO(Japan)DD1415 | 1 |
| 19 | Port Plate | | 1 |
| 20 | Rotorshaft | | 1 |
| 21 | Vanes | | 13 |
| 22 | Cam Ring | | 1 |
| 23 | Thrust Plate | | 1 |
| 24 | O-Ring | AS568-031 | 1 |
| 25 | Endless Back-up Ring | | 1 |
| 26 | O-Ring | AS568-023 | 1 |
| 27 | Endless Back-up Ring | | 1 |
| 28 | O-Ring | 1A-S71 | 1 |
| 29 | Cover | | 1 |
| 30 | Socket Head Cap Screw | M8xP1.25x30L | 4 |
| 31 | Name Plate | | 1 |
| 32 | Fixing Screw | | 3 |
| 33 | Woodruff Key | No. 406 | 1 |
| 34 | Washer | M10 | 2 |
| 35 | Hexagon Screw | M10xP1.5x25L | 2 |

Dimensions

PVF-12 Dimensions



PVF-30(40) Dimensions

