PISTON PUMPS

SERIES HY-PVB/HY-PVQ

- Wide range of controls
- Standard ISO and SAE mounting and porting
- Nominal pressure: 210 bar
- Low noise and high efficiency
- Very suitable for industrial application
- Totally interchangeable to Vickers pumps PVQ and PVB series and Denison pumps PV series
VARIABLE DISPLACEMENT PUMPS

HY-PVB5/45

HY piston pumps are inline, variable volume units available in 4 frame sizes and 8 displacements. The wide variety of controls and overall efficiency make them ideal for the most demanding industrial applications.

FEATURES

- **ECONOMICAL**
  PVB series combine quality performance with low overall cost.

- **QUIET**
  Noise levels are below the industry standards.

- **EFFICIENT**
  High volumetric and overall efficiency for industrial applications.

**CONTROLS**

Variety of manual and compensating controls provide fast stable control of units.

**MOUNTING**

Mountings, shafts and port sizes are SAE standard. Metric units available on request.

◆ Piston Pump Ordering Specifications

<table>
<thead>
<tr>
<th>HY</th>
<th>PVB10</th>
<th>F</th>
<th>R</th>
<th>S</th>
<th>Y</th>
<th>20</th>
<th>C</th>
<th>C</th>
<th>70</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frame Size 5/6-10/15 20/29-45A/45</td>
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<td></td>
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<tr>
<td>Optional foot mounting for PVB45</td>
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<tr>
<td>Rotation R-C.W. L-C.C.W.</td>
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<tr>
<td>One side of center (pressure compensated models only)</td>
<td></td>
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</tbody>
</table>

**Design**

Optional maximum volume stop (see p. 10)

**Control** (see p. 9)

Series number

SAE models PVB5 to 15 only

WARNING

Before starting fill pump case with system fluid through uppermost drain port. Housing must be kept full at all times to provide internal lubrication.
VARIABLE DISPLACEMENT PUMPS

PERFORMANCE CURVES

MODEL PVB5
BASED ON OIL TEMPERATURE OF 120° F
(100 SUS)
1800 RPM INPUT-ATMOSPHERIC INLET

MODEL PVB6
BASED ON OIL TEMPERATURE OF 120° F
(100 SUS)
1800 RPM INPUT-ATMOSPHERIC INLET

MODEL PVB10
BASED ON OIL TEMPERATURE OF 120° F
(100 SUS)
1800 RPM INPUT-ATMOSPHERIC INLET

MODEL PVB15
BASED ON OIL TEMPERATURE OF 120° F
(100 SUS)
1800 RPM INPUT-ATMOSPHERIC INLET

MODEL PVB20
BASED ON OIL TEMPERATURE OF 120° F
(100 SUS)
1800 RPM INPUT-ATMOSPHERIC INLET

MODEL PVB29
BASED ON OIL TEMPERATURE OF 120° F
(100 SUS)
1800 RPM INPUT-ATMOSPHERIC INLET
APPLICATION GUIDELINES

SHAFT ALIGNMENT
PVB units are designed for "inline drive" with a flexible coupling. Side loading the shaft is not recommended.

FILL PUMP CASING
Before starting, fill case with system fluid through upper most drain port. Pipework must be installed in such a way as to ensure that the case is always full of oil during operation.

Note: - Max. case pressure 5 PSI.

TECHNICAL DATA

Values based on using anti-wear type petroleum oil 150 SUS at 100° F and 0 PSI inlet pressure

<table>
<thead>
<tr>
<th>MODEL</th>
<th>DISPL. (GPM) AT 1800 RPM</th>
<th>MAX. SPEED RPM</th>
<th>MAX. PRESSURE PSI</th>
<th>WGT. LBS.</th>
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</thead>
<tbody>
<tr>
<td>HYPVB5</td>
<td>.643 5 10 3600 Anti-wear oil 1800</td>
<td>3000</td>
<td>16</td>
<td></td>
</tr>
<tr>
<td>HYPVB6</td>
<td>.843 6.5 11.4 3200</td>
<td>2000</td>
<td>16</td>
<td></td>
</tr>
<tr>
<td>HYPVB10</td>
<td>1.29 10 18 3200</td>
<td>3000</td>
<td>30</td>
<td></td>
</tr>
<tr>
<td>HYPVB15</td>
<td>2.01 15 26.2 3000</td>
<td>2000</td>
<td>57</td>
<td></td>
</tr>
<tr>
<td>HYPVB20</td>
<td>2.61 20 26 2400</td>
<td>3000</td>
<td>57</td>
<td></td>
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<tr>
<td>HYPVB29</td>
<td>3.76 29 38 2400</td>
<td>2000</td>
<td>210</td>
<td></td>
</tr>
<tr>
<td>HYPVB45</td>
<td>5.76 45 55 2200</td>
<td>3000</td>
<td>210</td>
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</tbody>
</table>

SOUND LEVEL
PER ISO 4412

<table>
<thead>
<tr>
<th>MODEL</th>
<th>REV. RPM</th>
<th>OUTLET PSI</th>
<th>CUT-OFF</th>
<th>FULL DISPL.</th>
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</thead>
<tbody>
<tr>
<td>HYPVB5/6</td>
<td>1200 1800</td>
<td>1000 2000 3000</td>
<td>56 59 62</td>
<td>59 61</td>
</tr>
<tr>
<td>HYPVB10/15</td>
<td>1200 1800</td>
<td>1000 2000 3000</td>
<td>57 62 64</td>
<td>57 62</td>
</tr>
<tr>
<td>HYPVB20/29</td>
<td>1200 1800</td>
<td>1000 2000 3000</td>
<td>58 62 65</td>
<td>77 77</td>
</tr>
<tr>
<td>HYPVB20/29</td>
<td>1800</td>
<td>1000 2000 3000</td>
<td>63 68 71</td>
<td>64 69</td>
</tr>
</tbody>
</table>
VARIABLE DISPLACEMENT PUMPS

HY-PVB5/6

INSTALLATION DIMENSIONS

DIMENSION (INCHES)

Rotation Oil port
Inlet/Outlet
R.H A B
L.H B A

Bracket mount available
Part NBR- HY-A

VARIABLE DISPLACEMENT PUMPS

HY-PVB10/15

INSTALLATION DIMENSIONS

DIMENSION (INCHES)

Rotation Oil port
Inlet/Outlet
R.H A B
L.H B A

Bracket mount available
Part NBR- HY-B
VARIABLE DISPLACEMENT PUMPS

INSTALLATION DIMENSIONS

DIMENSION (INCHES)

<table>
<thead>
<tr>
<th>Port A</th>
<th>Port B</th>
</tr>
</thead>
<tbody>
<tr>
<td>R.H</td>
<td>B</td>
</tr>
<tr>
<td>L.H</td>
<td>A</td>
</tr>
</tbody>
</table>

Bracket mount available
Part NBR- HY-C

Connection A & B

<table>
<thead>
<tr>
<th>Description</th>
<th>Connection A &amp; B</th>
</tr>
</thead>
<tbody>
<tr>
<td>HYPWB5/6</td>
<td>1&quot; O.D Tubing /1.312-12UNF</td>
</tr>
<tr>
<td>HYPWB10/15</td>
<td>1 1/4 O.D Tubing/1.625-16UNF</td>
</tr>
<tr>
<td>HYPWB20/29</td>
<td>1 1/2 SAE 4 Bolt Flange</td>
</tr>
</tbody>
</table>

Rotation

<table>
<thead>
<tr>
<th>Oil port</th>
<th>Inlet/Outlet</th>
</tr>
</thead>
<tbody>
<tr>
<td>R.H</td>
<td>A</td>
</tr>
<tr>
<td>L.H</td>
<td>B</td>
</tr>
</tbody>
</table>

HY-PVB20/29

Case drain connection .750-16 UNF

.3125
Square key

CW- Increase pressure
CCW- Decrease pressure

.75 R

2 HOLES

.688 D

Connection A&B
1.625-12N SAE "O" RING
1.25 "O" D TUBING

INLET/OUTLET

R.H

L.H
VARIABLE DISPLACEMENT PUMPS

INSTALLATION INFORMATION

DIMENSION (INCHES)

Bracket mount available
Part NBR- HY -C
VARIABLE DISPLACEMENT PUMPS

HY-PVB45

INSTALLATION DIMENSIONS

FLANGE MOUNTED UNIT

FOOT MOUNTED UNIT

DIMENSION (INCHES)
VARIABLE DISPLACEMENT PUMPS

OPTIONAL CONTROLS

CONTROL “CM” (942159N)
CONTROL “C” (942158N)

- Pressure compensator-
  • "C" control maintains pump volume
    requirements of the system until a
    preselected operating pressure is reached.
  • Pump displacement is then reduced to zero
    "CM" range 250 - 1500 PSI
    "C" range 250 - 3000 PSI

Available in frame sizes HYPVB5 to HYPVB45

CONTROL “CG” (942480N)

- Remote pressure compensator-
  • "CG" control operates same as "C" control except pressure setting can be
    adjusted using a remote relief valve (HY-C175-*-*-70) connected to the remote
    control port.

Available in frame sizes HYPVB5 to HYPVB29

CONTROL “CVP” (924069N)

- Load sensing/pressure limiter-
  • "CVP" compensator provides load sensing control to automatically adjust
    pump flow in response to a remote pressure signal. A compensator control is
    also incorporated to limit maximum working pressure.

Available in frame sizes HYPVB5 to HYPVB29
VARIABLE DISPLACEMENT PUMPS

OPTIONAL CONTROLS

CONTROL “C”

- Maximum volume stop incorporates the “C” compensator with adjustable volume stop. The maximum pump delivery is externally adjusted.

CONTROL “M”

- Level control - "M" control provides manual adjustment of pump flow. Level must be secured in position to maintain prospected flow.

CONTROL “H”

- Handwheel control - Turning handwheel provides over-center control of pump output flow.
RANGE OF PRODUCTS

SINGLE • DOUBLE • THRU-DRIVE VANE PUMPS

VARIABLE DISPLACEMENT PUMP H(5)P-10V

DIRECTIONAL CONTROL VALVE

HYDRAULIC CYLINDERS