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1. Hydraulic Fluid
   • Use hydraulic fluid with the viscosity of ISO VG46-68 (with viscosity index of more than 70kgf/cm² anti-wear hydraulic fluid of ISO VG46-68 is recommendable.)
   • Consult the manufacturer in case nonflammable fluid (phosphate-ester, water-glycol, fatty ester, water in oil emulsion, etc) is used.
   • Use clean fluid without foreign bodies or water. Whitened fluid indicates aeration and brown fluid deterioration.

2. Viscosity and Temperature of Fluid
   • Viscosity: 20-500CST.
   • Temperature: 0°C-60°C

3. Suction Pressure
   • Suction pressure must be within -0.3 ~ +0.3kgf/cm²
   • (Specify high suction pressure shaft seal if pump is used at suction pressure higher than +0.3kgf/cm²)

4. Filtration
   • Fit a filter of 150 mesh or above in suction line. A 25μm in-line filter in delivery line or a magnet filter will extend pump life.

5. Installation and Alignment
   • Mount pump on a base with sufficient rigidity.
   • Pump must be so mounted that the suction port may be on either side or upper position.
   • Eccentricity between shafts of pump and motor must be less than 0.05mm by using flexible coupling such as chain coupling. Avoid radial force on pump shaft.
   • Coupling must go in and out on pump shaft smoothly.

6. Piping
   • Use piping flanges.
   • Piping size of suction line must be chosen to allow fluid flow of less than 1.5m/sec and suction pressure less than -0.3kgf/cm² piping must be as short as possible.
   • Avoid push-or pull-force when using steel pipe.

7. Initial Start-Up
   • For good lubrication between moving and stationary elements, pour fluid into the pump before use.
   • To purge air in pump body, be sure to operate pump by an inching start (on and off) at unload.

8. Rotating Direction
   • Clockwise (seen from shaft end) is standard. Counter clockwise optional.
   • Check rotation direction by a moment start-up of motor.

9. Maximum Pressure
   • Operation at maximum pressure must not exceed 1/3 of one cycle and 20 seconds.

10. Consult the manufacturer if disassembly is required.
FEATURES

- VPVC series offer design engineer another opportunity to design circuits with high efficiency.
- Built-in compensator control automatically adjusts pump delivery to system volume requirements at selected pressures. System relief valve is not needed. Horsepower waste is reduced and heat generated is much less than fixed displacement pumps.
- Volume control adjustment is standard which permits user to vary maximum pump output.

HOW TO ORDER

VPVC - F12 - A1 - 20

DESIGN NUMBER

PRESSURE RANGE
1: 6-18KGF/CM² (120-250PSI)
2: 14-35KGF/CM² (200-500PSI)
3: 30-70KGF/CM² (430-1000PSI)

SHARP CUT-OFF TYPE

DISPLACEMENT: (NOMINAL NO-LOAD DELIVERY AT 1800RPM)
12: 12LPM (3.2GPM)
20: 20LPM (5.3GPM)

F: FLANGE MOUNTING TYPE

VARIABLE DISPLACEMENT VANE PUMP
### SPECIFICATIONS

<table>
<thead>
<tr>
<th>Model</th>
<th>Delivery at Unloading LPM (GPM)</th>
<th>Pressure Adj. Range KGF/cm² (PSI)</th>
<th>Speed of Rotation (RPM)</th>
<th>Max. Set Pressure KGF/cm² (PSI)</th>
<th>Weight kgs (lbs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>VPVC-F12-A2-02</td>
<td>10 (2.64)</td>
<td>15 - 35 (213 - 498)</td>
<td></td>
<td>35 (498)</td>
<td></td>
</tr>
<tr>
<td>VPVC-F12-A3-02</td>
<td></td>
<td>50 - 70 (711 - 995)</td>
<td></td>
<td>70 (995)</td>
<td></td>
</tr>
<tr>
<td>VPVC-F20-A1-02</td>
<td>20 (5.28)</td>
<td>10 - 20 (142 - 284)</td>
<td>1800 800</td>
<td>20 (284)</td>
<td>5 (11)</td>
</tr>
<tr>
<td>VPVC-F20-A2-02</td>
<td>17 (4.49)</td>
<td>15' - 35 (213 - 498)</td>
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<td>35 (498)</td>
<td></td>
</tr>
<tr>
<td>VPVC-F20-A3-02</td>
<td></td>
<td>50 - 70 (711 - 995)</td>
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<td>70 (995)</td>
<td></td>
</tr>
</tbody>
</table>

### PERFORMANCE CURVES

**VPVC-F12-A*-*02**

- **Flow (GPM LPM):** 5.5 - 20
- **Pressure:** Q, Delivery
- **Input Power:** HP (2.2), (1.5), (0.75)

**VPVC-F20-A*-*02**

- **Flow (GPM LPM):** 5.5 - 20
- **Pressure:** Q, Delivery
- **Input Power:** HP (2.2), (1.5), (0.75)
INSTALLATION DIMENSIONS

UNIT: mm (inch)

VPVC-F12-A*-02

INLET PT1/2

OUTLET PT3/8

PT1/4"

5 Hex. Soc. PRESSURE ADJUSTMENT

1.1(0.43)

126(4.96)

103(4.06)

26 (1.02)

100(3.94)

21 (0.83)

25 (0.98)

3 (0.12)

45 (1.77)

38 (1.42)

66 (2.60)

46 (1.81)

125 (4.92)

4 (0.16)

62.5 (2.46)

8 (0.31)

3.2 (0.13)

8.025 (0.318)

12.7 (0.50)

3.018 (0.119)

3.0 (0.12)

3.000 (0.12)
FEATURES

- VPVC series offer design engineers another opportunity to design circuits with high efficiency.
- Built-in compensator control automatically adjusts pump delivery to system volume requirements at selected pressures. System relief valve is not needed. Horsepower waste is reduced and heat generated is much less than fixed displacement pumps.
- Volume control adjustment is standard which permits user to vary maximum pump output.

HOW TO ORDER

VPVC - F30 - A1 - 02

DESIGN NUMBER

PRESSURE RANGE:
1: 818KGF/CM² (120-250PSI)
2: 1435KGF/CM² (200-500PSI)
3: 30-70KGF/CM² (430-1000PSI)

SHARP CUT-OFF TYPE

DISPLACEMENT: (NOMINAL NO-LOAD DELIVERY AT 1800RPM)
30: 30LPM (8.0GPM)
40: 40LPM (10.5GPM)

F: FLANGE MOUNTING TYPE

VARIABLE DISPLACEMENT VANE PUMP
### SPECIFICATIONS

<table>
<thead>
<tr>
<th>MODEL</th>
<th>DELIVERY AT UNLOADING LPM (GPM)</th>
<th>PRESSURE ADJ. RANGE KGF/CM² (PSI)</th>
<th>SPEED OF ROTATION (RPM)</th>
<th>MAX. SET PRESSURE KGF/CM² (PSI)</th>
<th>WEIGHT kgs (lbs)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1800 RPM</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>VPVC-F30-A1-02</td>
<td>30 (7.93)</td>
<td>10 - 20 (142 - 284)</td>
<td>1600</td>
<td>20 (284)</td>
<td>9 (20)</td>
</tr>
<tr>
<td>VPVC-F30-A2-02</td>
<td>25 (6.6)</td>
<td>15 - 35 (213 - 498)</td>
<td>800</td>
<td>35 (498)</td>
<td></td>
</tr>
<tr>
<td>VPVC-F30-A3-02</td>
<td>50 (11.95)</td>
<td>70 (158)</td>
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<td></td>
</tr>
<tr>
<td>VPVC-F40-A1-02</td>
<td>40 (10.57)</td>
<td>10 - 20 (142 - 284)</td>
<td>1800</td>
<td>20 (284)</td>
<td>9 (20)</td>
</tr>
<tr>
<td>VPVC-F40-A2-02</td>
<td>35 (9.25)</td>
<td>15 - 35 (213 - 498)</td>
<td>800</td>
<td>35 (498)</td>
<td></td>
</tr>
<tr>
<td>VPVC-F40-A3-02</td>
<td>50 (11.95)</td>
<td>70 (158)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### PERFORMANCE CURVES

**VPVC-F30-A*-02**

- **FLOW**
  - GPM LPM
  - Flow range: 0 to 10.5
- **PRESSURE**
  - Q: DELIVERY
  - LIN: INPUT POWER

**VPVC-F40-A*-02**

- **FLOW**
  - GPM LPM
  - Flow range: 0 to 10.5
- **PRESSURE**
  - Q: DELIVERY
  - LIN: INPUT POWER
INSTALLATION DIMENSIONS

UNIT: mm (inch)

VPVC-F30/F40-A*-02

FLOW ADJUSTMENT
8 Hex. Soc.

INLET PT3/4" 90(3.54) 140(5.51)

PT1/4" 4-911(0.43)

6 Hex. Soc.
PRESSURE ADJUSTMENT

OUTLET PT1/2"
36.5 (1.44) 59(2.32) 150(5.91)

4 695.02(0.04) 113(4.45)

28 3 (0.10) (0.12)

4.76 -0.02 (0.19 -0.0007)
0.75 -0.0007
FEATURES

- Two VPVC variable vane pumps built into one single body, with a common driving shaft, enable design engineer to use one single electric motor driving two independent pumps to produce two branches of oil flow with separately adjustable pressures.
- Pumps perform exactly same as single pump. For performance curves please refer to single VPVC pump (SEE PAGE 8).
- Direction of rotation is clockwise, as viewed from shaft end.
- The pump working at higher pressure should always be the one closer to the driving shaft so to ensure the double pumps with prolonged operating life.

HOW TO ORDER

VPVCC - F30 30 - A1A1 - 02

- DESIGN NUMBER
- PRESSURE RANGE
  1: 8-18 KGF/CM² (120-250 PSI)
  2: 14-35 KGF/CM² (200-500 PSI)
  3: 30-70 KGF/CM² (430-1000 PSI)
  (AS GENERAL RULE LOW PRESSURE PUMP IS PLACED AT THE COVER SIDE AND HIGH PRESSURE PUMP AT THE SHAFT SIDE).
- SHARP CUT-OFF TYPE
- DISPLACEMENT: (NOMINAL NO-LOAD DELIVERY AT 1800 RPM)
  30 LPM (8 GPM)
  40 LPM (10.5 GPM)
- FLANGE MOUNTING TYPE
- DOUBLE VARIABLE VANE PUMP
VPVCC SERIES

INSTALLATION DIMENSIONS

UNIT: mm (inch)
WEIGHT: 16 kgs (35.3 lbs)

VPVCC-F-***-A*-A*-02
FEATURES

- Our low cost variable displacement vane pump, though limited by its rated working pressure to only 70kgf/cm² (1000 PSI), we, however, through our engineering innovation, bring its applicational pressure up to 236 kgf/cm² (3500 PSI) by installing another gear pump to the same shaft, and make it become a tandem pump capable to handle working pressure up to 236 kgf/cm² (3500 PSI).

- This "Variable Vane Pump + Gear Pump" performs better, or at least as good as a high cost variable piston pump. It is with much lower cost, easier for maintenance, and more tolerant to contamination than the high cost piston pump, hence it makes much less down time, and requires simpler, lower cost filtration system.

- Noise level during operation is much lower than variable piston pump. Extremely suitable for applications which need high speed, high pressure and low horse power.

HOW TO ORDER

VPVCG - F 30/4.3 - A 3 - 01

DESIGN NUMBER

PRESSURE RANGE
1: 8-18 KGF/CM² (120-250 PSI)
2: 14-35 KGF/CM² (200-500 PSI)
3: 30-70 KGF/CM² (430-1000 PSI)

SHARP CUT-OFF TYPE

HIGH PRESSURE GEAR PUMP
DISPLACEMENT CC/REV (SEE PAGE 14)

LOW PRESSURE VANE PUMP DISPLACEMENT: 30LPM (8.0 GPM)
40LPM (10.5 GPM)

FLANGE MOUNTING TYPE

VARIABLE VANE PUMP + GEAR PUMP
### SPECIFICATIONS

<table>
<thead>
<tr>
<th>MODEL</th>
<th>LOW PRESSURE PUMP</th>
<th>HIGH PRESSURE PUMP</th>
<th>SHAFT SPEED</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>MAX. PRESSURE</td>
<td>DELIVERY</td>
<td>MAX. PRESSURE</td>
</tr>
<tr>
<td></td>
<td>KGF/Cm² (PSI)</td>
<td>1800RPM 1500RPM</td>
<td>KGF/Cm² (PSI)</td>
</tr>
<tr>
<td>VPVCG-F30/4.3-A ※-20</td>
<td>70 (1000)</td>
<td>40 (10.57)</td>
<td>210 (3000)</td>
</tr>
<tr>
<td>VPVCG-F30/3.2-A ※-20</td>
<td>70 (1000)</td>
<td>35 (9.25)</td>
<td></td>
</tr>
<tr>
<td>VPVCG-F40/4.3-A ※-20</td>
<td>70 (1000)</td>
<td>35 (9.25)</td>
<td></td>
</tr>
<tr>
<td>VPVCG-F40/3.2-A ※-20</td>
<td>70 (1000)</td>
<td>35 (9.25)</td>
<td></td>
</tr>
</tbody>
</table>

### INSTALLATION DIMENSIONS

**UNIT:** mm (inch)

**VPVCG-F ※※/※※-A※-02**

![Installation Dimensions Diagram](image-url)
FEATURES

- Designed with high capacity in all aspects.
- Special design consideration has been given to the flow passage to prevent anti-cavitation. Extreme smooth and quiet in operation, particularly suitable for in plant application.
- Maximum working pressure 70kgf/cm² (1000PSI), ideal to use as low pressure pump in Hi-Lo system because of price and performance.
- Viewing from the shaft end, the direction of rotation is always clockwise.

HOW TO ORDER

VPNC - F 12 - 2 - 30

- DESIGN NUMBER
- PRESSURE RATING 7-70KGF/CM² (100-1000PSI)
- DISPLACEMENT CC/REV (SEE PAGE 16)
- F: FLANGE TYPE MOUNTING
  NO CODE: FOOT TYPE MOUNTING
- FIXED DISPLACEMENT VANE PUMP
## SPECIFICATIONS

<table>
<thead>
<tr>
<th>MODEL</th>
<th>MAX. PRESSURE (kgl/cm² (PSI))</th>
<th>SPEED OF ROTATION (RPM)</th>
<th>CHARACTERISTICS WITH 20 CST FLUID</th>
<th>SHAFT SPEED RANGE (RPM)</th>
<th>WEIGHT (kgslbs)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>3.5 (50) kg/l/cm² (PSI)</td>
<td>35 (498) kg/l/cm² (PSI)</td>
<td>70 (995) kg/l/cm² (PSI)</td>
<td>3.5 (50) kg/l/cm² (PSI)</td>
</tr>
<tr>
<td>VPNC-#7-2-30</td>
<td>70 (995.4)</td>
<td>1200</td>
<td>7.9 (2.1)</td>
<td>6.9 (1.8)</td>
<td>5.7 (1.5)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1500</td>
<td>9.9 (2.6)</td>
<td>8.9 (2.3)</td>
<td>7.7 (2.0)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1800</td>
<td>11.9 (3.1)</td>
<td>10.9 (2.8)</td>
<td>9.7 (2.5)</td>
</tr>
<tr>
<td>VPNC-#12-2-30</td>
<td>70 (995.4)</td>
<td>1200</td>
<td>13.5 (3.5)</td>
<td>12.5 (3.3)</td>
<td>11.3 (2.9)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1500</td>
<td>16.8 (4.4)</td>
<td>15.8 (4.1)</td>
<td>14.6 (3.8)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1800</td>
<td>20.2 (5.3)</td>
<td>19.2 (5.0)</td>
<td>18.0 (4.7)</td>
</tr>
<tr>
<td>VPNC-#17-2-30</td>
<td>70 (995.4)</td>
<td>1200</td>
<td>19.2 (5.0)</td>
<td>18.2 (4.7)</td>
<td>17.0 (4.4)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1500</td>
<td>24.0 (6.2)</td>
<td>23.0 (6.0)</td>
<td>21.8 (5.7)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1800</td>
<td>28.8 (7.5)</td>
<td>27.8 (7.2)</td>
<td>26.6 (6.9)</td>
</tr>
<tr>
<td>VPNC-#23-2-30</td>
<td>70 (995.4)</td>
<td>1200</td>
<td>27.0 (7.0)</td>
<td>25.7 (6.7)</td>
<td>24.1 (6.3)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1500</td>
<td>33.7 (8.8)</td>
<td>32.4 (8.4)</td>
<td>30.8 (8.0)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1800</td>
<td>40.4 (10.5)</td>
<td>39.1 (10.2)</td>
<td>37.5 (9.8)</td>
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<tr>
<td>VPNC-#26-2-30</td>
<td>70 (995.4)</td>
<td>1200</td>
<td>30.0 (7.6)</td>
<td>28.5 (7.4)</td>
<td>26.6 (6.9)</td>
</tr>
<tr>
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<td></td>
<td>1500</td>
<td>37.5 (9.8)</td>
<td>36.0 (9.4)</td>
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<tr>
<td></td>
<td></td>
<td>1800</td>
<td>45.0 (11.7)</td>
<td>43.5 (11.3)</td>
<td>41.6 (10.8)</td>
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<tr>
<td>VPNC-#38-2-30</td>
<td>70 (995.4)</td>
<td>1200</td>
<td>42.0 (10.9)</td>
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<tr>
<td></td>
<td></td>
<td>1500</td>
<td>52.5 (13.7)</td>
<td>50.9 (13.2)</td>
<td>48.9 (12.7)</td>
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<td></td>
<td></td>
<td>1800</td>
<td>63.0 (13.4)</td>
<td>61.4 (16.0)</td>
<td>59.4 (15.4)</td>
</tr>
</tbody>
</table>
VPNC-**-2-30

Models with foot mounting type

UNIT: mm (inch)
VPNC SERIES

INSTALLATION DIMENSIONS

UNIT: mm (inch)

VPNC-F ⨯ ⨯-2-30
Models with flange mounting type
**FEATURES**

- This series of pump provides system design engineers a low cost, low noise level vane pump to acquire the high flow capacity required by the system, yet the attached gear pump provides him the needed high working pressure at the selected lower flow capacity.
- Requires no extra plumbing other than an unloading and check valve to build into a Hi-Lo system.
- Even lower cost than equivalent tendem gear pump.
- Lower noise level and not as sensitive to contamination problem as variable piston pump, or even tendem gear pump Hi-Lo system.
- Requires only one single-shaft electric motor, ease the installation work for building a Hi-Lo system.

**HOW TO ORDER**

VPNCG - F 26/4.3 - 30

- **DESIGN NUMBER**
  - HIGH PRESSURE GEAR PUMP
  - DISPLACEMENT CC/REV (SEE PAGE 20)
- LOW PRESSURE VANE PUMP DISPLACEMENT LPM(GPM) (SEE PAGE 20)
- F: FLANGE MOUNTING TYPE
- NO CODE: FOOT MOUNTING TYPE

FIXED VANE PUMP + GEAR PUMP
### SPECIFICATIONS

<table>
<thead>
<tr>
<th>MODEL</th>
<th>LOW PRESSURE VANE PUMP</th>
<th>HIGH PRESSURE GEAR PUMP</th>
<th>SPEED (RPM)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>MAX PRESSURE</td>
<td>DELIVERY</td>
<td>MAX PRESSURE</td>
</tr>
<tr>
<td></td>
<td>KGF/CM² (PSI)</td>
<td>LPM (GPM)</td>
<td>KGF/CM²</td>
</tr>
<tr>
<td>VPNCG- 7/4.3-30</td>
<td>9.7 (2.52)</td>
<td></td>
<td>210 (3000)</td>
</tr>
<tr>
<td>VPNCG- 12/4.3-30</td>
<td>18 (4.68)</td>
<td></td>
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</tr>
<tr>
<td>VPNCG- 17/4.3-30</td>
<td>26.6 (6.92)</td>
<td></td>
<td>70 (1000)</td>
</tr>
<tr>
<td>VPNCG- 23/4.3-30</td>
<td>37.5 (9.75)</td>
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<td></td>
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<tr>
<td>VPNCG- 26/4.3-30</td>
<td>41.6 (10.81)</td>
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<td></td>
</tr>
<tr>
<td>VPNCG- 36/4.3-30</td>
<td>59.4 (15.44)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1800 RPM 20 CST
INSTALLATION DIMENSIONS

VPNC-**/**4.3-30

Models with foot mounting type

UNIT: mm (inch)
INSTALLATION DIMENSIONS

VPNCG-F ** * /4.3-30
Models with flange mounting type

UNIT: mm (inch)

[Diagram showing dimensions and标注：
- **VPNCG-F**
- Flange mounting type
- Dimensions provided in millimeters (and inches in parentheses)
-标注：
- **M5**
- **BSP 3/8" INLET**
- **BSP 3/8" OUTLET**
- **Outlet PT 3/4"**
- **Inlet PT 1"**
- **90 (3.54)**
- **5-3.03** (0.2-0.001)
- **120 (4.72)**
- **305 (12.01)**
- **50 (1.97)**
- **43.5 (1.7)**
- **216.5 (8.52)**
- **5 (0.20)**
- **35 (1.38)**
- **15 (0.59)**
- **52 (2.05)**
- **411 (0.43)**
- **R15 (0.59)**]
VPNCG-***/6.2,8.4,11-30
Models with foot mounting type

UNIT: mm (inch)
INSTALLATION DIMENSIONS

VPNCG-F ※ ※/6.2,8.4,11-30
Models with flange mounting type

UNIT: mm (inch)
FEATURES

- Same basic design as VPNC Series.
- Special design consideration has been given to the flow passage to prevent anti-cavitation. Extreme smooth and quiet in operation, particularly suitable for in-plant application.
- Maximum working pressure 70kgf/cm² (1000 PSI), ideal to use as low pressure pump in Hi-Lo system because of price and performance.
- Viewing from the shaft end, the direction of rotation is always clockwise.
- Viewing from the shaft end, inlet port is located at the left side, and the outlet port at the right side.

HOW TO ORDER

VPNE - F116 - 2 - 30

- DESIGN NUMBER
- PRESSURE RATING 7-70KGF/CM² (100-1000 PSI)
- DISPLACEMENT CC/REV (SEE PAGE 26)
- F : FLANGE MOUNTING TYPE.
  NO CODE : FOOT MOUNTING TYPE.
- FIXED DISPLACEMENT VANE PUMP
## SPECIFICATIONS

<table>
<thead>
<tr>
<th>MODEL</th>
<th>MAX. PRESSURE</th>
<th>CHARACTERISTICS WITH 20 CST FLUID</th>
<th>SHAFT SPEED RANGE (RPM)</th>
<th>WEIGHT kg/lbs</th>
</tr>
</thead>
<tbody>
<tr>
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<td>kgf/cm² (PSI)</td>
<td>DELIVERY LPM (GPM)</td>
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<td>35 (50)</td>
<td>35 (498)</td>
<td>70 (995)</td>
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<td>(P SI)</td>
<td>(P SI)</td>
<td>(PSI)</td>
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<td>VPNE-48-2-30</td>
<td>70(995.4)</td>
<td>1000</td>
<td>47.0 (12.2)</td>
<td>43.5 (11.3)</td>
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<td></td>
<td></td>
<td>1200</td>
<td>56.5 (14.7)</td>
<td>53.0 (13.8)</td>
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<td></td>
<td>1500</td>
<td>70.5 (18.3)</td>
<td>67.0 (17.4)</td>
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<td>VPNE-61-2-30</td>
<td>70(995.4)</td>
<td>1000</td>
<td>60.0 (15.6)</td>
<td>56.5 (14.7)</td>
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<td></td>
<td>1200</td>
<td>72.0 (18.7)</td>
<td>66.5 (17.8)</td>
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<td>1500</td>
<td>90.0 (23.4)</td>
<td>86.5 (22.5)</td>
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<td>1000</td>
<td>73.7 (19.2)</td>
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<td></td>
<td>1200</td>
<td>88.5 (23.0)</td>
<td>84.5 (22.0)</td>
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<td></td>
<td>1500</td>
<td>111.0 (28.9)</td>
<td>107.0 (27.8)</td>
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<tr>
<td>VPNE-94-2-30</td>
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<td>111.0 (28.9)</td>
<td>106.5 (27.7)</td>
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<td>VPNE-116-2-30</td>
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<td>1200</td>
<td>139.0 (36.1)</td>
<td>133.0 (34.6)</td>
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</table>
INSTALLATION DIMENSIONS

VPNE-***-2-30

Models with foot mounting type

UNIT: mm (inch)
VPNE SERIES

INSTALLATION DIMENSIONS

VPNE-F***-2-30
Models with flange mounting type

UNIT: mm (inch)
FEATURES

- This series of pump provides system design engineers a low cost, low noise level vane pump to acquire the high flow capacity required by the system, yet the attached gear pump provides them the needed high working pressure at the selected lower flow capacity.
- Requires no extra plumbing other than an unloading and check valve to build into a Hi-Lo system.
- Even lower cost than equivalent tandem gear pump.
- Lower noise level and not as sensitive to contamination problem as variable piston pump, or even tandem gear pump Hi-Lo system.
- Requires only one single-shaft electric motor, ease the installation work for building a Hi-Lo system.

HOW TO ORDER

VPNEG - F116/16.5- 20

DESIGN NUMBER

HIGH PRESSURE GEAR PUMP DISPLACEMENT CC/REV (SEE PAGE 30)

LOW PRESSURE VANE PUMP DISPLACEMENT CC/REV (SEE PAGE 30)

F: FLANGE MOUNTING TYPE
NO CODE: FOOT MOUNTING TYPE

FIXED VANE PUMP + GEAR PUMP.
<table>
<thead>
<tr>
<th>MODEL</th>
<th>LOW PRESSURE VANE PUMP</th>
<th>HIGH PRESSURE GEAR PUMP</th>
<th>SPEED (RPM)</th>
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<td>MAX PRESSURE KGF/CM² (PSI)</td>
<td>DELIVERY LPM (GPM)</td>
<td>MAX.</td>
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<td>VPNEG-∗48/∗∗-30</td>
<td>49.5 (12.87)</td>
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<td>65 (16.9)</td>
<td>13.2 (2.9)</td>
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<td>81 (21.06)</td>
<td>17.2 (4.6)</td>
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<td>VPNEG-∗94/∗∗-30</td>
<td>101 (26.26)</td>
<td>19.8 (5.2)</td>
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<td>VPNEG-∗116/∗∗-30</td>
<td>126 (32.75)</td>
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INSTALLATION DIMENSIONS

UNIT: mm (inch)

VPNEG-8, 4, 11, 14, 3, 16.5-20
Models with foot mounting type

OUTLET PORT 7/8"-14 NU
INLET PORT 1-1/16" UN

Northman

VPNEG SERIES
INSTALIATION DIMENSIONS

VPNEG-F-**/8.4,11,14.3,16.5-20
Models with flange mounting type

UNIT: mm (inch)