Eaton Vickers V10 V20 Vane Pump

Vickers vane pump V10 V20 V2010 2020

Features

- V10 and V20 Series are fixed displacement and balanced type vane pumps. With compact sizes, they are available in single pumps and double pumps for both industrial and mobile application.

- The vane design with self compensation for wear and clearances makes volumetric efficiency of pump nearly constant over the service life. (the vanes always adjust its orbit to contact with the cam ring, even though wear occurs between the cam ring and vane tips)

- The vane pump is not damaged at low speed and high pressure operation because pumping action does not start until the speed is high enough for the vane to throw out. With hydraulically balanced design, the bearing is externally loaded only. Therefore, the pump requires minimized maintenance with long service life.

- The inlet or outlet ports can be rotated through increments of 90° in relation to each other, providing application flexibility and easy installation.

- With optional flow control and priority valve covers, the pump can be used in more applications. The flow control cover can limit the flow to the primary circuit at the required flow rate, while diverts remaining flow to the tank. The priority valve cover maintains a constant flow to the primary circuit, while diverts remaining flow to the secondary circuit. Each cover comes with a relief valve to limits the maximum pressure of the primary circuit.

- Interchangeable with original Vickers pump of the same model.

Handling

- For maximum service life, the pump should be protected from contamination. Filtering fluid before filling and during operation to maintain or exceed ISO cleanliness code 17/14. Replaceable elements should be changed as filter supplier instructions.

- The drive shaft must align with the power source shaft. Avoiding shaft end thrust and applications that impose radial loading.

- The start-up procedures should be as follows:
  - Check the rotation of power source to match the rotation of pump.
  - Check inlet and outlet ports to assure all connections are properly installed and check all mounting bolts and flanges to assure all are tight and properly aligned.
  - Fill pump with fluid through the outlet port if the pump is mounted above the fluid level. The spline shaft models also need to be lubricated with an anti-fretting grease or similar lubricant.
  - Place all controls in the neutral position so the pump is unloaded during initial start-up.
  - Prime the pump within a few second when the pump is started.
  - Bleed off entrapped air from outlet circuit until a steady output flow is observed.

The products described herein, including without limitation, product features, specifications, designs, availability and pricing, are subject to change at any time without notice.
Ordering Code and Specifications

**Model**: V10, V20

**Cover**
- Omit - Standard Cover
- F - Flow Control Cover
- P - Priority Valve Cover

**Mounting**
- 1 - 2-Bolt Flange

**Inlet Port Connection**
- S - 1.3125"-12 Str. thd. (V10)
- 1.625"-12 Str. thd. (V20)
- P - 1.00" NPT (V10)
- 1.25" NPT (V20)
- B - 1.00" BSP (V10)
- 1.25" BSP (V20)
- T - 1.1875"-12 Str. thd. (V10)

**Delivery (USgpm at 1200 rpm)**
- V10 - 1, 2, 3, 4, 5, 6, 7
- V20 - 6, 7, 8, 9, 11, 12, 13

**Outlet Port Connection**
- S - .750"-16 Str. thd. (V10)
- 1.0625"-12 Str. thd. (V20)
- P - .500" NPT (V10)
- .750" NPT (V20)
- B - .500" BSP (V10)
- .750" BSP (V20)

**Shaft**
- 1 - Straight keyed
- 3 - Threaded with woodruff key
- 6 - Woodruff key stub (V20 only)
- 11 - Splined
- 12 - Splined (V10 only)
- 15 - Splined (V20 only)
- 38 - Splined

---

### V20(F) - 1P11S - 1C(8)-(H)-(L)

<table>
<thead>
<tr>
<th>Model Series</th>
<th>Ring Size Delivery at 1200 r/min &amp; 7 bar (100 psi)</th>
<th>Geometric Displacement</th>
<th>Delivery at 1500 r/min &amp; 7 bar (100 psi)</th>
<th>Maximum Pressure</th>
<th>Maximum Speed</th>
<th>Minimum Speed</th>
<th>Weight (kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>V10</td>
<td>1.0625&quot;-12 Str. thd.</td>
<td>3.3 (0.20) cm³/r</td>
<td>4.70 (1.25) USgpm</td>
<td>172 (2500)</td>
<td>4800</td>
<td>650</td>
<td>4.5 - 6.8</td>
</tr>
<tr>
<td></td>
<td>2.00&quot;-12 Str. thd.</td>
<td>6.6 (0.40) cm³/r</td>
<td>9.40 (2.50) USgpm</td>
<td>172 (2500)</td>
<td>4500</td>
<td>650</td>
<td>(10 - 15)</td>
</tr>
<tr>
<td></td>
<td>2.25&quot;-12 Str. thd.</td>
<td>9.8 (0.60) cm³/r</td>
<td>14.20 (3.75) USgpm</td>
<td>172 (2500)</td>
<td>4000</td>
<td>650</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2.50&quot;-12 Str. thd.</td>
<td>13.1 (0.80) cm³/r</td>
<td>18.90 (5.00) USgpm</td>
<td>172 (2500)</td>
<td>3400</td>
<td>650</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2.75&quot;-12 Str. thd.</td>
<td>16.4 (1.00) cm³/r</td>
<td>23.60 (6.25) USgpm</td>
<td>172 (2500)</td>
<td>3200</td>
<td>650</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3.00&quot;-12 Str. thd.</td>
<td>19.5 (1.19) cm³/r</td>
<td>28.40 (7.50) USgpm</td>
<td>152 (2200)</td>
<td>3000</td>
<td>650</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3.25&quot;-12 Str. thd.</td>
<td>22.8 (1.39) cm³/r</td>
<td>33.10 (8.75) USgpm</td>
<td>138 (2000)</td>
<td>2800</td>
<td>650</td>
<td></td>
</tr>
<tr>
<td>V10F</td>
<td>1.0625&quot;-12 Str. thd.</td>
<td>19.5 (1.19) cm³/r</td>
<td>28.39 (7.50) USgpm</td>
<td>172 (2500)</td>
<td>3400</td>
<td>650</td>
<td>7.3 - 8.2</td>
</tr>
<tr>
<td>V10P</td>
<td>1.0625&quot;-12 Str. thd.</td>
<td>22.8 (1.39) cm³/r</td>
<td>33.11 (8.75) USgpm</td>
<td>172 (2500)</td>
<td>3000</td>
<td>650</td>
<td>(16 - 18)</td>
</tr>
<tr>
<td>V20</td>
<td>1.3125&quot;-12 Str. thd.</td>
<td>26.5 (1.62) cm³/r</td>
<td>37.85 (10.00) USgpm</td>
<td>172 (2500)</td>
<td>2800</td>
<td>650</td>
<td></td>
</tr>
<tr>
<td>V20F</td>
<td>1.3125&quot;-12 Str. thd.</td>
<td>29.7 (1.81) cm³/r</td>
<td>42.57 (11.25) USgpm</td>
<td>172 (2500)</td>
<td>2800</td>
<td>650</td>
<td></td>
</tr>
<tr>
<td>V20P</td>
<td>1.3125&quot;-12 Str. thd.</td>
<td>36.4 (2.22) cm³/r</td>
<td>50.24 (13.75) USgpm</td>
<td>172 (2500)</td>
<td>2500</td>
<td>650</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1.3125&quot;-12 Str. thd.</td>
<td>39.0 (2.38) cm³/r</td>
<td>56.77 (15.00) USgpm</td>
<td>152 (2200)</td>
<td>2400</td>
<td>650</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1.3125&quot;-12 Str. thd.</td>
<td>42.4 (2.59) cm³/r</td>
<td>61.50 (16.25) USgpm</td>
<td>152 (2200)</td>
<td>2400</td>
<td>650</td>
<td></td>
</tr>
</tbody>
</table>
**Installation Dimensions mm (inch)**

### V10

**Inlet Port**
- 1.3125"-12UN-2Bar
- 1"-NPT or 1"-BSP
- SAE O-ring boss connection

**Outlet Port**
- .750"-16UNF-2Bar or
- .500"-NPT or
- .500"-BSP
- SAE O-ring boss Connection

**Shaft 1 Keyed Shaft**
- 4.75 (1.87) SQ x 25.4 (1.00) LONG KEY

**Tank Port**
- .750"-16UN-2B or
- .500"-NPT

### V10F

**Outlet Port**
- .750"-16UN-2B

**Shaft 11 Splined Shaft**
- 9 Teeth-14.29 (.5625) P.D.
- 30 Degree Press. Angle
- Pitch 16/32

**Table:**

<table>
<thead>
<tr>
<th>Delivery @ 1200 rpm &amp; 7 bar (100 psi)</th>
<th>Dimension</th>
<th>A</th>
<th>B</th>
</tr>
</thead>
<tbody>
<tr>
<td>1, 2, 3</td>
<td>115.6 (4.55)</td>
<td>67.3 (2.65)</td>
<td></td>
</tr>
<tr>
<td>4, 5</td>
<td>121.9 (4.80)</td>
<td>73.7 (2.90)</td>
<td></td>
</tr>
<tr>
<td>6, 7</td>
<td>127.0 (5.00)</td>
<td>78.7 (3.10)</td>
<td></td>
</tr>
</tbody>
</table>

---

*www.hydpump.com*
Installation Dimensions mm (inch)  

**Single Pump V10**

### V10P

- **Secondary Outlet Port**
  - .750"-16UNF-2B
  - SAE O-Ring Boss Connection

- **Dimension A**
  - 102.8 (4.05)
  - 50.3 (1.98)
  - 30.1 (1.19)
- **Dimension B**
  - 107.9 (4.25)
  - 55.6 (2.19)
  - 15.2 (.60)

### Tank Port For Pressure Relief of Primary Outlet Port
- .5625"-18UNF-2B
- SAE O-Ring Boss Connection

### Primary Outlet Port
- .5625"-18UNF-2B
- SAE O-Ring Boss Connection

### Delivery @ 1200 rpm & 7 bar (100 psi)

<table>
<thead>
<tr>
<th>Dimension</th>
<th>A</th>
<th>B</th>
</tr>
</thead>
<tbody>
<tr>
<td>1, 2, 3</td>
<td>130.0 (5.12)</td>
<td>84.8 (3.34)</td>
</tr>
<tr>
<td>4, 5</td>
<td>136.4 (5.37)</td>
<td>91.2 (3.59)</td>
</tr>
<tr>
<td>6, 7</td>
<td>141.5 (5.57)</td>
<td>96.3 (3.79)</td>
</tr>
</tbody>
</table>

### Other shaft options for V10 Series

- **Shaft 3 Threaded with #6 Woodruff Key**
  - DIA 3.17 (.125)

- **Shaft 12 Splined Shaft 13 Teeth**
  - 13 Teeth-20.64 (.8125) P.D.
  - 30 Degree Press. Angle
  - Pitch 16/32
  - Major Diameter
  - 22.17/22.15 (.873/.872)
  - Minor Diameter
  - 18.63/18.35 (.7335/.7225)
  - Flat Root
  - Major Diameter Fit
Installation Dimensions mm (inch)  

**Single Pump V20**

**V20**

Outlet Port
1.0625"-12UN-2B or
.750"-NPT or
.750"-BSP
SAE O-ring boss connection

Inlet Port
1.625"-12UN-2B or
1.25"-NPT or
1.25"-BSP
SAE O-ring boss connection

Delivery @ 1200 rpm & 7 bar (100 psi)  

<table>
<thead>
<tr>
<th>Dimension</th>
<th>A</th>
<th>B</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>125.2 (4.93)</td>
<td>71.1 (2.80)</td>
</tr>
<tr>
<td>7, 8, 9</td>
<td>131.6 (5.18)</td>
<td>77.5 (3.05)</td>
</tr>
<tr>
<td>11</td>
<td>136.7 (5.38)</td>
<td>82.6 (3.25)</td>
</tr>
<tr>
<td>12, 13</td>
<td>140.2 (5.52)</td>
<td>86.1 (3.39)</td>
</tr>
</tbody>
</table>

Outlet Port
1.0625"-12UN-2B or
.750"-NPT or
.750"-BSP
SAE O-ring boss connection

Inlet Port
1.625"-12UN-2B or
1.25"-NPT or
1.25"-BSP
SAE O-ring boss connection

**Other shaft options for V20 Series**

Shaft 1 Keyed Shaft  
4.76 (.188) SQ X 41.1 (1.62) LONG KEY

DIA 19.05/19.02 (DIA .750/.749)

DIA 21.13/21.03 (DIA .832/.828)

DIA 106.3 (DIA 4.19)

DIA 95.2 (DIA 3.75)

Shaft 11 Splined Shaft 11 Teeth  
DIA 19.07/19.02 (DIA .751/.749)

11 Teeth
30 Degree Press. Angle
Pitch 16/32
Flat Root

Shaft 15 Splined Shaft 13 Teeth  
DIA 19.01/18.93 (DIA .749/.745)

13 Teeth-20.64 (.8125) P.D.
30 Degree Press. Angle
Pitch 16/32
Major Diameter
22.17/22.15 (.873/.872)
Minor Diameter
18.63/18.35 (.7335/.7225)
Flat Root
Major Diameter Fit
Installation Dimensions mm (inch)  

**Single Pump V20**

### V20F and V20P

<table>
<thead>
<tr>
<th>Dimension</th>
<th>A</th>
<th>B</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>149.6 (5.89)</td>
<td>94.7 (3.73)</td>
</tr>
<tr>
<td>7, 8, 9</td>
<td>156.0 (6.14)</td>
<td>101.1 (3.98)</td>
</tr>
<tr>
<td>11</td>
<td>161.0 (6.34)</td>
<td>105.9 (4.17)</td>
</tr>
<tr>
<td>12, 13</td>
<td>164.3 (6.47)</td>
<td>109.5 (4.31)</td>
</tr>
</tbody>
</table>

**Secondary Outlet Port**

- .875-14UNF-2B SAE O-Ring Boss Connection

**Tank Port**

- 1.0625-12UN-2B or .500"-NPT

**Tank Port For Pressure Relief of Primary Outlet Port**

- .750"-16UNF-2B SAE O-Ring Boss Connection

**Primary Outlet Port**

- .750"-16UNF-2B SAE O-Ring Boss Connection

**Outlet Port**

- SAE O-Ring Boss Connection

**Other shaft options for V20 Series**

- Shaft 6 Straight Stub Keyed Shaft
- Shaft 3 Threaded with #6 Woodruff Key
### Double Pump Ordering Code

#### V2010(F) - 1F13S7S - 1CC-(8)(H)-(L)

<table>
<thead>
<tr>
<th>Model</th>
<th>V2010, V2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cover</td>
<td></td>
</tr>
<tr>
<td>Omit</td>
<td>Standard Cover</td>
</tr>
<tr>
<td>F</td>
<td>Flow Control Cover</td>
</tr>
<tr>
<td>P</td>
<td>Priority Valve Cover</td>
</tr>
<tr>
<td>Mounting</td>
<td>1 - 2-Bolt Flange</td>
</tr>
</tbody>
</table>

#### Inlet Port Connection
- F - 4-bolt Flange Dia 1.5" (V2010)
- 4-bolt Flange Dia 2.0" (V2020)

#### Shaft End Pump Delivery (USgpm at 1200 rpm)
- 7, 8, 9, 11, 12, 13

#### Shaft End Outlet Port Connection
- S - 1.0625"-12 Str. thd. (V2010)
- .750" NPT (V2020)
- B - .750" BSP

#### Cover End Pump Delivery (USgpm at 1200 rpm)
- 7, 8, 9, 11
- V2010 - 1, 2, 3, 4, 5, 6, 7
- V2020 - 6, 7, 8, 9, 11

#### Shaft Rotation
- (Viewed from shaft end)
- Omit - Turn right
- L - Turn left

#### Pressurizer Setting for Flow Control and Priority Valve Cover
- A - 17 (250)
- B - 34 (500)
- C - 52 (750)
- D - 69 (1000)
- E - 86 (1250)
- F - 103 (1500)
- G - 121 (1750)
- J - 155 (2250)
- K - 172 (2500)

#### Flow rate Setting for Flow Control and Priority Valve Cover
- L/min (USgpm)
- 2 - 7.6 (2)
- 3 - 11.4 (3)
- 4 - 15.2 (4)
- 5 - 19.0 (5)
- 6 - 22.7 (6)
- 7 - 26.5 (7)
- 8 - 30.3 (8)

#### Cover End Outlet Port Connection (Viewed from cover end)
- A - 135° CCW from inlet
- B - 45° CCW from inlet
- C - 45° CW from inlet
- D - 135° CW from inlet

#### Cover End Outlet Port Position (Viewed from cover end)
- A - Opposite inlet
- B - 90° CCW from inlet
- C - Inline with inlet
- D - 90° CW from inlet

#### Shaft End Outlet Port Position (Viewed from cover end)
- A - Opposite inlet
- B - 90° CCW from inlet
- C - Inline with inlet
- D - 90° CW from inlet

#### Shaft
- 1 - Straight keyed
- 11 - Splined

- S - .750"-16 Str. thd. for outlet and 1.0625"-12 Str. thd. for tank port (V2020F)
- P - .750"-16 Str. thd. for outlet and .500" NPT for tank port (V2010F and V2020F)
- T - .750"-16 Str. thd. for outlet and tank port (V2010F and V2020F)
- K - .5625"-18 Str. thd. for main outlet and tank port (V2010P and V2020P)
- .750"-16 Str. thd. for main outlet and tank port and .875"-14 Str. thd. for secondary outlet (V2020F)
- .750"-16 Str. thd. for main outlet and tank port and .750"-16 Str. thd. for secondary outlet (V2010P)
## Specifications

<table>
<thead>
<tr>
<th>Model Series</th>
<th>Cartridge Position</th>
<th>Ring Size</th>
<th>Delivery at 1200 r/min &amp; 7 bar (100 psi)</th>
<th>Geometric Displacement cm³/r (in³/r)</th>
<th>Delivery at 1500 r/min &amp; 7 bar (100 psi)</th>
<th>Maximum Pressure bar (psi)</th>
<th>Maximum Speed rpm</th>
<th>Weight kg (lb)</th>
</tr>
</thead>
<tbody>
<tr>
<td>V2010</td>
<td>Shaft End</td>
<td>7</td>
<td>22.8 (1.39)</td>
<td>33.11 (8.75)</td>
<td>172 (2500)</td>
<td>3000</td>
<td></td>
<td>13.6 (30)</td>
</tr>
<tr>
<td></td>
<td>Cover End</td>
<td>1</td>
<td>3.3 (0.20)</td>
<td>4.70 (1.25)</td>
<td>172 (2500)</td>
<td>3000</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>2</td>
<td>6.6 (0.40)</td>
<td>9.40 (2.50)</td>
<td>172 (2500)</td>
<td>3000</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>3</td>
<td>9.8 (0.60)</td>
<td>14.20 (3.75)</td>
<td>172 (2500)</td>
<td>3000</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>4</td>
<td>13.1 (0.80)</td>
<td>18.90 (5.00)</td>
<td>172 (2500)</td>
<td>3000</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>5</td>
<td>16.4 (1.00)</td>
<td>23.60 (6.25)</td>
<td>172 (2500)</td>
<td>3000</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>6</td>
<td>19.5 (1.19)</td>
<td>28.40 (7.50)</td>
<td>152 (2200)</td>
<td>3000</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>7</td>
<td>22.8 (1.39)</td>
<td>33.10 (8.75)</td>
<td>138 (2000)</td>
<td>2800</td>
<td></td>
<td></td>
</tr>
<tr>
<td>V2020</td>
<td>Shaft End</td>
<td>7</td>
<td>22.8 (1.39)</td>
<td>33.11 (8.75)</td>
<td>172 (2500)</td>
<td>3000</td>
<td></td>
<td>15.9 (35)</td>
</tr>
<tr>
<td></td>
<td>Cover End</td>
<td>6</td>
<td>19.5 (1.19)</td>
<td>28.39 (7.50)</td>
<td>172 (2500)</td>
<td>3000</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>7</td>
<td>22.8 (1.39)</td>
<td>33.11 (8.75)</td>
<td>172 (2500)</td>
<td>3000</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>8</td>
<td>26.5 (1.62)</td>
<td>37.85 (10.00)</td>
<td>172 (2500)</td>
<td>3000</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>9</td>
<td>29.7 (1.81)</td>
<td>42.57 (11.25)</td>
<td>172 (2500)</td>
<td>3000</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>11</td>
<td>36.4 (2.22)</td>
<td>52.04 (13.75)</td>
<td>152 (2200)</td>
<td>2400</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>12</td>
<td>39.0 (2.38)</td>
<td>56.77 (15.00)</td>
<td>152 (2200)</td>
<td>2400</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>13</td>
<td>42.4 (2.59)</td>
<td>61.50 (16.25)</td>
<td>152 (2200)</td>
<td>2400</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>11</td>
<td>36.4 (2.22)</td>
<td>52.04 (13.75)</td>
<td>138 (2000)</td>
<td>2400</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Installation Dimensions mm (inch)

Double Pump V2010

Outlet Port
1.0625"-12UN-2B or .500"-NPT or .500"-BSP

Shaft End
Out
Port
.500"-13UNC-2B
22.4 (.88) Deep

Inlet Port
DIA 38.1 (DIA 1.50)

Cover End
Outlet Port
.750"-16UNF-2B or .500"-NPT or .500"-BSP

Shaft 1 Keyed Shaft
4.75 (1.87) SQ x 31.8 (1.25) LONG KEY

Delivery @ 1200 rpm & 7 bar (100 psi) | Dimension
---|---
| Shaft End | Cover End | A | B | C |
| 7, 8, 9 | 1, 2, 3 | 213.1 (8.39) | 75.9 (2.99) | 15.54 (0.61) |
| 7, 8, 9 | 4, 5 | 219.5 (8.64) | 82.3 (3.24) | 15.54 (0.61) |
| 7, 8, 9 | 6, 7 | 224.5 (8.84) | 87.4 (3.44) | 15.54 (0.61) |
| 11 | 1, 2, 3 | 218.2 (8.59) | 75.9 (2.99) | 15.54 (0.61) |
| 11 | 4, 5 | 224.5 (8.84) | 82.3 (3.24) | 15.54 (0.61) |
| 11 | 6, 7 | 229.6 (9.04) | 87.4 (3.44) | 15.54 (0.61) |
| 12, 13 | 1, 2, 3 | 221.7 (8.73) | 75.9 (2.99) | 15.54 (0.61) |
| 12, 13 | 4, 5 | 227.8 (8.97) | 82.3 (3.24) | 15.54 (0.61) |
| 12, 13 | 6, 7 | 232.9 (9.17) | 87.4 (3.44) | 15.54 (0.61) |

Other shaft options for Double Pump V2010 and V2020

Shaft 11 Splined Shaft

13 Teeth - 30 Deg Pressure Angle
Pitch 15/32

Major Diameter 22.17/22.15 (873/.872)
Form Diameter 19.03 (.749)
Minor Diameter 18.63/18.35 (.734/.723)
Major Diameter Fit
Installation Dimensions mm (inch)

Double Pump V2020

<table>
<thead>
<tr>
<th>Delivery @ 1200 rpm &amp; 7 bar (100 psi)</th>
<th>Shaft End</th>
<th>Cover End</th>
<th>A</th>
<th>B</th>
<th>C</th>
</tr>
</thead>
<tbody>
<tr>
<td>7, 8, 9</td>
<td>6</td>
<td>7, 8, 9</td>
<td>213.6 (8.41)</td>
<td>73.7 (2.90)</td>
<td>87.1 (3.43)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>220.0 (8.66)</td>
<td>80.0 (3.15)</td>
<td>87.1 (3.43)</td>
</tr>
<tr>
<td>11</td>
<td>6</td>
<td>7, 8, 9</td>
<td>218.7 (8.61)</td>
<td>73.7 (2.90)</td>
<td>92.2 (3.63)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>225.0 (8.86)</td>
<td>80.0 (3.15)</td>
<td>92.2 (3.63)</td>
</tr>
<tr>
<td>11</td>
<td>11</td>
<td>7, 8, 9</td>
<td>229.9 (9.05)</td>
<td>85.1 (3.35)</td>
<td>92.2 (3.63)</td>
</tr>
<tr>
<td>11</td>
<td>11</td>
<td>7, 8, 9</td>
<td>229.9 (9.05)</td>
<td>85.1 (3.35)</td>
<td>92.2 (3.63)</td>
</tr>
<tr>
<td>12, 13</td>
<td>6</td>
<td>7, 8, 9</td>
<td>222.3 (8.75)</td>
<td>73.7 (2.90)</td>
<td>95.5 (3.76)</td>
</tr>
<tr>
<td>12, 13</td>
<td>11</td>
<td>7, 8, 9</td>
<td>228.3 (8.99)</td>
<td>80.0 (3.15)</td>
<td>95.5 (3.76)</td>
</tr>
<tr>
<td>12, 13</td>
<td>11</td>
<td></td>
<td>233.4 (9.19)</td>
<td>85.1 (3.35)</td>
<td>95.5 (3.76)</td>
</tr>
</tbody>
</table>

Shaft 1 Keyed Shaft
4.75 (1.87) SQ x
31.8 (1.25) LONG KEY
Performance Characteristics

Based on viscosity 32 cSt (150 SSU) oil at 49 °C (120 °F) and pump inlet at 0 PSIG (14.7 PSIA)

For the Cover End Cartridge, the speed could not exceed the maximum speed of the Shaft End Cartridge.
Performance Characteristics V20, Shaft End of V20**, Cover End of V2020

Based on viscosity 32 cSt (150 SSU) oil at 49 °C (120 °F) and pump inlet at 0 PSIG (14.7 PSIA)

For the Cover End Cartridge, the speed could not exceed the maximum speed of the Shaft End Cartridge.
### Vickers vane pump

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>V2010F13B11C020</td>
<td>V101B5B1A20</td>
</tr>
<tr>
<td>V2010F13B11C030</td>
<td>V101B5B1A20</td>
</tr>
<tr>
<td>V2010F13B11C040</td>
<td>V101B5B1A20</td>
</tr>
<tr>
<td>V2010F13B11C050</td>
<td>V101B5B1A20</td>
</tr>
<tr>
<td>V2010F13B11C060</td>
<td>V101B5B1A20</td>
</tr>
<tr>
<td>V2010F13B11C070</td>
<td>V101B5B1A20</td>
</tr>
</tbody>
</table>

*INCLUDED IN SEAL KIT*  
*INCLUDED IN CARTRIDGE KIT*