Thru—Drive
Vane Type Pump

(F3)—35VQT*(M)—**A(M)2—**—*—20/21—*
<table>
<thead>
<tr>
<th>MODEL</th>
<th>ADAPTER PLATE</th>
<th>ADAPTER KIT</th>
<th>SPACER KIT</th>
<th>RETAINING RING</th>
<th>COUPLING KIT</th>
<th>COUPLING KIT</th>
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<tbody>
<tr>
<td>VQTA</td>
<td>584936</td>
<td>941296</td>
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<td>223172</td>
<td>426770</td>
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<tr>
<td>VQTB</td>
<td>584922</td>
<td>941297</td>
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<td>83003 (1)</td>
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<td>VQTBP</td>
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<td>941298</td>
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<td>237807</td>
<td>584940</td>
<td>02-136815</td>
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</tbody>
</table>

NOTE
FOR BP MODELS AN ADAPTER KIT
AND SPACER KIT IS REQUIRED.

- 298147 Bolt (4 Req'd)
  Torque 55.2 – 67.8 N.m.
  (40 – 50 lb. ft.)

- ▲ 351776 “O” Ring
- ▲ 154086 “O” Ring
- “A” Adapter Plate (See Table)

- 42023 Bolt (4 Req’d)
  Torque 190 – 217 N.m.
  (140 – 160 lb. ft.)

- ▲ 433765 Seal packs (4 req’d)
- 410609 Screw (2 req’d)

- “B” Adapter Plate (See Table)
- ▲ 154088 “O” Ring

- △ 58725 Spacer (See Table)
  (BP models only)
- △ 375422 “O” Ring (BP models only)
- △ 427700 Washer (BP models only)
- △ 205436 Screw (2 Req’d)
  (BP models only)

- “C” Adapter Plate (See Table)
- ▲ 435714 “O” Ring
- ▲ 582519 Washer (4 Req’d)

- 298148 Bolt (4 Req’d)
  Torque 55.2 – 67.8 N.m.
  (40 – 50 lb. ft.)

<table>
<thead>
<tr>
<th>MODEL</th>
<th>SEAL KIT</th>
<th>F3 SEAL KIT</th>
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</thead>
<tbody>
<tr>
<td>35VQTA-20</td>
<td>02-136784</td>
<td>02-136785</td>
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<tr>
<td>35VQTA-21</td>
<td>02-136869</td>
<td>02-136870</td>
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<tr>
<td>35VQTB-20</td>
<td>02-136786</td>
<td>02-136787</td>
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<tr>
<td>35VQTB-21</td>
<td>02-136871</td>
<td>02-136872</td>
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<tr>
<td>35VQTB-20</td>
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<td>35VQTB-21</td>
<td>02-136941</td>
<td>02-136942</td>
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<td>35VQTC-20</td>
<td>02-136788</td>
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<tr>
<td>35VQTC-21</td>
<td>02-136873</td>
<td>02-136874</td>
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</tbody>
</table>

▲ Included in seal kit (See Table)
F3 equivalent seal kit (See Table)
- Included in cartridge kit (See Table)
- Included in coupling kit (See Table)
- Included in adapter kit (See Table)
△ Included in spacer kit (BP models only)
Parts prefixed with symbols available only in kits
### Table 1: Components and Key Numbers

<table>
<thead>
<tr>
<th>MODEL</th>
<th>SHAFT</th>
<th>KEY</th>
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<tbody>
<tr>
<td>35VQTAS-202</td>
<td>876128</td>
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</tr>
<tr>
<td>35VQT(B)S-202</td>
<td>876129</td>
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<tr>
<td>35VQTCS-202</td>
<td>876130</td>
<td>393536</td>
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<td>35VQTAS-203</td>
<td>860508</td>
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<tr>
<td>35VQT(B)S-203</td>
<td>860509</td>
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<td>35VQTCS-203</td>
<td>860510</td>
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<td>35VQTAS-297</td>
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<td>35VQT(B)S-297</td>
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<tr>
<td>35VQTCS-297</td>
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</tbody>
</table>

### Table 2: Housing and Body Shaft

<table>
<thead>
<tr>
<th>MODEL</th>
<th>HOUSING</th>
<th>BODY S/A</th>
</tr>
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<tbody>
<tr>
<td>35VQT*S**A</td>
<td>250818</td>
<td>02-136919</td>
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<tr>
<td>35VQT*S**AM</td>
<td>478506</td>
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</table>

### Diagram Notes:
- **● 154101 “O” Ring**
- ▲ 429281 Secondary shaft seal (-21 design only)
- ▲ 394973 Shaft Seal
- **Key (See Table)**
- ▲ 588508 Ring
- ▲ 154084 “O” Ring
- ▲ 419674 Seal Ring
  (Install into body, then install cartridge kit)
- • 412003 Pressure plate
- • 413406 Flex-plate (Install bronze face towards rotor)
- 38441 Bearing (35VQT)
- 239092 Bearing (36VQT)
- 119982 Retaining Ring
- 193144 Retaining Ring

### Assemble Note:
- □ Assemble seal with spring loaded sealing member towards bearing. Seals to be completely wetted with oil prior to assembly.

### Note:
For satisfactory service life of these components in industrial applications, use full flow filtration to provide fluid which meets ISO cleanliness code 16/13 or cleaner. OFR, OFR, and OFRS series filters are recommended.
Model Code

(F3) - 35VQT B S - 21 A M S 2 - 203 C A 21 R

1 Viton seals
Omit — Standard seals

2 Intravane pump series-Thru drive
35VQT — Standard bearing
36VQT — Heavy duty bearing

3 Thru-drive connection mounting adapter
Code | SAE Designation
---|---
J744C | J744Oct83
A | A 82-2
B | B 101-2
BP | Special mounting with spacer for Vickers PVE19/21
C | C 127-2

4 Front mounting flange
Model series | SAE Designation
---|---
J744C | J744Oct83
J744C | J744Oct83
3*VQT | C 127-2

5 Geometric displacement
Code - SAE rating (USgpm) at 1200 rpm, 6.9 bar (100 psi)

<table>
<thead>
<tr>
<th>Frame Size</th>
<th>Code</th>
<th>cm³/r</th>
<th>in³/r</th>
</tr>
</thead>
<tbody>
<tr>
<td>3*VQT</td>
<td>25</td>
<td>81</td>
<td>4.94</td>
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<td>30</td>
<td>97</td>
<td>5.91</td>
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<td>35</td>
<td>112</td>
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<td></td>
<td>38</td>
<td>121</td>
<td>7.37</td>
</tr>
</tbody>
</table>

6 Port connections
A — SAE 4 - bolt flange
Blank — Single shaft seal

7 Metric threads on port connection
(Omit for inch threads.)

8 Double shaft seal
S — Double shaft seal
Blank — Single shaft seal

9 Thru-drive coupling
2 — SAE splined coupling included with pump

10 Shaft
202 — Straight key
203 — Straight key
297 — Spline

11 Outlet positions
(Viewed from adapter end of pump)
A — Opposite inlet port
B — 90° CCW from inlet
C — In line with inlet
D — 90° CW from inlet

12 Adapter mounting orientation
(Viewed from adapter end of pump)

<table>
<thead>
<tr>
<th>Code</th>
<th>A adapter</th>
<th>B or C adapter</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Rotated 45°</td>
<td>In line with pump mtg. flg.</td>
</tr>
<tr>
<td>B</td>
<td>Rotated 45°</td>
<td>Rotated 90° with respect to pump mtg. flg.</td>
</tr>
<tr>
<td>B</td>
<td>Rotated 45°</td>
<td>CCW with respect to pump mtg. flg.</td>
</tr>
</tbody>
</table>

13 Design
—20 design single shaft seal
—21 design double shaft seal

14 Rotation
(Viewed from shaft end of pump)
L — Left hand (counterclockwise)
R — Right hand (clockwise)

NOTE
To reverse cartridge kit rotation, remove the two screws and reverse the location of the inlet support plate and outlet support plate. Re-install the two screws hand tight. Use pump cover to align all sections of the cartridge. Carefully remove the cover and tighten the screws.

NOTE
When ordering spare cartridge parts, it is recommended they be obtained in cartridge kits. Kits are assembled and tested by Vickers for either right or left hand rotation. If left hand rotation is required, it should be specified on parts order by adding suffix “L” to cartridge kit number.

![Sharp Edges of Vane Must Lead in Direction of Rotation](image)

L.H. Rotation
R.H. Rotation

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