Vane Type Double Pump

4535VQ Series - 20 Design
INCLUDED IN DOUBLE SHAFT SEAL KIT 920072.
F3 EQUIVALENT SEAL KIT 920074.

INCLUDED IN DOUBLE SHAFT SEAL KIT 920073.
F3 EQUIVALENT SEAL KIT 920075.

269879 BOLT (4 REQ'D)
OIL & TORQUE TO
255 - 275 LB. FT (345 - 373 N.m)

270679 COVER
(4 BOLT FLANGE)

410609 SCREW (2 REQ'D)
TORQUE TO 105 ± 5 LB. IN.

379585 HOUSING
S/A (INLET)

NOTE
INSTALL INTO COVER BEFORE
INSTALLATION OF CARTRIDGE KIT.

NOTE
BRONZE FACES MUST
BE INSTALLED TOWARD
THE ROTOR

418108 PIN
(2 REQ'D)

NOTE
WIPE O.D. OF SEAL WITH OIL
BEFORE PRESSING INTO BODY.
APPLY GREASE TO SEAL I.D.
BEFORE INSTALLATION OF SHAFT.

THESE PARTS ARE INCLUDED IN CARTRIDGE KIT

<table>
<thead>
<tr>
<th>MODEL</th>
<th>BACK-UP RING</th>
<th>&quot;O&quot; SEAL RING</th>
<th>SEAL SUPPORT PLATE</th>
<th>OUTLET SEAL PACK (4 REQ'D)</th>
<th>FLEX-SIDE PLATE KIT</th>
<th>ROTOR</th>
<th>VANE KIT (10 VANES &amp; 10 INSERTS)</th>
<th>RING</th>
<th>INLET SUPPORT PLATE</th>
<th>CART. KIT</th>
<th>F3 CART. KIT</th>
</tr>
</thead>
<tbody>
<tr>
<td>4535*<strong>21</strong></td>
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</table>
ASSEMBLE SEAL FLUSH TO PILOT FACE WITH SPRING FACING INWARD AS SHOWN.

ASSEMBLE SEAL WITH SPRING TOWARD BEARING.

1. STR. KEYED 289083 — 217596
2. SPLINE 289084 —
3. STR. KEYED HEAVY DUTY 361763 — 239751
4. SPLINE 413027 429282

102949 RETAINING RING
158630 SPIROLOX RING

NOTE: BRONZE FACES MUST BE INSTALLED TOWARD THE ROTOR.

TORQUE TO 105 LB. IN. (12 N.m) ± 5 LB. IN. (0.5 N.m)

MODEL | SCREW (2 REQ'D) | PIN (2 REQ'D) | INLET SUPPORT PLATE | ▲ SEAT PACK (4 REQ'D) | ● FLEX-SIDE PLATE KIT | ROTOR | VANE KIT (10 VANES & 10 INSERTS) | RING | OUTLET SUPPORT PLATE | ▲ O' RING | ▲ O' SEAL RING | ▲ BACK-UP RING | CART. KIT | F3 CART. KIT
---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---
4535VQ42A | 380109 | 422208 | 430807 S/A | 433768 S/A | 923954 | 283871 | 922701 | 295710 297718 297502 306772 297503 | 425510 | 154107 | 419675 | 154087 | 588509 | 416435 419511
4535VQ47A | 4535VQ50A | 4535VQ57A | 4535VQ60A | 154107 | 419675 | 154087 | 588509 | 416435 419511 | 421234 421954

NOTE: FLEX SIDEPLATE KITS INCLUDE (4) F3 SEAL PACKS.
**Model Code**

![Diagram](image)

<table>
<thead>
<tr>
<th>Position</th>
<th>Code</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>USgpm capacity (Shaft end pump)</td>
<td>SAE rating 1200 rpm–100 psi (7 bar)</td>
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<tr>
<td>2</td>
<td>Shaft type</td>
<td>1: Straight with square key standard</td>
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<tr>
<td>3</td>
<td>Outlet port positions</td>
<td>(Viewed from cover end of pump)</td>
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<tr>
<td>4</td>
<td>Mounting</td>
<td>Foot (Single shaft seal)</td>
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<tr>
<td>5</td>
<td>Viton seals</td>
<td>(Omit if not required.)</td>
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<tr>
<td>6</td>
<td>Series designation</td>
<td>Intra–vane pump</td>
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<td>USgpm capacity</td>
<td>SAE port connections Models Without Flow Control</td>
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<tr>
<td>9</td>
<td>SAE port connections</td>
<td>Outlet port positions (Viewed from cover end of pump)</td>
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<tr>
<td>10</td>
<td>Design</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>Rotation</td>
<td>SAE rating 1200 rpm–100 psi (7 bar)</td>
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<tr>
<td>12</td>
<td>Mounting</td>
<td>SAE 2–bolt mounting</td>
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**USgpm capacity**

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<th>USgpm</th>
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<td>47</td>
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<tr>
<td>30</td>
<td>30 USgpm</td>
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</tbody>
</table>

**Outlet port positions**

With #1 outlet opposite inlet:
- **AA**: #2 outlet – Opposite inlet
- **AB**: #2 outlet – 90° CCW from inlet
- **AC**: #2 outlet – Inline with inlet
- **AD**: #2 outlet – 90° CW from inlet

With #1 outlet 90° CCW from inlet:
- **BA**: #2 outlet – Opposite inlet
- **BB**: #2 outlet – 90° CCW from inlet
- **BC**: #2 outlet – Inline with inlet
- **BD**: #2 outlet – 90° CW from inlet

With #1 outlet inline with inlet:
- **CA**: #2 outlet – Opposite inlet
- **CB**: #2 outlet – 90° CCW from inlet
- **CC**: #2 outlet – Inline with inlet
- **CD**: #2 outlet – 90° CW from inlet

With #1 outlet 90° CW from inlet:
- **DA**: #2 outlet – Opposite inlet
- **DB**: #2 outlet – 90° CCW from inlet
- **DC**: #2 outlet – Inline with inlet
- **DD**: #2 outlet – 90° CW from inlet

**Mounting**

- **F**: Foot (Single shaft seal)
- **S**: Flange (Double shaft seal)

**Shaft type**

- **1**: Straight with square key standard
- **11**: Splined
- **86**: Straight with square key heavy duty
- **114**: Splined

**Serie designation**

- **Intra–vane pump**

**Design**

- **Viton seals** (Omit if not required.)

**Mounting**

- **Foot (Single shaft seal)**
- **Flange (Double shaft seal)**

**Outlet port positions**

- **AA**: #2 outlet – Opposite inlet
- **AB**: #2 outlet – 90° CCW from inlet
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- **AD**: #2 outlet – 90° CW from inlet

**Shaft type**

- **1**: Straight with square key standard
- **11**: Splined
- **86**: Straight with square key heavy duty
- **114**: Splined

**Outlet port positions**

- **BA**: #2 outlet – Opposite inlet
- **BB**: #2 outlet – 90° CCW from inlet
- **BC**: #2 outlet – Inline with inlet
- **BD**: #2 outlet – 90° CW from inlet

**Shaft type**

- **1**: Straight with square key standard
- **11**: Splined
- **86**: Straight with square key heavy duty
- **114**: Splined

**Mounting**

- **Foot (Single shaft seal)**
- **Flange (Double shaft seal)**

For satisfactory service life of these components, use full flow filtration to provide fluid which meets ISO cleanliness code 16/13 or cleaner. Selections from pressure, return, and in-line filter series are recommended.

**NOTE**

Standard right hand shaft rotation cartridges shown. Reverse for left hand rotation; refer to note.

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

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