

Service Data

**Vickers®**

# Vane Pumps

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## Vane Type Double Pump

4525VQ Series –20 Design



Revised 11-01-95

I-3172-S

4 ● SAE rated capacity (4525VQ\*\* shaft end pump cartridge)

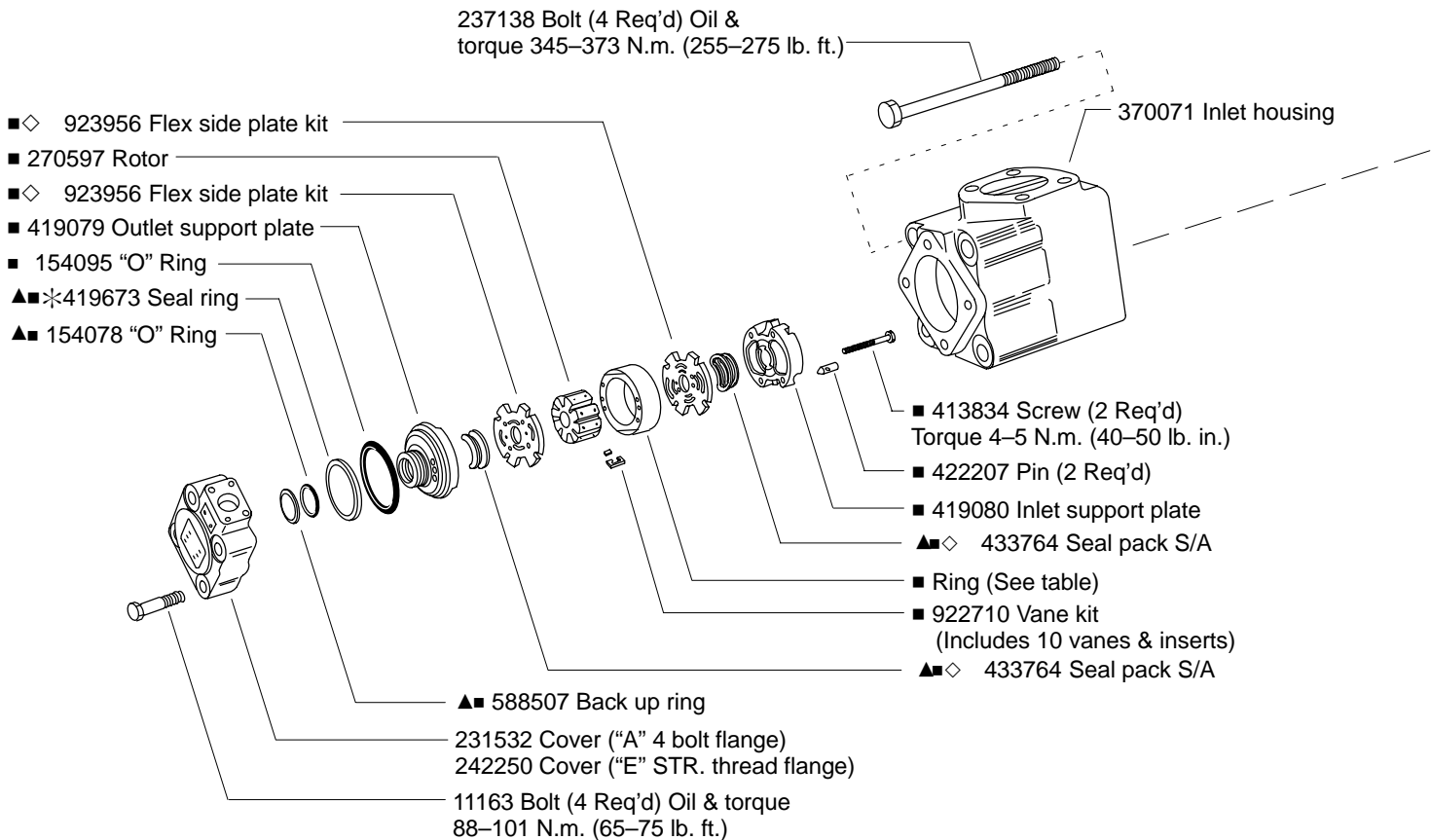
USgpm	● Ring	● STD. cartridge kit	● F3 cartridge kit
42	297510	416435	419511
47	297718	421234	421954
50	297502	416436	419510
57	306772	421233	421955
60	297503	416437	419509

6 SAE rated capacity (4525VQ \*\* \* \*\* ) cover end pump cartridge)

■ USgpm	■ Ring	■ STD. cartridge kit	■ F3 cartridge Kit
12	326984	421244	421576
14	326985	421235	421577
17	326986	421236	421578
19	326987	421237	421579
21	326988	421238	421580

NOTE:

\* Install 419673 sealing ring into body, then install cartridge kit.



- Included in 4525VQ shaft end cart. kit.
- Included in 4525VQ cover end cart. kit.
- ▲ Included in single shaft seal kit 920068
- F3 equivalent shaft seal kit 920070
- ★ Included in double shaft seal kit 920069
- F3 equivalent shaft seal kit 920071
- ◆ Included in mounting kit FB-C-10

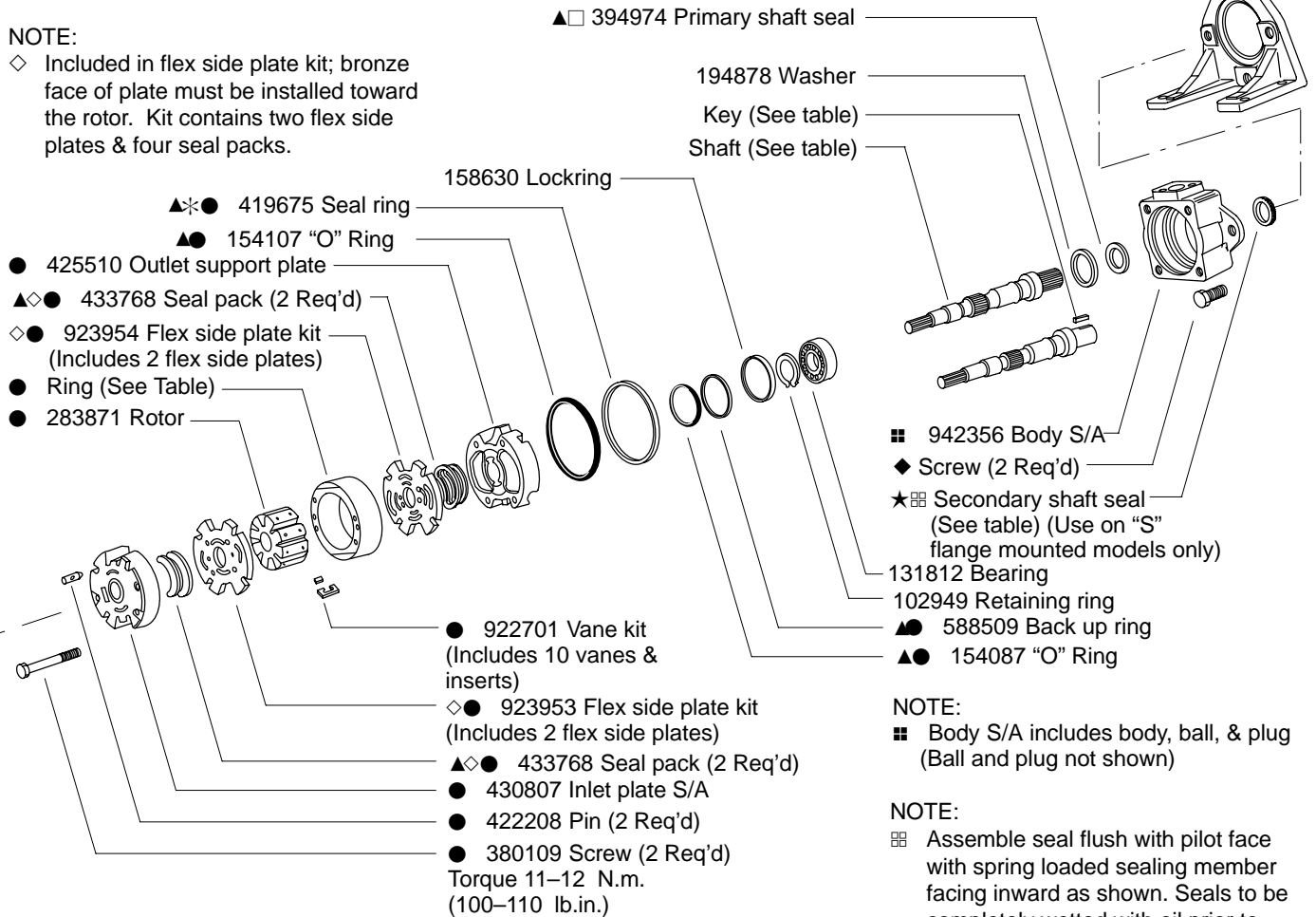
8 Shaft part number	Key part number	Secondary shaft seal	Shaft number	Shaft type
233524	217596	—	1	STR. keyed standard
233527	—	—	11	Spline
247102	—	—	19	Spline
361762	239751	—	86	STR. keyed heavy duty
413024	—	429282	114	Spline

**NOTE:**

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

**NOTE:**

- ◇ Included in flex side plate kit; bronze face of plate must be installed toward the rotor. Kit contains two flex side plates & four seal packs.



**NOTE:**

- Body S/A includes body, ball, & plug (Ball and plug not shown)

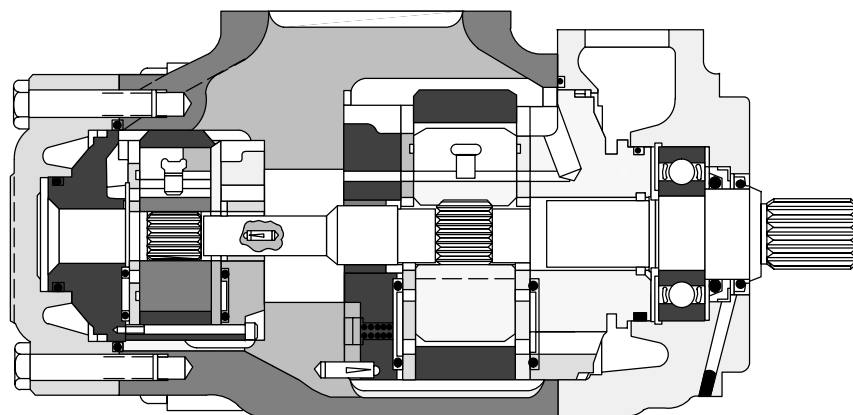
**NOTE:**

- Assemble seal flush with pilot face with spring loaded sealing member facing inward as shown. Seals to be completely wetted with oil prior to assembly.

**NOTE:**

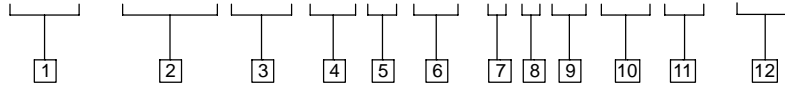
- \* Install 419675 sealing ring into body, then install cartridge kit.

**Typical cutaway view**



# Model Code

**(F3) - 4525 VQ \*\* A \*\* -\* 1\*\* 20 (\*) - 28\***



**1** Viton seals  
(Omit if not required)

**2** Series designation

**3** Intra-vane pump

**4** US GPM capacity  
(Shaft end pump)

SAE rating 1200 rpm–100 psi (7 bar)

<b>42</b> – 42 USgpm	<b>57</b> – 57 USgpm
<b>47</b> – 47 USgpm	<b>60</b> – 60 USgpm
<b>50</b> – 50 USgpm	

**5** SAE port connections

Code	Inlet	Outlet #1	Outlet #2
<b>A</b> –	4 bolt flange	4 bolt flange	4 bolt flange
<b>E</b> –	4 bolt flange	4 bolt flange	SAE ST. THD.

**6** US GPM capacity  
(Cover end pump)

SAE rating 1200 rpm–100 psi (7 bar)

<b>12</b> – 12 USgpm	<b>19</b> – 19 USgpm
<b>14</b> – 14 USgpm	<b>21</b> – 21 USgpm
<b>17</b> – 17 USgpm	

**7** Mounting

**F** – Foot (Single shaft seal)  
**S** – Flange (Double shaft seal)  
**Omitted** – Flange, single shaft seal assembly

**8** Shaft type

**1**– Straight with square key standard  
**11**– Splined  
**19**– Splined  
**86**– Straight with square key heavy duty  
**114**– Splined

**9** Outlet port positions  
(Viewed from cover end of pump)

With # 1 outlet opposite inlet:  
**AA** – # 2 outlet – 135° CCW from inlet  
**AB** – # 2 outlet – 45° CCW from inlet  
**AC** – # 2 outlet – 45° CW from inlet  
**AD** – # 2 outlet – 135° CW from inlet

With # 1 outlet 90° CCW from inlet:  
**BA** – # 2 outlet – 135° CCW from inlet  
**BB** – # 2 outlet – 45° CCW from inlet  
**BC** – # 2 outlet – 45° CW from inlet  
**BD** – # 2 outlet – 135° CW from inlet

**9** Outlet port positions continued  
(Viewed from cover end of pump)

With # 1 outlet inline with inlet:  
**CA** – # 2 outlet – 135° CCW from inlet  
**CB** – # 2 outlet – 45° CCW from inlet  
**CC** – # 2 outlet – 45° CW from inlet  
**CD** – # 2 outlet – 135° CW from inlet

With # 1 outlet 90° CW from inlet:  
**DA** – # 2 outlet – 135° CCW from inlet  
**DB** – # 2 outlet – 45° CCW from inlet  
**DC** – # 2 outlet – 45° CW from inlet  
**DD** – # 2 outlet – 135° CW from inlet

**10** Design

**11** Rotation  
(Viewed from shaft end of pump)

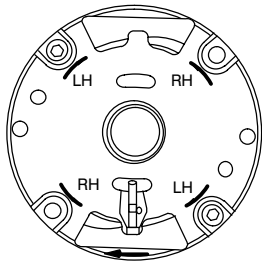
**L** – Left hand (CCW rotation)  
**Omitted** – Right hand rotation

**12** Mounting

**282** – SAE 2-bolt mounting  
**283** – Foot mounting

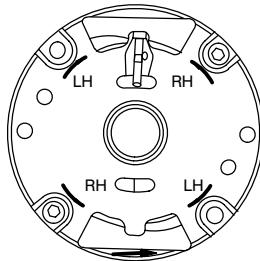
NOTE:  
Standard right hand shaft rotation cartridges shown. Reverse for left hand rotation; refer to note.

Cover end cartridge R. H. Rotation



Sharp Edges of Vane Must Lead in Direction of Rotation

Shaft end cartridge R. H. Rotation



Sharp Edges of Vane Must Lead in Direction of Rotation

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.