

Service Data

**Vickers®**

# Vane Pumps

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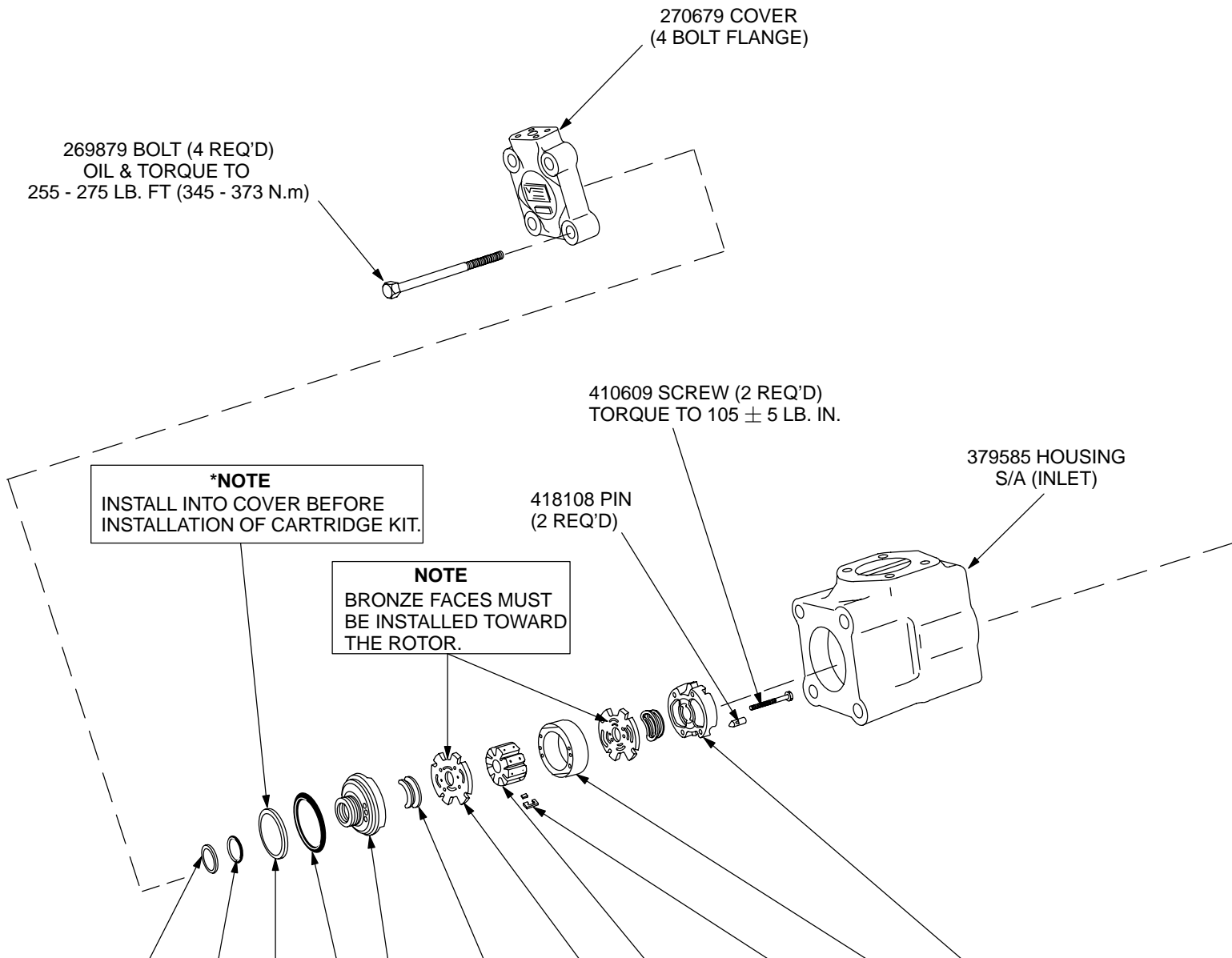
## Vane Type Double Pump

4535VQ Series - 20 Design

▲ INCLUDED IN DOUBLE SHAFT SEAL KIT 920072.  
F3 EQUIVALENT SEAL KIT 920074.

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

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



MODEL	▲ BACK-UP RING	▲ "O" RING	▲ SEAL RING	▲ "O" RING	OUTLET SUPPORT PLATE	▲ SEAL PACK (4 REQ'D)	■ FLEX-SIDE PLATE KIT	ROTOR	VANE KIT (10 VANES & 10 INSERTS)	RING	INLET SUPPORT PLATE	CART. KIT	F3 CART. KIT
THESE PARTS ARE INCLUDED IN CARTRIDGE KIT													
4535***21**										394961		421239	421563
4535***25**										319396		421240	421564
4535***30**	588506	154084	419674	154101	412003	433766 S/A	923953	262154	922700	319397	412005	421241	421565
4535***35*										319398		421242	421566
4535***38*										319399		421243	4215672

● ASSEMBLE SEAL FLUSH TO PILOT FACE WITH SPRING FACING INWARD AS SHOWN.

○ ASSEMBLE SEAL WITH SPRING TOWARD BEARING.

MOUNTING ASSEMBLY 4535VQ**A**F-***-20(*)		
INCLUDED IN FOOT BRACKET KIT NO.	SCREW (2 REQ'D)	MOUNTING BRACKET
FB-C-10	205533	205077

SHAFT NO.	TYPE	SHAFT P/N	SEC. SHAFT SEAL	KEY
1	STR. KEYED	289083	—	217596
11	SPLINE	289084	—	—
86	STR. KEYED HEAVY DUTY	361763	—	239751
114	SPLINE	413027	429282	—

△●○ SECONDARY SHAFT SEAL (SEE TABLE) (USE ON 'S' FLANGE MOUNTED MODELS ONLY.)

▲□○ 394974 PRIMARY SHAFT SEAL

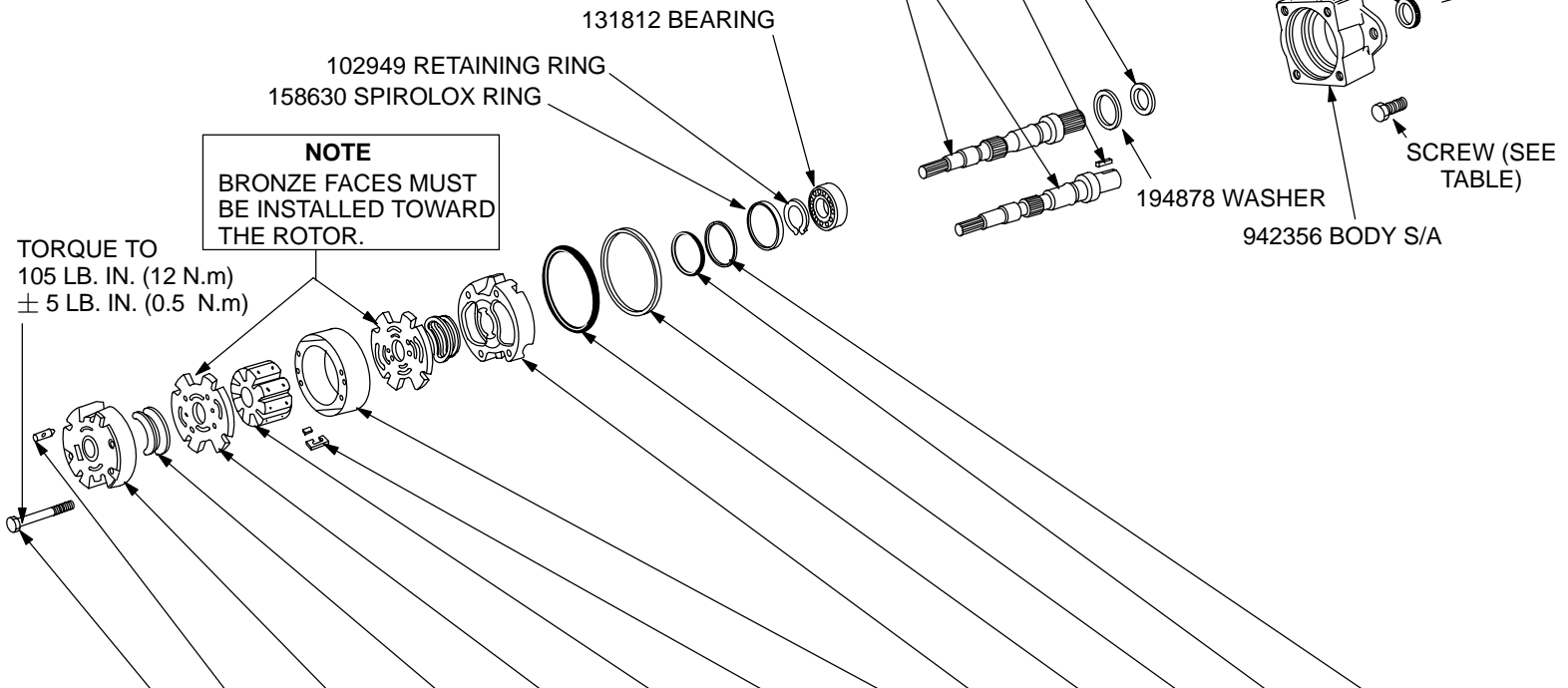
194878 WASHER

SCREW (SEE TABLE)

942356 BODY S/A

**NOTE**  
BRONZE FACES MUST BE INSTALLED TOWARD THE ROTOR.

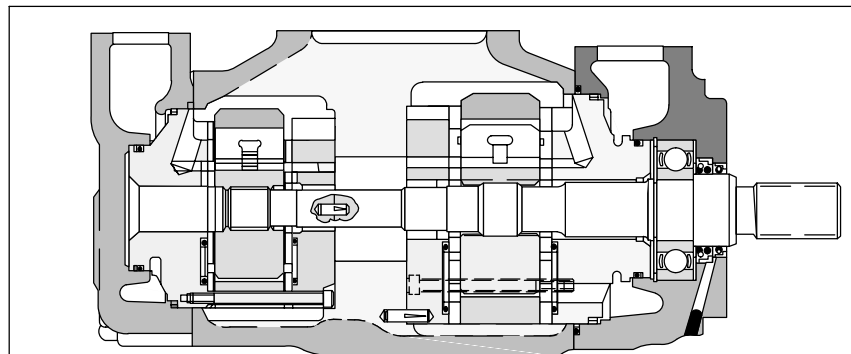
TORQUE TO  
105 LB. IN. (12 N.m)  
± 5 LB. IN. (0.5 N.m)



MODEL	SCREW (2 REQ'D)	PIN (2 REQ'D)	INLET SUPPORT PLATE	▲ SEAL PACK (4 REQ'D)	◆ FLEX-SIDE-PLATE KIT	ROTOR	VANE KIT (10 VANES & 10 INSERTS)	RING	OUTLET SUPPORT PLATE	■▲ "O" RING	*■▲ SEAL RING	▲ "O" RING	■▲ BACK-UP RING	CART. KIT	F3 CART. KIT
THESE PARTS ARE INCLUDED IN CARTRIDGE KIT															
4535VQ42A								295710						416435	419511
4535VQ47A								297718						421234	421954
4535VQ50A	380109	422208	430807 S/A	433768 S/A	923954	283871	922701	297502	425510	154107	419675	154087	588509	416436	419510
4535VQ57A								306772						421233	421955
4535VQ60A								297503						416437	419509

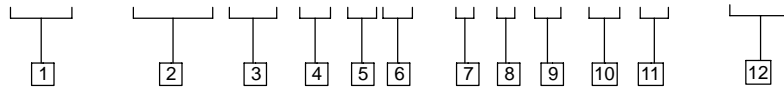
\*INSTALL SEAL RING IN BODY OR COVER, THEN INSTALL CARTRIDGE KIT

■ NOTE: FLEX SIDEPLATE KITS INCLUDE (4) F3 SEAL PACKS.



# Model Code

**(F3) - 4535 VQ \*\* A \*\* - \* 1 \*\* 20 (\*) - 28 \***



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

**2** Series designation

**3** Intra-vane pump

**4** USgpm 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

Models Without Flow Control

Code	Inlet	Outlet #1	Outlet #2
<b>A</b> –	4 bolt flange	4 bolt flange	4 bolt flange

**6** USgpm capacity  
(Cover end pump)

SAE rating 1200 rpm–100 psi (7 bar)

<b>21</b> – 21 USgpm	<b>35</b> – 35 USgpm
<b>25</b> – 25 USgpm	<b>38</b> – 38 USgpm
<b>30</b> – 30 USgpm	

**7** Mounting

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

**8** Shaft type

**1**- Straight with square key standard  
**11**- 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 – 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

**10** Design

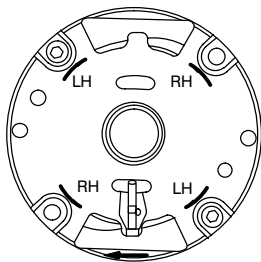
**11** Rotation  
(Viewed from shaft end of pump)

**L** – Left hand (CCW rotation)  
Omitted for right hand rotation

**12** Mounting

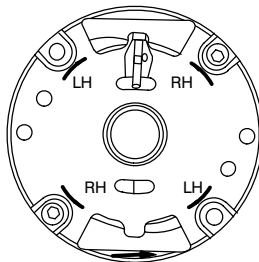
**282** – SAE 2-bolt mounting  
**283** – Foot mounting

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

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

## 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.

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.