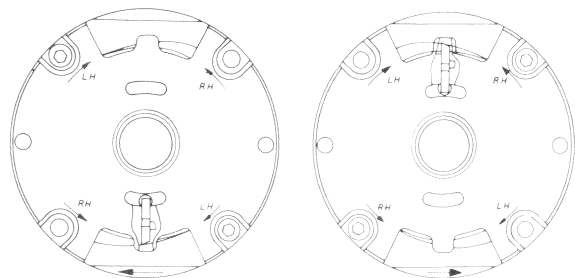


SHARP EDGE OF VANE MUST
LEAD DIRECTION OF ROTATION



COVER END CARTRIDGE R. H. ROTATION
SHAFT END CARTRIDGE R. H. ROTATION

NOTE
STANDARD RIGHT HAND SHAFT ROTATION
CARTRIDGES SHOWN: REVERSE FOR LEFT
HAND ROTATION.

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. REMOVE COVER CARE-
FULLY AND TIGHTEN SCREWS TO RECOM-
MENDED TORQUE.

Service Data



Vane Type Double Pump

4535VQ Series -20 Design

MODEL CODE BREAKDOWN

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

1 2 3 4 5 6 7 8 9 10 11 12

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)
42 - 42 GPM 57 - 57 GPM
47 - 47 GPM 60 - 60 GPM
50 - 50 GPM

5 SAE PORT CONNECTIONS

CODE	INLET	OUTLET #1	OUTLET #2
A	4-BOLT FLG.	4-BOLT FLG.	4-BOLT FLG.

6 US GPM CAPACITY
(COVER END PUMP)

SAE RATING 1200 RPM - 100 PSI (7 bar)
21 - 21 GPM 35 - 35 GPM
25 - 25 GPM 38 - 38 GPM
30 - 30 GPM

7 MOUNTING

F - FOOT (SINGLE SHAFT SEAL)
S - FLANGE (DOUBLE SHAFT SEAL)
OMITTED - FLANGE, SINGLE SHAFT
SEAL ASSEMBLY

8 SHAFT

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 No. 1 Outlet Opposite Inlet :
AA - No. 2 Outlet - Opposite Inlet
AB - No. 2 Outlet - 90° CCW From Inlet
AC - No. 2 Outlet - Inline With Inlet
AD - No. 2 Outlet - 90° CW From Inlet

With No. 1 Outlet 90° CCW From Inlet :
BA - No. 2 Outlet - Opposite Inlet
BB - No. 2 Outlet - 90° CCW From Inlet
BC - No. 2 Outlet - Inline With Inlet
BD - No. 2 Outlet - 90° CW From Inlet

With No. 1 Outlet Inline With Inlet :
CA - No. 2 Outlet - Opposite Inlet
CB - No. 2 Outlet - 90° CCW From Inlet
CC - No. 2 Outlet - Inline With Inlet
CD - No. 2 Outlet - 90° CW From Inlet

With No. 1 Outlet 90° CW From Inlet :
DA - No. 2 Outlet - Opposite Inlet
DB - No. 2 Outlet - 90° CCW From Inlet
DC - No. 2 Outlet - Inline With Inlet
DD - No. 2 Outlet - 90° CW From Inlet

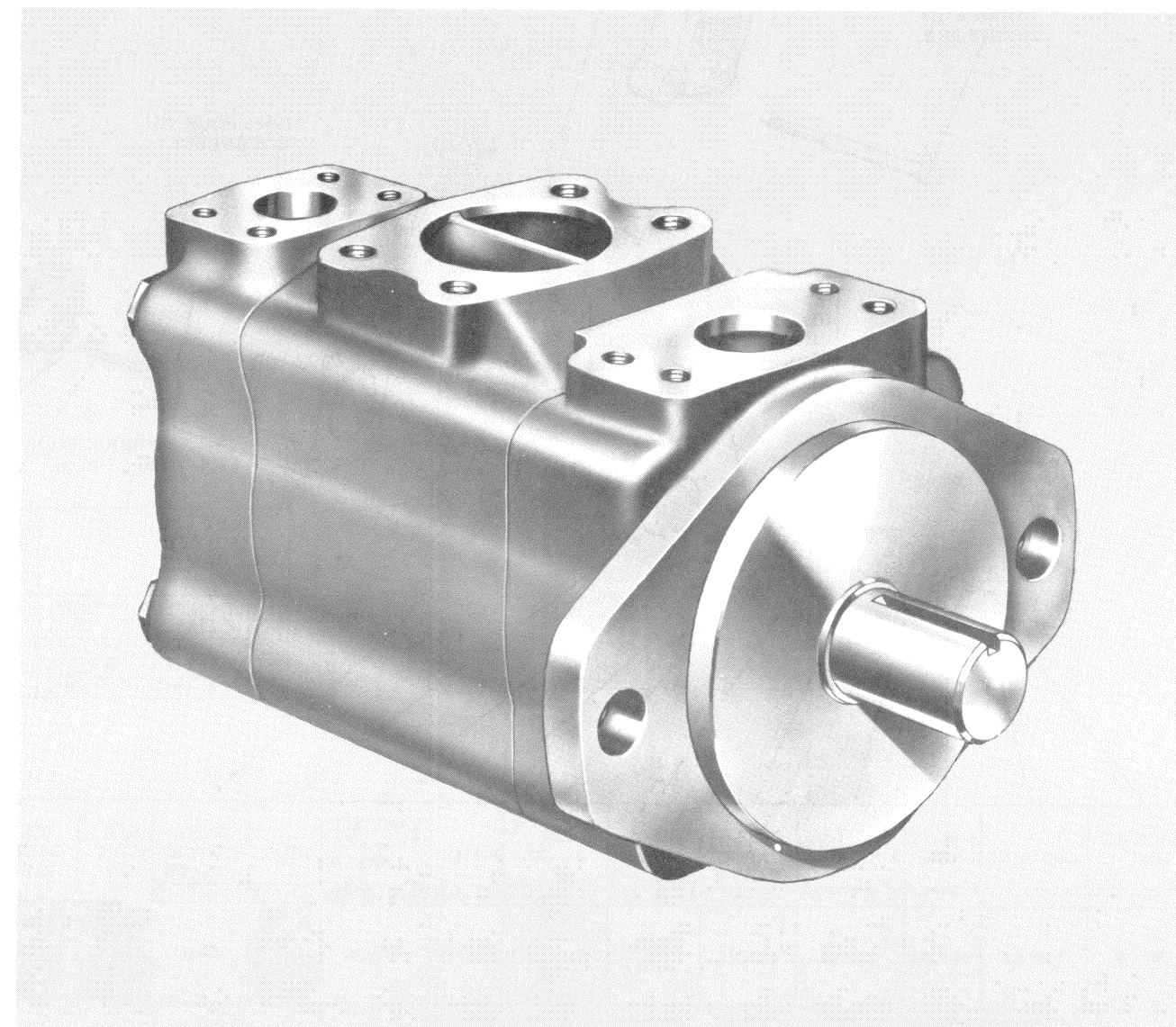
10 DESIGN

11 ROTATION
(VIEWED FROM SHAFT END)

L - LEFT HAND (CCW ROTATION)
OMITTED - RIGHT HAND ROTATION

12 MOUNTING

282 - SAE 2-BOLT MOUNTING
283 - FOOT MOUNTING



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.

Litho in U. S. A.

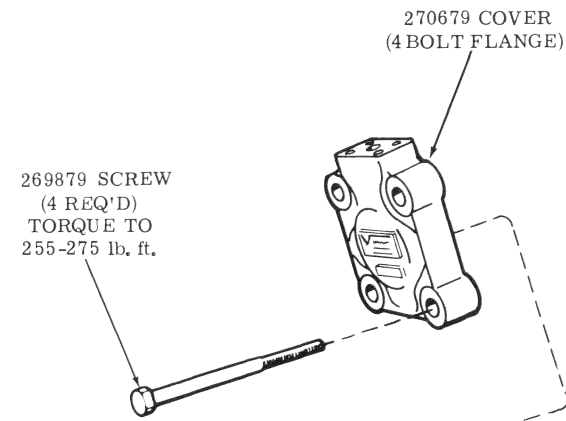
Vickers Incorporated
A TRINOVA Company
5445 Corporate Drive
P. O. Box 302
Troy, Michigan 48007-0302
U.S.A.

Revised 10-01-89

I-3173-S

SHAFT	KEY	SECONDARY SHAFT SEAL	SHAFT NO.	TYPE
289083	217596		1	STR. KEYED STD.
289084			11	SPLINE
361763	239751		86	STR. KEYED HEAVY DUTY
413027		429282	114	SPLINE

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



■ 410609 SCREW (2 REQ'D) TORQUE TO 105 ± 5 lb. in.

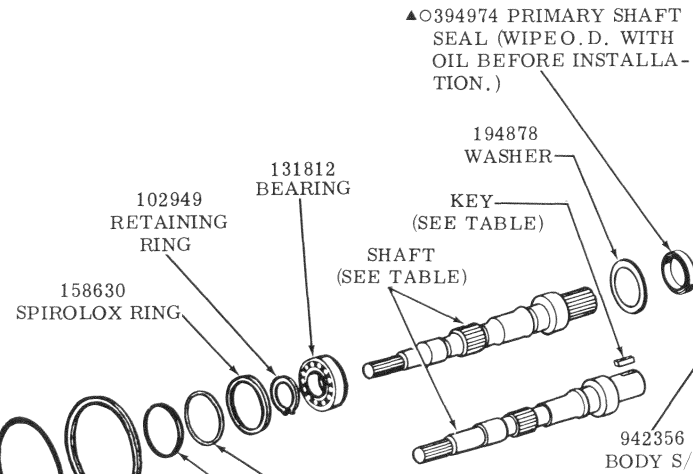
NOTE BRONZE FACES MUST BE INSTALLED TOWARD THE ROTOR.

■ 418108 PIN (2 REQ'D)

379585 HOUSING S/A (INLET)

NOTE BRONZE FACES MUST BE INSTALLED TOWARD THE ROTOR.

TORQUE TO 105 ± 5 lb. in.



▲ O394974 PRIMARY SHAFT SEAL (WIPE O.D. WITH OIL BEFORE INSTALLATION.)

●▲ SECONDARY SHAFT SEAL (SEE TABLE) (USE ON "S" FLANGE MOUNTED MODELS ONLY)

SHAFT END CAPACITY (US GPM)	SCREW (2 REQ'D)	PIN (2 REQ'D)	INLET SUPPORT PLATE	▲ SEAL PACK (4 REQ'D)	FLEX-SIDEPLATE KIT	ROTOR	VANE KIT	RING	OUTLET SUPPORT PLATE	▲ "O" RING	*▲ SEAL RING	▲ "O" RING	▲ BACK-UP RING	STD. CART. KIT	F3 CART. KIT
THESE PARTS ARE INCLUDED IN CARTRIDGE KIT															
4535VQ42A**(*)-****20(*)					923954		922701	297510						416435	419511
4535VQ47A**(*)-****20(*)					INCLUDES		297718							421234	421954
4535VQ50A**(*)-****20(*)	380109	422208	430807	433768 S/A	TWO FLEX SIDE PLATES	283871	(INCLUDES 10 VANES & 10 INSERTS)	297502	425510	154107	419675	154087	588509	416436	419510
4535VQ57A**(*)-****20(*)								306772						421233	421955
4535VQ60A**(*)-****20(*)								297503						416437	419509

▲ 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 & INSERTS)	RING	INLET SUPPORT PLATE	STD. CART. KIT	F3 CART. KIT	COVER END CAPACITY (US GPM)
THESE PARTS ARE SERVICED IN CARTRIDGE KIT													
588508	154084	419674	154101	412003	433766 S/A	923953 INCLUDES TWO FLEX SIDE PLATES	262154	922700	394961	412005	421239	421563	4535***21*-***20
									319396		421240	421564	4535***25*-***20
									319397		421241	421565	4535***30*-***20
									319398		421242	421566	4535***35*-***20
									319399		421243	421567	4535***38*-***20

○ ASSEMBLE SEAL WITH SPRING LOADED SEALING MEMBER TOWARD BEARING.

● ASSEMBLE SEAL FLUSH WITH PILOT FACE WITH SPRING LOADED SEALING MEMBER FACING INWARD AS SHOWN.

■ INCLUDED IN CARTRIDGE KIT

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

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

▲ INCLUDED IN SINGLE SHAFT SEAL KIT 920072 F3 EQUIVALENT SEAL KIT 920074

