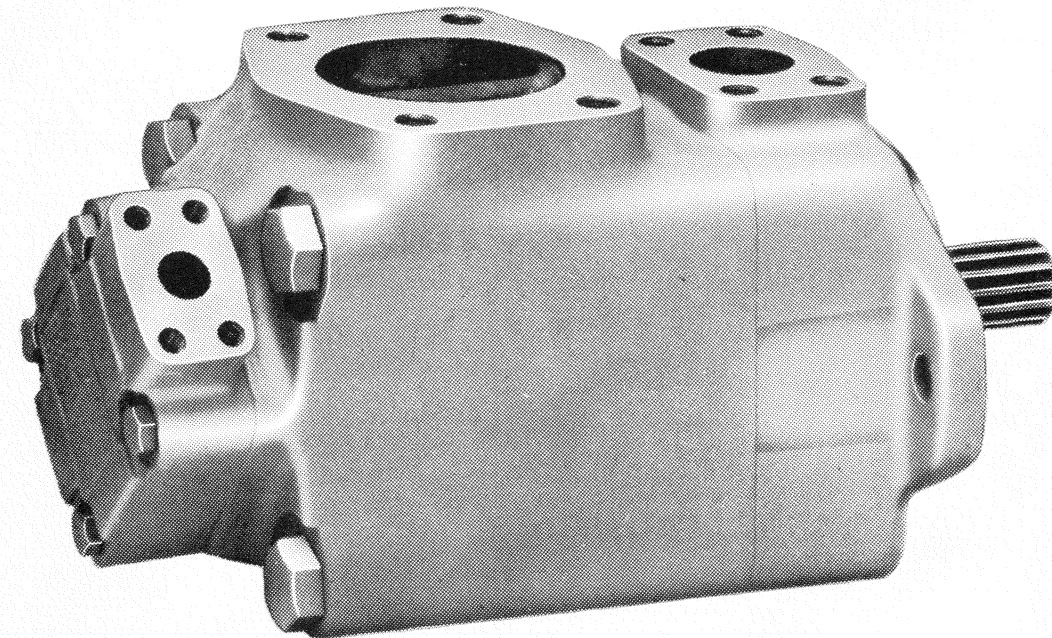
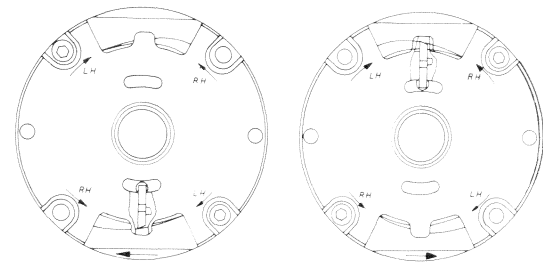


Vane Type Double Pump

4520VQ Series -20 Design



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 SCREW TO RECOM-
MENDED TORQUE.

MODEL CODE BREAKDOWN

(F3) - 4520 VQ ** A ** - * 1 ** ** * 20 (*) - 28*

1 2 3 4 5 6 7 8 9 10 11 12 13 14

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
MODELS WITHOUT FLOW CONTROL
CODE INLET OUTLET #1 OUTLET #2
A 4-BOLT 4-BOLT 4-BOLT
FLG. FLG. FLG.
E 4-BOLT 4-BOLT SAE ST.
FLG. FLG. THD.

MODELS WITH FLOW CONTROL
CODE INLET OUTLET #1 OUTLET #2 RETURN
A 4-BOLT 4-BOLT SAE ST. SAE ST.
FLG. FLG. THD. THD.

6 US GPM CAPACITY
(COVER END PUMP)
SAE RATING 1200 RPM - 100 PSI (7 bar)
5 - 5 GPM 11 - 11 GPM
8 - 8 GPM 12 - 12 GPM
9 - 9 GPM 14 - 14 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
19 - SPLINED
33 - SPLINED
86 - STR. KEYED, HEAVY DUTY

9 OUTLET PORT POSITIONS
(VIEWED FROM COVER END OF PUMP)

With No. 1 Outlet Opposite Inlet :
AA - No. 2 Outlet - 135° CCW From Inlet
AB - No. 2 Outlet - 45° CCW From Inlet
AC - No. 2 Outlet - 45° CW From Inlet
AD - No. 2 Outlet - 135° CW From Inlet

With No. 1 Outlet 90° CCW From Inlet :
BA - No. 2 Outlet - 135° CCW From Inlet
BB - No. 2 Outlet - 45° CCW From Inlet
BC - No. 2 Outlet - 45° CW From Inlet
BD - No. 2 Outlet - 135° CW From Inlet

With No. 1 Outlet Inline With Inlet :
CA - No. 2 Outlet - 135° CCW From Inlet
CB - No. 2 Outlet - 45° CCW From Inlet
CC - No. 2 Outlet - 45° CW From Inlet
CD - No. 2 Outlet - 135° CW From Inlet
With No. 1 Outlet 90° CW From Inlet :
DA - No. 2 Outlet - 135° CCW From Inlet
DB - No. 2 Outlet - 45° CCW From Inlet
DC - No. 2 Outlet - 45° CW From Inlet
DD - No. 2 Outlet - 135° CW From Inlet

10 CONTROLLED FLOW RATE
(MODELS WITH FLOW CONTROL)
2 - 2 GPM 7 - 7 GPM 12 - 12 GPM
4 - 4 GPM 8 - 8 GPM
6 - 6 GPM 10 - 10 GPM

11 RELIEF VALVE SETTING
(MODELS WITH FLOW CONTROL)
C - 700 PSI G - 1700 PSI
D - 1000 PSI H - 2000 PSI
E - 1250 PSI J - 2250 PSI
F - 1500 PSI K - 2500 PSI
**20V PUMP ONLY NOT FOR 12 & 14 RING SIZES.

12 DESIGN

13 ROTATION
(VIEWED FROM SHAFT END)
L - LEFT HAND (CCW ROTATION)
OMITTED - RIGHT HAND ROTATION

14 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.

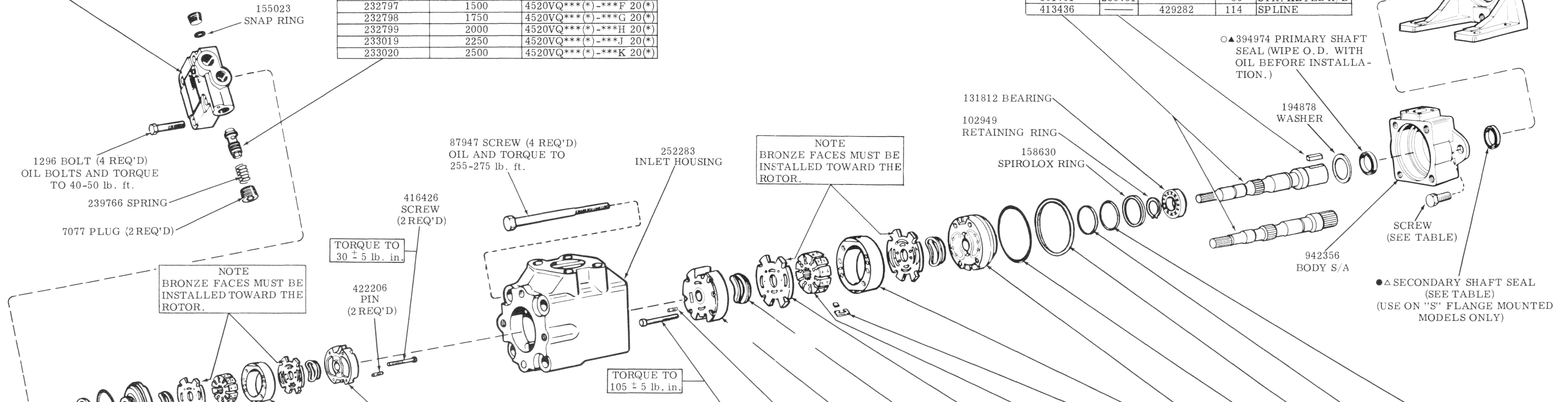
Vickers Incorporated
5445 Corporate Drive
P. O. Box 302
Troy, Michigan 48007-0302
U.S.A.

COVER	COVER TYPE	MODEL DESIGNATION
250824	4- BOLT	4520VQ**A**(*)-****20(*)
252504	STR. THREAD	4520VQ**E**(*)-****20(*)
257560	FLOW CONTROL	4520VQ**E**(*)-**2*20(*)
257561	FLOW CONTROL	4520VQ**E**(*)-**4*20(*)
257562	FLOW CONTROL	4520VQ**E**(*)-**6*20(*)
257563	FLOW CONTROL	4520VQ**E**(*)-**7*20(*)
257564	FLOW CONTROL	4520VQ**E**(*)-**8*20(*)
257565	FLOW CONTROL	4520VQ**E**(*)-**10*20(*)
257999	FLOW CONTROL	4520VQ**E**(*)-**12*20(*)

RELIEF VALVE SUB-ASSEMBLY	RELIEF VALVE SETTING (PSI)	MODEL DESIGNATION
232794	750	4520VQ***(*)-***C 20(*)
232795	1000	4520VQ***(*)-***D 20(*)
232796	1250	4520VQ***(*)-***E 20(*)
232797	1500	4520VQ***(*)-***F 20(*)
232798	1750	4520VQ***(*)-***G 20(*)
232799	2000	4520VQ***(*)-***H 20(*)
233019	2250	4520VQ***(*)-***J 20(*)
233020	2500	4520VQ***(*)-***K 20(*)

MOUNTING ASSEMBLY 4520VQ**A**F-***20(*)		
INCLUDED IN FOOT BRACKET KIT	SCREW (2 REQ'D)	MOUNTING BRACKET
FB-C-10	205533	205077

4520VQ**A**(*)-***20(*)				
SHAFT PART NUMBER	KEY	SECONDARY SHAFT SEAL	SHAFT NO.	TYPE
255533	217596	—	1	STR. KEYED
255536	—	—	11	SPLINE
361761	239751	—	86	STR. KEYED H/D
413436	—	429282	114	SPLINE



SHAFT END CAPACITY (US GPM)	SCREW (2 REQ'D)	PIN (2 REQ'D)	INLET SUPPORT PLATE	▲ SEAL PACK (4 REQ'D)	■ FLEX SIDE PLATE 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															
4520VQ42A**(*)-****20(*)														416435	419511
4520VQ47A**(*)-****20(*)														421234	421954
4520VQ50A**(*)-****20(*)	380109	422208	430807 (INCLUDES BUSHING)	433768 S/A	923954	283871	922701 (INCLUDES 10 VANES & 10 INSERTS)	297510	425510	154107	419675	154087	588509	416436	419510
4520VQ57A**(*)-****20(*)								297502						421233	421955
4520VQ60A**(*)-****20(*)								306772						416437	419509
								297503							

▲ 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													
588506	154026	419672	154090	419500	433762 S/A	923955	402690	922741	333624	419502	417053	421588	4520VQ***5**(*)-****20(*)
									333625		417054	421589	4520VQ***8**(*)-****20(*)
									374799		423096	423097	4520VQ***9**(*)-****20(*)
									333626		416427	421590	4520VQ***11**(*)-****20(*)
							403539	922743	353901	419501	416428	421591	4520VQ***12**(*)-****20(*)
									353902		416429	421592	4520VQ***14**(*)-****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 SINGLE SHAFT SEAL KIT

▲ STD	F3
920060	920062

INCLUDED IN DOUBLE SHAFT SEAL KIT

▲▲ STD	F3
920061	920063

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

■ FLEX SIDE PLATE KIT INCLUDES TWO FLEX SIDE PLATES.

