Service and Parts Manual

Vickers by Danfoss

Vane Pumps



Vane Type Double Pump

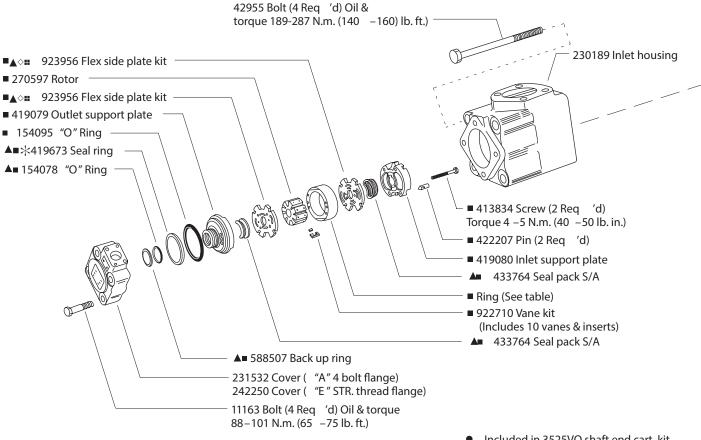
3525VQ Series –20 Design AX438766130841en-000101



| SAE rated capacity (3525VQ **shaft end pump cartridge) | | | | | |
|--|--------|----------------------|------------------|--|--|
| USgpm | Ring | ● STD. cartridge kit | F3 cartridge kit | | |
| 21 | 394961 | 413420 | 421582 | | |
| 25 | 319396 | 413421 | 421583 | | |
| 30 | 319397 | 413422 | 421584 | | |
| 35 | 319398 | 413418 | 421585 | | |
| 38 | 319399 | 413419 | 421586 | | |

| 6 SAE rated capacity (3525VQ ** * | | **) 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.



III NOTE When ordered individually, flex side plate kit includes (4) F3 seal pak subassemblies.

- Included in 3525VQ shaft end cart. kit.
- Included in 3525VQ cover end cart. kit.
- Included in single shaft seal kit 920056 F3 equivalent shaft seal kit 920068
- Included in mounting kit FB -C-10

| Shaft part number | Key part number | Secondary shaft seal | Shaft number | Shaft type | □ NOTE Assemble seal with spring loaded |
|--|--------------------|-------------------------|-----------------|-----------------------|--|
| 243448 | 88678 | | 1 | STR. keyed standard | sealing member towards bearing. |
| 243449 | | | 11 | Spline | Seals to be completely wetted with |
| 247019 | | | 19 | Spline | oil prior to assembly. |
| 285417 | | | 33 | Spline | |
| 394036 | 393536 | 429281 | 86 | STR. keyed heavy duty | ◆ Mounting bracket ——— |
| Included in fle face of plate n the rotor. Kit | nust be installe | ed toward | | 193220 Washer | |
| | | | | 102220 14/ | \ |
| the rotor. Kit | contains two f | lex side | | | |
| plates & four seal packs. | | | | Key (See table) | |
| | | | | Shaft (See table) | |
| | | 193144 | 4 Spirolox Ring | | |
| 4 | ★ ● 419674 | Seal ring — | | \ | |
| | 154101 | "O" Ring — | \ | \ | \\\ <u>\</u> |
| | t support plate | | \ \ | \ | |
| | | \ | \ \ | \ | |
| | eal pack (2 Req | (a) | | \ | |
| >● 923953 Flex side plate kit — \ \ \ \ | | | | | |
| (Includes 2 flex side plates) Ring (See Table) | | | | | |
| Ring (See Tab | , | , \ | | | |
| 262154 Rotor | | \ \ \ | | | 042355 Padv S/A |
| | \ | | | | 942355 Body S/A — / / |
| | \ | | | | ◆ Screw (2 Req 'd) ——— |
| | \ | 1 10000 9911 | | | ★ Becondary shaft seal — |

* NOTE

Install 419674 sealing ring into body, then install cartridge kit.

● 922700 Vane kit (Includes 10 vanes & inserts)
◇● 923953 Flex side plate kit

(Includes 2 flex side plates)

▲◇● 433766 Seal pack (2 Req ′

- ▲ 433766 Seal pack (2 Req 430806 Inlet plate S/A
- 418108 Pin (2 Req 'd)
- 410609 Screw (2 Req 'd) Torque 11 –12 N.m. (100 –110 lb.in.)

3625VQ Indirect

119982 Snap ring

MODEL

3525VQ

₩ 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.

(See table) (Use on "S" flange mounted models only) Bearing (See table)

588508 Back up ring

154084 "O" Ring

Direct

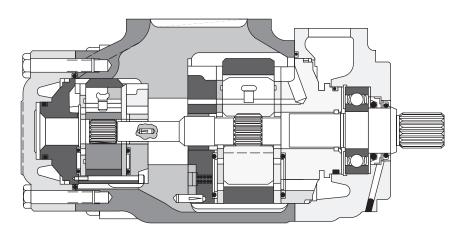
TYPE DRIVE

BEARING

38441

239092

Typical cutaway view



Model Code

(F3) - 3*25 VQ ** A ** -* 1** 20 (*) - 28*

- 1 Viton seals (Omit if not required.)
- 2 Series designation

3525VQ, Double Pump 3625VQ, Double Pump

- 3 Intra-vane pump
- 4 US GPM capacity (Shaft end pump)

SAE rating 1200 rpm -100 psi (7 bar)

21 – 21 USgpm **25** – 25 USgpm **35** – 35 USgpm **38** – 38 USgpm

30 – 30 USgpm

5 SAE port connections

Code Inlet Outlet #1 Outlet #2 4 bolt 4 bolt 4 bolt flange flange flange E -4 bolt 4 bolt SAE ST. flange flange THD.

6 US GPM capacity (Cover end pump)

SAE rating 1200 rpm -100 psi (7 bar)

12 – 12 USgpm **14** – 14 USgpm **19** – 19 USgpm **21** – 21 USgpm

17 – 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

33- Splined

86- Straight with square key heavy duty

9 Outlet port positions

(Viewed from cover end of pump)

With #1 outlet opposite inlet:

AA - #2 outlet $- 135 \circ$ CCW from inlet

AB - # 2 outlet - 45 $^{\circ}$ CCW from inlet

AC - # 2 outlet - 45 $^{\circ}$ CW from inlet

AD - # 2 outlet - 135 $^{\circ}$ CW from inlet

With # 1 outlet 90 $^{\circ}$ CCW from inlet:

BA – # 2 outlet – 135 $^{\circ}$ CCW from inlet

BB - # 2 outlet - 45 ° CCW from inlet

BC - # 2 outlet - 45 $^{\circ}$ CW from inlet

BD - # 2 outlet - 135 $^{\circ}$ CW from inlet

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

With #1 outlet inline with inlet:

CA - # 2 outlet - 135 $^{\circ}$ CCW from inlet

CB - # 2 outlet - 45 $^{\circ}$ CCW from inlet

CC – # 2 outlet – 45 $^{\circ}$ CW from inlet

CD - # 2 outlet - 135 $^{\circ}$ CW from inlet

With #1 outlet 90 ° CW from inlet:

DA - # 2 outlet - 135 $^{\circ}$ CCW from inlet

DB - # 2 outlet - 45 $^{\circ}$ CCW from inlet

DC - # 2 outlet - 45 $^{\circ}$ CW from inlet

DD – # 2 outlet – 135 $^{\circ}$ 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

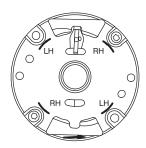
Standard right hand shaft rotation cartridges shown. Reverse for left hand rotation; refer to note.

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.



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