

PVQ50 Piston Pumps – 40 Design

PVQ200 and PVQ700 Families

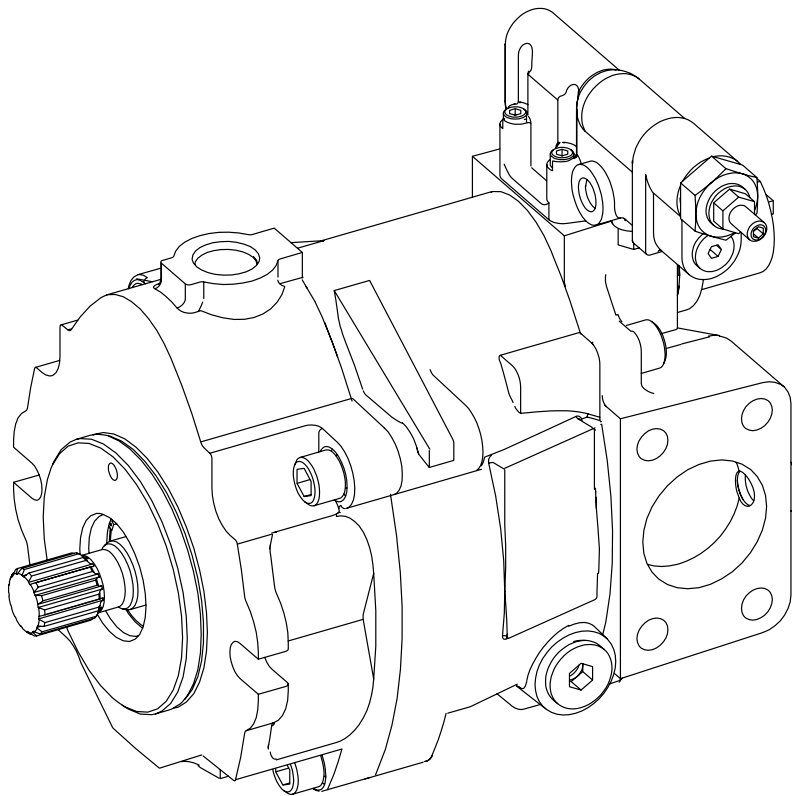


TABLE 1 – HOUSING, PORT PLUGS AND O-RINGS

Model designation	7	8	16	17	18
PVQ50***-*-F	315932	396096	932912	320137	396100
PVQ50***-*-S	315932	396096	932912	320137	396100
PVQ50***-*-M	937297	932747	934273	937300	932751
PVQ50***-*-D	937297	932747	934273	937300	932751
PVQ50***-*-B	473919	704766	934401	473921	289817

TABLE 2 – VALVE PLATE

Model designation	21
PVQ50*ER	934280
PVQ50*MR	933027
PVQ50*EL	934278
PVQ50*ML	934277

TABLE 3 – VALVE BLOCK (NON THRU DRIVE)

Model designation	11
PVQ50**R-*-NSS	934254
PVQ50**R-*-NFS	932909
PVQ50**L-*-NSS	934257
PVQ50**L-*-NFS	934261
PVQ50**R-*-NDS	934255
PVQ50**R-*-NMS	934259
PVQ50**L-*-NDS	934258
PVQ50**L-*-NMS	934262
PVQ50**R-*-NSE	934355
PVQ50**R-*-NFE	934264
PVQ50**L-*-NSE	934367
PVQ50**L-*-NFE	934267
PVQ50**R-*-NDE	934357
PVQ50**R-*-NME	934263
PVQ50**L-*-NDE	934369
PVQ50**L-*-NME	934268
PVQ50**R-*-NBS	934360
PVQ50**R-*-NBE	934361
PVQ50**L-*-NBS	934373P
VQ50**L-*-NBE	934374

TABLE 4 – THRU DRIVE VALVE BLOCK AND ADAPTER

Model designation	39	67
PVQ50***R-*-A*SS	934301	None
PVQ50***R-*-A*FS	934238	None
PVQ50***R-*-A*DS	934359	None
PVQ50***R-*-A*MS	934269	None
PVQ50***R-*-A*BS	934363	None
PVQ50***R-*-MA*DS	934365	None
PVQ50***R-*-MA*MS	934364	None
PVQ50***R-*-MA*BS	934366	None
PVQ50***R-*-B*SS	934301	934294
PVQ50***R-*-B*FS	934238	934294
PVQ50***R-*-B*DS	934359	934294
PVQ50***R-*-B*MS	934269	934294
PVQ50***R-*-B*BS	934363	934294
PVQ50***R-*-MB*DS	934365	934402
PVQ50***R-*-MB*MS	934364	934402
PVQ50***R-*-MB*BS	934366	934402
PVQ50***L-*-A*SS	934370	None
PVQ50***L-*-A*FS	934271	None
PVQ50***L-*-A*DS	934372	None
PVQ50***L-*-A*MS	934272	None
PVQ50***L-*-A*BS	934375	None
PVQ50***L-*-MA*DS	934377	None
PVQ50***L-*-MA*MS	934376	None
PVQ50***L-*-MA*BS	934378	None
PVQ50***L-*-B*SS	934370	934294
PVQ50***L-*-B*FS	934271	934294
PVH45***L-*-B*DS	934372	934294
PVQ50***L-*-B*MS	934272	934294
PVQ50***L-*-B*BS	934375	934294
PVQ50***L-*-MB*DS	934377	934402
PVQ50***L-*-MB*MS	934376	934402
PVQ50***L-*-MB*SS	934378	934402

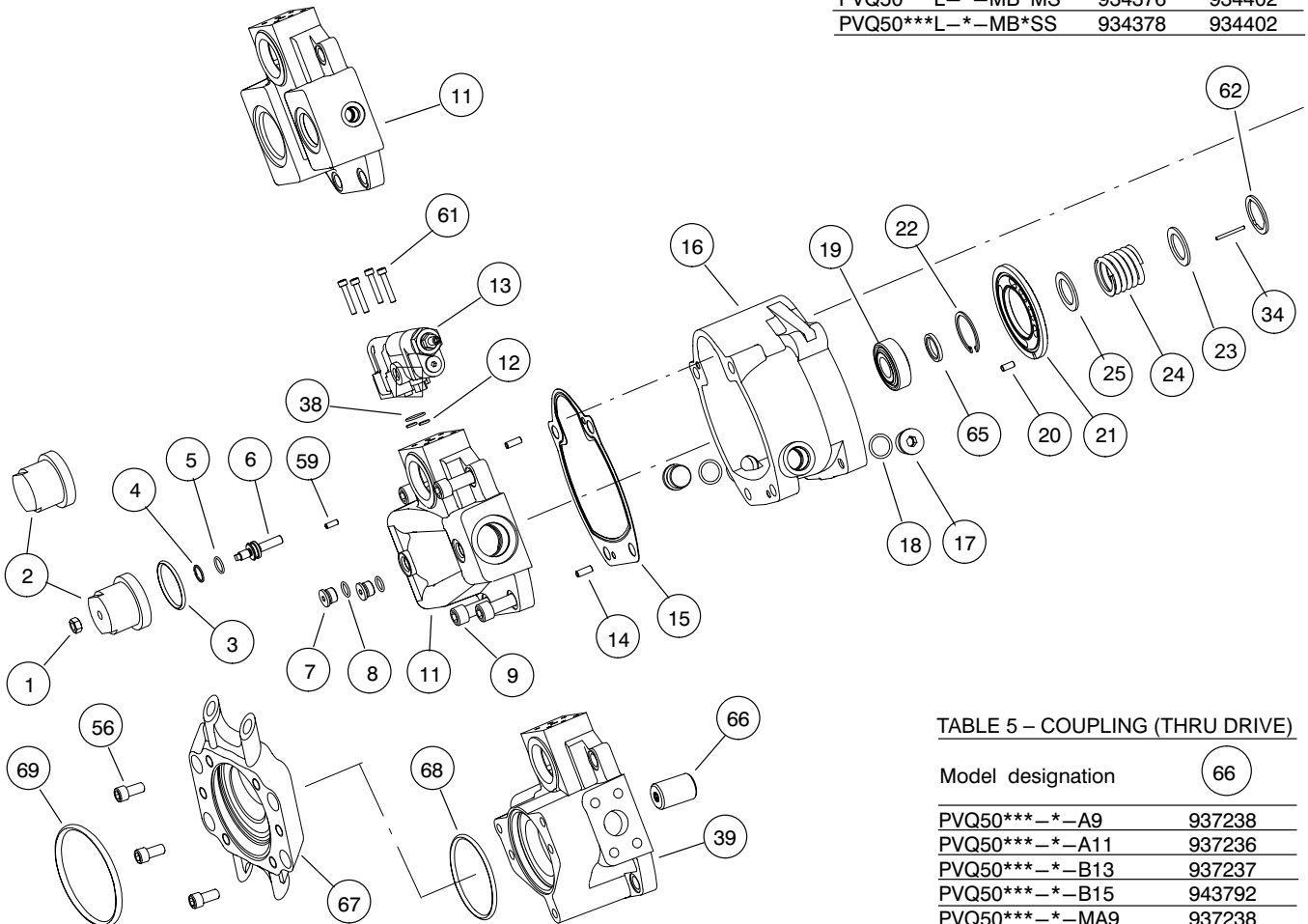


TABLE 5 – COUPLING (THRU DRIVE)

Model designation	66
PVQ50***-*-A9	937238
PVQ50***-*-A11	937236
PVQ50***-*-B13	937237
PVQ50***-*-B15	943792
PVQ50***-*-MA9	937238
PVQ50***-*-MA11	937236
PVQ50***-*-MB13	937237

TABLE 6 – SHAFT/KEY

Model designation	37	60	63
PVQ50***-*-***-1	934380	934391	22971
PVQ50***-*-***-2	934381	934392	58303
PVQ50***-*-***-3	934382	934393	-
PVQ50***-*-***-4	932927	934394	-
PVQ50***-*-***-N1	934383	-	-

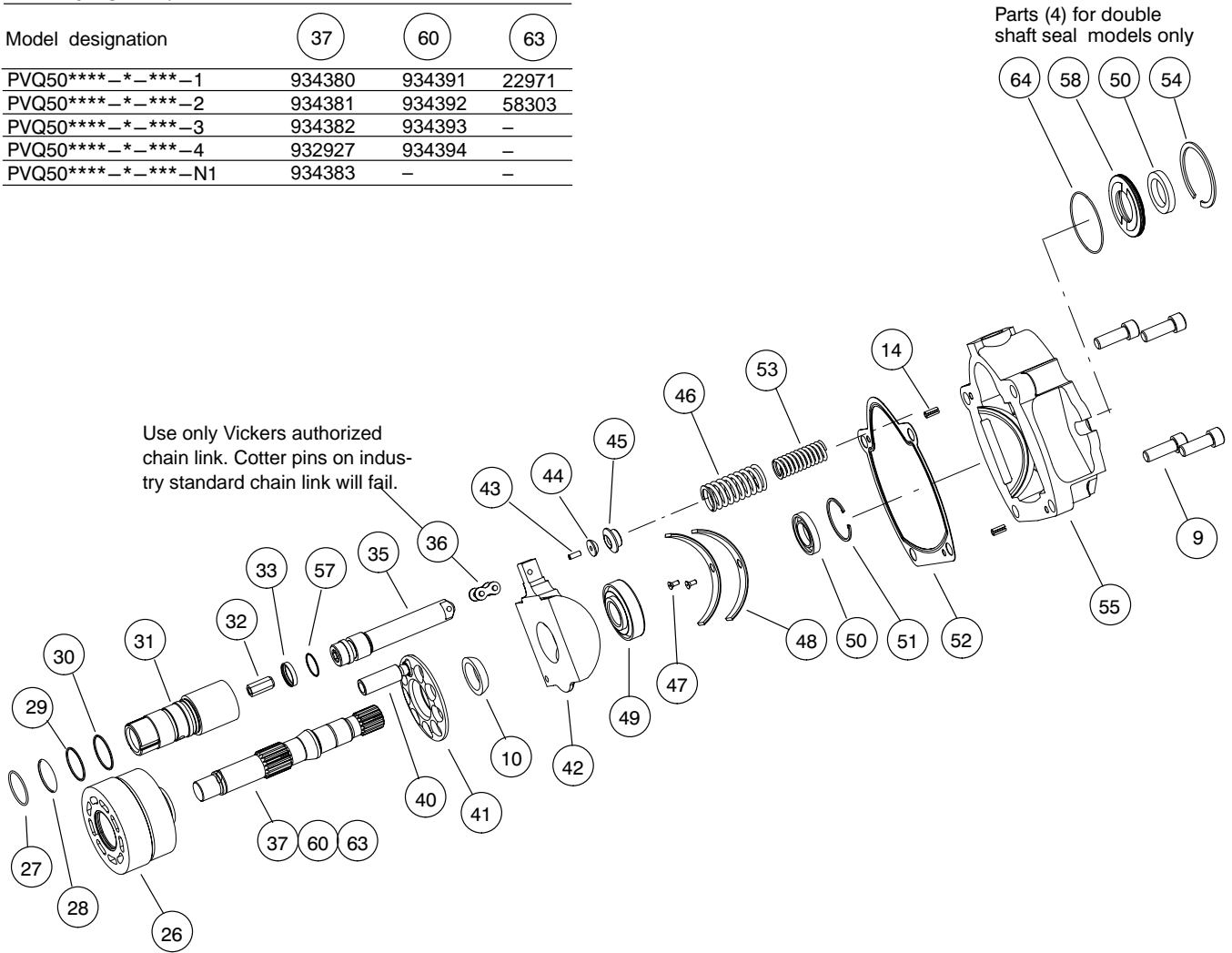


TABLE 7 – MOUNTING FLANGE

Model designation	55
PVQ50B2**-*F/S*-*N/S	932914
PVQ50B2**-*F/S*-*D	934397
PVQ50B2**-*M/D*-*N/S	943776
PVQ50B2**-*M/D*-*D	943775
PVQ50B2**-*B*-*N/S	934399
PVQ50B2**-*B*-*D	934400
PVQ50MB2**-*F/S*-*N/S	943821
PVQ50MB2**-*F/S*-*D	943822
PVQ50MB2**-*M/D*-*N/S	943274
PVQ50MB2**-*M/D*-*D	934398
PVQ50MB2**-*B*-*N/S	943773
PVQ50MB2**-*B*-*D	943774

TABLE 8 – CONTROL KIT

Model designation	13
PVQ50***-*-***-**-40-C23	02-345630
PVQ50***-*-***-**-40-CM7	02-345629
PVQ50***-*-**F/S*-*--40-C23V11B	02-345593
PVQ50***-*-**F/S*-*--40-C23V11P	02-345595
PVQ50***-*-**F/S*-*--40-C23VC24B	02-345597
PVQ50***-*-**F/S*-*--40-C23VC24P	02-345599
PVQ50***-*-**F/S*-*--40-CM7V11B	02-345601
PVQ50***-*-**F/S*-*--40-CM7V11P	02-345602
PVQ50***-*-**F/S*-*--40-CM7VC24B	02-345603
PVQ50***-*-**F/S*-*--40-CM7VC24P	02-345604
PVQ50***-*-**D/M*-*--40-C23V11B	02-345605
PVQ50***-*-**D/M*-*--40-C23V11P	02-345607
PVQ50***-*-**D/M*-*--40-C23VC24B	02-345609
PVQ50***-*-**D/M*-*--40-C23VC24P	02-345611
PVQ50***-*-**D/M*-*--40-CM7V11B	02-345613
PVQ50***-*-**D/M*-*--40-CM7V11P	02-345614
PVQ50***-*-**D/M*-*--40-CM7VC24B	02-345615
PVQ50***-*-**D/M*-*--40-CM7VC24P	02-345616
PVQ50***-*-**B*-*--40-C23V11B	02-345617
PVQ50***-*-**B*-*--40-C23V11P	02-345619
PVQ50***-*-**B*-*--40-C23VC24B	02-345621
PVQ50***-*-**B*-*--40-C23VC24P	02-345623
PVQ50***-*-**B*-*--40-CM7V11B	02-345625
PVQ50***-*-**B*-*--40-CM7V11P	02-345626
PVQ50***-*-**B*-*--40-CM7VC24B	02-345627
PVQ50***-*-**B*-*--40-CM7VC24P	02-345628

Item	Part no.	Description
1	470680	Jam nut (S stop)
2	934286	Cap (S stop)
	932926	Cap (F stop)
3	934518	▲ O-ring
4	197573	▲ Backup ring (S stop)
5	262335	▲ O-ring (S stop)
6	934287	Adjust. screw (S stop)
7	See table 1 (2)	Gage port plug
8	See table 1 (2)▲	Gage port O-ring
9	473802 (8)	Bolt
10	402580	● Spherical washer
11	See table 3	Valve block
12	262331 (2)	▲○ O-ring
13	See table 8	Control kit
14	179339 (4)	Pin
15	932916	▲ Gasket
16	See table 1	Housing
17	See table 1 (2)	Drain plug
18	See table 1 (2)▲	O-ring
19	473914	■ Bearing
20	248889	Pin
21	See table 2	Valve plate
22	99907	● Retaining ring
23	404932	● Washer
24	402579	● Spring
25	423368	● Washer
26	932930	● Cylinder block
27	934593	▲ Backup ring
28	395842	▲ O-ring
29	262348	▲ O-ring
30	934594	▲ Backup ring
31	932920	Control sleeve
32	934340	Hex. stop (S stop)
33	932924	▲ Glide ring
34	248811	● Pin
35	932919	Piston
36	932921	Chain link
37	See table 6	Non thru drive shaft
38	262337	▲○ O-ring
39	See table 4	Thru-drive valve block
40	02-328123	● Piston & shoe S/A
41	402650	● Shoe cage
42	932918	* Yoke
43	162160	* Pin
44	409998	* Button
45	934189	Spring seat
46	932929	Spring
47	690339 (2)	* Screw
48	937055 (2)	* Saddle bearing
49	419627	■■ Bearing
50	626933	▲△ Shaft seal
51	85560	△ Retaining ring
52	932915	▲ Gasket
53	932928	Spring
54	102014	Retainer ring
55	See table 7	Flange
56	473782 (3)	Screw
57	395935	▲ O-ring
58	934253	Seal collar
59	248867	Pin
60	See table 6	Thru drive shaft
61	473728 (4)	○ Screw
62	410050	● Spring
63	See table 6	Shaft key
64	592756	▲△ O-ring
65	02-346165	■ Shaft spacer kit
66	See table 5	Coupling
67	See table 4	Thru drive adapter
68	576601	▲ O-ring
69	401525	▲ Adapter o-ring
70	112531	Snap ring (no. 2 shaft only) not shown

Item	Torque values
1	18–24 Nm (13–18 ft-lb)
2	210–230 Nm (155–170 ft-lb)
7	23–25,8 Nm (17–19 ft-lb)
9	63–77 Nm (46–57 ft-lb)
17	95–108 Nm (70–80 ft-lb)
47	3,6–4,4 Nm (32–39 in-lb)
56	42–50 Nm (31–36,8 ft-lb)
61	7,4–9 Nm (65–80 in-lb)

○ Available in control kit. See table 8.

▲ Available in seal kit 02-346161.

● Available in rotating group kit 02-346172.

* Available in yoke and saddle bearing kit 02-346163.

■ Available in shaft bearing kit 02-346164.

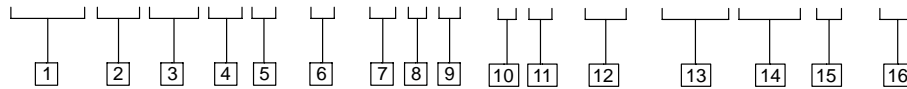
△ Available in single shaft seal kit 02-346166. Equivalent double shaft seal kit 02-346167.

■■ Seat bearing cone against shoulder.

■ Use spacers to shim as required to obtain 0,01 to 0,10 mm (0.00039 to 0.0039 in.) axial shaft end play.

Model Code

PVQ 50 B2 E R - S - N F S - 1 S - 40 - C23 V11 B - 20



1 Pump series

2 Maximum geometric displacement

50,0 cm³/ (3.05 in³/r)

3 Mounting flange

B2 – SAE J744-101-2 (B, 2-bolt)
MB2 – ISO 3019/2-100A2HW

4 Speed rating

E – Electric motor speeds,
1800 r/min max. (PVQ200 Family)
M – Mobile equipment speeds at zero
inlet (PVQ700 Family)

5

Rotation viewed from shaft end

R – Right hand (clockwise)
L – Left hand (counterclockwise)

6

Adjustable maximum displacement stop

S – With stop
F – Without stop

7

Thru-drive Options

N – Single pump, non-thru-drive
A9 – SAE A, 2-bolt, 9T spline
A11 – SAE A, 2-bolt, 11T spline
B13 – SAE B, 2/4-bolt, 13T spline
B15 – SAE B-B, 2-/4-bolt, 9T spline
MA9 – ISO 80-A2HW, 9T SAE spline
MA11 – ISO 80-A2HW, 11T SAE spline
MB13 – ISO 100-A2/B4HW, 13T SAE
spline

8 Main port options

S – SAE J514 tube ports
F – SAE J518 flange ports
D – ISO 6149-1 tube ports
M – ISO 6162 flange ports
B – British Standard Parallel Pipe –
tube ports

9 Main port locations

E – End
S – Sides

10 Shaft end type

1 – SAE J744-22-1, SAE B, Str. Key
2 – SAE J744-25-1, SAE B-B, Str. Key
3 – SAE J744-22-4, SAE B, 13T spline
4 – SAE J744-25-4, SAE B-B, 15T
spline
N1 – ISO 3019/2 E25N, Str. Key, short
spigot

11 Shaft seal at prime mover end

S – Single shaft seal, one way
D – Double shaft seal, two way
N – No shaft seal

12 Pump design number

13 Pump control options

C** – Pressure compensator; 100–230
bar (1500–3300 psi). Asterisks
denote maximum pressure
setting in tens of bar. “C23” –
230 bar (3300 psi) – is standard.

CM** – Pressure compensator; 20–100
bar (300–1500 psi). Asterisks
denote maximum pressure
setting in tens of bar. “CM7” –
70 bar (1000 psi) – is standard.

14 Additional control functions

Blank – No additional control functions.

V** – Load sensing control. 6–14
bar (90–200 psi). Asterisks
denote differential setting in
bar. “V11” is standard 11 bar
(160 psi) factory setting.

VC** – High differential spring. 15–25
bar (220–360 psi). “VC24” is
standard 24 bar (350 psi)
factory setting.

15 Bleed down orifice option for load sense control

B – Bleed-down orifice installed
in control.
P – Orifice plugged. No bleed-down
in control.

16 Control design number