

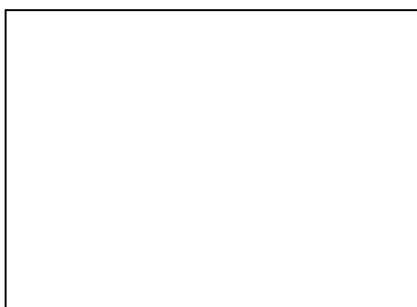
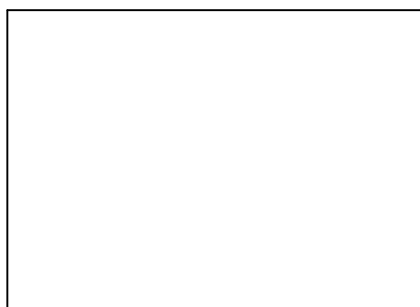
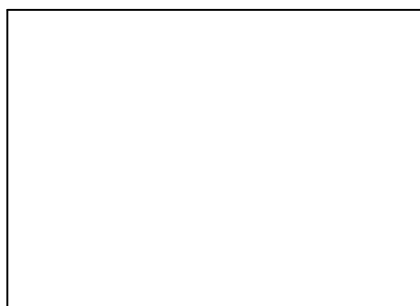
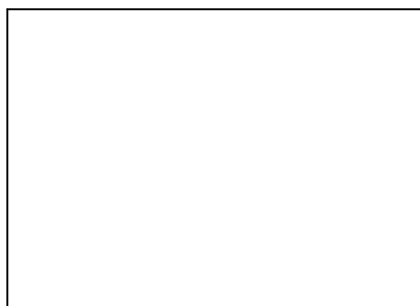


**VELJAN**

**Service Information**

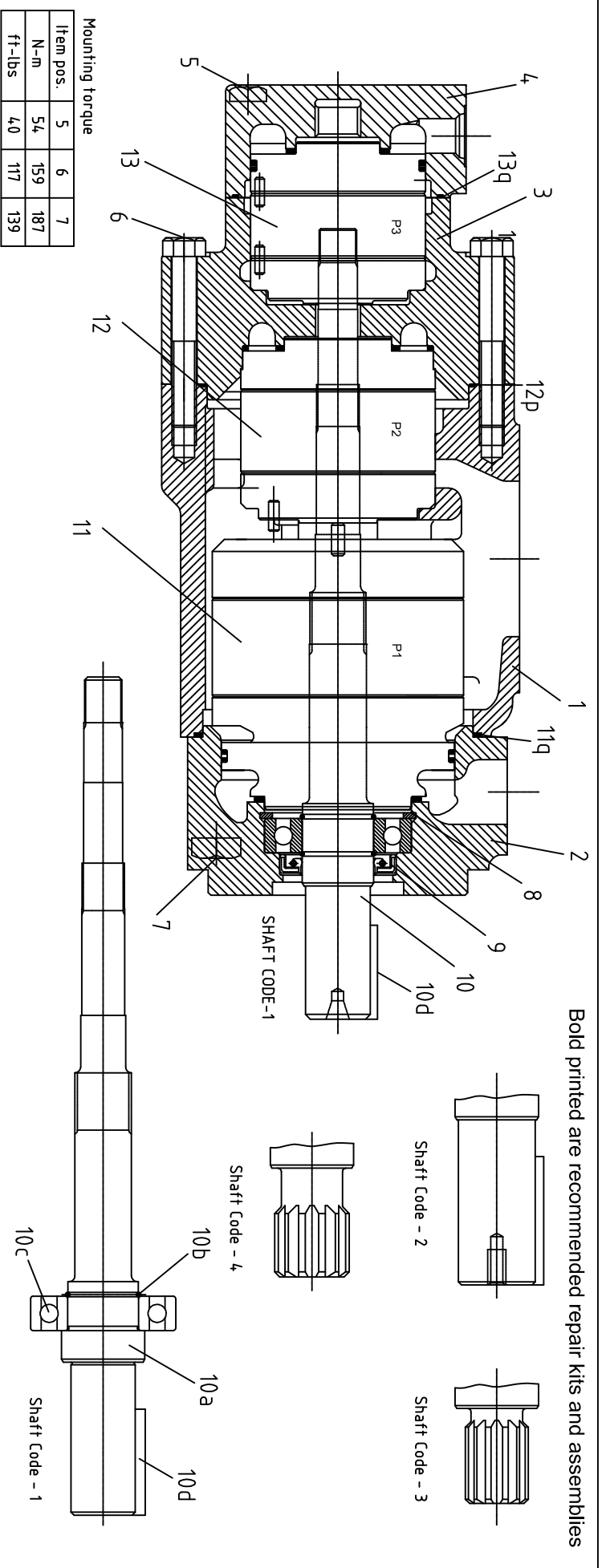
# **VT7QDCB**

## **Triple vane pump**



**PHOTO**

**Bold printed are recommended repair kits and assemblies**



Item pos.	Description	Part No.		Qty
		VT7QDCB (Standard)	VT7QDCB (Bi-dir plates)	
1	Housing (UNC)	V034-66497	V034-66497	1
	Housing (Metric)	H-034-66763	H-034-66763	
2	Mounting flange (UNC)	V034-66495	V034-66495	1
	Mounting flange (Metric)	C-SK-00220	C-SK-00220	
3	Port block (UNC)	V034-66499	V034-66499	1
	Port block (Metric)	H-034-66764	H-034-66764	
4	End cap (UNC) (P3 = 3/4")	V034-66523	V034-66523	1
	End cap (Metric) (P3 = 3/4")	H-034-66765	H-034-66765	
5	Mounting Screw	C-314,011213	C-314,011213	4
6	Mounting Screw	C-314,011215	C-314,011215	4
7	Mounting Screw	306-4,0156	306-4,0156	4
8	Retaining ring	V356-32283	V356-32283	1
9	Shaft seal (S1-0.7 bar)	V620-82064	V620-82064	1
	Shaft seal (S4-S5-7 bar)	V620-82072	V620-82072	

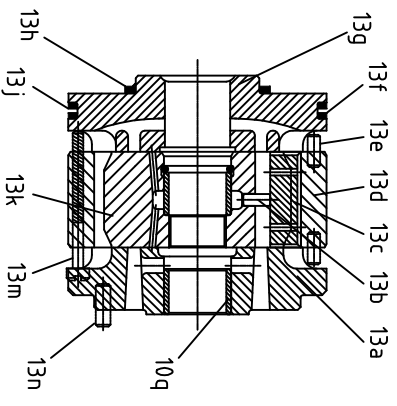
Item pos.	Description	Part No.		Qty
		VT6DCB (Standard)	VT6DCB (Bi-dir plates)	
10	Shaft and bearing ass'y (Code-1)	VS24-25571	VS24-25571	1
	Shaft and bearing ass'y (Code-2)	VS24-25572	VS24-25572	
	Shaft and bearing ass'y (Code-3)	VS24-25573	VS24-25573	
	Shaft and bearing ass'y (Code-4)	VS24-25574	VS24-25574	
10a	Shaft (Keyed) (Code-1)	V034-66500	V034-66500	1
	Shaft (Keyed) (Code-2)	V034-66513	V034-66513	
	Shaft (Splined) (Code-3)	V034-66511	V034-66511	
	Shaft (Splined) (Code-4)	V034-66514	V034-66514	
10b	Round section ring	V034-70853	V034-70783	2
10c	Ball bearing	V230-00207	V230-00207	1
10d	Key (Code -1)	V034-19579	V034-19579	1
	Key (Code -2)	V034-66981	V034-66981	
11	Cartridge assembly B14 C.W.(P1)		VS24-76312	1
	Cartridge assembly B14 C.G.W.(P1)		VS24-76313	
	Cartridge assembly B17 C.W.(P1)		VS24-76314	
	Cartridge assembly B17 C.G.W.(P1)		VS24-76315	

Cartridge assembly B20 C.W.(P1)	VS24-76316
Cartridge assembly B20 C.C.W.(P1)	VS24-76317
Cartridge assembly B22 C.W.(P1)	VS24-76318
Cartridge assembly B22 C.C.W.(P1)	VS24-76319
Cartridge assembly B24 C.W.(P1)	VS24-76320
Cartridge assembly B24 C.C.W.(P1)	VS24-76321
Cartridge assembly B28 C.W.(P1)	VS24-76322
Cartridge assembly B28 C.C.W.(P1)	VS24-76323
Cartridge assembly B31 C.W.(P1)	VS24-76324
Cartridge assembly B31 C.C.W.(P1)	VS24-76325
Cartridge assembly B35 C.W.(P1)	VS24-76326
Cartridge assembly B35 C.C.W.(P1)	VS24-76327
Cartridge assembly B38 C.W.(P1)	VS24-76328

Cartridge assembly B38 C.C.W.(P1)	VS24-76329
Cartridge assembly B42 C.W.(P1)	VS24-76330
Cartridge assembly B42 C.C.W.(P1)	VS24-76331
Cartridge assembly 045 C.W.(P1)	C-S14-72550
Cartridge assembly 045 C.C.W.(P1)	C-S14-72551
Cartridge assembly 050 C.W.(P1)	C-S14-72552
Cartridge assembly 050 C.C.W.(P1)	C-S14-72553
Port plate - rear C.W.	V034-59810
Port plate - rear C.C.W.	V034-59811
Port plate - rear Bi-dir	H-034-67478
Pin vane holdout	V034-59130
Pin vane holdout(only for 045 &050 camrings)	V034-59098
Vane	H-034-67453
Vane(only for 045 &050 camrings)	V034-53588

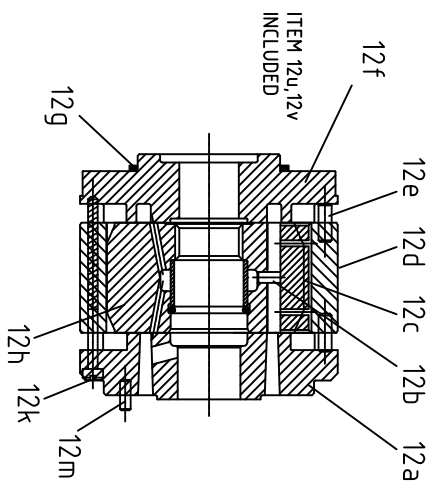
ITEM 10s  
INCLUDED

P3



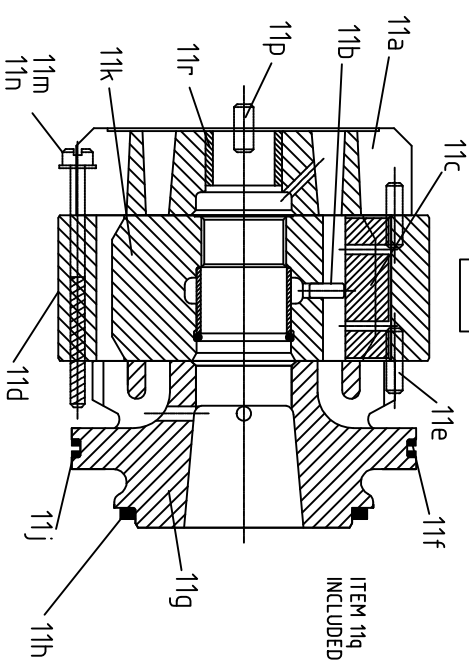
P2

ITEM 12u,12v  
INCLUDED



P1

ITEM 11g  
INCLUDED



11d	Cam ring - 014	H-034-67469	1
	Cam ring - 017	H-034-67470	
	Cam ring - 020	H-034-67159	
	Cam ring - 022	H-034-67482	
	Cam ring - 024	H-034-67158	
	Cam ring - 028	H-034-67157	
	Cam ring - 031	H-034-67156	
	Cam ring - 035	H-034-67155	
	Cam ring - 038	H-034-67154	
	Cam ring - 042	H-034-67153	
	Cam ring - 045	034-59131	
	Cam ring - 050	034-66737	
11e	Dowel pin	V324-21612	2
11f	Back-up ring	V618-15017	1
11g	Port plate - pressure C.W.	V034-59808	1
	Port plate - pressure C.C.W.	V034-59809	
	Port plate - pressure Bi-dir	H-034-67479	

11h	Sq. section seal	V691-10232	1	
11j	Sq. section seal	V691-10244	1	
11k	Rotor-insert ass'y	H-S24-73783	1	
	Rotor-insert ass'y(only fr 045 & 050 camring)	C-S14-72680		
11m	Screw	V317-10320	1	
11n	Lockwasher internal tooth	V348-10010	1	
11p	Dowel pin	V323-82004	1	
11q	Sq. section seal	V671-10159	1	
11r	Bush	V034-70868	1	
12	Cartridge assembly *03 C.W. (P2)	C-S14-72246	C-S14-72274	1
	Cartridge assembly *03 C.C.W. (P2)	C-S14-72247	C-S14-72275	
	Cartridge assembly *05 C.W. (P2)	C-S14-72248	C-S14-72276	
	Cartridge assembly *05 C.C.W. (P2)	C-S14-72249	C-S14-72277	
	Cartridge assembly *06 C.W. (P2)	C-S14-72250	C-S14-72278	
	Cartridge assembly *06 C.C.W. (P2)	C-S14-72251	C-S14-72279	
	Cartridge assembly *08 C.W. (P2)	C-S14-72252	C-S14-72280	
	Cartridge assembly *08 C.C.W. (P2)	C-S14-72253	C-S14-72281	

12a	Cartridge assembly *10 C.W. (P2)	C-S14-72254	C-S14-72282	
	Cartridge assembly *10 C.C.W. (P2)	C-S14-72255	C-S14-72283	
	Cartridge assembly *12 C.W. (P2)	C-S14-72256	C-S14-72284	
	Cartridge assembly *12 C.C.W. (P2)	C-S14-72257	C-S14-72285	
	Cartridge assembly *14 C.W. (P2)	C-S14-72258	C-S14-72286	
	Cartridge assembly *14 C.C.W. (P2)	C-S14-72259	C-S14-72287	
	Cartridge assembly *15 C.W. (P2)	C-S14-72260	C-S14-72288	
	Cartridge assembly *15 C.C.W. (P2)	C-S14-72261	C-S14-72289	
	Cartridge assembly *17 C.W. (P2)	C-S14-72262	C-S14-72290	
	Cartridge assembly *17 C.C.W. (P2)	C-S14-72263	C-S14-72301	
	Cartridge assembly *20 C.W. (P2)	C-S14-72264	C-S14-72291	
	Cartridge assembly *20 C.C.W. (P2)	C-S14-72265	C-S14-72292	
	Cartridge assembly *22 C.W. (P2)	C-S14-72266	C-S14-72293	
	Cartridge assembly *22 C.C.W. (P2)	C-S14-72267	C-S14-72294	
	Cartridge assembly *25 C.W. (P2)	C-S14-72268	C-S14-72295	
	Cartridge assembly *25 C.C.W. (P2)	C-S14-72269	C-S14-72296	
	Cartridge assembly *28 C.W. (P2)	C-S14-72270	C-S14-72297	
	Cartridge assembly *28 C.C.W. (P2)	C-S14-72271	C-S14-72298	
	Cartridge assembly *31 C.W. (P2)	C-S14-72272	C-S14-72299	
	Cartridge assembly *31 C.C.W. (P2)	C-S14-72273	C-S14-72300	
12a	Port plate - rear C.W.	C-034-03155		
	Port plate - rear C.C.W.	C-034-03156		1
			C-034-03181	
12b	Pin vane holdout	V034-59098	V034-59098	12
12c	Vane	V034-59099	V034-59099	12
12d	Cam ring - 003	C-034-03381	C-034-03381	1
	Cam ring - 005	C-034-03382	C-034-03382	
	Cam ring - 006	C-034-03383	C-034-03383	
	Cam ring - 008	C-034-03384	C-034-03384	
	Cam ring - 010	C-034-03385	C-034-03385	
	Cam ring - 012	C-034-03386	C-034-03386	
	Cam ring - 014	C-034-03387	C-034-03387	
	Cam ring - 015	C-034-03388	C-034-03388	
	Cam ring - 017	C-034-03389	C-034-03389	
	Cam ring - 020	C-034-03390	C-034-03390	
	Cam ring - 022	C-034-03391	C-034-03391	
	Cam ring - 025	C-034-03392	C-034-03392	
	Cam ring - 028	C-034-03393	C-034-03393	
	Cam ring - 031	C-034-03394	C-034-03394	
12e	Dowel pin	V324-21208	V324-21208	2
12f	Port plate - pressure C.W.	C-034-03332		1
	Port plate - pressure C.C.W.	C-034-03333		
	Port plate - pressure(Bi-Dir)		C-034-03334	
12g	Sq. section seal	V691-10229	V691-10229	1

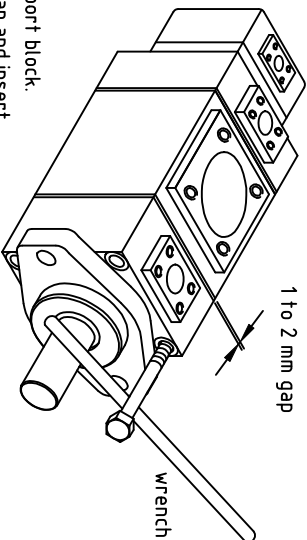
12h	Rotor-insert ass'y	VS24-10350	VS24-10350	1
12k	Screw	V317-06266	V317-06266	2
12m	Dowel pin	V323-82010	V323-82010	1
12p	Sq. section seal	V691-10238	V691-10238	1
13	Cartridge assembly B02 C.W.(P3)		VS24-50144	1
	Cartridge assembly B02 C.C.W.(P3)		VS24-50145	
	Cartridge assembly B03 C.W.(P3)		VS24-50146	
	Cartridge assembly B03 C.C.W.(P3)		VS24-50147	
	Cartridge assembly B04 C.W.(P3)		VS24-50148	
	Cartridge assembly B04 C.C.W.(P3)		VS24-50149	
	Cartridge assembly B05 C.W.(P3)		VS24-50150	
	Cartridge assembly B05 C.C.W.(P3)		VS24-50151	
	Cartridge assembly B06 C.W.(P3)		VS24-50152	
	Cartridge assembly B06 C.C.W.(P3)		VS24-50153	
	Cartridge assembly B07 C.W.(P3)		VS24-59970	
	Cartridge assembly B07 C.C.W.(P3)		VS24-59971	
	Cartridge assembly B08 C.W.(P3)		VS24-50154	
	Cartridge assembly B08 C.C.W.(P3)		VS24-50155	
	Cartridge assembly B09 C.W.(P3)		VS24-77219	
	Cartridge assembly B09 C.C.W.(P3)		VS24-77220	
	Cartridge assembly B10 C.W.(P3)		VS24-50156	
	Cartridge assembly B10 C.C.W.(P3)		VS24-50157	
	Cartridge assembly B11 C.W.(P3)		VS24-77221	
	Cartridge assembly B11 C.C.W.(P3)		VS24-77233	
	Cartridge assembly B12 C.W.(P3)		VS24-59005	
	Cartridge assembly B12 C.C.W.(P3)		VS24-59006	
	Cartridge assembly B14 C.W.(P3)		VS24-72881	
	Cartridge assembly B14 C.C.W.(P3)		VS24-77224	
	Cartridge assembly B15 C.W.(P3)		VS24-59007	
	Cartridge assembly B15 C.C.W.(P3)		VS24-59008	
13a	Port plate - rear (Bi-dir)		H-034-66921	1
13b	Pin vane holdout		H-034-66920	12
13c	Vane		H-034-66917	12
13d	Cam ring - B02		H-034-66909	1
	Cam ring - B03		H-034-66910	
	Cam ring - B04		H-034-66911	
	Cam ring - B05		H-034-66912	
	Cam ring - B06		H-034-66913	
	Cam ring - B07		H-034-67063	
	Cam ring - B08		H-034-66914	
	Cam ring - B09		H-034-67383	
	Cam ring - B10		H-034-66915	
	Cam ring - B11		H-034-67461	
	Cam ring - B12		H-034-67032	
	Cam ring - B14		H-034-67409	
	Cam ring - B15		H-034-67034	

13e	Dowel pin			034-21208	1
13f	Back-up ring			V618-15016	1
13g	Port plate - pressure (Bi-dir)			H-034-66923	1
13h	Sq. section seal			V691-10137	1
13i	Sq. section seal			V691-10235	1
13k	Rotor-insert ass'y (P3)			H-S24-49820	1
13m	Screw			V317-06246	2
13n	Dowel pin			V323-82010	1
13q	O-ring			V691-00045	1
9,11f					
11h,11j	Seal kit (S1 - 0.7 bar)	VS24-25575	VS24-25575		1
11q,12g	Seal kit (S4 - 7 bar)	VS24-25575-4	VS24-25575-4		
12p,13h					
13j,13q	Seal kit (S5 - 7 bar)	VS24-25575-5	VS24-25575-5		
11a	Port plate - rear and bush ass'y C.W.(only for 045 & 050)	VS24-10829			1
11p	Port plate - rear and bush ass'y C.C.W.(only for 045 & 050)	VS24-10830			
11r	Port plate - rear and bush ass'y Bi-dir (P1)		VS24-76332		
12a	Port plate - rear ass'y C.W. (P2)	VS24-10806			1
12m	Port plate - rear ass'y C.C.W. (P2)	VS24-10805			
	Port plate - rear ass'y Bi-dir (P2)		VS24-10418		
13a,13p	Port plate - rear and bush ass'y Bi-dir (P3)		S24-49791		1

0 - Standard B - Bi-directional plates

To change porting position, follow the steps below:

1. Secure pump and remove 4 bolts from mounting flange, move the mounting flange 1 to 2 mm away from housing. Insert One bolt halfway to mounting flange. Install a Wrench between the shaft and bolt and turn in the desired way, so that the required position of P1 port with respect to suction is obtained. Reinstall the bolts and tighten to corresponding torque.
2. To change P2 position, remove 4 bolts from port block. Remove 2 bolts (diagonally opposite) from end cap and insert them halfway to end cap. Install a wrench between these two bolts and turn in the desired way, so that required position of P2 port with respect to suction is obtained.
3. Follow the similar procedure for changing P3 position. Use wrench between two bolts placed diagonally opposite.



port block cartridge pin to move out from the housing dowel pin hole, make sure no piece of paint enters in to the gap to avoid leakage. If it is difficult to turn housing put some hydraulic oil to the pressure ports to lubricate the pressure port seals.

## PORTING COMBINATION

00		01		02		03		04		05		06		07	
08		09		10		11		12		13		14		15	
16		17		18		19		20		21		22		23	
24		25		26		27		28		29		30		31	
32		33		34		35		36		37		38		39	
40		41		42		43		44		45		46		47	
48		49		50		51		52		53		54		55	
56		57		58		59		60		61		62		63	

# MODEL CODE

## MODEL CODE

VT7QDCB

B38

017

B02

1 R 00

B 1 01

\*

Series

\_\_\_\_\_

P1

P2

P3

Cam ring for "P1"

Volumetric displacement cm<sup>3</sup>/rev (in<sup>3</sup>/rev)

B14 = 4.3.9 (2.68)	B31 = 99.1 (6.05)
B17 = 55.0 (3.36)	B35 = 113.4 (6.92)
B20 = 66.0 (4.03)	B38 = 120.6 (7.36)
B22 = 70.3 (4.29)	B42 = 137.5 (8.39)
B24 = 81.1 (4.95)	045 = 145.7 (8.89)
B28 = 89.9 (5.49)	050 = 157.9 (9.64)

Cam ring for "P2"

Volumetric displacement cm<sup>3</sup>/rev (in<sup>3</sup>/rev)

003/B03 = 10.8 (0.66)	015/B15 = 50.5 (3.08)
005/B05 = 17.2 (1.05)	017/B17 = 58.3 (3.56)
006/B06 = 21.3 (1.30)	020/B20 = 63.8 (3.89)
008/B08 = 26.4 (1.61)	022/B22 = 70.3 (4.29)
010/B10 = 34.1 (2.08)	025/B25 = 79.3 (4.84)
012/B12 = 37.1 (2.26)	028/B28 = 88.8 (5.42)
014/B14 = 46.0 (2.81)	031/B31 = 100.0 (6.10)

\*0' - Uni - directional 'B' - Bi - directional

Cam ring for "P3"

Volumetric displacement cm<sup>3</sup>/rev (in<sup>3</sup>/rev)

B02 = 5.7 (0.35)	B12 = 40.9 (2.50)
B03 = 9.8 (0.60)	B14 = 45.1 (2.75)
B04 = 12.8 (0.78)	B15 = 50.0 (3.05)
B05 = 15.9 (0.97)	
B06 = 19.8 (1.21)	
B08 = 24.9 (1.52)	
B07 = 22.5 (1.37)	
B09 = 28.0 (1.71)	
B10 = 31.8 (1.94)	
B11 = 34.9 (2.13)	

Modifications  
Port connections

P1=1 1/4"	P2=1"	P3=3/4"	S=4"
UNC		METRIC	
01		M1	

Seal class

- 1 - S1 (for mineral oil)
- 4 - S4 (for fire resistant fluids)
- 5 - S5 (for mineral oil and fire resistant fluids)

Design letter

Porting combination (see page A1-31-5)  
00 - standard

Direction of rotation (view on shaft end)

- R - clockwise
- L - counter-clockwise

Type of Shaft

- 1 - Keyed (no SAE)
- 2 - Keyed (SAE CC)
- 3 - Splined (SAE C)
- 4 - Splined (SAE CC)

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