



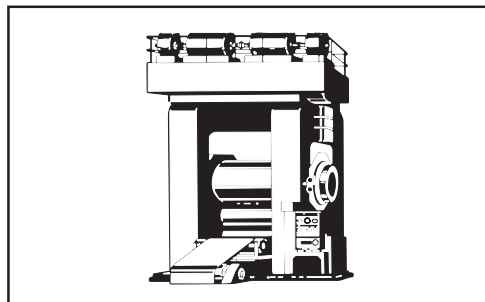
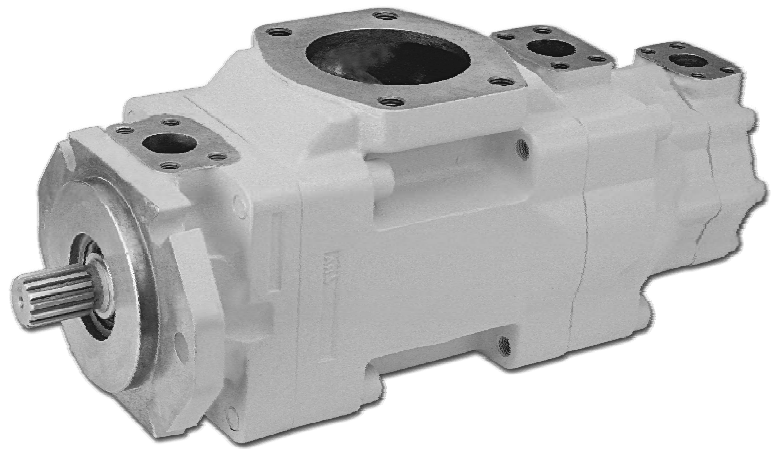
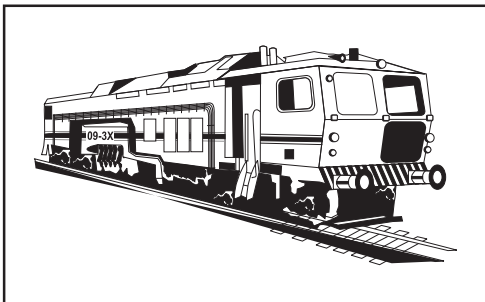
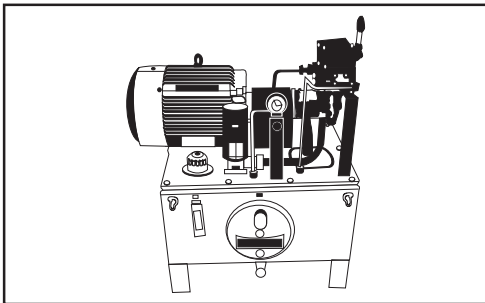
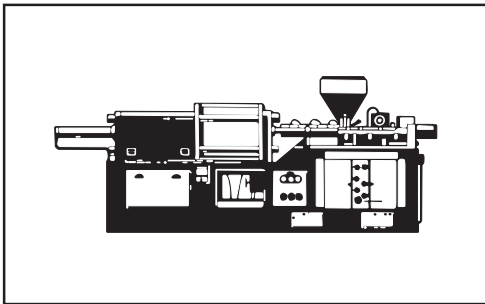
**VELJAN**

**Service Information**

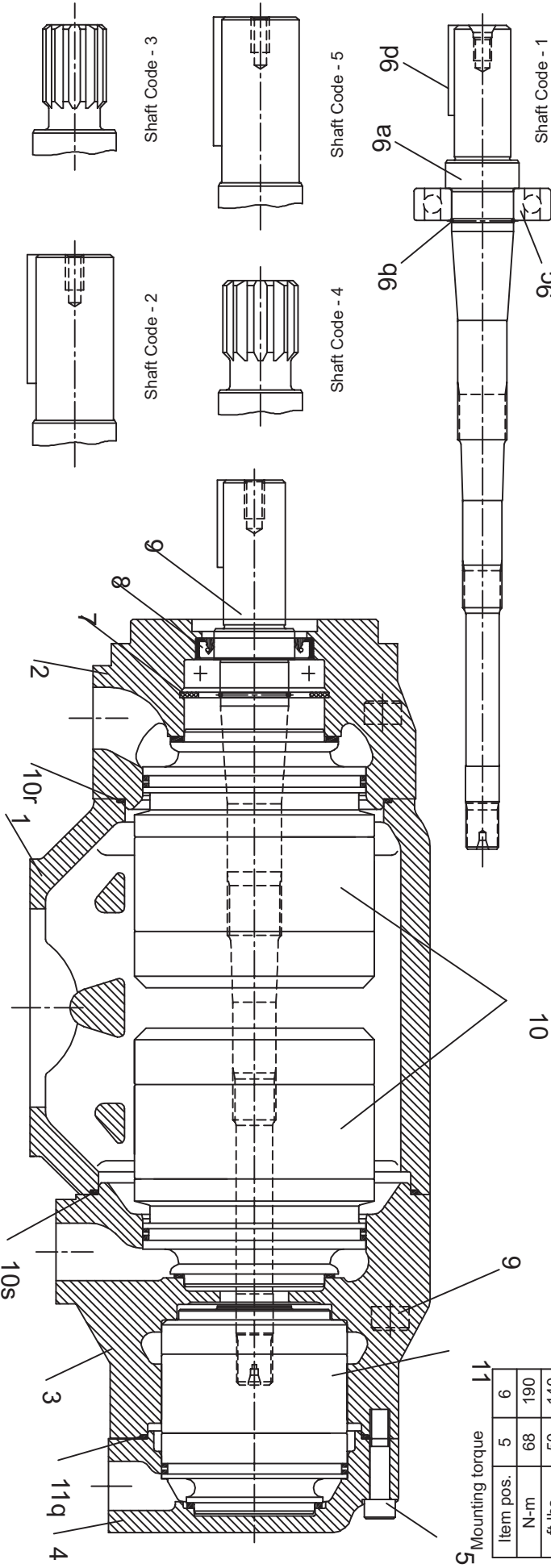
**SS4 - 00129**

## **VT6DDCS**

### **Triple vane pump**



Bold printed are recommended repair kits and assemblies



5 Mounting torque

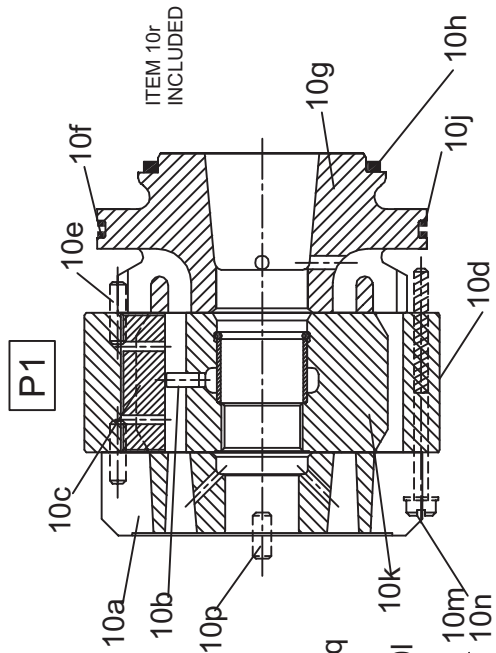
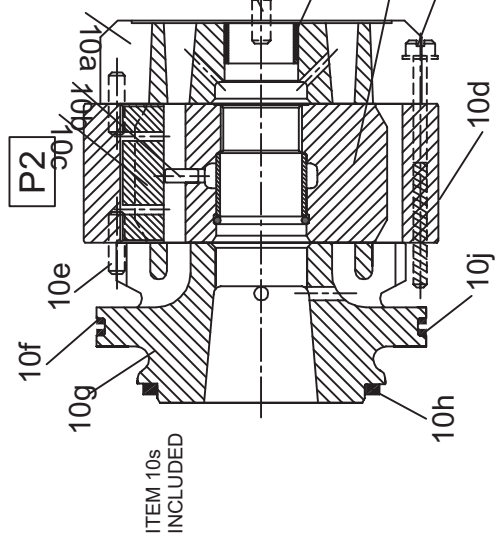
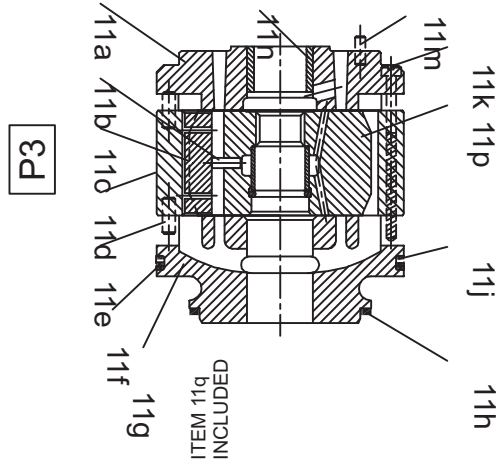
Item pos.	5	6
N-m	68	190
ft-lbs	50	140

Item pos.	Description	Part No.		Qty
		VT6DDCS		
8	Shaft seal (S1-0.7 bar)	V620-82064		1
	Shaft seal (S4-S5-7 bar)	V620-82072		
9	Shaft and bearing ass'y (Code-1)	VS24-72358		1
	Shaft and bearing ass'y (Code-2)	VS24-72359		
	Shaft and bearing ass'y (Code-3)	VS24-72360		
	Shaft and bearing ass'y (Code-4)	VS24-72361		
	Shaft and bearing ass'y (Code-5)	VS24-72362		
9a	Shaft (Keyed) (Code-1)	C-034-03158		1
	Shaft (Keyed) (Code-2)	C-034-03159		
	Shaft (Splined) (Code-3)	C-034-03160		
	Shaft (splined) (Code-4)	C-034-03161		
	Shaft (Keyed) (Code-5)	C-034-03162		
9b	Round section ring	V034-70853		1
9c	Ball bearing	V230-00207		1
9d	Key (Code -1)	V034-46754		1

Item pos.	Description	Part No.		Qty
		VT6DDCS		
1	Housing (UNC)	C-034-03163		1
	Housing (Metric)	C-034-03164		
2	Mounting flange (UNC)	H-034-67343		1
	Mounting flange (Metric)	H-034-67342		
3	Port block (UNC)	H-034-66812		1
	Port block (Metric)	H-034-66783		
4	End cap (UNC) (P3 = 3/4")	V034-66523		1
	End cap (UNC) (P3 = 1")	V034-48579		
	End cap (Metric) (P3 = 3/4")	H-034-66765		
	End cap (Metric) (P3 = 1")	H-034-71327		
5	Mounting Screw	V361-11264-3		7
6	Mounting Screw	V361-14324-3		8
	Retaining ring	V356-32283		1

Key (Code -2)	V034-70330	1
Key (Code -5)	V034-66980	
10	VS24-40791	1
	VS24-40792	
	VS24-63800	
	VS24-63801	
	VS24-26490	
	VS24-26491	

	Cartridge assembly 024 C.W. (P1)	VS24-25891
	Cartridge assembly 024 C.C.W. (P1)	VS24-25892
	Cartridge assembly 028 C.W. (P1)	VS24-10849
	Cartridge assembly 028 C.C.W. (P1)	VS24-10850
	Cartridge assembly 031 C.W. (P1)	VS24-10851
	Cartridge assembly 031 C.C.W. (P1)	VS24-10852
	Cartridge assembly 035 C.W. (P1)	VS24-10853
	Cartridge assembly 035 C.C.W. (P1)	VS24-10854
	Cartridge assembly 038 C.W. (P1)	VS24-10855



	Cartridge assembly 038 C.C.W. (P1)	VS24-10856
	Cartridge assembly 042 C.W. (P1)	VS24-10857
	Cartridge assembly 042 C.C.W. (P1)	VS24-10858
	Cartridge assembly 045 C.W. (P1)	VS24-10859
	Cartridge assembly 045 C.C.W. (P1)	VS24-10860
	Cartridge assembly 050 C.W. (P1)	VS24-40236
	Cartridge assembly 050 C.C.W. (P1)	VS24-40237
	Cartridge assembly 061 C.W. (P1)	C-S14-71608
	Cartridge assembly 061 C.C.W. (P1)	C-S14-71609
	Cartridge assembly 014 C.W. (P2)	VS24-58160
	Cartridge assembly 014 C.C.W. (P2)	VS24-58161
	Cartridge assembly 017 C.W. (P2)	VS24-59677
	Cartridge assembly 017 C.C.W. (P2)	VS24-72348
	Cartridge assembly 020 C.W. (P2)	VS24-58162
	Cartridge assembly 020 C.C.W. (P2)	VS24-58163
	Cartridge assembly 024 C.W. (P2)	VS24-58164

	Cartridge assembly 024 C.C.W. (P2)	VS24-58165
	Cartridge assembly 028 C.W. (P2)	VS24-58166
	Cartridge assembly 028 C.C.W. (P2)	VS24-58167
	Cartridge assembly 031 C.W. (P2)	VS24-58168
	Cartridge assembly 031 C.C.W. (P2)	VS24-58169
	Cartridge assembly 035 C.W. (P2)	VS24-58170
	Cartridge assembly 035 C.C.W. (P2)	VS24-58171
	Cartridge assembly 038 C.W. (P2)	VS24-58172
	Cartridge assembly 038 C.C.W. (P2)	VS24-58173
	Cartridge assembly 042 C.W. (P2)	VS24-58174
	Cartridge assembly 042 C.C.W. (P2)	VS24-58175
	Cartridge assembly 045 C.W. (P2)	VS24-58176
	Cartridge assembly 045 C.C.W. (P2)	VS24-58177
	Cartridge assembly 050 C.W. (P2)	VS24-58178
	Cartridge assembly 050 C.C.W. (P2)	VS24-58195
	Cartridge assembly 061 C.W. (P2)	C-S14-72173
	Cartridge assembly 061 C.C.W. (P2)	C-S14-72174

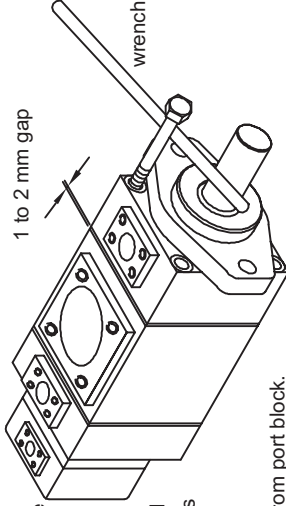
10a	Port plate - rear C.W.	V034-59810	2
	Port plate - rear C.C.W.	V034-59811	
10b	Pin vane holdout	V034-59130	20
10c	Vane	V034-53588	20
10d	Cam ring - 014	V034-66708	2
	Cam ring - 017	V034-67028	
	Cam ring - 020	V034-66596	
	Cam ring - 024	V034-59294	
	Cam ring - 028	V034-59133	
	Cam ring - 031	V034-59135	
	Cam ring - 035	V034-59137	
	Cam ring - 038	V034-59139	
	Cam ring - 042	V034-59132	
	Cam ring - 045	V034-59131	
	Cam ring - 050	V034-66737	
	Cam ring - 061	V034-67127	
10e	Dowel pin	V03421612	4
10e	Back-up ring	V620-15017	2
10g	Pressure port plate C.W	V034-59808	2
	Pressure port plate C.C.W	V034-59809	
10h	Sq.section seal	V691-10232	2
10j	Sq.section seal	V691-10244	2
10k	Rotor-insert assy	VS24-10121	1
10l	Rotor-insert assy	H-S24-51350	1
10m	Screw	V317-10320	4
10n	Lockwasher internal tooth	V348-10010	4
10p	Dowel pin	V323-82004	2
10q	Bearing bush	V034-70868	1
10r,10s	Sq. section seal	V671-10159	2
	Cartridge assembly 003 C.W. (P3)	VS24-10749	1
	Cartridge assembly 003 C.C.W. (P3)	VS24-10750	
	Cartridge assembly 005 C.W. (P3)	VS24-10751	
	Cartridge assembly 005 C.C.W. (P3)	VS24-10752	
	Cartridge assembly 006 C.W. (P3)	VS24-10753	
	Cartridge assembly 006 C.C.W. (P3)	VS24-10754	
	Cartridge assembly 008 C.W. (P3)	VS24-10755	
	Cartridge assembly 008 C.C.W. (P3)	VS24-10756	
	Cartridge assembly 010 C.W. (P3)	VS24-10757	
	Cartridge assembly 010 C.C.W. (P3)	VS24-10758	
	Cartridge assembly 012 C.W. (P3)	VS24-26482	
	Cartridge assembly 012 C.C.W. (P3)	VS24-26483	
	Cartridge assembly 014 C.W. (P3)	VS24-10759	
	Cartridge assembly 014 C.C.W. (P3)	VS24-10760	
	Cartridge assembly 015 C.W. (P3)	C-S14-72137	

	Cartridge assembly 015 C.C.W. (P3)	C-S14-72138	
	Cartridge assembly 017 C.W. (P3)	VS24-10761	
	Cartridge assembly 017 C.C.W. (P3)	VS24-10762	
	Cartridge assembly 020 C.W. (P3)	VS24-31023	
	Cartridge assembly 020 C.C.W. (P3)	VS24-40032	
	Cartridge assembly 022 C.W. (P3)	VS24-10763	
	Cartridge assembly 022 C.C.W. (P3)	VS24-10764	
	Cartridge assembly 025 C.W. (P3)	VS24-10765	
	Cartridge assembly 025 C.C.W. (P3)	VS24-10766	
	Cartridge assembly 028 C.W. (P3)	VS24-25547	
	Cartridge assembly 028 C.C.W. (P3)	VS24-25546	
	Cartridge assembly 031 C.W. (P3)	VS24-45771	
	Cartridge assembly 031 C.C.W. (P3)	VS24-45772	
11a	Port plate - rear C.W.	V034-59776	1
	Port plate - rear C.C.W.	V034-59777	
11b	Pin vane holdout	V034-59098	10
11c	Vane	V034-59099	10
11d	Cam ring - 003	V034-59050	1
	Cam ring - 005	V034-59051	
	Cam ring - 006	V034-59052	
	Cam ring - 008	V034-59053	
	Cam ring - 010	V034-59054	
	Cam ring - 012	V034-66595	
	Cam ring - 014	V034-59206	
	Cam ring - 015	C-034-66893	
	Cam ring - 017	V034-59207	
	Cam ring - 020	V034-66607	
	Cam ring - 022	V034-59208	
	Cam ring - 025	V034-59209	
	Cam ring - 028	V034-59245	
	Cam ring - 031	V034-66843	
11e	Dowel pin	V324-21208	2
11f	Back-up ring	V618-15016	1
11g	Port plate - pressure C.W.	V034-59772	1
	Port plate - pressure C.C.W.	V034-59773	
11h	Sq. section seal	V691-10229	1
11j	Sq. section seal	V691-10238	1
11k	Screw	V317-06266	2
11m	Dowel pin	V323-82010	1
11n	Bearing bush	V034-59412	1
11p	Rotor-insert ass'y	VS24-10116	1
11q	Sq. section seal	V691-10156	1

8,10h	Seal kit (S1 - 0.7 bar)	VS24-72357	1
10i,10e	Seal kit (S4 - 7 bar)	VS24-72357-4	
10r,10s	Seal kit (S5 - 7 bar)	VS24-72357-5	
11h,11j			
11f,11q			
10a	Port plate - rear assy C.W. (P1)	VS24-63950	1
10p	Port plate - rear assy C.C.W. (P1)	VS24-63951	
10a	Port plate - rear and bush assy C.W. (P2)	VS24-63709	1
10p,10q	Port plate - rear and bush assy C.C.W. (P2)	VS24-63710	
11a	Port plate - rear and bush assy C.W. (P3)	VS24-10807	1
11m,11n	Port plate - rear and bush assy C.C.W. (P3)	VS24-10808	

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.

Instruction : Do not remove mounting flange/port block/end cap completely from the housing/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	P1 - P2 - P3 S	01	P1 - P2 - P3 S	02	S - P1 - P2 - P3 S	03	P1 - P2 - P3 S	04	P1 S - P2 - P3	05	P1 S - P2 - P3	06	P1 S - P2 - P3	07	S - P1 P2 - P3
08	P1 - S P2 - P3	09	P1 - S P2 - P3	10	P1 P2 - P3	11	P1 - P2 S - P3	12	P1 - P2 S - P3	13	P1 - P3 S - P2	14	P1 S - P2 - P3	15	P1 - P3 S - P2
16	S - P1 - P2 P3	17	S - P1 - P2 P3	18	S - P1 - P2 P3	19	S - P1 - P3 P2	20	S - P1 - P3 P2	21	S - P1 - P3 P2	22	P1 - P2 S - P3	23	P1 S - P2 - P3
24	P1 P2 - P3 S	25	S - P1 P2 - P3 S	26	P1 S - P2 - P3	27	P1 - P3 S - P2	28	S - P1 P2 - P3	29	S - P1 P2 - P3	30	S - P1 P2 - P3	31	S - P1 P2 - P3
32	S - P1 P2 - P3	33	S - P1 P2 - P3	34	P1 - P2 P3	35	P1 - P2 P3	36	P1 - P2 P3	37	P1 - P2 P3	38	P1 - P2 P3	39	P1 - P2 P3
40	P1 - P3 P2	41	P1 - P3 P2	42	P1 - P3 P2	43	P1 - P3 P2	44	P1 - P3 P2	45	P1 - P3 P2	46	P1 - P3 P2	47	P1 - P3 P2
48	P1 P2 - P3	49	P1 P2 - P3	50	P1 P2 - P3	51	P1 P2 - P3	52	P1 P2 - P3	53	P1 P2 - P3	54	P1 P2 - P3	55	P1 P2 - P3
56	P1 P2 - P3	57	P1 P2 - P3	58	P1 P2 - P3	59	P1 P2 - P3	60	P1 P2 - P3	61	P1 P2 - P3	62	P1 P2 - P3	63	P1 P2 - P3

# MODEL CODE

Series \_\_\_\_\_ VT6DDDCS - 042 - 035 - 010 - 1 R 00 - B 1 01 - \*

Series \_\_\_\_\_

Cam ring	Displacement in <sup>3</sup> /rev (cm <sup>3</sup> /rev)	Cam ring	Displacement in <sup>3</sup> /rev (cm <sup>3</sup> /rev)
014	= 2.90 (47.6)	035	= 6.80 (111.0)
017	= 3.55 (58.2)	038	= 7.30 (120.3)
020	= 4.00 (66.0)	042	= 8.30 (136.0)
024	= 4.80 (79.5)	045	= 8.90 (145.7)
028	= 5.50 (89.7)	050	= 9.64 (158.0)
031	= 6.00 (98.3)	061	= 11.62 (190.5)

Cam ring	Displacement in <sup>3</sup> /rev (cm <sup>3</sup> /rev)	Cam ring	Displacement in <sup>3</sup> /rev (cm <sup>3</sup> /rev)
003	= 0.66 (10.8)	015	= 3.08 (50.5)
005	= 1.05 (17.2)	017	= 3.56 (58.3)
006	= 1.30 (21.3)	020	= 3.89 (63.8)
008	= 1.61 (26.4)	022	= 4.29 (70.3)
010	= 2.08 (34.1)	025	= 4.84 (79.3)
012	= 2.26 (37.1)	028	= 5.42 (88.8)
014	= 2.81 (46.0)	031	= 6.10 (100.0)

Type of Shaft \_\_\_\_\_

- 1 = Keyed (SAE C)
- 2 = Keyed (SAE-CC)
- 3 = Splined (SAE -C)
- 4 = Splined (SAE- CC)
- 5 = Keyed (non SAE)

Notes :

Modification

Port connection variables  
SAE 4 bolt flange (J518c)

P1 & P2 = 1"1/4 S=4"	
Type	UNC METRIC
P3	1" 3/4" 1" 3/4"
CODE	E00 01 MQ M1

Seal class

- 1 = S1 - BUNA N
- 4 = S4 - EPDM
- 5 = S5 - VITON

Design letter

Porting combination  
(00 = Standard)

Direction of rotation  
R = Clockwise  
L = Counter - clockwise