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3MICT

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VT6B - B09 - 1 R 00 - D 1 02 *

Series

Cam ring

Volumetric displacement cm³/rev (in³/rev)

B02 = 5.8 (0.35)	B08 = 24.9 (1.52)
B03 = 9.8 (0.59)	B09 = 28.0 (1.71)
B04 = 12.8 (0.78)	B10 = 31.8 (1.94)
B05 = 15.9 (0.97)	B11 = 34.9 (2.13)
B06 = 19.8 (1.21)	B12 = 41.0 (2.50)(cont. 175 bar, Max. int 210 bar)
B07 = 22.5 (1.37)	B14 = 45.0 (2.75)(cont. 140 bar, Max. int 175 bar)

Type of Shaft

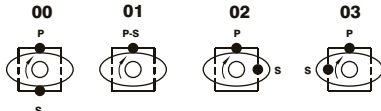
- 1 - Keyed (Non SAE)
- 2 - Keyed
- 3 - Splined (SAE A)
- 4 - Splined (SAE B)
- 5 - Splined SAE (11 teeth)
- 11 - Splined

Direction of rotation (view on shaft end)

- R - clockwise
- L - counter-clockwise

Porting combination

00 - standard



S - Suction port **P** - Pressure port

Modifications

Port connections

CODE	S	P
00	SAE 20 1-5/8" 12 UNF-2B	SAE 12 1-1/16" 12 UNF-2B
01	1-1/4" SAE 4 bolt (UNC)	3/4" SAE 4 bolt (UNC)
M0	1-1/4" SAE 4 bolt (METRIC)	3/4" SAE 4 bolt (METRIC)
02	1-1/4" BSP	3/4" BSP
03	1-1/4" NPTF	SAE 12 1-1/16" 12 UNF-2B
0X	1-1/4" NPTF	3/4" NPTF

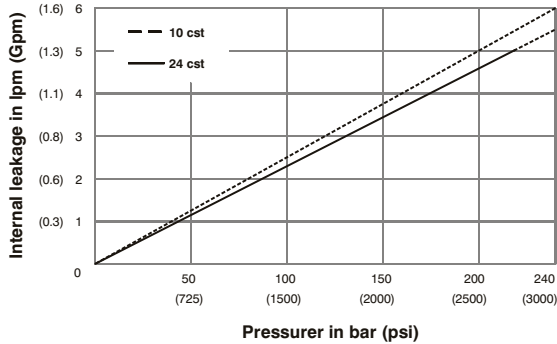
Seal class

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

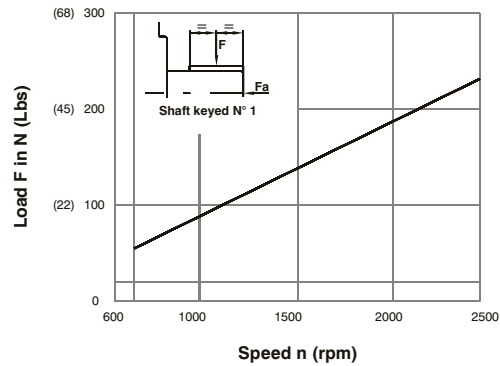
Design letter

VP
SP

INTERNAL LEAKAGE (TYPICAL)



PERMISSIBLE RADIAL LOAD



Maximum axial load permissible Fa = 500 N (113 Lbs)

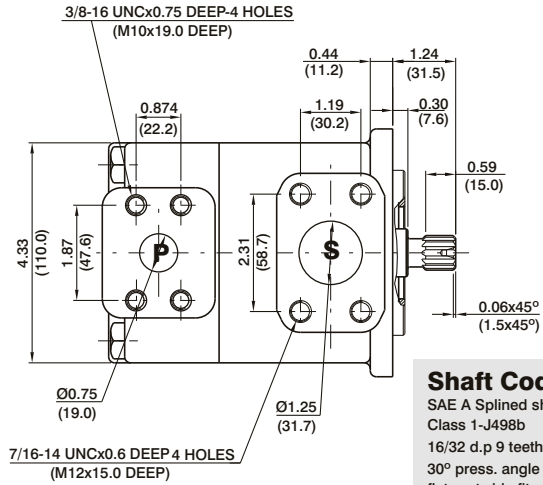
OPERATING CHARACTERISTICS (24 cSt)

Pressure port	Series	Volumetric Displacement Vp		Flow q & n = 1500 rpm						Input power p & n = 1500 rpm					
		in ³ /rev	cm ³ /rev	p = 0 bar (0 psi)		p = 140 bar (2000 psi)		p = 210 bar (3000 psi)		p = 7 bar (100 psi)		p = 140 bar (2000 psi)		p = 210 bar (3000 psi)	
				gpm	lpm	gpm	lpm	gpm	lpm	hp	kw	hp	kw	hp	kw
VT6B	B02	0.35	5.8	2.30	8.7	1.4	5.9	--	--	0.53	0.4	2.81	2.1	--	--
	B03	0.59	9.8	3.88	14.7	2.9	11.9	2.7	10.5	0.67	0.5	3.62	2.7	--	--
	B04	0.78	12.8	5.08	19.2	4.33	16.4	3.97	15.0	0.93	0.7	5.23	3.9	10.06	7.5
	B05	0.97	15.9	6.31	23.8	5.55	21.0	5.18	19.6	1.00	0.75	6.64	4.9	11.2	8.3
	B06	1.21	19.8	7.85	29.7	7.12	26.9	6.66	25.2	1.07	0.8	8.05	6.0	12.34	9.2
	B07	1.37	22.5	8.92	33.7	8.17	30.9	7.80	29.5	1.20	0.9	9.05	6.7	14.02	10.4
	B08	1.52	24.9	9.89	37.4	9.15	34.6	8.78	33.2	1.34	1.0	10.05	7.5	15.69	11.7
	B09	1.71	28.0	11.11	42.0	10.37	39.2	10.00	37.8	1.47	1.1	11.94	8.9	23.60	17.6
	B10	1.94	31.8	12.61	47.7	11.87	44.9	11.51	43.5	1.6	1.2	13.0	9.7	26.0	19.6
	B11	2.13	34.9	13.85	52.3	13.09	49.5	12.72	48.1	1.7	1.3	14.0	10.5	28.0	21.0
	B12	2.50	41.0	16.27	61.5	15.53	58.7	*	*	1.8	1.4	15.02	11.2	*	*
	B14	2.75	45.0	17.86	67.5	17.12	64.7	**	**	2.1	1.6	15.42	11.5	**	**

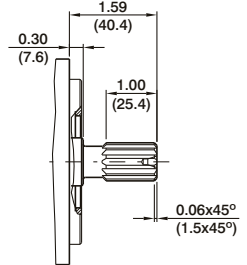
- Not to use because internal leakage greater than 50% of theoretical flow.

* B12 = 210 bar(3000 psi) Max.Int

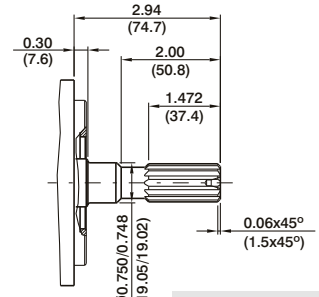
** B14 = 175 bar(2500 psi) Max.Int



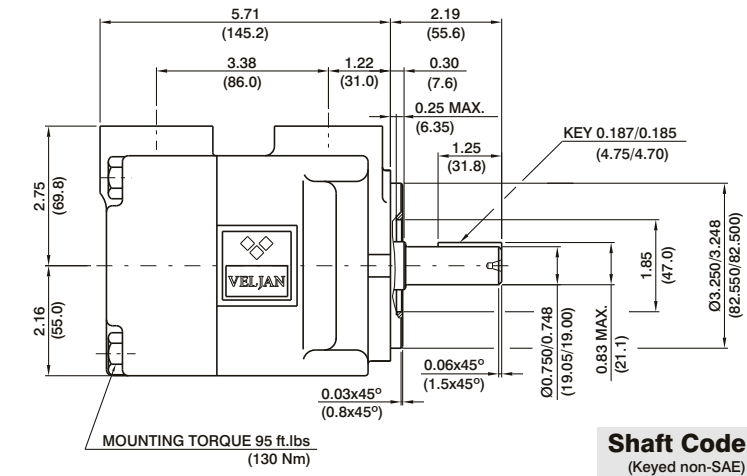
Shaft Code 3
SAE A Splined shaft
Class 1-J498b
16/32 d.p 9 teeth
30° press. angle
flat root side fit



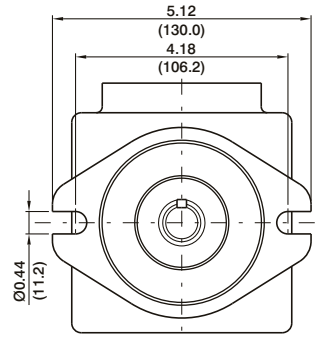
Shaft Code 4
SAE B Splined shaft
Class 1-J498b
16/32 d.p 13 teeth
30° press. angle
flat root side fit



Shaft Code 11
Splined shaft
Class 1-J498b
16/32 d.p 11 teeth
30° press. angle
flat root side fit

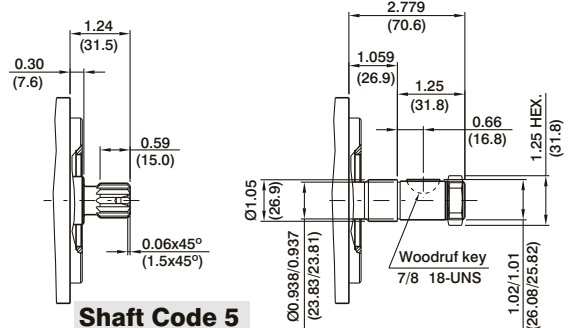


Shaft Code 1
(Keyed non-SAE)



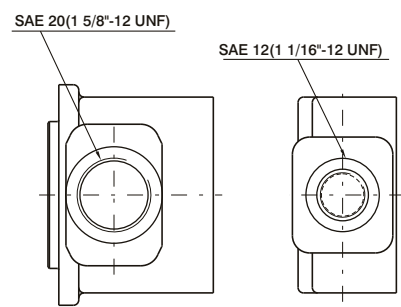
Shaft torque limits in³/revxpsi(ml/revxbar)

Shaft	Vp x p max.
3	5119 (5780)
4	18246 (20600)

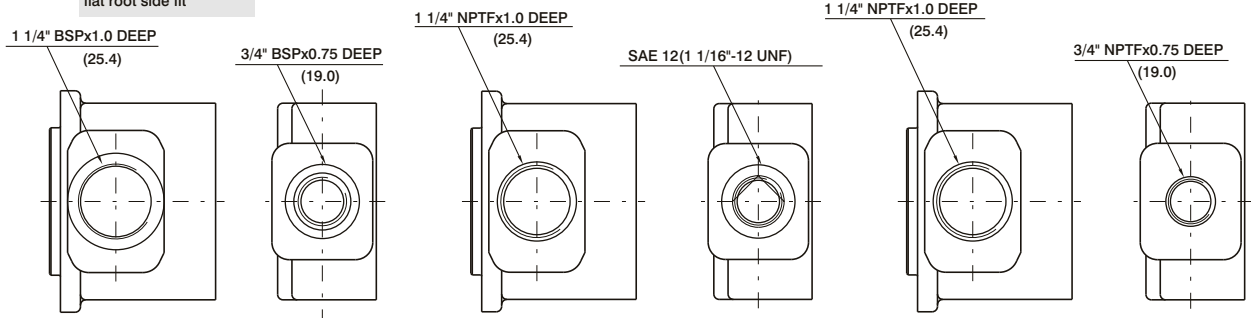


Shaft Code 5
SAE Splined shaft
Class 1-J498b
16/32 d.p 11 teeth
30° press. angle
flat root side fit

Shaft Code 2
Woodruff key
Recommended
nut Torque
125 ft.lbs (170 Nm)



PORT CONNECTION 00



PORT CONNECTION 02

PORT CONNECTION 03

PORT CONNECTION 0X

VP
SP

Series ————— **VT6C * - 022 - 1 R 00 - B 1 ***

Y - Metric port connection, Omit for UNC

Cam ring —————

Volumetric displacement cm^3/rev (in^3/rev)

*003/B03/Y03 = 10.8 (0.66)	015/B15/Y15 = 50.5 (3.08)
005/B05/Y05 = 17.2 (1.05)	017/B17/Y17 = 58.3 (3.56)
006/B06/Y06 = 21.3 (1.30)	020/B20/Y20 = 63.8 (3.89)
008/B08/Y08 = 26.4 (1.61)	022/B22/Y22 = 70.3 (4.29)
010/B10/Y10 = 34.1 (2.08)	025/B25/Y25 = 79.3 (4.84)
012/B12/Y12 = 37.1 (2.26)	028/B28/Y28 = 88.8 (5.42)
014/B14/Y14 = 46.0 (2.81)	031/B31/Y31 = 100.0 (6.10)

*'0' - Uni - directional 'B' - Bi - directional 'Y' - Bi - directional for cold start

Type of shaft —————

- 1 - keyed (SAE B)
- 2 - keyed (no SAE)
- 3 - splined (SAE B)
- 4 - splined (SAE BB)

Modifications

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

00 - standard

00

01

02

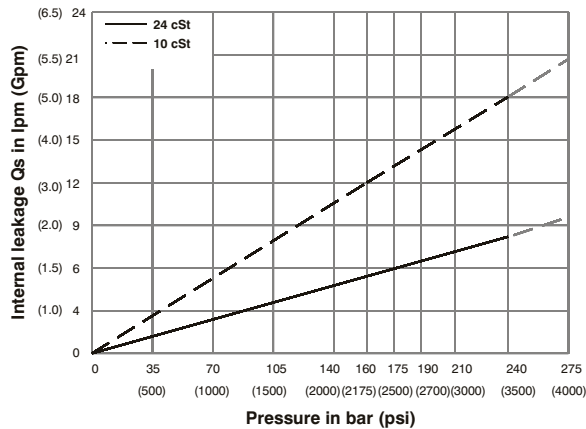
03

S - Suction port **P** - Pressure port

Direction of rotation (view on shaft end)

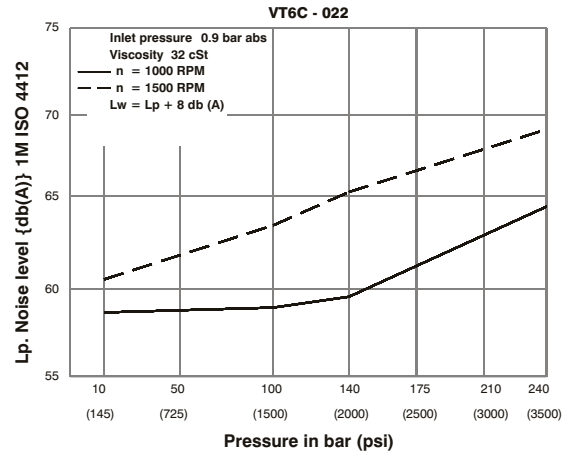
- R - clockwise
- L - counter-clockwise

INTERNAL LEAKAGE (TYPICAL)

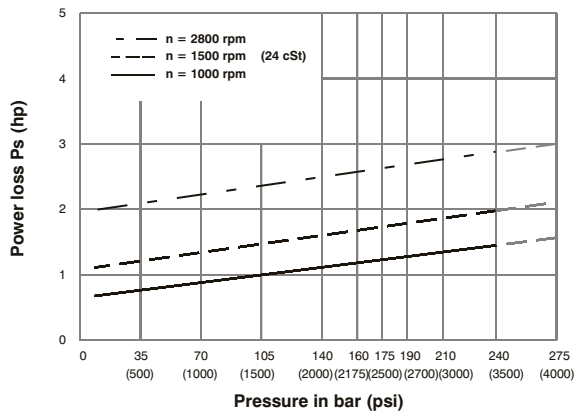


Do not operate pump more than 5 seconds at any speed or viscosity if internal leakage is more than 50% of theoretical flow.

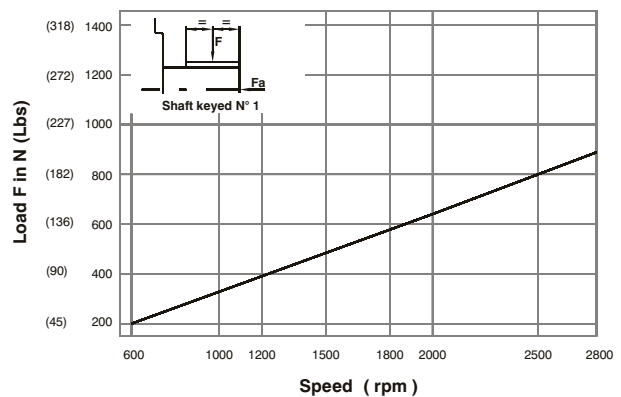
NOISE LEVEL (TYPICAL)



HYDROMECHANICAL POWER LOSS (TYPICAL)

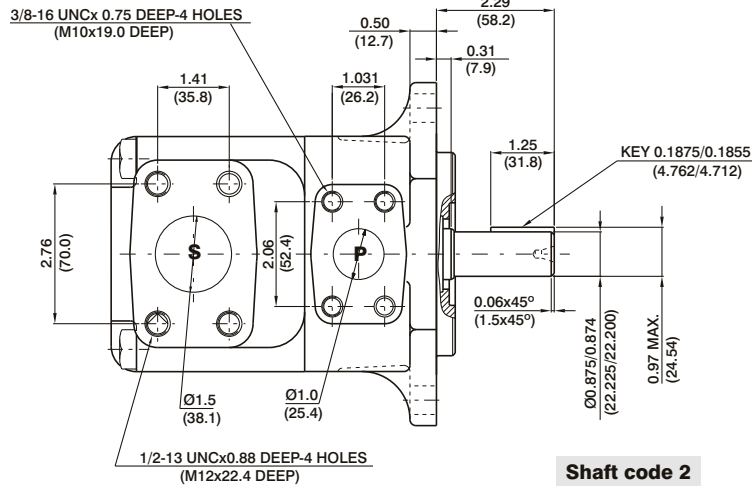


PERMISSIBLE RADIAL LOAD

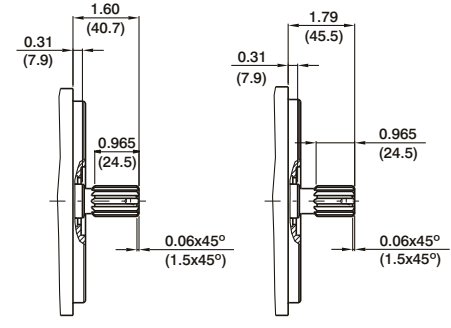


Maximum axial load permissible $F_a = 800 \text{ N}$ (180 Lbs)

SP

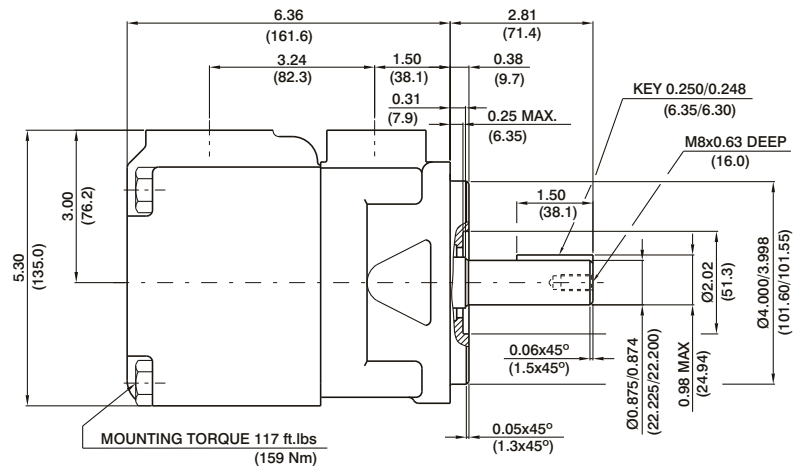


Shaft code 2
(Keyed no SAE)

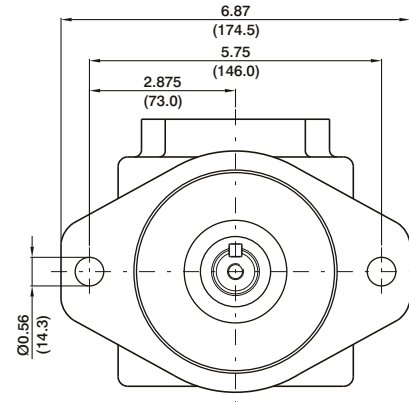


Shaft code 3
SAE B splined shaft
Class 1-J498b
16/32 dp. 13 teeth
30° pressure angle
flat root side fit

Shaft code 4
SAE BB splined shaft
Class 1-J498b
16/32 dp. 15 teeth
30° pressure angle
flat root side fit



Shaft code 1
(Keyed SAE B)



Shaft torque limits in ³ /rev x psi (ml/rev x bar)	
Shaft	Vp x p max.
1	14473 (16500)
2	12666 (14300)
3	18246 (20600)
4	19309 (21821)

OPERATING CHARACTERISTICS - TYPICAL (24 cST)

Pressure port	Series	Volumetric Displacement Vp		Flow q & n = 1500 rpm						Input power p & n = 1500 rpm					
				p = 0 bar (0 psi)		p = 140 bar (2000 psi)		p = 240 bar (3500 psi)		p = 7 bar (100 psi)		p = 140 bar (2000 psi)		p = 240 bar (3500 psi)	
				in ³ /rev	cm ³ /rev	gpm	lpm	gpm	lpm	gpm	lpm	hp	kw	hp	kw
VT6C	003	0.66	10.8	4.29	16.2	2.96	11.2	2.04	7.7	1.74	1.3	7.11	5.3	11.26	8.4
	005	1.05	17.2	6.83	25.8	5.50	20.8	4.57	17.3	1.88	1.4	10.06	7.5	16.36	12.2
	006	1.30	21.3	8.44	31.9	7.11	26.9	6.19	23.4	2.01	1.5	11.94	8.9	19.71	14.7
	008	1.61	26.4	10.48	39.6	9.15	34.6	8.22	31.1	2.15	1.6	14.35	10.7	22.93	17.7
	010	2.08	34.1	13.52	51.1	12.19	46.1	11.26	42.6	2.28	1.7	18.64	13.4	29.90	22.3
	012	2.26	37.1	14.71	55.6	13.36	50.6	12.46	47.1	2.28	1.7	19.31	14.4	32.32	24.1
	014	2.81	46.0	18.25	69.0	16.93	64.0	16.00	60.5	2.55	1.9	23.60	17.6	39.56	29.5
	015	3.08	50.5	20.00	75.6	18.73	73.2	19.02	67.5	2.68	2.0	25.61	19.1	42.91	32.0
	017	3.56	58.3	23.12	87.4	21.79	82.4	20.87	78.9	2.82	2.1	29.37	21.9	49.48	36.9
	020	3.89	63.8	25.32	95.7	23.99	90.7	23.07	87.2	2.95	2.2	31.92	23.8	53.91	40.2
	022	4.29	70.3	27.88	105.4	26.56	100.4	25.63	96.9	3.08	2.3	35.00	26.1	59.14	44.1
	025 ¹⁾	4.84	79.3	31.46	118.9	30.13	113.9	29.21	110.4	3.35	2.5	39.16	29.2	66.38	49.5
	028 ^{1,2)}	5.42	88.8	35.24	133.2	33.92	128.2	33.28	125.8	3.75	2.8	43.85	32.7	72.95	54.5
	031 ^{1,2)}	6.10	100.0	39.68	150.0	38.35	145.0	37.72	142.6	3.75	2.8	48.95	36.5	80.95	60.4

1) 025-028-031 = 2500 RPM. max.

2) 028-031 = 210 bar (3000 psi) max. int.

Series VT6CM * - B22 - 1 R 00 - C 1 *

Y - Metric port connection, Omit for UNC

Cam ring
 Volumetric displacement cm^3/rev (in^3/rev)

*B03/R03 = 10.8 (0.66)	B15/R15 = 50.5 (3.08)
B05/R05 = 17.2 (1.05)	B17/R17 = 58.3 (3.56)
B06/R06 = 21.3 (1.30)	B20/R20 = 63.8 (3.89)
B08/R08 = 26.4 (1.61)	B22/R22 = 70.3 (4.29)
B10/R10 = 34.1 (2.08)	B25/R25 = 79.3 (4.84)
B12/R12 = 37.1 (2.26)	B28/R28 = 88.8 (5.42)
B14/R14 = 46.0 (2.81)	B31/R31 = 100.0 (6.10)

*'B' - for Mobile
 'R' - for Mobile - spring assisted

Type of shaft

- 1 - keyed (SAE B)
- 2 - keyed (no SAE)
- 3 - splined (SAE B)
- 4 - splined (SAE BB)

Modifications

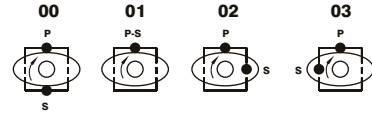
Seal class

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

Design letter

Porting combination

00 - standard

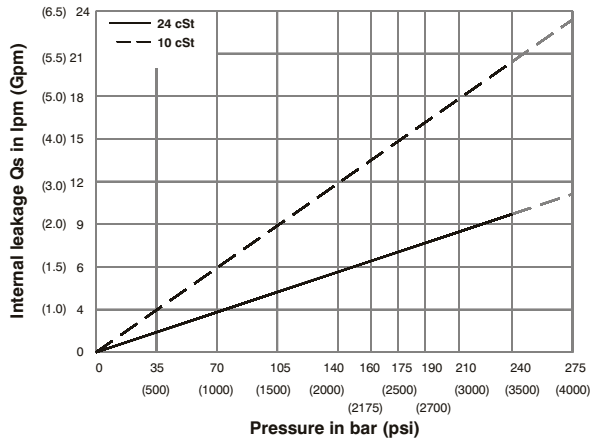


S - Suction port P - Pressure port

Direction of rotation (view on shaft end)

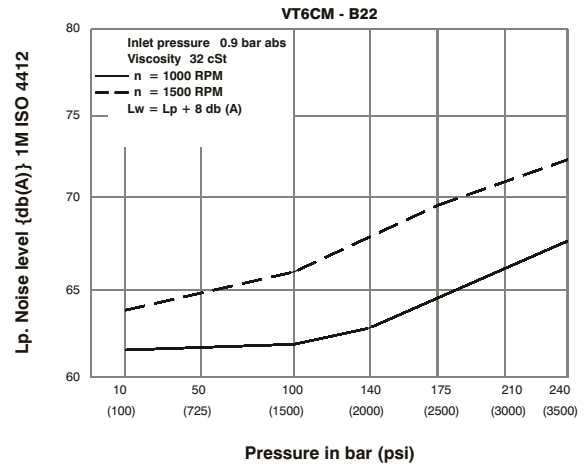
- R - clockwise
- L - counter-clockwise

INTERNAL LEAKAGE (TYPICAL)

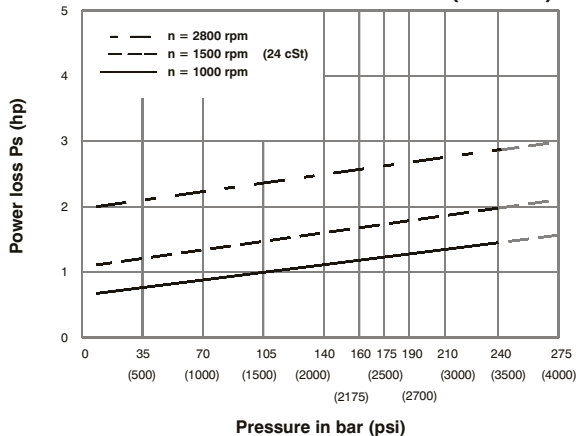


Do not operate pump more than 5 seconds at any speed or viscosity if internal leakage is more than 50% of theoretical flow.

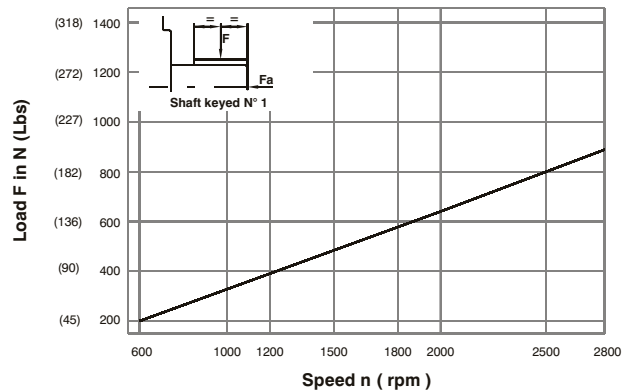
NOISE LEVEL (TYPICAL)



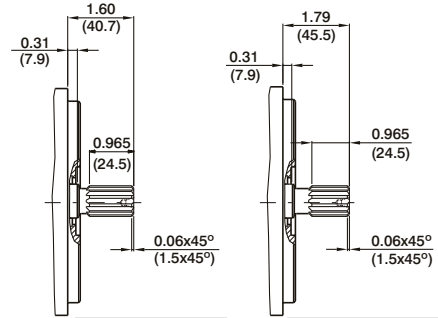
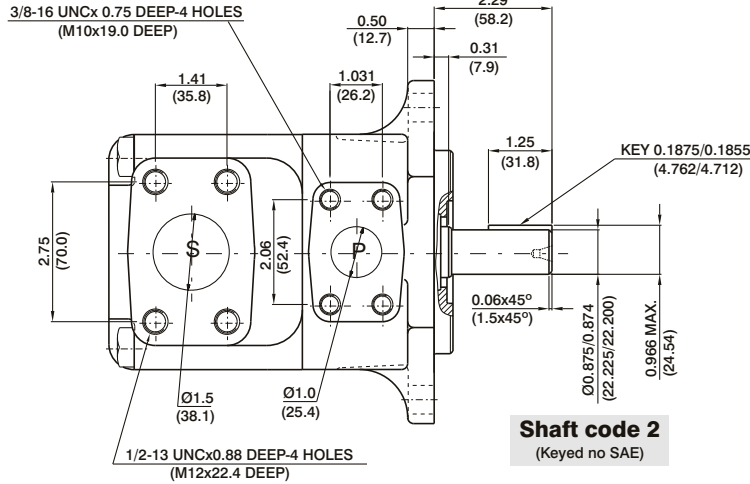
HYDROMECHANICAL POWER LOSS (TYPICAL)



PERMISSIBLE RADIAL LOAD

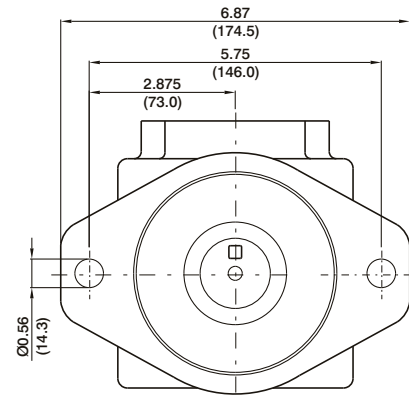
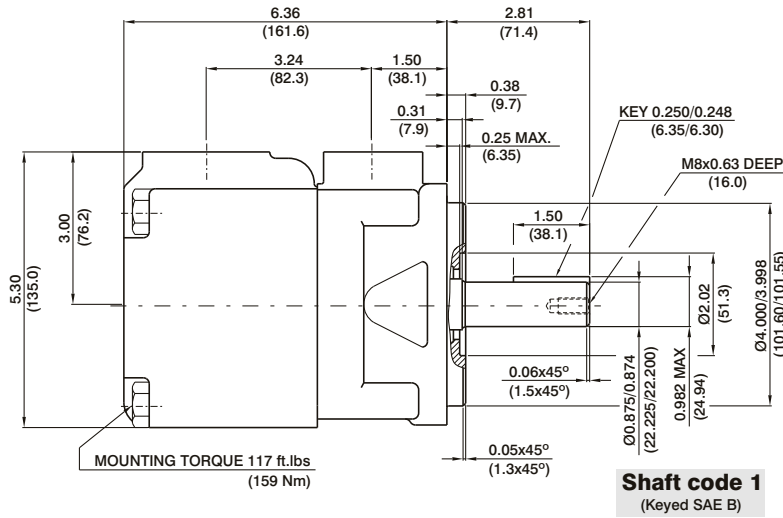


Maximum axial load permissible $F_a = 800 \text{ N}$ (180 Lbs)



Shaft code 3
SAE B splined shaft
Class 1-J498b
16/32 dp. 13 teeth
30° pressure angle
flat root side fit

Shaft code 4
SAE BB splined shaft
Class 1-J498b
16/32 dp. 15 teeth
30° pressure angle
flat root side fit



Shaft torque limits in ³ /rev x psi (ml/rev x bar)	
Shaft	Vp x p max.
1	14473 (16500)
2	12666 (14300)
3	18246 (20600)
4	19309 (21821)

OPERATING CHARACTERISTICS - TYPICAL (24 cSt)

Pressure port	Series	Volumetric Displacement Vp		Flow q & n = 1500 rpm						Input power p & n = 1500 rpm					
				p = 0 bar (0 psi)		p = 140 bar (2000 psi)		p = 240 bar (3500 psi)		p = 7 bar (100 psi)		p = 140 bar (2000 psi)		p = 240 bar (3500 psi)	
		in ³ /rev	cm ³ /rev	gpm	lpm	gpm	lpm	gpm	lpm	hp	kw	hp	kw	hp	kw
VT6CM	B03	0.66	10.8	4.29	16.2	2.83	10.7	--	--	1.74	1.3	7.11	5.3	--	--
	B05	1.05	17.2	6.83	25.8	5.37	20.3	4.17	15.8	1.88	1.4	10.06	7.5	16.36	12.2
	B06	1.30	21.3	8.44	31.9	7.01	26.5	5.82	22.0	2.01	1.5	11.94	8.9	19.71	14.7
	B08	1.61	26.4	10.48	39.6	9.02	34.1	7.83	29.6	2.15	1.6	14.35	10.7	22.93	17.7
	B10	2.08	34.1	13.52	51.1	12.08	45.7	10.89	41.2	2.28	1.7	18.64	13.4	29.90	22.3
	B12	2.26	37.1	14.71	55.6	13.28	50.2	12.08	45.7	2.28	1.7	19.31	14.4	32.32	24.1
	B14	2.81	46.0	18.25	69.0	16.79	63.5	15.60	59.0	2.55	1.9	23.60	17.6	39.56	29.5
	B15	3.08	50.5	20.00	75.6	18.62	70.4	17.46	66.0	2.68	2.0	25.61	19.1	42.91	32.0
	B17	3.56	58.3	23.12	87.4	21.69	82.0	20.50	77.5	2.82	2.1	29.37	21.9	49.48	36.9
	B20	3.89	63.8	25.32	95.7	23.86	90.2	22.67	85.7	2.95	2.2	31.92	23.8	53.91	40.2
	B22	4.29	70.3	27.88	105.4	26.45	100.0	25.26	95.5	3.08	2.3	35.00	26.1	59.14	44.1
	B25 ¹⁾	4.84	79.3	31.46	118.9	30.02	113.5	28.83	109.0	3.35	2.5	39.16	29.2	66.38	49.5
	B28 ^{1,2)}	5.42	88.8	35.24	133.2	33.78	127.7	32.93	124.5	3.75	2.8	43.85	32.7	65.04	48.5
B31 ^{1,2)}	6.10	100.0	39.68	150.0	38.22	144.5	37.38	141.3	3.75	2.8	48.95	36.5	72.95	54.4	

1) B25-B28-B31 = 2500 R.P.M. max. 2) B28-B31 = 210 bar (3000 psi) max. int. -- Not to use because internal leakage greater than 50% theoretical flow.

Series VT6CP - B22 - 2 R 00 - A 1 *

Cam ring

Volumetric displacement cm^3/rev (in^3/rev)

- * B14/R14 = 46.0 (2.81)
- B15/R15 = 50.5 (3.08)
- B17/R17 = 58.3 (3.56)
- B20/R20 = 63.8 (3.89)
- B22/R22 = 70.3 (4.29)
- B25/R25 = 79.3 (4.84)
- B28/R28 = 88.8 (5.42)
- B31/R31 = 100.0 (6.10)

* 'B' - for Mobile
'R' - for Mobile - spring assisted

Type of shaft

- 2 - keyed (no SAE)
- 3 - splined (SAE C)
- X - splined

Modifications

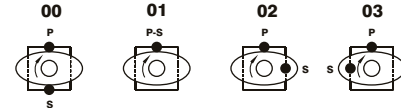
Seal class

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

Design letter

Porting combination

00 - standard

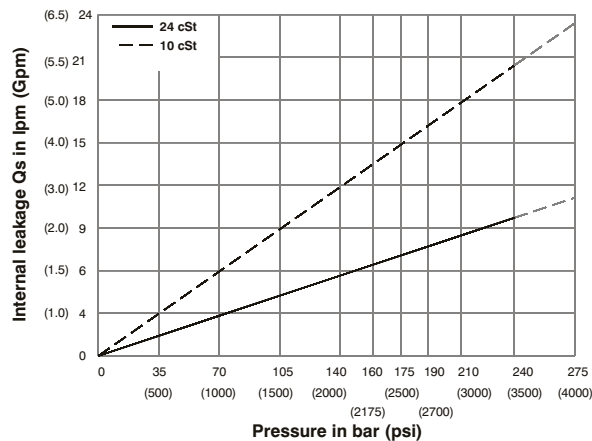


S - Suction port P - Pressure port

Direction of rotation (view on shaft end)

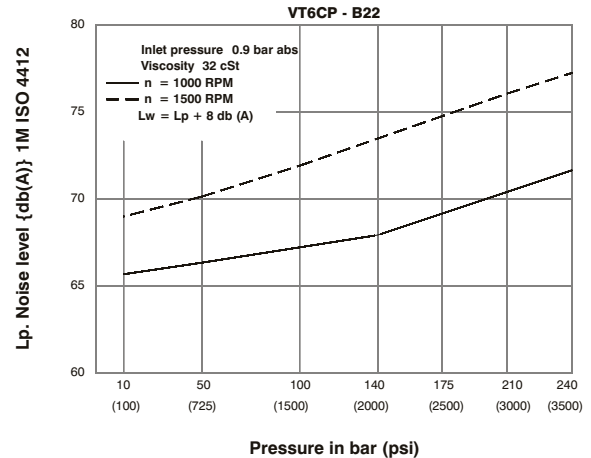
- R - clockwise
- L - counter-clockwise

INTERNAL LEAKAGE (TYPICAL)

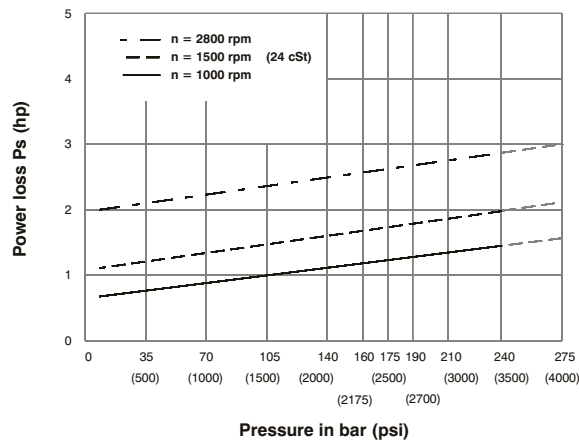


Do not operate pump more than 5 seconds at any speed or viscosity if internal leakage is more than 50% of theoretical flow.

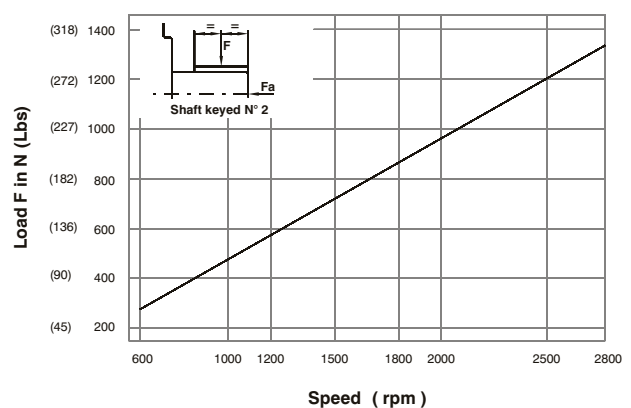
NOISE LEVEL (TYPICAL)



HYDROMECHANICAL POWER LOSS (TYPICAL)

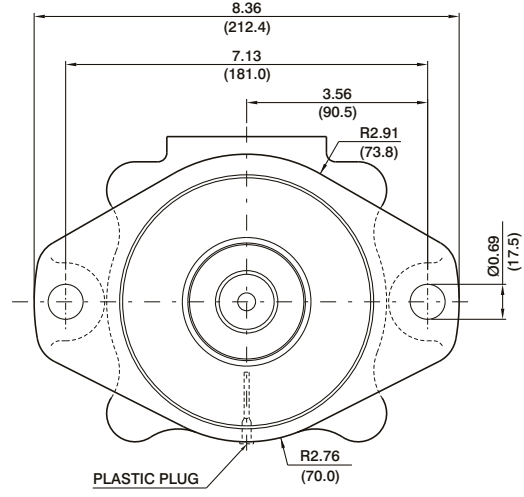
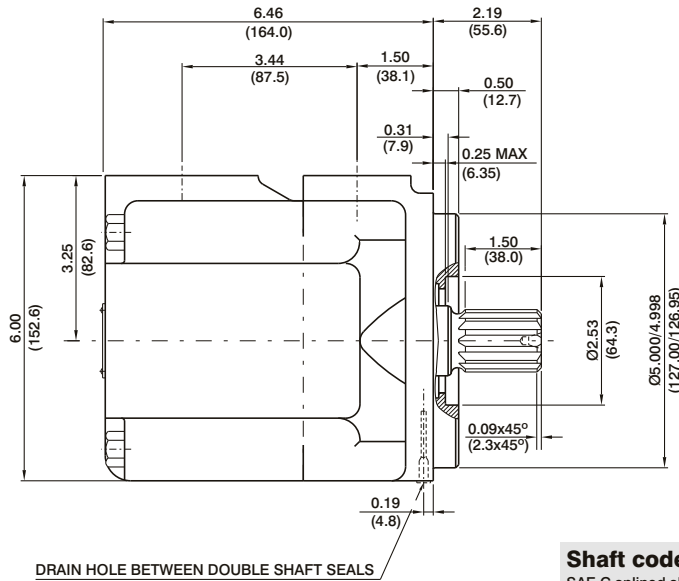
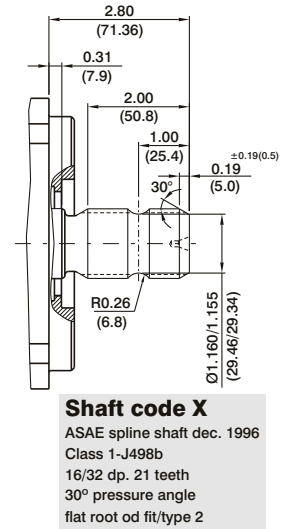
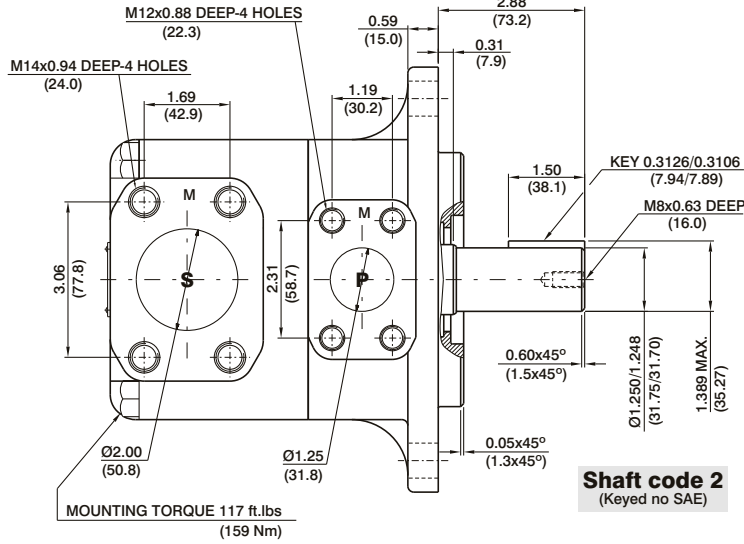


PERMISSIBLE RADIAL LOAD



Maximum axial load permissible $F_a = 800 \text{ N}$ (180 Lbs)

SP



OPERATING CHARACTERISTICS - TYPICAL (24 cST)

Pressure port	Series	Volumetric Displacement V _p		Flow q & n = 1500 rpm						Input power p & n = 1500 rpm					
				p = 0 bar (0 psi)		p = 140 bar (2000 psi)		p = 240 bar (3500 psi)		p = 7 bar (100 psi)		p = 140 bar (2000 psi)		p = 240 bar (3500 psi)	
		in ³ /rev	cm ³ /rev	gpm	lpm	gpm	lpm	gpm	lpm	hp	kw	hp	kw	hp	kw
VT6CP	B14	2.81	46.0	18.25	69.0	16.79	63.5	15.60	59.0	2.55	1.9	23.60	17.6	39.56	29.5
	B15	3.08	50.5	20.00	75.6	18.62	70.4	17.46	66.0	2.68	2.0	25.61	19.1	42.91	32.0
	B17	3.56	58.3	23.12	87.4	21.69	82.0	20.50	77.5	2.82	2.1	29.37	21.9	49.48	36.9
	B20	3.89	63.8	25.32	95.7	23.86	90.2	22.67	85.7	2.95	2.2	31.92	23.8	53.91	40.2
	B22	4.29	70.3	27.88	105.4	26.45	100.0	25.26	95.5	3.08	2.3	35.00	26.1	59.14	44.1
	B25 ¹⁾	4.84	79.3	31.46	118.9	30.02	113.5	28.83	109.0	3.35	2.5	39.16	29.2	66.38	49.5
	B28 ^{1,2)}	5.42	88.8	35.24	133.2	33.78	127.7	32.93	124.5	3.75	2.8	43.85	32.7	72.95	54.4
	B31 ^{1,2)}	6.10	100.0	39.68	150.0	38.22	144.5	37.38	141.3	3.75	2.8	48.95	36.5	79.56	59.0

1) B25-B28-B31 = 2500 R.P.M. max. 2) B28-B31 = 210 bar (3000 psi) max. int.



VT6CSH W * - 022 - 1 R 00 - B 1 - 00 *

Series

Use for severe duty shaft only

One letter can be added to specify special parts in series

Cam ring

Volumetric displacement cm^3/rev (in^3/rev)

*003/B03/Y03 = 10.8 (0.66)	015/B15/Y15 = 50.5 (3.08)
005/B05/Y05 = 17.2 (1.05)	017/B17/Y17 = 58.3 (3.56)
006/B06/Y06 = 21.3 (1.30)	020/B20/Y20 = 63.8 (3.89)
008/B08/Y08 = 26.4 (1.61)	022/B22/Y22 = 70.3 (4.29)
010/B10/Y10 = 34.1 (2.08)	025/B25/Y25 = 79.3 (4.84)
012/B12/Y12 = 37.1 (2.26)	028/B28/Y28 = 88.8 (5.42)
014/B14/Y14 = 46.0 (2.81)	031/B31/Y31 = 100.0 (6.10)

* '0' - Uni - directional 'B' - Bi - directional 'Y' - Bi - directional for cold start

Type of shaft

- 1 - Keyed (SAE B)
- 3 - Splined (SAE B)
- 4 - Splined (SAE BB)

Severe duty shaft VT6CSHW

- 5 - Keyed (SAE BB)

Modifications

Mounting W/connection variables

	UNC		METRIC	
	00	01	M0	M1
P	1"	3/4"	1"	3/4"
S	1 1/2"			

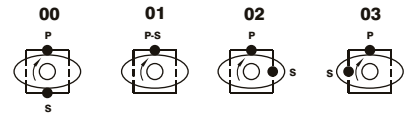
Seal class

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

Design letter

Porting combination

00 - standard

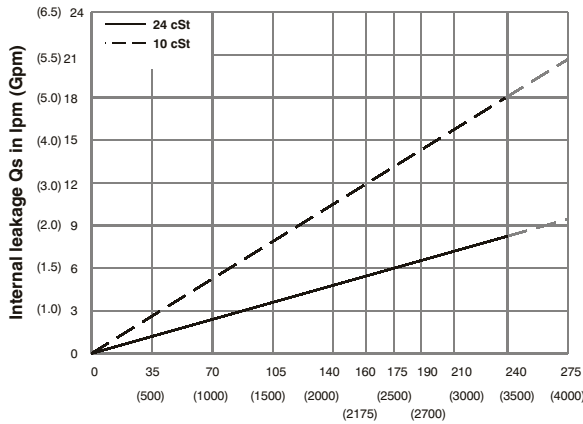


S - Suction port P - Pressure port

Direction of rotation (view on shaft end)

- R - clockwise
- L - counter-clockwise

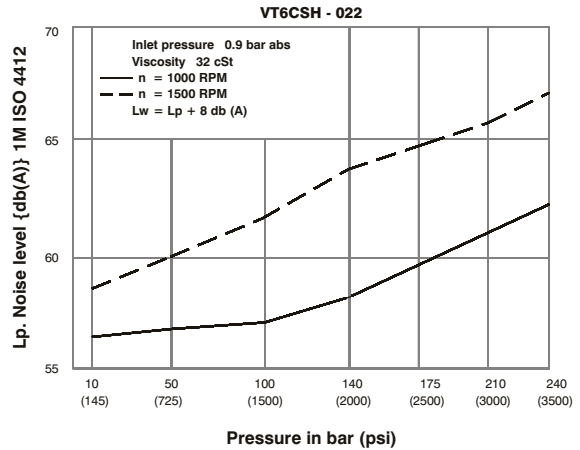
INTERNAL LEAKAGE (TYPICAL)



Pressure in bar (psi)

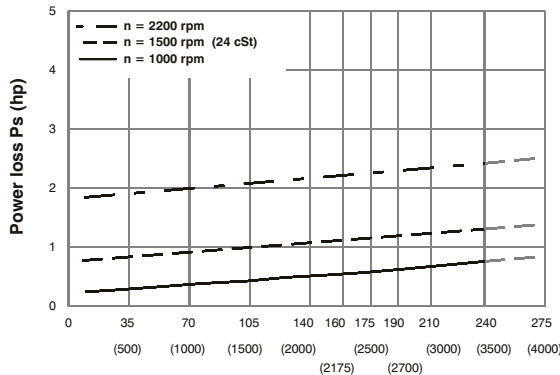
Do not operate pump more than 5 seconds at any speed or viscosity if internal leakage is more than 50% of theoretical flow.

NOISE LEVEL (TYPICAL)



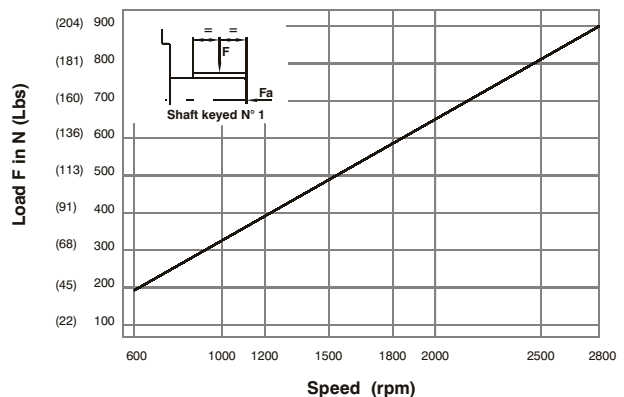
Pressure in bar (psi)

HYDROMECHANICAL POWER LOSS (TYPICAL)

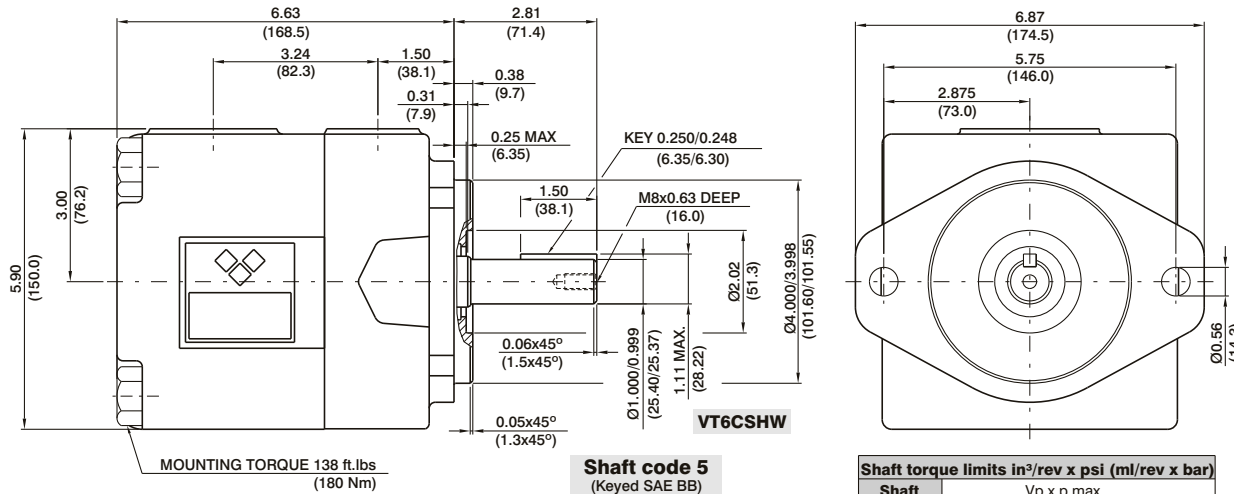
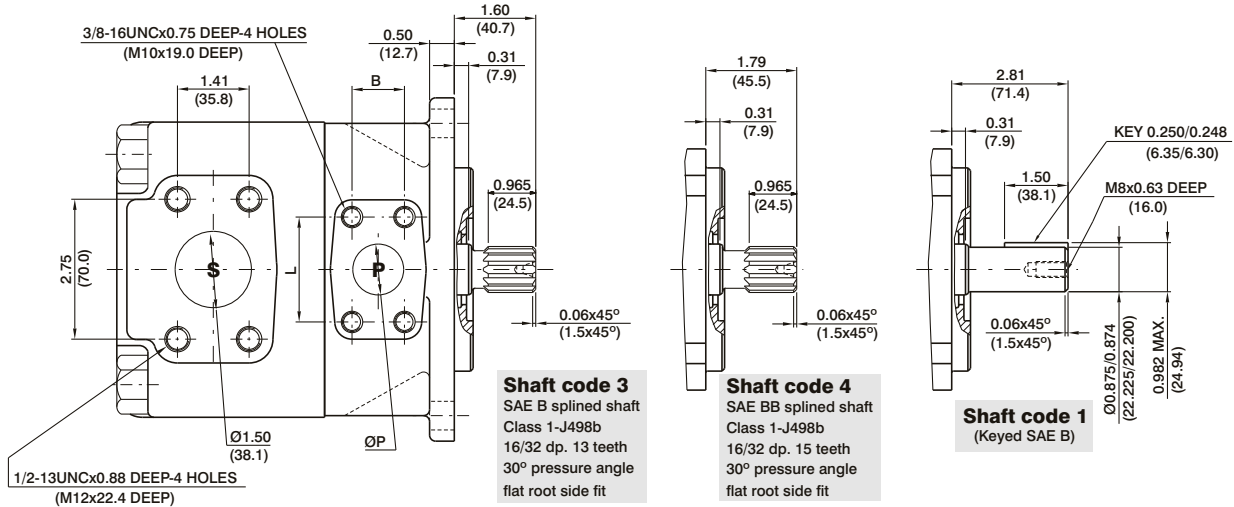


Pressure in bar (psi)

PERMISSIBLE RADIAL LOAD



Maximum axial load permissible $F_a = 800 \text{ N}$ (180 Lbs)



ØP	L	B
0.75 (19.05)	1.87 (47.6)	0.87 (22.2)
1.00 (25.4)	2.06 (52.4)	1.03 (26.2)

Shaft	Vp x p max.
1	14473 (16500)
3	18246 (20600)
4	19309 (21821)
5	18945 (21420)

OPERATING CHARACTERISTICS - TYPICAL (24 cSt)

Pressure port	Series	Volumetric Displacement Vp		Flow q & n = 1500 rpm						Input power p & n = 1500 rpm					
				p = 0 bar (0 psi)		p = 140 bar (2000 psi)		p = 240 bar (3500 psi)		p = 7 bar (100 psi)		p = 140 bar (2000 psi)		p = 240 bar (3500 psi)	
		in ³ /rev	cm ³ /rev	gpm	lpm	gpm	lpm	gpm	lpm	hp	kw	hp	kw	hp	kw
VT6CSH	003	0.66	10.8	4.29	16.2	2.96	11.2	2.04	7.7	1.74	1.3	7.11	5.3	11.26	8.4
	005	1.05	17.2	6.83	25.8	5.50	20.8	4.57	17.3	1.88	1.4	10.06	7.5	16.36	12.2
	006	1.30	21.3	8.44	31.9	7.11	26.9	6.19	23.4	2.01	1.5	11.94	8.9	19.71	14.7
	008	1.61	26.4	10.48	39.6	9.15	34.6	8.22	31.1	2.15	1.6	14.35	10.7	22.93	17.7
	010	2.08	34.1	13.52	51.1	12.19	46.1	11.26	42.6	2.28	1.7	18.64	13.4	29.90	22.3
	012	2.26	37.1	14.71	55.6	13.36	50.6	12.46	47.1	2.28	1.7	19.31	14.4	32.32	24.1
	014	2.81	46.0	18.25	69.0	16.93	64.0	16.00	60.5	2.55	1.9	23.60	17.6	39.56	29.5
	015	3.08	50.5	20.00	75.6	18.73	73.2	19.02	67.5	2.68	2.0	25.61	19.1	42.91	32.0
	017	3.56	58.3	23.12	87.4	21.79	82.4	20.87	78.9	2.82	2.1	29.37	21.9	49.48	36.9
	020	3.89	63.8	25.32	95.7	23.99	90.7	23.07	87.2	2.95	2.2	31.92	23.8	53.91	40.2
	022	4.29	70.3	27.88	105.4	26.56	100.4	25.63	96.9	3.08	2.3	35.00	26.1	59.14	44.1
	025 ¹⁾	4.84	79.3	31.46	118.9	30.13	113.9	29.21	110.4	3.35	2.5	39.16	29.2	66.38	49.5
	028 ^{1,2)}	5.42	88.8	35.24	133.2	33.92	128.2	33.28	125.8	3.75	2.8	43.85	32.7	65.04	48.5
031 ^{1,2)}	6.10	100.0	39.68	150.0	38.35	145.0	37.72	142.6	3.75	2.8	48.95	36.5	72.95	54.4	

1) 025-028-031 = 2500 RPM. max.

2) 028-031 = 210 bar (3000 psi) max. int.



Series VT6D * * - 045 - 1

N - Shaft seal installed reverse

Q - Special mounting cap with ear orientation of 20° from standard

Y - Metric port connection (not for code 'Q')
Omit for UNC

Cam ring

Volumetric displacement cm³/rev (in³/rev)

*014/B14 = 47.6 (2.90)	035/B35 = 111.0 (6.77)
017/B17 = 58.2(3.55)	038/B38 = 120.3 (7.34)
020/B20 = 66.0 (4.03)	042/B42 = 136.0 (8.30)
024/B24 = 79.5 (4.85)	045/B45 = 145.7 (8.89)
028/B28 = 89.7 (5.47)	050/B50 = 158.0 (9.64)
031/B31 = 98.3 (6.00)	061/B61 = 190.5 (11.62)

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

Type of shaft

1 - keyed (SAE C)
2 - keyed (no SAE)
3 - splined (SAE C)
4 - splined (no SAE)

Modifications

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

00 - standard

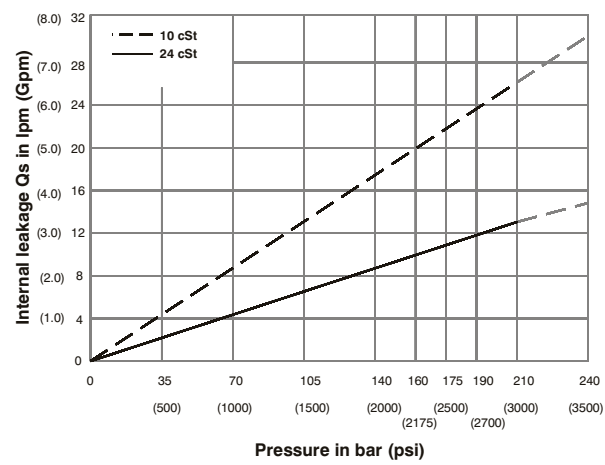
00	01	02	03

S - Suction port **P** - Pressure port

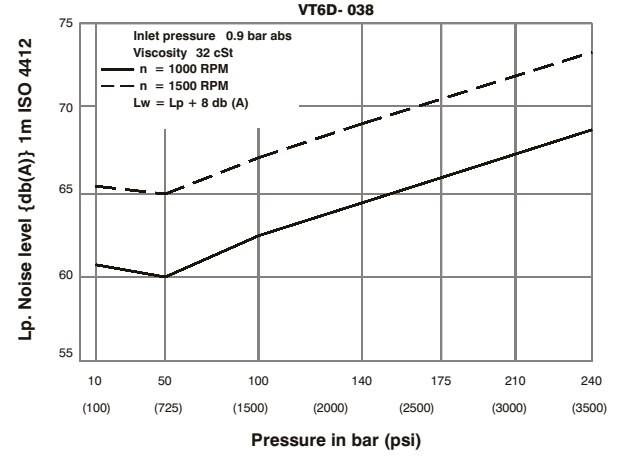
Direction of rotation (view on shaft end)

R - clockwise
L - counter-clockwise

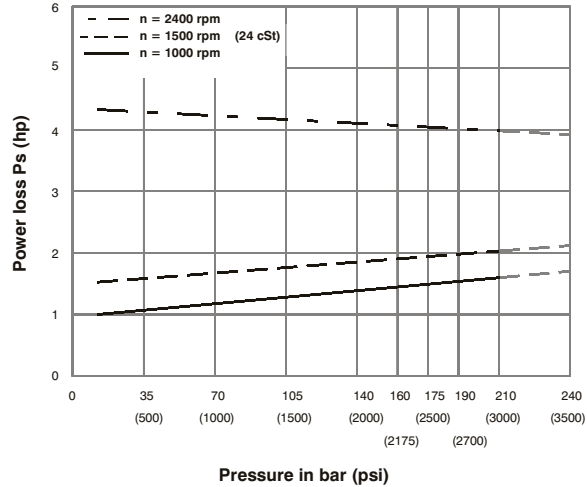
INTERNAL LEAKAGE (TYPICAL)



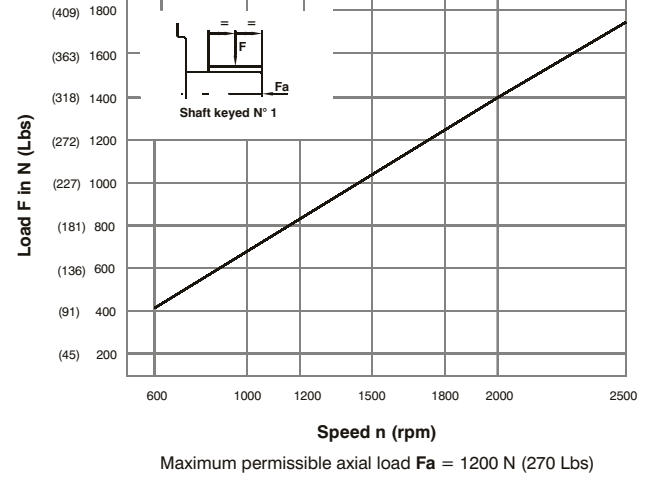
NOISE LEVEL (TYPICAL)

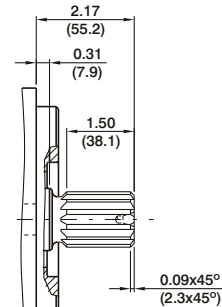
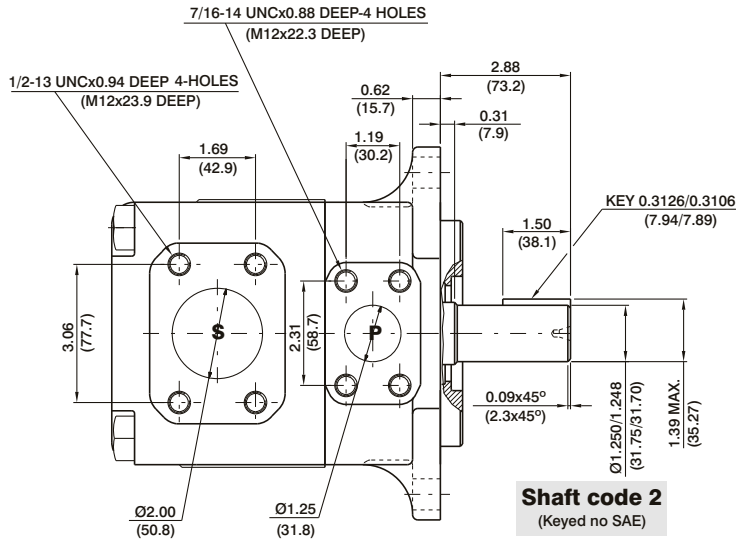


HYDROMECHANICAL POWER LOSS (TYPICAL)

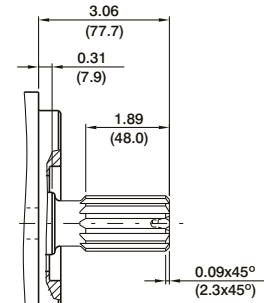


PERMISSIBLE RADIAL LOAD

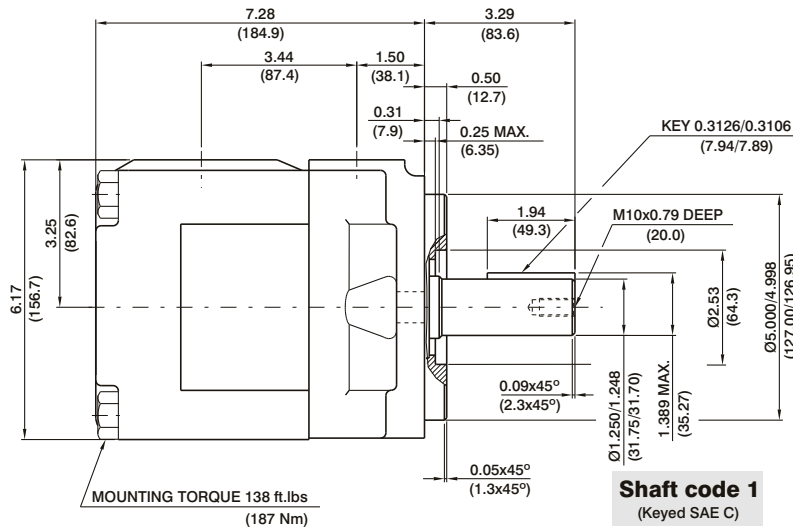




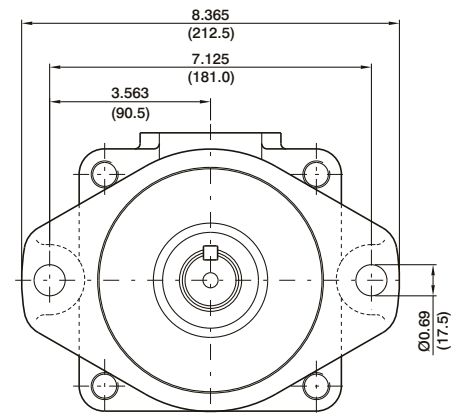
Shaft code 3
SAE C splined shaft
Class 1-J498b
12/24 dp. 14 teeth
30° pressure angle
flat root side fit



Shaft code 4
no SAE splined shaft
Class 1-J498b
12/24 dp. 14 teeth
30° pressure angle
flat root side fit



Shaft code 1
(Keyed SAE C)



Shaft torque limits in ³ /rev x psi (ml/rev x bar)	
Shaft	Vp x p max.
1	38299 (43283)
2	30638 (34590)
3	54207 (61200)
4	54207 (61200)

OPERATING CHARACTERISTICS - TYPICAL (24 cST)

Pressure port	Series	Volumetric Displacement Vp		Flow q & n = 1500 rpm						Input power p & n = 1500 rpm					
				p = 0 bar (0 psi)		p = 140 bar (2000 psi)		p = 240 bar (3500 psi)		p = 7 bar (100 psi)		p = 140 bar (2000 psi)		p = 240 bar (3500 psi)	
		in ³ /rev	cm ³ /rev	gpm	lpm	gpm	lpm	gpm	lpm	hp	kw	hp	kw	hp	kw
VT6D VT6DQ VT6DN	014	2.90	47.6	18.88	71.4	16.42	62.1	14.78	55.9	3.08	2.3	24.81	18.5	41.03	30.6
	017	3.55	58.2	23.1	87.3	20.6	78.0	18.99	71.8	3.35	2.5	29.77	22.2	49.62	37.0
	020	4.00	66.0	26.19	99.0	23.73	89.7	22.08	83.5	3.75	2.8	33.39	24.9	55.92	41.7
	024	4.80	79.5	31.56	119.3	29.10	110.0	27.46	103.8	4.02	3.0	39.69	29.6	66.78	49.8
	028	5.50	89.7	35.58	134.5	33.12	125.2	31.48	119.0	4.29	3.2	44.52	33.2	74.96	55.9
	031	6.00	98.3	39.00	147.5	36.53	138.1	34.89	131.9	4.42	3.3	48.54	36.2	81.80	61.0
	035	6.80	111.0	44.04	166.5	41.58	157.2	39.94	151.0	4.69	3.5	54.58	40.7	92.13	68.7
	038	7.30	120.3	47.72	180.4	45.26	171.1	43.62	164.9	4.96	3.7	58.87	43.9	99.64	74.3
	042 ¹⁾	8.30	136.0	53.96	204.0	51.50	194.7	49.86	188.5	5.36	4.0	66.25	49.4	112.24	83.7
	045 ¹⁾	8.89	145.7	57.80	218.5	55.34	209.2	53.70	203.0	5.50	4.1	70.81	52.8	120.02	89.5
	050 ^{1,2)}	9.64	158.0	62.69	237.0	60.23	227.7	59.25	224.0	5.90	4.4	76.44	57.0	113.98	85.0
061 ^{1,3)}	11.62	190.5	76.25	285.7	73.54	278.0	--	--	6.16	4.6	81.26	60.6	--	--	

1) 042-045-050-061=2200 RPM max.

2) 050=210 bar (3000 psi) max. int.

3) 061 = 120 bar (1740 psi) max. int, 061 = 80 bar (1160 psi) cont.



Series **VT6D** * * * - **B45** - **1** **R** **00** - **C** **1** *

N - Shaft seal installed reverse
Q - Special mounting cap with ear orientation of 20° from standard
M = Mobile 1 shaft seal
P = Mobile 2 shaft seal
Y - Metric port connection (not for code 'Q')
 Omit for UNC

Cam ring
 Volumetric displacement cm³/rev (in³/rev)

*B14/R14 = 47.6 (2.90)	B35/R35 = 110.0 (6.77)
B17/R17 = 58.2 (3.55)	B38/R38 = 120.3 (7.34)
B20/R20 = 66.0 (4.03)	B42/R42 = 136.0 (8.30)
B24/R24 = 79.5 (4.85)	B45/R45 = 145.7 (8.89)
B28/R28 = 89.7 (5.47)	B50/R50 = 158.0 (9.64)
B31/R31 = 98.3 (6.00)	B61/R61 = 190.5 (11.62)

*'B' - for Mobile 'R' - for Mobile - spring assisted

Type of shaft

M version

- 1 - keyed (SAE C)
- 2 - keyed (no SAE)
- 3 - splined (SAE C)
- 4 - splined (no SAE)
- T - splined (SAE J718c)

P version

- 3 - splined (no SAE)
- 2 - keyed (no SAE)

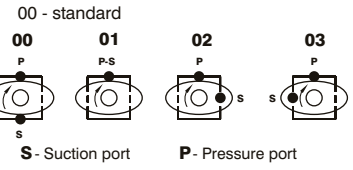
Modifications

Seal class

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

Design letter

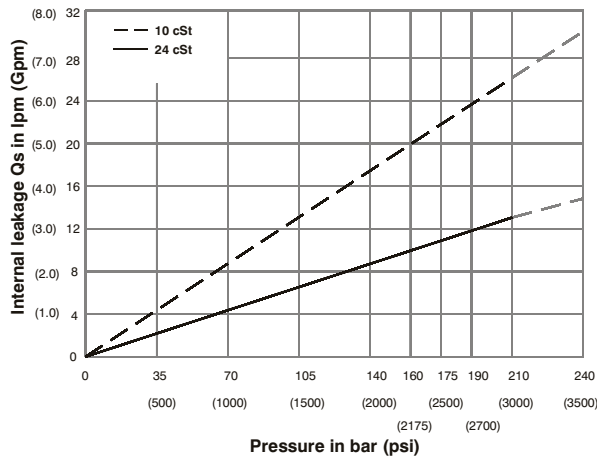
Porting combination



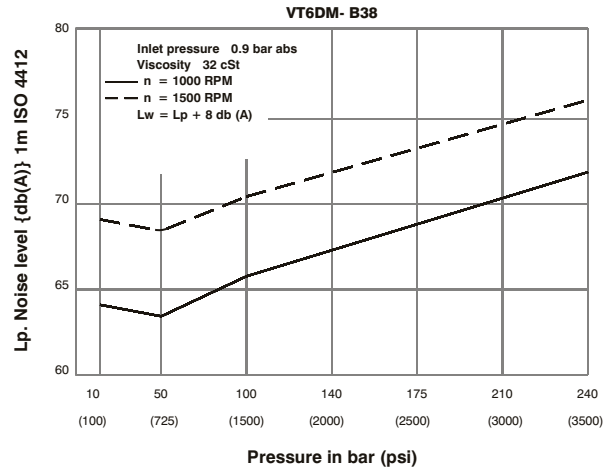
Direction of rotation (view on shaft end)

R - clockwise
 L - counter-clockwise

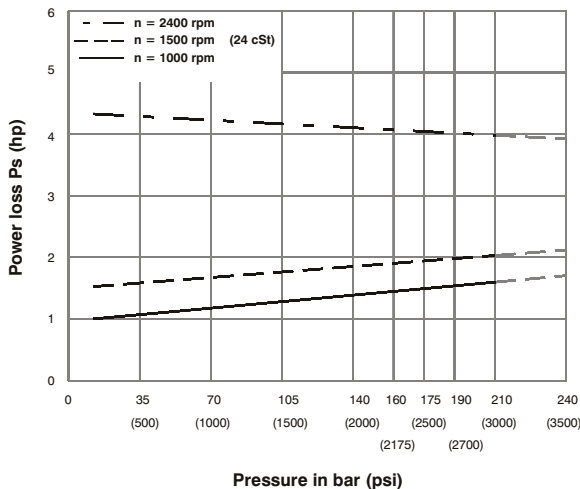
INTERNAL LEAKAGE (TYPICAL)



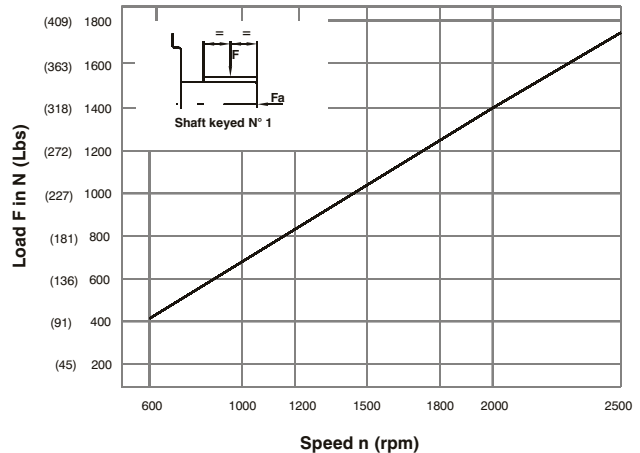
NOISE LEVEL (TYPICAL)



HYDROMECHANICAL POWER LOSS (TYPICAL)

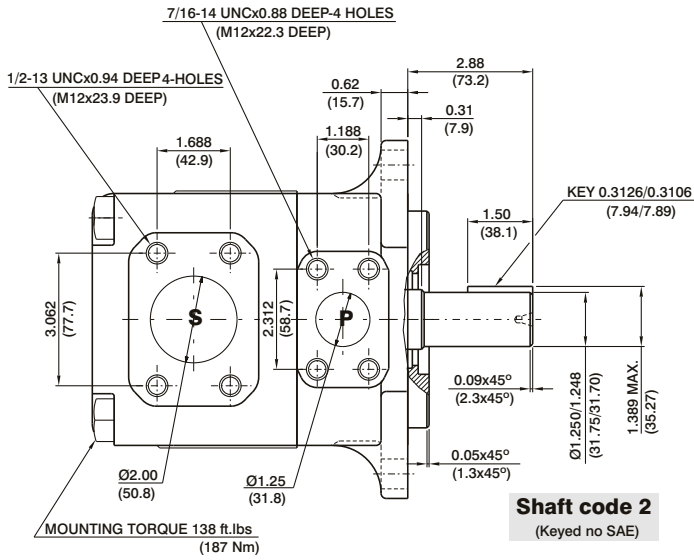


PERMISSIBLE RADIAL LOAD

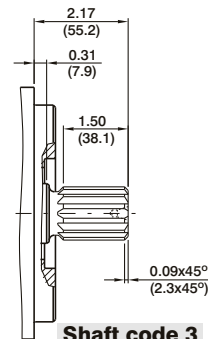


Maximum permissible axial load Fa = 1200 N (270 Lbs)

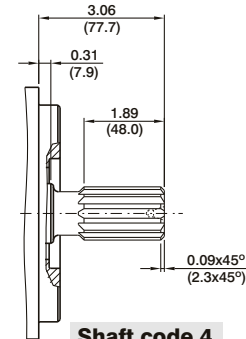
SP



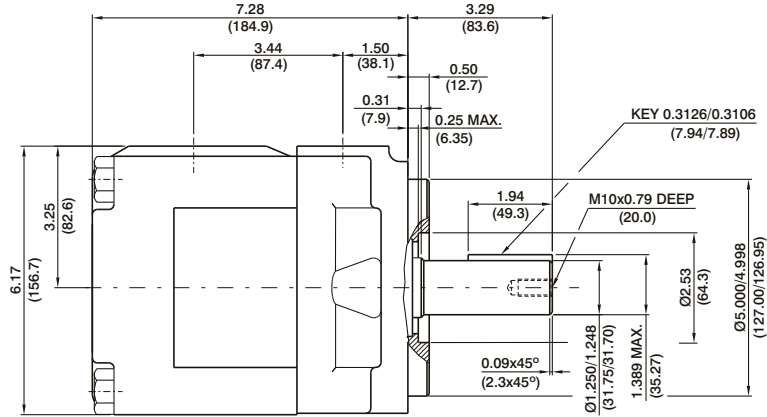
Shaft code 2
(Keyed no SAE)



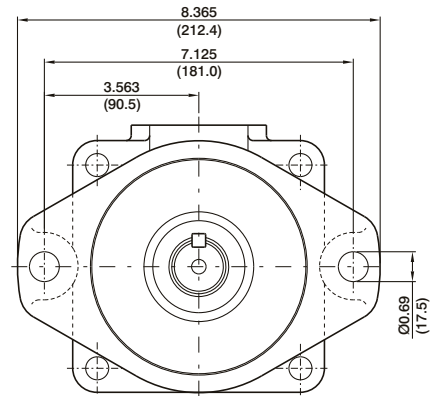
Shaft code 3
SAE C splined shaft
Class 1-J498b
12/24 dp. 14 teeth
30° pressure angle
flat root side fit



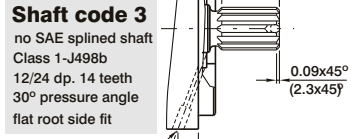
Shaft code 4
no SAE splined shaft
Class 1-J498b
12/24 dp. 14 teeth
30° pressure angle
flat root side fit



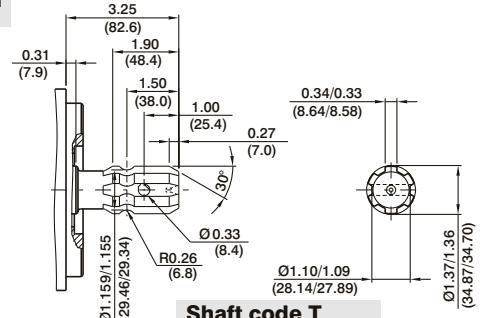
Shaft code 1
(Keyed SAE C)



Shaft torque limits in ² /rev x psi (ml/rev x bar)	
Shaft	Vp x p max.
1	38299 (43283)
2	30638 (34590)
3	54207 (61200)
4	54207 (61200)



Shaft code 3
no SAE splined shaft
Class 1-J498b
12/24 dp. 14 teeth
30° pressure angle
flat root side fit



Shaft code T
SAE J718C
540 rpm power take-off
For Farm Tractor application

Drain hole between double shaft seals

VT6DP

OPERATING CHARACTERISTICS - TYPICAL (24 cST)

Pressure port	Series	Volumetric Displacement Vp		Flow q & n = 1500 rpm						Input power p & n = 1500 rpm					
		p = 0 bar (0 psi)		p = 140 bar (2000 psi)		p = 240 bar (3500 psi)		p = 7 bar (100 psi)		p = 140 bar (2000 psi)		p = 240 bar (3500 psi)			
		in ³ /rev	cm ³ /rev	gpm	lpm	gpm	lpm	gpm	lpm	hp	kw	hp	kw		
VT6DM VT6DP	B14	2.90	47.6	18.88	71.4	16.42	62.1	14.78	55.9	3.08	2.3	24.81	18.5	41.03	30.6
	B17	3.55	58.2	23.1	87.3	20.6	78.0	18.99	71.8	3.35	2.5	29.77	22.2	49.62	37.0
	B20	4.00	66.0	26.19	99.0	23.73	89.7	22.08	83.5	3.75	2.8	33.39	24.9	55.92	41.7
	B24	4.80	79.5	31.56	119.3	29.10	110.0	27.46	103.8	4.02	3.0	39.69	29.6	66.78	49.8
	B28	5.50	89.7	35.58	134.5	33.12	125.2	31.48	119.0	4.29	3.2	44.52	33.2	74.96	55.9
	B31	6.00	98.3	39.00	147.5	36.53	138.1	34.89	131.9	4.42	3.3	48.54	36.2	81.80	61.0
	B35	6.80	111.0	44.04	166.5	41.58	157.2	39.94	151.0	4.69	3.5	54.58	40.7	92.13	68.7
	B38	7.30	120.3	47.72	180.4	45.26	171.1	43.62	164.9	4.96	3.7	58.87	43.9	99.64	74.3
	B42 ¹⁾	8.30	136.0	53.96	204.0	51.50	194.7	49.86	188.5	5.36	4.0	66.25	49.4	112.24	83.7
	B45 ¹⁾	8.89	145.7	57.80	218.5	55.34	209.2	53.70	203.0	5.50	4.1	70.81	52.8	120.02	89.5
	B50 ^{1,2)}	9.64	158.0	62.69	237.0	60.23	227.7	59.25	224.0	5.90	4.4	76.44	57.0	113.98	85.0
B61 ^{1,3)}	11.62	190.5	76.25	285.7	73.54	278.0	--	--	6.16	4.6	81.26	60.6	--	--	

1) B42-B45-B50-B61 = 2200 RPM max. 2) B50 = 210 bar (3000 psi) max. int. 3) 061 = 120 bar (1740 psi) max. int. 061 = 80 bar (1160 psi) cont.



Series VT6E * - 066 - 3 R 00 - A 1 *

Y - Metric port connection, Omit for UNC

Cam ring
 Volumetric displacement cm³/rev (in³/rev)
 042 = 132.3 (8.07)
 045 = 142.4 (8.69)
 050 = 158.5 (9.67)
 052 = 164.8 (10.06)
 057 = 180.7 (11.02)
 062 = 196.7 (12.00)
 066 = 213.3 (13.02)
 072 = 227.1 (13.86)
 085 = 269.8 (16.46)

Type of shaft
 1 - keyed (SAE CC)
 2 - keyed (no SAE)
 3 - splined (SAE C)
 4 - splined (SAE CC)
 T - splined (SAE J718C)

Modifications

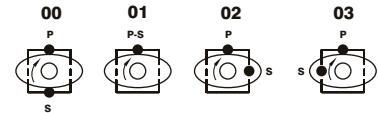
Seal class

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

Design letter

Porting combination

00 - standard

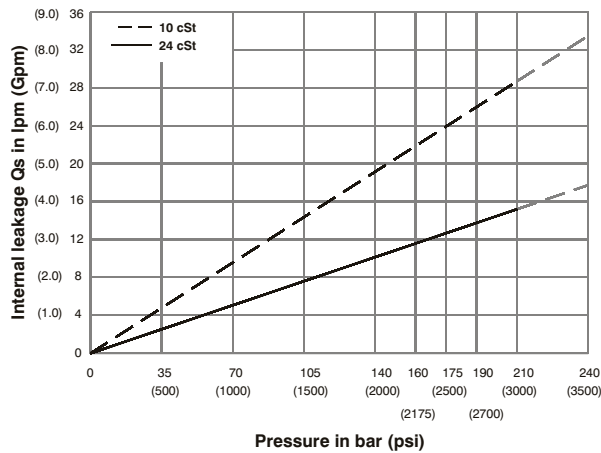


S - Suction port P - Pressure port

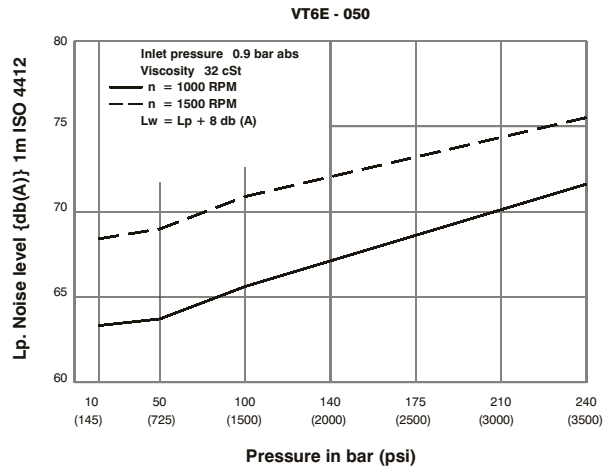
Direction of rotation (view on shaft end)

- R - clockwise
- L - counter-clockwise

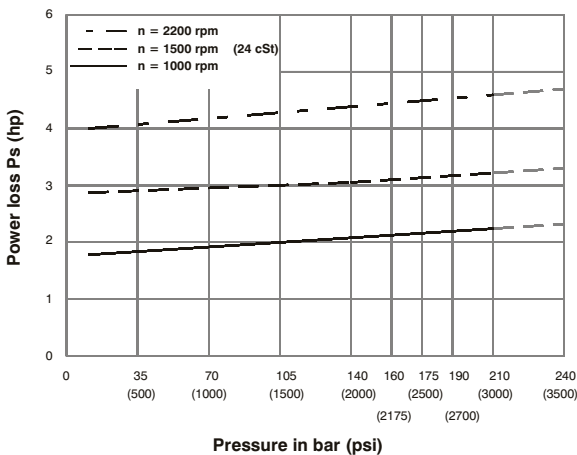
INTERNAL LEAKAGE (TYPICAL)



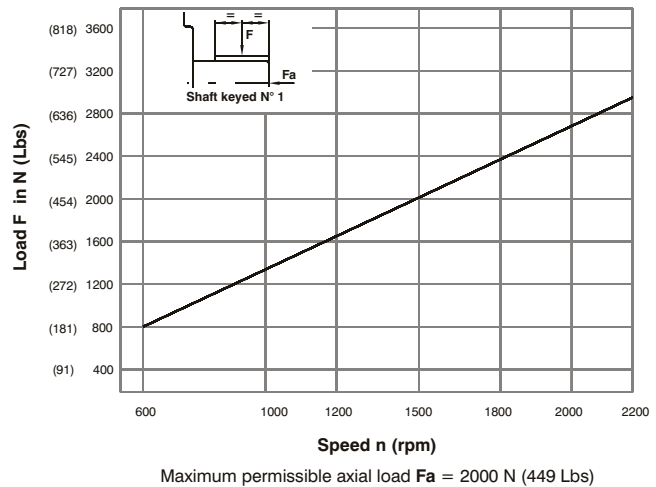
NOISE LEVEL (TYPICAL)



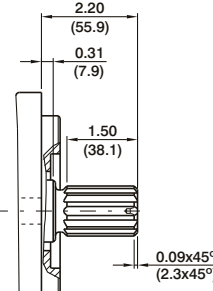
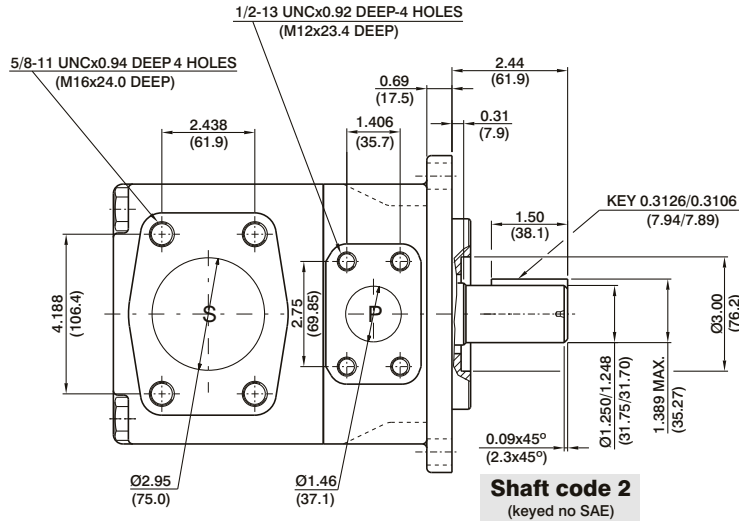
HYDROMECHANICAL POWER LOSS (TYPICAL)



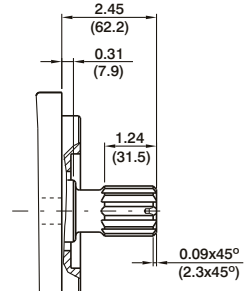
PERMISSIBLE RADIAL LOAD



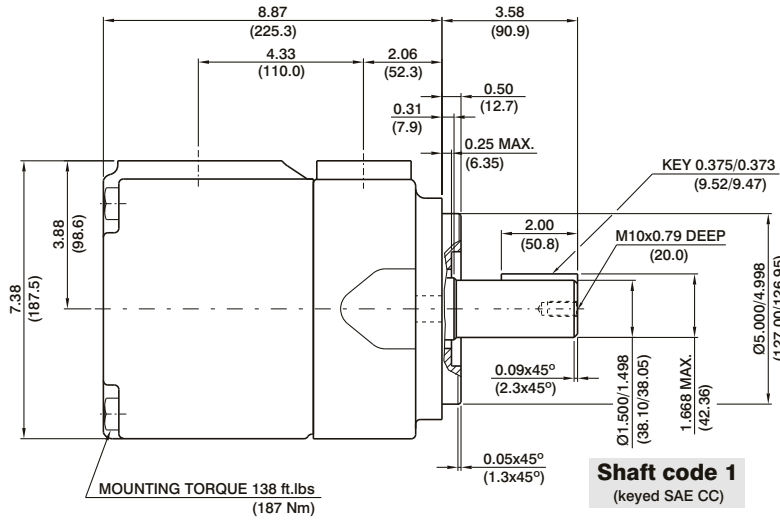
SP



Shaft code 3
SAE C splined shaft
Class 1-J498b
12/24 dp. 14 teeth
30° pressure angle
flat root side fit



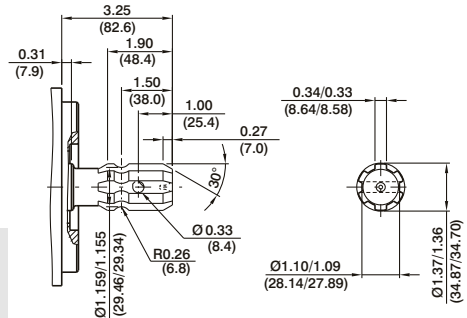
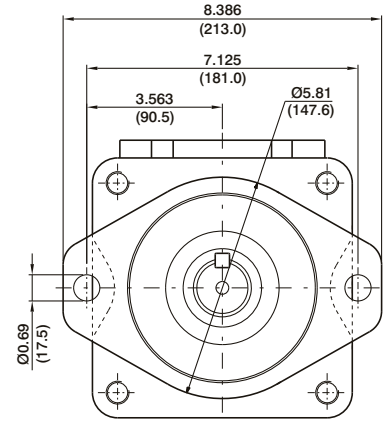
Shaft code 4
SAE CC splined shaft
Class 1-J498b
12/24 dp. 17 teeth
30° pressure angle
flat root side fit



Shaft code 1
(keyed SAE CC)

Shaft torque limits in ³ /rev x psi (ml/rev x bar)	
Shaft	V _p x p max.
1	48273 (54555)
2	30638 (34590)
3	54207 (61200)
4	54207 (61200)

MOUNTING TORQUE 138 ft.lbs (187 Nm)



Shaft code T
SAE J718C
540 rpm power take-off
For Farm Tractor application

OPERATING CHARACTERISTICS - TYPICAL (24 cST)

Pressure port	Series	Volumetric Displacement V _p		Flow q & n = 1500 rpm						Input power p & n = 1500 rpm					
				p = 0 bar (0 psi)		p = 140 bar (2000 psi)		p = 240 bar (3500 psi)		p = 7 bar (100 psi)		p = 140 bar (2000 psi)		p = 240 bar (3500 psi)	
				in ³ /rev	cm ³ /rev	gpm	lpm	gpm	lpm	gpm	lpm	hp	kw	hp	kw
VT6E	042	8.07	132.3	52.50	198.5	49.87	188.5	47.96	181.3	6.97	5.2	66.25	49.4	110.77	82.6
	045	8.70	142.4	56.51	213.6	53.86	203.6	51.98	196.5	7.24	5.4	70.94	52.9	118.95	88.7
	050	9.67	158.5	62.88	237.7	60.24	227.7	58.36	220.6	7.64	5.7	78.45	58.5	131.82	98.3
	052	10.00	164.8	65.40	247.2	62.75	237.2	60.87	230.1	7.78	5.8	81.53	60.8	136.92	102.1
	057	11.02	180.7	71.71	271.1	69.07	261.1	67.19	254.0	8.18	6.1	89.04	66.4	143.35	106.9
	062	12.00	196.7	78.04	295.0	75.40	285.0	73.52	277.9	8.58	6.4	96.42	71.9	162.67	121.3
	066	13.00	213.3	84.63	319.9	81.98	309.9	80.11	302.8	8.98	6.7	104.20	77.7	175.94	131.2
	072	13.86	227.1	90.11	340.6	87.46	330.6	85.58	323.5	9.25	6.9	110.77	82.6	187.07	139.5
	085 ^{1,2)}	16.40	269.8	107.00	404.7	105.21	397.7	--	--	9.78	7.3	87.56	65.3	--	--

1) 085 = 2000 RPM max.

2) 085 = 75 bar (1100 psi) cont.

085 = 90 bar (1300 psi) max. int.

HIGH PERFORMANCE VANE PUMP VT6EM



SP

VT6E * * - 066 - 3 R 00 - B 1 *

Series

- M** = Mobile 1 shaft seal
- P** = Mobile 2 shaft seal
- Y** - Metric port connection, Omit for UNC

Cam ring

Volumetric displacement cm^3/rev (in^3/rev)

- *042/R42 = 132.3 (8.07)
- 045/R45 = 142.4 (8.69)
- 050/R50 = 158.5 (9.67)
- 052/R52 = 164.8 (10.06)
- 057/R57 = 180.7 (11.02)
- 062/R62 = 196.7 (12.00)
- 066/R66 = 213.3 (13.02)
- 072/R72 = 227.1 (13.86)
- 085/R85 = 269.8 (16.46)

'R' - for Mobile - spring assisted

Type of shaft

M version

- 1 - keyed (SAE CC)
- 2 - keyed (no SAE)
- 3 - splined (SAE C)
- 4 - splined (SAE CC)
- T - splined (SAE J718c)

P version

- 3 - splined (no SAE)
- 4 - splined (SAE CC)

Modifications

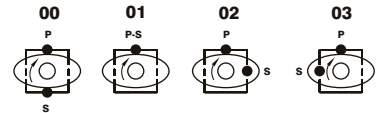
Seal class

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

Design letter

Porting combination

00 - standard

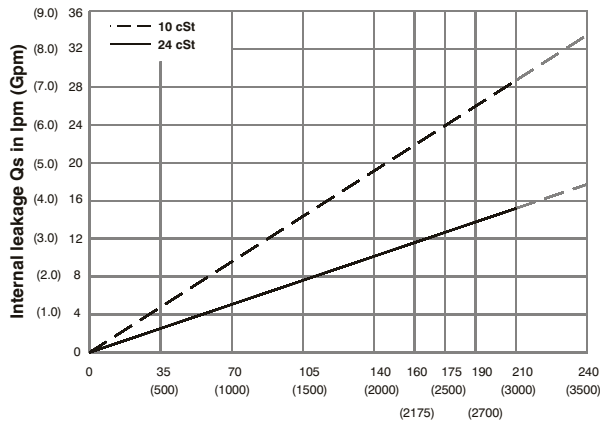


S - Suction port **P** - Pressure port

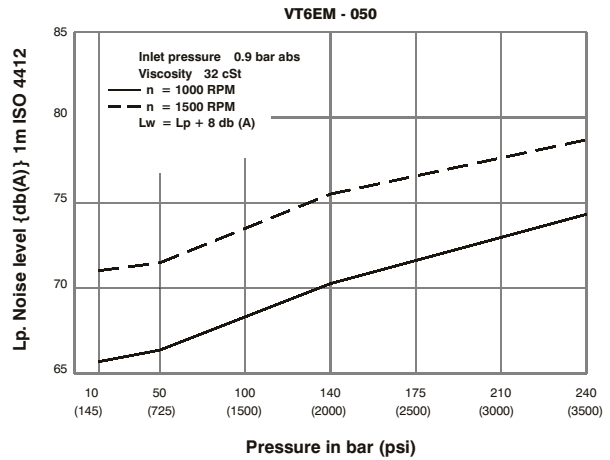
Direction of rotation (view on shaft end)

- R - clockwise
- L - counter-clockwise

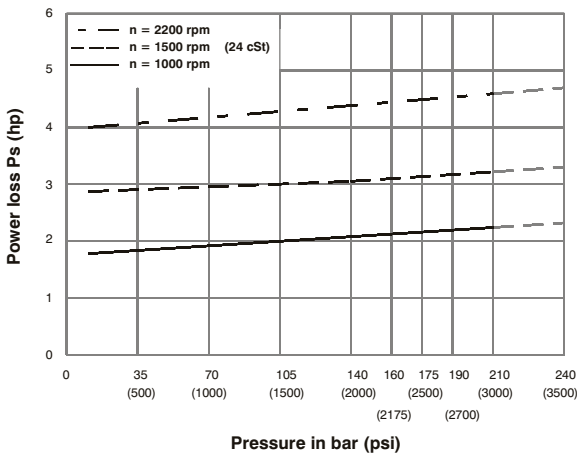
INTERNAL LEAKAGE (TYPICAL)



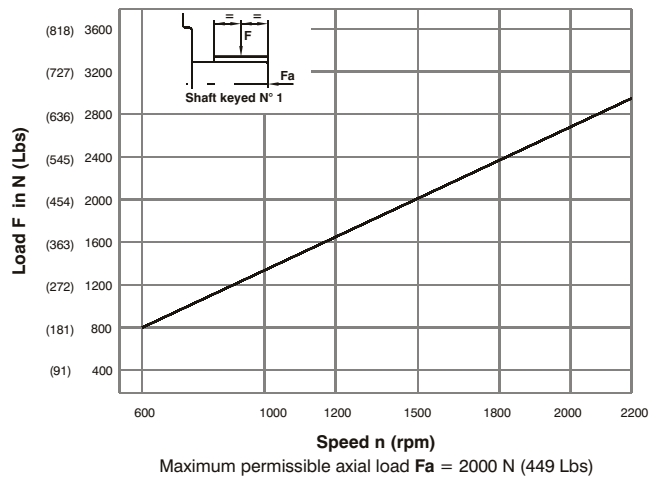
NOISE LEVEL (TYPICAL)



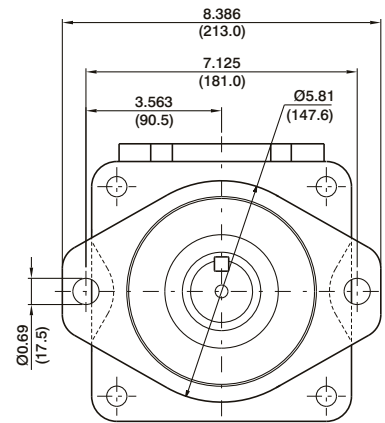
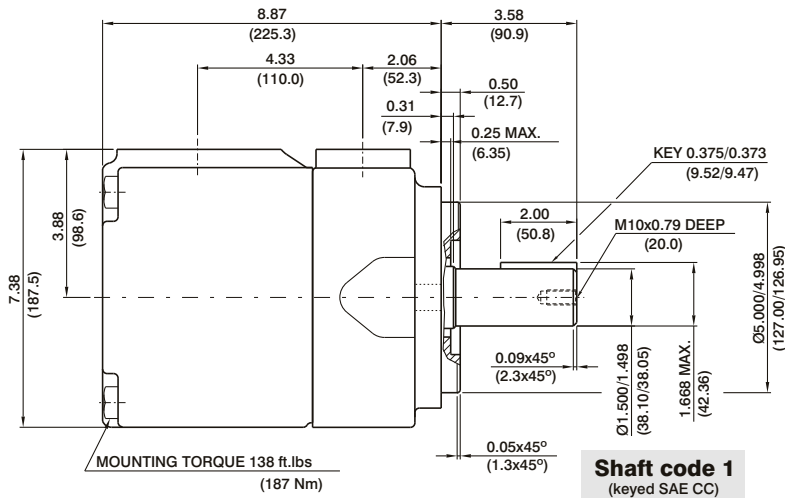
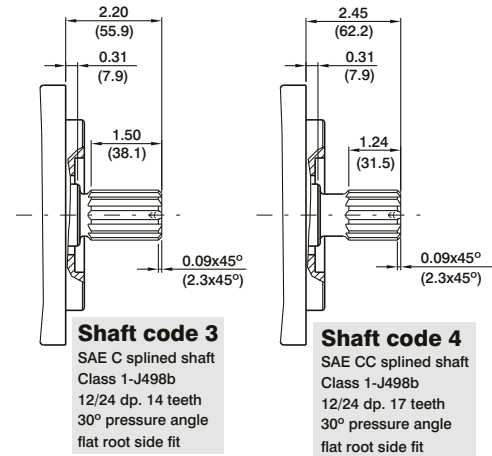
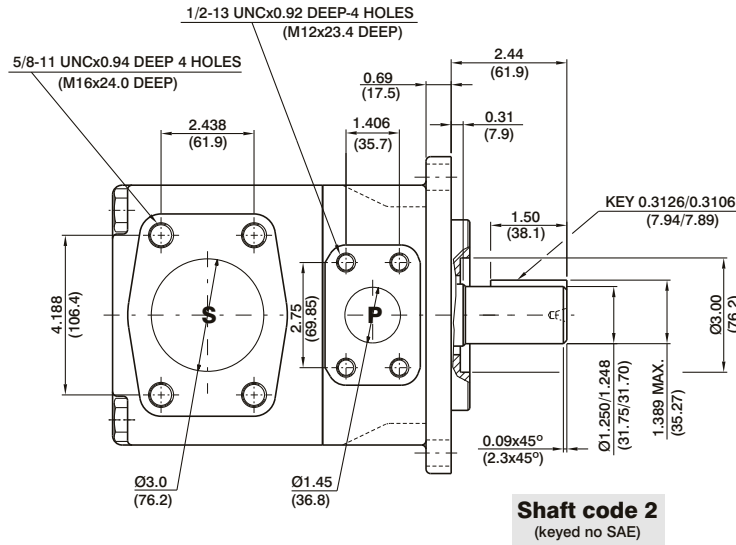
HYDROMECHANICAL POWER LOSS (TYPICAL)



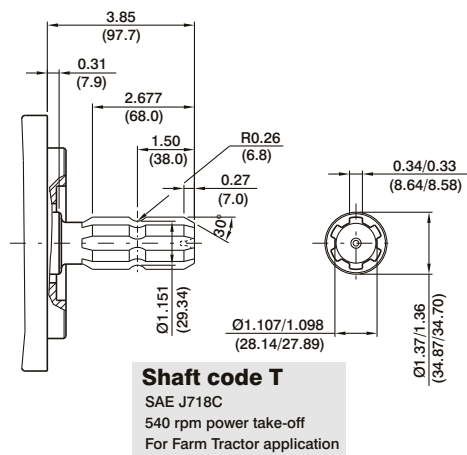
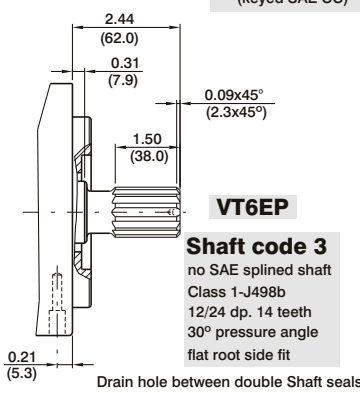
PERMISSIBLE RADIAL LOAD



SP



Shaft	Vp x p max.
1	48273 (54555)
2	30638 (34590)
3	54207 (61200)
4	54207 (61200)
T	62356 (70400)



OPERATING CHARACTERISTICS - TYPICAL (24 cST)

Pressure port	Series	Volumetric Displacement Vp		Flow q & n = 1500 rpm						Input power p & n = 1500 rpm					
		p = 0 bar (0 psi)		p = 140 bar (2000 psi)		p = 240 bar (3500 psi)		p = 7 bar (100 psi)		p = 140 bar (2000 psi)		p = 240 bar (3500 psi)			
		in ³ /rev	cm ³ /rev	gpm	lpm	gpm	lpm	gpm	lpm	hp	kw	hp	kw		
VT6EM VT6EP	042	8.07	132.3	52.50	198.5	49.87	188.5	47.96	181.3	6.97	5.2	66.25	49.4	110.77	82.6
	045	8.70	142.4	56.51	213.6	53.86	203.6	51.98	196.5	7.24	5.4	70.94	52.9	118.95	88.7
	050	9.67	158.5	62.88	237.7	60.24	227.7	58.36	220.6	7.64	5.7	78.45	58.5	131.82	98.3
	052	10.00	164.8	65.40	247.2	62.75	237.2	60.87	230.1	7.78	5.8	81.53	60.8	136.92	102.1
	057	11.02	180.7	71.71	271.1	69.07	261.1	67.19	254.0	8.18	6.1	89.04	66.4	143.35	106.9
	062	12.00	196.7	78.04	295.0	75.40	285.0	73.52	277.9	8.58	6.4	96.42	71.9	162.67	121.3
	066	13.00	213.3	84.63	319.9	81.98	309.9	80.11	302.8	8.98	6.7	104.20	77.7	175.94	131.2
	072	13.86	227.1	90.11	340.6	87.46	330.6	85.58	323.5	9.25	6.9	110.77	82.6	187.07	139.5
	085 ^{1,2)}	16.40	269.8	107.00	404.7	105.21	397.7	--	--	9.78	7.3	87.56	65.3	--	--

1) 085 = 2000 RPM max.

2) 085 = 75 bar (1100 psi) cont.

085 = 90 bar (1300 psi) max. int.

VT6GC - B22 - 6 R 00 - A 1 - 00 -

Series

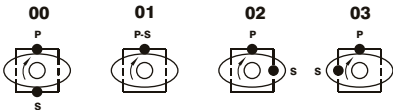
Cam ring

Volumetric displacement cm³/rev (in³/rev)

B03 = 10.8 (0.66)	B15 = 50.5 (3.08)
B05 = 17.2 (1.05)	B17 = 58.3 (3.56)
B06 = 21.3 (1.30)	B20 = 63.8 (3.89)
B08 = 26.4 (1.61)	B22 = 70.3 (4.29)
B10 = 34.1 (2.08)	B25 = 79.3 (4.84)
B12 = 37.1 (2.26)	B28 = 88.8 (5.42)
B14 = 46.0 (2.81)	B31 = 100.0 (6.10)

Type of shaft

6 - splined (DIN 5462)



S - Suction port **P** - Pressure port

Modifications

Mounting W/connection variables

	UNC		METRIC	
	00	01	M0	M1
S = 1 1/2"	SAE	SAE	SAE	SAE
P = 1	BSPP	SAE	BSPP	SAE

Seal class

1 - S1

Design letter

Porting combination

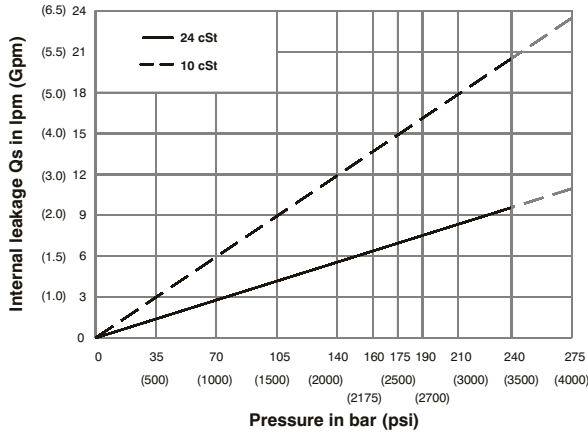
00 - standard

Direction of rotation (view on shaft end)

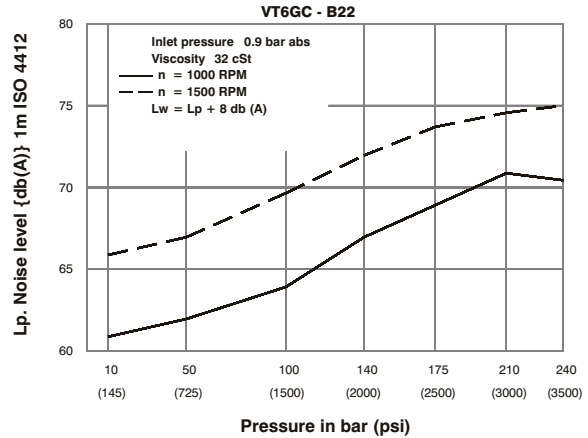
R - clockwise

L - counter-clockwise

INTERNAL LEAKAGE (TYPICAL)

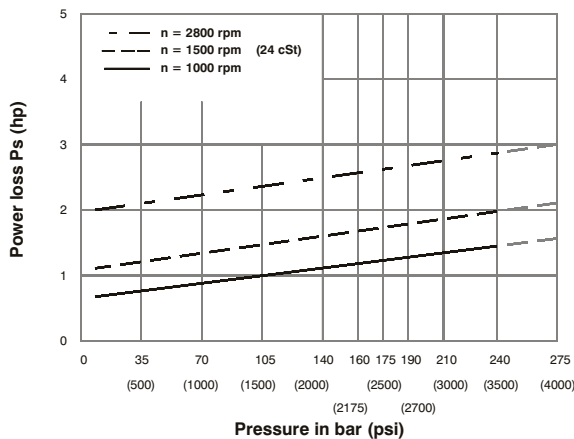


NOISE LEVEL (TYPICAL)

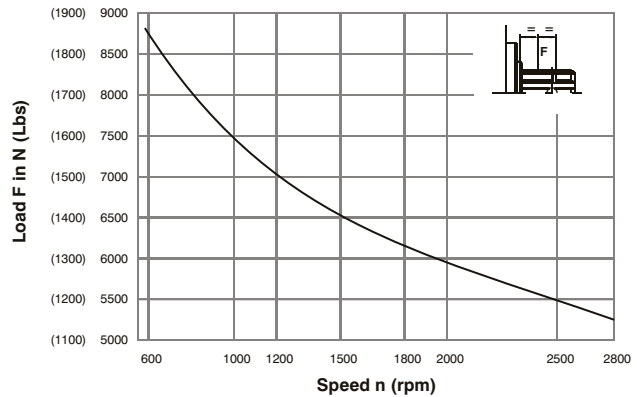


Do not operate pump more than 5 seconds at any speed or viscosity if internal leakage is more than 50% of theoretical flow.

HYDROMECHANICAL POWER LOSS (TYPICAL)



PERMISSIBLE RADIAL LOAD



Life time 3000 hours when 70% of the time at 500 N and 30% at max. load.

VTXB 1 - B09 - 1 R 00 - D 1 02 *

Series

Mounting

- 1 - SAE A
- 2 - SAE B

Cam ring

Volumetric displacement cm^3/rev (in^3/rev)

- B02 = 5.8 (0.35)
- B03 = 9.8 (0.59)
- B04 = 12.8 (0.78)
- B05 = 15.9 (0.97)
- B06 = 19.8 (1.21)
- B07 = 22.5 (1.37)
- B08 = 24.9 (1.52)
- B09 = 28.0 (1.71)
- B10 = 31.8 (1.94)
- B11 = 34.9 (2.13)
- B12 = 41.0 (2.50) (cont. 175 bar, Max. int 210 bar)
- B14 = 45.0 (2.75) (cont. 140 bar, Max. int 175 bar)

Type of Shaft

TXB1

- 1 - Keyed (Non SAE)
- 2 - Keyed
- 3 - Splined
- 4 - Splined
- 5 - Keyed
- V - Splined

TXB2

- 1 - Keyed (Non SAE)
- 2 - Keyed
- 4 - Splined

Direction of rotation (view on shaft end)

- R - clockwise
- L - counter-clockwise

Modifications

Port connections

CODE	S	P
00	SAE 20 1" 5/8 12 UNF-2B	SAE 12 1" 1/16 12 UNF-2B
01	1" 1/4 SAE 4 bolt (UNC)	3/4" SAE 4 bolt (UNC)
M0	1" 1/4 SAE 4 bolt (METRIC)	3/4" SAE 4 bolt (METRIC)
02	1" 1/4 BSP	3/4" BSP
03	1" 1/4 NPTF	SAE 12 1" 1/16 12 UNF-2B
0X	1" 1/4 NPTF	3/4" NPTF
MX	Ø28 SAE 4 bolt (METRIC)	Ø15 SAE 4 bolt (METRIC)

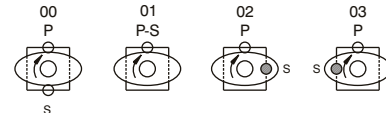
Seal class

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

Design letter

Porting combination

- 00 - standard



S - Suction port P - Pressure port

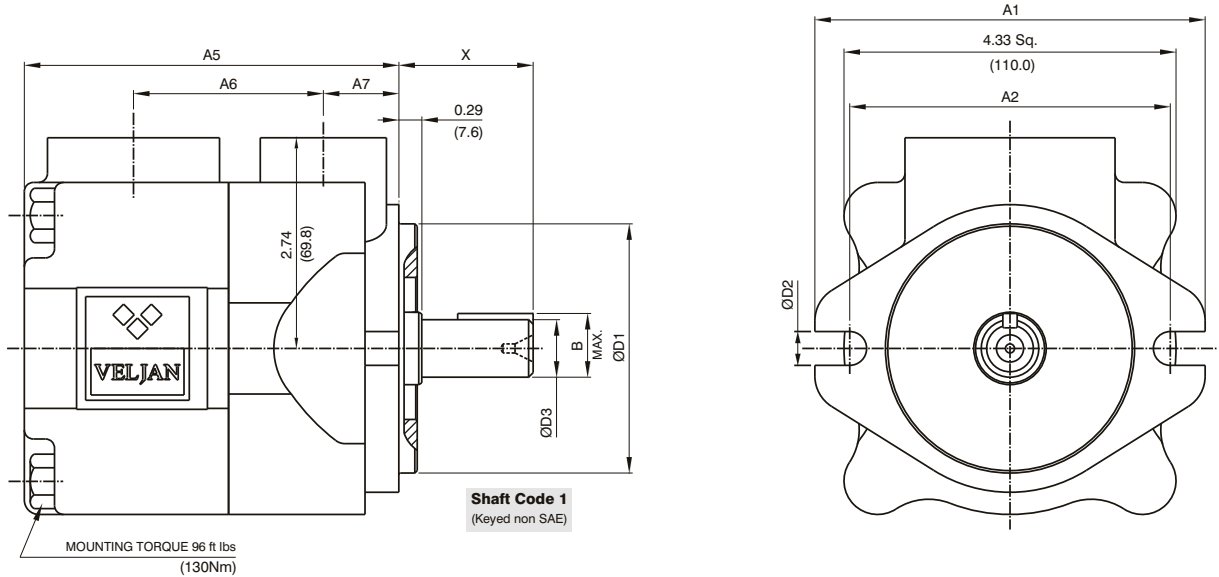
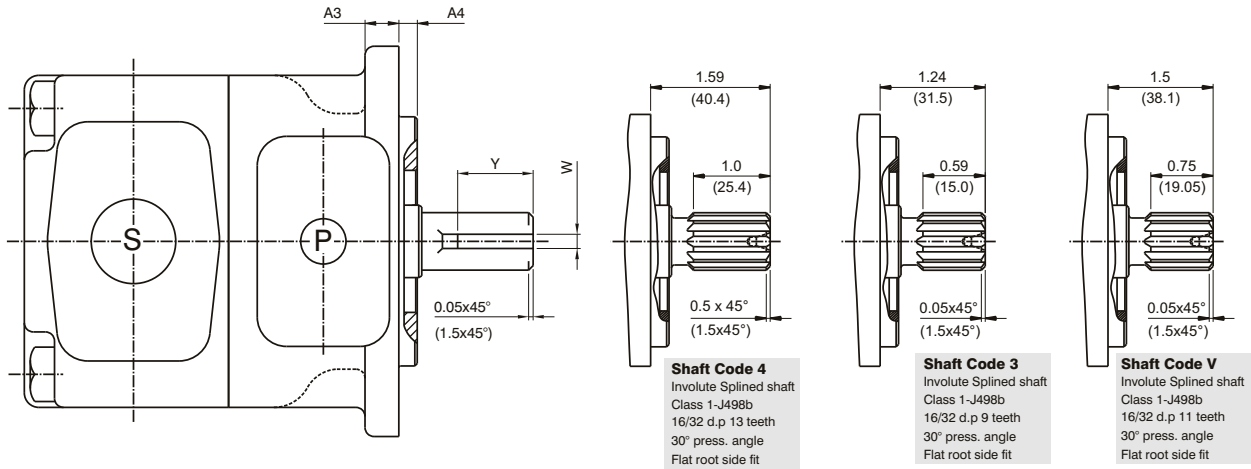
OPERATING CHARACTERISTICS (24 cSt)

Pressure port	Series	Volumetric Displacement V_p		Flow q & $n = 1500$ rpm						Input power p & $n = 1500$ rpm					
				$p = 0$ bar (0 psi)		$p = 140$ bar (2000 psi)		$p = 210$ bar (3000 psi)		$p = 7$ bar (100 psi)		$p = 140$ bar (2000 psi)		$p = 210$ bar (3000 psi)	
		in^3/rev	cm^3/rev	gpm	lpm	gpm	lpm	gpm	lpm	gpm	lpm	hp	kw	hp	kw
VTXB1 VTXB2	B02	0.35	5.8	2.30	8.7	1.4	5.9	--	--	0.53	0.4	2.81	2.1	--	--
	B03	0.59	9.8	3.88	14.7	2.9	11.9	2.7	10.5	0.67	0.5	3.62	2.7	--	--
	B04	0.78	12.8	5.08	19.2	4.33	16.4	3.97	15.0	0.93	0.7	5.23	3.9	10.06	7.5
	B05	0.97	15.9	6.31	23.8	5.55	21.0	5.18	19.6	1.00	0.75	6.64	4.9	11.2	8.3
	B06	1.21	19.8	7.85	29.7	7.12	26.9	6.66	25.2	1.07	0.8	8.05	6.0	12.34	9.2
	B07	1.37	22.5	8.92	33.7	8.17	30.9	7.80	29.5	1.20	0.9	9.05	6.7	14.02	10.4
	B08	1.52	24.9	9.89	37.4	9.15	34.6	8.78	33.2	1.34	1.0	10.05	7.5	15.69	11.7
	B09	1.71	28.0	11.11	42.0	10.37	39.2	10.00	37.8	1.47	1.1	11.94	8.9	23.60	17.6
	B10	1.94	31.8	12.61	47.7	11.87	44.9	11.51	43.5	1.6	1.2	13.0	9.7	26.0	19.6
	B11	2.13	34.9	13.85	52.3	13.09	49.5	12.72	48.1	1.7	1.3	14.0	10.5	28.0	21.0
	B12	2.50	41.0	16.27	61.5	15.53	58.7	*	*	1.8	1.4	15.02	11.2	*	*
	B14	2.75	45.0	17.86	67.5	17.12	64.7	**	**	2.1	1.6	15.42	11.5	**	**

- Not to use because internal leakage greater than 50% of theoretical flow.

* B12= 210 bar(3000 psi) Max.Int

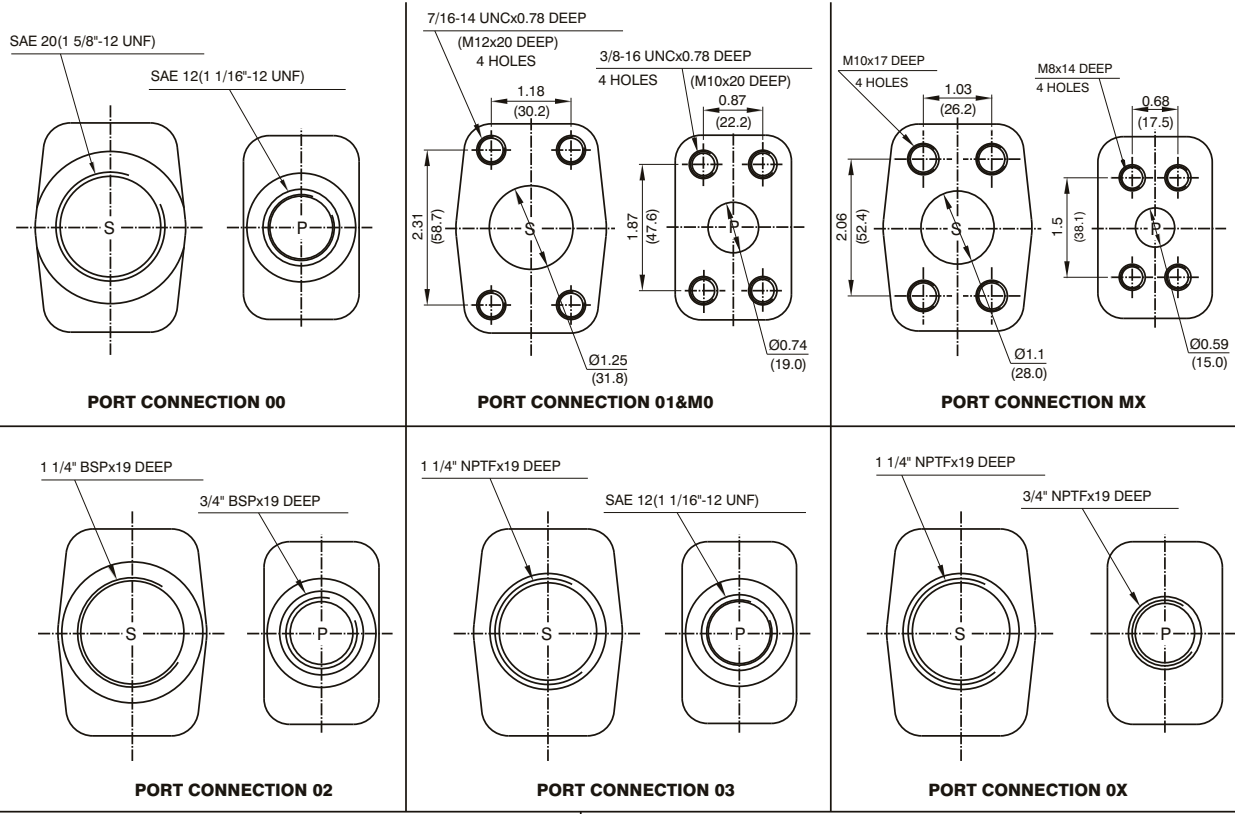
** B14= 175 bar(2500 psi) Max.Int



VP
SP

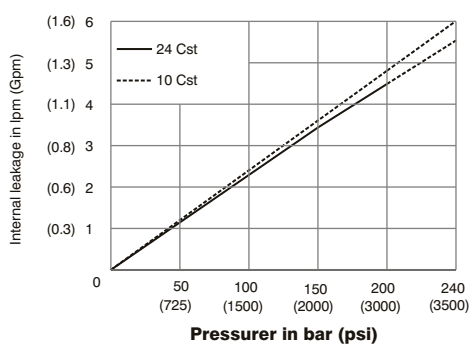
DIMENSIONS OF KEYSHAFT in inches (mm)						
MODEL	CODE	X	Y	ØD3	B	W
TXB1	1	1.75(44.5)	0.98(25)	0.75/0.74(19.05/19.00)	0.83(21.1)	0.187/0.185(4.75/4.70)
	2	1.96(50.0)	0.98(25)	0.625/0.624(15.88/15.85)	0.69(17.7)	0.156/0.155(3.97/3.94)
	5	2.66(67.6)	1.61(41)	0.75/0.74(19.05/19.00)	0.83(21.1)	0.187/0.185(4.75/4.70)
TXB2	1	2.32(59.0)	1.25(32)	0.875/0.874(22.22/22.20)	0.96(24.5)	0.187/0.185(4.75/4.70)
	2	2.81(71.4)	1.49(38)	0.875/0.874(22.22/22.20)	0.96(24.5)	0.250/0.248(6.35/6.30)

DIMENSIONS in inches (mm)									
MODEL	A1	A2	A3	A4	A5	A6	A7	ØD1	ØD2
TXB1	5.11(130.0)	4.18(106.2)	0.44(11.2)	0.24(6.1)	4.88(124.1)	2.47(62.9)	0.98(25.0)	3.25/3.24(82.55/82.50)	0.44(11.2)
TXB2	6.87(174.5)	5.74(146.0)	0.5(12.7)	0.38(9.7)	4.94(125.6)	2.29(58.4)	1.22(31.0)	4.00/3.99(101.60/101.55)	0.56(14.3)



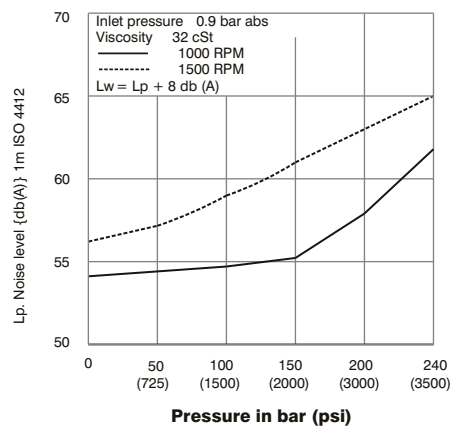
VP
SP

INTERNAL LEAKAGE (TYPICAL)

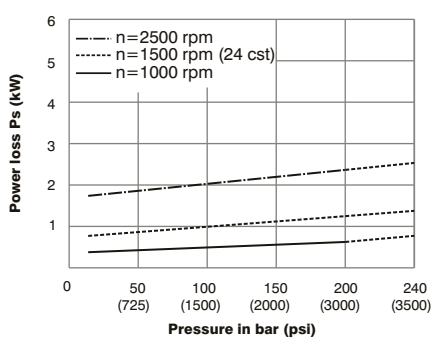


Do not operate pump for more than 5 seconds at any speed or viscosities if internal leakage is more than 50% of theoretical flow.

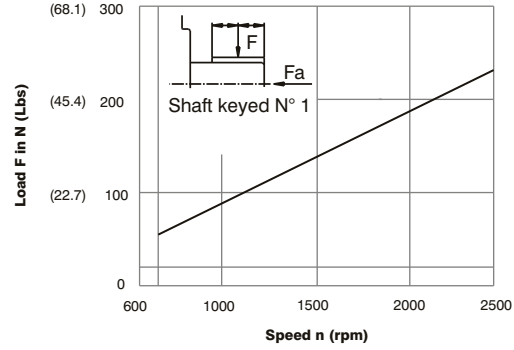
NOISE LEVEL (TYPICAL)



POWER LOSS HYDROMECHANICAL (TYPICAL)



PERMISSIBLE RADIAL LOAD



Maximum axial load permissible Fa = 500 N (113.6 lbs)

3MICT

vt7b-vtbs	2
vt7dsw	4
vt7d-vt7ds	6
vt7e	8
vt7qc	10

SP

VT7B or VT7BS - B10 - 1 R 00 - A 1 M0 -

Series

VT7B series - ISO 2 bolts 3019-2
mounting flange 100 A2 HW

VT7BS series- SAE B 2 bolts
Mounting flange J744C

Camring

Volumetric displacement cm^3/rev (in^3/rev)

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

Type of shaft VT7B-VT7BS

2 - Keyed (ISO R775)

Type of shaft VT7BS

- 1 - Keyed (SAE B)
- 3 - Splined (SAE B)
- 4 - Splined (SAE BB)

Direction of rotation (view on shaft end)

- R - clockwise
- L - counter-clockwise

Modifications

Mounting W/connection variables

4 bolts SAE flange (J518C)

	UNC VT7BS		METRIC VT7B-VT7BS	
	00	01	M0	M1
P	1"	3/4"	1"	3/4"
S	1 1/2"			

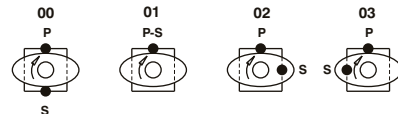
Seal class

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

Design letter

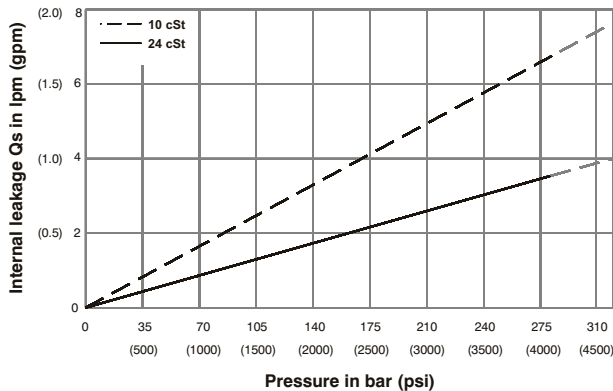
Porting combination

00 - standard

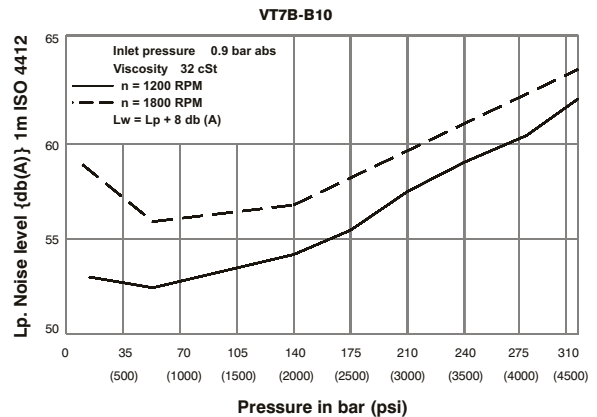


S - Suction port P - Pressure port

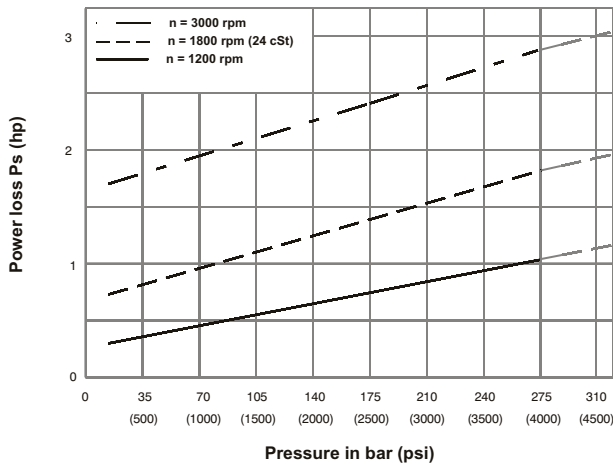
INTERNAL LEAKAGE (TYPICAL)



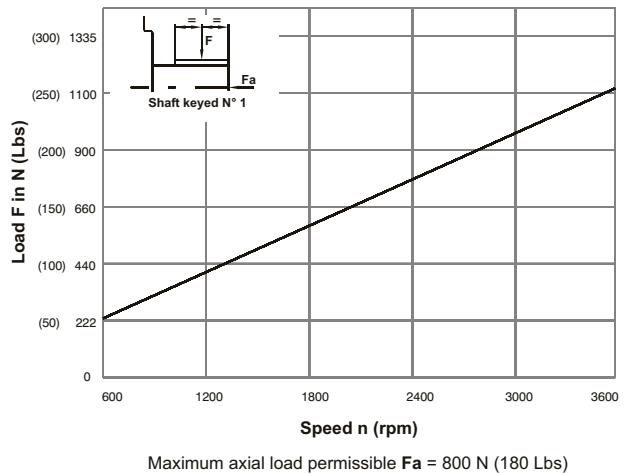
NOISE LEVEL (TYPICAL)

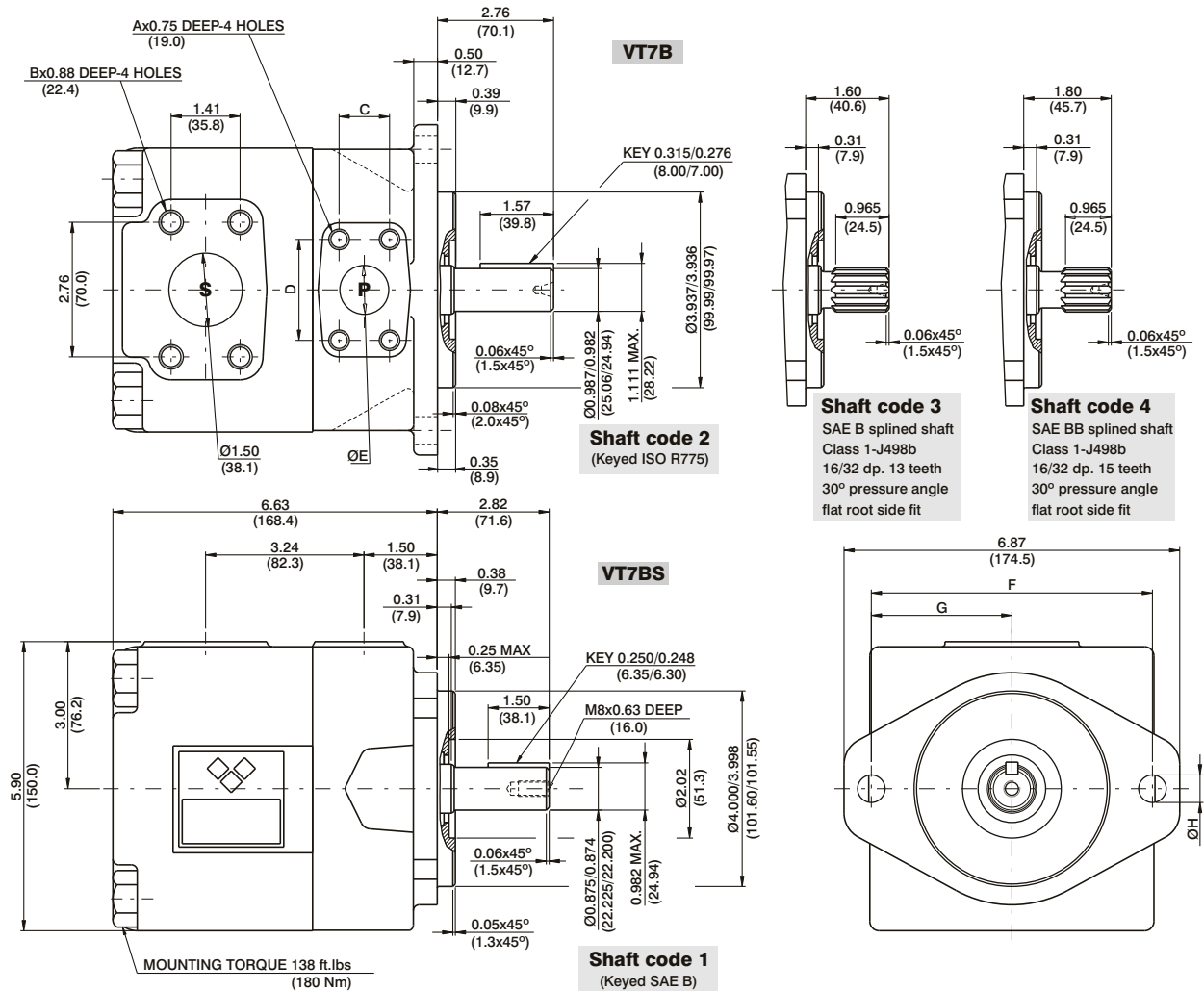


HYDROMECHANICAL POWER LOSS (TYPICAL)



PERMISSIBLE RADIAL LOAD





	VT7BS		VT7B	
	00	01	M0	M1
A	3/8-16 UNC		M10	
B	1/2-13 UNC		M12	
C	1.03 (26.2)	0.874 (22.2)	1.03 (26.2)	0.874 (22.2)
D	2.06 (52.4)	1.874 (47.6)	2.06 (52.4)	1.874 (47.6)
ØE	1.00 (25.4)	0.75 (19.05)	1.00 (25.4)	0.75 (19.05)
F	5.75 (146.0)		5.51 (140.0)	
G	2.87 (73.0)		2.75 (70.0)	
ØH	0.56 (14.3)		0.55 (14.0)	

Shaft	Vp x p max.
1	14615 (16516)
2	18246 (20620)
3	18246 (20620)
4	18246 (20620)

OPERATING CHARACTERISTICS - TYPICAL (24 cST)

Pressure port	Series	Volumetric Displacement Vp		Flow q & n = 1800 rpm						Input power p & n = 1800 rpm					
		p = 0 bar (0 psi)		p = 140 bar (2000 psi)		p = 320 bar (4650 psi)		p = 7 bar (100 psi)		p = 140 bar (2000 psi)		p = 320 bar (4650 psi)			
		in ³ /rev	cm ³ /rev	gpm	lpm	gpm	lpm	gpm	lpm	hp	kw	hp	kw	hp	kw
VT7B VT7BS	B02	0.35	5.7	2.76	10.4	2.33	8.8	1.73	6.5	0.74	0.55	4.02	2.99	8.59	6.40
	B03	0.60	9.8	4.66	17.6	4.23	15.9	3.70	13.7	0.85	0.63	6.24	4.65	13.75	10.25
	B04	0.78	12.8	6.09	23.0	5.66	21.4	5.06	19.2	0.94	0.70	7.90	5.89	17.62	13.13
	B05	0.97	15.9	7.56	28.6	7.13	26.9	6.53	24.7	1.02	0.76	9.62	7.17	21.62	16.12
	B06	1.21	19.8	9.42	35.6	8.99	33.9	8.39	31.7	1.13	0.84	11.79	8.79	26.66	19.88
	B07	1.37	22.5	10.70	40.4	10.27	38.8	9.67	36.5	1.20	0.89	13.29	9.91	30.14	22.47
	B08	1.52	24.9	11.84	44.7	11.41	43.1	10.81	40.9	1.27	0.94	14.62	10.90	33.24	24.78
	B09	1.71	28.0	13.31	50.3	12.87	48.6	12.28	46.4	1.36	1.01	16.35	12.19	37.25	27.77
	B10	1.94	31.8	15.12	57.2	14.69	55.5	14.09	53.4	1.46	1.11	18.45	13.75	42.14	31.42
	B11 ¹⁾	2.13	34.9	16.64	62.9	16.19	61.2	15.61	59.0	1.55	1.15	20.17	15.04	43.22	32.22
	B12 ¹⁾	2.50	40.9	19.50	73.7	19.07	72.1	18.54	70.1	1.72	1.28	23.55	17.56	50.58	37.71
	B14 ¹⁾	2.75	45.1	21.40	80.8	20.95	79.2	20.37	77.0	1.83	1.36	25.80	19.23	55.48	41.37
	B15 ¹⁾	3.05	50.0	23.78	89.8	23.35	88.3	22.88	86.5	1.97	1.47	28.55	21.28	57.35	42.76

1) B11-B12-B14 = 300 bar (4350 psi) & B15 = 280 bar (4060 psi) max. int. And Max. Speed = 3000 rpm

HIGH PERFORMANCE VANE PUMP VT7DSW



SP

VT7DSW - B42 - X L 00 - A 1 W1 - **

Series

Camring

Volumetric displacement cm^3/rev (in^3/rev)

B14 = 43.9 (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)

Type of shaft VT7DS

X - keyed (SAE C)
3 - keyed (SAE C)

Direction of rotation (view on shaft end)

R - clockwise
L - counter-clockwise

Modifications

IM 1115- Housing and mounting flange fluid connections are in the same plane

Mounting w/connection variables

4 bolts SAE flange J518

P = 1-1/4"		S = 2 1/2"	
	UNC		METRIC
VT7DSW	W1		M1

1) 250 bar (3630 psi) max. int.

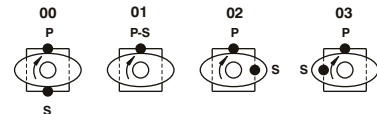
Seal class

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

Design letter

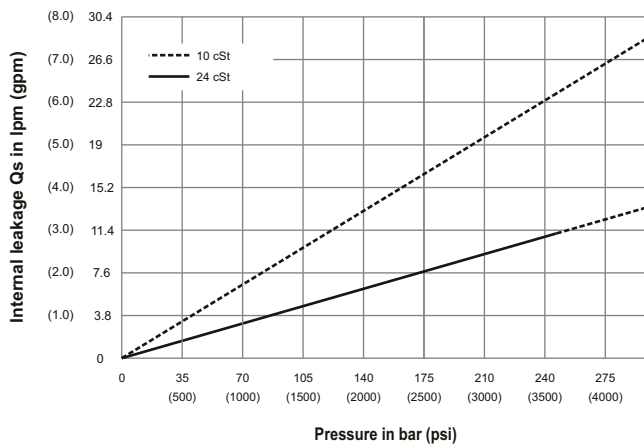
Porting combination

00 - standard

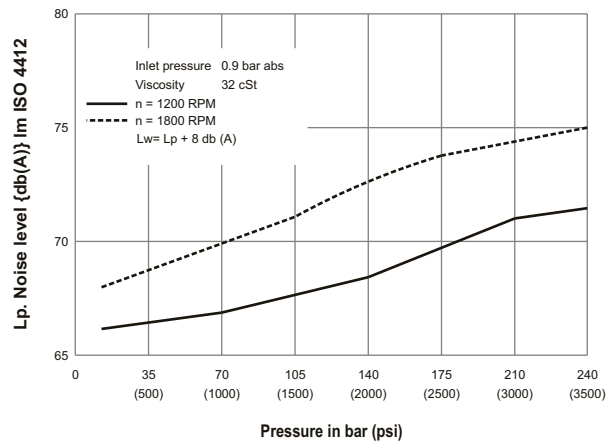


S - Suction port P - Pressure port

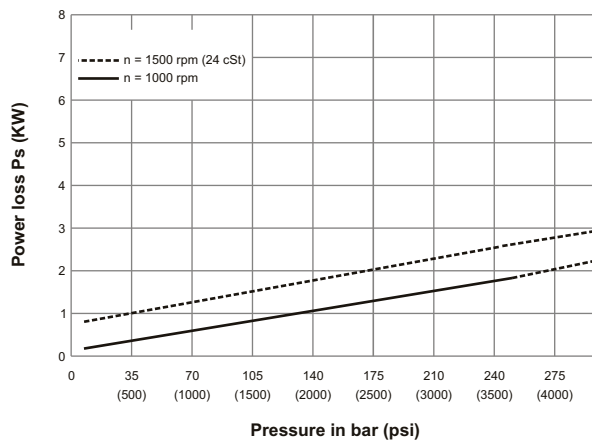
INTERNAL LEAKAGE (TYPICAL)



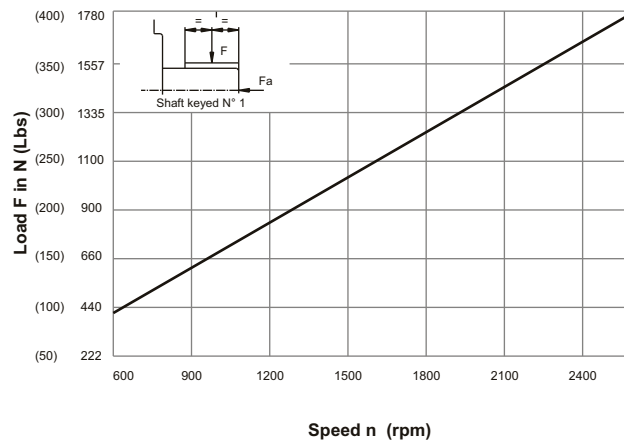
NOISE LEVEL (TYPICAL)
VT7DSW- B31



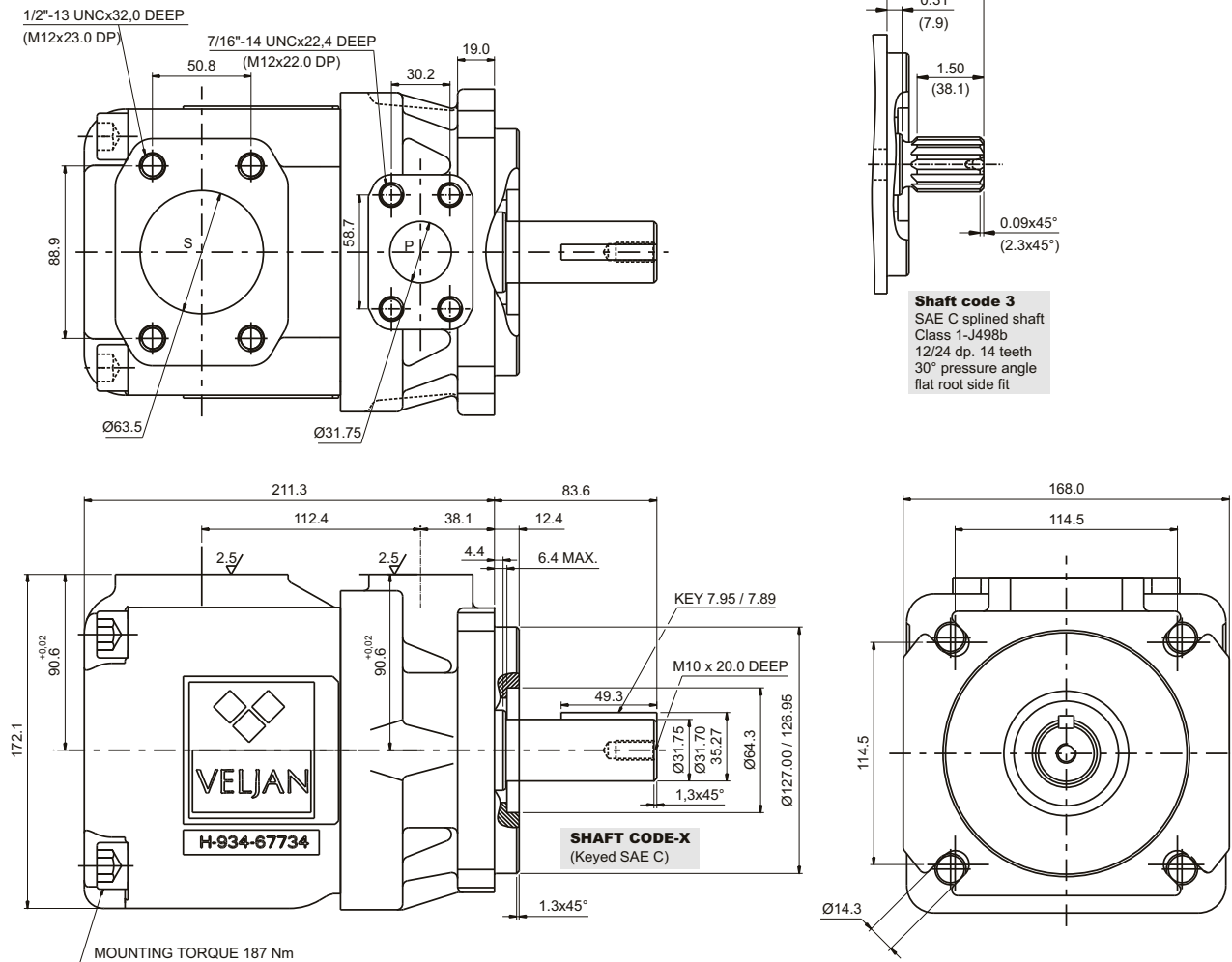
HYDROMECHANICAL POWER LOSS (TYPICAL)



PERMISSIBLE RADIAL LOAD



Maximum axial load permissible $F_a = 1200 \text{ N}$ (270 Lbs)



OPERATING CHARACTERISTICS - TYPICAL (24 cST)

Pressure port	Series	Volumetric Displacement Vp		Flow q & n = 1500 rpm						Input power p & n = 1500 rpm					
		in ³ /rev	cm ³ /rev	p = 0 bar (0 psi)		p = 140 bar (2000 psi)		p = 300 bar (4350 psi)		p = 7 bar (100 psi)		p = 140 bar (2000 psi)		p = 300 bar (4350 psi)	
				gpm	lpm	gpm	lpm	gpm	lpm	hp	kw	hp	kw	hp	kw
VT7DSW	B14	2.68	43.9	17.43	65.8	15.98	60.7	14.32	54.1	2.88	2.1	23.14	17.2	48.73	36.3
	B17	3.36	55.0	21.79	82.3	20.34	76.8	18.68	70.6	3.14	2.3	28.23	21.0	59.93	44.6
	B20	4.03	66.0	26.15	98.8	24.69	93.3	23.04	87.0	3.39	2.5	33.31	24.8	71.12	53.0
	B22	4.29	70.3	27.85	105.2	26.40	99.7	24.74	93.5	3.49	2.6	35.30	26.3	75.49	56.3
	B24	4.95	81.1	32.14	121.4	30.68	115.9	29.02	109.6	3.74	2.7	40.29	30.0	86.47	64.4
	B28	5.49	89.9	35.66	134.7	34.21	129.3	32.54	123.0	3.94	2.9	44.41	33.1	95.53	71.2
	B31	6.05	99.1	39.31	148.5	37.85	143.0	36.19	136.7	4.15	3.1	48.67	36.3	104.89	78.2
	B35	6.92	113.4	44.93	169.8	43.48	164.3	42.03 ¹⁾	158.8 ¹⁾	4.49	3.3	55.23	41.1	108.65 ¹⁾	81.0 ¹⁾
	B38	7.36	120.6	47.78	180.6	46.33	175.1	44.88 ¹⁾	169.6 ¹⁾	4.65	3.4	58.56	43.6	115.31 ¹⁾	85.9 ¹⁾
	B42	8.39	137.5	54.48	205.9	53.03	200.4	51.78 ²⁾	195.7 ²⁾	5.04	3.7	66.38	49.4	124.48 ²⁾	92.8 ²⁾
	045	8.89	145.7	57.73	218.2	55.92	211.3	54.55 ³⁾	206.1 ³⁾	5.61	4.1	69.78	52.0	120.33 ³⁾	89.7 ³⁾
050	9.64	157.9	62.61	236.6	60.79	229.7	59.81 ⁴⁾	226.0 ⁴⁾	5.89	4.4	75.48	56.2	112.11 ⁴⁾	83.6 ⁴⁾	

1) B35-B38 = 280 bar (4060 psi) max.int. 2) B42 = 260 bar (3770 psi) max.int. 3) 045 = 240 bar (3500 psi) max. int. 4) 050 = 210 bar (3000 psi) max. int.
 *special 2 1/2 (2.5 dia) suction also available - Please contact VELJAN

SP

VT7D or VT7DS - B42 - 1 R 00 - A 1 M0 -

Series

VT7D series-125 A2 HW
 ISO 2 bolts 3019-2 mounting flange
 VT7DS series- SAE C 2 bolts
 Mounting flange J744

Camring

Volumetric displacement cm^3/rev (in^3/rev)

B14 = 43.9 (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)

Type of shaft VT7DS

- 1 - keyed (SAE C 32-1)
- 2 - keyed (no SAE)
- 3 - splined (SAE C 32-4)
- 4 - splined (no SAE)

Type of shaft VT7D - VT7DS

- 5 - keyed (ISO 3019-2-G32M)

Direction of rotation (view on shaft end)

- R - clockwise
- L - counter-clockwise

Modifications

Mounting w/connection variables

4 bolts SAE flange J518

P = 1-1/4" S = 2"	
UNC	METRIC
VT7D	M0
VT7DS	00 M0 Y0 ¹⁾

1) 250 bar (3630 psi) max. int.

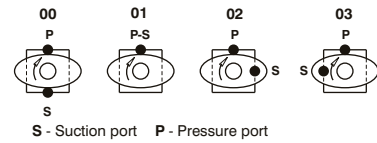
Seal class

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

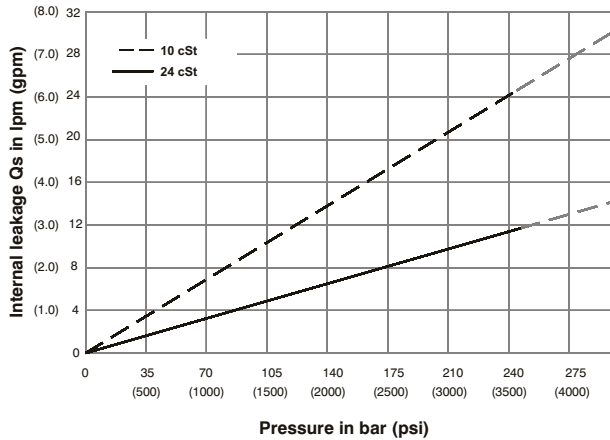
Design letter

Porting combination

00 - standard

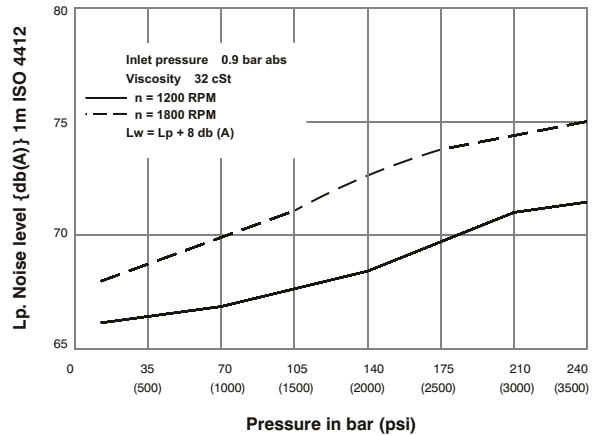


INTERNAL LEAKAGE (TYPICAL)

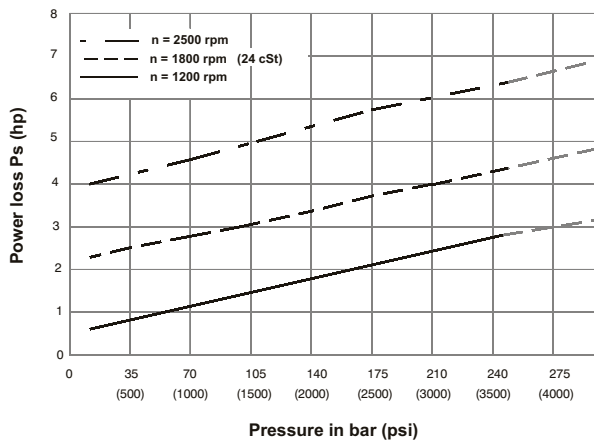


NOISE LEVEL (TYPICAL)

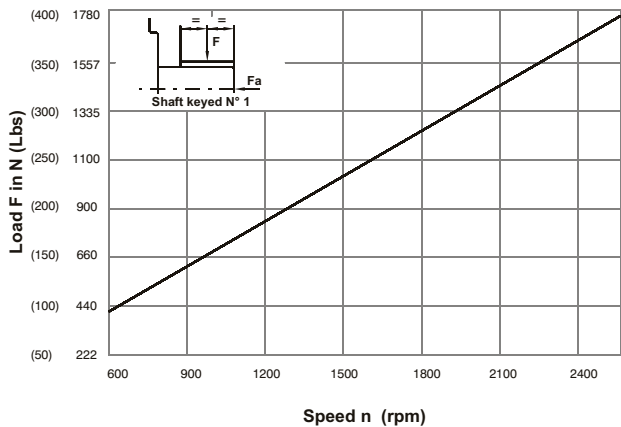
VT7D- B31



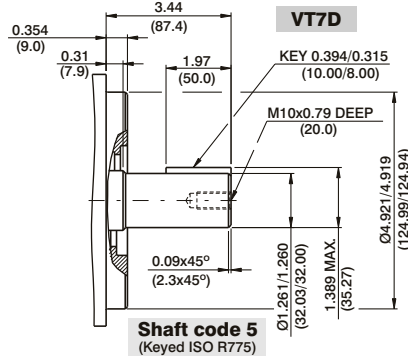
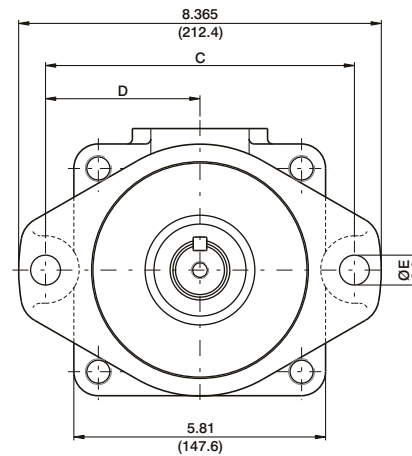
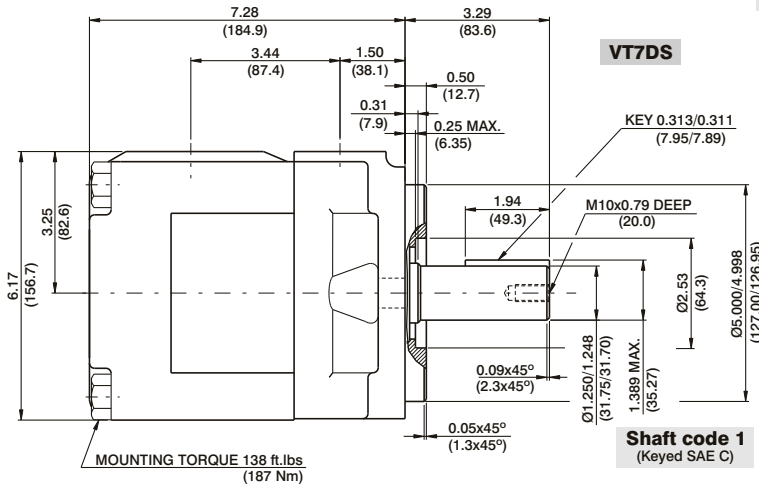
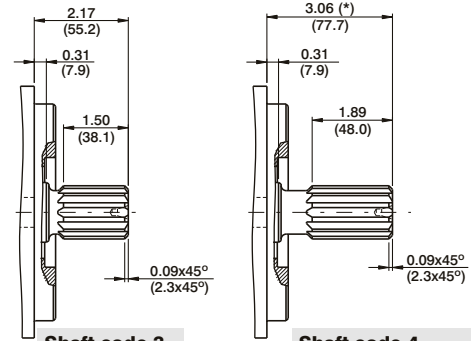
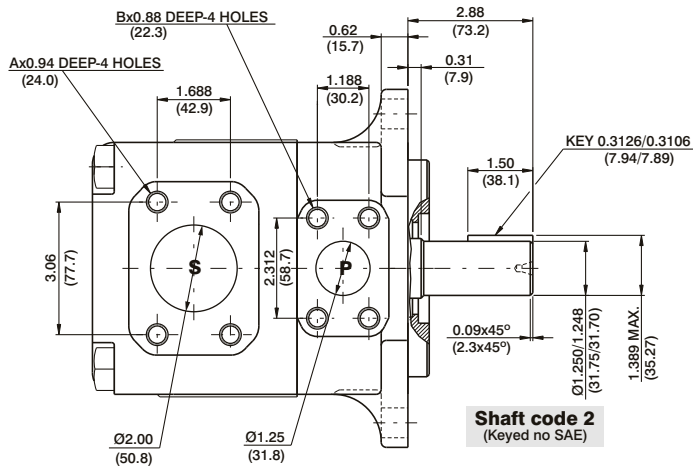
HYDROMECHANICAL POWER LOSS (TYPICAL)



PERMISSIBLE RADIAL LOAD



Maximum axial load permissible $F_a = 1200 \text{ N}$ (270 Lbs)



Shaft torque limits in ³ /rev x psi (ml/rev x bar)	
Shaft	Vp x p max.
1	38299 (43283)
2	30638 (34590)
3	54207 (61200)
4	54207 (61200)
5	39238 (44344)

	VT7DS		VT7D	
	00	M0	Y0 ¹⁾	M0
A	1/2-13 UNC	M12	M12	M12
B	7/16-14 UNC	M12	M10	M12
C	7.12 (181.0)		7.09 (180.0)	
D	3.56 (90.5)		3.54 (90.0)	
E	0.69 (17.5)		0.71 (18.0)	

1) 250 bar (3630 psi) max.int

OPERATING CHARACTERISTICS - TYPICAL (24 cST)

Pressure port	Series	Volumetric Displacement Vp		Flow q & n = 1800 rpm						Input power p & n = 1800 rpm							
		in ³ /rev		cm ³ /rev		p = 0 bar (0 psi)		p = 140 bar (2000 psi)		p = 300 bar (4350 psi)		p = 7 bar (100 psi)		p = 140 bar (2000 psi)		p = 300 bar (4350 psi)	
		gpm	lpm	gpm	lpm	gpm	lpm	gpm	lpm	hp	kw	hp	kw	hp	kw		
VT7D VT7DS	B14	2.68	43.9	20.92	79.1	19.18	72.5	17.19	64.9	3.46	2.6	27.77	20.7	58.49	43.6		
	B17	3.36	55.0	26.16	98.8	24.41	92.3	22.42	84.7	3.77	2.8	33.88	25.3	71.92	53.6		
	B20	4.03	66.0	31.39	118.6	29.64	112.0	27.65	104.5	4.07	3.0	39.98	29.8	85.35	63.6		
	B22	4.29	70.3	33.43	126.4	31.69	119.8	29.70	112.3	4.19	3.1	42.37	31.6	90.60	67.6		
	B24	4.95	81.1	38.57	145.8	36.82	139.2	34.83	131.6	4.49	3.4	48.36	36.1	103.78	77.4		
	B28	5.49	89.9	42.80	161.8	41.06	155.2	39.06	147.6	4.74	3.5	53.30	39.7	114.65	85.5		
	B31	6.05	99.1	47.18	178.3	45.43	171.7	43.44	164.2	4.99	3.7	58.41	43.6	125.88	93.7		
	B35 ¹⁾	6.92	113.4	53.93	203.9	52.18	197.2	50.44	190.6	5.39	4.0	66.29	49.4	130.39	97.2		
	B38 ¹⁾	7.36	120.6	57.35	216.8	55.61	210.2	53.87	203.6	5.59	4.2	70.28	52.4	138.38	103.2		
	B42 ²⁾	8.39	137.5	65.39	247.2	63.65	240.6	62.15	234.9	6.05	4.5	79.66	59.4	149.39	111.4		
	O45 ³⁾	8.89	145.7	69.29	262.0	67.11	253.6	65.47	247.5	6.74	5.0	83.75	62.4	144.41	107.7		
	O50 ⁴⁾	9.64	157.9	75.14	284.0	72.96	275.8	71.78	271.3	7.08	5.3	90.58	67.5	134.54	100.3		

1) B35-B38 = 280 bar (4060 psi) max.int.

2) B42 = 260 bar (3770 psi) max.int.

3) O45 = 240 bar (3500 psi) max.int.

4) O50 = 210 bar (3000 psi) max.int.

* special 2"1/2 (2.5 dia) suction also available - Please contact VELJAN

VT7E or VT7ES - 072 - 1 R 00 - A 1 M0 -

SP

Series

VT7E series-125 A2 HW
ISO 2 bolts 3019-2 mounting flange
VT7ES series- SAE C 2 bolts
Mounting flange J744

Camring

Volumetric displacement cm^3/rev (in^3/rev)

042 = 132.2 (8.07)	057 = 183.2 (11.18)
045 = 142.5 (8.70)	062 = 196.6 (12.0)
050 = 158.5 (9.67)	066 = 213.0 (13.0)
052 = 163.8 (10.0)	072 = 227.1 (13.86)
054 = 170.9 (10.43)	085 = 268.7 (16.40)

Type of shaft VT7E-VT7ES

5 - keyed (ISO R775-G38M)

Type of shaft VT7ES

- 1 - keyed (SAE CC)
- 2 - keyed (no SAE)
- 3 - splined (SAE C)
- 4 - splined (SAE CC)

Direction of rotation (view on shaft end)

- R - clockwise
- L - counter-clockwise

Modifications

Mounting w/connection variables

4 bolts SAE flange (J518)

P = 1-1/2" S = 3"

	UNC	METRIC
VT7E		M0
VT7ES	00	M0

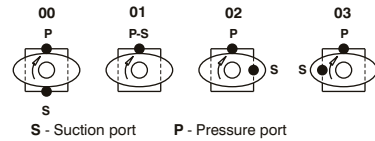
Seal class

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

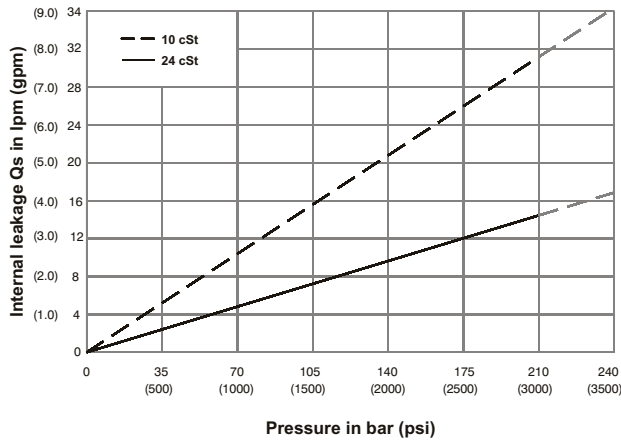
Design letter

Porting combination

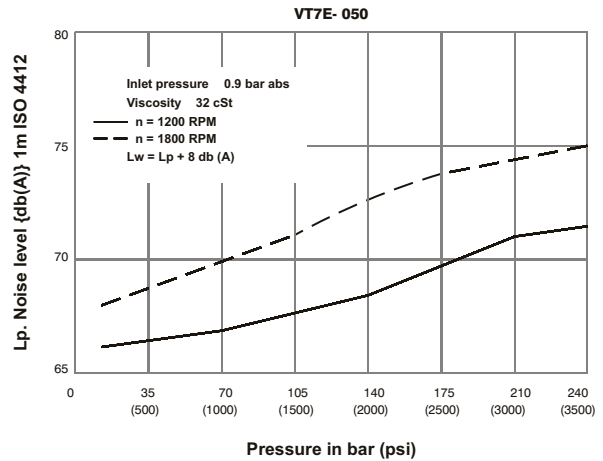
00 - standard



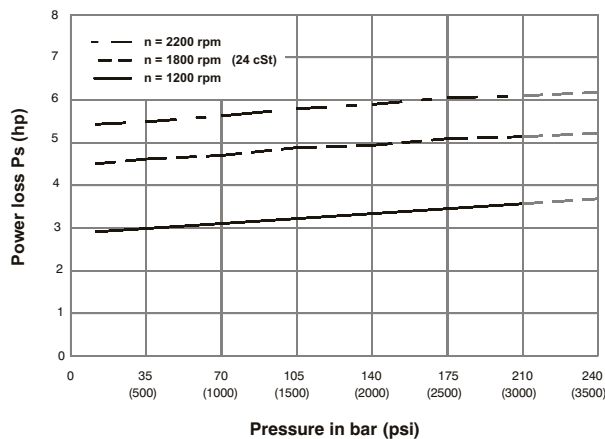
INTERNAL LEAKAGE (TYPICAL)



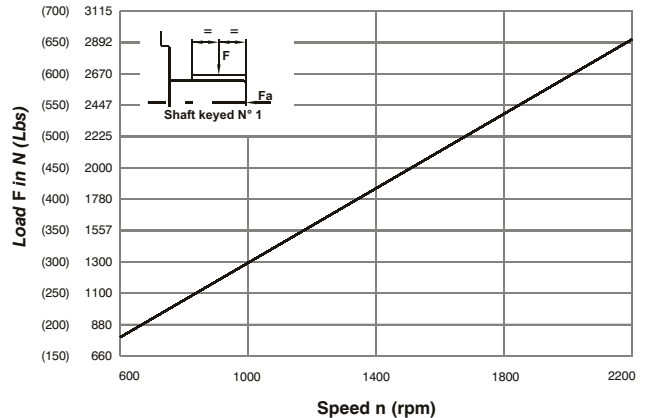
NOISE LEVEL (TYPICAL)



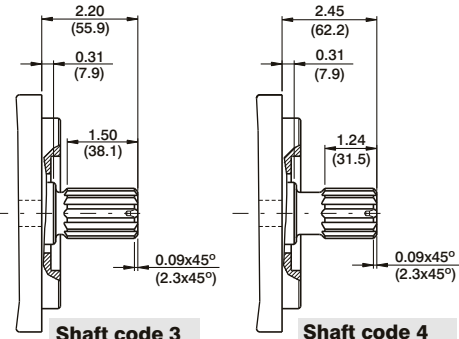
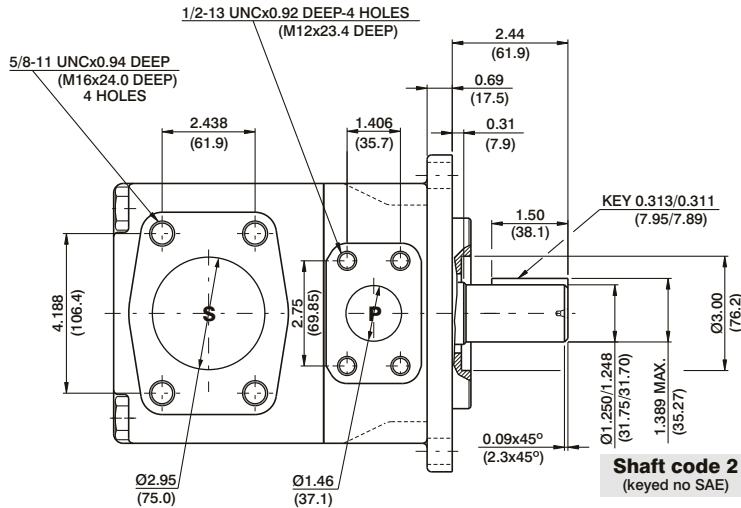
HYDROMECHANICAL POWER LOSS (TYPICAL)



PERMISSIBLE RADIAL LOAD

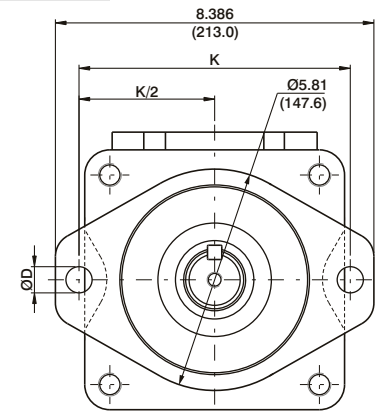
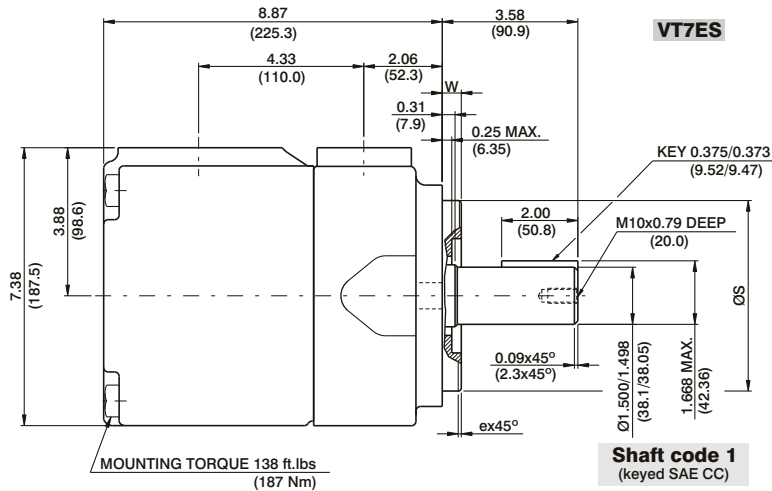


Maximum axial load permissible $F_a = 2000 \text{ N}$ (449 Lbs)



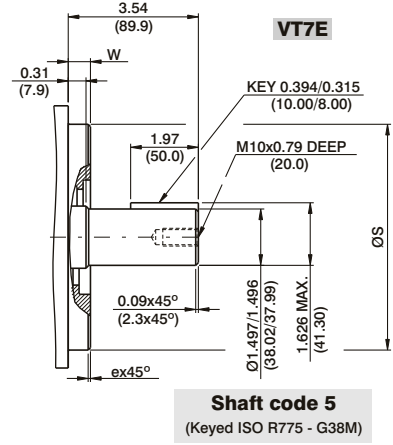
Shaft code 3
SAE C splined shaft
Class 1-J498b
12/24 dp. 14 teeth
30° pressure angle
flat root side fit

Shaft code 4
SAE CC splined shaft
Class 1-J498b
16/32 dp. 17 teeth
30° pressure angle
flat root side fit



Shaft torque limits in ³ /rev x psi (ml/rev x bar)	
Shaft	Vp x p max.
1	48273 (54555)
2	30638 (34590)
3	54207 (61200)
4	54207 (61200)
5	48273 (54555)

Series	Alternate mounting flange		ex45°	W	K	ØD
	MAX.	Min.				
VT7E	4.921 (124.99)	4.919 (124.94)	0.079 (2.0)	0.374 (9.49)	7.087 (180.0)	0.709 (18.0)
VT7ES	5.00 (127.00)	4.998 (126.94)	0.051 (1.3)	0.50 (12.7)	7.126 (181.0)	0.689 (17.5)



OPERATING CHARACTERISTICS - TYPICAL (24 cST)

Pressure port	Series	Volumetric Displacement Vp	Flow q & n = 1800 rpm						Input power p & n = 1800 rpm						
			p = 0 bar (0 psi)		p = 140 bar (2000 psi)		p = 240 bar (3500 psi)		p = 7 bar (100 psi)		p = 140 bar (2000 psi)		p = 240 bar (3500 psi)		
			in ³ /rev	cm ³ /rev	gpm	lpm	gpm	lpm	gpm	lpm	hp	kw	hp	kw	hp
VT7E VT7ES	042	8.07	132.2	62.92	237.8	60.37	228.2	58.52	221.2	8.09	6.03	78.44	58.49	133.80	99.77
	045	8.70	142.5	67.72	255.9	65.17	246.3	63.32	239.3	8.37	6.24	84.04	62.66	143.60	107.08
	050	9.67	158.5	75.38	284.9	72.83	275.3	70.98	268.3	8.82	6.58	92.97	69.32	159.24	118.75
	052	10.00	163.8	78.37	296.2	75.82	286.6	73.97	279.6	8.99	6.70	96.47	71.94	165.36	123.31
	054	10.43	170.9	81.27	307.2	78.72	297.6	76.87	290.6	9.17	6.84	99.75	74.38	177.46	132.33
	057	11.18	183.2	87.12	329.3	84.57	319.7	82.72	312.7	9.51	7.09	106.57	79.47	189.84	141.56
	062	12.00	196.6	93.54	353.6	90.99	343.9	89.14	336.9	9.88	7.37	114.17	85.13	196.34	146.41
	066	13.00	213.0	101.44	383.4	98.89	373.8	97.04	366.8	10.34	7.71	123.38	92.0	212.46	158.43
	072	13.86	227.1	108.00	408.2	105.45	398.6	103.60	391.6	10.72	7.99	131.04	97.71	225.86	166.42
085 ¹⁾	16.40	268.7	127.79	483.0	126.13	476.7	--	--	11.88	8.85	101.66	75.80	--	--	

1) 085 = 90 bar (1300 psi) max.int. & 085 = 2000 rpm max.

* special 3 1/2 (3.5 dia) suction also available - Please contact VELJAN

SP

VT7QC 1 - 022 - 1 R 00 - B 1 - 00 *

Series

Mounting

- 1 - SAE B
- 2 - SAE C

Camring

(Delivery @ 0 bar & 1500 rpm)

* 003/B03/Y03 = 16.2 l/min	015/B15/Y15 = 75.1 l/min
005/B05/Y05 = 25.8 l/min	017/B17/Y17 = 87.4 l/min
006/B06/Y06 = 31.9 l/min	020/B20/Y20 = 95.7 l/min
008/B08/Y08 = 39.6 l/min	022/B22/Y22 = 105.4 l/min
010/B10/Y10 = 51.1 l/min	025/B25/Y25 = 118.9 l/min
012/B12/Y12 = 55.6 l/min	028/B28/Y28 = 133.2 l/min
014/B14/Y14 = 69.0 l/min	031/B31/Y31 = 150.0 l/min

* '0' - Uni-directional 'B' - Bi-directional 'Y' - Bi-directional for cold start

Type of shaft

- 1 - Keyed (SAE B)
- 2 - Keyed (non SAE)
- 3 - Splined (SAE B)
- 4 - Splined (SAE BB)

Modifications

Mounting W/connection variables

	UNC		METRIC	
	00	01	M0	M1
P	1"	3/4"	1"	3/4"
S	1 1/2"			

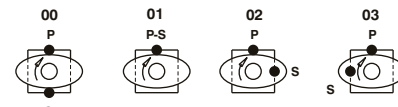
Seal class

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

Design letter

Porting combination

00 - standard

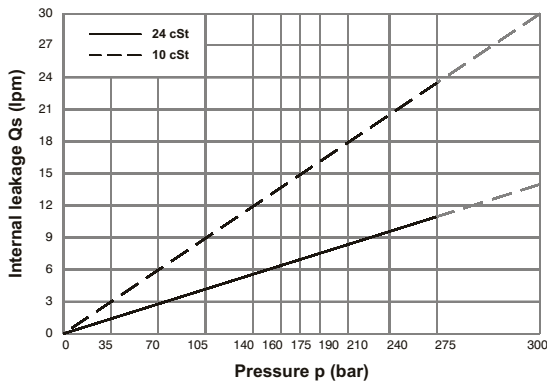


S - Suction port P - Pressure port

Direction of rotation (view on shaft end)

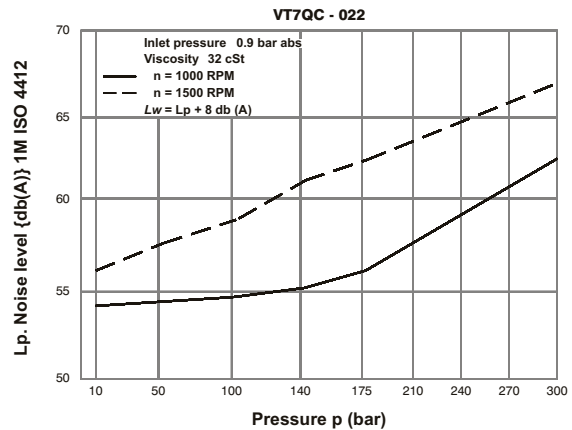
- R - clockwise
- L - counter-clockwise

INTERNAL LEAKAGE (TYPICAL)

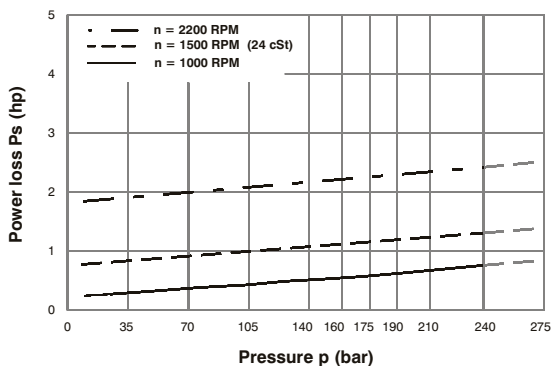


Do not operate pump more than 5 seconds at any speed or viscosity if internal leakage is more than 50% of theoretical flow.

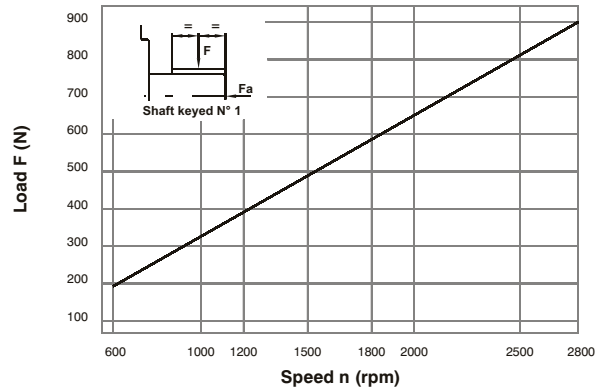
NOISE LEVEL (TYPICAL)



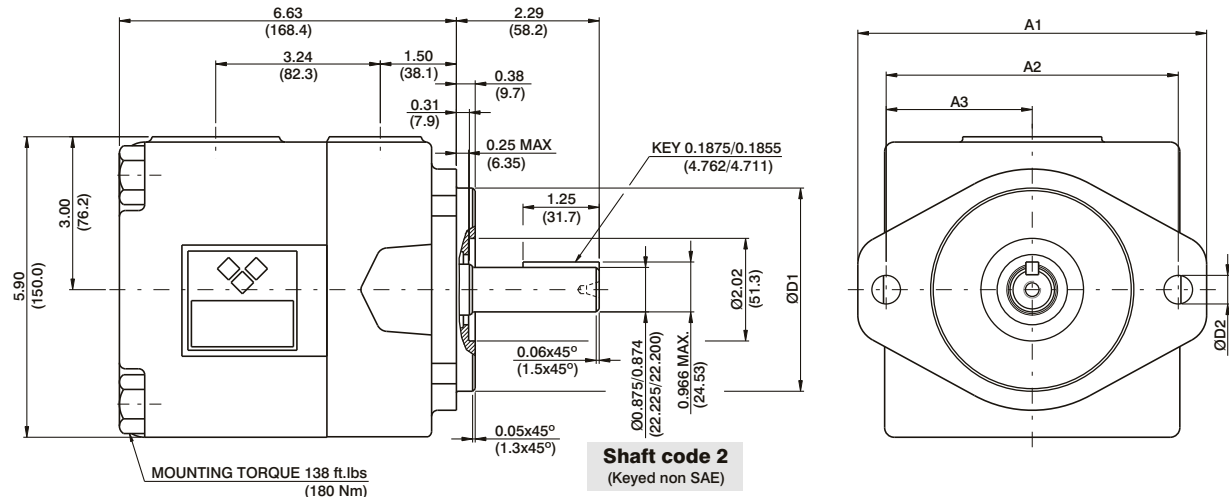
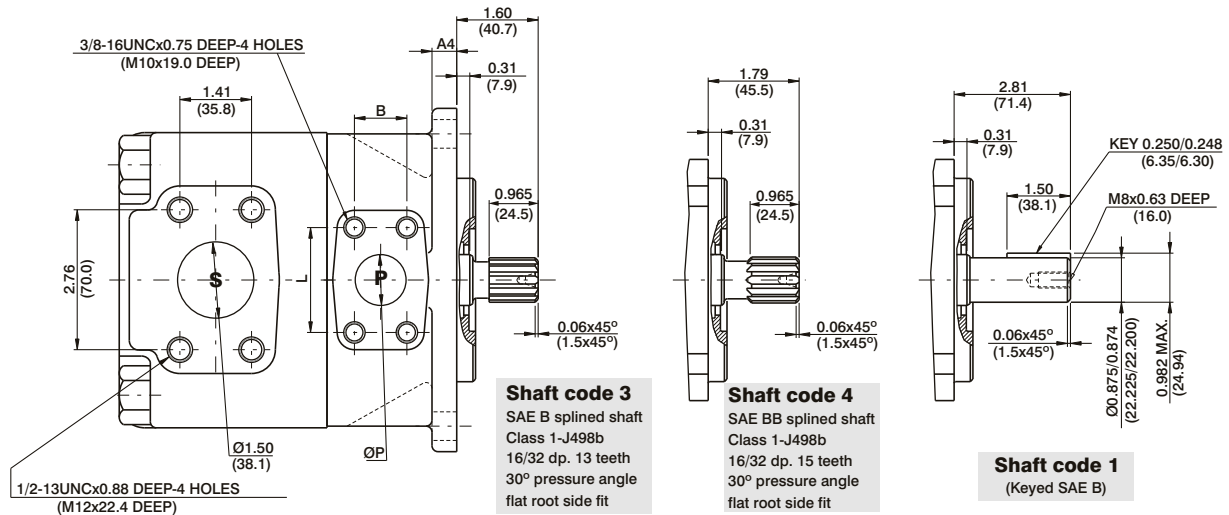
HYDROMECHANICAL POWER LOSS (TYPICAL)



PERMISSIBLE RADIAL LOAD



Maximum axial load permissible Fa = 800 N



Mounting	VT7QC1	VT7QC2
	SAE B	SAE C
ØD1	4.000 (101.60) 3.998 (101.55)	5.000 (127.00) 4.997 (126.94)
ØD2	0.56 (14.3)	0.69 (17.5)
A1	6.87 (174.5)	8.36 (212.5)
A2	5.75 (146.0)	7.13 (181.0)
A3	2.87 (73.0)	3.56 (90.5)
A4	0.5 (12.7)	0.62 (15.7)

ØP	L	B
0.75 (19.05)	1.874 (47.6)	0.874 (22.2)
1.00 (25.4)	2.06 (52.4)	1.03 (26.2)

Shaft torque limits in ³ /rev x psi (ml/rev x bar)	
Shaft	Vp x p max.
1	14473 (16500)
2	12666 (14300)
3	18246 (20600)
4	19309 (21820)

OPERATING CHARACTERISTICS - TYPICAL (24 cST)

Series	Volumetric Displacement Vp	Flow q (lpm) & n = 1500 rpm				Input power p (kW) & n = 1500 rpm			
		p = 0 bar	p = 140 bar	p = 240 bar	p = 300 bar	p = 7 bar	p = 140 bar	p = 240 bar	p = 300 bar
003	10.8 ml/rev	16.2	11.9	8.1	--	1.3	5.3	7.8	--
005	17.2 ml/rev	25.8	21.5	17.7	13.7	1.4	7.5	12.2	14.9
006	21.3 ml/rev	31.9	26.5	22.0	18.0	1.5	8.9	14.7	18.0
008	26.4 ml/rev	39.6	34.1	29.6	25.6	1.6	10.7	17.7	21.8
010	34.1 ml/rev	51.1	45.7	41.2	37.2	1.7	13.4	22.3	27.5
012	37.1 ml/rev	55.6	50.2	45.7	41.7	1.7	14.4	24.1	29.8
014	46.0 ml/rev	69.0	63.5	59.0	55.0	1.9	17.6	29.5	36.5
015	50.5 ml/rev	75.1	69.6	65.1	61.1	2.0	18.0	32.0	39.5
017	58.3 ml/rev	87.4	82.0	77.5	73.5	2.1	19.0	36.9	45.7
020	63.8 ml/rev	95.7	90.2	85.7	81.7	2.2	23.8	40.2	49.8
022 ²⁾	70.3 ml/rev	105.4	100.0	95.5	91.5	2.3	26.1	44.1	50.3
025 ^{1,3)}	79.3 ml/rev	118.9	113.5	109.0	--	2.5	29.2	49.5	--
028 ^{1,4)}	88.8 ml/rev	133.2	127.7	124.5	--	2.8	32.7	48.5	--
031 ^{1,4)}	100.0 ml/rev	150.0	144.5	141.3	--	2.8	36.5	54.4	--

1) 025-028-031 = 2500 R.P.M. max. 2) 022 = 275 bar max. int. 3) 025 = 240 bar max. int. 4) 028-031 = 210 bar max. int.
 -- Not to use because internal leakage greater than 50% of theoretical flow.

3MICT

vst7b	2
1 Page 1	2
2 Page 2	3
3 Page 3	4
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5 Page 5	6
6 Page 6	7
vst7c	8
1 Page 7	8
2 Page 8	9
3 Page 9	10
4 Page 10	11
5 Page 11	12
6 Page 12	13
7 Page 13	14
vst7d	15
1 Page 14	15
2 Page 15	16
3 Page 16	17
4 Page 17	18
5 Page 18	19
6 Page 19	20
vst7e	21
1 Page 20	21
2 Page 21	22
3 Page 22	23
4 Page 23	24
5 Page 24	25
6 Page 25	26

ORDERING CODE



VST7B 1 - B09 - 1 R 00 - D 1 - *

Series

Mounting
 1 - SAE B
 2 - SAE C

Cam ring

Volumetric displacement cm^3/rev (in^3/rev)

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

Type of shaft

- 1 - Keyed
- 2 - Keyed
- 4 - Splined

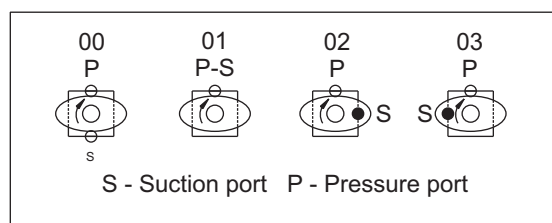
Modifications

Seal Class

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

Design Letter

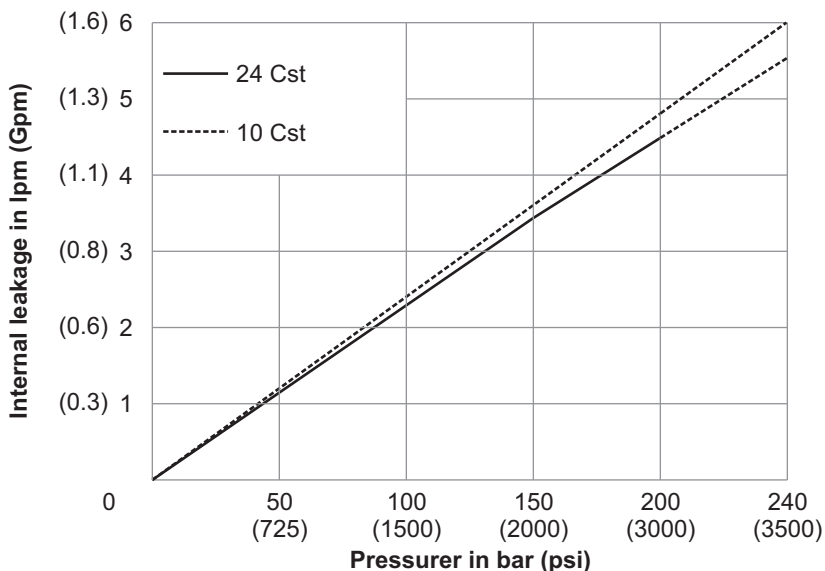
Porting combination



Direction of rotation

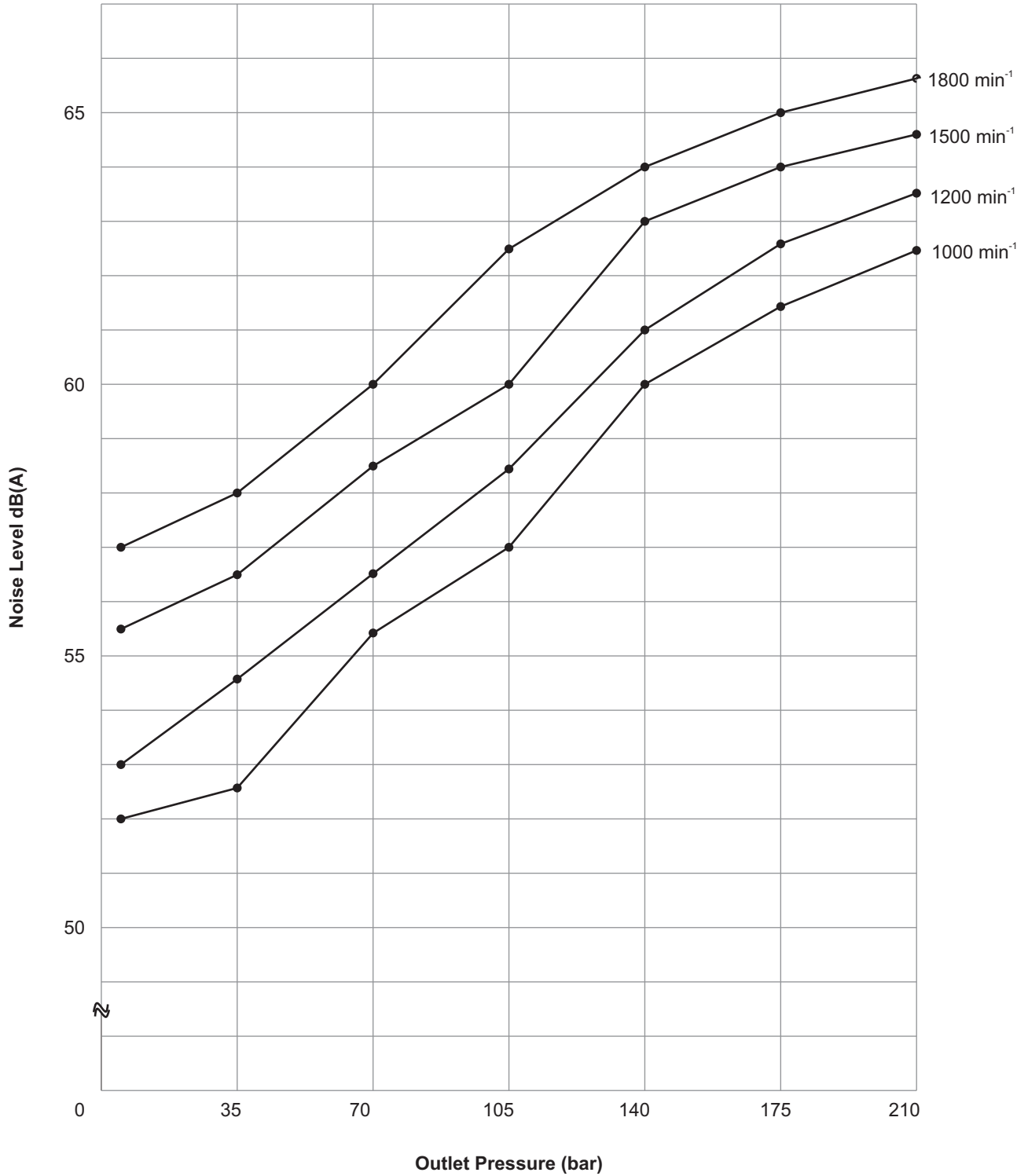
- (view on shaft end)
- R - clockwise
 - L - counter-clockwise

INTERNAL LEAKAGE (TYPICAL) VST7B B02 TO B12



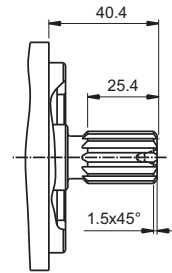
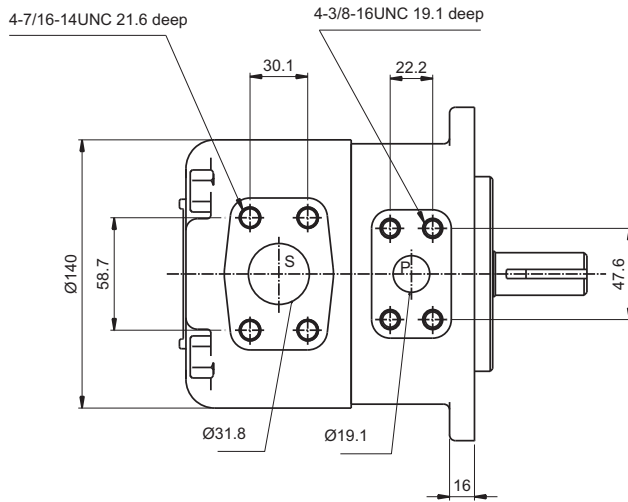
Do not operate pump for more than 5 seconds at any speed or viscosities if internal leakage is more than 50% of theoretical flow.

NOISE LEVEL (TYPICAL)
VST7B-011

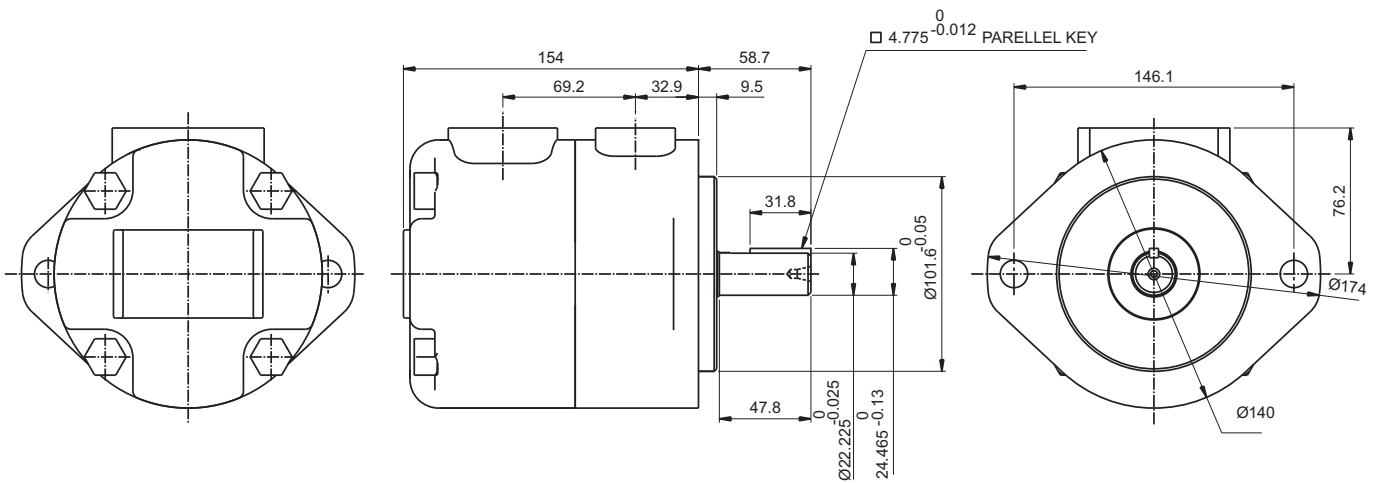


Measurement Conditions: ISO VG32 oil at 50°C and measured 1m from rear of pump cover

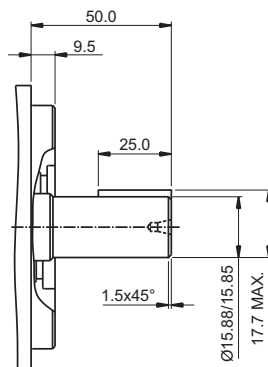
INSTALLATION DRAWING
FLANGE MOUNTING



Shaft Code 4
Involute Splined shaft
Class 1-J498b
16/32 d.p 13 teeth
30° press. angle
Flat root side fit



Shaft Code 1

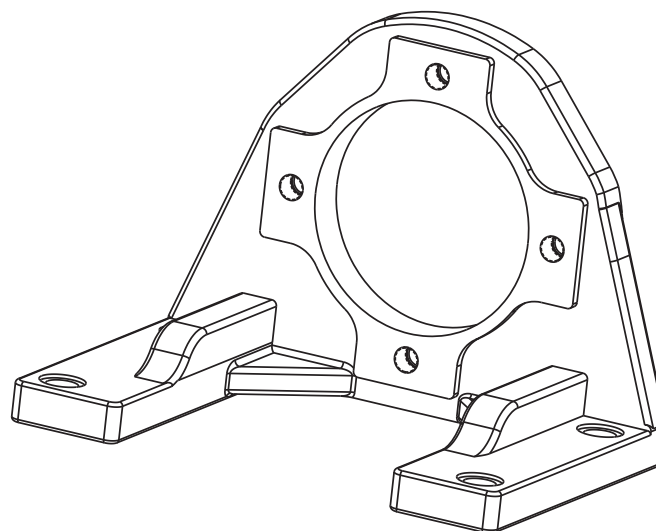
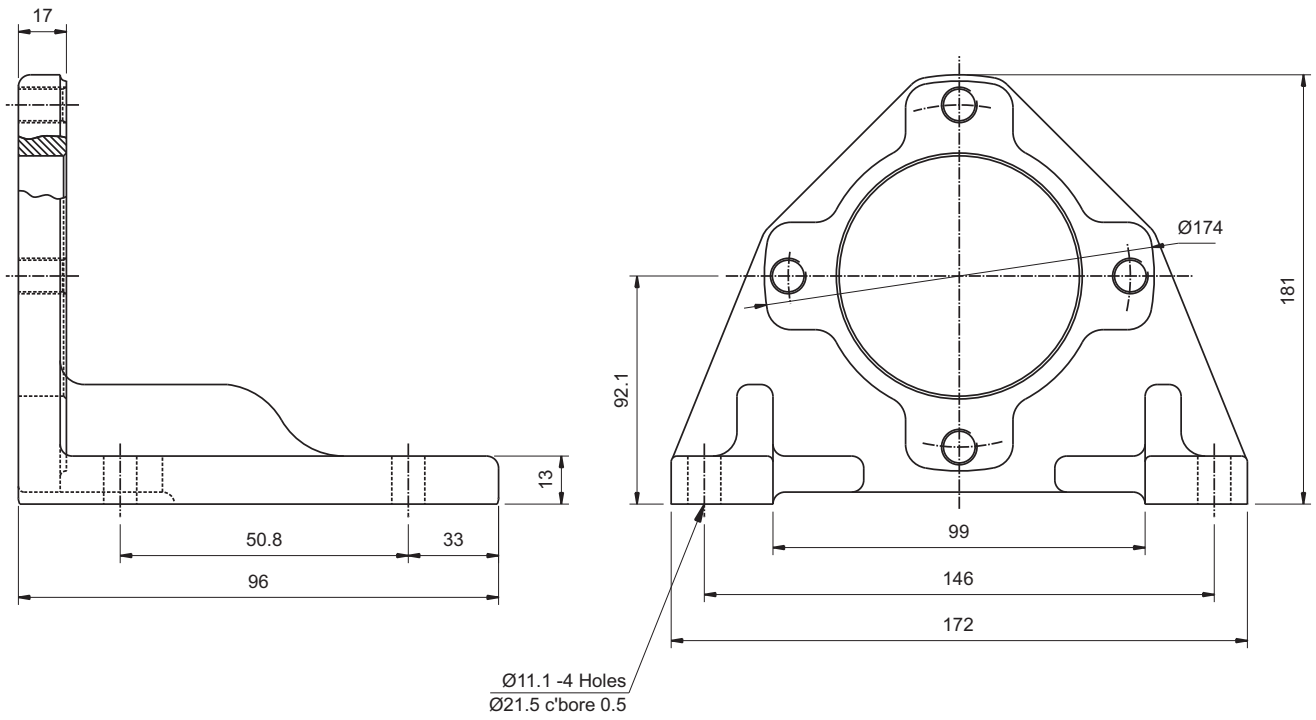


Shaft code 2

INSTALLATION DRAWING

FOOT MOUNTING

SP



Weight-3.0 Kgs.

OPERATING CHARACTERISTICS (24 cSt)



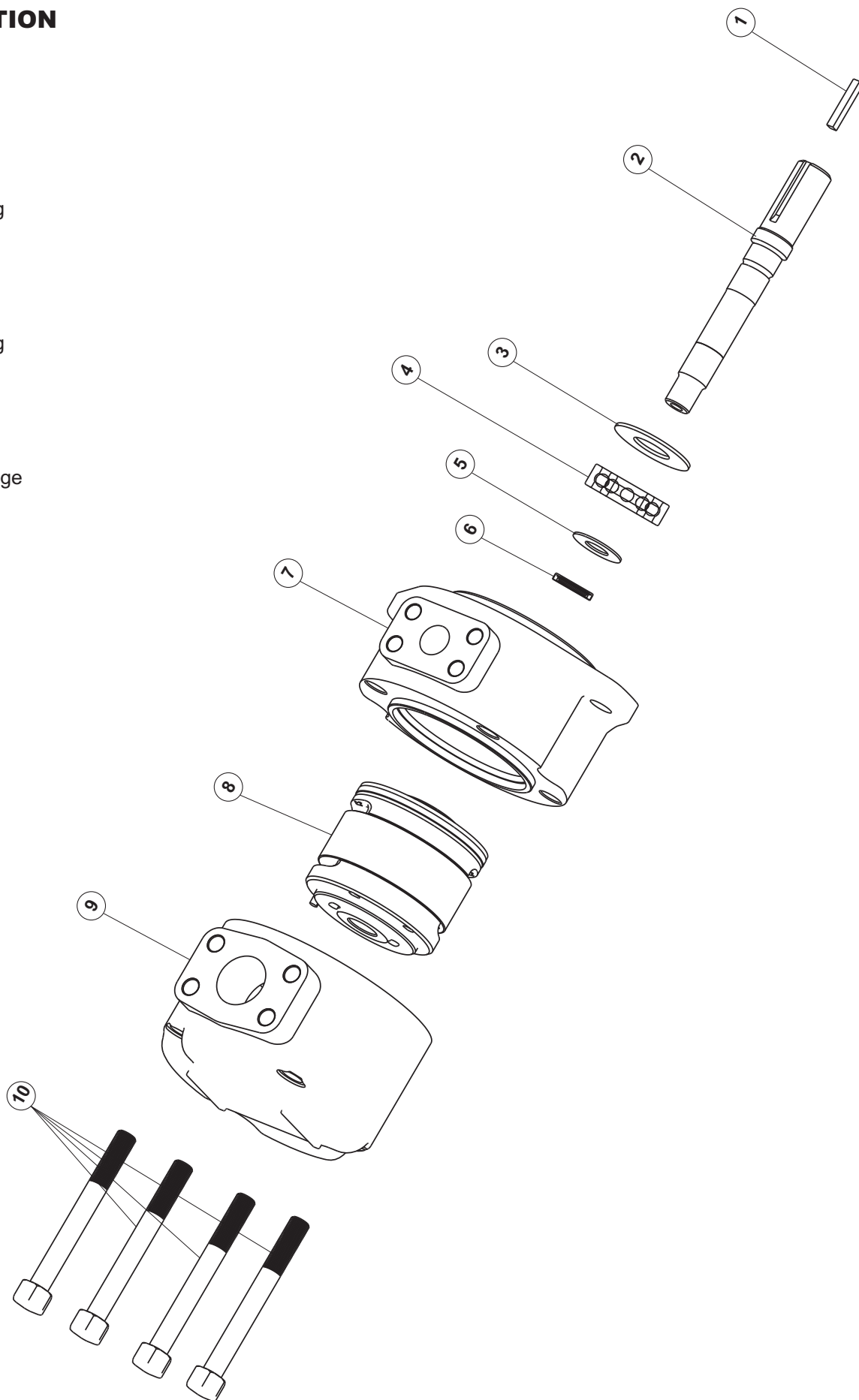
Pressure port	Series	Volumetric Displacement Vp		Flow q (lpm) & n = 1500 rpm					
				p = 0 bar (0 psi)		p=140bar(2000psi)		p=210bar(3000psi)	
		in ³ /rev	cm ³ /rev	gpm	lpm	gpm	lpm	gpm	lpm
	B02	0.35	5.8	2.30	8.70	1.4	5.9	--	--
	B03	0.59	9.8	3.88	14.7	2.9	11.9	--	--
	B04	0.78	12.8	5.08	19.2	4.33	16.4	3.97	15.0
	B05	0.97	15.9	6.31	23.8	5.55	21.0	5.18	19.6
	B06	1.21	19.8	7.85	29.7	4.12	26.9	6.66	25.2
	B07	1.37	22.5	8.92	33.7	8.17	30.9	7.80	29.5
	B08	1.52	24.9	9.89	37.4	9.15	34.6	8.78	33.2
	B09	1.71	28.0	11.11	42.0	10.37	39.2	10.00	37.8
	B10	1.94	31.8	12.61	47.7	11.87	44.9	11.51	43.5
	B11	2.13	34.9	13.85	52.3	13.09	49.5	12.72	48.1
	B12	2.50	41.0	16.27	61.5	15.53	58.7	13.90	52.5

Pressure port	Series	Volumetric Displacement Vp		Input power p & n = 1500 rpm					
				p = 7 bar (100psi)		p=140bar(2000psi)		p=210bar(3000psi)	
		in ³ /rev	cm ³ /rev	hp	kw	hp	kw	hp	kw
	B02	0.35	5.8	0.53	0.4	2.81	2.1	--	--
	B03	0.59	9.8	0.67	0.5	3.62	2.7	--	--
	B04	0.78	12.8	0.93	0.7	5.23	3.9	10.06	7.5
	B05	0.97	15.9	1.00	0.75	6.64	4.9	11.2	8.3
	B06	1.21	19.8	1.07	0.8	8.05	6.0	12.34	9.2
	B07	1.37	22.5	1.20	0.9	9.05	6.7	14.02	10.4
	B08	1.52	24.9	1.34	1.0	10.05	7.5	15.69	11.7
	B09	1.71	28.0	1.47	1.1	11.94	8.9	23.60	17.6
	B10	1.94	31.8	1.6	1.2	13.0	9.7	26.0	19.6
	B11	2.13	34.9	1.7	1.3	14.0	10.5	28.0	21.0
	B12	2.50	41.0	1.8	1.4	15.02	11.2	30.0	22.5

-- Not to use because internal leakage greater than 50 of theoretical flow.
 B12 = Max, int. pressure 210 bar(3000 psi)
 Max, cont. pressure 175 bar (2500 psi), Except B02
 Measurement Conditions: ISO VG32 oil at 50°C

CONSTRUCTION

1. Key
2. Shaft
3. Retaining Ring
4. Bearing
5. Retaining Ring
6. Shaft Seal
7. Mounting Flange
8. Cartridge
9. Housing
10. Bolts



SP

ORDERING CODE



VST7C 1 - 017 - 1 R 00 - B 1 - *

Series

Mounting

1 - SAE B

Cam ring

Volumetric displacement cm^3/rev (in^3/rev)

B02 = 5.7 (0.35)

B03 = 9.8 (0.60)

B04 = 12.8 (0.78)

B05 = 15.9 (0.97)

B06 = 19.8 (1.21)

B07 = 22.5 (1.37)

B08 = 24.9 (1.52)

B09 = 28.0 (1.71)

B10 = 31.8 (1.94)

B11 = 34.9 (2.13)

B12 = 40.9 (2.50)

B14 = 45.1 (2.75)

B15 = 50.0 (3.05)

B17 = 58.3 (3.56)

B20 = 63.8 (3.89)

B22 = 70.3 (4.29)

B25 = 79.3 (4.84)

Type of shaft

1 - Keyed (no SAE)

2 - Keyed (no SAE)

3 - Splined (SAE-B)

4 - Splined (SAE-BB)

Modifications

Seal Class

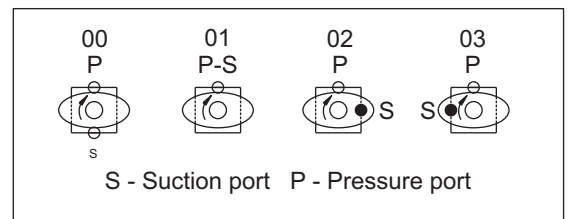
1 - S1 (for mineral oil)

4 - S4 (for fire resistant fluids)

5 - S5 (for mineral oil and fire resistant fluids)

Design Letter

Porting combination



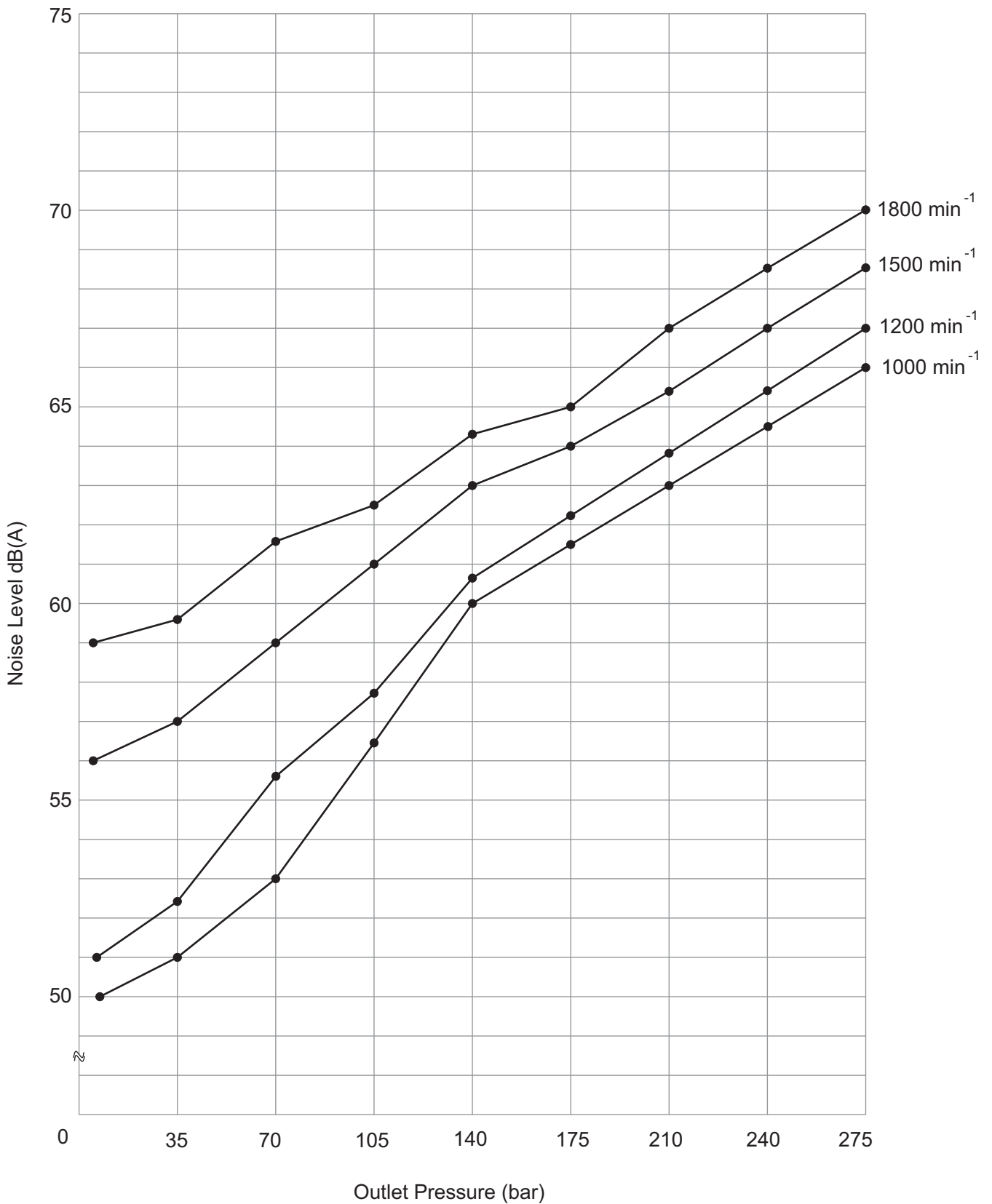
Direction of rotation

(view on shaft end)

R - clockwise

L - counter-clockwise

NOISE LEVEL (TYPICAL)
VST7C - B17



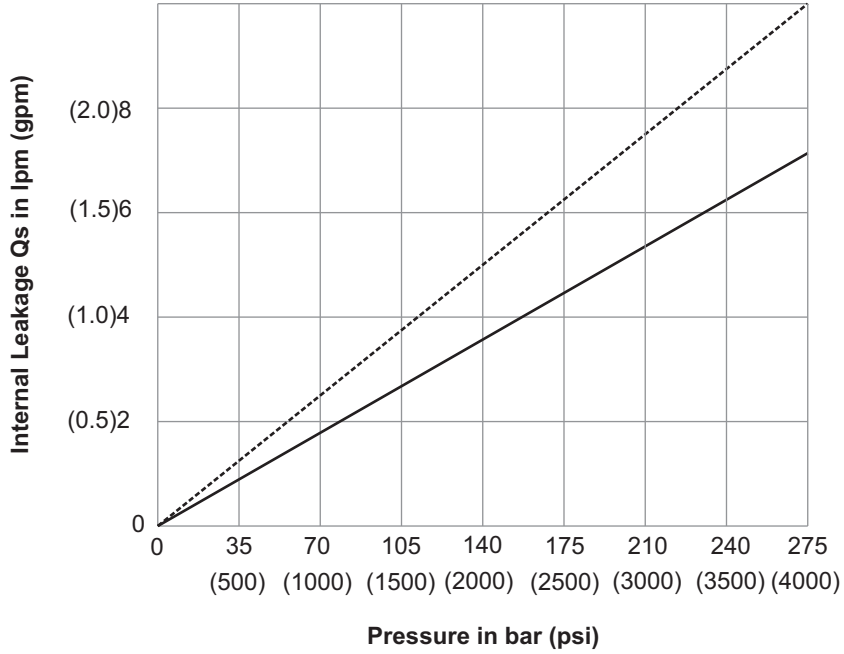
Measurement Conditions: ISO VG32 oil at 50°C and measured 1m from rear of pump cover





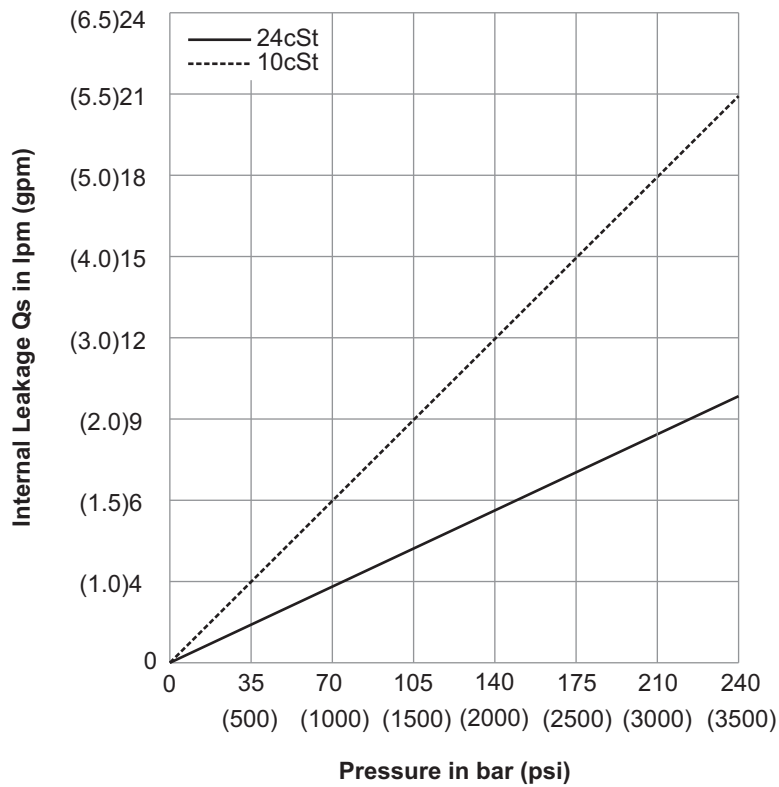
INTERNAL LEAKAGE (TYPICAL)

VST7C B02 TO B15



INTERNAL LEAKAGE (TYPICAL)

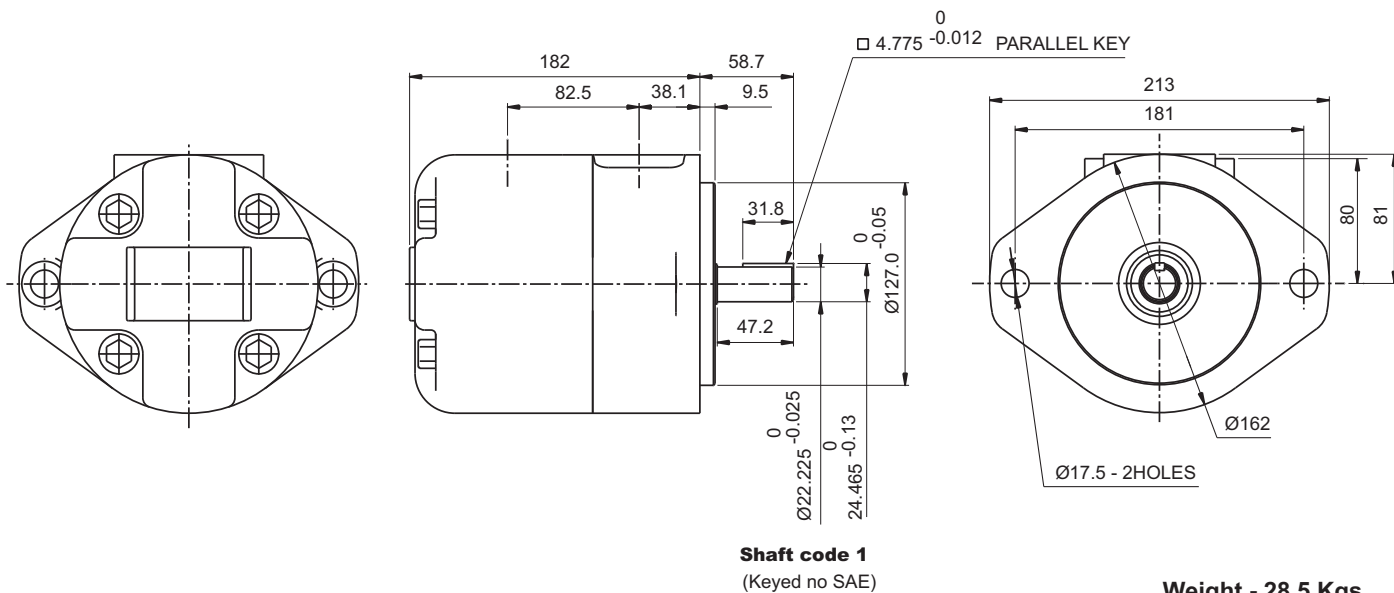
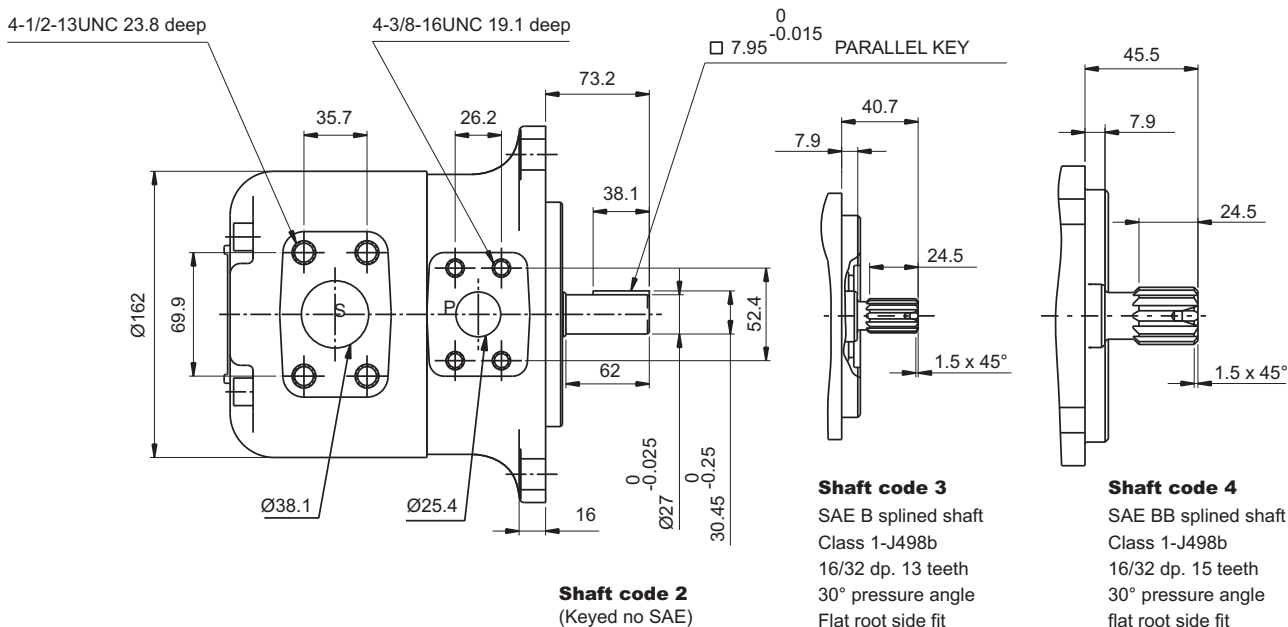
VST7C B17 TO B25



INSTALLATION DRAWING

FLANGE MOUNTING

SP

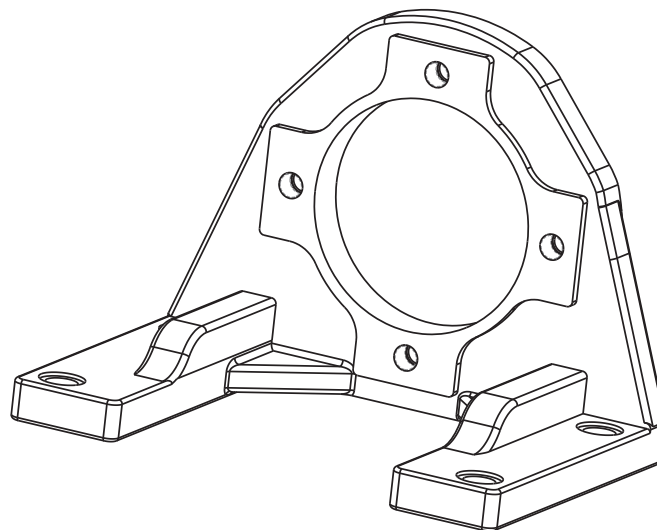
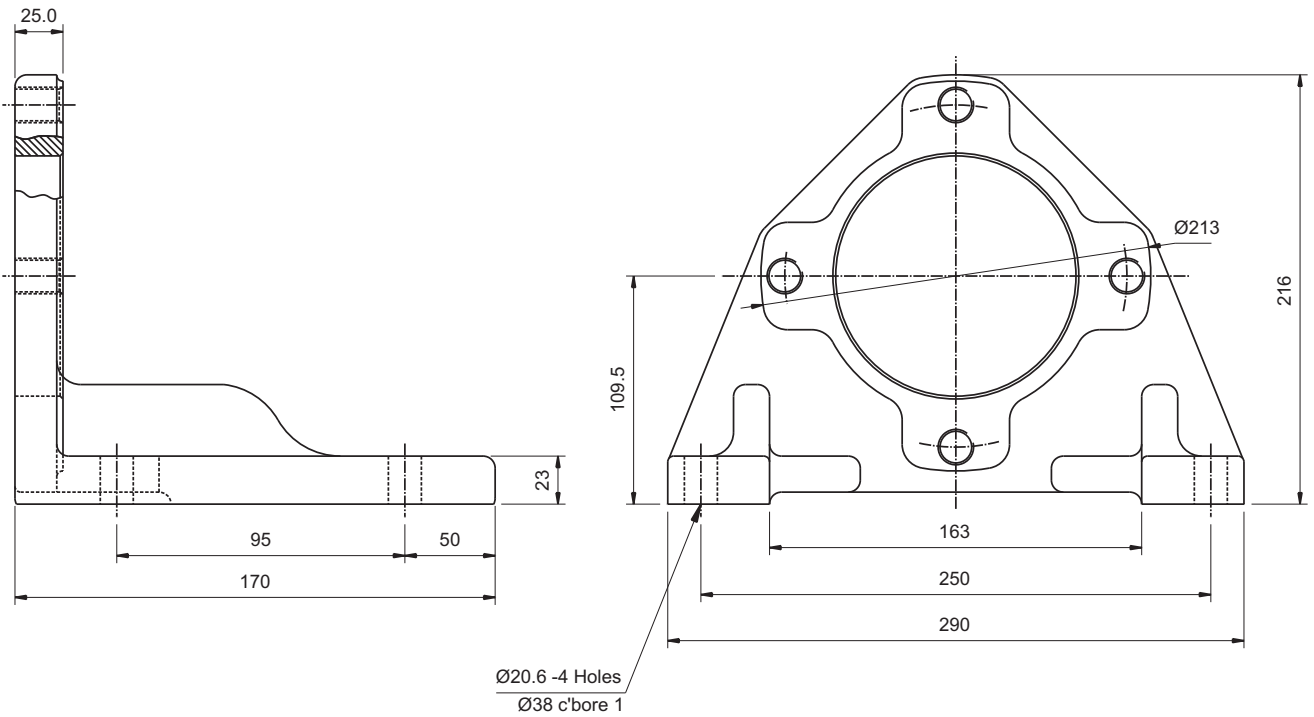


Shaft torque limits in ³ /revxpsi(ml/revxbar)	
Shaft	Vp x p max. (P1+P2)
1	14473 (16500)
2	12666 (14300)
3	18246 (20600)
4	19309 (21820)

INSTALLATION DRAWING

FOOT MOUNTING

SP



Weight-9.5 Kgs.

OPERATING CHARACTERISTICS (24 cSt)

Pressure port	Series	Volumetric Displacement Vp		Flow q (lpm) & n = 1500 rpm					
				p = 0 bar (0 psi)		p=140bar(2000psi)		p=240bar(3500psi)	
		in ³ /rev	cm ³ /rev	gpm	lpm	gpm	lpm	gpm	lpm
	B02	0.35	5.7	2.29	8.70	1.72	6.50	1.32	5.0
	B03	0.60	9.8	3.88	14.70	3.30	12.5	2.91	11.0
	B04	0.78	12.8	5.07	19.20	4.49	17.0	4.09	15.5
	B05	0.97	15.9	6.31	23.90	5.68	21.5	5.28	20.0
	B06	1.21	19.8	7.85	29.70	7.13	27.0	6.87	26.0
	B07	1.37	22.5	8.90	33.70	8.19	31.0	7.79	29.5
	B08	1.52	24.9	9.88	37.40	9.25	35.0	8.85	33.5
	B09	1.71	28.0	11.07	41.90	10.43	39.5	10.04	38.0
	B10	1.94	31.8	12.62	47.80	11.88	45.0	11.23	42.5
	B11	2.13	34.9	13.81	52.26	13.21	50.0	12.81	48.5
	B12	2.50	40.9	16.25	61.50	15.59	59.0	15.19	57.5
	B14	2.75	45.1	17.81	67.65	17.04	64.5	16.77	63.5
	B15	3.08	50.5	20.25	76.64	19.55	74.0	19.15	72.5
	B17	3.56	58.3	23.10	87.45	22.32	84.5	22.06	83.5
	B20	3.89	63.8	25.28	95.70	24.70	93.5	24.30	92.0
	B22	4.29	70.3	27.87	105.5	27.21	103.0	26.81	101.5
	B25	4.84	79.3	31.44	119.00	31.04	117.5	30.64	116.0

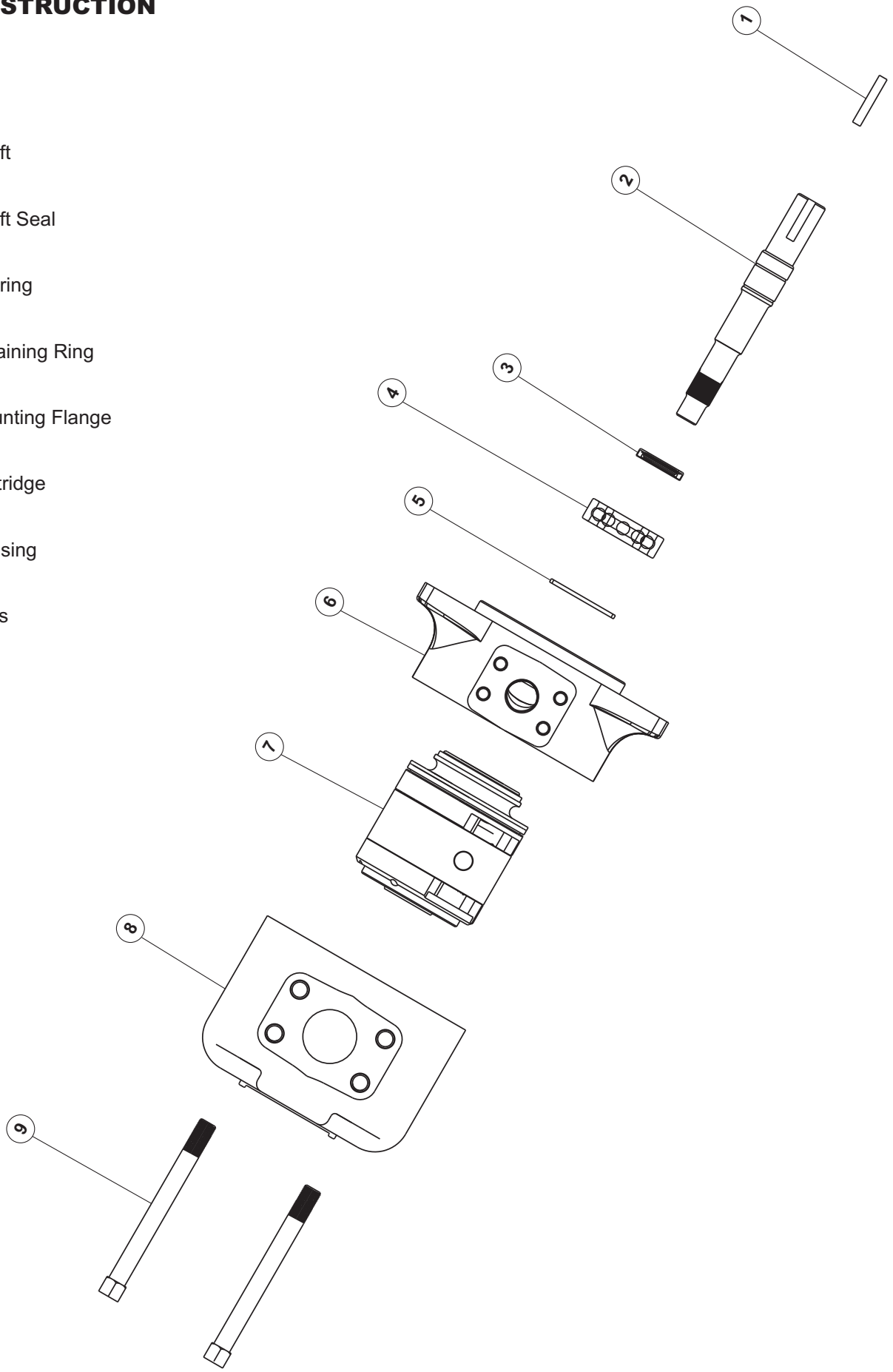
Pressure port	Series	Volumetric Displacement Vp		Input power p & n = 1500 rpm					
				p = 7 bar (100psi)		p=140bar(2000psi)		p=240bar(3500psi)	
		in ³ /rev	cm ³ /rev	hp	kw	hp	kw	hp	kw
	B02	0.35	5.7	0.62	0.46	3.08	2.30	5.14	3.83
	B03	0.60	9.8	0.71	0.53	4.96	3.70	8.35	6.23
	B04	0.78	12.8	0.78	0.58	6.37	4.75	10.77	8.03
	B05	0.97	15.9	0.86	0.64	7.78	5.80	13.18	9.83
	B06	1.21	19.8	0.95	0.71	9.49	7.08	16.40	12.23
	B07	1.37	22.5	1.01	0.75	10.74	8.01	18.28	13.63
	B08	1.52	24.9	1.06	0.79	12.00	8.95	20.42	15.23
	B09	1.71	28.0	1.14	0.85	13.39	9.99	22.84	17.03
	B10	1.94	31.8	1.23	0.92	15.13	11.28	25.25	18.83
	B11	2.13	34.9	1.30	0.97	16.69	12.45	28.46	21.23
	B12	2.50	40.9	1.45	1.08	19.51	14.55	33.29	24.83
	B14	2.75	45.1	1.54	1.15	21.23	15.83	36.52	27.23
	B15	3.08	50.5	1.68	1.25	24.21	18.05	41.34	30.83
	B17	3.56	58.3	1.85	1.38	27.49	20.50	47.24	35.23
	B20	3.89	63.8	1.98	1.48	30.31	22.60	51.80	38.63
	B22	4.29	70.3	2.13	1.59	33.27	24.81	56.89	42.43
	B25	4.84	79.3	2.35	1.75	37.82	28.20	64.68	48.23

Max. cont. pressure 240 bar upto B12, 210 bar from B14 - B25
 Measurement Conditions: ISO VG32 oil at 50°C

CONSTRUCTION



- 1. Key
- 2. Shaft
- 3. Shaft Seal
- 4. Bearing
- 5. Retaining Ring
- 6. Mounting Flange
- 7. Cartridge
- 8. Housing
- 9. Bolts



ORDERING CODE

VST7D - 014 - 1 R 00 - B 1 - *

Series _____

Cam ring _____

Volumetric displacement cm³/rev (in³/rev)

014 = 43.9 (2.68)

017 = 55.0 (3.36)

020 = 66.0 (4.03)

022 = 70.3 (4.29)

024 = 81.1 (4.95)

028 = 89.9 (5.49)

031 = 99.1 (6.05)

035 = 113.4 (6.92)

038 = 120.6 (7.36)

042 = 137.5 (8.39)

Type of shaft _____

1 - Keyed

2 - Keyed (no SAE)

3 - Splined (SAE-C)

4 - Splined (no SAE)

5 - Keyed (ISO R775)

Modifications _____

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

00 P	01 P-S	02 P	03 P
S - Suction port P - Pressure port			

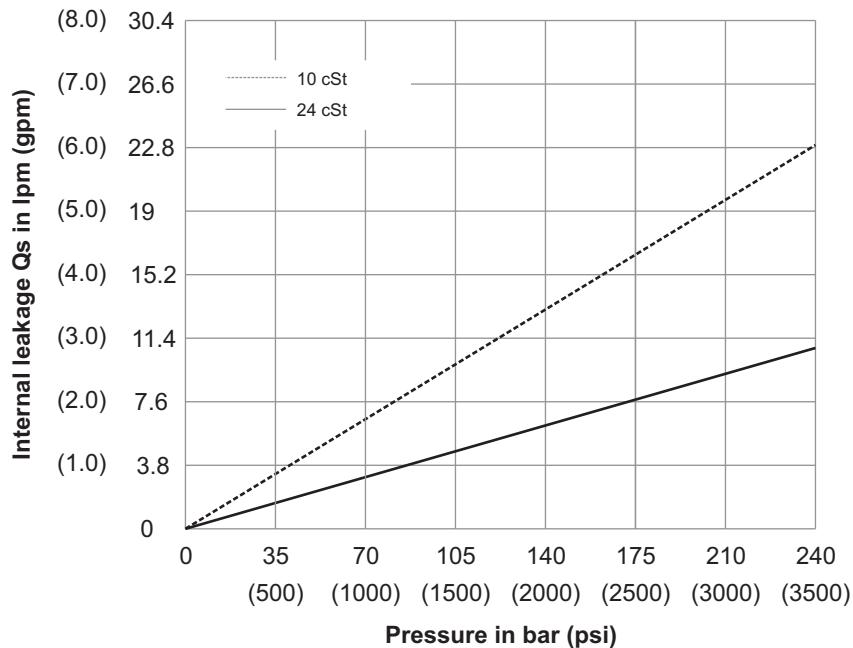
Direction of rotation
(view on shaft end)

R - clockwise

L - counter-clockwise

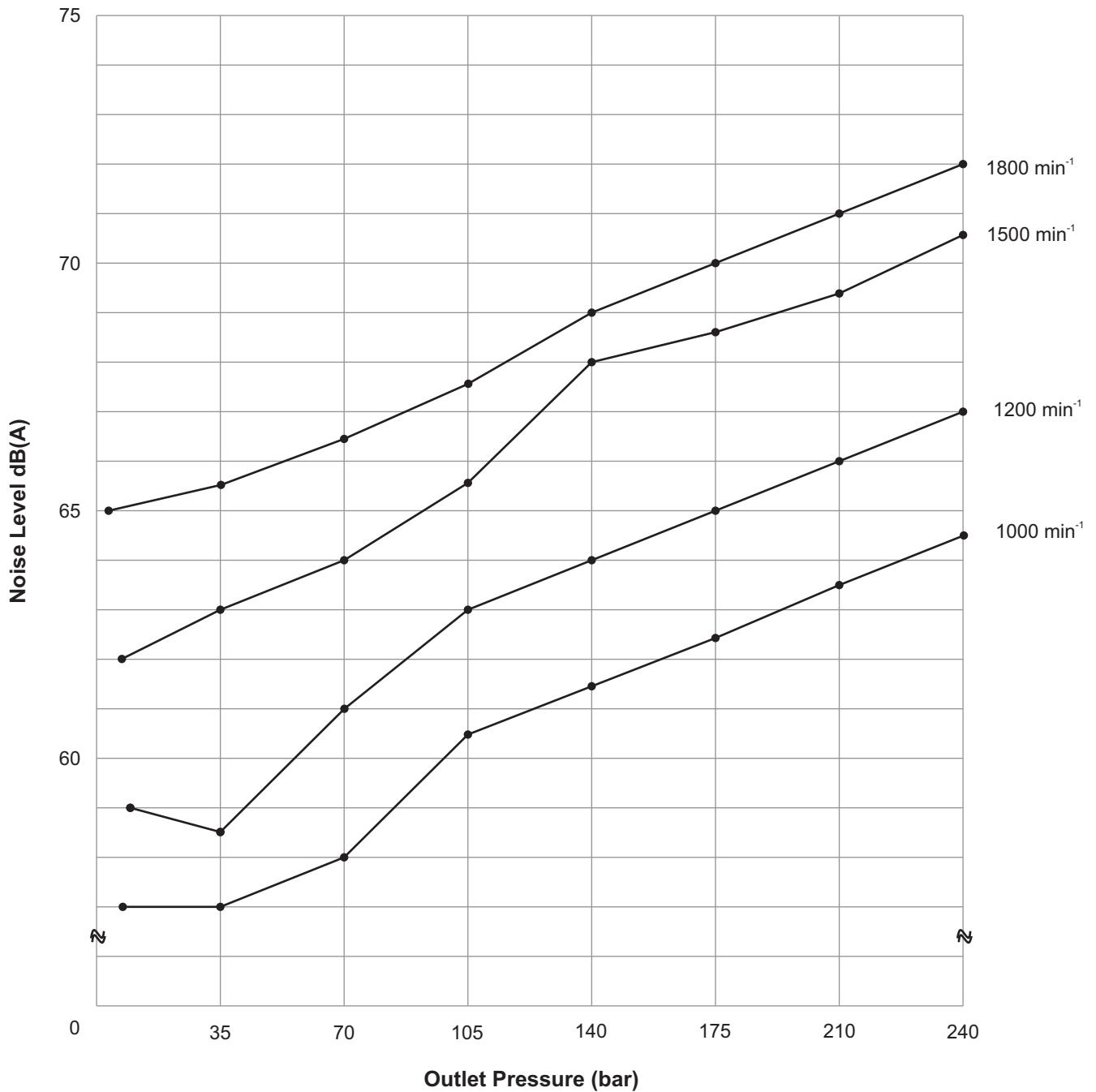
INTERNAL LEAKAGE (TYPICAL)

VST7D 014 TO 042



NOISE LEVEL (TYPICAL)
VST7D-038

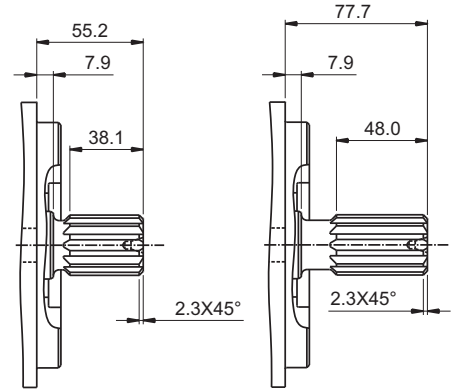
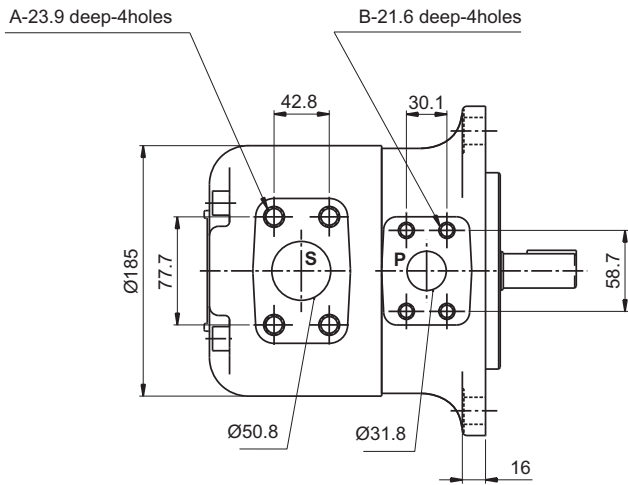
SP



Measurement Conditions: UIISO VG32 oil at 50°C and measured 1m from rear of pump cover

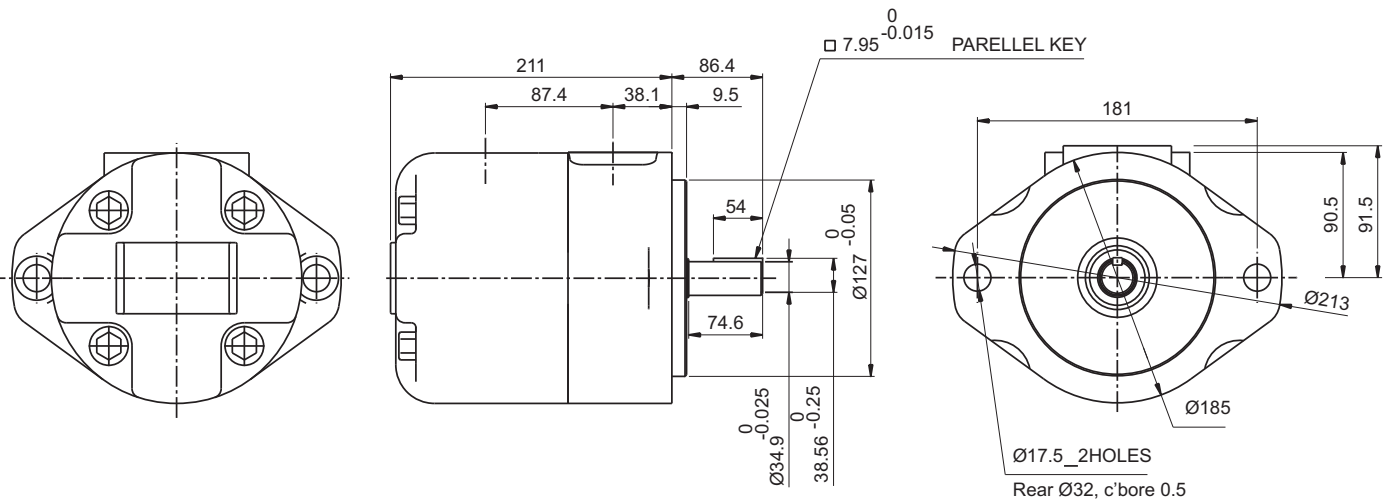
INSTALLATION DRAWING
FLANGE MOUNTING

SP



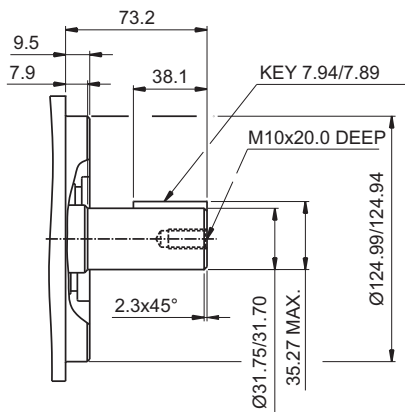
Shaft code 3
SAE C splined shaft
Class 1-J498b
12/24 dp. 14 teeth
30° pressure angle
flat root side fit

Shaft code 4
SAE C spc(*) splined shaft
Class 1-J498b
12/24 dp. 14 teeth
30° pressure angle
flat root side fit

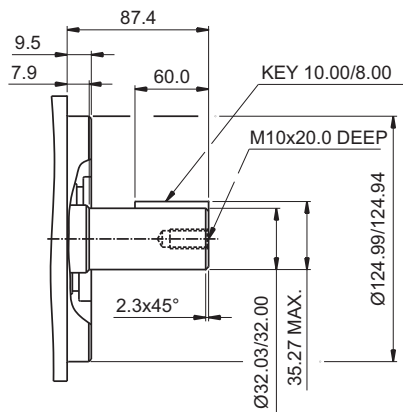


Shaft code 1
(Keyed)

Weight-35.0 Kgs.



Shaft code 2
(Keyed no SAE)



Shaft code 5
(Keyed ISO R775)

Shaft torque limits in³/rev x psi(ml/revxbar)

Shaft	Vp x p max.
1	38299 (43283)
2	30638 (34590)
3	54207 (61200)
4	54207 (61200)
5	39238 (44344)

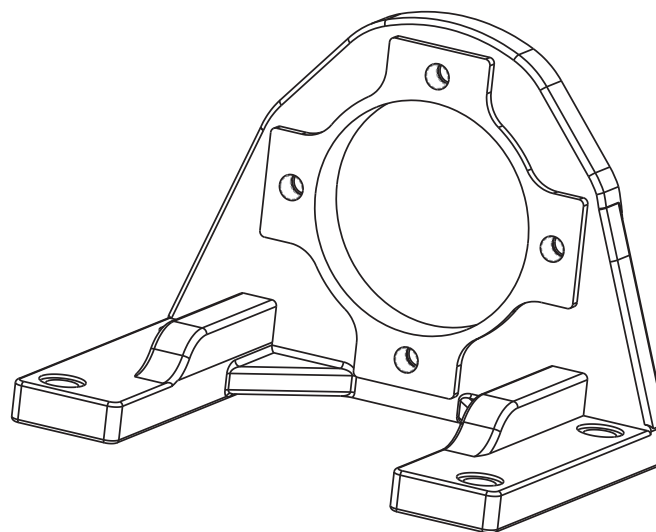
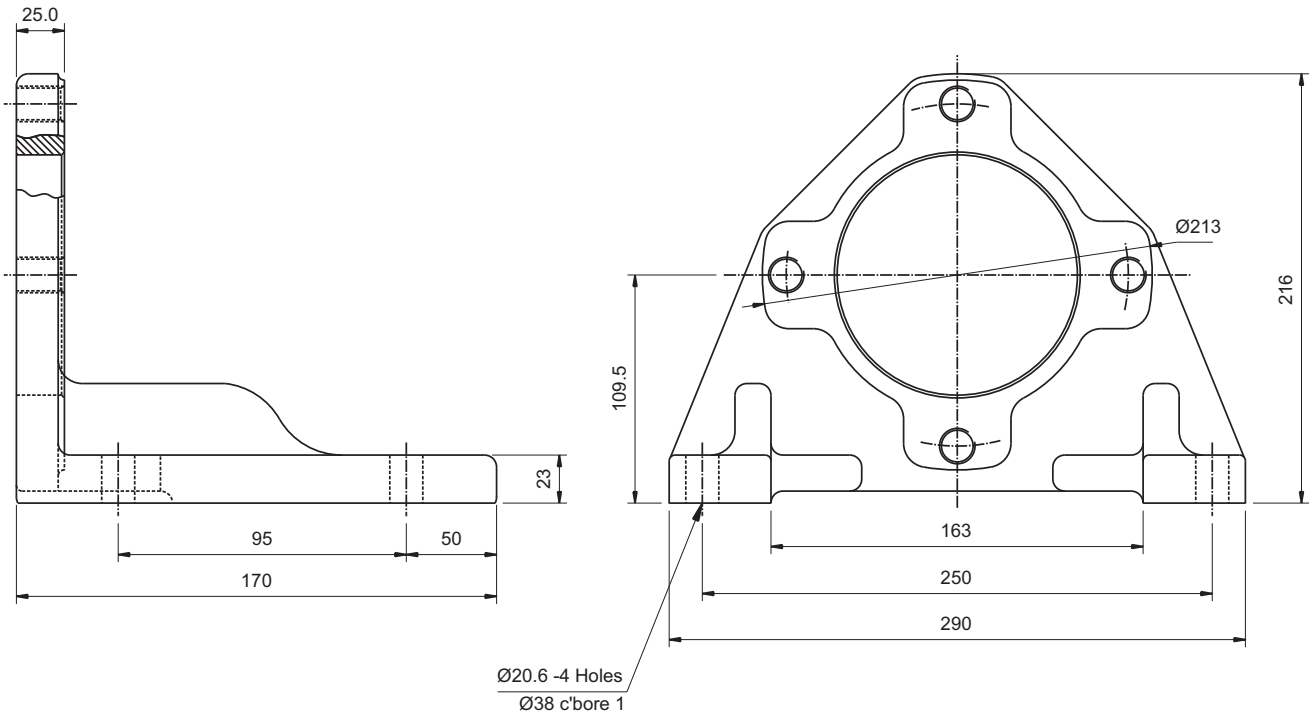
VST7D

	M0	00
A	M12	1/2-13 UNC
B	M12	7/16-14 UNC

1) 250 bar (3630 psi) max.int

INSTALLATION DRAWING

FOOT MOUNTING



Weight-9.5 Kgs.

OPERATING CHARACTERISTICS (24 cSt)

Pressure port	Series	Volumetric Displacement V _p		Flow q (lpm) & n = 1500 rpm					
				p = 0 bar (0 psi)		p=140bar(2000psi)		p=240bar(3500psi)	
		in ³ /rev	cm ³ /rev	gpm	lpm	gpm	lpm	gpm	lpm
	014	2.68	43.9	18.88	71.4	16.42	62.10	14.78	55.95
	017	3.36	55.0	23.10	87.3	20.60	78.00	18.99	71.88
	020	4.03	66.0	26.19	99.00	23.73	89.70	22.08	83.58
	022	4.29	70.3	28.85	109.21	26.41	99.97	25.31	95.81
	024	4.95	81.1	31.56	119.30	29.10	110.00	27.46	103.95
	028	5.49	89.9	35.58	134.50	33.12	125.20	31.48	119.16
	031	6.05	99.1	39.00	147.50	36.53	138.10	34.89	132.07
	035	6.92	113.4	44.04	166.50	41.58	157.20	39.94	151.18
	038	7.36	120.6	47.72	180.40	45.26	171.10	43.62	165.12
	042	8.39	137.5	53.96	204.00	51.50	194.70	49.86	188.74

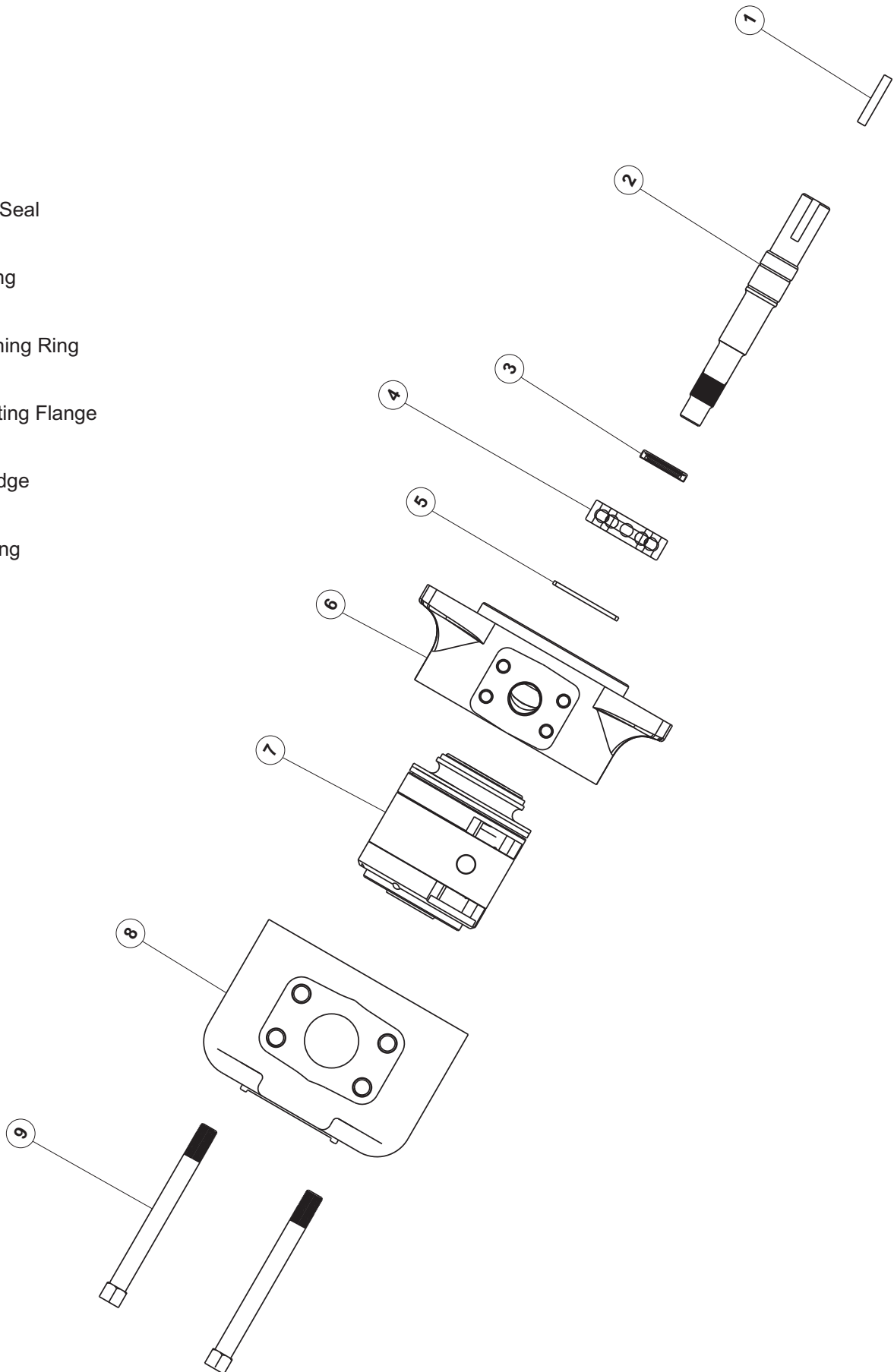
Pressure port	Series	Volumetric Displacement V _p		Input power p & n = 1500 rpm					
				p = 7 bar (100 psi)		p = 140 bar (2000 psi)		p = 240 bar (3500 psi)	
		in ³ /rev	cm ³ /rev	hp	kw	hp	kw	hp	kw
	014	2.68	43.9	3.08	2.3	24.81	18.5	41.03	30.6
	017	3.36	55.0	3.35	2.5	29.77	22.2	49.62	37.0
	020	4.03	66.0	3.75	2.8	33.39	24.9	55.92	41.7
	022	4.29	70.3	4.00	2.9	36.50	27.7	63.80	46.6
	024	4.95	81.1	4.02	3.0	39.69	29.6	66.78	49.8
	028	5.49	89.9	4.29	3.2	44.52	33.2	74.96	55.9
	031	6.05	99.1	4.42	3.3	48.54	36.2	81.80	61.0
	035	6.92	113.4	4.69	3.5	54.58	40.7	92.13	68.7
	038	7.36	120.6	4.96	3.7	58.87	43.9	99.64	74.3
	042	8.39	137.5	5.36	4.0	66.25	49.4	112.24	83.7

Max, int. pressure 240 bar
 Max, cont. pressure 210 bar
 Measurement Conditions: ISO VG32 oil at 50°C

CONSTRUCTION

SP

- 1. Key
- 2. Shaft
- 3. Shaft Seal
- 4. Bearing
- 5. Retaining Ring
- 6. Mounting Flange
- 7. Cartridge
- 8. Housing
- 9. Bolts



ORDERING CODE

VST7E - 066 - 3 R 00 - A 1 - *

Series

Cam ring

Volumetric displacement cm³/rev (in³/rev)

- 042 = 132.3 (8.07)
- 045 = 142.4 (8.69)
- 050 = 158.5 (9.67)
- 052 = 164.8 (10.06)
- 057 = 180.7 (11.02)
- 062 = 196.7 (12.00)
- 066 = 213.3 (13.02)
- 072 = 227.1 (13.86)
- 085 = 268.7 (16.40)

Type of shaft

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

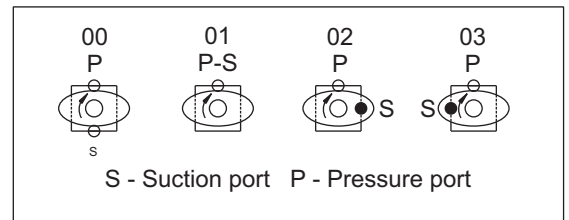
Modifications

Seal Class

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

Design Letter

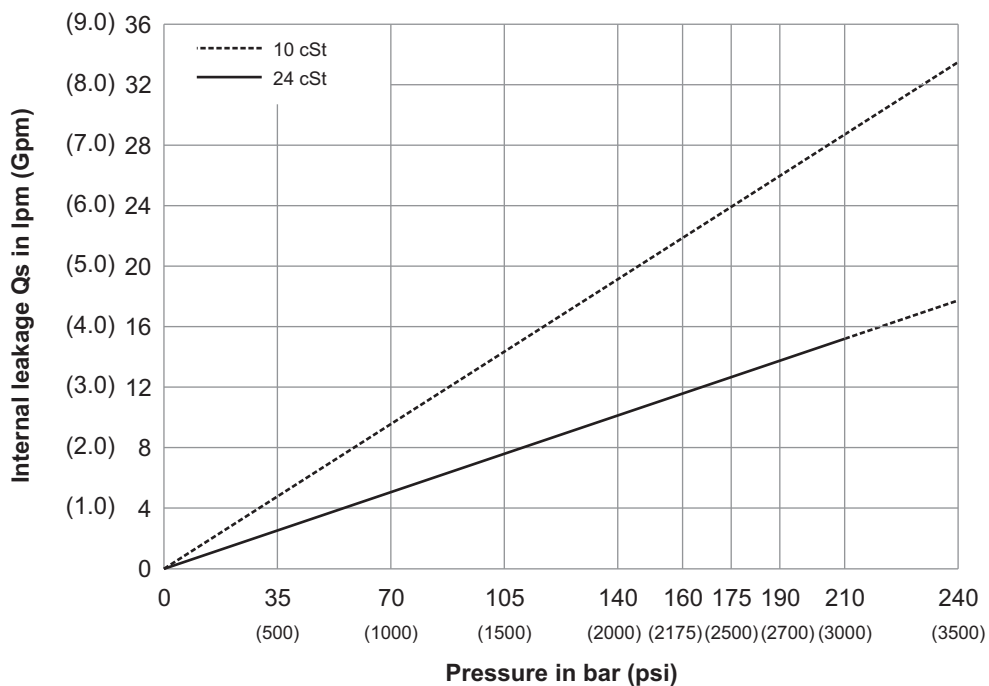
Porting combination



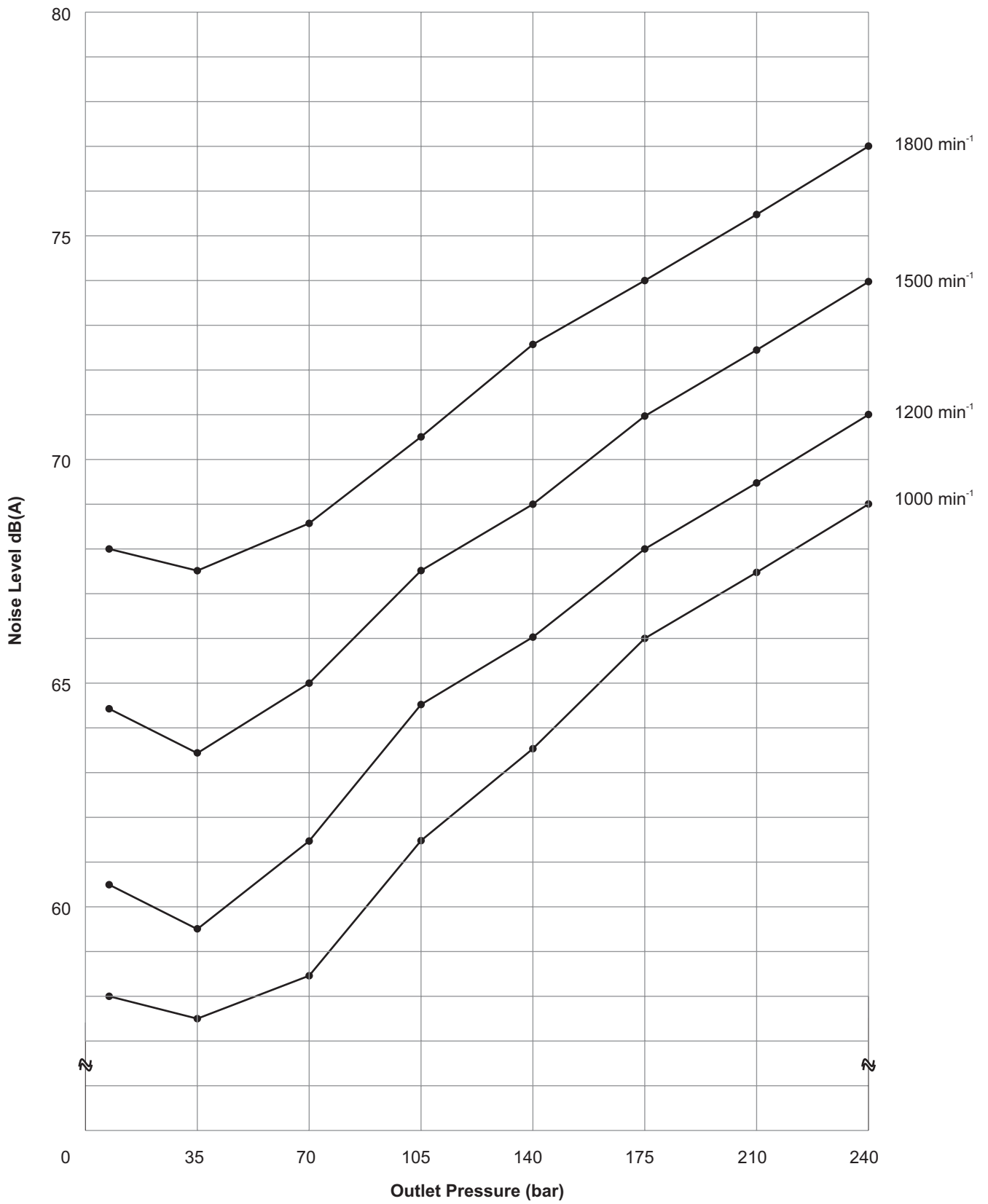
Direction of rotation

- (view on shaft end)
- R - clockwise
- L - counter-clockwise

INTERNAL LEAKAGE (TYPICAL)



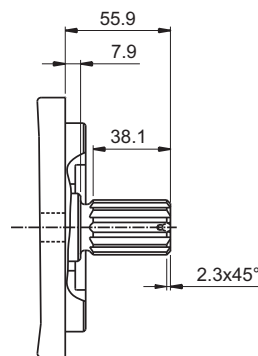
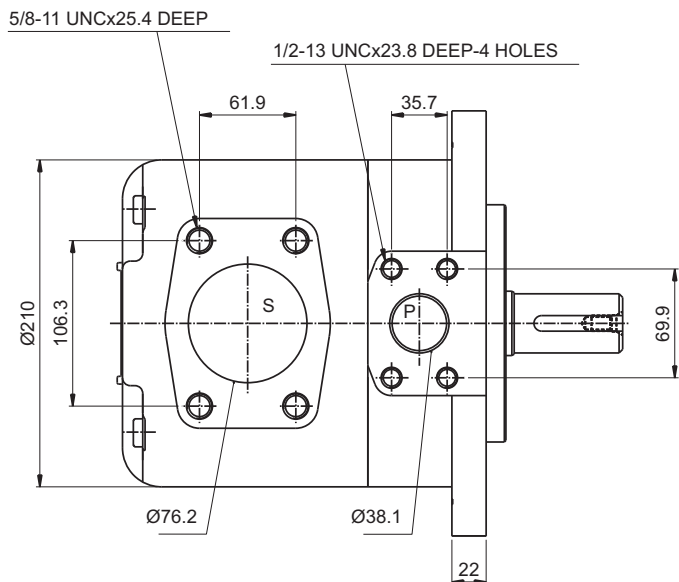
NOISE LEVEL (TYPICAL)
VST7E-062



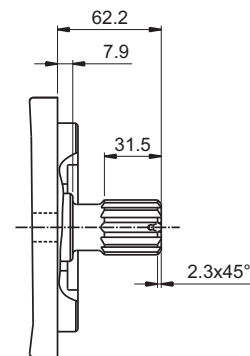
Measurement Conditions: ISO VG32 oil at 50°C and measured 1m from rear of pump cover

INSTALLATION DRAWING
FLANGE MOUNTING

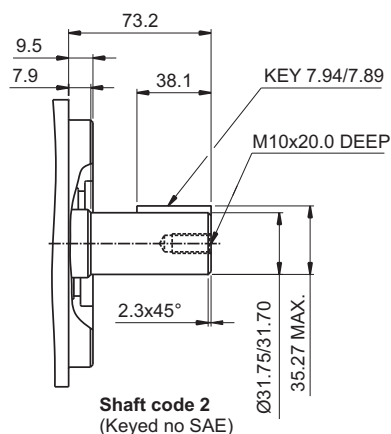
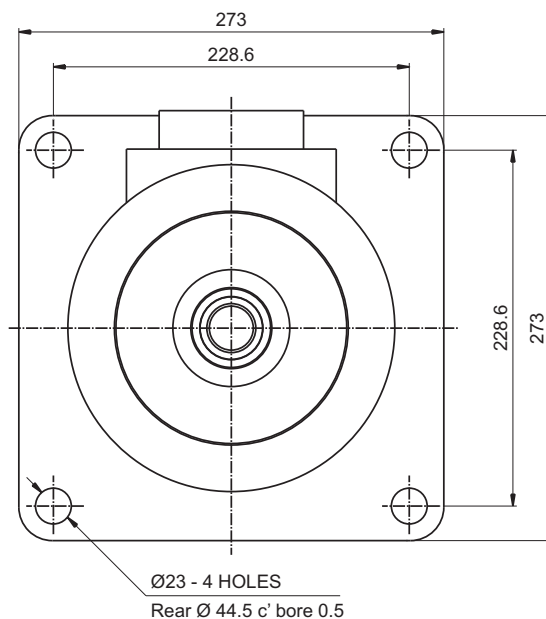
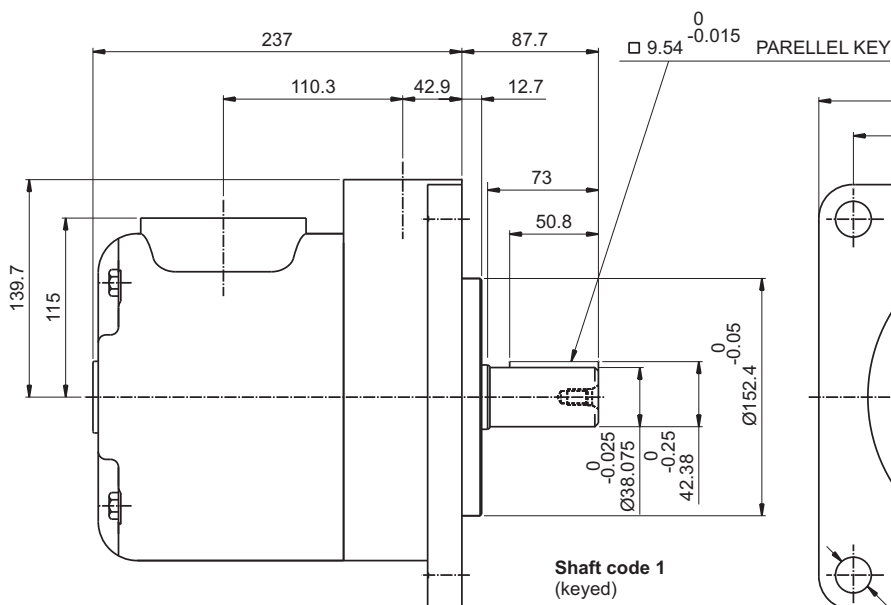
SP



Shaft code 3
SAE C splined shaft
Class 1-J498b
12/24 dp. 14 teeth
30° pressure angle
flat root side fit



Shaft code 4
SAE CC splined shaft
Class 1-J498b
12/24 dp. 17 teeth
30° pressure angle
flat root side fit



Weight-59.5 Kgs.

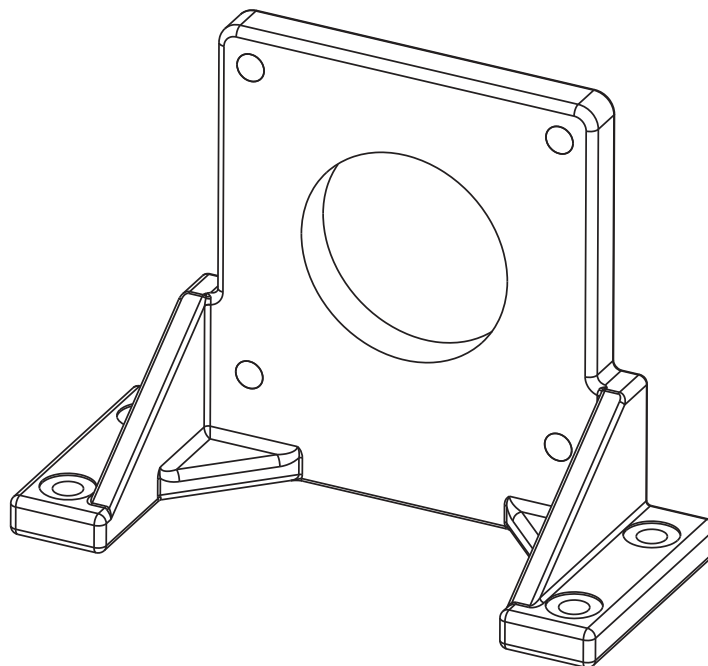
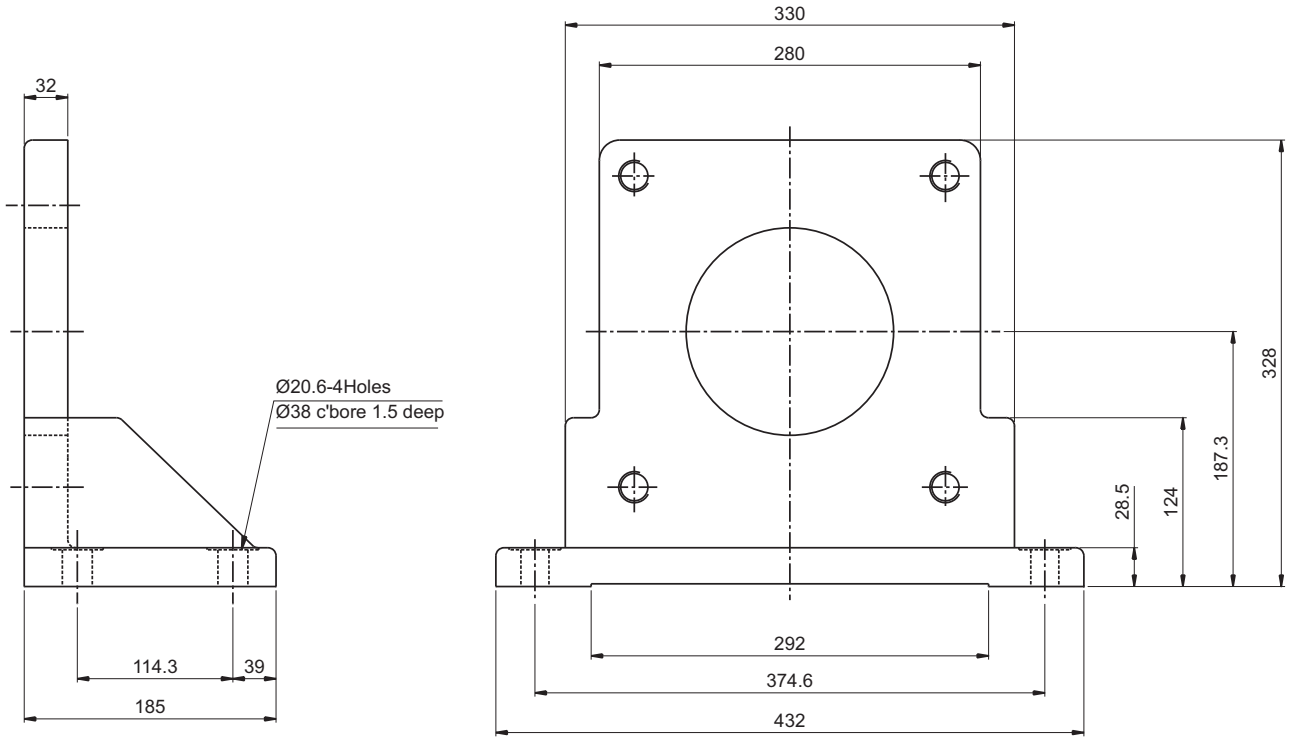
Shaft torque limits in³/rev x psi(ml/revxbar)

Shaft	Vp x p max.
1	48273 (54555)
2	30638 (34590)
3	54207 (61200)
4	54207 (61200)

INSTALLATION DRAWING

FOOT MOUNTING

SP



Weight - 25 Kgs.

OPERATING CHARACTERISTICS (24 cSt)

Pressure port	Series	Volumetric Displacement Vp		Flow q (lpm) & n = 1500 rpm					
				p = 0 bar (0 psi)		p=140bar(2000psi)		p=240bar(3500psi)	
		in ³ /rev	cm ³ /rev	gpm	lpm	gpm	lpm	gpm	lpm
	042	8.07	132.3	52.50	198.5	49.87	188.5	47.96	181.3
	045	8.69	142.4	56.51	213.6	53.86	203.6	51.98	196.5
	050	9.67	158.5	62.88	237.7	60.24	227.7	58.36	220.6
	052	10.06	164.8	65.40	247.2	62.75	237.2	60.87	230.1
	057	11.02	180.7	71.71	271.1	69.07	261.1	67.19	254.0
	062	12.00	196.7	78.04	295.0	75.40	285.0	73.52	277.9
	066	13.02	213.3	84.63	319.9	81.98	309.9	80.11	302.8
	072	13.86	227.1	90.11	340.6	87.46	330.6	85.58	323.5
	085	16.40	268.7	107.00	404.7	--	--	--	--

Pressure port	Series	Volumetric Displacement Vp		Input Power p & n = 1500 rpm					
				p = 7 bar (100 psi)		p = 140bar(2000psi)		p = 240bar(3500psi)	
		in ³ /rev	cm ³ /rev	hp	kw	hp	kw	hp	kw
	042	8.07	132.3	6.97	5.2	66.25	49.4	110.77	82.6
	045	8.69	142.4	7.24	5.4	70.94	52.9	118.95	88.7
	050	9.67	158.5	7.64	5.7	78.45	58.5	131.82	98.3
	052	10.06	164.8	7.78	5.8	81.53	60.8	136.92	102.1
	057	11.02	180.7	8.18	6.1	89.04	66.4	143.35	106.9
	062	12.00	196.7	8.58	6.4	96.42	71.9	162.67	121.3
	066	13.02	213.3	8.98	6.7	104.20	77.7	175.94	131.2
	072	13.86	227.1	9.25	6.9	110.77	82.6	187.07	139.5
	085	16.40	268.7	9.78	7.3	--	--	--	--

Max, int. pressure 240 bar upto 072

Max, cont. pressure 210 bar upto 072

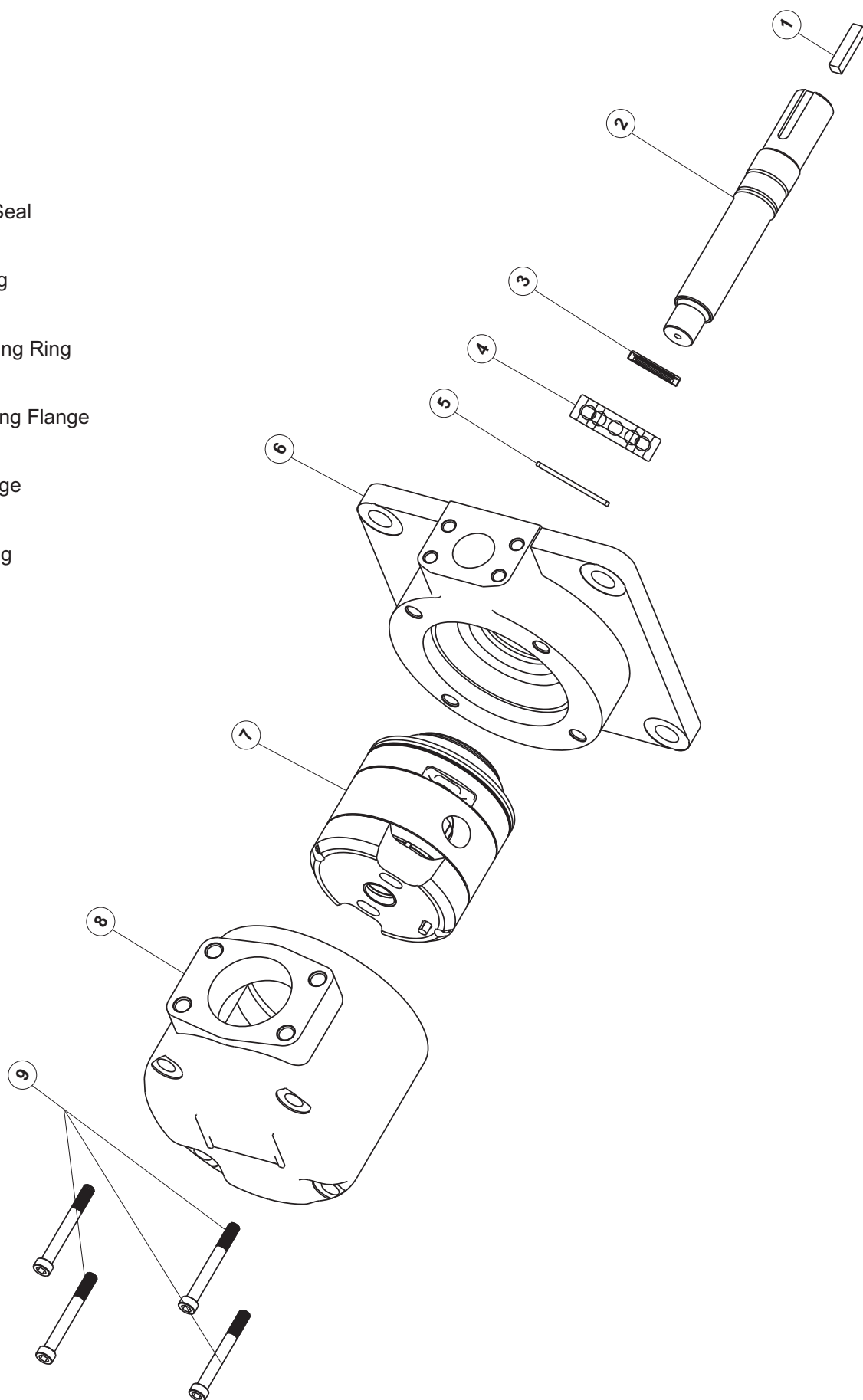
Measurement Conditions: ISO VG32 oil at 50°C

Note : 085 = 90 bar (1300 psi) max. int. & 085 = 2000 rpm max.

CONSTRUCTION



- 1. Key
- 2. Shaft
- 3. Shaft Seal
- 4. Bearing
- 5. Retaining Ring
- 6. Mounting Flange
- 7. Cartridge
- 8. Housing
- 9. Bolts



3MICT

vt6bb	2
1 04_Double Pumps 6	2
2 04_Double Pumps 7	3
3 04_Double Pumps 8	4
4 04_Double Pumps 9	5
vt6cb	6
1 04_Double Pumps 10	6
2 04_Double Pumps 11	7
3 04_Double Pumps 12	8
vt6cc	9
vt6ccm	11
vt6ccsh	14
vt6ccz	16
vt6dc	19
vt6dcm	21
vt6dds	23
vt6ec	25
vt6ecm	27
vt6ed	29
vt6edm	31
vt6ees	33
vt6gcc	35
vtxbb	37
1 04_Double Pumps 2	37
2 04_Double Pumps 3	38
3 04_Double Pumps 4	39
4 04_Double Pumps 5	40

VT6BB - B09 - B11 - 1 R 00 - A 1 00 *

Series

Cam ring for "P1" & "P2"

Volumetric displacement cm^3/rev (in^3/rev)

- B02 = 5.8 (0.35)
- B03 = 9.8 (0.59)
- B04 = 12.8 (0.78)
- B05 = 15.9 (0.97)
- B06 = 19.8 (1.21)
- B07 = 22.5 (1.37)
- B08 = 24.9 (1.52)
- B09 = 28.0 (1.71)
- B10 = 31.8 (1.94)
- B11 = 34.9 (2.13)
- B12 = 41.0 (2.50)
- B14 = 45.0 (2.75)

Type of Shaft

- 1 - Keyed (Non SAE)
- 3 - Splined

Direction of rotation (view on shaft end)

- R - clockwise
- L - counter-clockwise

Porting combination

- 00 - standard

Modifications

Port connections

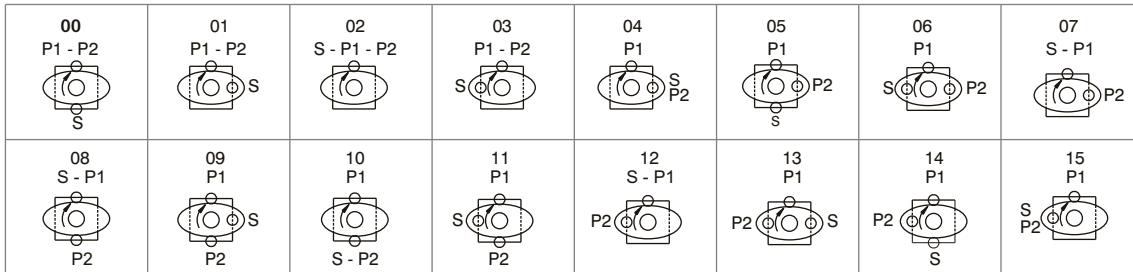
CODE	S	P1 & P2
00	2" SAE 4 bolt (UNC)	SAE 12 1 1/16" 12 UNF-2B
01		3/4" SAE 4 bolt (UNC)
M0	2" SAE 4 bolt (METRIC)	3/4" SAE 4 bolt (METRIC)

Seal class

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

Design letter

VP
DP



S - Suction port

P - Pressure port

OPERATING CHARACTERISTICS - TYPICAL (24 cST) (Input power p (KW) for one cartridge only)

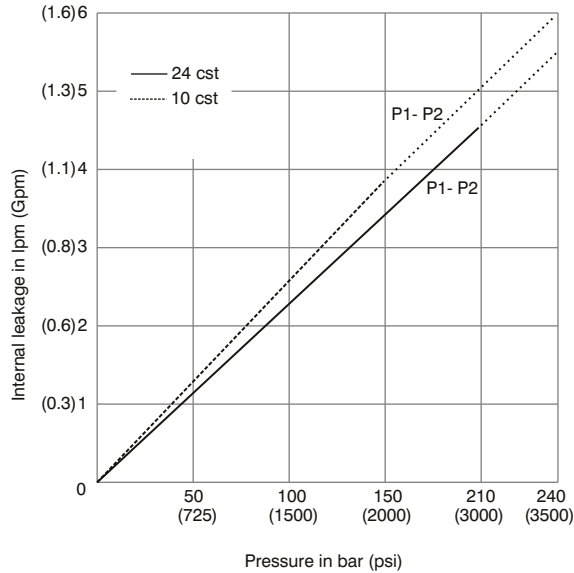
Pressure port	Series	Volumetric Displacement V_p		Flow q & $n = 1500 \text{ rpm}$						Input power p & $n = 1500 \text{ rpm}$					
				$p = 0 \text{ bar (0 psi)}$		$p = 140 \text{ bar (2000 psi)}$		$p = 210 \text{ bar (3000 psi)}$		$p = 7 \text{ bar (100 psi)}$		$p = 140 \text{ bar (2000 psi)}$		$p = 210 \text{ bar (3000 psi)}$	
				in^3/rev	cm^3/rev	gpm	lpm	gpm	lpm	gpm	lpm	hp	kw	hp	kw
P1 & P2	B02	0.35	5.8	2.30	8.7	1.4	5.9	--	--	0.53	0.4	2.81	2.1	--	--
	B03	0.59	9.8	3.88	14.7	2.9	11.9	2.7	10.5	0.67	0.5	3.62	2.7	--	--
	B04	0.78	12.8	5.08	19.2	4.33	16.4	3.97	15.0	0.93	0.7	5.23	3.9	10.06	7.5
	B05	0.97	15.9	6.31	23.8	5.55	21.0	5.18	19.6	1.00	0.75	6.64	4.9	11.2	8.3
	B06	1.21	19.8	7.85	29.7	7.12	26.9	6.66	25.2	1.07	0.8	8.05	6.0	12.34	9.2
	B07	1.37	22.5	8.92	33.7	8.17	30.9	7.80	29.5	1.20	0.9	9.05	6.7	14.02	10.4
	B08	1.52	24.9	9.89	37.4	9.15	34.6	8.78	33.2	1.34	1.0	10.05	7.5	15.69	11.7
	B09	1.71	28.0	11.11	42.0	10.37	39.2	10.00	37.8	1.47	1.1	11.94	8.9	23.60	17.6
	B10	1.94	31.8	12.61	47.7	11.87	44.9	11.51	43.5	1.6	1.2	13.0	9.7	26.0	19.6
	B11	2.13	34.9	13.85	52.3	13.09	49.5	12.72	48.1	1.7	1.3	14.0	10.5	28.0	21.0
	B12	2.50	41.0	16.27	61.5	15.53	58.7	*	*	1.8	1.4	15.02	11.2	*	*
	B14	2.75	45.0	17.86	67.5	17.12	64.7	**	**	2.1	1.6	15.42	11.5	**	**

-- Not to use because internal leakage greater than 50% of theoretical flow.

*B12 = 210bar (3000psi) Max. Int

**B14 = 175bar (2500psi) Max. Int

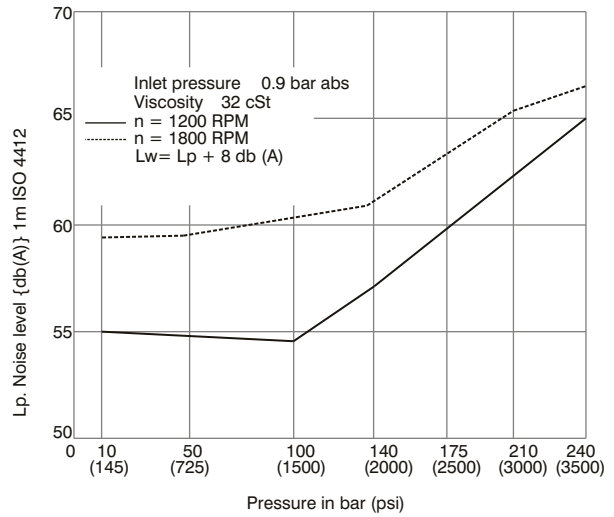
INTERNAL LEAKAGE (TYPICAL)



Do not operate pump more than 5 seconds at any speed or viscosity if internal leakage is more than 50% of theoretical flow. Total leakage is the sum of each section loss at its operating conditions.

NOISE LEVEL (TYPICAL)

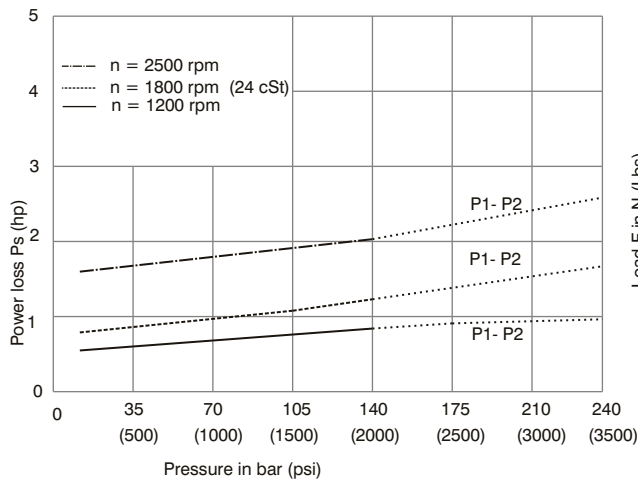
VT6BB- B10-B04



Double pump noise level is given with each section discharging at the pressure noted on the curve.

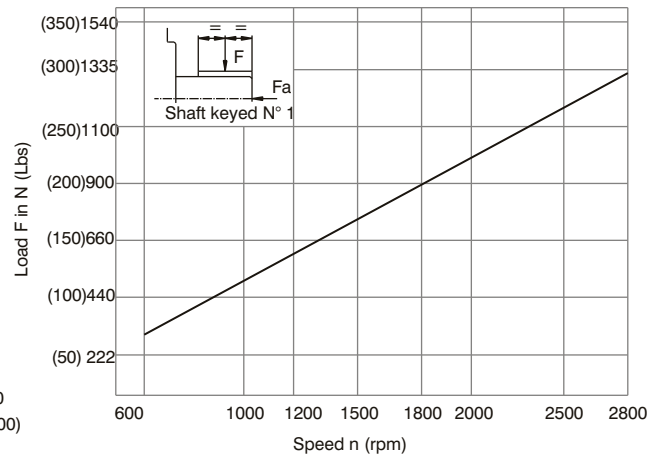
VP
DP

HYDROMECHANICAL POWER LOSS (TYPICAL)



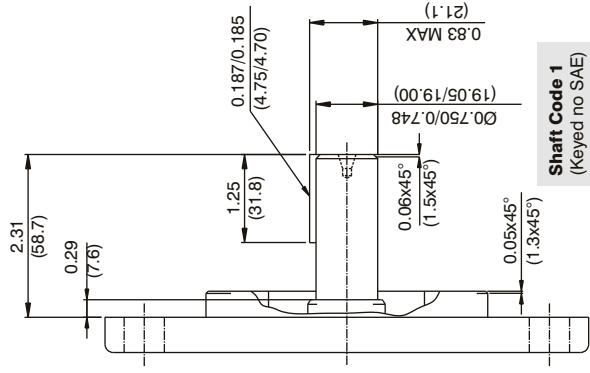
Total hydromechanical power loss is the sum of each section at its operating conditions.

PERMISSIBLE RADIAL LOAD

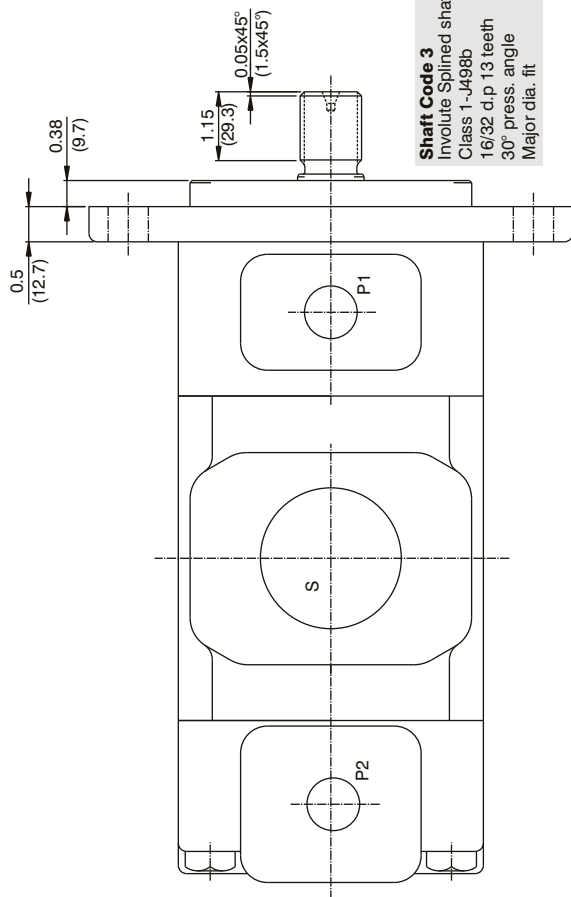
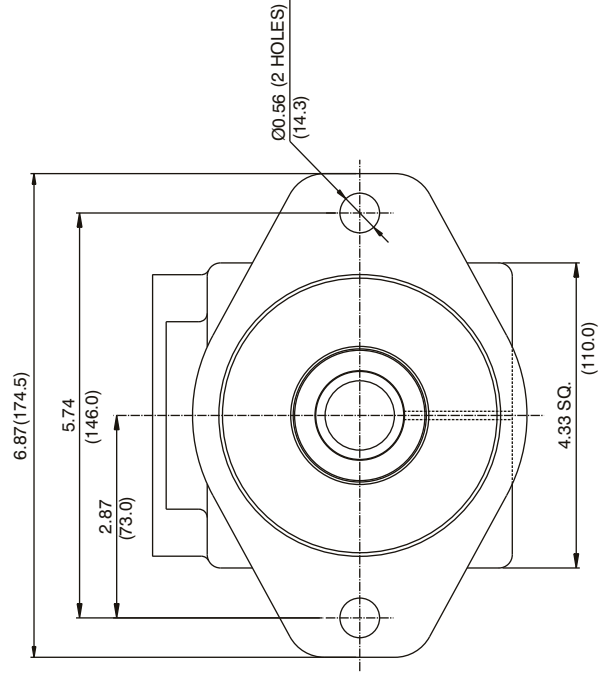


Maximum permissible axial load $F_a = 800\text{N}$ (180 lbs)

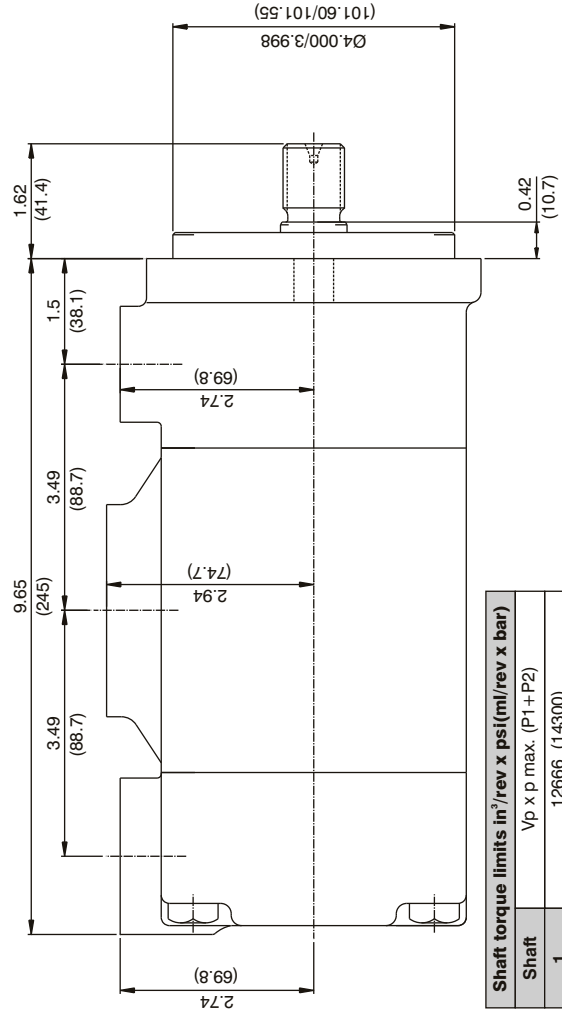
VP
|
DP



Shaft Code 1
(Keyed no SAE)

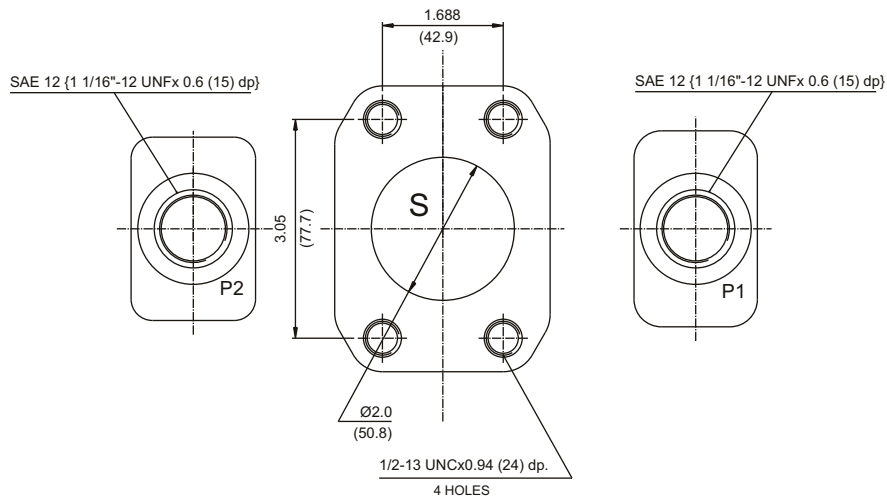


Shaft Code 3
Involute Splined shaft
Class 1 - J498b
16/32 d.p 13 teeth
30° press. angle
Major dia. fit



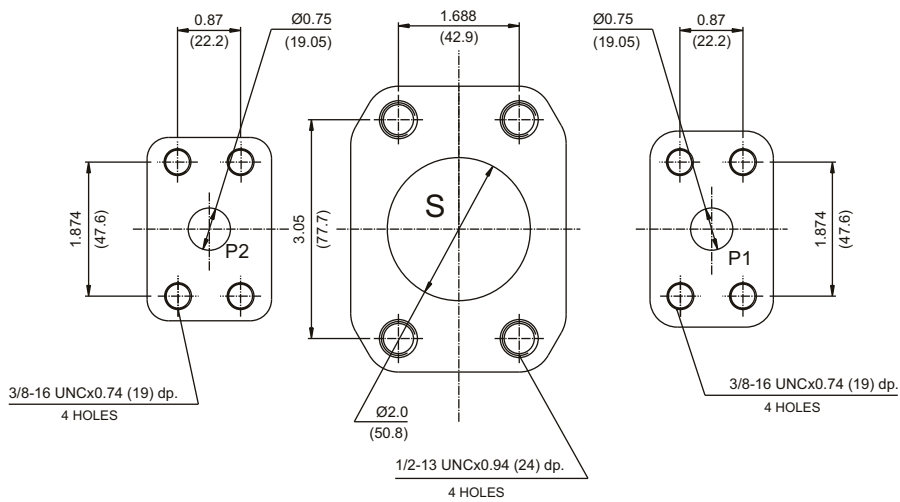
Shaft torque limits in ³ /rev x psi (ml/rev x bar)	
Shaft	Vp x p max. (P1 + P2)
1	12666 (14300)
3	18246 (20602)

Port Connection : 00

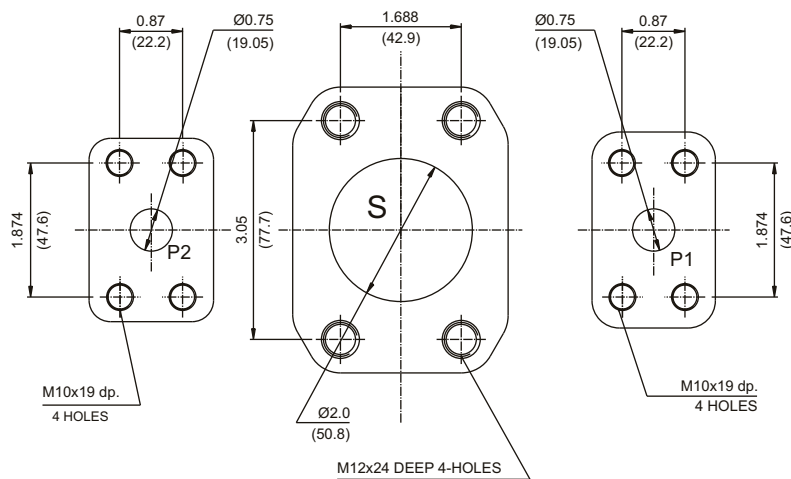


VP
DP

Port Connection : 01



Port Connection : M0



VT6CB - 022 - B08-1 R 00 - C 1 - 02 *

Series _____

Camring for "P1" _____

Volumetric displacement cm^3/rev (in^3/rev)

*003/B03/Y03 = 10.8 (0.66)	015/B15/Y15 = 50.5 (3.08)
005/B05/Y05 = 17.2 (1.05)	017/B17/Y17 = 58.3 (3.56)
006/B06/Y06 = 21.3 (1.30)	020/B20/Y20 = 63.8 (3.89)
008/B08/Y08 = 26.4 (1.61)	022/B22/Y22 = 70.3 (4.29)
010/B10/Y10 = 34.1 (2.08)	025/B25/Y25 = 79.3 (4.84)
012/B12/Y12 = 37.1 (2.26)	028/B28/Y28 = 88.8 (5.42)
014/B14/Y14 = 46.0 (2.81)	031/B31/Y31 = 100.0 (6.10)

* '0' - Uni - directional 'B' - Bi - directional 'Y' - Bi - directional for cold start

Camring for "P2" _____

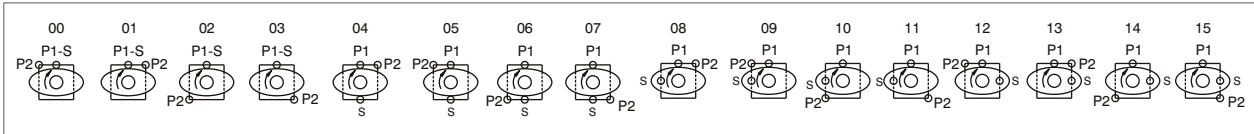
Volumetric displacement cm^3/rev (in^3/rev)

B02 = 5.8 (0.35)	B08 = 24.9 (1.52)
B03 = 9.8 (0.59)	B09 = 28.0 (1.71)
B04 = 12.8 (0.78)	B10 = 31.8 (1.94)
B05 = 15.9 (0.97)	B11 = 34.9 (2.13)
B06 = 19.8 (1.21)	B12 = 41.0 (2.50)(cont. 175 bar, Max. int 210 bar)
B07 = 22.5 (1.37)	B14 = 45.0 (2.75)(cont. 140 bar, Max. int 175 bar)

Type of shaft _____

- 1- keyed (no SAE)
- 3- splined

Porting combination _____



Modifications _____

Mounting W/connection variables _____

S = 2 1/2" SAE 4-Bolt Pad.

CODE	P1	P2
01	1" SAE 4 bolt Pad. (UNC)	3/4" SAE 4 bolt Pad. (UNC)
M1	1" SAE 4 bolt Pad. (Metric)	3/4" SAE 4 bolt Pad. (Metric)
02	SAE 16,1 5/16" 12 UNF-2B	SAE 12,1 1/16" 12 UNF-2B

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 _____

- 00 - standard
- Direction of rotation (view on shaft end)
- R - clockwise
- L - counter-clockwise

OPERATING CHARACTERISTICS - TYPICAL (24 cST) (Input power p (KW) for one cartridge only)

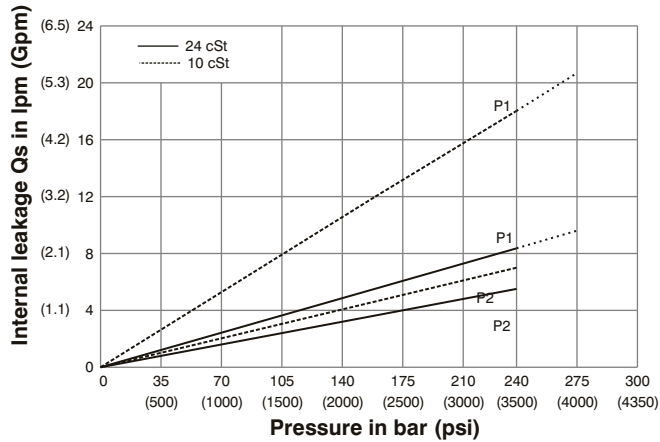
Pressure port	Series	Volumetric Displacement Vp		Flow q & n = 1500 rpm						Input power p & n = 1500 rpm					
				p = 0 bar (0 psi)		p = 140 bar (2000 psi)		p = 240 bar (3500 psi)		p = 7 bar (100 psi)		p = 140 bar (2000 psi)		p = 240 bar (3500 psi)	
		in^3/rev	cm^3/rev	gpm	lpm	gpm	lpm	gpm	lpm	hp	kw	hp	kw	hp	kw
P1	003	0.66	10.8	4.29	16.2	2.96	11.2	2.04	7.7	1.74	1.3	7.11	5.3	11.26	8.4
	005	1.05	17.2	6.83	25.8	5.50	20.8	4.57	17.3	1.88	1.4	10.06	7.5	16.36	12.2
	006	1.30	21.3	8.44	31.9	7.11	26.9	6.19	23.4	2.01	1.5	11.94	8.9	19.71	14.7
	008	1.61	26.4	10.48	39.6	9.15	34.6	8.22	31.1	2.15	1.6	14.35	10.7	22.93	17.7
	010	2.08	34.1	13.52	51.1	12.19	46.1	11.26	42.6	2.28	1.7	18.64	13.4	29.90	22.3
	012	2.26	37.1	14.71	55.6	13.36	50.6	12.46	47.1	2.28	1.7	19.31	14.4	32.32	24.1
	014	2.81	46.0	18.25	69.0	16.93	64.0	16.00	60.5	2.55	1.9	23.60	17.6	39.56	29.5
	015	3.08	50.5	20.00	75.6	18.73	73.2	19.02	67.5	2.68	2.0	25.61	19.1	42.91	32.0
	017	3.56	58.3	23.12	87.4	21.79	82.4	20.87	78.9	2.82	2.1	29.37	21.9	49.48	36.9
	020	3.89	63.8	25.32	95.7	23.99	90.7	23.07	87.2	2.95	2.2	31.92	23.8	53.91	40.2
	022	4.29	70.3	27.88	105.4	26.56	100.4	25.63	96.9	3.08	2.3	35.00	26.1	59.14	44.1
	025 ¹⁾	4.84	79.3	31.46	118.9	30.13	113.9	29.21	110.4	3.35	2.5	39.16	29.2	66.38	49.5
	028 ^{1,2)}	5.42	88.8	35.24	133.2	33.92	128.2	33.28	125.8	3.75	2.8	43.85	32.7	65.04	48.5
	031 ^{1,2)}	6.10	100.0	39.68	150.0	38.35	145.0	37.72	142.6	3.75	2.8	48.95	36.5	72.95	54.4
P2				p = 0 bar (0 psi)	p = 140 bar (2000 psi)	p = 210 bar (3000 psi)	p = 7 bar (100 psi)	p = 140 bar (2000 psi)	p = 210 bar (3000 psi)						
	B02	0.35	5.8	2.30	8.7	1.4	5.9	--	--	0.53	0.4	2.81	2.1	--	--
	B03	0.59	9.8	3.88	14.7	2.9	11.9	2.7	10.5	0.67	0.5	3.62	2.7	--	--
	B04	0.78	12.8	5.08	19.2	4.33	16.4	3.97	15.0	0.93	0.7	5.23	3.9	10.06	7.5
	B05	0.97	15.9	6.31	23.8	5.55	21.0	5.18	19.6	1.00	0.75	6.64	4.9	11.2	8.3
	B06	1.21	19.8	7.85	29.7	7.12	26.9	6.66	25.2	1.07	0.8	8.05	6.0	12.34	9.2
	B07	1.37	22.5	8.92	33.7	8.17	30.9	7.80	29.5	1.20	0.9	9.05	6.7	14.02	10.4
	B08	1.52	24.9	9.89	37.4	9.15	34.6	8.78	33.2	1.34	1.0	10.05	7.5	15.69	11.7
	B09	1.71	28.0	11.11	42.0	10.37	39.2	10.00	37.8	1.47	1.1	11.94	8.9	23.60	17.6
	B10	1.94	31.8	12.61	47.7	11.87	44.9	11.51	43.5	1.6	1.2	13.0	9.7	26.0	19.6
	B11	2.13	34.9	13.85	52.3	13.09	49.5	12.72	48.1	1.7	1.3	14.0	10.5	28.0	21.0
	B12	2.50	41.0	16.27	61.5	15.53	58.7	*	*	1.8	1.4	15.02	11.2	*	*
	B14	2.75	45.0	17.86	67.5	17.12	64.7	**	**	2.1	1.6	15.42	11.5	**	**

1) 025-028-031 = 2500 RPM. max. 2) 028-031 = 210 bar (3000 psi) max. int.

*B12 = 210 bar (3000 psi) max. int **B14 = 175 bar (2500 psi) max. int.

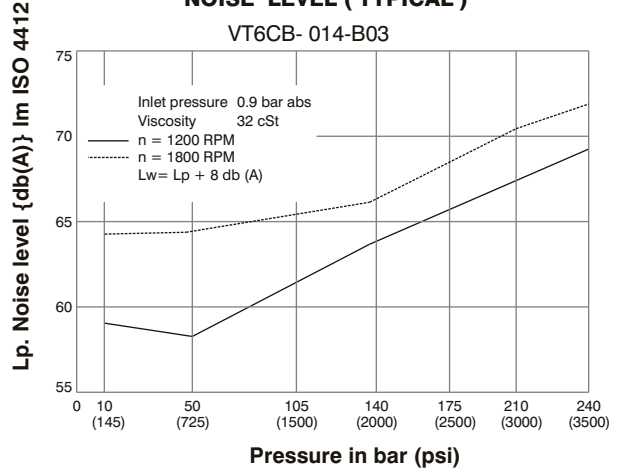
- Not to use because internal leakage greater than 50% of theoretical flow.

INTERNAL LEAKAGE (TYPICAL)



Do not operate pump more than 5 seconds at any speed or viscosity if internal leakage is more than 50% of theoretical flow. Total leakage is the sum of each section loss at its operating conditions.

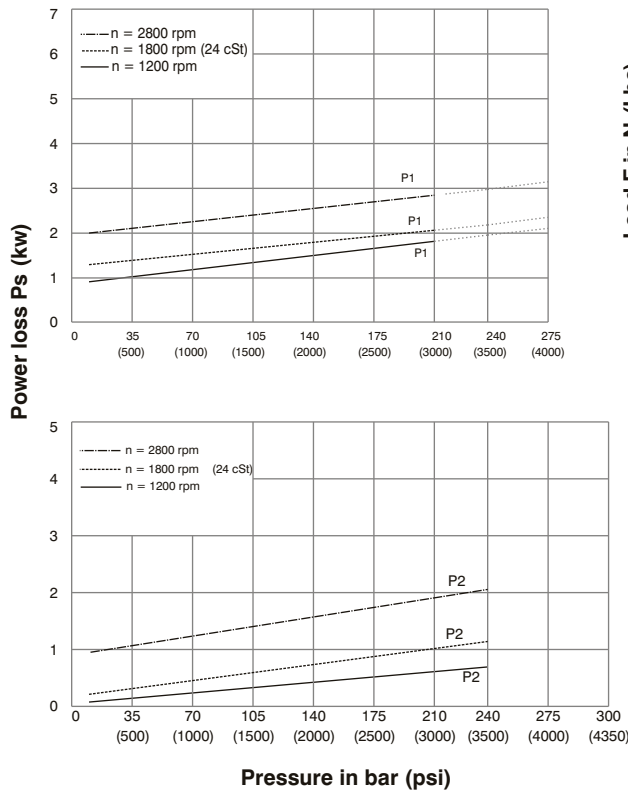
NOISE LEVEL (TYPICAL)



Double pump noise level is given with each section discharging at the pressure noted on the curve.

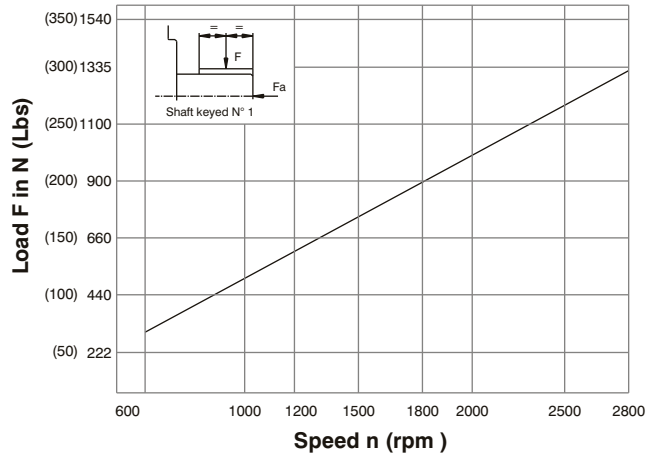
VP
DP

HYDROMECHANICAL POWER LOSS (TYPICAL)



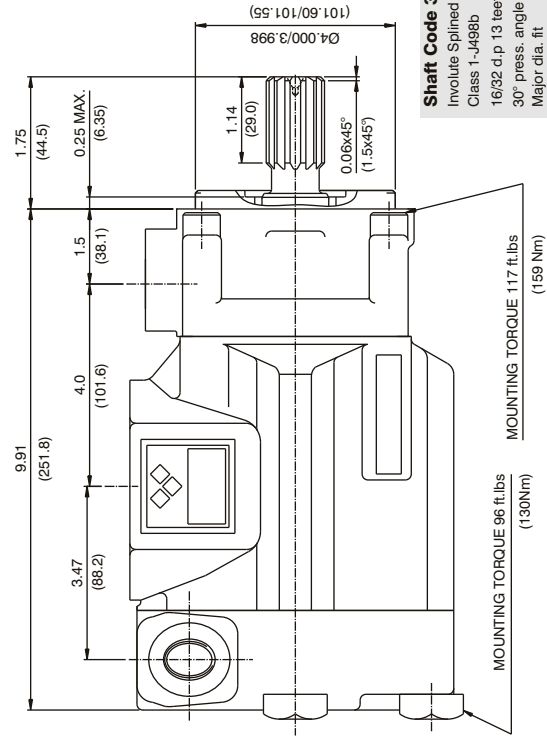
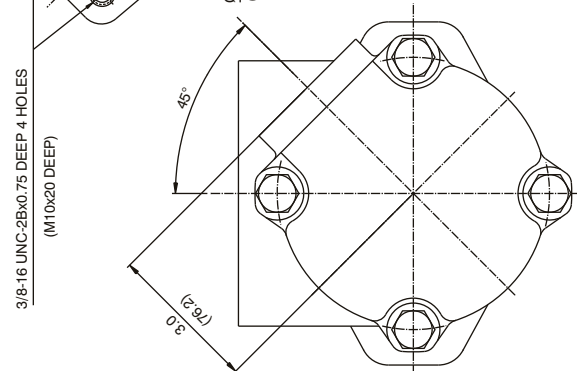
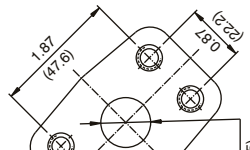
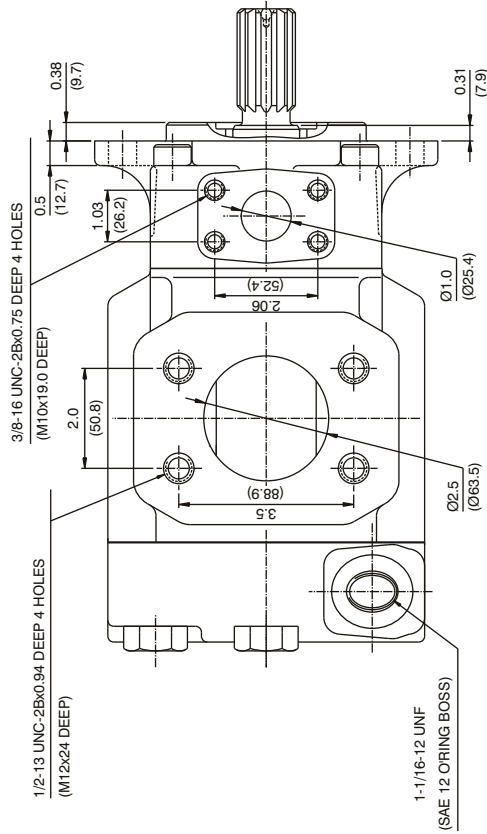
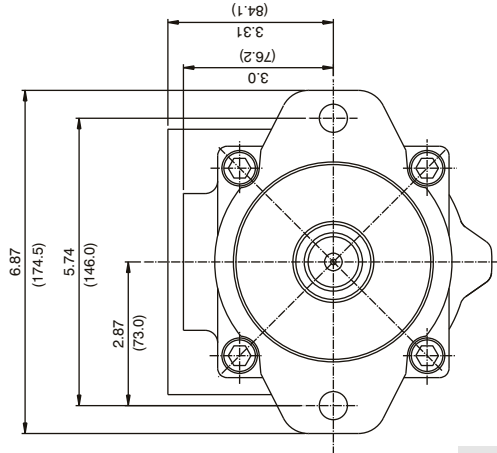
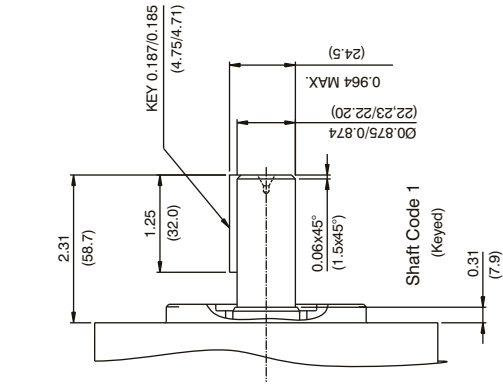
Total hydromechanical power loss is the sum of each section at its operating conditions.

PERMISSIBLE RADIAL LOAD



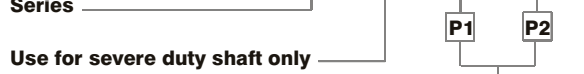
Maximum permissible axial load Fa = 800N (180 lbs)

VP
|
DP



Shaft Code 3
Involute Splined shaft
Class 1-J498b
16/32 d.p 13 teeth
30° press. angle
Major dia. fit

Series **VT6CC W - 022 - 008 - 1 R 00 - C 1 - 00 ***



Use for severe duty shaft only

Cam ring for "P1" & "P2"

Volumetric displacement cm³/rev (in³/rev)

*003/B03/Y03 = 10.8 (0.66)	015/B15/Y15 = 50.5 (3.08)
005/B05/Y05 = 17.2 (1.05)	017/B17/Y17 = 58.3 (3.56)
006/B06/Y06 = 21.3 (1.30)	020/B20/Y20 = 63.8 (3.89)
008/B08/Y08 = 26.4 (1.61)	022/B22/Y22 = 70.3 (4.29)
010/B10/Y10 = 34.1 (2.08)	025/B25/Y25 = 79.3 (4.84)
012/B12/Y12 = 37.1 (2.26)	028/B28/Y28 = 88.8 (5.42)
014/B14/Y14 = 46.0 (2.81)	031/B31/Y31 = 100.0 (6.10)

*'0' - Uni - directional 'B' - Bi - directional 'Y' - Bi - directional for cold start

Type of shaft

- 1 - keyed (no SAE)
- 3 - splined (SAE BB)
- 5 - splined (SAE B)

W version

- 2 - keyed (SAE BB)
- S - splined (DIN 5462)

Modifications

Mounting W/connection variables

		P1=1" - S=3"		P1=1" - S=2 1/2"	
P2		1"	3/4" (1)	1"	3/4" (1)
code	Unc	00	01	10	11
	Metric	0M	W0	1M	W1

- 1) for 46 ml/rev max.
 - 2) for 126 ml/rev max.
- The large cartridge must be always mounted in the front.

Seal class

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

Design letter

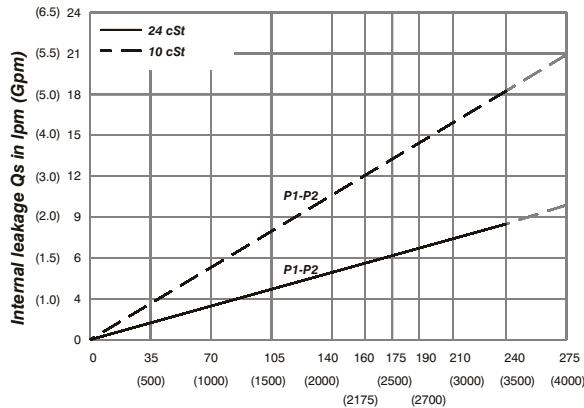
Porting combination (see page BM-1-5)

00 - standard

Direction of rotation (view on shaft end)

- R - clockwise
- L - counter-clockwise

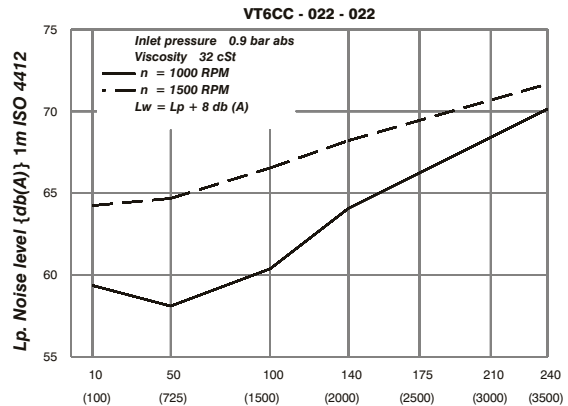
INTERNAL LEAKAGE (TYPICAL)



Pressure in bar (psi)

Do not operate pump more than 5 seconds at any speed or viscosity if internal leakage is more than 50% of theoretical flow. Total leakage is the sum of each section loss at its operating conditions.

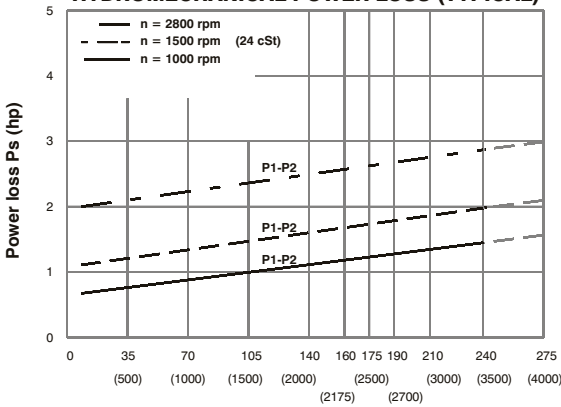
NOISE LEVEL (TYPICAL)



Pressure in bar (psi)

Double pump noise level is given with each section discharging at the pressure noted on the curve.

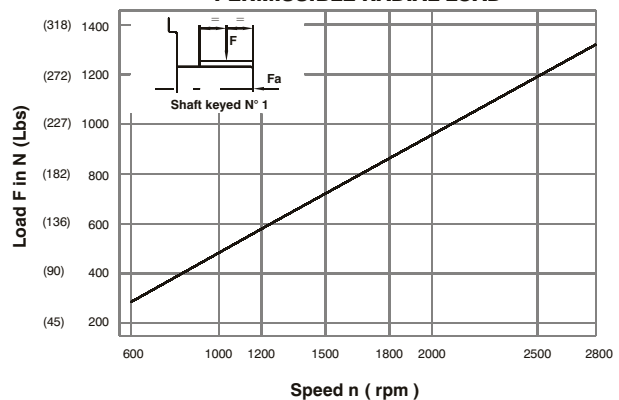
HYDROMECHANICAL POWER LOSS (TYPICAL)



Pressure in bar (psi)

Total hydromechanical power loss is the sum of each section at its operating conditions.

PERMISSIBLE RADIAL LOAD



Speed n (rpm)

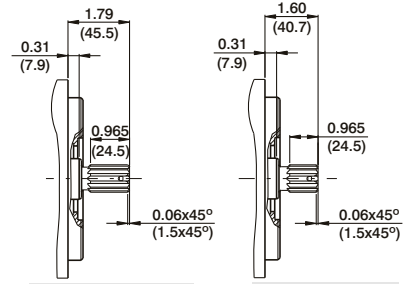
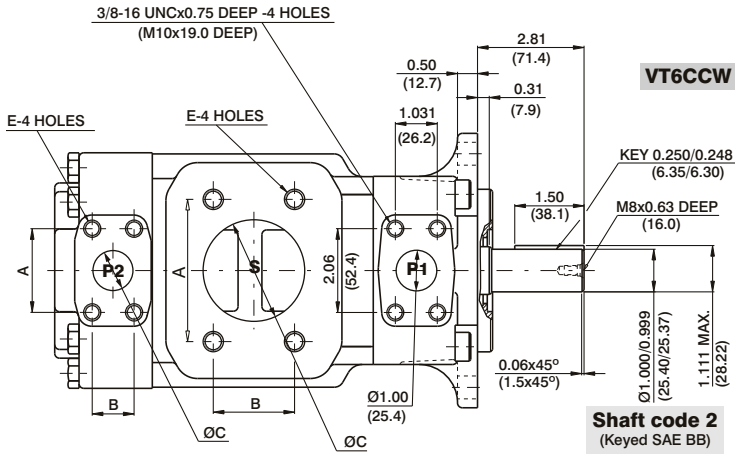
Maximum axial load permissible Fa = 800 N (180 Lbs)



HIGH PERFORMANCE VANE PUMP VT6CC

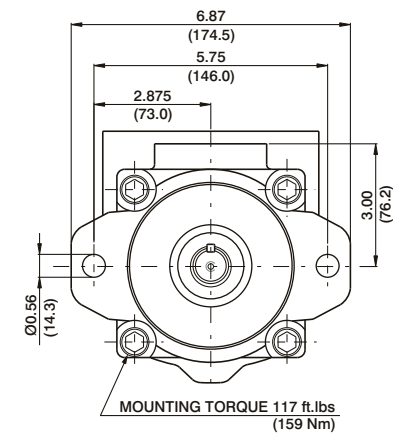
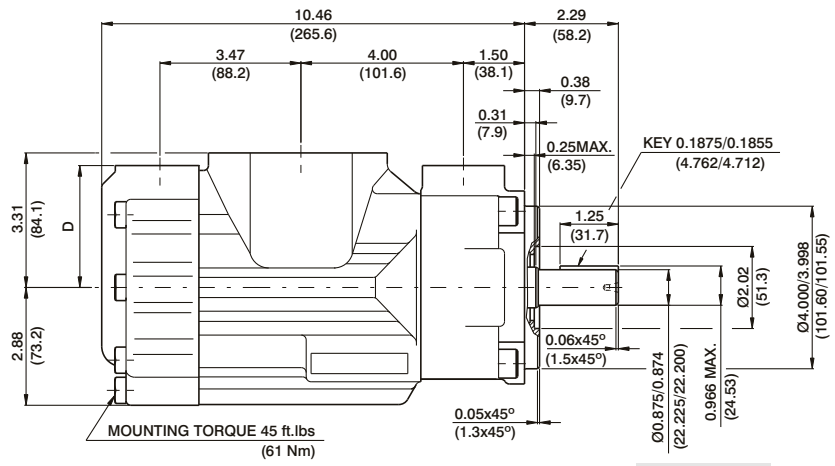


DP



Shaft code 3
SAE BB splined shaft
Class 1-J498b
16/32 dp. 15 teeth
30° pressure angle
Flat root side fit

Shaft code 5
SAE B splined shaft
Class 1-J498b
16/32 dp. 13 teeth
30° pressure angle
Flat root side fit



Shaft	Vp x p max. (P1+P2)
1	12666 (14300)
2	18972 (21420)
3	28937 (32670)
5	18246 (20600)

PORT	A	B	C	D	E
S	4.19 (106.4)	2.44 (61.9)	3.00 (76.2)		5/8-11UNCx1.12 DEEP (M16x28.4 DEEP)
S	3.50 (88.9)	2.00 (50.8)	2.50 (63.5)		1/2-13UNCx0.94 DEEP M12x24.0 DEEP
P2	1.874 (47.6)	0.874 (22.2)	0.75 (19.0)	3.00 (76.2)	3/8-16UNCx0.75 DEEP (M10x19.0 DEEP)
P2	2.06 (52.4)	1.03 (26.2)	1.00 (25.4)	2.94 (74.7)	

OPERATING CHARACTERISTICS - TYPICAL (24 cST) (Input power p (KW) for one cartridge only)

Pressure port	Series	Volumetric Displacement Vp		Flow q & n = 1500 rpm						Input power p & n = 1500 rpm					
		p = 0 bar (0 psi)		p = 140 bar (2000 psi)		p = 240 bar (3500 psi)		p = 7 bar (100 psi)		p = 140 bar (2000 psi)		p = 240 bar (3500 psi)			
		in ³ /rev	cm ³ /rev	gpm	lpm	gpm	lpm	gpm	lpm	hp	kw	hp	kw	hp	kw
P1 & P2	003	0.66	10.8	4.29	16.2	2.96	11.2	2.04	7.7	1.74	1.3	7.11	5.3	11.22	8.4
	005	1.05	17.2	6.83	25.8	5.50	20.8	4.57	17.3	1.88	1.4	10.06	7.5	16.36	12.2
	006	1.30	21.3	8.44	31.9	7.11	26.9	6.19	23.4	2.01	1.5	11.94	8.9	19.71	14.7
	008	1.61	26.4	10.48	39.6	9.15	34.6	8.22	31.1	2.15	1.6	14.35	10.7	22.93	17.7
	010	2.08	34.1	13.52	51.1	12.19	46.1	11.26	42.6	2.28	1.7	18.64	13.4	29.90	22.3
	012	2.26	37.1	14.71	55.6	13.36	50.6	12.46	47.1	2.28	1.7	19.31	14.4	32.32	24.1
	014	2.81	46.0	18.25	69.0	16.93	64.0	16.00	60.5	2.55	1.9	23.60	17.6	39.56	29.5
	015	3.08	50.5	20.00	75.6	18.73	73.2	19.02	67.5	2.68	2.0	25.61	19.1	42.91	32.0
	017	3.56	58.3	23.12	87.4	21.79	82.4	20.87	78.9	2.82	2.1	29.37	21.9	49.48	36.9
	020	3.89	63.8	25.32	95.7	23.99	90.7	23.07	87.2	2.95	2.2	31.92	23.8	53.91	40.2
	022	4.29	70.3	27.88	105.4	26.56	100.4	25.63	96.9	3.08	2.3	35.00	26.1	59.14	44.1
	025 ¹⁾	4.84	79.3	31.46	118.9	30.13	113.9	29.21	110.4	3.35	2.5	39.16	29.2	66.38	49.5
	028 ^{1,2)}	5.42	88.8	35.24	133.2	33.92	128.2	33.28	125.8	3.75	2.8	43.85	32.7	72.95	54.4
031 ^{1,2)}	6.10	100.0	39.68	150.0	38.35	145.0	37.72	142.6	3.75	2.8	48.95	36.5	79.95	59.4	

1) 025-028-031 = 2500 RPM. max. 2) 028-031 = 210 bar (3000 psi) max. int.

VT6CC * W - B22 - B08 - 1 R 00 - D 1 - 00 *

Series

- M** = Mobile
- P** = Mobile with double shaft seal

Use for severe duty shaft only

Cam ring for "P1" & "P2"

Volumetric displacement cm³/rev (in³/rev)

*B03/R03 = 10.8 (0.66)	B15/R15 = 50.5 (3.08)
B05/R05 = 17.2 (1.05)	B17/R17 = 58.3 (3.56)
B06/R06 = 21.3 (1.30)	B20/R20 = 63.8 (3.89)
B08/R08 = 26.4 (1.61)	B22/R22 = 70.3 (4.29)
B10/R10 = 34.1 (2.08)	B25/R25 = 79.3 (4.84)
B12/R12 = 37.1 (2.26)	B28/R28 = 88.8 (5.42)
B14/R14 = 46.0 (2.81)	B31/R31 = 100.0 (6.10)

*B - for Mobile 'R' - for Mobile - spring assisted

Type of shaft

M version

- 1 - keyed (no SAE)
- 3 - splined (SAE BB)
- 5 - splined (SAE B)

MW version

- 2 - keyed (SAE BB)
- R - keyed special
- X - keyed special
- W - keyed special
- V - keyed special
- T - splined (SAE J718c)
- S - splined (DIN5462)
- Q - splined (SAE C)

P version

- 3 - splined (no SAE)
- 4 - splined (SAE BB)
- 6 - splined (no SAE)

Modifications

Mounting W/connection variables

code	P1=1"-S=3"		P1=1"-S=2 1/2"	
	Unc	Metric	Unc	Metric
P2	00	01	10	11
	OM	WO	1M	W1

- 1) for 46 ml/rev max.
 - 2) for 126 ml/rev max.
- The large cartridge must be always mounted in the front.

Seal class

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

Design letter

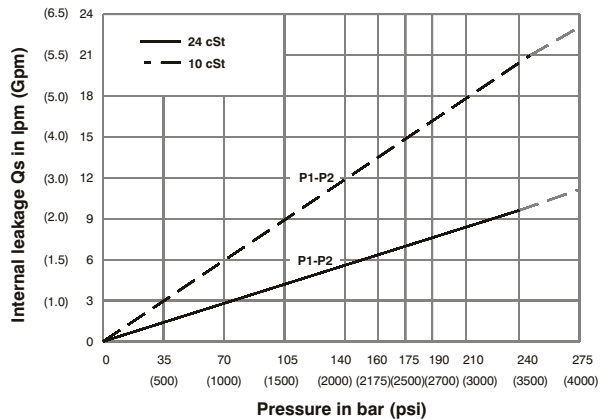
Porting combination (see page BM-1-5)

00 - standard

Direction of rotation (view on shaft end)

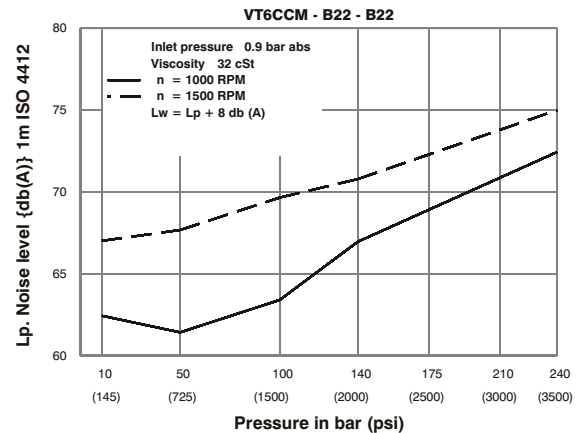
- R - clockwise
- L - counter-clockwise

INTERNAL LEAKAGE (TYPICAL)



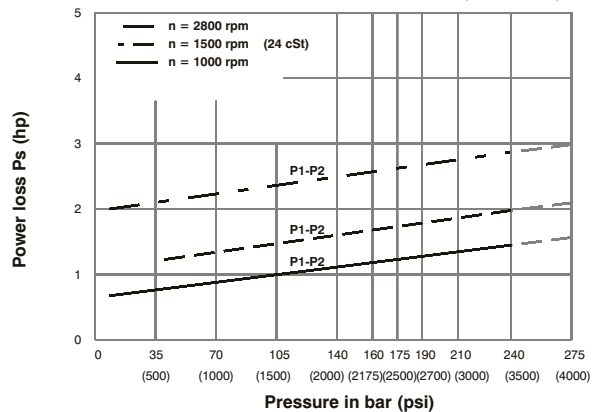
Do not operate pump more than 5 seconds at any speed or viscosity if internal leakage is more than 50% of theoretical flow. Total leakage is the sum of each section loss at its operating conditions.

NOISE LEVEL (TYPICAL)



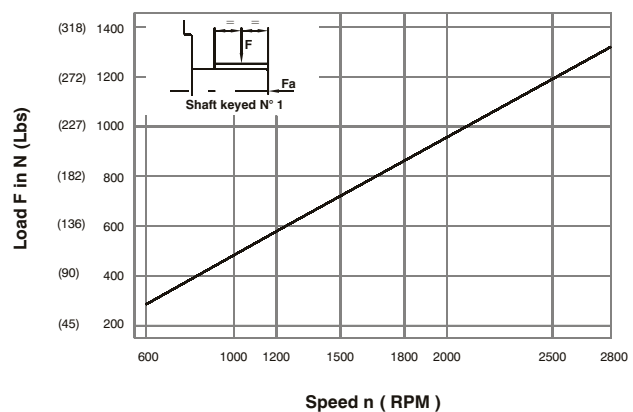
Double pump noise level is given with each section discharging at the pressure noted on the curve.

HYDROMECHANICAL POWER LOSS (TYPICAL)



Total hydromechanical power loss is the sum of each section at its operating conditions.

PERMISSIBLE RADIAL LOAD



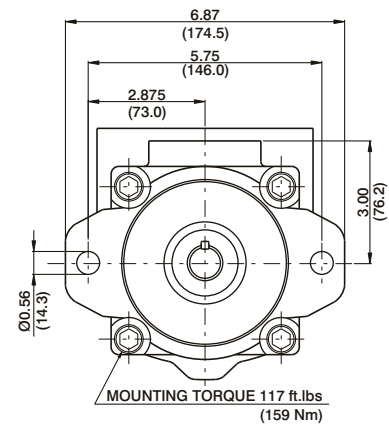
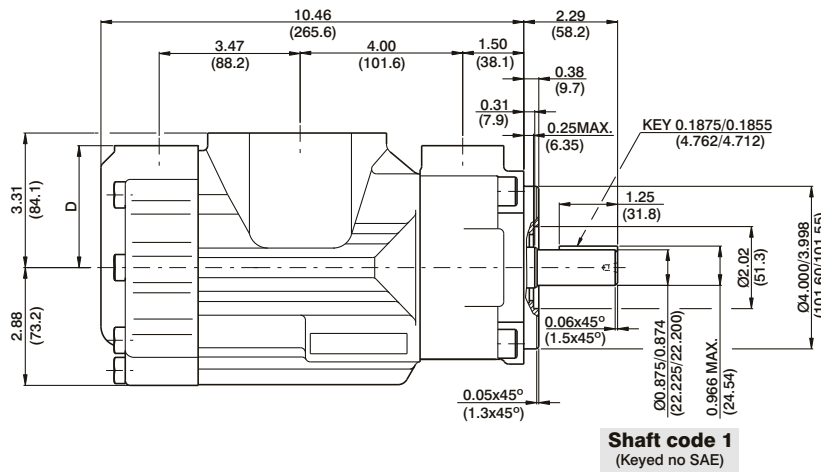
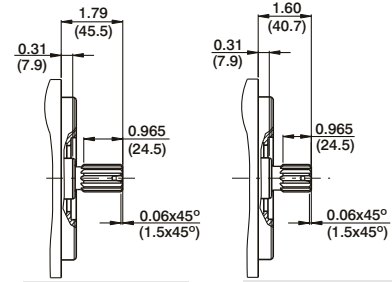
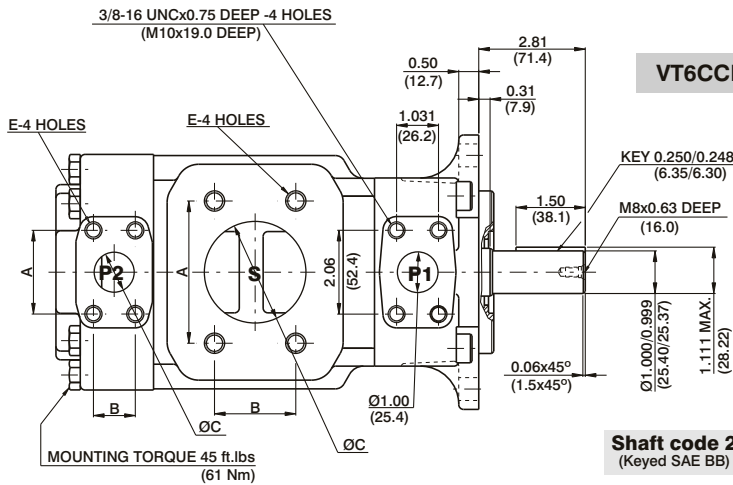
Maximum axial load permissible Fa = 800 N (180 Lbs)



HIGH PERFORMANCE VANE PUMP VT6CCM



DP



PORT	A	B	C	D	E
S	4.19 (106.4)	2.44 (61.9)	3.00 (76.2)		5/8-11UNCx1.12 DEEP (M16 x 28.4 DEEP)
S	3.50 (88.9)	2.00 (50.8)	2.50 (63.5)		1/2-13UNCx0.94 DEEP (M12 x 24.0 DEEP)
P1	1.874 (47.6)	0.874 (22.2)	0.75 (19.0)	3.00 (76.2)	3/8-16UNCx0.75 DEEP (M10x19.0 DEEP)
P2	2.06 (52.4)	1.03 (26.2)	1.00 (25.4)	2.94 (74.7)	

Shaft torque limits in ³ /rev x psi (ml/rev x bar)	
Shaft	Vp x p max. (P1+P2)
1	12666 (14300)
2	18972 (21420)
3	28937 (32670)
5	18246 (20600)

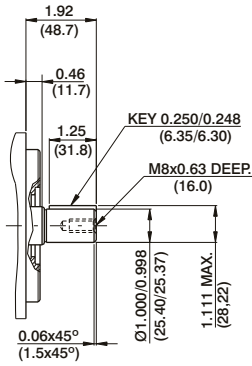
OPERATING CHARACTERISTICS - TYPICAL (24 cST) (Input power p (KW) for one cartridge only)

Pressure port	Series	Volumetric Displacement Vp		Flow q & n = 1500 rpm						Input power p & n = 1500 rpm					
				p = 0 bar (0 psi)		p = 140 bar (2000 psi)		p = 240 bar (3500 psi)		p = 7 bar (100 psi)		p = 140 bar (2000 psi)		p = 240 bar (3500 psi)	
		in ³ /rev	cm ³ /rev	gpm	lpm	gpm	lpm	gpm	lpm	hp	kw	hp	kw	hp	kw
P1 & P2	B03	0.66	10.8	4.29	16.2	2.83	10.7	--	--	1.74	1.3	7.11	5.3	--	--
	B05	1.05	17.2	6.83	25.8	5.37	20.3	4.17	15.8	1.88	1.4	10.06	7.5	16.36	12.2
	B06	1.30	21.3	8.44	31.9	7.01	26.5	5.82	22.0	2.01	1.5	11.94	8.9	19.71	14.7
	B08	1.61	26.4	10.48	39.6	9.02	34.1	7.83	29.6	2.15	1.6	14.35	10.7	22.93	17.7
	B10	2.08	34.1	13.52	51.1	12.08	45.7	10.89	41.2	2.28	1.7	18.64	13.4	29.90	22.3
	B12	2.26	37.1	14.71	55.6	13.28	50.2	12.08	45.7	2.28	1.7	19.31	14.4	32.32	24.1
	B14	2.81	46.0	18.25	69.0	16.79	63.5	15.60	59.0	2.55	1.9	23.60	17.6	39.56	29.5
	B15	3.08	50.5	20.00	75.6	18.62	70.4	17.46	66.0	2.68	2.0	25.61	19.1	42.91	32.0
	B17	3.56	58.3	23.12	87.4	21.69	82.0	20.50	77.5	2.82	2.1	29.37	21.9	49.48	36.9
	B20	3.89	63.8	25.32	95.7	23.86	90.2	22.67	85.7	2.95	2.2	31.92	23.8	53.91	40.2
	B22	4.29	70.3	27.88	105.4	26.45	100.0	25.26	95.5	3.08	2.3	35.00	26.1	59.14	44.1
	B25 ¹⁾	4.84	79.3	31.46	118.9	30.02	113.5	28.83	109.0	3.35	2.5	39.16	29.2	66.38	49.5
	B28 ^{1,2)}	5.42	88.8	35.24	133.2	33.78	127.7	32.93	124.5	3.75	2.8	43.85	32.7	65.04	48.5
	B31 ^{1,2)}	6.10	100.0	39.68	150.0	38.22	144.5	37.38	141.3	3.75	2.8	48.95	36.5	72.95	54.4

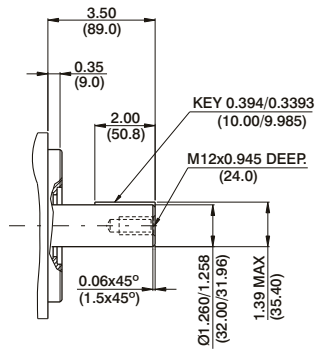
1) B25-B28-B31 = 2500 R.P.M. max.

2) B28-B31 = 210 bar (3000 psi) max. int.

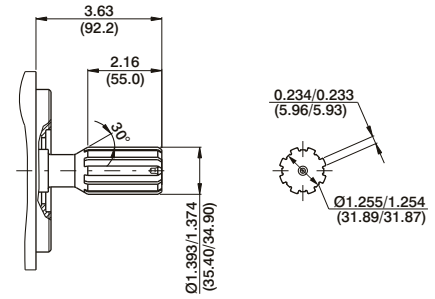
-- Not to use because internal leakage greater than 50% theoretical flow.



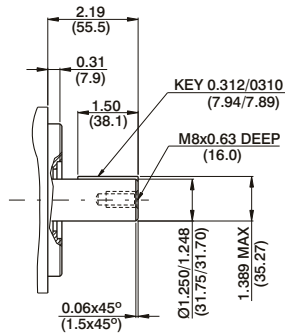
Shaft code R



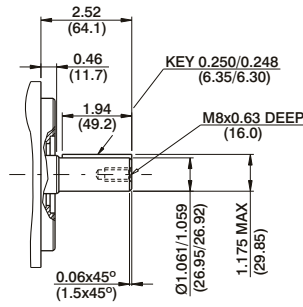
Shaft code V



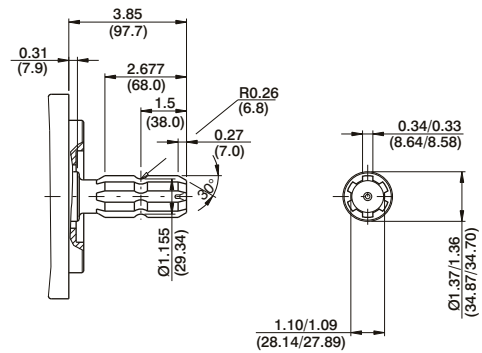
Shaft code S
DIN 5462
B8x32x36



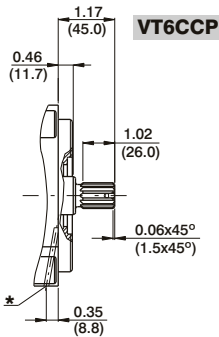
Shaft code W



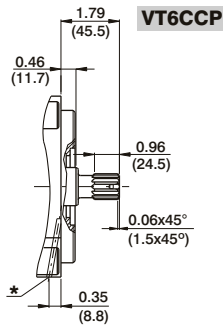
Shaft code X



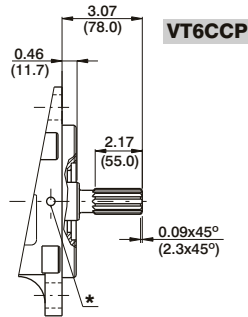
Shaft code T
SAE J718C
540 rpm power take-off
For Farm Tractor application



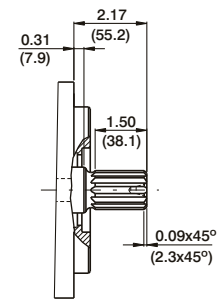
Shaft code 3
no SAE splined shaft
Class 1-J498b
16/32 dp. 13 teeth
30° pressure angle
Flat root side fit



Shaft code 4
SAE BB splined shaft
Class 1-J498b
16/32 dp. 15 teeth
30° pressure angle
Flat root side fit



Shaft code 6
non SAE splined shaft
Class 1-J498b
12/24 dp. 14 teeth
30° pressure angle
Flat root side fit



Shaft code Q
SAE C splined shaft
Class 1-J498b
12/24 Dp. 14 Teeth
30° Pressure angle
Flat root side fit

*Drain hole between double Shaft seals

Shaft torque limits in ³ /rev x psi (ml/rev x bar)		
VT6CCMW	Shaft	Vp x p max. (P1+P2)
	R	16032 (18100)
	V	28937 (32670)
	W	28937 (32670)
X	22500 (25400)	

Shaft torque limits in ³ /rev x psi (ml/rev x bar)		
VT6CCP	Shaft	Vp x p max. (P1+P2)
	3	18246 (20600)
	4	28937 (32670)
	6	28937 (32670)

VT6CCSH * W - 022 - 008 - 1 R 00 - C 1 - 00 *

Series

One letter can be added to specify special parts in series

Use for severe duty shaft only

Cam ring for "P1" & "P2"

Volumetric displacement cm³/rev (in³/rev)

*003/B03/Y03 = 10.8 (0.66)	015/B15/Y15 = 50.5 (3.08)
005/B05/Y05 = 17.2 (1.05)	017/B17/Y17 = 58.3 (3.56)
006/B06/Y06 = 21.3 (1.30)	020/B20/Y20 = 63.8 (3.89)
008/B08/Y08 = 26.4 (1.61)	022/B22/Y22 = 70.3 (4.29)
010/B10/Y10 = 34.1 (2.08)	025/B25/Y25 = 79.3 (4.84)
012/B12/Y12 = 37.1 (2.26)	028/B28/Y28 = 88.8 (5.42)
014/B14/Y14 = 46.0 (2.81)	031/B31/Y31 = 100.0 (6.10)

*'0' - Uni - directional 'B' - Bi - directional 'Y' - Bi - directional for cold start

Type of shaft

- 1 - keyed (no SAE)
- 3 - splined (SAE BB)
- 5 - splined (SAE B)

MW version

- 2 - keyed (SAE BB)
- R - keyed special
- X - keyed special

P version

- 3 - splined (no SAE)
- 4 - splined (SAE BB)
- 6 - splined (no SAE)

(See Page No. BM-1-3)

W version

- 2 - keyed (SAE BB)
- S-splined (DIN 5462)

- V - keyed special
- T - splined (SAE J718c)
- Q - splined (SAE C)

Modifications

Mounting W/connection variables

code	P1=1" - S=3"		P1=1" - S = 2 1/2" n ²¹		
	P2	1"	3/4" n ¹	1"	3/4" n ¹
Unc	00	01	10	11	
Metric	0M	W0	1M	W1	

- 1) for 46 ml/rev max.
 - 2) for 126 ml/rev max.
- The large cartridge must be always mounted in the front.

Seal class

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

Design letter

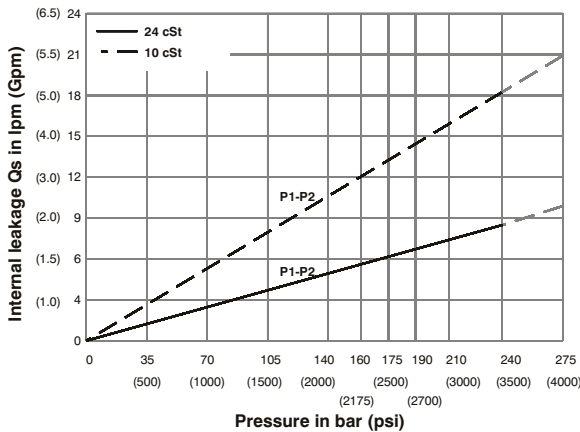
Porting combination (see page BM-1-5)

00 - standard

Direction of rotation (view on shaft end)

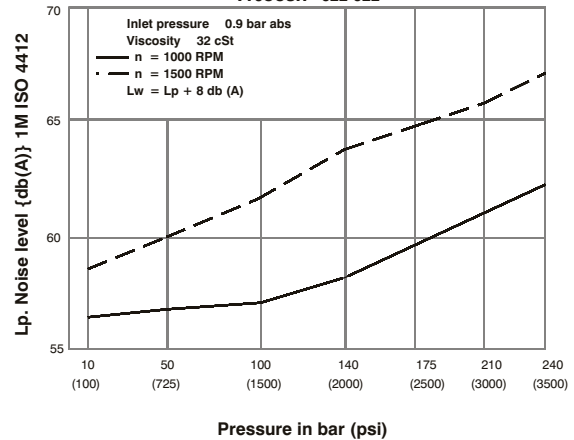
- R - clockwise
- L - counter-clockwise

INTERNAL LEAKAGE (TYPICAL)



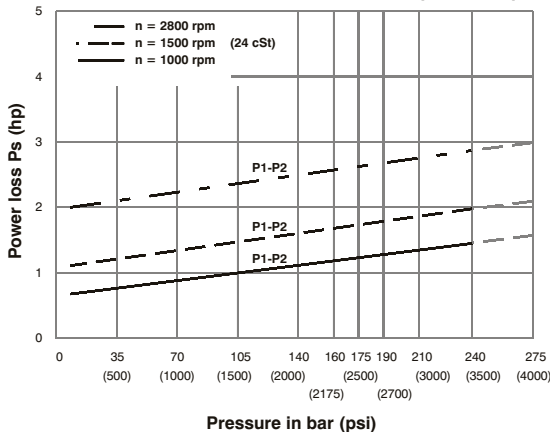
Do not operate pump more than 5 seconds at any speed or viscosity if internal leakage is more than 50% of theoretical flow. Total leakage is the sum of each section loss at its operating conditions.

NOISE LEVEL (TYPICAL) VT6CCSH - 022-022



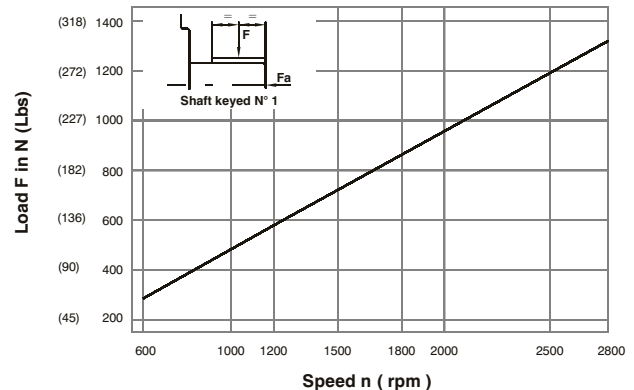
Double pump noise level is given with each section discharging at the pressure noted on the curve.

HYDROMECHANICAL POER LOSS (TYPICAL)



Total hydromechanical power loss is the sum of each section at its operating conditions.

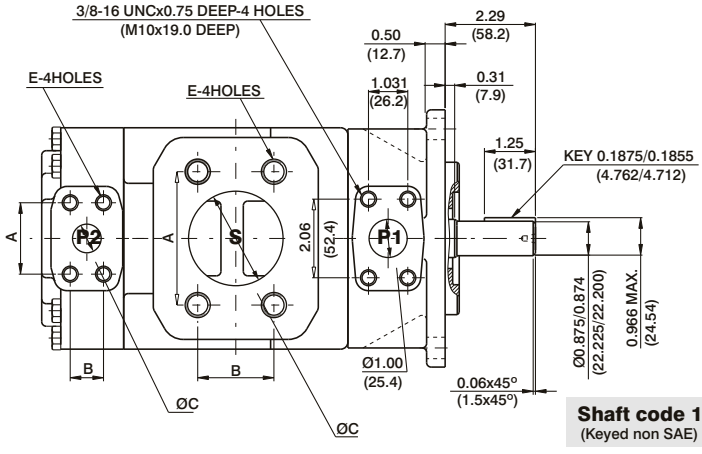
PERMISSIBLE RADIAL LOAD



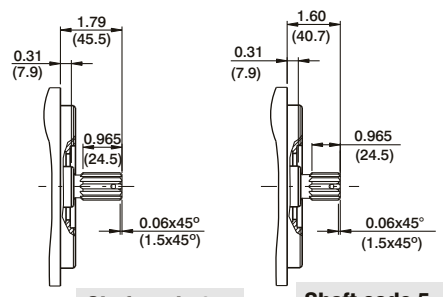
Maximum permissible axial load Fa = 800 N (180 Lbs)



DP

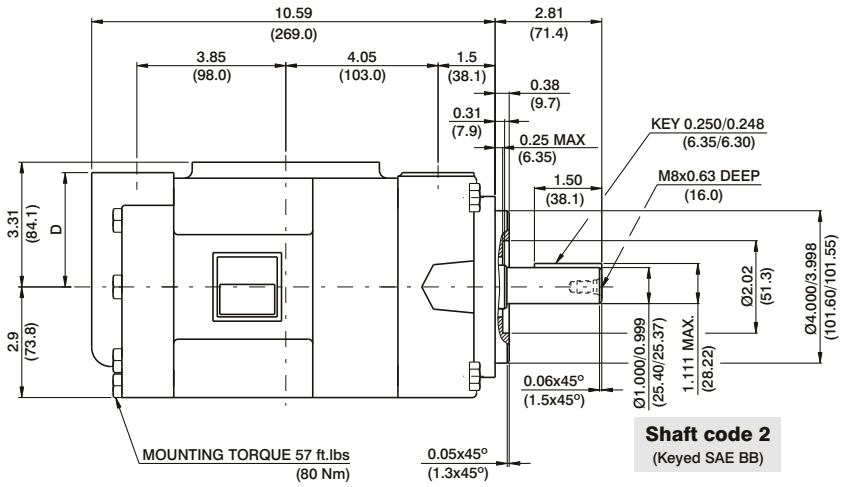


Shaft code 1
(Keyed non SAE)

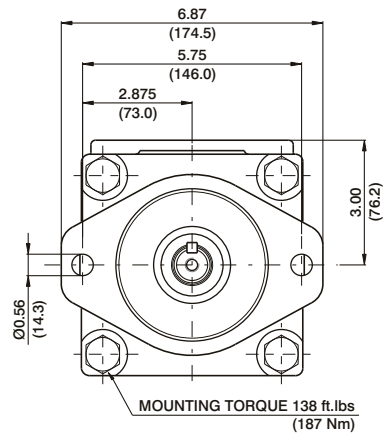


Shaft code 3
SAE BB splined shaft
Class 1-J498b
16/32 dp. 15 teeth
30° pressure angle
Flat root side fit

Shaft code 5
SAE B splined shaft
Class 1-J498b
16/32 dp. 13 teeth
30° pressure angle
Flat root side fit



Shaft code 2
(Keyed SAE BB)



PORT	A	B	C	D	E
S	4.19 (106.4)	2.44 (61.9)	3.00 (76.2)		5/8-11UNCx1.12 DEEP (M16x28.4 DEEP)
S	3.50 (88.9)	2.00 (50.8)	2.50 (63.5)		1/2-13UNCx0.94 DEEP (M12x24.0 DEEP)
P2	1.874 (47.6)	0.874 (22.2)	0.75 (19.0)	3.00 (76.2)	3/8-16UNCx0.75 DEEP (M10x19.0 DEEP)
P2	2.06 (52.4)	1.03 (26.2)	1.00 (25.4)	2.94 (74.7)	

Shaft torque limits in ³ /revxpsi(ml/revxbar)	
Shaft	Vp x p max. (P1+P2)
1	12666 (14300)
2	18972 (21420)
3	28937 (32670)
5	18246 (20600)

OPERATING CHARACTERISTICS - TYPICAL (24 cST) (Input power p (KW) for one cartridge only)

Pressure port	Series	Volumetric Displacement Vp		Flow q & n = 1500 rpm						Input power p & n = 1500 rpm					
		p = 0 bar (0 psi)		p = 140 bar (2000 psi)		p = 240 bar (3500 psi)		p = 7 bar (100 psi)		p = 140 bar (2000 psi)		p = 240 bar (3500 psi)			
		in ³ /rev	cm ³ /rev	gpm	lpm	gpm	lpm	gpm	lpm	hp	kw	hp	kw	hp	kw
P1 & P2	003	0.66	10.8	4.29	16.2	2.96	11.2	2.04	7.7	1.74	1.3	7.11	5.3	11.22	8.4
	005	1.05	17.2	6.83	25.8	5.50	20.8	4.57	17.3	1.88	1.4	10.06	7.5	16.36	12.2
	006	1.30	21.3	8.44	31.9	7.11	26.9	6.19	23.4	2.01	1.5	11.94	8.9	19.71	14.7
	008	1.61	26.4	10.48	39.6	9.15	34.6	8.22	31.1	2.15	1.6	14.35	10.7	22.93	17.7
	010	2.08	34.1	13.52	51.1	12.19	46.1	11.26	42.6	2.28	1.7	18.64	13.4	29.90	22.3
	012	2.26	37.1	14.71	55.6	13.36	50.6	12.46	47.1	2.28	1.7	19.31	14.4	32.32	24.1
	014	2.81	46.0	18.25	69.0	16.93	64.0	16.00	60.5	2.55	1.9	23.60	17.6	39.56	29.5
	015	3.08	50.5	20.00	75.6	18.73	73.2	19.02	67.5	2.68	2.0	25.61	19.1	42.91	32.0
	017	3.56	58.3	23.12	87.4	21.79	82.4	20.87	78.9	2.82	2.1	29.37	21.9	49.48	36.9
	020	3.89	63.8	25.32	95.7	23.99	90.7	23.07	87.2	2.95	2.2	31.92	23.8	53.91	40.2
	022	4.29	70.3	27.88	105.4	26.56	100.4	25.63	96.9	3.08	2.3	35.00	26.1	59.14	44.1
	025 ¹⁾	4.84	79.3	31.46	118.9	30.13	113.9	29.21	110.4	3.35	2.5	39.16	29.2	66.38	49.5
	028 ^{1,2)}	5.42	88.8	35.24	133.2	33.92	128.2	33.28	125.8	3.75	2.8	43.85	32.7	72.95	54.5
031 ^{1,2)}	6.10	100.0	39.68	150.0	38.35	145.0	37.72	142.6	3.75	2.8	48.95	36.5	72.95	54.4	

1) 025-028-031 = 2500 RPM. max.

2) 028-031 = 210 bar (3000 psi) max. int.

VT6CCZ * - B22 - B08 - X R 00 - A 1 - 00 *

Series - SAE B 2 bolts

Mounting flange J744 c

One letter can be added to specify special parts in series

Cam ring for "P1" & "P2"

Volumetric displacement cm³/rev (in³/rev)

*B03/R03 = 10.8 (0.66)	B15/R15 = 50.5 (3.08)
B05/R05 = 17.2 (1.05)	B17/R17 = 58.3 (3.56)
B06/R06 = 21.3 (1.30)	B20/R20 = 63.8 (3.89)
B08/R08 = 26.4 (1.61)	B22/R22 = 70.3 (4.29)
B10/R10 = 34.1 (2.08)	B25/R25 = 79.3 (4.84)
B12/R12 = 37.1 (2.26)	B28/R28 = 88.8 (5.42)
B14/R14 = 46.0 (2.81)	B31/R31 = 100.0 (6.10)

*'B' - for Mobile

'R' - for Mobile - spring assisted

Type of shaft

- X - keyed
- W - keyed
- V - keyed
- S - Splined (DIN 5462)
- Z - Splined

Direction of rotation (view on shaft end)

- R - clockwise
- L - counter-clockwise

Modification

Mounting W/connection variables

code	P1=1" - S=3"		P1=1" - S=2 1/2"	
	P2	1"	3/4"	1"
Unc	00	01	10	11
Metric	0M	W0	1M	W1

- 1) for 46 ml/rev max.
 - 2) for 126 ml/rev max.
- The large cartridge must be always mounted in the front.

Seal class

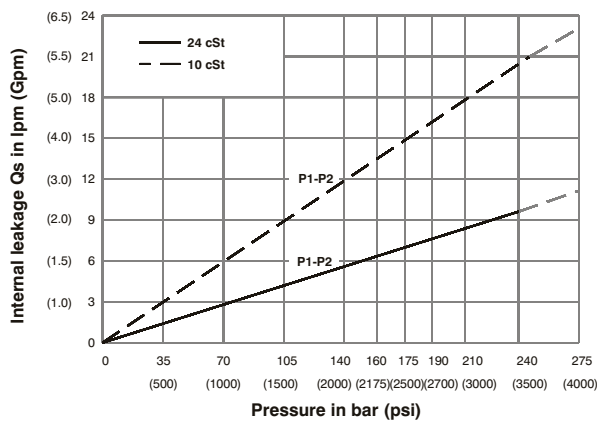
- 1 - S1 (for mineral oil)
- 4 - S4 (for fire resistant fluids)
- 5 - S5 (for mineral oil and fire resistant fluids)

Design letter

Porting combination (see page BM-1-5)

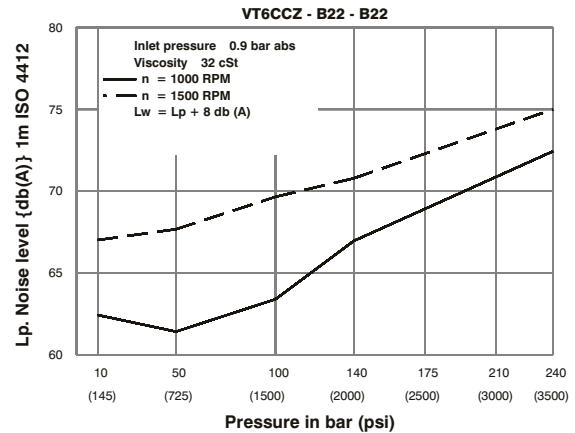
- 00 - standard

INTERNAL LEAKAGE (TYPICAL)



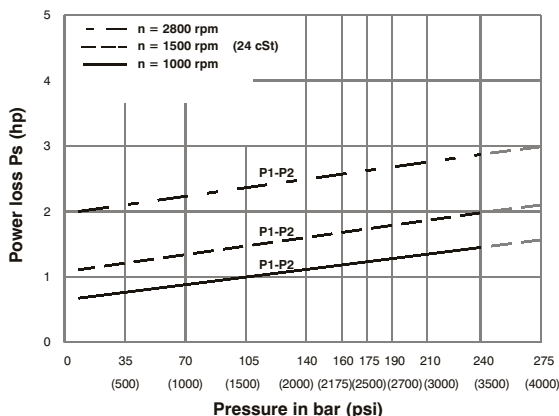
Do not operate pump more than 5 seconds at any speed or viscosity if internal leakage is more than 50% of theoretical flow. Total leakage is the sum of each section loss at its operating conditions.

NOISE LEVEL (TYPICAL)



Double pump noise level is given with each section discharging at the pressure noted on the curve.

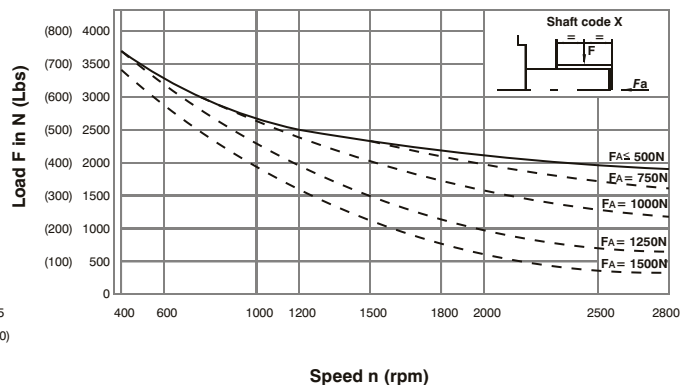
HYDROMECHANICAL POWER LOSS (TYPICAL)



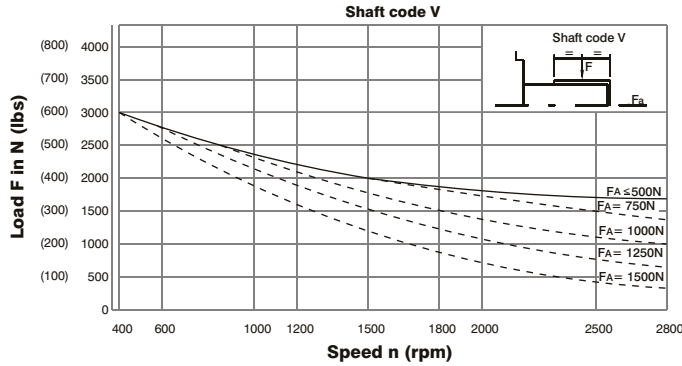
Total hydrodynamic power loss is the sum of each section at its operating conditions.

PERMISSIBLE RADIAL LOAD

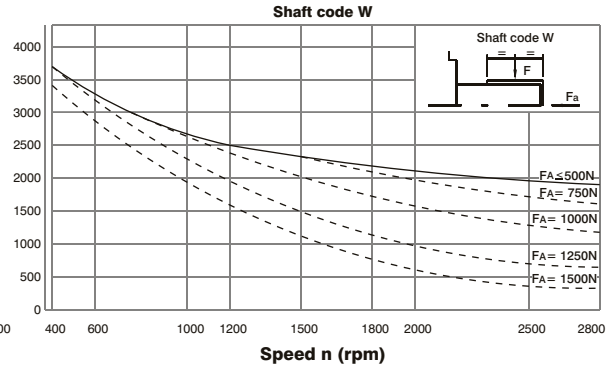
Shaft code X



PERMISSIBLE RADIAL LOAD



PERMISSIBLE RADIAL LOAD



These curves permit to simultaneously check the maximum permissible radial and axial load on the shaft involved. Those load value are determined for 10000 hours bearing lifetime at operating under F_a and F given. To get information for a different lifetime the radial load corrected is.

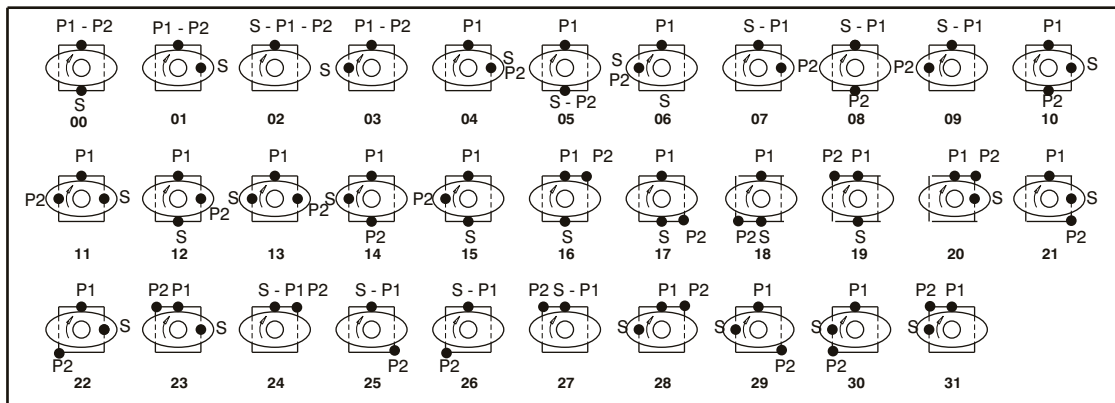
If F_a is smaller than minimum axial force on the curves then

$$\text{Correct } F = \frac{F \text{ curve}}{\left(\frac{LH \text{ Required}}{10000}\right)^{\frac{1}{3.33}}} \quad LH = \text{Lifetime in hours}$$

If F_a is higher than minimum axial force then F radial load is :

$$\text{Correct } F = \frac{F \text{ curve}}{\left(\frac{LH \text{ Required}}{10000}\right)^{\frac{1}{3}}}$$

Porting Diagrams

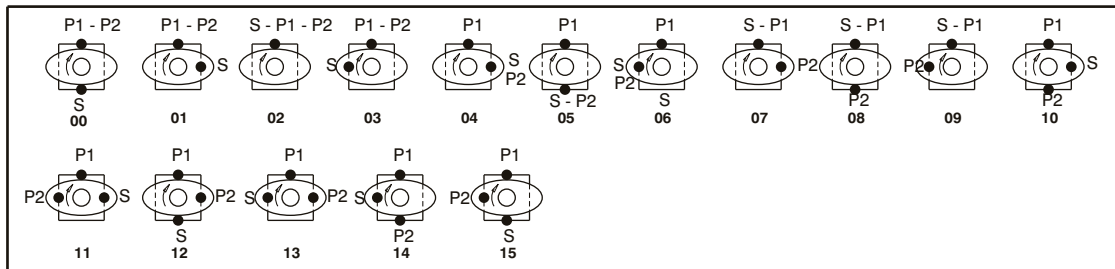


VT6CC/VT6CCM -VT6CCSH-VT6DC/VT6DCM -VT6EC/VT6ECM-VT6CP-VT6GCC

VT7BB/VT7BBS-VT7QCC-VT7DB/VT7DBS-VT7QDC

VT7EB/VT7EBS-VT7QEC

VT67CB-VT67DB-VT67EB-VT67BB-VT67CB-VT67EC

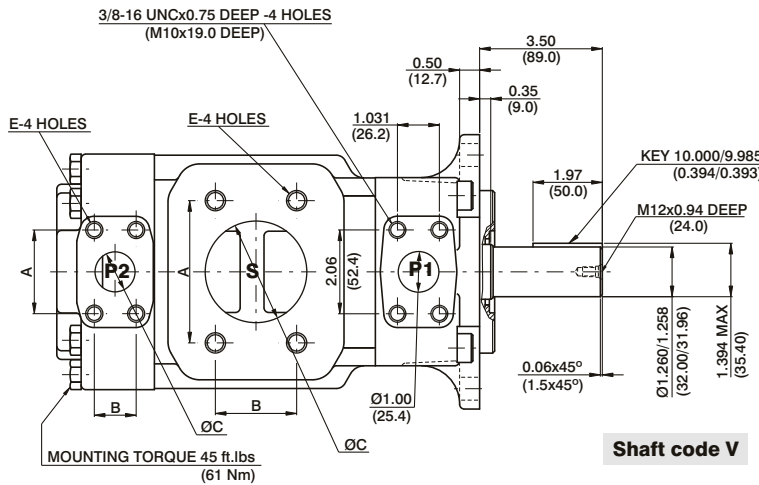


VT6DDS-VT6ED/VT6EDM-VT6EES

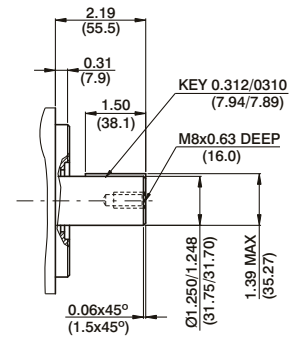
VT7DD/VT7DDS-VT7ED/VT7EDS

VT7EE/VT7EES

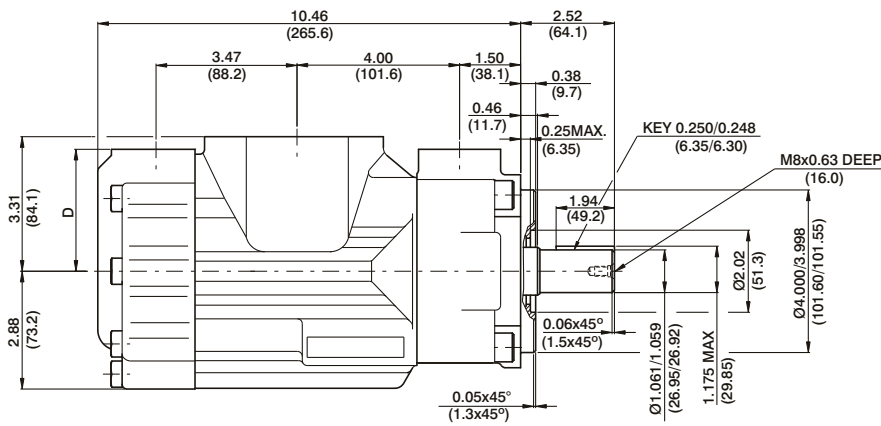
HIGH PERFORMANCE VANE PUMP VT6CCZ



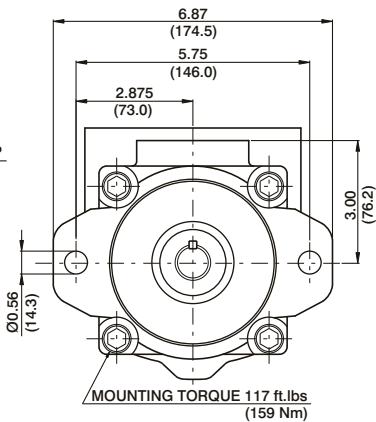
Shaft code V



Shaft code W

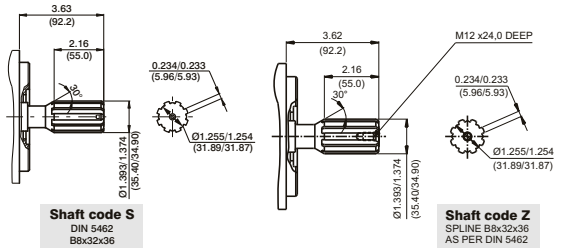


Shaft code X



Shaft torque limits in ³ /rev x psi (ml/rev x bar)	
Shaft	Vp x p max. (P1+P2)
X	22500 (25400)
V	28937 (32670)
W	28937 (32670)

PORT	A	B	C	D	E
S	4.19 (106.4)	2.44 (61.9)	3.00 (76.2)		5/8-11UNCx1.12 DEEP (M16 x 28.4 DEEP)
S	3.50 (88.9)	2.00 (50.8)	2.50 (63.5)		1/2-13UNCx0.94 DEEP (M12 x 24.0 DEEP)
P2	1.874 (47.6)	0.874 (22.2)	0.75 (19.0)	3.00 (76.2)	3/8-16UNCx0.75 DEEP (M10x19.0 DEEP)
P2	2.06 (52.4)	1.03 (26.2)	1.00 (25.4)	2.94 (74.7)	



Shaft code S
DIN 5462
B8x32x36

Shaft code Z
SPLINE B8x32x36
AS PER DIN 5462

OPERATING CHARACTERISTICS - TYPICAL (24 cST) (Input power p (KW) for one cartridge only)

Pressure port	Series	Volumetric Displacement Vp		Flow q & n = 1500 rpm						Input power p & n = 1500 rpm					
		p = 0 bar (0 psi)		p = 140 bar (2000 psi)		p = 240 bar (3500 psi)		p = 7 bar (100 psi)		p = 140 bar (2000 psi)		p = 240 bar (3500 psi)			
		in ³ /rev	cm ³ /rev	gpm	lpm	gpm	lpm	gpm	lpm	hp	kw	hp	kw	hp	kw
P1 & P2	B03	0.66	10.8	4.29	16.2	2.83	10.7	--	--	1.74	1.3	7.11	5.3	--	--
	B05	1.05	17.2	6.83	25.8	5.37	20.3	4.17	15.8	1.88	1.4	10.06	7.5	16.36	12.2
	B06	1.30	21.3	8.44	31.9	7.01	26.5	5.82	22.0	2.01	1.5	11.94	8.9	19.71	14.7
	B08	1.61	26.4	10.48	39.6	9.02	34.1	7.83	29.6	2.15	1.6	14.35	10.7	22.93	17.7
	B10	2.08	34.1	13.52	51.1	12.08	45.7	10.89	41.2	2.28	1.7	18.64	13.4	29.90	22.3
	B12	2.26	37.1	14.71	55.6	13.28	50.2	12.08	45.7	2.28	1.7	19.31	14.4	32.32	24.1
	B14	2.81	46.0	18.25	69.0	16.79	63.5	15.60	59.0	2.55	1.9	23.60	17.6	39.56	29.5
	B15	3.08	50.5	20.00	75.6	18.62	70.4	17.46	66.0	2.68	2.0	25.61	19.1	42.91	32.0
	B17	3.56	58.3	23.12	87.4	21.69	82.0	20.50	77.5	2.82	2.1	29.37	21.9	49.48	36.9
	B20	3.89	63.8	25.32	95.7	23.86	90.2	22.67	85.7	2.95	2.2	31.92	23.8	53.91	40.2
	B22	4.29	70.3	27.88	105.4	26.45	100.0	25.26	95.5	3.08	2.3	35.00	26.1	59.14	44.1
	B25 ¹⁾	4.84	79.3	31.46	118.9	30.02	113.5	28.83	109.0	3.35	2.5	39.16	29.2	66.38	49.5
	B28 ^{1,2)}	5.42	88.8	35.24	133.2	33.78	127.7	32.93	124.5	3.75	2.8	43.85	32.7	65.04	48.5
B31 ^{1,2)}	6.10	100.0	39.68	150.0	38.22	144.5	37.38	141.3	3.75	2.8	48.95	36.5	72.95	54.4	

1) B25-B28-B31 = 2500 R.P.M. max. 2) B28-B31 = 210 bar (3000 psi) max. int.

-- Not to use because internal leakage greater than 50% theoretical flow.

Series VT6DC W - 038 - 022 1 R 00 - B 1 00 *

severe duty shaft only P1 P2

Cam ring for "P1"

Volumetric displacement cm³/rev (in³/rev)

*014/B14 = 47.6 (2.90)	035/B35 = 111.0 (6.77)
017/B17 = 58.2 (3.55)	038/B38 = 120.3 (7.34)
020/B20 = 66.0 (4.03)	042/B42 = 136.0 (8.30)
024/B24 = 79.5 (4.85)	045/B45 = 145.7 (8.89)
028/B28 = 89.7 (5.47)	050/B50 = 158.0 (9.64)
031/B31 = 98.3 (6.00)	061/B61 = 190.5 (11.62)

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

Cam ring for "P2"

Volumetric displacement cm³/rev (in³/rev)

*003/B03/Y03 = 10.8 (0.66)	015/B15/Y15 = 50.5 (3.08)
005/B05/Y05 = 17.2 (1.05)	017/B17/Y17 = 58.3 (3.56)
006/B06/Y06 = 21.3 (1.30)	020/B20/Y20 = 63.8 (3.89)
008/B08/Y08 = 26.4 (1.61)	022/B22/Y22 = 70.3 (4.29)
010/B10/Y10 = 34.1 (2.08)	025/B25/Y25 = 79.3 (4.84)
012/B12/Y12 = 37.1 (2.26)	028/B28/Y28 = 88.8 (5.42)
014/B14/Y14 = 46.0 (2.81)	031/B31/Y31 = 100.0 (6.10)

*'0' - Uni - directional 'B' - Bi - directional 'Y' - Bi - directional for cold start

Modifications

Mounting W/connection variables

	UNC		METRIC	
	00	01	M0	M1
P2	1"	3/4"	1"	3/4"

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 BM-1-5)
00 - standard

Direction of rotation (view on shaft end)

- R - clockwise
- L - counter-clockwise

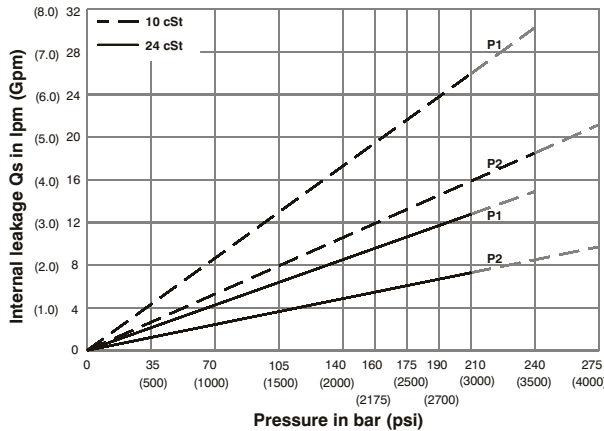
Type of shaft

- 1 - keyed (SAE C)
- 2 - keyed (no SAE)
- 3 - splined (SAE C)
- 4 - splined (no SAE)

Sever duty (VT6DCW only)

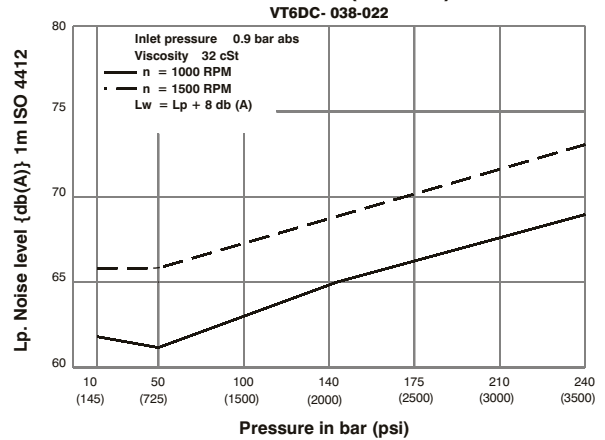
- 5 - keyed (no SAE)

INTERNAL LEAKAGE (TYPICAL)



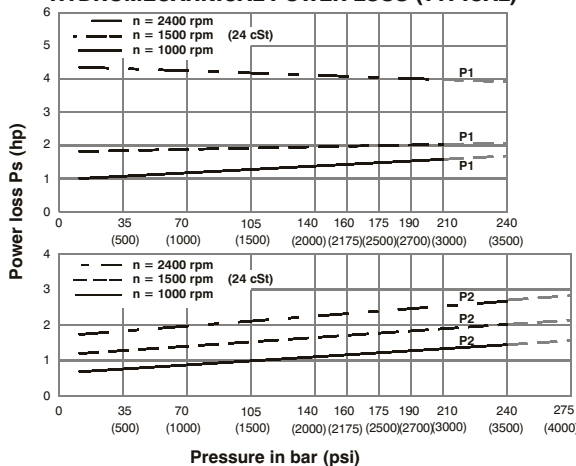
Do not operate pump more than 5 seconds at any speed or viscosity if internal leakage is more than 50% of theoretical flow. Total leakage is the sum of each section loss at its operating conditions.

NOISE LEVEL (TYPICAL)



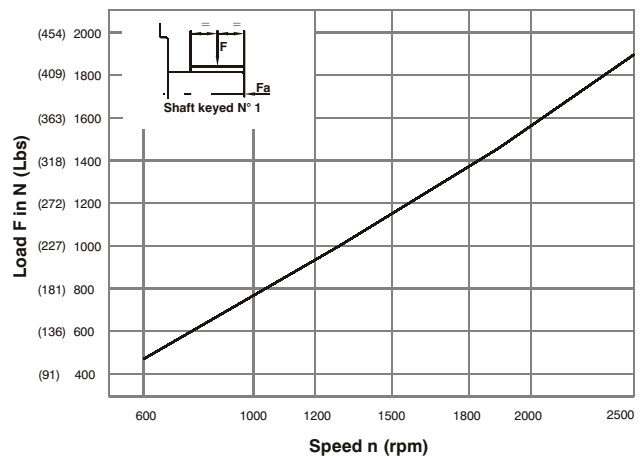
Double pump noise level is given with each section discharging at the pressure noted on the curve.

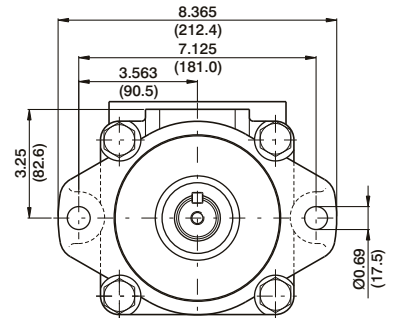
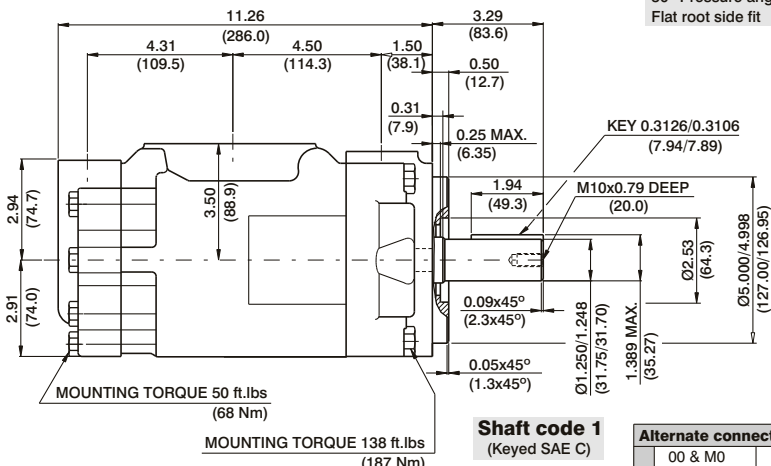
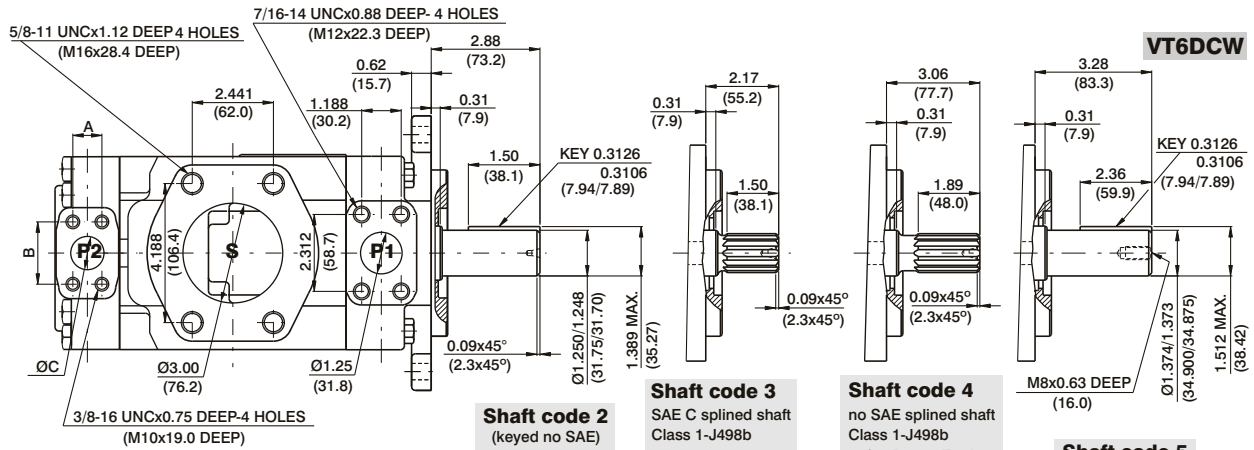
HYDROMECHANICAL POWER LOSS (TYPICAL)



Total hydromechanical power loss is the sum of each section at its operating conditions.

PERMISSIBLE RADIAL LOAD





Shaft code 3
SAE C splined shaft
Class 1-J498b
12/24 Dp. 14 Teeth
30° Pressure angle
Flat root side fit

Shaft code 4
no SAE splined shaft
Class 1-J498b
12/24 Dp. 14 Teeth
30° Pressure angle
Flat root side fit

Shaft code 5
(keyed no SAE)

Shaft torque limits in³/revxpsi(ml/revxbar)

Shaft	Vp x p max. (P1+P2)
1	38299 (43240)
2	30638 (34590)
3	54207 (61200)
4	54207 (61200)
5	49247 (55600)

Alternate connect.variables

	00 & M0	01 & M1
A	1.031 (26.2)	0.874 (22.2)
B	2.06 (52.4)	1.874 (47.6)
C	1.00 (25.4)	0.75 (19.05)

OPERATING CHARACTERISTICS - TYPICAL (24 cST) (Input power p (KW) for one cartridge only)

Pressure port	Series	Volumetric Displacement Vp		Flow q & n = 1500 rpm						Input power p & n = 1500 rpm							
		in ³ /rev		cm ³ /rev		p = 0 bar (0 psi)		p = 140 bar (2000 psi)		p = 240 bar (3500 psi)		p = 7 bar (100 psi)		p = 140 bar (2000 psi)		p = 240 bar (3500 psi)	
		in ³ /rev	cm ³ /rev	gpm	lpm	gpm	lpm	gpm	lpm	hp	kw	hp	kw	hp	kw		
P1	014	2.90	47.6	18.88	71.4	16.42	62.1	14.78	55.9	3.08	2.3	24.81	18.5	41.03	30.6		
	017	3.55	58.2	23.1	87.3	20.6	78.0	18.99	71.8	3.35	2.5	29.77	22.2	49.62	37.0		
	020	4.00	66.0	26.19	99.0	23.73	89.7	22.08	83.5	3.75	2.8	33.39	24.9	55.92	41.7		
	024	4.80	79.5	31.56	119.3	29.10	110.0	27.46	103.8	4.02	3.0	39.69	29.6	66.78	49.8		
	028	5.50	89.7	35.58	134.5	33.12	125.2	31.48	119.0	4.29	3.2	44.52	33.2	74.96	55.9		
	031	6.00	98.3	39.00	147.5	36.53	138.1	34.89	131.9	4.42	3.3	48.54	36.2	81.80	61.0		
	035	6.80	111.0	44.04	166.5	41.58	157.2	39.94	151.0	4.69	3.5	54.58	40.7	92.13	68.7		
	038	7.30	120.3	47.72	180.4	45.26	171.1	43.62	164.9	4.96	3.7	58.87	43.9	99.64	74.3		
	042 ¹⁾	8.30	136.0	53.96	204.0	51.50	194.7	49.86	188.5	5.36	4.0	66.25	49.4	112.24	83.7		
	045 ¹⁾	8.89	145.7	57.80	218.5	55.34	209.2	53.70	203.0	5.50	4.1	70.81	52.8	120.02	89.5		
	050 ^{1,2)}	9.64	158.0	62.69	237.0	60.23	227.7	59.25	224.0	5.90	4.4	76.44	57.0	113.98	85.0		
	061 ^{1,3)}	11.62	190.5	76.25	285.7	73.54	278.0	--	--	6.16	4.6	81.26	60.6	--	--		
P2	003	0.66	10.8	4.29	16.2	2.96	11.2	2.04	7.7	1.74	1.3	7.11	5.3	11.22	8.4		
	005	1.05	17.2	6.83	25.8	5.50	20.8	4.57	17.3	1.88	1.4	10.06	7.5	16.36	12.2		
	006	1.30	21.3	8.44	31.9	7.11	26.9	6.19	23.4	2.01	1.5	11.94	8.9	19.71	14.7		
	008	1.61	26.4	10.48	39.6	9.15	34.6	8.22	31.1	2.15	1.6	14.35	10.7	22.93	17.7		
	010	2.08	34.1	13.52	51.1	12.19	46.1	11.26	42.6	2.28	1.7	18.64	13.4	29.90	22.3		
	012	2.26	37.1	14.71	55.6	13.36	50.6	12.46	47.1	2.28	1.7	19.31	14.4	32.32	24.1		
	014	2.81	46.0	18.25	69.0	16.93	64.0	16.00	60.5	2.55	1.9	23.60	17.6	39.56	29.5		
	015	3.08	50.5	20.00	75.6	18.73	73.2	19.02	67.5	2.68	2.0	25.61	19.1	42.91	32.0		
	017	3.56	58.3	23.12	87.4	21.79	82.4	20.87	78.9	2.82	2.1	29.37	21.9	49.48	36.9		
	020	3.89	63.8	25.32	95.7	23.99	90.7	23.07	87.2	2.95	2.2	31.92	23.8	53.91	40.2		
	022	4.29	70.3	27.88	105.4	26.56	100.4	25.63	96.9	3.08	2.3	35.00	26.1	59.14	44.1		
	025	4.84	79.3	31.46	118.9	30.13	113.9	29.21	110.4	3.35	2.5	39.16	29.2	66.38	49.5		
	028 ²⁾	5.42	88.8	35.24	133.2	33.92	128.2	33.28	125.8	3.75	2.8	43.85	32.7	75.04	56.5		
	031 ²⁾	6.10	100.0	39.68	150.0	38.35	145.0	37.72	142.6	3.75	2.8	48.95	36.5	82.95	63.4		

1) 042-045-050-061 = 2200 RPM max. 2) 028-031-050 = 210 bar (3000 psi) max. int. 3) 061 = 120 bar (1740 psi) max. int. 061 = 80 bar (1160 psi) cont.

VT6DC * W - B38 - B22 1 R 00 - C 1 00 *

Series

- M= Mobile 1 shaft seal
- P= Mobile 2 shaft seal

severe duty shaft only

Cam ring for "P1"

Volumetric displacement cm³/rev (in³/rev)

*B14/R14 = 47.6 (2.90)	B35/R35 = 110.0 (6.77)
B17/R17 = 58.2 (3.55)	B38/R38 = 120.3 (7.34)
B20/R20 = 66.0 (4.03)	B42/R42 = 136.0 (8.30)
B24/R24 = 79.5 (4.85)	B45/R45 = 145.7 (8.80)
B28/R28 = 89.7 (5.47)	B50/R50 = 158.0 (9.64)
B31/R31 = 98.3 (6.00)	B61/R61 = 190.5 (11.62)

*'B' - for Mobile 'R' - for Mobile - spring assisted

Cam ring for "P2"

Volumetric displacement cm³/rev (in³/rev)

*B03/R03 = 10.8 (0.66)	B15/R15 = 50.5 (3.08)
B05/R05 = 17.2 (1.05)	B17/R17 = 58.3 (3.56)
B06/R06 = 21.3 (1.30)	B20/R20 = 63.8 (3.89)
B08/R08 = 26.4 (1.61)	B22/R22 = 70.3 (4.29)
B10/R10 = 34.1 (2.08)	B25/R25 = 79.3 (4.84)
B12/R12 = 37.1 (2.26)	B28/R28 = 88.8 (5.42)
B14/R14 = 46.0 (2.81)	B31/R31 = 100.0 (6.10)

*'B' - for Mobile 'R' - for Mobile - spring assisted

Modifications

Mounting W/connection variables

P2	UNC		METRIC	
	00	01	M0	M1
	1"	3/4"	1"	3/4"

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 BM-1-5)

00 - standard

Direction of rotation (view on shaft end)

- R - clockwise
- L - counter-clockwise

Type of shaft P version

3 - Splined (no SAE)

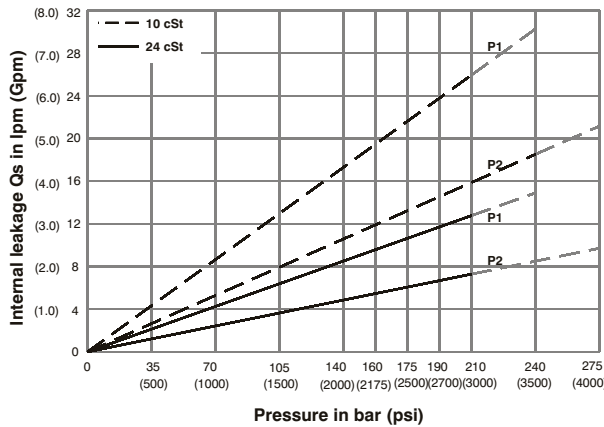
MW severe duty

- 5 - keyed (no SAE)
- T - Splined (SAE J718c)
- V - keyed

Type of shaft

- 1 - keyed (SAE C)
- 2 - keyed (no SAE)
- 3 - splined (SAE C)
- 4 - splined (no SAE)

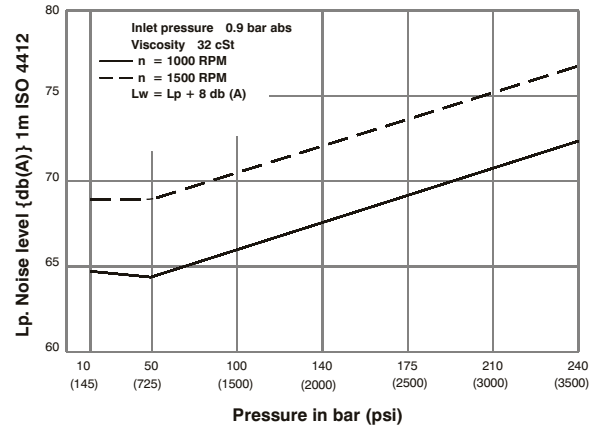
INTERNAL LEAKAGE (TYPICAL)



Do not operate pump more than 5 seconds at any speed or viscosity if internal leakage is more than 50% of theoretical flow. Total leakage is the sum of each section loss at its operating conditions.

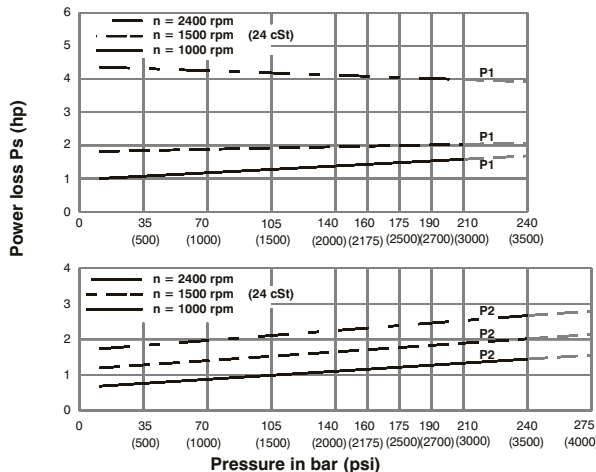
NOISE LEVEL (TYPICAL)

VT6DCM- B38-B22



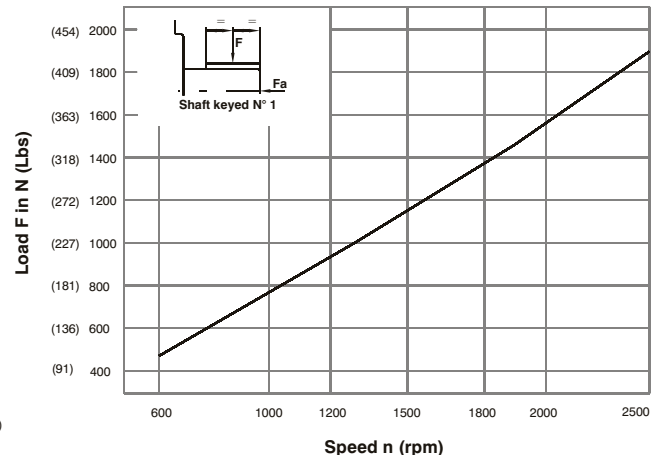
Double pump noise level is given with each section discharging at the pressure noted on the curve.

HYDROMECHANICAL POWER LOSS (TYPICAL)



Total hydromechanical power loss is the sum of each section at its operating conditions.

PERMISSIBLE RADIAL LOAD



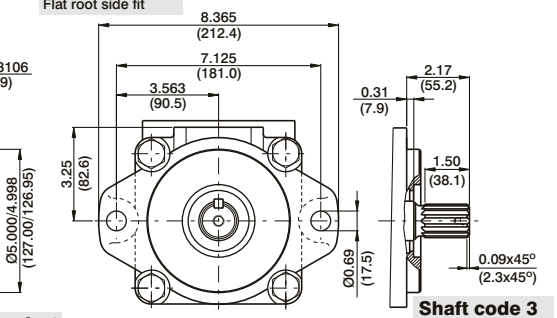
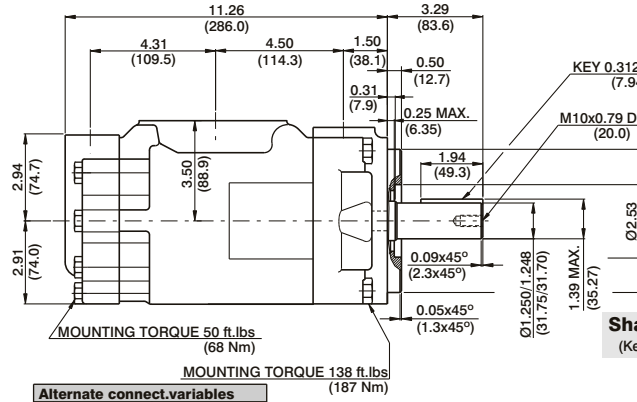
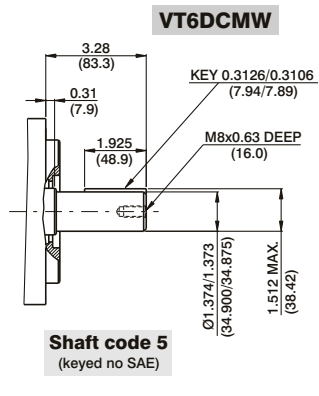
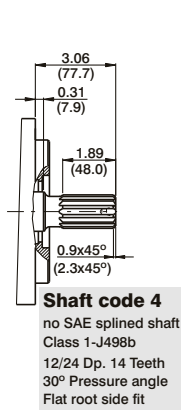
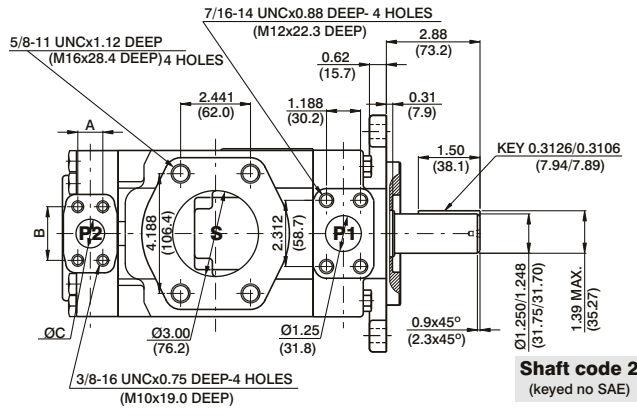
Maximum permissible axial load Fa = 1200 N (270 Lbs)



HIGH PERFORMANCE VANE PUMP VT6DCM



DP



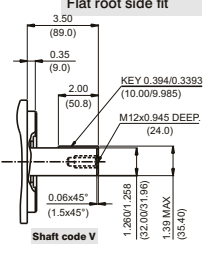
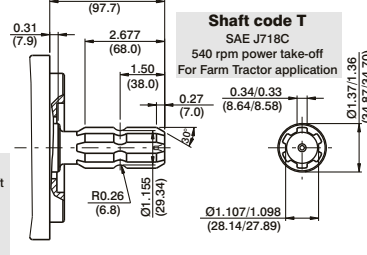
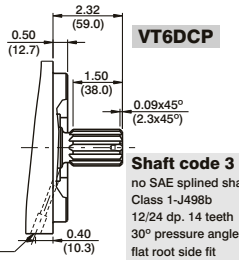
Alternate connect.variables

	00 & M0	01 & M1
A	1.03 (26.2)	0.874 (22.2)
B	2.06 (52.4)	1.874 (47.6)
C	1.00 (25.4)	0.75 (19.05)

Shaft torque limits in³/revxpsi(ml/revxbar)

Shaft	Vp x p max. (P1+P2)
1	38299 (43240)
2	30638 (34590)
3,4	54207 (61200)
5	49247 (55600)
T	58990 (66600)

Drain hole between double shaft seals



OPERATING CHARACTERISTICS - TYPICAL (24 cST) (Input power p (KW) for one cartridge only)

Pressure port	Series	Volumetric Displacement Vp		Flow q & n = 1500 rpm						Input power p & n = 1500 rpm					
		p = 0 bar (0 psi)		p = 140 bar (2000 psi)		p = 240 bar (3500 psi)		p = 7 bar (100 psi)		p = 140 bar (2000 psi)		p = 240 bar (3500 psi)			
		in ³ /rev	cm ³ /rev	gpm	lpm	gpm	lpm	gpm	lpm	hp	kw	hp	kw	hp	kw
P1	B14	2.90	47.6	18.88	71.4	16.42	62.1	14.78	55.9	3.08	2.3	24.81	18.5	41.03	30.6
	B17	3.55	58.2	23.1	87.3	20.6	78.0	18.99	71.8	3.35	2.5	29.77	22.2	49.62	37.0
	B20	4.00	66.0	26.19	99.0	23.73	89.7	22.08	83.5	3.75	2.8	33.39	24.9	55.92	41.7
	B24	4.80	79.5	31.56	119.3	29.10	110.0	27.46	103.8	4.02	3.0	39.69	29.6	66.78	49.8
	B28	5.50	89.7	35.58	134.5	33.12	125.2	31.48	119.0	4.29	3.2	44.52	33.2	74.96	55.9
	B31	6.00	98.3	39.00	147.5	36.53	138.1	34.89	131.9	4.42	3.3	48.54	36.2	81.80	61.0
	B35	6.80	111.0	44.04	166.5	41.58	157.2	39.94	151.0	4.69	3.5	54.58	40.7	92.13	68.7
	B38	7.30	120.3	47.72	180.4	45.26	171.1	43.62	164.9	4.96	3.7	58.87	43.9	99.64	74.3
	B42 ¹⁾	8.30	136.0	53.96	204.0	51.50	194.7	49.86	188.5	5.36	4.0	66.25	49.4	112.24	83.7
	B45 ¹⁾	8.89	145.7	57.80	218.5	55.34	209.2	53.70	203.0	5.50	4.1	70.81	52.8	120.02	89.5
	B50 ^{1,2)}	9.64	158.0	62.69	237.0	60.23	227.7	59.25	224.0	5.90	4.4	76.44	57.0	113.98	85.0
	B61 ^{1,3)}	11.62	190.5	76.25	285.7	73.54	278.0	--	--	6.16	4.6	81.26	60.6	--	--
P2	B03	0.66	10.8	4.29	16.2	2.83	10.7	--	--	1.74	1.3	7.11	5.3	--	--
	B05	1.05	17.2	6.83	25.8	5.37	20.3	4.17	15.8	1.88	1.4	10.06	7.5	16.36	12.2
	B06	1.30	21.3	8.44	31.9	7.01	26.5	5.82	22.0	2.01	1.5	11.94	8.9	19.71	14.7
	B08	1.61	26.4	10.48	39.6	9.02	34.1	7.83	29.6	2.15	1.6	14.35	10.7	22.93	17.7
	B10	2.08	34.1	13.52	51.1	12.08	45.7	10.89	41.2	2.28	1.7	18.64	13.4	29.90	22.3
	B12	2.26	37.1	14.71	55.6	13.28	50.2	12.08	45.7	2.28	1.7	19.31	14.4	32.32	24.1
	B14	2.81	46.0	18.25	69.0	16.79	63.5	15.60	59.0	2.55	1.9	23.60	17.6	39.56	29.5
	B15	3.08	50.5	20.00	75.6	18.62	70.4	17.46	66.0	2.68	2.0	25.61	19.1	42.91	32.0
	B17	3.56	58.3	23.12	87.4	21.69	82.0	20.50	77.5	2.82	2.1	29.37	21.9	49.48	36.9
	B20	3.89	63.8	25.32	95.7	23.86	90.2	22.67	85.7	2.95	2.2	31.92	23.8	53.91	40.2
	B22	4.29	70.3	27.88	105.4	26.45	100.0	25.26	95.5	3.08	2.3	35.00	26.1	59.14	44.1
	B25	4.84	79.3	31.46	118.9	30.02	113.5	28.83	109.0	3.35	2.5	39.16	29.2	66.38	49.5
B28 ³⁾	5.42	88.8	35.24	133.2	33.78	127.7	32.93	124.5	3.75	2.8	43.85	32.7	65.04	48.5	
B31 ³⁾	6.10	100.0	39.68	150.0	38.22	144.5	37.38	141.3	3.75	2.8	48.95	36.5	72.95	54.4	

1) B42-B45-B50-B61=2200 RPM max. 2) B28-B31- B50=210 bar (3000 psi) max. int. 3) B61 = 120 bar (1740 psi) max. int, B61 = 80 bar (1160 psi) cont.

VT6DDS - 038 - 028 - 1 R 00 - A 1 - 00 *

Series - SAE C 6 bolts
Mounting flange J744c

Cam ring for "P1" & "P2"

Volumetric displacement cm³/rev (in³/rev)

*014/B14 = 47.6 (2.90)	035/B35 = 111.0 (6.77)
017/B17 = 58.2 (3.55)	038/B38 = 120.3 (7.34)
020/B20 = 66.0 (4.03)	042/B42 = 136.0 (8.30)
024/B24 = 79.5 (4.85)	045/B45 = 145.7 (8.89)
028/B28 = 89.7 (5.47)	050/B50 = 158.0 (9.64)
031/B31 = 98.3 (6.00)	061/B61 = 190.5 (11.62)

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

Type of Shaft

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

Modifications

Mounting W/connection variables
SAE 4 bolt flange (J518c)

VT6DDS	P1 & P2=1-1/4"	S=4"
	UNC	METRIC
	00	M0

Seal class

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

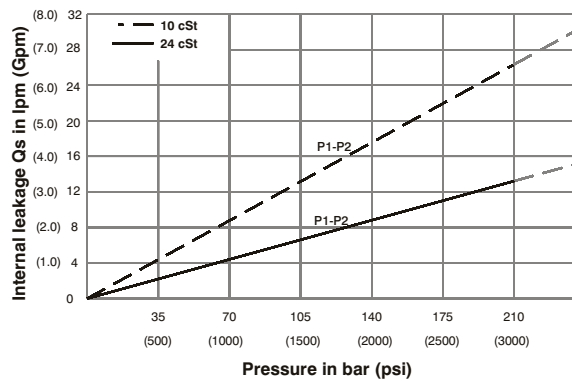
Design letter

Porting combination (see page BM-1-5)
(00 = Standard)

Direction of rotation
(view on shaft end)

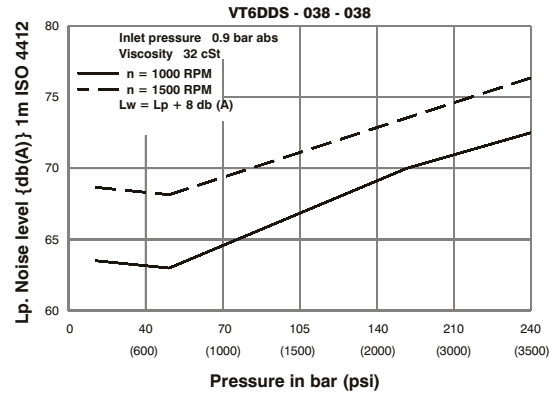
- R - Clockwise
- L - Counter - clockwise

INTERNAL LEAKAGE (TYPICAL)



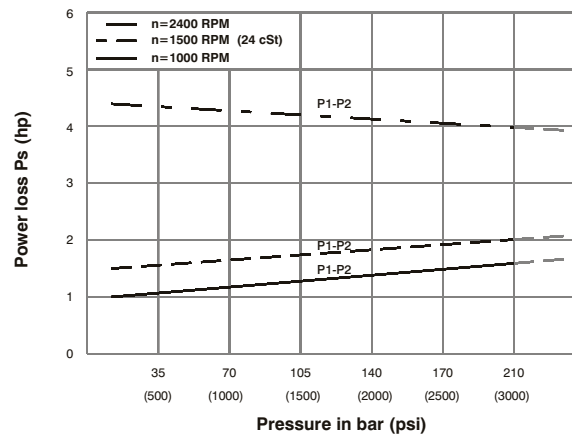
Do not operate pump more than 5 seconds at any speed or viscosity if internal leakage is more than 50% of theoretical flow. Total leakage is the sum of each section loss at its operating conditions.

NOISE LEVEL (TYPICAL)



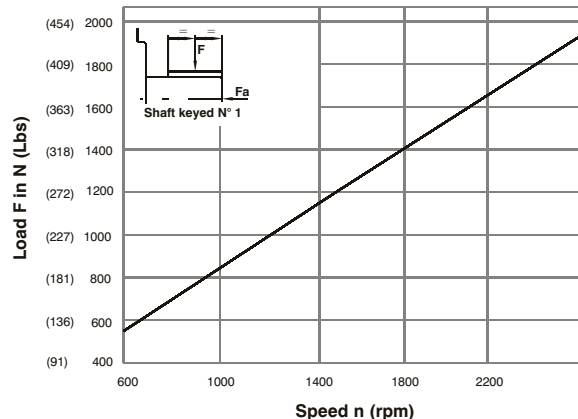
Double pump noise level is given with each section discharging at the pressure noted on the curve.

HYDROMECHANICAL POER LOSS (TYPICAL)



Total hydromechanical power loss is the sum of each section at its operating conditions.

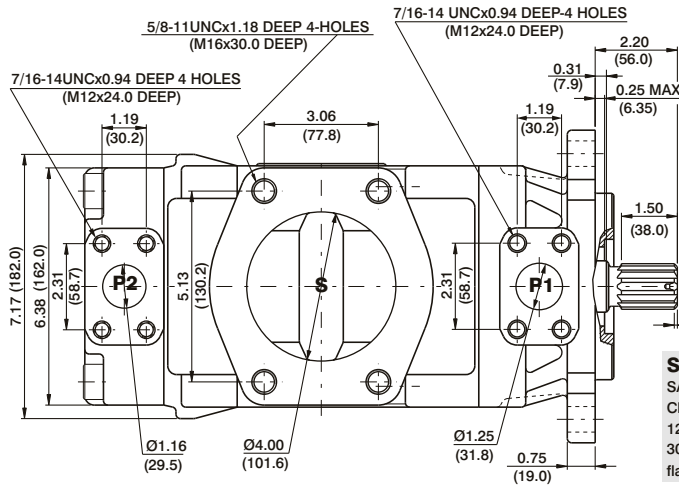
PERMISSIBLE RADIAL LOAD



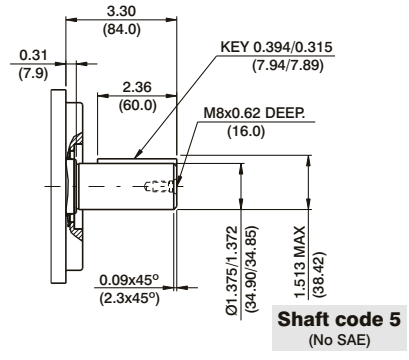
Maximum permissible axial load Fa = 1200 N (270 Lbs)



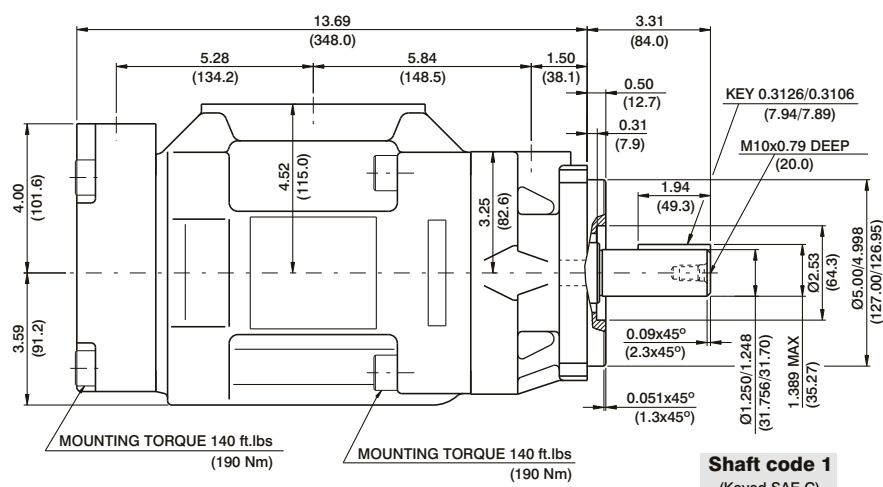
DP



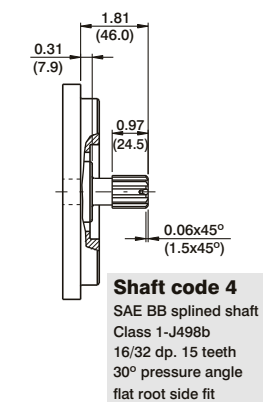
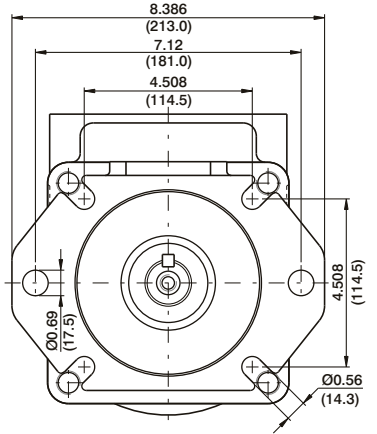
Shaft code 3
SAE C splined shaft
Class 1-J498b
12/24 dp. 14 teeth
30° pressure angle
flat root side fit



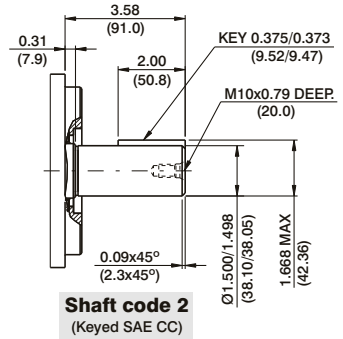
Shaft code 5
(No SAE)



Shaft code 1
(Keyed SAE C)



Shaft code 4
SAE BB splined shaft
Class 1-J498b
16/32 dp. 15 teeth
30° pressure angle
flat root side fit



Shaft code 2
(Keyed SAE CC)

Shaft torque limits in ³ /rev x psi (ml/rev x bar)	
Shaft	Vp x p max. (P1+P2)
1	38299 (43240)
3	54152 (61200)
4	31780 (35880)
5	40035 (55600)

OPERATING CHARACTERISTICS - TYPICAL (24 cST) (Input power p (KW) for one cartridge only)

Pressure port	Series	Volumetric Displacement Vp		Flow q & n = 1500 rpm						Input power p & n = 1500 rpm					
		p = 0 bar (0 psi)		p = 140 bar (2000 psi)		p = 240 bar (3500 psi)		p = 7 bar (100 psi)		p = 140 bar (2000 psi)		p = 240 bar (3500 psi)			
		in ³ /rev	cm ³ /rev	gpm	lpm	gpm	lpm	gpm	lpm	hp	kw	hp	kw		
P1 & P2	014	2.90	47.6	18.88	71.4	16.42	62.1	14.78	55.9	3.08	2.3	24.81	18.5	41.03	30.6
	017	3.55	58.2	23.1	87.3	20.6	78.0	18.99	71.8	3.35	2.5	29.77	22.2	49.62	37.0
	020	4.00	66.0	26.19	99.0	23.73	89.7	22.08	83.5	3.75	2.8	33.39	24.9	55.92	41.7
	024	4.80	79.5	31.56	119.3	29.10	110.0	27.46	103.8	4.02	3.0	39.69	29.6	66.78	49.8
	028	5.50	89.7	35.58	134.5	33.12	125.2	31.48	119.0	4.29	3.2	44.52	33.2	74.96	55.9
	031	6.00	98.3	39.00	147.5	36.53	138.1	34.89	131.9	4.42	3.3	48.54	36.2	81.80	61.0
	035	6.80	111.0	44.04	166.5	41.58	157.2	39.94	151.0	4.69	3.5	54.58	40.7	92.13	68.7
	038	7.30	120.3	47.72	180.4	45.26	171.1	43.62	164.9	4.96	3.7	58.87	43.9	99.64	74.3
	042 ¹⁾	8.30	136.0	53.96	204.0	51.50	194.7	49.86	188.5	5.36	4.0	66.25	49.4	112.24	83.7
	045 ¹⁾	8.89	145.7	57.80	218.5	55.34	209.2	53.70	203.0	5.50	4.1	70.81	52.8	120.02	89.5
	050 ^{1,2)}	9.64	158.0	62.69	237.0	60.23	227.7	59.25	224.0	5.90	4.4	76.44	57.0	113.98	85.0
	061 ^{1,3)}	11.62	190.5	76.25	285.7	73.54	278.0	--	--	6.16	4.6	81.26	60.6	--	--

1) 042-045-050-061=2200 RPM max.

2) 050=210 bar (3000 psi) max.

3) 061 = 120 bar (1740 psi) max. int. 061 = 80 bar (1160 psi) cont.

Series **VT6EC * - 066 - 022 1 R 00 - B 1 -**

Y- Metric port connection, Omit for UNC

Cam ring for "P1"

042 = 132.3 (8.07)	062 = 196.7 (12.00)
045 = 142.4 (8.69)	066 = 213.3 (13.02)
050 = 158.5 (9.67)	072 = 227.1 (13.86)
052 = 164.8 (10.06)	085 = 269.8 (16.46)
057 = 180.7 (11.02)	

Cam ring for "P2"

*003/B03/Y03 = 10.8 (0.66)	015/B15/Y15 = 50.5 (3.08)
005/B05/Y05 = 17.2 (1.05)	017/B17/Y17 = 58.3 (3.56)
006/B06/Y06 = 21.3 (1.30)	020/B20/Y20 = 63.8 (3.89)
008/B08/Y08 = 26.4 (1.61)	022/B22/Y22 = 70.3 (4.29)
010/B10/Y10 = 34.1 (2.08)	025/B25/Y25 = 79.3 (4.84)
012/B12/Y12 = 37.1 (2.26)	028/B28/Y28 = 88.8 (5.42)
014/B14/Y14 = 46.0 (2.81)	031/B31/Y31 = 100.0 (6.10)

*'0'- Uni - directional 'B' - Bi - directional 'Y' - Bi - directional for cold start

Modifications

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 BM-1-5)
00 - standard

Direction of rotation (view on shaft end)

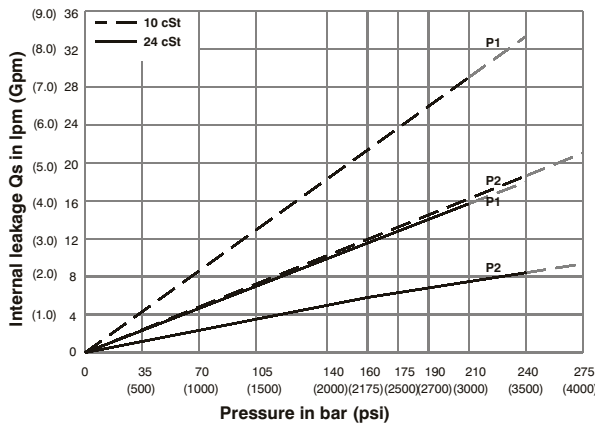
- R - clockwise
- L - counter-clockwise

Type of shaft

- 1 - keyed (SAE CC)
- 2 - keyed (no SAE)
- 3 - splined (SAE C)
- 4 - splined (SAE CC)

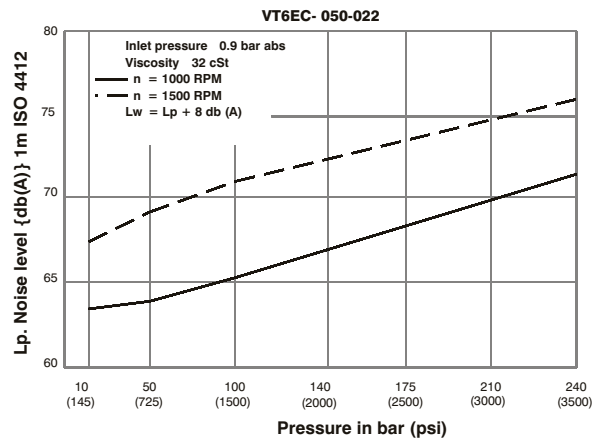


INTERNAL LEAKAGE (TYPICAL)



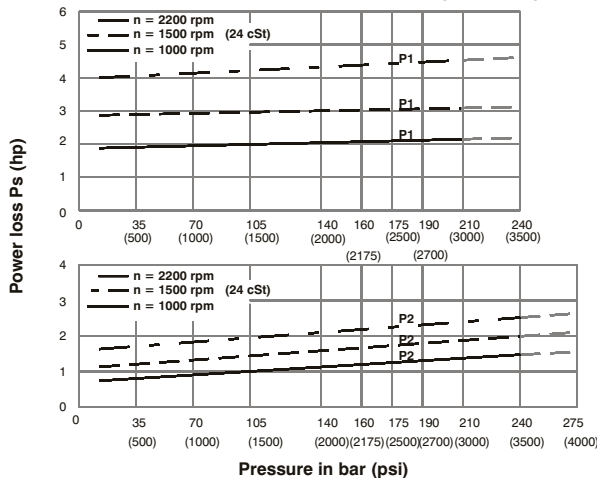
Do not operate pump more than 5 seconds at any speed or viscosity if internal leakage is more than 50% of theoretical flow. Total leakage is the sum of each section loss at its operating conditions.

NOISE LEVEL (TYPICAL)



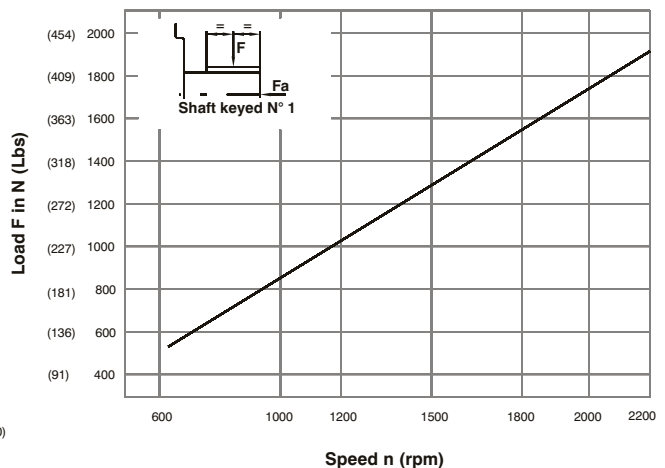
Double pump noise level is given with each section discharging at the pressure noted on the curve.

HYDROMECHANICAL POWER LOSS (TYPICAL)



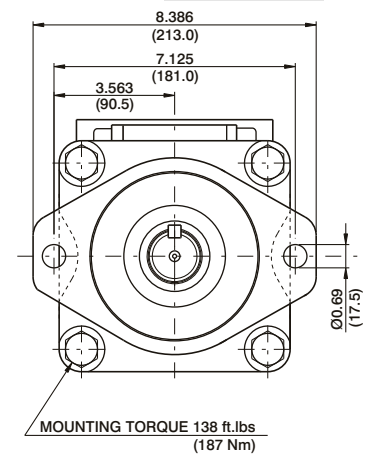
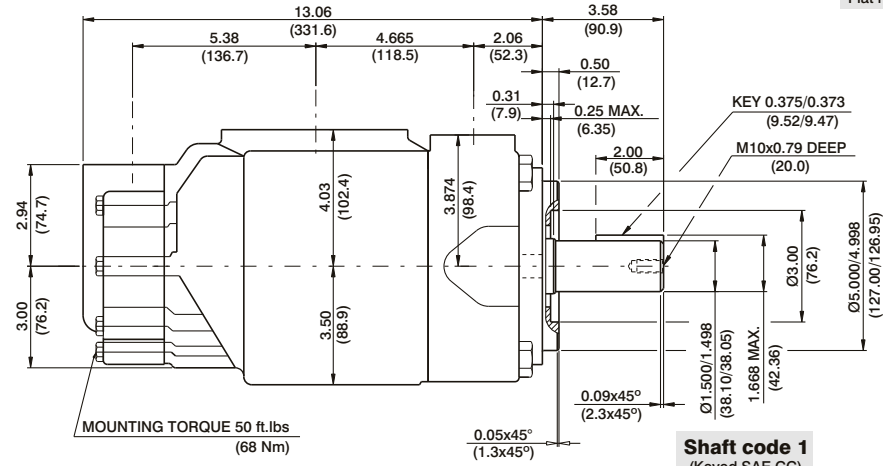
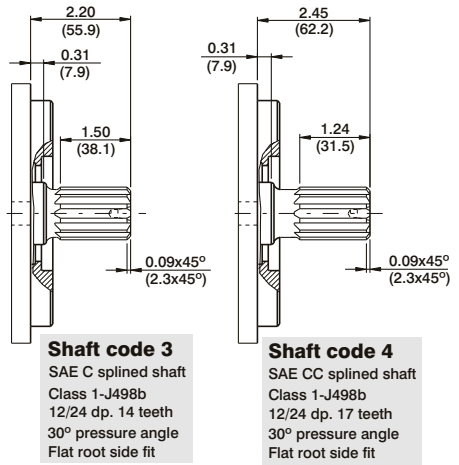
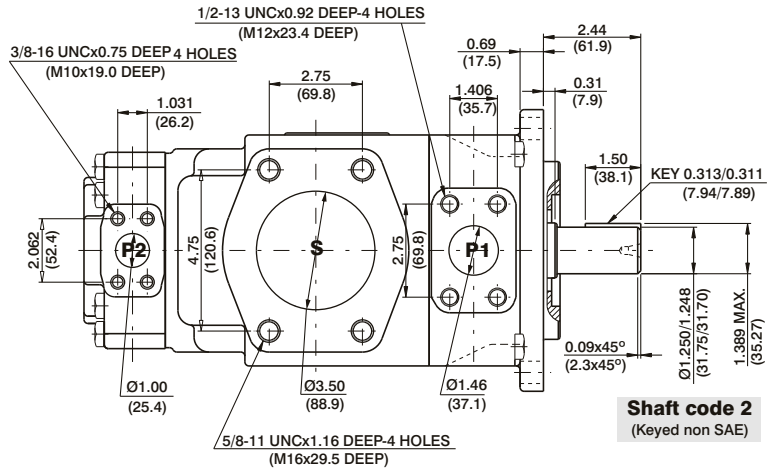
Total hydromechanical power loss is the sum of each section at its operating conditions.

PERMISSIBLE RADIAL LOAD



Maximum permissible axial load $F_a = 2000 \text{ N (449 Lbs)}$

DP



Shaft	Vp x p max. (P1+P2)
1	64044 (72306)
2	30638 (34590)
3	54207 (61200)
4	67582 (76376)

OPERATING CHARACTERISTICS - TYPICAL (24 cST) (Input power p (KW) for one cartridge only)

Pressure port	Series	Volumetric Displacement Vp		Flow q & n = 1500 rpm						Input power p & n = 1500 rpm					
		in ³ /rev	cm ³ /rev	p = 0 bar (0 psi)		p = 140 bar (2000 psi)		p = 240 bar (3500 psi)		p = 7 bar (100 psi)		p = 140 bar (2000 psi)		p = 240 bar (3500 psi)	
				gpm	lpm	gpm	lpm	gpm	lpm	hp	kw	hp	kw	hp	kw
P1	042	8.07	132.3	52.50	198.5	49.87	188.5	47.96	181.3	6.97	5.2	66.25	49.4	110.77	82.6
	045	8.70	142.4	56.51	213.6	53.86	203.6	51.98	196.5	7.24	5.4	70.94	52.9	118.95	88.7
	050	9.67	158.5	62.88	237.7	60.24	227.7	58.36	220.6	7.64	5.7	78.45	58.5	131.82	98.3
	052	10.00	164.8	65.40	247.2	62.75	237.2	60.87	230.1	7.78	5.8	81.53	60.8	136.92	102.1
	057	11.02	180.7	71.71	271.1	69.07	261.1	67.19	254.0	8.18	6.1	89.04	66.4	143.35	106.9
	062	12.00	196.7	78.04	295.0	75.40	285.0	73.52	277.9	8.58	6.4	96.42	71.9	162.67	121.3
	066	13.00	213.3	84.63	319.9	81.98	309.9	80.11	302.8	8.98	6.7	104.20	77.7	175.94	131.2
	072	13.86	227.1	90.11	340.6	87.46	330.6	85.58	323.5	9.25	6.9	110.77	82.6	187.07	139.5
	085 ^{1,2)}	16.40	269.8	107.00	404.7	105.21	397.7	--	--	9.78	7.3	87.56	65.3	--	--
P2	003	0.66	10.8	4.29	16.2	2.96	11.2	2.04	7.7	1.74	1.3	7.11	5.3	11.22	8.4
	005	1.05	17.2	6.83	25.8	5.50	20.8	4.57	17.3	1.88	1.4	10.06	7.5	16.36	12.2
	006	1.30	21.3	8.44	31.9	7.11	26.9	6.19	23.4	2.01	1.5	11.94	8.9	19.71	14.7
	008	1.61	26.4	10.48	39.6	9.15	34.6	8.22	31.1	2.15	1.6	14.35	10.7	22.93	17.7
	010	2.08	34.1	13.52	51.1	12.19	46.1	11.26	42.6	2.28	1.7	18.64	13.4	29.90	22.3
	012	2.26	37.1	14.71	55.6	13.36	50.6	12.46	47.1	2.28	1.7	19.31	14.4	32.32	24.1
	014	2.81	46.0	18.25	69.0	16.93	64.0	16.00	60.5	2.55	1.9	23.60	17.6	39.56	29.5
	015	3.08	50.5	20.00	75.6	18.73	73.2	19.02	67.5	2.68	2.0	25.61	19.1	42.91	32.0
	017	3.56	58.3	23.12	87.4	21.79	82.4	20.87	78.9	2.82	2.1	29.37	21.9	49.48	36.9
	020	3.89	63.8	25.32	95.7	23.99	90.7	23.07	87.2	2.95	2.2	31.92	23.8	53.91	40.2
	022	4.29	70.3	27.88	105.4	26.56	100.4	25.63	96.9	3.08	2.3	35.00	26.1	59.14	44.1
	025	4.84	79.3	31.46	118.9	30.13	113.9	29.21	110.4	3.35	2.5	39.16	29.2	66.38	49.5
	028 ³⁾	5.42	88.8	35.24	133.2	33.92	128.2	33.28	125.8	3.75	2.8	43.85	32.7	65.04	48.5
	031 ³⁾	6.10	100.0	39.68	150.0	38.35	145.0	37.72	142.6	3.75	2.8	48.95	36.5	72.95	54.4

1) 085 = 2000 RPM max.

2) 085 = 75 bar (1100 psi) cont. 085 = 90 bar (1300 psi) max. int.

3) 028-031 = 210 bar (3000 psi) max. int.

VT6EC * Y - 066 - B22 1 R 00 - C 1 *

Series

- M= Mobile 1 shaft seal
- P= Mobile 2 shaft seal
- Y - Metric port connection, Omit for UNC

Cam ring for "P1"

Volumetric displacement cm³/rev (in³/rev)

*042/R42 = 132.3 (8.07)	062/R62 = 196.7 (12.00)
045/R45 = 142.4 (8.69)	066/R66 = 213.3 (13.02)
050/R50 = 158.5 (9.67)	072/R72 = 227.1 (13.86)
052/R52 = 164.8 (10.06)	085/R85 = 269.8 (16.46)
057/R57 = 180.7 (11.02)	

*'R' - for Mobile - spring assisted

Cam ring for "P2"

Volumetric displacement cm³/rev (in³/rev)

*B03/R03 = 10.8 (0.66)	B15/R15 = 50.5 (3.08)
B05/R05 = 17.2 (1.05)	B17/R17 = 58.3 (3.56)
B06/R06 = 21.3 (1.30)	B20/R20 = 63.8 (3.89)
B08/R08 = 26.4 (1.61)	B22/R22 = 70.3 (4.29)
B10/R10 = 34.1 (2.08)	B25/R25 = 79.3 (4.84)
B12/R12 = 37.1 (2.26)	B28/R28 = 88.8 (5.42)
B14/R14 = 46.0 (2.81)	B31/R31 = 100.0 (6.10)

*'B' - for Mobile 'R' - for Mobile - spring assisted

Modifications

- 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 BM-1-5)
00 - standard

Direction of rotation (view on shaft end)

- R - clockwise
- L - counter-clockwise

Type of shaft

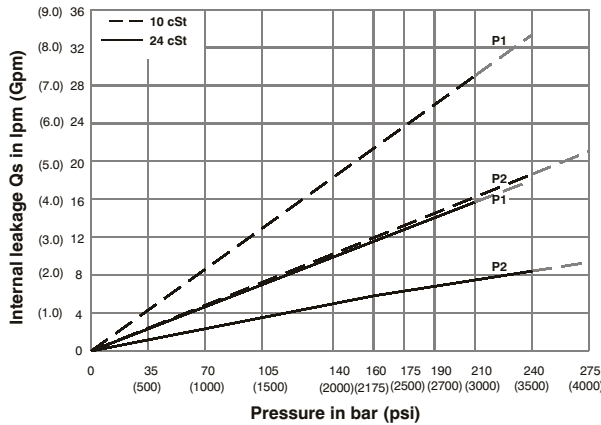
- P version**
- 3 - Splined (no SAE)

Type of shaft

- 1 - keyed (SAE CC)
- 2 - keyed (no SAE)
- 3 - splined (SAE C)
- 4 - splined (SAE CC)
- T - Splined (SAE J718c)

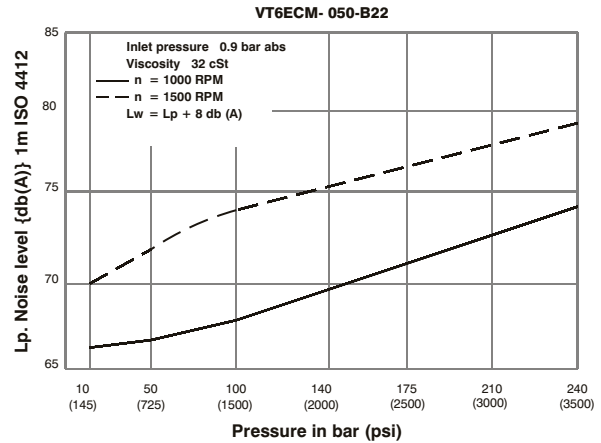


INTERNAL LEAKAGE (TYPICAL)



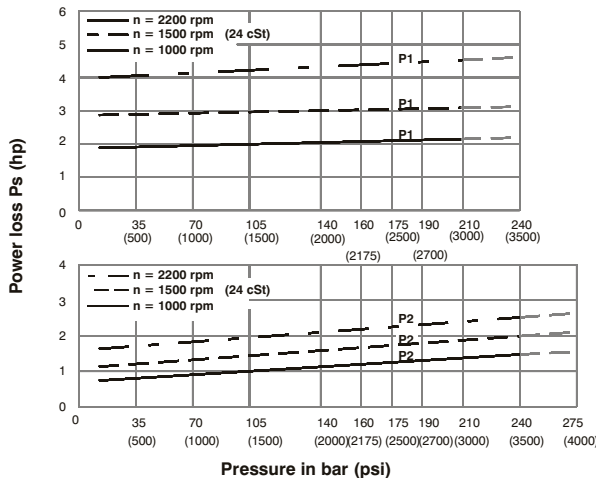
Do not operate pump more than 5 seconds at any speed or viscosity if internal leakage is more than 50% of theoretical flow. Total leakage is the sum of each section loss at its operating conditions.

NOISE LEVEL (TYPICAL)



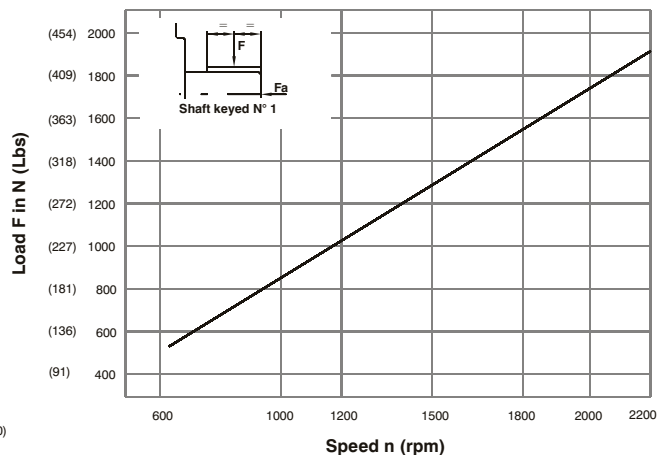
Double pump noise level is given with each section discharging at the pressure noted on the curve.

HYDROMECHANICAL POWER LOSS (TYPICAL)



Total hydromechanical power loss is the sum of each section at its operating conditions.

PERMISSIBLE RADIAL LOAD

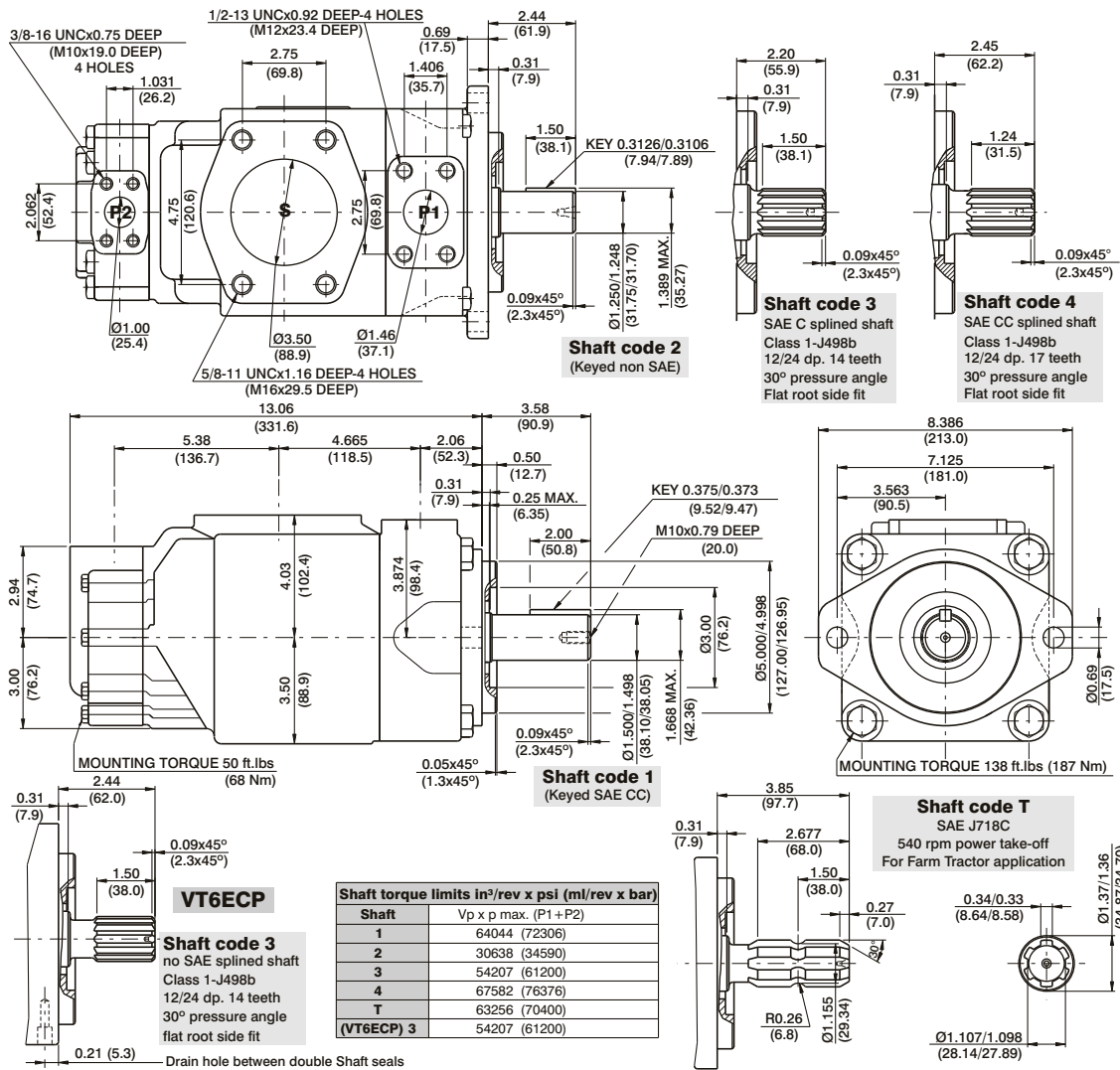


Maximum permissible axial load Fa = 2000 N (449 Lbs)

HIGH PERFORMANCE VANE PUMP VT6ECM



DP



OPERATING CHARACTERISTICS - TYPICAL (24 cST) (Input power p (KW) for one cartridge only)

Pressure port	Series	Volumetric Displacement Vp		Flow q & n = 1500 rpm						Input power p & n = 1500 rpm					
		in ³ /rev	cm ³ /rev	p = 0 bar (0 psi)		p = 140 bar (2000 psi)		p = 240 bar (3500 psi)		p = 7 bar (100 psi)		p = 140 bar (2000 psi)		p = 240 bar (3500 psi)	
				gpm	lpm	gpm	lpm	gpm	lpm	hp	kw	hp	kw	hp	kw
P1	042	8.07	132.3	52.50	198.5	49.87	188.5	47.96	181.3	6.97	5.2	66.25	49.4	110.77	82.6
	045	8.70	142.4	56.51	213.6	53.86	203.6	51.98	196.5	7.24	5.4	70.94	52.9	118.95	88.7
	050	9.67	158.5	62.88	237.7	60.24	227.7	58.36	220.6	7.64	5.7	78.45	58.5	131.82	98.3
	052	10.00	164.8	65.40	247.2	62.75	237.2	60.87	230.1	7.78	5.8	81.53	60.8	136.92	102.1
	057	11.02	180.7	71.71	271.1	69.07	261.1	67.19	254.0	8.18	6.1	89.04	66.4	143.35	106.9
	062	12.00	196.7	78.04	295.0	75.40	285.0	73.52	277.9	8.58	6.4	96.42	71.9	162.67	121.3
	066	13.00	213.3	84.63	319.9	81.98	309.9	80.11	302.8	8.98	6.7	104.20	77.7	175.94	131.2
	072	13.86	227.1	90.11	340.6	87.46	330.6	85.58	323.5	9.25	6.9	110.77	82.6	187.07	139.5
	085 ^{1,2)}	16.40	269.8	107.00	404.7	105.21	397.7	--	--	9.78	7.3	87.56	65.3	--	--
	B03	0.66	10.8	4.29	16.2	2.83	10.7	--	--	1.74	1.3	7.11	5.3	--	--
P2	B05	1.05	17.2	6.83	25.8	5.37	20.3	4.17	15.8	1.88	1.4	10.06	7.5	16.36	12.2
	B06	1.30	21.3	8.44	31.9	7.01	26.5	5.82	22.0	2.01	1.5	11.94	8.9	19.71	14.7
	B08	1.61	26.4	10.48	39.6	9.02	34.1	7.83	29.6	2.15	1.6	14.35	10.7	22.93	17.7
	B10	2.08	34.1	13.52	51.1	12.08	45.7	10.89	41.2	2.28	1.7	18.64	13.4	29.90	22.3
	B12	2.26	37.1	14.71	55.6	13.28	50.2	12.08	45.7	2.28	1.7	19.31	14.4	32.32	24.1
	B14	2.81	46.0	18.25	69.0	16.79	63.5	15.60	59.0	2.55	1.9	23.60	17.6	39.56	29.5
	B15	3.08	50.5	20.00	75.6	18.62	70.4	17.46	66.0	2.68	2.0	25.61	19.1	42.91	32.0
	B17	3.56	58.3	23.12	87.4	21.69	82.0	20.50	77.5	2.82	2.1	29.37	21.9	49.48	36.9
	B20	3.89	63.8	25.32	95.7	23.86	90.2	22.67	85.7	2.95	2.2	31.92	23.8	53.91	40.2
	B22	4.29	70.3	27.88	105.4	26.45	100.0	25.26	95.5	3.08	2.3	35.00	26.1	59.14	44.1
	B25	4.84	79.3	31.46	118.9	30.02	113.5	28.83	109.0	3.35	2.5	39.16	29.2	66.38	49.5
	B28 ³⁾	5.42	88.8	35.24	133.2	33.78	127.7	32.93	124.5	3.75	2.8	43.85	32.7	65.04	48.5
	B31 ³⁾	6.10	100.0	39.68	150.0	38.22	144.5	37.38	141.3	3.75	2.8	48.95	36.5	72.95	54.4

1) 085 = 2000 RPM max.

2) 085 = 75 bar (1100 psi) cont. 085 = 90 bar (1300 psi) max. int.

3) B28-B31=210 bar (3000 psi) max. int.

-- Not to use because internal leakage greater than 50% theoretical flow.

Series VT6ED * - 066 - 038 1 R 00 - B 1 *

Modifications

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 BM-1-5)

00 - standard

Direction of rotation (view on shaft end)

- R - clockwise
- L - counter-clockwise

Type of shaft

- 1 - keyed (SAE CC)
- 2 - keyed (no SAE)
- 3 - splined (SAE C)
- 4 - splined (SAE CC)

Cam ring for "P1"

Volumetric displacement cm³/rev (in³/rev)

042 = 132.3 (8.07)	062 = 196.7 (12.00)
045 = 142.4 (8.69)	066 = 213.3 (13.02)
050 = 158.5 (9.67)	072 = 227.1 (13.86)
052 = 164.8 (10.06)	085 = 269.8 (16.46)
057 = 180.7 (11.02)	

Cam ring for "P2"

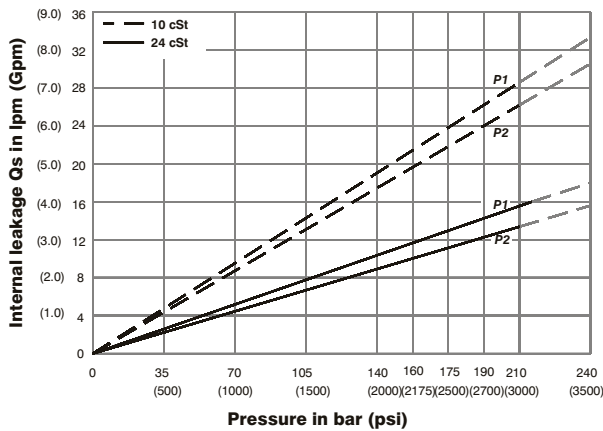
Volumetric displacement cm³/rev (in³/rev)

*014/B14 = 47.6 (2.90)	035/B35 = 111.0 (6.77)
017/B17 = 58.2(3.55)	038/B38 = 120.3 (7.34)
020/B20 = 66.0 (4.03)	042/B42 = 136.0 (8.30)
024/B24 = 79.5 (4.85)	045/B45 = 145.7 (8.89)
028/B28 = 89.7 (5.47)	050/B50 = 158.0 (9.64)
031/B31 = 98.3 (6.00)	061/B61 = 190.5 (11.62)

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

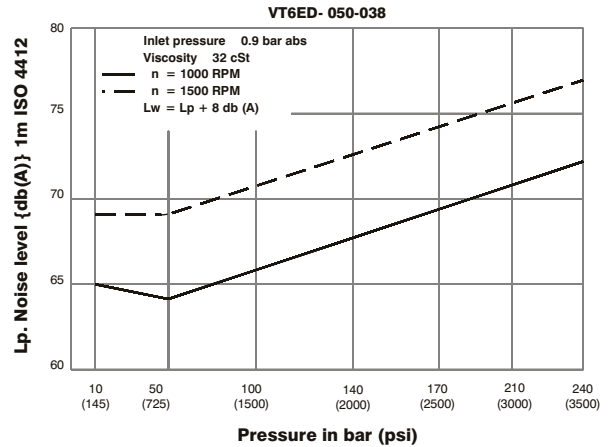


INTERNAL LEAKAGE (TYPICAL)



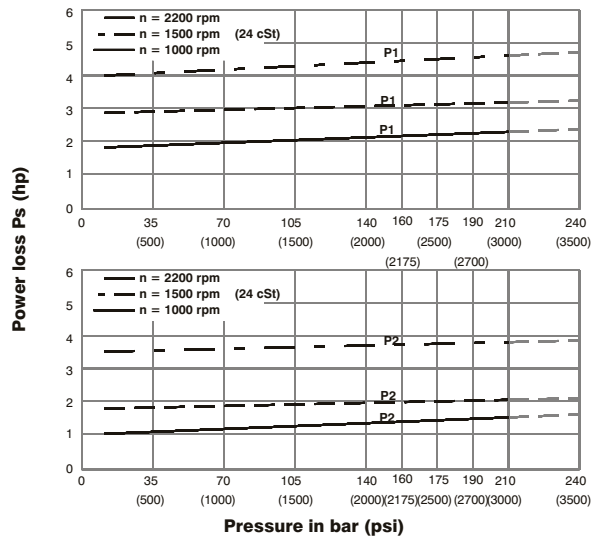
Do not operate pump more than 5 seconds at any speed or viscosity if internal leakage is more than 50% of theoretical flow.

NOISE LEVEL (TYPICAL)



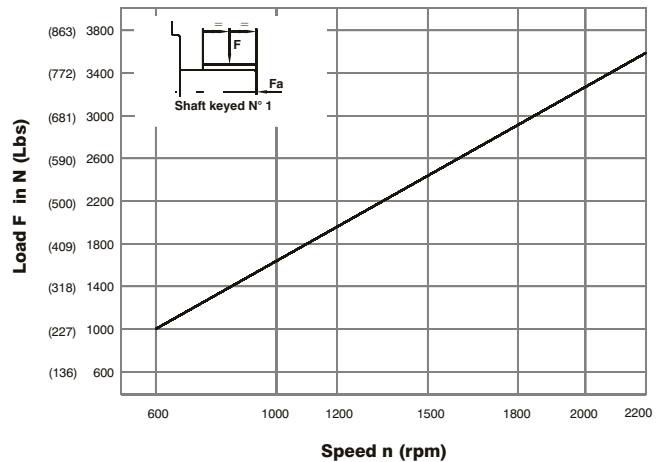
Double pump noise level is given with each section discharging at the pressure noted on the curve.

HYDROMECHANICAL POWER LOSS (TYPICAL)



Total hydromechanical power loss is the sum of each section at its operating conditions.

PERMISSIBLE RADIAL LOAD

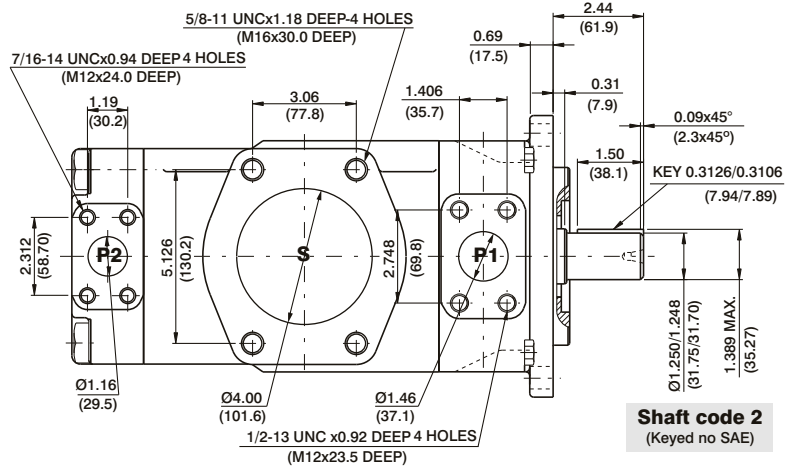


Maximum permissible axial load Fa = 2000 N (449 Lbs)

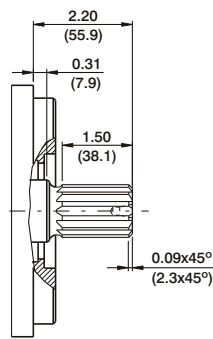
HIGH PERFORMANCE VANE PUMP VT6ED



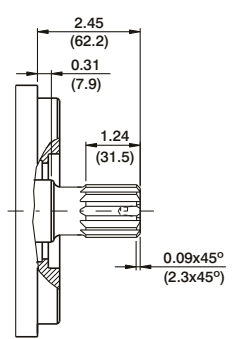
DP



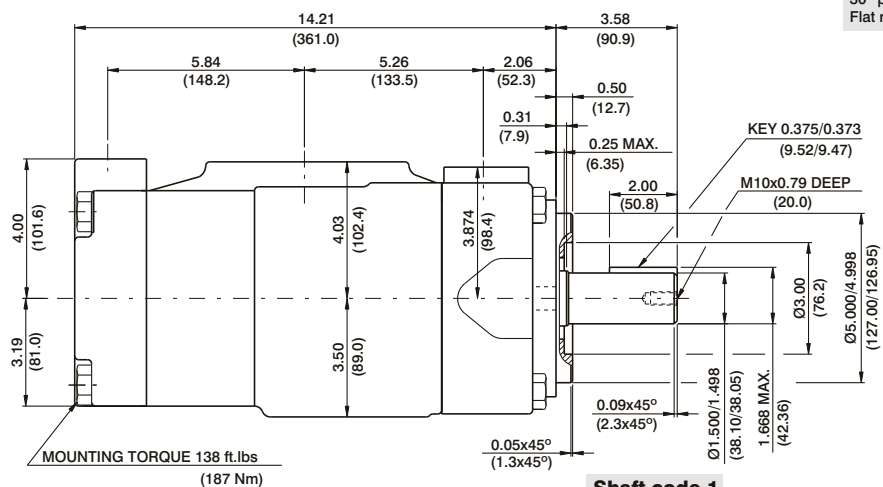
Shaft code 2
(Keyed no SAE)



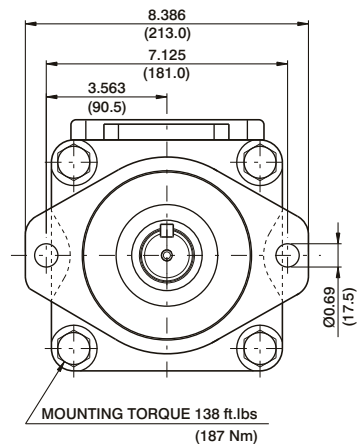
Shaft code 3
SAE C splined shaft
Class 1-J498b
12/24 dp. 14 teeth
30° pressure angle
Flat root side fit



Shaft code 4
SAE CC splined shaft
Class 1-J498b
12/24 dp. 17 teeth
30° pressure angle
Flat root side fit



Shaft code 1
(Keyed SAE CC)



Shaft torque limits in ³ /rev x psi (ml/rev x bar)	
Shaft	Vp x p max. (P1 + P2)
1	64044 (72306)
2	30638 (34590)
3	54207 (61200)
4	67582 (76376)

OPERATING CHARACTERISTICS - TYPICAL (24 cST) (Input power p (KW) for one cartridge only)

Pressure port	Series	Volumetric Displacement Vp		Flow q & n = 1500 rpm								Input power p & n = 1500 rpm							
		p = 0 bar (0 psi)		p = 140 bar (2000 psi)		p = 240 bar (3500 psi)		p = 7 bar (100 psi)		p = 140 bar (2000 psi)		p = 240 bar (3500 psi)		p = 7 bar (100 psi)		p = 140 bar (2000 psi)		p = 240 bar (3500 psi)	
		in ³ /rev	cm ³ /rev	gpm	lpm	gpm	lpm	gpm	lpm	hp	kw	hp	kw	hp	kw	hp	kw	hp	kw
P1	042	8.07	132.3	52.50	198.5	49.87	188.5	47.96	181.3	6.97	5.2	66.25	49.4	110.77	82.6				
	045	8.70	142.4	56.51	213.6	53.86	203.6	51.98	196.5	7.24	5.4	70.94	52.9	118.95	88.7				
	050	9.67	158.5	62.88	237.7	60.24	227.7	58.36	220.6	7.64	5.7	78.45	58.5	131.82	98.3				
	052	10.00	164.8	65.40	247.2	62.75	237.2	60.87	230.1	7.78	5.8	81.53	60.8	136.92	102.1				
	057	11.02	180.7	71.71	271.1	69.07	261.1	67.19	254.0	8.18	6.1	89.04	66.4	143.35	106.9				
	062	12.00	196.7	78.04	295.0	75.40	285.0	73.52	277.9	8.58	6.4	96.42	71.9	162.67	121.3				
	066	13.00	213.3	84.63	319.9	81.98	309.9	80.11	302.8	8.98	6.7	104.20	77.7	175.94	131.2				
	072	13.86	227.1	90.11	340.6	87.46	330.6	85.58	323.5	9.25	6.9	110.77	82.6	187.07	139.5				
	085 ^{1,2)}	16.40	269.8	107.00	404.7	105.21	397.7	--	--	9.78	7.3	87.56	65.3	--	--				
P2	014	2.90	47.6	18.88	71.4	16.42	62.1	14.78	55.9	3.08	2.3	24.81	18.5	41.03	30.6				
	017	3.55	58.2	23.1	87.3	20.6	78.0	18.99	71.8	3.35	2.5	29.77	22.2	49.62	37.0				
	020	4.00	66.0	26.19	99.0	23.73	89.7	22.08	83.5	3.75	2.8	33.39	24.9	55.92	41.7				
	024	4.80	79.5	31.56	119.3	29.10	110.0	27.46	103.8	4.02	3.0	39.69	29.6	66.78	49.8				
	028	5.50	89.7	35.58	134.5	33.12	125.2	31.48	119.0	4.29	3.2	44.52	33.2	74.96	55.9				
	031	6.00	98.3	39.00	147.5	36.53	138.1	34.89	131.9	4.42	3.3	48.54	36.2	81.80	61.0				
	035	6.80	111.0	44.04	166.5	41.58	157.2	39.94	151.0	4.69	3.5	54.58	40.7	92.13	68.7				
	038	7.30	120.3	47.72	180.4	45.26	171.1	43.62	164.9	4.96	3.7	58.87	43.9	99.64	74.3				
	042	8.30	136.0	53.96	204.0	51.50	194.7	49.86	188.5	5.36	4.0	66.25	49.4	112.24	83.7				
	045	8.89	145.7	57.80	218.5	55.34	209.2	53.70	203.0	5.50	4.1	70.81	52.8	120.02	89.5				
	050 ³⁾	9.64	158.0	62.69	237.0	60.23	227.7	59.25	224.0	5.90	4.4	76.44	57.0	113.98	85.0				
	061 ⁴⁾	11.62	190.5	76.25	285.7	73.54	278.0	--	--	6.16	4.6	81.26	60.6	--	--				

1) 085 = 2000 RPM max. 2) 085 = 75 bar (1100 psi) cont. & 085 = 90 bar (1300 psi) max. int. 3) 050=210 bar (3000 psi) max. int.
4) 061 = 120 bar (1740 psi) max. int. 061 = 80 bar (1160 psi) cont.

VT6ED * Y - 066 - B38 1 R 00 - C 1 *

Series

M = Mobile 1 shaft seal

P = Mobile 2 shaft seal

Y - Metric port connection, Omit for UNC

Cam ring for "P1"

Volumetric displacement cm³/rev (in³/rev)

*042/R42 = 132.3 (8.07) 062/R62 = 196.7 (12.00)

045/R45 = 142.4 (8.69) 066/R66 = 213.3 (13.02)

050/R50 = 158.5 (9.67) 072/R72 = 227.1 (13.86)

052/R52 = 164.8 (10.06) 085/R85 = 269.8 (16.46)

057/R57 = 180.7 (11.02)

*'R' - for Mobile - spring assisted

Cam ring for "P2"

Volumetric displacement cm³/rev (in³/rev)

*B14/R14 = 47.6 (2.90) B35/R35 = 110.0 (6.77)

B17/R17 = 58.2 (3.55) B38/R38 = 120.3 (7.34)

B20/R20 = 66.0 (4.03) B42/R42 = 136.0 (8.30)

B24/R24 = 79.5 (4.85) B45/R45 = 145.7 (8.89)

B28/R28 = 89.7 (5.47) B50/R50 = 158.0 (9.64)

B31/R31 = 98.3 (6.00) B61/R61 = 190.5 (11.62)

*'B' - for Mobile 'R' - for Mobile - spring assisted

Modifications

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 BM-1-5)

00 - standard

Direction of rotation (view on shaft end)

R - clockwise

L - counter-clockwise

Type of shaft

P version

3 - Splined (no SAE)

Type of shaft

1 - keyed (SAE CC)

2 - keyed (no SAE)

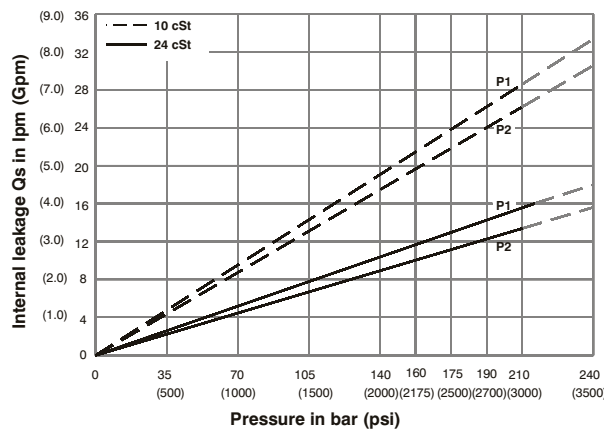
3 - splined (SAE C)

4 - splined (SAE CC)

T - Splined (SAE J718c)



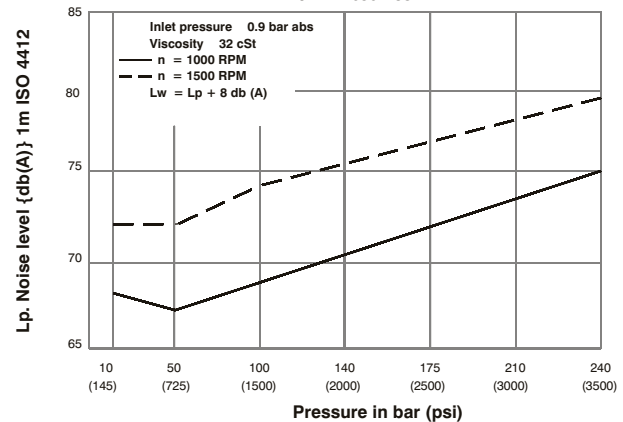
INTERNAL LEAKAGE (TYPICAL)



Do not operate pump more than 5 seconds at any speed or viscosity if internal leakage is more than 50% of theoretical flow. Total leakage is the sum of each section loss at its operating conditions.

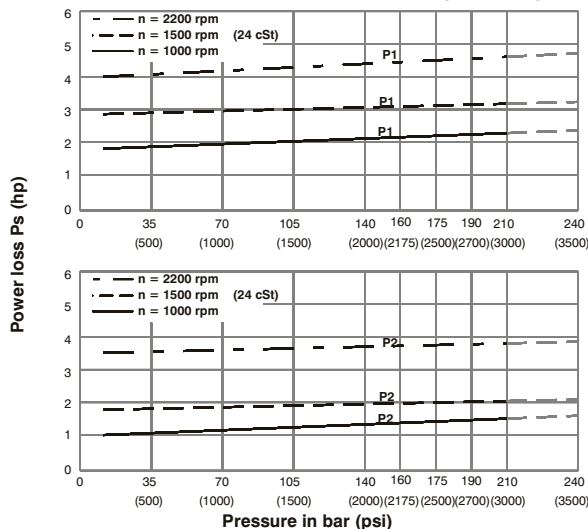
NOISE LEVEL (TYPICAL)

VT6EDM-050-B38



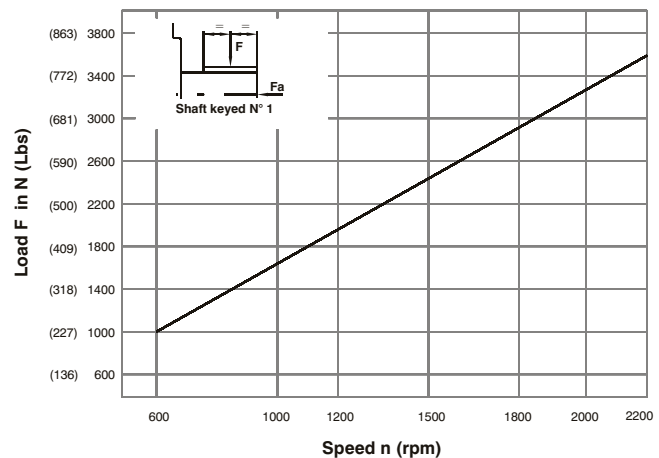
Double pump noise level is given with each section discharging at the pressure noted on the curve.

HYDROMECHANICAL POWER LOSS (TYPICAL)



Total hydromechanical power loss is the sum of each section at its operating conditions.

PERMISSIBLE RADIAL LOAD

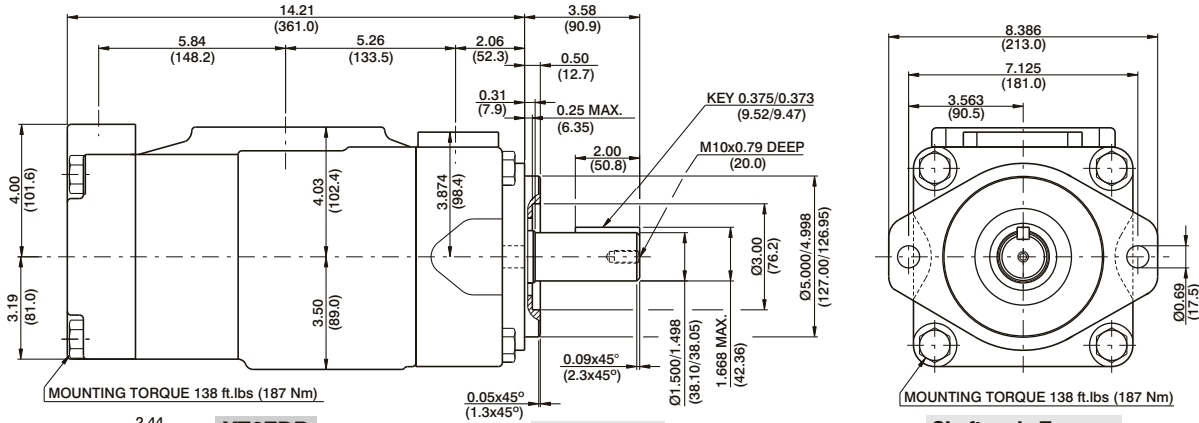
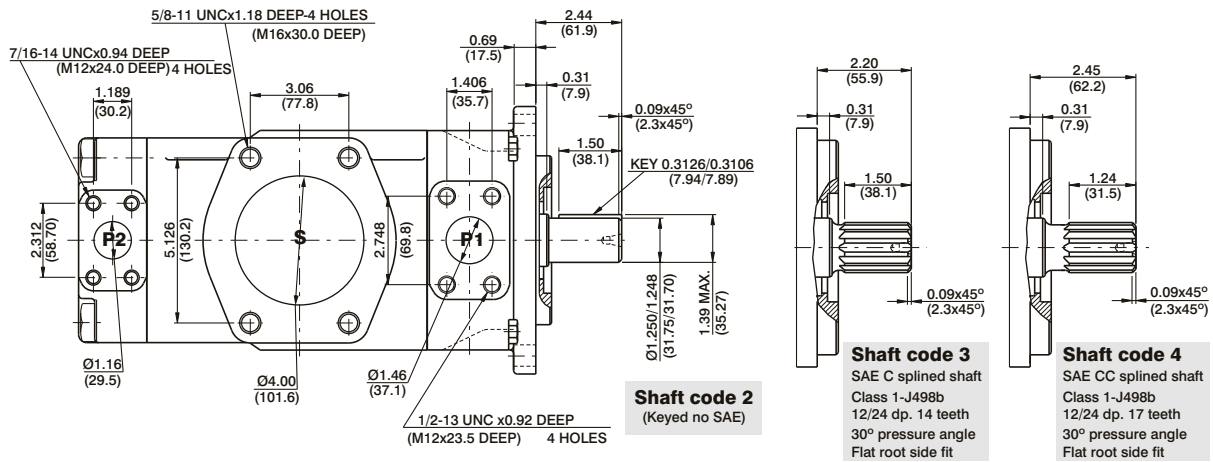


Maximum permissible axial load Fa = 2000 N (449 Lbs)

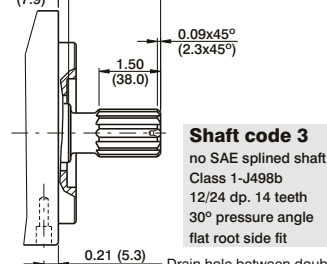
HIGH PERFORMANCE VANE PUMP VT6EDM



DP



VT6EDP



Shaft torque limits in ³ /rev x psi (ml/rev x bar)	
Shaft	Vp x p max. (P1+P2)
1	64044 (72306)
2	30638 (34590)
3	54207 (61200)
4	67582 (76376)
T	63256 (70400)
(VT6EDP) 3	54207 (61200)

OPERATING CHARACTERISTICS - TYPICAL (24 cST) (Input power p (KW) for one cartridge only)

Pressure port	Series	Volumetric Displacement Vp		Flow q & n = 1500 rpm						Input power p & n = 1500 rpm					
		p = 0 bar (0 psi)		p = 140 bar (2000 psi)		p = 240 bar (3500 psi)		p = 7 bar (100 psi)		p = 140 bar (2000 psi)		p = 240 bar (3500 psi)			
		in ³ /rev	cm ³ /rev	gpm	lpm	gpm	lpm	gpm	lpm	hp	kw	hp	kw	hp	kw
P1	042	8.07	132.3	52.50	198.5	49.87	188.5	47.96	181.3	6.97	5.2	66.25	49.4	110.77	82.6
	045	8.70	142.4	56.51	213.6	53.86	203.6	51.98	196.5	7.24	5.4	70.94	52.9	118.95	88.7
	050	9.67	158.5	62.88	237.7	60.24	227.7	58.36	220.6	7.64	5.7	78.45	58.5	131.82	98.3
	052	10.00	164.8	65.40	247.2	62.75	237.2	60.87	230.1	7.78	5.8	81.53	60.8	136.92	102.1
	057	11.02	180.7	71.71	271.1	69.07	261.1	67.19	254.0	8.18	6.1	89.04	66.4	143.35	106.9
	062	12.00	196.7	78.04	295.0	75.40	285.0	73.52	277.9	8.58	6.4	96.42	71.9	162.67	121.3
	066	13.00	213.3	84.63	319.9	81.98	309.9	80.11	302.8	8.98	6.7	104.20	77.7	175.94	131.2
	072	13.86	227.1	90.11	340.6	87.46	330.6	85.58	323.5	9.25	6.9	110.77	82.6	187.07	139.5
	085 ^{1,2)}	16.40	269.8	107.00	404.7	105.21	397.7	--	--	9.78	7.3	87.56	65.3	--	--
P2	B14	2.90	47.6	18.88	71.4	16.42	62.1	14.78	55.9	3.08	2.3	24.81	18.5	41.03	30.6
	B17	3.55	58.2	23.1	87.3	20.6	78.0	18.99	71.8	3.35	2.5	29.77	22.2	49.62	37.0
	B20	4.00	66.0	26.19	99.0	23.73	89.7	22.08	83.5	3.75	2.8	33.39	24.9	55.92	41.7
	B24	4.80	79.5	31.56	119.3	29.10	110.0	27.46	103.8	4.02	3.0	39.69	29.6	66.78	49.8
	B28	5.50	89.7	35.58	134.5	33.12	125.2	31.48	119.0	4.29	3.2	44.52	33.2	74.96	55.9
	B31	6.00	98.3	39.00	147.5	36.53	138.1	34.89	131.9	4.42	3.3	48.54	36.2	81.80	61.0
	B35	6.80	111.0	44.04	166.5	41.58	157.2	39.94	151.0	4.69	3.5	54.58	40.7	92.13	68.7
	B38	7.30	120.3	47.72	180.4	45.26	171.1	43.62	164.9	4.96	3.7	58.87	43.9	99.64	74.3
	B42	8.30	136.0	53.96	204.0	51.50	194.7	49.86	188.5	5.36	4.0	66.25	49.4	112.24	83.7
	B45	8.89	145.7	57.80	218.5	55.34	209.2	53.70	203.0	5.50	4.1	70.81	52.8	120.02	89.5
	B50 ³⁾	9.64	158.0	62.69	237.0	60.23	227.7	59.25	224.0	5.90	4.4	76.44	57.0	123.98	85.0
B61 ⁴⁾	11.62	190.5	76.25	285.7	73.54	278.0	--	--	6.16	4.6	81.26	60.6	--	--	

1) 085 = 2000 RPM max. 2) 085 = 75 bar (1100 psi) cont. 085 = 90 bar (1300 psi) max. int. 3) B50=210 bar (3000 psi) max. int 4) B61 = 120 bar (1740 psi) max. int, B61 = 80 bar (1160 psi) cont.

VT6EE / VT6EES - 066 - 045 - 1 R 00 - B 1 0 - 00 *

Series

VT6EE Series - 250 B4HW
 ISO 3019-2 mounting flange
 VT6EES Series - SAE 4 bolts
 Mounting flange J744c

Cam ring for "P1" & "P2"

Volumetric displacement cm³/rev (in³/rev)

- 042 = 132.3 (8.07)
- 045 = 142.4 (8.69)
- 050 = 158.5 (9.67)
- 052 = 164.8 (10.06)
- 057 = 180.7 (11.02)
- 062 = 196.7 (12.00)
- 066 = 213.3 (13.02)
- 072 = 227.1 (13.86)
- 085 = 269.8 (16.46)

Type of Shaft VT6EE

2 - Keyed (G45N ISO 3019-2)

VT6EES

- 1 - Keyed (SAE CC)
- 3 - Splined (SAE CC)
- 4 - Splined (SAE D&E)
- 5 - Keyed (SAE D&E)

P1 P2

Modifications

Port connection variables

SAE 4 bolt flange (J518c)

	UNC	METRIC
VT6EE		M0
VT6EES	00	M0

Coupling adaptor

- 0 - None
- 2 - SAE B
- 3 - SAE BB

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 BM-1-5)

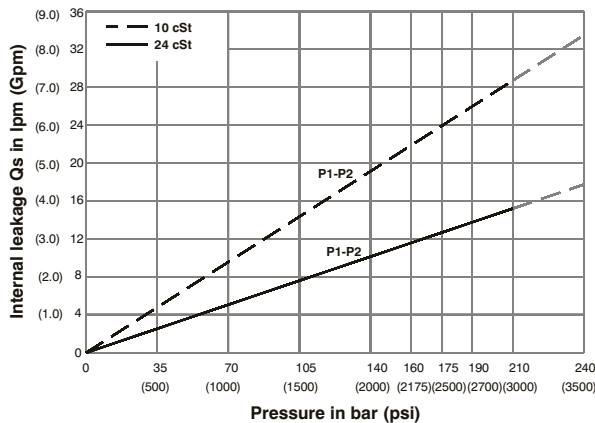
00 = Standard

Direction of rotation (View on shaft end)

- R - Clockwise
- L - Counter - clockwise

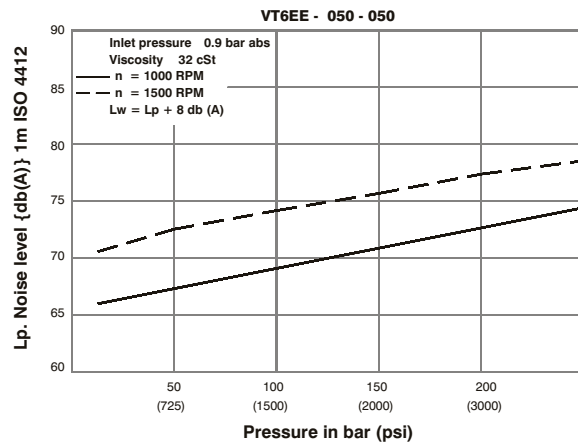


INTERNAL LEAKAGE (TYPICAL)



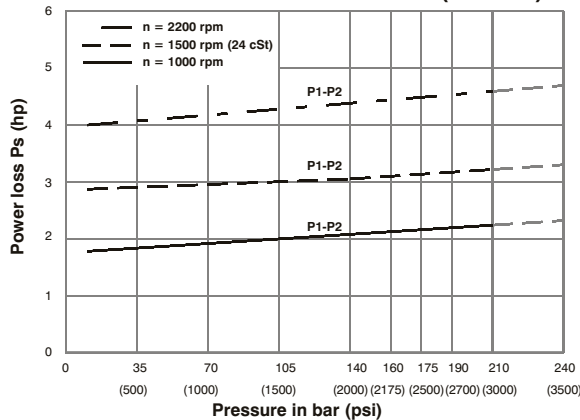
Do not operate pump more than 5 seconds at any speed or viscosity if internal leakage is more than 50% of theoretical flow. Total leakage is the sum of each section loss at its operating conditions.

NOISE LEVEL (TYPICAL)



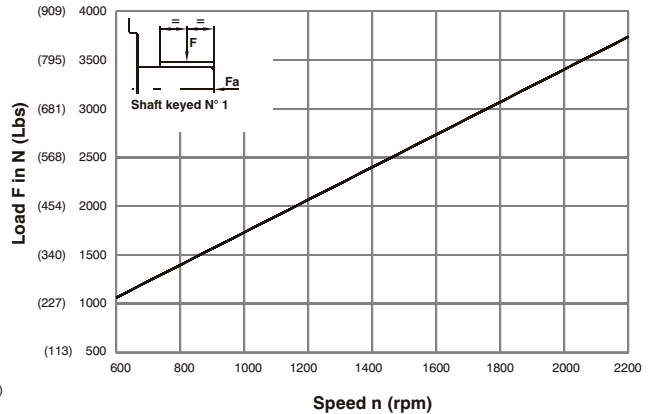
Double pump noise level is given with each section discharging at the pressure noted on the curve.

HYDROMECHANICAL POWER LOSS (TYPICAL)



Total hydromechanical power loss is the sum of each section at its operating conditions.

PERMISSIBLE RADIAL LOAD

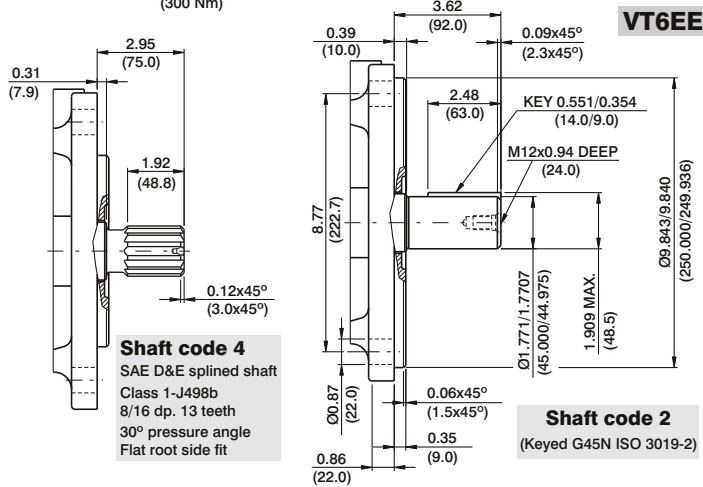
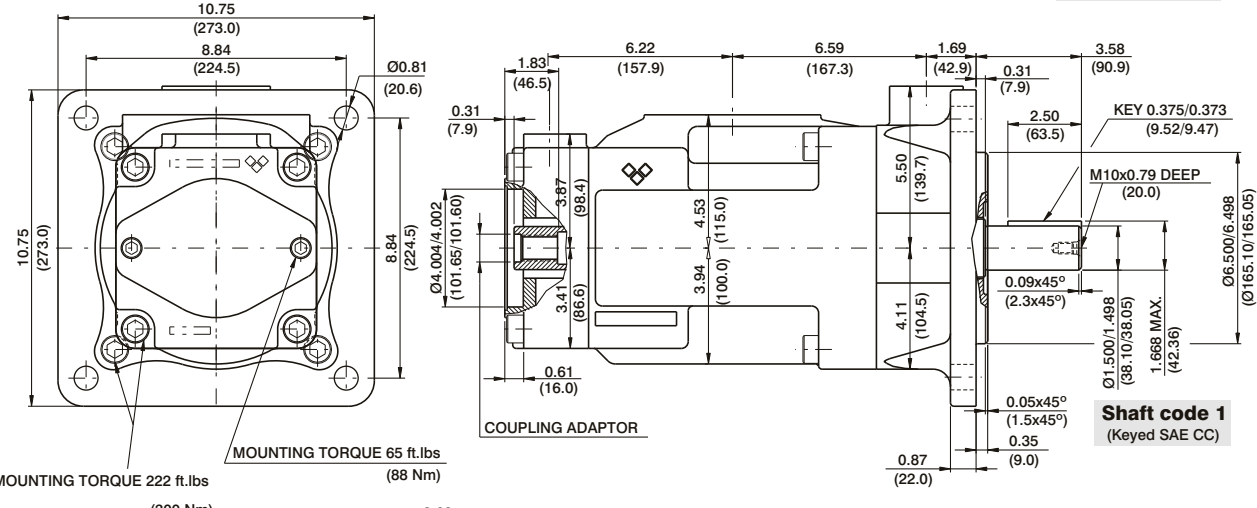
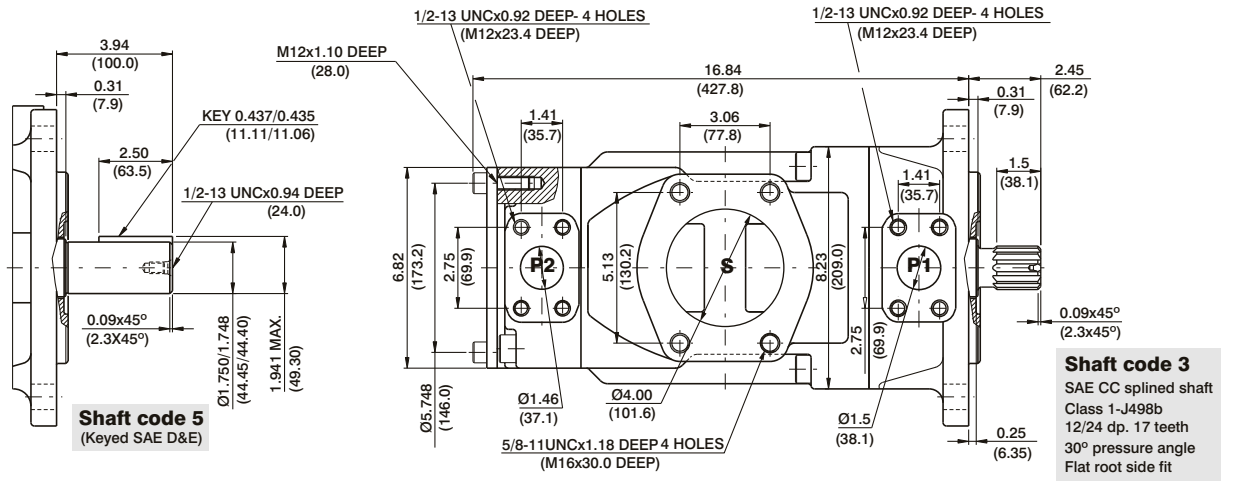


Maximum permissible axial load Fa = 2000 N (449 Lbs)

HIGH PERFORMANCE VANE PUMP VT6EE/ VT6EES



DP



Shaft torque limits in ³ /rev x psi (ml/rev x bar)			
Shaft	Vi x p Max.	Copling	Vi x p Max.
1	80053 (90380)	SAE-B	18246 (20600)
2	101506 (114600)	SAE-BB	28937 (32670)
3	112312 (126800)		
4	112312 (126800)		
5	104818 (110840)		

Code	Coupling adaptor
0	Without coupling
2	SAE B -13 teeth -pitch 16/32 Major dia (min) 0.875 (22.225) Minor dia (min.) 0.753 (19.126)
3	SAE BB -15 teeth -pitch 16/32 Major dia (min) 1.00 (25.4) Minor dia (min.) 0.877 (22.275)

OPERATING CHARACTERISTICS - TYPICAL (24 cST) (Input power p (KW) for one cartridge only)

Pressure port	Series	Volumetric Displacement Vp	Flow q & n = 1500 rpm						Input power p & n = 1500 rpm						
			p = 0 bar (0 psi)		p = 140 bar (2000 psi)		p = 240 bar (3500 psi)		p = 7 bar (100 psi)		p = 140 bar (2000 psi)		p = 240 bar (3500 psi)		
			in ³ /rev	cm ³ /rev	gpm	lpm	gpm	lpm	gpm	lpm	hp	kw	hp	kw	hp
P1 & P2	042	8.07	132.3	52.50	198.5	49.87	188.5	47.96	181.3	6.97	5.2	66.25	49.4	110.77	82.6
	045	8.70	142.4	56.51	213.6	53.86	203.6	51.98	196.5	7.24	5.4	70.94	52.9	118.95	88.7
	050	9.67	158.5	62.88	237.7	60.24	227.7	58.36	220.6	7.64	5.7	78.45	58.5	131.82	98.3
	052	10.00	164.8	65.40	247.2	62.75	237.2	60.87	230.1	7.78	5.8	81.53	60.8	136.92	102.1
	057	11.02	180.7	71.71	271.1	69.07	261.1	67.19	254.0	8.18	6.1	89.04	66.4	143.35	106.9
	062	12.00	196.7	78.04	295.0	75.40	285.0	73.52	277.9	8.58	6.4	96.42	71.9	162.67	121.3
	066	13.00	213.3	84.63	319.9	81.98	309.9	80.11	302.8	8.98	6.7	104.20	77.7	175.94	131.2
	072	13.86	227.1	90.11	340.6	87.46	330.6	85.58	323.5	9.25	6.9	110.77	82.6	187.07	139.5
	085 ^{1,2)}	16.40	269.8	107.00	404.7	105.21	397.7	--	--	9.78	7.3	87.56	65.3	--	--

1) 085 = 2000 RPM max. 2) 085 = 75 bar (1100 psi) cont. 085 = 90 bar (1300 psi) max. int.

Series VT6GCC - B22 - B08 - 6 R 00 - A 1 - 00 *

Cam ring "P1" & "P2"

Volumetric displacement cm³/rev (in³/rev)

B03 = 10.8 (0.66)	B15 = 50.5 (3.08)
B05 = 17.2 (1.05)	B17 = 58.3 (3.56)
B06 = 21.3 (1.30)	B20 = 63.8 (3.89)
B08 = 26.4 (1.61)	B22 = 70.3 (4.29)
B10 = 34.1 (2.08)	B25 = 79.3 (4.84)
B12 = 37.1 (2.26)	B28 = 88.8 (5.42)
B14 = 46.0 (2.81)	B31 = 100.0 (6.10)

Type of shaft _____

6 - splined (DIN 5462)

Direction of rotation (view on shaft end) _____

R - clockwise
L - counter-clockwise

Modifications

Mounting W/connection variables

		P1=1"-S=3 ¹		P1=1"-S=2 ^{1/2} ²⁾	
P2		1"	3/4 ¹	1"	3/4 ¹
code	Unc	00	01	10	11
	Metric	0M	M0	1M	M1

1) for 46 ml/rev. max.
2) for 126 ml/rev max.
The large cartridge must be always mounted in the front.

Seal class

1 - S1

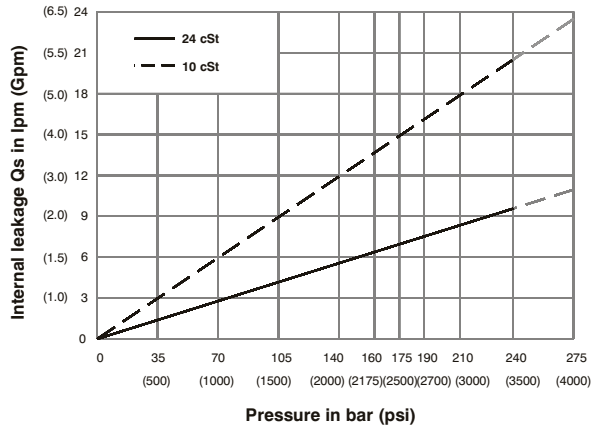
Design letter

Porting combination (see page BM-1-5)

00 - standard

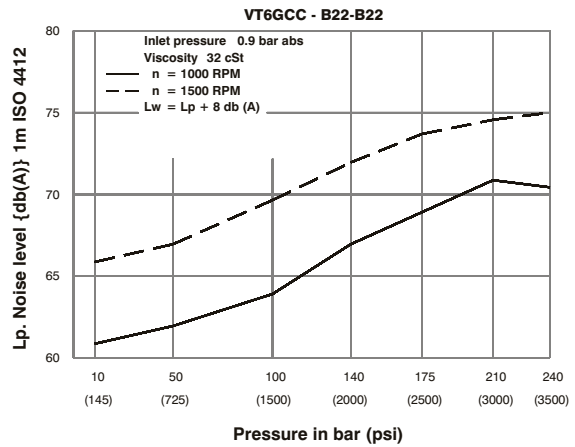


INTERNAL LEAKAGE (TYPICAL)



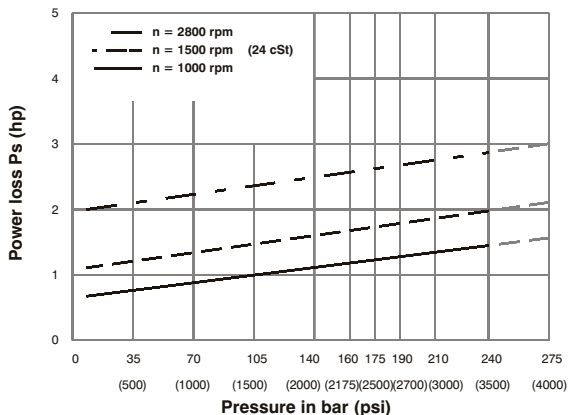
Do not operate pump more than 5 seconds at any speed or viscosity if internal leakage is more than 50% of theoretical flow. Total leakage is the sum of each section loss at its operating conditions.

NOISE LEVEL (TYPICAL)



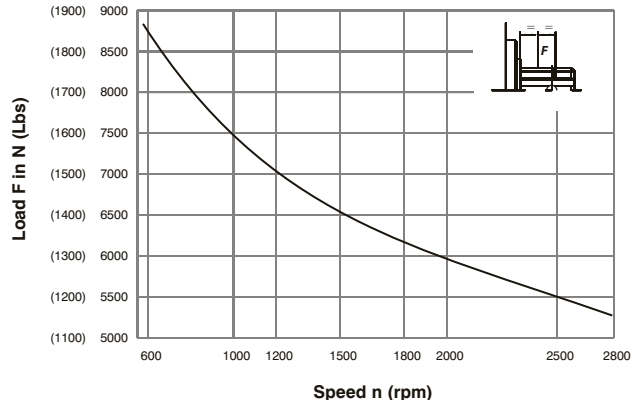
Double pump noise level is given with each section discharging at the pressure noted on the curve.

HYDROMECHANICAL POWER LOSS (TYPICAL)

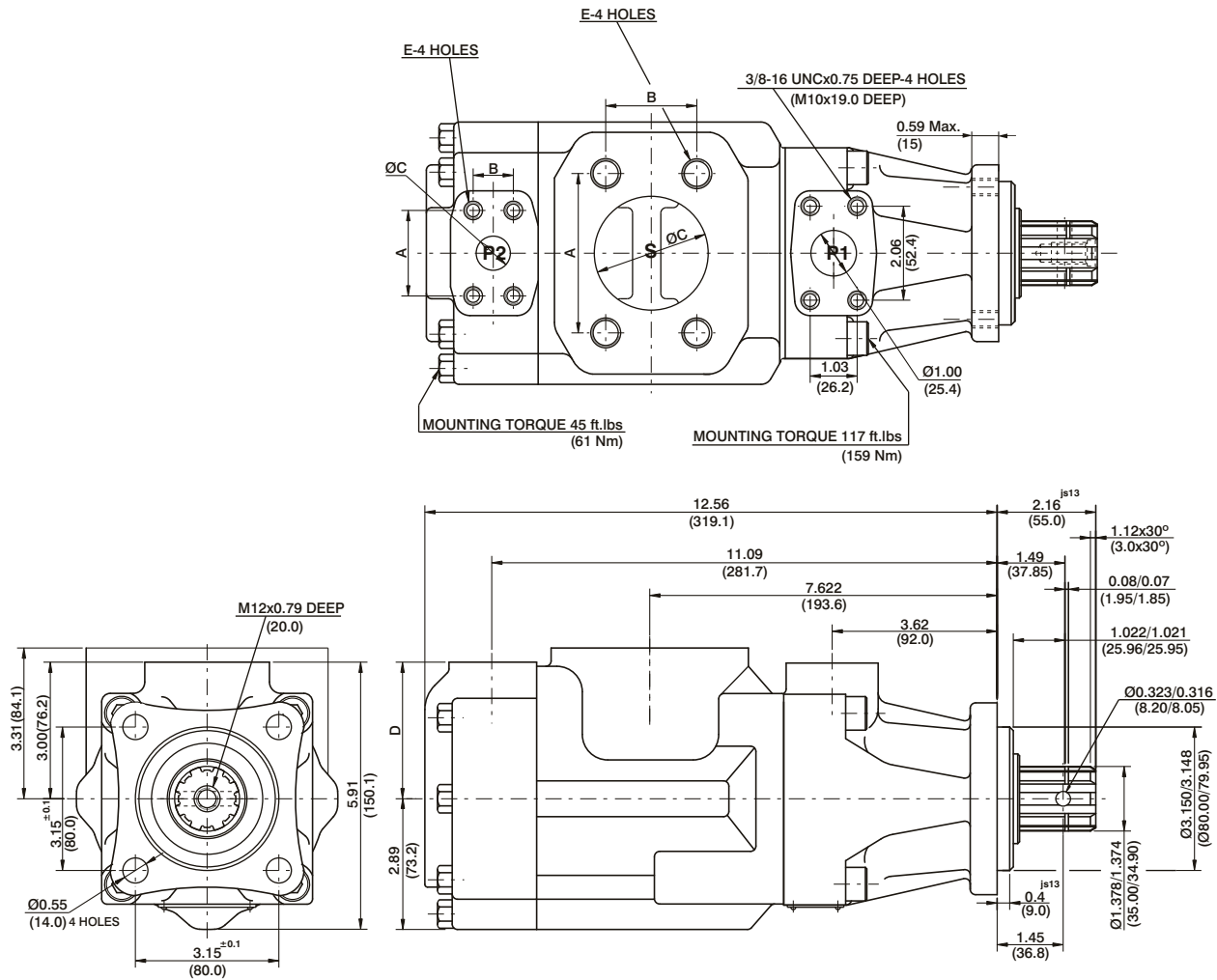


Total hydromechanical power loss is the sum of each section at its operating conditions.

PERMISSIBLE RADIAL LOAD



DP



Shaft Code - 6
DIN5462B8x32x36

PORT	A	B	C	D	E
S	4.19 (106.4)	2.44 (61.9)	3.00 (76.2)		5/8-11UNCx1.12 DEEP (M16 x 28.4 DEEP)
S	3.50 (88.9)	2.00 (50.8)	2.50 (63.5)		1/2-13UNCx0.94 DEEP (M12 x 24.0 DEEP)
P2	1.88 (47.7)	0.88 (22.2)	0.75 (19.0)	3.00 (76.2)	3/8-16UNCx0.75 DEEP (M10x19.0 DEEP)
P2	2.06 (52.4)	1.03 (26.2)	1.00 (25.4)	2.94 (74.7)	

Shaft torque limits in ³ /rev x psi (ml/rev x bar)	
Shaft	Vp x p max. (P1+P2)
6	36921 (32670)

OPERATING CHARACTERISTICS - TYPICAL (24 cST) (Input power p (KW) for one cartridge only)

Pressure port	Series	Volumetric Displacement Vp		Flow q & n = 1500 rpm						Input power p & n = 1500 rpm					
		in ³ /rev	cm ³ /rev	p = 0 bar (0 psi)		p = 140 bar (2000 psi)		p = 240 bar (3500 psi)		p = 7 bar (100 psi)		p = 140 bar (2000 psi)		p = 240 bar (3500 psi)	
				gpm	lpm	gpm	lpm	gpm	lpm	hp	kw	hp	kw	hp	kw
P1 & P2	B03	0.66	10.8	4.29	16.2	2.83	10.7	--	--	1.74	1.3	7.11	5.3	--	--
	B05	1.05	17.2	6.83	25.8	5.37	20.3	4.17	15.8	1.88	1.4	10.06	7.5	16.36	12.2
	B06	1.30	21.3	8.44	31.9	7.01	26.5	5.82	22.0	2.01	1.5	11.94	8.9	19.71	14.7
	B08	1.61	26.4	10.48	39.6	9.02	34.1	7.83	29.6	2.15	1.6	14.35	10.7	22.93	17.7
	B10	2.08	34.1	13.52	51.1	12.08	45.7	10.89	41.2	2.28	1.7	18.64	13.4	29.90	22.3
	B12	2.26	37.1	14.71	55.6	13.28	50.2	12.08	45.7	2.28	1.7	19.31	14.4	32.32	24.1
	B14	2.81	46.0	18.25	69.0	16.79	63.5	15.60	59.0	2.55	1.9	23.60	17.6	39.56	29.5
	B15	3.08	50.5	20.00	75.6	18.62	70.4	17.46	66.0	2.68	2.0	25.61	19.1	42.91	32.0
	B17	3.56	58.3	23.12	87.4	21.69	82.0	20.50	77.5	2.82	2.1	29.37	21.9	49.48	36.9
	B20	3.89	63.8	25.32	95.7	23.86	90.2	22.67	85.7	2.95	2.2	31.92	23.8	53.91	40.2
	B22	4.29	70.3	27.88	105.4	26.45	100.0	25.26	95.5	3.08	2.3	35.00	26.1	59.14	44.1
	B25 ¹⁾	4.84	79.3	31.46	118.9	30.02	113.5	28.83	109.0	3.35	2.5	39.16	29.2	66.38	49.5
	B28 ^{1,2)}	5.42	88.8	35.24	133.2	33.78	127.7	32.93	124.5	3.75	2.8	43.85	32.7	73.04	54.5
B31 ^{1,2)}	6.10	100.0	39.68	150.0	38.22	144.5	37.38	141.3	3.75	2.8	48.95	36.5	81.95	61.4	

1) B25-B28-B31 = 2500 R.P.M. max. 2) B28-B31 = 210 bar (3000 psi) max. int.
 -- Not to use because internal leakage greater than 50% theoretical flow.

VTXBB 1 - B09 - B11 - 1 R 00 - D 1 00 *

Series

Mounting

- 1 - SAE A
- 2 - SAE B

Camring for "P1" & "P2"

Volumetric displacement cm³ /rev (in³ /rev)

- B02 = 5.8 (0.35)
- B03 = 9.8 (0.59)
- B04 = 12.8 (0.78)
- B05 = 15.9 (0.97)
- B06 = 19.8 (1.21)
- B07 = 22.5 (1.37)
- B08 = 24.9 (1.52)
- B09 = 28.0 (1.71)
- B10 = 31.8 (1.94)
- B11 = 34.9 (2.13)
- B12 = 41.0 (2.50)
- B14 = 45.0 (2.75)

Type of Shaft

- 1 - Keyed (Non SAE)
- 3 - Splined

Direction of rotation (view on shaft end)

- R - clockwise
- L - counter-clockwise

Modifications

Port connections

CODE	S	P1 & P2
00	2" SAE 4 bolt (UNC)	SAE 12 1 1/16" 12 UNF-2B
01		3/4" SAE 4 bolt (UNC)
M0	2" SAE 4 bolt (METRIC)	3/4" SAE 4 bolt (METRIC)

Seal class

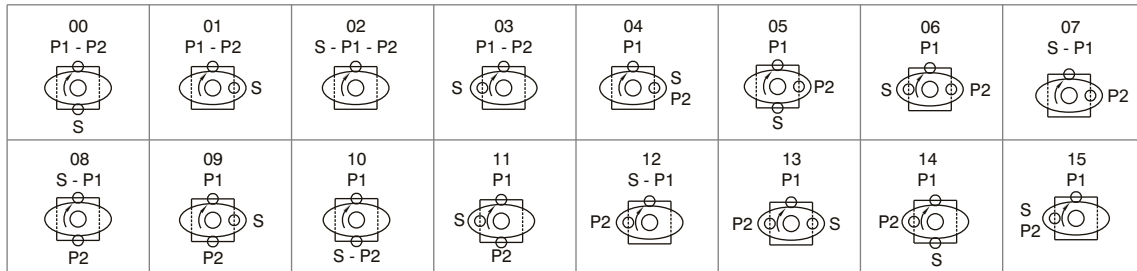
- 1 - S1 (for mineral oil)
- 4 - S4 (for fire resistant fluids)
- 5 - S5 (for mineral oil and fire resistant fluids)

Design letter

Porting combination

00 - standard

VP
DP



S: Suction port P1 & P2 : Pressure ports

OPERATING CHARACTERISTICS - TYPICAL (24 cST) (Input power p (KW) for one cartridge only)

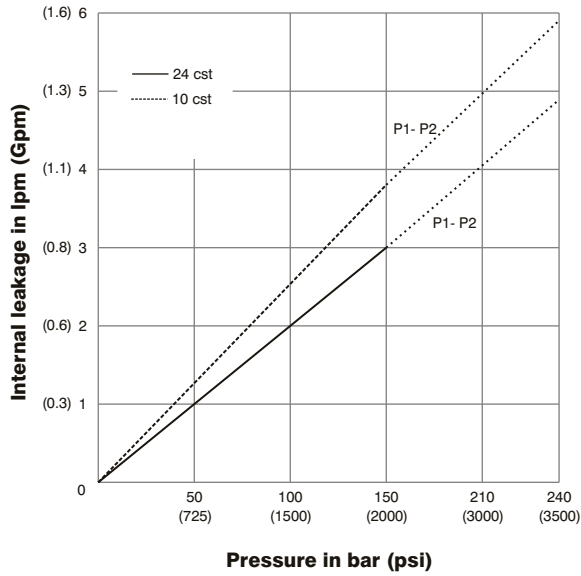
Pressure port	Series	Volumetric Displacement Vp		Flow q & n = 1500 rpm						Input power p & n = 1500 rpm					
				p = 0 bar (0 psi)		p = 140 bar (2000 psi)		p = 210 bar (3000 psi)		p = 7 bar (100 psi)		p = 140 bar (2000 psi)		p = 210 bar (3000 psi)	
		in ³ /rev	cm ³ /rev	gpm	lpm	gpm	lpm	gpm	lpm	hp	kw	hp	kw	hp	kw
P1 & P2	B02	0.35	5.8	2.30	8.7	1.4	5.9	--	--	0.53	0.4	2.81	2.1	--	--
	B03	0.59	9.8	3.88	14.7	2.9	11.9	2.7	10.5	0.67	0.5	3.62	2.7	--	--
	B04	0.78	12.8	5.08	19.2	4.33	16.4	3.97	15.0	0.93	0.7	5.23	3.9	10.06	7.5
	B05	0.97	15.9	6.31	23.8	5.55	21.0	5.18	19.6	1.00	0.75	6.64	4.9	11.2	8.3
	B06	1.21	19.8	7.85	29.7	7.12	26.9	6.66	25.2	1.07	0.8	8.05	6.0	12.34	9.2
	B07	1.37	22.5	8.92	33.7	8.17	30.9	7.80	29.5	1.20	0.9	9.05	6.7	14.02	10.4
	B08	1.52	24.9	9.89	37.4	9.15	34.6	8.78	33.2	1.34	1.0	10.05	7.5	15.69	11.7
	B09	1.71	28.0	11.11	42.0	10.37	39.2	10.00	37.8	1.47	1.1	11.94	8.9	23.60	17.6
	B10	1.94	31.8	12.61	47.7	11.87	44.9	11.51	43.5	1.6	1.2	13.0	9.7	26.0	19.6
	B11	2.13	34.9	13.85	52.3	13.09	49.5	12.72	48.1	1.7	1.3	14.0	10.5	28.0	21.0
	B12	2.50	41.0	16.27	61.5	15.53	58.7	*	*	1.8	1.4	15.02	11.2	*	*
	B14	2.75	45.0	17.86	67.5	17.12	64.7	**	**	2.1	1.6	15.42	11.5	**	**

-- Not to use because internal leakage greater than 50% of theoretical flow.

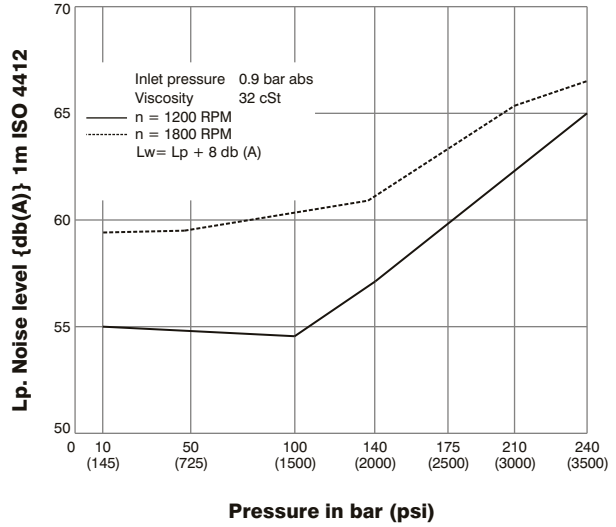
* B12= 210 bar(3000 psi) Max.Int

** B14= 175 bar(2500 psi) Max.Int

INTERNAL LEAKAGE (TYPICAL)



NOISE LEVEL (TYPICAL) VTXBB- B10-B09

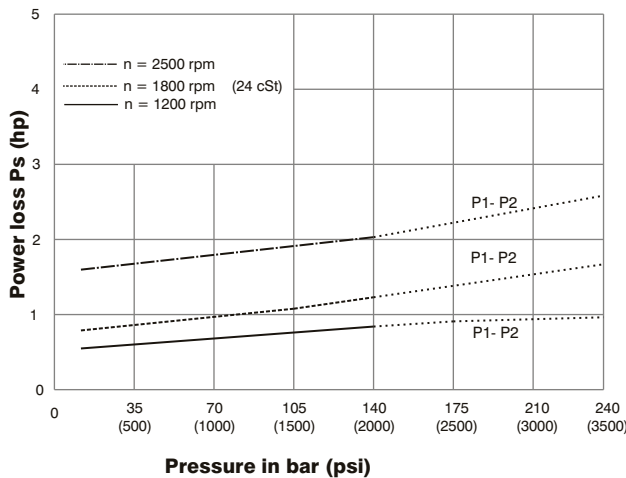


VP
DP

Do not operate pump more than 5 seconds at any speed or viscosity if internal leakage is more than 5% of theoretical flow. Total leakage is the sum of each section loss at its operating conditions.

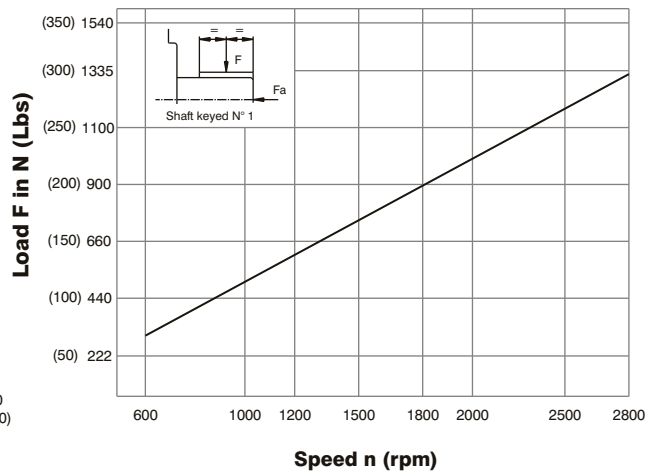
Double pump noise level is given with each section discharging at the pressure noted on the curve.

HYDROMECHANICAL POWER LOSS (TYPICAL)



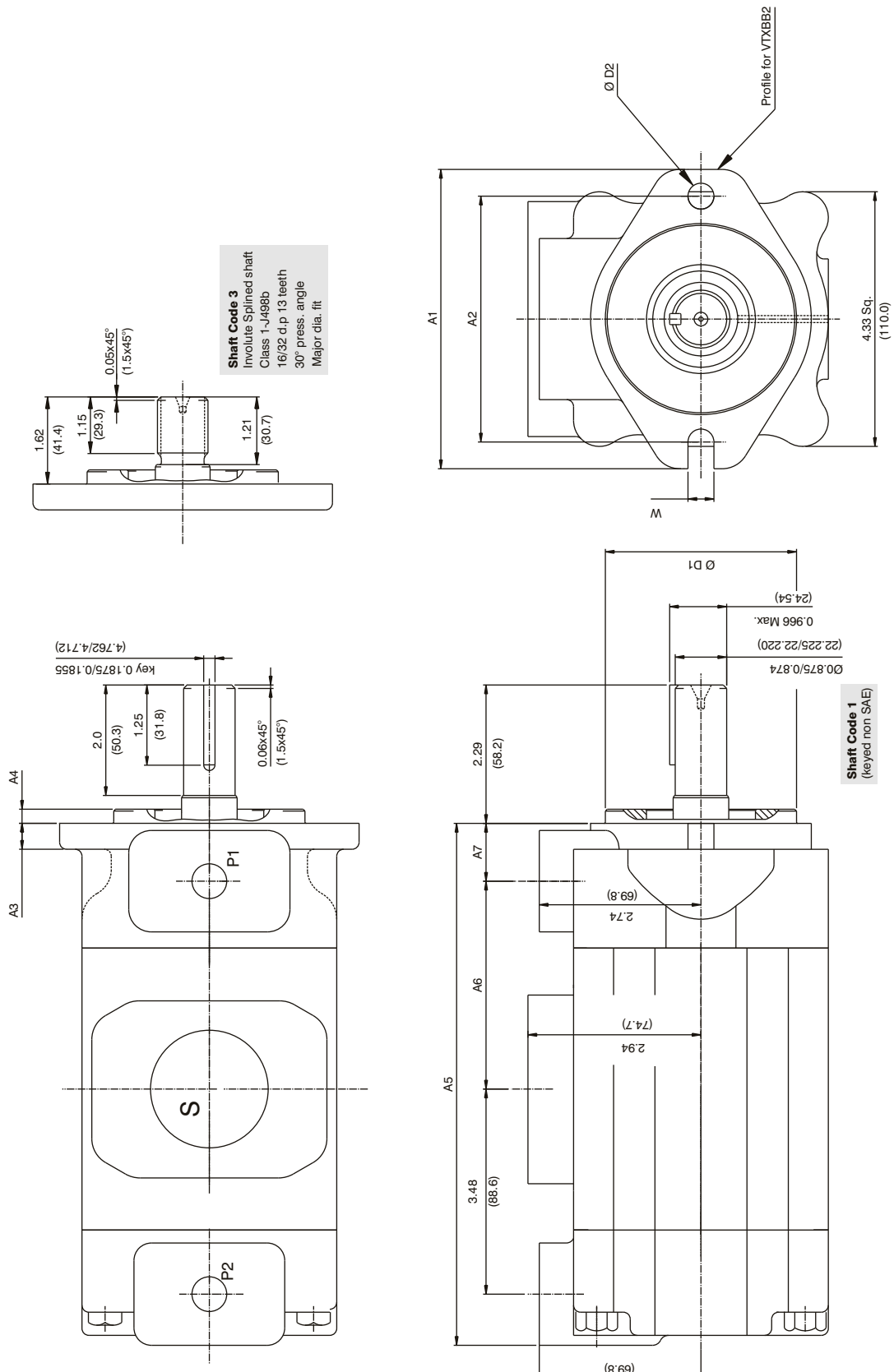
Total hydromechanical power loss is the sum of each section at its operating conditions.

PERMISSIBLE RADIAL LOAD



Maximum permissible axial load $F_a = 800\text{N}$ (180 lbs)

VP
DP

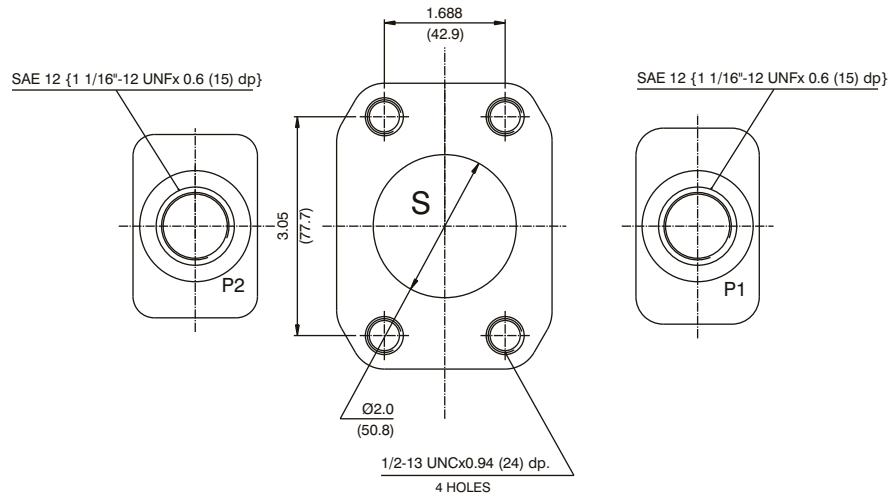


Shaft Code 3
Involute Splined shaft
Class 1-J498b
16/32 d.p 13 teeth
30° press. angle
Major dia. fit

Shaft Code 1
(keyed non SAE)

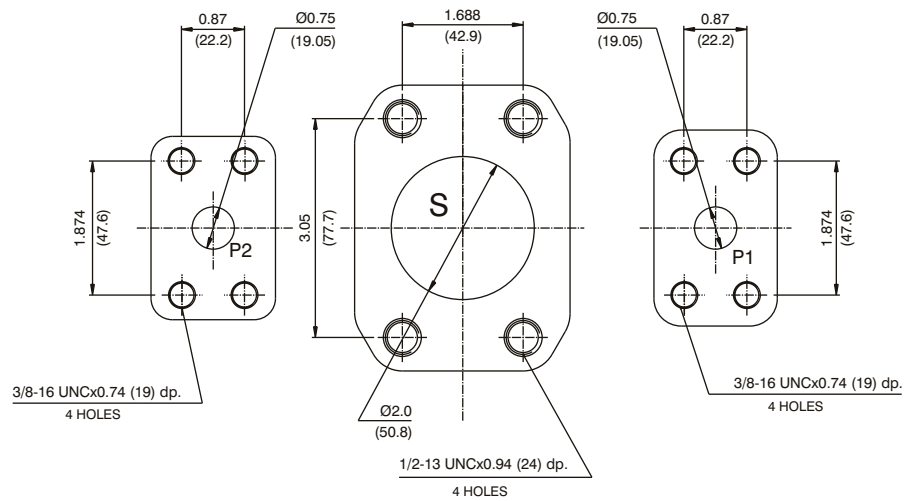
MODEL		DIMENSIONS										W		ØD2				
		A1	A2	A3	A4	A5	A6	A7	ØD1									
inches	mm	inches	mm	inches	mm	inches	mm	inches	mm	inches	mm	inches	mm	inches	mm	inches	mm	
5.11	130	4.18	106.2	0.44	11.2	0.24	6.1	8.85	225	3.53	89.9	0.98	25	3.25	82.50	0.44	11.2	--
6.87	174.5	5.74	146	0.5	12.7	0.37	9.4	8.85	225	3.36	85.4	1.22	31	4.00	101.55	--	0.56	14.3

Port Connection : 00

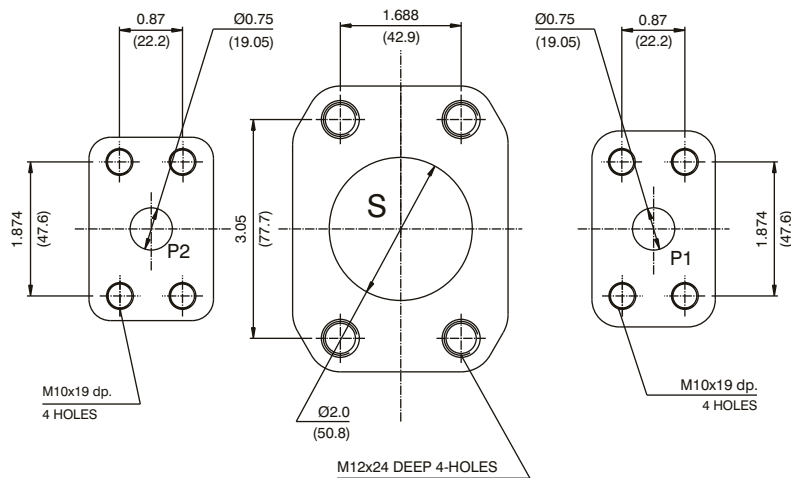


VP
DP

Port Connection : 01



Port Connection : M0



Зміст

vt67bb	2
vt67cb	4
vt67db	6
vt67dc	8
vt67eb	10
vt67ec	12

VT67BB W - B10 - B10 - 1 R 00 - A 1 - M1 -

Series- SAE B 2 bolts
Mounting flange J744c

Use for severe duty shaft only

Cam ring for "P1" and "P2"

Volumetric displacement cm^3/rev (in^3/rev)

B02 = 5.8 (0.35)	B09 = 28.0 (1.71)
B03 = 9.8 (0.60)	B10 = 31.8 (1.94)
B04 = 12.8 (0.78)	B11 = 34.9 (2.13)
B05 = 15.9 (0.97)	B12 = 40.9 (2.50)
B06 = 19.8 (1.21)	B14 = 45.1 (2.75)
B07 = 22.5 (1.37)	B15 = 50.0 (3.05)
B08 = 24.9 (1.52)	

Type of shaft

- 1 - keyed (no SAE)
- 3 - splined (SAE BB)
- 5 - splined (SAE B)

Type of shaft- W version

- 2 - keyed (SAE BB)

Modifications

Mounting W/connection variables

- 11 = 4 bolts SAE flanges (J518c) UNC thread
- M1 = 4 bolts SAE flanges (J518c) Metric thread

Seal class

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

Design letter

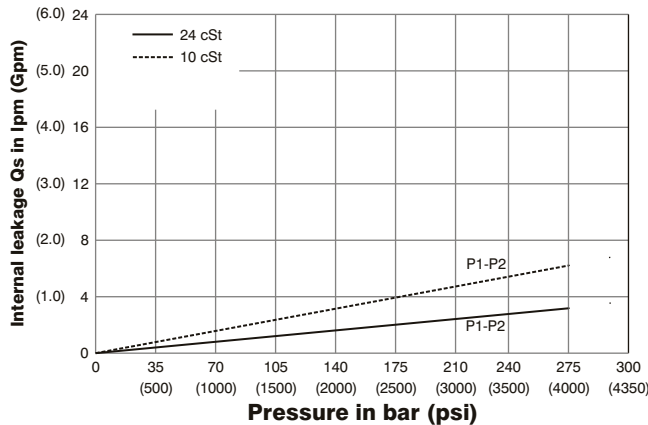
Porting combination (see page BM-1-5)

- 00 - standard

Direction of rotation (view on shaft end)

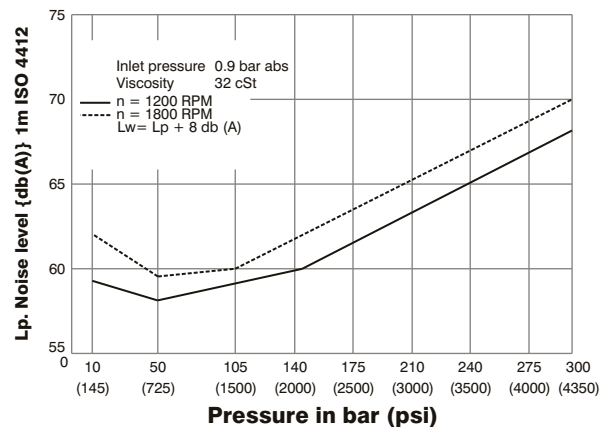
- R - clockwise
- L - counter-clockwise

INTERNAL LEAKAGE (TYPICAL)



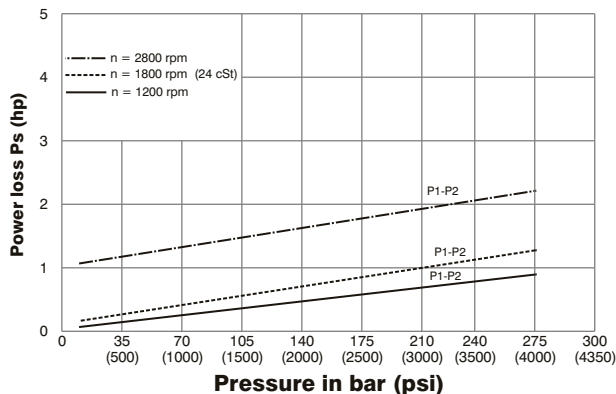
Do not operate pump more than 5 seconds at any speed or viscosity if internal leakage is more than 50% of theoretical flow.
Total leakage is the sum of each section loss at its operating conditions.

NOISE LEVEL (TYPICAL) VT67BB- B10-B03



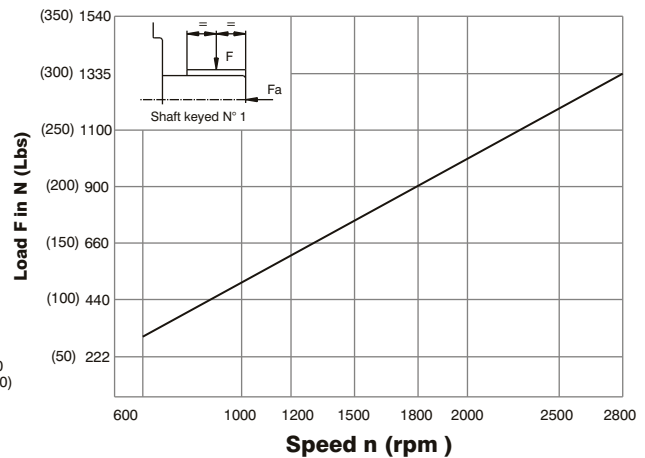
Double pump noise level is given with each section discharging at the pressure noted on the curve.

HYDROMECHANICAL POWER LOSS (TYPICAL)

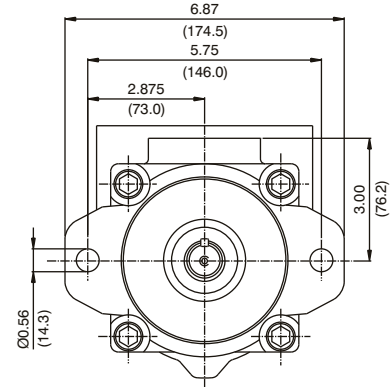
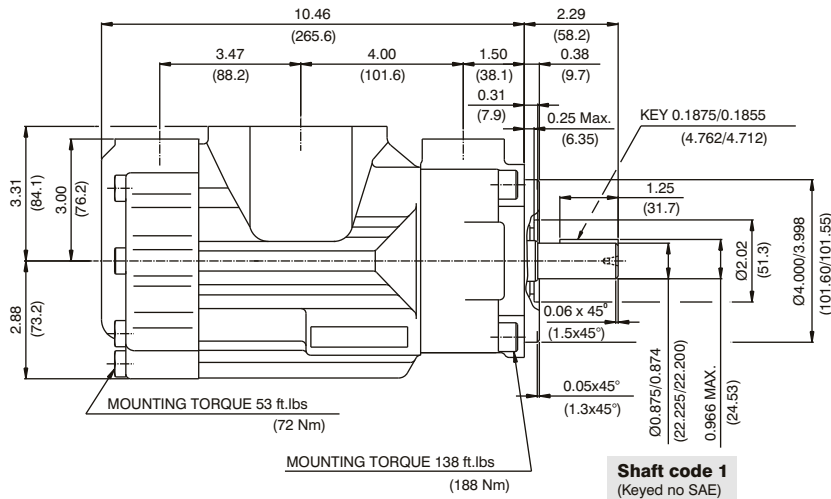
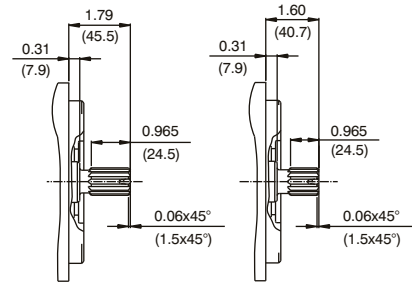
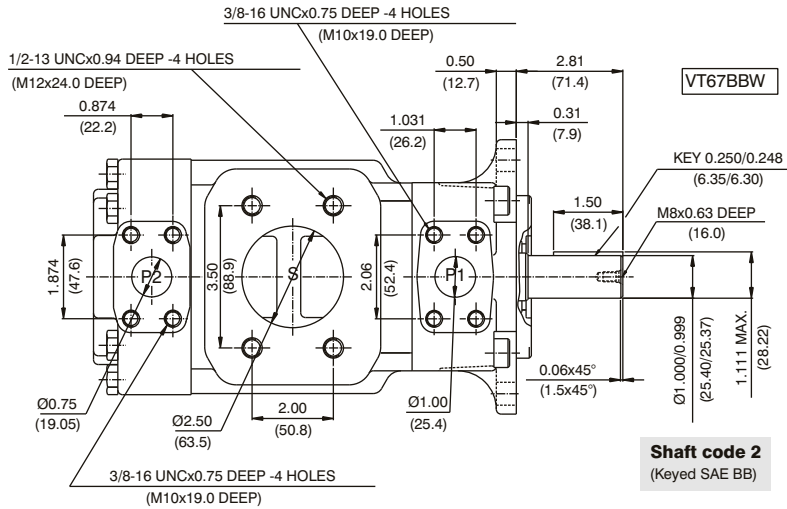


Total hydromechanical power loss is the sum of each section at its operating conditions.

PERMISSIBLE RADIAL LOAD



Maximum permissible axial load $F_a = 800\text{N}$ (180 lbs)



Shaft torque limits in ³ /rev x psi (ml/rev x bar)	
Shaft	Vp x p max. (P1+P2)
1	12666 (14300)
2	18972 (21420)
3	28937 (32670)
5	18246 (20600)

Pressure port	Series	Volumetric Displacement Vp		Flow q & n = 1800 rpm						Input power p & n = 1800 rpm					
		in ³ /rev		p = 0 bar (0 psi)		p = 140 bar (2000 psi)		p = 300 bar (4350 psi)		p = 7 bar (100 psi)		p = 140 bar (2000 psi)		p = 300 bar (4350 psi)	
		cm ³ /rev	gpm	lpm	gpm	lpm	gpm	lpm	gpm	lpm	hp	kw	hp	kw	hp
P1 & P2	B02	0.35	5.7	2.76	10.4	2.33	8.8	1.80	6.8	0.74	0.55	4.02	2.99	8.10	6.40
	B03	0.60	9.8	4.66	17.6	4.23	15.9	3.70	14.0	0.85	0.63	6.24	4.65	12.93	10.25
	B04	0.78	12.8	6.09	23.0	5.66	21.4	5.13	19.4	0.94	0.70	7.90	5.89	16.55	13.13
	B05	0.97	15.9	7.56	28.6	7.13	26.9	6.60	25.0	1.02	0.76	9.62	7.17	20.29	16.12
	B06	1.21	19.8	9.42	35.6	8.99	33.9	8.46	32.0	1.13	0.84	11.79	8.79	25.00	19.88
	B07	1.37	22.5	10.70	40.4	10.27	38.8	9.74	36.8	1.20	0.89	13.29	9.91	28.26	22.47
	B08	1.52	24.9	11.84	44.7	11.41	43.1	10.88	41.1	1.27	0.94	14.62	10.90	31.15	24.78
	B09	1.71	28.0	13.31	50.3	12.87	48.6	12.35	47.0	1.36	1.01	16.35	12.19	34.92	27.77
	B10	1.94	31.8	15.12	57.2	14.69	55.5	14.16	53.5	1.46	1.11	18.45	13.75	39.48	31.42
	B11 ¹⁾	2.13	34.9	16.64	62.9	16.19	61.2	15.68	59.3	1.55	1.15	20.17	15.04	43.22	32.22
	B12 ¹⁾	2.50	40.9	19.50	73.7	19.07	72.1	18.54	70.1	1.72	1.28	23.55	17.56	50.58	37.71
	B14 ¹⁾	2.75	45.1	21.40	80.8	20.95	79.2	20.44	77.0	1.83	1.36	25.80	19.23	55.48	41.37
	B15 ¹⁾	3.05	50.0	23.78	89.8	23.35	88.3	22.88	86.5	1.97	1.47	28.55	21.28	57.35	42.7

1) B11-B12-B14 = 300 bar (4350 psi) & B15 = 280 bar (4060 psi) max. int. And Max. Speed = 3000 rpm

VT67CB W - 012 - B08 - 1 R 00 - A 1 - 11 -

Series- SAE B 2 bolts
Mounting flange J744c

Use for severe duty shaft only

Cam ring for "P1"

Volumetric displacement cm³/rev (in³/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 "P2"

Volumetric displacement cm³/rev (in³/rev)

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

Type of shaft

- 1- keyed (no SAE) W version
- 3- splined (SAE BB) 2- keyed (SAE BB)
- 5- splined (SAE B)

Modifications

Mounting W/connection variables

P1=1" P2=3/4" S=2 1/2"	
UNC	METRIC
11	M1

Seal class

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

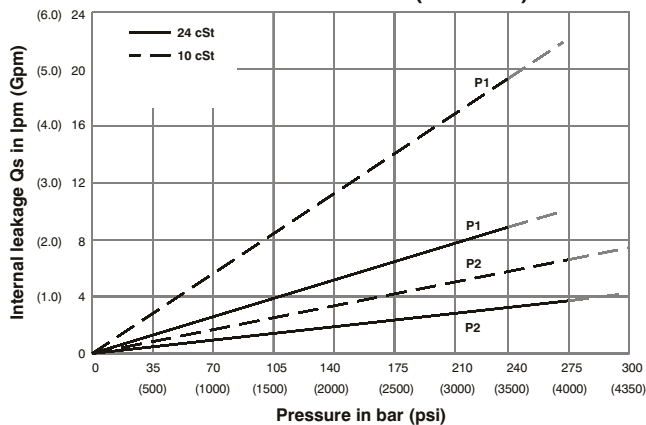
Design letter

Porting combination (see page BM-1-5)
00 - standard

Direction of rotation
(view on shaft end)

- R - clockwise
- L - counter-clockwise

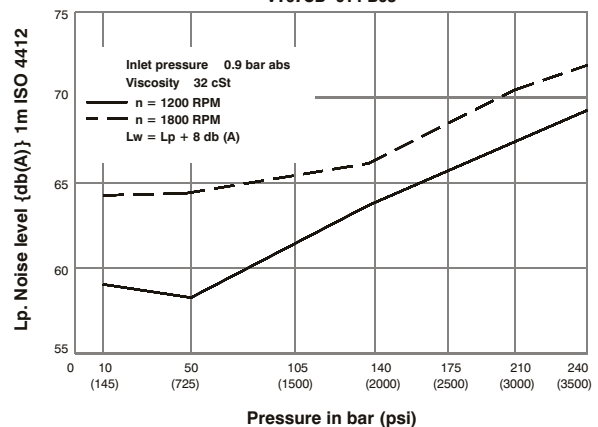
INTERNAL LEAKAGE (TYPICAL)



Do not operate pump more than 5 seconds at any speed or viscosity if internal leakage is more than 50% of theoretical flow.
Total leakage is the sum of each section loss at its operating conditions.

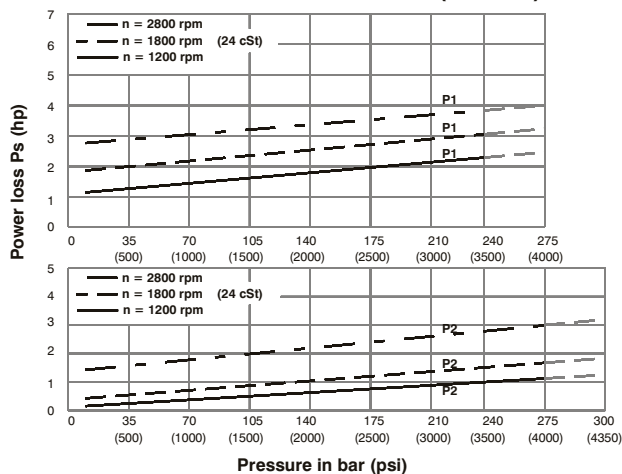
NOISE LEVEL (TYPICAL)

VT67CB- 014-B03



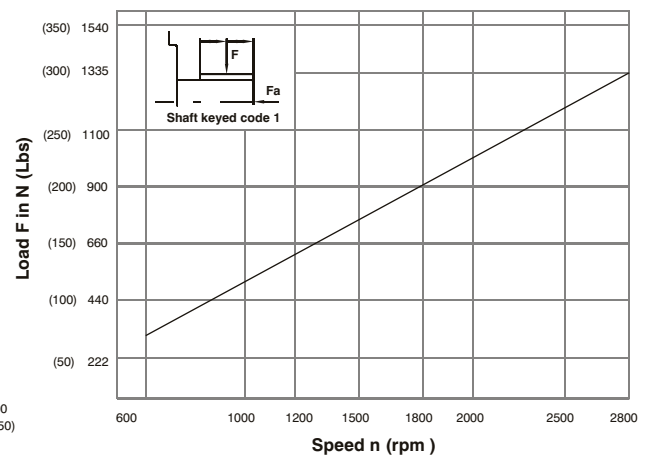
Double pump noise level is given with each section discharging at the pressure noted on the curve.

HYDROMECHANICAL POWER LOSS (TYPICAL)

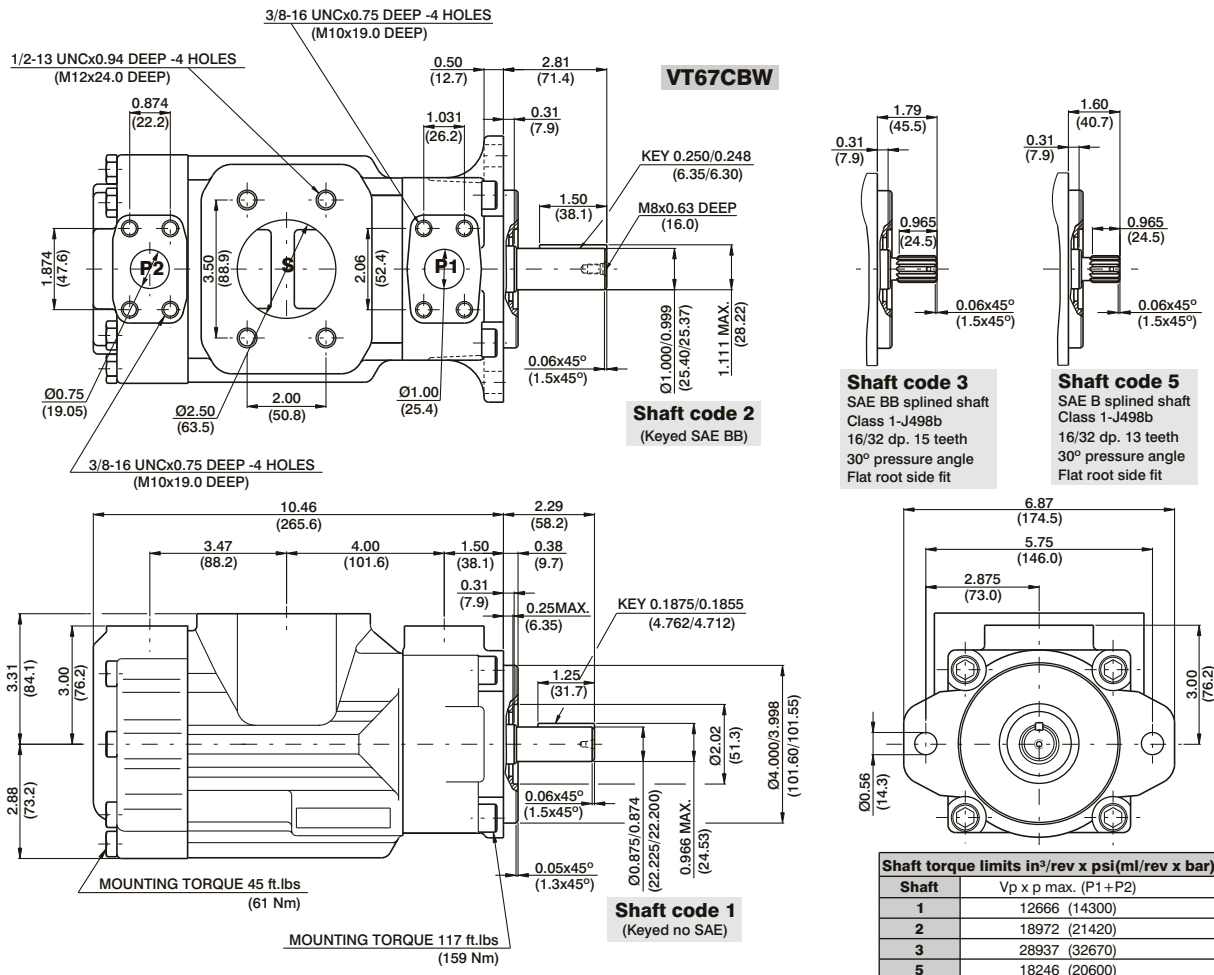


Total hydromechanical power loss is the sum of each section at its operating conditions.

PERMISSIBLE RADIAL LOAD



Maximum permissible axial load Fa = 800N (180 lbs)



OPERATING CHARACTERISTICS - TYPICAL (24 cST) (Input power p (KW) for one cartridge only)

Pressure port	Series	Volumetric Displacement Vp		Flow q & n = 1800 rpm						Input power p & n = 1800 rpm					
		p = 0 bar (0 psi)		p = 140 bar (2000 psi)		p = 275 bar (4000 psi)		p = 7 bar (100 psi)		p = 140 bar (2000 psi)		p = 275 bar (4000 psi)			
		in ³ /rev	cm ³ /rev	gpm	lpm	gpm	lpm	gpm	lpm	hp	kw	hp	kw	hp	kw
P1	003	0.66	10.8	5.14	19.6	3.85	14.6	--	--	2.11	1.57	8.45	6.30	--	--
	005	1.05	17.2	8.18	30.9	6.89	26.0	5.68	21.5	2.29	1.70	12.00	8.94	19.81	14.77
	006	1.30	21.3	10.13	38.3	8.84	33.4	7.63	28.8	2.40	1.78	14.28	10.64	23.79	17.74
	008	1.61	26.4	12.55	47.4	11.26	42.6	10.05	37.9	2.54	1.89	17.11	12.75	28.75	21.43
	010	2.08	34.1	16.22	61.3	14.93	56.4	13.71	51.8	2.76	2.06	21.38	15.94	36.22	27.00
	012	2.26	37.1	17.64	66.7	16.35	61.8	15.14	57.2	2.84	2.11	23.05	17.18	39.14	29.18
	014	2.81	46.0	21.88	82.7	20.59	77.8	19.37	73.2	3.09	2.30	27.99	20.87	47.78	35.62
	015	3.08	50.5	23.99	90.7	22.83	86.3	21.56	81.5	3.21	2.40	30.30	22.60	51.36	38.30
	017	3.56	58.3	27.73	104.8	26.44	99.9	25.22	95.3	3.43	2.55	34.81	25.95	59.73	44.54
	020	3.89	63.8	30.34	114.7	29.05	109.8	27.84	105.2	3.58	2.66	37.86	28.23	65.07	48.52
	022	4.29	70.3	33.43	126.4	32.14	121.5	30.93	116.9	3.76	2.80	41.47	30.92	71.38	53.22
	025 ¹⁾	4.84	79.3	37.71	142.5	36.42	137.6	35.21	133.1	4.01	2.99	46.46	34.64	80.12	59.74
	028 ^{1,2)}	5.42	88.8	42.23	159.6	40.94	154.7	40.32	152.4	4.27	3.18	51.74	38.58	76.73	57.22
031 ^{1,2)}	6.10	100.0	47.56	179.7	46.27	174.9	45.65	172.5	4.58	3.41	57.95	43.21	86.06	64.17	
P2	B02	0.35	5.7	2.76	10.4	2.33	8.8	1.80	6.8	0.74	0.55	4.02	2.99	8.10	6.40
	B03	0.60	9.8	4.66	17.6	4.23	15.9	3.70	14.0	0.85	0.63	6.24	4.65	12.93	10.25
	B04	0.78	12.8	6.09	23.0	5.66	21.4	5.13	19.4	0.94	0.70	7.90	5.89	16.55	13.13
	B05	0.97	15.9	7.56	28.6	7.13	26.9	6.60	25.0	1.02	0.76	9.62	7.17	20.29	16.12
	B06	1.21	19.8	9.42	35.6	8.99	33.9	8.46	32.0	1.13	0.84	11.79	8.79	25.00	19.88
	B07	1.37	22.5	10.70	40.4	10.27	38.8	9.74	36.8	1.20	0.89	13.29	9.91	28.26	22.47
	B08	1.52	24.9	11.84	44.7	11.41	43.1	10.88	41.1	1.27	0.94	14.62	10.90	31.15	24.78
	B09	1.71	28.0	13.31	50.3	12.87	48.6	12.35	47.0	1.36	1.01	16.35	12.19	34.92	27.77
	B10	1.94	31.8	15.12	57.2	14.69	55.5	14.16	53.5	1.46	1.11	18.45	13.75	39.48	31.42
	B11 ³⁾	2.13	34.9	16.64	62.9	16.19	61.2	15.68	59.3	1.55	1.15	20.17	15.04	43.22	32.22
	B12 ³⁾	2.50	40.9	19.50	73.7	19.07	72.1	18.54	70.1	1.72	1.28	23.55	17.56	50.58	37.71
	B14 ³⁾	2.75	45.1	21.40	80.8	20.95	79.2	20.44	77.0	1.83	1.36	25.80	19.23	55.48	41.37
	B15 ³⁾	3.05	50.0	23.78	89.8	23.35	88.3	22.88	86.5	1.97	1.47	28.55	21.28	57.35	42.76

1) 025-028-031 = 2500 rpm max. 2) 028-031 = 210 bar (3000 psi) max. int
3) B11-B12-B14 = 300 bar (4350 psi) & B15 = 280 bar (4060 psi) max. int. And Max. Speed = 3000 rpm

--- Not to use because internal leakage greater than 50 % theoretical flow.

HIGH PERFORMANCE VANE PUMP VT67DB



VT67DB W - 038 - B08 1 R 00 - A 1 M1 -

Series- SAE C 2 bolts
Mounting flange J744c

severe duty shaft only

Cam ring for "P1"

Volumetric displacement cm³/rev (in³/rev)

*014/B14 = 47.6 (2.90)	035/B35 = 111.0 (6.77)
017/B17 = 58.2 (3.55)	038/B38 = 120.3 (7.34)
020/B20 = 66.0 (4.03)	042/B42 = 136.0 (8.30)
024/B24 = 79.5 (4.85)	045/B45 = 145.7 (8.89)
028/B28 = 89.7 (5.47)	050/B50 = 158.0 (9.64)
031/B31 = 98.3 (6.00)	061/B61 = 190.5 (11.62)

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

Cam ring for "P2"

Volumetric displacement cm³/rev (in³/rev)

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

Modifications

Mounting W/connection variables

P1=1-1/4" P2=3/4" S=3"	
UNC	METRIC
11	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 BM-1-5)

00 - standard

Direction of rotation (view on shaft end)

- R - clockwise
- L - counter-clockwise

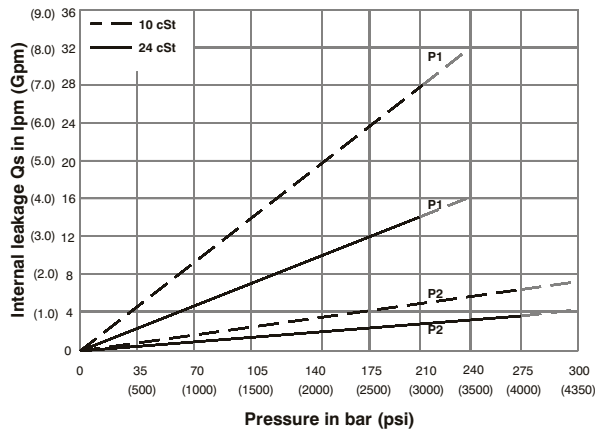
Type of shaft

- 1 - keyed (SAE C)
- 2 - keyed (no SAE)
- 3 - splined (SAE C)
- 4 - splined (no SAE)

Sever duty (VT67DBW only)

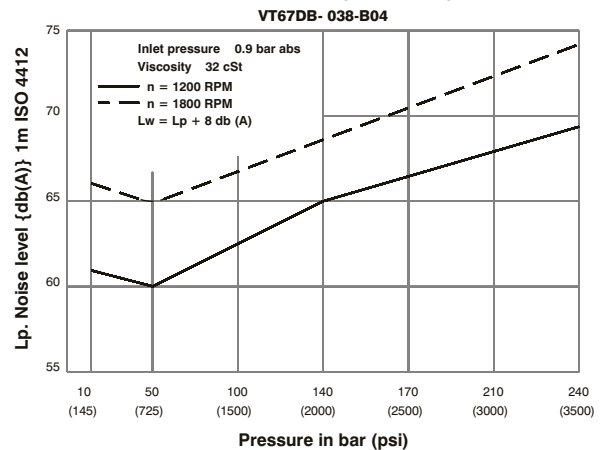
5 - keyed (no SAE)

INTERNAL LEAKAGE (TYPICAL)



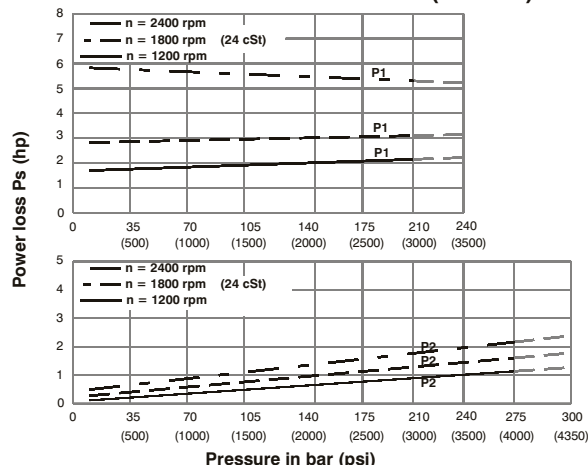
Do not operate pump more than 5 seconds at any speed or viscosity if internal leakage is more than 50% of theoretical flow. Total leakage is the sum of each section loss at its operating conditions.

NOISE LEVEL (TYPICAL)



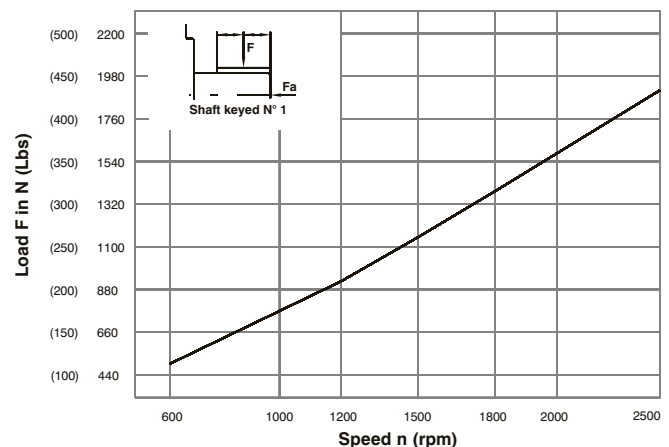
Double pump noise level is given with each section discharging at the pressure noted on the curve.

HYDROMECHANICAL POWER LOSS (TYPICAL)



Total hydromechanical power loss is the sum of each section at its operating conditions.

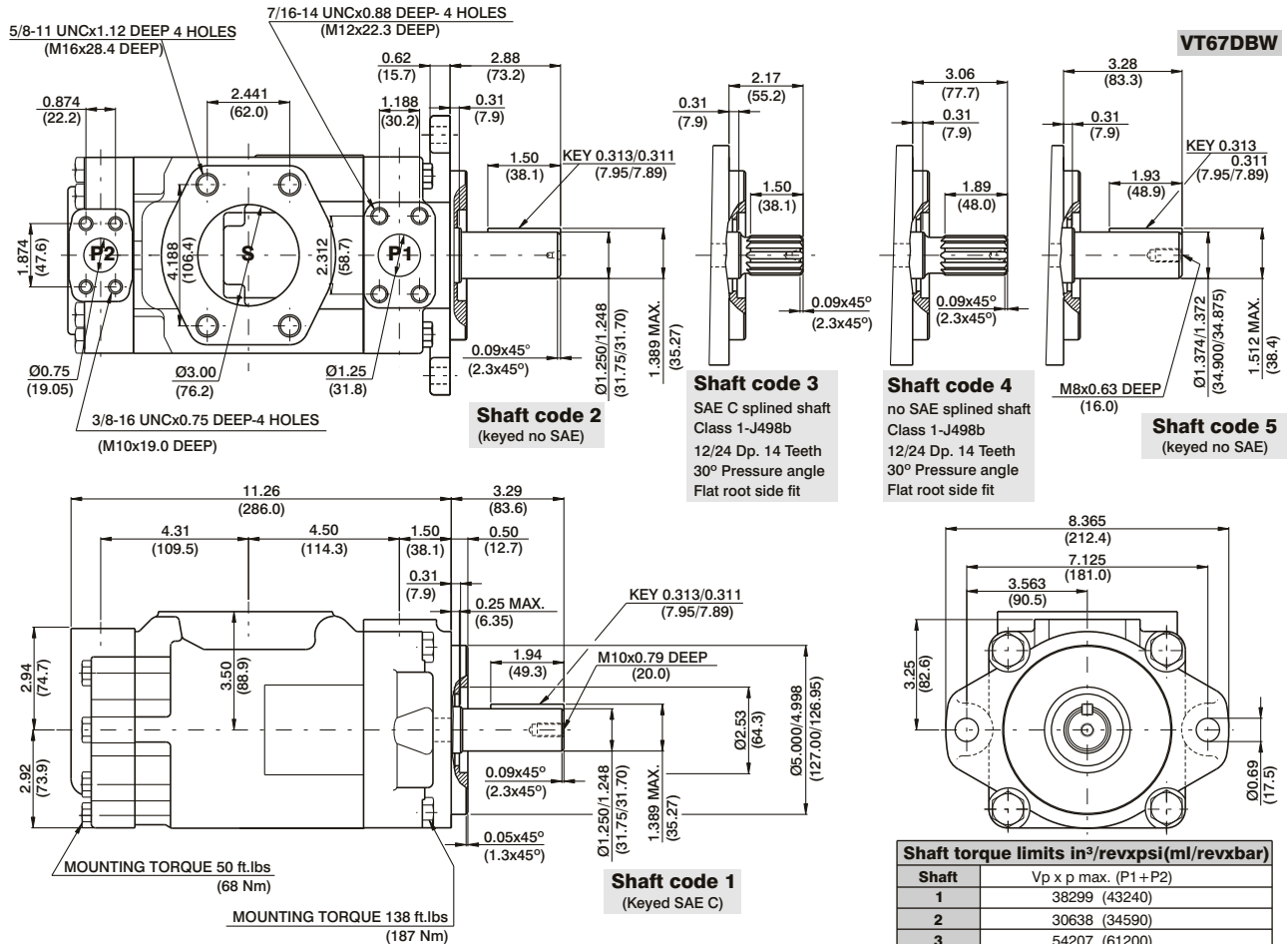
PERMISSIBLE RADIAL LOAD



Maximum permissible axial load Fa = 1200 N (270 Lbs)



HIGH PERFORMANCE VANE PUMP VT67DB



Shaft torque limits in ³ /revpsi(ml/revxbar)	
Shaft	Vp x p max. (P1+P2)
1	38299 (43240)
2	30638 (34590)
3	54207 (61200)
4	54207 (61200)
5	49247 (55600)

OPERATING CHARACTERISTICS - TYPICAL (24 cST) (Input power p (KW) for one cartridge only)

Pressure port	Series	Volumetric Displacement Vp		Flow q & n = 1800 rpm						Input power p & n = 1800 rpm					
		in ³ /rev	cm ³ /rev	p = 0 bar (0 psi)		p = 140 bar (2000 psi)		p = 240 bar (3500 psi)		p = 7 bar (100 psi)		p = 140 bar (2000 psi)		p = 240 bar (3500 psi)	
				gpm	lpm	gpm	lpm	gpm	lpm	hp	kw	hp	kw	hp	kw
P1	014	2.90	47.6	22.64	85.0	20.46	77.4	18.8	71.1	4.02	2.99	29.31	21.85	49.34	36.79
	017	3.55	58.2	23.1	87.3	20.6	78.0	18.99	71.8	3.35	2.5	29.77	22.2	49.62	37.0
	020	4.03	66.0	31.39	118.6	29.29	101.4	27.57	104.2	4.53	3.38	39.52	29.47	67.21	50.11
	024	4.85	79.5	37.81	142.8	35.63	134.6	33.99	128.5	4.91	3.66	47.02	35.06	80.32	59.89
	028	5.47	89.7	42.66	161.3	40.48	153.0	38.84	146.8	5.19	3.87	52.68	39.28	90.23	67.28
	031	6.00	98.3	46.75	176.7	44.57	168.5	42.93	162.3	5.43	4.09	57.45	42.84	98.58	73.51
	035	6.77	111.0	52.79	199.6	50.61	191.3	48.97	184.1	5.78	4.31	64.50	48.09	110.91	82.70
	038	7.34	120.3	57.21	216.3	55.03	208.1	53.39	201.8	6.04	4.50	69.66	51.94	111.94	83.47
	042 ¹⁾	8.30	136.0	64.68	244.5	62.50	236.3	60.86	230.1	6.47	4.83	78.37	58.44	135.19	100.81
	045 ¹⁾	8.89	145.7	69.29	261.9	67.11	253.7	65.47	247.5	6.74	5.02	83.75	62.45	144.61	107.83
	050 ^{1,2)}	9.64	158.0	75.14	284.1	72.96	275.8	71.78	271.3	7.08	5.27	90.58	67.54	134.54	100.32
061 ^{1,2)}	11.62	190.4	75.6	285.8	73.54	278.0	--	--	7.37	5.50	97.49	72.69	--	--	
P2				p = 0 bar (0 psi)	p = 140 bar (2000 psi)	p = 300 bar (4350 psi)	p = 7 bar (100 psi)	p = 140 bar (2000 psi)	p = 300 bar (4350 psi)						
	B02	0.35	5.8	2.76	10.4	2.33	8.8	1.80	6.8	0.74	0.55	4.02	2.99	8.10	6.40
	B03	0.60	9.8	4.66	17.6	4.23	15.9	3.70	14.0	0.85	0.63	6.24	4.65	12.93	10.25
	B04	0.78	12.8	6.09	23.0	5.66	21.4	5.13	19.4	0.94	0.70	7.90	5.89	16.55	13.13
	B05	0.97	15.9	7.56	28.6	7.13	26.9	6.60	25.0	1.02	0.76	9.62	7.17	20.29	16.12
	B06	1.21	19.8	9.42	35.6	8.99	33.9	8.46	32.0	1.13	0.84	11.79	8.79	25.00	19.88
	B07	1.37	22.5	10.70	40.4	10.27	38.8	9.74	36.8	1.20	0.89	13.29	9.91	28.26	22.47
	B08	1.52	24.9	11.84	44.7	11.41	43.1	10.88	41.1	1.27	0.94	14.62	10.90	31.15	24.78
	B09	1.71	28.0	13.31	50.3	12.87	48.6	12.35	47.0	1.36	1.01	16.35	12.19	34.92	27.77
	B10	1.94	31.8	15.12	57.2	14.69	55.5	14.16	53.5	1.46	1.11	18.45	13.75	39.48	31.42
	B11 ⁴⁾	2.13	34.9	16.64	62.9	16.19	61.2	15.68	59.3	1.55	1.15	20.17	15.04	43.22	32.22
	B12 ⁴⁾	2.50	40.9	19.50	73.7	19.07	72.1	18.54	70.1	1.72	1.28	23.55	17.56	50.58	37.71
	B14 ⁴⁾	2.75	45.1	21.40	80.8	20.95	79.2	20.44	77.0	1.83	1.36	25.80	19.23	55.48	41.37
	B15 ⁴⁾	3.05	50.0	23.78	89.8	23.35	88.3	22.88	86.5	1.97	1.47	28.55	21.28	57.35	42.76

1) 042-045-050-061=2200 RPM max. 2) 050=210 bar (3000 psi) max. int. 3) 061 = 120 bar (1740 psi) max. int, 061 = 80 bar (1160 psi) cont.

4) B11-B12-B14 = 300 bar (4350 psi) & B15 = 280 bar (4060 psi) max. int. And Max. Speed = 3000 rpm

VT67DC W - 038 - B08 1 R 00 - A 1 M1 -

Series

SAE B 2 bolts
Mounting flange J744c

use for severe duty
shaft only

Camring for "P1"

Volumetric displacement cm^3/rev (in^3/rev)

B14=2.68 (43.9) B31=6.05 (99.1)
B17=3.36 (55.0) B35=6.92 (113.4)
B20=4.03 (66.0) B38=7.36 (120.6)
B22=4.29 (70.3) B42=8.39 (137.5)
B24=4.95 (81.1) 045=8.89 (145.7)
B28=5.49 (89.9) 050=9.64 (157.9)

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

Camring for "P2"

Volumetric displacement cm^3/rev (in^3/rev)

003/B03=0.66 (10.80) 015/B15=3.08 (50.50)
005/B05=1.05 (17.20) 017/B17=3.56 (58.30)
006/B06=1.30 (21.30) 020/B20=3.89 (63.80)
008/B08=1.61 (26.40) 022/B22=4.29 (70.30)
010/B10=2.08 (34.10) 025/B25=4.84 (79.30)
012/B12=2.26 (37.10) 028/B28=5.42 (88.80)
014/B14=2.81 (46.00) 031/B31=6.10 (100.00)

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

Modifications

Mounting W/connection variables

	UNC		METRIC	
	00	01	M0	M1
P2	1"	3/4"	1"	3/4"

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

00 - standard

Direction of rotation (view on shaft end)

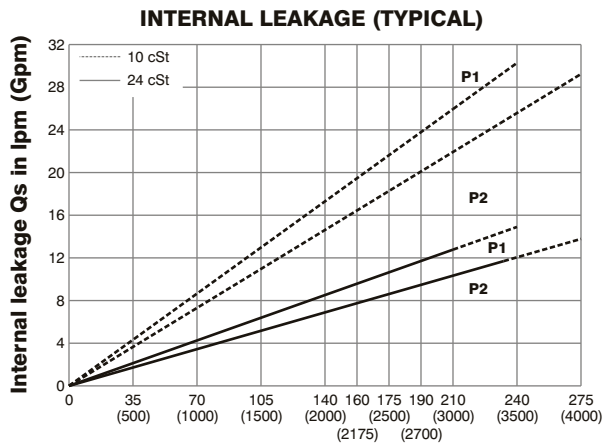
- R - clockwise
- L - counter-clockwise

Type of shaft

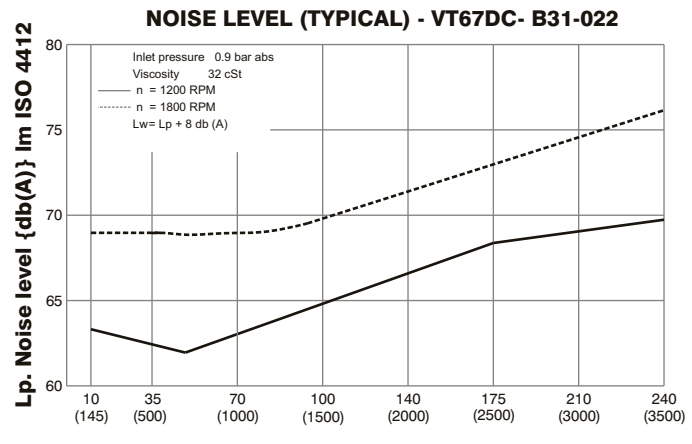
- 1 - keyed (SAE C)
- 2 - keyed (no SAE)
- 3 - splined (SAE C)
- 4 - splined (no SAE)

Sever duty (VT67DCW only)

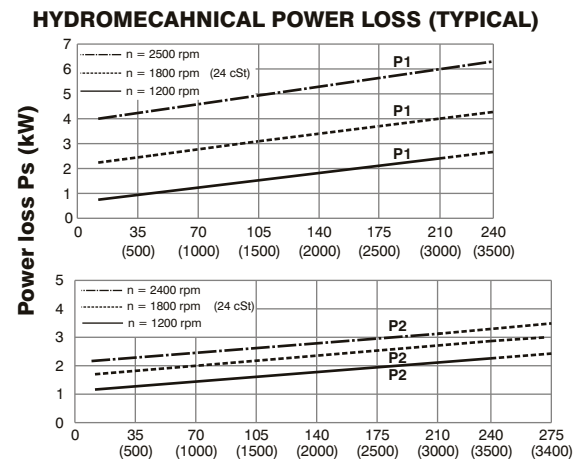
5 - keyed (no SAE)



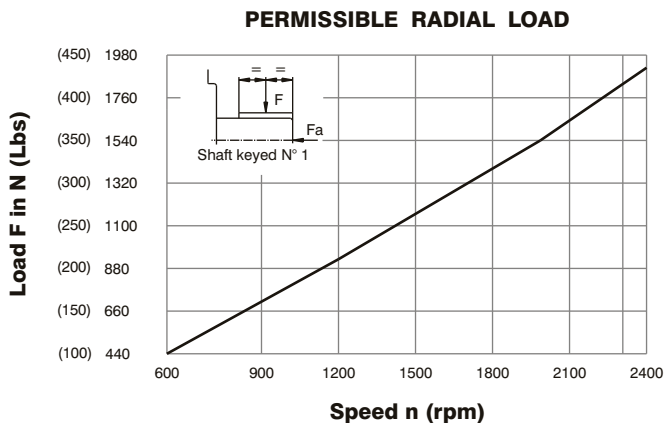
Do not operate pump more than 5 seconds at any speed or viscosity if internal leakage is more than 50% of theoretical flow. Total leakage is the sum of each section loss at its operating conditions.



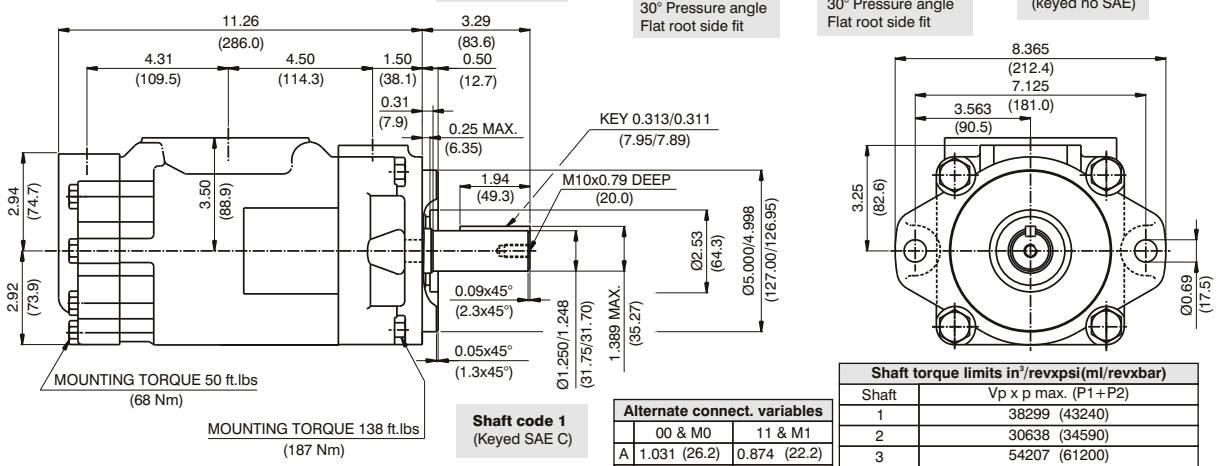
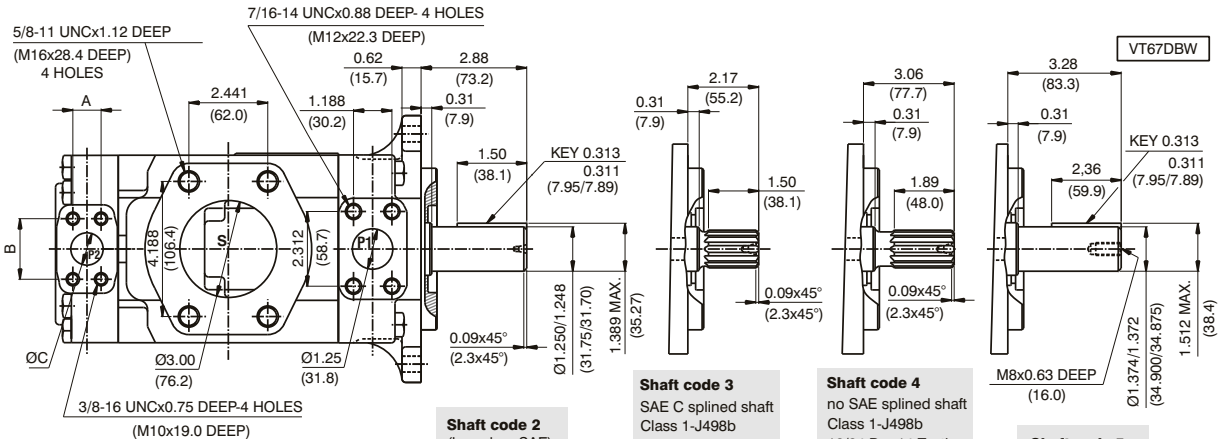
Double pump noise level is given with each section discharging at the pressure noted on the curve.



Total hydromechanical power loss is the sum of each section at its operating conditions.



HIGH PERFORMANCE VANE PUMP VT67DC



OPERATING CHARACTERISTICS - TYPICAL (24 cST) (Input power p (KW) for one cartridge only)

Pressure port	Series	Volumetric Displacement Vp		Flow q & n = 1800 rpm						Input power p & n = 1800 rpm					
		in ³ /rev	cm ³ /rev	p = 0 bar (0 psi)		p = 140 bar (2000 psi)		p = 250 bar (3630 psi)		p = 7 bar (100 psi)		p = 140 bar (2000 psi)		p = 250 bar (3630 psi)	
				gpm	lpm	gpm	lpm	gpm	lpm	hp	kw	hp	kw	hp	kw
P1	B14	2.68	43.9	20.92	79.1	19.18	72.5	17.81	67.3	3.46	2.6	27.77	20.7	47.03	35.07
	B17	3.36	55.0	26.16	98.8	24.41	92.3	23.04	87.0	3.77	2.8	33.88	25.3	57.71	43.03
	B20	4.03	66.0	31.39	118.6	29.64	112.0	28.27	106.8	4.07	3.0	39.98	29.8	68.39	50.99
	B22	4.29	70.3	33.43	126.4	31.69	119.8	30.32	104.6	4.19	3.1	42.37	31.6	72.57	54.11
	B24	4.95	81.1	38.57	145.8	36.82	139.2	35.45	134.0	4.49	3.4	48.36	36.1	83.06	61.93
	B28	5.49	89.9	42.80	161.8	41.06	155.2	39.69	150.0	4.74	3.5	53.30	39.7	91.70	68.38
	B31	6.05	99.1	47.18	178.3	45.43	171.7	44.06	166.5	4.99	3.7	58.41	43.6	100.63	75.03
	B35	6.92	113.4	53.93	203.9	52.18	197.2	50.81	192.0	5.39	4.0	66.29	49.4	114.42	85.32
	B38	7.36	120.6	57.35	216.8	55.61	210.2	54.24	204.9	5.59	4.2	70.28	52.4	121.42	90.54
	B42	8.39	137.5	65.39	247.2	63.65	240.6	62.28	235.4	6.05	4.5	79.66	59.4	137.83	102.77
045	8.89	145.7	69.29	262.0	67.11	253.6	65.31	246.8	6.74	5.0	83.75	62.4	145.79	108.71	
050	9.64	157.9	75.14	284.0	72.96	275.8	71.78 ¹⁾	271.3 ¹⁾	7.08	5.3	90.58	67.5	134.50 ¹⁾	100.3 ¹⁾	
P2	003	0.66	10.8	5.14	19.6	3.85	14.6	--	--	2.11	1.57	8.45	6.30	--	--
	005	1.05	17.2	8.18	30.9	6.89	26.0	5.68	21.5	2.29	1.70	12.00	8.94	19.81	14.77
	006	1.30	21.3	10.13	38.3	8.84	33.4	7.63	28.8	2.40	1.78	14.28	10.64	23.79	17.74
	008	1.61	26.4	12.55	47.4	11.26	42.6	10.05	37.9	2.54	1.89	17.11	12.75	28.75	21.43
	010	2.08	34.1	16.22	61.3	14.93	56.4	13.71	51.8	2.76	2.06	21.38	15.94	36.22	27.00
	012	2.26	37.1	17.64	66.7	16.35	61.8	15.14	57.2	2.84	2.11	23.05	17.18	39.14	29.18
	014	2.81	46.0	21.88	82.7	20.59	77.8	19.37	73.2	3.09	2.30	27.99	20.87	47.78	35.62
	015	3.08	50.5	23.99	90.7	22.83	86.3	21.56	81.5	3.21	2.40	30.30	22.60	51.36	38.30
	017	3.56	58.3	27.73	104.8	26.44	99.9	25.22	95.3	3.43	2.55	34.81	25.95	59.73	44.54
	020	3.89	63.8	30.34	114.7	29.05	109.8	27.84	105.2	3.58	2.66	37.86	28.23	65.07	48.52
	022	4.29	70.3	33.43	126.4	32.14	121.5	30.93	116.9	3.76	2.80	41.47	30.92	71.38	53.22
	025	4.84	79.3	37.71	142.5	36.42	137.6	35.21	133.1	4.01	2.99	46.46	34.64	80.12	59.74
	028	5.42	88.8	42.23	159.6	40.94	154.7	40.32 ²⁾	152.4 ²⁾	4.27	3.18	51.74	38.58	76.73 ²⁾	57.22 ²⁾
031	6.10	100.0	47.56	179.7	46.27	174.9	45.65 ²⁾	172.5 ²⁾	4.58	3.41	57.95	43.21	86.06 ²⁾	64.17 ²⁾	

- Not recommended to use as the internal leakage is over 50% of theoretical flow.

1) 050 = 210 bar (3000 psi) max. int 2) 028 - 031 = 210 bar (3000 psi) max.int

HIGH PERFORMANCE VANE PUMP VT67EB



VT67EB - 066 - B08 1 R 00 - A 1 M1 -

Series- SAE C 2 bolts
Mounting flange J744c

Cam ring for "P1"

Volumetric displacement cm³/rev (in³/rev)

042 = 132.3 (8.07)	062 = 196.7 (12.00)
045 = 142.4 (8.69)	066 = 213.3 (13.02)
050 = 158.5 (9.67)	072 = 227.1 (13.86)
052 = 164.8 (10.06)	085 = 269.8 (16.46)
057 = 180.7 (11.02)	

Cam ring for "P2"

Volumetric displacement cm³/rev (in³/rev)

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

Type of shaft

- 1 - keyed (SAE CC)
- 2 - keyed (no SAE)
- 3 - splined (SAE C)
- 4 - splined (SAE CC)

Modifications

Mounting W/connection variables

P1=1-1/2" P2=3/4" S=3-1/2"	
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 BM-1-5)

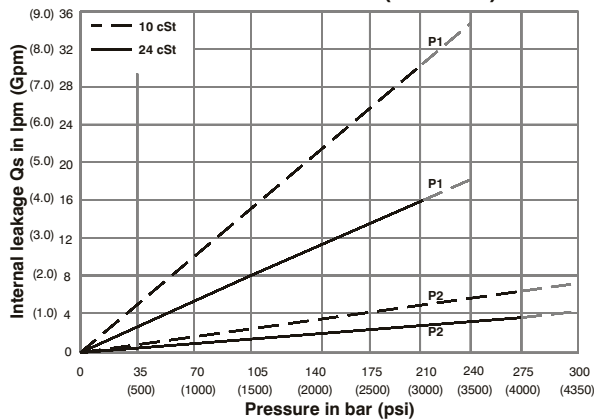
00 - standard

Direction of rotation (view on shaft end)

- R - clockwise
- L - counter-clockwise

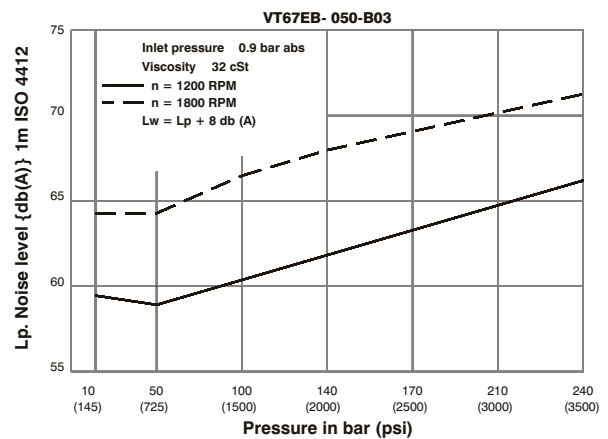


INTERNAL LEAKAGE (TYPICAL)



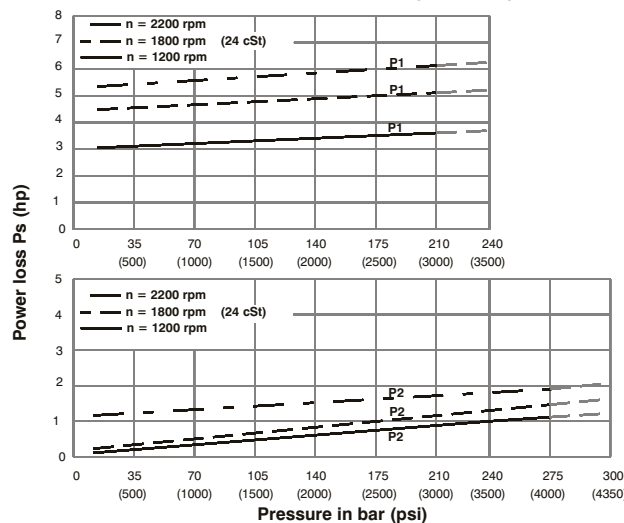
Do not operate pump more than 5 seconds at any speed or viscosity if internal leakage is more than 50% of theoretical flow.
Total leakage is the sum of each section loss at its operating conditions.

NOISE LEVEL (TYPICAL)



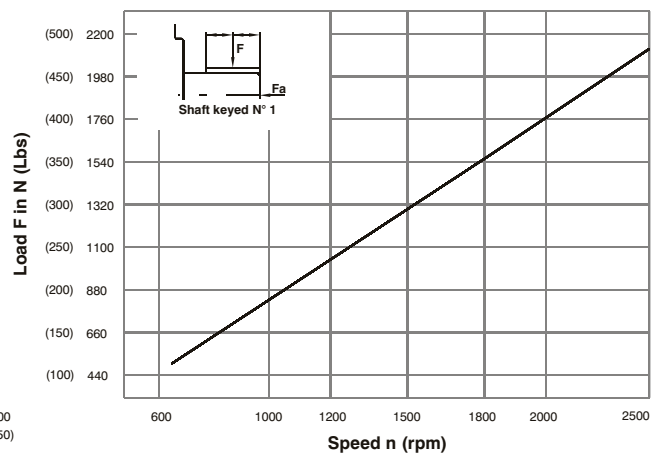
Double pump noise level is given with each section discharging at the pressure noted on the curve.

HYDROMECHANICAL POWER LOSS (TYPICAL)



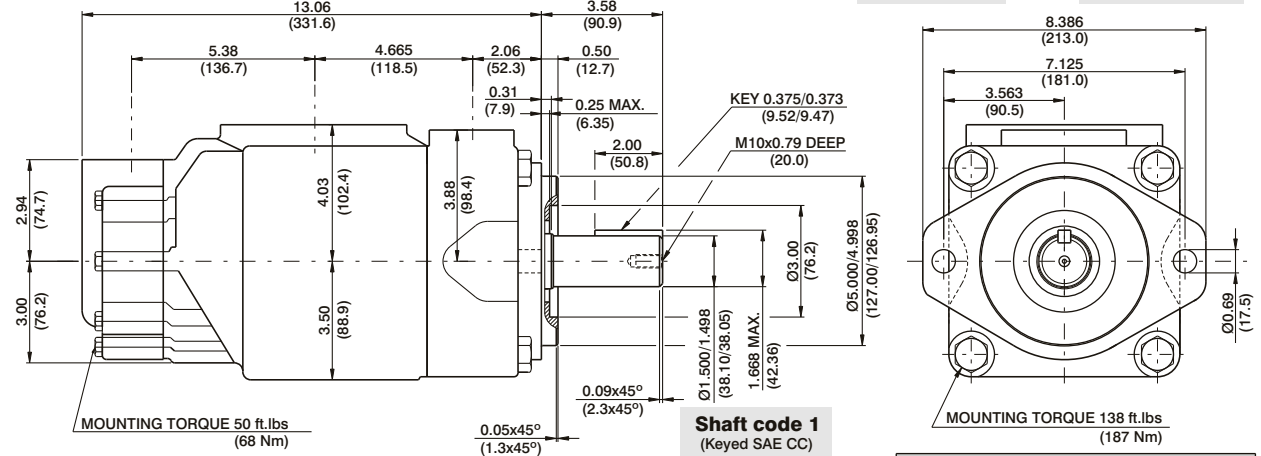
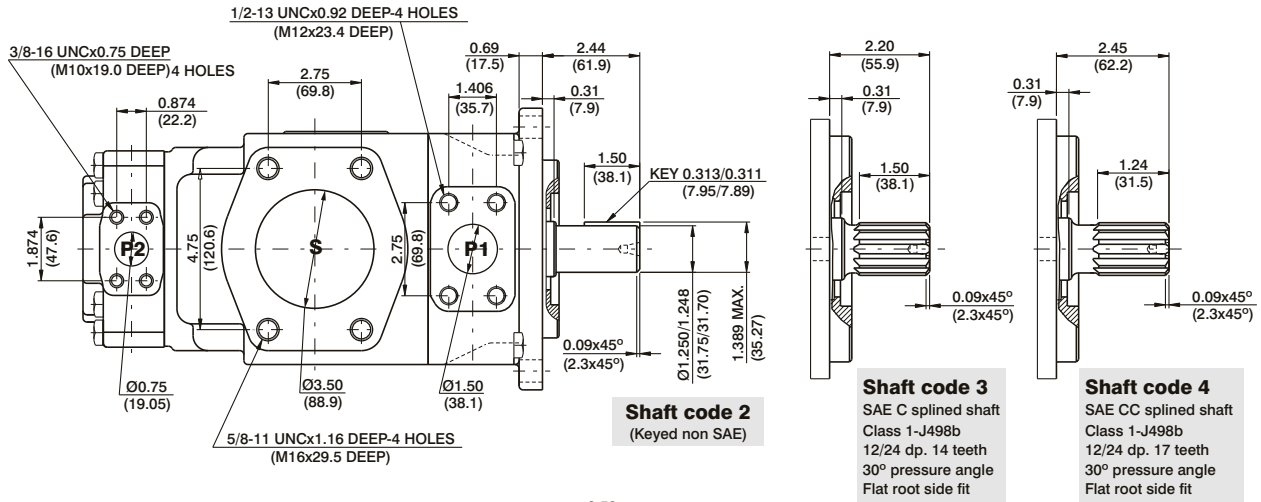
Total hydromechanical power loss is the sum of each section at its operating conditions.

PERMISSIBLE RADIAL LOAD



Maximum permissible axial load Fa = 2000 N (449 Lbs)

HIGH PERFORMANCE VANE PUMP VT67EB



Shaft torque limits in ² /rev x psi (ml/rev x bar)	
Shaft	Vp x p max. (P1+P2)
1	64044 (72306)
2	30638 (34590)
3	54207 (61200)
4	67582 (76376)

OPERATING CHARACTERISTICS - TYPICAL (24 cST) (Input power p (KW) for one cartridge only)

Pressure port	Series	Volumetric Displacement Vp		Flow q & n = 1800 rpm						Input power p & n = 1800 rpm					
		p = 0 bar (0 psi)		p = 140 bar (2000 psi)		p = 240 bar (3500 psi)		p = 7 bar (100 psi)		p = 140 bar (2000 psi)		p = 240 bar (3500 psi)			
		in ³ /rev	cm ³ /rev	gpm	lpm	gpm	lpm	gpm	lpm	hp	kw	hp	kw	hp	kw
P1	042	8.07	132.3	62.92	237.8	60.37	228.2	58.52	221.2	8.09	6.03	78.44	58.49	133.80	99.78
	045	8.69	142.4	67.72	256.0	65.17	246.3	63.32	239.4	8.37	6.24	84.04	62.67	143.60	107.08
	050	9.67	158.5	75.38	285.0	72.83	275.3	70.98	268.3	8.82	6.58	92.97	69.30	159.24	118.7
	052	10.06	164.8	78.37	296.2	75.82	286.3	73.97	279.6	8.99	6.70	96.47	71.94	165.36	121.31
	057	11.02	180.7	71.70	325.3	69.07	261.1	80.63	304.8	9.40	7.00	114.30	85.14	172.10	128.30
	062	12.00	196.7	93.54	353.6	90.99	344.0	89.14	337.0	9.88	7.36	114.17	84.00	196.34	146.41
	066	13.02	213.3	101.44	383.4	98.89	373.8	97.04	366.8	10.34	7.71	123.38	92.01	212.46	158.43
	072	13.86	227.1	108.00	408.2	105.45	400.0	103.60	391.6	10.72	8.00	131.04	97.72	225.86	168.42
	085 ^{1,2)}	16.40	268.7	127.08	483.0	126.13	476.7	--	--	11.66	8.70	87.56	65.30	--	--
P2				p = 0 bar (0 psi)	p = 140 bar (2000 psi)	p = 300 bar (4350 psi)	p = 7 bar (100 psi)	p = 140 bar (2000 psi)	p = 300 bar (4350 psi)						
	B02	0.35	5.7	2.76	10.4	2.33	8.8	1.80	6.8	0.74	0.55	4.02	2.99	8.10	6.40
	B03	0.60	9.8	4.66	17.6	4.23	15.9	3.70	14.0	0.85	0.63	6.24	4.65	12.93	10.25
	B04	0.78	12.8	6.09	23.0	5.66	21.4	5.13	19.4	0.94	0.70	7.90	5.89	16.55	13.13
	B05	0.97	15.9	7.56	28.6	7.13	26.9	6.60	25.0	1.02	0.76	9.62	7.17	20.29	16.12
	B06	1.21	19.8	9.42	35.6	8.99	33.9	8.46	32.0	1.13	0.84	11.79	8.79	25.00	19.88
	B07	1.37	22.5	10.70	40.4	10.27	38.8	9.74	36.8	1.20	0.89	13.29	9.91	28.26	22.47
	B08	1.52	24.9	11.84	44.7	11.41	43.1	10.88	41.1	1.27	0.94	14.62	10.90	31.15	24.78
	B09	1.71	28.0	13.31	50.3	12.87	48.6	12.35	47.0	1.36	1.01	16.35	12.19	34.92	27.77
	B10	1.94	31.8	15.12	57.2	14.69	55.5	14.16	53.5	1.46	1.11	18.45	13.75	39.48	31.42
	B11 ³⁾	2.13	34.9	16.64	62.9	16.19	61.2	15.68	59.3	1.55	1.15	20.17	15.04	43.22	32.22
	B12 ³⁾	2.50	40.9	19.50	73.7	19.07	72.1	18.54	70.1	1.72	1.28	23.55	17.56	50.58	37.71
	B14 ³⁾	2.75	45.1	21.40	80.8	20.95	79.2	20.44	77.0	1.83	1.36	25.80	19.23	55.48	41.37
	B15 ³⁾	3.05	50.0	23.78	89.8	23.35	88.3	22.88	86.5	1.97	1.47	28.55	21.28	57.35	42.76

1) 085 = 2000 RPM max. 2) 085=75 bar (1087 psi)cont. 085=90 bar (1300 psi) max. int.
3) B11-B12-B14 = 300 bar (4350 psi) & B15 = 280 bar (4060 psi) max. int. And Max. Speed = 3000 rpm

VT67EC - 062 - 010 1 R 00 - A 1 00 - *

Series-SAE C 2 bolts
Mounting flange J744c

Cam ring for "P1"

Volumetric displacement cm^3 / rev (in^3 / rev)

042 = 132.2 (8.07)	057 = 183.2 (11.18)
045 = 142.5 (8.70)	062 = 196.6 (12.00)
050 = 158.5 (9.67)	066 = 213.0 (13.00)
052 = 163.8 (10.00)	072 = 227.1 (13.86)
054 = 170.9 (10.43)	085 = 268.7 (16.40)

Cam ring for "P2"

Volumetric displacement cm^3 / rev (in^3 / rev)

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

Type of shaft

- 1 - keyed (SAE CC)
- 2 - keyed (no SAE)
- 3 - splined (SAE C)
- 4 - splined (SAE CC)

Modifications

Mounting W/connection variables
4 bolts SAE flange J518

TYPE	P1 = 1 1/2" & S = 3 1/2"			
	Metric thread		UNC thread	
CODE	M0	M1	00	01
P2	1"	3/4"	1"	3/4"

Seal class

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

Design letter

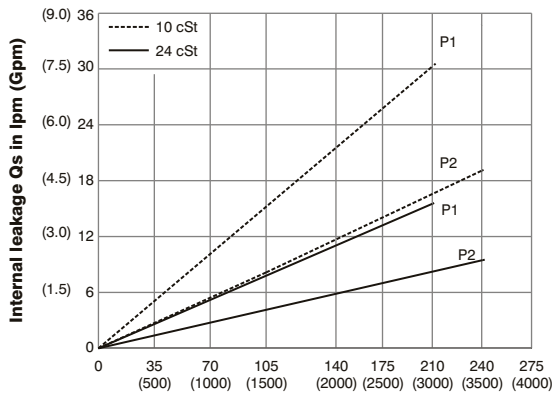
Porting combination (see page BM-1-5)

00 - standard

Direction of rotation (view on shaft end)

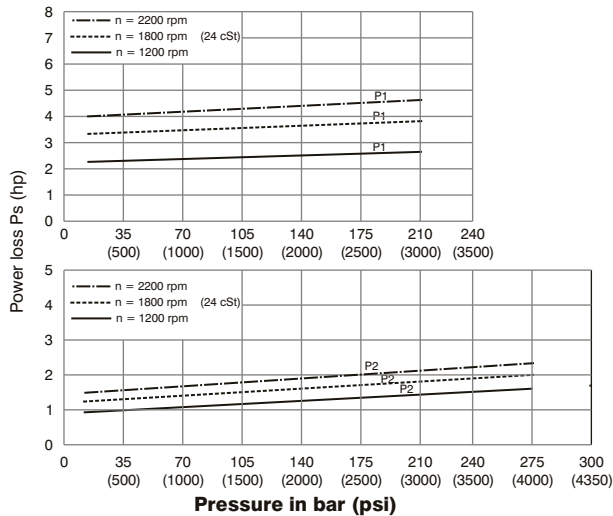
- R - clockwise
- L - counter-clockwise

INTERNAL LEAKAGE (TYPICAL)



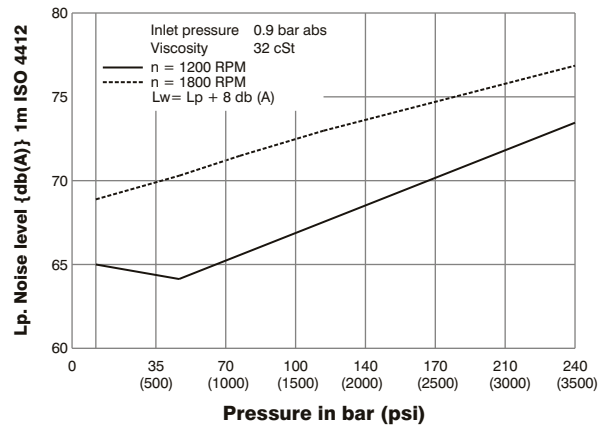
Do not operate pump more than 5 seconds at any speed or viscosity if internal leakage is more than 50 of theoretical flow.
Total leakage is the sum of each section loss at its operating conditions.

HYDROMECHANICAL POWER LOSS (TYPICAL)



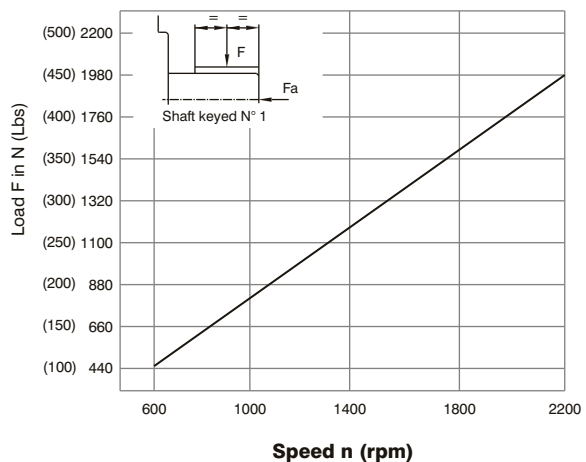
Total hydromechanical power loss is the sum of each section at its operating conditions.

NOISE LEVEL (TYPICAL)
VT67EC- 050-022



Double pump noise level is given with each section discharging at the pressure noted on the curve.

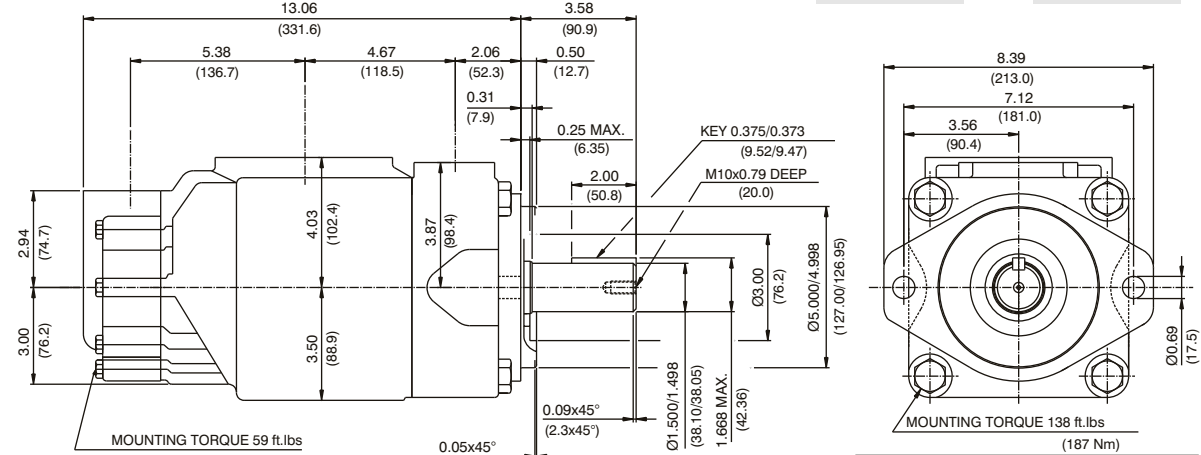
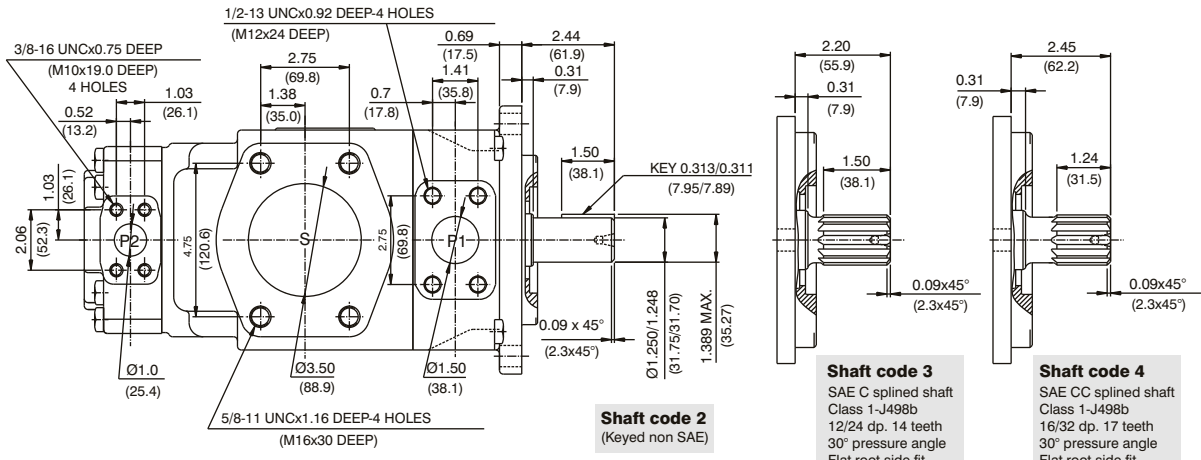
PERMISSIBLE RADIAL LOAD



Maximum permissible axial load $F_a = 2000 \text{ N (449 Lbs)}$



HIGH PERFORMANCE VANE PUMP VT67EC



Shaft torque limits in ³ /rev x psi (ml/rev x bar)	
Shaft	Vp x p max. (P1+P2)
1	64039 (72306)
2	30638 (34590)
3	54207 (61200)
4	67582 (76376)

OPERATING CHARACTERISTICS - TYPICAL (24 cSt) (Input power p (KW) for one cartridge only)

Pressure port	Series	Volumetric Displacement Vp		Flow q & n = 1800 rpm						Input power p & n = 1800 rpm					
		in ³ /rev	cm ³ /rev	p = 0 bar (0 psi)		p = 140 bar (2000 psi)		p = 240 bar (3500 psi)		p = 7 bar (100 psi)		p = 140 bar (2000 psi)		p = 240 bar (3500 psi)	
				gpm	lpm	gpm	lpm	gpm	lpm	hp	kw	hp	kw	hp	kw
P1	042	8.07	132.2	62.92	237.8	60.37	228.2	58.52	221.2	8.09	6.03	78.44	58.49	133.80	99.77
	045	8.70	142.5	67.72	255.9	65.17	246.3	63.32	239.3	8.37	6.24	84.04	62.66	143.60	107.08
	050	9.67	158.5	75.38	284.9	72.83	275.3	70.98	268.3	8.82	6.58	92.97	69.32	159.24	118.75
	052	10.00	163.8	78.37	296.2	75.82	286.6	73.97	279.6	8.99	6.70	96.47	71.94	165.36	123.31
	054	10.43	170.9	81.27	307.2	78.72	297.6	76.87	290.6	9.17	6.84	99.75	74.38	177.46	132.33
	057	11.18	183.2	87.12	329.3	84.57	319.7	82.72	312.7	9.51	7.09	106.57	79.47	189.84	141.56
	062	12.00	196.6	93.54	353.6	90.99	343.9	89.14	336.9	9.88	7.37	114.17	85.13	196.34	146.41
	066	13.00	213.0	101.44	383.4	98.89	373.8	97.04	366.8	10.34	7.71	123.38	92.01	212.46	158.43
	072	13.86	227.1	108.00	408.2	105.45	398.6	103.60	391.6	10.72	7.99	131.04	97.71	225.86	166.42
085 ^{1,2)}	16.40	268.7	127.79	483.0	126.13	476.7	--	--	11.88	8.85	101.66	75.80	--	--	
P2	003	0.66	10.8	5.14	19.6	3.85	14.6	--	--	2.11	1.57	8.45	6.30	--	--
	005	1.05	17.2	8.18	30.9	6.89	26.0	5.68	21.5	2.29	1.70	12.00	8.94	19.81	14.77
	006	1.30	21.3	10.13	38.3	8.84	33.4	7.63	28.8	2.40	1.78	14.28	10.64	23.79	17.74
	008	1.61	26.4	12.55	47.4	11.26	42.6	10.05	37.9	2.54	1.89	17.11	12.75	28.75	21.43
	010	2.08	34.1	16.22	61.3	14.93	56.4	13.71	51.8	2.76	2.06	21.38	15.94	36.22	27.00
	012	2.26	37.1	17.64	66.7	16.35	61.8	15.14	57.2	2.84	2.11	23.05	17.18	39.14	29.18
	014	2.81	46.0	21.88	82.7	20.59	77.8	19.37	73.2	3.09	2.30	27.99	20.87	47.78	35.62
	015	3.08	50.5	23.99	90.7	22.83	86.3	21.56	81.5	3.21	2.40	30.30	22.60	51.36	38.30
	017	3.56	58.3	27.73	104.8	26.44	99.9	25.22	95.3	3.43	2.55	34.81	25.95	59.73	44.54
	020	3.89	63.8	30.34	114.7	29.05	109.8	27.84	105.2	3.58	2.66	37.86	28.23	65.07	48.52
	022 ⁴⁾	4.29	70.3	33.43	126.4	32.14	121.5	30.93	116.9	3.76	2.80	41.47	30.92	71.38	53.22
	025 ^{3,5)}	4.84	79.3	37.71	142.5	36.42	137.6	35.21	133.1	4.01	2.99	46.46	34.64	80.12	59.74
	028 ^{3,6)}	5.42	88.8	42.23	159.6	40.94	154.7	40.32	152.4	4.27	3.18	51.74	38.58	76.73	57.22
	031 ^{3,6)}	6.10	100.0	47.56	179.7	46.27	174.9	45.65	172.5	4.58	3.41	57.95	43.21	86.06	64.17

1) 085 = 90 bar (1300 psi) max. int. 2) 085 = 2000 RPM max. 3) 025-028-031 = 2500 R.P.M. max. 4) 022 = 275 bar max. int.
 5) 025 = 240 bar max. int. 6) 028-031 = 210 bar max. int. -- Not recommended to use as the internal leakage is over 50 of theoretical flow.

Зміст

vt7bb	2
vt7db	4
vt7dd	6
vt7ed	8
vt7ees	10
vt7qcc	12
vt7qdc	14
vt7qec	16

VT7BB or VT7BBS - B10 - B10 - 1 R 00 - A 1 00 -

VT7BB series - ISO 2 bolts 3019-2

mounting flange 100 A2 HW

VT7BBS series- SAE B 2 bolts

Mounting flange J744

Cam ring for "P1" & "P2"

Volumetric displacement cm³/rev (in³/rev)

B02 = 5.8 (0.35) B09 = 28.0 (1.71)

B03 = 9.8 (0.60) B10 = 31.8 (1.94)

B04 = 12.8 (0.78) B11 = 34.9 (2.13)

B05 = 15.9 (0.97) B12 = 40.9 (2.50)

B06 = 19.8 (1.21) B14 = 45.1 (2.75)

B07 = 22.5 (1.37) B15 = 50.0 (3.05)

B08 = 24.9 (1.52)

Type of shaft VT7BBS

1 - keyed (no SAE)

2 - keyed (SAE BB)

3 - splined (SAE B)

4 - splined (SAE BB)

Type of shaft VT7BB- VT7BBS

5 - keyed (ISO R775)

Modifications

Mounting W/connection variables

	UNC VT7BBS		METRIC VT7BB-VT7BBS	
	00	01	M0	M1
P1	1"	3/4"	1"	3/4"
P2	3/4"			
S	2 1/2"			

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 BM-1-5)

00 - standard

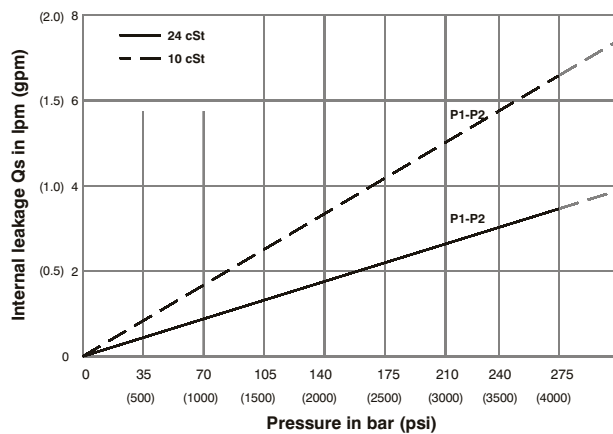
Direction of rotation

(view on shaft end)

R - clockwise

L - counter-clockwise

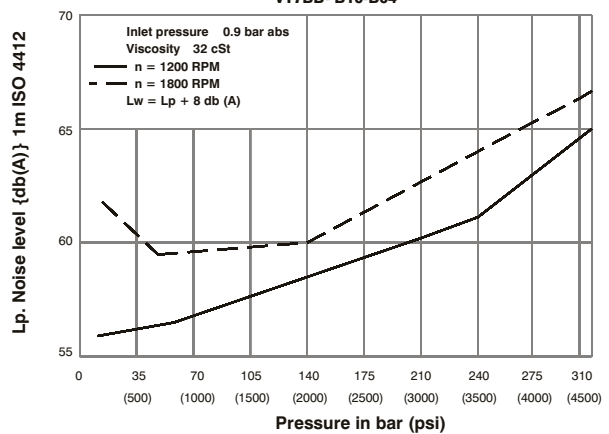
INTERNAL LEAKAGE (TYPICAL)



Do not operate pump more than 5 seconds at any speed or viscosity if internal leakage is more than 50% of theoretical flow. Total leakage is the sum of each section loss at its operating conditions.

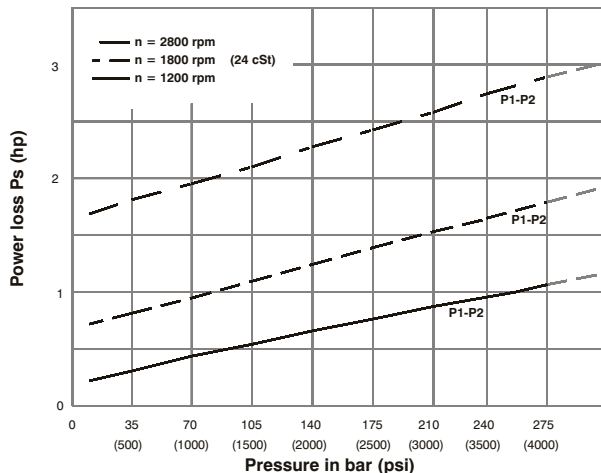
NOISE LEVEL (TYPICAL)

VT7BB- B10-B04



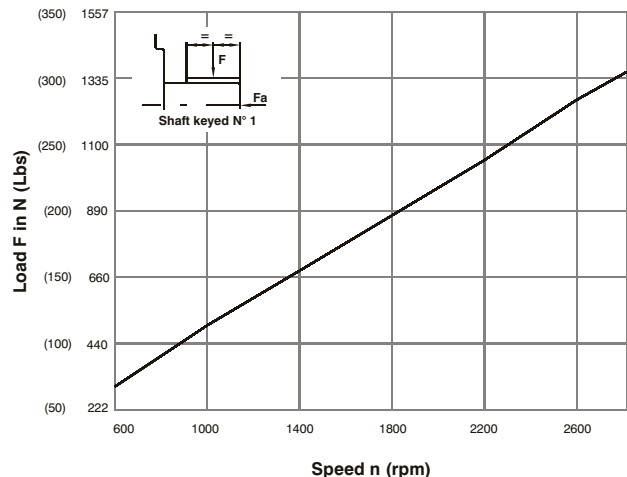
Double pump noise level is given with each section discharging at the pressure noted on the curve.

HYDROMECHANICAL POWER LOSS (TYPICAL)



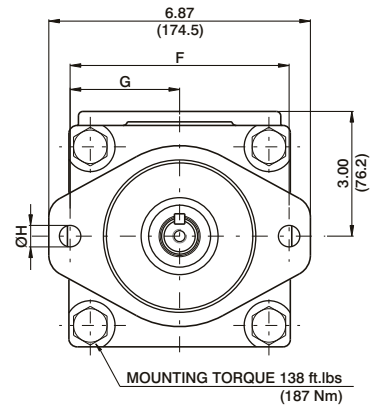
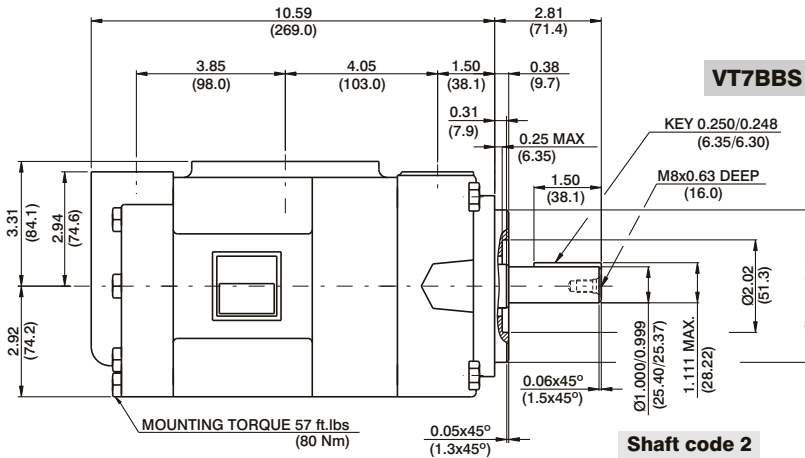
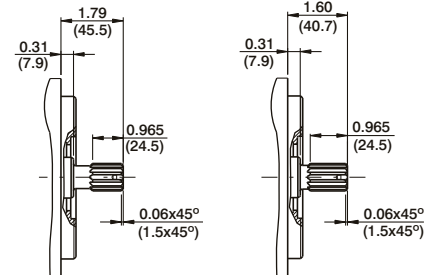
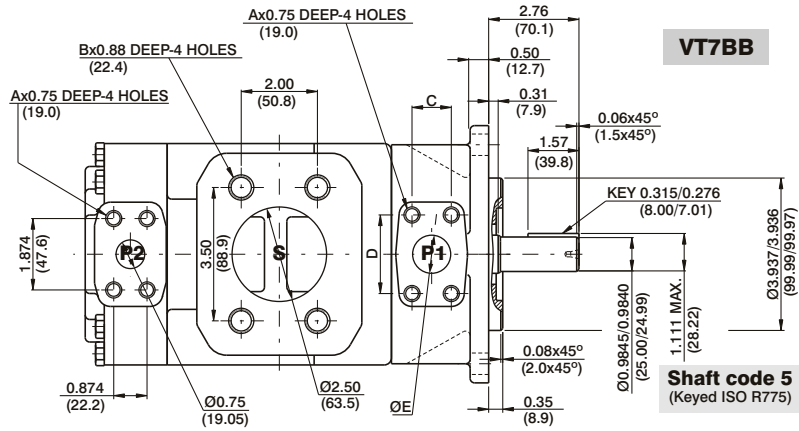
Total hydromechanical power loss is the sum of each section at its operating conditions.

PERMISSIBLE RADIAL LOAD



Maximum permissible axial load **Fa** = 800 N (180 Lbs)





Shaft	Vp x p max. (P1+P2)
1	12666 (14300)
2	18972 (21420)
3	18246 (20620)
4	28937 (32702)
5	22409 (25325)

	VT7BBS		VT7BB	
	00	01	M0	M1
A	3/8-16 UNC		M10	
B	1/2-13 UNC		M12	
C	1.03 (26.2)	0.874 (22.2)	1.03 (26.2)	0.874 (22.2)
D	2.06 (52.4)	1.874 (47.6)	2.06 (52.4)	1.874 (47.6)
ØE	1.00 (25.4)	0.75 (19.05)	1.00 (25.4)	0.75 (19.05)
F	5.75 (146.05)		5.51 (140.0)	
G	2.87 (73.0)		2.75 (70.0)	
ØH	0.56 (14.3)		0.55 (14.0)	

OPERATING CHARACTERISTICS - TYPICAL (24 cST) (Input power p (KW) for one cartridge only)

Pressure port	Series	Volumetric Displacement Vp		Flow q & n = 1800 rpm						Input power p & n = 1800 rpm					
		p = 0 bar (0 psi)		p = 140 bar (2000 psi)		p = 320 bar (4650 psi)		p = 7 bar (100 psi)		p = 140 bar (2000 psi)		p = 320 bar (4650 psi)			
		in ³ /rev	cm ³ /rev	gpm	lpm	gpm	lpm	gpm	lpm	hp	kw	hp	kw	hp	kw
P1 & P2	B02	0.35	5.7	2.76	10.4	2.33	8.8	1.73	6.5	0.74	0.55	4.02	2.99	8.59	6.40
	B03	0.60	9.8	4.66	17.6	4.23	15.9	3.63	13.7	0.85	0.63	6.24	4.65	13.75	10.25
	B04	0.78	12.8	6.09	23.0	5.66	21.4	5.06	19.2	0.94	0.70	7.90	5.89	17.62	13.13
	B05	0.97	15.9	7.56	28.6	7.13	26.9	6.53	24.7	1.02	0.76	9.62	7.17	21.62	16.12
	B06	1.21	19.8	9.42	35.6	8.99	33.9	8.39	31.7	1.13	0.84	11.79	8.79	26.66	19.88
	B07	1.37	22.5	10.70	40.4	10.27	38.8	9.67	36.5	1.20	0.89	13.29	9.91	30.14	22.47
	B08	1.52	24.9	11.84	44.7	11.41	43.1	10.81	40.9	1.27	0.94	14.62	10.90	33.24	24.78
	B09	1.71	28.0	13.31	50.3	12.87	48.6	12.28	46.4	1.36	1.01	16.35	12.19	37.25	27.77
	B10	1.94	31.8	15.12	57.2	14.69	55.5	14.09	53.4	1.46	1.11	18.45	13.75	42.14	31.42
	B11 ¹⁾	2.13	34.9	16.64	62.9	16.19	61.2	15.61	59.0	1.55	1.15	20.17	15.04	43.22	32.22
	B12 ¹⁾	2.50	40.9	19.50	73.7	19.07	72.1	18.54	70.1	1.72	1.28	23.55	17.56	50.58	37.71
	B14 ¹⁾	2.75	45.1	21.40	80.8	20.95	79.2	20.37	77.0	1.83	1.36	25.80	19.23	55.48	41.37
	B15 ¹⁾	3.05	50.0	23.78	89.8	23.35	88.3	22.88	86.5	1.97	1.47	28.55	21.28	57.35	42.76

1) B11-B12-B14 = 300 bar (4350 psi) & B15 = 280 bar (4060 psi) max. int. And Max. Speed = 3000 rpm

VT7DB or VT7DBS - B42 - B10 - 1 R 00 - A 1 00 -

VT7DB series-ISO 2 bolts 3019-2
mounting flange 125 A2 HW
VT7DBS series- SAE C 2 bolts
Mounting flange J744c

Cam ring for "P1"

Volumetric displacement cm³/rev (in³/rev)

B14 = 43.9 (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 cm³/rev (in³/rev)

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

Modifications

Mounting W/connection variables

	UNC VT7DBS		METRIC VT7DB-VT7DBS	
	00	01	M0	M1
P2	1"	3/4"	1"	3/4"

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 BM-1-5)
00 - standard

**Direction of rotation
(view on shaft end)**

- R - clockwise
- L - counter-clockwise

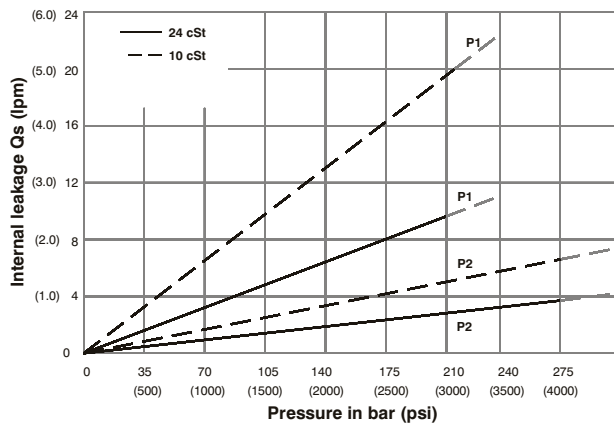
Type of shaft VT7DBS

- 1 - keyed (SAE C)
- 2 - keyed (no SAE)
- 3 - splined (SAE C)
- 4 - splined (spec. SAE C)

Type of shaft VT7DB- VT7DBS

- 5 - keyed (ISO 3019-2-G32M)

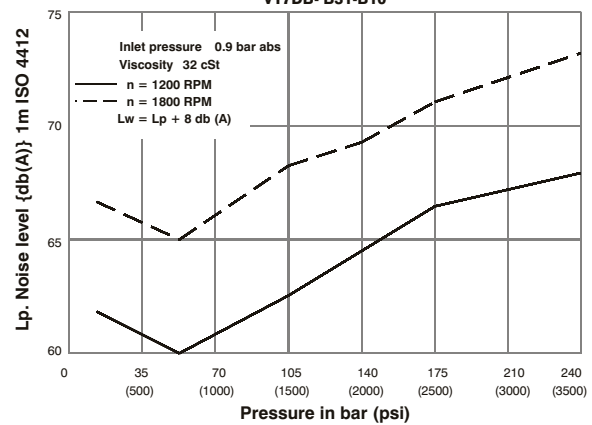
INTERNAL LEAKAGE (TYPICAL)



Do not operate pump more than 5 seconds at any speed or viscosity if internal leakage is more than 50% of theoretical flow. Total leakage is the sum of each section loss at its operating conditions.

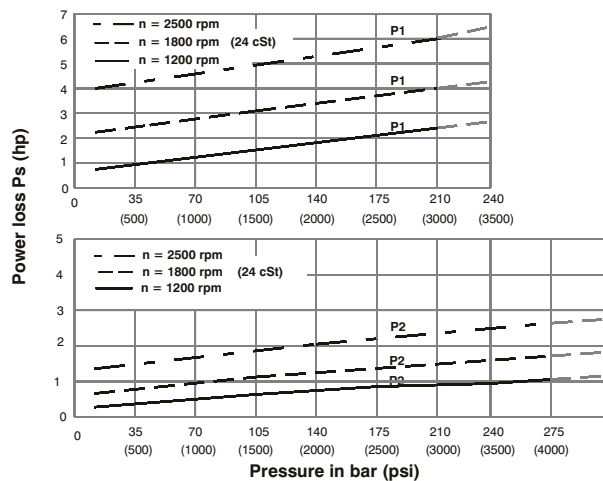
NOISE LEVEL (TYPICAL)

VT7DB- B31-B10



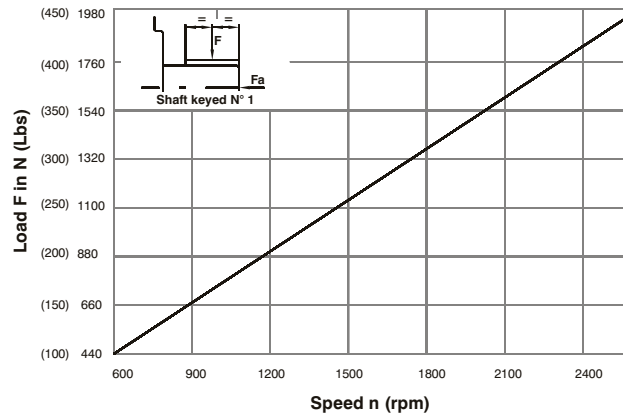
Double pump noise level is given with each section discharging at the pressure noted on the curve.

HYDROMECHANICAL POWER LOSS (TYPICAL)



Total hydromechanical power loss is the sum of each section at its operating conditions.

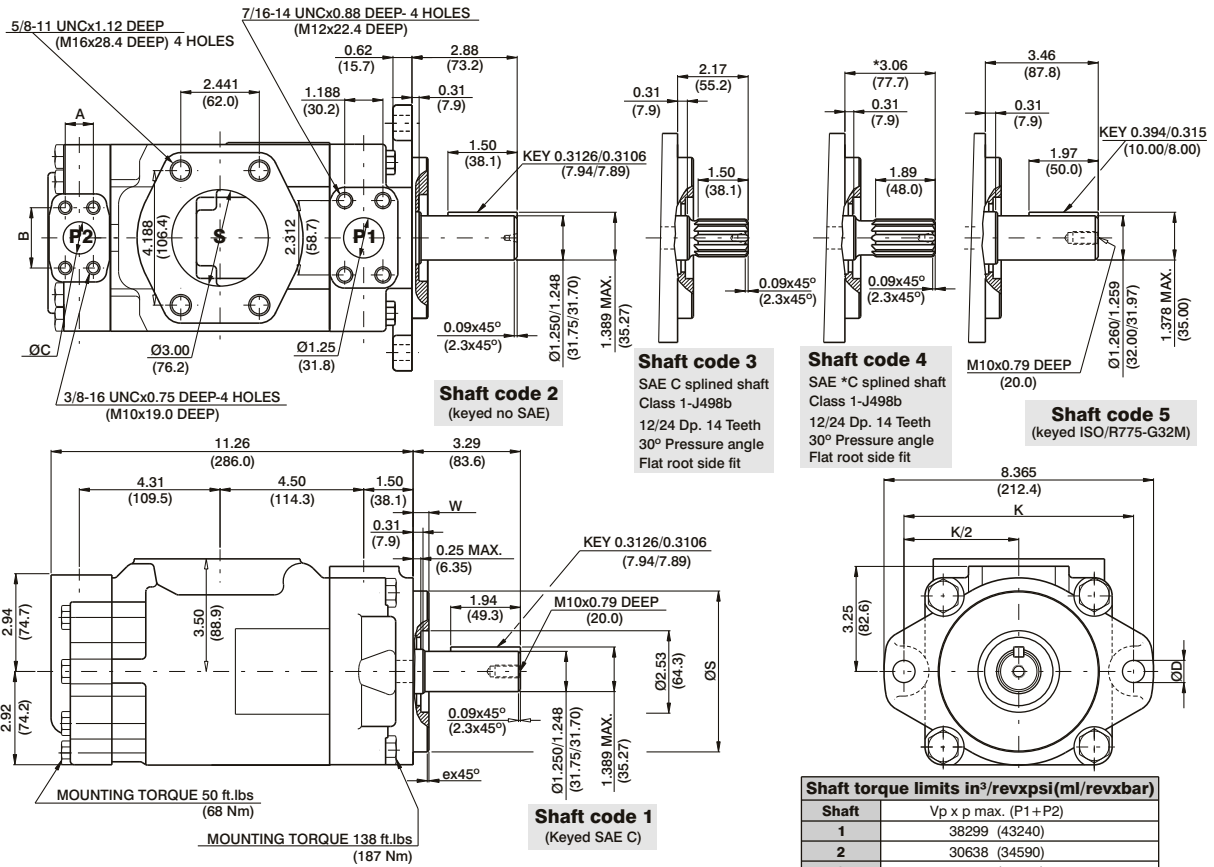
PERMISSIBLE RADIAL LOAD



Maximum permissible axial load Fa = 1200 N (270 Lbs)



HIGH PERFORMANCE VANE PUMP VT7DB / VT7DBS



Series	ØS		ex45°	W	K	ØD
	MAX.	Min.				
VT7DB	4.921 (124.99)	4.919 (124.94)	0.079 (2.0)	0.374 (9.49)	7.087 (180.0)	0.709 (18.0)
VT7DBS	5.00 (127.00)	4.998 (126.94)	0.051 (1.3)	0.50 (12.7)	7.126 (181.0)	0.689 (17.5)

Shaft	Vp x p max. (P1+P2)
1	38299 (43240)
2	30638 (34590)
3	54207 (61200)
4	54207 (61200)
5	37644 (42542)

	Ø0 & M0		Ø1 & M1	
	A	B	A	B
1.031 (26.2)	0.874 (22.2)	1.031 (26.2)	0.874 (22.2)	
2.06 (52.4)	1.874 (47.6)	2.06 (52.4)	1.874 (47.6)	
1.00 (25.4)	0.75 (19.05)	1.00 (25.4)	0.75 (19.05)	

OPERATING CHARACTERISTICS - TYPICAL (24 cST) (Input power p (KW) for one cartridge only)

Pressure port	Series	Volumetric Displacement Vp		Flow q & n = 1800 rpm						Input power p & n = 1800 rpm					
		in³/rev	cm³/rev	p = 0 bar (0 psi)	p = 140 bar (2000 psi)	p = 250 bar (3630 psi)	p = 7 bar (100 psi)	p = 140 bar (2000 psi)	p = 250 bar (3630 psi)	p = 0 bar (0 psi)	p = 140 bar (2000 psi)	p = 300 bar (4350 psi)	p = 7 bar (100 psi)	p = 140 bar (2000 psi)	p = 300 bar (4350 psi)
P1	B14	2.68	43.9	20.92	79.1	19.18	72.5	17.81	67.3	3.46	2.6	27.77	20.7	47.03	35.0
	B17	3.36	55.0	26.16	98.8	24.41	92.3	23.04	87.0	3.77	2.8	33.88	25.3	57.71	43.0
	B20	4.03	66.0	31.39	118.6	29.64	112.0	28.27	106.8	4.07	3.0	39.98	29.8	68.39	50.9
	B22	4.29	70.3	33.43	126.4	31.69	119.8	30.32	104.6	4.19	3.1	42.37	31.6	72.57	54.0
	B24	4.95	81.1	38.57	145.8	36.82	139.2	35.45	134.0	4.49	3.4	48.36	36.1	83.06	61.9
	B28	5.49	89.9	42.80	161.8	41.06	155.2	39.69	150.0	4.74	3.5	53.30	39.7	91.70	68.3
	B31	6.05	99.1	47.18	178.3	45.43	171.7	44.06	166.5	4.99	3.7	58.41	43.6	100.63	75.0
	B35 ¹⁾	6.92	113.4	53.93	203.9	52.18	197.2	50.81	192.0	5.39	4.0	66.29	49.4	114.42	85.3
	B38 ¹⁾	7.36	120.6	57.35	216.8	55.61	210.2	54.24	204.9	5.59	4.2	70.28	52.4	121.42	90.5
	B42 ²⁾	8.39	137.5	65.39	247.2	63.65	240.6	62.28	235.4	6.05	4.5	79.66	59.4	137.83	102.7
	045 ³⁾	8.89	145.7	69.29	262.0	67.11	253.6	65.31	246.8	6.74	5.0	83.75	62.4	145.79	108.7
050 ⁴⁾	9.64	157.9	75.14	284.0	72.96	275.8	71.78	271.3	7.08	5.3	90.58	67.5	134.50	100.3	
P2	B02	0.35	5.7	2.76	10.4	2.33	8.8	1.80	6.8	0.74	0.55	4.02	2.99	8.10	6.04
	B03	0.60	9.8	4.66	17.6	4.23	15.9	3.70	14.0	0.85	0.63	6.24	4.65	12.93	9.64
	B04	0.78	12.8	6.09	23.0	5.66	21.4	5.13	19.4	0.94	0.70	7.90	5.89	16.55	12.34
	B05	0.97	15.9	7.56	28.6	7.13	26.9	6.60	25.0	1.02	0.76	9.62	7.17	20.29	15.13
	B06	1.21	19.8	9.42	35.6	8.99	33.9	8.46	32.0	1.13	0.84	11.79	8.79	25.00	18.64
	B07	1.37	22.5	10.70	40.4	10.27	38.8	9.74	36.8	1.20	0.89	13.29	9.91	28.26	21.07
	B08	1.52	24.9	11.84	44.7	11.41	43.1	10.88	41.1	1.27	0.95	14.62	10.90	31.15	23.23
	B09	1.71	28.0	13.31	50.3	12.87	48.6	12.35	47.0	1.36	1.01	16.35	12.19	34.92	26.04
	B10	1.94	31.8	15.12	57.2	14.69	55.5	14.16	53.5	1.46	1.09	18.45	13.75	39.48	29.44
	B11 ⁵⁾	2.13	34.9	16.64	62.9	16.19	61.2	15.68	59.3	1.55	1.16	20.17	15.04	43.22	32.23
	B12 ⁵⁾	2.50	40.9	19.50	73.7	19.07	72.1	18.54	70.1	1.72	1.28	23.55	17.56	50.58	37.71
B14 ⁵⁾	2.75	45.1	21.40	80.8	20.95	79.2	20.44	77.0	1.83	1.36	25.80	19.24	55.48	41.37	
B15 ⁵⁾	3.05	50.0	23.78	89.8	23.35	88.3	22.88	86.5	1.97	1.47	28.55	21.28	57.35	42.76	

1) B35-B38 = 280 bar (4060 psi) max.int. 2) B42 = 260 bar (3770 psi) max.int. 3) 045 = 240 bar (3500 psi) max.int. 4) 050 = 210 bar (3000 psi) max.int.
5) B11-B12-B14 = 300 bar (4350 psi) & B15 = 280 bar (4060 psi) max.int. And Max. Speed = 3000 rpm

VT7DD or VT7DDS - B42 - B22 - 1 R 00 - A 1 M0 -

Series

VT7DD series-ISO 4 bolts 3019-2
Mounting flange 125 B4 HW
VT7DDS series- SAE C 6 bolts
Mounting flange J744c

Camring for "P1" & "P2"

Volumetric displacement cm³/rev (in³/rev)
 B14 = 43.9 (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) O45 = 145.7 (8.89)
 B28 = 89.9 (5.49) O50 = 157.9 (9.64)

Type of shaft VT7DDS

- 1 - keyed (SAE C)
- 2 - keyed (SAE CC)
- 3 - splined (SAE C)
- 4 - splined (SAE BB)

Type of shaft VT7DD - VT7DDS

- 5 - keyed (ISO 3019-2-G32M)

Modifications

Mounting w/connection variables

4 bolts SAE flange (J518)

P1 & P2=1-1/4" S = 4"	
	UNC METRIC
VT7DD	M0
VT7DDS	00 M0

Seal class

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

Design letter

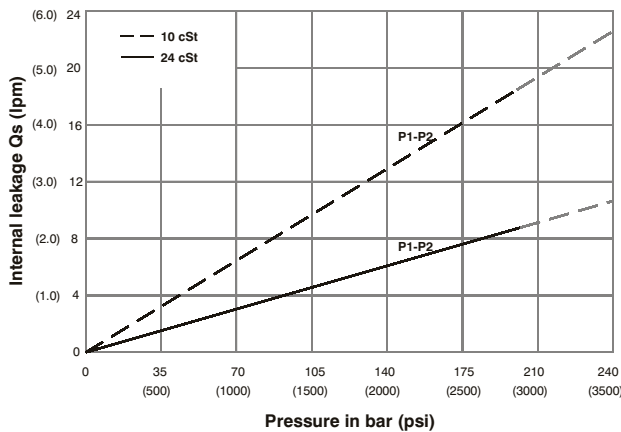
Porting combination (see page BM-1-5)

00 - standard

Direction of rotation (view on shaft end)

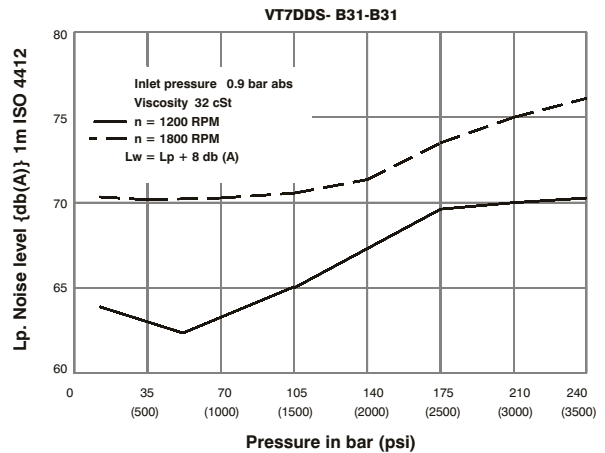
- R - clockwise
- L - counter-clockwise

INTERNAL LEAKAGE (TYPICAL)



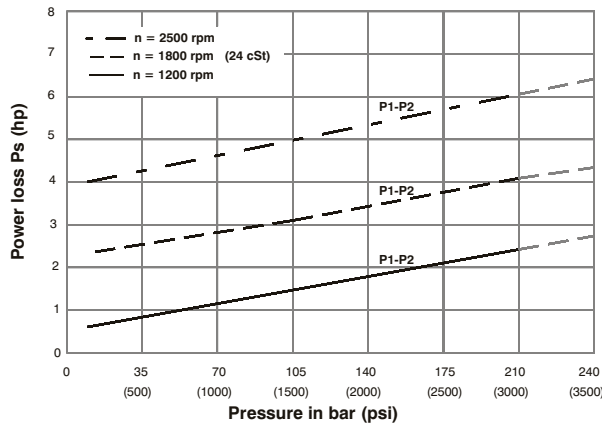
Do not operate pump more than 5 seconds at any speed or viscosity if internal leakage is more than 50% of theoretical flow. Total leakage is the sum of each section loss at its operating conditions.

NOISE LEVEL (TYPICAL)



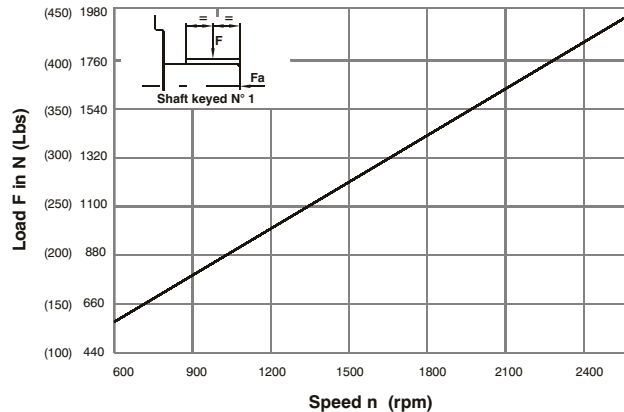
Double pump noise level is given with each section discharging at the pressure noted on the curve.

HYDROMECHANICAL POWER LOSS (TYPICAL)



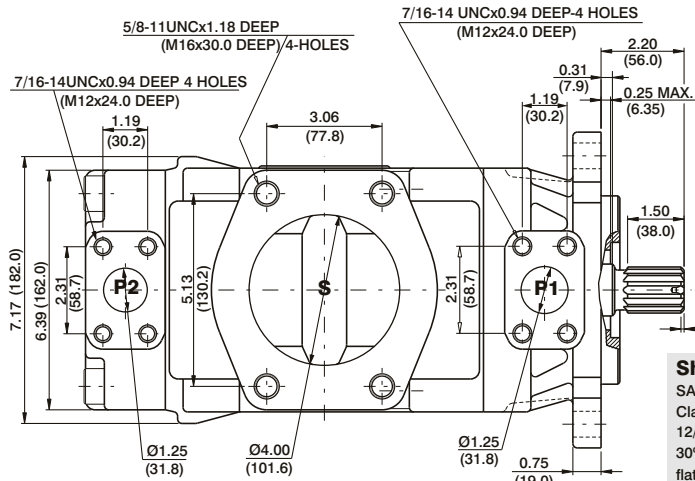
Total hydrodynamic power loss is the sum of each section at its operating conditions.

PERMISSIBLE RADIAL LOAD

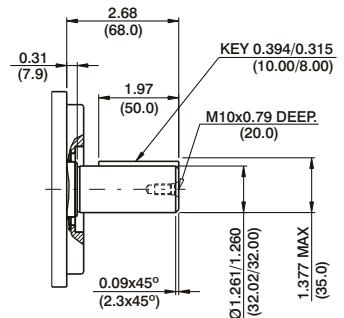


Maximum axial load permissible Fa = 800 N (180 Lbs)

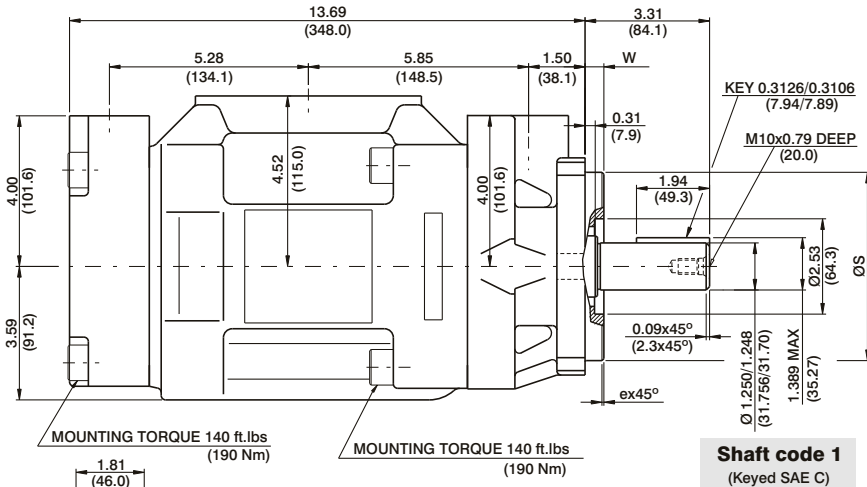




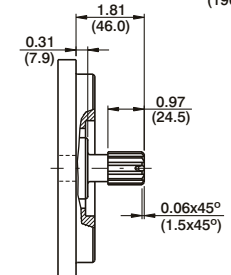
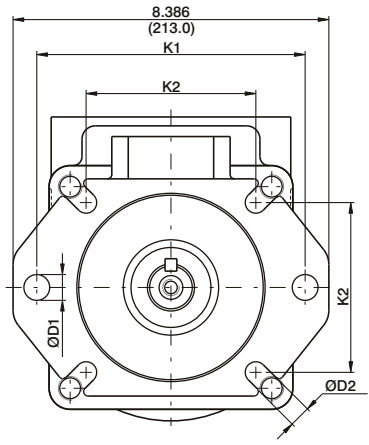
Shaft code 3
SAE C splined shaft
Class 1-J498b
12/24 dp. 14 teeth
30° pressure angle
flat root side fit



Shaft code 5
(Keyed ISO 3018/2-G32M)

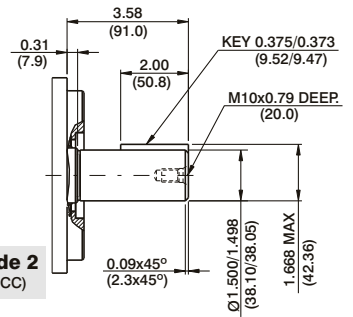


Shaft code 1
(Keyed SAE C)



Shaft code 4
SAE BB splined shaft
Class 1-J498b
12/24 dp. 15 teeth
30° pressure angle
flat root side fit

Shaft torque limits in ³ /rev x psi (ml/rev x bar)	
Shaft	Vp x p max. (P1 + P2)
1	38299 (43240)
2	63552 (71822)
3	54207 (61200)
4	31780 (28120)
5	40035 (35424)



Shaft code 2
(Keyed SAE CC)

Series	Alternate mounting flange							
	ØS		ex45°	W	K1	ØD1	K2	ØD2
	MAX.	Min.						
VT7DD	4.921 (124.99)	4.919 (124.94)	0.079 (2.0)	0.374 (9.49)	7.087 (180.0)	0.709 (18.0)	4.454 (113.1)	0.551 (13.9)
VT7DDS	5.00 (127.00)	4.998 (126.94)	0.059 (1.5)	0.50 (12.7)	7.126 (181.0)	0.689 (17.5)	4.508 (114.5)	0.563 (14.3)

OPERATING CHARACTERISTICS - TYPICAL (24 CST) (Input power p (KW) for one cartridge only)

Pressure port	Series	Volumetric Displacement Vp	Flow q & n = 1800 rpm						Input power p & n = 1800 rpm						
			p = 0 bar (0 psi)		p = 140 bar (2000 psi)		p = 250 bar (3630 psi)		p = 7 bar (100 psi)		p = 140 bar (2000 psi)		p = 250 bar (3630 psi)		
			in ³ /rev	cm ³ /rev	gpm	lpm	gpm	lpm	gpm	lpm	hp	kw	hp	kw	
P1 & P2	B14	2.68	43.9	20.92	79.1	19.18	72.5	17.81	67.3	3.46	2.6	27.77	20.7	47.03	35.07
	B17	3.36	55.0	26.16	98.8	24.41	92.3	23.04	87.0	3.77	2.8	33.88	25.3	57.71	43.03
	B20	4.03	66.0	31.39	118.6	29.64	112.0	28.27	106.8	4.07	3.0	39.98	29.8	68.39	50.99
	B22	4.29	70.3	33.43	126.4	31.69	119.8	30.32	104.6	4.19	3.1	42.37	31.6	72.57	54.11
	B24	4.95	81.1	38.57	145.8	36.82	139.2	35.45	134.0	4.49	3.4	48.36	36.1	83.06	61.93
	B28	5.49	89.9	42.80	161.8	41.06	155.2	39.69	150.0	4.74	3.5	53.30	39.7	91.70	68.38
	B31	6.05	99.1	47.18	178.3	45.43	171.7	44.06	166.5	4.99	3.7	58.41	43.6	100.63	75.03
	B35 ¹⁾	6.92	113.4	53.93	203.9	52.18	197.2	50.81	192.0	5.39	4.0	66.29	49.4	114.42	85.32
	B38 ¹⁾	7.36	120.6	57.35	216.8	55.61	210.2	54.24	204.9	5.59	4.2	70.27	52.4	121.42	90.54
	B42 ²⁾	8.39	137.5	65.39	247.2	63.65	240.6	62.28	235.4	6.05	4.5	79.66	59.4	137.83	102.77
	045 ³⁾	8.89	145.7	69.29	262.0	67.11	253.6	65.31	246.8	6.74	5.0	83.75	62.4	145.79	108.71
	050 ⁴⁾	9.64	157.9	75.14	284.0	72.96	275.8	71.78	271.3	7.08	5.3	90.58	67.5	154.50	114.30

1) B35-B38 = 280 bar (4060 psi) max. int. 2) B42 = 260 bar (3770 psi) max. int. 3) 045 = 240 bar (3500 psi) max. int. 4) 050 = 210 bar (3000 psi) max. int.

VT7ED or VT7EDS - 042 - B22 - 1 R 00 - A 1 01 *

Series

VT7ED series-125-A2 HW
ISO 2 bolts 3019-2 mounting flange

VT7EDS series- SAE C 2 bolts
Mounting flange J744c

Cam ring for "P1"

Volumetric displacement cm³/rev (in³/rev)

042 = 132.2 (8.07)	057 = 183.2 (11.18)
045 = 142.5 (8.70)	062 = 196.6 (12.0)
050 = 158.5 (9.67)	066 = 213.0 (13.0)
052 = 163.8 (10.0)	072 = 227.1 (13.86)
054 = 170.9 (10.43)	085 = 268.7 (16.40)

Cam ring for "P2"

Volumetric displacement cm³/rev (in³/rev)

B14 = 43.9 (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)

Modifications

Mounting W/connection variables
4 bolts SAE flange J518

P1= 1-1/2" P2= 1-1/4" S=4"		
	VT7EDS	VT7ED-VT7EDS
Type	UNC	METRIC
code	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 BM-1-5)
00 - standard

Direction of rotation (view on shaft end)

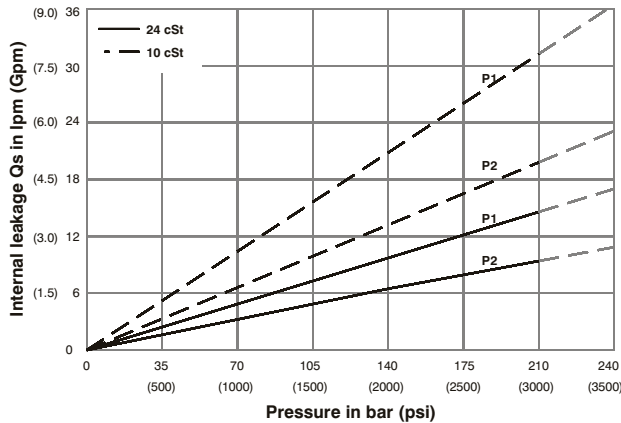
- R - clockwise
- L - counter-clockwise

Type of shaft VT7EDS

Type of shaft VT7ED- VT7EDS
5 - keyed (ISO/R775 -G38M)

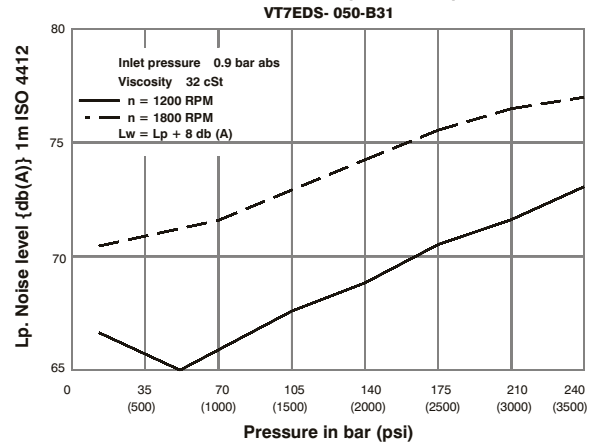
- 1 - keyed (SAE CC)
- 2 - keyed (no SAE)
- 3 - splined (SAE C)
- 4 - splined (SAE CC)

INTERNAL LEAKAGE (TYPICAL)



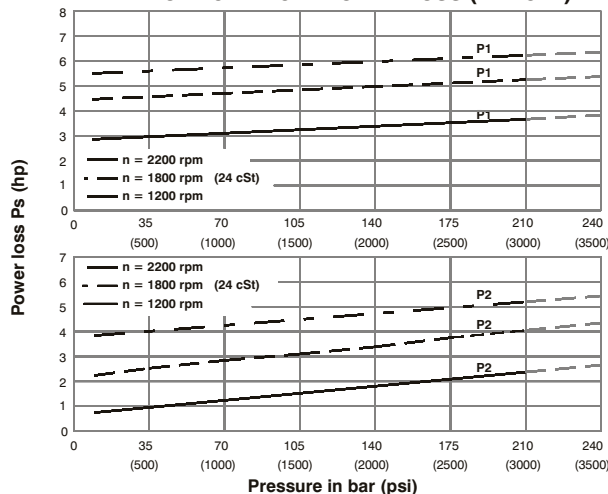
Do not operate pump more than 5 seconds at any speed or viscosity if internal leakage is more than 50% of theoretical flow. Total leakage is the sum of each section loss at its operating conditions.

NOISE LEVEL (TYPICAL)



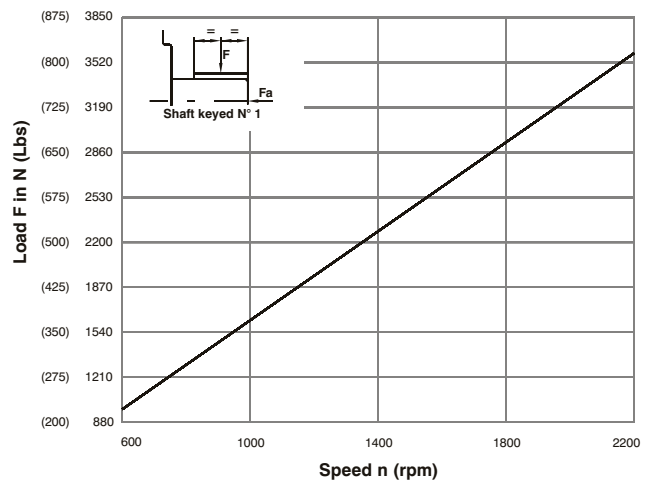
Double pump noise level is given with each section discharging at the pressure noted on the curve.

HYDROMECHANICAL POWER LOSS (TYPICAL)

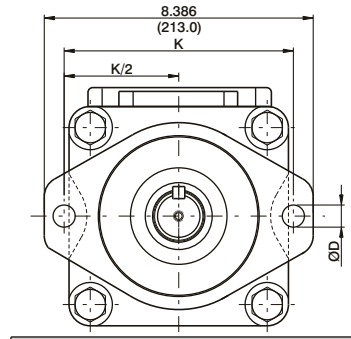
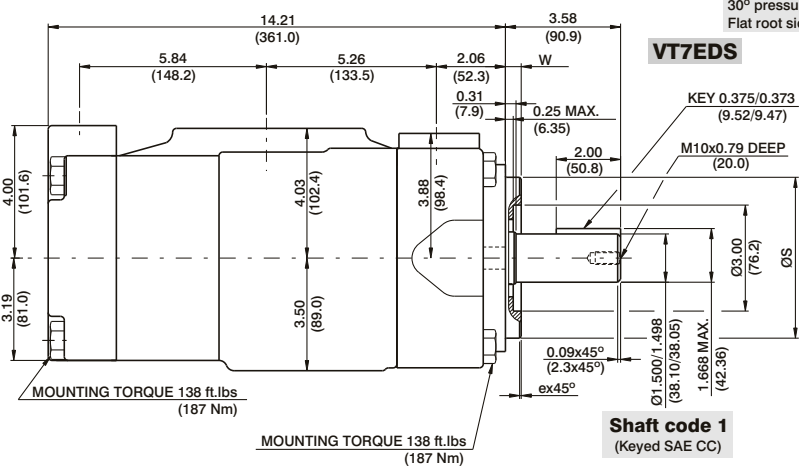
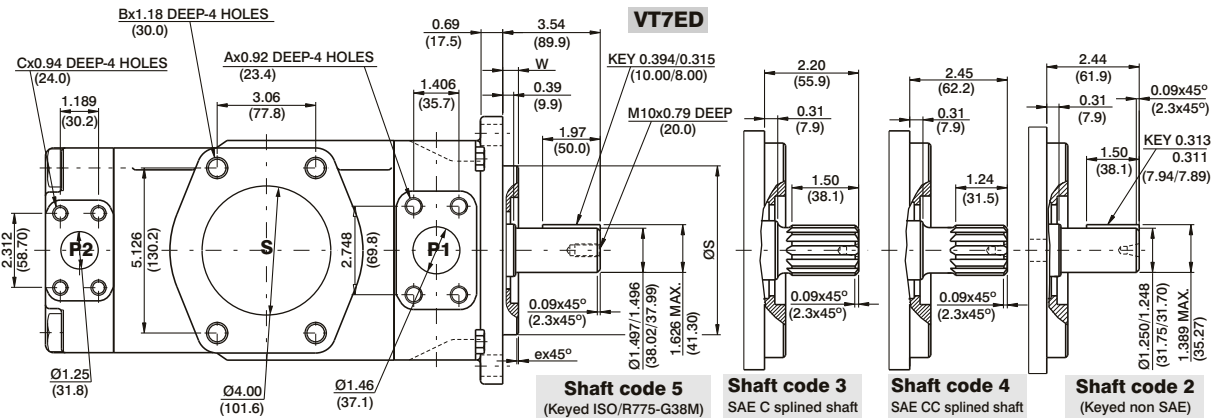


Total hydromechanical power loss is the sum of each section at its operating conditions.

PERMISSIBLE RADIAL LOAD



Maximum permissible axial load $F_a = 2000 \text{ N (449 Lbs)}$



Alternate mounting flange						
Series	ØS		ex45°	W	K	ØD
	MAX.	Min.				
VT7ED	4.921 (124.99)	4.919 (124.94)	0.079 (2.0)	0.374 (9.49)	7.087 (180.0)	0.709 (18.0)
VT7EDS	5.00 (127.00)	4.998 (126.94)	0.051 (1.3)	0.50 (12.7)	7.126 (181.0)	0.689 (17.5)

Shaft torque limits in ³ /rev x psi (ml/rev x bar)	
Shaft	Vp x p max. (P1+P2)
1	64039 (72372)
2	30638 (34590)
3	54207 (61200)
4	60673 (68568)
5	60673 (68568)

Alternate connect.variables		
	O1	M1
A	1/2-13 UNC	M12
B	5/8-11 UNC	M16
C	7/16-14 UNC	M12

OPERATING CHARACTERISTICS - TYPICAL (24 CST) (Input power p (KW) for one cartridge only)

Pressure port	Series	Volumetric Displacement Vp		Flow q & n = 1800 rpm						Input power p & n = 1800 rpm							
		in ³ /rev		cm ³ /rev		p = 0 bar (0 psi)		p = 140 bar (2000 psi)		p = 240 bar (3500 psi)		p = 7 bar (100 psi)		p = 140 bar (2000 psi)		p = 240 bar (3500 psi)	
		in ³ /rev	cm ³ /rev	gpm	lpm	gpm	lpm	gpm	lpm	hp	kw	hp	kw	hp	kw	hp	kw
P1	042	8.07	132.2	62.92	237.8	60.37	228.2	58.52	221.2	8.09	6.03	78.44	58.49	133.80	99.77		
	045	8.70	142.5	67.72	255.9	65.17	246.3	63.32	239.3	8.37	6.24	84.04	62.66	143.60	107.08		
	050	9.67	158.5	75.38	284.9	72.83	275.3	70.98	268.3	8.82	6.58	92.97	69.32	159.24	118.75		
	052	10.00	163.8	78.37	296.2	75.82	286.6	73.97	279.6	8.99	6.70	96.47	71.94	165.36	123.31		
	054	10.43	170.9	81.27	307.2	78.72	297.6	76.87	290.6	9.17	6.84	99.75	74.38	177.46	132.33		
	057	11.18	183.2	87.12	329.3	84.57	319.7	82.72	312.7	9.51	7.09	106.57	79.47	189.84	141.56		
	062	12.00	196.6	93.54	353.6	90.99	343.9	89.14	336.9	9.88	7.37	114.17	85.13	196.34	146.41		
	066	13.00	213.0	101.44	383.4	98.89	373.8	97.04	366.8	10.34	7.71	123.38	92.0	212.46	158.43		
	072	13.86	227.1	108.00	408.2	105.45	398.6	103.60	391.6	10.72	7.99	131.04	97.71	225.86	166.42		
	085 ¹⁾	16.40	268.7	127.79	483.0	126.13	476.7	--	--	11.88	8.85	101.66	75.80	--	--		
P2	B14	2.68	43.9	20.92	79.1	19.18	72.5	17.81	67.3	3.46	2.6	27.77	20.7	47.03	35.07		
	B17	3.36	55.0	26.16	98.8	24.41	92.3	23.04	87.0	3.77	2.8	33.88	25.3	57.71	43.03		
	B20	4.03	66.0	31.39	118.6	29.64	112.0	28.27	106.8	4.07	3.0	39.98	29.8	68.39	50.99		
	B22	4.29	70.3	33.43	126.4	31.69	119.8	30.32	104.6	4.19	3.1	42.37	31.6	72.57	54.11		
	B24	4.95	81.1	38.57	145.8	36.82	139.2	35.45	134.0	4.49	3.4	48.36	36.1	83.06	61.93		
	B28	5.49	89.9	42.80	161.8	41.06	155.2	39.69	150.0	4.74	3.5	53.30	39.7	91.70	68.38		
	B31	6.05	99.1	47.18	178.3	45.43	171.7	44.06	166.5	4.99	3.7	58.41	43.6	100.63	75.03		
	B35 ²⁾	6.92	113.4	53.93	203.9	52.18	197.2	50.81	192.0	5.39	4.0	66.29	49.4	114.42	85.32		
	B38 ³⁾	7.36	120.6	57.35	216.8	55.61	210.2	54.24	204.9	5.59	4.2	70.28	52.4	121.42	90.54		
	B42 ³⁾	8.39	137.5	65.39	247.2	63.65	240.6	62.28	235.4	6.05	4.5	79.66	59.4	137.83	102.77		
	045 ⁴⁾	8.89	145.7	69.29	262.0	67.11	253.6	65.31	246.8	6.74	5.0	83.75	62.4	145.79	108.71		
	050 ⁵⁾	9.64	157.9	75.14	284.0	72.96	275.8	71.78	271.3	7.08	5.3	90.58	67.5	134.50	100.3		

1) 085 = 90 bar (1300 psi) max.int. & 085 = 2000 rpm max. 2) B35-B38 = 280 bar (4060 psi) max.int. 3) B42 = 260 bar (3770 psi) max.int.
 4) 045 = 240 bar (3500 psi) max.int. 5) 050 = 210 bar (3000 psi) max.int.

VT7EE or VT7EES - 066 - 045 - 1 R 00 - A 1 0 - 00 *

Series

VT7EE series- 250 B4HW
ISO 3019-2 mounting flange

VT7EES series- SAE E 4 bolts
Mounting flange J744c

Cam ring for "P1" & "P2"

Volumetric displacement cm³/rev (in³/rev)

042 = 132.2 (8.07)	057 = 183.2 (11.18)
045 = 142.5 (8.70)	062 = 196.6 (12.0)
050 = 158.5 (9.67)	066 = 213.0 (13.0)
052 = 163.8 (10.0)	072 = 227.1 (13.86)
054 = 170.9 (10.43)	085 = 268.7 (16.40)

Type of shaft VT7EE

2 - keyed G45N(ISO/R775 -G38M)

Type of shaft VT7EES

- 1 - keyed (SAE CC)
- 3 - splined (SAE CC)
- 4 - splined (SAE D & E)
- 5 - splined (SAE D & E)

Modifications

Mounting W/connection variables

P1 & P2= 11"		S=4"
	VT7EES	VT7EE-VT7EES
Type	UNC	METRIC
code	00	M0

Coupling adaptor

- 0 - none
- 2 - SAE B
- 3 - SAE BB

Seal class

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

Design letter

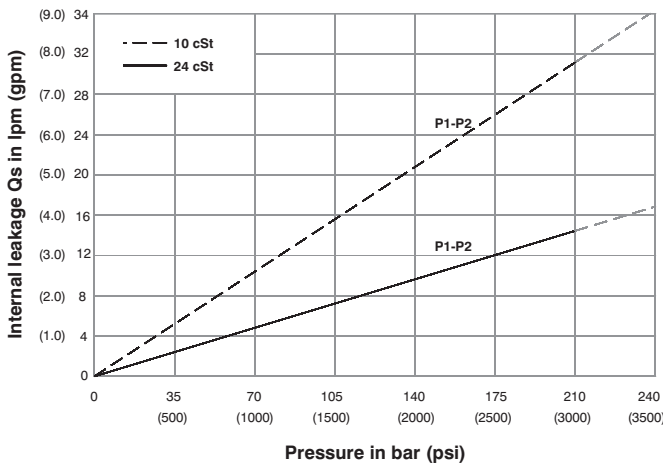
Porting combination (see page BM-1-5)

00 - standard

Direction of rotation (view on shaft end)

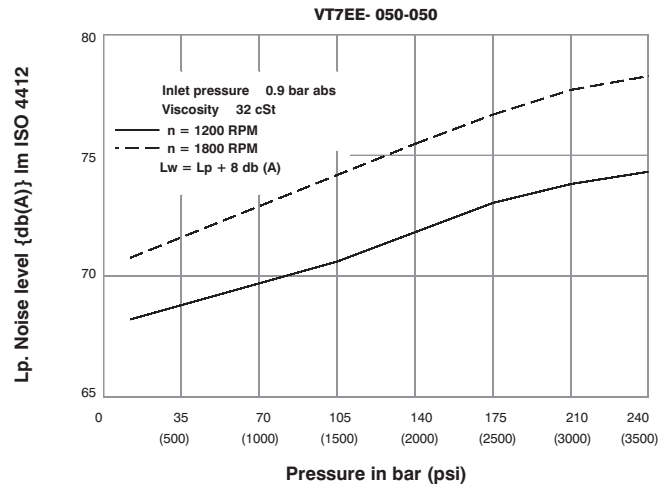
- R - clockwise
- L - counter-clockwise

INTERNAL LEAKAGE (TYPICAL)



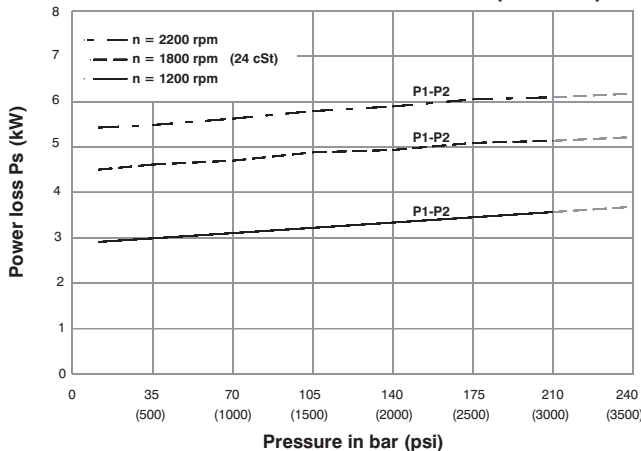
Do not operate pump more than 5 seconds at any speed or viscosity if internal leakage is more than 50% of theoretical flow. Total leakage is the sum of each section loss at its operating conditions.

NOISE LEVEL (TYPICAL)



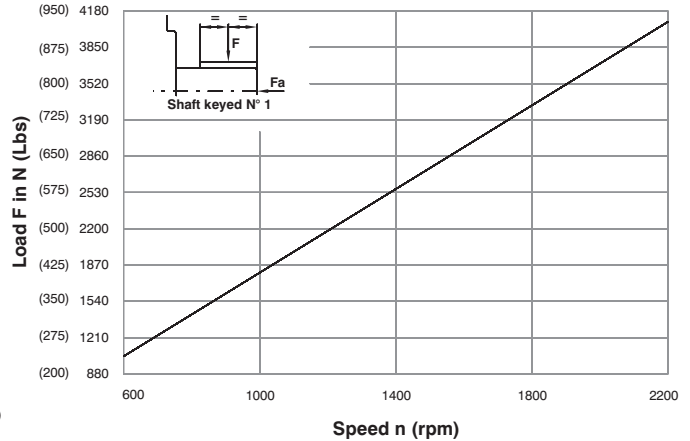
Double pump noise level is given with each section discharging at the pressure noted on the curve.

HYDROMECHANICAL POWER LOSS (TYPICAL)



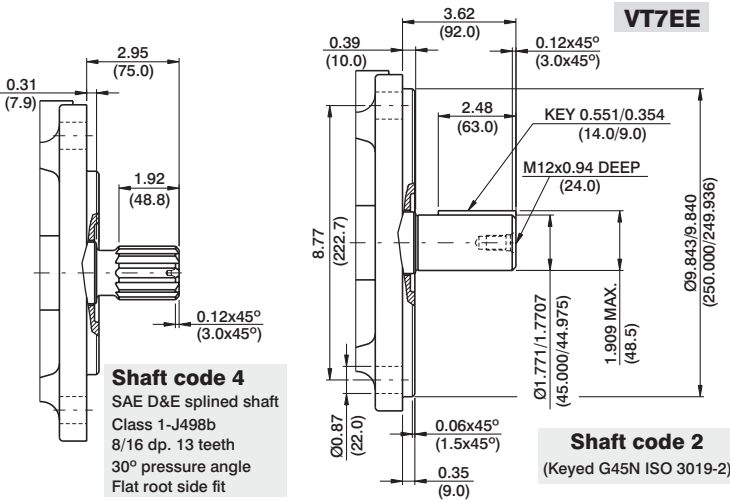
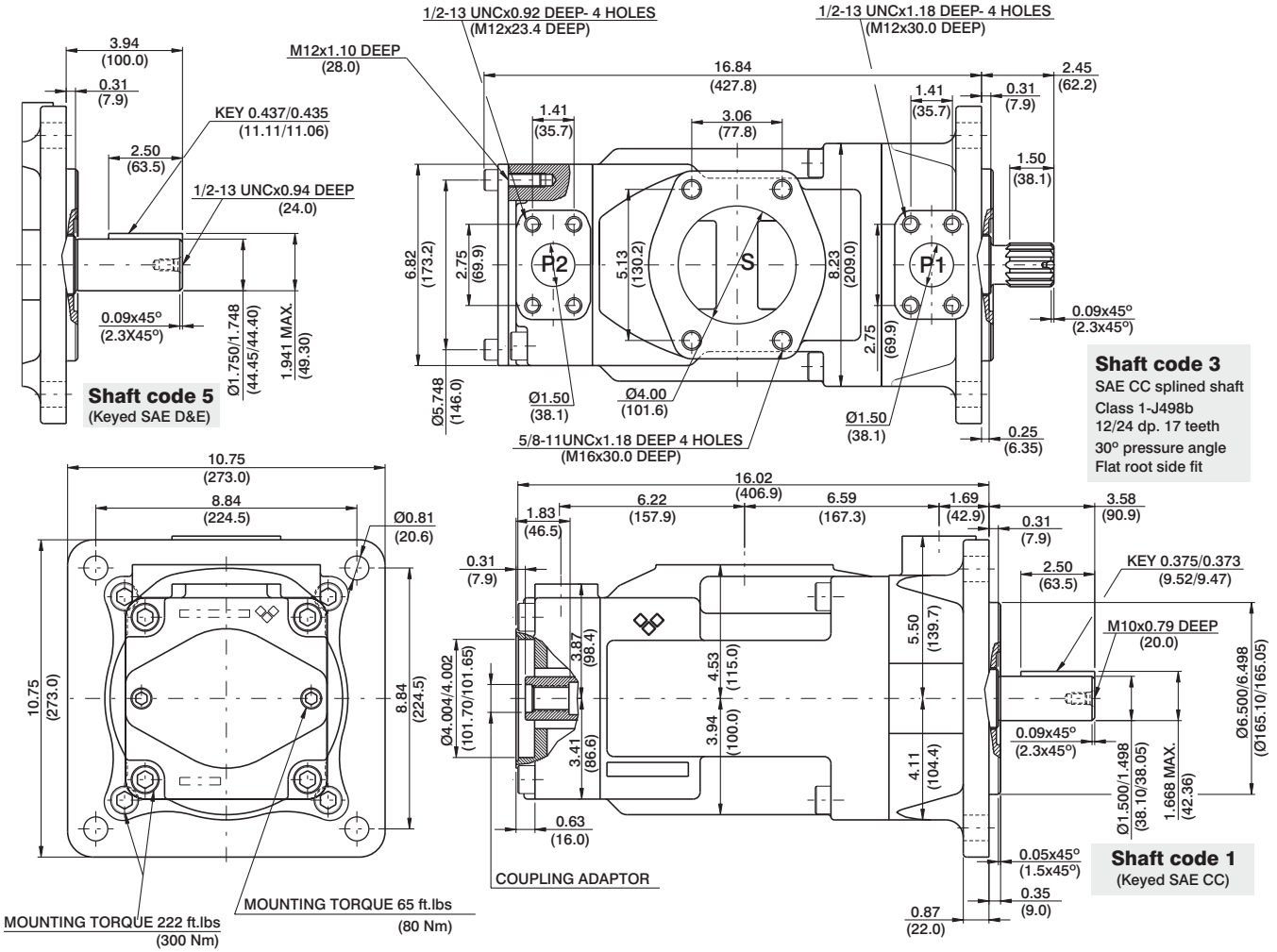
Total hydromechanical power loss is the sum of each section at its operating conditions.

PERMISSIBLE RADIAL LOAD



Maximum axial load permissible Fa = 2000 N (449 Lbs)





Shaft torque limits in ³ /rev x psi (ml/rev x bar)			
Shaft	Vi x p Max.	Coupling	Vi x p Max.
1	80053 (90380)	SAE-B	18246 (20600)
2	101506 (114600)	SAE-BB	28937 (32670)
3	112312 (126800)		
4	112312 (126800)		
5	104818 (110840)		

Code	Coupling adaptor
0	Without coupling
2	SAE B -13 teeth -pitch 16/32 Major dia (min) 0.875 (22.225) Minor dia (min.) 0.753 (19.126)
3	SAE BB -15 teeth -pitch 16/32 Major dia (min) 1.00 (25.4) Minor dia (min.) 0.877 (22.275)

OPERATING CHARACTERISTICS - TYPICAL (24 cST) (Input power p (KW) for one cartridge only)

Pressure port	Series	Volumetric Displacement Vp		Flow q & n = 1800 rpm						Input power p & n = 1800 rpm					
		in ³ /rev	cm ³ /rev	p = 0 bar (0 psi)		p = 140 bar (2000 psi)		p = 240 bar (3500 psi)		p = 7 bar (100 psi)		p = 140 bar (2000 psi)		p = 240 bar (3500 psi)	
				gpm	lpm	gpm	lpm	gpm	lpm	hp	kw	hp	kw	hp	kw
P1 & P2	042	8.07	132.2	62.92	237.8	60.37	228.2	58.52	221.2	8.09	6.03	78.44	58.49	133.80	99.77
	045	8.70	142.5	67.72	255.9	65.17	246.3	63.32	239.3	8.37	6.24	84.04	62.66	143.60	107.08
	050	9.67	158.5	75.38	284.9	72.83	275.3	70.98	268.3	8.82	6.58	92.97	69.32	159.24	118.75
	052	10.00	163.8	78.37	296.2	75.82	286.6	73.97	279.6	8.99	6.70	96.47	71.94	165.36	123.31
	054	10.43	170.9	81.27	307.2	78.72	297.6	76.87	290.6	9.17	6.84	99.75	74.38	177.46	132.33
	057	11.18	183.2	87.12	329.3	84.57	319.7	82.72	312.7	9.51	7.09	106.57	79.47	189.84	141.56
	062	12.00	196.6	93.54	353.6	90.99	343.9	89.14	336.9	9.88	7.37	114.17	85.13	196.34	146.41
	066	13.00	213.0	101.44	383.4	98.89	373.8	97.04	366.8	10.34	7.71	123.38	92.0	212.46	158.43
	072	13.86	227.1	108.00	408.2	105.45	398.6	103.60	391.6	10.72	7.99	131.04	97.71	225.86	166.42
085	16.40	268.7	127.79	483.0	126.13 ¹⁾	476.7 ¹⁾	--	--	11.88	8.85	101.66 ¹⁾	75.80 ¹⁾	--	--	

1) 085 = 90 bar (1300 psi) max.int.

VT7QCC 1 W - 022 - 008 - 1 R 00 - B 1 - 00 *

Series

Mounting

- 1 - SAE B
- 2 - SAE C

Use for severe duty shaft only

Cam ring for "P1" & "P2"

(Delivery @ 0 bar & 1500 rpm)

* 003/B03/Y03 = 16.2 l/min	015/B15/Y15 = 75.1 l/min
005/B05/Y05 = 25.8 l/min	017/B17/Y17 = 87.4 l/min
006/B06/Y06 = 31.9 l/min	020/B20/Y20 = 95.7 l/min
008/B08/Y08 = 39.6 l/min	022/B22/Y22 = 105.4 l/min
010/B10/Y10 = 51.1 l/min	025/B25/Y25 = 118.9 l/min
012/B12/Y12 = 55.6 l/min	028/B28/Y28 = 133.2 l/min
014/B14/Y14 = 69.0 l/min	031/B31/Y31 = 150.0 l/min

* '0' - Uni-directional 'B' - Bi-directional 'Y' - Bi-directional for cold start

Type of shaft

- 1 - keyed (no SAE)
- 3 - splined (SAE BB)
- 5 - splined (SAE B)

Severe duty

- 2 - keyed (SAE BB)
- B - keyed

Modifications

Mounting W/connection variables

code	P1=1" - S=3"		P1=1" - S=2 1/2" ¹⁾²⁾	
	Unc	Metric	1"	3/4" ¹⁾²⁾
	00	01	10	11
	00	W0	1M	W1

- 1) for 46 ml/rev max.
 - 2) for 126 ml/rev max.
- The large cartridge must be always mounted in the front.

Seal class

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

Design letter

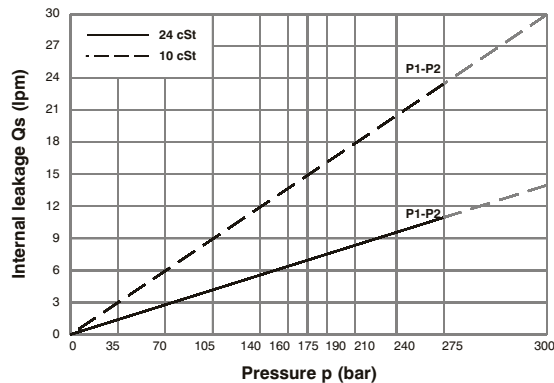
Porting combination (see page BM-1-5)

- 00 - standard

Direction of rotation (view on shaft end)

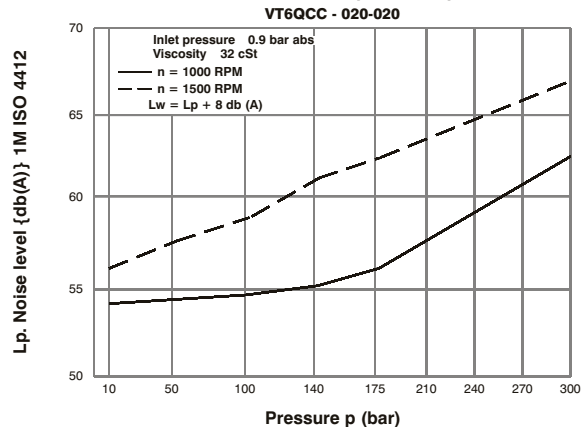
- R - clockwise
- L - counter-clockwise

INTERNAL LEAKAGE (TYPICAL)



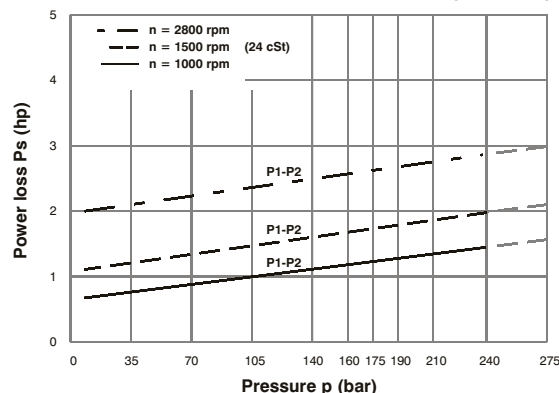
Do not operate pump more than 5 seconds at any speed or viscosity if internal leakage is more than 50% of theoretical flow. Total leakage is the sum of each section loss at its operating conditions.

NOISE LEVEL (TYPICAL)



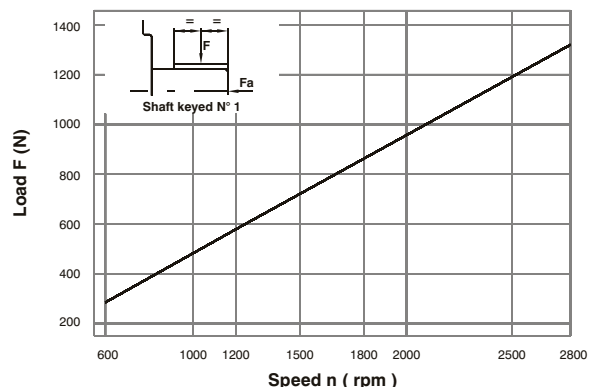
Double pump noise level is given with each section discharging at the pressure noted on the curve.

HYDROMECHANICAL POWER LOSS (TYPICAL)

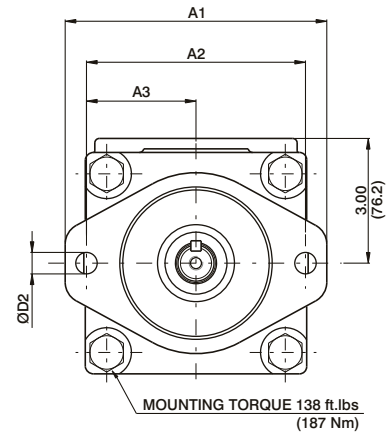
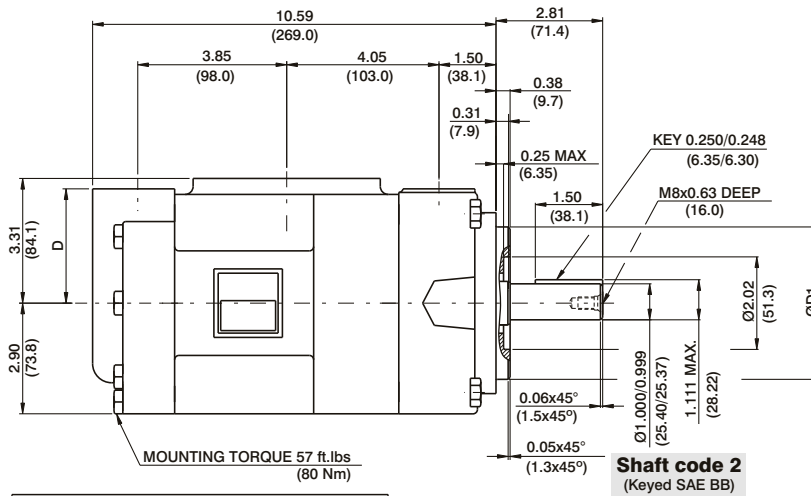
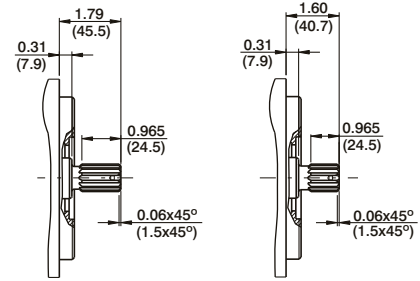
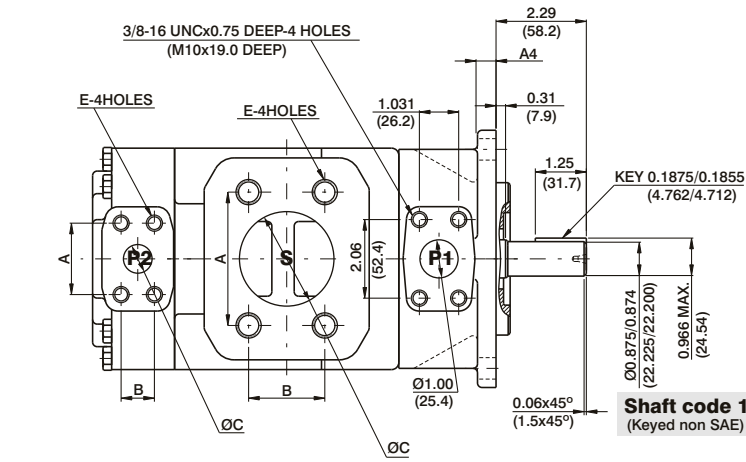


Total hydromechanical power loss is the sum of each section at its operating conditions.

PERMISSIBLE RADIAL LOAD



Maximum permissible axial load $F_a = 800$ N



Shaft	Vp x p max. (P1 + P2)
1	12666 (14300)
2	18972 (21420)
3	28937 (32670)
5	18246 (20600)

PORT	A	B	C	D	E
S	4.19 (106.4)	2.44 (61.9)	3.00 (76.2)		5/8-11UNCx1.12 DEEP (M16x28.4 DEEP)
S	3.50 (88.9)	2.00 (50.8)	2.50 (63.5)		1/2-13UNCx0.94 DEEP (M12x24.0 DEEP)
P2	1.874 (47.6)	0.874 (22.2)	0.75 (19.0)	3.00 (76.2)	3/8-16UNCx0.75 DEEP (M10x20.0 DEEP)
P2	2.06 (52.4)	1.03 (26.2)	1.00 (25.4)	2.94 (74.7)	

	VT7QCC1	VT7QCC2	
Mounting	SAE B	SAE C	
	ØD1	4.000 (101.60) 3.998 (101.55)	5.000 (127.00) 4.997 (126.94)
	ØD2	0.56 (14.3) 0.69 (17.5)	0.69 (17.5) 0.836 (212.5)
	A1	6.87 (174.5) 5.75 (146.0)	8.36 (212.5) 7.13 (181.0)
	A2	2.87 (73.0)	3.56 (90.5)
	A4	0.5 (12.7)	0.62 (15.7)

OPERATING CHARACTERISTICS - TYPICAL (24 cST) (Input power p (KW) for one cartridge only)

Series	Volumetric Displacement Vp	Flow q (lpm) & n = 1500 rpm				Input power p (kW) & n = 1500 rpm			
		p = 0 bar	p = 140 bar	p = 240 bar	p = 300 bar	p = 7 bar	p = 140 bar	p = 240 bar	p = 300 bar
003	10.8 ml/rev	16.2	11.9	8.1	--	1.3	5.3	7.8	--
005	17.2 ml/rev	25.8	21.5	17.7	13.7	1.4	7.5	12.2	14.9
006	21.3 ml/rev	31.9	26.5	22.0	18.0	1.5	8.9	14.7	18.0
008	26.4 ml/rev	39.6	34.1	29.6	25.6	1.6	10.7	17.7	21.8
010	34.1 ml/rev	51.1	45.7	41.2	37.2	1.7	13.4	22.3	27.5
012	37.1 ml/rev	55.6	50.2	45.7	41.7	1.7	14.4	24.1	29.8
014	46.0 ml/rev	69.0	63.5	59.0	55.0	1.9	17.6	29.5	36.5
015	50.5 ml/rev	75.1	69.6	65.1	61.1	2.0	18.0	32.0	39.5
017	58.3 ml/rev	87.4	82.0	77.5	73.5	2.1	19.0	36.9	45.7
020	63.8 ml/rev	95.7	90.2	85.7	81.7	2.2	23.8	40.2	49.8
022 ²⁾	70.3 ml/rev	105.4	100.0	95.5	91.5	2.3	26.1	44.1	50.3
025 ^{1,3)}	79.3 ml/rev	118.9	113.5	109.0	--	2.5	29.2	49.5	--
028 ^{1,4)}	88.8 ml/rev	133.2	127.7	124.5	--	2.8	32.7	48.5	--
031 ^{1,4)}	100.0 ml/rev	150.0	144.5	141.3	--	2.8	36.5	54.4	--

1) 025-028-031 = 2500 R.P.M. max. 2) 022 = 275 bar max. int. 3) 025 = 240 bar max. int. 4) 028-031 = 210 bar max. int.
 -- Not to use because internal leakage greater than 50% of theoretical flow.

VT7QDC - B38 - 022 1 R 00 - A 1 00 *

Series

Cam ring for "P1"

Volumetric displacement cm^3/rev (in^3/rev)

B14 = 43.9 (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^3/rev (in^3/rev)

*003/B03/Y03 = 10.8 (0.66)	015/B15/Y15 = 50.5 (3.08)
005/B05/Y05 = 17.2 (1.05)	017/B17/Y17 = 58.3 (3.56)
006/B06/Y06 = 21.3 (1.30)	020/B20/Y20 = 63.8 (3.89)
008/B08/Y08 = 26.4 (1.61)	022/B22/Y22 = 70.3 (4.29)
010/B10/Y10 = 34.1 (2.08)	025/B25/Y25 = 79.3 (4.84)
012/B12/Y12 = 37.1 (2.26)	028/B28/Y28 = 88.8 (5.42)
014/B14/Y14 = 46.0 (2.81)	031/B31/Y31 = 100.0 (6.10)

*'0' - Uni-directional 'B' - Bi-directional 'Y' - Bi-directional for cold start

Modifications

Mounting W/connection variables

	UNC		METRIC	
	00	01	M0	M1
P2	1"	3/4"	1"	3/4"
P1	1 1/4"			
S	3"			

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 BM-1-5)

00 - standard

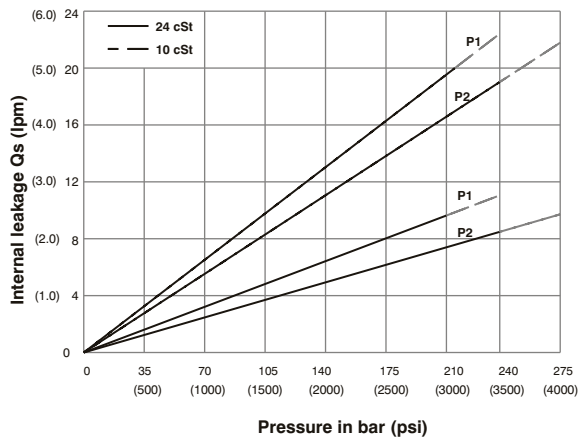
Direction of rotation (view on shaft end)

- R - clockwise
- L - counter-clockwise

Type of shaft

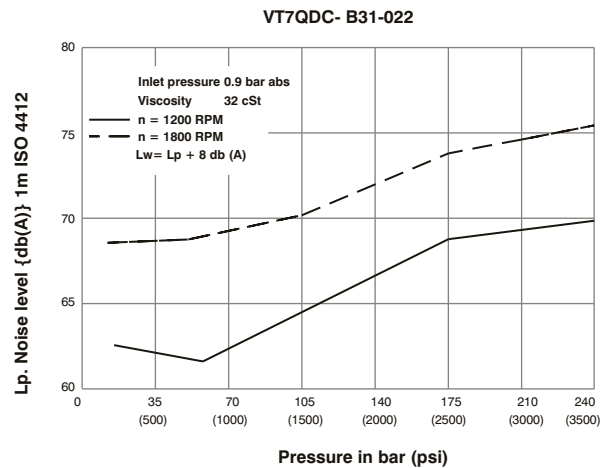
- 1 - keyed (SAE C)
- 2 - keyed (SAE CC)
- 3 - splined (SAE C)

INTERNAL LEAKAGE (TYPICAL)



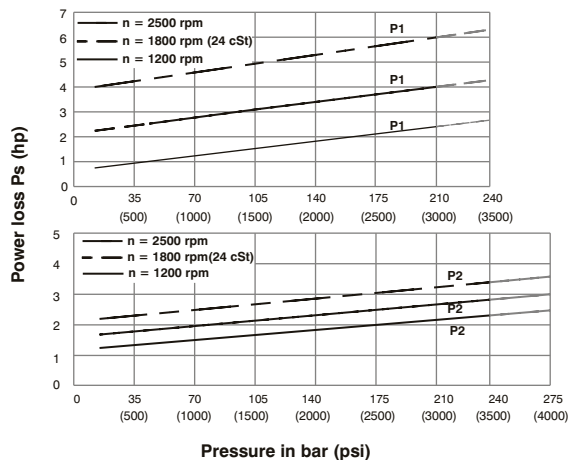
Do not operate pump more than 5 seconds at any speed or viscosity if internal leakage is more than 50% of theoretical flow. Total leakage is the sum of each section loss at its operating conditions.

NOISE LEVEL (TYPICAL)



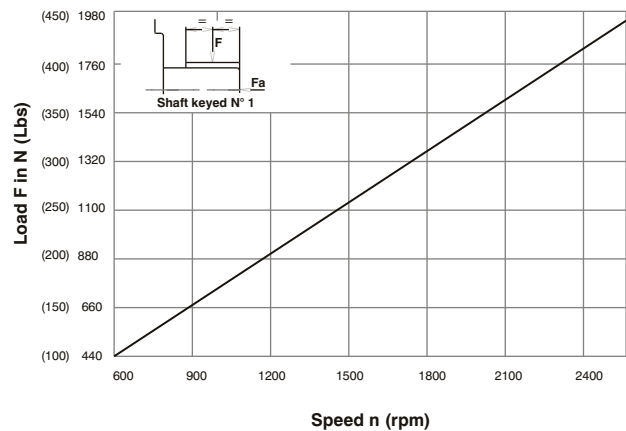
Double pump noise level is given with each section discharging at the pressure noted on the curve.

HYDROMECHANICAL POWER LOSS (TYPICAL)



Total hydromechanical power loss is the sum of each section at its operating conditions.

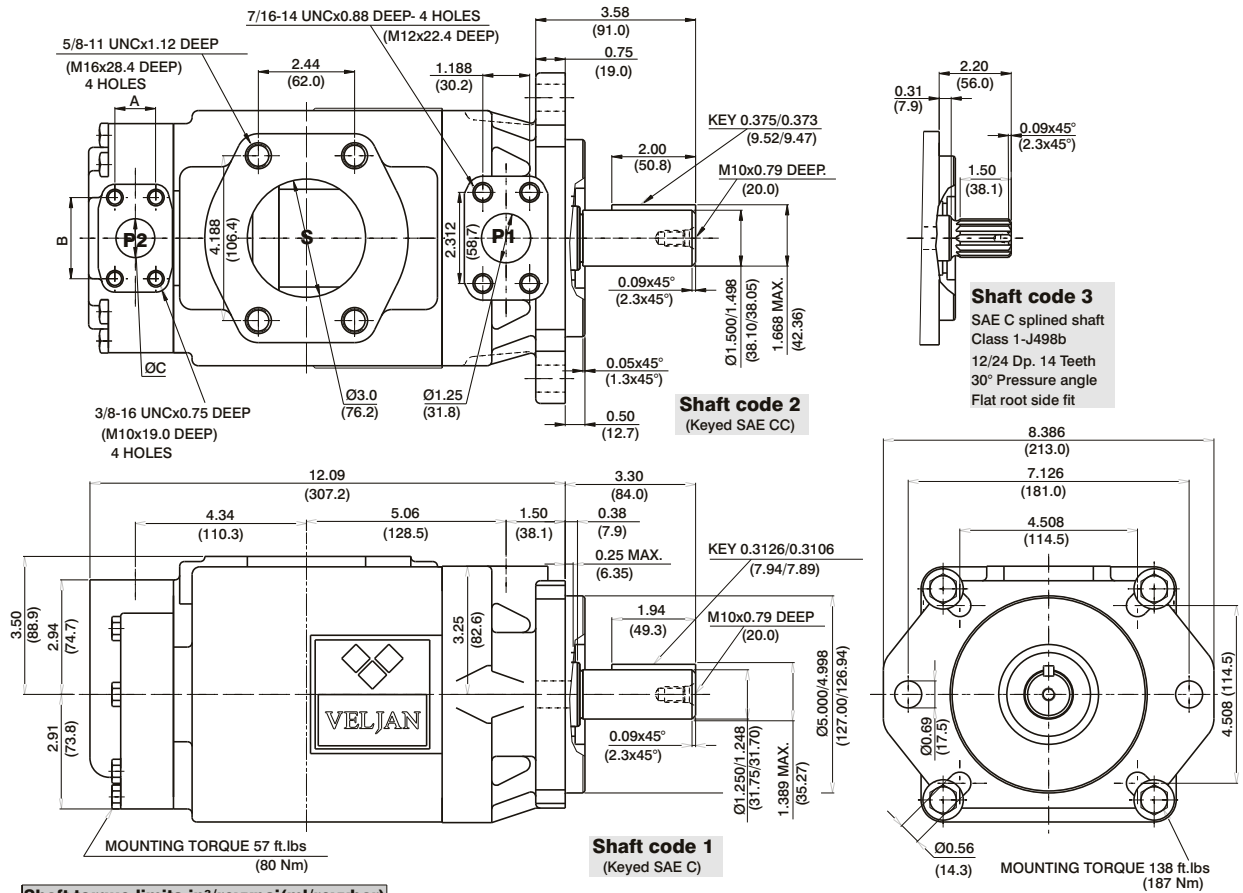
PERMISSIBLE RADIAL LOAD



Maximum permissible axial load $F_a = 1200 \text{ N (270 Lbs)}$



HIGH PERFORMANCE VANE PUMP VT7QDC



Shaft code 3
SAE C splined shaft
Class 1-J498b
12/24 Dp. 14 Teeth
30° Pressure angle
Flat root side fit

Shaft code 2
(Keyed SAE CC)

Shaft code 1
(Keyed SAE C)

Shaft torque limits in³/revxpsi(ml/revxbar)

Shaft	Vp x p max. (P1+P2)
1	38299 (43240)
2	30638 (34590)
3	54207 (61200)

Alternate connect.variables

	00 & M0	01 & M1
A	1.031 (26.2)	0.874 (22.2)
B	2.06 (52.4)	1.874 (47.6)
C	1.00 (25.4)	0.75 (19.05)

OPERATING CHARACTERISTICS - TYPICAL (24 cST) (Input power p (KW) for one cartridge only)

Pressure port	Series	Volumetric Displacement Vp		Flow q & n = 1800 rpm						Input power p & n = 1800 rpm					
		in ³ /rev	cm ³ /rev	p = 0 bar (0 psi)	p = 140 bar (2000 psi)	p = 250 bar (3630 psi)	p = 300 bar (4350 psi)	p = 7 bar (100 psi)	p = 140 bar (2000 psi)	p = 250 bar (3630 psi)	p = 300 bar (4350 psi)	p = 7 bar (100 psi)	p = 140 bar (2000 psi)	p = 250 bar (3630 psi)	p = 300 bar (4350 psi)
P1	B14	2.68	43.9	20.92	79.1	19.18	72.5	17.81	67.30	3.46	2.60	27.77	20.70	47.03	35.00
	B17	3.36	55.0	26.16	98.8	24.41	92.3	23.04	87.00	3.77	2.80	33.88	25.30	57.71	43.00
	B20	4.03	66.0	31.39	118.6	29.64	112.0	28.27	106.80	4.07	3.00	39.98	29.80	68.39	50.90
	B22	4.29	70.3	33.43	126.4	31.69	119.8	30.32	104.60	4.19	3.10	42.37	31.60	72.57	54.00
	B24	4.95	81.1	38.57	145.8	36.82	139.2	35.45	134.00	4.49	3.40	48.36	36.10	83.06	61.90
	B28	5.49	89.9	42.80	161.8	41.06	155.2	39.69	150.00	4.74	3.50	53.30	39.70	91.70	68.30
	B31	6.05	99.1	47.18	178.3	45.43	171.7	44.06	166.50	4.99	3.70	58.41	43.60	100.63	75.00
	B35 ¹⁾	6.92	113.4	53.93	203.9	52.18	197.2	50.81	192.00	5.39	4.00	66.29	49.40	114.42	85.30
	B38 ¹⁾	7.36	120.6	57.35	216.8	55.61	210.2	54.24	204.90	5.59	4.20	70.28	52.40	121.42	90.50
	B42 ²⁾	8.39	137.5	65.39	247.2	63.65	240.6	62.28	235.40	6.05	4.50	79.66	59.40	137.83	102.70
045 ³⁾	8.89	145.7	69.29	262.0	67.11	253.6	65.31	246.80	6.74	5.00	83.75	62.40	145.79	108.70	
050 ⁴⁾	9.64	157.9	75.14	284.0	72.96	275.8	71.78	271.30	7.08	5.30	90.58	67.50	134.50	100.30	
P2	003	0.66	10.8	5.14	19.6	3.85	14.6	--	--	2.11	1.57	8.45	6.30	--	--
	005	1.05	17.2	8.18	30.9	6.89	26.0	4.34	16.44	2.29	1.70	12.00	8.94	23.97	17.88
	006	1.30	21.3	10.13	38.3	8.84	33.4	5.71	21.60	2.40	1.78	14.28	10.64	28.96	21.60
	008	1.61	26.4	12.55	47.4	11.26	42.6	8.12	30.72	2.54	1.89	17.11	12.75	35.08	26.16
	010	2.08	34.1	16.22	61.3	14.93	56.4	11.81	44.64	2.76	2.06	21.38	15.94	44.25	33.00
	012	2.26	37.1	17.64	66.7	16.35	61.8	13.24	50.04	2.84	2.11	23.05	17.18	47.47	35.40
	014	2.81	46.0	21.88	82.7	20.59	77.8	17.46	66.00	3.09	2.30	27.99	20.87	58.73	43.80
	015	3.08	50.5	23.99	90.7	22.83	86.3	19.39	73.32	3.21	2.40	30.30	22.60	63.56	47.40
	017	3.56	58.3	27.73	104.8	26.44	99.9	23.33	88.20	3.43	2.55	34.81	25.95	73.54	54.84
	020	3.89	63.8	30.34	114.7	29.05	109.8	25.93	98.04	3.58	2.66	37.86	28.23	80.14	59.76
	022 ⁶⁾	4.29	70.3	33.43	126.4	32.14	121.5	29.05	109.80	3.76	2.80	41.47	30.92	80.94	60.36
	025 ^{5,7)}	4.84	79.3	37.71	142.5	36.42	137.6	--	--	4.01	2.99	46.46	34.64	--	--
	028 ^{5,8)}	5.42	88.8	42.23	159.6	40.94	154.7	--	--	4.27	3.18	51.74	38.58	--	--
	031 ^{5,8)}	6.10	100.0	47.56	179.7	46.27	174.9	--	--	4.58	3.41	57.95	43.21	--	--

1) B35-B38 = 280 bar (4060 psi) max.int. 2) B42 = 260 bar (3770 psi) max.int. 3) 045 = 240 bar (3500 psi) max.int. 4) 050 = 210 bar (3000 psi) max.int.
5) 025-028-031 = 2500 R.P.M. max. 6) 022 = 275 bar max.int. 7) 025 = 240 bar max.int. 8) 028-031 = 210 bar (3000 psi) max.int.
-- Not to use because internal leakage greater than 50% of theoretical flow

VT7QEC * - 066 - 022 1 R 00 - A 1 -

Series

Y- Metric port connection, Omit for UNC

Cam ring for "P1"

Volumetric displacement cm³/rev (in³/rev)

042 = 132.3 (8.07)	062 = 196.7 (12.00)
045 = 142.4 (8.69)	066 = 213.3 (13.02)
050 = 158.5 (9.67)	072 = 227.1 (13.86)
052 = 164.8 (10.06)	085 = 269.8 (16.46)
057 = 183.2 (11.18)	

Cam ring for "P2"

Volumetric displacement cm³/rev (in³/rev)

*003/B03/Y03 = 10.8 (0.66)	015/B15/Y15 = 50.5 (3.08)
005/B05/Y05 = 17.2 (1.05)	017/B17/Y17 = 58.3 (3.56)
006/B06/Y06 = 21.3 (1.30)	020/B20/Y20 = 63.8 (3.89)
008/B08/Y08 = 26.4 (1.61)	022/B22/Y22 = 70.3 (4.29)
010/B10/Y10 = 34.1 (2.08)	025/B25/Y25 = 79.3 (4.84)
012/B12/Y12 = 37.1 (2.26)	028/B28/Y28 = 88.8 (5.42)
014/B14/Y14 = 46.0 (2.81)	031/B31/Y31 = 100.0 (6.10)

*'0' - Uni-directional 'B' - Bi-directional 'Y' - Bi-directional for cold start

Modifications

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 BM-1-5)

00 - standard

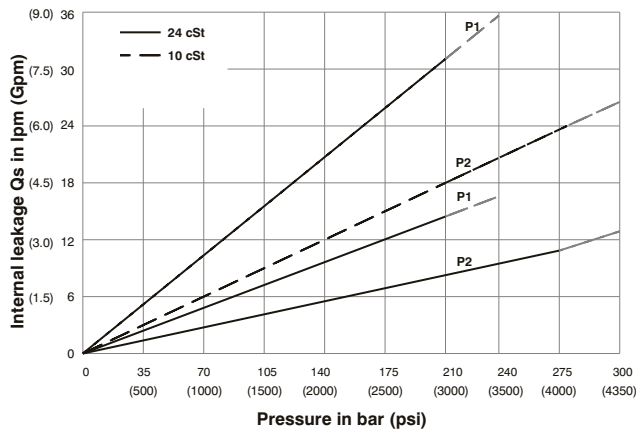
Direction of rotation (view on shaft end)

- R - clockwise
- L - counter-clockwise

Type of shaft

- 1 - keyed (SAE CC)
- 2 - keyed (no SAE)
- 3 - splined (SAE C)
- 4 - splined (SAE CC)

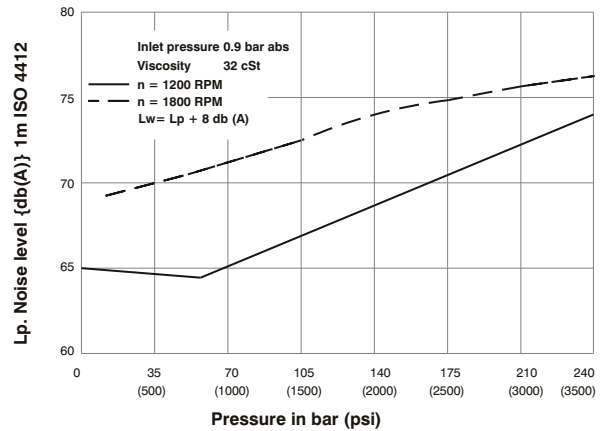
INTERNAL LEAKAGE (TYPICAL)



Do not operate pump more than 5 seconds at any speed or viscosity if internal leakage is more than 50% of theoretical flow. Total leakage is the sum of each section loss at its operating conditions.

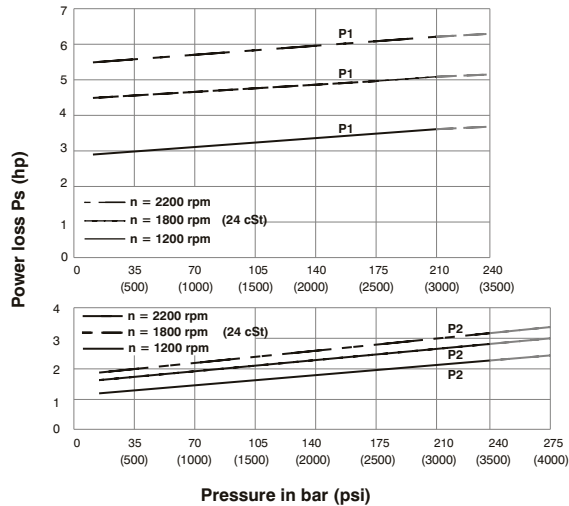
NOISE LEVEL (TYPICAL)

VT7QEC- 050-022



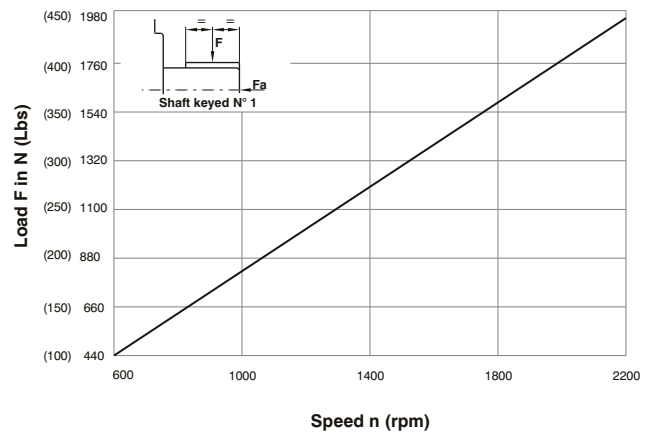
Double pump noise level is given with each section discharging at the pressure noted on the curve.

HYDROMECHANICAL POWER LOSS (TYPICAL)



Total hydromechanical power loss is the sum of each section at its operating conditions.

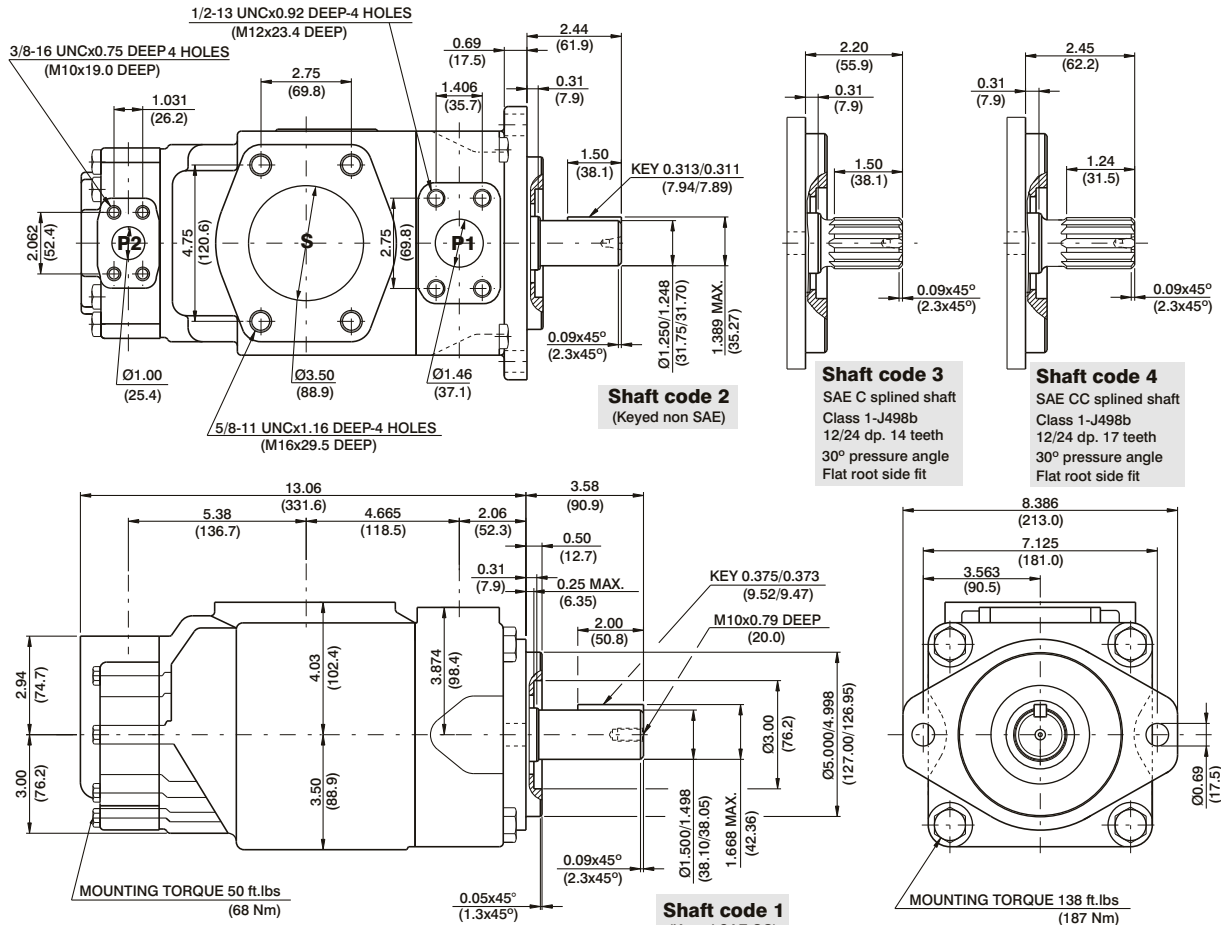
PERMISSIBLE RADIAL LOAD



Maximum permissible axial load Fa = 2000 N (449 Lbs)



HIGH PERFORMANCE VANE PUMP VT7QEC



Shaft torque limits in ³ /rev x psi (ml/rev x bar)	
Shaft	Vp x p max. (P1+P2)
1	64044 (72306)
2	30638 (34590)
3	54207 (61200)
4	67582 (76376)

OPERATING CHARACTERISTICS - TYPICAL (24 cST) (Input power p (KW) for one cartridge only)

Pressure port	Series	Volumetric Displacement Vp		Flow q & n = 1800 rpm						Input power p & n = 1800 rpm					
		p = 0 bar (0 psi)		p = 140 bar (2000 psi)		p = 240 bar (3500 psi)		p = 7 bar (100 psi)		p = 140 bar (2000 psi)		p = 240 bar (3500 psi)			
		in ³ /rev	cm ³ /rev	gpm	lpm	gpm	lpm	gpm	lpm	hp	kw	hp	kw	hp	kw
P1	042	8.07	132.2	62.92	237.8	60.37	228.2	58.52	221.2	8.09	6.03	78.44	58.49	133.80	99.77
	045	8.70	142.5	67.72	255.9	65.17	246.3	63.32	239.3	8.37	6.24	84.04	62.66	143.60	107.08
	050	9.67	158.5	75.38	284.9	72.83	275.3	70.98	268.3	8.82	6.58	92.97	69.32	159.24	118.75
	052	10.00	163.8	78.37	296.2	75.82	286.6	73.97	279.6	8.99	6.70	96.47	71.94	165.36	123.31
	054	10.43	170.9	81.27	307.2	78.72	297.6	76.87	290.6	9.17	6.84	99.75	74.38	177.46	132.33
	057	11.18	183.2	87.12	329.3	84.57	319.7	82.72	312.7	9.51	7.09	106.57	79.47	189.84	141.56
	062	12.00	196.6	93.54	353.6	90.99	343.9	89.14	336.9	9.88	7.37	114.17	85.13	196.34	146.41
	066	13.00	213.0	101.44	383.4	98.89	373.8	97.04	366.8	10.34	7.71	123.38	92.00	212.46	158.43
	072	13.86	227.1	108.00	408.2	105.45	398.6	103.60	391.6	10.72	7.99	131.04	97.71	225.86	166.42
085 ¹⁾	16.40	268.7	127.79	483.0	126.13	476.7	-	-	11.88	8.85	101.66	75.80	-	-	
P2	003	0.66	10.8	5.14	19.6	3.85	14.6	--	--	2.11	1.57	8.45	6.30	--	--
	005	1.05	17.2	8.18	30.9	6.89	26.0	4.34	16.44	2.29	1.70	12.00	8.94	23.97	17.88
	006	1.30	21.3	10.13	38.3	8.84	33.4	5.71	21.6	2.40	1.78	14.28	10.64	28.96	21.60
	008	1.61	26.4	12.55	47.4	11.26	42.6	8.12	30.72	2.54	1.89	17.11	12.75	35.08	26.16
	010	2.08	34.1	16.22	61.3	14.93	56.4	11.81	44.64	2.76	2.06	21.38	15.94	44.25	33.00
	012	2.26	37.1	17.64	66.7	16.35	61.8	13.24	50.04	2.84	2.11	23.05	17.18	47.47	35.40
	014	2.81	46.0	21.88	82.7	20.59	77.8	17.46	66.00	3.09	2.30	27.99	20.87	58.73	43.80
	015	3.08	50.5	23.99	90.7	22.83	86.3	19.39	73.32	3.21	2.40	30.30	22.60	63.56	47.40
	017	3.56	58.3	27.73	104.8	26.44	99.9	23.33	88.2	3.43	2.55	34.81	25.95	73.54	54.84
	020	3.89	63.8	30.34	114.7	29.05	109.8	25.93	98.04	3.58	2.66	37.86	28.23	80.14	59.76
	022 ³⁾	4.29	70.3	33.43	126.4	32.14	121.5	29.05	109.8	3.76	2.80	41.47	30.92	80.94	60.36
	025 ^{2,4)}	4.84	79.3	37.71	142.5	36.42	137.6	--	--	4.01	2.99	46.46	34.64	--	--
	028 ^{2,5)}	5.42	88.8	42.23	159.6	40.94	154.7	--	--	4.27	3.18	51.74	38.58	--	--
	031 ^{2,5)}	6.10	100.0	47.56	179.7	46.27	174.9	--	--	4.58	3.41	57.95	43.21	--	--

1) 085 = 90 bar (1300 psi) max.int. & 085 = 2000 rpm max. 2) 025-028-031 = 2500 R.P.M. max. -- Not to use because internal leakage greater than 50% of theoretical flow
 3) 022 = 275 bar max. int. 4) 025 = 240 bar max. int. 5) 028-031 = 210 bar max. int.

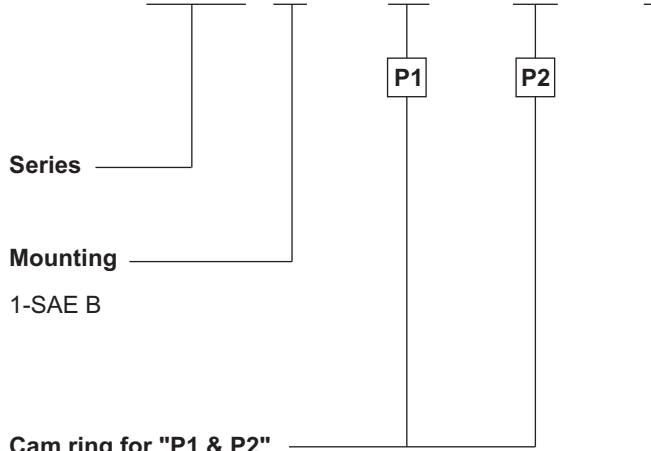
3MICT

vst7cc	3
1 Page 1	3
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vst7db	10
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vst7ed	38
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ORDERING CODE

VST7CC 1 - 017 - B08 - 1 R 00 - A 1 - 11 *



Series

Mounting

1-SAE B

Cam ring for "P1 & P2"

Volumetric displacement cm³/rev (in³/rev)

B02 = 5.7 (0.35)

B03 = 9.8 (0.60)

B04 = 12.8 (0.78)

B05 = 15.9 (0.97)

B06 = 19.8 (1.21)

B07 = 22.5 (1.37)

B08 = 24.9 (1.52)

B09 = 28.0 (1.71)

B10 = 31.8 (1.94)

B11 = 34.9 (2.13)

B12 = 40.9 (2.50)

B14 = 45.1 (2.75)

B15 = 50.0 (3.05)

B17 = 58.3 (3.56)

B20 = 63.8 (3.89)

B22 = 70.3 (4.29)

B25 = 79.3 (4.84)

Type of shaft

1 - Keyed (no SAE)

2 - Keyed (no SAE)

3 - Splined (SAE-BB)

5 - Splined (SAE-B)

Modifications

Mounting W/connection Variables

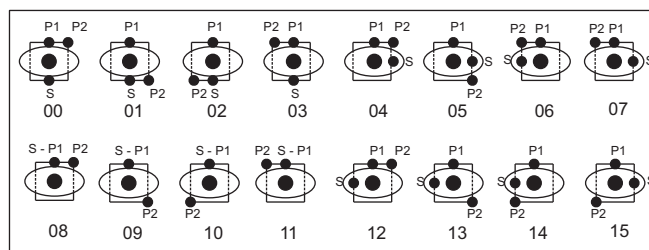
		P1=1"-S=2½"	
		1"	¾"
code	Unc	10	11
	Metric	1M	W1

Seal Class

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

Design Letters

Porting Combination

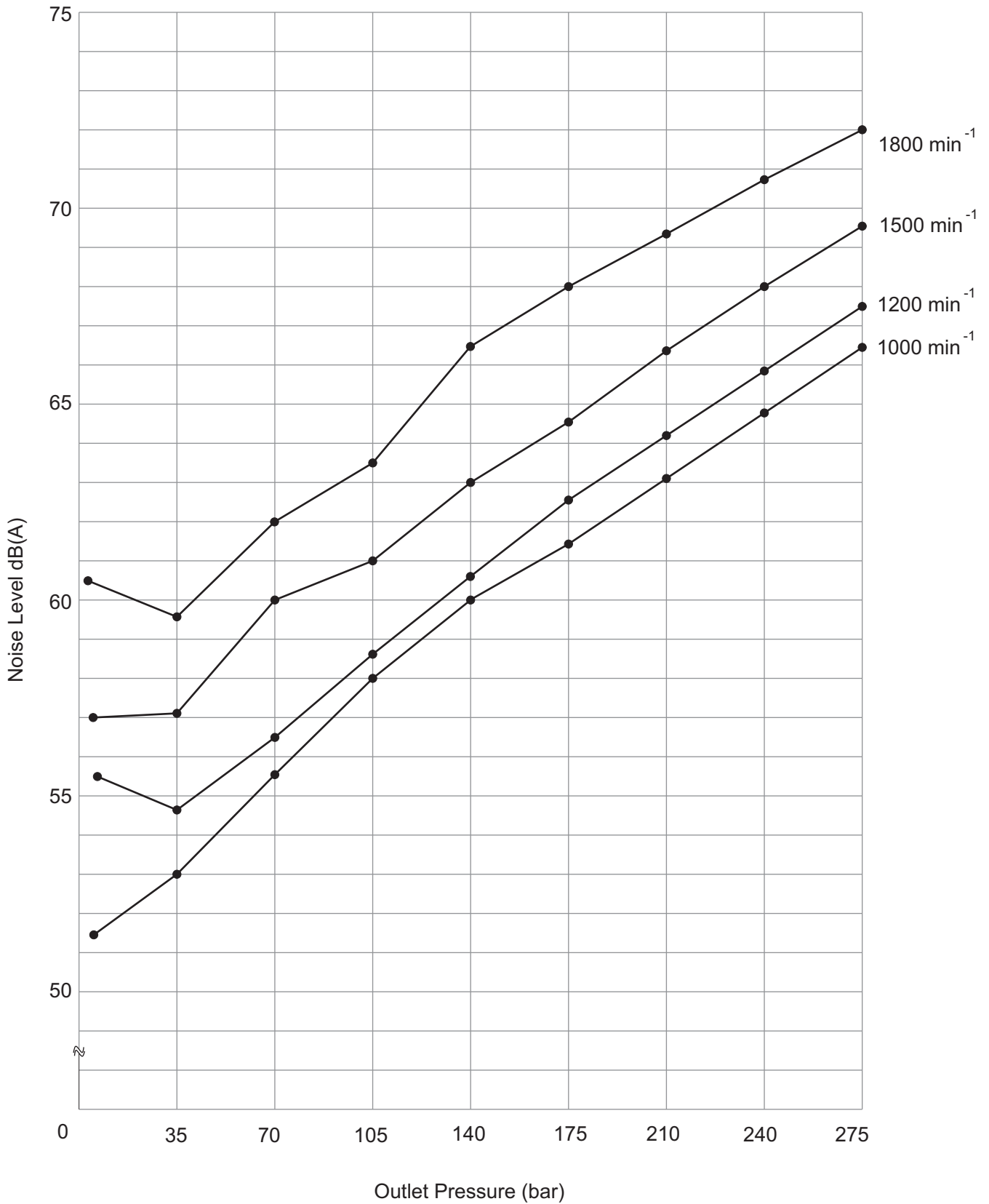


Direction of rotation (view on shaft end)

R - clockwise
L - Counter - Clockwise



NOISE LEVEL (TYPICAL)
VST7CC - B17 - B08

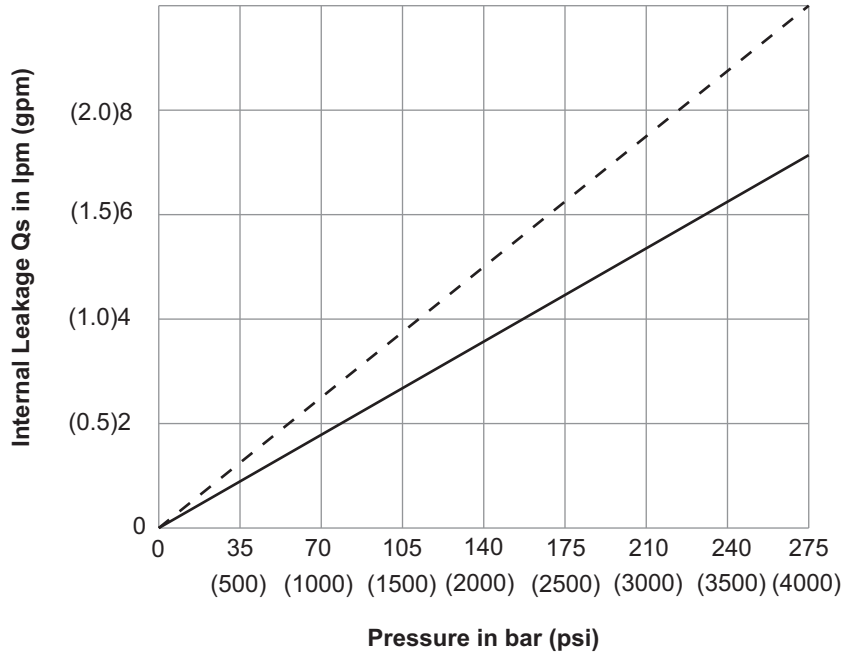


Measurement Conditions: UIISO VG32 oil at 50°C and measured 1m from rear of pump cover



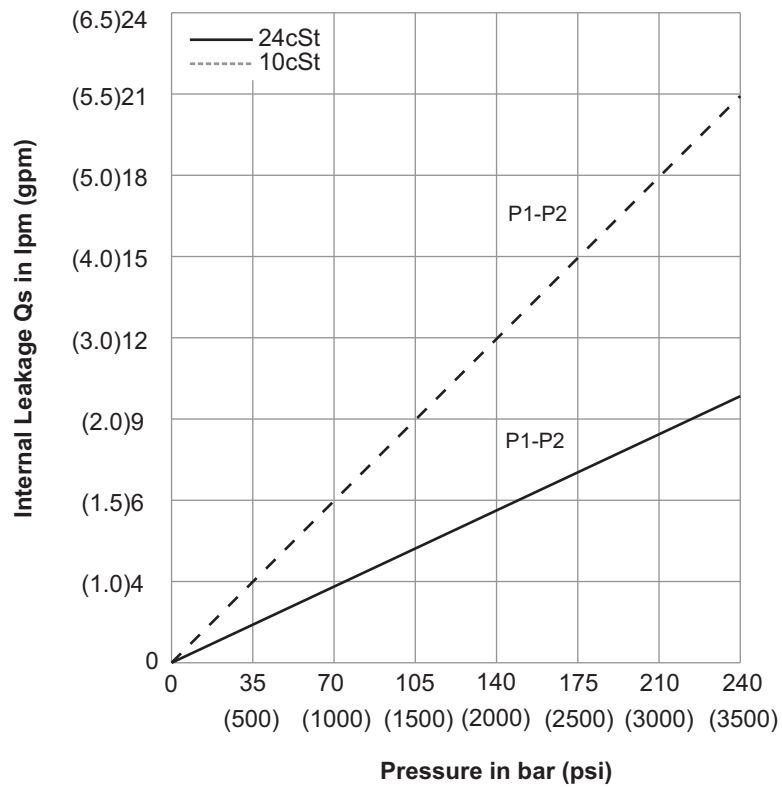
INTERNAL LEAKAGE (TYPICAL)

VST7CC B02 TO B15

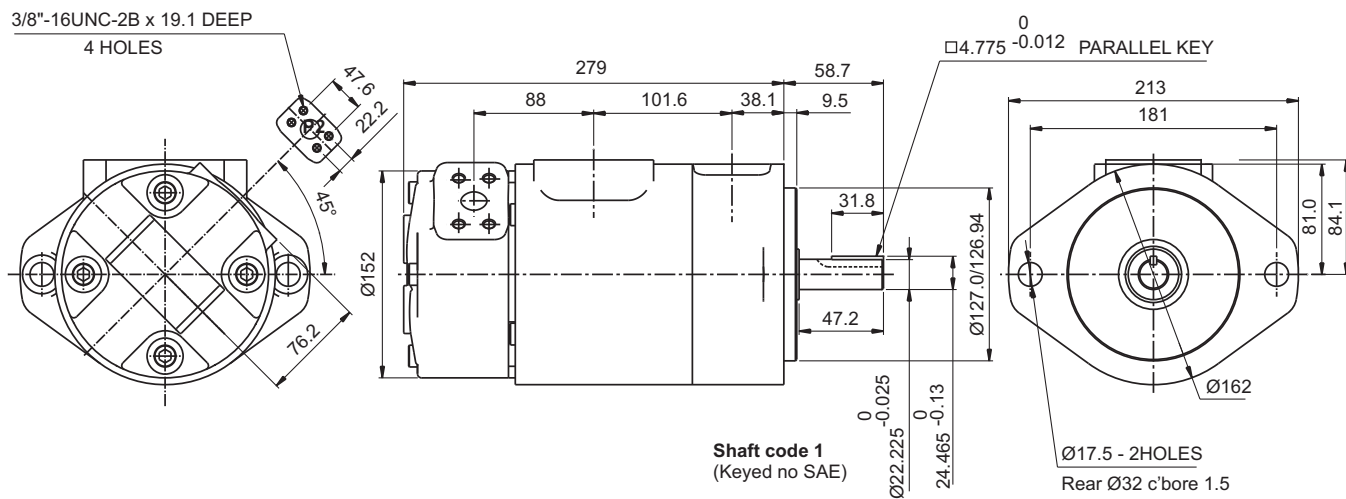
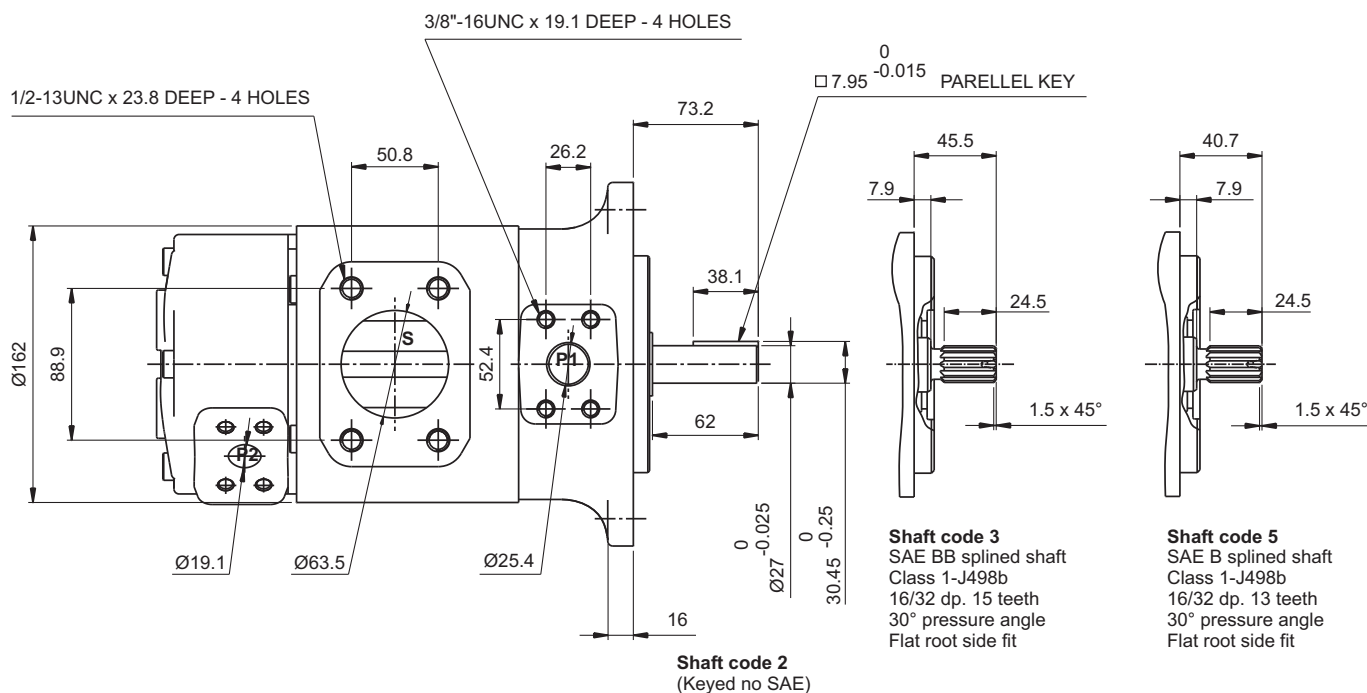


INTERNAL LEAKAGE (TYPICAL)

VST7CC B17 TO B25



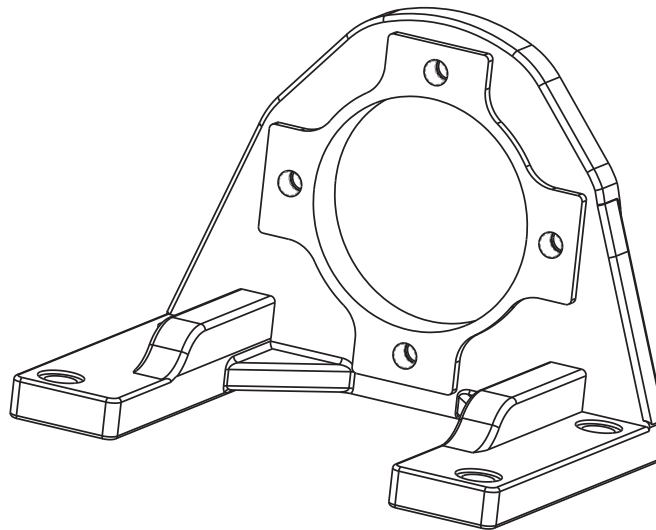
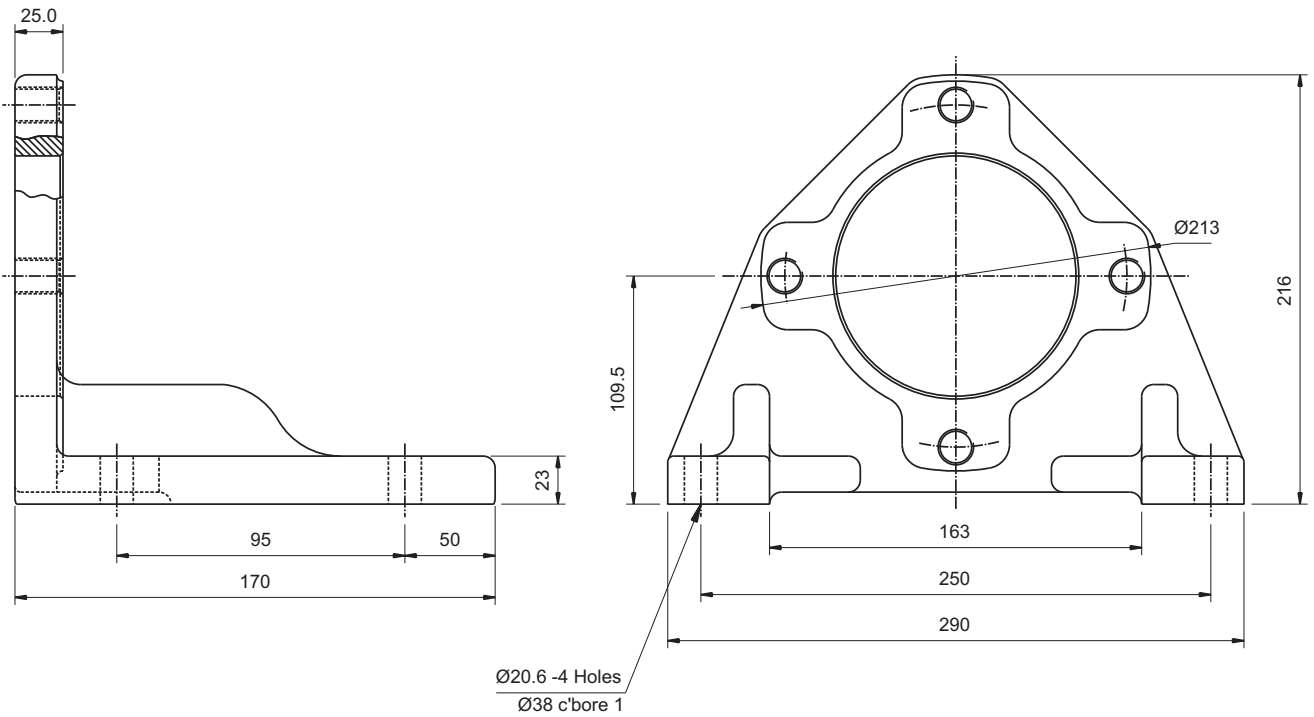
INSTALLATION DRAWING
FLANGE MOUNTING



Weight - 36.5 Kgs.

Shaft torque limits in ³ / rev x psi (ml / rev x bar)	
Shaft	Vp x p max. (P1+P2)
1	12666 (14300)
2	18972 (21420)
3	28937 (32670)
4	18246 (20600)

INSTALLATION DRAWING
FOOT MOUNTING



Weight-9.5 Kgs.

OPERATING CHARACTERISTICS (24 cSt)

Pressure port	Series	Volumetric Displacement Vp		Flow q (lpm) & n = 1500 rpm					
				p = 0 bar (0 psi)		p=140bar(2000psi)		p=240bar(3500psi)	
		in ³ /rev	cm ³ /rev	gpm	lpm	gpm	lpm	gpm	lpm
P1 & P2	B02	0.35	5.7	2.29	8.70	1.72	6.50	–	–
	B03	0.60	9.8	3.88	14.7	3.30	12.5	2.91	11.0
	B04	0.78	12.8	5.07	19.2	4.49	17.0	4.09	15.5
	B05	0.97	15.9	6.31	23.9	5.68	21.5	5.28	20.0
	B06	1.21	19.8	7.85	29.7	7.13	27.0	6.87	26.0
	B07	1.37	22.5	8.90	33.7	8.19	31.0	7.79	29.5
	B08	1.52	24.9	9.88	37.4	9.25	35.0	8.85	33.5
	B09	1.71	28.0	11.07	41.9	10.43	39.5	10.04	38.0
	B10	1.94	31.8	12.62	47.8	11.88	45.0	11.23	42.5
	B11	2.13	34.9	13.81	52.26	13.21	50.0	12.81	48.5
	B12	2.50	40.9	16.25	61.50	15.59	59.0	15.19	57.5
	B14	2.75	45.1	17.81	67.65	17.04	64.5	16.77	63.5
	B15	3.08	50.5	20.25	76.64	19.55	74.0	19.15	72.5
	B17	3.56	58.3	23.10	87.45	22.32	84.5	22.06	83.5
	B20	3.89	63.8	25.28	95.70	24.70	93.5	24.30	92.0
B22	4.29	70.3	27.87	105.5	27.21	103.0	26.81	101.5	
B25	4.84	79.3	31.44	119.0	31.04	117.5	30.64	116.0	

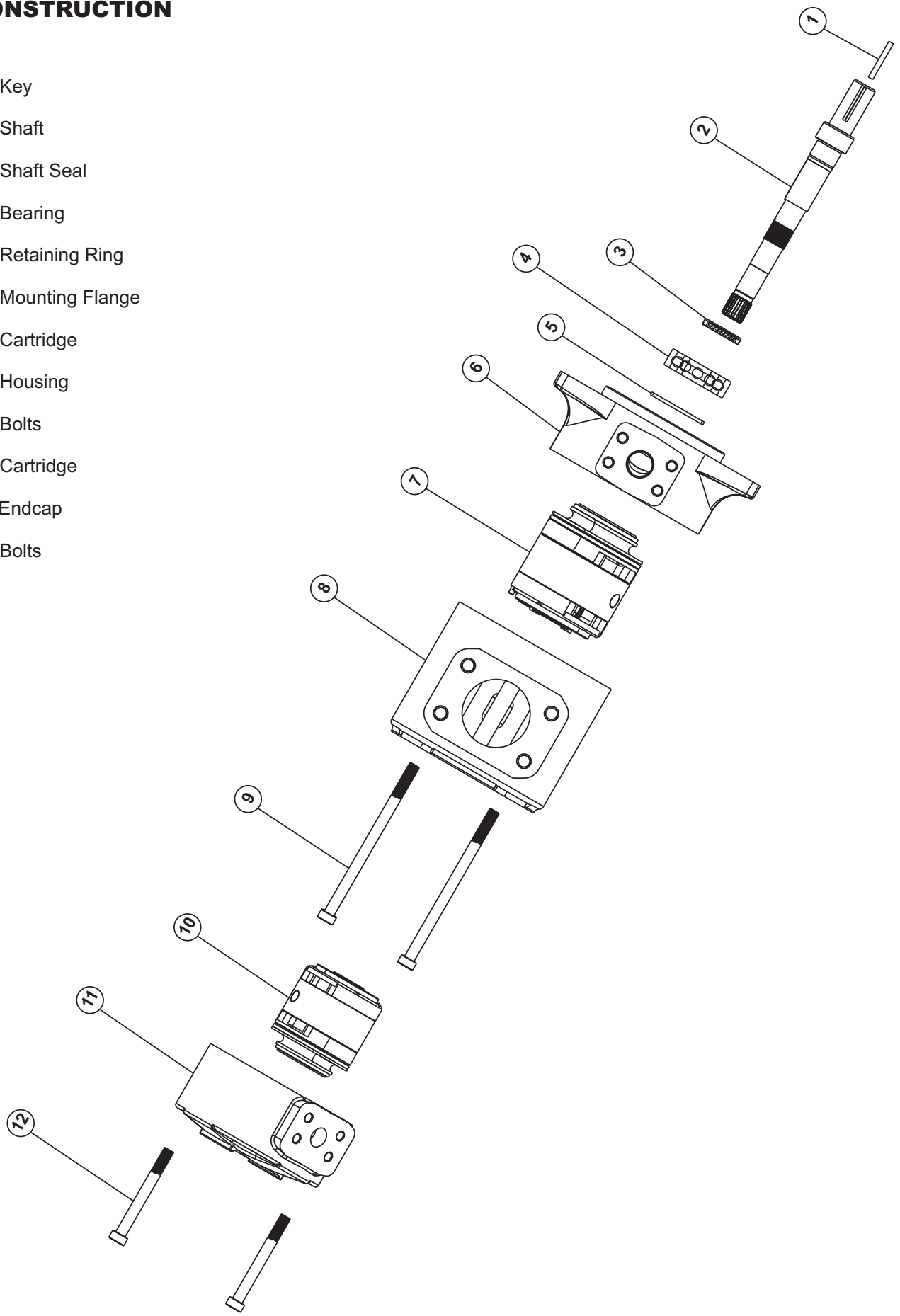
Pressure port	Series	Volumetric Displacement Vp		Input power p & n = 1500 rpm					
				p = 7 bar (100psi)		p=140bar(2000psi)		p=240bar(3500psi)	
		in ³ /rev	cm ³ /rev	hp	kw	hp	kw	hp	kw
P1 & P2	B02	0.35	5.7	0.62	0.46	3.08	2.30	–	–
	B03	0.60	9.8	0.71	0.53	4.96	3.70	8.35	6.23
	B04	0.78	12.8	0.78	0.58	6.37	4.75	10.77	8.03
	B05	0.97	15.9	0.86	0.64	7.78	5.80	13.18	9.83
	B06	1.21	19.8	0.95	0.71	9.49	7.08	16.40	12.23
	B07	1.37	22.5	1.01	0.75	10.74	8.01	18.28	13.63
	B08	1.52	24.9	1.06	0.79	12.00	8.95	20.42	15.23
	B09	1.71	28.0	1.14	0.85	13.39	9.99	22.84	17.03
	B10	1.94	31.8	1.23	0.92	15.13	11.28	25.25	18.83
	B11	2.13	34.9	1.30	0.97	16.69	12.45	28.46	21.23
	B12	2.50	40.9	1.45	1.08	19.51	14.55	33.29	24.83
	B14	2.75	45.1	1.54	1.15	21.23	15.83	36.52	27.23
	B15	3.08	50.5	1.68	1.25	24.21	18.05	41.34	30.83
	B17	3.56	58.3	1.85	1.38	27.49	20.50	47.24	35.23
	B20	3.89	63.8	1.98	1.48	30.31	22.60	51.80	38.63
B22	4.29	70.3	2.13	1.59	33.27	24.81	56.89	42.43	
B25	4.84	79.3	2.35	1.75	37.82	28.20	64.68	48.23	

Max. cont. pressure 240 bar upto B12 and 210 bar from B14 to B25
 Measurement Conditions: ISO VG32 oil at 50°C

DP

CONSTRUCTION

- 1. Key
- 2. Shaft
- 3. Shaft Seal
- 4. Bearing
- 5. Retaining Ring
- 6. Mounting Flange
- 7. Cartridge
- 8. Housing
- 9. Bolts
- 10. Cartridge
- 11. Endcap
- 12. Bolts



ORDERING CODE

VST7DB - 042 - B10 - 1 R 00 - A 1 - 00 *

Series

Cam ring for "P1"

Volumetric displacement cm^3/rev (in^3/rev)

014 = 43.9 (2.68)

017 = 55.0 (3.36)

020 = 66.0 (4.03)

022 = 70.3 (4.29)

024 = 81.1 (4.95)

028 = 89.9 (5.49)

031 = 99.1 (6.05)

035 = 113.4 (6.92)

038 = 120.6 (7.36)

042 = 137.5 (8.39)

Cam ring for "P2"

Volumetric displacement cm^3/rev (in^3/rev)

B02 = 5.7 (0.35)

B03 = 9.8 (0.60)

B04 = 12.8 (0.78)

B05 = 15.9 (0.97)

B06 = 19.8 (1.21)

B07 = 22.5 (1.37)

B08 = 24.9 (1.52)

B09 = 28.0 (1.71)

B10 = 31.8 (1.94)

B11 = 34.9 (2.13)

B12 = 40.9 (2.50)

Type of shaft

1 - Keyed

2 - Keyed (no SAE)

3 - Splined (SAE C)

4 - Splined (spec. SAE C)

Modifications

Mounting W/connection Variables

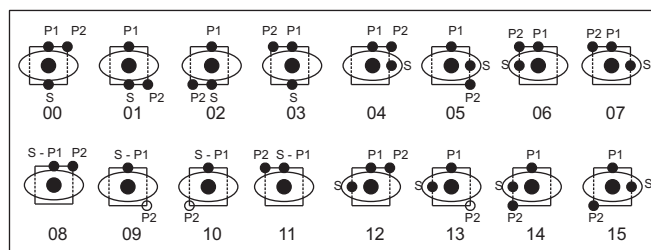
	UNC		METRIC	
	00	01	M0	M1
P2	1"	3/4"	1"	3/4"

Seal Class

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

Design Letters

Porting Combination



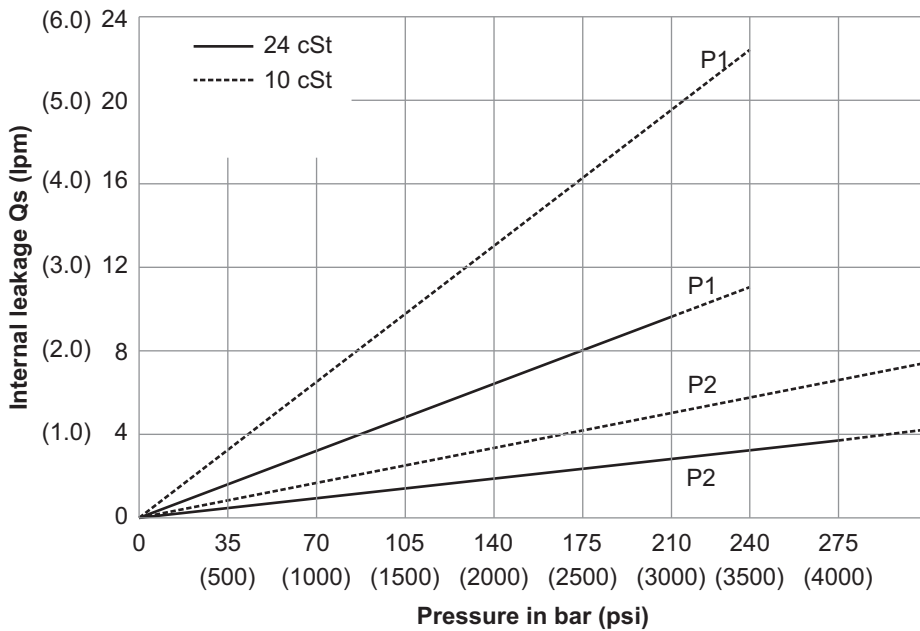
Direction of rotation
(view on shaft end)

R - clockwise

L - Counter - Clockwise

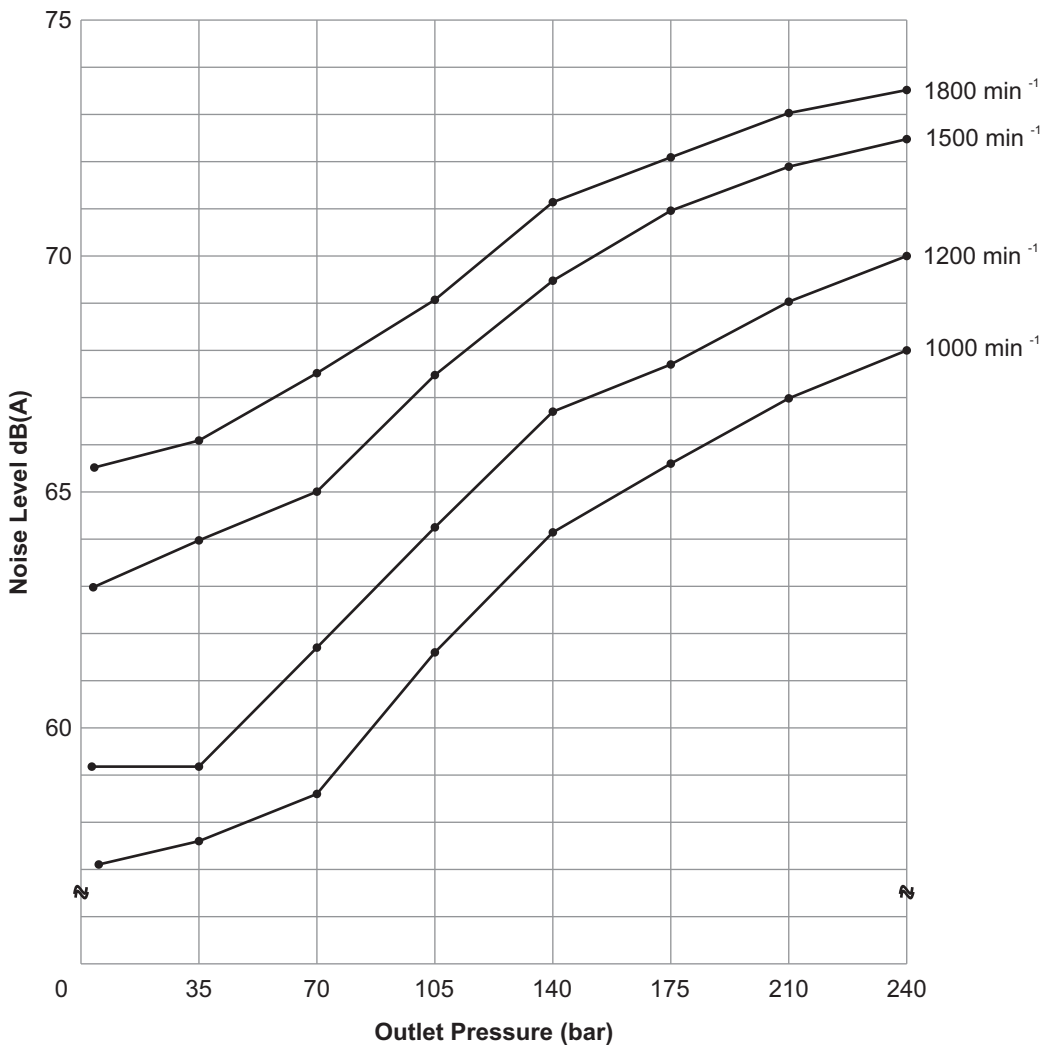


INTERNAL LEAKAGE (TYPICAL)



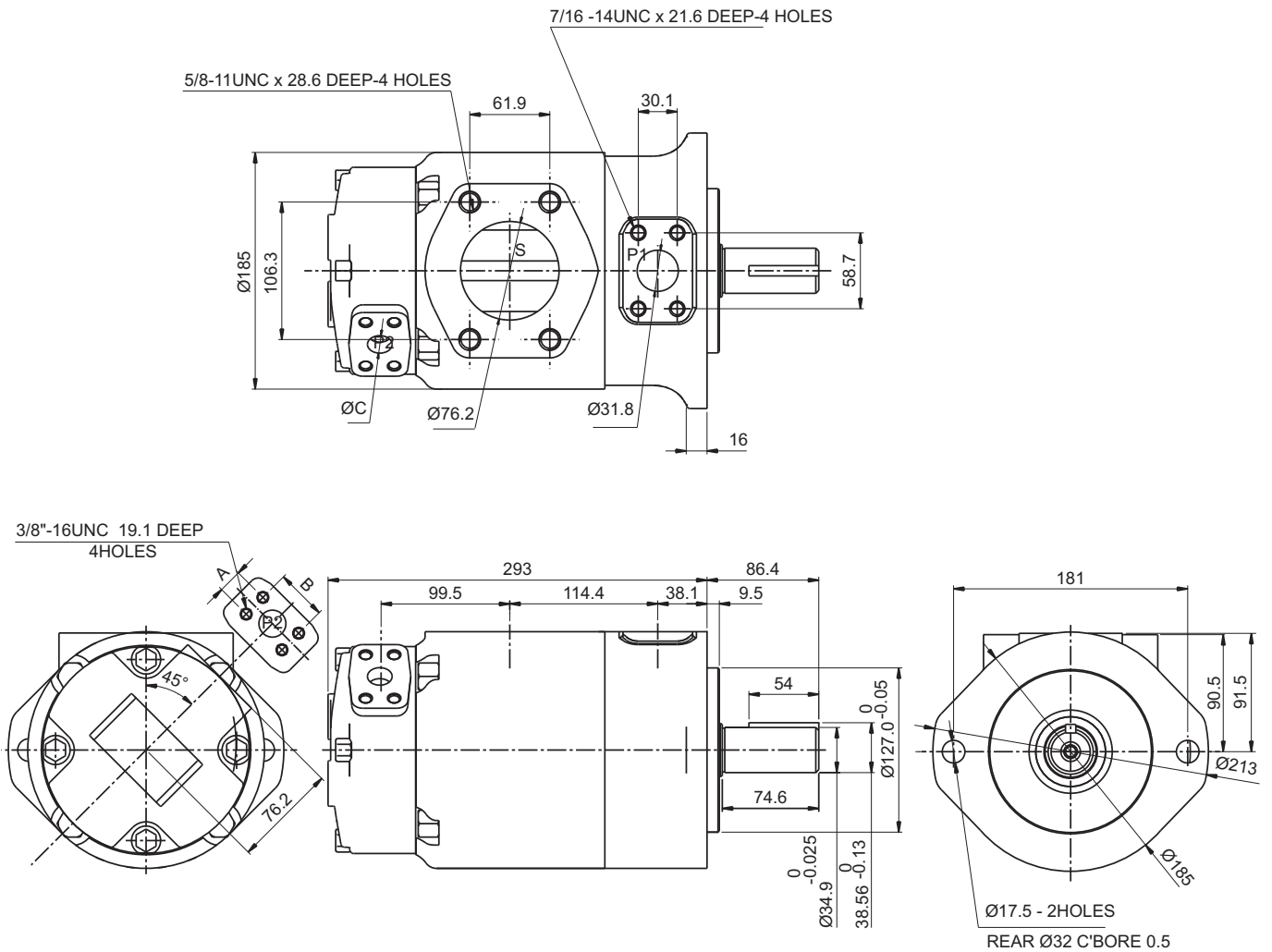
Do not operate pump more than 5 seconds at any speed or viscosity if internal leakage is more than 50% of theoretical flow. Total leakage is the sum of each section loss at its operating conditions.

NOISE LEVEL (TYPICAL) VST7DB-035-017

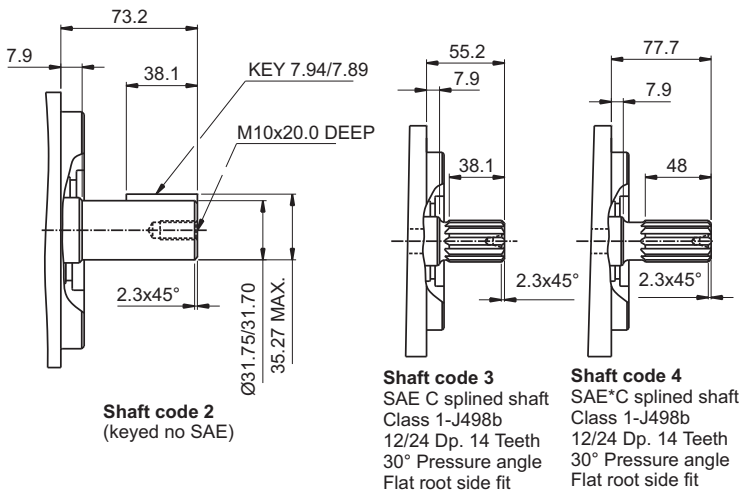


Measurement Conditions:
ISO VG32 oil at 50°C and measured 1m from rear of pump cover

INSTALLATION DRAWING
FLANGE MOUNTING



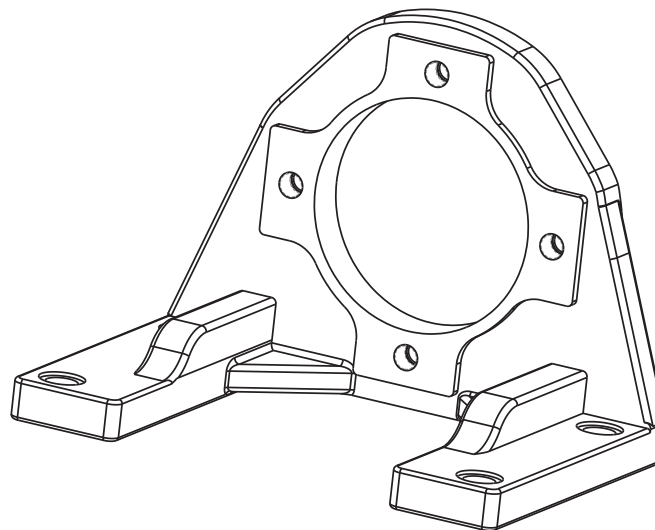
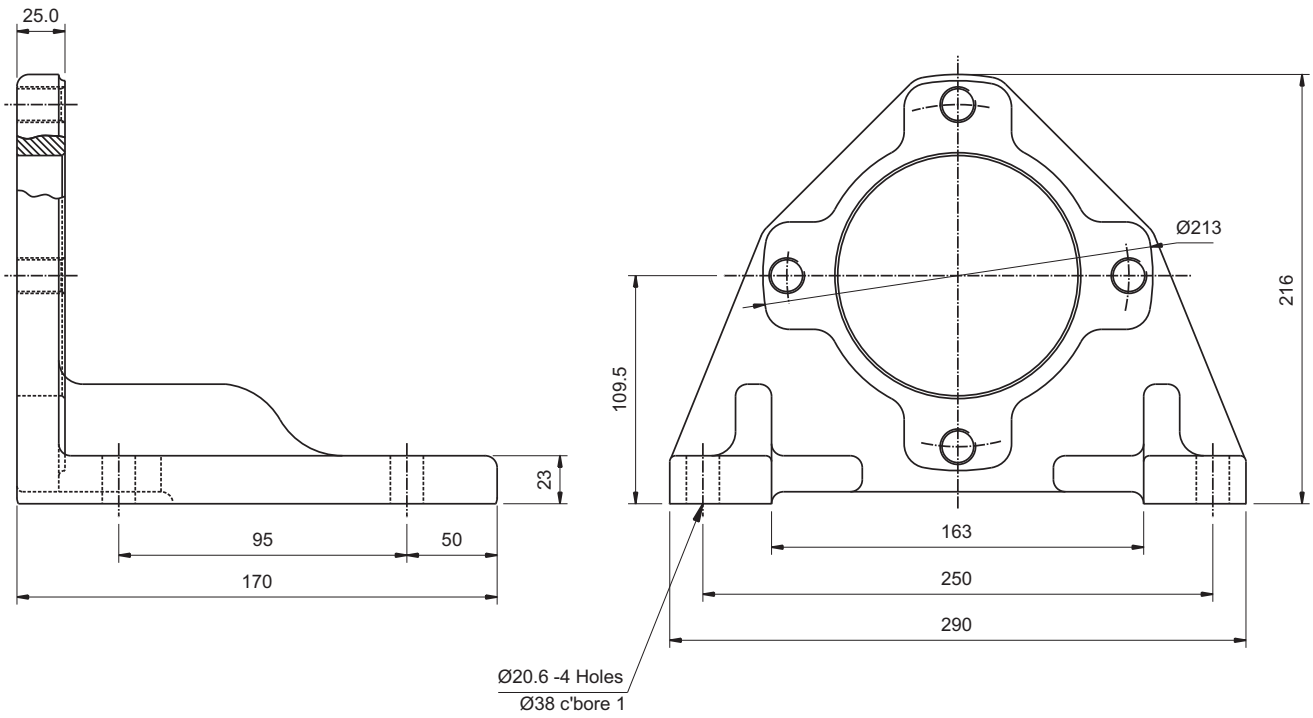
Shaft torque limits in ³ / rev x psi (ml / rev x bar)	
Shaft	Vp x p max. (P1+P2)
1	38299 (43240)
2	30638 (34590)
3	54207 (61200)
4	54207 (61200)



Alternate connect.variables		
	00 & M0	01 & M1
A	1.031 (26.2)	0.874 (22.2)
B	2.06 (52.4)	1.874 (47.6)
C	1.00 (25.4)	0.75 (19.05)

Weight - 46.0 Kgs.

INSTALLATION DRAWING
FOOT MOUNTING



Weight-9.5 Kgs.

OPERATING CHARACTERISTICS (24 cSt)

Pressure port	Series	Volumetric Displacement Vp		Flow q (lpm) & n = 1500 rpm					
				p = 0 bar (0 psi)		p=140bar(2000psi)		p=240bar(3500psi)	
		in ³ /rev	cm ³ /rev	gpm	lpm	gpm	lpm	gpm	lpm
P1	014	2.68	43.9	18.88	71.40	16.42	62.10	14.78	55.95
	017	3.36	55.0	23.10	87.30	20.60	78.00	18.99	71.88
	020	4.03	66.0	26.19	99.00	23.73	89.70	22.08	83.58
	022	4.29	70.3	28.85	109.21	26.41	99.97	25.31	95.81
	024	4.95	81.1	31.56	119.3	29.10	110.00	27.46	103.95
	028	5.49	89.9	35.58	134.50	33.12	125.20	31.48	119.16
	031	6.05	99.1	39.00	147.50	36.53	138.10	34.89	132.07
	035	6.92	113.4	44.04	166.50	41.58	157.20	39.94	151.18
	038	7.36	120.6	47.72	180.40	45.26	171.10	43.62	165.12
	042	8.39	137.5	53.96	204.00	51.50	194.70	49.86	188.74

DP

Pressure port	Series	Volumetric Displacement Vp		Input power p & n = 1500 rpm					
				p = 7 bar (100 psi)		p = 140 bar (2000 psi)		p = 240 bar (3500 psi)	
		in ³ /rev	cm ³ /rev	hp	kw	hp	kw	hp	kw
P1	014	2.68	43.9	3.08	2.3	24.81	18.5	41.03	30.6
	017	3.36	55.0	3.35	2.5	29.77	22.2	49.62	37.0
	020	4.03	66.0	3.75	2.8	33.39	24.9	55.92	41.7
	022	4.29	70.3	4.00	2.9	36.50	27.7	63.80	46.6
	024	4.95	81.1	4.02	3.0	39.69	29.6	66.78	49.8
	028	5.49	89.9	4.29	3.2	44.52	33.2	74.96	55.9
	031	6.05	99.1	4.42	3.3	48.54	36.2	81.80	61.0
	035	6.92	113.4	4.69	3.5	54.58	40.7	92.13	68.7
	038	7.36	120.6	4.96	3.7	58.87	43.9	99.64	74.3
	042	8.39	137.5	5.36	4.0	66.25	49.4	112.24	83.7

Max, int. pressure 240 bar

Max, cont. pressure 210 bar

Measurement Conditions: ISO VG32 oil at 50°C

OPERATING CHARACTERISTICS (24 cSt)

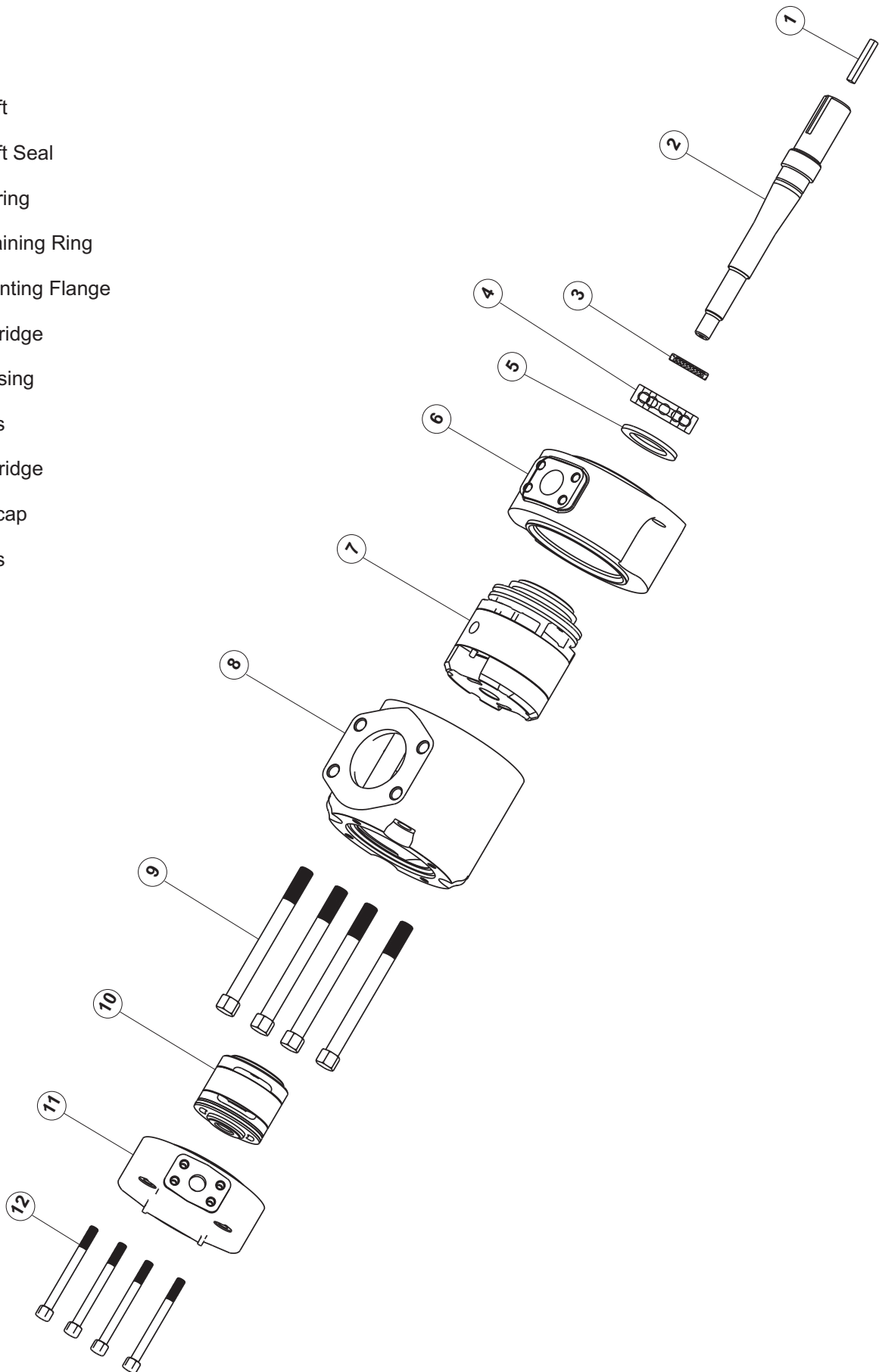
Pressure port	Series	Volumetric Displacement Vp		Flow q (lpm) & n = 1500 rpm					
				p = 0 bar (0 psi)		p = 140 bar (2000 psi)		p = 240 bar (3500 psi)	
		in ³ /rev	cm ³ /rev	gpm	lpm	gpm	lpm	gpm	lpm
P2	B02	0.35	5.7	2.29	8.70	1.94	7.34	–	–
	B03	0.60	9.8	3.88	14.7	3.52	13.32	2.91	11.0
	B04	0.78	12.8	5.07	19.2	4.71	17.83	4.09	15.5
	B05	0.97	15.9	6.31	23.9	5.94	22.49	5.28	20.0
	B06	1.21	19.8	7.85	29.7	7.49	28.35	6.87	26.0
	B07	1.37	22.5	8.90	33.7	8.56	32.40	7.79	29.5
	B08	1.52	24.9	9.88	37.4	9.51	35.99	8.85	33.5
	B09	1.71	28.0	11.07	41.9	10.72	40.58	10.04	38.0
	B10	1.94	31.8	12.62	47.8	12.24	46.33	11.23	42.5
	B11	2.13	34.9	13.81	52.27	13.49	51.07	12.81	48.5
	B12	2.50	40.9	16.25	61.51	15.89	60.15	–	–

Pressure port	Series	Volumetric Displacement Vp		Input power p & n = 1500 rpm					
				p = 7 bar (100 psi)		p = 140 bar (2000 psi)		p = 240 bar (3500 psi)	
		in ³ /rev	cm ³ /rev	hp	kw	hp	kw	hp	kw
P2	B02	0.35	5.7	0.62	0.46	3.08	2.30	–	–
	B03	0.60	9.8	0.71	0.53	4.96	3.70	8.35	6.23
	B04	0.78	12.8	0.78	0.58	6.37	4.75	10.77	8.03
	B05	0.97	15.9	0.86	0.64	7.78	5.80	13.18	9.83
	B06	1.21	19.8	0.95	0.71	9.49	7.08	16.40	12.23
	B07	1.37	22.5	1.01	0.75	10.74	8.01	18.28	13.63
	B08	1.52	24.9	1.06	0.79	12.00	8.95	20.42	15.23
	B09	1.71	28.0	1.14	0.85	13.39	9.99	22.84	17.03
	B10	1.94	31.8	1.23	0.92	15.13	11.28	25.25	18.83
	B11	2.13	34.9	1.30	0.97	16.69	12.45	28.46	21.23
	B12	2.50	40.9	1.45	1.08	19.51	14.55	–	–

B12 - 210 bar max int. and 175 bar max. cont.
 Max. Speed = 3000rpm
 Measurement Conditions: ISO VG32 oil at 50°C

CONSTRUCTION

- 1. Key
- 2. Shaft
- 3. Shaft Seal
- 4. Bearing
- 5. Retaining Ring
- 6. Mounting Flange
- 7. Cartridge
- 8. Housing
- 9. Bolts
- 10. Cartridge
- 11. Endcap
- 12. Bolts



ORDERING CODE

VST7DC - 038 - 022 - 1 R 00 - A 1 - 11 *

Series

Cam ring for "P1"

Volumetric displacement cm^3/rev (in^3/rev)

014 = 43.9 (2.68)

017 = 55.0 (3.36)

020 = 66.0 (4.03)

022 = 70.3 (4.29)

024 = 81.1 (4.95)

028 = 89.9 (5.49)

031 = 99.1 (6.05)

035 = 113.4 (6.92)

038 = 120.6 (7.36)

042 = 137.5 (8.39)

Cam ring for "P2"

Volumetric displacement cm^3/rev (in^3/rev)

B02 = 5.7 (0.35)

B03 = 9.8 (0.60)

B04 = 12.8 (0.78)

B05 = 15.9 (0.97)

B06 = 19.8 (1.21)

B07 = 22.5 (1.37)

B08 = 24.9 (1.52)

B09 = 28.0 (1.71)

B10 = 31.8 (1.94)

B11 = 34.9 (2.13)

B12 = 40.9 (2.50)

B14 = 45.1 (2.75)

B15 = 50.0 (3.05)

B17 = 58.3 (3.56)

B20 = 63.8 (3.89)

B22 = 70.3 (4.29)

B25 = 79.3 (4.84)

Modifications

Mounting W/connection Variables

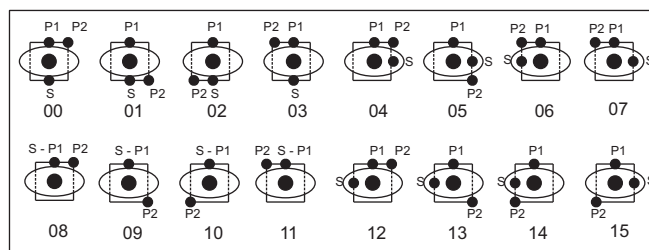
	UNC		METRIC	
	00	01	M0	M1
P2	1"	3/4"	1"	3/4"

Seal Class

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

Design Letters

Porting Combination



Direction of rotation (view on shaft end)

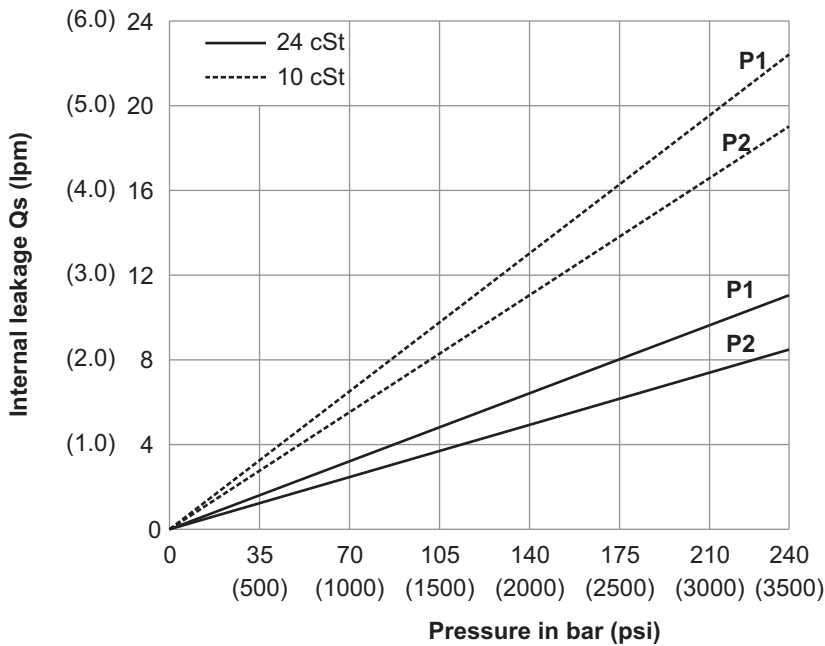
- R - clockwise
- L - Counter - Clockwise

Type of shaft

- 1 - Keyed
- 2 - Keyed (SAE-CC)
- 3 - Splined (SAE-C)



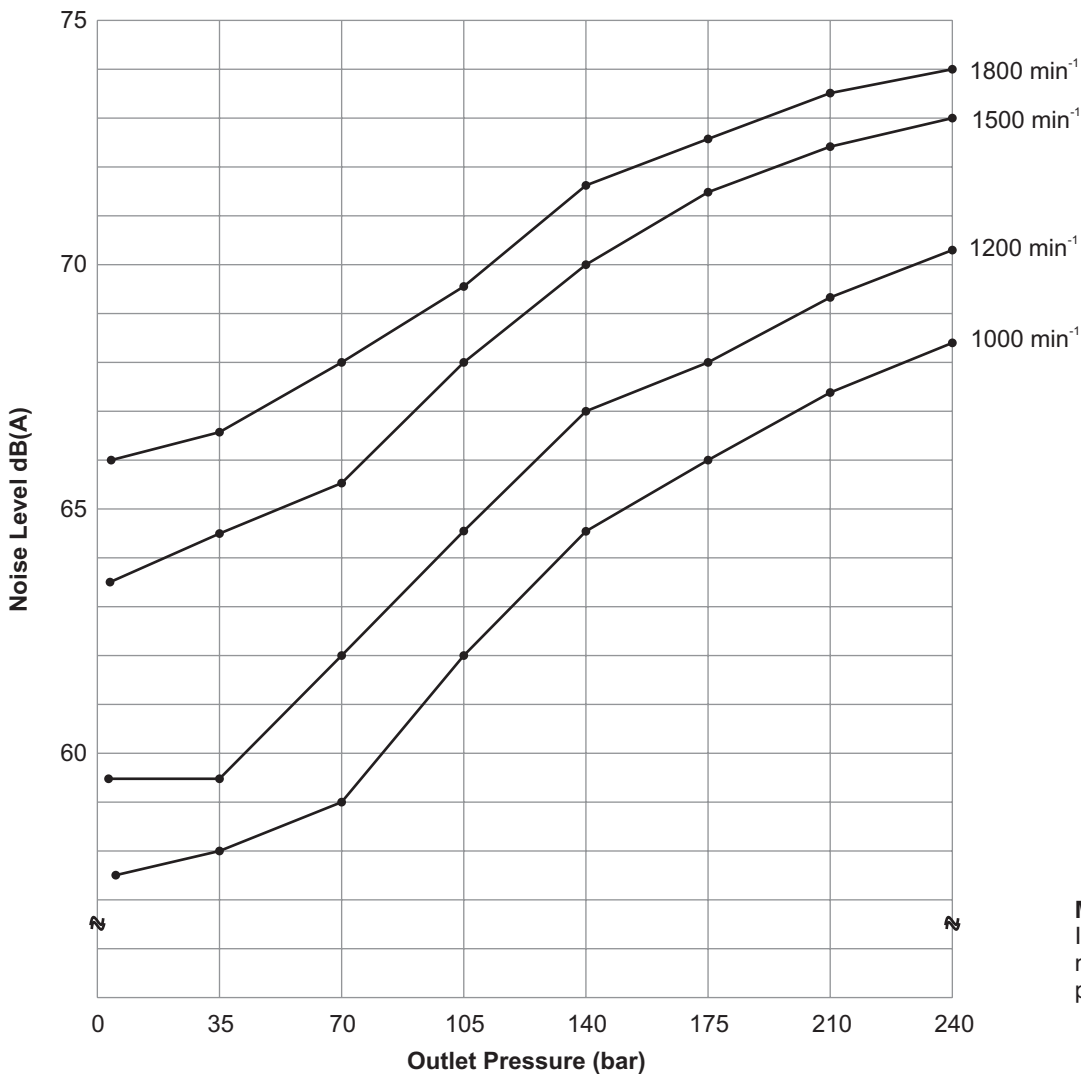
INTERNAL LEAKAGE (TYPICAL)



Do not operate pump more than 5 seconds at any speed or viscosity if internal leakage is more than 50 of theoretical flow. Total leakage is the sum of each section loss at its operating conditions.



NOISE LEVEL (TYPICAL) VST7DC - 035 - B17

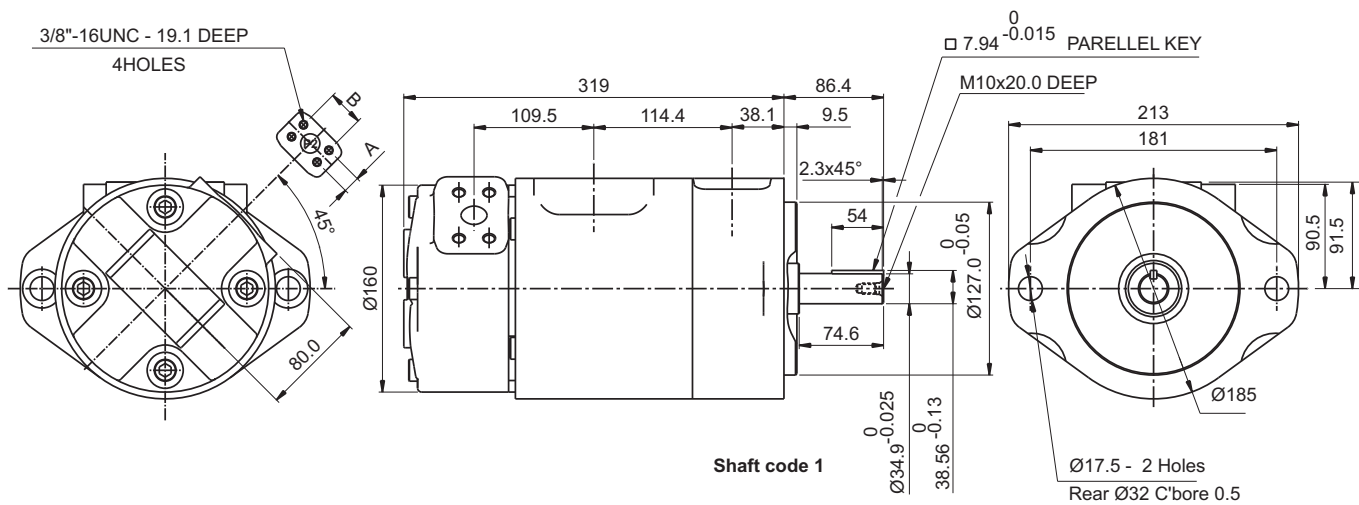
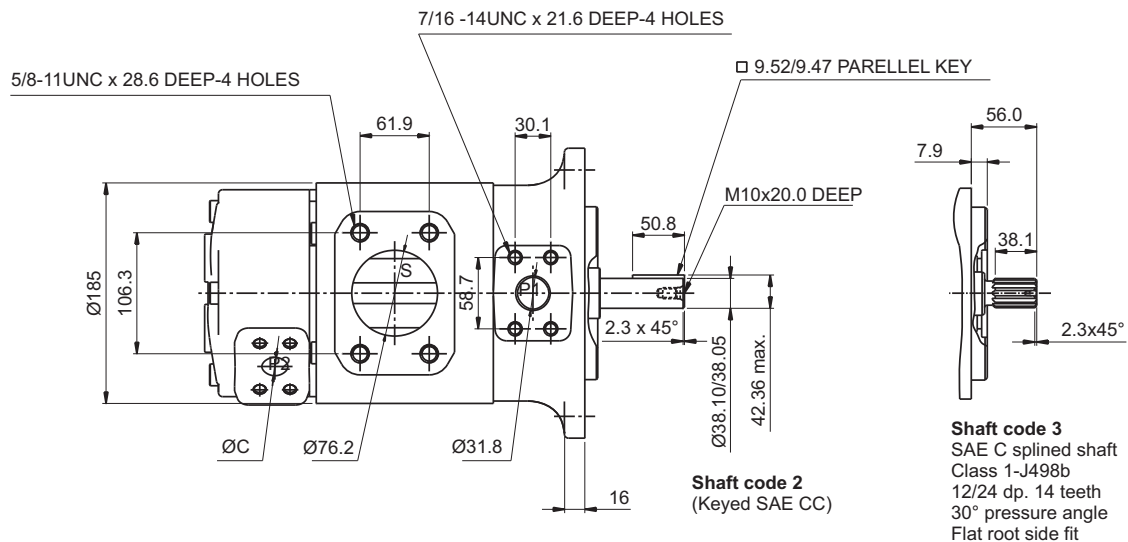


Measurement Conditions:
ISO VG32 oil at 50°C and measured 1m from rear of pump cover

INSTALLATION DRAWING

FLANGE MOUNTING

DP

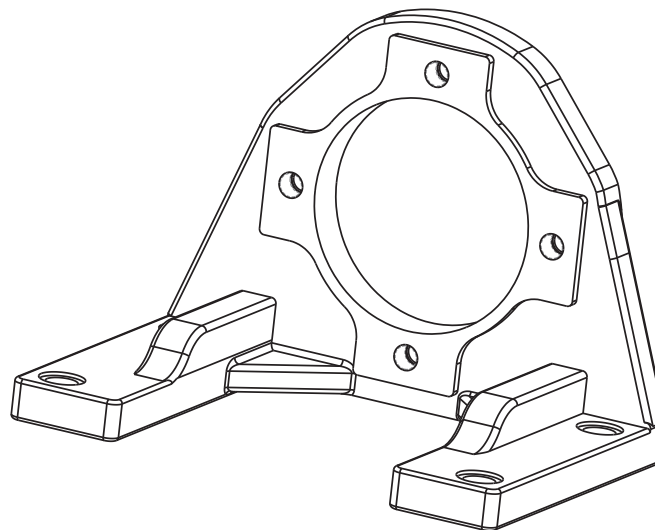
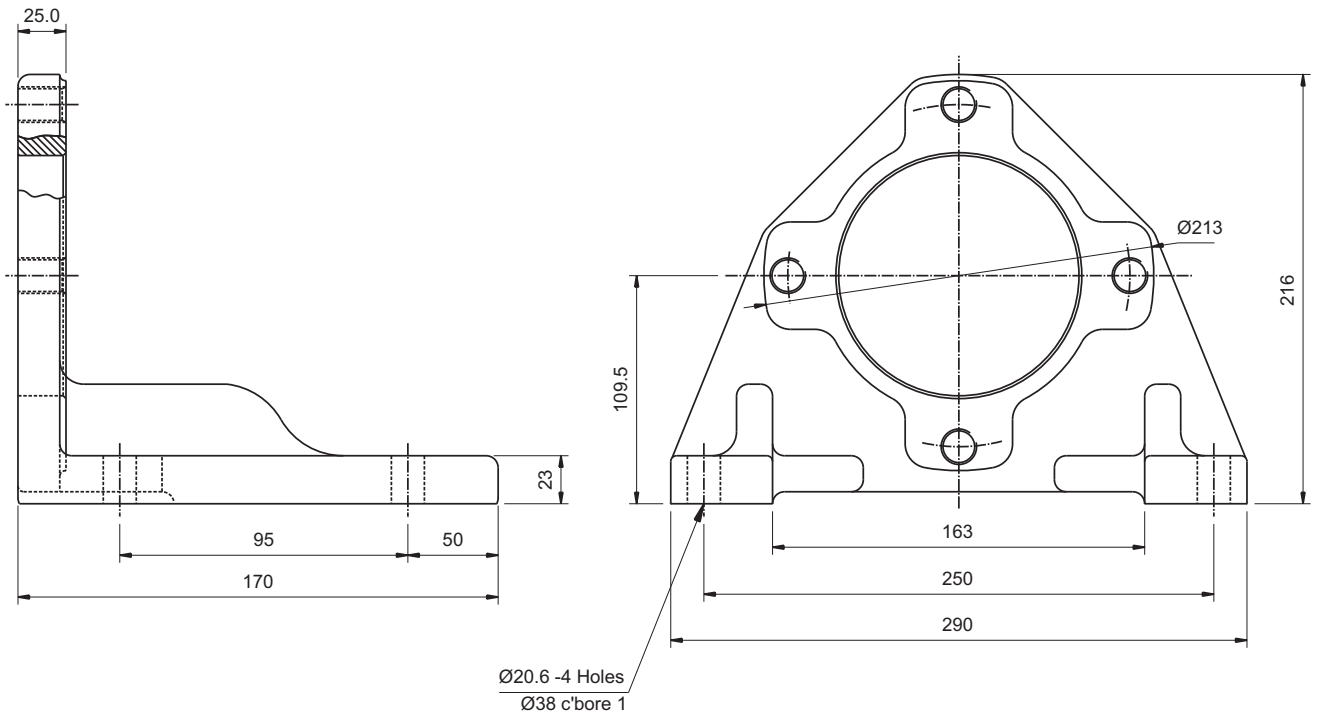


Weight - 48.0 Kgs.

Shaft torque limits in ³ / rev x psi (ml / rev x bar)	
Shaft	Vp x p max. (P1+P2)
1	38299 (43240)
2	30638 (34590)
3	54207 (61200)
4	54207 (61200)

Alternate connect.variables		
	00 & M0	01 & M1
A	1.031 (26.2)	0.874 (22.2)
B	2.06 (52.4)	1.874 (47.6)
C	1.00 (25.4)	0.75 (19.05)

INSTALLATION DRAWING
FOOT MOUNTING



Weight-9.5 Kgs.

OPERATING CHARACTERISTICS (24 cSt)

Pressure port	Series	Volumetric Displacement Vp		Flow q (lpm) & n = 1500 rpm					
				p = 0 bar (0 psi)		p=140bar(2000psi)		p=240bar(3500psi)	
		in ³ /rev	cm ³ /rev	gpm	lpm	gpm	lpm	gpm	lpm
P1	014	2.68	43.9	18.88	71.40	16.42	62.10	14.78	55.95
	017	3.36	55.0	23.10	87.30	20.60	78.00	18.99	71.88
	020	4.03	66.0	26.19	99.00	23.73	89.70	22.08	83.58
	022	4.29	70.3	28.85	109.21	26.41	99.97	25.31	95.81
	024	4.95	81.1	31.56	119.3	29.10	110.00	27.46	103.95
	028	5.49	89.9	35.58	134.50	33.12	125.20	31.48	119.16
	031	6.05	99.1	39.00	147.50	36.53	138.10	34.89	132.07
	035	6.92	113.4	44.04	166.50	41.58	157.20	39.94	151.18
	038	7.36	120.6	47.72	180.40	45.26	171.10	43.62	165.12
	042	8.39	137.5	53.96	204.00	51.50	194.70	49.86	188.74

Pressure port	Series	Volumetric Displacement Vp		Input power p & n = 1500 rpm					
				p = 7 bar (100 psi)		p = 140 bar (2000 psi)		p = 240 bar (3500 psi)	
		in ³ /rev	cm ³ /rev	hp	kw	hp	kw	hp	kw
P1	014	2.68	43.9	3.08	2.3	24.81	18.5	41.03	30.6
	017	3.36	55.0	3.35	2.5	29.77	22.2	49.62	37.0
	020	4.03	66.0	3.75	2.8	33.39	24.9	55.92	41.7
	022	4.29	70.3	4.00	2.9	36.50	27.7	63.80	46.6
	024	4.95	81.1	4.02	3.0	39.69	29.6	66.78	49.8
	028	5.49	89.9	4.29	3.2	44.52	33.2	74.96	55.9
	031	6.05	99.1	4.42	3.3	48.54	36.2	81.80	61.0
	035	6.92	113.4	4.69	3.5	54.58	40.7	92.13	68.7
	038	7.36	120.6	4.96	3.7	58.87	43.9	99.64	74.3
	042	8.39	137.5	5.36	4.0	66.25	49.4	112.24	83.7

* Max, int. pressure 240 bar

* Max, cont. pressure 210 bar

Measurement Conditions: ISO VG32 oil at 50°C

OPERATING CHARACTERISTICS (24 cSt)

Pressure port	Series	Volumetric Displacement Vp		Flow q (lpm) & n = 1500 rpm					
				p = 0 bar (0 psi)		p = 140 bar (2000 psi)		p = 240 bar (3500 psi)	
		in ³ /rev	cm ³ /rev	gpm	lpm	gpm	lpm	gpm	lpm
P2	B02	0.35	5.7	2.29	8.70	1.94	7.34	–	–
	B03	0.60	9.8	3.88	14.70	3.52	13.32	2.91	11.00
	B04	0.78	12.8	5.07	19.20	4.71	17.83	4.09	15.50
	B05	0.97	15.9	6.31	23.90	5.94	22.49	5.28	20.00
	B06	1.21	19.8	7.85	29.70	7.49	28.35	6.87	26.00
	B07	1.37	22.5	8.90	33.70	8.56	32.40	7.79	29.50
	B08	1.52	24.9	9.88	37.40	9.51	35.99	8.85	33.50
	B09	1.71	28.0	11.07	41.90	10.72	40.58	10.04	38.00
	B10	1.94	31.8	12.62	47.80	12.24	46.33	11.23	42.50
	B11	2.13	34.9	13.81	52.27	13.49	51.07	12.81	48.50
	B12	2.50	40.9	16.25	61.51	15.89	60.15	15.19	57.50
	B14	2.75	45.1	17.81	67.42	17.46	66.09	16.77	63.50
	B15	3.08	50.5	20.25	76.64	19.55	74.00	19.15	72.50
	B17	3.56	58.3	23.10	87.45	22.32	84.50	22.06	83.50
	B20	3.89	63.8	25.28	95.70	24.70	93.50	24.30	92.00
	B22	4.29	70.3	27.87	105.5	27.21	103.00	26.81	101.50
B25	4.84	79.3	31.44	119.0	31.04	117.50	30.64	116.00	

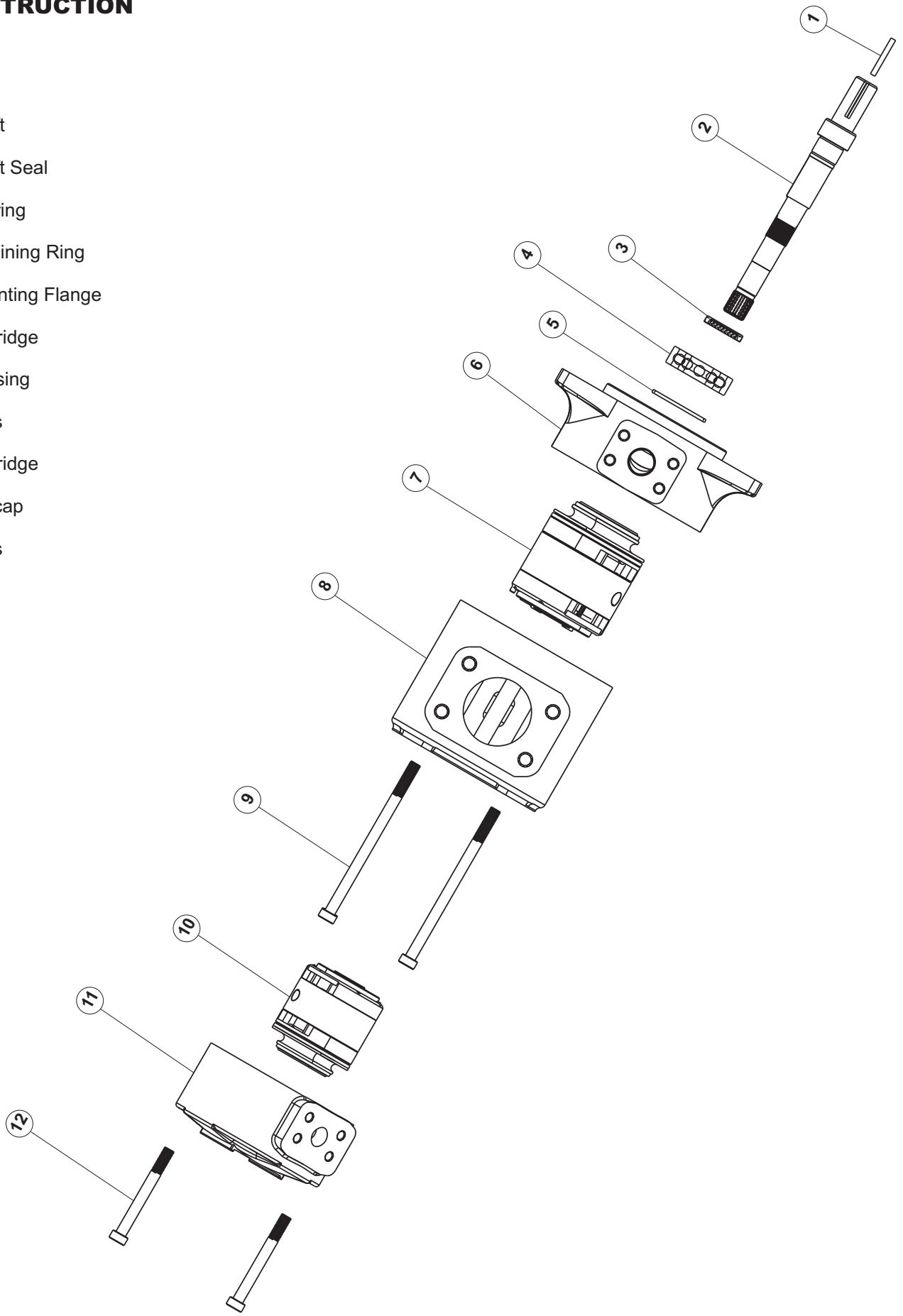


Pressure port	Series	Volumetric Displacement Vp		Input power p & n = 1500 rpm					
				p = 7 bar (100 psi)		p = 140 bar (2000 psi)		p = 240 bar (3500 psi)	
		in ³ /rev	cm ³ /rev	hp	kw	hp	kw	hp	kw
P2	B02	0.35	5.7	0.62	0.46	3.08	2.30	–	–
	B03	0.60	9.8	0.71	0.53	4.96	3.70	8.35	6.23
	B04	0.78	12.8	0.78	0.58	6.37	4.75	10.77	8.03
	B05	0.97	15.9	0.86	0.64	7.78	5.80	13.18	9.83
	B06	1.21	19.8	0.95	0.71	9.49	7.08	16.40	12.23
	B07	1.37	22.5	1.01	0.75	10.74	8.01	18.28	13.63
	B08	1.52	24.9	1.06	0.79	12.00	8.95	20.42	15.23
	B09	1.71	28.0	1.14	0.85	13.39	9.99	22.84	17.03
	B10	1.94	31.8	1.23	0.92	15.13	11.28	25.25	18.83
	B11	2.13	34.9	1.30	0.97	16.69	12.45	28.46	21.23
	B12	2.50	40.9	1.45	1.08	19.51	14.55	33.29	24.83
	B14	2.75	45.1	1.54	1.15	21.23	15.83	36.52	27.23
	B15	3.08	50.5	1.68	1.25	24.21	18.05	41.34	30.83
	B17	3.56	58.3	1.85	1.38	27.49	20.50	47.24	35.23
	B20	3.89	63.8	1.98	1.48	30.31	22.60	51.80	38.63
	B22	4.29	70.3	2.13	1.59	33.27	24.81	56.89	42.43
B25	4.84	79.3	2.35	1.75	37.82	28.20	64.68	48.23	

* Max, int. pressure 240 bar
 * Max, cont. pressure 210 bar
 Measurement Conditions: ISO VG32 oil at 50°C

CONSTRUCTION

- 1. Key
- 2. Shaft
- 3. Shaft Seal
- 4. Bearing
- 5. Retaining Ring
- 6. Mounting Flange
- 7. Cartridge
- 8. Housing
- 9. Bolts
- 10. Cartridge
- 11. Endcap
- 12. Bolts



ORDERING CODE

VST7EB - 042 - B12 - 1 R 00 - A 1 - *

Series

VT7EB series-ISO 4 bolts 3019-2
Mounting flange 125-A2 HW

Cam ring for "P1"

Volumetric displacement cm^3/rev (in^3/rev)

- 042 = 132.3 (8.07)
- 045 = 142.4 (8.69)
- 050 = 158.5 (9.67)
- 052 = 164.8 (10.06)
- 057 = 180.7 (11.02)
- 062 = 196.7 (12.00)
- 066 = 213.3 (13.02)
- 072 = 227.1 (13.86)
- 085 = 268.7 (16.40)

Cam ring for "P2"

Volumetric displacement cm^3/rev (in^3/rev)

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

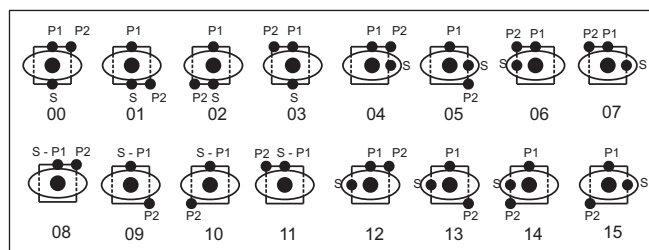
Modifications

Seal Class

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

Design Letters

Porting Combination



Direction of rotation (view on shaft end)

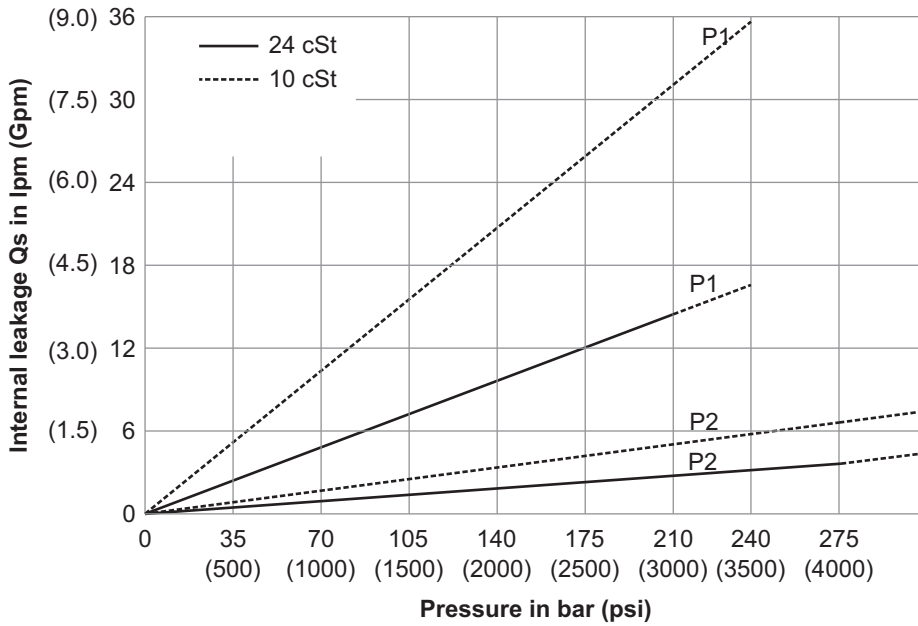
- R - clockwise
- L - Counter - Clockwise

Type of shaft

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

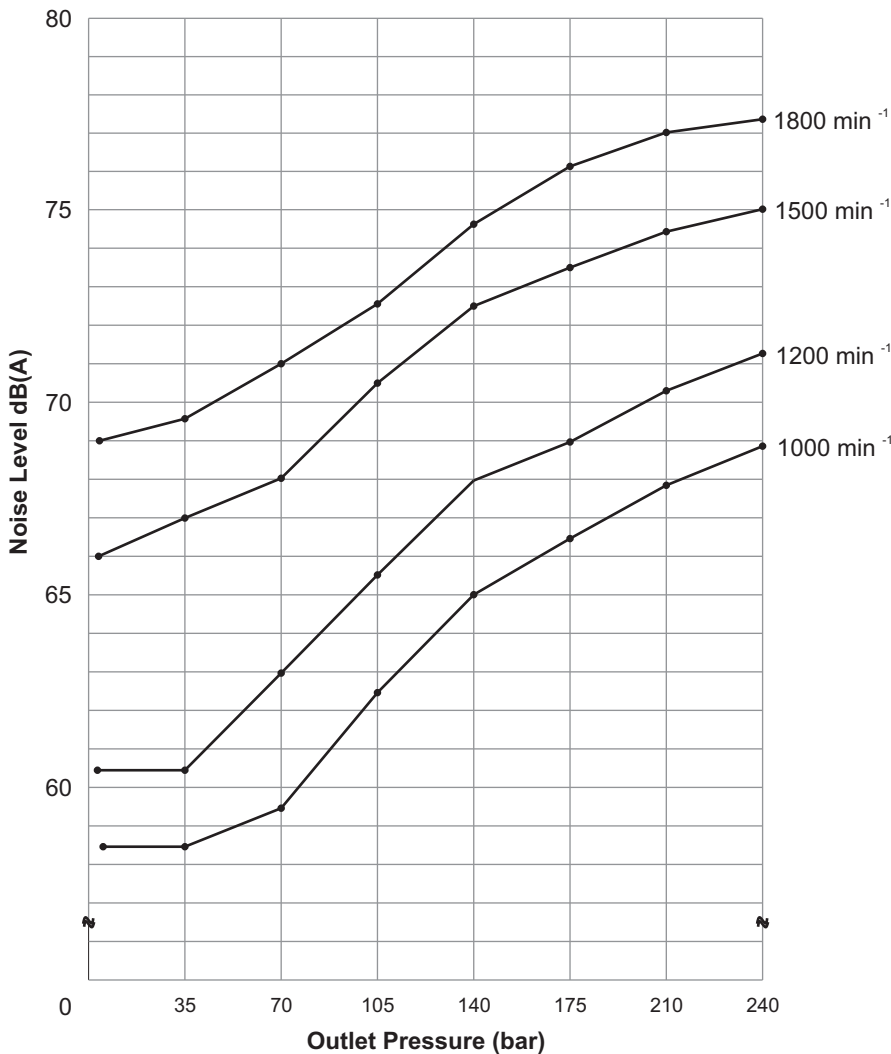


INTERNAL LEAKAGE (TYPICAL)



Do not operate pump more than 5 seconds at any speed or viscosity if internal leakage is more than 50% of theoretical flow. Total leakage is the sum of each section loss at its operating conditions.

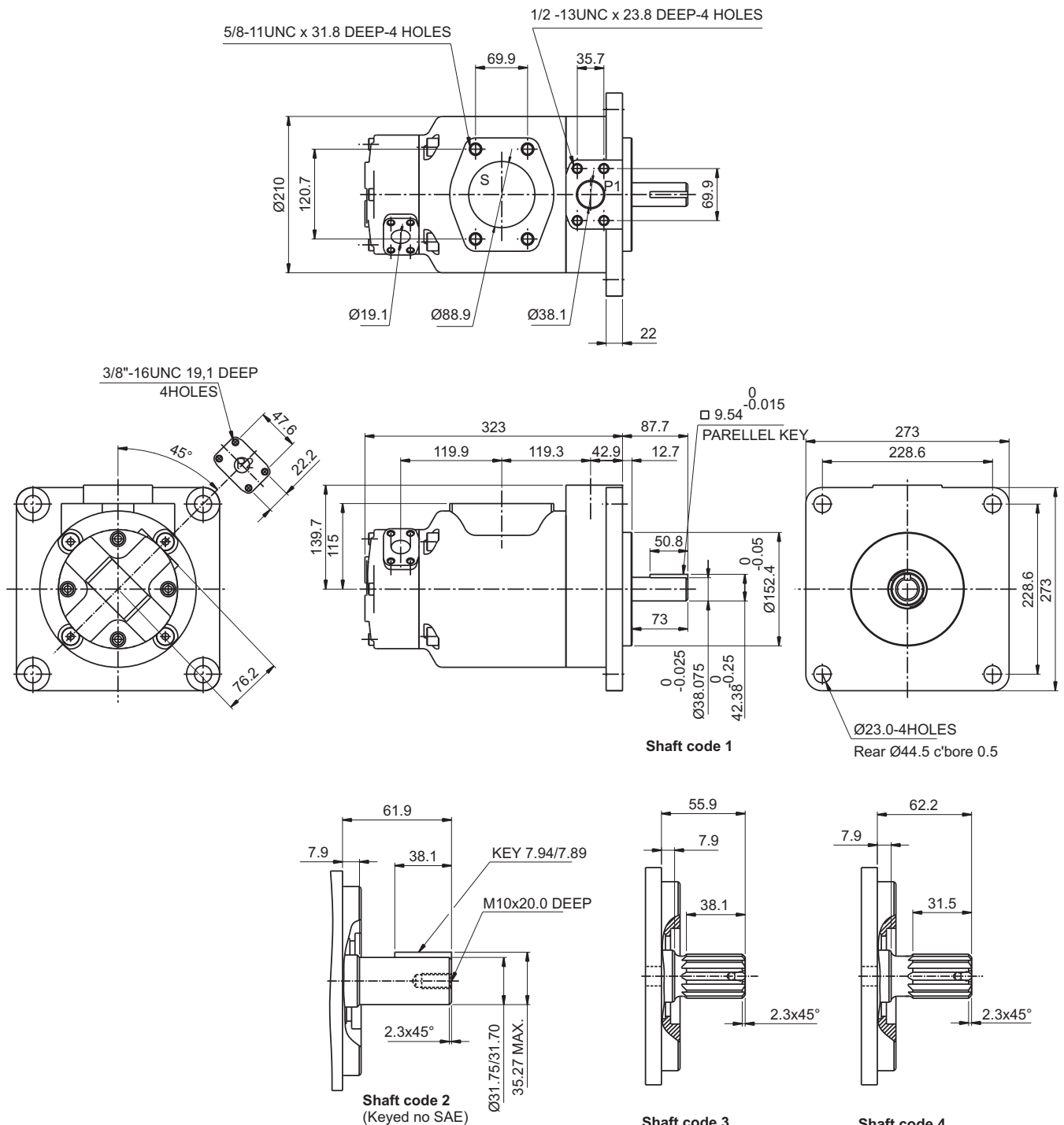
NOISE LEVEL (TYPICAL) VST7EB-050-B09



Measurement Conditions:
ISO VG32 oil at 50°C and measured 1m from rear of pump cover

INSTALLATION DRAWING

FLANGE MOUNTING



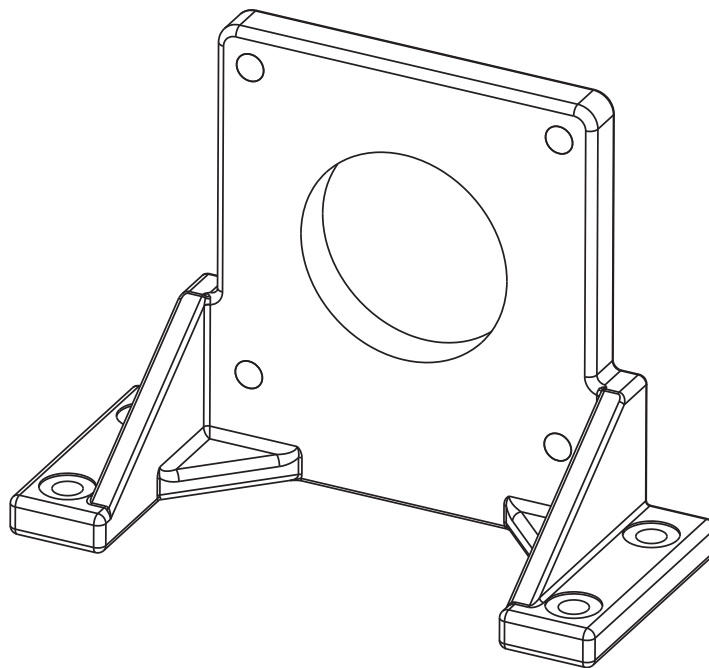
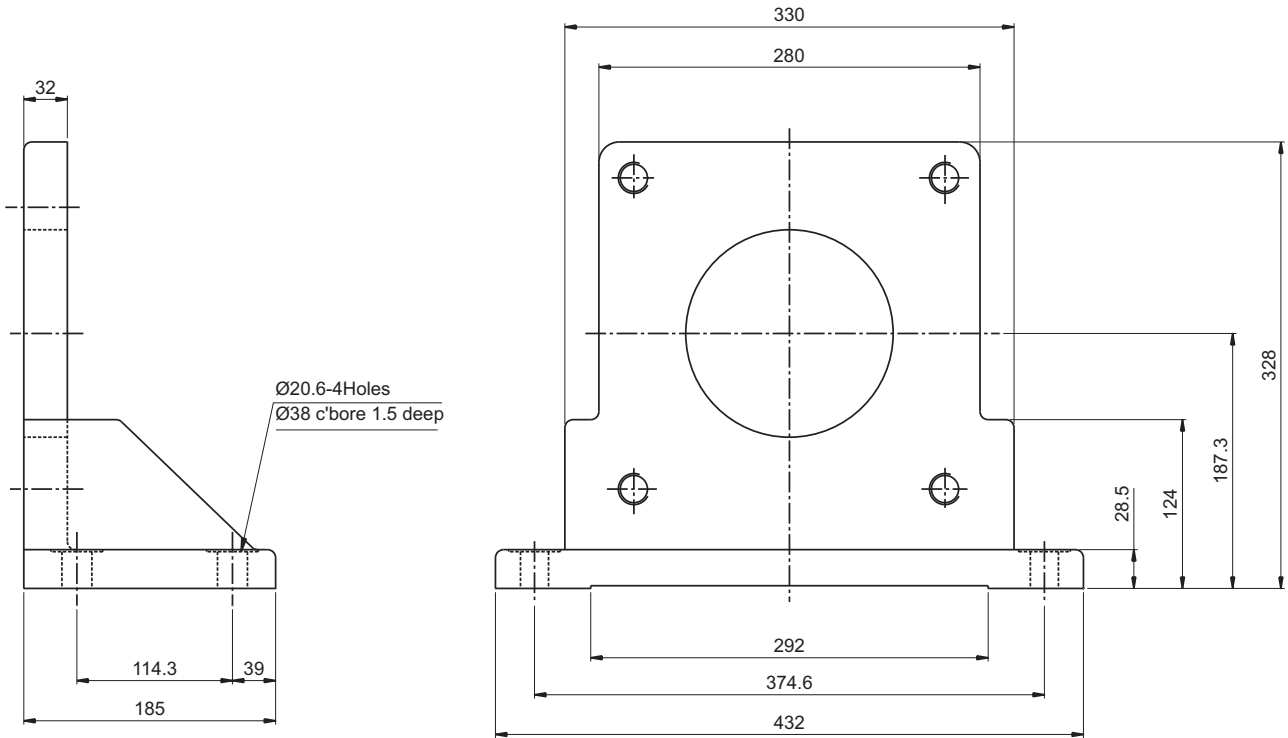
Shaft torque limits in ³ / rev x psi (ml / rev x bar)	
Shaft	Vp x p max. (P1+P2)
1	60673 (68568)
2	30638 (34590)
3	54207 (61200)
4	60673 (68568)

Shaft code 3
SAE C splined shaft
Class 1-J498b
12/24 dp. 14 teeth
30° pressure angle
Flat root side fit

Shaft code 4
SAE CC splined shaft
Class 1-J498b
12/24 dp. 17 teeth
30° pressure angle
Flat root side fit

Weight - 74.0 Kgs.

INSTALLATION DRAWING
FOOT MOUNTING



Weight - 25 Kgs.

OPERATING CHARACTERISTICS (24 cSt)

Pressure port	Series	Volumetric Displacement Vp		Flow q (lpm) & n = 1500 rpm					
				p = 0 bar (0 psi)		p=140bar(2000psi)		p=240bar(3500psi)	
		in ³ /rev	cm ³ /rev	gpm	lpm	gpm	lpm	gpm	lpm
P1	042	8.07	132.3	52.50	198.5	49.87	188.5	47.96	181.3
	045	8.69	142.4	56.51	213.6	53.86	203.6	51.98	196.5
	050	9.67	158.5	62.88	237.7	60.24	227.7	58.36	220.6
	052	10.06	164.8	65.40	247.2	62.75	237.2	60.87	230.1
	057	11.02	180.7	71.71	271.1	69.07	261.1	67.19	254.0
	062	12.00	196.7	78.04	295.0	75.40	285.0	73.52	277.9
	066	13.02	213.3	84.63	319.9	81.98	309.9	80.11	302.8
	072	13.86	227.1	90.11	340.6	87.46	330.6	85.58	323.5
	085	16.40	268.7	107.00	404.7	--	--	--	--

DP

Pressure port	Series	Volumetric Displacement Vp		Input power p & n = 1500 rpm					
				p = 7 bar (100 psi)		p = 140 bar (2000 psi)		p = 240 bar (3500 psi)	
		in ³ /rev	cm ³ /rev	hp	kw	hp	kw	hp	kw
P1	042	8.07	132.3	6.97	5.2	66.25	49.4	110.77	82.6
	045	8.69	142.4	7.24	5.4	70.94	52.9	118.95	88.7
	050	9.67	158.5	7.64	5.7	78.45	58.5	131.82	98.3
	052	10.06	164.8	7.78	5.8	81.53	60.8	136.92	102.1
	057	11.02	180.7	8.18	6.1	89.04	66.4	143.35	106.9
	062	12.00	196.7	8.58	6.4	96.42	71.9	162.67	121.3
	066	13.02	213.3	8.98	6.7	104.20	77.7	175.94	131.2
	072	13.86	227.1	9.25	6.9	110.77	82.6	187.07	139.5
	085	16.40	268.7	9.78	7.3	--	--	--	--

1) 085 = 90 bar(1300 psi) max.int. & 085 = 2000 rpm max.

Measurement Conditions: ISO VG32 oil at 50°C

OPERATING CHARACTERISTICS (24 cSt)

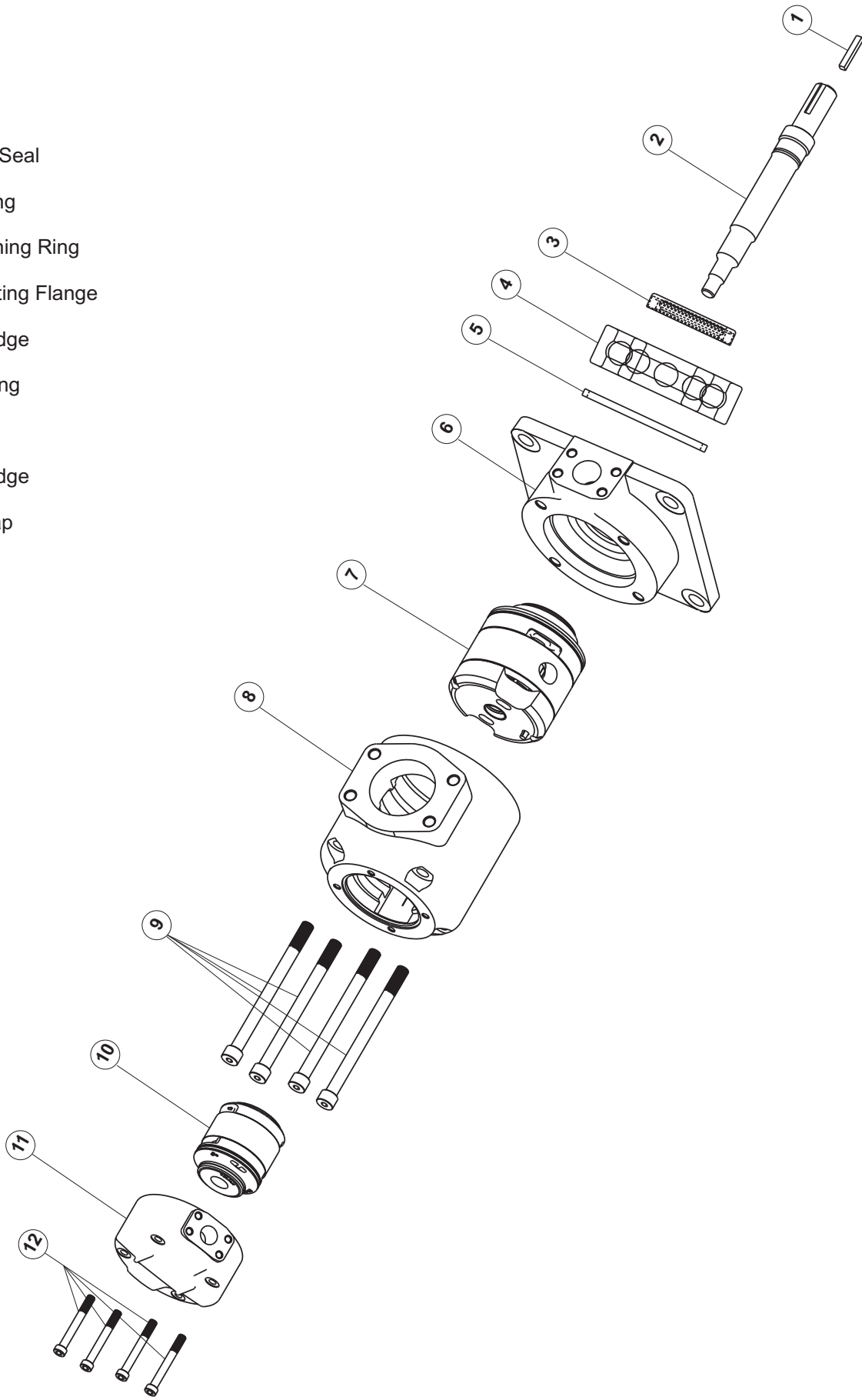
Pressure port	Series	Volumetric Displacement Vp		Flow q (lpm) & n = 1500 rpm					
				p = 0 bar (0 psi)		p = 140 bar (2000 psi)		p = 240 bar (3500 psi)	
		in ³ /rev	cm ³ /rev	gpm	lpm	gpm	lpm	gpm	lpm
P2	B02	0.35	5.7	2.29	8.70	1.94	7.34	–	–
	B03	0.60	9.8	3.88	14.7	3.52	13.32	2.91	11.0
	B04	0.78	12.8	5.07	19.2	4.71	17.83	4.09	15.5
	B05	0.97	15.9	6.31	23.9	5.94	22.49	5.28	20.0
	B06	1.21	19.8	7.85	29.7	7.49	28.35	6.87	26.0
	B07	1.37	22.5	8.90	33.7	8.56	32.40	7.79	29.5
	B08	1.52	24.9	9.88	37.4	9.51	35.99	8.85	33.5
	B09	1.71	28.0	11.07	41.9	10.72	40.58	10.04	38.0
	B10	1.94	31.8	12.62	47.8	12.24	46.33	11.23	42.5
	B11	2.13	34.9	13.81	52.27	13.49	51.07	12.81	48.5
	B12	2.50	40.9	16.25	61.51	15.89	60.15	–	–

Pressure port	Series	Volumetric Displacement Vp		Input power p & n = 1500 rpm					
				p = 7 bar (100 psi)		p = 140 bar (2000 psi)		p = 240 bar (3500 psi)	
		in ³ /rev	cm ³ /rev	hp	kw	hp	kw	hp	kw
P2	B02	0.35	5.7	0.62	0.46	3.08	2.30	–	–
	B03	0.60	9.8	0.71	0.53	4.96	3.70	8.35	6.23
	B04	0.78	12.8	0.78	0.58	6.37	4.75	10.77	8.03
	B05	0.97	15.9	0.86	0.64	7.78	5.80	13.18	9.83
	B06	1.21	19.8	0.95	0.71	9.49	7.08	16.40	12.23
	B07	1.37	22.5	1.01	0.75	10.74	8.01	18.28	13.63
	B08	1.52	24.9	1.06	0.79	12.00	8.95	20.42	15.23
	B09	1.71	28.0	1.14	0.85	13.39	9.99	22.84	17.03
	B10	1.94	31.8	1.23	0.92	15.13	11.28	25.25	18.83
	B11	2.13	34.9	1.30	0.97	16.69	12.45	28.46	21.23
	B12	2.50	40.9	1.45	1.08	19.51	14.55	–	–

Measurement Conditions: ISO VG32 oil at 50°C

CONSTRUCTION

- 1. Key
- 2. Shaft
- 3. Shaft Seal
- 4. Bearing
- 5. Retaining Ring
- 6. Mounting Flange
- 7. Cartridge
- 8. Housing
- 9. Bolts
- 10. Cartridge
- 11. Endcap
- 12. Bolts



ORDERING CODE

VST7EC - 066 - 022 - 1 R 00 - A 1 - *

Series

Cam ring for "P1"

Volumetric displacement cm^3/rev (in^3/rev)

- 042 = 132.3 (8.07)
- 045 = 142.4 (8.69)
- 050 = 158.5 (9.67)
- 052 = 164.8 (10.06)
- 057 = 180.7 (11.02)
- 062 = 196.7 (12.00)
- 066 = 213.3 (13.02)
- 072 = 227.1 (13.86)
- 085 = 268.7 (16.40)

Cam ring for "P2"

Volumetric displacement cm^3/rev (in^3/rev)

- B02 = 5.7 (0.35)
- B03 = 9.8 (0.60)
- B04 = 12.8 (0.78)
- B05 = 15.9 (0.97)
- B06 = 19.8 (1.21)
- B07 = 22.5 (1.37)
- B08 = 24.9 (1.52)
- B09 = 28.0 (1.71)
- B10 = 31.8 (1.94)
- B11 = 34.9 (2.13)
- B12 = 40.9 (2.50)
- B14 = 45.1 (2.75)
- B15 = 50.0 (3.05)
- B17 = 58.3 (3.56)
- B20 = 63.8 (3.89)
- B22 = 70.3 (4.29)
- B25 = 79.3 (4.84)

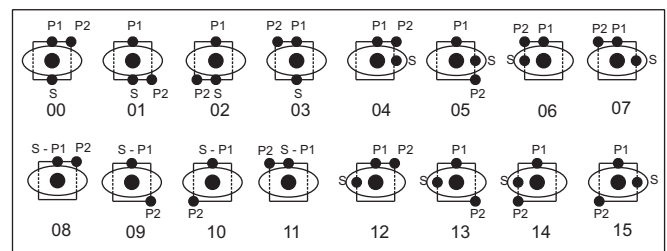
Modifications

Seal Class

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

Design Letters

Porting Combination



Direction of rotation
(view on shaft end)

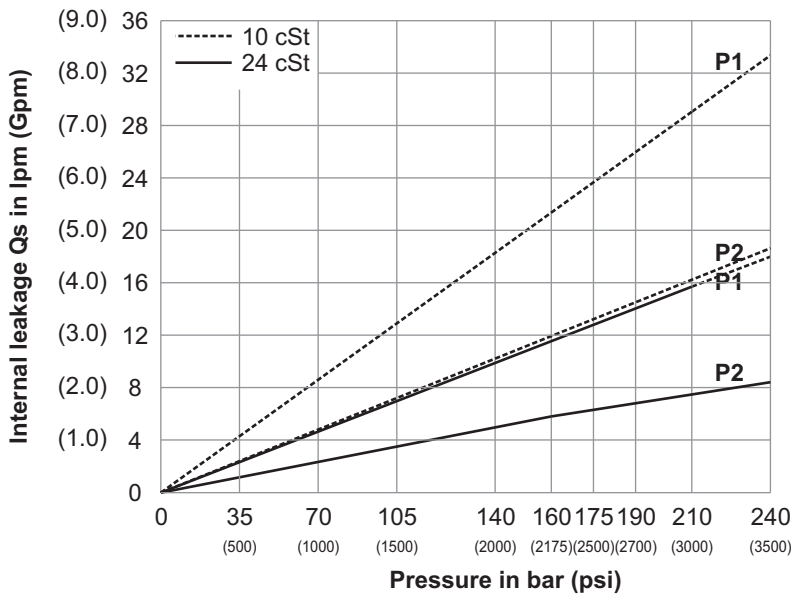
- R - clockwise
- L - Counter - Clockwise

Type of shaft

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



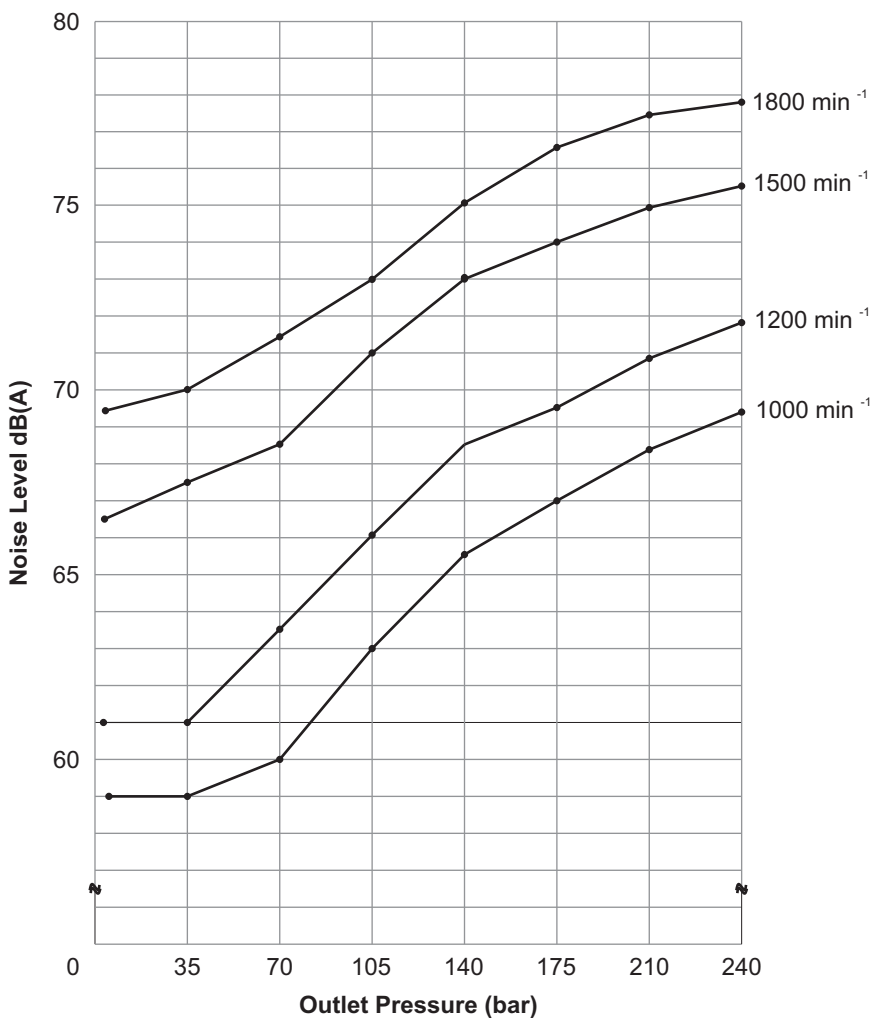
INTERNAL LEAKAGE (TYPICAL)



Do not operate pump more than 5 seconds at any speed or viscosity if internal leakage is more than 50% of theoretical flow. Total leakage is the sum of each section loss at its operating conditions.



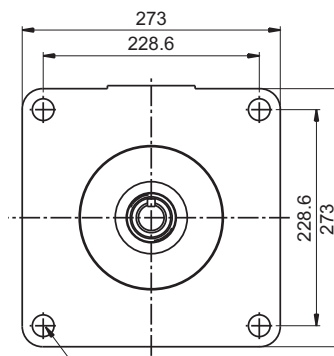
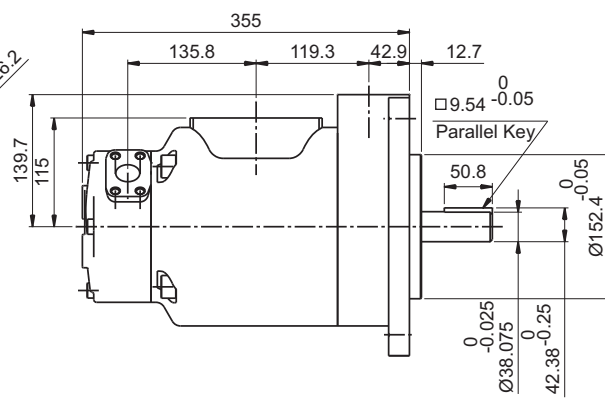
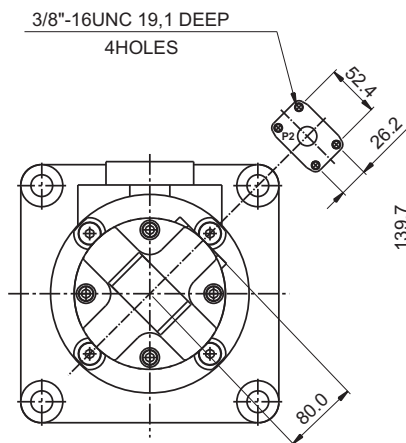
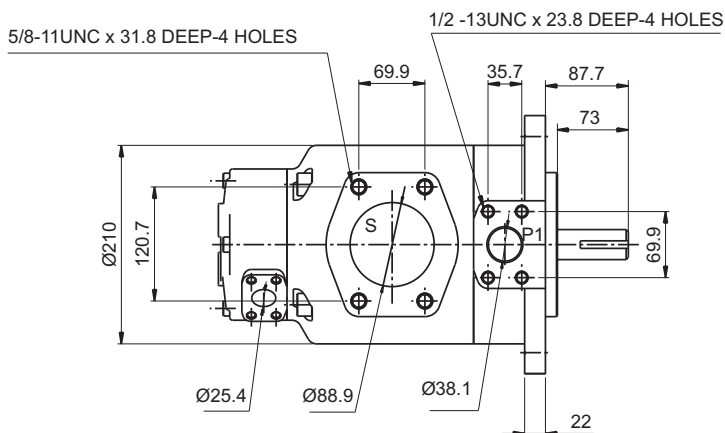
NOISE LEVEL (TYPICAL) VST7EC-050-B25



Measurement Conditions:
ISO VG32 oil at 50°C and measured 1m from rear of pump cover

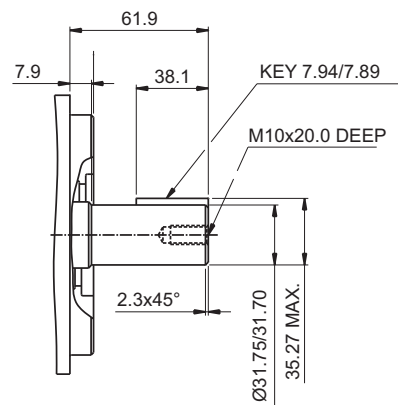
INSTALLATION DRAWING

FLANGE MOUNTING

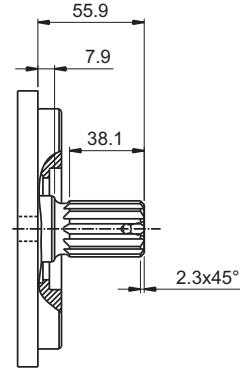


Shaft code 1
(keyed)

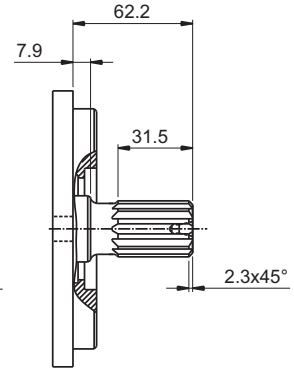
Rear Ø 44.5 C'bore 0.5



Shaft code 2
(Keyed no SAE)



Shaft code 3
SAE C splined shaft
Class 1-J498b
12/24 dp. 14 teeth
30° pressure angle
Flat root side fit

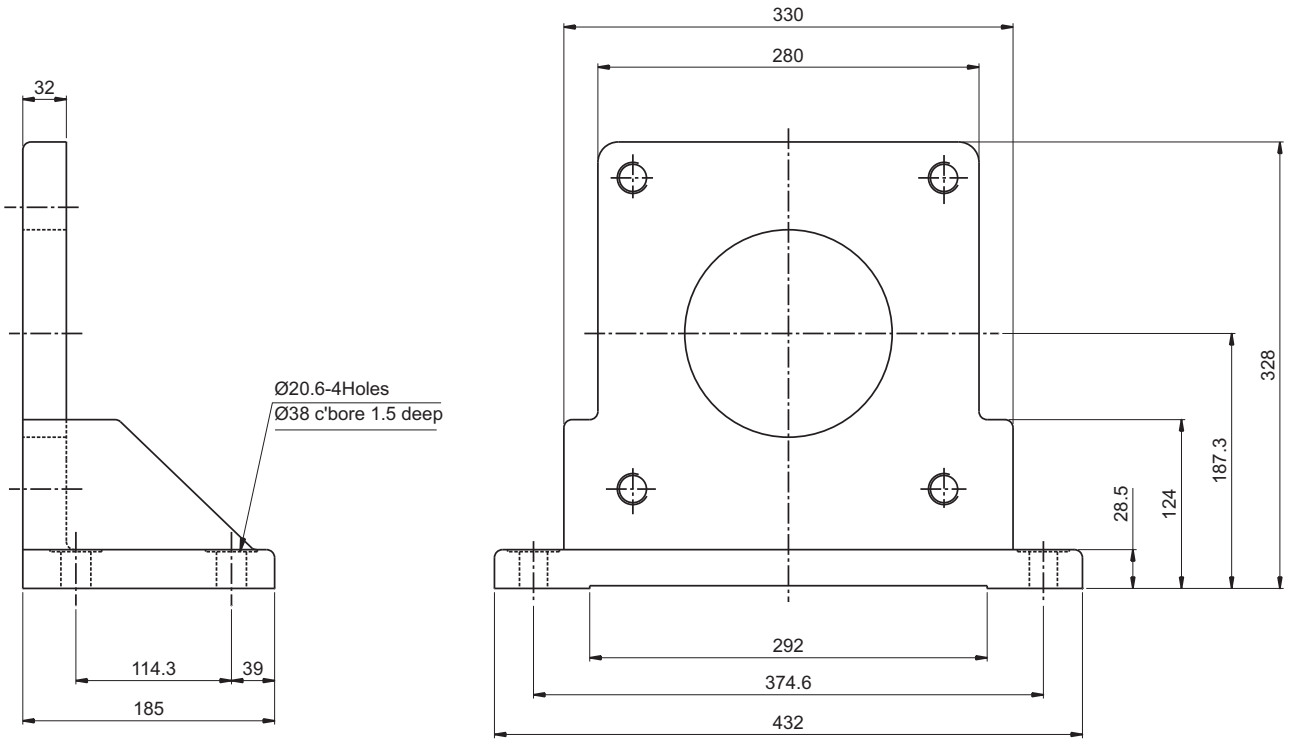


Shaft code 4
SAE CC splined shaft
Class 1-J498b
12/24 dp. 17 teeth
30° pressure angle
Flat root side fit

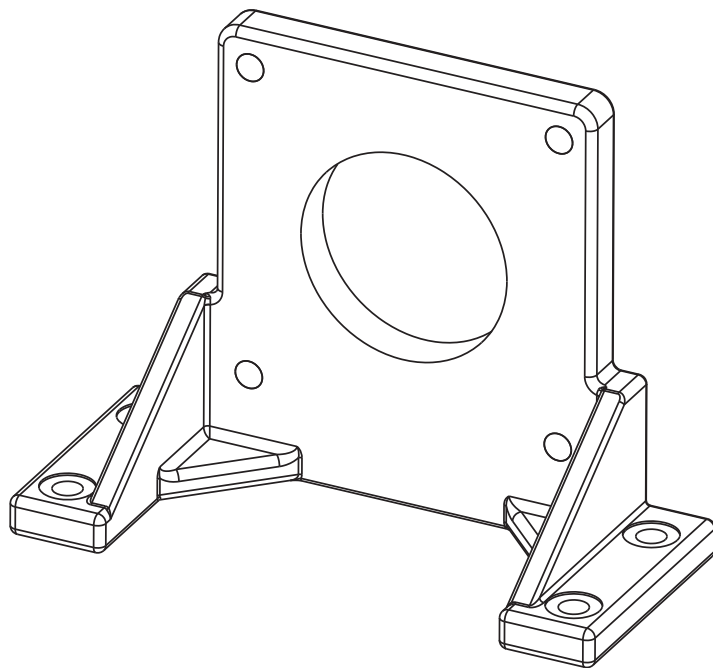
Shaft torque limits in ³ / rev x psi (ml / rev x bar)	
Shaft	Vp x p max. (P1+P2)
1	64044 (72306)
2	30638 (34590)
3	54207 (61200)
4	67582 (76376)

Weight-80.0 Kgs.

INSTALLATION DRAWING FOOT MOUNTING



DP



Weight - 25 Kgs.

OPERATING CHARACTERISTICS (24 cSt)

Pressure port	Series	Volumetric Displacement V _p		Flow q (lpm) & n = 1500 rpm					
				p = 0 bar (0 psi)		p=140bar(2000psi)		p=240bar(3500psi)	
		in ³ /rev	cm ³ /rev	gpm	lpm	gpm	lpm	gpm	lpm
P1	042	8.07	132.3	52.50	198.5	49.87	188.5	47.96	181.3
	045	8.69	142.4	56.51	213.6	53.86	203.6	51.98	196.5
	050	9.67	158.5	62.88	237.7	60.24	227.7	58.36	220.6
	052	10.06	164.8	65.40	247.2	62.75	237.2	60.87	230.1
	057	11.02	180.7	71.71	271.1	69.07	261.1	67.19	254.0
	062	12.00	196.7	78.04	295.0	75.40	285.0	73.52	277.9
	066	13.02	213.3	84.63	319.9	81.98	309.9	80.11	302.8
	072	13.86	227.1	90.11	340.6	87.46	330.6	85.58	323.5
	085	16.40	268.7	107.00	404.7	--	--	--	--

Pressure port	Series	Volumetric Displacement V _p		Input Power p & n = 1500 rpm					
				p = 7 bar (100 psi)		p = 140bar(2000psi)		p = 240bar(3500psi)	
		in ³ /rev	cm ³ /rev	hp	kw	hp	kw	hp	kw
P1	042	8.07	132.3	6.97	5.2	66.25	49.4	110.77	82.6
	045	8.69	142.4	7.24	5.4	70.94	52.9	118.95	88.7
	050	9.67	158.5	7.64	5.7	78.45	58.5	131.82	98.3
	052	10.06	164.8	7.78	5.8	81.53	60.8	136.92	102.1
	057	11.02	180.7	8.18	6.1	89.04	66.4	143.35	106.9
	062	12.00	196.7	8.58	6.4	96.42	71.9	162.67	121.3
	066	13.02	213.3	8.98	6.7	104.20	77.7	175.94	131.2
	072	13.86	227.1	9.25	6.9	110.77	82.6	187.07	139.5
	085	16.40	268.7	9.78	7.3	--	--	--	--

* Max, int. pressure 240 bar

* Max, cont. pressure 210 bar

Measurement Conditions: ISO VG32 oil at 50°C

Note : 085 = 90 bar (1300 psi) max. int. & 085 = 2000 rpm max.

OPERATING CHARACTERISTICS (24 cSt)

Pressure port	Series	Volumetric Displacement Vp		Flow q (lpm) & n = 1500 rpm					
				p = 0 bar (0 psi)		p = 140bar (2000psi)		p = 240bar (3500psi)	
		in ³ /rev	cm ³ /rev	gpm	lpm	gpm	lpm	gpm	lpm
P2	B02	0.35	5.7	2.29	8.70	1.94	7.34	–	–
	B03	0.60	9.8	3.88	14.7	3.52	13.32	2.91	11.0
	B04	0.78	12.8	5.07	19.2	4.71	17.83	4.09	15.5
	B05	0.97	15.9	6.31	23.9	5.94	22.49	5.28	20.0
	B06	1.21	19.8	7.85	29.7	7.49	28.35	6.87	26.0
	B07	1.37	22.5	8.90	33.7	8.56	32.40	7.79	29.5
	B08	1.52	24.9	9.88	37.4	9.51	35.99	8.85	33.5
	B09	1.71	28.0	11.07	41.9	10.72	40.58	10.04	38.0
	B10	1.94	31.8	12.62	47.8	12.24	46.33	11.23	42.5
	B11	2.13	34.9	13.81	52.27	13.49	51.07	12.81	48.5
	B12	2.50	40.9	16.25	61.51	15.89	60.15	15.19	57.5
	B14	2.75	45.1	17.81	67.42	17.46	66.09	16.77	63.5
	B15	3.08	50.5	20.25	76.64	19.55	74.0	19.15	72.5
	B17	3.56	58.3	23.10	87.45	22.32	84.5	22.06	83.5
	B20	3.89	63.8	25.28	95.70	24.70	93.5	24.30	92.0
	B22	4.29	70.3	27.87	105.5	27.21	103.0	26.81	101.5
B25	4.84	79.3	31.44	119.0	31.04	117.5	30.64	116.0	

DP

Pressure port	Series	Volumetric Displacement Vp		Input power p & n = 1500 rpm					
				p = 7 bar (100psi)		p = 140bar(2000psi)		p = 240bar(3500psi)	
		in ³ /rev	cm ³ /rev	hp	kw	hp	kw	hp	kw
P2	B02	0.35	5.7	0.62	0.46	3.08	2.30	–	–
	B03	0.60	9.8	0.71	0.53	4.96	3.70	8.35	6.23
	B04	0.78	12.8	0.78	0.58	6.37	4.75	10.77	8.03
	B05	0.97	15.9	0.86	0.64	7.78	5.80	13.18	9.83
	B06	1.21	19.8	0.95	0.71	9.49	7.08	16.40	12.23
	B07	1.37	22.5	1.01	0.75	10.74	8.01	18.28	13.63
	B08	1.52	24.9	1.06	0.79	12.00	8.95	20.42	15.23
	B09	1.71	28.0	1.14	0.85	13.39	9.99	22.84	17.03
	B10	1.94	31.8	1.23	0.92	15.13	11.28	25.25	18.83
	B11	2.13	34.9	1.30	0.97	16.69	12.45	28.46	21.23
	B12	2.50	40.9	1.45	1.08	19.51	14.55	33.29	24.83
	B14	2.75	45.1	1.54	1.15	21.23	15.83	36.52	27.23
	B15	3.08	50.5	1.68	1.25	24.21	18.05	41.34	30.83
	B17	3.56	58.3	1.85	1.38	27.49	20.50	47.24	35.23
	B20	3.89	63.8	1.98	1.48	30.31	22.60	51.80	38.63
	B22	4.29	70.3	2.13	1.59	33.27	24.81	56.89	42.43
B25	4.84	79.3	2.35	1.75	37.82	28.20	64.68	48.23	

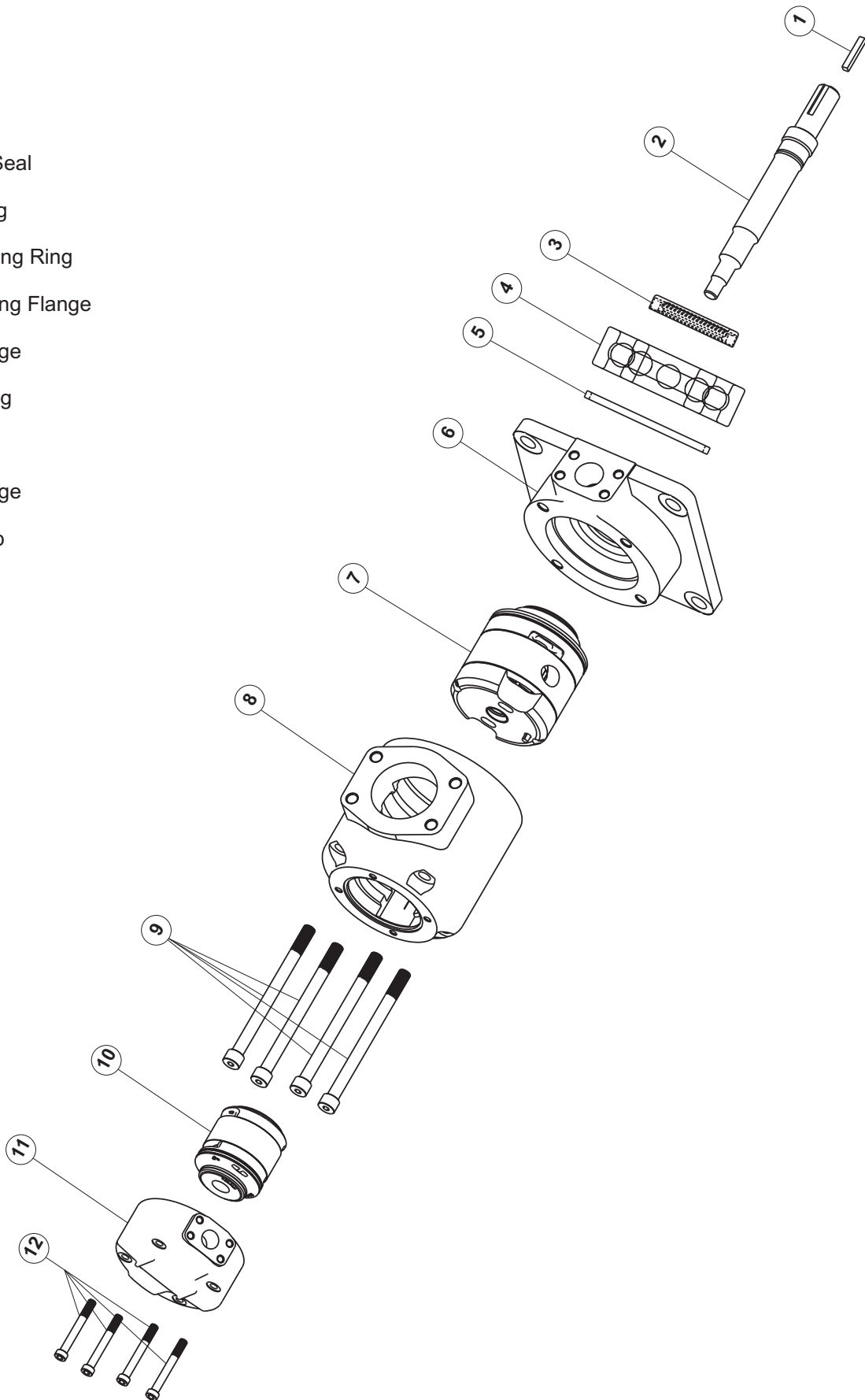
* Max, int. pressure 240 bar

* Max, cont. pressure 210 bar

Measurement Conditions: ISO VG32 oil at 50°C

CONSTRUCTION

- 1. Key
- 2. Shaft
- 3. Shaft Seal
- 4. Bearing
- 5. Retaining Ring
- 6. Mounting Flange
- 7. Cartridge
- 8. Housing
- 9. Bolts
- 10. Cartridge
- 11. Endcap
- 12. Bolts



ORDERING CODE

VST7ED - 042 - B22 - 1 R 00 - A 1 01 *

Series

Cam ring for "P1"

Volumetric displacement cm^3/rev (in^3/rev)

- 042 = 132.3 (8.07)
- 045 = 142.4 (8.69)
- 050 = 158.5 (9.67)
- 052 = 164.8 (10.06)
- 057 = 180.7 (11.02)
- 062 = 196.7 (12.00)
- 066 = 213.3 (13.02)
- 072 = 227.1 (13.86)
- 085 = 268.7 (16.40)

Cam ring for "P2"

Volumetric displacement cm^3/rev (in^3/rev)

- B14 = 43.9 (2.68) B28 = 89.9 (5.49)
- B17 = 55.0 (3.36) B31 = 99.1 (6.05)
- B20 = 66.0 (4.03) B35 = 113.4 (6.92)
- B22 = 70.3 (4.29) B38 = 120.6 (7.36)
- B24 = 81.1 (4.95) B42 = 137.5 (8.39)

Type of shaft

- 1 - Keyed
- 2 - Keyed (no SAE)
- 3 - Splined (SAE-C)
- 4 - Splined (SAE-CC)
- 5 - Keyed (ISO/R775 - G38M)

Modifications

Mounting W/connection variables 4 bolts SAE flange J518

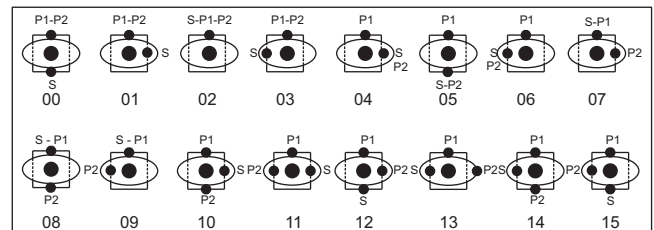
P1= 1½" P2= 1¼" S=4"		
VST7ED		
TYPE	UNC	METRIC
Code	01	M1

Seal Class

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

Design Letters

Porting Combination

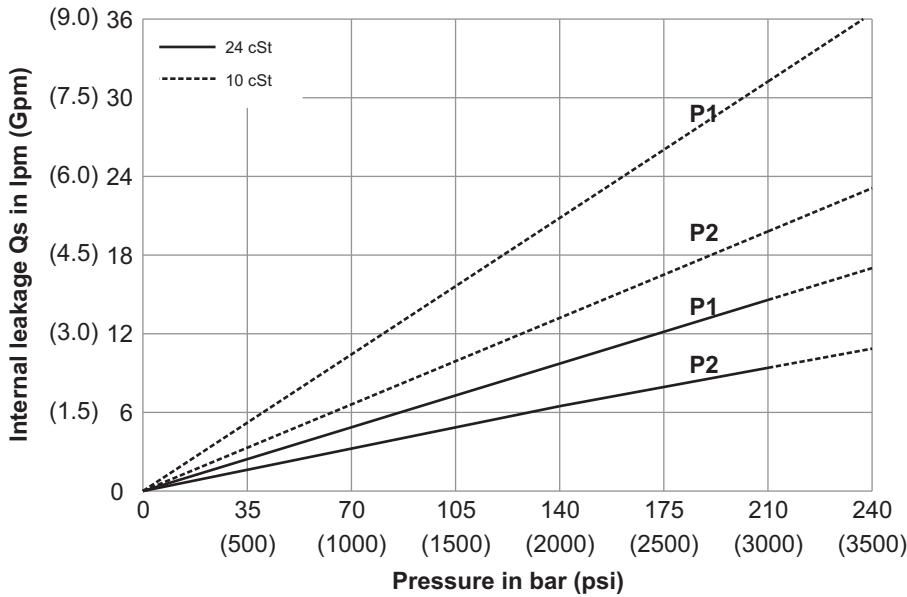


Direction of rotation (view on shaft end)

- R - clockwise
- L - Counter - Clockwise

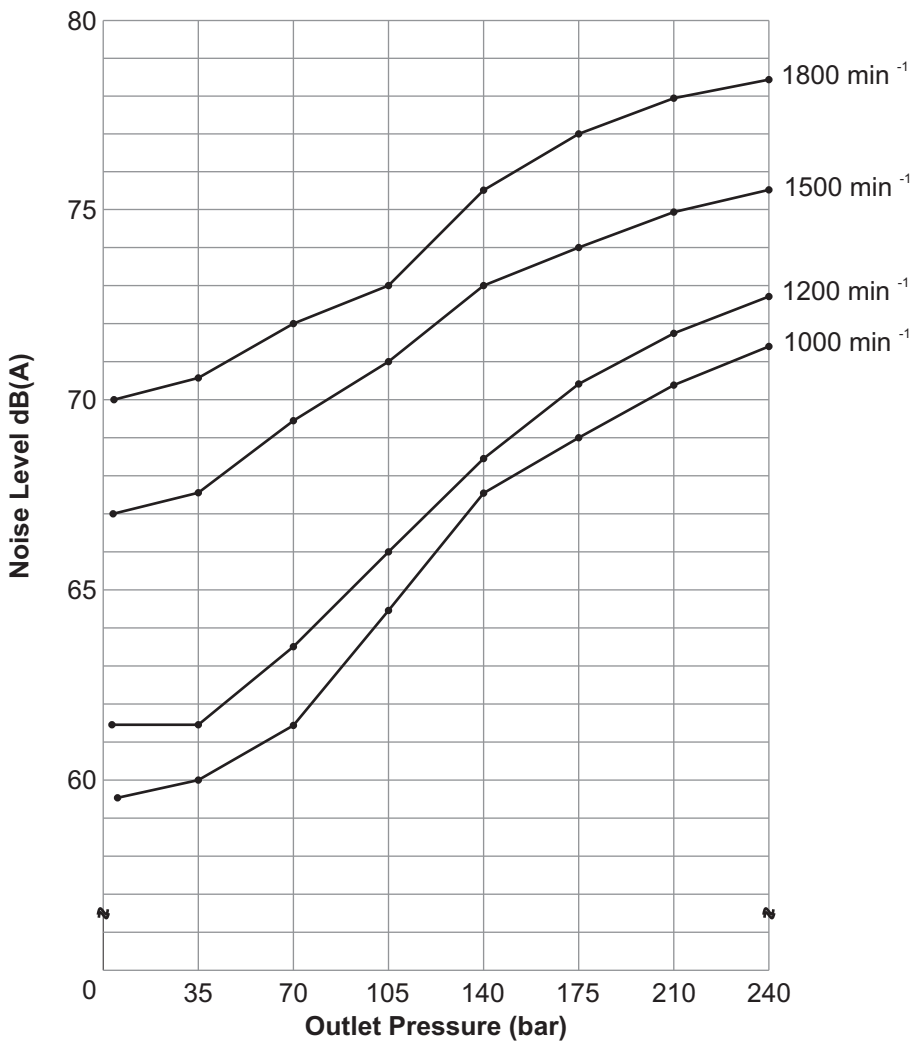


INTERNAL LEAKAGE (TYPICAL)



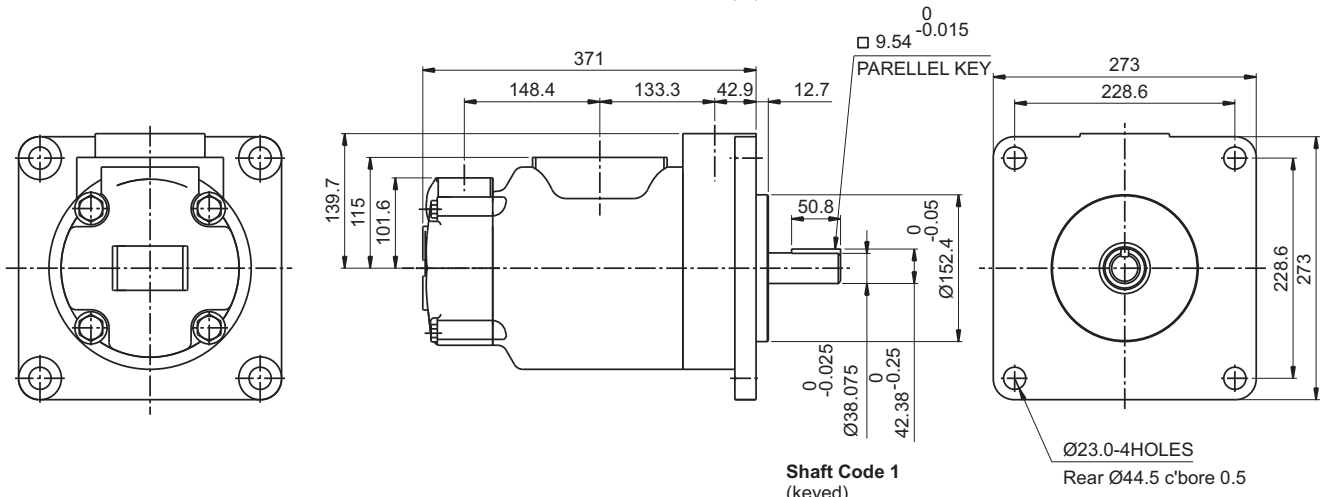
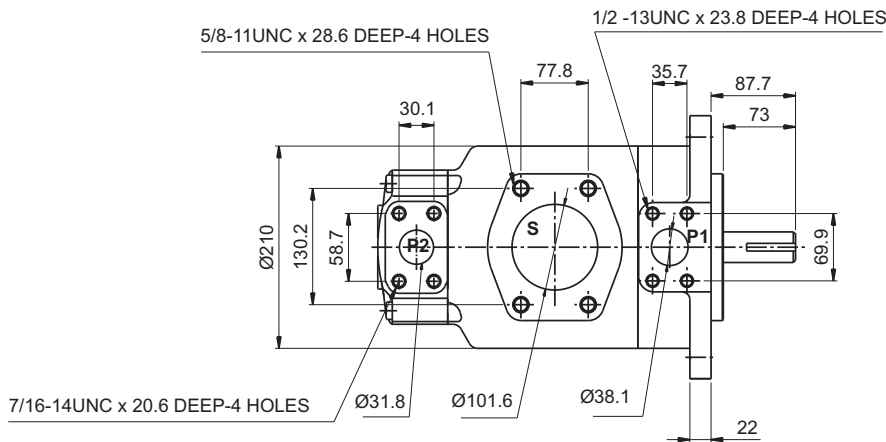
Do not operate pump more than 5 seconds at any speed or viscosity if internal leakage is more than 50 of theoretical flow. Total leakage is the sum of each section loss at its operating conditions.

NOISE LEVEL (TYPICAL) VST7ED-050-B31

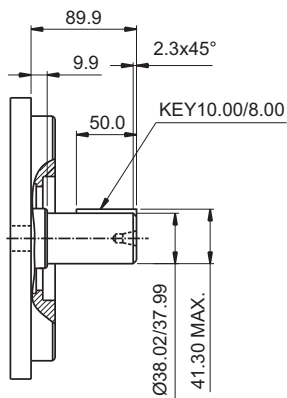


Measurement Conditions:
ISO VG32 oil at 50°C and measured 1m from rear of pump cover

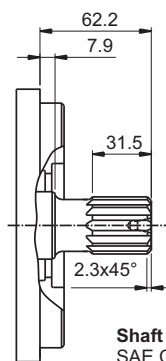
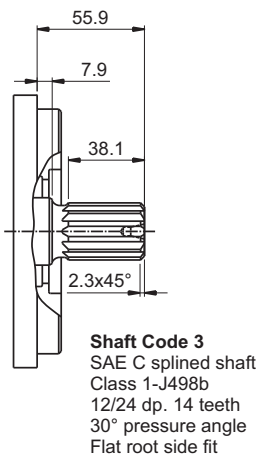
INSTALLATION DRAWING
FLANGE MOUNTING



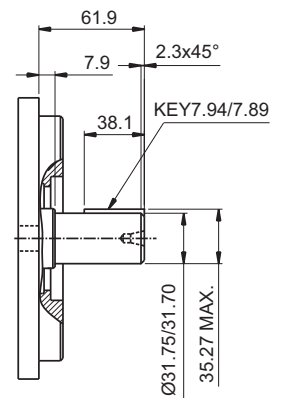
Shaft Code 1
(keyed)



Shaft Code 5
(Keyed Iso/R775-G38M)



Shaft Code 4
SAE CC splined shaft
Class 1-J498b
12/24 dp. 17 teeth
30° pressure angle
Flat root side fit

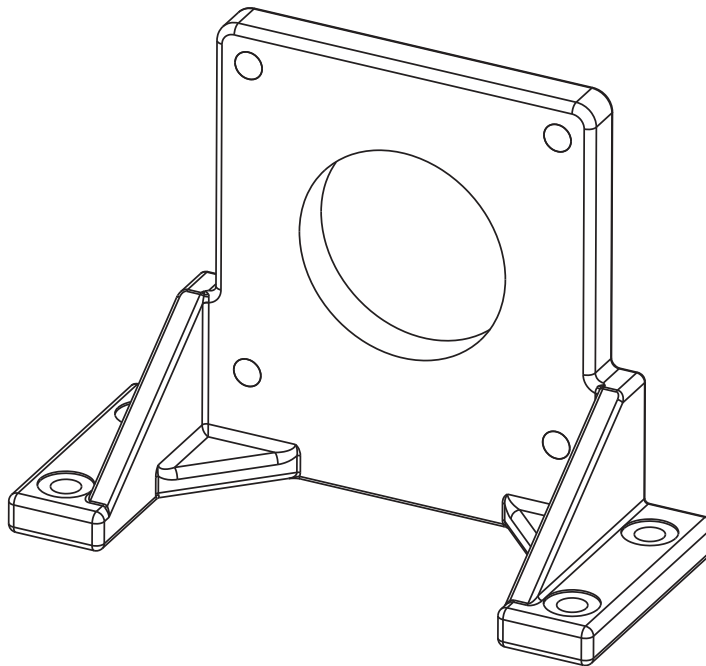
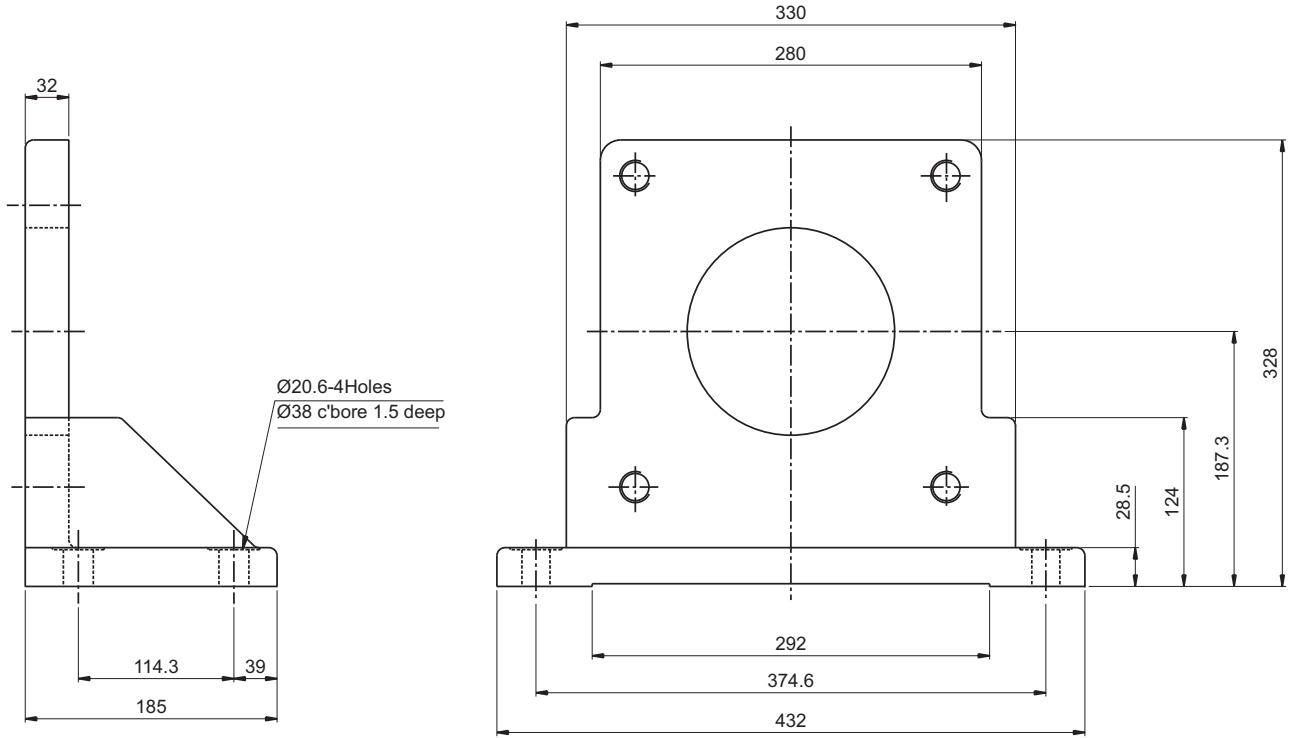


Shaft Code 2
(Keyed non SAE)

Shaft torque limits in ³ / rev x psi (ml / rev x bar)	
Shaft	Vp x p max. (P1+P2)
1	64039 (72372)
2	30638 (34590)
3	54207 (61200)
4	60673 (68568)
5	60673 (68568)

Weight-88.5 Kgs.

INSTALLATION DRAWING
FOOT MOUNTING



Weight - 25 Kgs.

OPERATING CHARACTERISTICS (24 cSt)

Pressure port	Series	Volumetric Displacement Vp		Flow q (lpm) & n = 1500 rpm					
				p = 0 bar (0 psi)		p=140bar(2000psi)		p=240bar(3500psi)	
		in ³ /rev	cm ³ /rev	gpm	lpm	gpm	lpm	gpm	lpm
P1	042	8.07	132.3	52.50	198.5	49.87	188.5	47.96	181.3
	045	8.69	142.4	56.51	213.6	53.86	203.6	51.98	196.5
	050	9.67	158.5	62.88	237.7	60.24	227.7	58.36	220.6
	052	10.06	164.8	65.40	247.2	62.75	237.2	60.87	230.1
	057	11.02	180.7	71.71	271.1	69.07	261.1	67.19	254.0
	062	12.00	196.7	78.04	295.0	75.40	285.0	73.52	277.9
	066	13.02	213.3	84.63	319.9	81.98	309.9	80.11	302.8
	072	13.86	227.1	90.11	340.6	87.46	330.6	85.58	323.5
	085	16.40	268.7	107.00	404.7	105.21	397.7	--	--



Pressure port	Series	Volumetric Displacement Vp		Input power p&n at 1500rpm					
				p = 7 bar (100 psi)		p = 140bar(2000psi)		p = 240bar(3500psi)	
		in ³ /rev	cm ³ /rev	hp	kw	hp	kw	hp	kw
P1	042	8.07	132.3	6.97	5.2	66.25	49.4	110.77	82.6
	045	8.69	142.4	7.24	5.4	70.94	52.9	118.95	88.7
	050	9.67	158.5	7.64	5.7	78.45	58.5	131.82	98.3
	052	10.06	164.8	7.78	5.8	81.53	60.8	136.92	102.1
	057	11.02	180.7	8.18	6.1	89.04	66.4	143.35	106.9
	062	12.00	196.7	8.58	6.4	96.42	71.9	162.67	121.3
	066	13.02	213.3	8.98	6.7	104.20	77.7	175.94	131.2
	072	13.86	227.1	9.25	6.9	110.77	82.6	187.07	139.5
	085	16.40	268.7	9.78	7.3	87.56	65.3	--	--

* Max, int. pressure 240 bar

* Max, cont. pressure 210 bar

Measurement Conditions: ISO VG32 oil at 50°C

Note : 085 = 90 bar (1300 psi) max. int. & 085 = 2000 rpm max.

OPERATING CHARACTERISTICS (24 cSt)

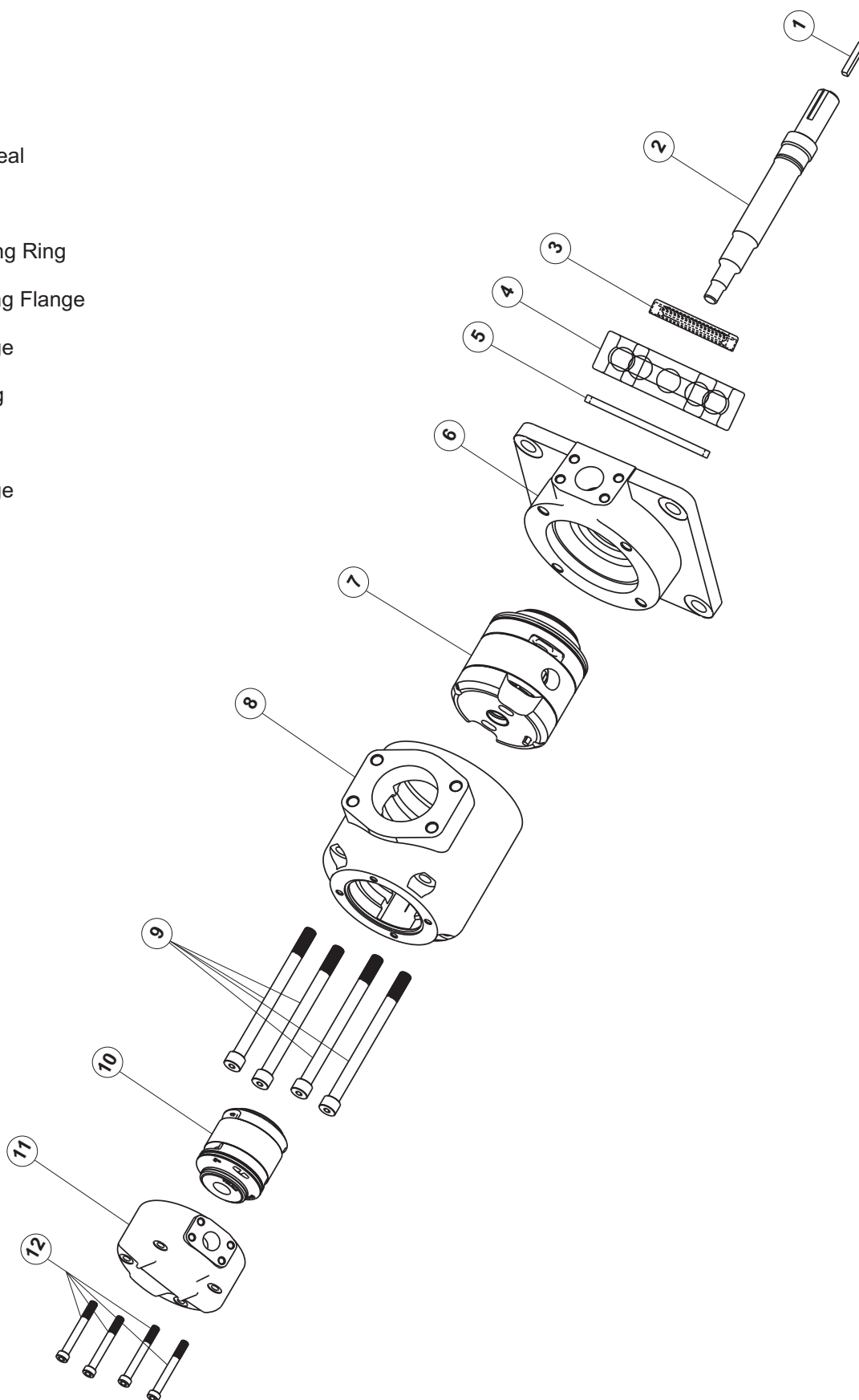
Pressure port	Series	Volumetric Displacement Vp		Flow q (lpm) & n = 1500 rpm					
				p = 0 bar (0 psi)		p=140bar(2000psi)		p=240bar(3500psi)	
		in ³ /rev	cm ³ /rev	gpm	lpm	gpm	lpm	gpm	lpm
P2	B14	2.68	43.9	18.88	71.40	16.42	62.10	14.78	55.95
	B17	3.36	55.0	23.10	87.30	20.60	78.00	18.99	71.88
	B20	4.03	66.0	26.19	99.00	23.73	89.70	22.08	83.58
	B22	4.29	70.3	28.85	109.21	26.41	99.97	25.31	95.81
	B24	4.95	81.1	31.56	119.3	29.10	110.00	27.46	103.95
	B28	5.49	89.9	35.58	134.50	33.12	125.20	31.48	119.16
	B31	6.05	99.1	39.00	147.50	36.53	138.10	34.89	132.07
	B35	6.92	113.4	44.04	166.50	41.58	157.20	39.94	151.18
	B38	7.36	120.6	47.72	180.40	45.26	171.10	43.62	165.12
	B42	8.39	137.5	53.96	204.00	51.50	194.70	49.86	188.74

Pressure port	Series	Volumetric Displacement Vp		Input power p & n = 1500 rpm					
				p = 7 bar (100 psi)		p = 140 bar (2000 psi)		p = 240 bar (3500 psi)	
		in ³ /rev	cm ³ /rev	hp	kw	hp	kw	hp	kw
P2	B14	2.68	43.9	3.08	2.3	24.81	18.5	41.03	30.6
	B17	3.36	55.0	3.35	2.5	29.77	22.2	49.62	37.0
	B20	4.03	66.0	3.75	2.8	33.39	24.9	55.92	41.7
	B22	4.29	70.3	4.00	2.9	36.50	27.7	63.80	46.6
	B24	4.95	81.1	4.02	3.0	39.69	29.6	66.78	49.8
	B28	5.49	89.9	4.29	3.2	44.52	33.2	74.96	55.9
	B31	6.05	99.1	4.42	3.3	48.54	36.2	81.80	61.0
	B35	6.92	113.4	4.69	3.5	54.58	40.7	92.13	68.7
	B38	7.36	120.6	4.96	3.7	58.87	43.9	99.64	74.3
	B42	8.39	137.5	5.36	4.0	66.25	49.4	112.24	83.7

Max. int. pressure 240 bar
 Max. cont. pressure 210 bar
 Measurement Conditions: ISO VG32 oil at 50°C

CONSTRUCTION

1. Key
2. Shaft
3. Shaft Seal
4. Bearing
5. Retaining Ring
6. Mounting Flange
7. Cartridge
8. Housing
9. Bolts
10. Cartridge
11. Endcap
12. Bolts



3MICT

vt6cbb	2
1 05_Triple Pumps 2	2
2 05_Triple Pumps 3	3
3 05_Triple Pumps 4	4
4 05_Triple Pumps 5	5
5 05_Triple Pumps 6	6
vt6ccb	7
1 05_Triple Pumps 7	7
2 05_Triple Pumps 8	8
3 05_Triple Pumps 9	9
vt6dcb	10
1 05_Triple Pumps 10	10
2 05_Triple Pumps 11	11
3 05_Triple Pumps 12	12
vt6dcc	13
vt6dccm	16
vt6ddcs	19
vt6edc	22

Series **VT6CBB - 022 - B09 - B02 - 1 R 00 - B 1 01 ***

Cam ring for "P1"
 Volumetric displacement cm³/rev (in³/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 "P2" & "P3"
 Volumetric displacement cm³/rev (in³/rev)

B02 = 5.8 (0.35)
B03 = 9.8 (0.59)
B04 = 12.8 (0.78)
B05 = 15.9 (0.97)
B06 = 19.8 (1.21)
B07 = 22.5 (1.37)
B08 = 24.9 (1.52)
B09 = 28.0 (1.71)
B10 = 31.8 (1.94)
B11 = 34.9 (2.13)
B12 = 41.0 (2.50)
B14 = 45.0 (2.75)

Type of Shaft

- 1 = Keyed (no SAE)
- 2 = Keyed (SAE BB)
- 3 = Splined (SAE BB)
- 5 = Splined (SAE B)
- E = Splined

Modifications

Port connections

CODE		S = 2 1/2" SAE 4-Bolt Pad.		
UNC	METRIC	P1	P2	P3
01	W0	1" SAE 4 bolt Pad.	3/4" SAE 4 bolt Pad.	SAE 8,3/4" 16 UNF-2B O'ring Boss
11	W1			3/4" SAE 4 bolt Pad.
02	W2	SAE 16,1 5/16" 12 UNF-2B O'ring Boss	SAE 12,1 1/16" 12 UNF-2B O'ring Boss	SAE 8,3/4" 16 UNF-2B O'ring Boss

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 CI-1-4)
 00 - standard

Direction of rotation (view on shaft end)

- R - clockwise
- L - counter-clockwise

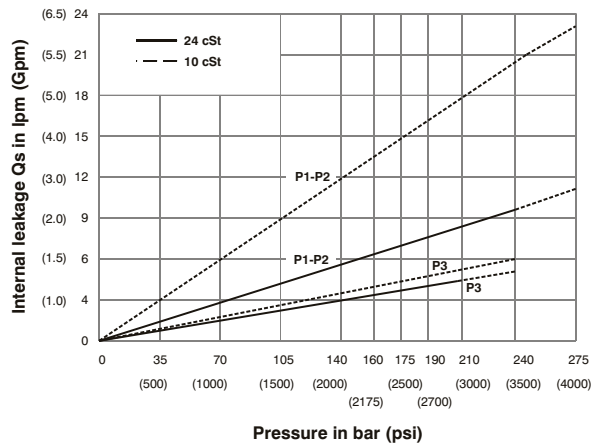
OPERATING CHARACTERISTICS - TYPICAL (24 cST) (Input power p (KW) for one cartridge only)

Pressure port	Series	Volumetric Displacement Vp		Flow q & n = 1500 rpm						Input power p & n = 1500 rpm					
		in ³ /rev	cm ³ /rev	p = 0 bar (0 psi)		p = 140 bar (2000 psi)		p = 240 bar (3500 psi)		p = 7 bar (100 psi)		p = 140 bar (2000 psi)		p = 210 bar (3000 psi)	
				gpm	lpm	gpm	lpm	gpm	lpm	hp	kw	hp	kw	hp	kw
P1	003	0.66	10.8	4.29	16.2	2.96	11.2	2.04	7.7	1.74	1.3	7.11	5.3	11.26	8.4
	005	1.05	17.2	6.83	25.8	5.50	20.8	4.57	17.3	1.88	1.4	10.06	7.5	16.36	12.2
	006	1.30	21.3	8.44	31.9	7.11	26.9	6.19	23.4	2.01	1.5	11.94	8.9	19.71	14.7
	008	1.61	26.4	10.48	39.6	9.15	34.6	8.22	31.1	2.15	1.6	14.35	10.7	22.93	17.7
	010	2.08	34.1	13.52	51.1	12.19	46.1	11.26	42.6	2.28	1.7	18.64	13.4	29.90	22.3
	012	2.26	37.1	14.71	55.6	13.36	50.6	12.46	47.1	2.28	1.7	19.31	14.4	32.32	24.1
	014	2.81	46.0	18.25	69.0	16.93	64.0	16.00	60.5	2.55	1.9	23.60	17.6	39.56	29.5
	015	3.08	50.5	20.00	75.6	18.73	73.2	19.02	67.5	2.68	2.0	25.61	19.1	42.91	32.0
	017	3.56	58.3	23.12	87.4	21.79	82.4	20.87	78.9	2.82	2.1	29.37	21.9	49.48	36.9
	020	3.89	63.8	25.32	95.7	23.99	90.7	23.07	87.2	2.95	2.2	31.92	23.8	53.91	40.2
	022	4.29	70.3	27.88	105.4	26.56	100.4	25.63	96.9	3.08	2.3	35.00	26.1	59.14	44.1
	025	4.84	79.3	31.46	118.9	30.13	113.9	29.21	110.4	3.35	2.5	39.16	29.2	66.38	49.5
	028 ¹⁾	5.42	88.8	35.24	133.2	33.92	128.2	33.28	125.8	3.75	2.8	43.85	32.7	65.04	48.5
031 ¹⁾	6.10	100.0	39.68	150.0	38.35	145.0	37.72	142.6	3.75	2.8	48.95	36.5	72.95	54.4	
				p = 0 bar (0 psi)		p = 140 bar (2000 psi)		p = 210 bar (3000 psi)		p = 7 bar (100 psi)		p = 140 bar (2000 psi)		p = 210 bar (3000 psi)	
		in ³ /rev	cm ³ /rev	gpm	lpm	gpm	lpm	gpm	lpm	hp	kw	hp	kw	hp	kw
P2 & P3	B02	0.35	5.8	2.30	8.7	1.4	5.9	--	--	0.53	0.4	2.81	2.1	--	--
	B03	0.59	9.8	3.88	14.7	2.9	11.9	2.7	10.5	0.67	0.5	3.62	2.7	--	--
	B04	0.78	12.8	5.08	19.2	4.33	16.4	3.97	15.0	0.93	0.7	5.23	3.9	10.06	7.5
	B05	0.97	15.9	6.31	23.8	5.55	21.0	5.18	19.6	1.00	0.75	6.64	4.9	11.2	8.3
	B06	1.21	19.8	7.85	29.7	7.12	26.9	6.66	25.2	1.07	0.8	8.05	6.0	12.34	9.2
	B07	1.37	22.5	8.92	33.7	8.17	30.9	7.80	29.5	1.20	0.9	9.05	6.7	14.02	10.4
	B08	1.52	24.9	9.89	37.4	9.15	34.6	8.78	33.2	1.34	1.0	10.05	7.5	15.69	11.7
	B09	1.71	28.0	11.11	42.0	10.37	39.2	10.00	37.8	1.47	1.1	11.94	8.9	23.60	17.6
	B10	1.94	31.8	12.61	47.7	11.87	44.9	11.51	43.5	1.6	1.2	13.0	9.7	26.0	19.6
	B11	2.13	34.9	13.85	52.3	13.09	49.5	12.72	48.1	1.7	1.3	14.0	10.5	28.0	21.0
	B12	2.50	41.0	16.27	61.5	15.53	58.7	*	*	1.8	1.4	15.02	11.2	*	*
	B14	2.75	45.0	17.86	67.5	17.12	64.7	**	**	2.1	1.6	15.42	11.5	**	**

1) 028-031 = 210 bar (3000 psi) max. int.
 *B12 = 210bar (3000psi) Max. Int
 **B14 = 175bar (2500psi) Max. Int

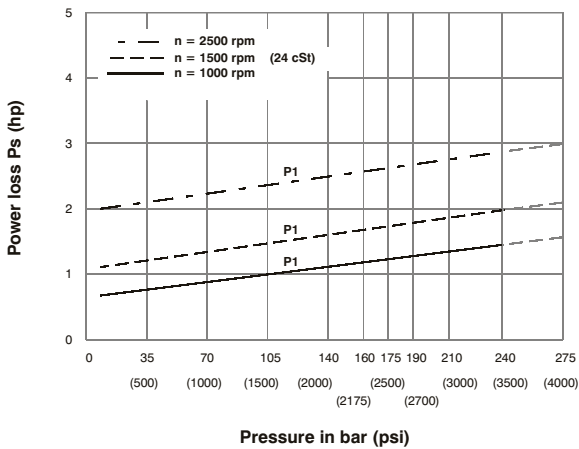
- Not to use because internal leakage greater than 50% of theoretical flow.

INTERNAL LEAKAGE (TYPICAL)



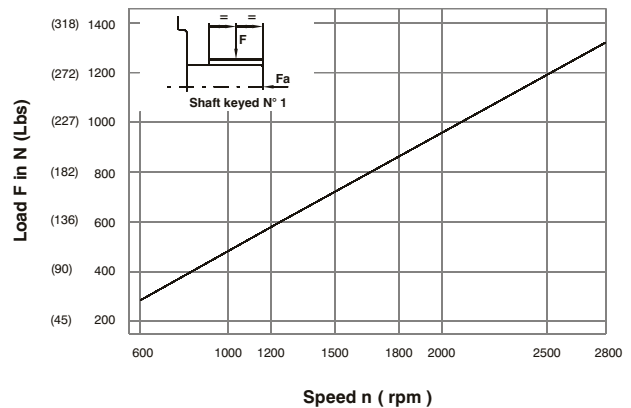
Do not operate pump more than 5 seconds at any speed or viscosity if internal leakage is more than 50% of theoretical flow. Total leakage is the sum of each section loss at its operating conditions.

HYDROMECHANICAL POWER LOSS (TYPICAL)

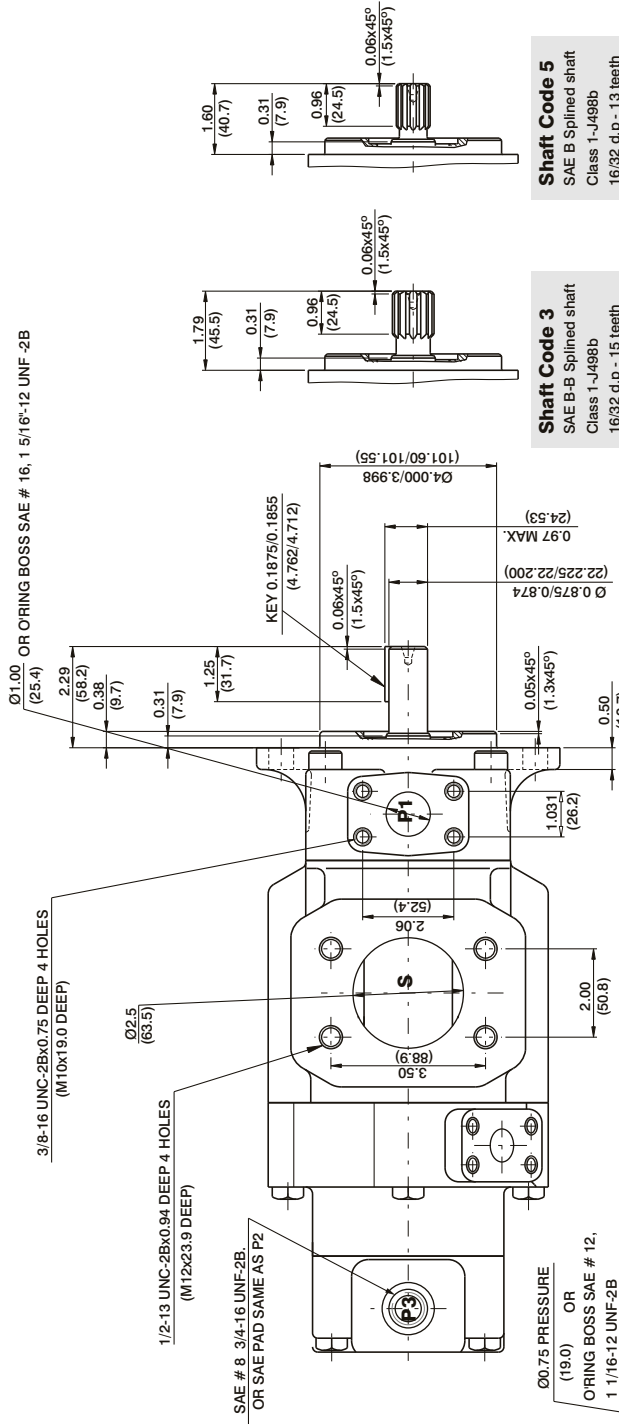


Total hydromechanical power loss is the sum of each section at its operating conditions.

PERMISSIBLE RADIAL LOAD



Maximum axial load permissible $F_a = 800 \text{ N (180 Lbs)}$



Shaft Code 5
 SAE B Splined shaft
 Class 1-J498b
 16/32 d.p - 13 teeth
 30° pressure angle
 flat root side fit

Shaft Code 3
 SAE B-B Splined shaft
 Class 1-J498b
 16/32 d.p - 15 teeth
 30° pressure angle
 flat root side fit

Shaft Code 1

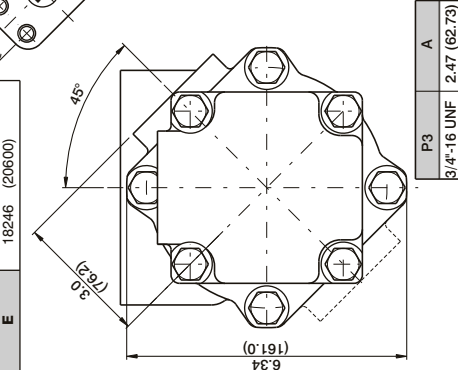
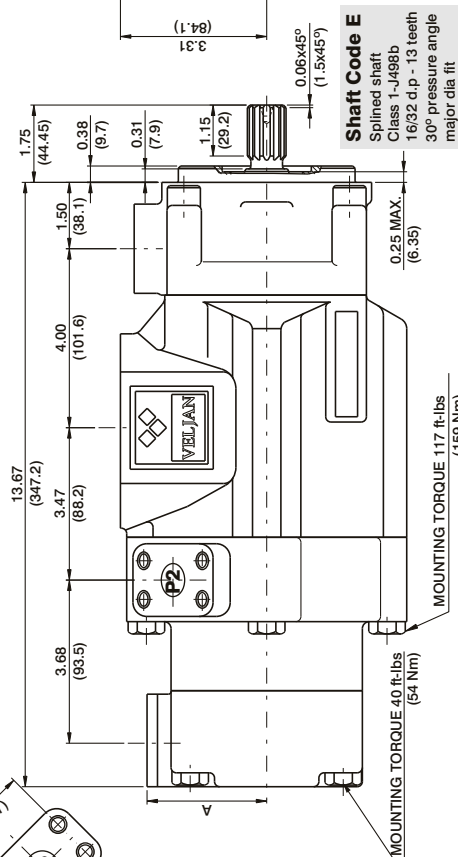
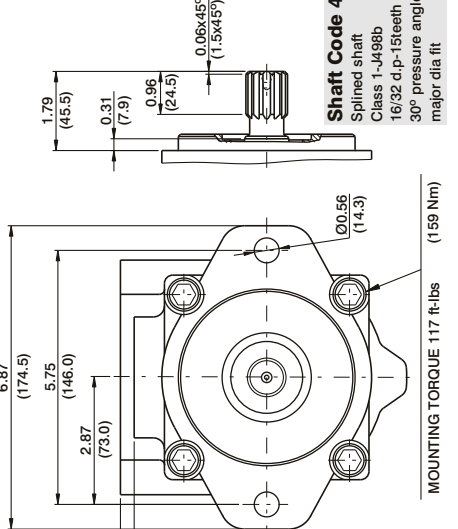
Shaft Code 4
 Splined shaft
 Class 1-J498b
 16/32 d.p-15teeth
 30° pressure angle
 major dia fit

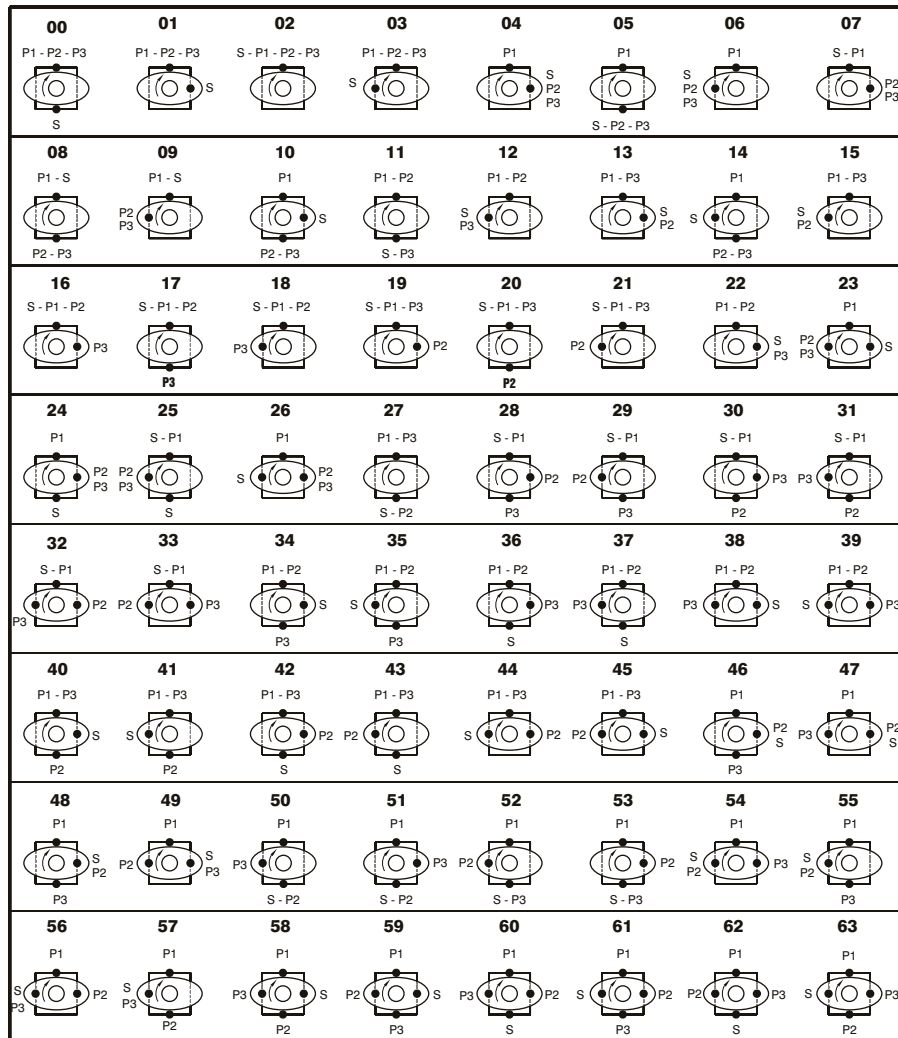
Shaft Code E
 Splined shaft
 Class 1-J498b
 16/32 d.p - 13 teeth
 30° pressure angle
 major dia fit

Shaft Code 2

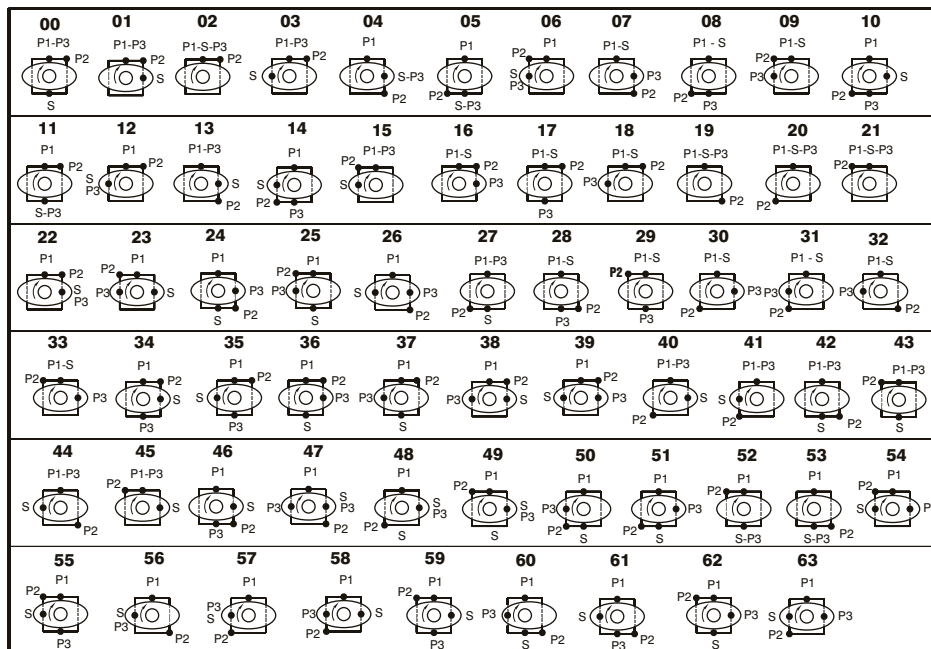
Shaft torque limits V x P max. (P1+ P2+ P3)
 in³/rev x psi (ml/rev x bar)

Shaft Code	in ³ /rev x psi (ml/rev x bar)
1	12666 (14300)
2	18972 (21470)
3	28937 (32670)
4	28937 (32670)
5	18246 (20600)
E	18246 (20600)





VT6DCC-VT6DDCS - VT6EDC
VT7DBB/VT7DBBS-VT7QDCC-VT7QDCB-VT7DDB/VT7DBS-
VT7EDB/VT7EDBS-VT7QEDC/VT7QEDCS
VT67DBB-VT67DCB-VT67EDB-VT67EDC-VT67DDCS-VT67DCC



VT6DCB - VT6CBB

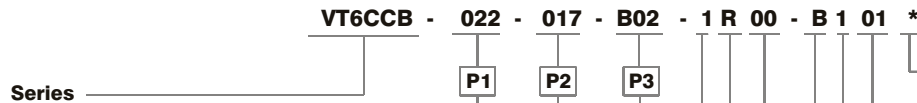


S	P2	P3				P2	P3			
		02 	16 	17 	18 		20 	30 	08 	31
		19 	07 	28 	32 		21 	33 	29 	09
		01 	22 	32 	38 		40 	48 	10 	58
		13 	04 	46 	47 		45 	49 	59 	23
		00 	36 	11 	37 		27 	51 	05 	50
		42 	24 	53 	60 		43 	62 	52 	25
		03 	39 	35 	12 		41 	63 	14 	57
		44 	26 	61 	56 		15 	54 	55 	06

VT6DCC-VT6DDCS - VT6EDC
VT7DBB/VT7DBBS-VT7QDCC-VT7QDCB-VT7DDB/VT7DDBS-
VT7EDB/VT7EDBS-VT7QEDC/VT7QEDCS
VT67DBB-VT67DCB-VT67EDB

00 P1-P2 	01 P1-P2 	02 P1-S-P2 	03 P1-P2 	04 P1-P2 	05 P1-P2 	06 P1-S-P2 	07 P1-P2 	08 P1-P2 	09 P1-P2 	10 P1-S-P2 	11 P1-P2
12 P1-P2 	13 P1-P2 	14 P1-S-P2 	15 P1-P2 	16 P1-S-P2 	17 P1-S-P2 	18 P1-S-P2 	19 P1-S 	20 P1-S 	21 P1-S 	22 P1-S 	23 P1-S
24 P1-S 	25 P1-S 	26 P1-S 	27 P1-S 	28 P1 	29 P1 	30 P1 	31 P1 	32 P1 	33 P1 	34 P1 	35 P1
36 P1 	37 P1 	38 P1 	39 P1 	40 P1 	41 P1 	42 P1 	43 P1 	44 P1 	45 P1 	46 P1 	47 P1
48 P1 	49 P1 	50 P1 	51 P1 	52 P1 	53 P1 	54 P1 	55 P1 	56 P1 	57 P1 	58 P1 	59 P1
60 P1 	61 P1 	62 P1 	63 P1 								

VT6CCB



Cam ring for "P1" & "P2"

Volumetric displacement cm³/rev (in³/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 cm³/rev (in³/rev)

B02 = 5.8 (0.35)
B03 = 9.8 (0.59)
B04 = 12.8 (0.78)
B05 = 15.9 (0.97)
B06 = 19.8 (1.21)
B07 = 22.5 (1.37)
B08 = 24.9 (1.52)
B09 = 28.0 (1.71)
B10 = 31.8 (1.94)
B11 = 34.9 (2.13)
B12 = 41.0 (2.50)
B14 = 45.0 (2.75)

Modifications

Port connections

S=3" SAE 4-Bolt Pad
P1 & P2 = 1" SAE 4-Bolt Pad

UNC	METRIC	P3
01	W0	SAE 8, 3/4" 16 UNF - 2B O'Ring Boss
11	W1	3/4" SAE 4 Bolt Pad

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 CI-1-5)
00 - standard

Direction of rotation (view on shaft end)

- R - clockwise
- L - counter-clockwise

Type of Shaft

- 1 - Keyed (no SAE)
- 2 - Keyed (SAE BB)
- 3 - Splined (SAE BB)
- 5 - Splined (SAE B)
- E - Splined

VP
TP

OPERATING CHARACTERISTICS - TYPICAL (24 cST) (Input power p (KW) for one cartridge only)

Pressure port	Series	Volumetric Displacement Vp		Flow q & n = 1500 rpm						Input power p & n = 1500 rpm					
				p = 0 bar (0 psi)		p = 140 bar (2000 psi)		p = 240 bar (3500 psi)		p = 7 bar (100 psi)		p = 140 bar (2000 psi)		p = 240 bar (3500 psi)	
		in ³ /rev	cm ³ /rev	gpm	lpm	gpm	lpm	gpm	lpm	hp	kw	hp	kw	hp	kw
P1 & P2	003	0.66	10.8	4.29	16.2	2.96	11.2	2.04	7.7	1.74	1.3	7.11	5.3	11.26	8.4
	005	1.05	17.2	6.83	25.8	5.50	20.8	4.57	17.3	1.88	1.4	10.06	7.5	16.36	12.2
	006	1.30	21.3	8.44	31.9	7.11	26.9	6.19	23.4	2.01	1.5	11.94	8.9	19.71	14.7
	008	1.61	26.4	10.48	39.6	9.15	34.6	8.22	31.1	2.15	1.6	14.35	10.7	22.93	17.7
	010	2.08	34.1	13.52	51.1	12.19	46.1	11.26	42.6	2.28	1.7	18.64	13.4	29.90	22.3
	012	2.26	37.1	14.71	55.6	13.36	50.6	12.46	47.1	2.28	1.7	19.31	14.4	32.32	24.1
	014	2.81	46.0	18.25	69.0	16.93	64.0	16.00	60.5	2.55	1.9	23.60	17.6	39.56	29.5
	015	3.08	50.5	20.00	75.6	18.73	73.2	19.02	67.5	2.68	2.0	25.61	19.1	42.91	32.0
	017	3.56	58.3	23.12	87.4	21.79	82.4	20.87	78.9	2.82	2.1	29.37	21.9	49.48	36.9
	020	3.89	63.8	25.32	95.7	23.99	90.7	23.07	87.2	2.95	2.2	31.92	23.8	53.91	40.2
	022	4.29	70.3	27.88	105.4	26.56	100.4	25.63	96.9	3.08	2.3	35.00	26.1	59.14	44.1
	025	4.84	79.3	31.46	118.9	30.13	113.9	29.21	110.4	3.35	2.5	39.16	29.2	66.38	49.5
	028 ¹⁾	5.42	88.8	35.24	133.2	33.92	128.2	33.28	125.8	3.75	2.8	43.85	32.7	65.04	48.5
031 ¹⁾	6.10	100.0	39.68	150.0	38.35	145.0	37.72	142.6	3.75	2.8	48.95	36.5	72.95	54.4	
				p = 0 bar (0 psi)		p = 140 bar (2000 psi)		p = 210 bar (3000 psi)		p = 7 bar (100 psi)		p = 140 bar (2000 psi)		p = 210 bar (3000 psi)	
		in ³ /rev	cm ³ /rev	gpm	lpm	gpm	lpm	gpm	lpm	hp	kw	hp	kw	hp	kw
P3	B02	0.35	5.8	2.30	8.7	1.4	5.9	--	--	0.53	0.4	2.81	2.1	--	--
	B03	0.59	9.8	3.88	14.7	2.9	11.9	2.7	10.5	0.67	0.5	3.62	2.7	--	--
	B04	0.78	12.8	5.08	19.2	4.33	16.4	3.97	15.0	0.93	0.7	5.23	3.9	10.06	7.5
	B05	0.97	15.9	6.31	23.8	5.55	21.0	5.18	19.6	1.00	0.75	6.64	4.9	11.2	8.3
	B06	1.21	19.8	7.85	29.7	7.12	26.9	6.66	25.2	1.07	0.8	8.05	6.0	12.34	9.2
	B07	1.37	22.5	8.92	33.7	8.17	30.9	7.80	29.5	1.20	0.9	9.05	6.7	14.02	10.4
	B08	1.52	24.9	9.89	37.4	9.15	34.6	8.78	33.2	1.34	1.0	10.05	7.5	15.69	11.7
	B09	1.71	28.0	11.11	42.0	10.37	39.2	10.00	37.8	1.47	1.1	11.94	8.9	23.60	17.6
	B10	1.94	31.8	12.61	47.7	11.87	44.9	11.51	43.5	1.6	1.2	13.0	9.7	26.0	19.6
	B11	2.13	34.9	13.85	52.3	13.09	49.5	12.72	48.1	1.7	1.3	14.0	10.5	28.0	21.0
	B12	2.50	41.0	16.27	61.5	15.53	58.7	*	*	1.8	1.4	15.02	11.2	*	*
B14	2.75	45.0	17.86	67.5	17.12	64.7	**	**	2.1	1.6	15.42	11.5	**	**	

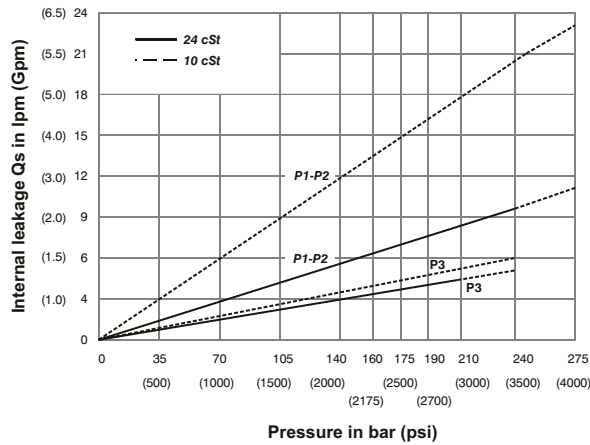
1) 028-031 = 210 bar (3000 psi) max. int.

*B12 = 210bar (3000psi) Max. Int

**B14 = 175bar (2500psi) Max. Int

- Not to use because internal leakage greater than 50% of theoretical flow.

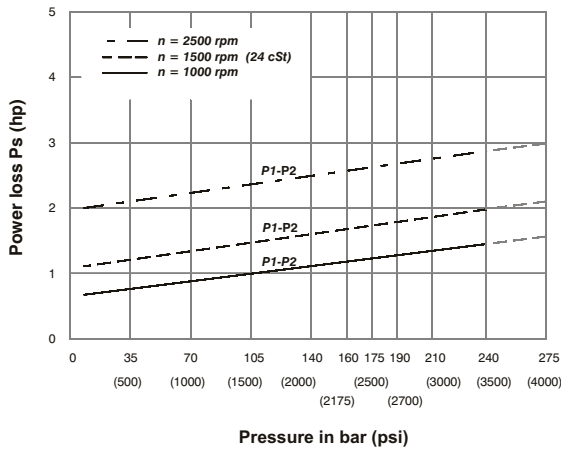
INTERNAL LEAKAGE (TYPICAL)



Do not operate pump more than 5 seconds at any speed or viscosity if internal leakage is more than 50% of theoretical flow. Total leakage is the sum of each section loss at its operating conditions.

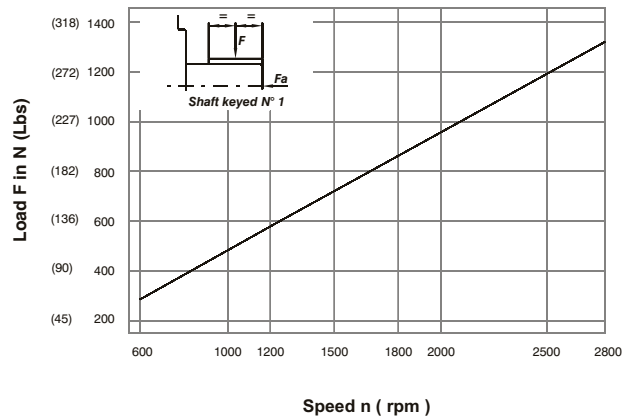
VP
TP

HYDROMECHANICAL POWER LOSS (TYPICAL)

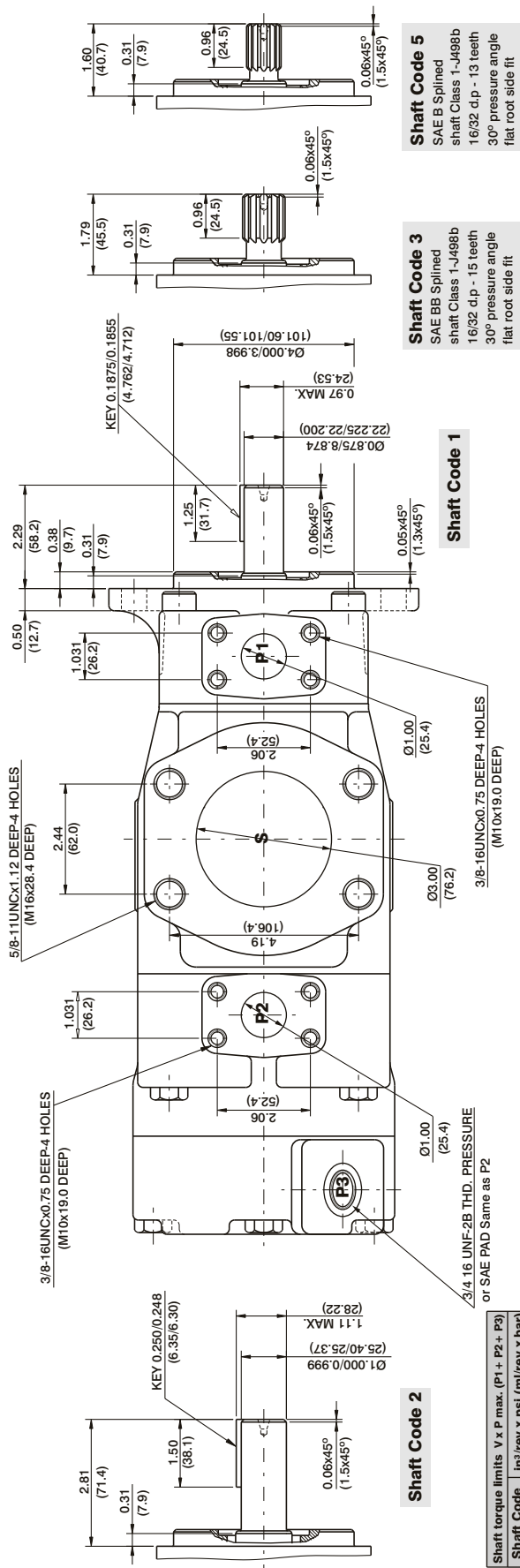


Total hydromechanical power loss is the sum of each section at its operating conditions.

PERMISSIBLE RADIAL LOAD



Maximum axial load permissible $F_a = 800 \text{ N (180 Lbs)}$



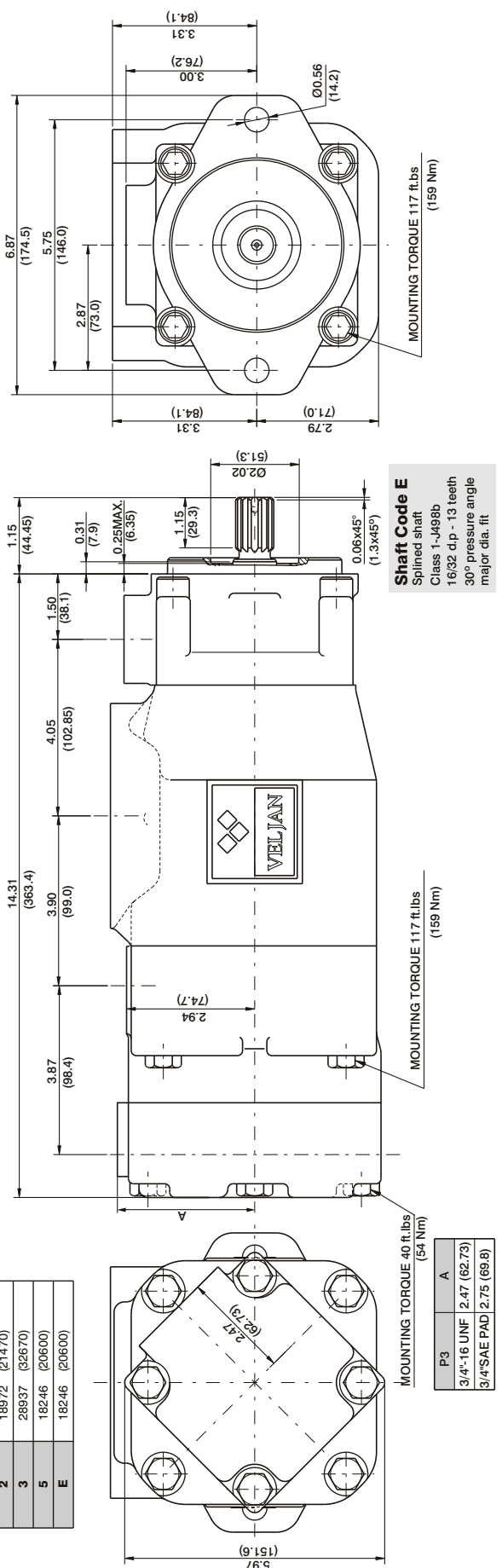
Shaft Code 2

Shaft Code	Shaft torque limits V x P max. (P1 + P2 + P3) lbf ² /rev x psi (ml/rev x bar)
1	12666 (14300)
2	18972 (21470)
3	28937 (32670)
5	18246 (20600)
E	18246 (20600)

Shaft Code 1

Shaft Code 3

Shaft Code 5



Shaft Code E

	P3	A
MOUNTING TORQUE 40 ft.lbs (54 Nm)	3/4"-16 UNF 2.47 (62.73)	3/4"SAE PAD 2.75 (69.8)
MOUNTING TORQUE 117 ft.lbs (159 Nm)		

Note: Product details are liable to change without any notice

HIGH PERFORMANCE VANE PUMP VT6DCB



VT6DCB - 038 - 017 - B02 - 1 R 00 - B 1 01 *

Series

P1 P2 P3

Modifications

Cam ring for "P2"

Volumetric displacement cm³/rev (in³/rev)

*014/B14 = 47.6 (2.90)	035/B35 = 111.0 (6.77)
017/B17 = 58.2 (3.55)	038/B38 = 120.3 (7.34)
020/B20 = 66.0 (4.03)	042/B42 = 136.0 (8.30)
024/B24 = 79.5 (4.85)	045/B45 = 145.7 (8.89)
028/B28 = 89.7 (5.47)	050/B50 = 158.0 (9.64)
031/B31 = 98.3 (6.00)	061/B61 = 190.5 (11.62)

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

Cam ring for "P2"

Volumetric displacement cm³/rev (in³/rev)

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

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

Cam ring for "P3"

Volumetric displacement cm³/rev (in³/rev)

B02 = 5.8 (0.35)	B06 = 19.8 (1.21)	B10 = 31.8 (1.94)
B03 = 9.8 (0.59)	B07 = 22.5 (1.37)	B11 = 34.9 (2.13)
B04 = 12.8 (0.78)	B08 = 24.9 (1.52)	B12 = 41.0 (2.50)
B05 = 15.9 (0.97)	B09 = 28.0 (1.71)	B14 = 45.0 (2.75)

Port connections

S=3" SAE 4-Bolt Pad
P1= 1/4" & P2 = 1" SAE 4-Bolt Pad

UNC	METRIC	P3
01	W0	SAE 8, 3/4" 16 UNF - 2B O'Ring Boss
11	W1	3/4" SAE 4 Bolt Pad

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 CI-1-4)
00 - standard

Direction of rotation (view on shaft end)

- R - clockwise
- L - counter-clockwise

Type of Shaft

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

OPERATING CHARACTERISTICS - TYPICAL (24 cST) (Input power p (KW) for one cartridge only)

Pressure port	Series	Volumetric Displacement Vp		Flow q & n = 1500 rpm						Input power p & n = 1500 rpm						
		in ³ /rev	cm ³ /rev	p = 0 bar (0 psi)		p = 140 bar (2000 psi)		p = 240 bar (3500 psi)		p = 7 bar (100 psi)		p = 140 bar (2000 psi)		p = 240 bar (3500 psi)		
				gpm	lpm	gpm	lpm	gpm	lpm	hp	kw	hp	kw	hp	kw	
P1	014	2.90	47.6	18.88	71.4	16.42	62.1	14.78	55.9	3.08	2.3	24.81	18.5	41.03	30.6	
	017	3.55	58.2	23.1	87.3	20.6	78.0	18.99	71.8	3.35	2.5	29.77	22.2	49.62	37.0	
	020	4.00	66.0	26.19	99.0	23.73	89.7	22.08	83.5	3.75	2.8	33.39	24.9	55.92	41.7	
	024	4.80	79.5	31.56	119.3	29.10	110.0	27.46	103.8	4.02	3.0	39.69	29.6	66.78	49.8	
	028	5.50	89.7	35.58	134.5	33.12	125.2	31.48	119.0	4.29	3.2	44.52	33.2	74.96	55.9	
	031	6.00	98.3	39.00	147.5	36.53	138.1	34.89	131.9	4.42	3.3	48.54	36.2	81.80	61.0	
	035	6.80	111.0	44.04	166.5	41.58	157.2	39.94	151.0	4.69	3.5	54.58	40.7	92.13	68.7	
	038	7.30	120.3	47.72	180.4	45.26	171.1	43.62	164.9	4.96	3.7	58.87	43.9	99.64	74.3	
	042 ¹⁾	8.30	136.0	53.96	204.0	51.50	194.7	49.86	188.5	5.36	4.0	66.25	49.4	112.24	83.7	
	045 ¹⁾	8.89	145.7	57.80	218.5	55.34	209.2	53.70	203.0	5.50	4.1	70.81	52.8	120.02	89.5	
	050 ^{1,2)}	9.64	158.0	62.69	237.0	60.23	227.7	59.25	224.0	5.90	4.4	76.44	57.0	113.98	85.0	
	061 ^{1,3)}	11.62	190.5	76.25	285.7	73.54	278.0	--	--	6.16	4.6	81.26	60.6	--	--	
	P2	003	0.66	10.8	4.29	16.2	2.96	11.2	2.04	7.7	1.74	1.3	7.11	5.3	11.22	8.4
005		1.05	17.2	6.83	25.8	5.50	20.8	4.57	17.3	1.88	1.4	10.06	7.5	16.36	12.2	
006		1.30	21.3	8.44	31.9	7.11	26.9	6.19	23.4	2.01	1.5	11.94	8.9	19.71	14.7	
008		1.61	26.4	10.48	39.6	9.15	34.6	8.22	31.1	2.15	1.6	14.35	10.7	22.93	17.7	
010		2.08	34.1	13.52	51.1	12.19	46.1	11.26	42.6	2.28	1.7	18.64	13.4	29.90	22.3	
012		2.26	37.1	14.71	55.6	13.36	50.6	12.46	47.1	2.28	1.7	19.31	14.4	32.32	24.1	
014		2.81	46.0	18.25	69.0	16.93	64.0	16.00	60.5	2.55	1.9	23.60	17.6	39.56	29.5	
015		3.08	50.5	20.00	75.6	18.73	73.2	19.02	67.5	2.68	2.0	25.61	19.1	42.91	32.0	
017		3.56	58.3	23.12	87.4	21.79	82.4	20.87	78.9	2.82	2.1	29.37	21.9	49.48	36.9	
020		3.89	63.8	25.32	95.7	23.99	90.7	23.07	87.2	2.95	2.2	31.92	23.8	53.91	40.2	
022		4.29	70.3	27.88	105.4	26.56	100.4	25.63	96.9	3.08	2.3	35.00	26.1	59.14	44.1	
025		4.84	79.3	31.46	118.9	30.13	113.9	29.21	110.4	3.35	2.5	39.16	29.2	66.38	49.5	
028 ²⁾		5.42	88.8	35.24	133.2	33.92	128.2	33.28	125.8	3.75	2.8	43.85	32.7	75.04	56.5	
031 ²⁾	6.10	100.0	39.68	150.0	38.35	145.0	37.72	142.6	3.75	2.8	48.95	36.5	82.95	63.4		
P3				p = 0 bar (0 psi)		p = 140 bar (2000 psi)		p = 210 bar (3000 psi)		p = 7 bar (100 psi)		p = 140 bar (2000 psi)		p = 210 bar (3000 psi)		
			in ³ /rev	cm ³ /rev	gpm	lpm	gpm	lpm	gpm	lpm	hp	kw	hp	kw	hp	kw
		B02	0.35	5.8	2.30	8.7	1.4	5.9	--	--	0.53	0.4	2.81	2.1	--	--
		B03	0.59	9.8	3.88	14.7	2.9	11.9	2.7	10.5	0.67	0.5	3.62	2.7	--	--
		B04	0.78	12.8	5.08	19.2	4.33	16.4	3.97	15.0	0.93	0.7	5.23	3.9	10.06	7.5
		B05	0.97	15.9	6.31	23.8	5.55	21.0	5.18	19.6	1.00	0.75	6.64	4.9	11.2	8.3
		B06	1.21	19.8	7.85	29.7	7.12	26.9	6.66	25.2	1.07	0.8	8.05	6.0	12.34	9.2
		B07	1.37	22.5	8.92	33.7	8.17	30.9	7.80	29.5	1.20	0.9	9.05	6.7	14.02	10.4
		B08	1.52	24.9	9.89	37.4	9.15	34.6	8.78	33.2	1.34	1.0	10.05	7.5	15.69	11.7
		B09	1.71	28.0	11.11	42.0	10.37	39.2	10.00	37.8	1.47	1.1	11.94	8.9	23.60	17.6
		B10	1.94	31.8	12.61	47.7	11.87	44.9	11.51	43.5	1.6	1.2	13.0	9.7	26.0	19.6
		B11	2.13	34.9	13.85	52.3	13.09	49.5	12.72	48.1	1.7	1.3	14.0	10.5	28.0	21.0
		B12	2.50	41.0	16.27	61.5	15.53	58.7	*	*	1.8	1.4	15.02	11.2	*	*
	B14	2.75	45.0	17.86	67.5	17.12	64.7	**	**	2.1	1.6	15.42	11.5	**	**	

1) 042-045-050-061=2200 RPM max.

2) 028-031= 210 bar (3000 psi) max. int.

*B12 = 210bar (3000psi) Max. Int

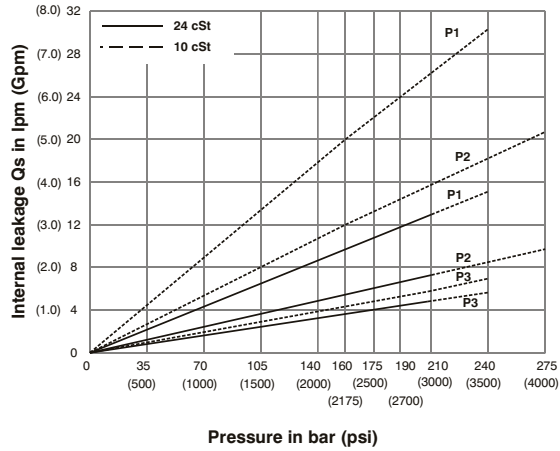
2) 028-031- 050=210 bar (3000 psi) max. int.

3) 061 = 120 bar (1740 psi) max. int, 061 = 80 bar (1160 psi) cont.

**B14 = 175bar (2500psi) Max. Int

- Not to use because internal leakage greater than 50% of theoretical flow.

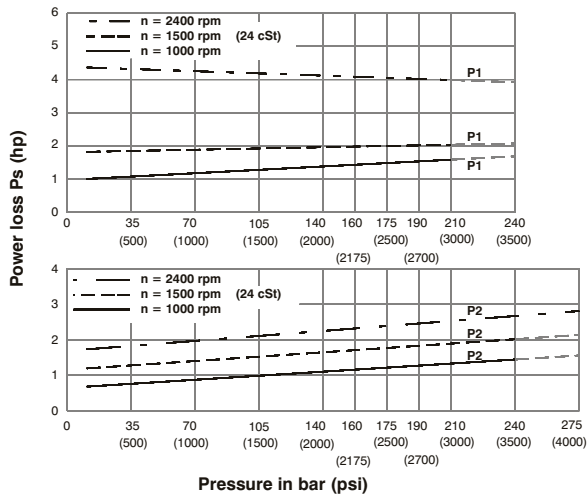
INTERNAL LEAKAGE (TYPICAL)



Don not operate pump more than 5 seconds at any speed or viscosity if internal leakage is more than 50% of theoretical flow.
Total leakage is the sum of each section loss at its operating conditions.

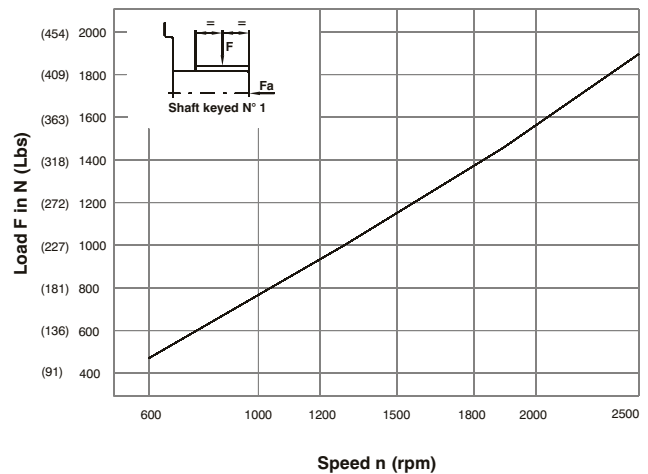
VP
TP

HYDROMECAHNICAL POWER LOSS (TYPICAL)

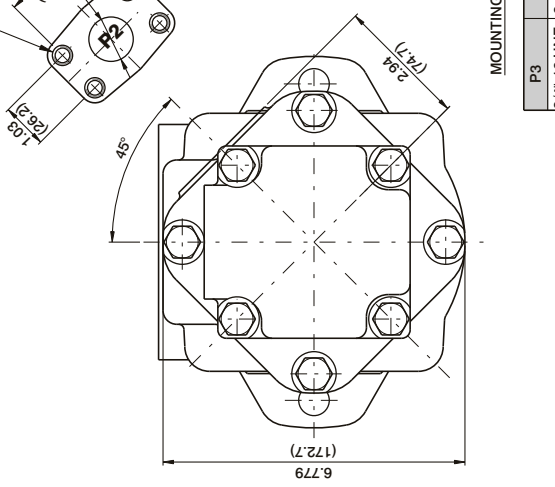
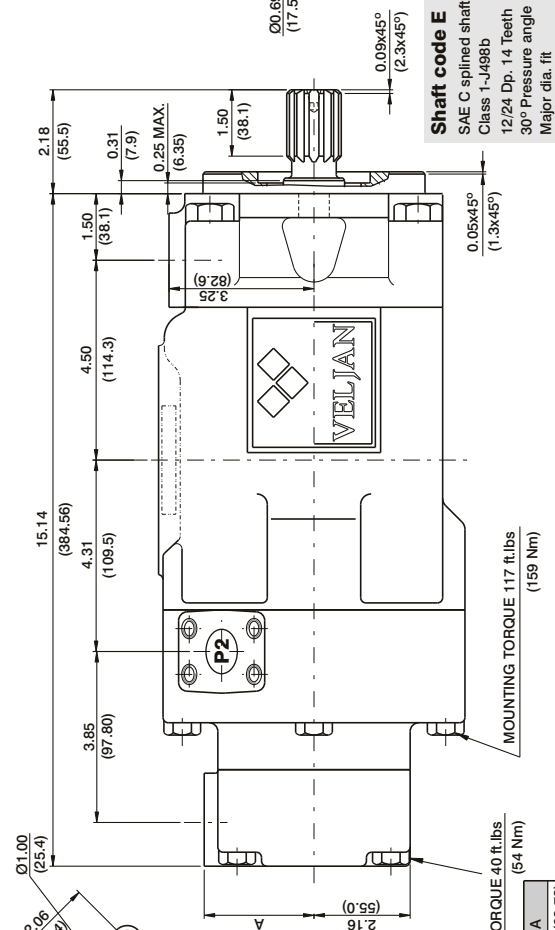
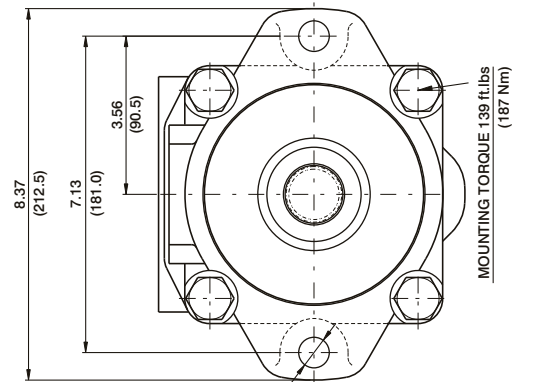
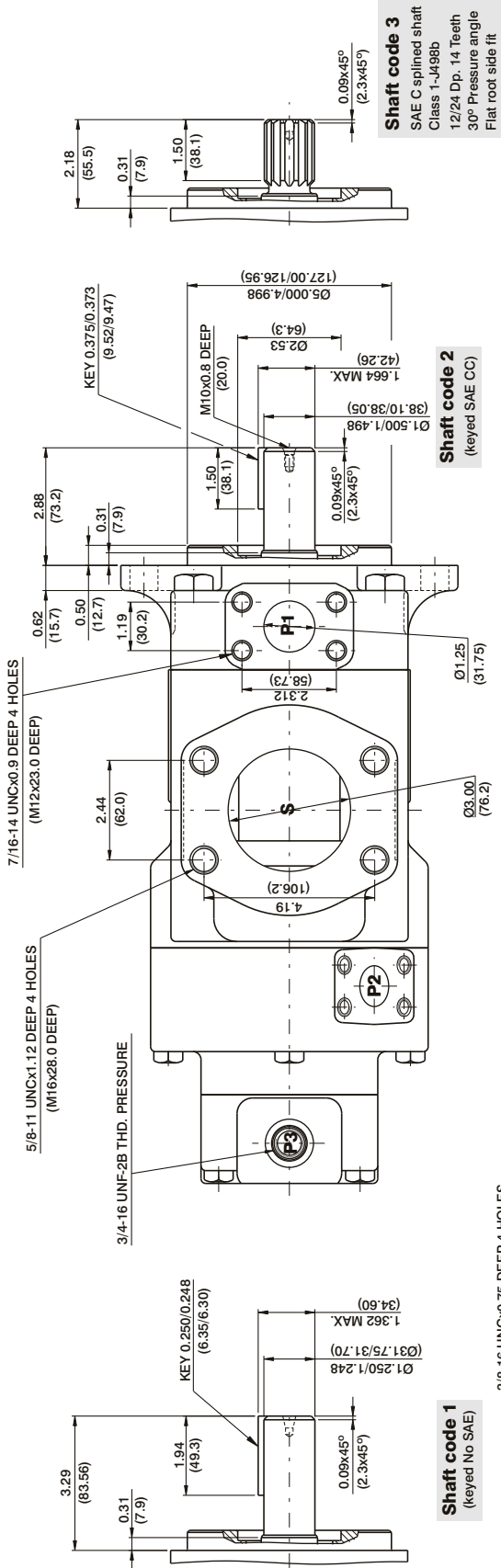


Total hydromechanical power loss is the sum of each section at its operating conditions.

PERMISSIBLE RADIAL LOAD



Maximum permissible axial load $F_a = 1200$ N (270 Lbs)



MOUNTING TORQUE 40 ft.lbs (54 Nm)

P3	A
3/4"-16 UNF	2.47 (62.73)
3/4" SAE PAD	2.75 (69.8)

MOUNTING TORQUE 117 ft.lbs (159 Nm)

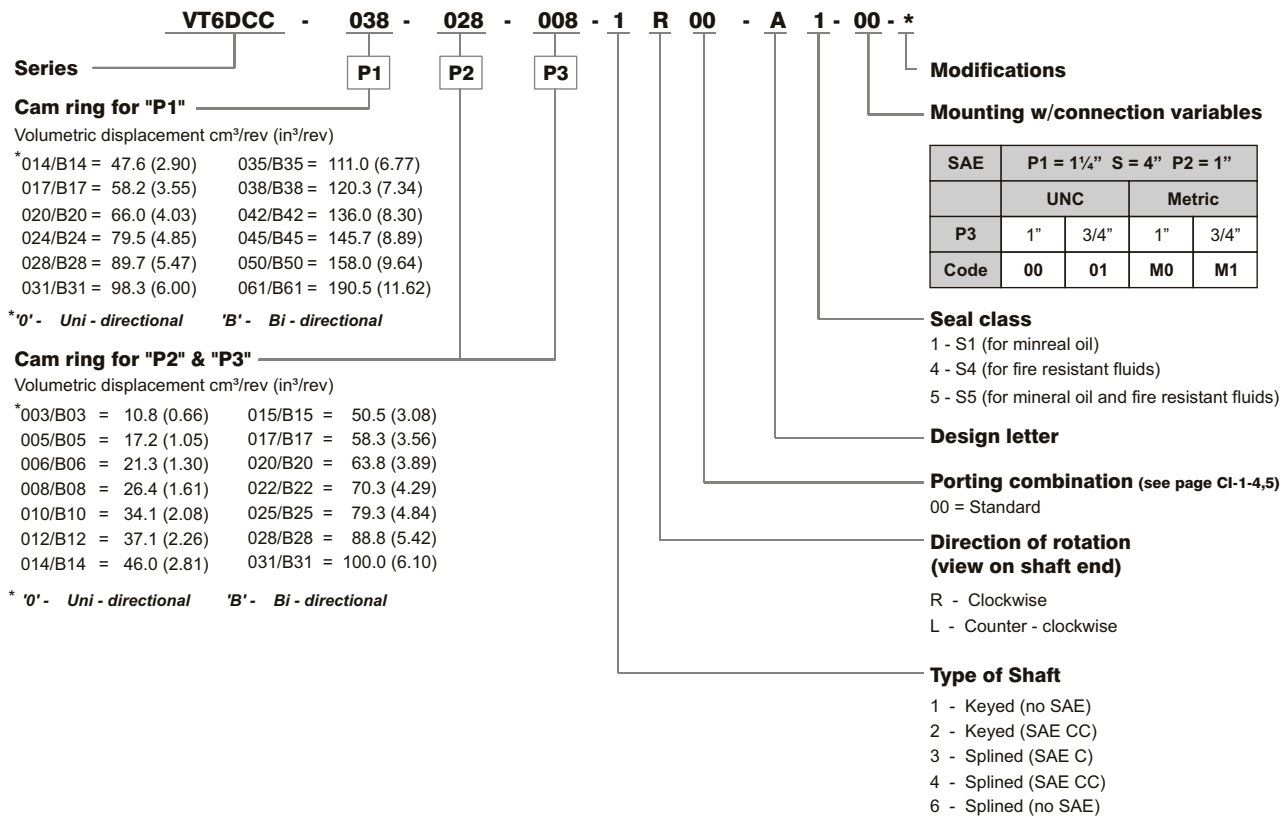
Shaft code E
SAE C splined shaft
Class 1-J498b
12/24 Dp. 14 Teeth
30° Pressure angle
Major dia. fit

MOUNTING TORQUE 139 ft.lbs (187 Nm)

Shaft code 1
(keyed No SAE)

Shaft code 2
(keyed SAE CC)

Shaft code 3
SAE C splined shaft
Class 1-J498b
12/24 Dp. 14 Teeth
30° Pressure angle
Flat root side fit



OPERATING CHARACTERISTICS - TYPICAL (24 cST) (Input power p (KW) for one cartridge only)

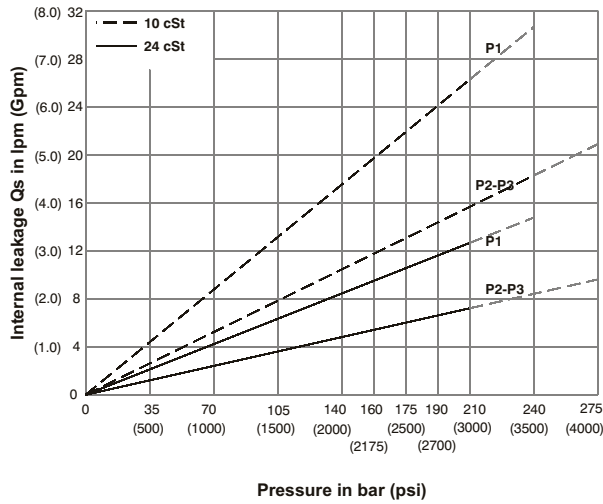
Pressure port	Series	Volumetric Displacement Vp		Flow q & n = 1500 rpm						Input power p & n = 1500 rpm					
		in ³ /rev	cm ³ /rev	p = 0 bar (0 psi)		p = 140 bar (2000 psi)		p = 240 bar (3500 psi)		p = 7 bar (100 psi)		p = 140 bar (2000 psi)		p = 240 bar (3500 psi)	
				gpm	lpm	gpm	lpm	gpm	lpm	hp	kw	hp	kw	hp	kw
P1	014	2.90	47.6	18.88	71.4	16.42	62.1	14.78	55.9	3.08	2.3	24.81	18.5	41.03	30.6
	017	3.55	58.2	23.1	87.3	20.6	78.0	18.99	71.8	3.35	2.5	29.77	22.2	49.62	37.0
	020	4.00	66.0	26.19	99.0	23.73	89.7	22.08	83.5	3.75	2.8	33.39	24.9	55.92	41.7
	024	4.80	79.5	31.56	119.3	29.10	110.0	27.46	103.8	4.02	3.0	39.69	29.6	66.78	49.8
	028	5.50	89.7	35.58	134.5	33.12	125.2	31.48	119.0	4.29	3.2	44.52	33.2	74.96	55.9
	031	6.00	98.3	39.00	147.5	36.53	138.1	34.89	131.9	4.42	3.3	48.54	36.2	81.80	61.0
	035	6.80	111.0	44.04	166.5	41.58	157.2	39.94	151.0	4.69	3.5	54.58	40.7	92.13	68.7
	038	7.30	120.3	47.72	180.4	45.26	171.1	43.62	164.9	4.96	3.7	58.87	43.9	99.64	74.3
	042 ¹⁾	8.30	136.0	53.96	204.0	51.50	194.7	49.86	188.5	5.36	4.0	66.25	49.4	112.24	83.7
	045 ¹⁾	8.89	145.7	57.80	218.5	55.34	209.2	53.70	203.0	5.50	4.1	70.81	52.8	120.02	89.5
	050 ^{1,2)}	9.64	158.0	62.69	237.0	60.23	227.7	59.25	224.0	5.90	4.4	76.44	57.0	113.98	85.0
061 ^{1,3)}	11.62	190.5	76.25	285.7	73.54	278.0	--	--	6.16	4.6	81.26	60.6	--	--	
P2 & P3	003	0.66	10.8	4.29	16.2	2.96	11.2	2.04	7.7	1.74	1.3	7.11	5.3	11.22	8.4
	005	1.05	17.2	6.83	25.8	5.50	20.8	4.57	17.3	1.88	1.4	10.06	7.5	16.36	12.2
	006	1.30	21.3	8.44	31.9	7.11	26.9	6.19	23.4	2.01	1.5	11.94	8.9	19.71	14.7
	008	1.61	26.4	10.48	39.6	9.15	34.6	8.22	31.1	2.15	1.6	14.35	10.7	22.93	17.7
	010	2.08	34.1	13.52	51.1	12.19	46.1	11.26	42.6	2.28	1.7	18.64	13.4	29.90	22.3
	012	2.26	37.1	14.71	55.6	13.36	50.6	12.46	47.1	2.28	1.7	19.31	14.4	32.32	24.1
	014	2.81	46.0	18.25	69.0	16.93	64.0	16.00	60.5	2.55	1.9	23.60	17.6	39.56	29.5
	015	3.08	50.5	20.00	75.6	18.73	73.2	19.02	67.5	2.68	2.0	25.61	19.1	42.91	32.0
	017	3.56	58.3	23.12	87.4	21.79	82.4	20.87	78.9	2.82	2.1	29.37	21.9	49.48	36.9
	020	3.89	63.8	25.32	95.7	23.99	90.7	23.07	87.2	2.95	2.2	31.92	23.8	53.91	40.2
	022	4.29	70.3	27.88	105.4	26.56	100.4	25.63	96.9	3.08	2.3	35.00	26.1	59.14	44.1
	025	4.84	79.3	31.46	118.9	30.13	113.9	29.21	110.4	3.35	2.5	39.16	29.2	66.38	49.5
	028 ²⁾	5.42	88.8	35.24	133.2	33.92	128.2	33.28	125.8	3.75	2.8	43.85	32.7	65.04	48.5
031 ²⁾	6.10	100.0	39.68	150.0	38.35	145.0	37.72	142.6	3.75	2.8	48.95	36.5	72.95	54.4	

1) 042-045-050-061=2200 RPM max.

2) 028-031- 050=210 bar (3000 psi) max. int.

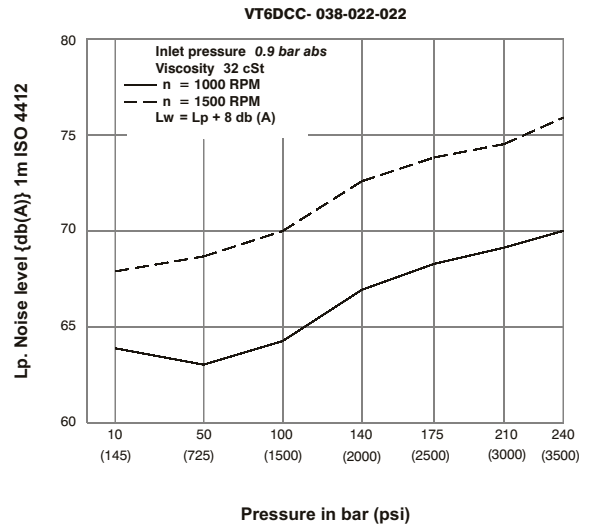
3) 061 = 120 bar (1740 psi) max. int, 061 = 80 bar (1160 psi) cont.

INTERNAL LEAKAGE (TYPICAL)



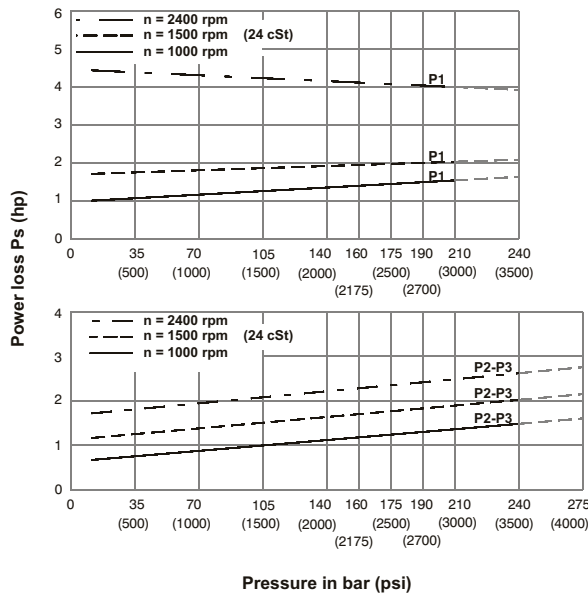
Total leakage is the sum of each section loss at its operating conditions.

NOISE LEVEL (TYPICAL)



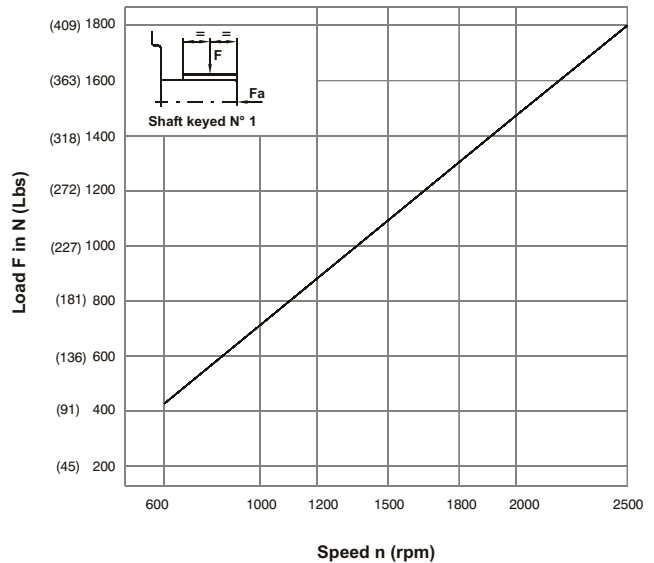
Triple pump noise level is given with each section discharging at the pressure noted on the curve.

HYDROMECHANICAL POWER LOSS (TYPICAL)

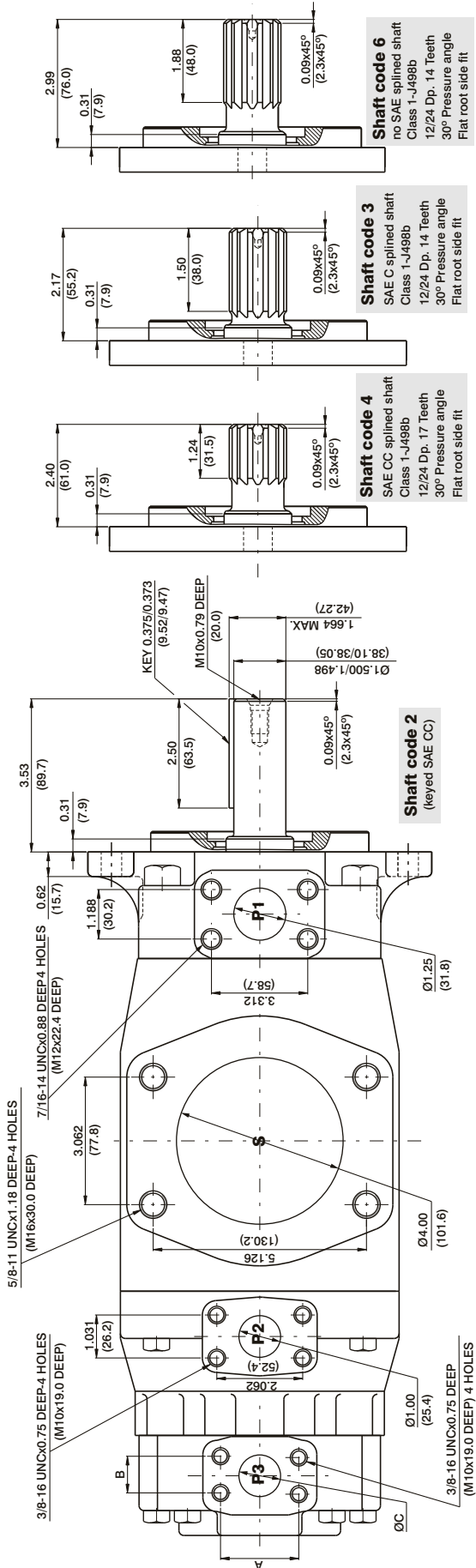


Total hydromechanical power loss is the sum of each section at its operating conditions.

PERMISSIBLE RADIAL LOAD



Maximum axial load permissible $F_a = 1200$ N (270 Lbs)

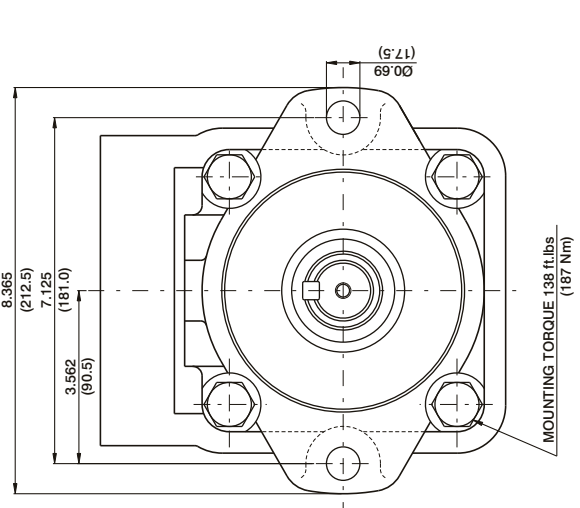


Shaft code 6
no SAE splined shaft
Class 1-J498b
12/24 Dp. 14 Teeth
30° Pressure angle
Flat root side fit

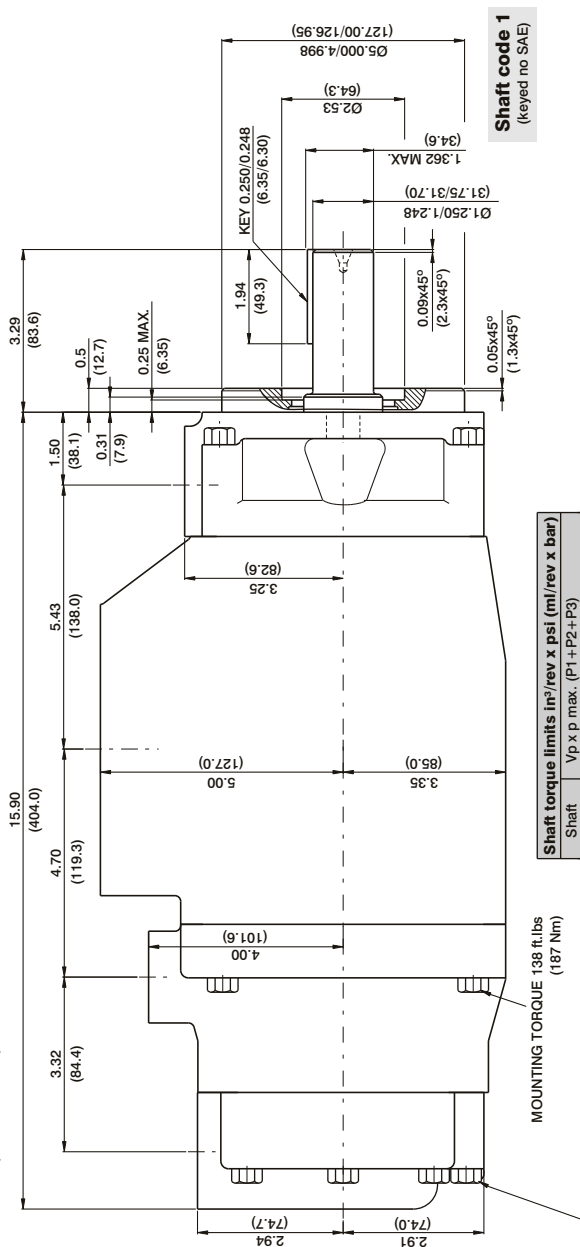
Shaft code 3
SAE C splined shaft
Class 1-J498b
12/24 Dp. 14 Teeth
30° Pressure angle
Flat root side fit

Shaft code 4
SAE CC splined shaft
Class 1-J498b
12/24 Dp. 17 Teeth
30° Pressure angle
Flat root side fit

Shaft code 2
(keyed SAE CC)



MOUNTING TORQUE 138 ft.lbs
(187 Nm)



Shaft code 1
(keyed no SAE)

Shaft torque limits $\text{in}^2/\text{rev} \times \text{psi}$ ($\text{ml}/\text{rev} \times \text{bar}$)

Shaft	Vp x p max. (P1 + P2 + P3)
1	38299 (43240)
2	58901 (66500)
3	54027 (61200)
4	58901 (66500)

PORT	CODE	A	B	C
P3	00 & M0	2.06 (52.4)	1.03 (26.2)	1.00 (25.4)
	01 & M1	1.874 (47.6)	0.874 (22.2)	0.75 (19.05)

MOUNTING TORQUE 138 ft.lbs
(187 Nm)

MOUNTING TORQUE 50 ft.lbs
(66 Nm)



Series **VT6DCCM - 038 - 028 - 008 - 1 R 00 - B 1 - 00 - ***

Cam ring for "P1"

Volumetric displacement cm³/rev (in³/rev)

* B14/R14 = 47.6 (2.90)	B35/R35 = 110.0 (6.77)
B17/R17 = 58.2 (3.55)	B38/R38 = 120.3 (7.34)
B20/R20 = 66.0 (4.03)	B42/R42 = 136.0 (8.30)
B24/R24 = 79.5 (4.85)	B45/R45 = 145.7 (8.80)
B28/R28 = 89.7 (5.47)	B50/R50 = 158.0 (9.64)
B31/R31 = 98.3 (6.00)	B61/R61 = 190.5 (11.62)

*'B' - for Mobile 'R' - for Mobile - spring assisted

Cam ring for "P2" & "P3"

Volumetric displacement cm³/rev (in³/rev)

* B03/R03 = 10.8 (0.66)	B15/R15 = 50.5 (3.08)
B05/R05 = 17.2 (1.05)	B17/R17 = 58.3 (3.56)
B06/R06 = 21.3 (1.30)	B20/R20 = 63.8 (3.89)
B08/R08 = 26.4 (1.61)	B22/R22 = 70.3 (4.29)
B10/R10 = 34.1 (2.08)	B25/R25 = 79.3 (4.84)
B12/R12 = 37.1 (2.26)	B28/R28 = 88.8 (5.42)
B14/R14 = 46.0 (2.81)	B31/R31 = 100.0 (6.10)

*'B' - for Mobile
'R' - for Mobile - spring assisted

Modification

Mounting w/connection variables

SAE	P1 = 1 1/4" S = 4" P2 = 1"			
	UNC		Metric	
P3	1"	3/4"	1"	3/4"
Code	00	01	M0	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 CI-1-4,5)

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)
- 6 - Splined (no SAE)

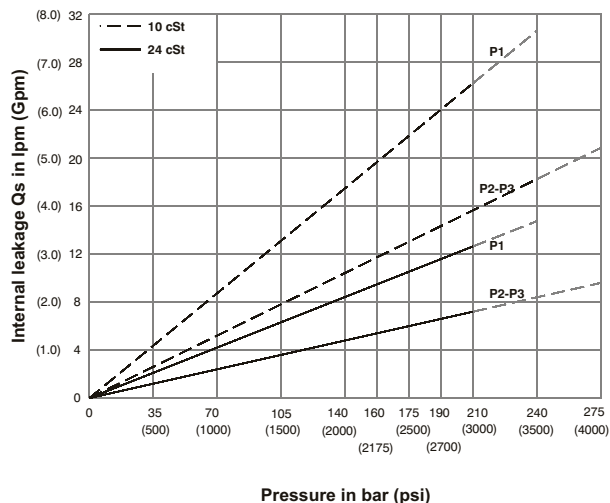


OPERATING CHARACTERISTICS - TYPICAL (24 cST) (Input power p (KW) for one cartridge only)

Pressure port	Series	Volumetric Displacement Vp		Flow q & n = 1500 rpm						Input power p & n = 1500 rpm					
		in ³ /rev	cm ³ /rev	p = 0 bar (0 psi)		p = 140 bar (2000 psi)		p = 240 bar (3500 psi)		p = 7 bar (100 psi)		p = 140 bar (2000 psi)		p = 240 bar (3500 psi)	
				gpm	lpm	gpm	lpm	gpm	lpm	hp	kw	hp	kw	hp	kw
P1	B14	2.90	47.6	18.88	71.4	16.42	62.1	14.78	55.9	3.08	2.3	24.81	18.5	41.03	30.6
	B17	3.55	58.2	23.1	87.3	20.6	78.0	18.99	71.8	3.35	2.5	29.77	22.2	49.62	37.0
	B20	4.00	66.0	26.19	99.0	23.73	89.7	22.08	83.5	3.75	2.8	33.39	24.9	55.92	41.7
	B24	4.80	79.5	31.56	119.3	29.10	110.0	27.46	103.8	4.02	3.0	39.69	29.6	66.78	49.8
	B28	5.50	89.7	35.58	134.5	33.12	125.2	31.48	119.0	4.29	3.2	44.52	33.2	74.96	55.9
	B31	6.00	98.3	39.00	147.5	36.53	138.1	34.89	131.9	4.42	3.3	48.54	36.2	81.80	61.0
	B35	6.80	111.0	44.04	166.5	41.58	157.2	39.94	151.0	4.69	3.5	54.58	40.7	92.13	68.7
	B38	7.30	120.3	47.72	180.4	45.26	171.1	43.62	164.9	4.96	3.7	58.87	43.9	99.64	74.3
	B42 ¹⁾	8.30	136.0	53.96	204.0	51.50	194.7	49.86	188.5	5.36	4.0	66.25	49.4	112.24	83.7
	B45 ¹⁾	8.89	145.7	57.80	218.5	55.34	209.2	53.70	203.0	5.50	4.1	70.81	52.8	120.02	89.5
	B50 ^{1,2)}	9.64	158.0	62.69	237.0	60.23	227.7	59.25	224.0	5.90	4.4	76.44	57.0	113.98	85.0
B61 ^{1,3)}	11.62	190.5	76.25	285.7	73.54	278.0	--	--	6.16	4.6	81.26	60.6	--	--	
P2 & P3	B03	0.66	10.8	4.29	16.2	2.83	10.7	--	--	1.74	1.3	7.11	5.3	--	--
	B05	1.05	17.2	6.83	25.8	5.37	20.3	4.17	15.8	1.88	1.4	10.06	7.5	16.36	12.2
	B06	1.30	21.3	8.44	31.9	7.01	26.5	5.82	22.0	2.01	1.5	11.94	8.9	19.71	14.7
	B08	1.61	26.4	10.48	39.6	9.02	34.1	7.83	29.6	2.15	1.6	14.35	10.7	22.93	17.7
	B10	2.08	34.1	13.52	51.1	12.08	45.7	10.89	41.2	2.28	1.7	18.64	13.4	29.90	22.3
	B12	2.26	37.1	14.71	55.6	13.28	50.2	12.08	45.7	2.28	1.7	19.31	14.4	32.32	24.1
	B14	2.81	46.0	18.25	69.0	16.79	63.5	15.60	59.0	2.55	1.9	23.60	17.6	39.56	29.5
	B15	3.08	50.5	20.00	75.6	18.62	70.4	17.46	66.0	2.68	2.0	25.61	19.1	42.91	32.0
	B17	3.56	58.3	23.12	87.4	21.69	82.0	20.50	77.5	2.82	2.1	29.37	21.9	49.48	36.9
	B20	3.89	63.8	25.32	95.7	23.86	90.2	22.67	85.7	2.95	2.2	31.92	23.8	53.91	40.2
	B22	4.29	70.3	27.88	105.4	26.45	100.0	25.26	95.5	3.08	2.3	35.00	26.1	59.14	44.1
	B25	4.84	79.3	31.46	118.9	30.02	113.5	28.83	109.0	3.35	2.5	39.16	29.2	66.38	49.5
	B28 ²⁾	5.42	88.8	35.24	133.2	33.78	127.7	32.93	124.5	3.75	2.8	43.85	32.7	65.04	48.5
B31 ²⁾	6.10	100.0	39.68	150.0	38.22	144.5	37.38	141.3	3.75	2.8	48.95	36.5	72.95	54.4	

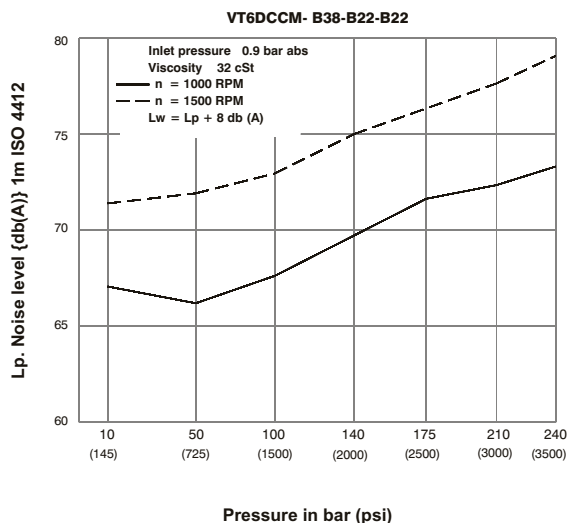
1) B42-B45-B50-B61 = 2200 RPM max. 2) B28-B31- B50 = 210 bar (3000 psi) max. int. 3) 061 = 120 bar (1740 psi) max. int, 061 = 80 bar (1160 psi) cont.
 -- Not to use because internal leakage greater than 50% theoretical flow.

INTERNAL LEAKAGE (TYPICAL)



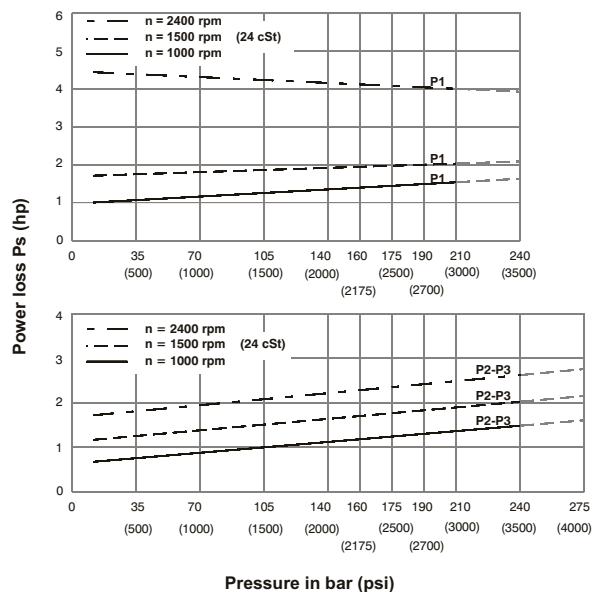
Total leakage is the sum of each section loss at its operating conditions.

NOISE LEVEL (TYPICAL)



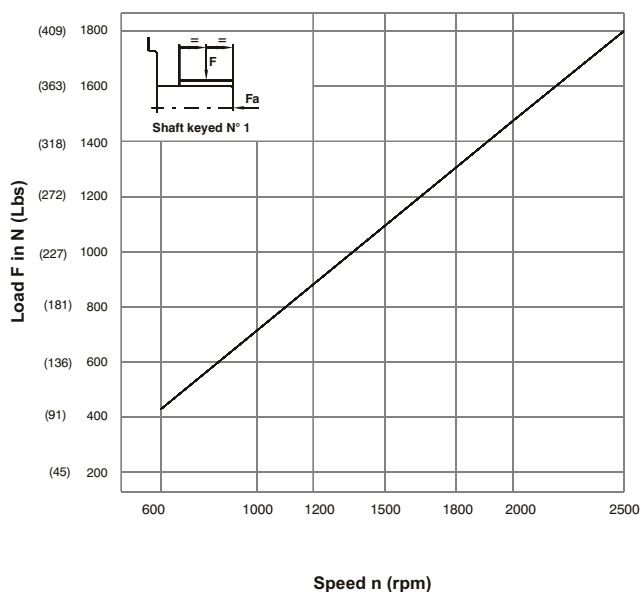
Triple pump noise level is given with each section discharging at the pressure noted on the curve.

HYDROMECHANICAL POWER LOSS (TYPICAL)



Total hydromechanical power loss is the sum of each section at its operating conditions.

PERMISSIBLE RADIAL LOAD



Maximum axial load permissible $F_a=1200\text{N}$ (270 Lbs)

VT6DDCS - 038 - 038 - 028 - 1 R 00 - B 1 - 00 -

Series

SAE C 6 bolts
Mounting flange J744 SAE C

Cam ring for "P1" & "P2"

Volumetric displacement cm³/rev (in³/rev)

*014/B14 = 47.6 (2.90)	035/B35 = 111.0 (6.77)
017/B17 = 58.2 (3.55)	038/B38 = 120.3 (7.34)
020/B20 = 66.0 (4.03)	042/B42 = 136.0 (8.30)
024/B24 = 79.5 (4.85)	045/B45 = 145.7 (8.89)
028/B28 = 89.7 (5.47)	050/B50 = 158.0 (9.64)
031/B31 = 98.3 (6.00)	061/B61 = 190.5 (11.62)

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

Cam ring for "P3"

Volumetric displacement cm³/rev (in³/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

P1 P2 P3

Modifications

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	00	01	M0 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 CI-1-4,5)
00 = Standard

Direction of rotation (view on shaft end)

- R - Clockwise
- L - Counter - clockwise

Type of Shaft

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

TP

OPERATING CHARACTERISTICS - TYPICAL (24 cST) (Input power p (KW) for one cartridge only)

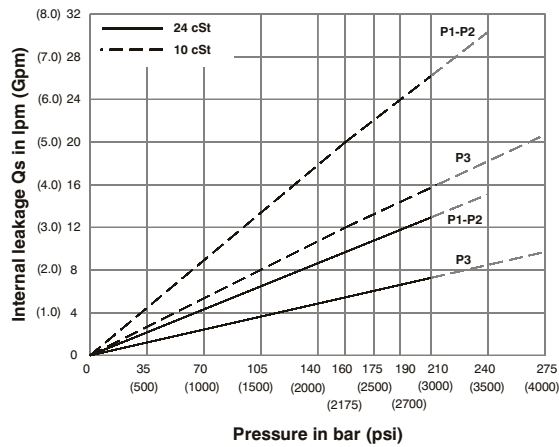
Pressure port	Series	Volumetric Displacement Vp		Flow q & n = 1500 rpm						Input power p & n = 1500 rpm					
		in ³ /rev	cm ³ /rev	p = 0 bar (0 psi)		p = 140 bar (2000 psi)		p = 240 bar (3500 psi)		p = 7 bar (100 psi)		p = 140 bar (2000 psi)		p = 240 bar (3500 psi)	
				gpm	lpm	gpm	lpm	gpm	lpm	hp	kw	hp	kw	hp	kw
P1 & P2	014	2.90	47.6	18.88	71.4	16.42	62.1	14.78	55.9	3.08	2.3	24.81	18.5	41.03	30.6
	017	3.55	58.2	23.10	87.3	20.6	78.0	18.99	71.8	3.35	2.5	29.77	22.2	49.62	37.0
	020	4.00	66.0	26.19	99.0	23.73	89.7	22.08	83.5	3.75	2.8	33.39	24.9	55.92	41.7
	024	4.80	79.5	31.56	119.3	29.10	110.0	27.46	103.8	4.02	3.0	39.69	29.6	66.78	49.8
	028	5.50	89.7	35.58	134.5	33.12	125.2	31.48	119.0	4.29	3.2	44.52	33.2	74.96	55.9
	031	6.00	98.3	39.00	147.5	36.53	138.1	34.89	131.9	4.42	3.3	48.54	36.2	81.80	61.0
	035	6.80	111.0	44.04	166.5	41.58	157.2	39.94	151.0	4.69	3.5	54.58	40.7	92.13	68.7
	038	7.30	120.3	47.72	180.4	45.26	171.1	43.62	164.9	4.96	3.7	58.87	43.9	99.64	74.3
	042 ¹⁾	8.30	136.0	53.96	204.0	51.50	194.7	49.86	188.5	5.36	4.0	66.25	49.4	112.24	83.7
	045 ¹⁾	8.89	145.7	57.80	218.5	55.34	209.2	53.70	203.0	5.50	4.1	70.81	52.8	120.02	89.5
	050 ^{1,2)}	9.64	158.0	62.69	237.0	60.23	227.7	59.25	224.0	5.90	4.4	76.44	57.0	113.98	85.0
	061 ^{1,3)}	11.62	190.5	76.25	285.7	73.54	278.0	--	--	6.16	4.6	81.26	60.6	--	--
	P3	003	0.66	10.8	4.29	16.2	2.96	11.2	2.04	7.7	1.74	1.3	7.11	5.3	11.22
005		1.05	17.2	6.83	25.8	5.50	20.8	4.57	17.3	1.88	1.4	10.06	7.5	16.36	12.2
006		1.30	21.3	8.44	31.9	7.11	26.9	6.19	23.4	2.01	1.5	11.94	8.9	19.71	14.7
008		1.61	26.4	10.48	39.6	9.15	34.6	8.22	31.1	2.15	1.6	14.35	10.7	22.93	17.7
010		2.08	34.1	13.52	51.1	12.19	46.1	11.26	42.6	2.28	1.7	18.64	13.4	29.90	22.3
012		2.26	37.1	14.71	55.6	13.36	50.6	12.46	47.1	2.28	1.7	19.31	14.4	32.32	24.1
014		2.81	46.0	18.25	69.0	16.93	64.0	16.00	60.5	2.55	1.9	23.60	17.6	39.56	29.5
015		3.08	50.5	20.00	75.6	18.73	73.2	19.02	67.5	2.68	2.0	25.61	19.1	42.91	32.0
017		3.56	58.3	23.12	87.4	21.79	82.4	20.87	78.9	2.82	2.1	29.37	21.9	49.48	36.9
020		3.89	63.8	25.32	95.7	23.99	90.7	23.07	87.2	2.95	2.2	31.92	23.8	53.91	40.2
022		4.29	70.3	27.88	105.4	26.56	100.4	25.63	96.9	3.08	2.3	35.00	26.1	59.14	44.1
025		4.84	79.3	31.46	118.9	30.13	113.9	29.21	110.4	3.35	2.5	39.16	29.2	66.38	49.5
028 ²⁾		5.42	88.8	35.24	133.2	33.92	128.2	33.28	125.8	3.75	2.8	43.85	32.7	65.04	48.5
031 ²⁾	6.10	100.0	39.68	150.0	38.35	145.0	37.72	142.6	3.75	2.8	48.95	36.5	72.95	54.4	

1) 042-045-050-061=2200 RPM max.

2) 028-031-050=210 bar (3000 psi) max. int.

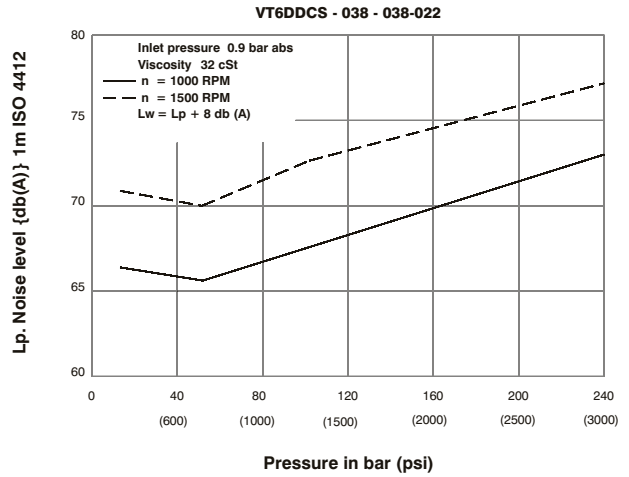
3) 061 = 120 bar (1740 psi) max. int, 061 = 80 bar (1160 psi) cont.

INTERNAL LEAKAGE (TYPICAL)



Don not operate pump more than 5 seconds at any speed or viscosity if internal leakage is more than 50% of theoretical flow.
Total leakage is the sum of each section loss at its operating conditions.

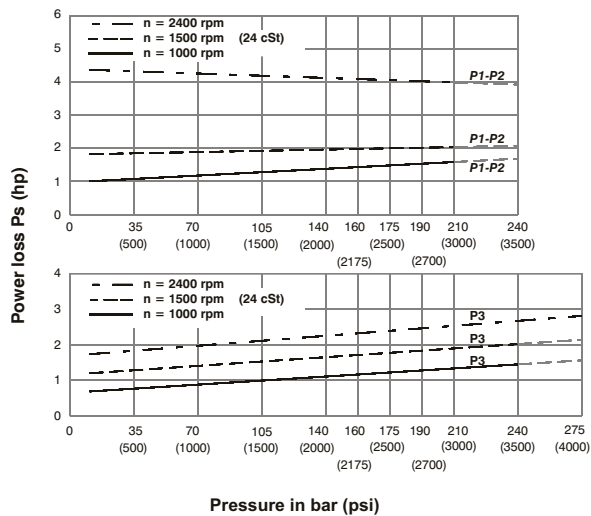
NOISE LEVEL (TYPICAL)



Triple pump noise level is given with each section discharging at the pressure noted on the curve.

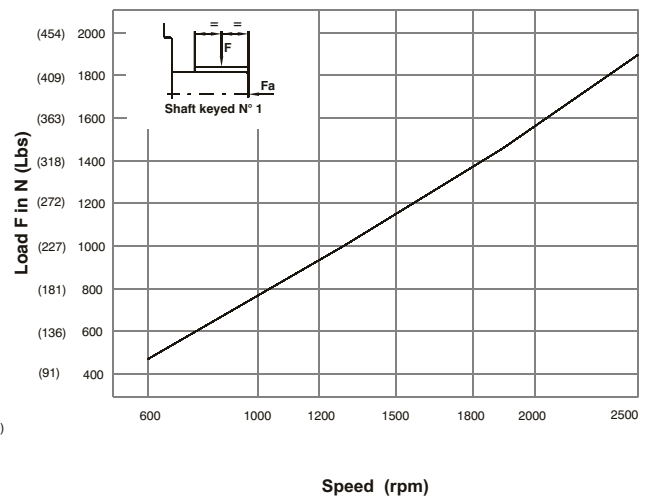


HYDROMECHANICAL POWER LOSS (TYPICAL)



Total hydromechanical power loss is the sum of each section at its operating conditions.

PERMISSIBLE RADIAL LOAD



Maximum axial load permissible $F_a=1200$ N (270 Lbs)

HIGH PERFORMANCE VANE PUMP VT6EDC*



VT6EDC* - 062 - 035 - 017 - 1 R 00 - C 1 - P - 0 - *

Series

* = S for SAE Mtg. Flange

Cam ring for "P1"

Volumetric displacement cm³/rev (in³/rev)

042 = 132.3 (8.07)	062 = 196.7 (12.00)
045 = 142.4 (8.69)	066 = 213.3 (13.02)
050 = 158.5 (9.67)	072 = 227.1 (13.86)
052 = 164.8 (10.06)	085 = 269.8 (16.46)
057 = 180.7 (11.02)	

Cam ring for "P2"

Volumetric displacement cm³/rev (in³/rev)

* B14/R14 = 47.6 (2.90)	B35/R35 = 110.0 (6.77)
B17/R17 = 58.2 (3.55)	B38/R38 = 120.3 (7.34)
B20/R20 = 66.0 (4.03)	B42/R42 = 136.0 (8.30)
B24/R24 = 79.5 (4.85)	B45/R45 = 145.7 (8.80)
B28/R28 = 89.7 (5.47)	B50/R50 = 158.0 (9.64)
B31/R31 = 98.3 (6.00)	B61/R61 = 190.5 (11.62)

* 'B' - for Mobile 'R' - for Mobile - spring assisted

Cam ring for "P3"

Volumetric displacement cm³/rev (in³/rev)

* B03/R03 = 10.8 (0.66)	B15/R15 = 50.5 (3.08)
B05/R05 = 17.2 (1.05)	B17/R17 = 58.3 (3.56)
B06/R06 = 21.3 (1.30)	B20/R20 = 63.8 (3.89)
B08/R08 = 26.4 (1.61)	B22/R22 = 70.3 (4.29)
B10/R10 = 34.1 (2.08)	B25/R25 = 79.3 (4.84)
B12/R12 = 37.1 (2.26)	B28/R28 = 88.8 (5.42)
B14/R14 = 46.0 (2.81)	B31/R31 = 100.0 (6.10)

* 'B' - for Mobile 'R' - for Mobile - spring assisted

Modifications

Mounting w/connection variables

0 = P3 = 1" SAE
1 = P3 = 3/4" SAE

Mounting (pump)

P= Pedestal mounting
F= Face mounting

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 CI-1-4,5)

00 = Standard

Direction of rotation (view on shaft end)

R - Clockwise
L - Counter - clockwise

Type of Shaft

1 - Keyed (G45N-ISO 3019-2) (VT6EDC)
3 - Splined (SAE D&E) (VT6EDC & VT6EDCS)
2 - Keyed (SAE D&E) (VT6EDCS)

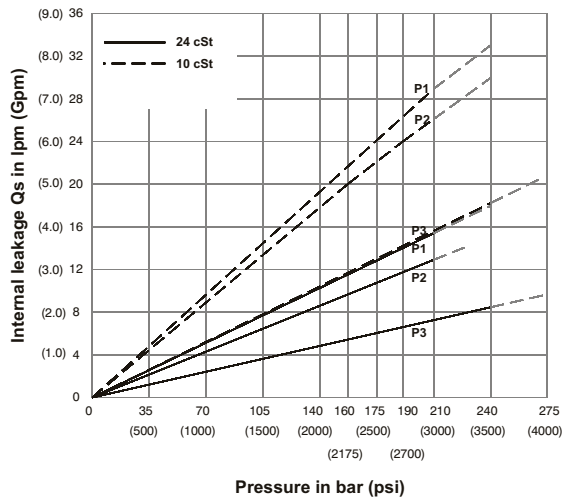


OPERATING CHARACTERISTICS - TYPICAL (24 cST) (Input power p (KW) for one cartridge only)

Pressure port	Series	Volumetric Displacement Vp		Flow q & n = 1500 rpm						Input power p & n = 1500 rpm					
		in ³ /rev	cm ³ /rev	p = 0 bar (0 psi)		p = 140 bar (2000 psi)		p = 240 bar (3500 psi)		p = 7 bar (100 psi)		p = 140 bar (2000 psi)		p = 240 bar (3500 psi)	
				gpm	lpm	gpm	lpm	gpm	lpm	hp	kw	hp	kw	hp	kw
P1	042	8.07	132.3	52.50	198.5	49.87	188.5	47.96	181.3	6.97	5.2	66.25	49.4	110.77	82.6
	045	8.70	142.4	56.51	213.6	53.86	203.6	51.98	196.5	7.24	5.4	70.94	52.9	118.95	88.7
	050	9.67	158.5	62.88	237.7	60.24	227.7	58.36	220.6	7.64	5.7	78.45	58.5	131.82	98.3
	052	10.00	164.8	65.40	247.2	62.75	237.2	60.87	230.1	7.78	5.8	81.53	60.8	136.92	102.1
	057	11.02	180.7	71.71	271.1	69.07	261.1	67.19	254.0	8.18	6.1	89.04	66.4	143.35	106.9
	062	12.00	196.7	78.04	295.0	75.40	285.0	73.52	277.9	8.58	6.4	96.42	71.9	162.67	121.3
	066	13.00	213.3	84.63	319.9	81.98	309.9	80.11	302.8	8.98	6.7	104.20	77.7	175.94	131.2
	072	13.86	227.1	90.11	340.6	87.46	330.6	85.58	323.5	9.25	6.9	110.77	82.6	187.07	139.5
	085 ^{1,2)}	16.40	269.8	107.00	404.7	105.21	397.7	--	--	9.78	7.3	87.56	65.3	--	--
	P2	B14	2.90	47.6	18.88	71.4	16.42	62.1	14.78	55.9	3.08	2.3	24.81	18.5	41.03
B17		3.55	58.2	23.1	87.3	20.6	78.0	18.99	71.8	3.35	2.5	29.77	22.2	49.62	37.0
B20		4.00	66.0	26.19	99.0	23.73	89.7	22.08	83.5	3.75	2.8	33.39	24.9	55.92	41.7
B24		4.80	79.5	31.56	119.3	29.10	110.0	27.46	103.8	4.02	3.0	39.69	29.6	66.78	49.8
B28		5.50	89.7	35.58	134.5	33.12	125.2	31.48	119.0	4.29	3.2	44.52	33.2	74.96	55.9
B31		6.00	98.3	39.00	147.5	36.53	138.1	34.89	131.9	4.42	3.3	48.54	36.2	81.80	61.0
B35		6.80	111.0	44.04	166.5	41.58	157.2	39.94	151.0	4.69	3.5	54.58	40.7	92.13	68.7
B38		7.30	120.3	47.72	180.4	45.26	171.1	43.62	164.9	4.96	3.7	58.87	43.9	99.64	74.3
B42 ³⁾		8.30	136.0	53.96	204.0	51.50	194.7	49.86	188.5	5.36	4.0	66.25	49.4	112.24	83.7
B45 ³⁾		8.89	145.7	57.80	218.5	55.34	209.2	53.70	203.0	5.50	4.1	70.81	52.8	120.02	89.5
B50 ^{3,4)}		9.64	158.0	62.69	237.0	60.23	227.7	59.25	224.0	5.90	4.4	76.44	57.0	113.98	85.0
B61 ^{3,5)}		11.62	190.5	76.25	285.7	73.54	278.0	--	--	6.16	4.6	81.26	60.6	--	--
P3		B03	0.66	10.8	4.29	16.2	2.83	10.7	--	--	1.74	1.3	7.11	5.3	--
	B05	1.05	17.2	6.83	25.8	5.37	20.3	4.17	15.8	1.88	1.4	10.06	7.5	16.36	12.2
	B06	1.30	21.3	8.44	31.9	7.01	26.5	5.82	22.0	2.01	1.5	11.94	8.9	19.71	14.7
	B08	1.61	26.4	10.48	39.6	9.02	34.1	7.83	29.6	2.15	1.6	14.35	10.7	22.93	17.7
	B10	2.08	34.1	13.52	51.1	12.08	45.7	10.89	41.2	2.28	1.7	18.64	13.4	29.90	22.3
	B12	2.26	37.1	14.71	55.6	13.28	50.2	12.08	45.7	2.28	1.7	19.31	14.4	32.32	24.1
	B14	2.81	46.0	18.25	69.0	16.79	63.5	15.60	59.0	2.55	1.9	23.60	17.6	39.56	29.5
	B15	3.08	50.5	20.00	75.6	18.62	70.4	17.46	66.0	2.68	2.0	25.61	19.1	42.91	32.0
	B17	3.56	58.3	23.12	87.4	21.69	82.0	20.50	77.5	2.82	2.1	29.37	21.9	49.48	36.9
	B20	3.89	63.8	25.32	95.7	23.86	90.2	22.67	85.7	2.95	2.2	31.92	23.8	53.91	40.2
	B22	4.29	70.3	27.88	105.4	26.45	100.0	25.26	95.5	3.08	2.3	35.00	26.1	59.14	44.1
	B25	4.84	79.3	31.46	118.9	30.02	113.5	28.83	109.0	3.35	2.5	39.16	29.2	66.38	49.5
	B28 ⁴⁾	5.42	88.8	35.24	133.2	33.78	127.7	32.93	124.5	3.75	2.8	43.85	32.7	65.04	48.5
	B31 ⁴⁾	6.10	100.0	39.68	150.0	38.22	144.5	37.38	141.3	3.75	2.8	48.95	36.5	72.95	54.4

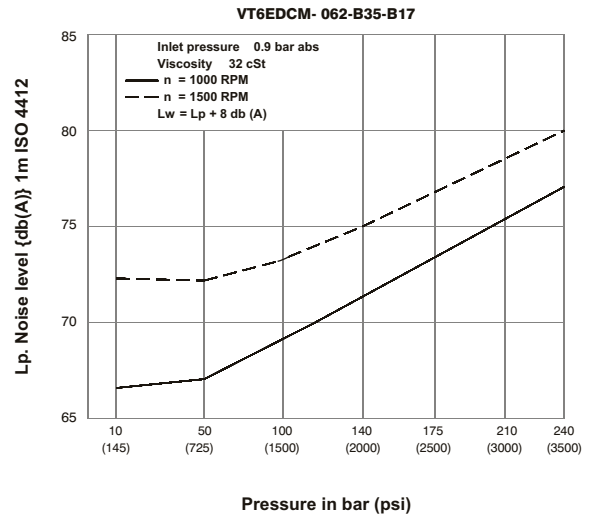
1) 085 = 2000 RPM max. 2) 085 = 75 bar (1100 psi) cont. & 085 = 90 bar (1300 psi) max. int. 3) B42-B45-B50-B61 = 2200 RPM max. 4) B28-B31-B50 = 210 bar (3000 psi) max. int.
5) B61 = 120 bar (1740 psi) max. int, B61 = 80 bar (1160 psi) cont. -- Not to use because internal leakage greater than 50% theoretical flow

INTERNAL LEAKAGE (TYPICAL)



Total leakage is the sum of each section loss at its operating conditions.

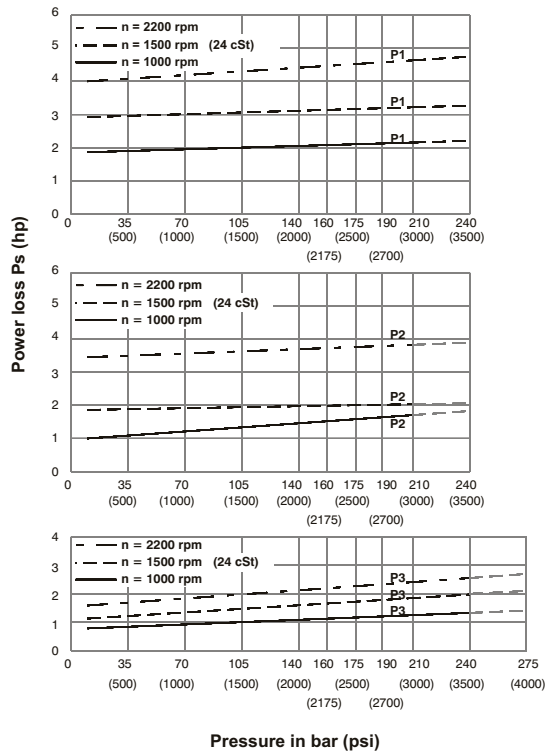
NOISE LEVEL (TYPICAL)



Triple pump noise level is given with each section discharging at the pressure noted on the curve.

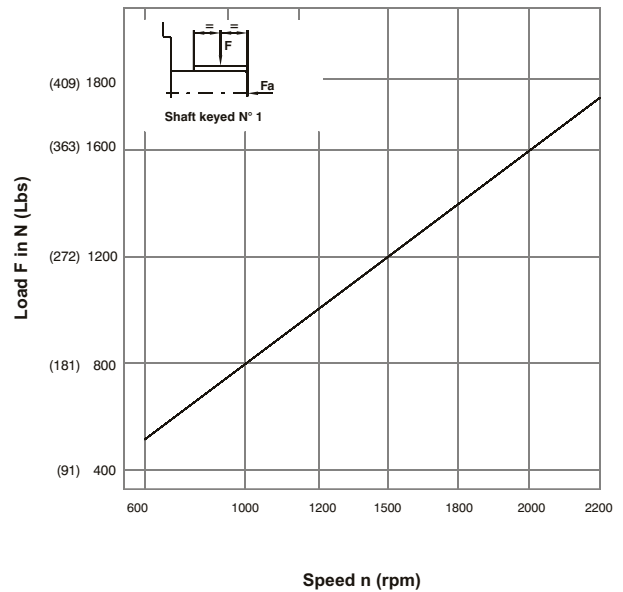


HYDROMECHANICAL POWER LOSS (TYPICAL)



Total hydromechanical power loss is the sum of each section at its operating conditions

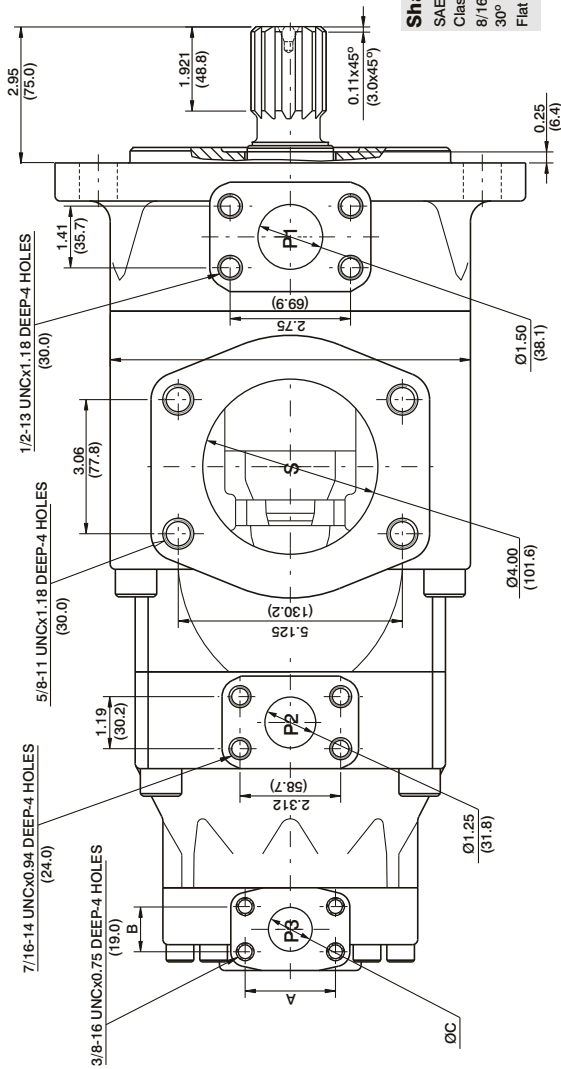
PERMISSIBLE RADIAL LOAD



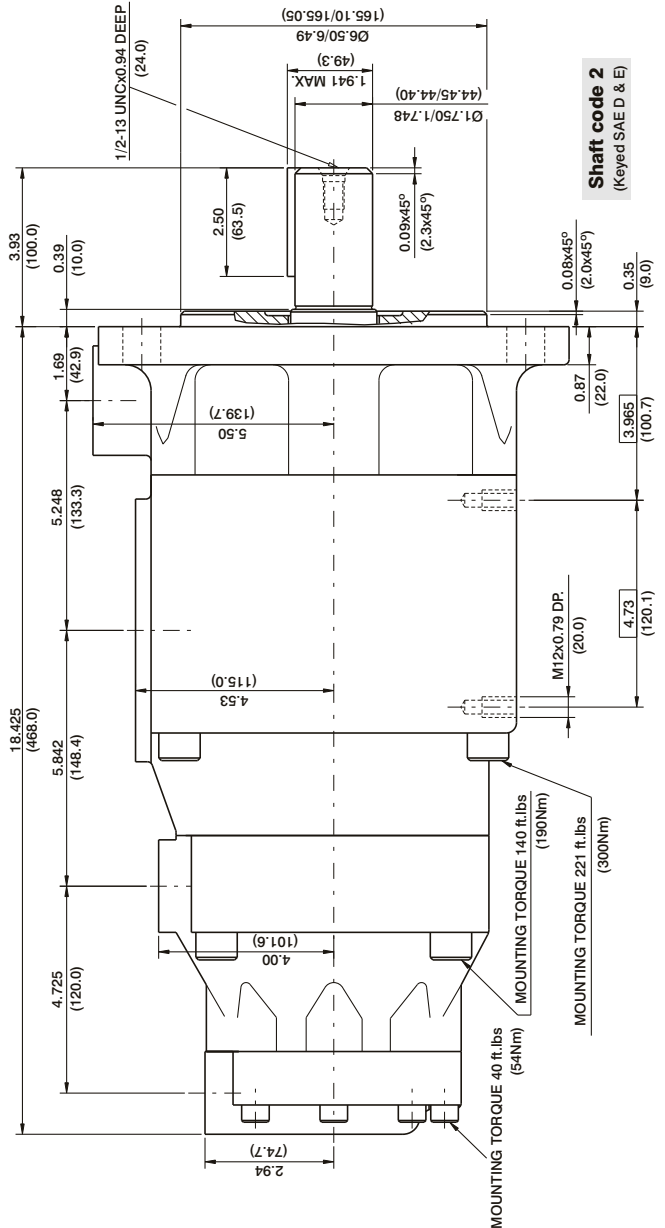
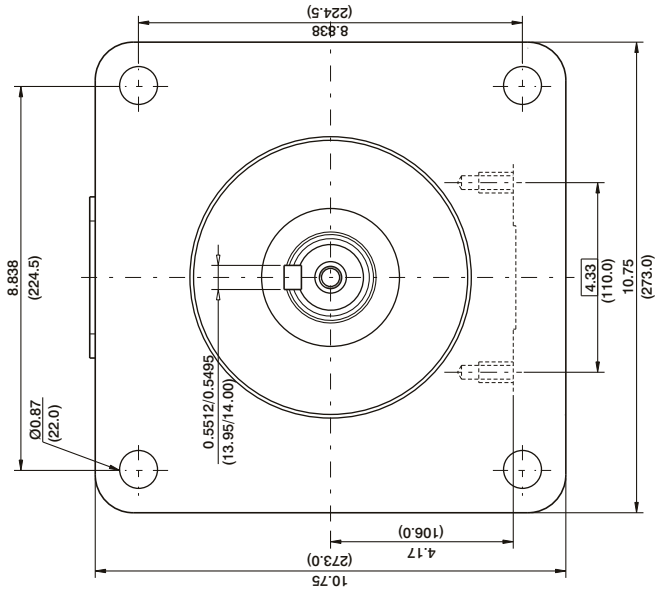
Maximum axial load permissible $F_a=2000N$ (449 lbs)

PORT	CODE	A	B	C
0		2.06 (52.4)	1.03 (26.2)	1.00 (25.4)
P3	1	1.874 (47.6)	0.874 (22.2)	0.75 (19.05)

Shaft torque limits in ³ /rev x psi (ml/rev x bar)
Vp x p max. (P1+P2+P3)
1 101506 (114715)
2 104818 (118346)
3 112312 (126807)



Shaft code 3
SAE D & E splined shaft
Class 1-4988b
8/16 Dp. 13 teeth
30° Pressure angle
Flat root side fit



3MICT

vt67dbb	2
vt67dcb	5
vt67dcc	8
vt67ddcs	11
vt67edb	14
vt67edc	17

VT67DBB - 038 - B10 - B10 - 1 R 00 - A 1 - M1 - *

Series- SAE C 2 bolts
Mounting flange J744c

Cam ring for "P1"

Volumetric displacement cm³/rev (in³/rev)

*014/B14 = 47.6 (2.90)	035/B35 = 111.0 (6.77)
017/B17 = 58.2 (3.55)	038/B38 = 120.3 (7.34)
020/B20 = 66.0 (4.03)	042/B42 = 136.0 (8.30)
024/B24 = 79.5 (4.85)	045/B45 = 145.7 (8.89)
028/B28 = 89.7 (5.47)	050/B50 = 158.0 (9.64)
031/B31 = 98.3 (6.00)	061/B61 = 190.5 (11.62)

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

Cam ring for "P2" & P3

Volumetric displacement cm³/rev (in³/rev)

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

Modifications

Mounting w/connection variables

P1=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 CI-1-4,5)

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)

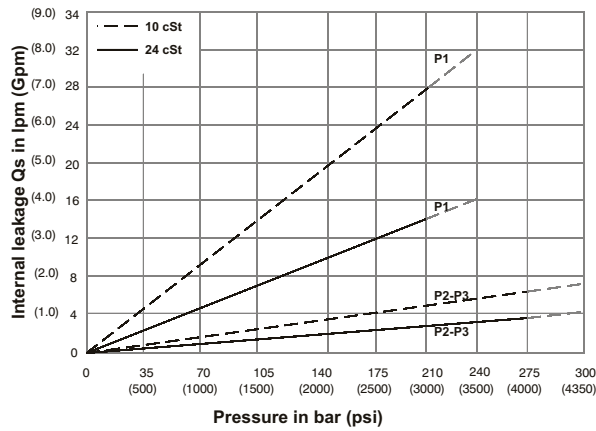
TP

OPERATING CHARACTERISTICS - TYPICAL (24 cST) (Input power p (KW) for one cartridge only)

Pressure port	Series	Volumetric Displacement Vp		Flow q & n = 1800 rpm						Input power p & n = 1800 rpm					
		in ³ /rev	cm ³ /rev	p = 0 bar (0 psi)		p = 140 bar (2000 psi)		p = 240 bar (3500 psi)		p = 7 bar (100 psi)		p = 140 bar (2000 psi)		p = 240 bar (3500 psi)	
				gpm	lpm	gpm	lpm	gpm	lpm	hp	kw	hp	kw	hp	kw
P1	014	2.90	47.6	22.64	85.0	20.46	77.4	18.8	71.1	4.02	2.99	29.31	21.85	49.34	36.79
	017	3.55	58.2	23.1	87.3	20.6	78.0	18.99	71.8	3.35	2.5	29.77	22.20	49.62	37.0
	020	4.03	66.0	31.39	118.6	29.29	101.4	27.57	104.2	4.53	3.38	39.52	29.47	67.21	50.11
	024	4.85	79.5	37.81	142.8	35.63	134.6	33.99	128.5	4.91	3.66	47.02	35.06	80.32	59.89
	028	5.47	89.7	42.66	161.3	40.48	153.0	38.84	146.8	5.19	3.87	52.68	39.28	90.23	67.28
	031	6.00	98.3	46.75	176.7	44.57	168.5	42.93	162.3	5.43	4.09	57.45	42.84	98.58	73.51
	035	6.77	111.0	52.79	199.6	50.61	191.3	48.97	184.1	5.78	4.31	64.50	48.09	110.91	82.70
	038	7.34	120.3	57.21	216.3	55.03	208.1	53.39	201.8	6.04	4.50	69.66	51.94	111.94	83.47
	042 ¹⁾	8.30	136.0	64.68	244.5	62.50	236.3	60.86	230.1	6.47	4.83	78.37	58.44	135.19	100.81
	045 ¹⁾	8.89	145.7	69.29	261.9	67.11	253.7	65.47	247.5	6.74	5.02	83.75	62.45	144.61	107.83
	050 ^{1,2)}	9.64	158.0	75.14	284.1	72.96	275.8	71.78	271.3	7.08	5.27	90.58	67.54	134.54	100.32
061 ^{1,3)}	11.62	190.5	75.6	285.8	73.54	278.0	--	--	7.37	5.50	97.49	72.69	--	--	
P2 & P3				p = 0 bar (0 psi)		p = 140 bar (2000 psi)		p = 300 bar (4350 psi)		p = 7 bar (100 psi)		p = 140 bar (2000 psi)		p = 300 bar (4350 psi)	
	B02	0.35	5.7	2.76	10.4	2.33	8.8	1.80	6.8	0.74	0.55	4.02	2.99	8.10	6.40
	B03	0.60	9.8	4.66	17.6	4.23	15.9	3.70	14.0	0.85	0.63	6.24	4.65	12.93	10.25
	B04	0.78	12.8	6.09	23.0	5.66	21.4	5.13	19.4	0.94	0.70	7.90	5.89	16.55	13.13
	B05	0.97	15.9	7.56	28.6	7.13	26.9	6.60	25.0	1.02	0.76	9.62	7.17	20.29	16.12
	B06	1.21	19.8	9.42	35.6	8.99	33.9	8.46	32.0	1.13	0.84	11.79	8.79	25.00	19.88
	B07	1.37	22.5	10.70	40.4	10.27	38.8	9.74	36.8	1.20	0.89	13.29	9.91	28.26	22.47
	B08	1.52	24.9	11.84	44.7	11.41	43.1	10.88	41.1	1.27	0.94	14.62	10.90	31.15	24.78
	B09	1.71	28.0	13.31	50.3	12.87	48.6	12.35	47.0	1.36	1.01	16.35	12.19	34.92	27.77
	B10	1.94	31.8	15.12	57.2	14.69	55.5	14.16	53.5	1.46	1.11	18.45	13.75	39.48	31.42
	B11 ⁴⁾	2.13	34.9	16.64	62.9	16.19	61.2	15.68	59.3	1.55	1.15	20.17	15.04	43.22	32.22
	B12 ⁴⁾	2.50	40.9	19.50	73.7	19.07	72.1	18.54	70.1	1.72	1.28	23.55	17.56	50.58	37.71
	B14 ⁴⁾	2.75	45.1	21.40	80.8	20.95	79.2	20.44	77.0	1.83	1.36	25.80	19.23	55.48	41.37
	B15 ⁴⁾	3.05	50.0	23.78	89.8	23.35	88.3	22.88	86.5	1.97	1.47	28.55	21.28	57.35	42.76

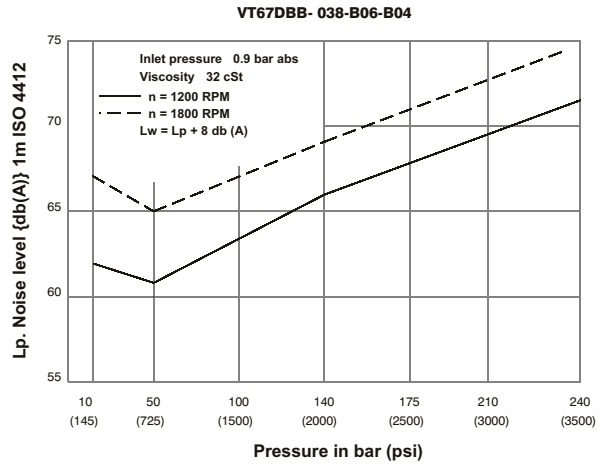
1) 042-045-050-061=2200 RPM max. 2) 050=210 bar (3000 psi) max. int. 3) 061 = 120 bar (1740 psi) max. int. 061 = 80 bar (1160 psi) cont.
4) B11-B12-B14 = 300 bar (4350 psi) & B15 = 280 bar (4060 psi) max. int. And Max. Speed = 3000 rpm

INTERNAL LEAKAGE (TYPICAL)



Do not operate pump more than 5 seconds at any speed or viscosity if internal leakage is more than 50% of theoretical flow. Total leakage is the sum of each section loss at its operating conditions.

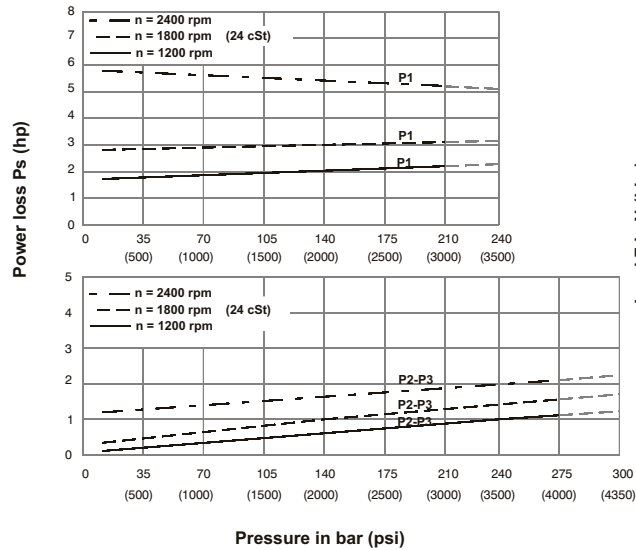
NOISE LEVEL (TYPICAL)



Triple pump noise level is given with each section discharging at the pressure noted on the curve.

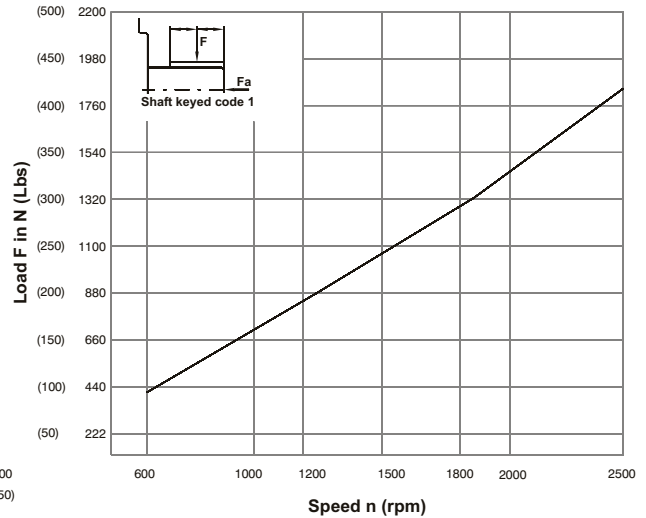


HYDROMECHANICAL POWER LOSS (TYPICAL)



Total hydromechanical power loss is the sum of each section at its operating conditions.

PERMISSIBLE RADIAL LOAD



Maximum axial load permissible $F_a=800\text{N}$ (180 Lbs)

VT67DCB - 038 - 028 - B10 - 1 R 00 - A 1 - M1 - *

Series- SAE C 2 bolts
Mounting flange J744c

Cam ring for "P1"

Volumetric displacement cm³/rev (in³/rev)

*014/B14 = 47.6 (2.90)	035/B35 = 111.0 (6.77)
017/B17 = 58.2 (3.55)	038/B38 = 120.3 (7.34)
020/B20 = 66.0 (4.03)	042/B42 = 136.0 (8.30)
024/B24 = 79.5 (4.85)	045/B45 = 145.7 (8.89)
028/B28 = 89.7 (5.47)	050/B50 = 158.0 (9.64)
031/B31 = 98.3 (6.00)	061/B61 = 190.5 (11.62)

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

Cam ring for "P2"

Volumetric displacement cm³/rev (in³/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 cm³/rev (in³/rev)

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

Modifications

Mounting w/connection variables

P1=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 CI-1-4,5)
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)

OPERATING CHARACTERISTICS - TYPICAL (24 cST) (Input power p (KW) for one cartridge only)

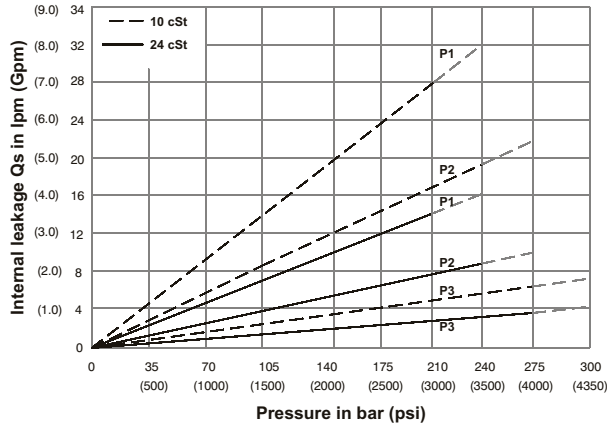
Pressure port	Series	Volumetric Displacement Vp		Flow q & n = 1800 rpm						Input power p & n = 1800 rpm					
		in ³ /rev	cm ³ /rev	P=0bar(0 psi)		P=140bar(2000psi)		P=240bar(3500 psi)		P=7bar(100psi)		P=140bar(2000psi)		P=240bar(3500 psi)	
				gpm	lpm	gpm	lpm	gpm	lpm	hp	kw	hp	kw	hp	kw
P1	014	2.90	47.6	22.64	85.0	20.46	77.4	18.8	71.1	4.02	2.99	29.31	21.85	49.34	36.79
	017	3.55	58.2	23.1	87.3	20.6	78.0	18.99	71.8	3.35	2.50	29.77	22.2	49.62	37.0
	020	4.03	66.0	31.39	118.6	29.29	101.4	27.57	104.2	4.53	3.38	39.52	29.47	67.21	50.11
	024	4.85	79.5	37.81	142.8	35.63	134.6	33.99	128.5	4.91	3.66	47.02	35.06	80.32	59.89
	028	5.47	89.7	42.66	161.3	40.48	153.0	38.84	146.8	5.19	3.87	52.68	39.28	90.23	67.28
	031	6.00	98.3	46.75	176.7	44.57	168.5	42.93	162.3	5.43	4.09	57.45	42.84	98.58	73.51
	035	6.77	111.0	52.79	199.6	50.61	191.3	48.97	184.1	5.78	4.31	64.50	48.09	110.91	82.70
	038	7.34	120.3	57.21	216.3	55.03	208.1	53.39	201.8	6.04	4.50	69.66	51.94	111.94	83.47
	042 ¹⁾	8.30	136.0	64.68	244.5	62.50	236.3	60.86	230.1	6.47	4.83	78.37	58.44	135.19	100.81
	045 ¹⁾	8.89	145.7	69.29	261.9	67.11	253.7	65.47	247.5	6.74	5.02	83.75	62.45	144.61	107.83
	050 ^{1,2)}	9.64	158.0	75.14	284.1	72.96	275.8	71.78	271.3	7.08	5.27	90.58	67.54	154.54	116.32
061 ^{1,3)}	11.62	190.5	75.6	285.8	73.54	278.0	--	--	7.37	5.50	97.49	72.69	--	--	
P2				P=0bar(0 psi)	P=140bar(2000psi)	P=275bar(4000 psi)	P=7bar(100psi)	P=140bar(2000psi)	P=275bar(4000 psi)						
	003	0.66	10.8	5.14	19.6	3.85	14.6	--	--	2.11	1.57	8.45	6.30	--	--
	005	1.05	17.2	8.18	30.9	6.89	26.0	5.68	21.5	2.29	1.70	12.00	8.94	19.81	14.77
	006	1.30	21.3	10.13	38.3	8.84	33.4	7.63	28.8	2.40	1.78	14.28	10.64	23.79	17.74
	008	1.61	26.4	12.55	47.4	11.26	42.6	10.05	37.9	2.54	1.89	17.11	12.75	28.75	21.43
	010	2.08	34.1	16.22	61.3	14.93	56.4	13.71	51.8	2.76	2.06	21.38	15.94	36.22	27.00
	012	2.26	37.1	17.64	66.7	16.35	61.8	15.14	57.2	2.84	2.11	23.05	17.18	39.14	29.18
	014	2.81	46.0	21.88	82.7	20.59	77.8	19.37	73.2	3.09	2.30	27.99	20.87	47.78	35.62
	015	3.08	50.5	23.99	90.7	22.83	86.3	21.56	81.5	3.21	2.40	30.30	22.60	51.36	38.30
	017	3.56	58.3	27.73	104.8	26.44	99.9	25.22	95.3	3.43	2.55	34.81	25.95	59.73	44.54
	020	3.89	63.8	30.34	114.7	29.05	109.8	27.84	105.2	3.58	2.66	37.86	28.23	65.07	48.52
	022 ⁵⁾	4.29	70.3	33.43	126.4	32.14	121.5	30.93	116.9	3.76	2.80	41.47	30.92	71.38	53.22
	025 ^{4,6)}	4.84	79.3	37.71	142.5	36.42	137.6	35.21	133.1	4.01	2.99	46.46	34.64	80.12	59.74
	028 ^{4,7)}	5.42	88.8	42.23	159.6	40.94	154.7	40.32	152.4	4.27	3.18	51.74	38.58	76.73	57.22
031 ^{4,7)}	6.10	100.0	47.56	179.7	46.27	174.9	45.65	172.5	4.58	3.41	57.95	43.21	86.06	64.17	
P3				P=0bar(0 psi)	P=140bar(2000psi)	P=300bar(4350 psi)	P=7bar(100psi)	P=140bar(2000psi)	P=300bar(4350 psi)						
	B02	0.35	5.7	2.76	10.4	2.33	8.8	1.80	6.8	0.74	0.55	4.02	2.99	8.10	6.40
	B03	0.60	9.8	4.66	17.6	4.23	15.9	3.70	14.0	0.85	0.63	6.24	4.65	12.93	10.25
	B04	0.78	12.8	6.09	23.0	5.66	21.4	5.13	19.4	0.94	0.70	7.90	5.89	16.55	13.13
	B05	0.97	15.9	7.56	28.6	7.13	26.9	6.60	25.0	1.02	0.76	9.62	7.17	20.29	16.12
	B06	1.21	19.8	9.42	35.6	8.99	33.9	8.46	32.0	1.13	0.84	11.79	8.79	25.00	19.88
	B07	1.37	22.5	10.70	40.4	10.27	38.8	9.74	36.8	1.20	0.89	13.29	9.91	28.26	22.47
	B08	1.52	24.9	11.84	44.7	11.41	43.1	10.88	41.1	1.27	0.94	14.62	10.90	31.15	24.78
	B09	1.71	28.0	13.31	50.3	12.87	48.6	12.35	47.0	1.36	1.01	16.35	12.19	34.92	27.77
	B10	1.94	31.8	15.12	57.2	14.69	55.5	14.16	53.5	1.46	1.11	18.45	13.75	39.48	31.42
	B11 ⁸⁾	2.13	34.9	16.64	62.9	16.19	61.2	15.68	59.3	1.55	1.15	20.17	15.04	43.22	32.22
	B12 ⁸⁾	2.50	40.9	19.50	73.7	19.07	72.1	18.54	70.1	1.72	1.28	23.55	17.56	50.58	37.71
	B14 ⁸⁾	2.75	45.1	21.40	80.8	20.95	79.2	20.44	77.0	1.83	1.36	25.80	19.23	55.48	41.37
	B15 ⁸⁾	3.05	50.0	23.78	89.8	23.35	88.3	22.88	86.5	1.97	1.47	28.55	21.28	57.35	42.76

1) 042-045-050-061=2200 RPM max. 2) 050=210 bar (3000 psi) max. int. 3) 061 = 120 bar (1740 psi) max. int. 061 = 80 bar (1160 psi) cont. 4) 025-028-031 = 2500 R.P.M. max.

5) 022= 275 bar max. int. 6) 025 = 240 bar max. int. 7) 028-031 = 210 bar (3000 psi) max. int.

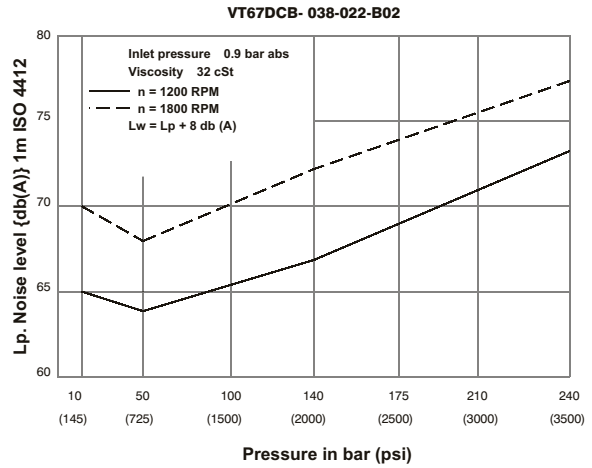
8) B11-B12-B14 = 300 bar (4350 psi) & B15 = 280 bar (4060 psi) max. int. And Max. Speed = 3000 rpm

INTERNAL LEAKAGE (TYPICAL)



Do not operate pump more than 5 seconds at any speed or viscosity if internal leakage is more than 50% of theoretical flow. Total leakage is the sum of each section loss at its operating conditions.

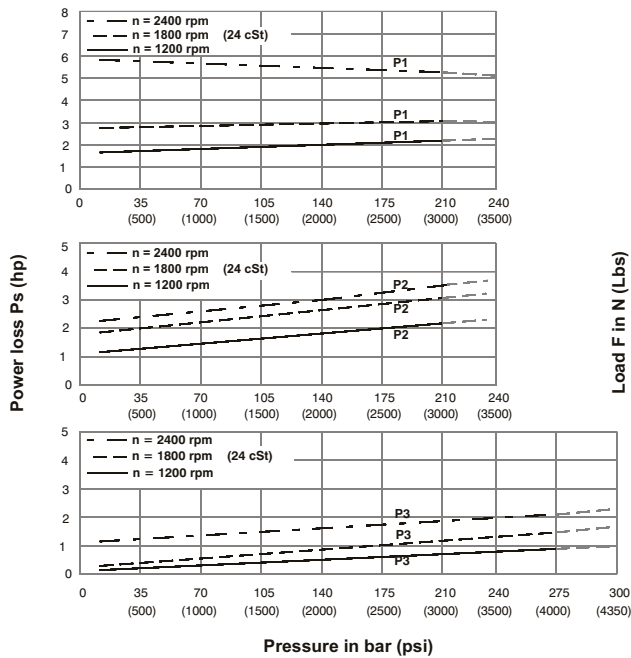
NOISE LEVEL (TYPICAL)



Triple pump noise level is given with each section discharging at the pressure noted on the curve.

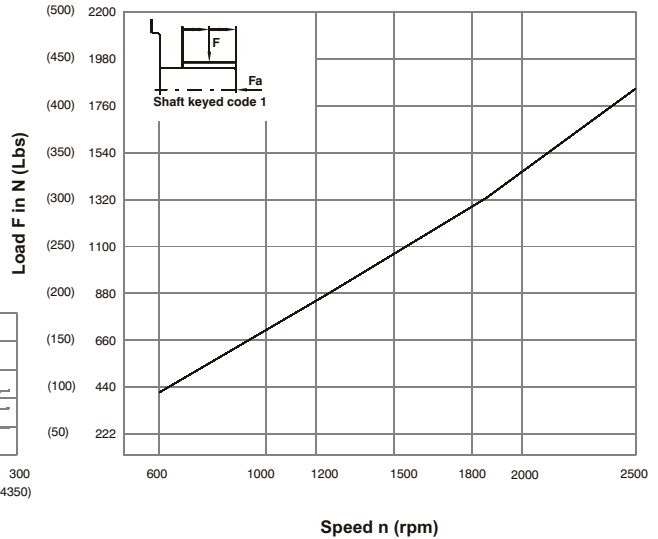


HYDROMECHANICAL POWER LOSS (TYPICAL)



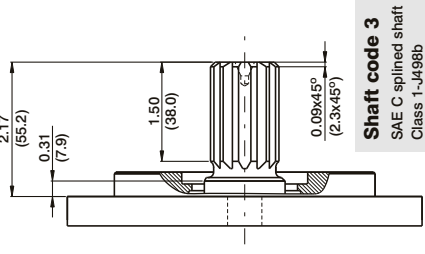
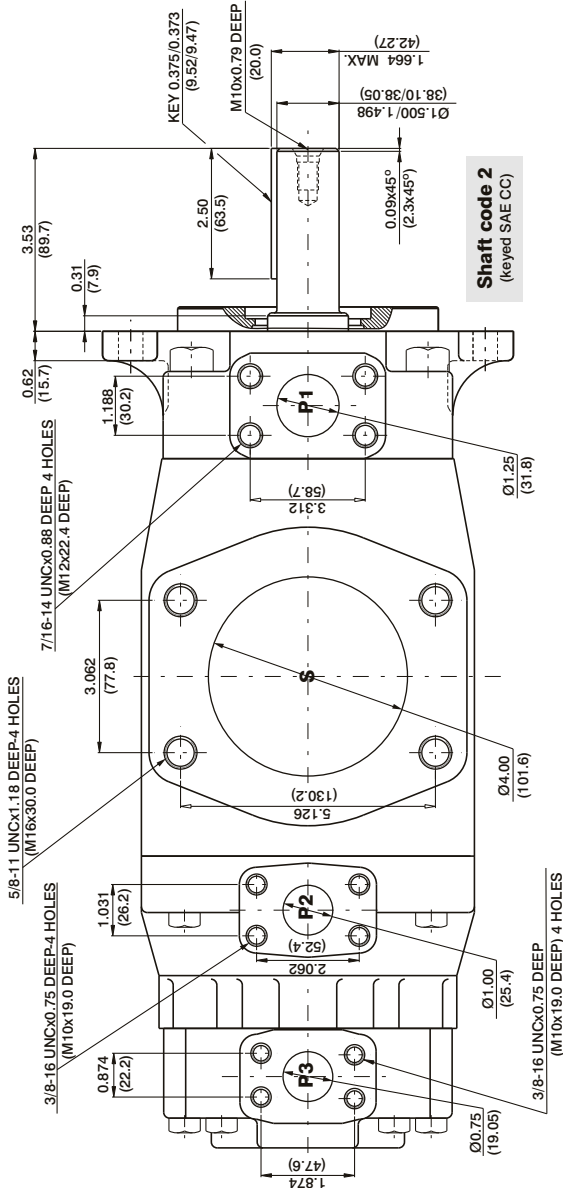
Total hydromechanical power loss is the sum of each section at its operating conditions.

PERMISSIBLE RADIAL LOAD

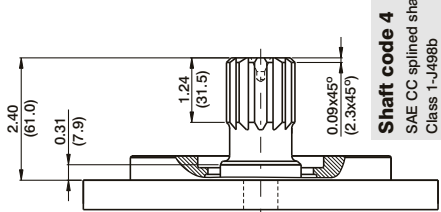


Maximum axial load permissible $F_a=800N$ (180 Lbs)

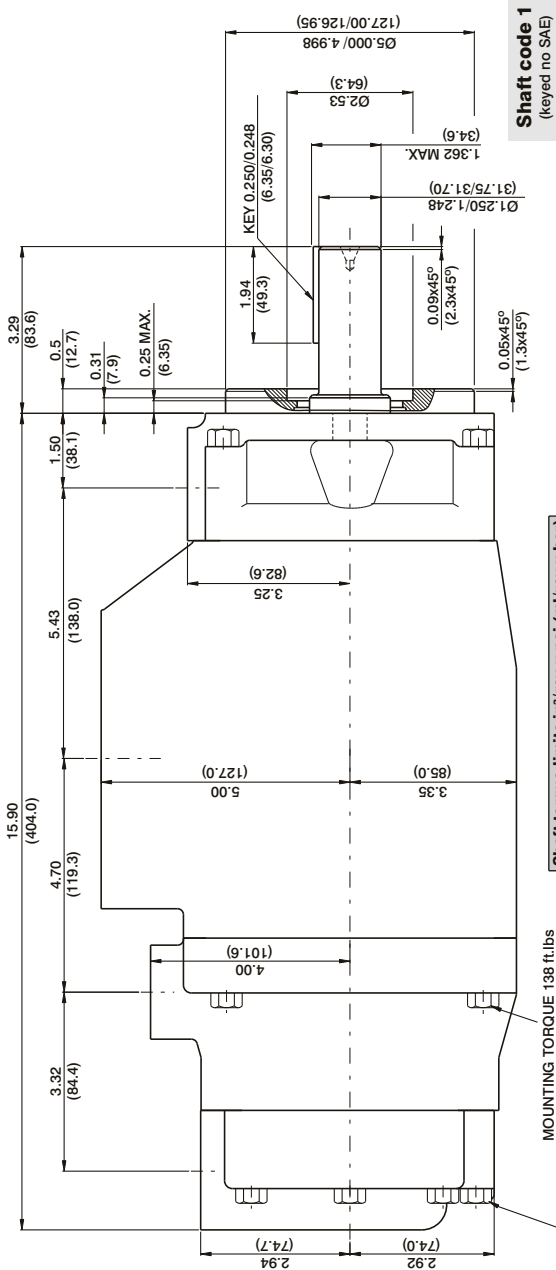
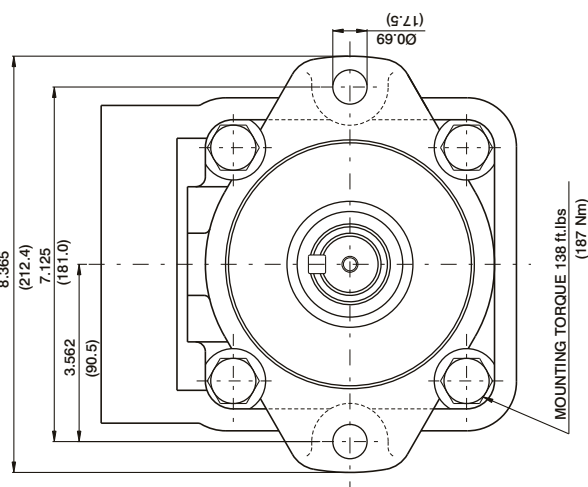
TP



Shaft code 3
SAE C splined shaft
Class 1-J498b
12/24 Dp. 14 Teeth
30° Pressure angle
Flat root side fit



Shaft code 4
SAE CC splined shaft
Class 1-J498b
12/24 Dp. 17 Teeth
30° Pressure angle
Flat root side fit



Shaft code 1
(keyed no SAE)

Shaft	Vp x p max. (P1+P2+P3)
1	38299 (43240)
2	58901 (66500)
3	54027 (61200)
4	58901 (66500)

HIGH PERFORMANCE VANE PUMP VT67DCC



VT67DCC - B35 - 025 - 008 - 1 R 00 - A 1 - M1 - *

Series - SAE C 2 bolts
Mounting flange J744c

Cam ring for "P1"

Volumetric displacement cm³ /rev (in³ /rev)

B14 = 43.9 (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 = 158.0 (9.64)

Cam ring for "P2" & "P3"

Volumetric displacement cm³ /rev (in³ /rev)

003 = 10.8(0.66)	015 = 50.5 (3.08)
005 = 17.2(1.05)	017 = 58.3 (3.56)
006 = 21.3 (1.30)	020 = 63.7 (3.89)
008 = 26.4 (1.61)	022 = 70.3 (4.29)
010 = 34.1 (2.08)	025 = 79.3 (4.84)
012 = 37.1 (2.26)	028 = 88.8 (5.42)
014 = 46.0 (2.81)	031 = 100 (6.10)

Type of Shaft

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

Modifications

Mounting w/connection variables

4 bolts SAE flange J518

P1=1 1/4" - P2=1" -S=4"		
	UNC	METRIC
P3 =1"	00	M0
P3 =3/4"	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 CI-1-4,5)
00 = Standard

Direction of rotation (view on shaft end)

- R - Clockwise
- L - Counter - clockwise



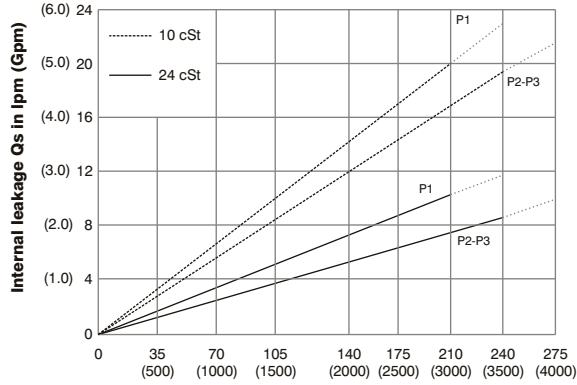
OPERATING CHARACTERISTICS - TYPICAL (24 cST) (Input power p (KW) for one cartridge only)

Pressure port	Series	Volumetric Displacement Vp		Flow q & n = 1800 rpm						Input power p & n = 1800 rpm					
				p = 0 bar (0 psi)		p = 140 bar (2000 psi)		p = 250 bar (3630 psi)		p = 7 bar (100 psi)		p = 140 bar (2000 psi)		p = 250 bar (3630 psi)	
				in ³ /rev	cm ³ /rev	gpm	lpm	gpm	lpm	gpm	lpm	hp	kw	hp	kw
P1	B14	2.68	43.93	20.92	79.50	19.18	72.9	17.81	67.7	3.46	2.6	27.77	20.7	47.03	35.1
	B17	3.36	55.07	26.16	99.4	24.41	92.8	23.04	87.6	3.77	2.8	33.88	25.3	57.71	43.1
	B20	4.03	66.05	31.39	119.3	29.64	112.6	28.27	107.4	4.07	3.0	39.98	29.8	68.39	51.0
	B22	4.29	70.31	33.43	127	31.69	120.4	30.32	115.2	4.19	3.1	42.37	31.6	72.57	54.1
	B24	4.95	81.13	38.57	146.6	36.82	139.9	35.45	134.7	4.49	3.3	48.36	36.1	83.06	62
	B28	5.49	89.98	42.8	162.6	41.06	156	39.69	150.8	4.74	3.5	53.30	39.8	91.7	68.4
	B31	6.05	99.16	47.18	179.3	45.43	172.6	42.06	167.4	4.99	3.7	58.41	43.6	100.63	75.1
	B35	6.92	113.42	53.93	204.9	52.18	198.3	50.81	193.1	5.39	4.0	66.29	49.5	114.42	85.4
	B38	7.36	120.63	57.35	217.9	55.61	211.3	54.24	206.1	5.59	4.2	70.28	52.4	121.42	90.6
	B42 ¹⁾	8.39	137.51	65.39	248.5	63.65	241.9	62.28	236.7	6.05	4.5	79.66	59.4	137.83	102.8
045 ¹⁾	8.89	145.71	69.29	263.3	67.11	255.0	65.31	248.2	6.74	5.0	83.75	62.5	145.79	108.8	
050 ^{1,2)}	9.64	158.00	75.14	285.5	72.96	277.2	71.78	272.8	7.08	5.3	90.58	67.6	134.5	100.3	
P2 & P3				p = 0 bar (0 psi)		p = 140 bar (2000 psi)		p = 275 bar (4000 psi)		p = 7 bar (100 psi)		p = 140 bar (2000 psi)		p = 275 bar (4000 psi)	
	003	0.66	10.82	5.14	19.53	3.85	14.63	--	--	2.11	1.6	8.45	6.3	--	--
	005	1.05	17.21	8.18	31.08	6.89	26.18	5.68	21.6	2.29	1.7	12.0	9.0	19.81	14.8
	006	1.30	21.31	10.13	38.49	8.84	33.59	7.63	29.0	2.4	1.8	14.28	10.7	23.79	17.7
	008	1.61	26.39	12.55	47.69	11.26	42.79	10.05	38.2	2.54	1.9	17.11	12.8	28.75	21.4
	010	2.08	34.09	16.22	61.64	14.93	56.73	13.71	52.1	2.76	2.1	21.38	15.9	36.22	27.0
	012	2.26	37.04	17.64	67.03	16.35	62.13	15.14	57.5	2.84	2.1	23.05	17.2	39.14	29.2
	014	2.81	46.06	21.88	83.14	20.59	78.24	19.37	73.6	3.09	2.3	27.99	20.9	47.78	35.6
	015	3.08	50.5	23.99	90.7	22.83	86.3	21.56	81.5	3.21	2.40	30.30	22.60	51.36	38.30
	017	3.56	58.35	27.73	105.37	26.44	100.47	25.22	95.8	3.43	2.6	34.81	26.0	59.73	44.6
	020	3.89	63.76	30.34	115.29	29.05	110.39	27.84	105.8	3.58	2.7	37.86	28.2	65.07	48.5
	022 ⁴⁾	4.29	70.31	33.43	127.03	32.14	122.13	30.93	117.5	3.76	2.8	41.47	30.9	71.38	53.2
	025 ^{3,5)}	4.84	79.33	37.71	143.3	36.42	138.40	35.21	133.8	4.01	3.0	46.46	34.7	80.12	59.8
	028 ^{3,6)}	5.42	88.83	42.23	160.47	40.94	155.60	40.32	153.2	4.27	3.2	51.74	38.6	76.73	57.2
031 ^{3,6)}	6.10	99.98	47.56	180.73	46.27	175.83	45.65	173.5	4.58	3.4	57.95	43.2	86.06	64.2	

-- We do not recommend to use this 003 at 275 bar (4000 psi) and 1500 rpm since internal leakage is over 50% of theoretical flow.

- 1) 042-045-050 = 2200 RPM max.
- 2) 050=210 bar (3000 psi) max. int.
- 3) 025-028-031 = 2500 R.P.M. max.
- 4) 022= 275 bar max. int.
- 5) 025 = 240 bar max. int.
- 6) 028-031 = 210 bar (3000 psi) max. int.

INTERNAL LEAKAGE (TYPICAL)

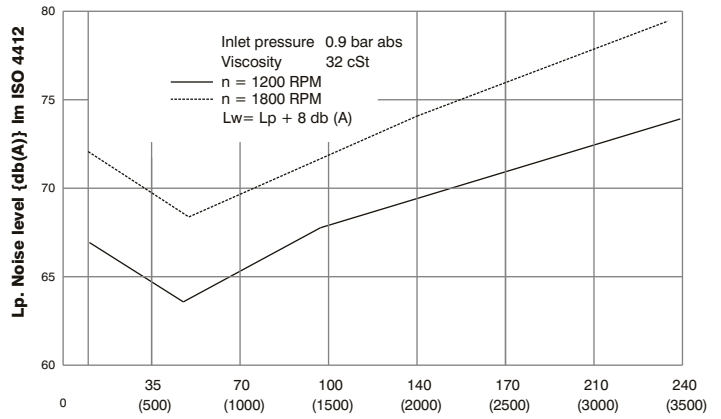


Pressure in bar (psi)

Do not operate pump more than 5 seconds at any speed or viscosity if internal leakage is more than 50% of theoretical flow. Total leakage is the sum of each section loss at its operating conditions.

NOISE LEVEL (TYPICAL)

VT67DCC- B31-022-022

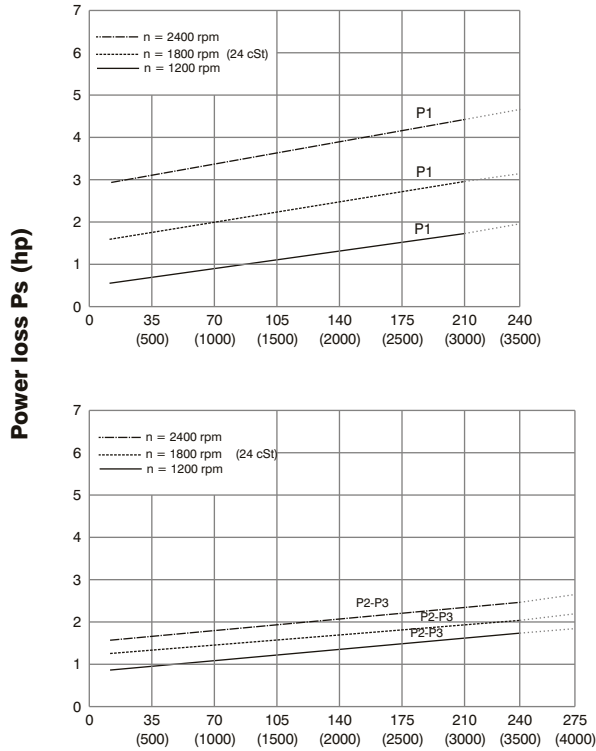


Pressure in bar (psi)

Triple pump noise level is given with each section discharging at the pressure noted on the curve.

TP

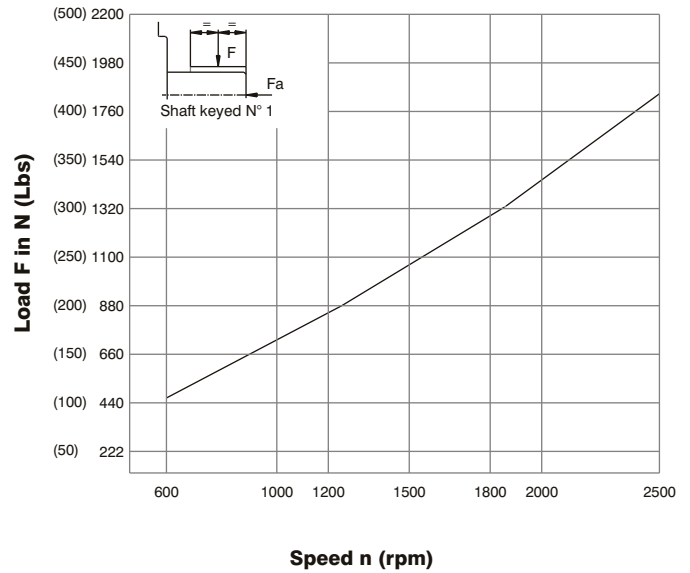
HYDROMECHANICAL POWER LOSS (TYPICAL)



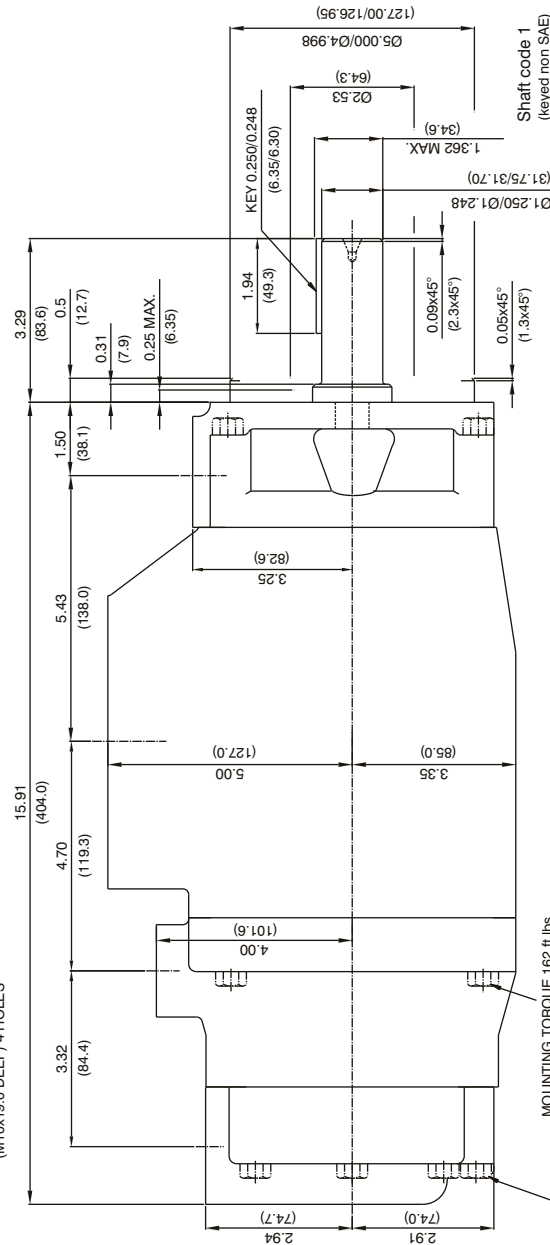
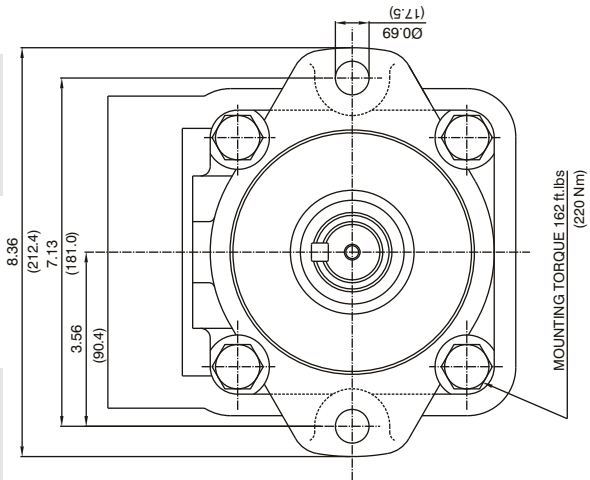
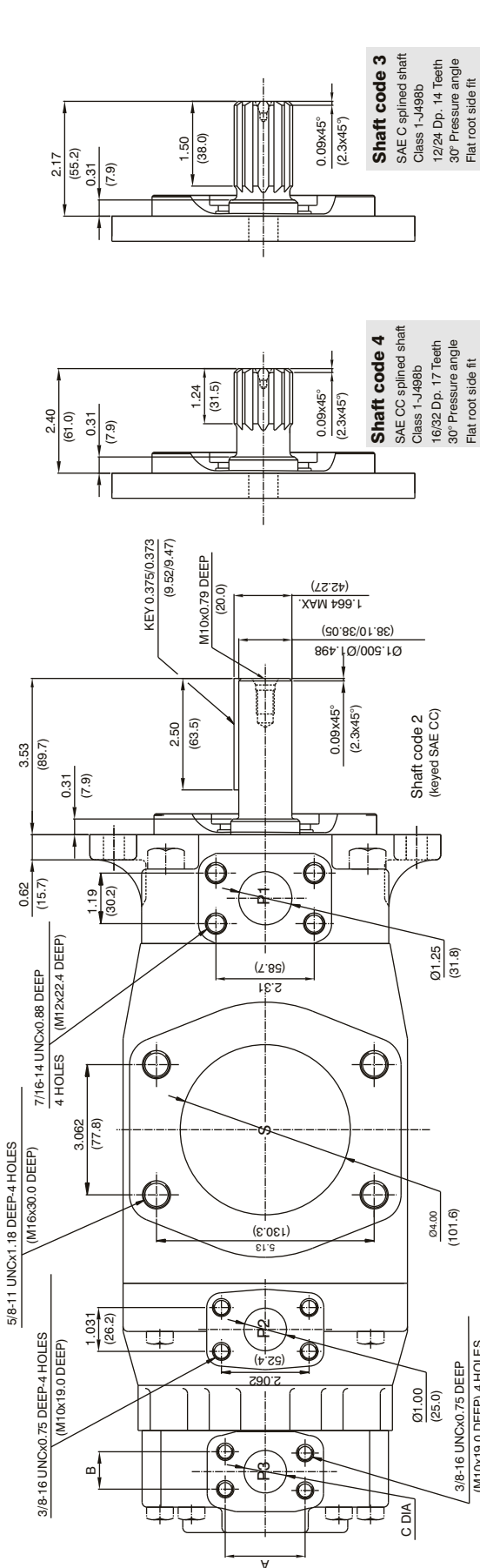
Pressure in bar (psi)

Total hydromechanical power loss is the sum of each section at its operating conditions.

PERMISSIBLE RADIAL LOAD



Maximum axial load permissible $F_a=800\text{N}$ (180 Lbs)



Alternate connection variables		
	Ø0 & M0	Ø1 & M1
A	2.063(52.4)	1.874(47.5)
B	1.031(26.1)	0.874(22.1)
C	1.000(25.4)	0.748(18.9)

Shaft torque limits in ³ /rev x psi (ml/rev x bar)	
Shaft	Vp x p max.
1	38289 (43240)
2	58901 (66500)
3	54207 (61200)
4	58901 (66500)



VT67DDCS - 045 - B31 - 012 - 1 R 00 - A 1 - M0 *

Series - SAE C 6 bolts
Mounting flange J744

Cam ring for "P1" & "P2"

Volumetric displacement cm^3/rev (in^3/rev)

B14 = 43.9 (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 "P3"

Volumetric displacement cm^3/rev (in^3/rev)

003 = 10.8 (0.66)	017 = 58.3 (3.56)
005 = 17.2 (1.05)	020 = 63.8 (3.89)
006 = 21.3 (1.30)	022 = 70.3 (4.29)
008 = 26.4 (1.61)	025 = 79.3 (4.84)
010 = 34.1 (2.08)	028 = 88.8 (5.42)
012 = 37.1 (2.26)	031 = 100.0 (6.10)
014 = 46.0 (2.81)	

Type of Shaft

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

Modifications

Mounting w/connection variables
4 bolts SAE flange J518

Type	P1 & P2= 1-1/4" S = 4"			
	UNC		METRIC	
P3	1"	3/4"	1"	3/4"
Code	00	01	M0	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 CI-1-4,5)

00 = Standard

Direction of rotation (view on shaft end)

- R - Clockwise
L - Counter - clockwise

TP

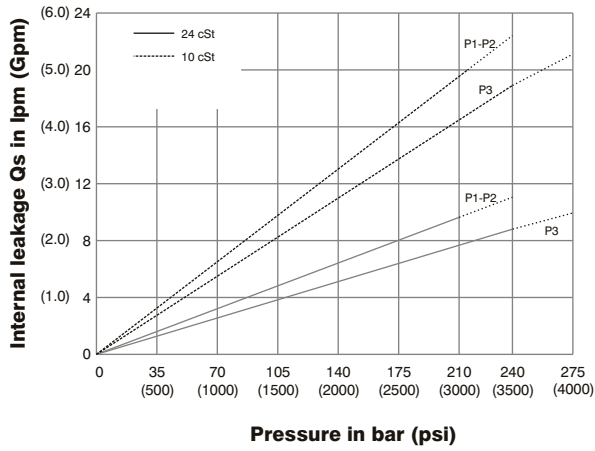
OPERATING CHARACTERISTICS - TYPICAL (24 cST) (Input power p (KW) for one cartridge only)

Pressure port	Series	Volumetric Displacement Vp		Flow q & n = 1800 rpm						Input power p & n = 1800 rpm					
				p = 0 bar (0 psi)		p = 140 bar (2000 psi)		p = 250 bar (3630 psi)		p = 7 bar (100 psi)		p = 140 bar (2000 psi)		p = 250 bar (3630 psi)	
				in^3/rev	cm^3/rev	gpm	lpm	gpm	lpm	gpm	lpm	hp	kw	hp	kw
P1 & P2	B14	2.68	43.9	20.92	79.50	19.18	72.9	17.81	67.7	3.46	2.6	27.77	20.7	47.03	35.1
	B17	3.36	55.0	26.16	99.4	24.41	92.8	23.04	87.6	3.77	2.8	33.88	25.3	57.71	43.1
	B20	4.03	66.0	31.39	119.3	29.64	112.6	28.27	107.4	4.07	3.0	39.98	29.8	68.39	51.0
	B22	4.29	70.3	33.43	127	31.69	120.4	30.32	115.2	4.19	3.1	42.37	31.6	72.57	54.1
	B24	4.95	81.1	38.57	146.6	36.82	139.9	35.45	134.7	4.49	3.3	48.36	36.1	83.06	62
	B28	5.49	89.9	42.8	162.6	41.06	156	39.69	150.8	4.74	3.5	53.30	39.8	91.7	68.4
	B31	6.05	99.1	47.18	179.3	45.43	172.6	42.06	167.4	4.99	3.7	58.41	43.6	100.63	75.1
	B35	6.92	113.4	53.93	204.9	52.18	198.3	50.81	193.1	5.39	4.0	66.29	49.5	114.42	85.4
	B38	7.36	120.6	57.35	217.9	55.61	211.3	54.24	206.1	5.59	4.2	70.28	52.4	121.42	90.6
	B42 ¹⁾	8.39	137.5	65.39	248.5	63.65	241.9	62.28	236.7	6.05	4.5	79.66	59.4	137.83	102.8
045 ¹⁾	8.89	145.7	69.29	263.3	67.11	255.0	65.31	248.2	6.74	5.0	83.75	62.5	145.79	108.8	
050 ^{1,2)}	9.64	157.9	75.14	285.5	72.96	277.2	71.78	272.8	7.08	5.3	90.58	67.6	134.5	100.3	
P3				p = 0 bar (0 psi)	p = 140 bar (2000 psi)	p = 275 bar (4000 psi)	p = 7 bar (100 psi)	p = 140 bar (2000 psi)	p = 275 bar (4000 psi)						
	003	0.66	10.8	5.14	19.53	3.85	14.63	--	--	2.11	1.6	8.45	6.3	--	--
	005	1.05	17.2	8.18	31.08	6.89	26.18	5.68	21.6	2.29	1.7	12.0	9.0	19.81	14.8
	006	1.30	21.3	10.13	38.49	8.84	33.59	7.63	29.0	2.4	1.8	14.28	10.7	23.79	17.7
	008	1.61	26.4	12.55	47.69	11.26	42.79	10.05	38.2	2.54	1.9	17.11	12.8	28.75	21.4
	010	2.08	34.1	16.22	61.64	14.93	56.73	13.71	52.1	2.76	2.1	21.38	15.9	36.22	27.0
	012	2.26	37.1	17.64	67.03	16.35	62.13	15.14	57.5	2.84	2.1	23.05	17.2	39.14	29.2
	014	2.81	46.0	21.88	83.14	20.59	78.24	19.37	73.6	3.09	2.3	27.99	20.9	47.78	35.6
	017	3.56	58.3	27.73	105.37	26.44	100.47	25.22	95.8	3.43	2.6	34.81	26.0	59.73	44.6
	020	3.89	63.8	30.34	115.29	29.05	110.39	27.84	105.8	3.58	2.7	37.86	28.2	65.07	48.5
	022 ⁴⁾	4.29	70.3	33.43	127.03	32.14	122.13	30.93	117.5	3.76	2.8	41.47	30.9	71.38	53.2
	025 ^{3,5)}	4.84	79.3	37.71	143.3	36.42	138.40	35.21	133.8	4.01	3.0	46.46	34.7	80.12	59.8
	028 ^{3,6)}	5.42	88.8	42.23	160.47	40.94	155.60	40.32	153.2	4.27	3.2	51.74	38.6	76.73	57.2
	031 ^{3,6)}	6.10	100.0	47.56	180.73	46.27	175.83	45.65	173.5	4.58	3.4	57.95	43.2	86.06	64.2

-- We do not recommend to use this 003 at 275 bar (4000 psi) and 1500 rpm since internal leakage is over 50 of theoretical flow.

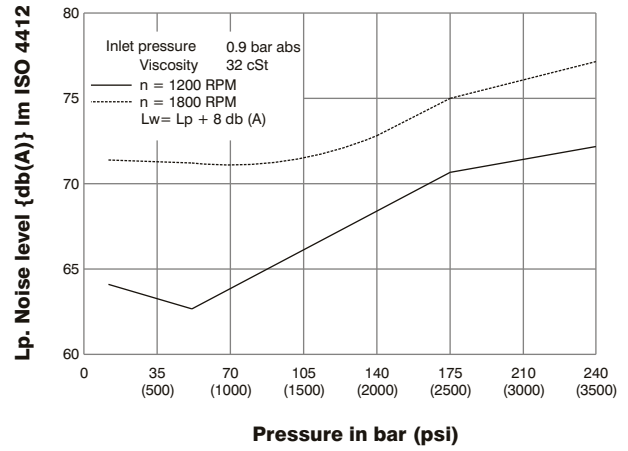
1) 042-045-050 = 2200 RPM max. 2) 050=210 bar (3000 psi) max. int. 3) 025-028-031 = 2500 R.P.M. max. 4) 022= 275 bar max. int. 5) 025 = 240 bar max. int. 6) 028-031 = 210 bar (3000 psi) max. int.

INTERNAL LEAKAGE (TYPICAL)



Do not operate pump for more than 5 seconds at any speed or viscosity if internal leakage is more than 50% of theoretical flow. Total leakage is the sum of each section loss at its operating conditions.

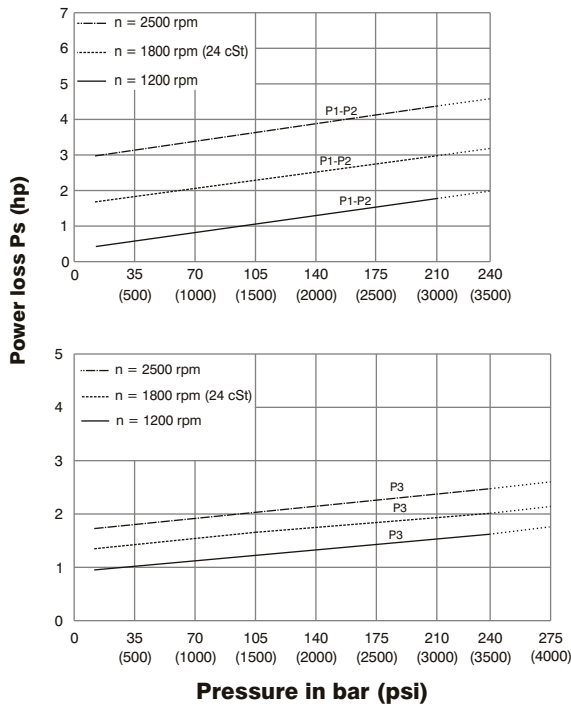
NOISE LEVEL (TYPICAL) VT67DDCS- B31-B31-022



Triple pump noise level is given with each section discharging at the pressure noted on the curve.

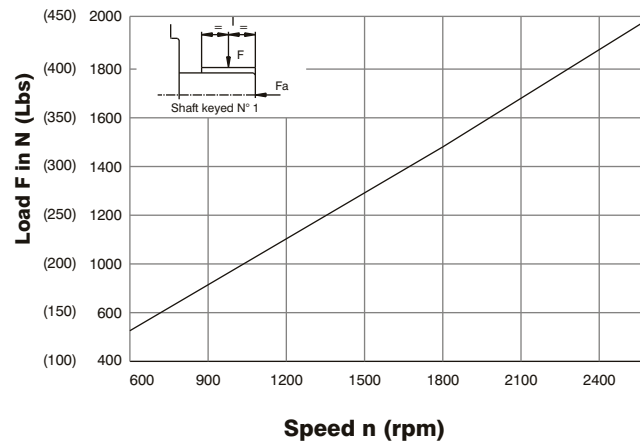


HYDROMECHANICAL POWER LOSS (TYPICAL)



Total hydromechanical power loss is the sum of each section at its operating conditions.

PERMISSIBLE RADIAL LOAD



Maximum permissible axial load $F_a = 1200 \text{ N (270 Lbs)}$

VT67EDB - 062 - 035 - B10 - 1 R 00 - A 1 - P - 1 - *

Series - ISO 3019-2
Mounting flange 250 B4HW

Cam ring for "P1"

Volumetric displacement cm³/rev (in³/rev)

042 = 132.3 (8.07)	062 = 196.7 (12.00)
045 = 142.4 (8.69)	066 = 213.3 (13.02)
050 = 158.5 (9.67)	072 = 227.1 (13.86)
052 = 164.8 (10.06)	085 = 269.8 (16.46)
057 = 180.7 (11.02)	

Cam ring for "P2"

Volumetric displacement cm³/rev (in³/rev)

*014/B14 = 47.6 (2.90)	035/B35 = 111.0 (6.77)
017/B17 = 58.2 (3.55)	038/B38 = 120.3 (7.34)
020/B20 = 66.0 (4.03)	042/B42 = 136.0 (8.30)
024/B24 = 79.5 (4.85)	045/B45 = 145.7 (8.89)
028/B28 = 89.7 (5.47)	050/B50 = 158.0 (9.64)
031/B31 = 98.3 (6.00)	061/B61 = 190.5 (11.62)

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

Cam ring for "P3"

Volumetric displacement cm³/rev (in³/rev)

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

Modifications

Mounting w/connection variables

4 bolts SAE flange
(J518c) Metric thread
1 = P3 = 3/4" SAE

Mounting (pump)

P= Pedestal mounting
F= Face mounting

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 CI-1-4,5)

00 = Standard

Direction of rotation

(view on the shaft)

R - Clockwise
L - Counter - clockwise

Type of Shaft

1 - Keyed (G45N-ISO 3019-2)

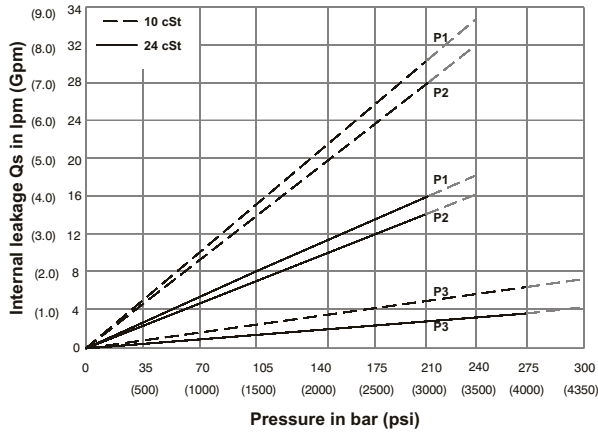


OPERATING CHARACTERISTICS - TYPICAL (24 cST) (Input power p (KW) for one cartridge only)

Pressure port	Series	Volumetric Displacement Vp		Flow q & n = 1800 rpm						Input power p & n = 1800 rpm					
		in ³ /rev	cm ³ /rev	p = 0 bar (0 psi)		p = 140 bar (2000 psi)		p = 240 bar (3500 psi)		p = 7 bar (100 psi)		p = 140 bar (2000 psi)		p = 240 bar (3500 psi)	
				gpm	lpm	gpm	lpm	gpm	lpm	hp	kw	hp	kw	hp	kw
P1	042	8.07	132.3	62.92	237.8	60.37	228.2	58.52	221.2	8.09	6.03	78.44	58.49	133.80	99.78
	045	8.69	142.4	67.72	256.0	65.17	246.3	63.32	239.4	8.37	6.24	84.04	62.67	143.60	107.08
	050	9.67	158.5	75.38	285.0	72.83	275.3	70.98	268.3	8.82	6.58	92.97	69.30	159.24	118.7
	052	10.06	164.8	78.37	296.2	75.82	286.3	73.97	279.6	8.99	6.70	96.47	71.94	165.36	121.31
	057	11.02	180.7	71.70	325.3	69.07	261.1	80.63	304.8	9.40	7.00	114.30	85.14	172.10	128.30
	062	12.00	196.7	93.54	353.6	90.99	344.0	89.14	337.0	9.88	7.36	114.17	84.00	196.34	146.41
	066	13.02	213.3	101.44	383.4	98.89	373.8	97.04	366.8	10.34	7.71	123.38	92.01	212.46	158.43
	072	13.86	227.1	108.00	408.2	105.45	400.0	103.60	391.6	10.72	8.00	131.04	97.72	225.86	168.42
	085 ^{1,2)}	16.40	268.7	127.79	483.0	126.13	467.7	--	--	11.66	8.70	87.56	65.30	--	--
	014	2.90	47.6	22.64	85.0	20.46	77.4	18.8	71.1	4.02	2.99	29.31	21.85	49.34	36.79
P2	017	3.55	58.2	23.1	87.3	20.6	78.0	18.99	71.8	3.35	2.5	29.77	22.2	49.62	37.0
	020	4.03	66.0	31.39	118.6	29.29	101.4	27.57	104.2	4.53	3.38	39.52	29.47	67.21	50.11
	024	4.85	79.5	37.81	142.8	35.63	134.6	33.99	128.5	4.91	3.66	47.02	35.06	80.32	59.89
	028	5.47	89.7	42.66	161.3	40.48	153.0	38.84	146.8	5.19	3.87	52.68	39.28	90.23	67.28
	031	6.00	98.3	46.75	176.7	44.57	168.5	42.93	162.3	5.43	4.09	57.45	42.84	98.58	73.51
	035	6.77	111.0	52.79	199.6	50.61	191.3	48.97	184.1	5.78	4.31	64.50	48.09	110.91	82.70
	038	7.34	120.3	57.21	216.3	55.03	208.1	53.39	201.8	6.04	4.50	69.66	51.94	111.94	83.47
	042 ³⁾	8.30	136.0	64.68	244.5	62.50	236.3	60.86	230.1	6.47	4.83	78.37	58.44	135.19	100.81
	045 ³⁾	8.89	145.7	69.29	261.9	67.11	253.7	65.47	247.5	6.74	5.02	83.75	62.45	144.61	107.83
	050 ^{3,4)}	9.64	158.0	75.14	284.1	72.96	275.8	71.78	271.3	7.08	5.27	90.58	67.54	134.54	100.32
061 ^{3,5)}	11.62	190.5	75.6	285.8	73.54	278.0	--	--	7.37	5.50	97.49	72.69	--	--	
P3				p = 0 bar (0 psi)		p = 140 bar (2000 psi)		p = 300 bar (4350 psi)		p = 7 bar (100 psi)		p = 140 bar (2000 psi)		p = 300 bar (4350 psi)	
	B02	0.35	5.7	2.76	10.4	2.33	8.8	1.80	6.8	0.74	0.55	4.02	2.99	8.10	6.40
	B03	0.60	9.8	4.66	17.6	4.23	15.9	3.70	14.0	0.85	0.63	6.24	4.65	12.93	10.25
	B04	0.78	12.8	6.09	23.0	5.66	21.4	5.13	19.4	0.94	0.70	7.90	5.89	16.55	13.13
	B05	0.97	15.9	7.56	28.6	7.13	26.9	6.60	25.0	1.02	0.76	9.62	7.17	20.29	16.12
	B06	1.21	19.8	9.42	35.6	8.99	33.9	8.46	32.0	1.13	0.84	11.79	8.79	25.00	19.88
	B07	1.37	22.5	10.70	40.4	10.27	38.8	9.74	36.8	1.20	0.89	13.29	9.91	28.26	22.47
	B08	1.52	24.9	11.84	44.7	11.41	43.1	10.88	41.1	1.27	0.94	14.62	10.90	31.15	24.78
	B09	1.71	28.0	13.31	50.3	12.87	48.6	12.35	47.0	1.36	1.01	16.35	12.19	34.92	27.77
	B10	1.94	31.8	15.12	57.2	14.69	55.5	14.16	53.5	1.46	1.11	18.45	13.75	39.48	31.42
	B11 ⁶⁾	2.13	34.9	16.64	62.9	16.19	61.2	15.68	59.3	1.55	1.15	20.17	15.04	43.22	32.22
	B12 ⁶⁾	2.50	40.9	19.50	73.7	19.07	72.1	18.54	70.1	1.72	1.28	23.55	17.56	50.58	37.71
	B14 ⁶⁾	2.75	45.1	21.40	80.8	20.95	79.2	20.44	77.0	1.83	1.36	25.80	19.23	55.48	41.37
	B15 ⁶⁾	3.05	50.0	23.78	89.8	23.35	88.3	22.88	86.5	1.97	1.47	28.55	21.28	57.35	42.76

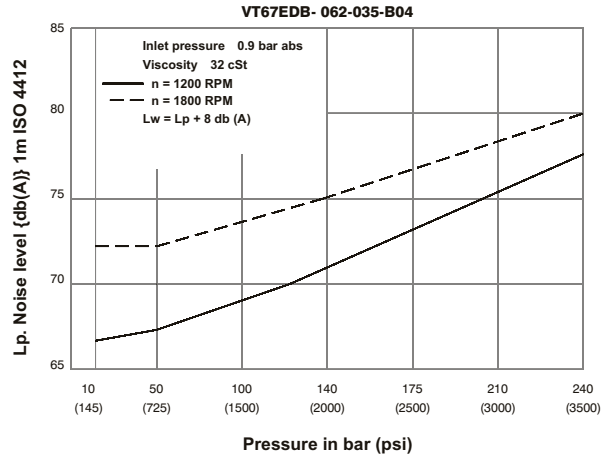
1) 085 = 75 bar (1087 psi) cont. 2) 085 = 90 bar (1300 psi) max. int. 3) 042-045-050-061-085 = 2000 RPM max. 4) 050=210 bar (3000 psi) max. int.
5) 061 = 120 bar (1740 psi) max. int., 061 = 80 bar (1160 psi) cont. 6) B11-B12-B14 = 300 bar (4350 psi) & B15 = 280 bar (4060 psi) max. int. And Max. Speed = 3000 rpm

INTERNAL LEAKAGE (TYPICAL)



Do not operate pump more than 5 seconds at any speed or viscosity if internal leakage is more than 50% of theoretical flow.
Total leakage is the sum of each section loss at its operating conditions.

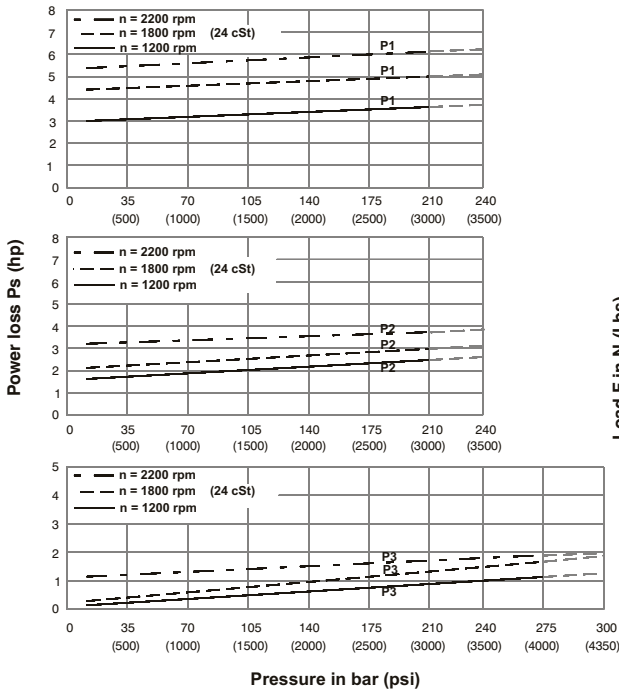
NOISE LEVEL (TYPICAL)



Triple pump noise level is given with each section discharging at the pressure noted on the curve.

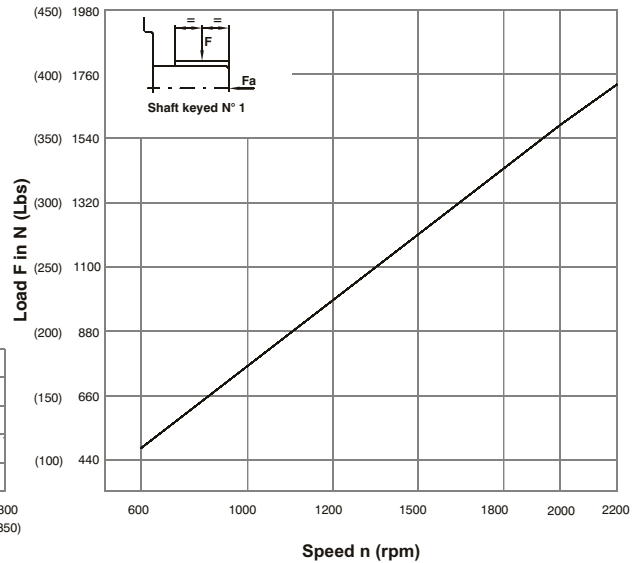
TP

HYDROMECHANICAL POWER LOSS (TYPICAL)



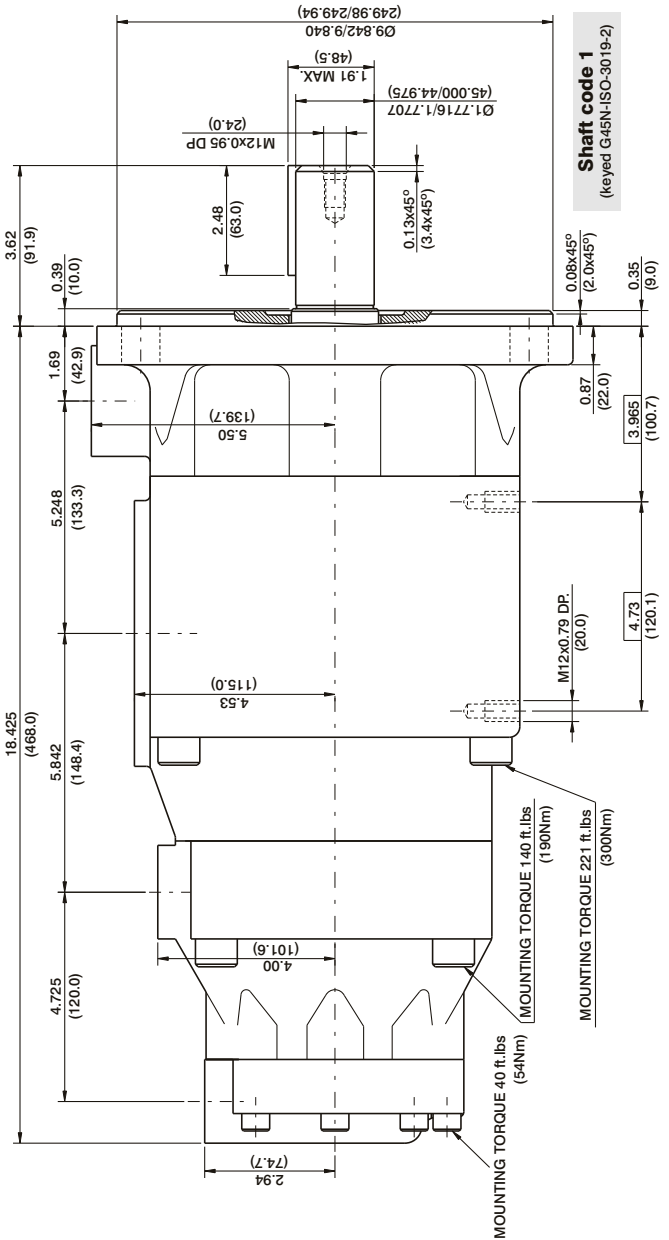
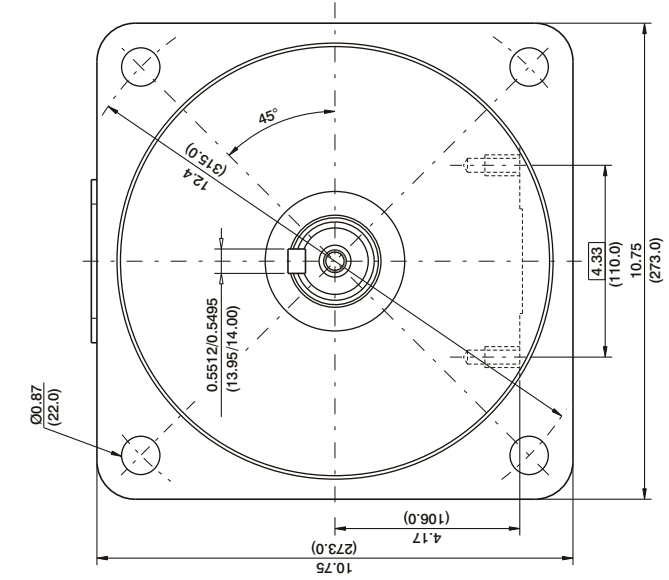
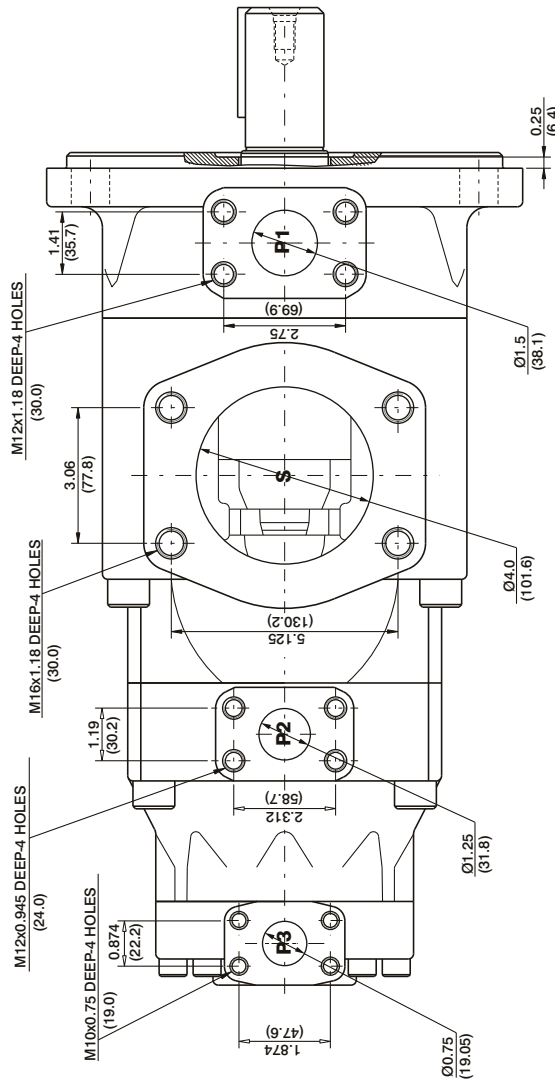
Total hydromechanical power loss is the sum of each section at its operating conditions

PERMISSIBLE RADIAL LOAD



Maximum axial load permissible $F_a = 2000 \text{ N (449 Lbs)}$

Shaft torque limits in³/rev x psi (ml/rev x bar)	
Shaft	Vp x p max. (P1 + P2 + P3)
1	101506 (114715)



VT67EDC or T67EDCS - 062 - B35 - 010 - 1 R 00 - A 1 - M1 - *

T67EDC Series-ISO 4 bolts 3019-2
Mounting flange 250 B4HW
T67EDCS Series - SAE E
Mounting flange J744c

Cam ring for "P1"

Volumetric displacement cm³/rev (in³/rev)

042 = 132.3 (8.07)	057 = 183.2 (11.18)
045 = 142.6 (8.70)	062 = 196.6 (12.00)
050 = 158.5 (9.67)	066 = 213.0 (13.00)
052 = 163.9 (10.00)	072 = 227.2 (13.86)
054 = 170.9 (10.43)	085 = 269.8 (16.40)

Cam ring for "P2"

Volumetric displacement cm³/rev (in³/rev)

B14 = 43.9 (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 = 158.0 (9.64)

Cam ring for "P3"

Volumetric displacement cm³/rev (in³/rev)

003 = 10.8 (0.66)	017 = 58.3 (3.56)
005 = 17.2 (1.05)	020 = 63.7 (3.89)
006 = 21.3 (1.30)	022 = 70.3 (4.29)
008 = 26.3 (1.61)	025 = 79.3 (4.84)
010 = 34.0 (2.08)	028 = 88.8 (5.42)
012 = 37.0 (2.26)	031 = 100 (6.10)
014 = 46.0 (2.81)	

Modifications

Mounting w/connection variables

4 bolts SAE flanges J518

P1=1-1/2" P2=1-1/4" S=4"			
Type	P3	UNC	Metric
T67EDC	1"		M0
T67EDC	3/4"		M1
T67EDCS	1"	00	M0
T67EDCS	3/4"	01	M1

Seal class

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

Design letter

Porting combination (see page CI-1-4.5)

00 = Standard

Direction of rotation (view on the shaft)

- R - Clockwise
- L - Counter - clockwise

Type of Shaft T67EDC

- 1 - Keyed (G45N-ISO 3019-2)

Type of Shaft T67EDCS

- 2 - Keyed (SAE D&E)
- 3 - Splined (SAE D&E)

OPERATING CHARACTERISTICS - TYPICAL (24 cST) (Input power p (KW) for one cartridge only)

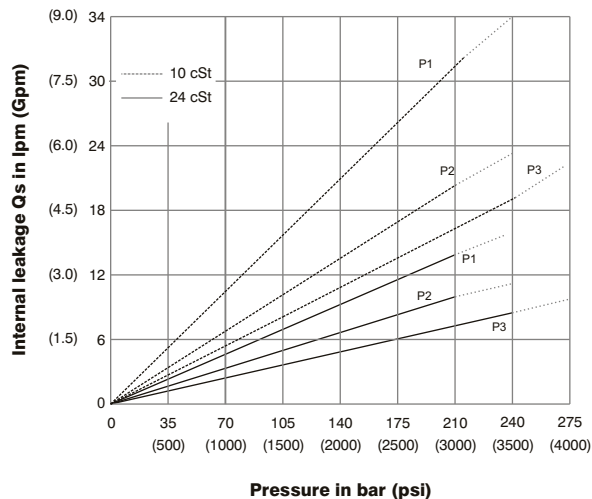
Pressure port	Series	Volumetric Displacement Vp		Flow q & n = 1800 rpm						Input power p & n = 1800 rpm					
				p = 0 bar (0 psi)		p = 140 bar (2000 psi)		p = 240 bar (3500 psi)		p = 7 bar (100 psi)		p = 140 bar (2000 psi)		p = 240 bar (3500 psi)	
		in ³ /rev	cm ³ /rev	gpm	lpm	gpm	lpm	gpm	lpm	hp	kw	hp	kw	hp	kw
P1	042	8.07	132.3	62.92	239.1	60.37	229.4	58.52	222.4	8.09	6.03	78.44	58.49	133.80	99.8
	045	8.70	142.5	67.72	257.3	65.17	247.6	63.32	240.6	8.37	6.24	84.04	62.67	143.60	107.1
	050	9.67	158.5	75.38	286.3	72.83	276.8	70.98	269.7	8.82	6.58	92.97	69.30	159.24	118.8
	052	10.00	163.9	78.37	297.8	75.82	288.1	73.97	281.1	8.99	6.70	96.47	71.94	165.36	123.4
	054	10.43	170.9	81.27	308.8	78.72	299.1	76.87	292.1	9.17	6.84	99.75	74.40	177.46	132.4
	057	11.18	183.2	87.12	331.1	84.57	321.4	82.72	314.3	9.51	7.09	106.57	79.5	189.84	141.6
	062	12.00	196.7	93.54	355.5	90.99	345.8	89.14	338.7	9.88	7.37	114.17	85.2	196.34	146.5
	066	13.00	213.0	101.44	385.5	98.89	375.8	97.04	368.8	10.34	7.71	123.38	92.01	212.46	158.5
	072	13.86	227.1	108.00	410.4	105.45	400.7	103.60	393.7	10.72	8.00	131.04	97.8	225.86	168.5
	085 ¹⁾	16.40	268.7	127.79	485.6	126.13	479.3	--	--	11.88	8.86	101.66	75.8	--	--
P2				p = 0 bar (0 psi)	p = 140 bar (2000 psi)	p = 250 bar (3630 psi)	p = 7 bar (100 psi)	p = 140 bar (2000 psi)	p = 250 bar (3630 psi)						
	B14	2.68	43.93	20.92	79.50	19.18	72.88	17.81	67.7	3.46	2.6	27.77	20.7	47.03	35.1
	B17	3.36	55.07	26.16	99.41	24.41	92.76	23.04	87.6	3.77	2.8	33.88	25.3	57.71	43.1
	B20	4.03	66.05	31.39	119.28	29.64	112.63	28.27	107.4	4.07	3.0	39.98	29.8	68.39	51.0
	B22	4.29	70.31	33.43	127.03	31.69	120.42	30.32	115.2	4.19	3.1	42.37	31.6	72.57	54.1
	B24	4.95	81.13	38.50	146.30	36.82	139.92	35.45	134.7	4.49	3.3	48.36	36.1	83.06	62.0
	B28	5.49	89.98	42.80	162.64	41.06	156.03	39.69	150.8	4.74	3.5	53.3	39.8	91.7	68.4
	B31	6.05	99.16	47.18	179.28	45.43	172.63	44.06	167.4	4.99	3.7	58.41	43.6	100.63	75.1
	B35	6.92	113.42	53.93	204.93	52.18	198.28	50.81	193.1	5.39	4.0	66.29	49.5	114.42	85.4
	B38	7.36	120.63	57.30	217.74	55.61	211.32	54.24	206.1	5.59	4.2	70.28	52.4	121.42	90.6
	B42 ²⁾	8.39	137.51	65.30	248.14	63.35	240.73	62.28	236.7	6.05	4.5	79.66	59.4	137.83	102.8
	045 ²⁾	8.89	145.71	69.20	262.96	67.11	255.02	65.31	248.2	6.74	5.0	83.75	62.5	145.79	108.8
	050 ^{2,3)}	9.64	158	75.14	285.53	72.96	277.2	71.78	272.8	7.08	5.3	90.58	67.6	134.5	100.3
P3				p = 0 bar (0 psi)	p = 140 bar (2000 psi)	p = 275 bar (4000 psi)	p = 7 bar (100 psi)	p = 140 bar (2000 psi)	p = 275 bar (4000 psi)						
	003	0.66	10.82	5.14	19.53	3.85	14.6	--	--	2.11	1.6	8.45	6.3	--	--
	005	1.05	17.21	8.18	31.08	6.89	26.2	5.68	21.6	2.29	1.7	12.0	9.0	19.81	14.8
	006	1.30	21.31	10.13	38.49	8.84	33.6	7.63	29.0	2.4	1.8	14.28	10.7	23.79	17.7
	008	1.61	26.39	12.55	47.69	11.26	42.8	10.05	38.2	2.54	1.9	17.11	12.8	28.75	21.4
	010	2.08	34.09	16.22	61.64	14.93	56.7	13.71	52.1	2.76	2.1	21.38	15.9	36.22	27.0
	012	2.26	37.04	17.64	67.03	16.35	62.1	15.14	57.5	2.84	2.1	23.05	17.2	39.14	29.2
	014	2.81	46.06	21.88	83.14	20.59	78.2	19.37	73.6	3.09	2.3	27.99	20.9	47.78	35.6
	017	3.56	58.35	27.73	105.37	26.44	100.5	25.22	95.8	3.43	2.6	34.81	26.0	59.73	44.6
	020	3.89	63.76	30.34	115.29	29.05	110.4	27.84	105.8	3.58	2.7	37.86	28.2	65.07	48.5
	022 ⁵⁾	4.29	70.31	33.43	127.03	32.14	122.1	30.93	117.5	3.76	2.8	41.47	30.9	71.38	53.2
	025 ^{4,6)}	4.84	79.33	37.71	143.30	36.42	138.4	35.21	133.8	4.01	3.0	46.46	34.7	80.12	59.8
	028 ^{4,7)}	5.42	88.83	42.23	160.47	40.94	155.6	40.32	153.2	4.27	3.2	51.74	38.6	76.73	57.2
	031 ^{4,7)}	6.10	99.98	47.56	180.73	46.27	175.8	45.65	173.5	4.58	3.4	57.95	43.2	86.06	64.2

-- We do not recommend to use this 003 at 275 bar (4000 psi) and 1500 rpm since internal leakage is over 50% of theoretical flow.

1) 085 = 90 bar (1300 psi) max. int. 2) 042-045-050 = 2200 RPM max. 3) 050=210 bar (3000 psi) max. int.

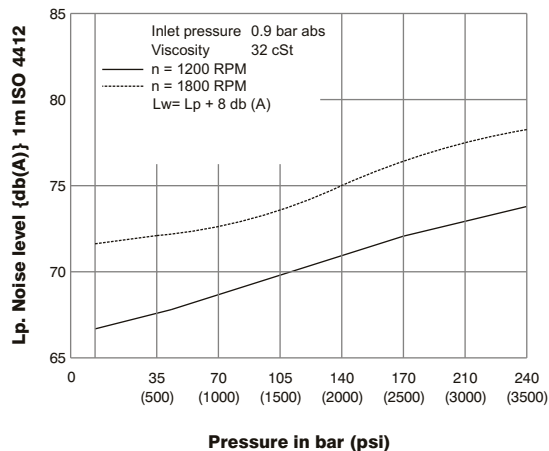
4) 025-028-031 = 2500 R.P.M. max. 5) 022= 275 bar max. int. 6) 025 = 240 bar max. int. 7) 028-031 = 210 bar (3000 psi) max. int.

INTERNAL LEAKAGE (TYPICAL)



Do not operate pump more than 5 seconds at any speed or viscosity if internal leakage is more than 50% of theoretical flow.
Total leakage is the sum of each section loss at its operating conditions.

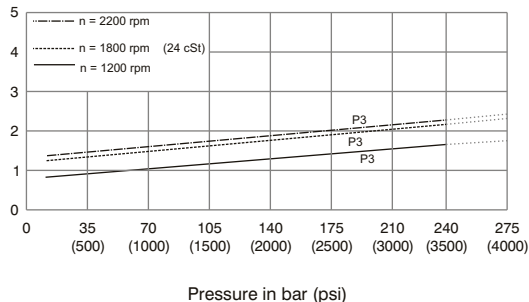
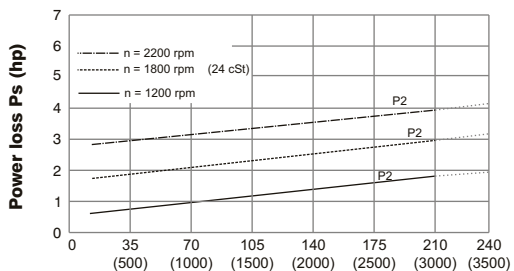
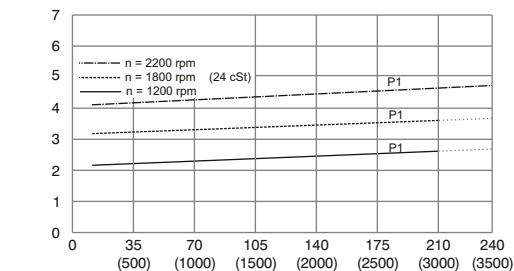
NOISE LEVEL (TYPICAL) VT67EDCS- 062-B35-022



Triple pump noise level is given with each section discharging at the pressure noted on the curve.

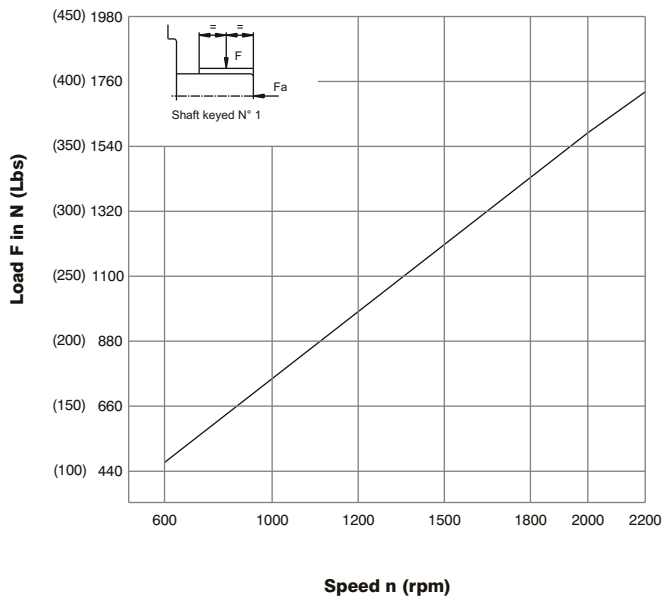


HYDROMECHANICAL POWER LOSS (TYPICAL)

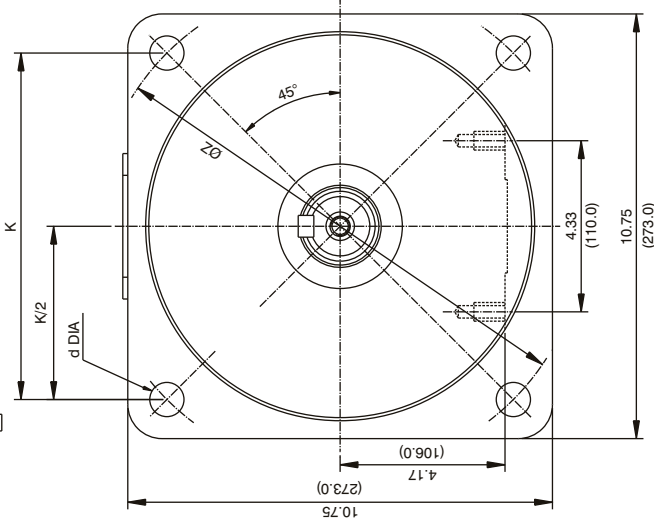
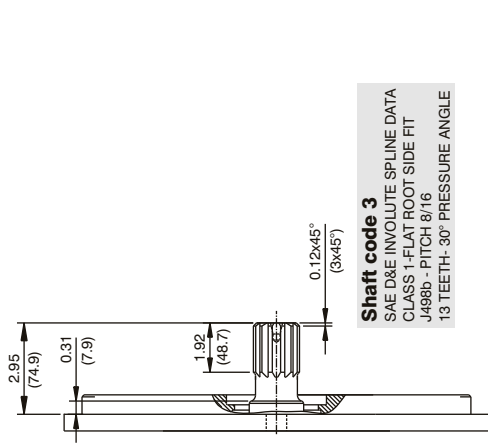
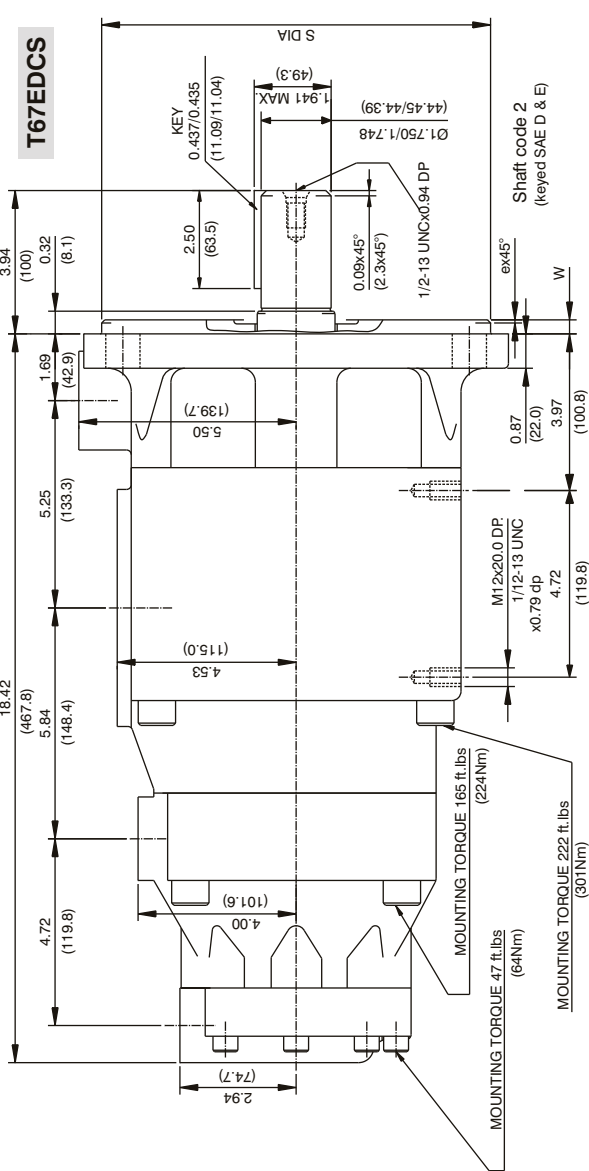
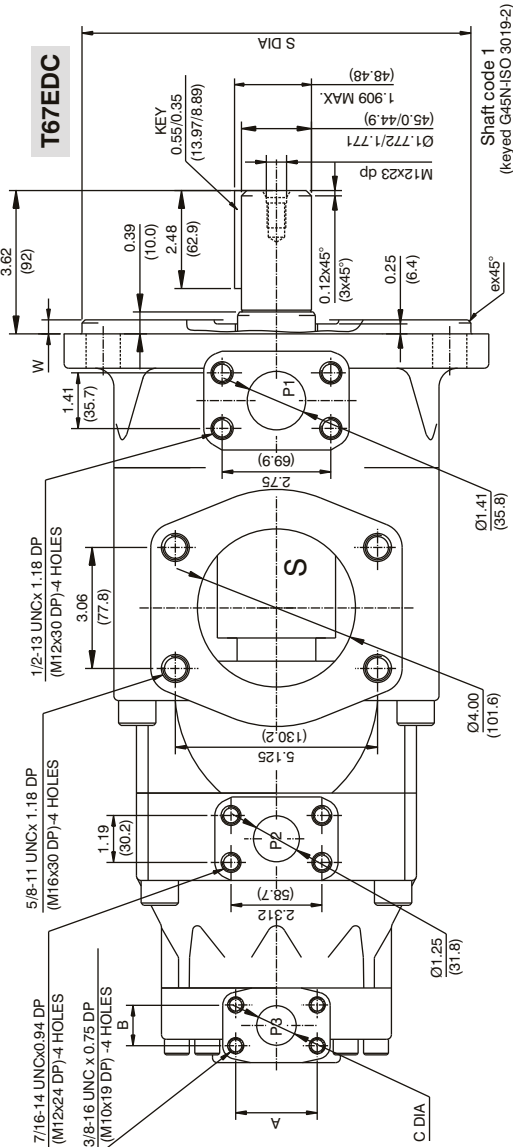


Total hydromechanical power loss is the sum of each section at its operating conditions

PERMISSIBLE RADIAL LOAD



Maximum permissible axial load $F_a = 2000 \text{ N (449 Lbs)}$



Alternate connect. variables		
	00 & IM0	01 & M1
A	2.063(52.4)	1.874(47.5)
B	1.031(26.1)	0.874(22.1)
C	1.000(25.4)	0.748(18.9)

Alternate mounting flange						
Series	S Dia	W	K	Z Dia	d Dia	e x 45°
T67EDC	Max. 9.842(249.98)	0.079(2)	0.354(8.9)	12.401(314.9)	0.866(21.9)	-
T67EDCS	Min. 6.500(165.1)	0.079(2)	0.354(8.9)	8.838(224.4)	0.811(20.5)	-

Shaft torque limits in ³ /rev x psi (ml/rev x bar)	
Shaft	Vp x p max. (P1+P2+P3)
1	101506 (114715)
2	104818 (118457)
3	112312 (126927)

3MICT

vt7dbb	2
28 Page 28	2
29 Page 29	3
30 Page 30	4
31 Page 31	5
32 Page 32	6
vt7ddb	7
vt7edb	10
vt7qdcb	13
vt7qdcc	15
vt7qedc	18

HIGH PERFORMANCE VANE PUMP VT7DBB / VT7DBBS ◆ VELJAN

VT7DBB / VT7DBBS - B38 - B14 - B08 - 1 R 00 - A 1 - M1 - *

VT7DBB Series-125 B4 HW
ISO 2 bolts 3019-2 mounting flange
VT7DBBS Series - SAE C 2 bolts
Mounting flange J744

Cam ring for "P1"

Volumetric displacement cm³/rev (in³/rev)

B14 = 43.9 (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" & P3

Volumetric displacement cm³/rev (in³/rev)

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

Type of Shaft for VT7DBBS

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

Type of Shaft for VT7DBB / VT7DBBS

- 5 - Keyed (ISO / R775 - G38M)

Modifications

Mounting w/connection variables

4 bolts SAE flange (J518)

P1 = 1 1/4" & P2 = 1" S = 4"			
	P3	UNC	METRIC
VT7DBB	1"		M0
VT7DBB	3/4"		M1
VT7DBBS	1"	00	M0
VT7DBBS	3/4"	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 CI-1-4,5)

00 = Standard

Direction of rotation (view on shaft end)

- R - Clockwise
- L - Counter - clockwise

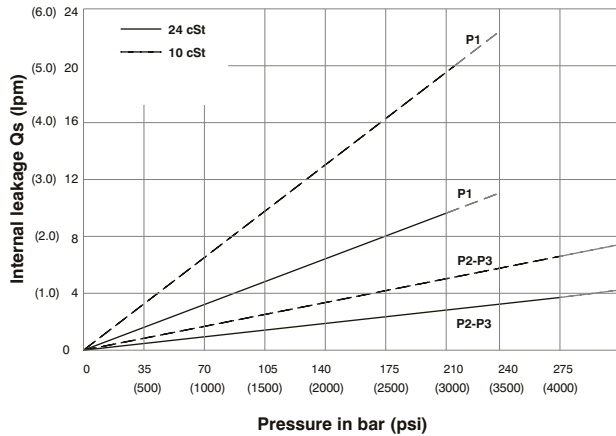
VP
TP

OPERATING CHARACTERISTICS - TYPICAL (24 cST) (Input power p (KW) for one cartridge only)

Pressure port	Series	Volumetric Displacement Vp		Flow q & n = 1800 rpm						Input power p & n = 1800 rpm					
				p = 0 bar (0 psi)		p = 140 bar (2000 psi)		p = 250 bar (3630 psi)		p = 7 bar (100 psi)		p = 140 bar (2000 psi)		p = 250 bar (3630 psi)	
				in ³ /rev	cm ³ /rev	gpm	lpm	gpm	lpm	gpm	lpm	hp	kw	hp	kw
P1	B14	2.68	43.9	20.92	79.1	19.18	72.5	17.81	67.3	3.46	2.6	27.77	20.7	47.03	35.0
	B17	3.36	55.0	26.16	98.8	24.41	92.3	23.04	87.0	3.77	2.8	33.88	25.3	57.71	43.0
	B20	4.03	66.0	31.39	118.6	29.64	112.0	28.27	106.8	4.07	3.0	39.98	29.8	68.39	50.9
	B22	4.29	70.3	33.43	126.4	31.69	119.8	30.32	104.6	4.19	3.1	42.37	31.6	72.57	54.0
	B24	4.95	81.1	38.57	145.8	36.82	139.2	35.45	134.0	4.49	3.4	48.36	36.1	83.06	61.9
	B28	5.49	89.9	42.80	161.8	41.06	155.2	39.69	150.0	4.74	3.5	53.30	39.7	91.70	68.3
	B31	6.05	99.1	47.18	178.3	45.43	171.7	44.06	166.5	4.99	3.7	58.41	43.6	100.63	75.0
	B35 ¹⁾	6.92	113.4	53.93	203.9	52.18	197.2	50.81	192.0	5.39	4.0	66.29	49.4	114.42	85.3
	B38 ¹⁾	7.36	120.6	57.35	216.8	55.61	210.2	54.24	204.9	5.59	4.2	70.28	52.4	121.42	90.5
	B42 ²⁾	8.39	137.5	65.39	247.2	63.65	240.6	62.28	235.4	6.05	4.5	79.66	59.4	137.83	102.7
	045 ³⁾	8.89	145.7	69.29	262.0	67.11	253.6	65.31	246.8	6.74	5.0	83.75	62.4	145.79	108.7
	050 ⁴⁾	9.64	157.9	75.14	284.0	72.96	275.8	71.78	271.3	7.08	5.3	90.58	67.5	134.50	100.3
P2 & P3				p = 0 bar (0 psi)		p = 140 bar (2000 psi)		p = 300 bar (4350 psi)		p = 7 bar (100 psi)		p = 140 bar (2000 psi)		p = 300 bar (4350 psi)	
	B02	0.35	5.7	2.76	10.4	2.33	8.8	1.80	6.8	0.74	0.55	4.02	2.99	8.10	6.04
	B03	0.60	9.8	4.66	17.6	4.23	15.9	3.63	14.0	0.85	0.63	6.24	4.65	12.93	9.64
	B04	0.78	12.8	6.09	23.0	5.66	21.4	5.13	19.4	0.94	0.70	7.90	5.89	16.55	12.34
	B05	0.97	15.9	7.56	28.6	7.13	26.9	6.60	25.0	1.02	0.76	9.62	7.17	20.29	15.13
	B06	1.21	19.8	9.42	35.6	8.99	33.9	8.46	32.0	1.13	0.84	11.79	8.79	25.00	18.64
	B07	1.37	22.5	10.70	40.4	10.27	38.8	9.74	36.8	1.20	0.89	13.29	9.91	28.26	21.07
	B08	1.52	24.9	11.84	44.7	11.41	43.1	10.88	41.1	1.27	0.95	14.62	10.90	31.15	23.23
	B09	1.71	28.0	13.31	50.3	12.87	48.6	12.35	47.0	1.36	1.01	16.35	12.19	34.92	26.04
	B10	1.94	31.8	15.12	57.2	14.69	55.5	14.16	53.5	1.46	1.09	18.45	13.75	39.48	29.44
	B11 ⁵⁾	2.13	34.9	16.64	62.9	16.19	61.2	15.68	59.3	1.55	1.16	20.17	15.04	43.22	32.23
	B12 ⁵⁾	2.50	40.9	19.50	73.7	19.07	72.1	18.54	70.1	1.72	1.28	23.55	17.56	50.58	37.71
	B14 ⁵⁾	2.75	45.1	21.40	80.8	20.95	79.2	20.44	77.0	1.83	1.36	25.80	19.24	55.48	41.37
	B15 ⁵⁾	3.05	50.0	23.78	89.8	23.35	88.3	22.88	86.5	1.97	1.47	28.55	21.28	57.35	42.76

1) B35-B38 = 280 bar (4060 psi) max.int. 2) B42 = 260 bar (3770 psi) max.int. 3) 045 = 240 bar (3500 psi) max. int. 4) 050 = 210 bar (3000 psi) max. int
5) B11-B12-B14 = 300 bar (4350 psi) & B15 = 280 bar (4060 psi) max. int. And Max. Speed = 3000 rpm

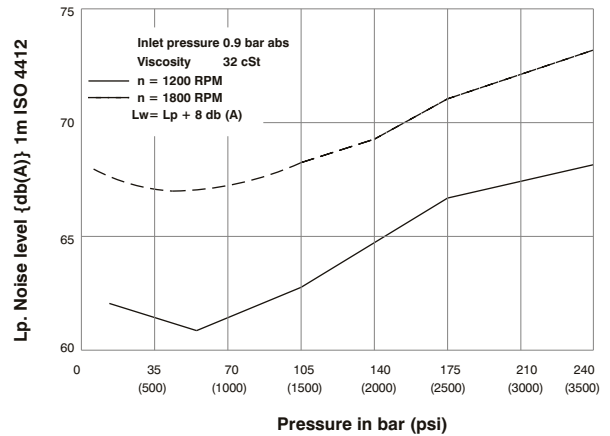
INTERNAL LEAKAGE (TYPICAL)



Do not operate pump more than 5 seconds at any speed or viscosity if internal leakage is more than 50% of theoretical flow. Total leakage is the sum of each section loss at its operating conditions.

NOISE LEVEL (TYPICAL)

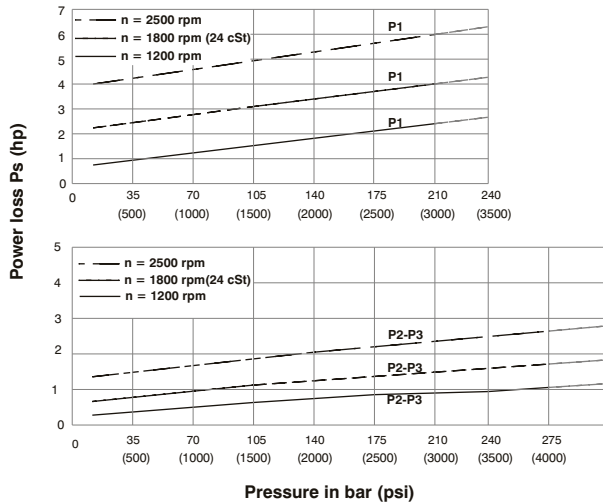
VT7DBB- B38-B06-B04



Triple pump noise level is given with each section discharging at the pressure noted on the curve.

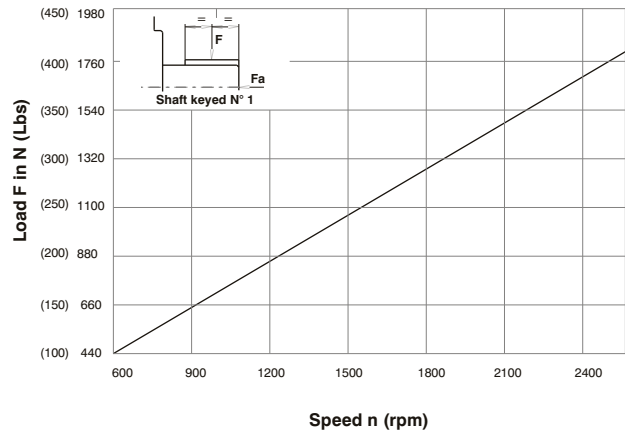
VP
TP

HYDROMECHANICAL POWER LOSS (TYPICAL)



Total hydromechanical power loss is the sum of each section at its operating conditions.

PERMISSIBLE RADIAL LOAD



Maximum permissible axial load $F_a = 1200$ N (270 Lbs)

VT7QDCB - B38 - 028 - B10 - 1 R 00 - A 1 - M1 - *

Series- SAE C 2 bolts
Mounting flange J744c

Cam ring for "P1"

Volumetric displacement cm³/rev (in³/rev)

B14 = 43.9 (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 cm³/rev (in³/rev)

*003/B03/Y03 = 10.8 (0.66)	015/B15/Y15 = 50.5 (3.08)
005/B05/Y05 = 17.2 (1.05)	017/B17/Y17 = 58.3 (3.56)
006/B06/Y06 = 21.3 (1.30)	020/B20/Y20 = 63.8 (3.89)
008/B08/Y08 = 26.4 (1.61)	022/B22/Y22 = 70.3 (4.29)
010/B10/Y10 = 34.1 (2.08)	025/B25/Y25 = 79.3 (4.84)
012/B12/Y12 = 37.1 (2.26)	028/B28/Y28 = 88.8 (5.42)
014/B14/Y14 = 46.0 (2.81)	031/B31/Y31 = 100.0 (6.10)

*'0' - Uni - directional 'B' - Bi - directional 'Y' - Bi - directional for cold start

Cam ring for "P3"

Volumetric displacement cm³/rev (in³/rev)

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

Modifications

Mounting w/connection variables

P1=1 ¼" P2=1" P3=¾" 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 CI-1-4,5)
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)

VP
TP

OPERATING CHARACTERISTICS - TYPICAL (24 cST) (Input power p (KW) for one cartridge only)

Pressure port	Series	Volumetric Displacement Vp		Flow q & n = 1800 rpm						Input power p & n = 1800 rpm					
				p = 0 bar (0 psi)		p = 140 bar (2000 psi)		p = 250 bar (3630 psi)		p = 7 bar (100 psi)		p = 140 bar (2000 psi)		p = 250 bar (3630 psi)	
		in ³ /rev	cm ³ /rev	gpm	lpm	gpm	lpm	gpm	lpm	hp	kw	hp	kw	hp	kw
P1	B14	2.68	43.9	20.92	79.1	19.18	72.5	17.81	67.3	3.46	2.6	27.77	20.7	47.03	35.0
	B17	3.36	55.0	26.16	98.8	24.41	92.3	23.04	87.0	3.77	2.8	33.88	25.3	57.71	43.0
	B20	4.03	66.0	31.39	118.6	29.64	112.0	28.27	106.8	4.07	3.0	39.98	29.8	68.39	50.9
	B22	4.29	70.3	33.43	126.4	31.69	119.8	30.32	104.6	4.19	3.1	42.37	31.6	72.57	54.0
	B24	4.95	81.1	38.57	145.8	36.82	139.2	35.45	134.0	4.49	3.4	48.36	36.1	83.06	61.9
	B28	5.49	89.9	42.80	161.8	41.06	155.2	39.69	150.0	4.74	3.5	53.30	39.7	91.70	68.3
	B31	6.05	99.1	47.18	178.3	45.43	171.7	44.06	166.5	4.99	3.7	58.41	43.6	100.63	75.0
	B35 ¹⁾	6.92	113.4	53.93	203.9	52.18	197.2	50.81	192.0	5.39	4.0	66.29	49.4	114.42	85.3
	B38 ¹⁾	7.36	120.6	57.35	216.8	55.61	210.2	54.24	204.9	5.59	4.2	70.28	52.4	121.42	90.5
	B42 ²⁾	8.39	137.5	65.39	247.2	63.65	240.6	62.28	235.4	6.05	4.5	79.66	59.4	137.83	102.7
045 ³⁾	8.89	145.7	69.29	262.0	67.11	253.6	65.31	246.8	6.74	5.0	83.75	62.4	145.79	108.7	
050 ⁴⁾	9.64	157.9	75.14	284.0	72.96	275.8	71.78	271.3	7.08	5.3	90.58	67.5	154.50	100.3	
P2				p = 0 bar (0 psi)	p = 140 bar (2000 psi)	p = 300 bar (4350 psi)	p = 7 bar (100 psi)	p = 140 bar (2000 psi)	p = 300 bar (4350 psi)						
	003	0.66	10.8	5.14	19.6	3.85	14.6	--	--	2.11	1.57	8.45	6.30	--	--
	005	1.05	17.2	8.18	30.9	6.89	26.0	4.34	16.44	2.29	1.70	12.00	8.94	23.97	17.88
	006	1.30	21.3	10.13	38.3	8.84	33.4	5.71	21.6	2.40	1.78	14.28	10.64	28.96	21.60
	008	1.61	26.4	12.55	47.4	11.26	42.6	8.12	30.72	2.54	1.89	17.11	12.75	35.08	26.16
	010	2.08	34.1	16.22	61.3	14.93	56.4	11.81	44.64	2.76	2.06	21.38	15.94	44.25	33.00
	012	2.26	37.1	17.64	66.7	16.35	61.8	13.24	50.04	2.84	2.11	23.05	17.18	47.47	35.40
	014	2.81	46.0	21.88	82.7	20.59	77.8	17.46	66.00	3.09	2.30	27.99	20.87	58.73	43.80
	015	3.08	50.5	23.99	90.7	22.83	86.3	19.39	73.32	3.21	2.40	30.30	22.60	63.56	47.40
	017	3.56	58.3	27.73	104.8	26.44	99.9	23.33	88.2	3.43	2.55	34.81	25.95	73.54	54.84
	020	3.89	63.8	30.34	114.7	29.05	109.8	25.93	98.04	3.58	2.66	37.86	28.23	80.14	59.76
	022 ⁶⁾	4.29	70.3	33.43	126.4	32.14	121.5	29.05	109.8	3.76	2.80	41.47	30.92	80.94	60.36
	025 ^{5,7)}	4.84	79.3	37.71	142.5	36.42	137.6	--	--	4.01	2.99	46.46	34.64	--	--
	028 ^{5,8)}	5.42	88.8	42.23	159.6	40.94	154.7	--	--	4.27	3.18	51.74	38.58	--	--
	031 ^{5,8)}	6.10	100.0	47.56	179.7	46.27	174.9	--	--	4.58	3.41	57.95	43.21	--	--
P3	B02	0.35	5.7	2.76	10.4	2.33	8.8	1.80	6.8	0.74	0.55	4.02	2.99	8.10	6.40
	B03	0.60	9.8	4.66	17.6	4.23	15.9	3.70	14.0	0.85	0.63	6.24	4.65	12.93	10.25
	B04	0.78	12.8	6.09	23.0	5.66	21.4	5.13	19.4	0.94	0.70	7.90	5.89	16.55	13.13
	B05	0.97	15.9	7.56	28.6	7.13	26.9	6.60	25.0	1.02	0.76	9.62	7.17	20.29	16.12
	B06	1.21	19.8	9.42	35.6	8.99	33.9	8.46	32.0	1.13	0.84	11.79	8.79	25.00	19.88
	B07	1.37	22.5	10.70	40.4	10.27	38.8	9.74	36.8	1.20	0.89	13.29	9.91	28.26	22.47
	B08	1.52	24.9	11.84	44.7	11.41	43.1	10.88	41.1	1.27	0.94	14.62	10.90	31.15	24.78
	B09	1.71	28.0	13.31	50.3	12.87	48.6	12.35	47.0	1.36	1.01	16.35	12.19	34.92	27.77
	B10	1.94	31.8	15.12	57.2	14.69	55.5	14.16	53.5	1.46	1.11	18.45	13.75	39.48	31.42
	B11 ⁹⁾	2.13	34.9	16.64	62.9	16.19	61.2	15.68	59.3	1.55	1.15	20.17	15.04	43.22	32.22
	B12 ⁹⁾	2.50	40.9	19.50	73.7	19.07	72.1	18.54	70.1	1.72	1.28	23.55	17.56	50.58	37.71
	B14 ⁹⁾	2.75	45.1	21.40	80.8	20.95	79.2	20.44	77.0	1.83	1.36	25.80	19.23	55.48	41.37
	B15 ⁹⁾	3.05	50.0	23.78	89.8	23.35	88.3	22.88	86.5	1.97	1.47	28.55	21.28	57.35	42.76

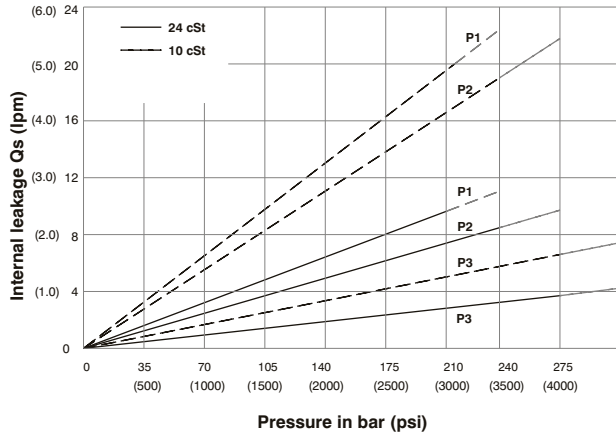
1) B35-B38 = 280 bar (4060 psi) max.int. 2) B42 = 260 bar (3770 psi) max.int. 3) 045 = 240 bar (3500 psi) max. int. 4) 050 = 210 bar (3000 psi) max. int.

5) 025-028-031 = 2500 R.P.M. max. 6) 022 = 275 bar max. int. 7) 025 = 240 bar max. int. 8) 028-031 = 210 bar max. int.

9) B11-B12-B14 = 300 bar (4350 psi) & B15 = 280 bar (4060 psi) max. int. And Max. Speed = 3000 rpm

-- Not to use because internal leakage greater than 50% of theoretical flow

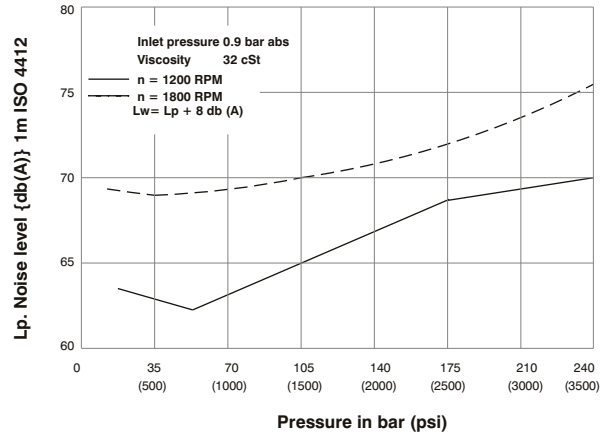
INTERNAL LEAKAGE (TYPICAL)



Do not operate pump more than 5 seconds at any speed or viscosity if internal leakage is more than 50% of theoretical flow. Total leakage is the sum of each section loss at its operating conditions.

NOISE LEVEL (TYPICAL)

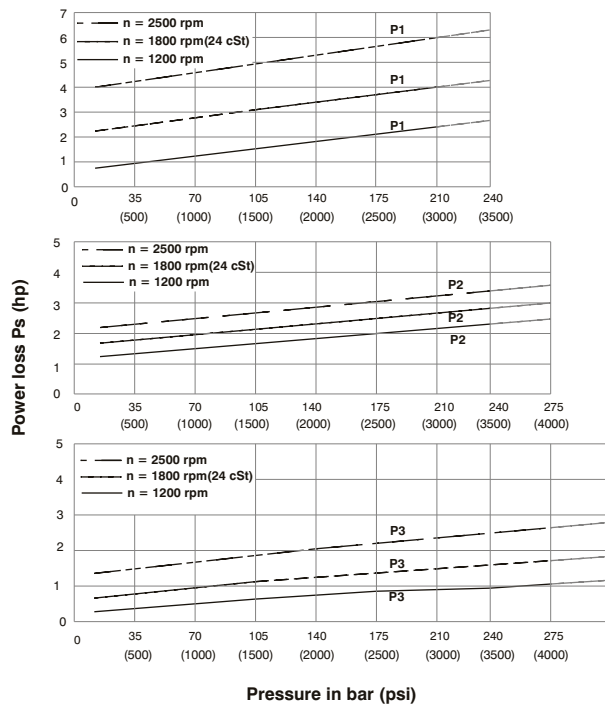
VT7QDCB- B38-022-B10



Triple pump noise level is given with each section discharging at the pressure noted on the curve.

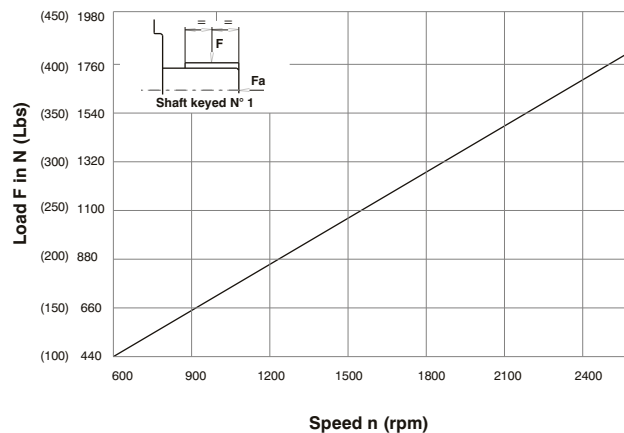
VP
TP

HYDROMECHANICAL POWER LOSS (TYPICAL)

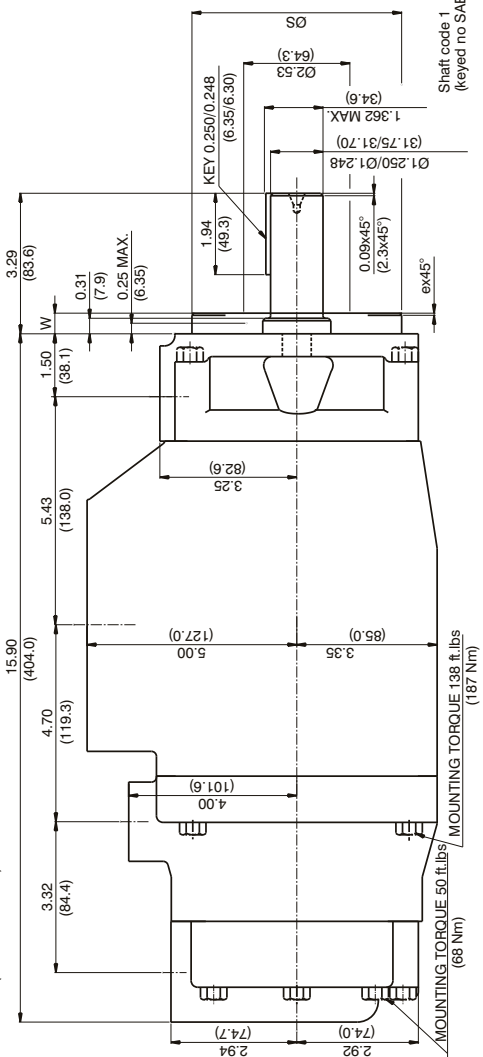
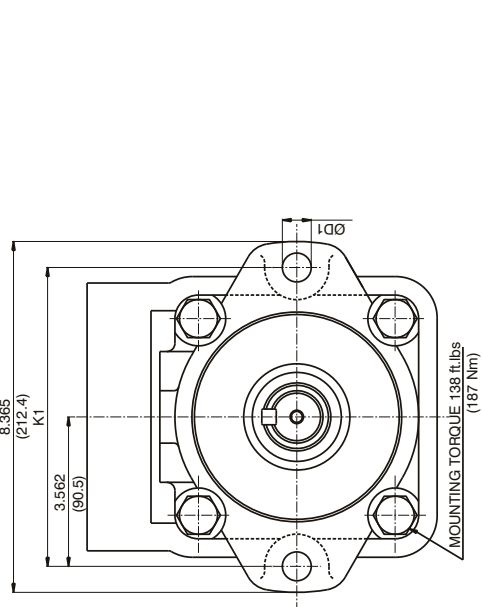
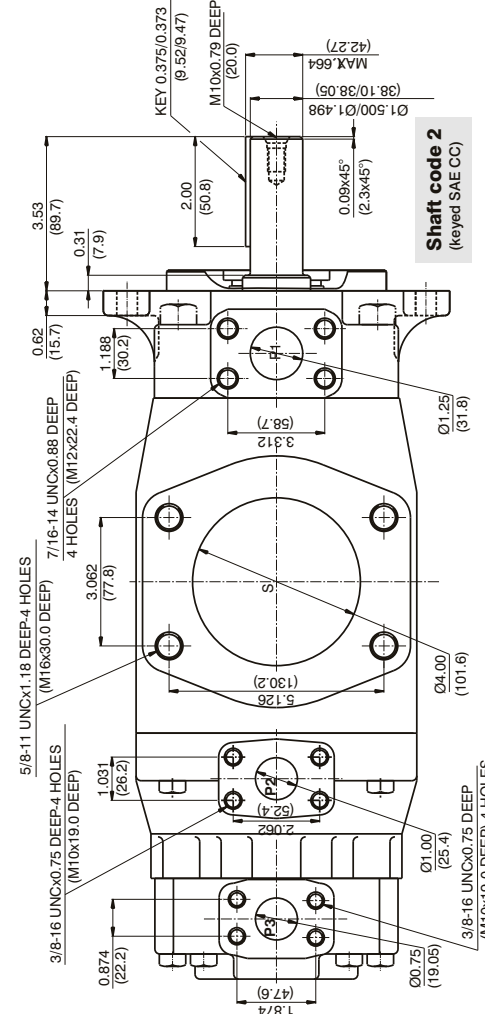
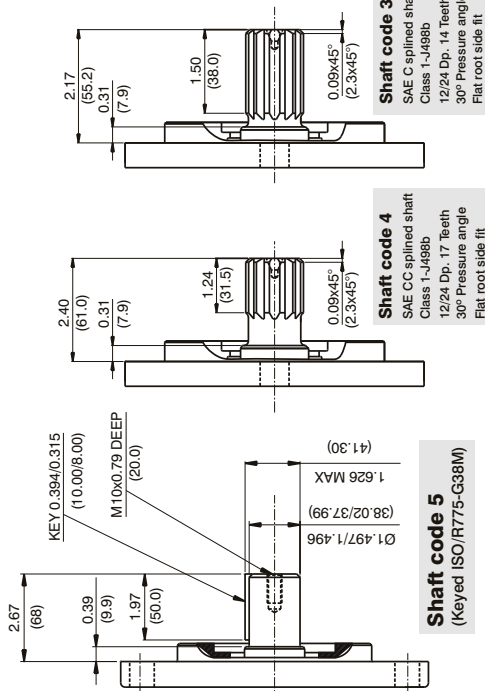


Total hydromechanical power loss is the sum of each section at its operating conditions.

PERMISSIBLE RADIAL LOAD



Maximum permissible axial load $F_a = 1200$ N (270 Lbs)



(187 Nm)

Alternate connect variables		
00 & M0	01 & M1	
A	1.03(26.2)	0.874(22.2)
B	2.06(52.4)	1.874(47.6)
C	1.00(25.4)	0.75(19.05)

Series	ØS		W	K1	ØD1
	MAX.	Min.			
VT7DBB	4.92(124.99)	4.919(124.94)	0.374(9.49)	7.087(180.0)	0.709(18.0)
VT7DBS	5.00(127.00)	4.998(126.94)	0.059(1.5)	7.126(181.0)	0.689(17.5)

Shaft	Shaft torque limits in ³ /rev x psi (ml/rev x bar)	
	Vp x p max. (P1 + P2 + P3)	
1	38299 (43240)	
2	58901 (66500)	
3	54027 (61200)	
4	58901 (66500)	
5	47033 (53153)	

VT7DDB or VT7DDBS - 050 - B28 - B10 - 1 R 00 - A 1 - 00 *

VT7DDB series - ISO 4 bolts 3019-2

mounting flange 125 B4 HW

VT7DDBS series- SAE C 6 bolts

Mounting flange J744c

Cam ring for "P1" & "P2"

Volumetric displacement cm³/rev (in³/rev)

B14 = 43.9 (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 "P3"

Volumetric displacement cm³/rev (in³/rev)

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

Type of Shaft VT7DDBS

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

Type of Shaft VT7DDB-VT7DDBS

- 5 - Keyed (ISO R775-G38M)

Modifications

Mounting w/connection variables

4 bolts SAE flange (J518)

	P1 & P2= 1"1/4 S = 4"	
	P3	UNC METRIC
VT7DDB	1"	M0
VT7DDBS	3/4"	M1
VT7DDBS	1"	00 M0
VT7DDBS	3/4"	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 CI-1-4,5)

00 = Standard

Direction of rotation (view on shaft end)

- R - Clockwise
L - Counter - clockwise

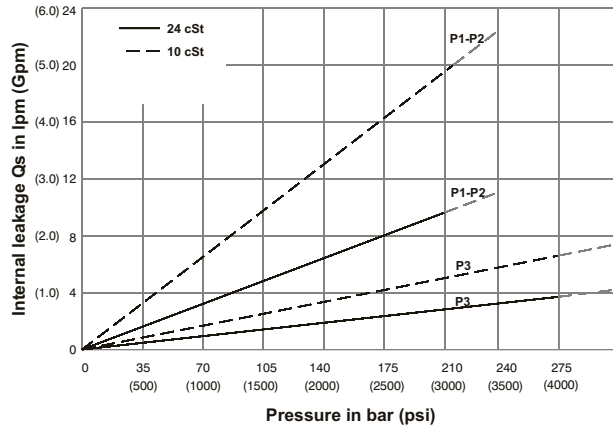
TP

OPERATING CHARACTERISTICS - TYPICAL (24 cST) (Input power p (KW) for one cartridge only)

Pressure port	Series	Volumetric Displacement Vp		Flow q & n = 1800 rpm						Input power p & n = 1800 rpm					
				p = 0 bar (0 psi)		p = 140 bar (2000 psi)		p = 250 bar (3630 psi)		p = 7 bar (100 psi)		p = 140 bar (2000 psi)		p = 250 bar (3630 psi)	
				in ³ /rev	cm ³ /rev	gpm	lpm	gpm	lpm	gpm	lpm	hp	kw	hp	kw
P1 & P2	B14	2.68	43.9	20.92	79.1	19.18	72.5	17.81	67.3	3.46	2.6	27.77	20.7	47.03	35.1
	B17	3.36	55.0	26.16	98.8	24.41	92.3	23.04	87.0	3.77	2.8	33.88	25.3	57.71	43.0
	B20	4.03	66.0	31.39	118.6	29.64	112.0	28.27	106.8	4.07	3.0	39.98	29.8	68.39	51.0
	B22	4.29	70.3	33.43	126.4	31.69	119.8	30.32	104.6	4.19	3.1	42.37	31.6	72.57	54.1
	B24	4.95	81.1	38.57	145.8	36.82	139.2	35.45	134.0	4.49	3.4	48.36	36.1	83.06	61.9
	B28	5.49	89.9	42.80	161.8	41.06	155.2	39.69	150.0	4.74	3.5	53.30	39.7	91.70	68.4
	B31	6.05	99.1	47.18	178.3	45.43	171.7	44.06	166.5	4.99	3.7	58.41	43.6	100.63	75.0
	B35 ¹⁾	6.92	113.4	53.93	203.9	52.18	197.2	50.81	192.0	5.39	4.0	66.29	49.4	114.42	85.3
	B38 ¹⁾	7.36	120.6	57.35	216.8	55.61	210.2	54.24	204.9	5.59	4.2	70.28	52.4	121.42	90.5
	B42 ²⁾	8.39	137.5	65.39	247.2	63.65	240.6	62.28	235.4	6.05	4.5	79.66	59.4	137.83	102.8
	045 ³⁾	8.89	145.7	69.29	262.0	67.11	253.6	65.31	246.8	6.74	5.0	83.75	62.4	145.79	108.7
	050 ⁴⁾	9.64	157.9	75.14	284.0	72.96	275.8	71.78	271.3	7.08	5.3	90.58	67.5	134.50	100.3
P3				p = 0 bar (0 psi)		p = 140 bar (2000 psi)		p = 300 bar (4350 psi)		p = 7 bar (100 psi)		p = 140 bar (2000 psi)		p = 300 bar (4350 psi)	
	B02	0.35	5.7	2.76	10.4	2.33	8.8	1.80	6.8	0.74	0.55	4.02	3.0	8.10	6.0
	B03	0.60	9.8	4.66	17.6	4.23	15.9	3.70	14.0	0.85	0.63	6.24	4.7	12.93	9.6
	B04	0.78	12.8	6.09	23.0	5.66	21.4	5.13	19.4	0.94	0.70	7.90	5.9	16.55	12.3
	B05	0.97	15.9	7.56	28.6	7.13	26.9	6.60	25.0	1.02	0.76	9.62	7.2	20.29	15.1
	B06	1.21	19.8	9.42	35.6	8.99	33.9	8.46	32.0	1.13	0.84	11.79	8.8	25.00	18.6
	B07	1.37	22.5	10.70	40.4	10.27	38.8	9.74	36.8	1.20	0.89	13.29	9.9	28.26	21.1
	B08	1.52	24.9	11.84	44.7	11.41	43.1	10.88	41.1	1.27	0.95	14.62	10.9	31.15	23.2
	B09	1.71	28.0	13.31	50.3	12.87	48.6	12.35	47.0	1.36	1.01	16.35	12.2	34.92	26.1
	B10	1.94	31.8	15.12	57.2	14.69	55.5	14.16	53.5	1.46	1.10	18.45	13.8	39.48	29.4
	B11 ⁵⁾	2.13	34.9	16.64	62.9	16.19	61.2	15.68	59.3	1.55	1.16	20.17	15.0	43.22	32.2
	B12 ⁵⁾	2.50	40.9	19.50	73.7	19.07	72.1	18.54	70.1	1.72	1.28	23.55	17.6	50.58	37.7
	B14 ⁵⁾	2.75	45.1	21.40	80.8	20.95	79.2	20.44	77.0	1.83	1.36	25.80	19.2	55.48	41.4
	B15 ⁵⁾	3.05	50.0	23.78	89.8	23.35	88.3	22.88	86.5	1.97	1.45	28.55	21.3	57.35	42.7

1) B35-B38 = 280 bar (4060 psi) max.int. 2) B42 = 260 bar (3770 psi) max.int. 3) 045 = 240 bar (3500 psi) max. int. 4) 050 = 210 bar (3000 psi) max. int.
5) B11-B12-B14 = 300 bar (4350 psi) & B15 = 280 bar (4060 psi) max. int. And Max. Speed = 3000 rpm

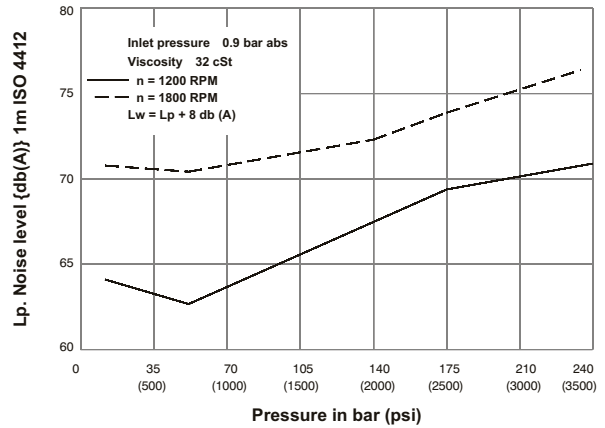
INTERNAL LEAKAGE (TYPICAL)



Do not operate pump more than 5 seconds at any speed or viscosity if internal leakage is more than 50% of theoretical flow. Total leakage is the sum of each section loss at its operating conditions.

NOISE LEVEL (TYPICAL)

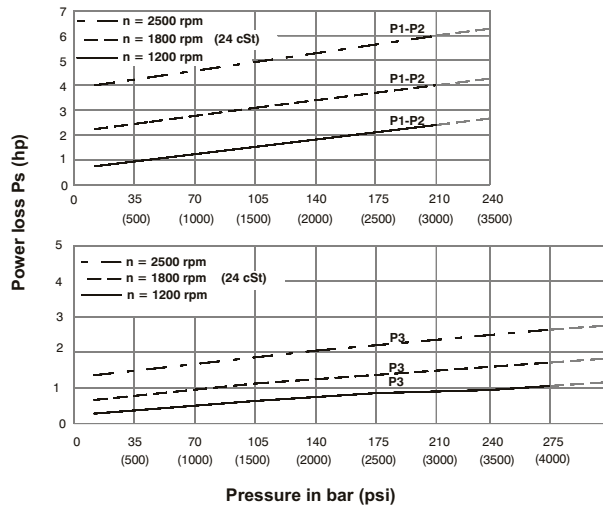
VT7DDB- B31-B31-B10



Triple pump noise level is given with each section discharging at the pressure noted on the curve.

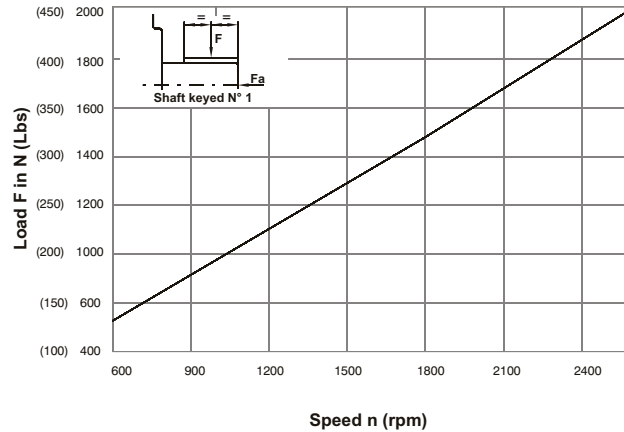


HYDROMECHANICAL POWER LOSS (TYPICAL)



Total hydromechanical power loss is the sum of each section at its operating conditions.

PERMISSIBLE RADIAL LOAD



Maximum permissible axial load $F_a = 1200$ N (270 Lbs)

VT7EDB or VT7EDBS - 062 - B28 - B10 - 1 R 00 - A 1 - 00 *

VT7EDB series-ISO 4 bolts 3019-2

mounting flange 250 B4 HW

VT7EDBS series- SAE E 4 bolts

Mounting flange J744c

Cam ring for "P1"

Volumetric displacement cm³/rev (in³/rev)

042 = 132.2 (8.07)	057 = 183.2 (11.18)
045 = 142.5 (8.70)	062 = 196.6 (12.0)
050 = 158.5 (9.67)	066 = 213.0 (13.0)
052 = 163.8 (10.0)	072 = 227.1 (13.86)
054 = 170.9 (10.43)	085 = 268.7 (16.40)

Cam ring for "P2"

Volumetric displacement cm³/rev (in³/rev)

B14 = 43.9 (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 "P3"

Volumetric displacement cm³/rev (in³/rev)

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

Modifications

Mounting w/connection variables

4 bolts SAE flange (J518)

P1=1-1/2" P2=1-1/4" S = 4"			
	P3	UNC	METRIC
VT7EDB	1"		M0
VT7EDB	3/4"		M1
VT7EDBS	1"	00	M0
VT7EDBS	3/4"	01	M1

Seal class

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

Design letter

Porting combination (see page CI-1-4,5)

00 = Standard

Direction of rotation (view on shaft end)

- R - Clockwise
- L - Counter - clockwise

Type of Shaft VT7EDB

- 1 - Keyed (G45N-ISO 3019-2)

Type of Shaft VT7EDBS

- 2 - Keyed (SAE D & E)
- 3 - Splined (SAE D & E)

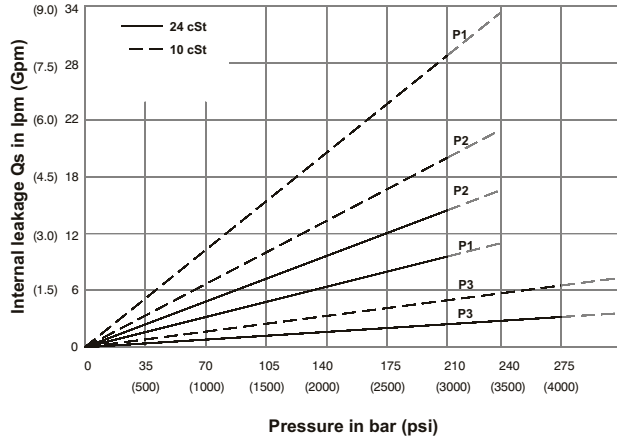
OPERATING CHARACTERISTICS - TYPICAL (24 cST) (Input power p (KW) for one cartridge only)

Pressure port	Series	Volumetric Displacement Vp		Flow q & n = 1800 rpm						Input power p & n = 1800 rpm					
		in ³ /rev	cm ³ /rev	p = 0 bar (0 psi)		p = 140 bar (2000 psi)		p = 240 bar (3500 psi)		p = 7 bar (100 psi)		p = 140 bar (2000 psi)		p = 240 bar (3500 psi)	
				gpm	lpm	gpm	lpm	gpm	lpm	hp	kw	hp	kw	hp	kw
P1	042	8.07	132.2	62.92	237.8	60.37	228.2	58.52	221.2	8.09	6.03	78.44	58.49	133.80	99.77
	045	8.70	142.5	67.72	255.9	65.17	246.3	63.32	239.3	8.37	6.24	84.04	62.66	143.60	107.08
	050	9.67	158.5	75.38	284.9	72.83	275.3	70.98	268.3	8.82	6.58	92.97	69.32	159.24	118.75
	052	10.00	163.8	78.37	296.2	75.82	286.6	73.97	279.6	8.99	6.70	96.47	71.93	165.36	123.31
	054	10.43	170.9	81.27	307.2	78.72	297.6	76.87	290.6	9.17	6.83	99.75	74.38	177.46	132.33
	057	11.18	183.2	87.12	329.3	84.57	319.7	82.72	312.7	9.51	7.09	106.57	79.46	189.84	141.56
	062	12.00	196.6	93.54	353.6	90.99	343.9	89.14	336.9	9.88	7.36	114.17	85.13	196.34	146.41
	066	13.00	213.0	101.44	383.4	98.89	373.8	97.04	366.8	10.34	7.71	123.38	92.00	212.46	158.43
	072	13.86	227.1	108.00	408.2	105.45	398.6	103.60	391.6	10.72	7.99	131.04	97.71	225.86	168.42
085 ¹⁾	16.40	268.7	127.79	483.0	126.13	476.7	--	--	11.88	8.85	101.66	75.80	--	--	
P2	B14	2.68	43.9	20.92	79.1	19.18	72.5	17.81	67.3	3.46	2.6	27.77	20.7	47.03	35.07
	B17	3.36	55.0	26.16	98.8	24.41	92.3	23.04	87.0	3.77	2.8	33.88	25.3	57.71	43.03
	B20	4.03	66.0	31.39	118.6	29.64	112.0	28.27	106.8	4.07	3.0	39.98	29.8	68.39	50.99
	B22	4.29	70.3	33.43	126.4	31.69	119.8	30.32	104.6	4.19	3.1	42.37	31.6	72.57	54.12
	B24	4.95	81.1	38.57	145.8	36.82	139.2	35.45	134.0	4.49	3.4	48.36	36.1	83.06	61.93
	B28	5.49	89.9	42.80	161.8	41.06	155.2	39.69	150.0	4.74	3.5	53.30	39.7	91.70	68.38
	B31	6.05	99.1	47.18	178.3	45.43	171.7	44.06	166.5	4.99	3.7	58.41	43.6	100.63	75.03
	B35 ²⁾	6.92	113.4	53.93	203.9	52.18	197.2	50.81	192.0	5.39	4.0	66.29	49.4	114.42	85.32
	B38 ²⁾	7.36	120.6	57.35	216.8	55.61	210.2	54.24	204.9	5.59	4.2	70.28	52.4	121.42	90.54
	B42 ³⁾	8.39	137.5	65.39	247.2	63.65	240.6	62.28	235.4	6.05	4.5	79.66	59.4	137.83	102.77
	045 ⁴⁾	8.89	145.7	69.29	262.0	67.11	253.6	65.31	246.8	6.74	5.0	83.75	62.4	145.79	108.71
050 ⁵⁾	9.64	157.9	75.14	284.0	72.96	275.8	71.78	271.3	7.08	5.3	90.58	67.5	134.50	100.3	
P3	B02	0.35	5.7	2.76	10.4	2.33	8.8	1.80	6.8	0.74	0.55	4.02	2.99	8.10	6.04
	B03	0.60	9.8	4.66	17.6	4.23	15.9	3.70	14.0	0.85	0.63	6.24	4.65	12.93	9.64
	B04	0.78	12.8	6.09	23.0	5.66	21.4	5.13	19.4	0.94	0.70	7.90	5.89	16.55	12.34
	B05	0.97	15.9	7.56	28.6	7.13	26.9	6.60	25.0	1.02	0.76	9.62	7.17	20.29	15.13
	B06	1.21	19.8	9.42	35.6	8.99	33.9	8.46	32.0	1.13	0.84	11.79	8.79	25.00	18.64
	B07	1.37	22.5	10.70	40.4	10.27	38.8	9.74	36.8	1.20	0.89	13.29	9.91	28.26	21.07
	B08	1.52	24.9	11.84	44.7	11.41	43.1	10.88	41.1	1.27	0.95	14.62	10.90	31.15	23.23
	B09	1.71	28.0	13.31	50.3	12.87	48.6	12.35	47.0	1.36	1.02	16.35	12.19	34.92	26.03
	B10	1.94	31.8	15.12	57.2	14.69	55.5	14.16	53.5	1.46	1.09	18.45	13.76	39.48	29.44
	B11 ⁶⁾	2.13	34.9	16.64	62.9	16.19	61.2	15.68	59.3	1.55	1.16	20.17	15.04	43.22	32.22
	B12 ⁶⁾	2.50	40.9	19.50	73.7	19.07	72.1	18.54	70.1	1.72	1.28	23.55	17.56	50.58	37.71
	B14 ⁶⁾	2.75	45.1	21.40	80.8	20.95	79.2	20.44	77.0	1.83	1.36	25.80	19.23	55.48	41.37
	B15 ⁶⁾	3.05	50.0	23.78	89.8	23.35	88.3	22.88	86.5	1.97	1.47	28.55	21.28	57.35	42.76

1) 085 = 90 bar (1300 psi) max.int. & 085 = 2000 rpm max. 2) B35-B38 = 280 bar (4060 psi) max.int. 3) B42 = 260 bar (3770 psi) max.int. 4) 045 = 240 bar (3500 psi) max. int. 5) 050 = 210 bar (3000 psi) max. int 6) B11-B12-B14 = 300 bar (4350 psi) & B15 = 280 bar (4060 psi) max. int. And Max. Speed = 3000 rpm

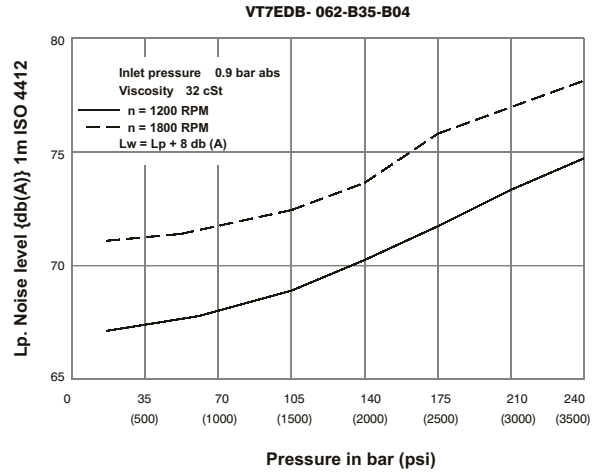


INTERNAL LEAKAGE (TYPICAL)



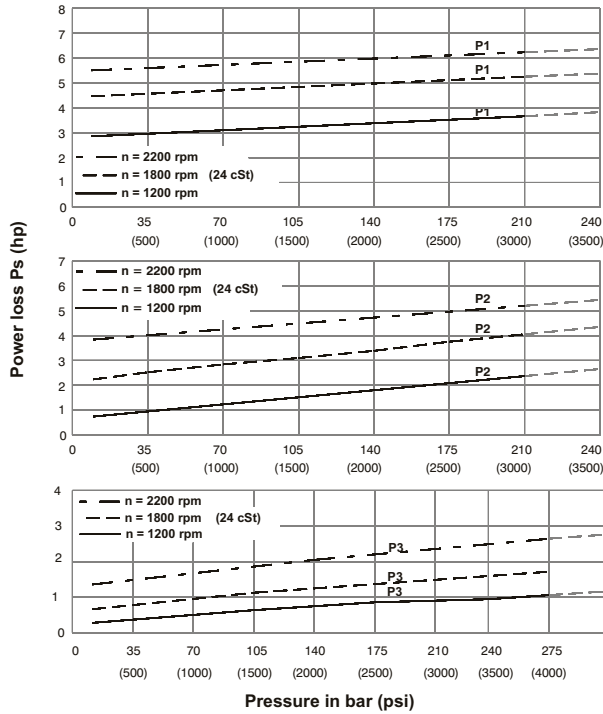
Do not operate pump more than 5 seconds at any speed or viscosity if internal leakage is more than 50% of theoretical flow. Total leakage is the sum of each section loss at its operating conditions.

NOISE LEVEL (TYPICAL)



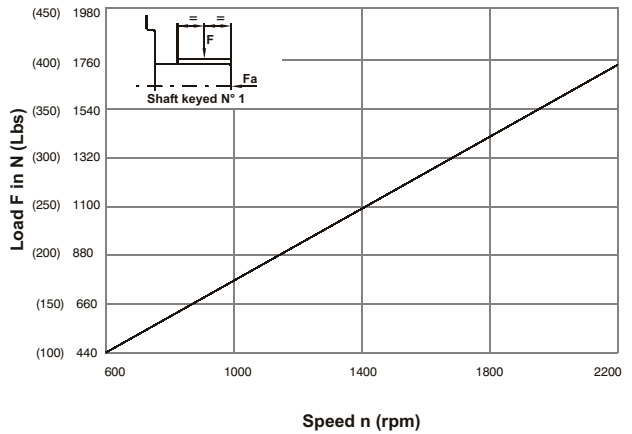
Triple pump noise level is given with each section discharging at the pressure noted on the curve.

HYDROMECHANICAL POWER LOSS (TYPICAL)

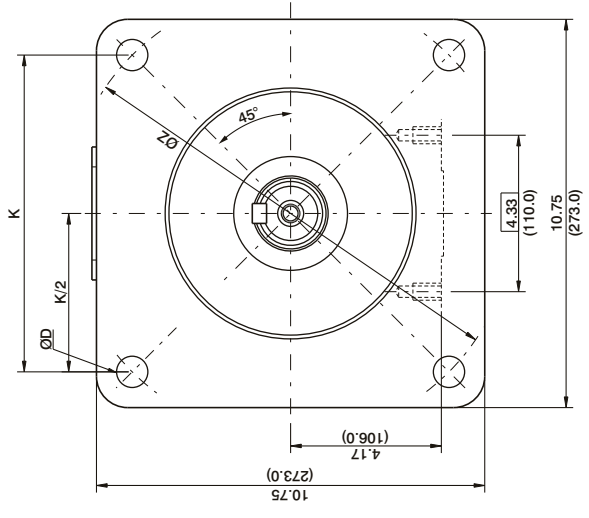
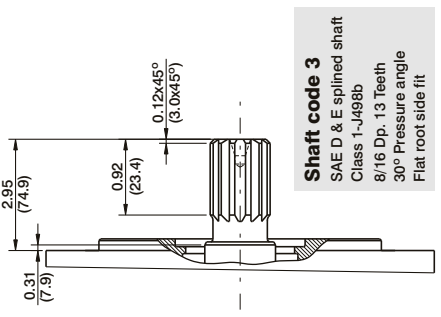
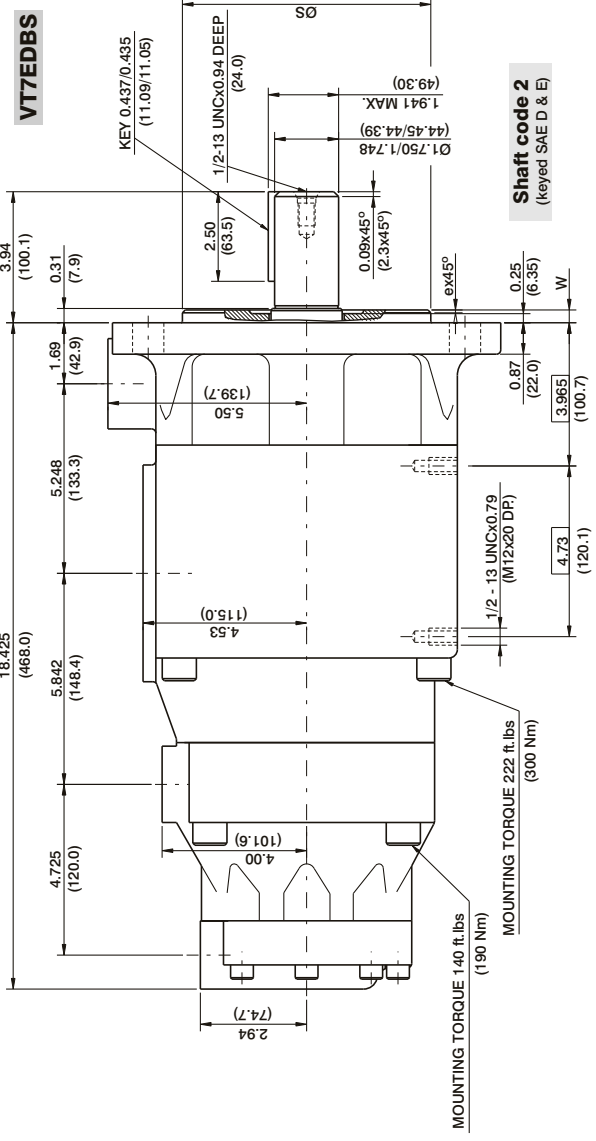
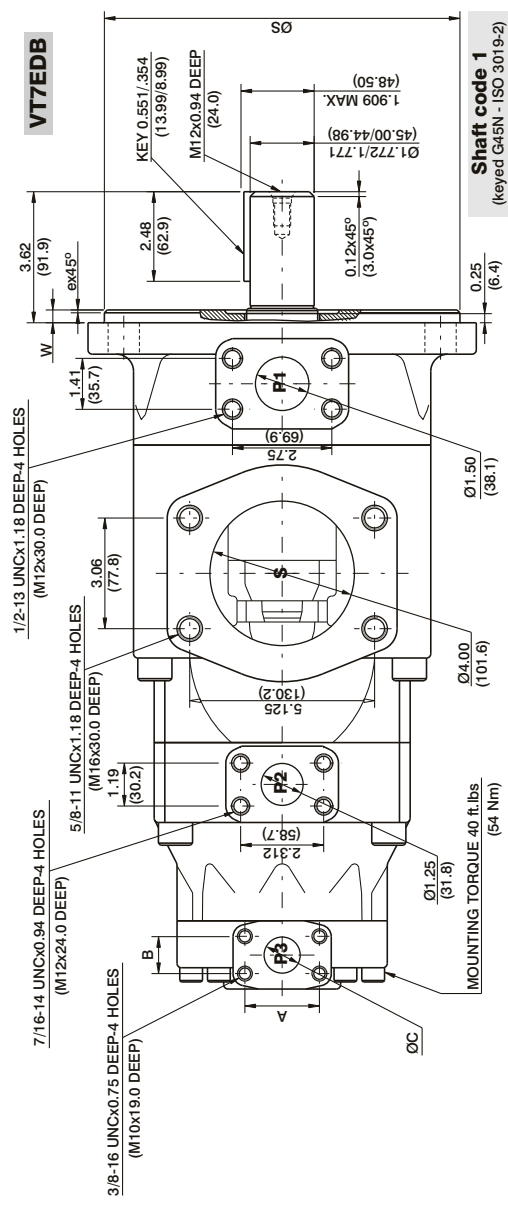


Total hydromechanical power loss is the sum of each section at its operating conditions.

PERMISSIBLE RADIAL LOAD



Maximum permissible axial load $F_a = 2000 \text{ N (449 Lbs)}$



PORT CODE	A	B	ØC
00&M0	2.06 (52.4)	1.03 (26.2)	1.00 (25.4)
P3	1.874 (47.6)	0.874 (22.2)	0.75 (19.0)

Shaft	Vp x p max. (P1 + P2 + P3)
1	101506 (114715)
2	104818 (118458)
3	112312 (126928)

Series	ØS		W	ex45°	K	ØZ	ØD
	MAX.	Min.					
VT7EDB	9.842 (250.0)	9.840 (249.94)	0.079 (2.0)	0.354 (8.99)	---	12.401 (315.0)	0.866 (21.99)
VT7EDBS	6.50 (165.10)	6.498 (165.05)	0.079 (2.0)	0.354 (8.99)	8.838 (224.5)	---	0.811 (20.59)



VT7QDCB - B38 - 028 - B10 - 1 R 00 - A 1 - M1 - *

Series- SAE C 2 bolts
Mounting flange J744c

Cam ring for "P1"

Volumetric displacement cm³/rev (in³/rev)

B14 = 43.9 (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 cm³/rev (in³/rev)

*003/B03/Y03 = 10.8 (0.66)	015/B15/Y15 = 50.5 (3.08)
005/B05/Y05 = 17.2 (1.05)	017/B17/Y17 = 58.3 (3.56)
006/B06/Y06 = 21.3 (1.30)	020/B20/Y20 = 63.8 (3.89)
008/B08/Y08 = 26.4 (1.61)	022/B22/Y22 = 70.3 (4.29)
010/B10/Y10 = 34.1 (2.08)	025/B25/Y25 = 79.3 (4.84)
012/B12/Y12 = 37.1 (2.26)	028/B28/Y28 = 88.8 (5.42)
014/B14/Y14 = 46.0 (2.81)	031/B31/Y31 = 100.0 (6.10)

*'0' - Uni-directional 'B' - Bi-directional 'Y' - Bi-directional for cold start

Cam ring for "P3"

Volumetric displacement cm³/rev (in³/rev)

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

Modifications

Mounting w/connection variables

P1=1" 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 CI-1-4.5)
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)

TP

OPERATING CHARACTERISTICS - TYPICAL (24 cST) (Input power p (KW) for one cartridge only)

Pressure port	Series	Volumetric Displacement Vp		Flow q & n = 1800 rpm						Input power p & n = 1800 rpm					
		in ³ /rev	cm ³ /rev	p = 0 bar (0 psi)		p = 140 bar (2000 psi)		p = 250 bar (3630 psi)		p = 7 bar (100 psi)		p = 140 bar (2000 psi)		p = 250 bar (3630 psi)	
				gpm	lpm	gpm	lpm	gpm	lpm	hp	kw	hp	kw	hp	kw
P1	B14	2.68	43.9	20.92	79.1	19.18	72.5	17.81	67.3	3.46	2.6	27.77	20.7	47.03	35.0
	B17	3.36	55.0	26.16	98.8	24.41	92.3	23.04	87.0	3.77	2.8	33.88	25.3	57.71	43.0
	B20	4.03	66.0	31.39	118.6	29.64	112.0	28.27	106.8	4.07	3.0	39.98	29.8	68.39	50.9
	B22	4.29	70.3	33.43	126.4	31.69	119.8	30.32	104.6	4.19	3.1	42.37	31.6	72.57	54.0
	B24	4.95	81.1	38.57	145.8	36.82	139.2	35.45	134.0	4.49	3.4	48.36	36.1	83.06	61.9
	B28	5.49	89.9	42.80	161.8	41.06	155.2	39.69	150.0	4.74	3.5	53.30	39.7	91.70	68.3
	B31	6.05	99.1	47.18	178.3	45.43	171.7	44.06	166.5	4.99	3.7	58.41	43.6	100.63	75.0
	B35 ¹⁾	6.92	113.4	53.93	203.9	52.18	197.2	50.81	192.0	5.39	4.0	66.29	49.4	114.42	85.3
	B38 ¹⁾	7.36	120.6	57.35	216.8	55.61	210.2	54.24	204.9	5.59	4.2	70.28	52.4	121.42	90.5
	B42 ²⁾	8.39	137.5	65.39	247.2	63.65	240.6	62.28	235.4	6.05	4.5	79.66	59.4	137.83	102.7
	045 ³⁾	8.89	145.7	69.29	262.0	67.11	253.6	65.31	246.8	6.74	5.0	83.75	62.4	145.79	108.7
050 ⁴⁾	9.64	157.9	75.14	284.0	72.96	275.8	71.78	271.3	7.08	5.3	90.58	67.5	134.50	100.3	
P2				p = 0 bar (0 psi)		p = 140 bar (2000 psi)		p = 300 bar (4350 psi)		p = 7 bar (100 psi)		p = 140 bar (2000 psi)		p = 300 bar (4350 psi)	
	003	0.66	10.8	5.14	19.6	3.85	14.6	--	--	2.11	1.57	8.45	6.30	--	--
	005	1.05	17.2	8.18	30.9	6.89	26.0	4.34	16.44	2.29	1.70	12.00	8.94	23.97	17.88
	006	1.30	21.3	10.13	38.3	8.84	33.4	5.71	21.6	2.40	1.78	14.28	10.64	28.96	21.60
	008	1.61	26.4	12.55	47.4	11.26	42.6	8.12	30.72	2.54	1.89	17.11	12.75	35.08	26.16
	010	2.08	34.1	16.22	61.3	14.93	56.4	11.81	44.64	2.76	2.06	21.38	15.94	44.25	33.00
	012	2.26	37.1	17.64	66.7	16.35	61.8	13.24	50.04	2.84	2.11	23.05	17.18	47.47	35.40
	014	2.81	46.0	21.88	82.7	20.59	77.8	17.46	66.00	3.09	2.30	27.99	20.87	58.73	43.80
	015	3.08	50.5	23.99	90.7	22.83	86.3	19.39	73.32	3.21	2.40	30.30	22.60	63.56	47.40
	017	3.56	58.3	27.73	104.8	26.44	99.9	23.33	88.2	3.43	2.55	34.81	25.95	73.54	54.84
	020	3.89	63.8	30.34	114.7	29.05	109.8	25.93	98.04	3.58	2.66	37.86	28.23	80.14	59.76
	022 ⁶⁾	4.29	70.3	33.43	126.4	32.14	121.5	29.05	109.8	3.76	2.80	41.47	30.92	80.94	60.36
	025 ^{5,7)}	4.84	79.3	37.71	142.5	36.42	137.6	--	--	4.01	2.99	46.46	34.64	--	--
	028 ^{5,8)}	5.42	88.8	42.23	159.6	40.94	154.7	--	--	4.27	3.18	51.74	38.58	--	--
	031 ^{5,8)}	6.10	100.0	47.56	179.7	46.27	174.9	--	--	4.58	3.41	57.95	43.21	--	--
P3	B02	0.35	5.7	2.76	10.4	2.33	8.8	1.80	6.8	0.74	0.55	4.02	2.99	8.10	6.40
	B03	0.60	9.8	4.66	17.6	4.23	15.9	3.70	14.0	0.85	0.63	6.24	4.65	12.93	10.25
	B04	0.78	12.8	6.09	23.0	5.66	21.4	5.13	19.4	0.94	0.70	7.90	5.89	16.55	13.13
	B05	0.97	15.9	7.56	28.6	7.13	26.9	6.60	25.0	1.02	0.76	9.62	7.17	20.29	16.12
	B06	1.21	19.8	9.42	35.6	8.99	33.9	8.46	32.0	1.13	0.84	11.79	8.79	25.00	19.88
	B07	1.37	22.5	10.70	40.4	10.27	38.8	9.74	36.8	1.20	0.89	13.29	9.91	28.26	22.47
	B08	1.52	24.9	11.84	44.7	11.41	43.1	10.88	41.1	1.27	0.94	14.62	10.90	31.15	24.78
	B09	1.71	28.0	13.31	50.3	12.87	48.6	12.35	47.0	1.36	1.01	16.35	12.19	34.92	27.77
	B10	1.94	31.8	15.12	57.2	14.69	55.5	14.16	53.5	1.46	1.11	18.45	13.75	39.48	31.42
	B11 ⁹⁾	2.13	34.9	16.64	62.9	16.19	61.2	15.68	59.3	1.55	1.15	20.17	15.04	43.22	32.22
	B12 ⁹⁾	2.50	40.9	19.50	73.7	19.07	72.1	18.54	70.1	1.72	1.28	23.55	17.56	50.58	37.71
	B14 ⁹⁾	2.75	45.1	21.40	80.8	20.95	79.2	20.44	77.0	1.83	1.36	25.80	19.23	55.48	41.37
	B15 ⁹⁾	3.05	50.0	23.78	89.8	23.35	88.3	22.88	86.5	1.97	1.47	28.55	21.28	57.35	42.76

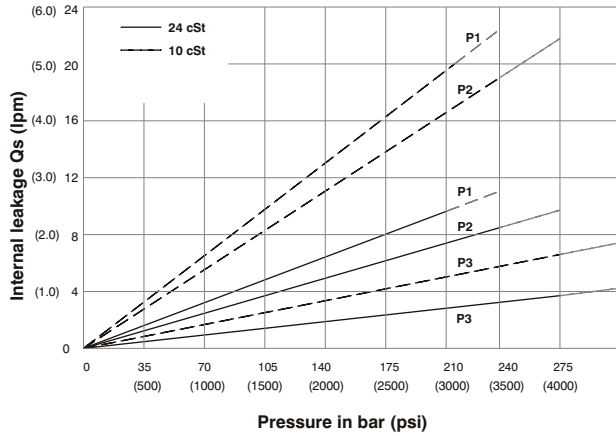
1) B35-B38 = 280 bar (4060 psi) max.int. 2) B42 = 260 bar (3770 psi) max.int. 3) 045 = 240 bar (3500 psi) max.int. 4) 050 = 210 bar (3000 psi) max.int.

5) 025-028-031 = 2500 R.P.M. max. 6) 022 = 275 bar max.int. 7) 025 = 240 bar max.int. 8) 028-031 = 210 bar max.int.

9) B11-B12-B14 = 300 bar (4350 psi) & B15 = 280 bar (4060 psi) max.int. And Max. Speed = 3000 rpm

-- Not to use because internal leakage greater than 50% of theoretical flow

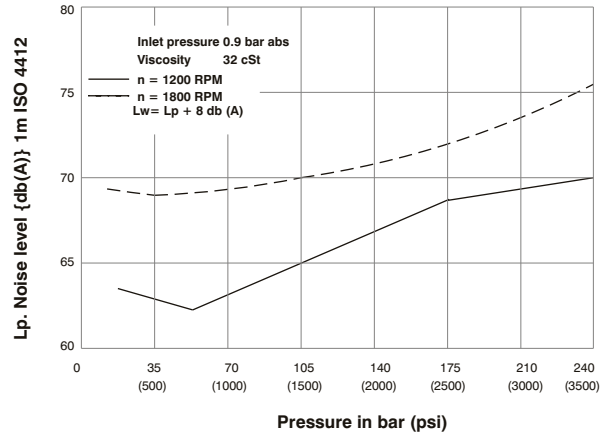
INTERNAL LEAKAGE (TYPICAL)



Do not operate pump more than 5 seconds at any speed or viscosity if internal leakage is more than 50% of theoretical flow. Total leakage is the sum of each section loss at its operating conditions.

NOISE LEVEL (TYPICAL)

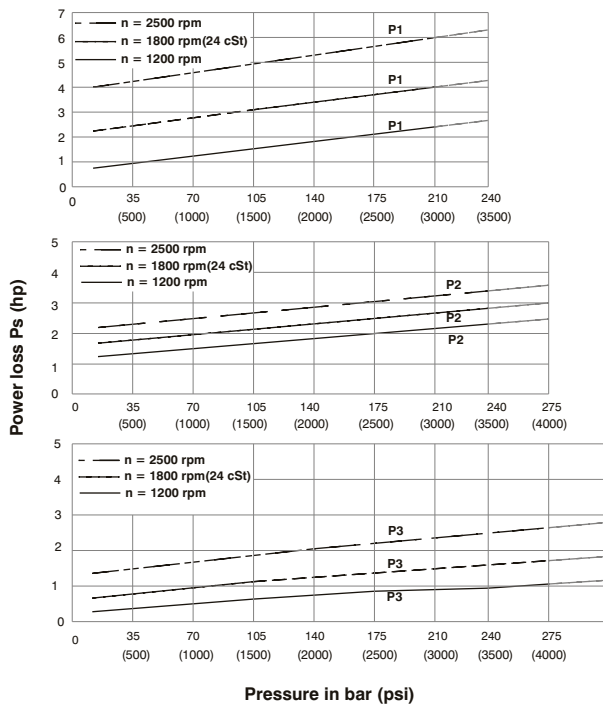
VT7QDCB- B38-022-B10



Triple pump noise level is given with each section discharging at the pressure noted on the curve.

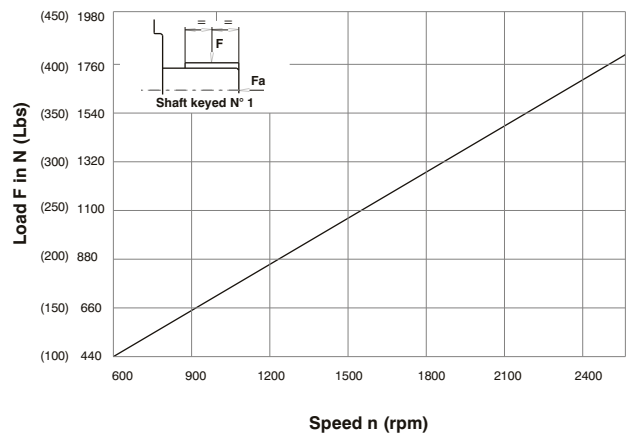


HYDROMECHANICAL POWER LOSS (TYPICAL)



Total hydromechanical power loss is the sum of each section at its operating conditions.

PERMISSIBLE RADIAL LOAD



Maximum permissible axial load $F_a = 1200$ N (270 Lbs)

VT7QDCC - 038 - 028 - 008 - 1 R 00 - A 1 - 00 - *

Series _____

P1

P2

P3

Cam ring for "P1"

Volumetric displacement cm³/rev (in³/rev)

B14 = 43.9 (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" & "P3"

Volumetric displacement cm³/rev (in³/rev)

* 003/B03/Y03 = 10.8 (0.66)	015/B15/Y15 = 50.5 (3.08)
005/B05/Y05 = 17.2 (1.05)	017/B17/Y17 = 58.3 (3.56)
006/B06/Y06 = 21.3 (1.30)	020/B20/Y20 = 63.8 (3.89)
008/B08/Y08 = 26.4 (1.61)	022/B22/Y22 = 70.3 (4.29)
010/B10/Y10 = 34.1 (2.08)	025/B25/Y25 = 79.3 (4.84)
012/B12/Y12 = 37.1 (2.26)	028/B28/Y28 = 88.8 (5.42)
014/B14/Y14 = 46.0 (2.81)	031/B31/Y31 = 100.0 (6.10)

*'0' - Uni-directional 'B' - Bi-directional 'Y' - Bi-directional for cold start

Type of Shaft

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

Modifications

Mounting w/connection variables

	UNC		METRIC	
	00	01	M0	M1
P3	1"	3/4"	1"	3/4"

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 CI-1-4,5)

00 = Standard

Direction of rotation (view on shaft end)

R - Clockwise
L - Counter-clockwise



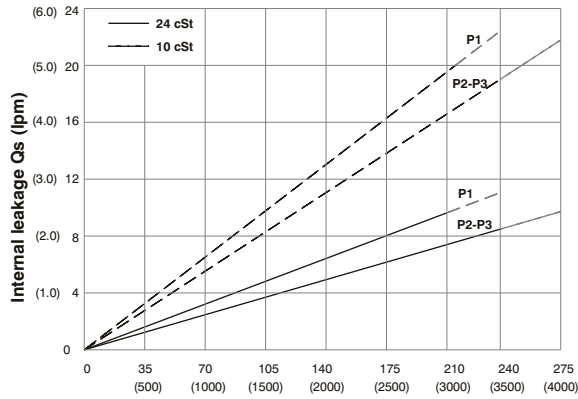
OPERATING CHARACTERISTICS - TYPICAL (24 cST) (Input power p (KW) for one cartridge only)

Pressure port	Series	Volumetric Displacement Vp		Flow q & n = 1800 rpm						Input power p & n = 1800 rpm					
		in ³ /rev	cm ³ /rev	p = 0 bar (0 psi)		p = 140 bar (2000 psi)		p = 250 bar (3630 psi)		p = 7 bar (100 psi)		p = 140 bar (2000 psi)		p = 250 bar (3630 psi)	
				gpm	lpm	gpm	lpm	gpm	lpm	hp	kw	hp	kw	hp	kw
P1	B14	2.68	43.9	20.92	79.1	19.18	72.5	17.81	67.3	3.46	2.60	27.77	20.70	47.03	35.00
	B17	3.36	55.0	26.16	98.8	24.41	92.3	23.04	87.0	3.77	2.80	33.88	25.30	57.71	43.00
	B20	4.03	66.0	31.39	118.6	29.64	112.0	28.27	106.8	4.07	3.00	39.98	29.80	68.39	50.90
	B22	4.29	70.3	33.43	126.4	31.69	119.8	30.32	104.6	4.19	3.10	42.37	31.60	72.57	54.00
	B24	4.95	81.1	38.57	145.8	36.82	139.2	35.45	134.0	4.49	3.40	48.36	36.10	83.06	61.90
	B28	5.49	89.9	42.80	161.8	41.06	155.2	39.69	150.0	4.74	3.50	53.30	39.70	91.70	68.30
	B31	6.05	99.1	47.18	178.3	45.43	171.7	44.06	166.5	4.99	3.70	58.41	43.60	100.63	75.00
	B35 ¹⁾	6.92	113.4	53.93	203.9	52.18	197.2	50.81	192.0	5.39	4.00	66.29	49.40	114.42	85.30
	B38 ¹⁾	7.36	120.6	57.35	216.8	55.61	210.2	54.24	204.9	5.59	4.20	70.28	52.40	121.42	90.50
	B42 ²⁾	8.39	137.5	65.39	247.2	63.65	240.6	62.28	235.4	6.05	4.50	79.66	59.40	137.83	102.70
	045 ³⁾	8.89	145.7	69.29	262.0	67.11	253.6	65.31	246.8	6.74	5.00	83.75	62.40	145.79	108.70
050 ⁴⁾	9.64	157.9	75.14	284.0	72.96	275.8	71.78	271.3	7.08	5.30	90.58	67.50	134.50	100.30	
P2 & P3				p = 0 bar (0 psi)	p = 140 bar (2000 psi)	p = 300 bar (4350 psi)	p = 7 bar (100 psi)	p = 140 bar (2000 psi)	p = 300 bar (4350 psi)						
	003	0.66	10.8	5.14	19.6	3.85	14.6	--	--	2.11	1.57	8.45	6.30	--	--
	005	1.05	17.2	8.18	30.9	6.89	26.0	4.34	16.44	2.29	1.70	12.00	8.94	23.97	17.88
	006	1.30	21.3	10.13	38.3	8.84	33.4	5.71	21.6	2.40	1.78	14.28	10.64	28.96	21.60
	008	1.61	26.4	12.55	47.4	11.26	42.6	8.12	30.72	2.54	1.89	17.11	12.75	35.08	26.16
	010	2.08	34.1	16.22	61.3	14.93	56.4	11.81	44.64	2.76	2.06	21.38	15.94	44.25	33.00
	012	2.26	37.1	17.64	66.7	16.35	61.8	13.24	50.04	2.84	2.11	23.05	17.18	47.47	35.40
	014	2.81	46.0	21.88	82.7	20.59	77.8	17.46	66.00	3.09	2.30	27.99	20.87	58.73	43.80
	015	3.08	50.5	23.99	90.7	22.83	86.3	19.39	73.32	3.21	2.40	30.30	22.60	63.56	47.40
	017	3.56	58.3	27.73	104.8	26.44	99.9	23.33	88.2	3.43	2.55	34.81	25.95	73.54	54.84
	020	3.89	63.8	30.34	114.7	29.05	109.8	25.93	98.04	3.58	2.66	37.86	28.23	80.14	59.76
	022 ⁵⁾	4.29	70.3	33.43	126.4	32.14	121.5	29.05	109.8	3.76	2.80	41.47	30.92	80.94	60.36
	025 ^{5,7)}	4.84	79.3	37.71	142.5	36.42	137.6	---	---	4.01	2.99	46.46	34.64	---	---
	028 ^{5,8)}	5.42	88.8	42.23	159.6	40.94	154.7	---	---	4.27	3.18	51.74	38.58	---	---
	031 ^{5,8)}	6.10	100.0	47.56	179.7	46.27	174.9	---	---	4.58	3.41	57.95	43.21	---	---

1) B35-B38 = 280 bar (4060 psi) max.int. 2) B42 = 260 bar (3770 psi) max.int. 3) 045 = 240 bar (3500 psi) max. int. 4) 050 = 210 bar (3000 psi) max. int
5) 025-028-031 = 2500 R.P.M. max. 6) 022 = 275 bar max. int, 7) 025 = 240 bar max. Int, 8) 028-031 = 210 bar (3000 psi) max. int.

-- Not to use because internal leakage greater than 50% of theoretical flow

INTERNAL LEAKAGE (TYPICAL)

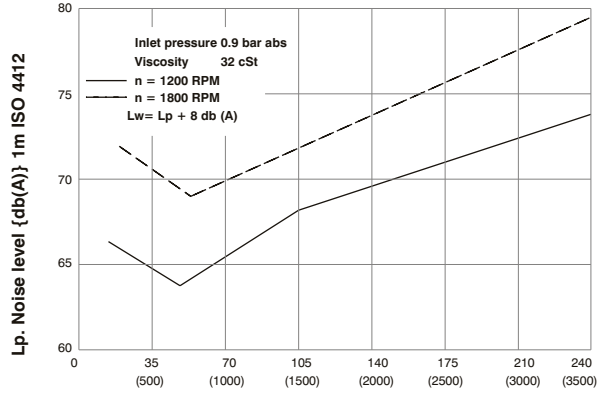


Pressure in bar (psi)

Do not operate pump more than 5 seconds at any speed or viscosity if internal leakage is more than 50% of theoretical flow. Total leakage is the sum of each section loss at its operating conditions.

NOISE LEVEL (TYPICAL)

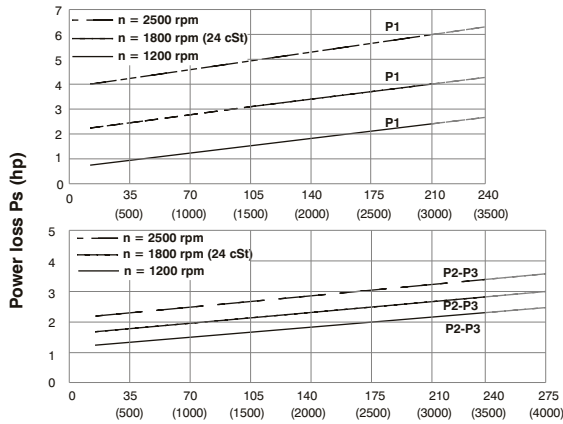
VT7QDCC- B31-022-022



Pressure in bar (psi)

Triple pump noise level is given with each section discharging at the pressure noted on the curve.

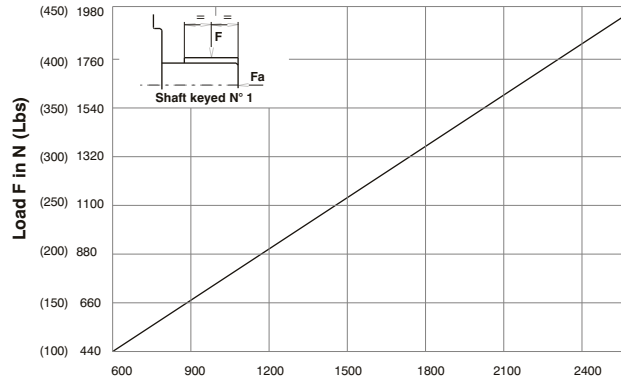
HYDROMECAHNICAL POWER LOSS (TYPICAL)



Pressure in bar (psi)

Total hydromechanical power loss is the sum of each section at its operating conditions.

PERMISSIBLE RADIAL LOAD



Speed n (rpm)

Maximum axial load permissible $F_a = 1200 \text{ N (270 Lbs)}$

VT7QEDC or VT7QEDCS - 062 - B28 - B10 - 1 R 00-A 1 - 00 *

VT7QEDC series-ISO 2 bolts 3019-2
mounting flange 250 B4 HW

VT7QEDCS series- SAE E 4 bolts
Mounting flange J744c

Cam ring for "P2"

Volumetric displacement cm³/rev (in³/rev)
 042 = 132.2 (8.07) 057 = 183.2 (11.18)
 045 = 142.5 (8.77) 062 = 196.6 (12.00)
 050 = 158.5 (9.67) 066 = 213.0 (13.00)
 052 = 163.8 (10.00) 072 = 226.1 (13.86)
 054 = 170.9 (10.43) 085 = 268.7 (16.40)

Cam ring for "P2"

Volumetric displacement cm³/rev (in³/rev)
 B14 = 43.9 (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 "P3"

Volumetric displacement cm³/rev (in³/rev)
 *003/B03/Y03 = 10.8 (0.66) 015/B15/Y15 = 50.5 (3.08)
 005/B05/Y05 = 17.2 (1.05) 017/B17/Y17 = 58.3 (3.56)
 006/B06/Y06 = 21.3 (1.30) 020/B20/Y20 = 63.8 (3.89)
 008/B08/Y08 = 26.4 (1.61) 022/B22/Y22 = 70.3 (4.29)
 010/B10/Y10 = 34.1 (2.08) 025/B25/Y25 = 79.3 (4.84)
 012/B12/Y12 = 37.1 (2.26) 028/B28/Y28 = 88.8 (5.42)
 014/B14/Y14 = 46.0 (2.81) 031/B31/Y31 = 100.0 (6.10)

*0 - Uni - directional 'B' - Bi - directional 'Y' - Bi - directional for cold start

Modifications

Mounting w/connection variables
4 bolts SAE flange (J518)

	P1 = 1 1/2"	P2 = 1 1/4"	S = 4"
	P3	UNC	METRIC
VT7QEDC	1"		M0
VT7QEDC	3/4"		M1
VT7QEDCS	1"	00	M0
VT7QEDCS	3/4"	01	M1

Seal class

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

Design letter

Porting combination (see page CI-1-4,5)
00 = Standard

Direction of rotation (view on shaft end)

- R - Clockwise
- L - Counter - clockwise

Type of Shaft VT7QEDC

- 1 - Keyed (G45N-ISO 3019-2)

Type of Shaft VT7QEDCS

- 2 - Keyed (SAE D & E)
- 3 - Splined (SAE D & E)

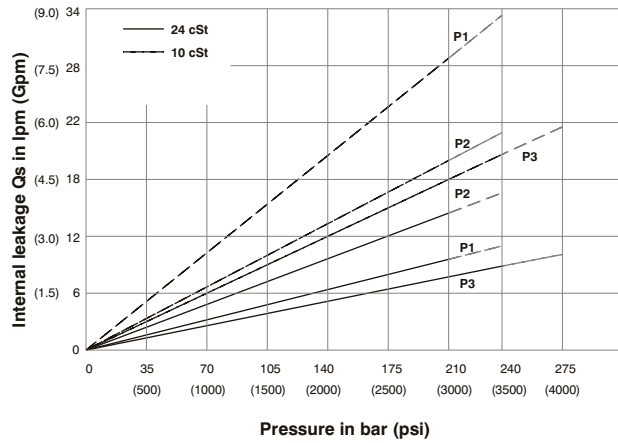
OPERATING CHARACTERISTICS - TYPICAL (24 cST) (Input power p (KW) for one cartridge only)

Pressure port	Series	Volumetric Displacement Vp		Flow q & n = 1800 rpm						Input power p & n = 1800 rpm					
		in ³ /rev	cm ³ /rev	p = 0 bar (0 psi)		p = 140 bar (2000 psi)		p = 240 bar (3500 psi)		p = 7 bar (100 psi)		p = 140 bar (2000 psi)		p = 240 bar (3500 psi)	
				gpm	lpm	gpm	lpm	gpm	lpm	hp	kw	hp	kw	hp	kw
P1	042	8.07	132.2	62.92	237.8	60.37	228.2	58.52	221.2	8.09	6.03	78.44	58.49	133.80	99.77
	045	8.70	142.5	67.72	255.9	65.17	246.3	63.32	239.3	8.37	6.24	84.04	62.66	143.60	107.08
	050	9.67	158.5	75.38	284.9	72.83	275.3	70.98	268.3	8.82	6.58	92.97	69.32	159.24	118.75
	052	10.00	163.8	78.37	296.2	75.82	286.6	73.97	279.6	8.99	6.70	96.47	71.93	165.36	123.31
	054	10.43	170.9	81.27	307.2	78.72	297.6	76.87	290.6	9.17	6.83	99.75	74.38	177.46	132.33
	057	11.18	183.2	87.12	329.3	84.57	319.7	82.72	312.7	9.51	7.09	106.57	79.46	189.84	141.56
	062	12.00	196.6	93.54	353.6	90.99	343.9	89.14	336.9	9.88	7.36	114.17	85.13	196.34	146.41
	066	13.00	213.0	101.44	383.4	98.89	373.8	97.04	366.8	10.34	7.71	123.38	92.00	212.46	158.43
	072	13.86	227.1	108.00	408.2	105.45	398.6	103.60	391.6	10.72	7.99	131.04	97.71	225.86	168.42
	085 ¹⁾	16.40	268.7	127.79	483.0	126.13	476.7	-	-	11.88	8.85	101.66	75.80	-	-
P2	B14	2.68	43.9	20.92	79.1	19.18	72.5	17.81	67.3	3.46	2.60	27.77	20.7	47.03	35.07
	B17	3.36	55.0	26.16	98.8	24.41	92.3	23.04	87.0	3.77	2.80	33.88	25.3	57.71	43.03
	B20	4.03	66.0	31.39	118.6	29.64	112.0	28.27	106.8	4.07	3.00	39.98	29.8	68.39	50.99
	B22	4.29	70.3	33.43	126.4	31.69	119.8	30.32	104.6	4.19	3.10	42.37	31.6	72.57	54.12
	B24	4.95	81.1	38.57	145.8	36.82	139.2	35.45	134.0	4.49	3.40	48.36	36.1	83.06	61.93
	B28	5.49	89.9	42.80	161.8	41.06	155.2	39.69	150.0	4.74	3.50	53.30	39.7	91.70	68.38
	B31	6.05	99.1	47.18	178.3	45.43	171.7	44.06	166.5	4.99	3.70	58.41	43.6	100.63	75.03
	B35 ²⁾	6.92	113.4	53.93	203.9	52.18	197.2	50.81	192.0	5.39	4.00	66.29	49.4	114.42	85.32
	B38 ²⁾	7.36	120.6	57.35	216.8	55.61	210.2	54.24	204.9	5.59	4.20	70.28	52.4	121.42	90.54
	B42 ³⁾	8.39	137.5	65.39	247.2	63.65	240.6	62.28	235.4	6.05	4.50	79.66	59.4	137.83	102.77
	045 ⁴⁾	8.89	145.7	69.29	262.0	67.11	253.6	65.31	246.8	6.74	5.00	83.75	62.4	145.79	108.71
050 ⁵⁾	9.64	157.9	75.14	284.0	72.96	275.8	71.78	271.3	7.08	5.30	90.58	67.5	134.50	100.30	
P3	003	0.66	10.8	5.14	19.6	3.85	14.6	-	-	2.11	1.57	8.45	6.30	-	-
	005	1.05	17.2	8.18	30.9	6.89	26.0	4.34	16.44	2.29	1.70	12.00	8.94	23.97	17.88
	006	1.30	21.3	10.13	38.3	8.84	33.4	5.71	21.6	2.40	1.78	14.28	10.64	28.96	21.60
	008	1.61	26.4	12.55	47.4	11.26	42.6	8.12	30.72	2.54	1.89	17.11	12.75	35.08	26.16
	010	2.08	34.1	16.22	61.3	14.93	56.4	11.81	44.64	2.76	2.06	21.38	15.94	44.25	33.00
	012	2.26	37.1	17.64	66.7	16.35	61.8	13.24	50.04	2.84	2.11	23.05	17.18	47.47	35.40
	014	2.81	46.0	21.88	82.7	20.59	77.8	17.46	66.00	3.09	2.30	27.99	20.87	58.73	43.80
	015	3.08	50.5	23.99	90.7	22.83	86.3	19.39	73.32	3.21	2.40	30.30	22.60	63.56	47.40
	017	3.56	58.3	27.73	104.8	26.44	99.9	23.33	88.2	3.43	2.55	34.81	25.95	73.54	54.84
	020	3.89	63.8	30.34	114.7	29.05	109.8	25.93	98.04	3.58	2.66	37.86	28.23	80.14	59.76
	022 ⁷⁾	4.29	70.3	33.43	126.4	32.14	121.5	29.05	109.8	3.76	2.80	41.47	30.92	80.94	60.36
	025 ^{6,8)}	4.84	79.3	37.71	142.5	36.42	137.6	-	-	4.01	2.99	46.46	34.64	-	-
	028 ^{6,9)}	5.42	88.8	42.23	159.6	40.94	154.7	-	-	4.27	3.18	51.74	38.58	-	-
	031 ^{6,9)}	6.10	100.0	47.56	179.7	46.27	174.9	-	-	4.58	3.41	57.95	43.21	-	-

1) 085 = 90 bar (1300 psi) max.int. & 085 = 2000 rpm max. 2) B35-B38 = 280 bar (4060 psi) max.int. 3) B42 = 260 bar (3770 psi) max.int. 4) 045 = 240 bar (3500 psi) max. int.
 5) 050 = 210 bar (3000 psi) max. int 6) 025-028-031 = 2500 R.P.M. max. 7) 022 = 275 bar max. int, 8) 025 = 240 bar max. int, 9) 028-031 = 210 bar (3000 psi) max. int.

-- Not to use because internal leakage greater than 50% of theoretical flow

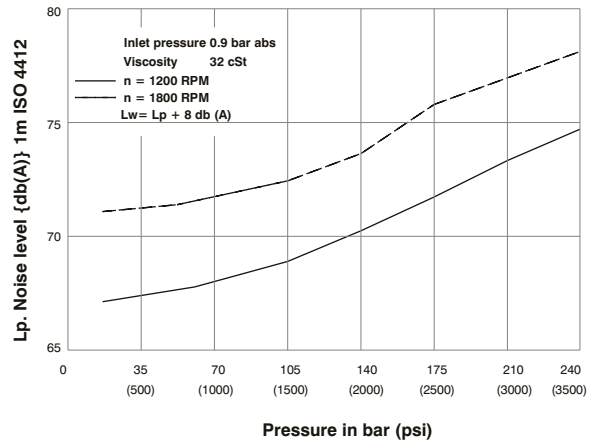
INTERNAL LEAKAGE (TYPICAL)



Do not operate pump more than 5 seconds at any speed or viscosity if internal leakage is more than 50% of theoretical flow. Total leakage is the sum of each section loss at its operating conditions.

NOISE LEVEL (TYPICAL)

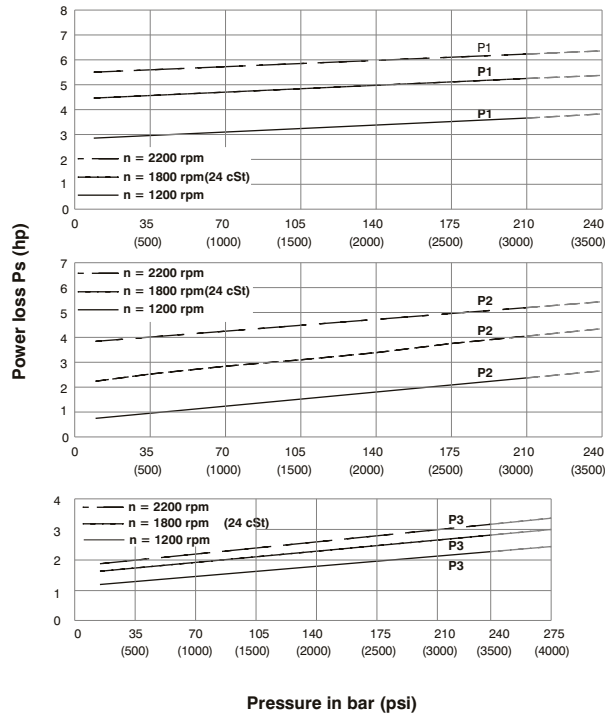
VT7QEDC- 062-B35-022



Triple pump noise level is given with each section discharging at the pressure noted on the curve.

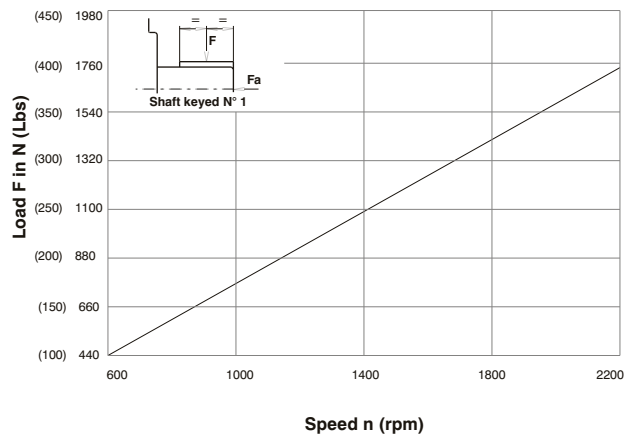


HYDROMECHANICAL POWER LOSS (TYPICAL)



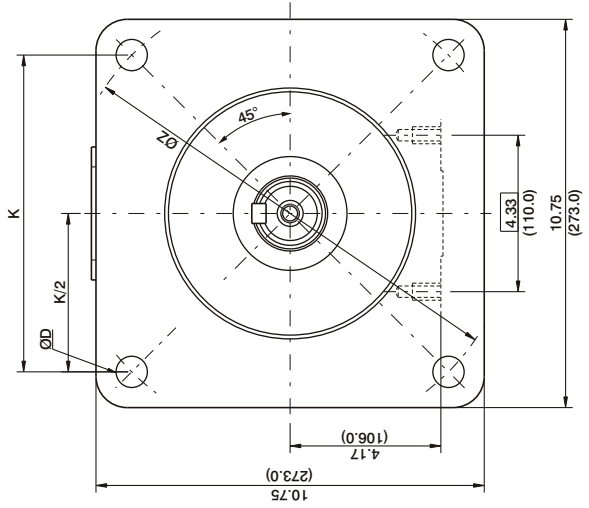
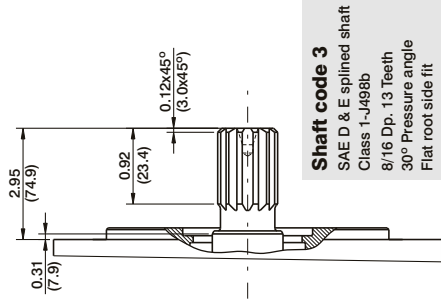
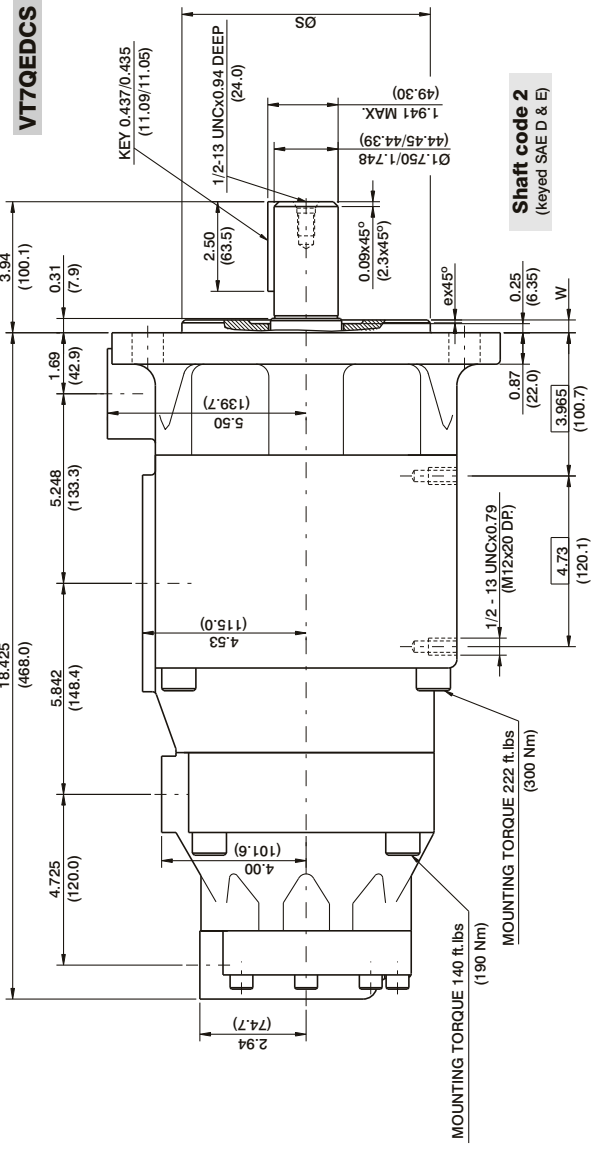
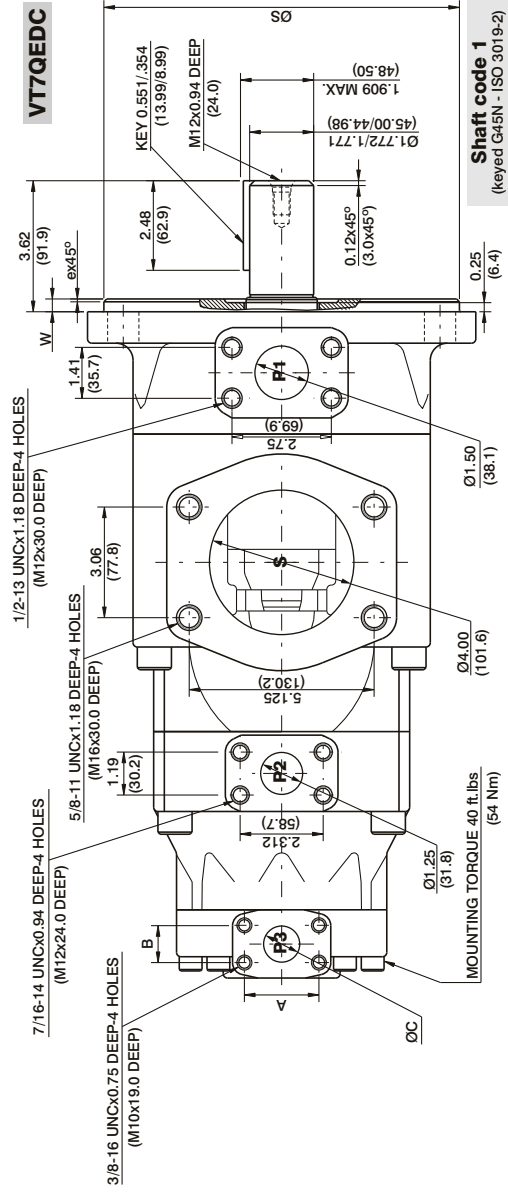
Total hydromechanical power loss is the sum of each section at its operating conditions.

PERMISSIBLE RADIAL LOAD



Maximum permissible axial load $F_a = 2000$ N (449 Lbs)

TP



Shaft torque limits in³/rev x psi (ml/rev x bar)

Shaft	Vp x p max. (P1 + P2 + P3)
1	101506 (114715)
2	104818 (118458)
3	112312 (126928)

PORT CODE	A	B	ØC
00&M0	2.06 (52.4)	1.03 (26.2)	1.00 (25.4)
01&M1	1.874 (47.6)	0.874 (22.2)	0.75 (19.0)

Series	ØS		W	ex45°	K	ØZ	ØD
	MAX.	Min.					
VT7QEDC	9.842 (250.0)	9.840 (249.94)	0.079 (2.0)	0.354 (8.99)	---	12.401 (315.0)	0.866 (21.99)
VT7QEDCS	6.50 (165.10)	6.498 (165.05)	0.079 (2.0)	0.354 (8.99)	8.838 (224.5)	---	0.811 (20.59)

3MICT

vst7cbb	3
1 Page 1	3
2 Page 2	4
3 Page 3	5
4 Page 4	6
5 Page 5	7
6 Page 6	8
7 Page 7	9
vst7dbb	10
1 Page 8	10
2 Page 9	11
3 Page 10	12
4 Page 11	13
5 Page 12	14
6 Page 13	15
7 Page 14	16
vst7dcc	17
1 Page 15	17
2 Page 16	18
3 Page 17	19
4 Page 18	20
5 Page 19	21
6 Page 20	22
7 Page 21	23
vst7ecb	24
1 Page 22	24
2 Page 23	25
3 Page 24	26
4 Page 25	27
5 Page 26	28
6 Page 27	29
7 Page 28	30
8 Page 29	31
vst7edb	32
1 Page 30	32
2 Page 31	33
3 Page 32	34
4 Page 33	35
5 Page 34	36
6 Page 35	37
7 Page 36	38
8 Page 37	39
vst7edc	40

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4	Page 41	43
5	Page 42	44
6	Page 43	45
7	Page 44	46
8	Page 45	47

ORDERING CODE

VST7CBB - 022 - B09 - B02 1 R 00 - B 1 - 01 *

Series

Cam ring for "P1"

Volumetric displacement cm^3/rev (in^3/rev)

B02 = 5.7 (0.35)

B03 = 9.8 (0.60)

B04 = 12.8 (0.78)

B05 = 15.9 (0.97)

B06 = 19.8 (1.21)

B07 = 22.5 (1.37)

B08 = 24.9 (1.52)

B09 = 28.0 (1.71)

B10 = 31.8 (1.94)

B11 = 34.9 (2.13)

B12 = 40.9 (2.50)

B14 = 45.1 (2.75)

B15 = 50.0 (3.05)

B17 = 58.3 (3.56)

B20 = 63.8 (3.89)

B22 = 70.3 (4.29)

B25 = 79.3 (4.84)

Cam ring for "P2" & "P3"

Volumetric displacement cm^3/rev (in^3/rev)

B02 = 5.7 (0.35)

B03 = 9.8 (0.60)

B04 = 12.8 (0.78)

B05 = 15.9 (0.97)

B06 = 19.8 (1.21)

B07 = 22.5 (1.37)

B08 = 24.9 (1.52)

B09 = 28.0 (1.71)

B10 = 31.8 (1.94)

B11 = 34.9 (2.13)

B12 = 40.9 (2.50)

Modifications

Mounting W/connection Variables

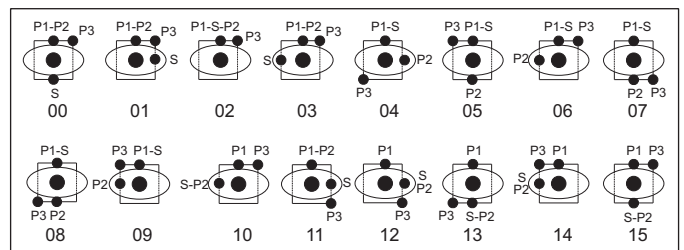
CODE		S = 2 1/2" SAE 4-Bolt Pad.		
UNC	METRIC	P1	P2	P3
01	W0	1" SAE 4 bolt Pad.	3/4" SAE 4 bolt Pad.	SAE 8,3/4" 16 UNF-2B O'ring Boss
11	W1			3/4" SAE 4 bolt Pad.
02	W2	SAE 16,1 5/16" 12 UNF-2B O'ring Boss	SAE 12,1 1/16" 12 UNF-2B O'ring Boss	SAE 8,3/4" 16 UNF-2B O'ring Boss

Seal Class

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

Design Letters

Porting Combination



Direction of rotation

(view on shaft end)

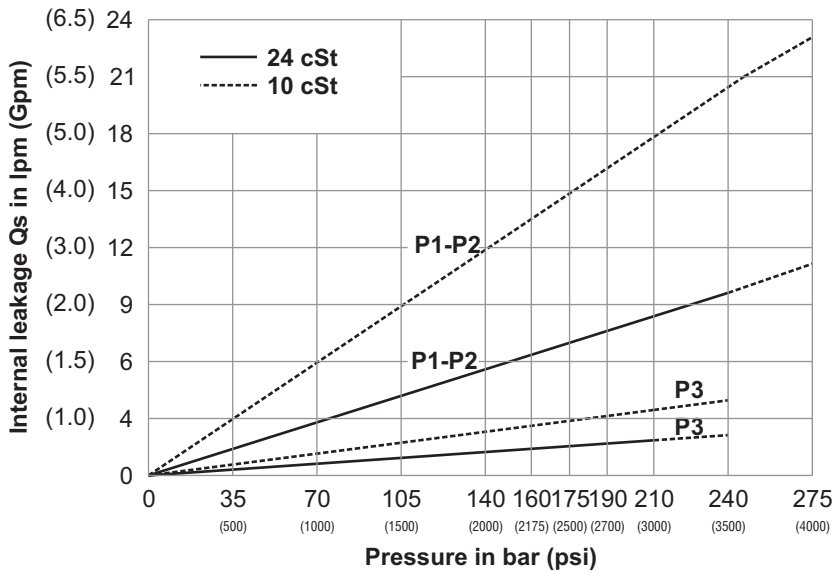
- R - clockwise
- L - Counter - Clockwise

Type of shaft

- 1 - Keyed
- 2 - Keyed (SAE-BB)
- 3 - Splined (SAE-BB)
- 5 - Splined (SAE-B)
- E - Splined

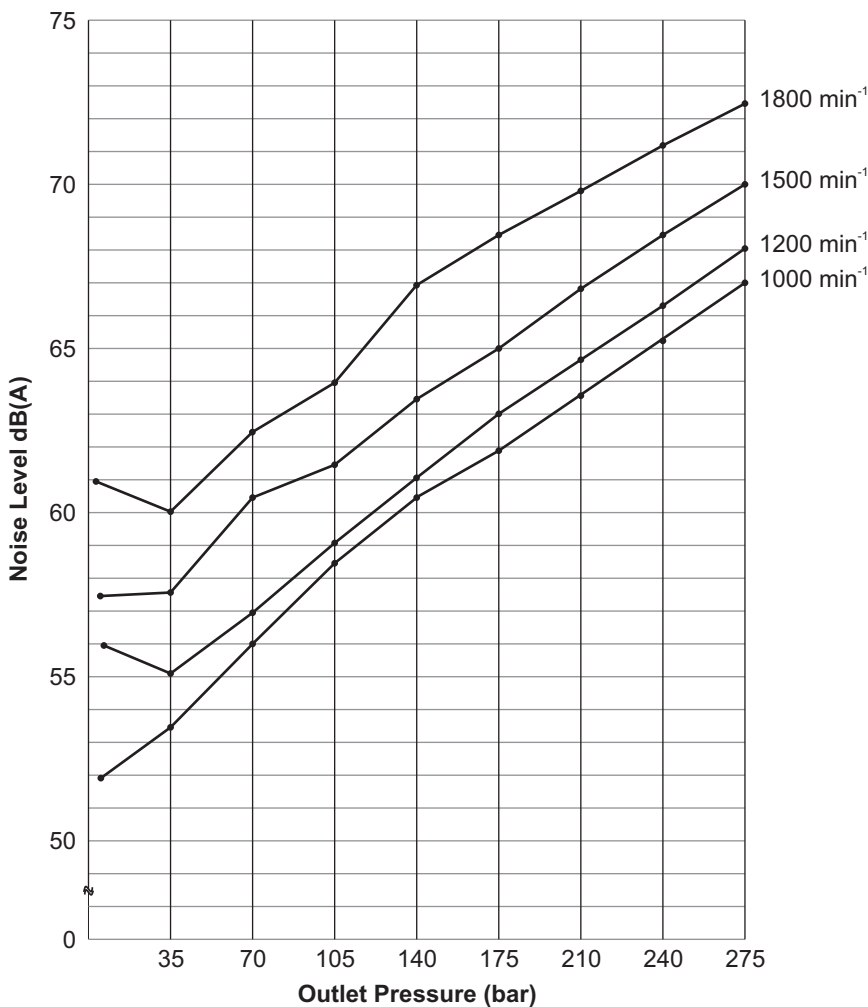


INTERNAL LEAKAGE (TYPICAL)



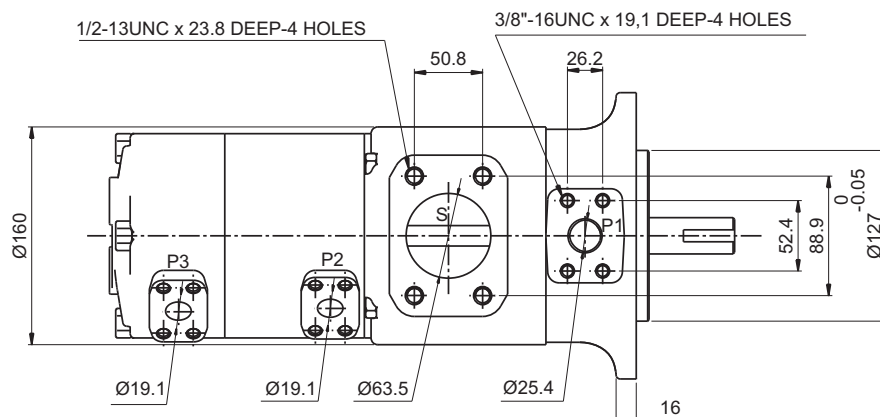
Do not operate pump more than 5 seconds at any speed or viscosity if internal leakage is more than 50 of theoretical flow. Total leakage is the sum of each section loss at its operating conditions.

NOISE LEVEL (TYPICAL) VST7CBB-B22-B09-B02

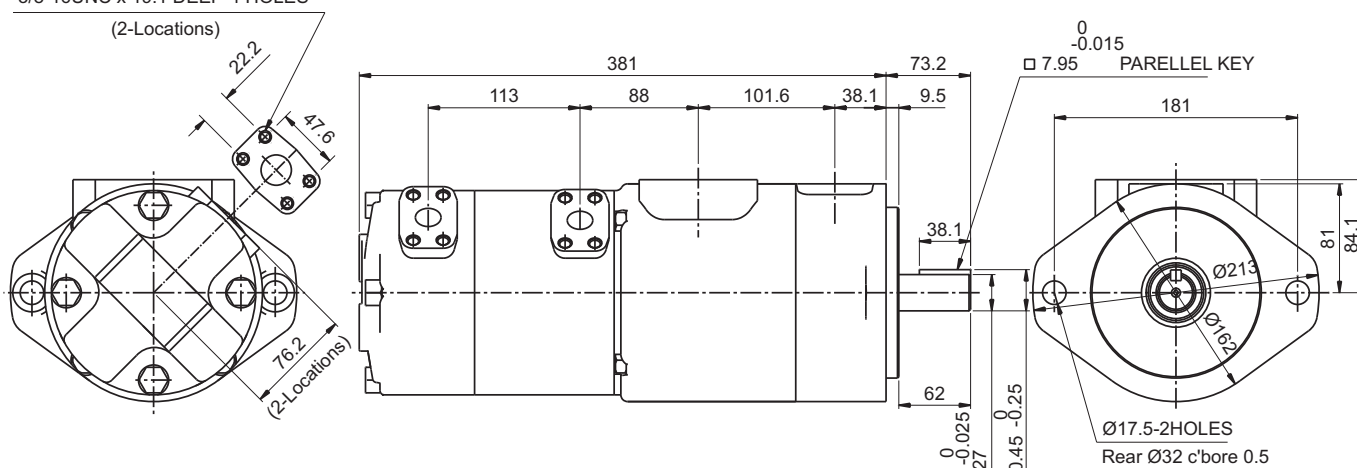


Measurement Conditions:
ISO VG32 oil at 50°C and measured 1m from rear of pump cover

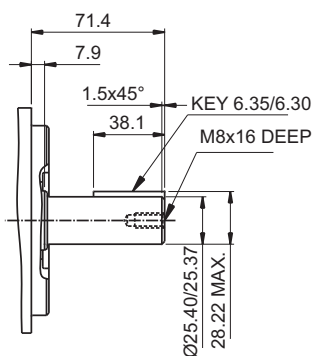
INSTALLATION DRAWING
FLANGE MOUNTING



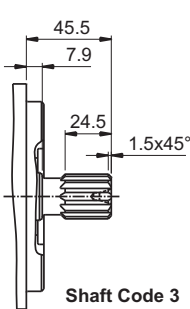
3/8-16UNC x 19.1 DEEP-4 HOLES
(2-Locations)



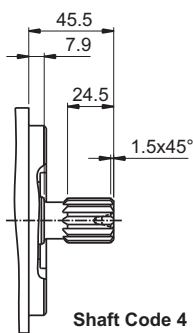
Shaft Code 1



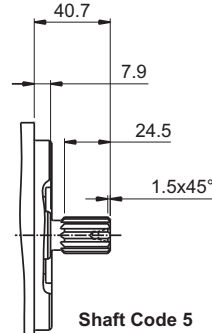
Shaft Code 2



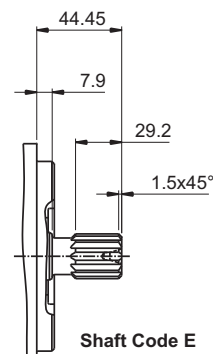
Shaft Code 3
SAE B-B Splined shaft
Class 1-J498b
16/32 d.p - 15 teeth
30° pressure angle
flat root side fit



Shaft Code 4
Splined shaft
Class 1-J498b
16/32 d.p-15teeth
30° pressure angle
major dia fit



Shaft Code 5
SAE B Splined shaft
Class 1-J498b
16/32 d.p - 13 teeth
30° pressure angle
flat root side fit



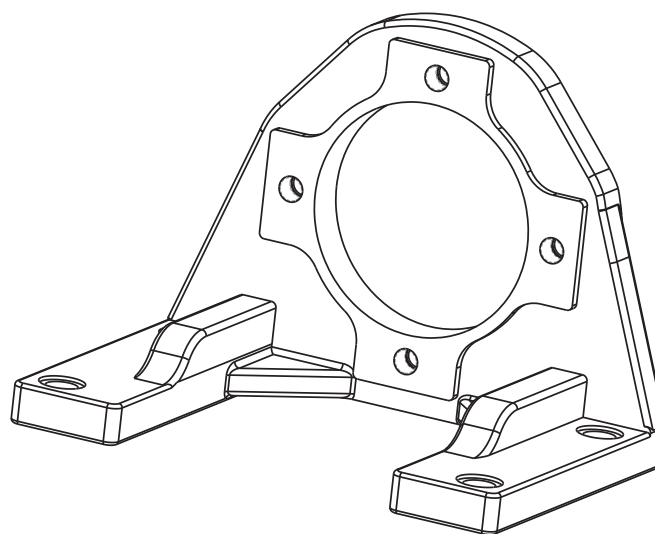
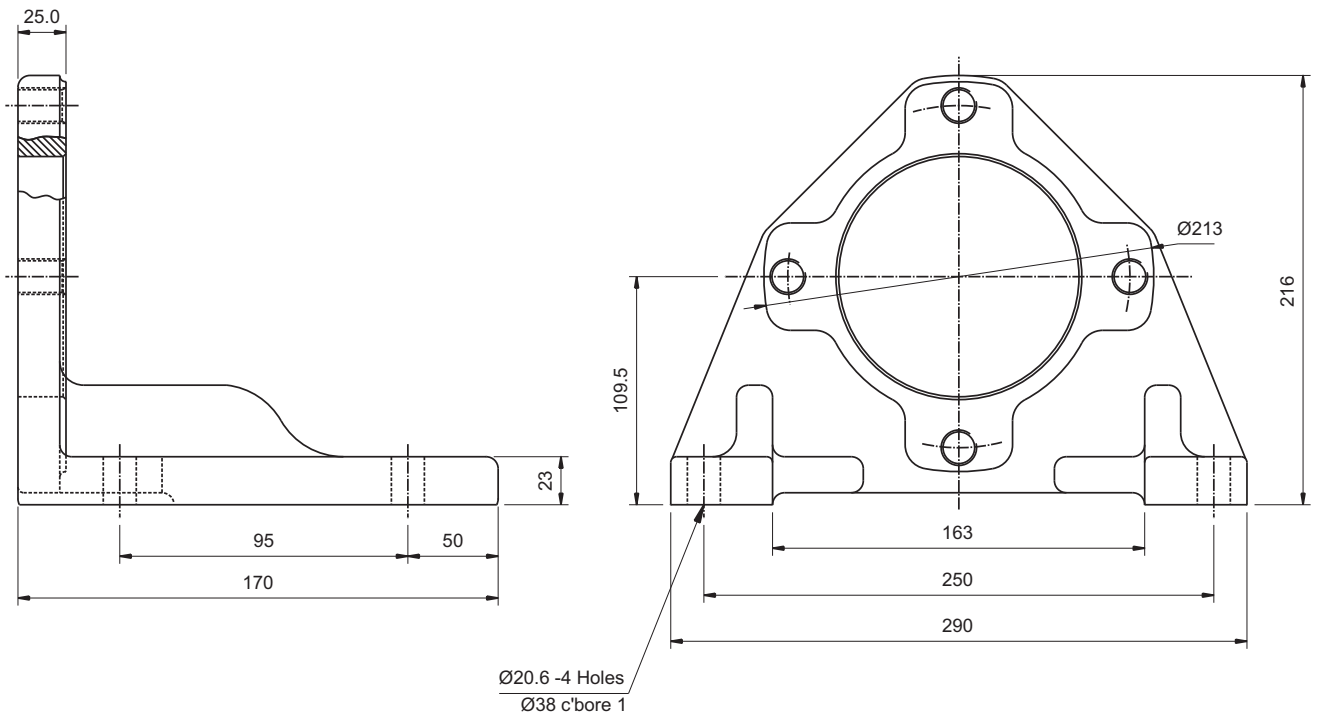
Shaft Code E
Splined shaft
Class 1-J498b
16/32 d.p - 13 teeth
30° pressure angle
major dia fit

Shaft torque limits V x P max. (P1+ P2+ P3)

Shaft	in ³ /rev x psi (ml/rev x bar)
1	12666 (14300)
2	18972 (21470)
3	28937 (32670)
4	28937 (32670)
5	18246 (20600)
E	18246 (20600)

Weight - 40.0 Kgs.

INSTALLATION DRAWING FOOT MOUNTING



Weight-9.5 Kgs.

OPERATING CHARACTERISTICS (24 cSt)

Pressure port	Series	Volumetric Displacement Vp		Flow q (lpm) & n = 1500 rpm					
				p = 0 bar (0 psi)		p=140bar(2000psi)		p=240bar(3500psi)	
		in ³ /rev	cm ³ /rev	gpm	lpm	gpm	lpm	gpm	lpm
P1	B02	0.35	5.7	2.29	8.70	1.72	6.50	1.32	5.0
	B03	0.60	9.8	3.88	14.7	3.30	12.5	2.91	11.0
	B04	0.78	12.8	5.07	19.2	4.49	17.0	4.09	15.5
	B05	0.97	15.9	6.31	23.9	5.68	21.5	5.28	20.0
	B06	1.21	19.8	7.85	29.7	7.13	27.0	6.87	26.0
	B07	1.37	22.5	8.90	33.7	8.19	31.0	7.79	29.5
	B08	1.52	24.9	9.88	37.4	9.25	35.0	8.85	33.5
	B09	1.71	28.0	11.07	41.9	10.43	39.5	10.04	38.0
	B10	1.94	31.8	12.62	47.8	11.88	45.0	11.23	42.5
	B11	2.13	34.9	13.81	52.26	13.21	50.0	12.81	48.5
	B12	2.50	40.9	16.25	61.50	15.59	59.0	15.19	57.5
	B14	2.75	45.1	17.81	67.65	17.04	64.5	16.77	63.5
	B15	3.08	50.5	20.25	76.64	19.55	74.0	19.15	72.5
	B17	3.56	58.3	23.10	87.45	22.32	84.5	22.06	83.5
	B20	3.89	63.8	25.28	95.70	24.70	93.5	24.30	92.0
	B22	4.29	70.3	27.87	105.5	27.21	103.0	26.81	101.5
B25	4.84	79.3	31.44	119.0	31.04	117.5	30.64	116.0	



Pressure port	Series	Volumetric Displacement Vp		Input power p & n = 1500 rpm					
				p=7 bar (100 psi)		p=140bar(2000psi)		p=240bar(3500psi)	
		in ³ /rev	cm ³ /rev	hp	kw	hp	kw	hp	kw
P1	B02	0.35	5.7	0.62	0.46	3.08	2.30	5.14	3.83
	B03	0.60	9.8	0.71	0.53	4.96	3.70	8.35	6.23
	B04	0.78	12.8	0.78	0.58	6.37	4.75	10.77	8.03
	B05	0.97	15.9	0.86	0.64	7.78	5.80	13.18	9.83
	B06	1.21	19.8	0.95	0.71	9.49	7.08	16.40	12.23
	B07	1.37	22.5	1.01	0.75	10.74	8.01	18.28	13.63
	B08	1.52	24.9	1.06	0.79	12.00	8.95	20.42	15.23
	B09	1.71	28.0	1.14	0.85	13.39	9.99	22.84	17.03
	B10	1.94	31.8	1.23	0.92	15.13	11.28	25.25	18.83
	B11	2.13	34.9	1.30	0.97	16.69	12.45	28.46	21.23
	B12	2.50	40.9	1.45	1.08	19.51	14.55	33.29	24.83
	B14	2.75	45.1	1.54	1.15	21.23	15.83	36.52	27.23
	B15	3.08	50.5	1.68	1.25	24.21	18.05	41.34	30.83
	B17	3.56	58.3	1.85	1.38	27.49	20.50	47.24	35.23
	B20	3.89	63.8	1.98	1.48	30.31	22.60	51.80	38.63
	B22	4.29	70.3	2.13	1.59	33.27	24.81	56.89	42.43
B25	4.84	79.3	2.35	1.75	37.82	28.20	64.68	48.23	

Max, cont. pressure 240 bar upto B12, 210 bar from B14 - B25

Measurement Conditions: ISO VG32 oil at 50°C

OPERATING CHARACTERISTICS (24 cSt)

Pressure port	Series	Volumetric Displacement Vp		Flow q (lpm) & n = 1500 rpm					
				p = 0 bar (0 psi)		p=140bar(2000psi)		p=240bar(3500psi)	
		in ³ /rev	cm ³ /rev	gpm	lpm	gpm	lpm	gpm	lpm
P2 & P3	B02	0.35	5.7	2.29	8.70	1.72	6.50	–	–
	B03	0.60	9.8	3.88	14.7	3.30	12.5	2.91	11.0
	B04	0.78	12.8	5.07	19.2	4.49	17.0	4.09	15.5
	B05	0.97	15.9	6.31	23.9	5.68	21.5	5.28	20.0
	B06	1.21	19.8	7.85	29.7	7.13	27.0	6.87	26.0
	B07	1.37	22.5	8.90	33.7	8.19	31.0	7.79	29.5
	B08	1.52	24.9	9.88	37.4	9.25	35.0	8.85	33.5
	B09	1.71	28.0	11.07	41.9	10.43	39.5	10.04	38.0
	B10	1.94	31.8	12.62	47.8	11.88	45.0	11.23	42.5
	B11	2.13	34.9	13.81	52.26	13.21	50.0	12.81	48.5
	B12	2.50	40.9	16.25	61.50	15.59	59.0	15.19	57.5

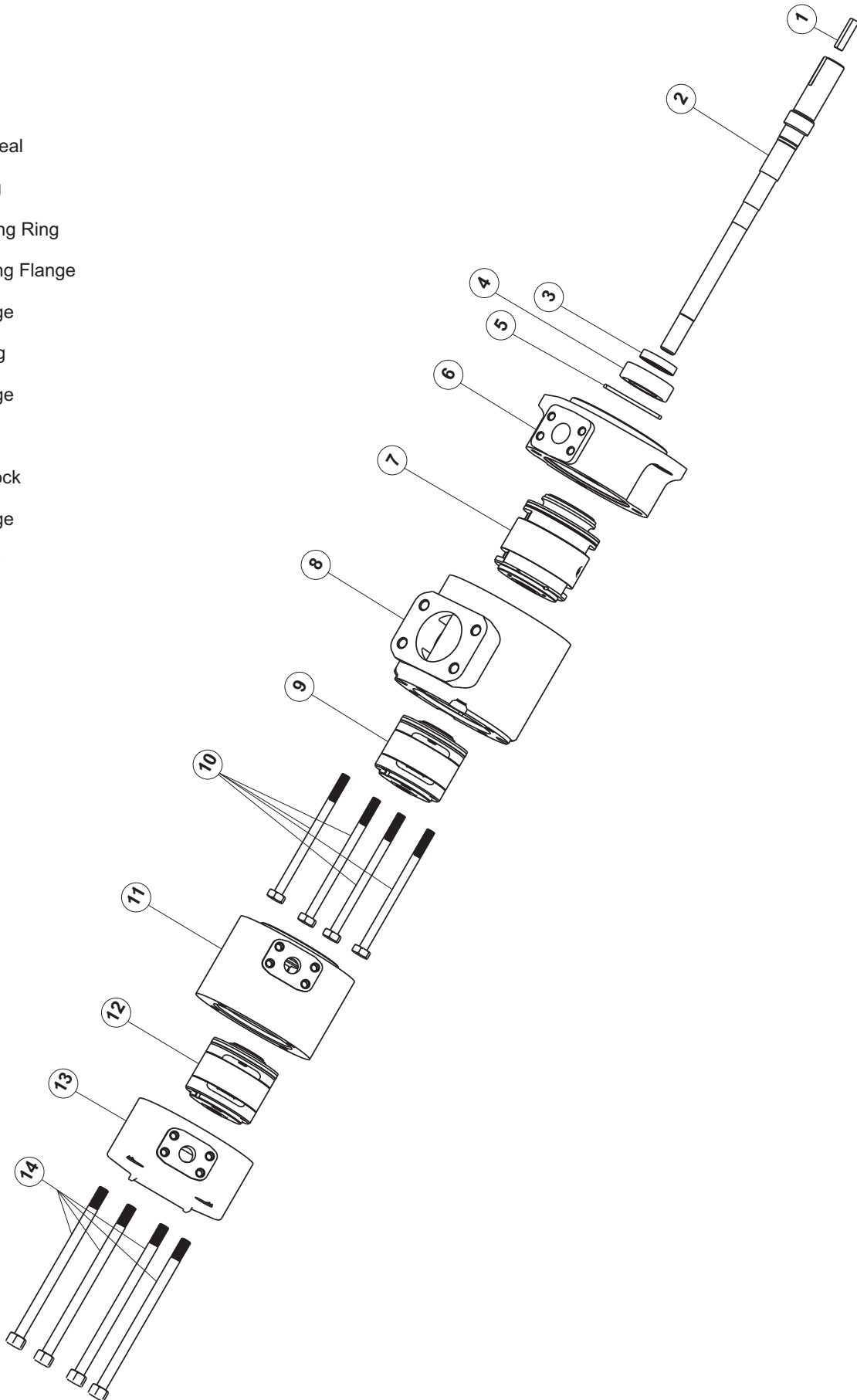


Pressure port	Series	Volumetric Displacement Vp		Input Power p & n = 1500 rpm					
				p = 7 bar (100 psi)		p=140bar(2000psi)		p=240bar(3500psi)	
		in ³ /rev	cm ³ /rev	hp	kw	hp	kw	hp	kw
P2 & P3	B02	0.35	5.7	0.62	0.46	3.08	2.30	–	–
	B03	0.60	9.8	0.71	0.53	4.96	3.70	8.35	6.23
	B04	0.78	12.8	0.78	0.58	6.37	4.75	10.77	8.03
	B05	0.97	15.9	0.86	0.64	7.78	5.80	13.18	9.83
	B06	1.21	19.8	0.95	0.71	9.49	7.08	16.40	12.23
	B07	1.37	22.5	1.01	0.75	10.74	8.01	18.28	13.63
	B08	1.52	24.9	1.06	0.79	12.00	8.95	20.42	15.23
	B09	1.71	28.0	1.14	0.85	13.39	9.99	22.84	17.03
	B10	1.94	31.8	1.23	0.92	15.13	11.28	25.25	18.83
	B11	2.13	34.9	1.30	0.97	16.69	12.45	28.46	21.23
	B12	2.50	40.9	1.45	1.08	19.51	14.55	33.29	24.83

-- Not to use because internal leakage greater than 50 of theoretical flow.
 Up to B12 = Max, int. pressure 210 bar(3000 psi)
 Max, cont. pressure 175 bar(2500 psi), Except B02
 Measurement Conditions: ISO VG32 oil at 50°C

CONSTRUCTION

- 1. Key
- 2. Shaft
- 3. Shaft Seal
- 4. Bearing
- 5. Retaining Ring
- 6. Mounting Flange
- 7. Cartridge
- 8. Housing
- 9. Cartridge
- 10. Bolts
- 11. Port Block
- 12. Cartridge
- 13. Endcap
- 14. Bolts



ORDERING CODE

VST7DBB - 038 - B12 - B08 - 1 R 00 - A 1 - M1 *

Series

Cam ring for "P1"

Volumetric displacement cm^3/rev (in^3/rev)

014 = 43.9 (2.68)

017 = 55.0 (3.36)

020 = 66.0 (4.03)

022 = 70.3 (4.29)

024 = 81.1 (4.95)

028 = 89.9 (5.49)

031 = 99.1 (6.05)

035 = 113.4 (6.92)

038 = 120.6 (7.36)

042 = 137.5 (8.39)

Cam ring for "P2" & "P3"

Volumetric displacement cm^3/rev (in^3/rev)

B02 = 5.7 (0.35)

B03 = 9.8 (0.60)

B04 = 12.8 (0.78)

B05 = 15.9 (0.97)

B06 = 19.8 (1.21)

B07 = 22.5 (1.37)

B08 = 24.9 (1.52)

B09 = 28.0 (1.71)

B10 = 31.8 (1.94)

B11 = 34.9 (2.13)

B12 = 40.9 (2.50)

Type of shaft

1 - Keyed

2 - Keyed (SAE CC)

3 - Splined (SAE C)

4 - Splined (SAE CC)

Modifications

Mounting W/connection Variables

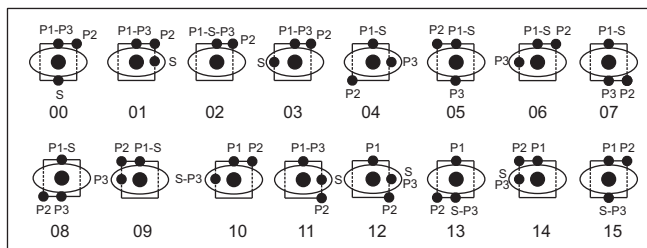
P1=1 1/4" P2=1" P3=3/4" S=4"	
UNC	METRIC
01	M1

Seal Class

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

Design Letters

Porting Combination

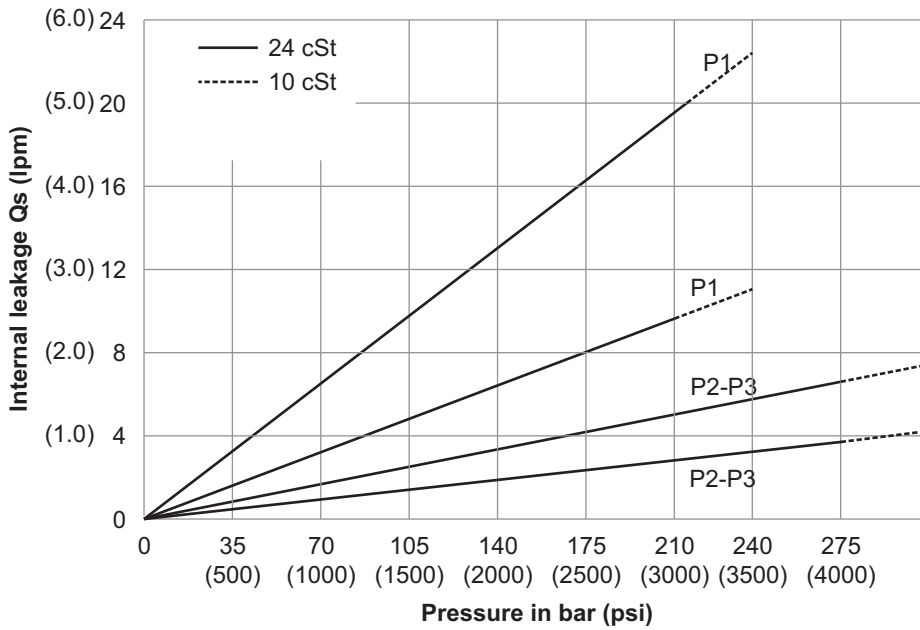


Direction of rotation (view on shaft end)

- R - clockwise
- L - Counter - Clockwise



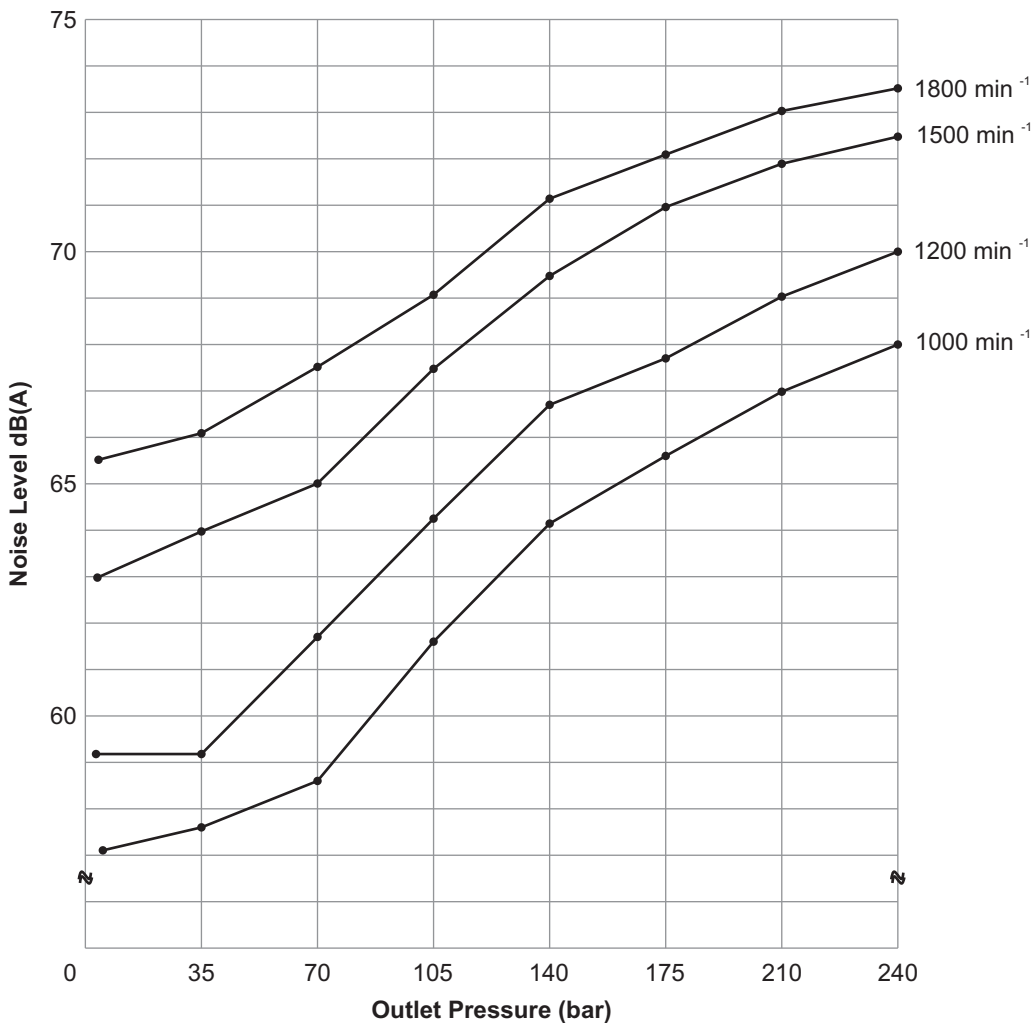
INTERNAL LEAKAGE (TYPICAL)



Do not operate pump more than 5 seconds at any speed or viscosity if internal leakage is more than 50% of theoretical flow. Total leakage is the sum of each section loss at its operating conditions.

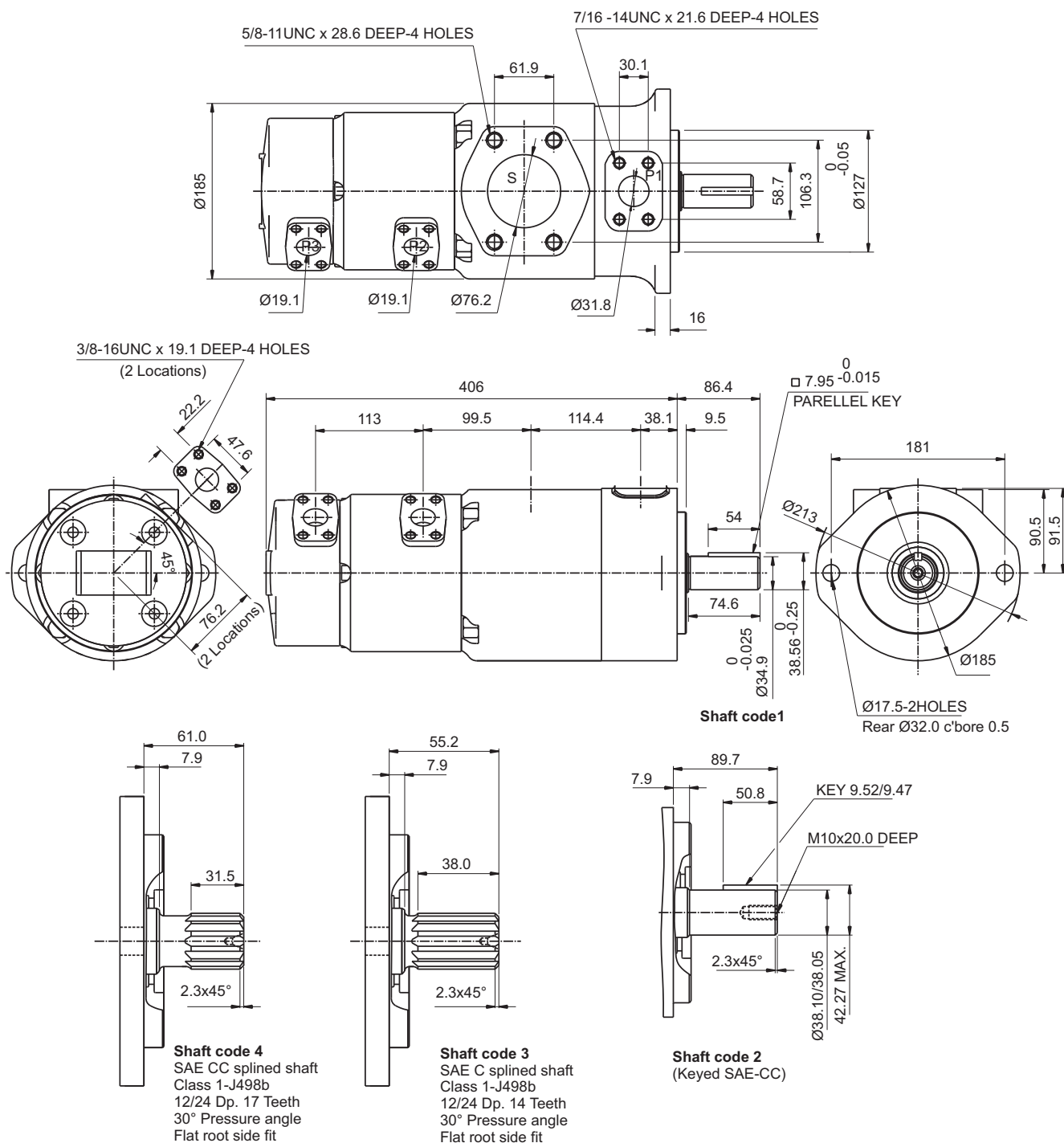


NOISE LEVEL (TYPICAL) VST7DBB-038-B12-B08



Measurement Conditions:
ISO VG32 oil at 50°C and measured 1m from rear of pump cover

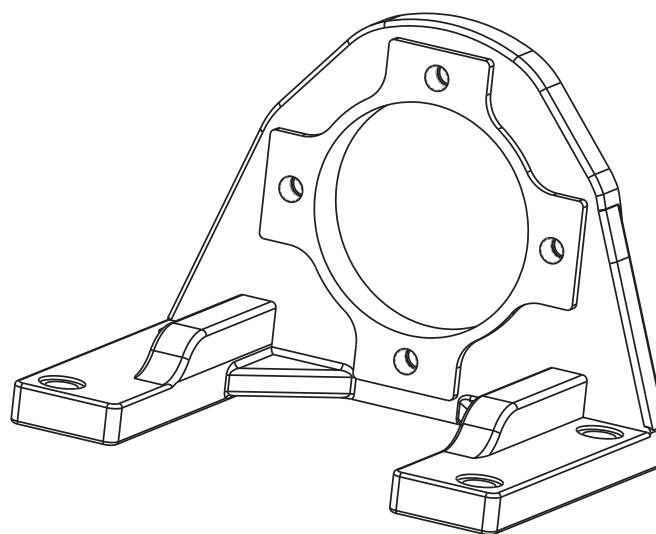
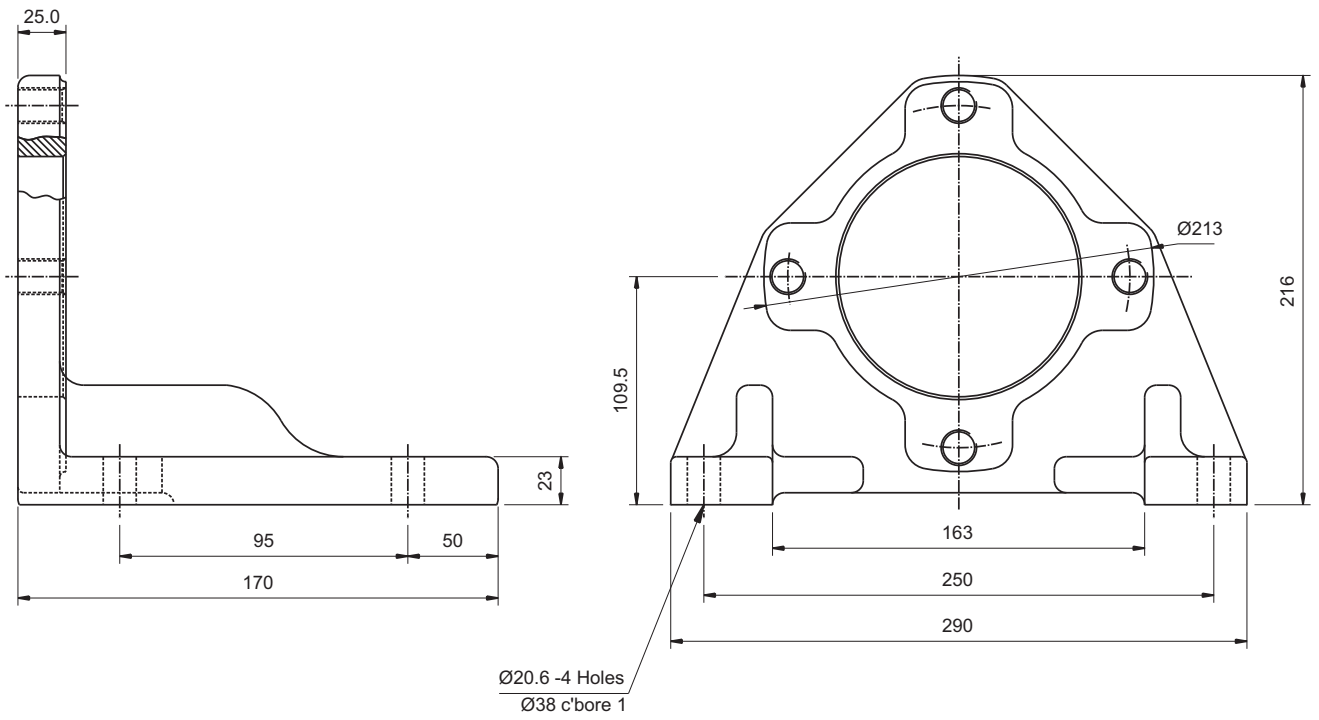
INSTALLATION DRAWING
FLANGE MOUNTING



Shaft torque limits in ³ / rev x psi (ml / rev x bar)	
Shaft	Vp x p max. (P1+P2+P3)
1	38299 (43240)
2	58901 (66500)
3	54027 (61200)
4	58901 (66500)

Weight - 60.5 Kgs.

INSTALLATION DRAWING
FOOT MOUNTING



Weight-9.5 Kgs.

OPERATING CHARACTERISTICS (24 cSt)

Pressure port	Series	Volumetric Displacement Vp		Flow q (lpm) & n = 1500 rpm					
				p = 0 bar (0 psi)		p=140bar(2000psi)		p=240bar(3500psi)	
		in ³ /rev	cm ³ /rev	gpm	lpm	gpm	lpm	gpm	lpm
P1	014	2.68	43.9	18.88	71.40	16.42	62.10	14.78	55.95
	017	3.36	55.0	23.10	87.30	20.60	78.00	18.99	71.88
	020	4.03	66.0	26.19	99.00	23.73	89.70	22.08	83.58
	022	4.29	70.3	28.85	109.21	26.41	99.97	25.31	95.81
	024	4.95	81.1	31.56	119.3	29.10	110.00	27.46	103.95
	028	5.49	89.9	35.58	134.50	33.12	125.20	31.48	119.16
	031	6.05	99.1	39.00	147.50	36.53	138.10	34.89	132.07
	035	6.92	113.4	44.04	166.50	41.58	157.20	39.94	151.18
	038	7.36	120.6	47.72	180.40	45.26	171.10	43.62	165.12
	042	8.39	137.5	53.96	204.00	51.50	194.70	49.86	188.74

TP

Pressure port	Series	Volumetric Displacement Vp		Input power p & n = 1500 rpm					
				p = 7 bar (100 psi)		p = 140 bar (2000 psi)		p = 240 bar (3500 psi)	
		in ³ /rev	cm ³ /rev	hp	kw	hp	kw	hp	kw
P1	014	2.68	43.9	3.08	2.3	24.81	18.5	41.03	30.6
	017	3.36	55.0	3.35	2.5	29.77	22.2	49.62	37.0
	020	4.03	66.0	3.75	2.8	33.39	24.9	55.92	41.7
	022	4.29	70.3	4.00	2.9	36.50	27.7	63.80	46.6
	024	4.95	81.1	4.02	3.0	39.69	29.6	66.78	49.8
	028	5.49	89.9	4.29	3.2	44.52	33.2	74.96	55.9
	031	6.05	99.1	4.42	3.3	48.54	36.2	81.80	61.0
	035	6.92	113.4	4.69	3.5	54.58	40.7	92.13	68.7
	038	7.36	120.6	4.96	3.7	58.87	43.9	99.64	74.3
	042	8.39	137.5	5.36	4.0	66.25	49.4	112.24	83.7

Max, int. pressure 240 bar
 Max, cont. pressure 210 bar
 Measurement Conditions: ISO VG32 oil at 50°C

OPERATING CHARACTERISTICS (24 cSt)

Pressure port	Series	Volumetric Displacement Vp		Flow q (lpm) & n = 1500 rpm					
				p = 0 bar (0 psi)		p = 140 bar (2000 psi)		p = 240 bar (3500 psi)	
		in ³ /rev	cm ³ /rev	gpm	lpm	gpm	lpm	gpm	lpm
P2 & P3	B02	0.35	5.7	2.29	8.70	1.94	7.34	–	–
	B03	0.60	9.8	3.88	14.7	3.52	13.32	2.91	11.0
	B04	0.78	12.8	5.07	19.2	4.71	17.83	4.09	15.5
	B05	0.97	15.9	6.31	23.9	5.94	22.49	5.28	20.0
	B06	1.21	19.8	7.85	29.7	7.49	28.35	6.87	26.0
	B07	1.37	22.5	8.90	33.7	8.56	32.40	7.79	29.5
	B08	1.52	24.9	9.88	37.4	9.51	35.99	8.85	33.5
	B09	1.71	28.0	11.07	41.9	10.72	40.58	10.04	38.0
	B10	1.94	31.8	12.62	47.8	12.24	46.33	11.23	42.5
	B11	2.13	34.9	13.81	52.27	13.49	51.07	12.81	48.5
	B12	2.50	40.9	16.25	61.51	15.89	60.15	15.19	57.5

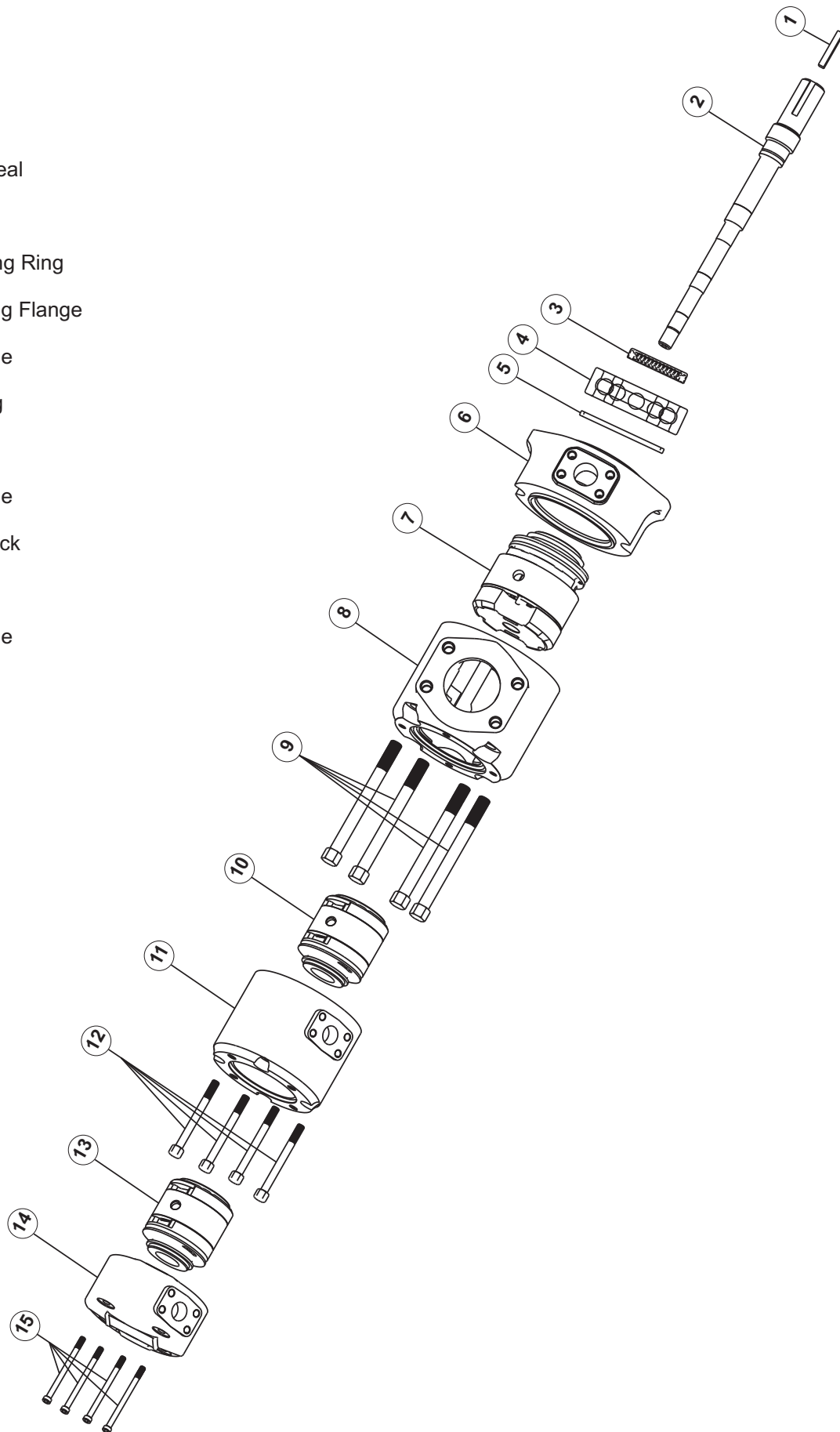
TP

Pressure port	Series	Volumetric Displacement Vp		Input power p & n = 1500 rpm					
				p = 7 bar (100 psi)		p = 140 bar (2000 psi)		p = 240 bar (3500 psi)	
		in ³ /rev	cm ³ /rev	hp	kw	hp	kw	hp	kw
P2 & P3	B02	0.35	5.7	0.62	0.46	3.08	2.30	–	–
	B03	0.60	9.8	0.71	0.53	4.96	3.70	8.35	6.23
	B04	0.78	12.8	0.78	0.58	6.37	4.75	10.77	8.03
	B05	0.97	15.9	0.86	0.64	7.78	5.80	13.18	9.83
	B06	1.21	19.8	0.95	0.71	9.49	7.08	16.40	12.23
	B07	1.37	22.5	1.01	0.75	10.74	8.01	18.28	13.63
	B08	1.52	24.9	1.06	0.79	12.00	8.95	20.42	15.23
	B09	1.71	28.0	1.14	0.85	13.39	9.99	22.84	17.03
	B10	1.94	31.8	1.23	0.92	15.13	11.28	25.25	18.83
	B11	2.13	34.9	1.30	0.97	16.69	12.45	28.46	21.23
	B12	2.50	40.9	1.45	1.08	19.51	14.55	33.29	24.83

-- Not to use because internal leakage greater than 50 of theoretical flow.
 Max, int. pressure 210 bar(3000 psi)
 Max, cont. pressure 175 bar(2500 psi), Except B02
 Measurement Conditions: ISO VG32 oil at 50°C

CONSTRUCTION

- 1. Key
- 2. Shaft
- 3. Shaft Seal
- 4. Bearing
- 5. Retaining Ring
- 6. Mounting Flange
- 7. Cartridge
- 8. Housing
- 9. Bolts
- 10. Cartridge
- 11. Port Block
- 12. Bolts
- 13. Cartridge
- 14. Endcap
- 15. Bolts



ORDERING CODE

VST7DCC - 038 - 022 - B08 1 R 00 - B 1 - 00 *

Series

Cam ring for "P1"

Volumetric displacement cm^3/rev (in^3/rev)

014 = 43.9 (2.68)

017 = 55.0 (3.36)

020 = 66.0 (4.03)

022 = 70.3 (4.29)

024 = 81.1 (4.95)

028 = 89.9 (5.49)

031 = 99.1 (6.05)

035 = 113.4 (6.92)

038 = 120.6 (7.36)

042 = 137.5 (8.39)

Cam ring for "P2" & "P3"

Volumetric displacement cm^3/rev (in^3/rev)

B02 = 5.7 (0.35)

B03 = 9.8 (0.60)

B04 = 12.8 (0.78)

B05 = 15.9 (0.97)

B06 = 19.8 (1.21)

B07 = 22.5 (1.37)

B08 = 24.9 (1.52)

B09 = 28.0 (1.71)

B10 = 31.8 (1.94)

B11 = 34.9 (2.13)

B12 = 40.9 (2.50)

B14 = 45.1 (2.75)

B15 = 50.0 (3.05)

B17 = 58.3 (3.56)

B20 = 63.8 (3.89)

B22 = 70.3 (4.29)

B25 = 79.3 (4.84)

Modifications

Mounting W/connection Variables

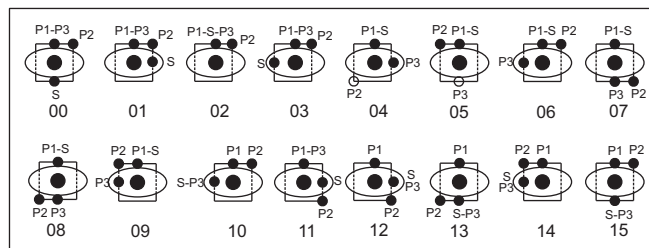
	UNC		METRIC	
	00	01	M0	M1
P2	1"	3/4"	1"	3/4"

Seal Class

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

Design Letters

Porting Combination



Direction of rotation (view on shaft end)

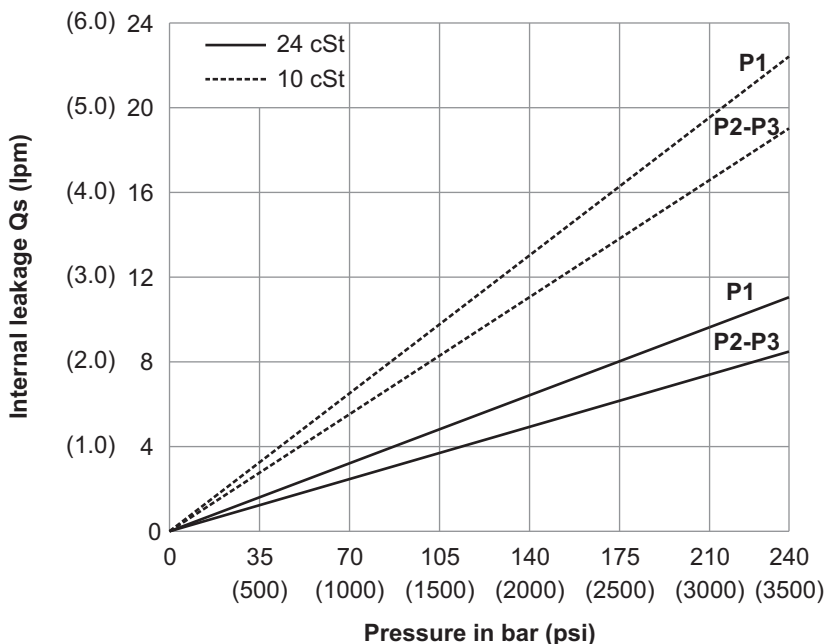
- R - clockwise
- L - Counter - Clockwise

Type of shaft

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

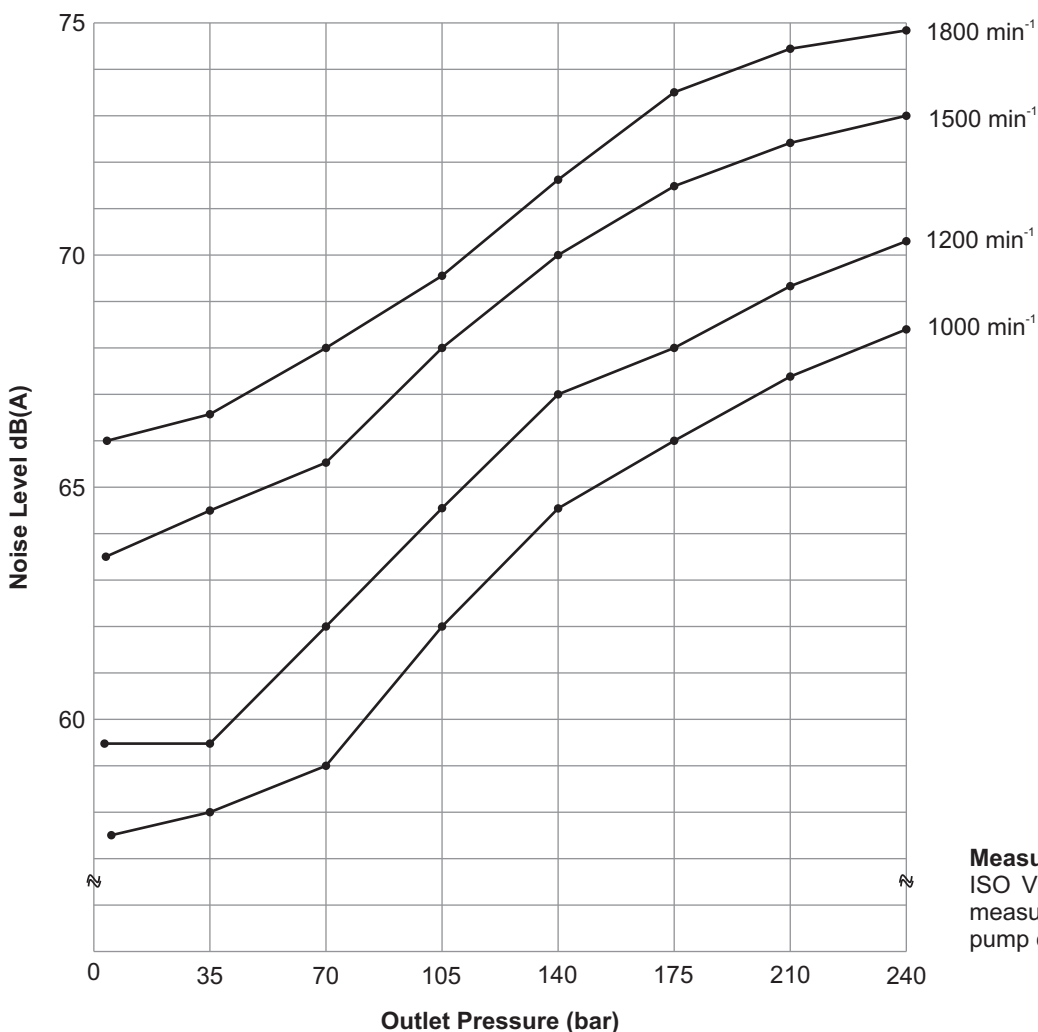
TP

INTERNAL LEAKAGE (TYPICAL)



Do not operate pump more than 5 seconds at any speed or viscosity if internal leakage is more than 50 of theoretical flow. Total leakage is the sum of each section loss at its operating conditions.

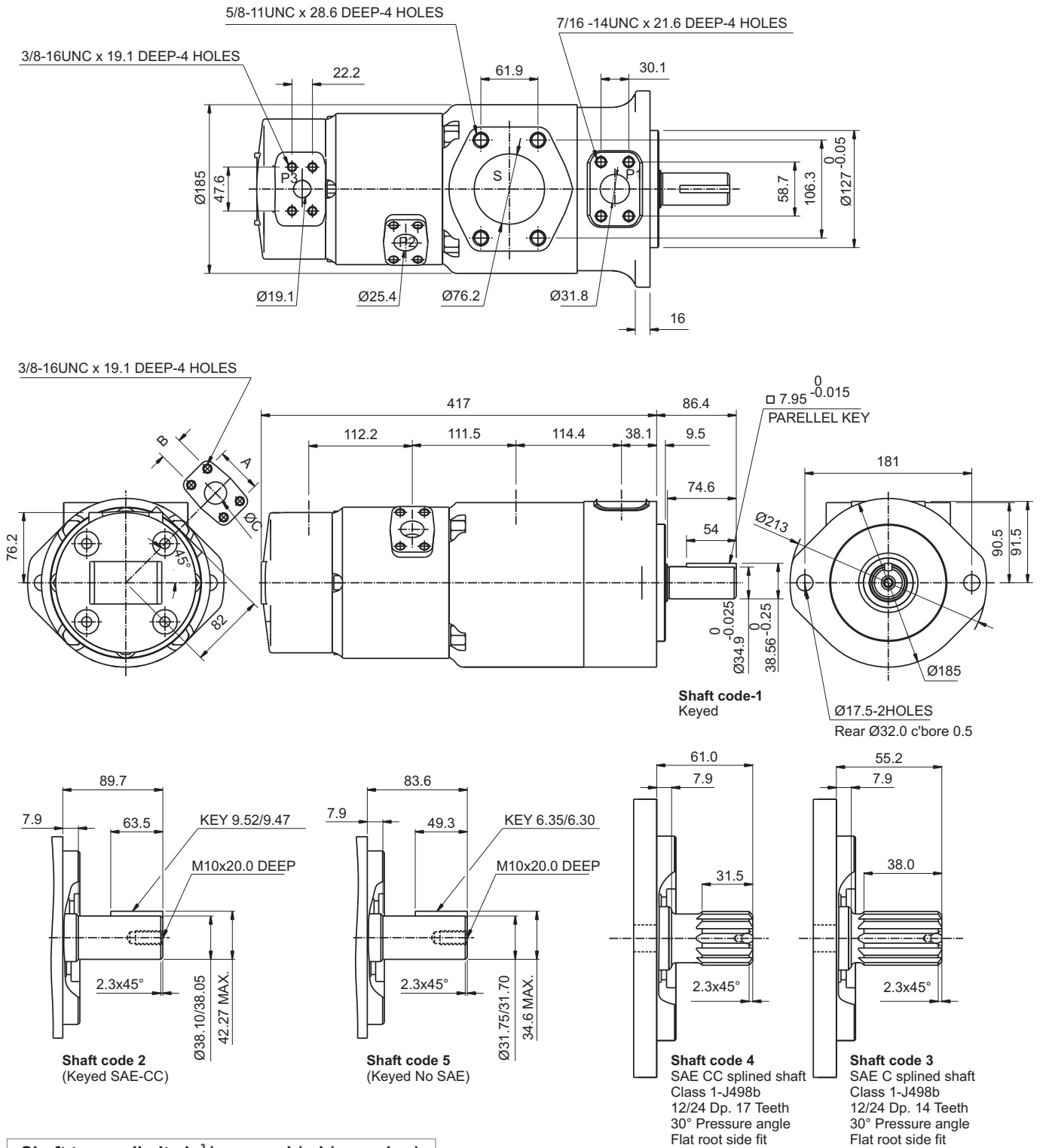
NOISE LEVEL (TYPICAL) VST7DCC-038-B22-B08



Measurement Conditions:
ISO VG32 oil at 50°C and measured 1m from rear of pump cover



INSTALLATION DRAWING
FLANGE MOUNTING



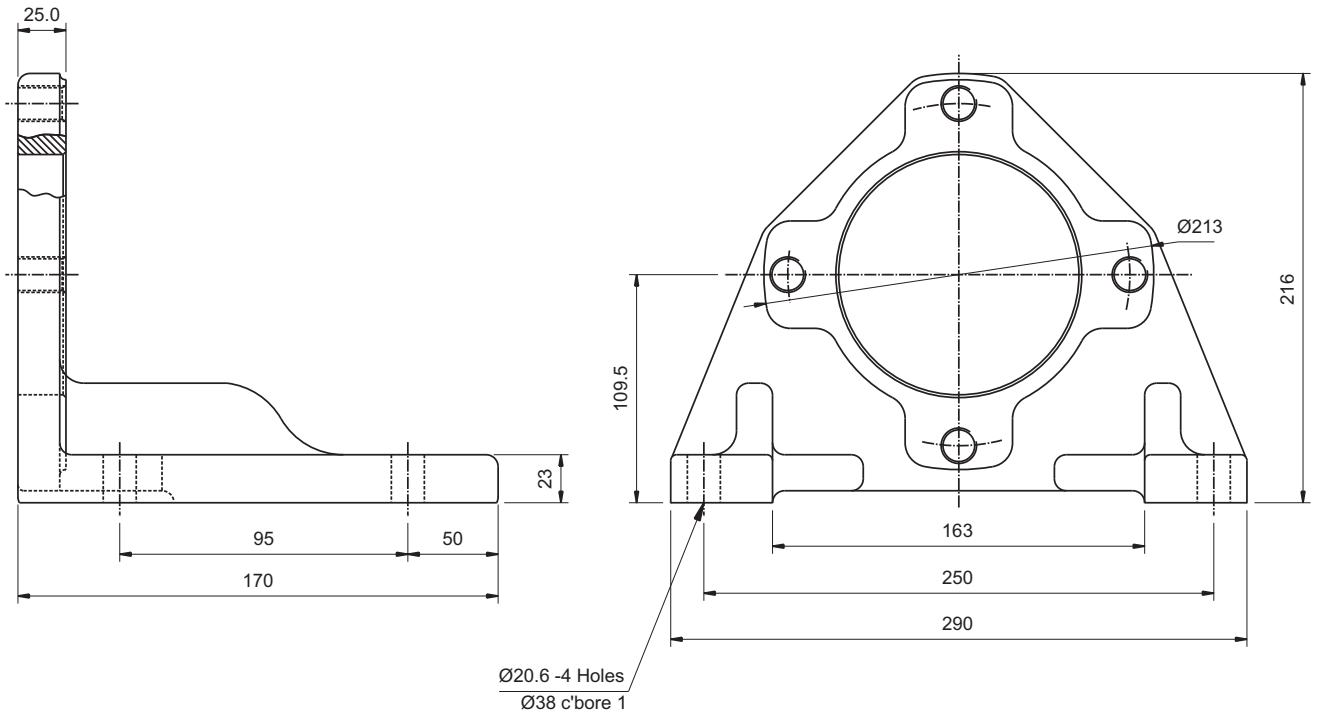
Shaft torque limits in³ / rev x psi (ml / rev x bar)

Shaft	Vp x p max. (P1+P2+P3)
1	38299 (43240)
2	58209 (66500)
3	54027 (61200)
4	58902 (66500)

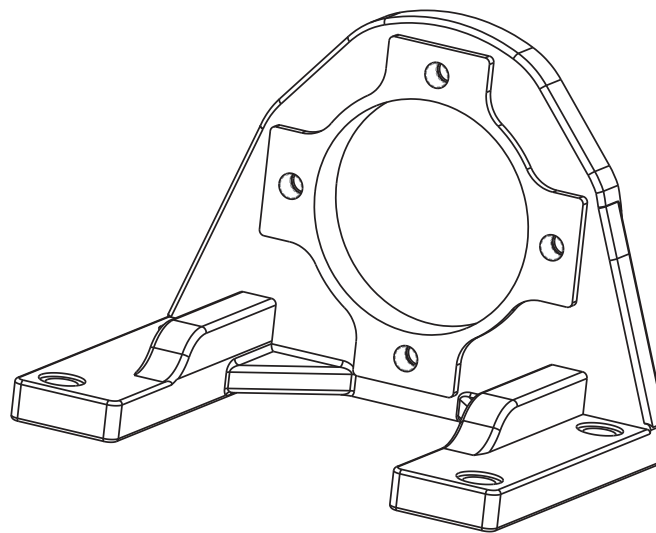
Weight - 62.5 Kgs.

PORT	CODE	A	B	C
P3	00 & M0	2.06 (52.4)	1.03 (26.2)	1.00 (25.4)
	01 & M1	1.874 (47.6)	0.874 (22.2)	0.75 (19.05)

INSTALLATION DRAWING
FOOT MOUNTING



TP



Weight-9.5 Kgs.

OPERATING CHARACTERISTICS (24 cSt)

Pressure port	Series	Volumetric Displacement Vp		Flow q (lpm) & n = 1500 rpm					
				p = 0 bar (0 psi)		p=140bar(2000psi)		p=240bar(3500psi)	
		in ³ /rev	cm ³ /rev	gpm	lpm	gpm	lpm	gpm	lpm
P1	014	2.68	43.9	18.88	71.40	16.42	62.10	14.78	55.95
	017	3.36	55.0	23.10	87.30	20.60	78.00	18.99	71.88
	020	4.03	66.0	26.19	99.00	23.73	89.70	22.08	83.58
	022	4.29	70.3	28.85	109.21	26.41	99.97	25.31	95.81
	024	4.95	81.1	31.56	119.3	29.10	110.00	27.46	103.95
	028	5.49	89.9	35.58	134.50	33.12	125.20	31.48	119.16
	031	6.05	99.1	39.00	147.50	36.53	138.10	34.89	132.07
	035	6.92	113.4	44.04	166.50	41.58	157.20	39.94	151.18
	038	7.36	120.6	47.72	180.40	45.26	171.10	43.62	165.12
	042	8.39	137.5	53.96	204.00	51.50	194.70	49.86	188.74

TP

Pressure port	Series	Volumetric Displacement Vp		Input power p & n = 1500 rpm					
				p = 7 bar (100 psi)		p = 140 bar (2000 psi)		p = 240 bar (3500 psi)	
		in ³ /rev	cm ³ /rev	hp	kw	hp	kw	hp	kw
P1	014	2.68	43.9	3.08	2.3	24.81	18.5	41.03	30.6
	017	3.36	55.0	3.35	2.5	29.77	22.2	49.62	37.0
	020	4.03	66.0	3.75	2.8	33.39	24.9	55.92	41.7
	022	4.29	70.3	4.00	2.9	36.50	27.7	63.80	46.6
	024	4.95	81.1	4.02	3.0	39.69	29.6	66.78	49.8
	028	5.49	89.9	4.29	3.2	44.52	33.2	74.96	55.9
	031	6.05	99.1	4.42	3.3	48.54	36.2	81.80	61.0
	035	6.92	113.4	4.69	3.5	54.58	40.7	92.13	68.7
	038	7.36	120.6	4.96	3.7	58.87	43.9	99.64	74.3
	042	8.39	137.5	5.36	4.0	66.25	49.4	112.24	83.7

Max, int. pressure 240 bar
 Max, cont. pressure 210 bar
 Measurement Conditions: ISO VG32 oil at 50°C

OPERATING CHARACTERISTICS (24 cSt)

Pressure port	Series	Volumetric Displacement Vp		Flow q (lpm) & n = 1500 rpm					
				p = 0 bar (0 psi)		p = 140 bar (2000 psi)		p = 240 bar (3500 psi)	
		in ³ /rev	cm ³ /rev	gpm	lpm	gpm	lpm	gpm	lpm
P2 & P3	B02	0.35	5.7	2.29	8.70	1.94	7.34	–	–
	B03	0.60	9.8	3.88	14.70	3.52	13.32	2.91	11.00
	B04	0.78	12.8	5.07	19.20	4.71	17.83	4.09	15.50
	B05	0.97	15.9	6.31	23.90	5.94	22.49	5.28	20.00
	B06	1.21	19.8	7.85	29.70	7.49	28.35	6.87	26.00
	B07	1.37	22.5	8.90	33.70	8.56	32.40	7.79	29.50
	B08	1.52	24.9	9.88	37.40	9.51	35.99	8.85	33.50
	B09	1.71	28.0	11.07	41.90	10.72	40.58	10.04	38.00
	B10	1.94	31.8	12.62	47.80	12.24	46.33	11.23	42.50
	B11	2.13	34.9	13.81	52.27	13.49	51.07	12.81	48.50
	B12	2.50	40.9	16.25	61.51	15.89	60.15	15.19	57.50
	B14	2.75	45.1	17.81	67.42	17.46	66.09	16.77	63.50
	B15	3.08	50.5	20.25	76.64	19.55	74.00	19.15	72.50
	B17	3.56	58.3	23.10	87.45	22.32	84.50	22.06	83.50
	B20	3.89	63.8	25.28	95.70	24.70	93.50	24.30	92.00
	B22	4.29	70.3	27.87	105.5	27.21	103.00	26.81	101.50
B25	4.84	79.3	31.44	119.0	31.04	117.50	30.64	116.00	

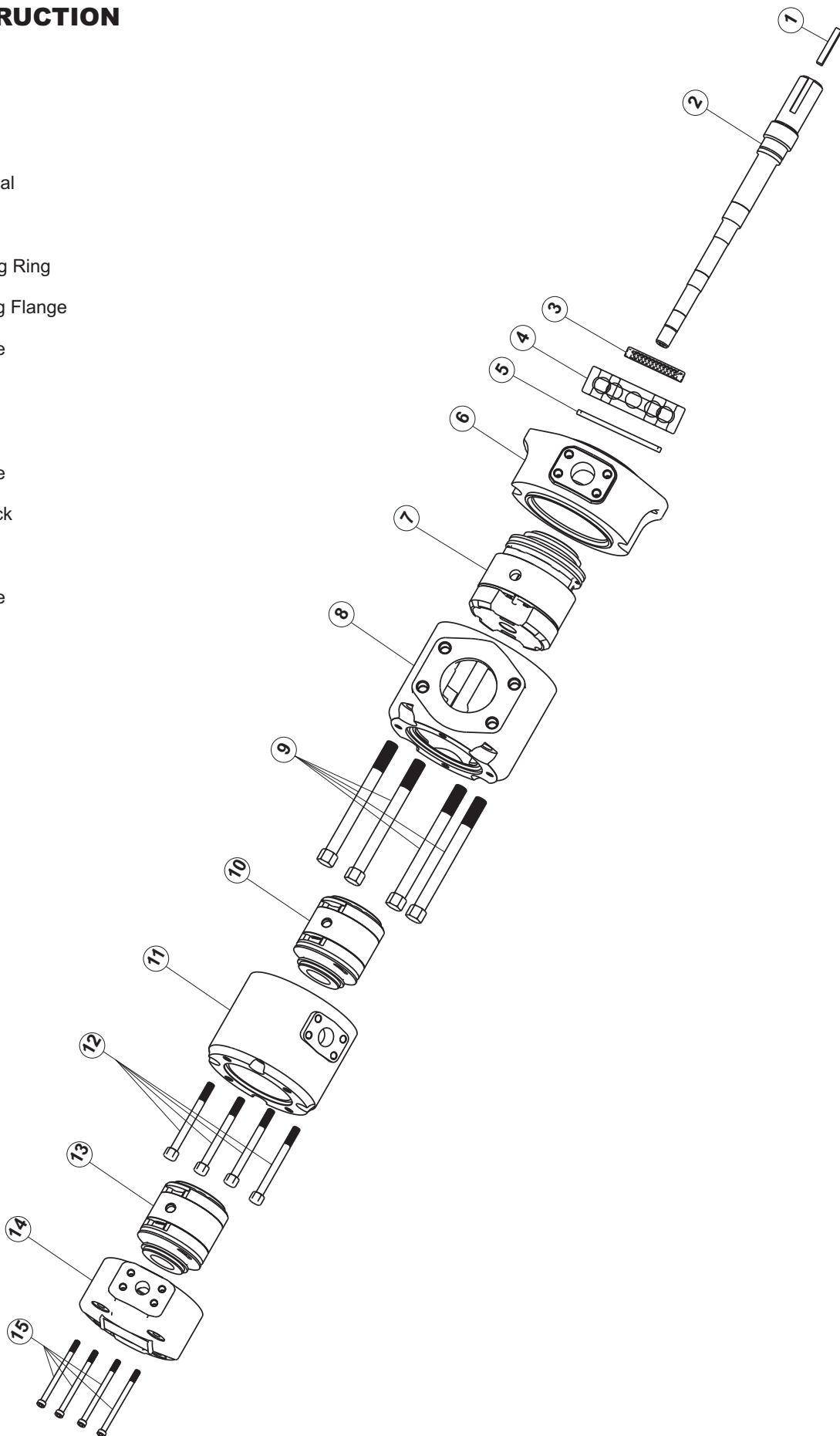


Pressure port	Series	Volumetric Displacement Vp		Input power p & n = 1500 rpm					
				p = 7 bar (100 psi)		p = 140 bar (2000 psi)		p = 240 bar (3500 psi)	
		in ³ /rev	cm ³ /rev	hp	kw	hp	kw	hp	kw
P2 & P3	B02	0.35	5.7	0.62	0.46	3.08	2.30	–	–
	B03	0.60	9.8	0.71	0.53	4.96	3.70	8.35	6.23
	B04	0.78	12.8	0.78	0.58	6.37	4.75	10.77	8.03
	B05	0.97	15.9	0.86	0.64	7.78	5.80	13.18	9.83
	B06	1.21	19.8	0.95	0.71	9.49	7.08	16.40	12.23
	B07	1.37	22.5	1.01	0.75	10.74	8.01	18.28	13.63
	B08	1.52	24.9	1.06	0.79	12.00	8.95	20.42	15.23
	B09	1.71	28.0	1.14	0.85	13.39	9.99	22.84	17.03
	B10	1.94	31.8	1.23	0.92	15.13	11.28	25.25	18.83
	B11	2.13	34.9	1.30	0.97	16.69	12.45	28.46	21.23
	B12	2.50	40.9	1.45	1.08	19.51	14.55	33.29	24.83
	B14	2.75	45.1	1.54	1.15	21.23	15.83	36.52	27.23
	B15	3.08	50.5	1.68	1.25	24.21	18.05	41.34	30.83
	B17	3.56	58.3	1.85	1.38	27.49	20.50	47.24	35.23
	B20	3.89	63.8	1.98	1.48	30.31	22.60	51.80	38.63
	B22	4.29	70.3	2.13	1.59	33.27	24.81	56.89	42.43
B25	4.84	79.3	2.35	1.75	37.82	28.20	64.68	48.23	

Max, cont. pressure 240 bar upto B12, 210 bar from B14 - B25
 Measurement Conditions: ISO VG32 oil at 50°C

CONSTRUCTION

1. Key
2. Shaft
3. Shaft Seal
4. Bearing
5. Retaining Ring
6. Mounting Flange
7. Cartridge
8. Housing
9. Bolts
10. Cartridge
11. Port Block
12. Bolts
13. Cartridge
14. Endcap
15. Bolts



TP

ORDERING CODE

VST7ECB - 062 - B28 - B10 - 1 R 00 - A 1 01 *

Series

SAE 4 bolts
Mounting Flange (J744)

Cam ring for "P1"

Volumetric displacement cm³/rev (in³/rev)

042 = 132.3 (8.07)
045 = 142.4 (8.69)
050 = 158.5 (9.67)
052 = 164.8 (10.06)
057 = 180.7 (11.02)
062 = 196.7 (12.00)
066 = 213.3 (13.02)
072 = 227.1 (13.86)
085 = 268.7 (16.40)

Cam ring for "P2"

Volumetric displacement cm³/rev (in³/rev)

B02 = 5.7 (0.35) B11 = 34.9 (2.13)
B03 = 9.8 (0.60) B12 = 40.9 (2.50)
B04 = 12.8 (0.78) B14 = 45.1 (2.75)
B05 = 15.9 (0.97) B15 = 50.0 (3.05)
B06 = 19.8 (1.21) B17 = 58.3 (3.56)
B07 = 22.5 (1.37) B20 = 63.8 (3.89)
B08 = 24.9 (1.52) B22 = 70.3 (4.29)
B09 = 28.0 (1.71) B25 = 79.3 (4.84)
B10 = 31.8 (1.94)

Cam ring for "P3"

Volumetric displacement cm³/rev (in³/rev)

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

Modifications

Mounting W/connection
variables 4 bolts
SAE flange (J518)

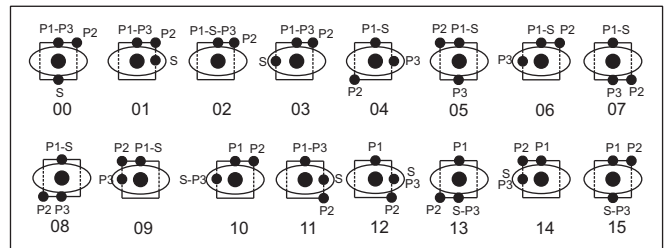
	P1 = 1½"	P2 = 1¼"	S = 4"
	P3	UNC	METRIC
VST7ECB	1"	00	M0
	¾"	01	M1

Seal Class

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

Design Letters

Porting Combination



Direction of rotation

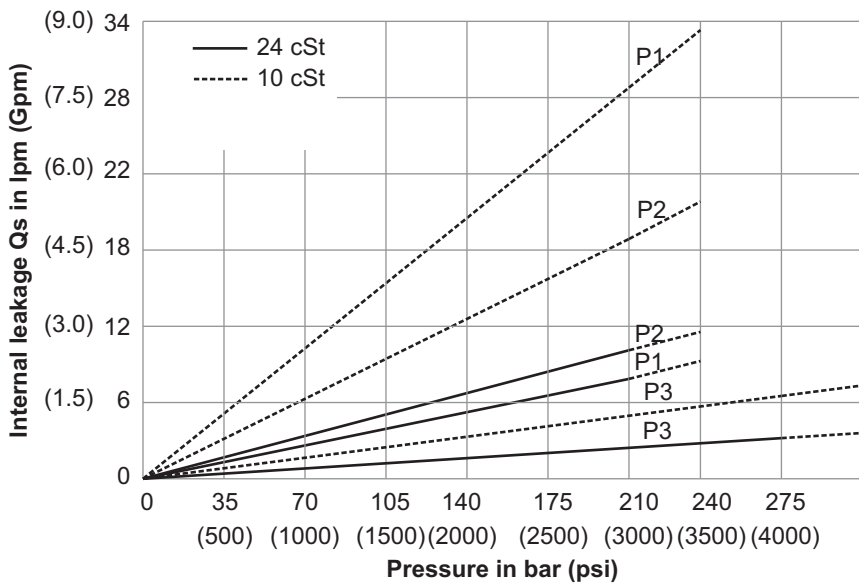
(view on shaft end)
R - clockwise
L - Counter - Clockwise

Type of shaft

1 - Keyed
2 - Keyed (SAE D&E)
3 - Splined (SAE D&E)



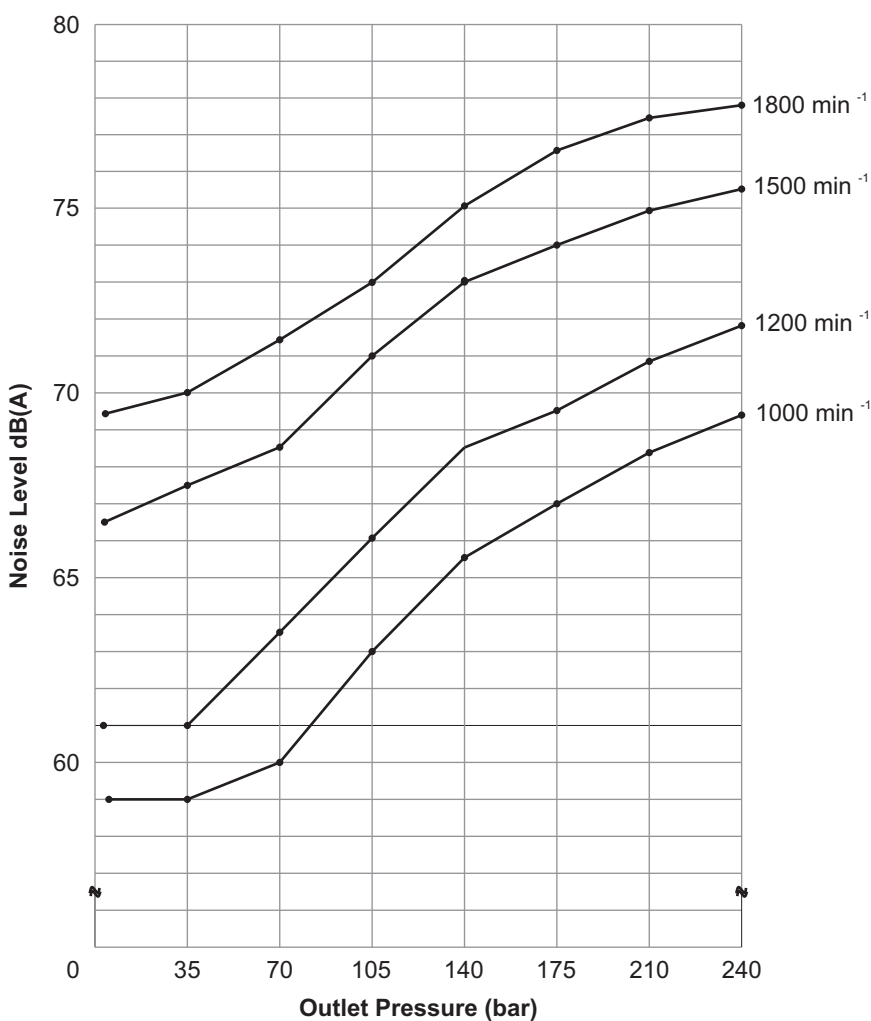
INTERNAL LEAKAGE (TYPICAL)



Do not operate pump more than 5 seconds at any speed or viscosity if internal leakage is more than 50 of theoretical flow. Total leakage is the sum of each section loss at its operating conditions.

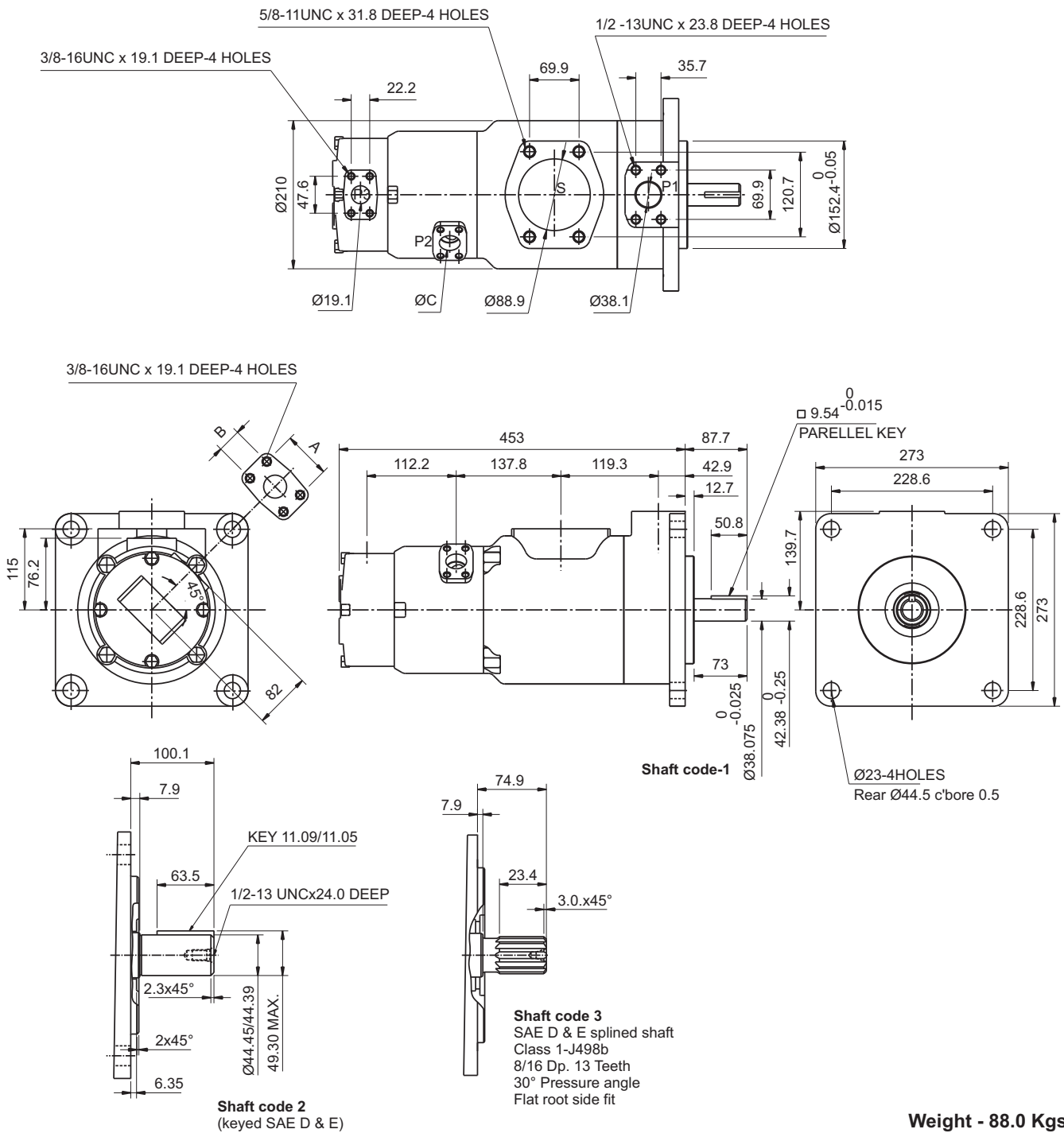


NOISE LEVEL (TYPICAL) VST7ECB-050-B11-B08



Measurement Conditions:
ISO VG32 oil at 50°C and measured 1m from rear of pump cover

INSTALLATION DRAWING
FLANGE MOUNTING

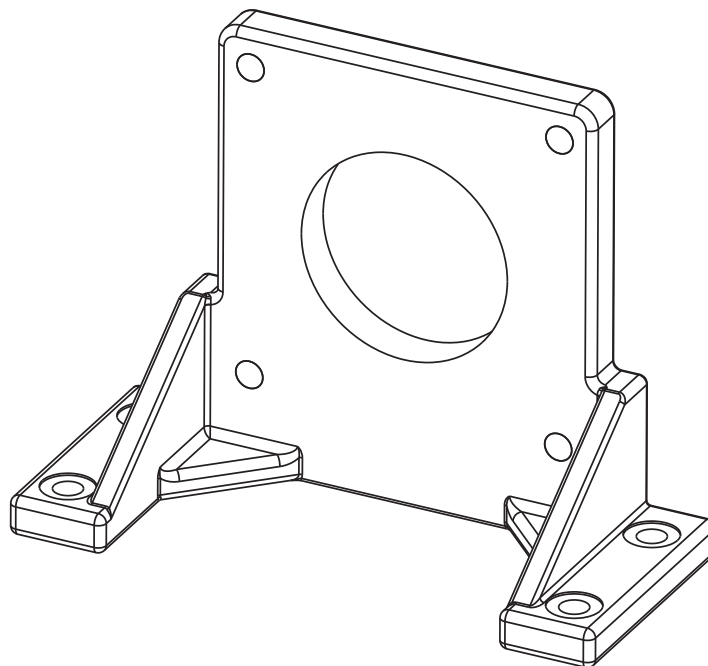
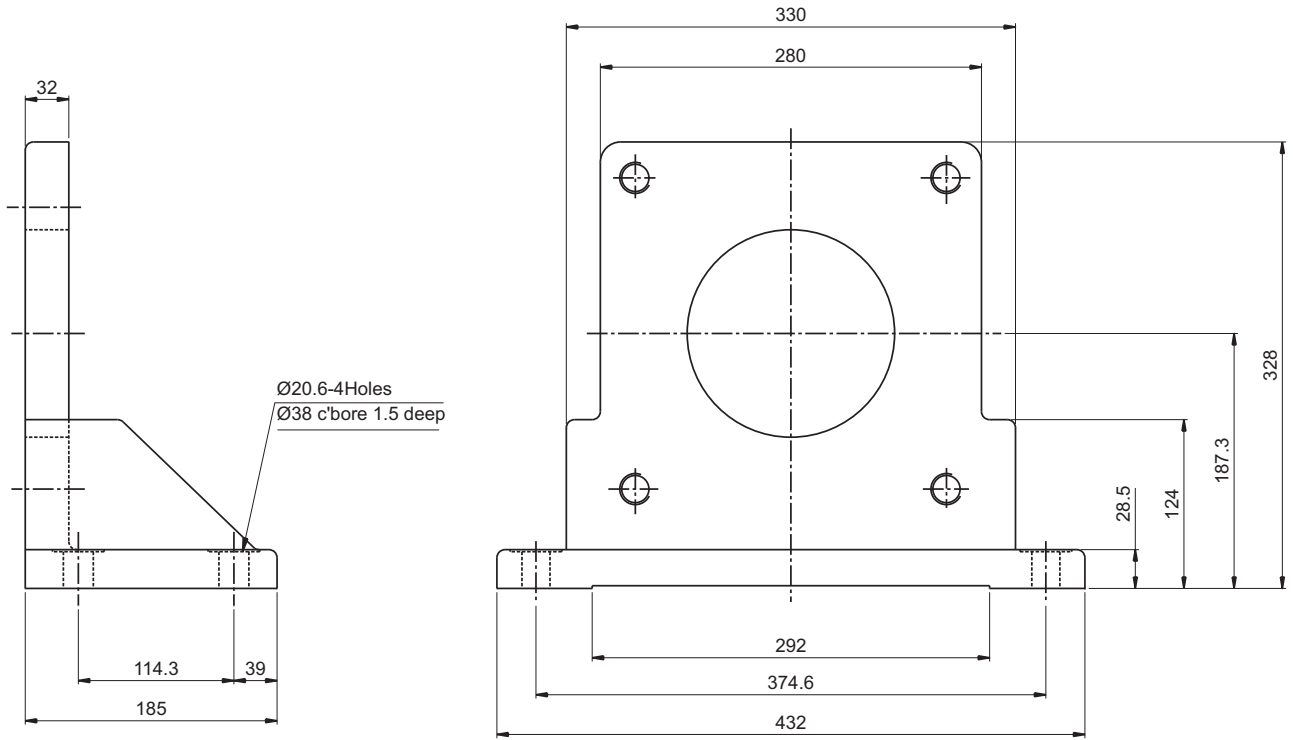


Shaft torque limits in ³ / rev x psi (ml / rev x bar)	
Shaft	Vp x p max. (P1+P2+P3)
1	101506 (114715)
2	104818 (118458)
3	112312 (126928)

PORT	CODE	A	B	ØC
P3	00 & M0	2.06 (52.4)	1.03 (26.2)	1.00 (25.4)
	01 & M1	1.874 (47.6)	0.874 (22.2)	0.75 (19.0)

INSTALLATION DRAWING

FOOT MOUNTING



Weight - 25 Kgs.

OPERATING CHARACTERISTICS (24 cSt)

Pressure port	Series	Volumetric Displacement Vp		Flow q (lpm) & n = 1500 rpm					
				p = 0 bar (0 psi)		p=140bar(2000psi)		p=240bar(3500psi)	
		in ³ /rev	cm ³ /rev	gpm	lpm	gpm	lpm	gpm	lpm
P1	042	8.07	132.3	52.50	198.5	49.87	188.5	47.96	181.3
	045	8.69	142.4	56.51	213.6	53.86	203.6	51.98	196.5
	050	9.67	158.5	62.88	237.7	60.24	227.7	58.36	220.6
	052	10.06	164.8	65.40	247.2	62.75	237.2	60.87	230.1
	057	11.02	180.7	71.71	271.1	69.07	261.1	67.19	254.0
	062	12.00	196.7	78.04	295.0	75.40	285.0	73.52	277.9
	066	13.02	213.3	84.63	319.9	81.98	309.9	80.11	302.8
	072	13.86	227.1	90.11	340.6	87.46	330.6	85.58	323.5
	085	16.40	268.7	107.00	404.7	–	–	--	--

TP

Pressure port	Series	Volumetric Displacement Vp		Input Power p & n = 1500 rpm					
				p = 7 bar (10 0 psi)		p = 140bar(2000psi)		p = 240bar(3500psi)	
		in ³ /rev	cm ³ /rev	hp	kw	hp	kw	hp	kw
P1	042	8.07	132.3	6.97	5.2	66.25	49.4	110.77	82.6
	045	8.69	142.4	7.24	5.4	70.94	52.9	118.95	88.7
	050	9.67	158.5	7.64	5.7	78.45	58.5	131.82	98.3
	052	10.06	164.8	7.78	5.8	81.53	60.8	136.92	102.1
	057	11.02	180.7	8.18	6.1	89.04	66.4	143.35	106.9
	062	12.00	196.7	8.58	6.4	96.42	71.9	162.67	121.3
	066	13.02	213.3	8.98	6.7	104.20	77.7	175.94	131.2
	072	13.86	227.1	9.25	6.9	110.77	82.6	187.07	139.5
	085	16.40	268.7	9.78	7.3	–	–	--	--

* Max, int. pressure 240 bar

* Max, cont. pressure 210 bar

Measurement Conditions: ISO VG32 oil at 50°C

Note : 085 = 90 bar (1300 psi) max. int. & 085 = 2000 rpm max.

OPERATING CHARACTERISTICS (24 cSt)

Pressure port	Series	Volumetric Displacement Vp		Flow q (lpm) & n = 1500 rpm					
				p = 0 bar (0 psi)		p = 140bar (2000psi)		p = 240bar (3500psi)	
		in ³ /rev	cm ³ /rev	gpm	lpm	gpm	lpm	gpm	lpm
P2	B02	0.35	5.7	2.29	8.70	1.94	7.34	–	–
	B03	0.60	9.8	3.88	14.7	3.52	13.32	2.91	11.0
	B04	0.78	12.8	5.07	19.2	4.71	17.83	4.09	15.5
	B05	0.97	15.9	6.31	23.9	5.94	22.49	5.28	20.0
	B06	1.21	19.8	7.85	29.7	7.49	28.35	6.87	26.0
	B07	1.37	22.5	8.90	33.7	8.56	32.40	7.79	29.5
	B08	1.52	24.9	9.88	37.4	9.51	35.99	8.85	33.5
	B09	1.71	28.0	11.07	41.9	10.72	40.58	10.04	38.0
	B10	1.94	31.8	12.62	47.8	12.24	46.33	11.23	42.5
	B11	2.13	34.9	13.81	52.27	13.49	51.07	12.81	48.5
	B12	2.50	40.9	16.25	61.51	15.89	60.15	15.19	57.5
	B14	2.75	45.1	17.81	67.42	17.46	66.09	16.77	63.5
	B15	3.08	50.5	20.25	76.64	19.55	74.0	19.15	72.5
	B17	3.56	58.3	23.10	87.45	22.32	84.5	22.06	83.5
	B20	3.89	63.8	25.28	95.70	24.70	93.5	24.30	92.0
	B22	4.29	70.3	27.87	105.5	27.21	103.0	26.81	101.5
B25	4.84	79.3	31.44	119.0	31.04	117.5	30.64	116.0	

TP

Pressure port	Series	Volumetric Displacement Vp		Input power p & n = 1500 rpm					
				p = 7 bar (100psi)		p = 140bar(2000psi)		p = 240bar(3500psi)	
		in ³ /rev	cm ³ /rev	hp	kw	hp	kw	hp	kw
P2	B02	0.35	5.7	0.62	0.46	3.08	2.30	–	–
	B03	0.60	9.8	0.71	0.53	4.96	3.70	8.35	6.23
	B04	0.78	12.8	0.78	0.58	6.37	4.75	10.77	8.03
	B05	0.97	15.9	0.86	0.64	7.78	5.80	13.18	9.83
	B06	1.21	19.8	0.95	0.71	9.49	7.08	16.40	12.23
	B07	1.37	22.5	1.01	0.75	10.74	8.01	18.28	13.63
	B08	1.52	24.9	1.06	0.79	12.00	8.95	20.42	15.23
	B09	1.71	28.0	1.14	0.85	13.39	9.99	22.84	17.03
	B10	1.94	31.8	1.23	0.92	15.13	11.28	25.25	18.83
	B11	2.13	34.9	1.30	0.97	16.69	12.45	28.46	21.23
	B12	2.50	40.9	1.45	1.08	19.51	14.55	33.29	24.83
	B14	2.75	45.1	1.54	1.15	21.23	15.83	36.52	27.23
	B15	3.08	50.5	1.68	1.25	24.21	18.05	41.34	30.83
	B17	3.56	58.3	1.85	1.38	27.49	20.50	47.24	35.23
	B20	3.89	63.8	1.98	1.48	30.31	22.60	51.80	38.63
	B22	4.29	70.3	2.13	1.59	33.27	24.81	56.89	42.43
B25	4.84	79.3	2.35	1.75	37.82	28.20	64.68	48.23	

Max, cont. pressure 240 bar upto B12, 210 bar from B14 - B25

Measurement Conditions: ISO VG32 oil at 50°C

OPERATING CHARACTERISTICS (24 cSt)

Pressure port	Series	Volumetric Displacement Vp		Flow q (lpm) & n = 1500 rpm					
				p = 0 bar (0 psi)		p = 140 bar (2000 psi)		p = 240 bar (3500 psi)	
		in ³ /rev	cm ³ /rev	gpm	lpm	gpm	lpm	gpm	lpm
P3	B02	0.35	5.7	2.29	8.70	1.94	7.34	–	–
	B03	0.60	9.8	3.88	14.7	3.52	13.32	2.91	11.0
	B04	0.78	12.8	5.07	19.2	4.71	17.83	4.09	15.5
	B05	0.97	15.9	6.31	23.9	5.94	22.49	5.28	20.0
	B06	1.21	19.8	7.85	29.7	7.49	28.35	6.87	26.0
	B07	1.37	22.5	8.90	33.7	8.56	32.40	7.79	29.5
	B08	1.52	24.9	9.88	37.4	9.51	35.99	8.85	33.5
	B09	1.71	28.0	11.07	41.9	10.72	40.58	10.04	38.0
	B10	1.94	31.8	12.62	47.8	12.24	46.33	11.23	42.5
	B11	2.13	34.9	13.81	52.27	13.49	51.07	12.81	48.5
	B12	2.50	40.9	16.25	61.51	15.89	60.15	15.19	57.5

TP

Pressure port	Series	Volumetric Displacement Vp		Input power p & n = 1500 rpm					
				p = 7 bar (100 psi)		p = 140 bar (2000 psi)		p = 240 bar (3500 psi)	
		in ³ /rev	cm ³ /rev	hp	kw	hp	kw	hp	kw
P3	B02	0.35	5.7	0.62	0.46	3.08	2.30	–	–
	B03	0.60	9.8	0.71	0.53	4.96	3.70	8.35	6.23
	B04	0.78	12.8	0.78	0.58	6.37	4.75	10.77	8.03
	B05	0.97	15.9	0.86	0.64	7.78	5.80	13.18	9.83
	B06	1.21	19.8	0.95	0.71	9.49	7.08	16.40	12.23
	B07	1.37	22.5	1.01	0.75	10.74	8.01	18.28	13.63
	B08	1.52	24.9	1.06	0.79	12.00	8.95	20.42	15.23
	B09	1.71	28.0	1.14	0.85	13.39	9.99	22.84	17.03
	B10	1.94	31.8	1.23	0.92	15.13	11.28	25.25	18.83
	B11	2.13	34.9	1.30	0.97	16.69	12.45	28.46	21.23
	B12	2.50	40.9	1.45	1.08	19.51	14.55	33.29	24.83

-- Not to use because internal leakage greater than 50 of theoretical flow.

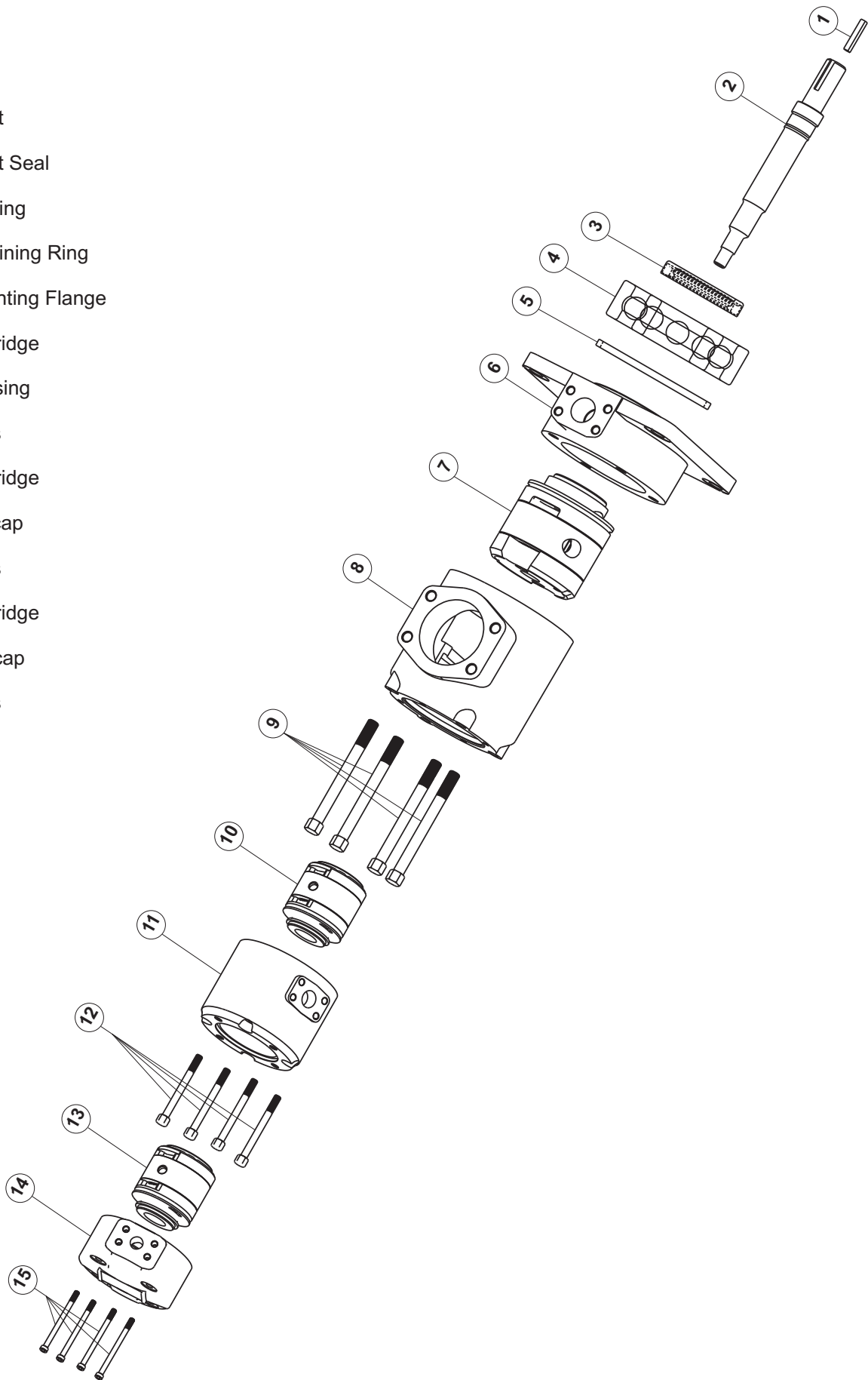
B12 = Max, int. pressure 210 bar(3000 psi)

Max, cont. pressure 175 bar(2500 psi), Except B02

Measurement Conditions: ISO VG32 oil at 50°C

CONSTRUCTION

- 1. Key
- 2. Shaft
- 3. Shaft Seal
- 4. Bearing
- 5. Retaining Ring
- 6. Mounting Flange
- 7. Cartridge
- 8. Housing
- 9. Bolts
- 10. Cartridge
- 11. Endcap
- 12. Bolts
- 13. Cartridge
- 14. Endcap
- 15. Bolts



TP

ORDERING CODE

VST7EDB - 062 - 028 - B10 - 1 R 00 - A 1 01 *

Series

SAE 4 bolts
Mounting flange (J744)

Cam ring for "P1"

Volumetric displacement cm^3/rev (in^3/rev)

- 042 = 132.3 (8.07)
- 045 = 142.4 (8.69)
- 050 = 158.5 (9.67)
- 052 = 164.8 (10.06)
- 057 = 180.7 (11.02)
- 062 = 196.7 (12.00)
- 066 = 213.3 (13.02)
- 072 = 227.1 (13.86)
- 085 = 268.7 (16.40)

Cam ring for "P2"

Volumetric displacement cm^3/rev (in^3/rev)

- 014 = 43.9 (2.68) 028 = 89.9 (5.49)
- 017 = 55.0 (3.36) 031 = 99.1 (6.05)
- 020 = 66.0 (4.03) 035 = 113.4 (6.92)
- 022 = 70.3 (4.29) 038 = 120.6 (7.36)
- 024 = 81.1 (4.95) 042 = 137.5 (8.39)

Cam ring for "P3"

Volumetric displacement cm^3/rev (in^3/rev)

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

Modifications

Mounting W/connection
variables 4 bolts
SAE flange (J518)

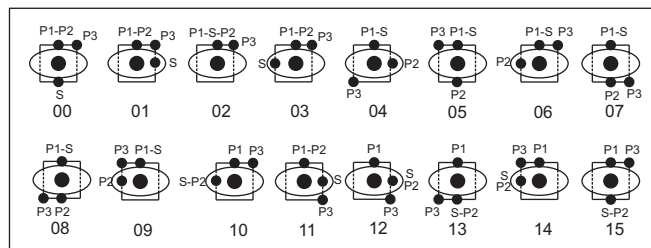
P1 = 1½"	P2 = 1¼"		S = 4"	
	P3	UNC	METRIC	
VST7EDB	1"	00	M0	
	¾"	01	M1	

Seal Class

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

Design Letters

Porting Combination



Direction of rotation

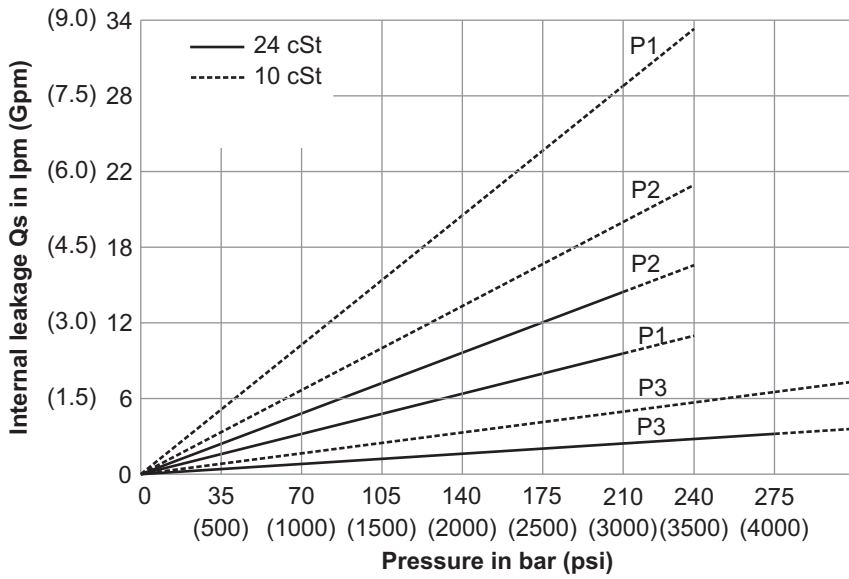
- (view on shaft end)
- R - clockwise
 - L - Counter - Clockwise

Type of shaft

- 1 - Keyed
- 2 - Keyed (SAE D&E)
- 3 - Splined (SAE D&E)



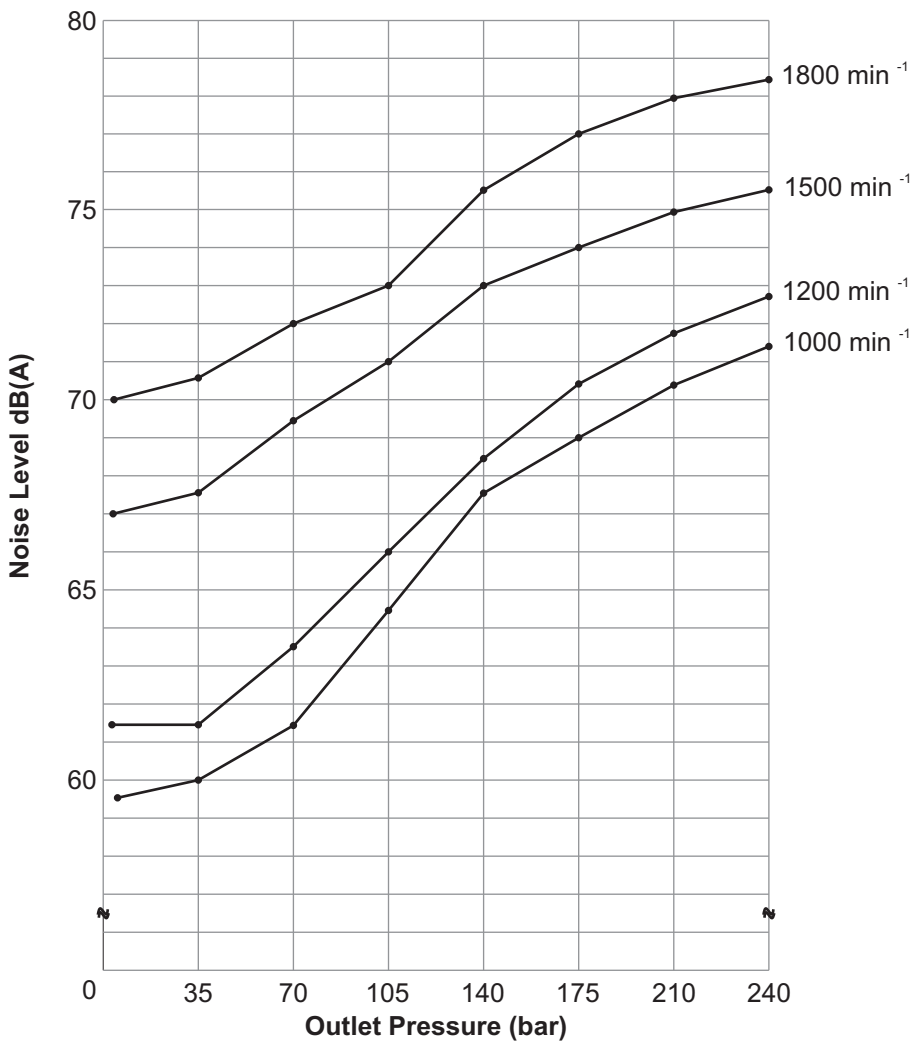
INTERNAL LEAKAGE (TYPICAL)



Do not operate pump more than 5 seconds at any speed or viscosity if internal leakage is more than 50% of theoretical flow. Total leakage is the sum of each section loss at its operating conditions.



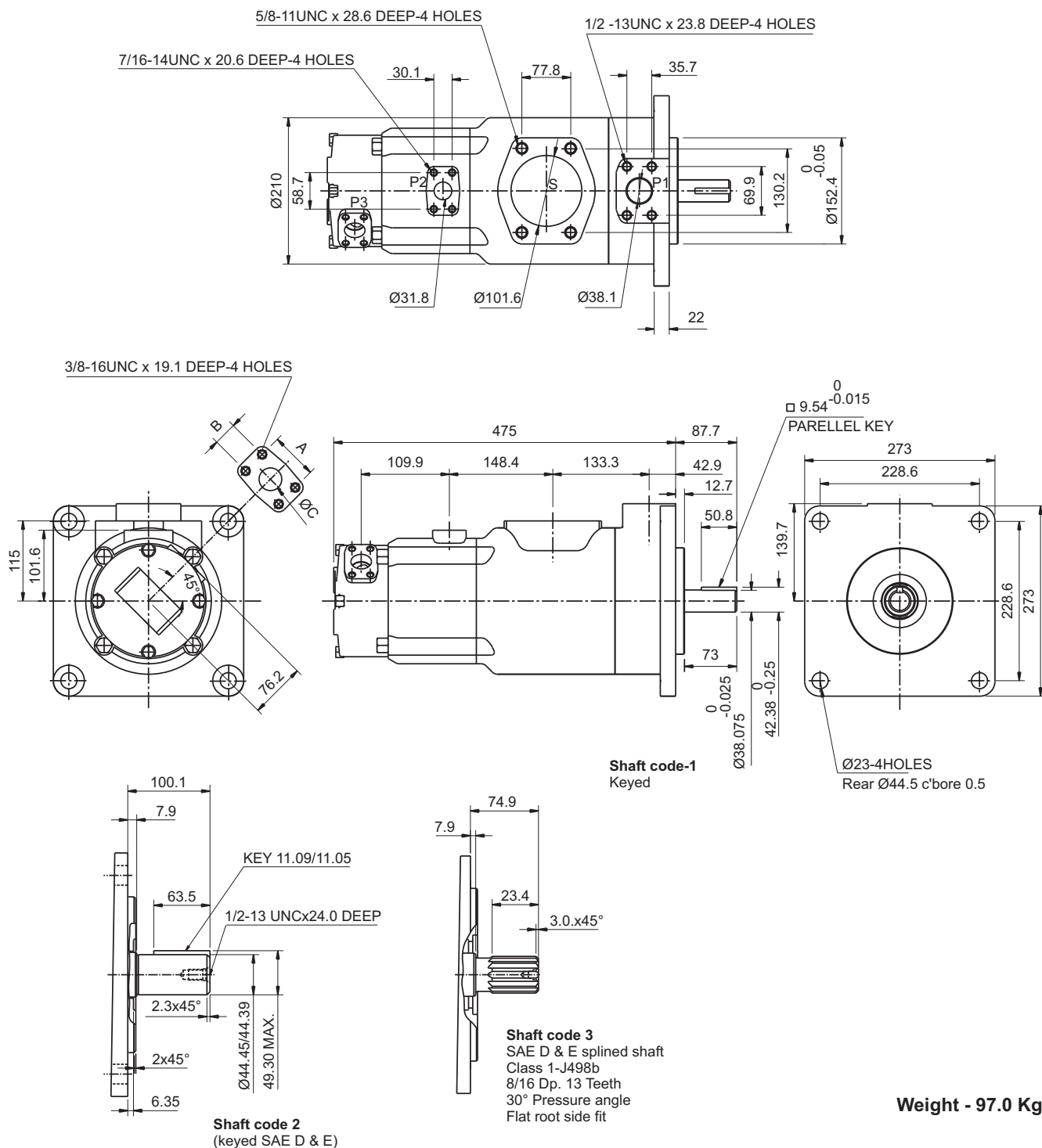
NOISE LEVEL (TYPICAL) VST7EDB-062-028-B10



Measurement Conditions:
ISO VG32 oil at 50°C and measured 1m from rear of pump cover

INSTALLATION DRAWING

FLANGE MOUNTING

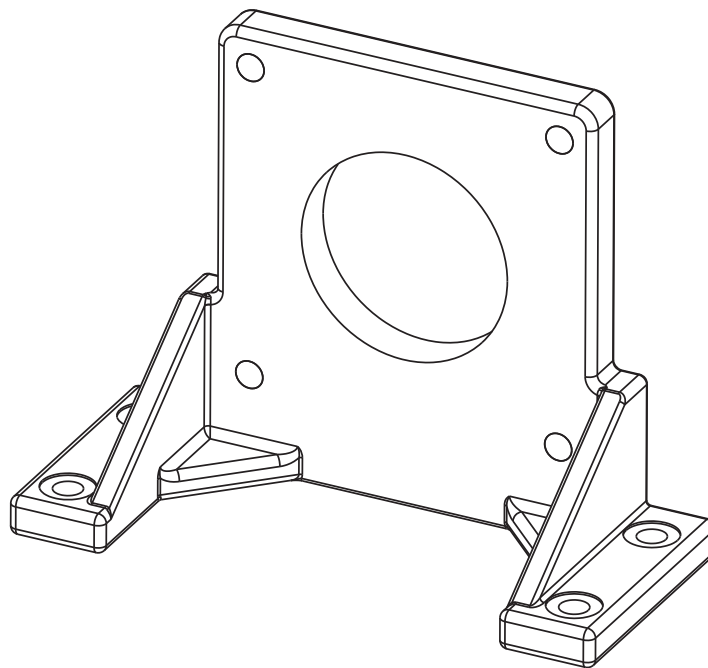
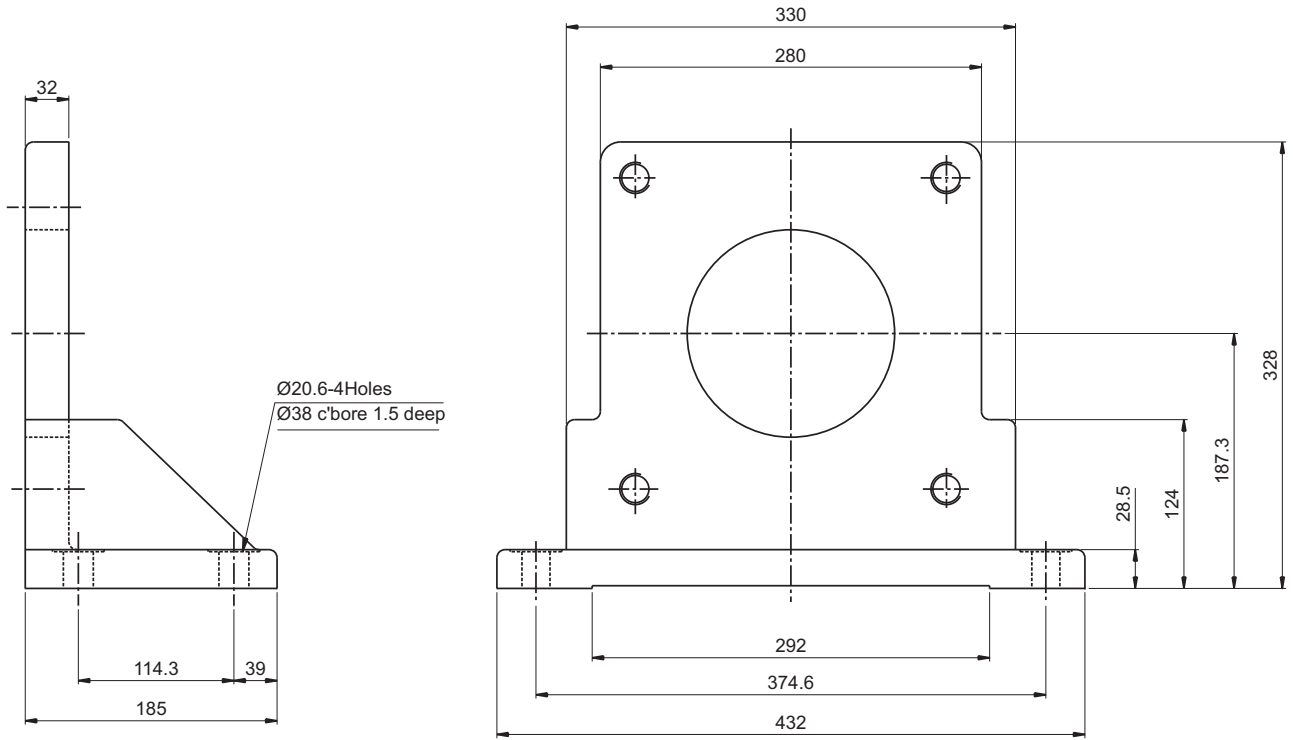


Shaft torque limits in ³ / rev x psi (ml / rev x bar)	
Shaft	Vp x p max. (P1+P2+P3)
1	101506 (114715)
2	104818 (118458)
3	112312 (126928)

PORT	CODE	A	B	ØC
P3	00 & M0	2.06 (52.4)	1.03 (26.2)	1.00 (25.4)
	01 & M1	1.874 (47.6)	0.874 (22.2)	0.75 (19.0)

INSTALLATION DRAWING

FOOT MOUNTING



Weight - 25 Kgs.

OPERATING CHARACTERISTICS (24 cSt)

Pressure port	Series	Volumetric Displacement Vp		Flow q (lpm) & n = 1500 rpm					
				p = 0 bar (0 psi)		p=140bar(2000psi)		p=240bar(3500psi)	
		in ³ /rev	cm ³ /rev	gpm	lpm	gpm	lpm	gpm	lpm
P1	042	8.07	132.3	52.50	198.5	49.87	188.5	47.96	181.3
	045	8.69	142.4	56.51	213.6	53.86	203.6	51.98	196.5
	050	9.67	158.5	62.88	237.7	60.24	227.7	58.36	220.6
	052	10.06	164.8	65.40	247.2	62.75	237.2	60.87	230.1
	057	11.02	180.7	71.71	271.1	69.07	261.1	67.19	254.0
	062	12.00	196.7	78.04	295.0	75.40	285.0	73.52	277.9
	066	13.02	213.3	84.63	319.9	81.98	309.9	80.11	302.8
	072	13.86	227.1	90.11	340.6	87.46	330.6	85.58	323.5
	085	16.40	268.7	107.00	404.7	105.21	397.7	--	--



Pressure port	Series	Volumetric Displacement Vp		Input Power p & n = 1500 rpm					
				p = 7 bar (100 psi)		p = 140bar(2000psi)		p = 240bar(3500psi)	
		in ³ /rev	cm ³ /rev	hp	kw	hp	kw	hp	kw
P1	042	8.07	132.3	6.97	5.2	66.25	49.4	110.77	82.6
	045	8.69	142.4	7.24	5.4	70.94	52.9	118.95	88.7
	050	9.67	158.5	7.64	5.7	78.45	58.5	131.82	98.3
	052	10.06	164.8	7.78	5.8	81.53	60.8	136.92	102.1
	057	11.02	180.7	8.18	6.1	89.04	66.4	143.35	106.9
	062	12.00	196.7	8.58	6.4	96.42	71.9	162.67	121.3
	066	13.02	213.3	8.98	6.7	104.20	77.7	175.94	131.2
	072	13.86	227.1	9.25	6.9	110.77	82.6	187.07	139.5
	085	16.40	268.7	9.78	7.3	87.56	65.3	--	--

* Max, int. pressure 240 bar

* Max, cont. pressure 210 bar

Measurement Conditions: ISO VG32 oil at 50°C

Note : 085 = 90 bar (1300 psi) max. int. & 085 = 2000 rpm max.

OPERATING CHARACTERISTICS (24 cSt)

Pressure port	Series	Volumetric Displacement Vp		Flow q (lpm) & n = 1500 rpm					
				p = 0 bar (0 psi)		p=140bar(2000psi)		p=240bar(3500psi)	
		in ³ /rev	cm ³ /rev	gpm	lpm	gpm	lpm	gpm	lpm
P2	014	2.68	43.9	18.88	71.40	16.42	62.10	14.78	55.95
	017	3.36	55.0	23.10	87.30	20.60	78.00	18.99	71.88
	020	4.03	66.0	26.19	99.00	23.73	89.70	22.08	83.58
	022	4.29	70.3	28.85	109.21	26.41	99.97	25.31	95.81
	024	4.95	81.1	31.56	119.3	29.10	110.00	27.46	103.95
	028	5.49	89.9	35.58	134.50	33.12	125.20	31.48	119.16
	031	6.05	99.1	39.00	147.50	36.53	138.10	34.89	132.07
	035	6.92	113.4	44.04	166.50	41.58	157.20	39.94	151.18
	038	7.36	120.6	47.72	180.40	45.26	171.10	43.62	165.12
	042	8.39	137.5	53.96	204.00	51.50	194.70	49.86	188.74

TP

Pressure port	Series	Volumetric Displacement Vp		Input power p & n = 1500 rpm					
				p = 7 bar (100 psi)		p = 140 bar (2000 psi)		p = 240 bar (3500 psi)	
		in ³ /rev	cm ³ /rev	hp	kw	hp	kw	hp	kw
P2	014	2.68	43.9	3.08	2.3	24.81	18.5	41.03	30.6
	017	3.36	55.0	3.35	2.5	29.77	22.2	49.62	37.0
	020	4.03	66.0	3.75	2.8	33.39	24.9	55.92	41.7
	022	4.29	70.3	4.00	2.9	36.50	27.7	63.80	46.6
	024	4.95	81.1	4.02	3.0	39.69	29.6	66.78	49.8
	028	5.49	89.9	4.29	3.2	44.52	33.2	74.96	55.9
	031	6.05	99.1	4.42	3.3	48.54	36.2	81.80	61.0
	035	6.92	113.4	4.69	3.5	54.58	40.7	92.13	68.7
	038	7.36	120.6	4.96	3.7	58.87	43.9	99.64	74.3
	042	8.39	137.5	5.36	4.0	66.25	49.4	112.24	83.7

Max, int. pressure 240 bar
 Max, cont. pressure 210 bar
 Measurement Conditions: ISO VG32 oil at 50°C

OPERATING CHARACTERISTICS (24 cSt)

Pressure port	Series	Volumetric Displacement Vp		Flow q (lpm) & n = 1500 rpm					
				p = 0 bar (0 psi)		p = 140 bar (2000 psi)		p = 240 bar (3500 psi)	
		in ³ /rev	cm ³ /rev	gpm	lpm	gpm	lpm	gpm	lpm
P3	B02	0.35	5.7	2.29	8.70	1.94	7.34	–	–
	B03	0.60	9.8	3.88	14.7	3.52	13.32	2.91	11.0
	B04	0.78	12.8	5.07	19.2	4.71	17.83	4.09	15.5
	B05	0.97	15.9	6.31	23.9	5.94	22.49	5.28	20.0
	B06	1.21	19.8	7.85	29.7	7.49	28.35	6.87	26.0
	B07	1.37	22.5	8.90	33.7	8.56	32.40	7.79	29.5
	B08	1.52	24.9	9.88	37.4	9.51	35.99	8.85	33.5
	B09	1.71	28.0	11.07	41.9	10.72	40.58	10.04	38.0
	B10	1.94	31.8	12.62	47.8	12.24	46.33	11.23	42.5
	B11	2.13	34.9	13.81	52.27	13.49	51.07	12.81	48.5
	B12	2.50	40.9	16.25	61.51	15.89	60.15	15.19	57.5

TP

Pressure port	Series	Volumetric Displacement Vp		Input power p & n = 1500 rpm					
				p = 7 bar (100 psi)		p = 140 bar (2000 psi)		p = 240 bar (3500 psi)	
		in ³ /rev	cm ³ /rev	hp	kw	hp	kw	hp	kw
P3	B02	0.35	5.7	0.62	0.46	3.08	2.30	–	–
	B03	0.60	9.8	0.71	0.53	4.96	3.70	8.35	6.23
	B04	0.78	12.8	0.78	0.58	6.37	4.75	10.77	8.03
	B05	0.97	15.9	0.86	0.64	7.78	5.80	13.18	9.83
	B06	1.21	19.8	0.95	0.71	9.49	7.08	16.40	12.23
	B07	1.37	22.5	1.01	0.75	10.74	8.01	18.28	13.63
	B08	1.52	24.9	1.06	0.79	12.00	8.95	20.42	15.23
	B09	1.71	28.0	1.14	0.85	13.39	9.99	22.84	17.03
	B10	1.94	31.8	1.23	0.92	15.13	11.28	25.25	18.83
	B11	2.13	34.9	1.30	0.97	16.69	12.45	28.46	21.23
	B12	2.50	40.9	1.45	1.08	19.51	14.55	33.29	24.83

-- Not to use because internal leakage greater than 50 of theoretical flow.

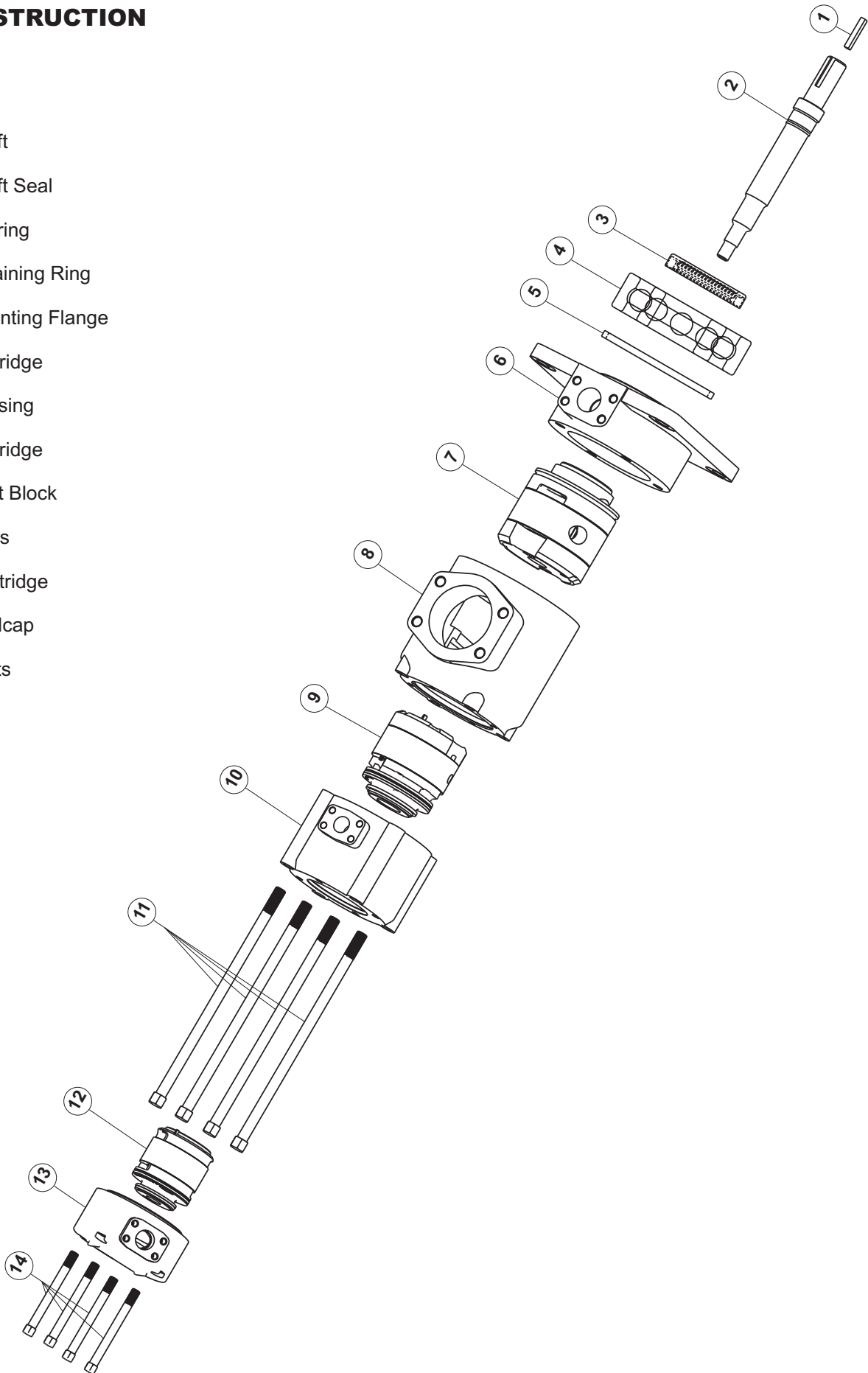
B12 = Max, int. pressure 210 bar(3000 psi)

Max, cont. pressure 175 bar(2500 psi), Except B02

Measurement Conditions: ISO VG32 oil at 50°C

CONSTRUCTION

- 1. Key
- 2. Shaft
- 3. Shaft Seal
- 4. Bearing
- 5. Retaining Ring
- 6. Mounting Flange
- 7. Cartridge
- 8. Housing
- 9. Cartridge
- 10. Port Block
- 11. Bolts
- 12. Cartridge
- 13. Endcap
- 14. Bolts



TP

ORDERING CODE

VST7EDC - 062 - B28 - B10 1 R 00 - A 1 - 01 *

Series

Cam ring for "P1"

Volumetric displacement cm^3/rev (in^3/rev)

- 042 = 132.3 (8.07)
- 045 = 142.4 (8.69)
- 050 = 158.5 (9.67)
- 052 = 164.8 (10.06)
- 057 = 180.7 (11.02)
- 062 = 196.7 (12.00)
- 066 = 213.3 (13.02)
- 072 = 227.1 (13.86)
- 085 = 268.7 (16.40)

Cam ring for "P2"

Volumetric displacement cm^3/rev (in^3/rev)

- 014 = 43.9 (2.68) 028 = 89.9 (5.49)
- 017 = 55.0 (3.36) 031 = 99.1 (6.05)
- 020 = 66.0 (4.03) 035 = 113.4 (6.92)
- 022 = 70.3 (4.29) 038 = 120.6 (7.36)
- 024 = 81.1 (4.95) 042 = 137.5 (8.39)

Cam ring for "P3"

Volumetric displacement cm^3/rev (in^3/rev)

- B02 = 5.7 (0.35) B11 = 34.9 (2.13)
- B03 = 9.8 (0.60) B12 = 40.9 (2.50)
- B04 = 12.8 (0.78) B14 = 45.1 (2.75)
- B05 = 15.9 (0.97) B15 = 50.0 (3.05)
- B06 = 19.8 (1.21) B17 = 58.3 (3.56)
- B07 = 22.5 (1.37) B20 = 63.8 (3.89)
- B08 = 24.9 (1.52) B22 = 70.3 (4.29)
- B09 = 28.0 (1.71) B25 = 79.3 (4.84)
- B10 = 31.8 (1.94)

Modifications

Mounting W/connection Variables

4 bolts SAE flange (J518)

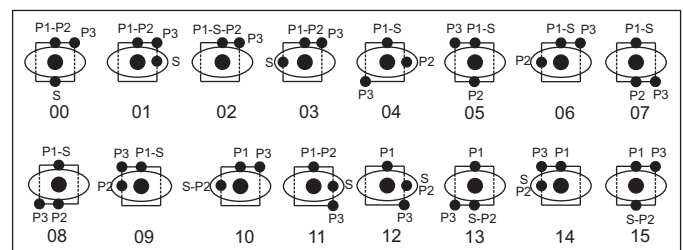
P1 = 1 1/2" P2 = 1 1/4" S = 4"			
	P3	UNC	METRIC
VST7EDC	1"	00	M0
	3/4"	01	M1

Seal Class

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

Design Letters

Porting Combination



Direction of rotation (view on shaft end)

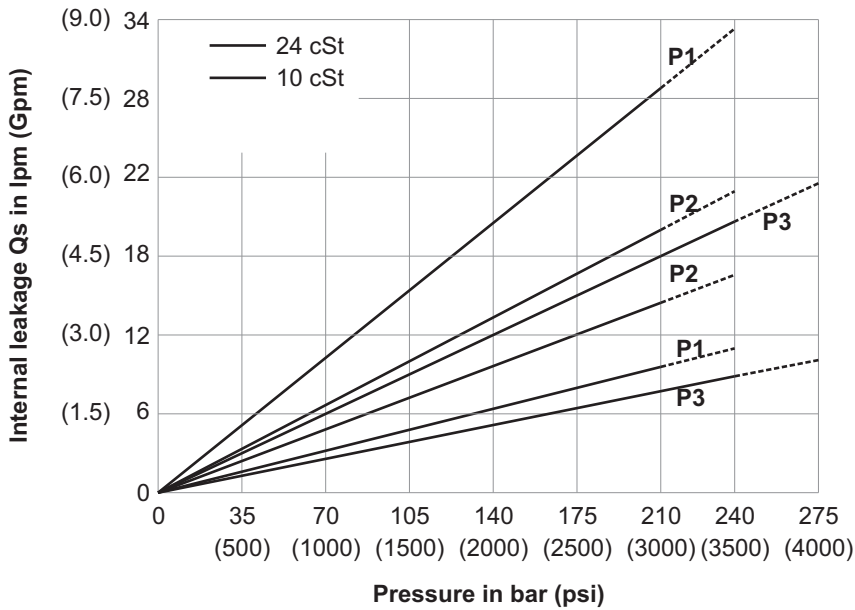
- R - clockwise
- L - Counter - Clockwise

Type of shaft

- 1 - Keyed
- 2 - Keyed (SAE D&E)
- 3 - Splined (SAE D&E)



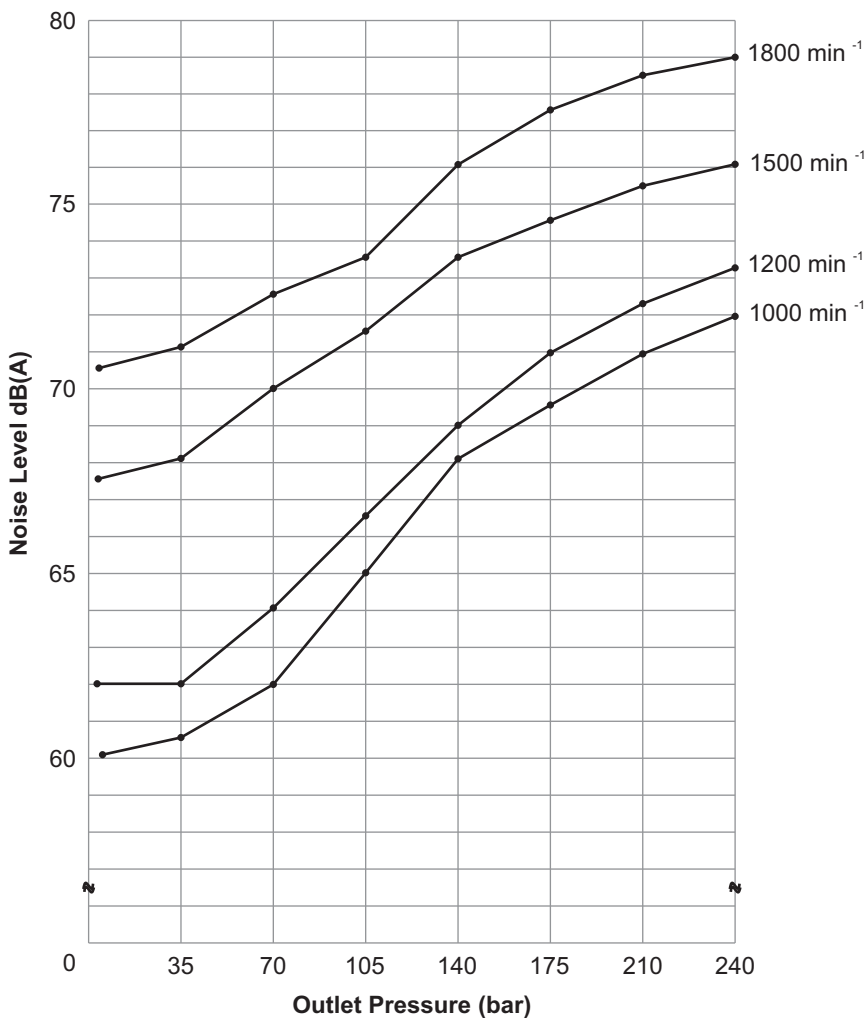
INTERNAL LEAKAGE (TYPICAL)



Do not operate pump more than 5 seconds at any speed or viscosity if internal leakage is more than 50 of theoretical flow. Total leakage is the sum of each section loss at its operating conditions.

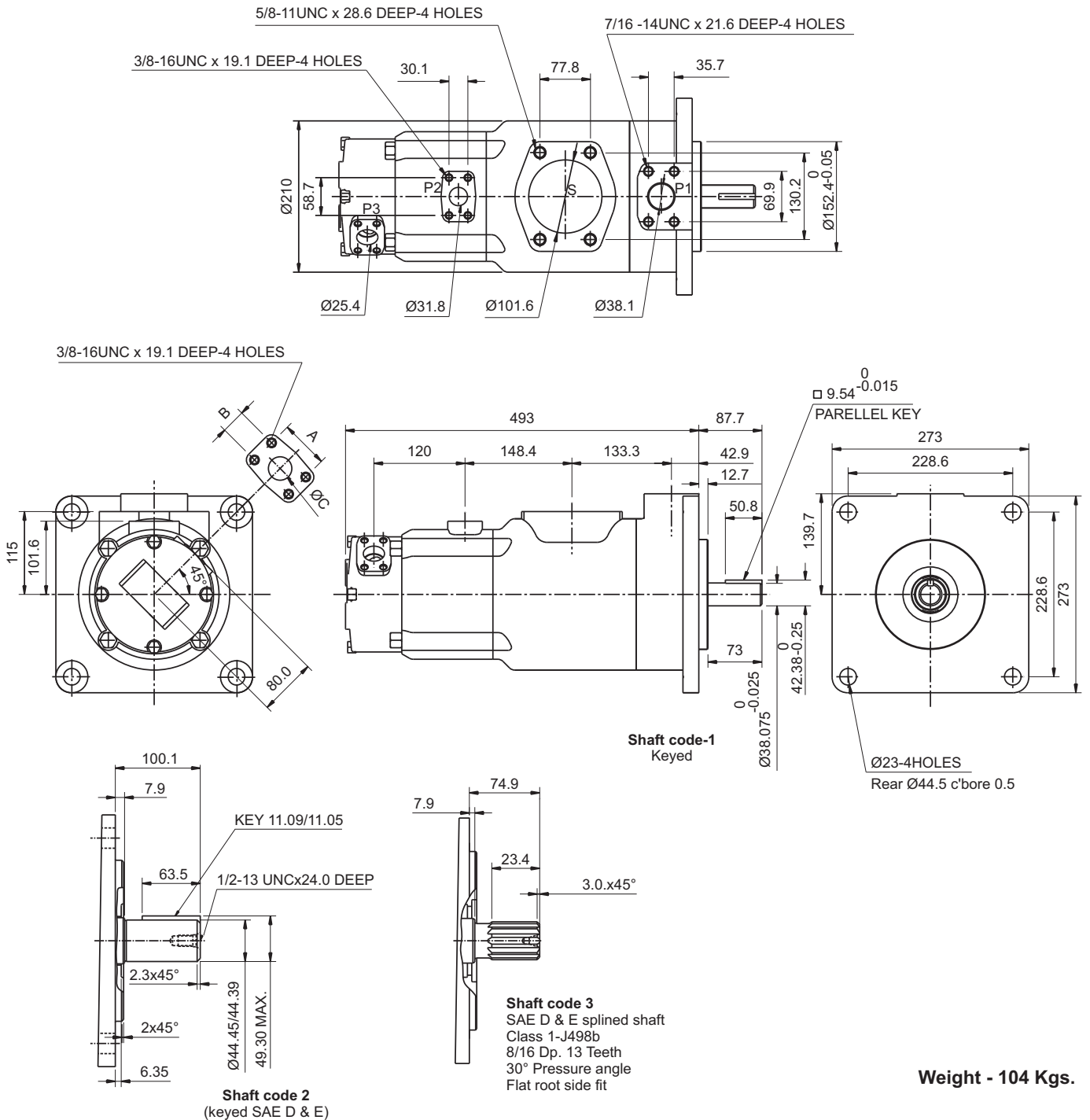
TP

NOISE LEVEL (TYPICAL) VST7EDC-050-031-B08



Measurement Conditions:
ISO VG32 oil at 50°C and measured 1m from rear of pump cover

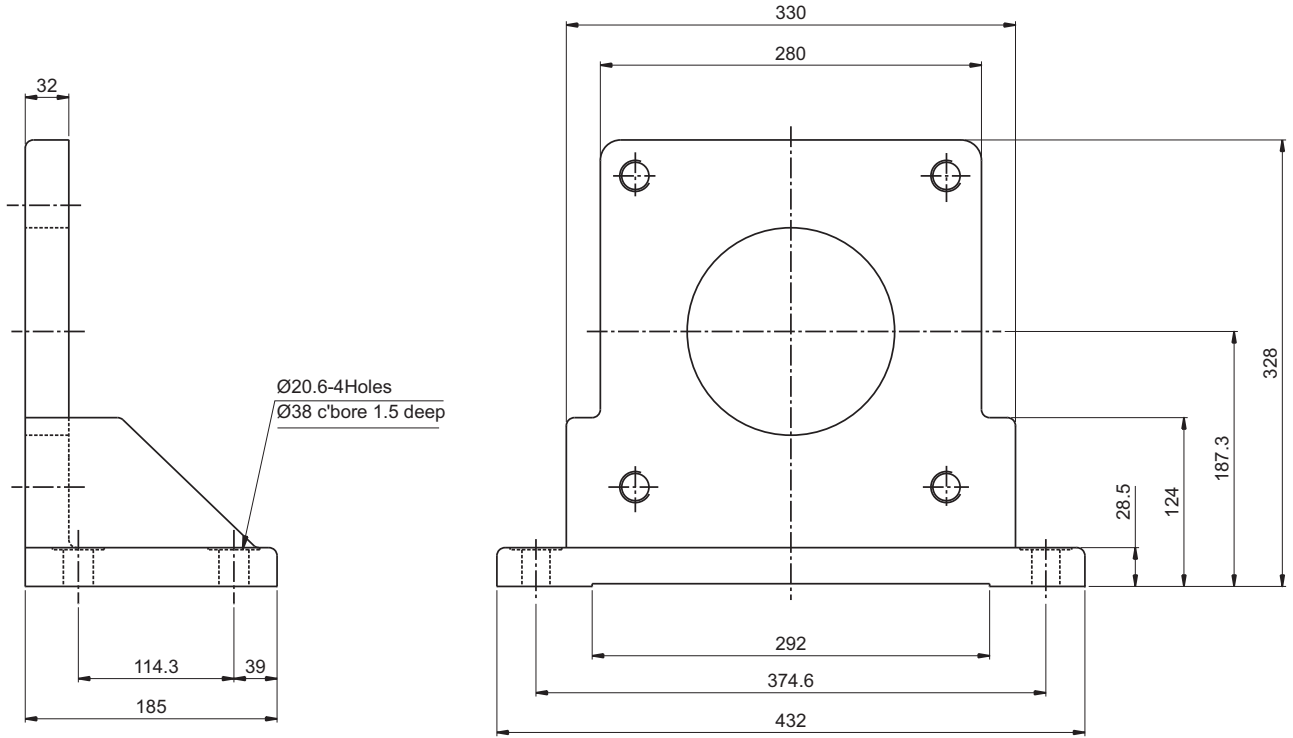
INSTALLATION DRAWING
FLANGE MOUNTING



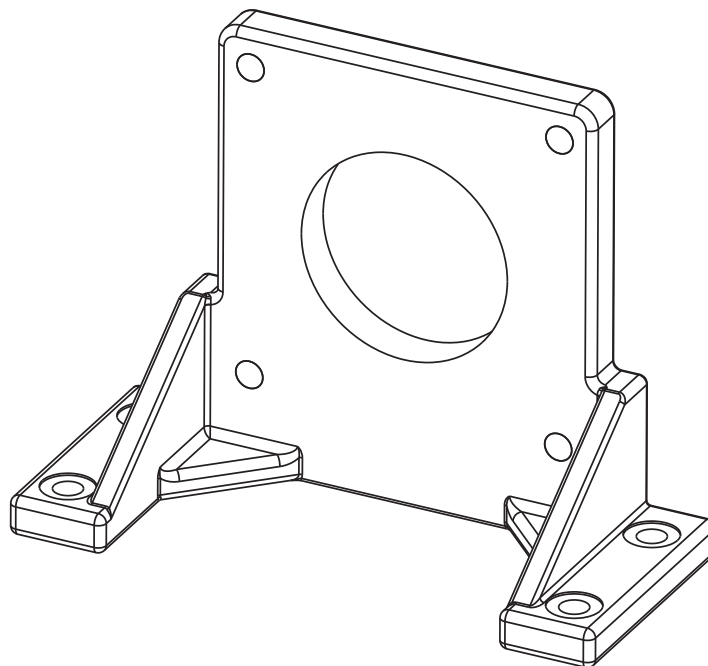
Shaft torque limits in ³ / rev x psi (ml / rev x bar)	
Shaft	Vp x p max. (P1+P2+P3)
1	101506 (114715)
2	104818 (118458)
3	112312 (126928)

PORT	CODE	A	B	ØC
P3	00 & M0	2.06 (52.4)	1.03 (26.2)	1.00 (25.4)
	01 & M1	1.874 (47.6)	0.874 (22.2)	0.75 (19.0)

INSTALLATION DRAWING
FOOT MOUNTING



TP



Weight - 25 Kgs.

OPERATING CHARACTERISTICS (24 cSt)

Pressure port	Series	Volumetric Displacement Vp		Flow q (lpm) & n = 1500 rpm					
				p = 0 bar (0 psi)		p=140bar(2000psi)		p=240bar(3500psi)	
		in ³ /rev	cm ³ /rev	gpm	lpm	gpm	lpm	gpm	lpm
P1	042	8.07	132.3	52.50	198.5	49.87	188.5	47.96	181.3
	045	8.69	142.4	56.51	213.6	53.86	203.6	51.98	196.5
	050	9.67	158.5	62.88	237.7	60.24	227.7	58.36	220.6
	052	10.06	164.8	65.40	247.2	62.75	237.2	60.87	230.1
	057	11.02	180.7	71.71	271.1	69.07	261.1	67.19	254.0
	062	12.00	196.7	78.04	295.0	75.40	285.0	73.52	277.9
	066	13.02	213.3	84.63	319.9	81.98	309.9	80.11	302.8
	072	13.86	227.1	90.11	340.6	87.46	330.6	85.58	323.5
	085	16.40	268.7	107.00	404.7	--	--	--	--



Pressure port	Series	Volumetric Displacement Vp		Input power p & n = 1500 rpm					
				p = 7 bar (100 psi)		p = 140 bar (2000 psi)		p = 240 bar (3500 psi)	
		in ³ /rev	cm ³ /rev	hp	kw	hp	kw	hp	kw
P1	042	8.07	132.3	6.97	5.2	66.25	49.4	110.77	82.6
	045	8.69	142.4	7.24	5.4	70.94	52.9	118.95	88.7
	050	9.67	158.5	7.64	5.7	78.45	58.5	131.82	98.3
	052	10.06	164.8	7.78	5.8	81.53	60.8	136.92	102.1
	057	11.02	180.7	8.18	6.1	89.04	66.4	143.35	106.9
	062	12.00	196.7	8.58	6.4	96.42	71.9	162.67	121.3
	066	13.02	213.3	8.98	6.7	104.20	77.7	175.94	131.2
	072	13.86	227.1	9.25	6.9	110.77	82.6	187.07	139.5
	085	16.40	268.7	9.78	7.3	--	--	--	--

* Max, int. pressure 240 bar

* Max, cont. pressure 210 bar

Measurement Conditions: ISO VG32 oil at 50°C

Note : 085 = 90 bar (1300 psi) max. int. & 085 = 2000 rpm max.

OPERATING CHARACTERISTICS (24 cSt)

Pressure port	Series	Volumetric Displacement Vp		Flow q (lpm) & n = 1500 rpm					
				p = 0 bar (0 psi)		p=140bar(2000psi)		p=240bar(3500psi)	
		in ³ /rev	cm ³ /rev	gpm	lpm	gpm	lpm	gpm	lpm
P2	014	2.68	43.9	18.88	71.40	16.42	62.10	14.78	55.95
	017	3.36	55.0	23.10	87.30	20.60	78.00	18.99	71.88
	020	4.03	66.0	26.19	99.00	23.73	89.70	22.08	83.58
	022	4.29	70.3	28.85	109.21	26.41	99.97	25.31	95.81
	024	4.95	81.1	31.56	119.3	29.10	110.00	27.46	103.95
	028	5.49	89.9	35.58	134.50	33.12	125.20	31.48	119.16
	031	6.05	99.1	39.00	147.50	36.53	138.10	34.89	132.07
	035	6.92	113.4	44.04	166.50	41.58	157.20	39.94	151.18
	038	7.36	120.6	47.72	180.40	45.26	171.10	43.62	165.12
	042	8.39	137.5	53.96	204.00	51.50	194.70	49.86	188.74

TP

Pressure port	Series	Volumetric Displacement Vp		Input power p & n = 1500 rpm					
				p = 7 bar (100 psi)		p = 140 bar (2000 psi)		p = 240 bar (3500 psi)	
		in ³ /rev	cm ³ /rev	hp	kw	hp	kw	hp	kw
P2	014	2.68	43.9	3.08	2.3	24.81	18.5	41.03	30.6
	017	3.36	55.0	3.35	2.5	29.77	22.2	49.62	37.0
	020	4.03	66.0	3.75	2.8	33.39	24.9	55.92	41.7
	022	4.29	70.3	4.00	2.9	36.50	27.7	63.80	46.6
	024	4.95	81.1	4.02	3.0	39.69	29.6	66.78	49.8
	028	5.49	89.9	4.29	3.2	44.52	33.2	74.96	55.9
	031	6.05	99.1	4.42	3.3	48.54	36.2	81.80	61.0
	035	6.92	113.4	4.69	3.5	54.58	40.7	92.13	68.7
	038	7.36	120.6	4.96	3.7	58.87	43.9	99.64	74.3
	042	8.39	137.5	5.36	4.0	66.25	49.4	112.24	83.7

Max, int. pressure 240 bar
 Max, cont. pressure 210 bar
 Measurement Conditions: ISO VG32 oil at 50°C

OPERATING CHARACTERISTICS (24 cSt)

Pressure port	Series	Volumetric Displacement Vp		Flow q (lpm) & n = 1500 rpm					
				p = 0 bar (0 psi)		p = 140 bar (2000 psi)		p = 240 bar (3500 psi)	
		in ³ /rev	cm ³ /rev	gpm	lpm	gpm	lpm	gpm	lpm
P3	B02	0.35	5.7	2.29	8.70	1.94	7.34	–	–
	B03	0.60	9.8	3.88	14.7	3.52	13.32	2.91	11.0
	B04	0.78	12.8	5.07	19.2	4.71	17.83	4.09	15.5
	B05	0.97	15.9	6.31	23.9	5.94	22.49	5.28	20.0
	B06	1.21	19.8	7.85	29.7	7.49	28.35	6.87	26.0
	B07	1.37	22.5	8.90	33.7	8.56	32.40	7.79	29.5
	B08	1.52	24.9	9.88	37.4	9.51	35.99	8.85	33.5
	B09	1.71	28.0	11.07	41.9	10.72	40.58	10.04	38.0
	B10	1.94	31.8	12.62	47.8	12.24	46.33	11.23	42.5
	B11	2.13	34.9	13.81	52.27	13.49	51.07	12.81	48.5
	B12	2.50	40.9	16.25	61.51	15.89	60.15	15.19	57.5
	B14	2.75	45.1	17.81	67.42	17.46	66.09	16.77	63.5
	B15	3.08	50.5	20.25	76.64	19.55	74.0	19.15	72.5
	B17	3.56	58.3	23.10	87.45	22.32	84.5	22.06	83.5
	B20	3.89	63.8	25.28	95.70	24.70	93.5	24.30	92.0
	B22	4.29	70.3	27.87	105.5	27.21	103.0	26.81	101.5
B25	4.84	79.3	31.44	119.0	31.04	117.5	30.64	116.0	

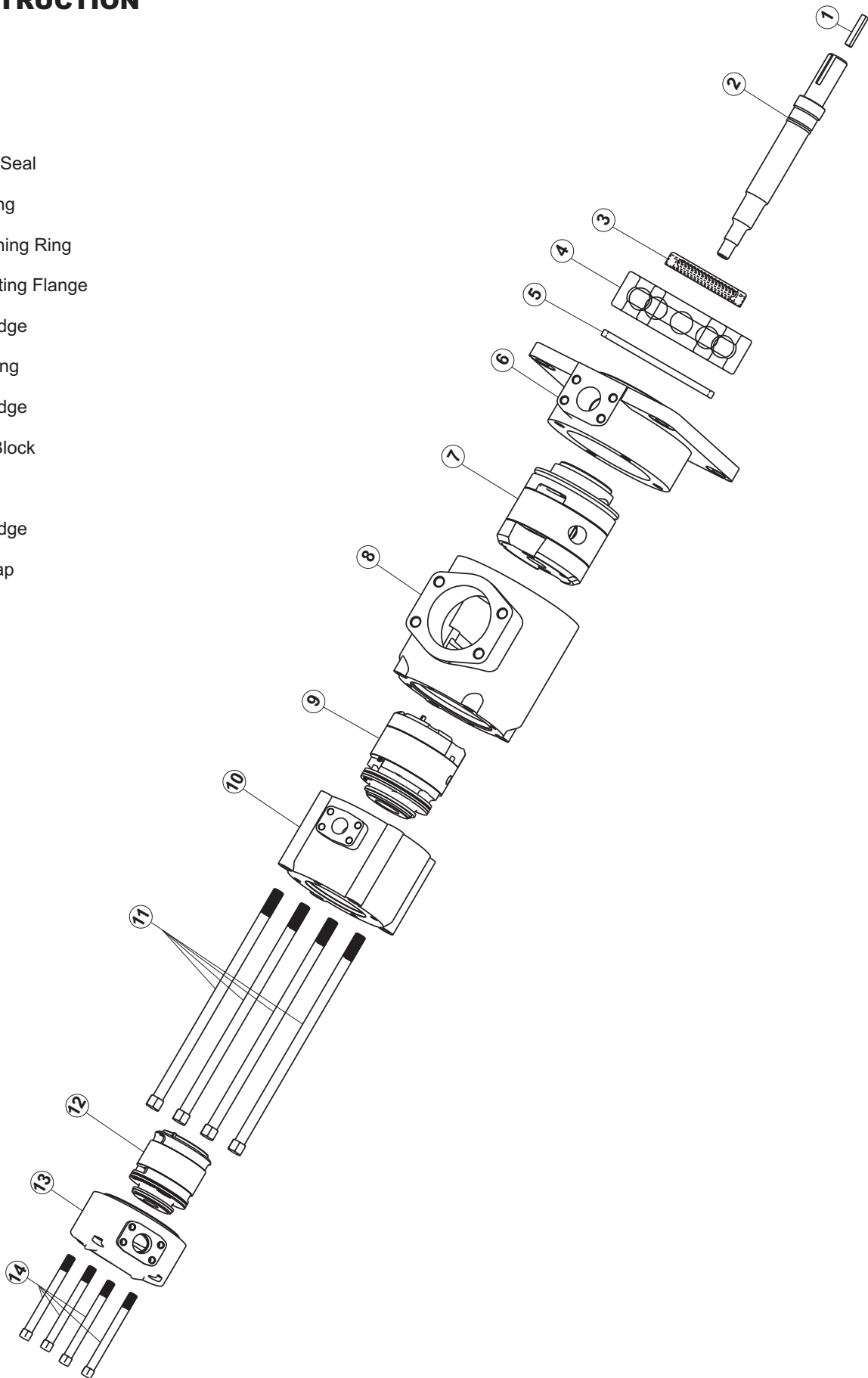


Pressure port	Series	Volumetric Displacement Vp		Flow q (lpm) & n = 1500 rpm					
				p = 7 bar (100 psi)		p = 140 bar (2000 psi)		p = 240 bar (3500 psi)	
		in ³ /rev	cm ³ /rev	hp	kw	hp	kw	hp	kw
P3	B02	0.35	5.7	0.62	0.46	3.08	2.30	–	–
	B03	0.60	9.8	0.71	0.53	4.96	3.70	8.35	6.23
	B04	0.78	12.8	0.78	0.58	6.37	4.75	10.77	8.03
	B05	0.97	15.9	0.86	0.64	7.78	5.80	13.18	9.83
	B06	1.21	19.8	0.95	0.71	9.49	7.08	16.40	12.23
	B07	1.37	22.5	1.01	0.75	10.74	8.01	18.28	13.63
	B08	1.52	24.9	1.06	0.79	12.00	8.95	20.42	15.23
	B09	1.71	28.0	1.14	0.85	13.39	9.99	22.84	17.03
	B10	1.94	31.8	1.23	0.92	15.13	11.28	25.25	18.83
	B11	2.13	34.9	1.30	0.97	16.69	12.45	28.46	21.23
	B12	2.50	40.9	1.45	1.08	19.51	14.55	33.29	24.83
	B14	2.75	45.1	1.54	1.15	21.23	15.83	36.52	27.23
	B15	3.08	50.5	1.68	1.25	24.21	18.05	41.34	30.83
	B17	3.56	58.3	1.85	1.38	27.49	20.50	47.24	35.23
	B20	3.89	63.8	1.98	1.48	30.31	22.60	51.80	38.63
	B22	4.29	70.3	2.13	1.59	33.27	24.81	56.89	42.43
B25	4.84	79.3	2.35	1.75	37.82	28.20	64.68	48.23	

Max. cont. pressure 240 bar upto B12, 210 bar from B14 - B25
 Measurement Conditions: ISO VG32 oil at 50°C

CONSTRUCTION

- 1. Key
- 2. Shaft
- 3. Shaft Seal
- 4. Bearing
- 5. Retaining Ring
- 6. Mounting Flange
- 7. Cartridge
- 8. Housing
- 9. Cartridge
- 10. Port Block
- 11. Bolts
- 12. Cartridge
- 13. Endcap
- 14. Bolts



3MICT

vt6cr	2
vt6crm	4
vt6dccb	6
vt6dr	9
vt6drm	11
vt6edcr	13
vt6ees	16
vt6er	18
vt6erm	20
vt7ees	22

VT6CR * - 022 - 1 R 00 - A 1 0 - A 1 *

Series

Y - Metric port connection, Omit for UNC

Cam ring for

Volumetric displacement cm^3/rev (in^3/rev)

*003/B03/Y03 = 10.8 (0.66)	015/B15/Y15 = 50.5 (3.08)
005/B05/Y05 = 17.2 (1.05)	017/B17/Y17 = 58.3 (3.56)
006/B06/Y06 = 21.3 (1.30)	020/B20/Y20 = 63.8 (3.89)
008/B08/Y08 = 26.4 (1.61)	022/B22/Y22 = 70.3 (4.29)
010/B10/Y10 = 34.1 (2.08)	025/B25/Y25 = 79.3 (4.84)
012/B12/Y12 = 37.1 (2.26)	028/B28/Y28 = 88.8 (5.42)
014/B14/Y14 = 46.0 (2.81)	031/B31/Y31 = 100.0 (6.10)

*'0' - Uni - directional 'B' - Bi - directional 'Y' - Bi - directional for cold start

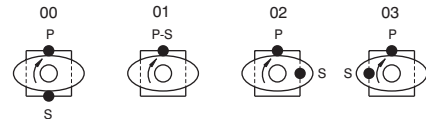
Type of Shaft

- 1 - Keyed (SAE BB)
- 2 - Keyed (no SAE)
- 3 - Splined (SAE B)
- 4 - Splined (SAE BB)
- 5 - Keyed (no SAE)

Direction of rotation (view on shaft end)

- R - Clockwise
- L - Counter - clockwise

Porting combination



Modifications

Seal class

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

Design letter

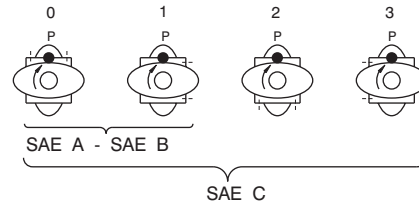
Porting adapter

Coupling

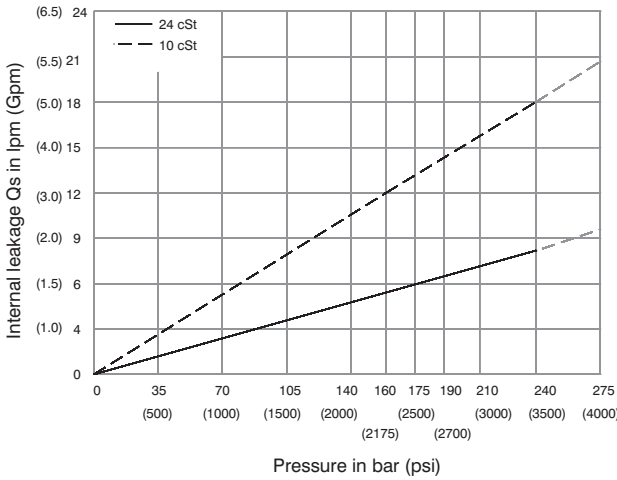
- 1 - SAE A
- 2 - SAE B
- 3 - SAE BB
- 4 - SAE C
- 5 - SAE J498b
- 16/32-11 teeth

Adapter

- 0 - None
- A - SAE A
- B - SAE B
- C - SAE C

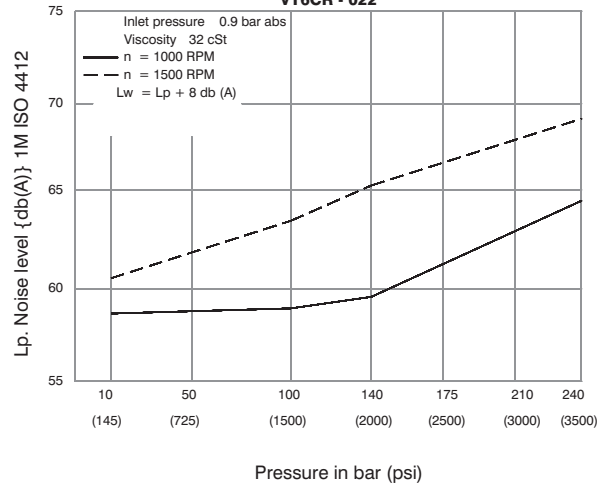


INTERNAL LEAKAGE (TYPICAL)

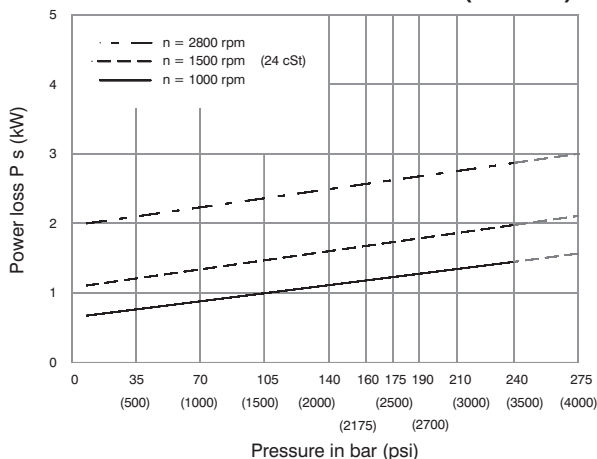


Do not operate pump more than 5 seconds at any speed or viscosity if internal leakage is more than 50% of theoretical flow.

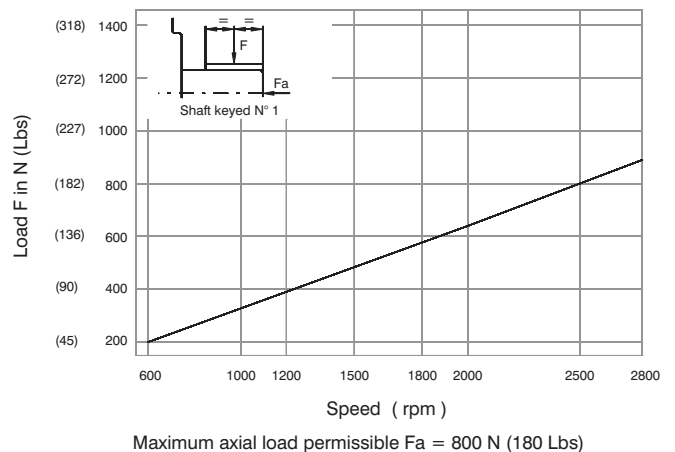
NOISE LEVEL (TYPICAL)



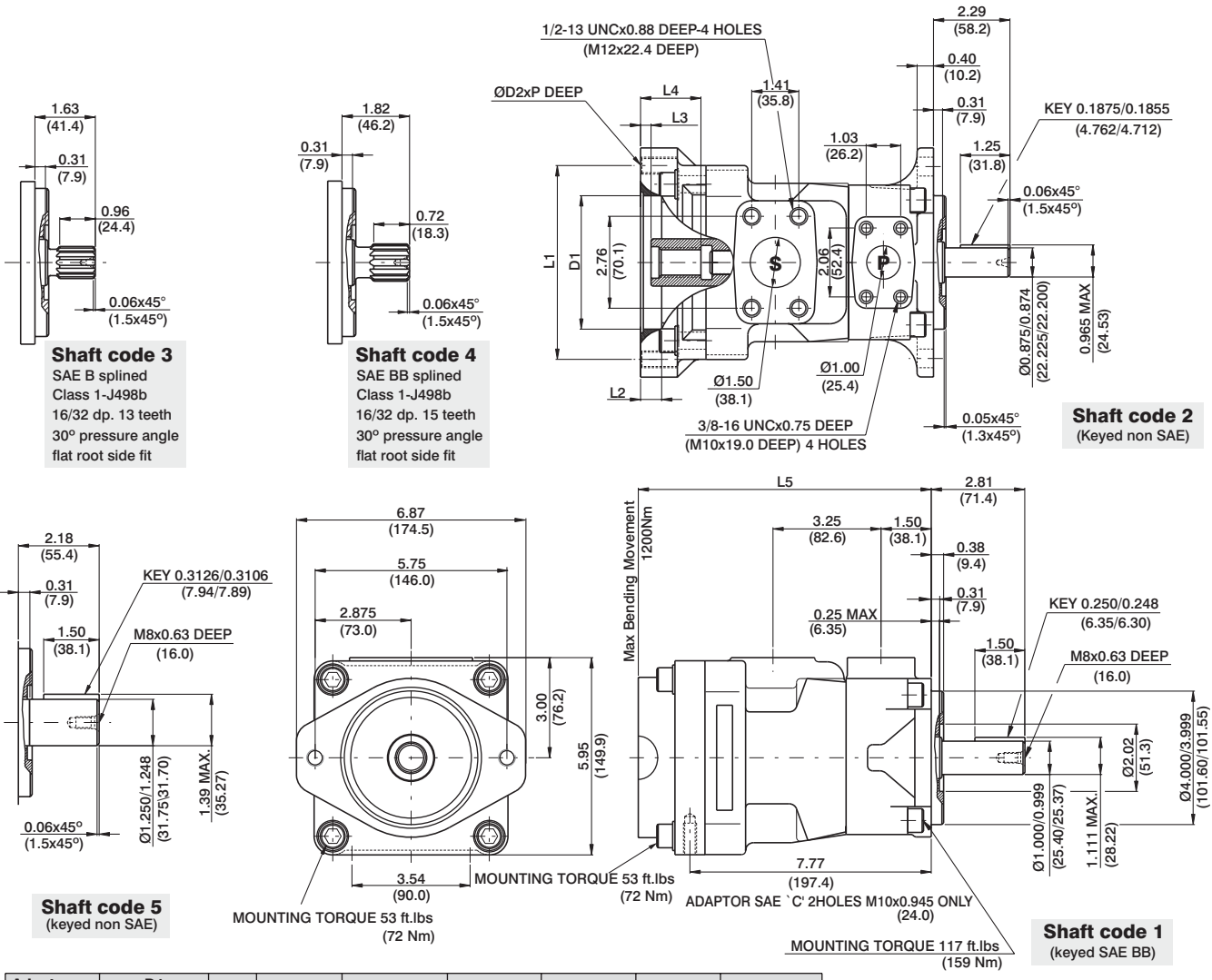
HYDROMECHANICAL POWER LOSS (TYPICAL)



PERMISSIBLE RADIAL LOAD



Maximum axial load permissible $F_a = 800 \text{ N}$ (180 Lbs)



Adaptor	D1	D2	P	L1	L2	L3	L4	L5
SAE "A"	3.25 (82.60)	M10	0.94 (24)	4.19 (106.4)	0.43 (11)	0.31 (7.9)	1.26 (32)	8.23 (209)
SAE "B"	4.00 (101.65)	M12	1.10 (28)	5.75 (146.0)	0.63 (16)	0.31 (7.9)	1.81 (46)	8.78 (223)
SAE "C"	5.00 (127.10)	M16	-	7.12 (181.0)	0.63 (16)	0.31 (7.9)	2.20 (56)	9.17 (233)

Adaptor	SAE "A"			SAE "B"		SAE "C"
Coupling drive	SAE A	SAE (11teeth)	SAE B	SAE B	SAE BB	SAE C
Number of teeth	9	11	13	13	15	14
Pitch	16/32	16/32	16/32	16/32	16/32	12/24
Pressure angle	30°	30°	30°	30°	30°	30°
Major dia. (min)	0.625 (15.875)	0.750 (19.05)	0.875 (22.225)	0.875 (22.225)	1.00 (25.40)	1.250 (31.75)
Minor dia. (min)	0.500 (12.70)	0.630 (16.00)	0.753 (19.125)	0.753 (19.125)	0.877 (22.275)	1.086 (27.585)

Shaft torque limits in ³ /rev x psi (ml/rev x bar)			
Shaft	V x P max.	Coupling drive	V x P max.
1	18972 (21420)	SAE"A"	9743 (11000)
2	12666 (14300)	SAE"B"	18246 (20600)
3	18246 (20600)	SAE"BB"	19530 (22050)
4	28937 (32670)	SAE"C"	19530 (22050)
5	30274 (34180)	SAE"11teeth"	14039 (15850)

OPERATING CHARACTERISTICS - TYPICAL (24 cST)

Pressure port	Series	Volumetric Displacement Vp		Flow q & n = 1500 rpm						Input power p & n = 1500 rpm					
		p = 0 bar (0 psi)		p = 140 bar (2000 psi)		p = 240 bar (3500 psi)		p = 7 bar (100 psi)		p = 140 bar (2000 psi)		p = 240 bar (3500 psi)			
		in ³ /rev	cm ³ /rev	gpm	lpm	gpm	lpm	gpm	lpm	hp	kw	hp	kw	hp	kw
VT6CR	003	0.66	10.8	4.29	16.2	2.96	11.2	2.04	7.7	1.74	1.3	7.11	5.3	11.26	8.4
	005	1.05	17.2	6.83	25.8	5.50	20.8	4.57	17.3	1.88	1.4	10.06	7.5	16.36	12.2
	006	1.30	21.3	8.44	31.9	7.11	26.9	6.19	23.4	2.01	1.5	11.94	8.9	19.71	14.7
	008	1.61	26.4	10.48	39.6	9.15	34.6	8.22	31.1	2.15	1.6	14.35	10.7	22.93	17.7
	010	2.08	34.1	13.52	51.1	12.19	46.1	11.26	42.6	2.28	1.7	18.64	13.4	29.90	22.3
	012	2.26	37.1	14.71	55.6	13.36	50.6	12.46	47.1	2.28	1.7	19.31	14.4	32.32	24.1
	014	2.81	46.0	18.25	69.0	16.93	64.0	16.00	60.5	2.55	1.9	23.60	17.6	39.56	29.5
	015	3.08	50.5	20.00	75.6	18.73	73.2	19.02	67.5	2.68	2.0	25.61	19.1	42.91	32.0
	017	3.56	58.3	23.12	87.4	21.79	82.4	20.87	78.9	2.82	2.1	29.37	21.9	49.48	36.9
	020	3.89	63.8	25.32	95.7	23.99	90.7	23.07	87.2	2.95	2.2	31.92	23.8	53.91	40.2
	022	4.29	70.3	27.88	105.4	26.56	100.4	25.63	96.9	3.08	2.3	35.00	26.1	59.14	44.1
	025 ¹⁾	4.84	79.3	31.46	118.9	30.13	113.9	29.21	110.4	3.35	2.5	39.16	29.2	66.38	49.5
	028 ¹⁾	5.42	88.8	35.24	133.2	33.92	128.2	33.28 ²⁾	125.8 ²⁾	3.75	2.8	43.85	32.7	65.04 ²⁾	48.5 ²⁾
031 ¹⁾	6.10	100.0	39.68	150.0	38.35	145.0	37.72 ²⁾	142.6 ²⁾	3.75	2.8	48.95	36.5	72.95 ²⁾	54.4 ²⁾	

1) 025-028-031 = 2500 RPM. max.

2) 028-031 = 210 bar (3000 psi) max. int.

VT6CRM * - B22 - 1 R 00 - A 1 0 - A 1 *

Series

Y- Metric port connection, Omit for UNC

Cam ring for

Volumetric displacement cm³/rev (in³/rev)

*B03/R03 = 10.8 (0.66)	B15/R15 = 50.5 (3.08)
B05/R05 = 17.2 (1.05)	B17/R17 = 58.3 (3.56)
B06/R06 = 21.3 (1.30)	B20/R20 = 63.8 (3.89)
B08/R08 = 26.4 (1.61)	B22/R22 = 70.3 (4.29)
B10/R10 = 34.1 (2.08)	B25/R25 = 79.3 (4.84)
B12/R12 = 37.1 (2.26)	B28/R28 = 88.8 (5.42)
B14/R14 = 46.0 (2.81)	B31/R31 = 100.0 (6.10)

*'B' - for Mobile

'R' - for Mobile - spring assisted

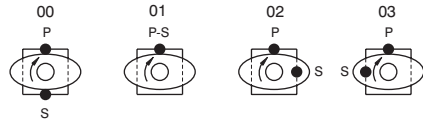
Type of Shaft

- 1 - Keyed (SAE BB)
- 2 - Keyed (no SAE)
- 3 - Splined (SAE B)
- 4 - Splined (SAE BB)
- 5 - Keyed (no SAE)

Direction of rotation (view on shaft end)

- R - Clockwise
- L - Counter - clockwise

Porting combination



Modifications

Seal class

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

Design letter

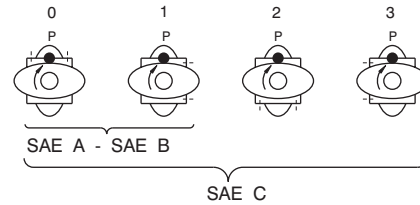
Porting adapter

Coupling

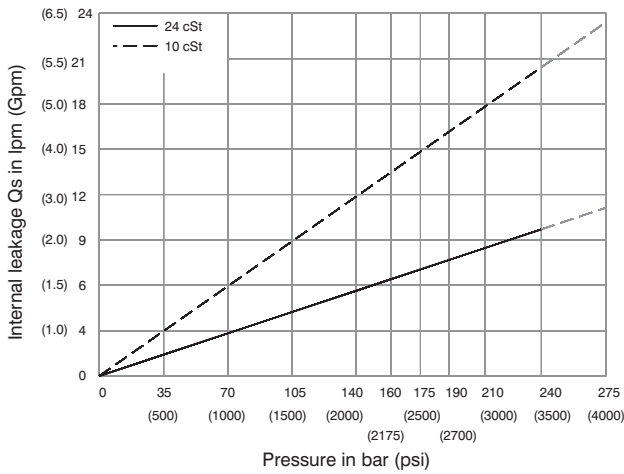
- 1 - SAE A
- 2 - SAE B
- 3 - SAE BB
- 4 - SAE C
- 5 - SAE J498b
16/32-11 teeth

Adapter

- 0 - None
- A - SAE A
- B - SAE B
- C - SAE C



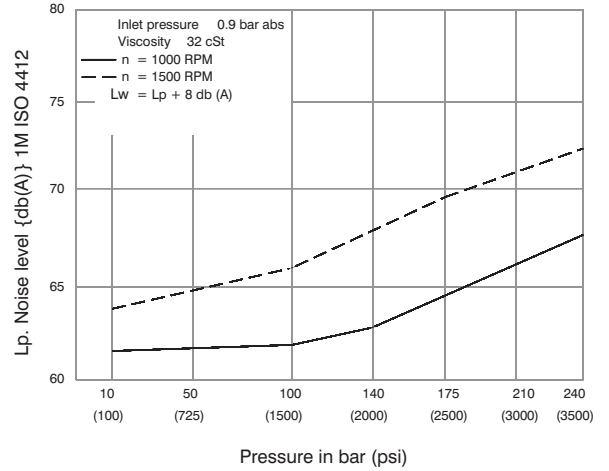
INTERNAL LEAKAGE (TYPICAL)



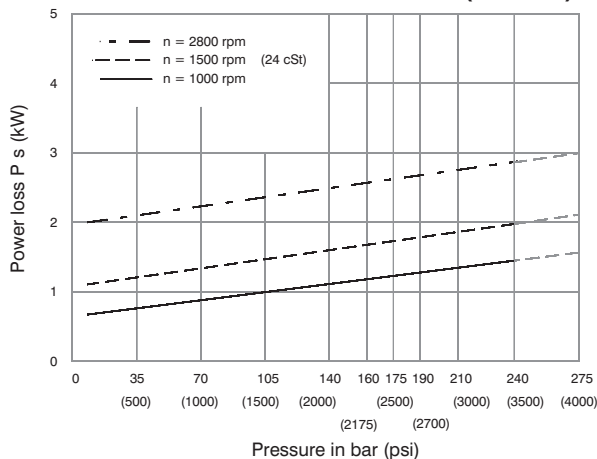
Do not operate pump more than 5 seconds at any speed or viscosity if internal leakage is more than 50% of theoretical flow.

NOISE LEVEL (TYPICAL)

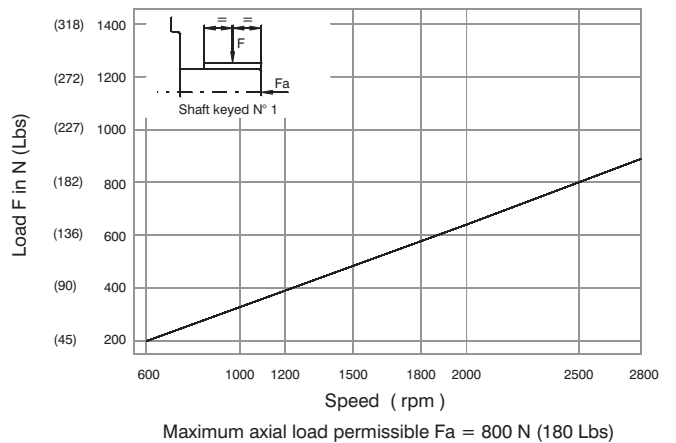
VT6CRM - B22



HYDROMECHANICAL POWER LOSS (TYPICAL)

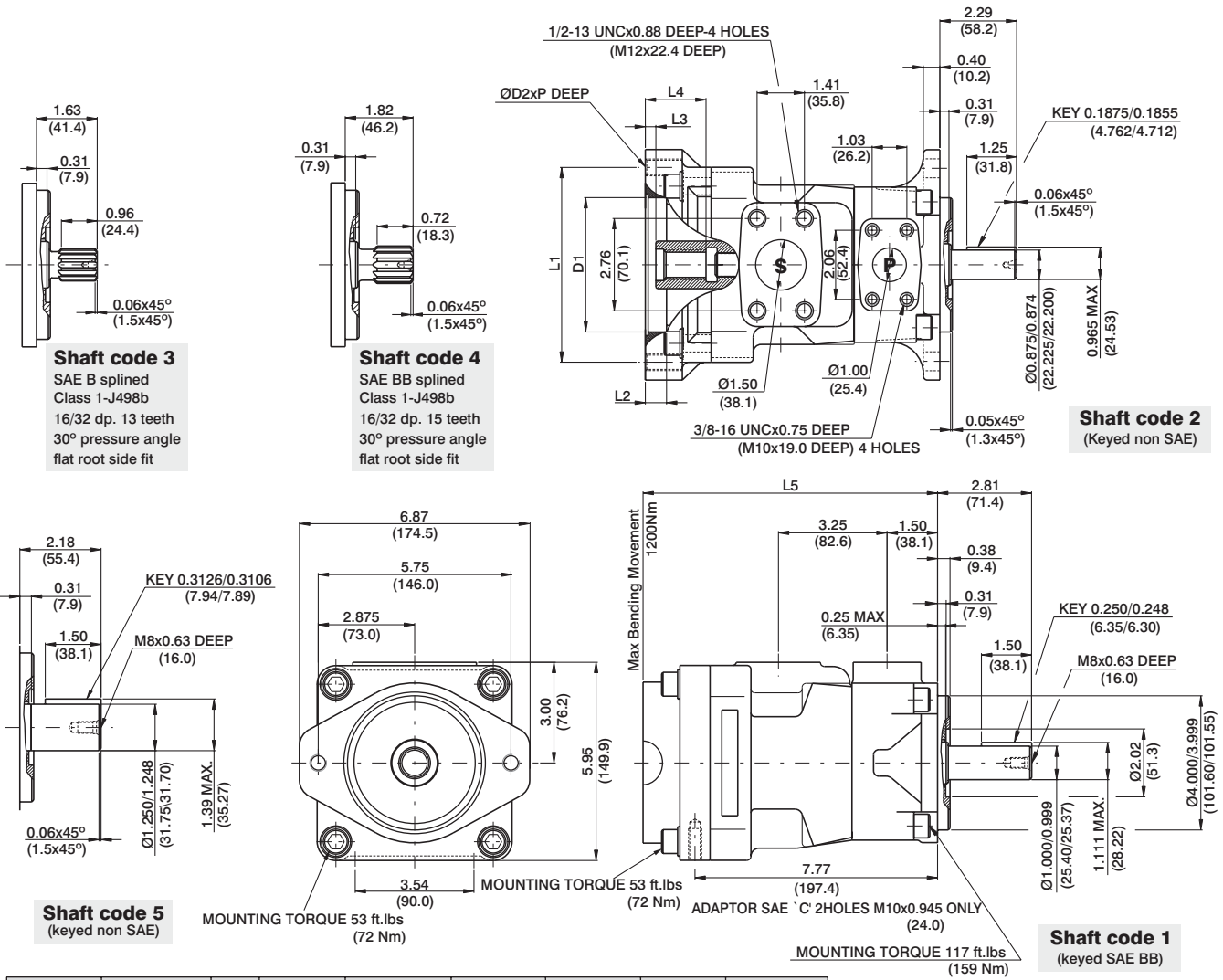


PERMISSIBLE RADIAL LOAD



Maximum axial load permissible Fa = 800 N (180 Lbs)





Adaptor	D1	D2	P	L1	L2	L3	L4	L5
SAE "A"	3.25 (82.6)	M10	0.94 (24)	4.19 (106.4)	0.43 (11)	0.31 (7.9)	1.26 (32)	8.23 (209)
SAE "B"	4.00 (101.65)	M12	1.10 (28)	5.75 (146.0)	0.63 (16)	0.31 (7.9)	1.81 (46)	8.78 (223)
SAE "C"	5.00 (127.10)	M16	-	7.12 (181.0)	0.63 (16)	0.31 (7.9)	2.20 (56)	9.17 (233)

Adaptor	SAE "A"			SAE "B"		SAE "C"
Coupling drive	SAE A	SAE (11teeth)	SAE B	SAE B	SAE BB	SAE C
Number of teeth	9	11	13	13	15	14
Pitch	16/32	16/32	16/32	16/32	16/32	12/24
Pressure angle	30°	30°	30°	30°	30°	30°
Major dia. (min)	0.625 (15.875)	0.750 (19.05)	0.875 (22.225)	0.875 (22.225)	1.00 (25.40)	1.250 (31.75)
Minor dia. (min)	0.500 (12.70)	0.630 (16.00)	0.753 (19.125)	0.753 (19.125)	0.877 (22.275)	1.086 (27.585)

Shaft	Shaft torque limits in ³ /rev x psi (ml/rev x bar)	
	V x P max.	Coupling drive V x P max.
1	18972 (21420)	SAE"A" 9743 (11000)
2	12666 (14300)	SAE"B" 18246 (20600)
3	18246 (20600)	SAE"BB" 19530 (22050)
4	28937 (32670)	SAE"C" 19530 (22050)
5	30274 (34180)	SAE"11teeth" 14039 (15850)

OPERATING CHARACTERISTICS - TYPICAL (24 cST)

Pressure port	Series	Volumetric Displacement Vp		Flow q & n = 1500 rpm						Input power p & n = 1500 rpm					
		p = 0 bar (0 psi)		p = 140 bar (2000 psi)		p = 240 bar (3500 psi)		p = 7 bar (100 psi)		p = 140 bar (2000 psi)		p = 240 bar (3500 psi)			
		in ³ /rev	cm ³ /rev	gpm	lpm	gpm	lpm	gpm	lpm	hp	kw	hp	kw		
VT6CRM	B03	0.66	10.8	4.29	16.2	2.83	11.2	7.7	7.7	1.74	1.3	7.11	5.3	8.4	8.4
	B05	1.05	17.2	6.83	25.8	5.37	20.8	4.17	17.3	1.88	1.4	10.06	7.5	16.36	12.2
	B06	1.30	21.3	8.44	31.9	7.01	26.9	5.82	23.4	2.01	1.5	11.94	8.9	19.71	14.7
	B08	1.61	26.4	10.48	39.6	9.02	34.6	7.83	31.1	2.15	1.6	14.35	10.7	22.93	17.7
	B10	2.08	34.1	13.52	51.1	12.08	46.1	10.89	42.6	2.28	1.7	18.64	13.4	29.90	22.3
	B12	2.26	37.1	14.71	55.6	13.28	50.6	12.08	47.1	2.28	1.7	19.31	14.4	32.32	24.1
	B14	2.81	46.0	18.25	69.0	16.79	64.0	15.60	60.5	2.55	1.9	23.60	17.6	39.56	29.5
	B15	3.08	50.5	20.00	75.6	18.62	70.4	17.46	66.0	2.68	2.0	25.61	19.1	42.91	32.0
	B17	3.56	58.3	23.12	87.4	21.69	82.4	20.50	78.9	2.82	2.1	29.37	21.9	49.48	36.9
	B20	3.89	63.8	25.32	95.7	23.86	90.7	22.67	87.2	2.95	2.2	31.92	23.8	53.91	40.2
	B22	4.29	70.3	27.88	105.4	26.45	100.4	25.26	96.9	3.08	2.3	35.00	26.1	59.14	44.1
	B25 ⁽¹⁾	4.84	79.3	31.46	118.9	30.02	113.9	28.83	110.4	3.35	2.5	39.16	29.2	66.38	49.5
	B28 ⁽¹⁾	5.42	88.8	35.24	133.2	33.78	128.2	32.93 ⁽²⁾	125.8 ⁽²⁾	3.75	2.8	43.85	32.7	72.95 ⁽²⁾	54.4 ⁽²⁾
B31 ⁽¹⁾	6.10	100.0	39.68	150.0	38.22	145.0	37.38 ⁽²⁾	142.6 ⁽²⁾	3.75	2.8	48.95	36.5	72.95 ⁽²⁾	54.4 ⁽²⁾	

1) B25-B28-B31 = 2500 R.P.M. max.

2) B28-B31 = 210 bar (3000 psi) max. int.

-- Not to use because internal leakage greater than 50% theoretical flow

VT6DCCR - 038 - 028 - 008 - 2 R 00 - A 1 - 00 - *

Series

Rear cap end for mounting
SAE "A" auxiliary pump
coupling adaptor
SAE "A" -9 teeth

Cam ring for "P1"

Volumetric displacement cm³/rev (in³/rev)

*014/B14 = 47.6 (2.90)	035/B35 = 111.0 (6.77)
017/B17 = 58.2 (3.55)	038/B38 = 120.3 (7.34)
020/B20 = 66.0 (4.03)	042/B42 = 136.0 (8.30)
024/B24 = 79.5 (4.85)	045/B45 = 145.7 (8.89)
028/B28 = 89.7 (5.47)	050/B50 = 158.0 (9.64)
031/B31 = 98.3 (6.00)	061/B61 = 190.5 (11.62)

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

Cam ring for "P2" & "P3"

Volumetric displacement cm³/rev (in³/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

Modifications

Mounting w/connection variables

	UNC		METRIC	
	00	01	M0	M1
P3	1"	3/4"	1"	3/4"

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 DI-1-13)

00 = Standard

Direction of rotation

(view on shaft end)

- R - Clockwise
- L - Counter - clockwise

Type of Shaft

- 2 - Keyed (SAE CC)
- 3 - Splined (SAE D & E)



OPERATING CHARACTERISTICS - TYPICAL (24 cST) (Input power p (KW) for one cartridge only)

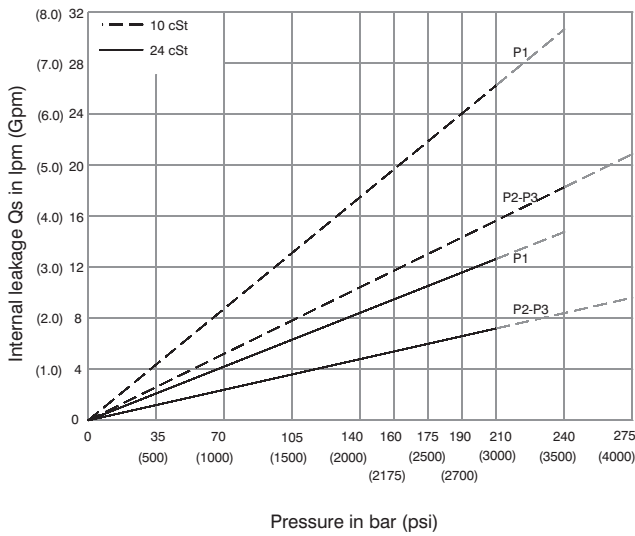
Pressure port	Series	Volumetric Displacement Vp		Flow q & n = 1500 rpm						Input power p & n = 1500 rpm					
				p = 0 bar (0 psi)		p = 140 bar (2000 psi)		p = 240 bar (3500 psi)		p = 7 bar (100 psi)		p = 140 bar (2000 psi)		p = 240 bar (3500 psi)	
				in ³ /rev	cm ³ /rev	gpm	lpm	gpm	lpm	gpm	lpm	hp	kw	hp	kw
P1	014	2.90	47.6	18.88	71.4	16.42	62.1	14.78	55.9	3.08	2.3	24.81	18.5	41.03	30.6
	017	3.55	58.2	23.09	87.3	20.63	78.0	18.99	71.8	3.35	2.5	29.75	22.2	49.60	37.0
	020	4.00	66.0	26.19	99.0	23.73	89.7	22.08	83.5	3.75	2.8	33.39	24.9	55.92	41.7
	024	4.80	79.5	31.56	119.3	29.10	110.0	27.46	103.8	4.02	3.0	39.69	29.6	66.78	49.8
	028	5.50	89.7	35.58	134.5	33.12	125.2	31.48	119.0	4.29	3.2	44.52	33.2	74.96	55.9
	031	6.00	98.3	39.00	147.5	36.53	138.1	34.89	131.9	4.42	3.3	48.54	36.2	81.80	61.0
	035	6.80	111.0	44.04	166.5	41.58	157.2	39.94	151.0	4.69	3.5	54.58	40.7	92.13	68.7
	038	7.30	120.3	47.72	180.4	45.26	171.1	43.62	164.9	4.96	3.7	58.87	43.9	99.64	74.3
	042 ¹⁾	8.30	136.0	53.96	204.0	51.50	194.7	49.86	188.5	5.36	4.0	66.25	49.4	112.24	83.7
	045 ¹⁾	8.89	145.7	57.80	218.5	55.34	209.2	53.70	203.0	5.50	4.1	70.81	52.8	120.02	89.5
	050 ¹⁾	9.64	158.0	62.69	237.0	60.23	227.7	59.25 ²⁾	224.0 ²⁾	5.90	4.4	76.44	57.0	113.98 ²⁾	85.0 ²⁾
061 ¹⁾	11.62	190.5	76.25	285.7	73.54 ³⁾	278.0 ³⁾	--	--	6.16	4.6	81.26 ³⁾	60.6 ³⁾	--	--	
P2 & P3	003	0.66	10.8	4.29	16.2	2.96	11.2	2.04	7.7	1.74	1.3	7.11	5.3	11.22	8.4
	005	1.05	17.2	6.83	25.8	5.50	20.8	4.57	17.3	1.88	1.4	10.06	7.5	16.36	12.2
	006	1.30	21.3	8.44	31.9	7.11	26.9	6.19	23.4	2.01	1.5	11.94	8.9	19.71	14.7
	008	1.61	26.4	10.48	39.6	9.15	34.6	8.22	31.1	2.15	1.6	14.35	10.7	22.93	17.7
	010	2.08	34.1	13.52	51.1	12.19	46.1	11.26	42.6	2.28	1.7	18.64	13.4	29.90	22.3
	012	2.26	37.1	14.71	55.6	13.36	50.6	12.46	47.1	2.28	1.7	19.31	14.4	32.32	24.1
	014	2.81	46.0	18.25	69.0	16.93	64.0	16.00	60.5	2.55	1.9	23.60	17.6	39.56	29.5
	015	3.08	50.5	20.00	75.6	18.73	73.2	19.02	67.5	2.68	2.0	25.61	19.1	42.91	32.0
	017	3.56	58.3	23.12	87.4	21.79	82.4	20.87	78.9	2.82	2.1	29.37	21.9	49.48	36.9
	020	3.89	63.8	25.32	95.7	23.99	90.7	23.07	87.2	2.95	2.2	31.92	23.8	53.91	40.2
	022	4.29	70.3	27.88	105.4	26.56	100.4	25.63	96.9	3.08	2.3	35.00	26.1	59.14	44.1
	025	4.84	79.3	31.46	118.9	30.13	113.9	29.21	110.4	3.35	2.5	39.16	29.2	66.38	49.5
	028	5.42	88.8	35.24	133.2	33.92	128.2	33.28 ²⁾	125.8 ²⁾	3.75	2.8	43.85	32.7	65.04 ²⁾	48.5 ²⁾
031	6.10	100.0	39.68	150.0	38.35	145.0	37.72 ²⁾	142.6 ²⁾	3.75	2.8	48.95	36.5	72.95 ²⁾	54.4 ²⁾	

1) 042-045-050-061=2200 RPM max.

2) 028-031- 050=210 bar (3000 psi) max.

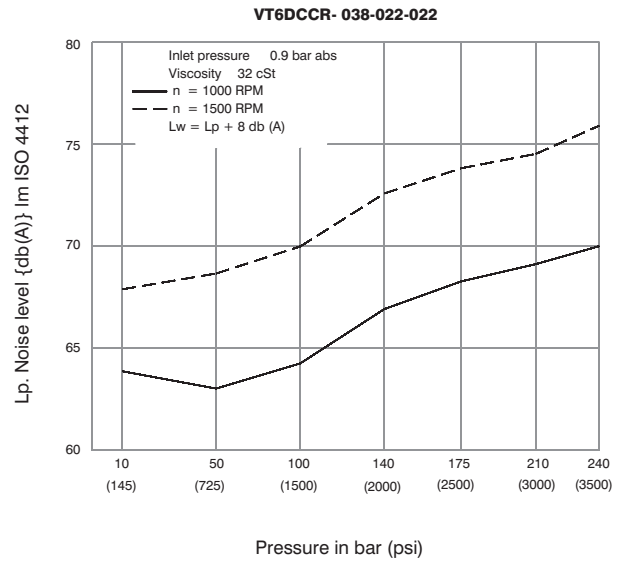
3) 061 = 120 bar (1740 psi) max. int, 061 = 80 bar (1160 psi) cont.

INTERNAL LEAKAGE (TYPICAL)



Total leakage is the sum of each section loss at its operating conditions.

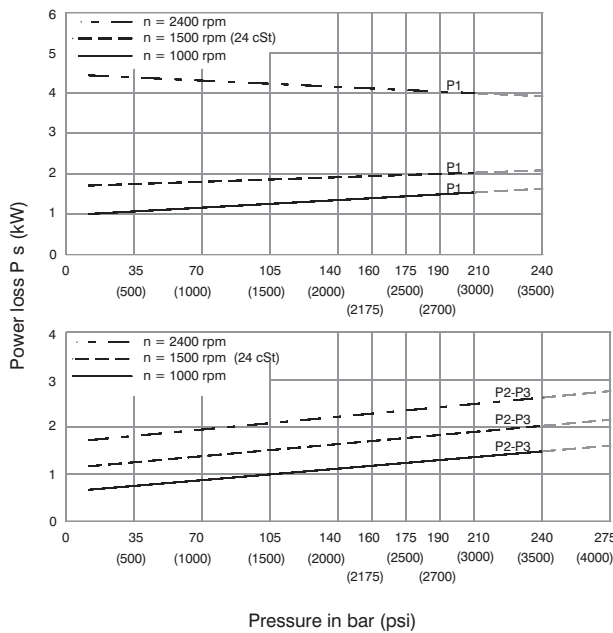
NOISE LEVEL (TYPICAL)



Triple pump noise level is given with each section discharging at the pressure noted on the curve.

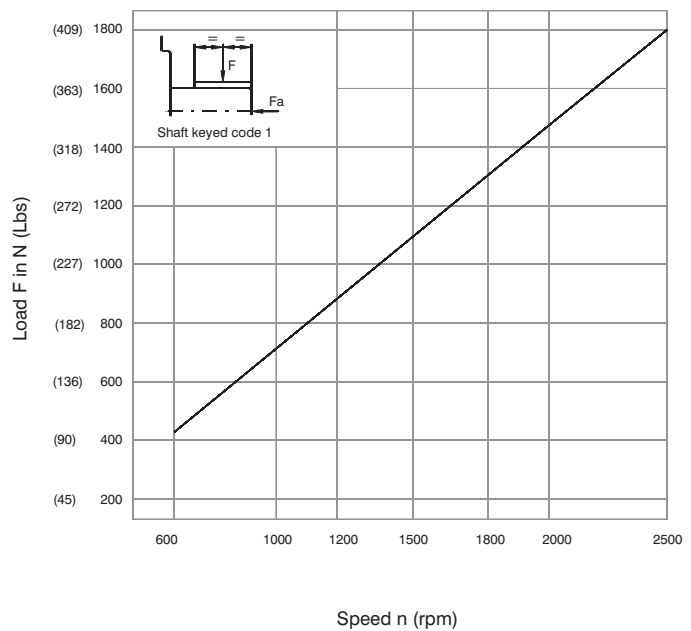


HYDROMECAHNICAL POWER LOSS (TYPICAL)

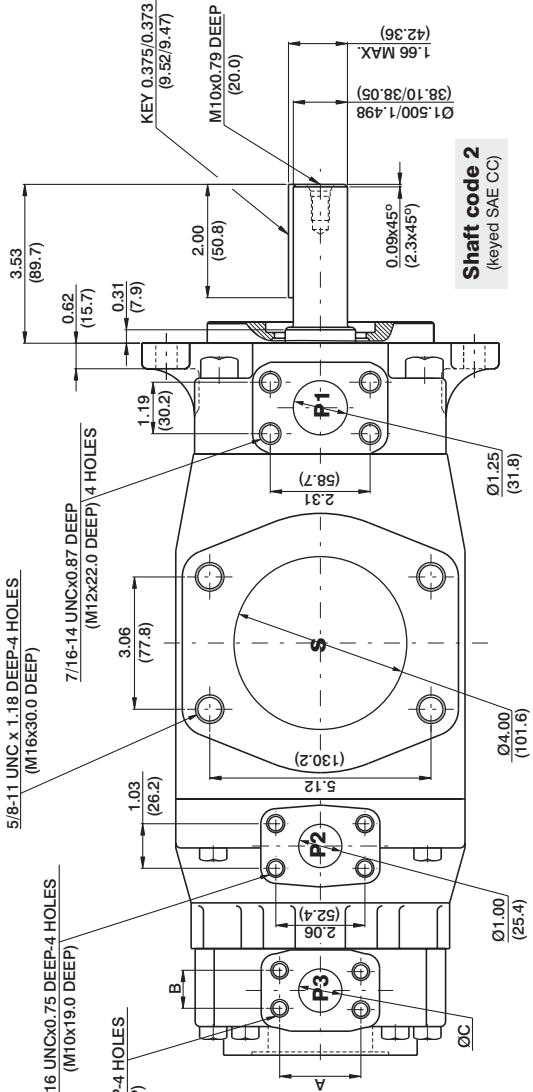


Total hydromechanical power loss is the sum of each section at its operating conditions.

PERMISSIBLE RADIAL LOAD

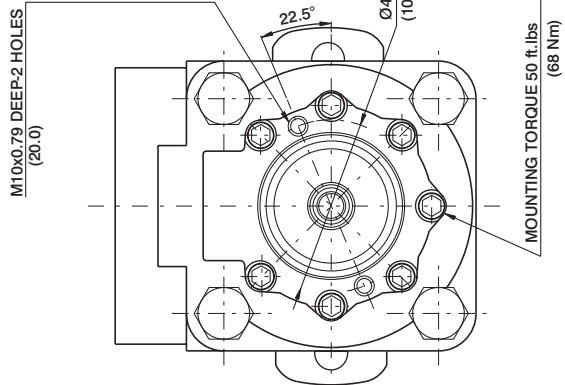
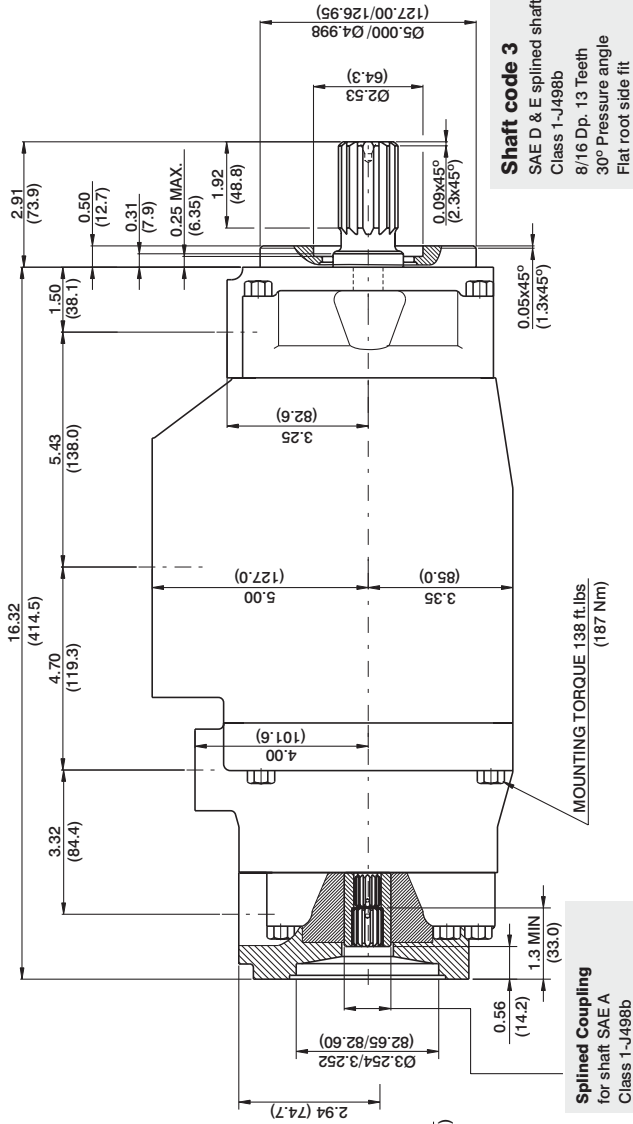


DT



PORT	CODE	A	B	C
P3	00 & M0	2.06 (52.4)	1.03 (26.2)	1.00 (25.4)
	01 & M1	1.874 (47.6)	0.874 (22.2)	0.75 (19.05)

Shaft torque limits in ³ /rev x psi (ml/rev x bar)			
Shaft	V x P max.	Coupling drive	V x P max.
2	58842 (66500)	SAE'A'	3061 (3456)
3	54207 (61200)		



VT6DR * - 045 - 1 R 00 - A 1 0 - A 1 *

Series

Y- Metric port connection, Omit for UNC

Cam ring for

Volumetric displacement cm^3/rev (in^3/rev)

*014/B14 = 47.6 (2.90)	035/B35 = 111.0 (6.77)
017/B17 = 58.2 (3.55)	038/B38 = 120.3 (7.34)
020/B20 = 66.0 (4.03)	042/B42 = 136.0 (8.30)
024/B24 = 79.5 (4.85)	045/B45 = 145.7 (8.89)
028/B28 = 89.7 (5.47)	050/B50 = 158.0 (9.64)
031/B31 = 98.3 (6.00)	061/B61 = 190.5 (11.62)

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

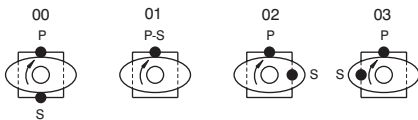
Type of Shaft

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

Direction of rotation (view on shaft end)

- R - Clockwise
- L - Counter - clockwise

Porting combination



Modifications

Seal class

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

Design letter

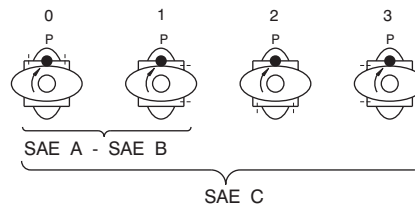
Porting adapter

Coupling

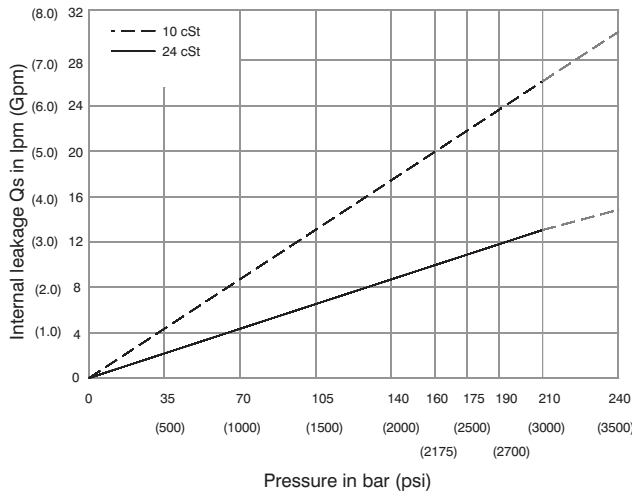
- 1 - SAE A
- 2 - SAE B
- 3 - SAE BB
- 4 - SAE C
- 5 - SAE J498b
- 16/32-11 teeth

Adapter

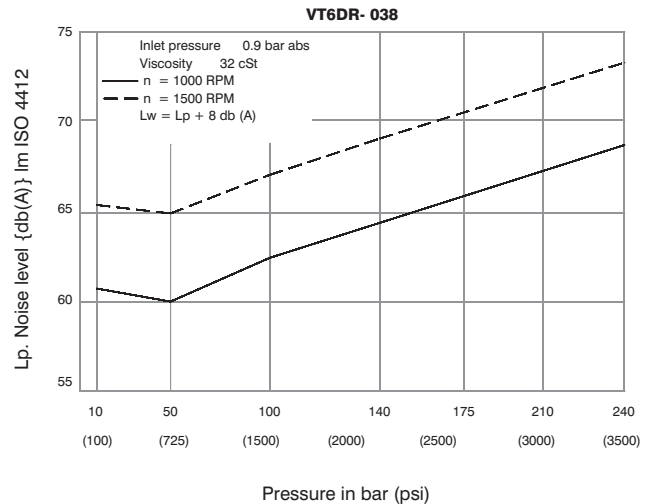
- 0 - None
- A - SAE A
- B - SAE B
- C - SAE C



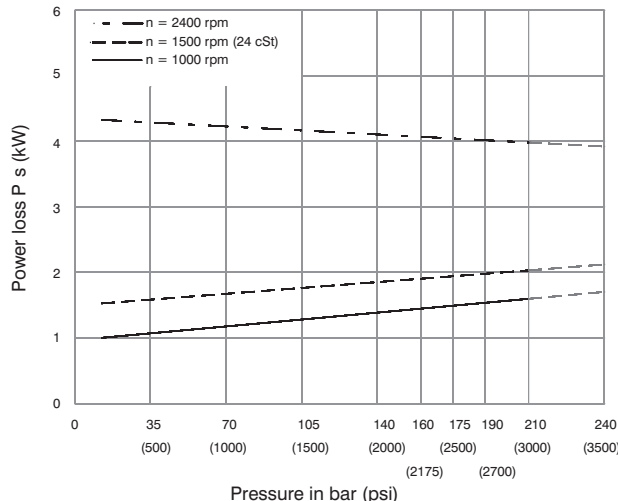
INTERNAL LEAKAGE (TYPICAL)



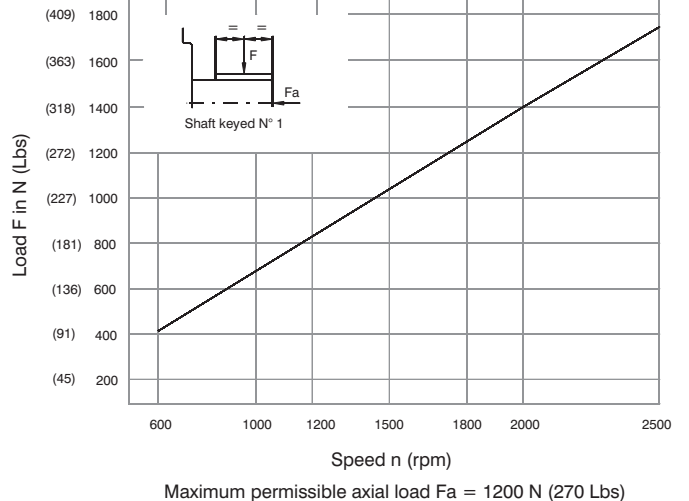
NOISE LEVEL (TYPICAL)



HYDROMECHANICAL POWER LOSS (TYPICAL)



PERMISSIBLE RADIAL LOAD



VT6DRM * - **B45** - **1** **R** **00** - **A** **1** **0** - **A** **1** *

Series

Y- Metric port connection, Omit for UNC

Cam ring for

Volumetric displacement cm^3/rev (in^3/rev)

* B14/R14 = 47.6 (2.90)	B35/R35 = 110.0 (6.77)
B17/R17 = 58.2 (3.55)	B38/R38 = 120.3 (7.34)
B20/R20 = 66.0 (4.03)	B42/R42 = 136.0 (8.30)
B24/R24 = 79.5 (4.85)	B45/R45 = 145.7 (8.89)
B28/R28 = 89.7 (5.47)	B50/R50 = 158.0 (9.64)
B31/R31 = 98.3 (6.00)	B61/R61 = 190.5 (11.62)

* 'B' - for Mobile
'R' - for Mobile - spring assisted

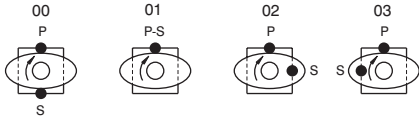
Type of Shaft

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

Direction of rotation (view on shaft end)

- R - Clockwise
- L - Counter - clockwise

Porting combination



Modifications

Seal class

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

Design letter

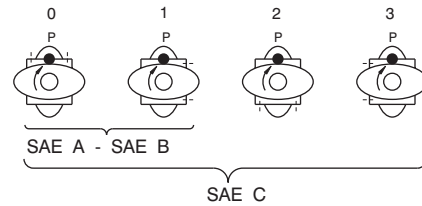
Porting adapter

Coupling

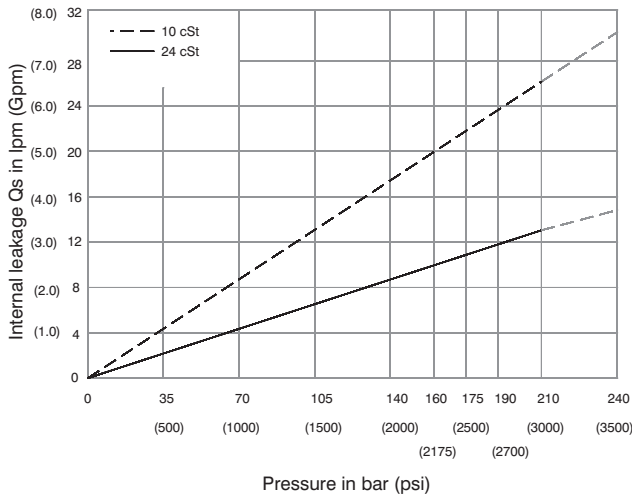
- 1 - SAE A
- 2 - SAE B
- 3 - SAE BB
- 4 - SAE C
- 5 - SAE J498b
- 16/32-11 teeth

Adapter

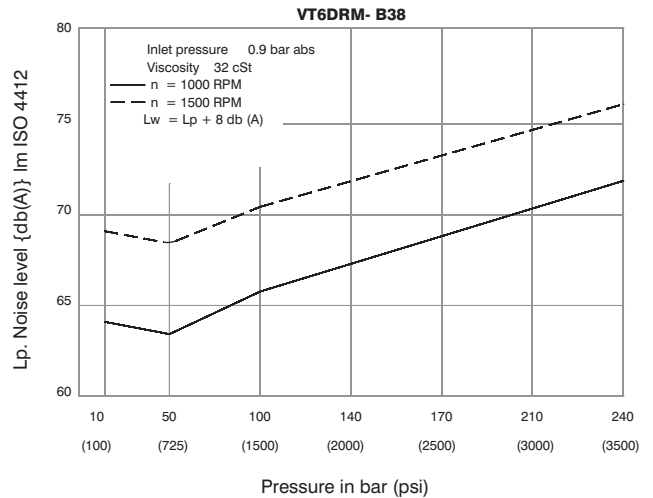
- 0 - None
- A - SAE A
- B - SAE B
- C - SAE C



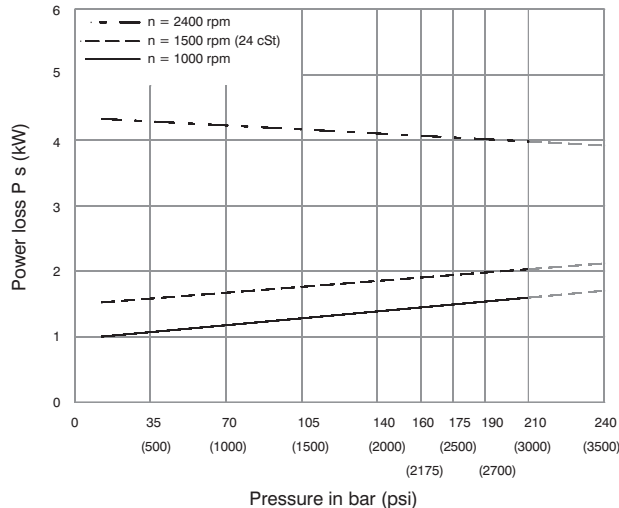
INTERNAL LEAKAGE (TYPICAL)



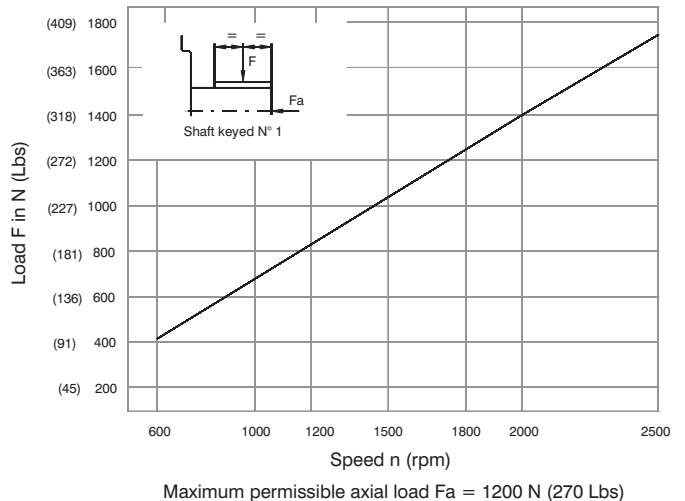
NOISE LEVEL (TYPICAL)

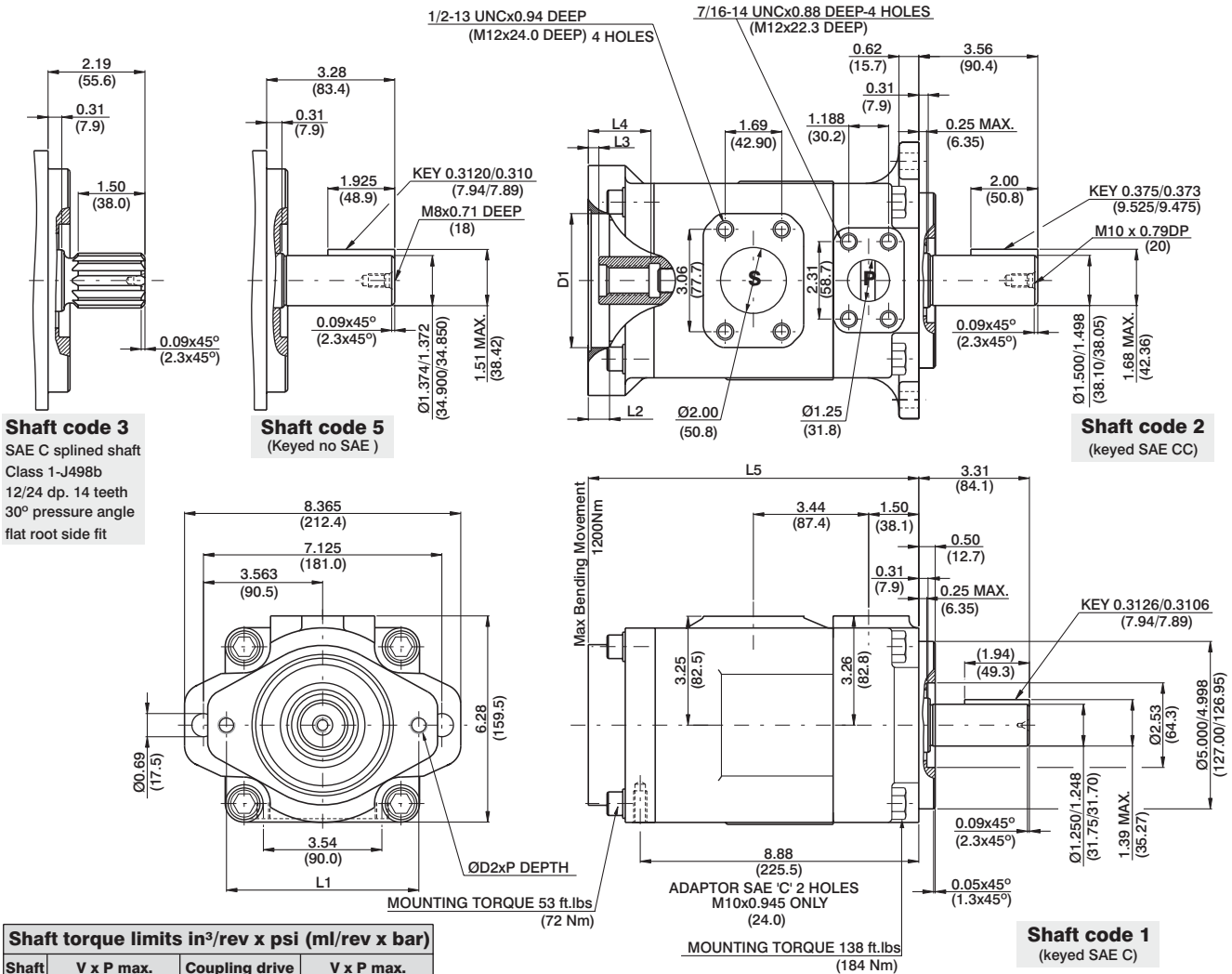


HYDROMECHANICAL POWER LOSS (TYPICAL)



PERMISSIBLE RADIAL LOAD





Shaft torque limits in³/rev x psi (ml/rev x bar)

Shaft	V x P max.	Coupling drive	V x P max.
1	38300 (43240)	SAE"A"	9743 (11000)
2	58491 (66036)	SAE"B"	18246 (20600)
3	54207 (61200)	SAE"BB"	28937 (32670)
5	49247 (55600)	SAE"C"	33118 (37390)
		SAE"11teeth"	14039 (15850)

Adaptor	D1	D2	P	L1	L2	L3	L4	L5
SAE "A"	3.25 (82.60)	M10	0.94 (24)	4.19 (106.4)	0.43 (11)	0.31 (7.9)	1.26 (32)	9.33 (237)
SAE "B"	4.00 (101.65)	M12	1.10 (28)	5.75 (146.0)	0.63 (16)	0.31 (7.9)	1.81 (46)	9.88 (251)
SAE "C"	5.00 (127.10)	M16	-	7.12 (181.0)	0.63 (16)	0.31 (7.9)	2.20 (56)	10.27 (261)

Adaptor	SAE "A"			SAE "B"		SAE "C"
Coupling drive	SAE A	SAE (11teeth)	SAE B	SAE B	SAE BB	SAE C
Number of teeth	9	11	13	13	15	14
Pitch	16/32	16/32	16/32	16/32	16/32	12/24
Pressure angle	30°	30°	30°	30°	30°	30°
Major dia.(min)	0.625 (15.875)	0.750 (19.05)	0.875 (22.225)	0.875 (22.225)	1.00 (25.40)	1.250 (31.75)
Minor dia.(min)	0.500 (12.70)	0.630 (16.00)	0.753 (19.134)	0.753 (19.134)	0.877 (22.268)	1.086 (27.585)

OPERATING CHARACTERISTICS - TYPICAL (24 cST)

Pressure port	Series	Volumetric Displacement Vp		Flow q & n = 1500 rpm						Input power p & n = 1500 rpm					
		in ³ /rev	cm ³ /rev	p = 0 bar (0 psi)		p = 140 bar (2000 psi)		p = 240 bar (3500 psi)		p = 7 bar (100 psi)		p = 140 bar (2000 psi)		p = 240 bar (3500 psi)	
				gpm	lpm	gpm	lpm	gpm	lpm	hp	kw	hp	kw	hp	kw
VT6DRM	B14	2.90	47.6	18.88	71.4	16.42	62.1	14.78	55.9	3.08	2.3	24.81	18.5	41.03	30.6
	B17	3.55	58.2	23.1	87.3	20.6	78.0	18.99	71.8	3.35	2.5	29.77	22.2	49.62	37.0
	B20	4.00	66.0	26.19	99.0	23.73	89.7	22.08	83.5	3.75	2.8	33.39	24.9	55.92	41.7
	B24	4.80	79.5	31.56	119.3	29.10	110.0	27.46	103.8	4.02	3.0	39.69	29.6	66.78	49.8
	B28	5.50	89.7	35.58	134.5	33.12	125.2	31.48	119.0	4.29	3.2	44.52	33.2	74.96	55.9
	B31	6.00	98.3	39.00	147.5	36.53	138.1	34.89	131.9	4.42	3.3	48.54	36.2	81.80	61.0
	B35	6.80	111.0	44.04	166.5	41.58	157.2	39.94	151.0	4.69	3.5	54.58	40.7	92.13	68.7
	B38	7.30	120.3	47.72	180.4	45.26	171.1	43.62	164.9	4.96	3.7	58.87	43.9	99.64	74.3
	B42 ¹⁾	8.30	136.0	53.96	204.0	51.50	194.7	49.86	188.5	5.36	4.0	66.25	49.4	112.24	83.7
	B45 ¹⁾	8.89	145.7	57.80	218.5	55.34	209.2	53.70	203.0	5.50	4.1	70.81	52.8	120.02	89.5
	B50 ¹⁾	9.64	158.0	62.69	237.0	60.23	227.7	59.25 ²⁾	224.0 ²⁾	5.90	4.4	76.44	57.0	113.98 ²⁾	85.0 ²⁾
	B61 ¹⁾	11.62	190.5	76.25	285.7	73.54 ³⁾	278.0 ³⁾	--	--	6.16	4.6	81.26 ³⁾	60.6 ³⁾	--	--

1) B42-B45-B50-B61 = 2200 RPM max.

2) B50 = 210 bar (3000 psi) max.

3) B61 = 120 bar (1740 psi) max. int., B61 = 80 bar (1160 psi) cont.

VT6EDCR - 062 - 035 - 017 - 1 R 00 - A 1 - P - 00 - *

Series

Rear cap end for mounting
SAE "A" auxiliary pump
coupling adaptor SAE "A" -9 teeth

P1

P2

P3

Cam ring for "P1"

Volumetric displacement cm³/rev (in³/rev)

042 = 132.3 (8.07)	062 = 196.7 (12.00)
045 = 142.4 (8.69)	066 = 213.3 (13.02)
050 = 158.5 (9.67)	072 = 227.1 (13.86)
052 = 164.8 (10.06)	085 = 269.8 (16.46)
057 = 180.7 (11.02)	

Cam ring for "P2"

Volumetric displacement cm³/rev (in³/rev)

* 014/B14 = 47.6 (2.90)	035/B35 = 111.0 (6.77)
017/B17 = 58.2 (3.55)	038/B38 = 120.3 (7.34)
020/B20 = 66.0 (4.03)	042/B42 = 136.0 (8.30)
024/B24 = 79.5 (4.85)	045/B45 = 145.7 (8.89)
028/B28 = 89.7 (5.47)	050/B50 = 158.0 (9.64)
031/B31 = 98.3 (6.00)	061/B61 = 190.5 (11.62)

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

Cam ring for "P3"

Volumetric displacement cm³/rev (in³/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

Modifications

Mounting w/connection variables

00 = P3 = 1" SAE
01 = P3 = 3/4" SAE

Mounting (pump)

P= Pedestal mounting
F= Face mounting

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 DI-1-13)

00 = Standard

Direction of rotation (view on shaft end)

R - Clockwise
L - Counter - clockwise

Type of Shaft

1 - Keyed (G45N-ISO 3019-2)
3 - Splined (SAE D & E)



OPERATING CHARACTERISTICS - TYPICAL (24 cST) (Input power p (KW) for one cartridge only)

Pressure port	Series	Volumetric Displacement Vp		Flow q & n = 1500 rpm						Input power p & n = 1500 rpm					
		in ³ /rev	cm ³ /rev	p = 0 bar (0 psi)		p = 140 bar (2000 psi)		p = 240 bar (3500 psi)		p = 7 bar (100 psi)		p = 240 bar (3500 psi)			
				gpm	lpm	gpm	lpm	gpm	lpm	hp	kw	hp	kw		
P1	042	8.07	132.3	52.50	198.5	49.87	188.5	47.96	181.3	6.97	5.2	66.25	49.4	110.77	82.6
	045	8.70	142.4	56.51	213.6	53.86	203.6	51.98	196.5	7.24	5.4	70.94	52.9	118.95	88.7
	050	9.67	158.5	62.88	237.7	60.24	227.7	58.36	220.6	7.64	5.7	78.45	58.5	131.82	98.3
	052	10.00	164.8	65.40	247.2	62.75	237.2	60.87	230.1	7.78	5.8	81.53	60.8	136.92	102.1
	057	11.02	180.7	71.71	271.1	69.07	261.1	67.19	254.0	8.18	6.1	89.04	66.4	143.35	106.9
	062	12.00	196.7	78.04	295.0	75.40	285.0	73.52	277.9	8.58	6.4	96.42	71.9	162.67	121.3
	066	13.00	213.3	84.63	319.9	81.98	309.9	80.11	302.8	8.98	6.7	104.20	77.7	175.94	131.2
	072	13.86	227.1	90.11	340.6	87.46	330.6	85.58	323.5	9.25	6.9	110.77	82.6	187.07	139.5
	085 ¹⁾	16.40	269.8	107.00	404.7	105.21 ²⁾	397.7 ²⁾	--	--	9.78	7.3	87.56 ²⁾	65.3 ²⁾	--	--
P2	014	2.90	47.6	18.88	71.4	16.42	62.1	14.78	55.9	3.08	2.3	24.81	18.5	41.03	30.6
	017	3.55	58.2	23.09	87.3	20.63	78.0	18.99	71.8	3.35	2.5	29.75	22.2	49.60	37.0
	020	4.00	66.0	26.19	99.0	23.73	89.7	22.08	83.5	3.75	2.8	33.39	24.9	55.92	41.7
	024	4.80	79.5	31.56	119.3	29.10	110.0	27.46	103.8	4.02	3.0	39.69	29.6	66.78	49.8
	028	5.50	89.7	35.58	134.5	33.12	125.2	31.48	119.0	4.29	3.2	44.52	33.2	74.96	55.9
	031	6.00	98.3	39.00	147.5	36.53	138.1	34.89	131.9	4.42	3.3	48.54	36.2	81.80	61.0
	035	6.80	111.0	44.04	166.5	41.58	157.2	39.94	151.0	4.69	3.5	54.58	40.7	92.13	68.7
	038	7.30	120.3	47.72	180.4	45.26	171.1	43.62	164.9	4.96	3.7	58.87	43.9	99.64	74.3
	042	8.30	136.0	53.96	204.0	51.50	194.7	49.86	188.5	5.36	4.0	66.25	49.4	112.24	83.7
	045	8.89	145.7	57.80	218.5	55.34	209.2	53.70	203.0	5.50	4.1	70.81	52.8	120.02	89.5
	050	9.64	158.0	62.69	237.0	60.23	227.7	59.25 ³⁾	224.0 ³⁾	5.90	4.4	76.44	57.0	113.98 ³⁾	85.0 ³⁾
061	11.62	190.5	76.25	285.7	73.54 ⁴⁾	278.0 ⁴⁾	--	--	6.16	4.6	81.26 ⁴⁾	60.6 ⁴⁾	--	--	
P3	003	0.66	10.8	4.29	16.2	2.96	11.2	2.04	7.7	1.74	1.3	7.11	5.3	11.22	8.4
	005	1.05	17.2	6.83	25.8	5.50	20.8	4.57	17.3	1.88	1.4	10.06	7.5	16.36	12.2
	006	1.30	21.3	8.44	31.9	7.11	26.9	6.19	23.4	2.01	1.5	11.94	8.9	19.71	14.7
	008	1.61	26.4	10.48	39.6	9.15	34.6	8.22	31.1	2.15	1.6	14.35	10.7	22.93	17.7
	010	2.08	34.1	13.52	51.1	12.19	46.1	11.26	42.6	2.28	1.7	18.64	13.4	29.90	22.3
	012	2.26	37.1	14.71	55.6	13.36	50.6	12.46	47.1	2.28	1.7	19.31	14.4	32.32	24.1
	014	2.81	46.0	18.25	69.0	16.93	64.0	16.00	60.5	2.55	1.9	23.60	17.6	39.56	29.5
	015	3.08	50.5	20.00	75.6	18.73	73.2	19.02	67.5	2.68	2.0	25.61	19.1	42.91	32.0
	017	3.56	58.3	23.12	87.4	21.79	82.4	20.87	78.9	2.82	2.1	29.37	21.9	49.48	36.9
	020	3.89	63.8	25.32	95.7	23.99	90.7	23.07	87.2	2.95	2.2	31.92	23.8	53.91	40.2
	022	4.29	70.3	27.88	105.4	26.56	100.4	25.63	96.9	3.08	2.3	35.00	26.1	59.14	44.1
	025	4.84	79.3	31.46	118.9	30.13	113.9	29.21	110.4	3.35	2.5	39.16	29.2	66.38	49.5
	028	5.42	88.8	35.24	133.2	33.92	128.2	33.28 ⁴⁾	125.8 ⁴⁾	3.75	2.8	43.85	32.7	65.04 ⁴⁾	48.5 ⁴⁾
	031	6.10	100.0	39.68	150.0	38.35	145.0	37.72 ⁴⁾	142.6 ⁴⁾	3.75	2.8	48.95	36.5	72.95 ⁴⁾	54.4 ⁴⁾

1) 085 = 2000 RPM max.

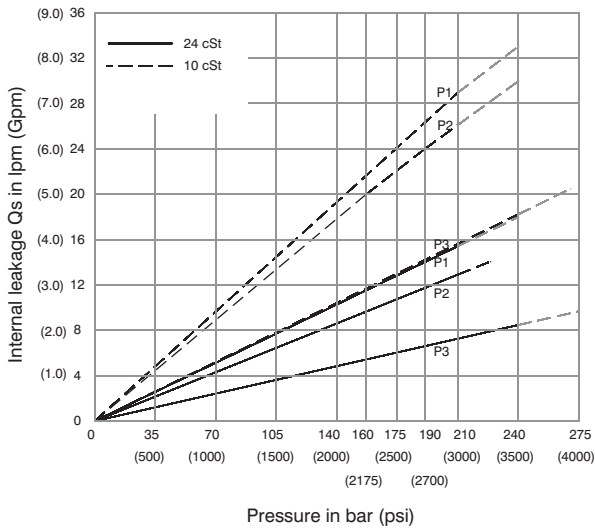
2) 085 = 75 bar (1100 psi) cont.

085 = 90 bar (1300 psi) max. int.

3) 028-031-050=210 bar (3000 psi) max.

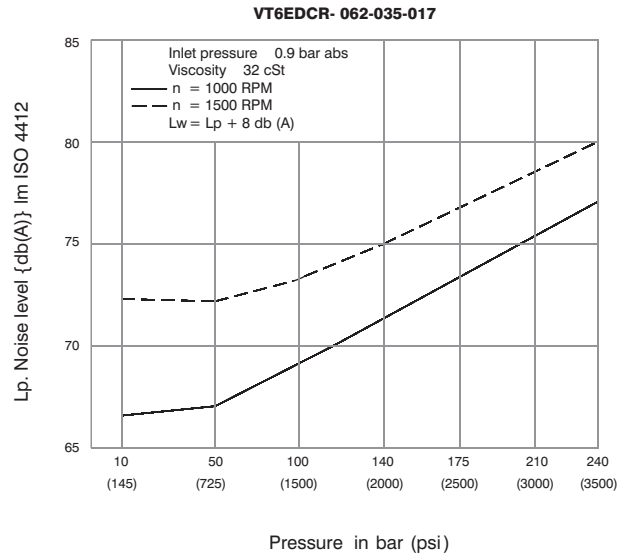
4) 061 = 120 bar (1740 psi) max. int., 061 = 80 bar (1160 psi) cont.

INTERNAL LEAKAGE (TYPICAL)



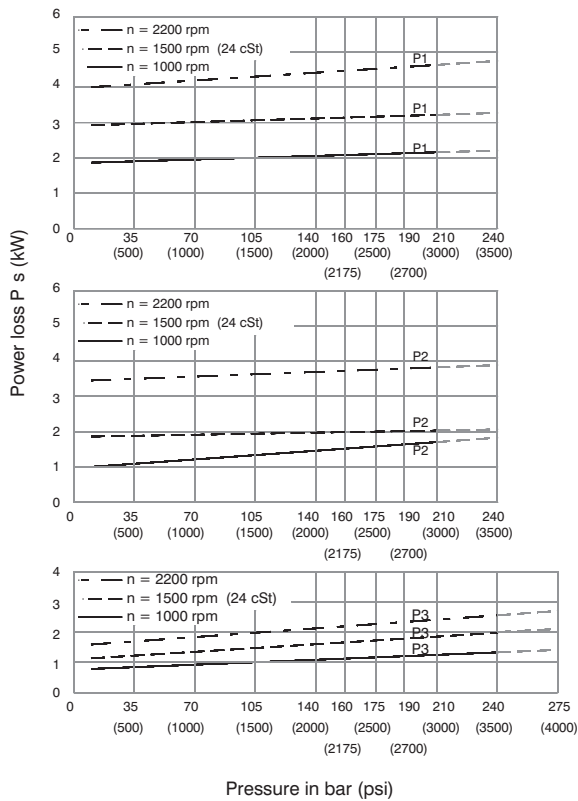
Total leakage is the sum of each section loss at its operating conditions.

NOISE LEVEL (TYPICAL)



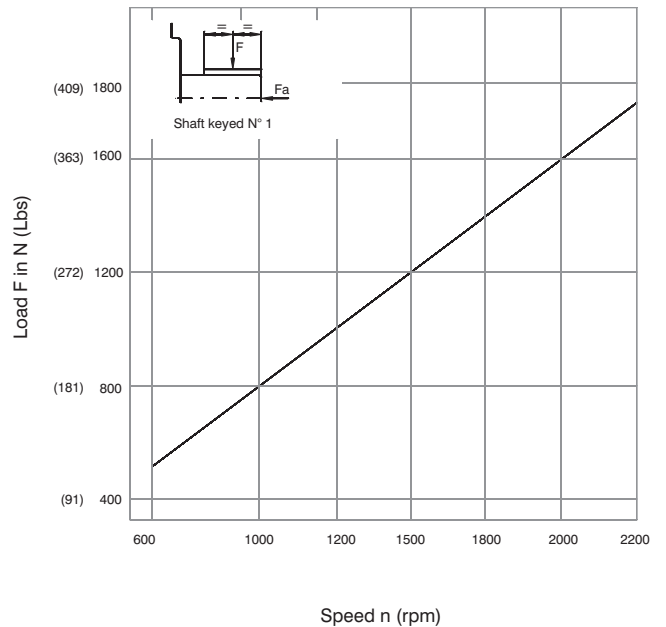
Triple pump noise level is given with each section discharging at the pressure noted on the curve.

HYDROMECHANICAL POWER LOSS (TYPICAL)



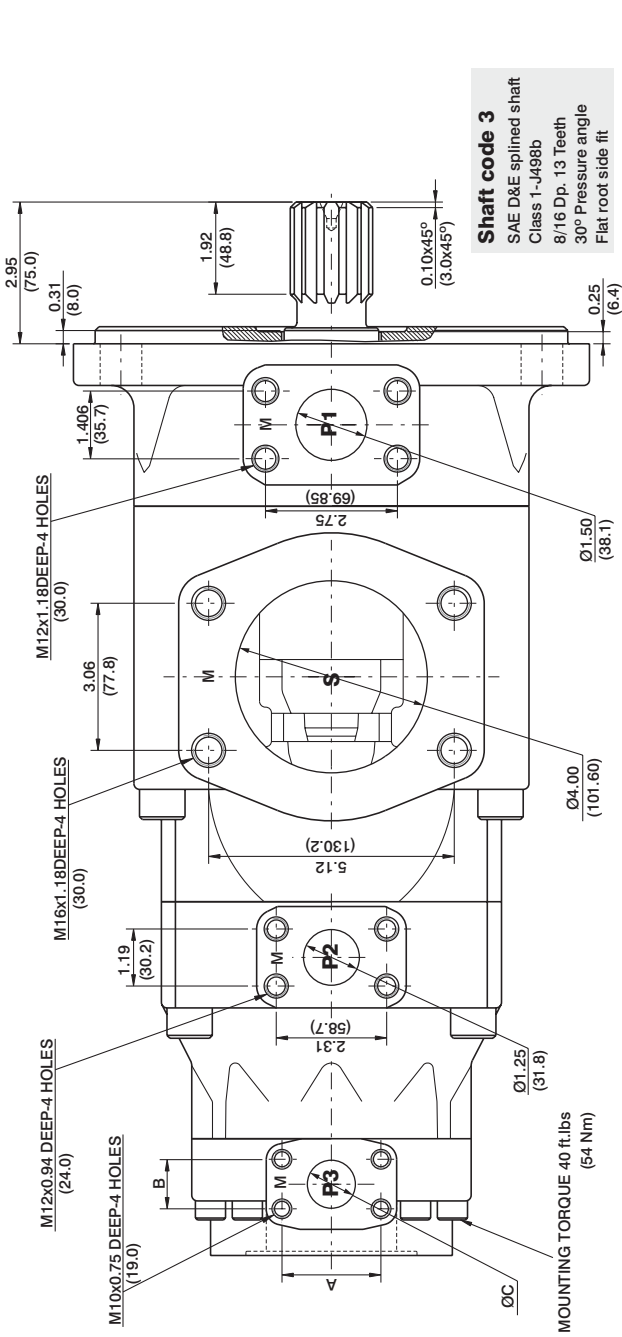
Total hydromechanical power loss is the sum of each section at its operating conditions

PERMISSIBLE RADIAL LOAD



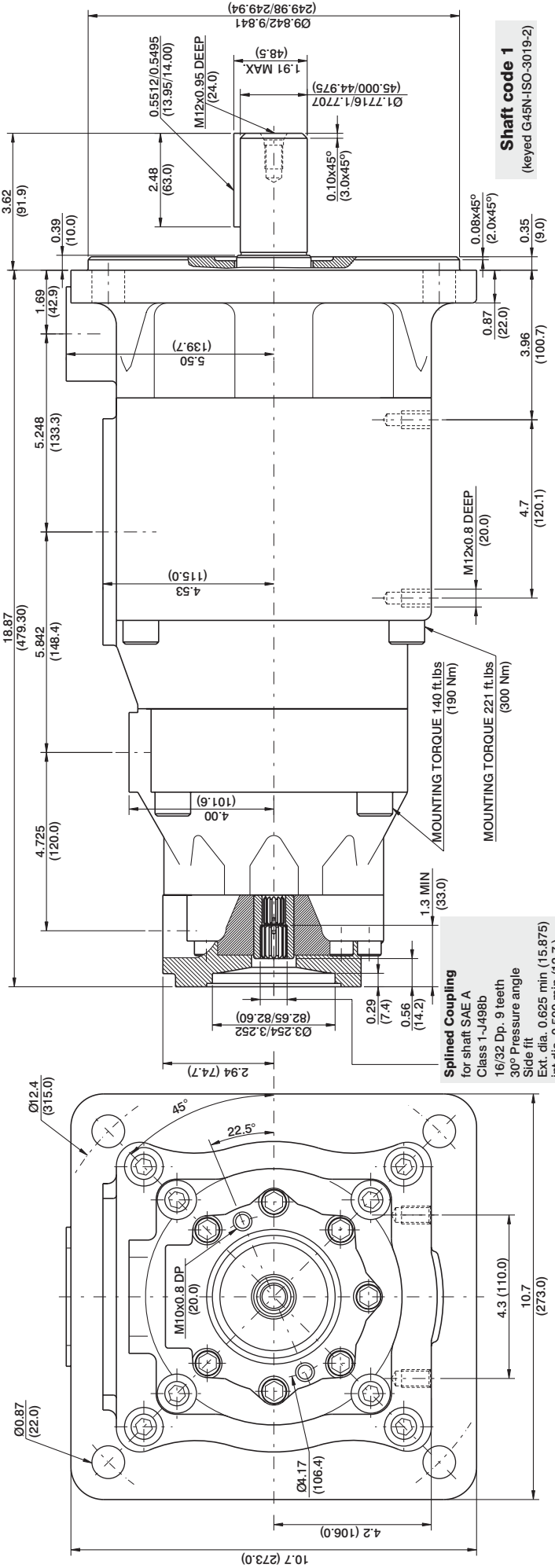
Maximum axial load permissible $F_a = 2000\text{N} (449 \text{ lbs})$





PORT CODE	A	B	C
P3	00	2.06 (52.4)	1.03 (26.2)
	01	1.874 (47.6)	0.874 (22.2)

Shaft torque limits in ³ /rev x psi (ml/rev x bar)	Coupling drive	SAE'A'
V x P max.	V x P max.	3061 (3456)
P1+P2+P3		
3	54207 (61200)	3061 (3456)



VT6EE / VT6EES - 066 - 045 - 1 R 00 - B 1 0 - 00 *

Series

VT6EE Series - 250 B4HW

ISO 3019-2 mounting flange

VT6EES Series - SAE 4 bolts

Mounting flange J744c

Cam ring for "P1" & "P2"

Volumetric displacement cm³/rev (in³/rev)

042 = 132.3 (8.07)

045 = 142.4 (8.69)

050 = 158.5 (9.67)

052 = 164.8 (10.06)

057 = 180.7 (11.02)

062 = 196.7 (12.00)

066 = 213.3 (13.02)

072 = 227.1 (13.86)

085 = 269.8 (16.46)

Type of Shaft VT6EE

2 - Keyed (G45N ISO 3019-2)

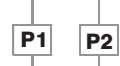
VT6EES

1 - Keyed (SAE CC)

3 - Splined (SAE CC)

4 - Splined (SAE D&E)

5 - Keyed (SAE D&E)



Modifications

Port connection variables

SAE 4 bolt flange (J518c)

	UNC	METRIC
VT6EE		M0
VT6EES	00	M0

Coupling adaptor

- 0 - None
- 2 - SAE B
- 3 - SAE BB

Seal class

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

Design letter

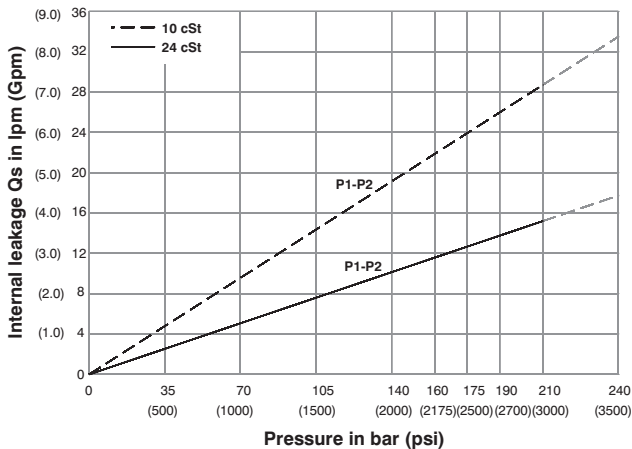
Porting combination (see page BM-1-5)

00 = Standard

Direction of rotation (View on shaft end)

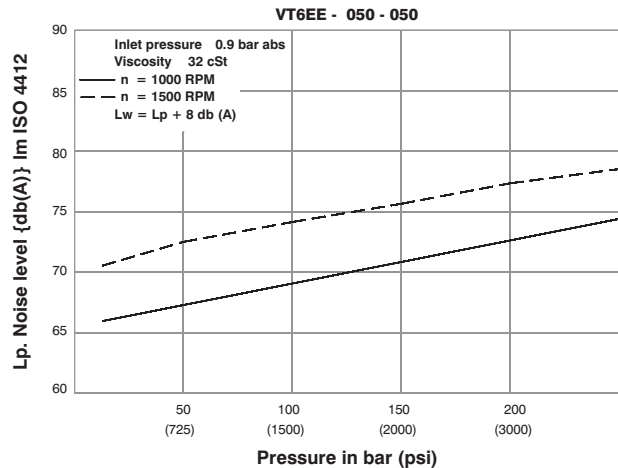
- R - Clockwise
- L - Counter - clockwise

INTERNAL LEAKAGE (TYPICAL)



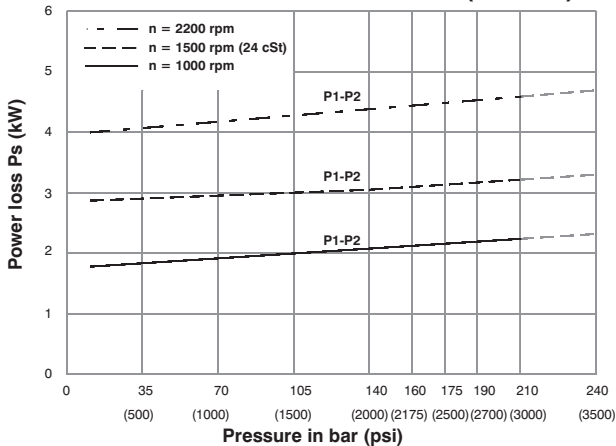
Do not operate pump more than 5 seconds at any speed or viscosity if internal leakage is more than 50% of theoretical flow. Total leakage is the sum of each section loss at its operating conditions.

NOISE LEVEL (TYPICAL)



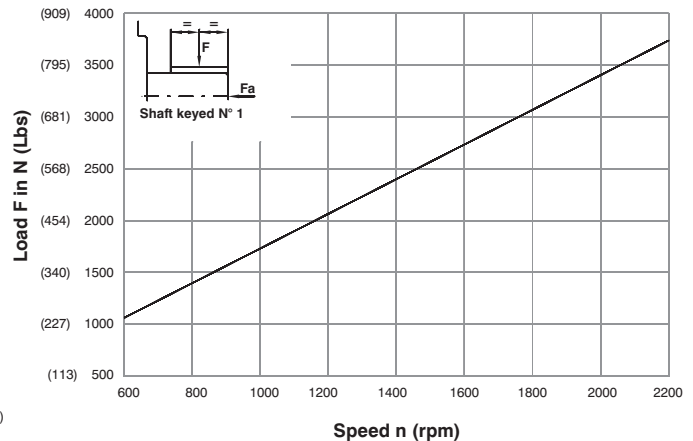
Double pump noise level is given with each section discharging at the pressure noted on the curve.

HYDROMECHANICAL POWER LOSS (TYPICAL)



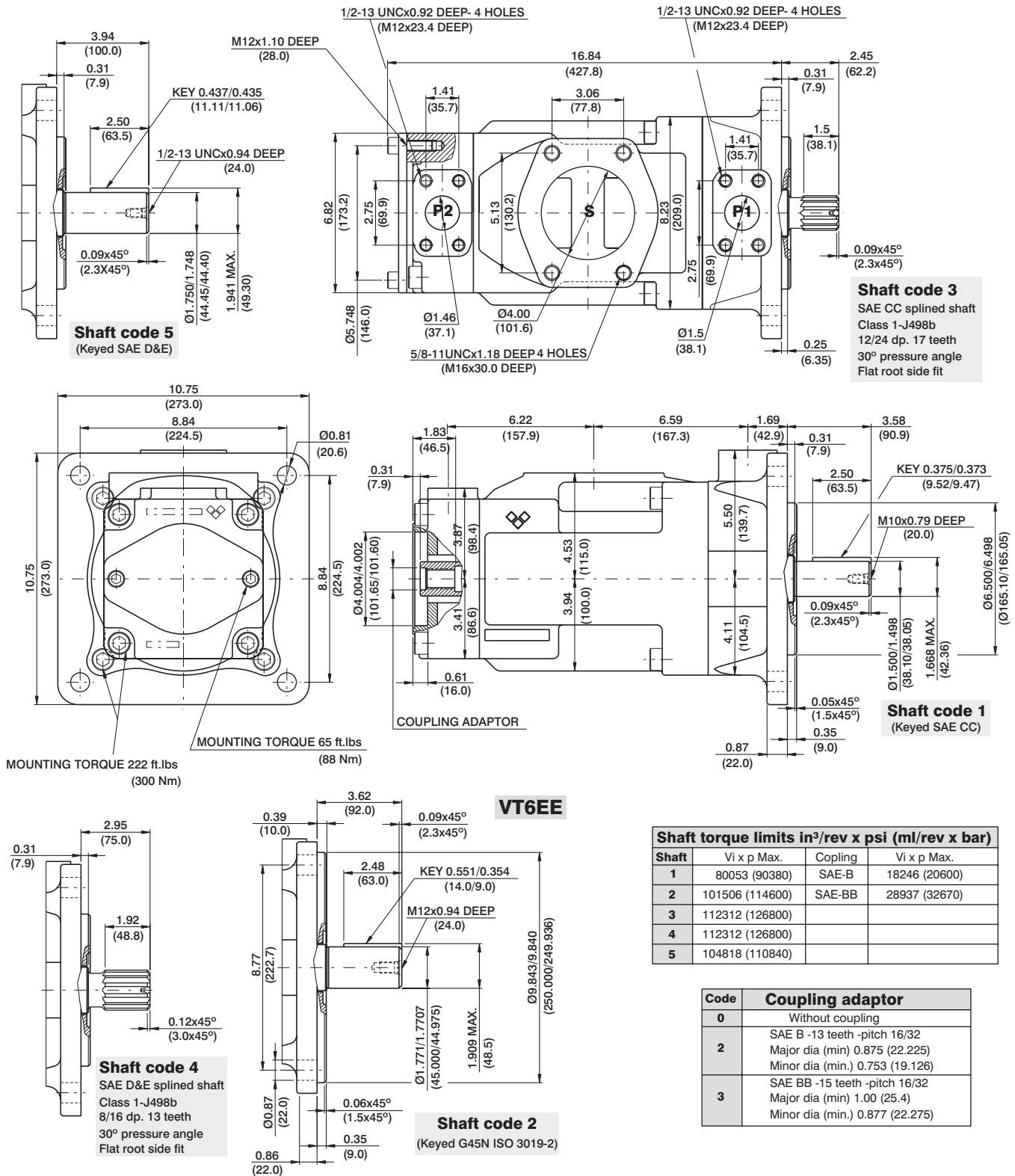
Total hydromechanical power loss is the sum of each section at its operating conditions.

PERMISSIBLE RADIAL LOAD



Maximum permissible axial load Fa = 2000 N (449 Lbs)





Shaft torque limits in ³ /rev x psi (ml/rev x bar)			
Shaft	Vi x p Max.	Coupling	Vi x p Max.
1	80053 (90380)	SAE-B	18246 (20600)
2	101506 (114600)	SAE-BB	28937 (32670)
3	112312 (126800)		
4	112312 (126800)		
5	104818 (110840)		

Code	Coupling adaptor
0	Without coupling
2	SAE B -13 teeth -pitch 16/32 Major dia (min) 0.875 (22.225) Minor dia (min) 0.753 (19.126)
3	SAE BB -15 teeth -pitch 16/32 Major dia (min) 1.00 (25.4) Minor dia (min) 0.877 (22.275)

OPERATING CHARACTERISTICS - TYPICAL (24 cST) (Input power p (KW) for one cartridge only)

Pressure port	Series	Volumetric Displacement Vp	Flow q & n = 1500 rpm						Input power p & n = 1500 rpm						
			p = 0 bar (0 psi)		p = 140 bar (2000 psi)		p = 240 bar (3500 psi)		p = 7 bar (100 psi)		p = 140 bar (2000 psi)		p = 240 bar (3500 psi)		
			in ³ /rev	cm ³ /rev	gpm	lpm	gpm	lpm	gpm	lpm	hp	kw	hp	kw	hp
P1 & P2	042	8.07	132.3	52.50	198.5	49.87	188.5	47.96	181.3	6.97	5.2	66.25	49.4	110.77	82.6
	045	8.70	142.4	56.51	213.6	53.86	203.6	51.98	196.5	7.24	5.4	70.94	52.9	118.95	88.7
	050	9.67	158.5	62.88	237.7	60.24	227.7	58.36	220.6	7.64	5.7	78.45	58.5	131.82	98.3
	052	10.00	164.8	65.40	247.2	62.75	237.2	60.87	230.1	7.78	5.8	81.53	60.8	136.92	102.1
	057	11.02	180.7	71.71	271.1	69.07	261.1	67.19	254.0	8.18	6.1	89.04	66.4	143.35	106.9
	062	12.00	196.7	78.04	295.0	75.40	285.0	73.52	277.9	8.58	6.4	96.42	71.9	162.67	121.3
	066	13.00	213.3	84.63	319.9	81.98	309.9	80.11	302.8	8.98	6.7	104.20	77.7	175.94	131.2
	072	13.86	227.1	90.11	340.6	87.46	330.6	85.58	323.5	9.25	6.9	110.77	82.6	187.07	139.5
	085 ¹⁾	16.40	269.8	107.00	404.7	105.21 ²⁾	397.7 ²⁾	--	--	9.78	7.3	87.56 ²⁾	65.3 ²⁾	--	--

1) 085 = 2000 RPM max.

2) 085 = 75 bar (1100 psi) cont. 085 = 90 bar (1300 psi) max. int.

VT6ER * - 066 - 1 R 00 - A 1 0 - A 1 *

Series

Y - Metric port connection, Omit for UNC

Cam ring for

Volumetric displacement cm³/rev (in³/rev)

042 = 132.3 (8.07)	062 = 196.7 (12.00)
045 = 142.4 (8.69)	066 = 213.3 (13.02)
050 = 158.5 (9.67)	072 = 227.1 (13.86)
052 = 164.8 (10.06)	085 = 269.8 (16.46)
057 = 180.7 (11.02)	

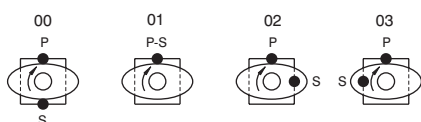
Type of Shaft

- 1 - Keyed (SAE CC)
- 3 - Splined (SAE C)
- 4 - Splined (SAE CC)

Direction of rotation (view on shaft end)

- R - Clockwise
- L - Counter - clockwise

Porting combination



Modifications

Seal class

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

Design letter

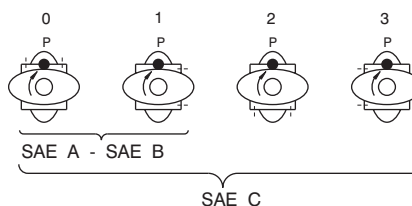
Porting adapter

Coupling

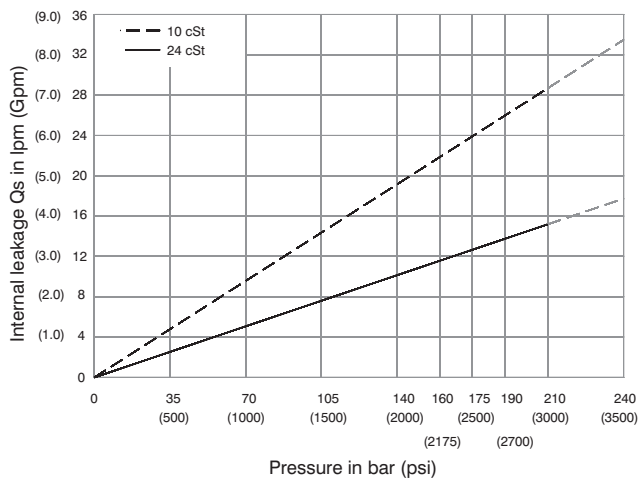
- 1 = SAE A
- 2 = SAE B
- 3 = SAE BB
- 4 = SAE C
- 5 = SAE J498b
- 16/32-11 teeth

Adapter

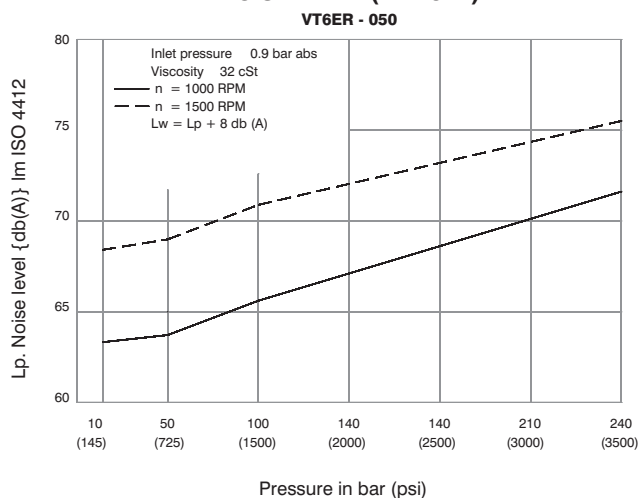
- 0 = None
- A = SAE A
- B = SAE B
- C = SAE C



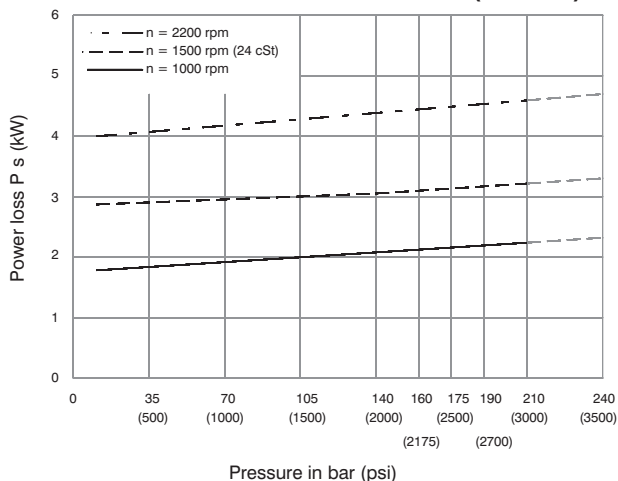
INTERNAL LEAKAGE (TYPICAL)



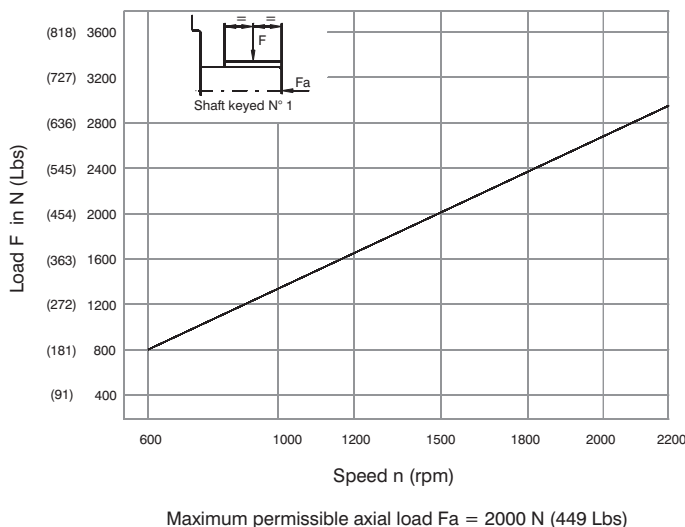
NOISE LEVEL (TYPICAL)

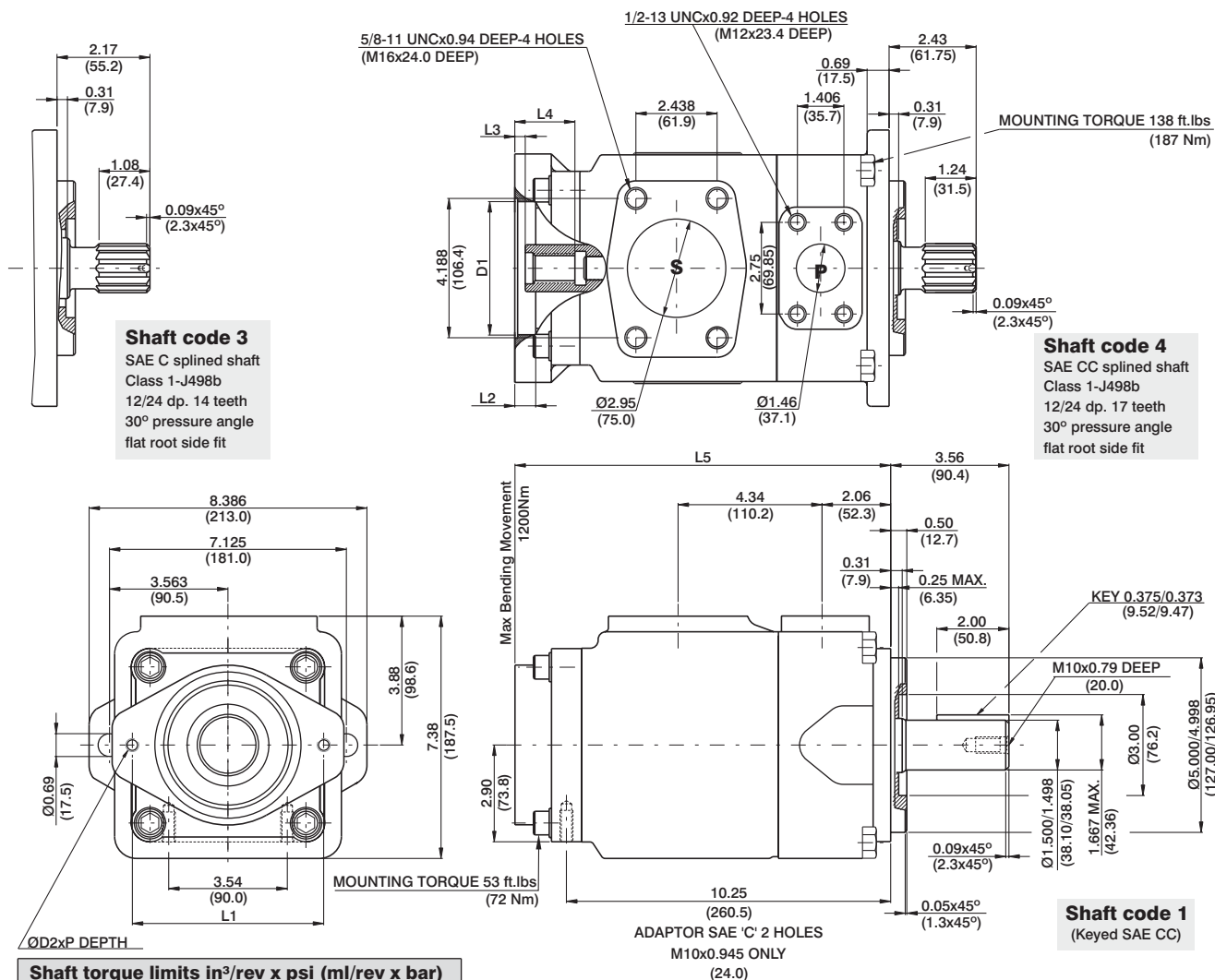


HYDROMECHANICAL POWER LOSS (TYPICAL)



PERMISSIBLE RADIAL LOAD





Shaft torque limits in³/rev x psi (ml/rev x bar)

Shaft	V x P max.	Coupling drive	V x P max.
1	71355 (80560)	SAE"A"	9743 (11000)
3	54207 (61200)	SAE"B"	18246 (20600)
4	106474 (120210)	SAE"BB"	28937 (32670)
		SAE"C"	58884 (66480)
		SAE"11teeth"	14039 (15850)

Adaptor	D1	D2	P	L1	L2	L3	L4	L5
SAE "A"	3.25 (82.60)	M10	0.94 (24)	4.19 (106.4)	0.43 (11)	0.31 (7.9)	1.26 (32)	10.71 (272)
SAE "B"	4.00 (101.65)	M12	1.10 (28)	5.75 (146.0)	0.63 (16)	0.31 (7.9)	1.81 (46)	11.26 (286)
SAE "C"	5.00 (127.10)	M16	-	7.12 (181.0)	0.63 (16)	0.31 (7.9)	2.20 (56)	11.65 (296)

Adaptor	SAE "A"			SAE "B"		SAE "C"
Coupling drive	SAE A	SAE (11teeth)	SAE B	SAE B	SAE BB	SAE C
Number of teeth	9	11	13	13	15	14
Pitch	16/32	16/32	16/32	16/32	16/32	12/24
Pressure angle	30°	30°	30°	30°	30°	30°
Major dia.(min)	0.625 (15.875)	0.750 (19.05)	0.875 (22.225)	0.875 (22.225)	1.00 (25.40)	1.250 (31.75)
Minor dia.(min)	0.500 (12.70)	0.630 (16.00)	0.753 (19.134)	0.753 (19.134)	0.877 (22.268)	1.086 (27.585)

OPERATING CHARACTERISTICS - TYPICAL (24 cST)

Pressure port	Series	Volumetric Displacement Vp		Flow q & n = 1500 rpm						Input power p & n = 1500 rpm					
				p = 0 bar (0 psi)		p = 140 bar (2000 psi)		p = 240 bar (3500 psi)		p = 7 bar (100 psi)		p = 140 bar (2000 psi)		p = 240 bar (3500 psi)	
		in ³ /rev	cm ³ /rev	gpm	lpm	gpm	lpm	gpm	lpm	hp	kw	hp	kw	hp	kw
VT6ER	042	8.07	132.3	52.50	198.5	49.87	188.5	47.96	181.3	6.97	5.2	66.25	49.4	110.77	82.6
	045	8.70	142.4	56.51	213.6	53.86	203.6	51.98	196.5	7.24	5.4	70.94	52.9	118.95	88.7
	050	9.67	158.5	62.88	237.7	60.24	227.7	58.36	220.6	7.64	5.7	78.45	58.5	131.82	98.3
	052	10.00	164.8	65.40	247.2	62.75	237.2	60.87	230.1	7.78	5.8	81.53	60.8	136.92	102.1
	057	11.02	180.7	71.71	271.1	69.07	261.1	67.19	254.0	8.18	6.1	89.04	66.4	143.35	106.9
	062	12.00	196.7	78.04	295.0	75.40	285.0	73.52	277.9	8.58	6.4	96.42	71.9	162.67	121.3
	066	13.00	213.3	84.63	319.9	81.98	309.9	80.11	302.8	8.98	6.7	104.20	77.7	175.94	131.2
	072	13.86	227.1	90.11	340.6	87.46	330.6	85.58	323.5	9.25	6.9	110.77	82.6	187.07	139.5
	085 ¹⁾	16.40	269.8	107.00	404.7	105.21 ²⁾	397.7 ²⁾	--	--	9.78	7.3	87.56 ²⁾	65.3 ²⁾	--	--

1) 085 = 2000 RPM max.

2) 085 = 75 bar (1100 psi) cont.

085 = 90 bar (1300 psi) max. int.

VT6ERM * - 066 - 1 R 00 - A 1 0 - A 1 *

Series

Y - Metric port connection, Omit for UNC

Cam ring for

Volumetric displacement cm^3/rev (in^3/rev)

*042/R42 = 132.3 (8.07)	062/R62 = 196.7 (12.00)
045/R45 = 142.4 (8.69)	066/R66 = 213.3 (13.02)
050/R50 = 158.5 (9.67)	072/R72 = 227.1 (13.86)
052/R52 = 164.8 (10.06)	085/R85 = 269.8 (16.46)
057/R57 = 180.7 (11.02)	

*R1 - for Mobile - spring assisted

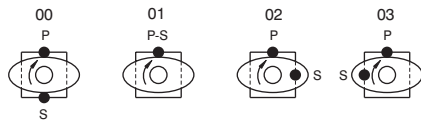
Type of Shaft

- 1 - Keyed (SAE CC)
- 3 - Splined (SAE C)
- 4 - Splined (SAE CC)

Direction of rotation (view on shaft end)

- R - Clockwise
- L - Counter - clockwise

Porting combination



Modifications

Seal class

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

Design letter

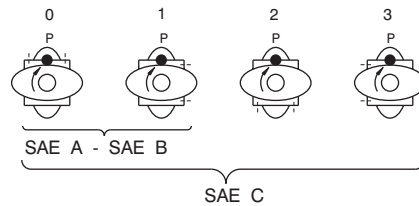
Porting adapter

Coupling

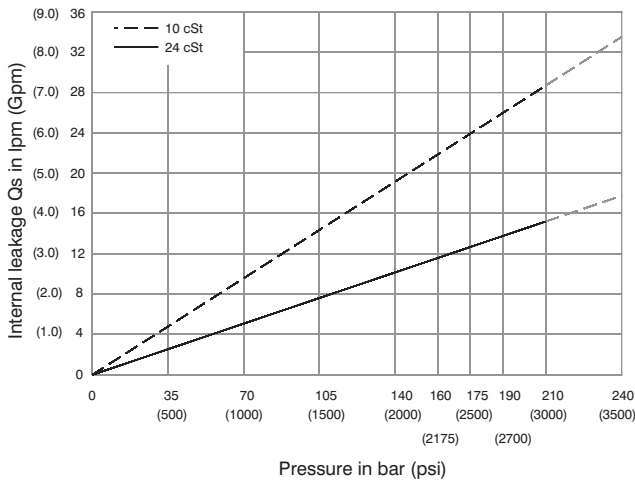
- 1 = SAE A
- 2 = SAE B
- 3 = SAE BB
- 4 = SAE C
- 5 = SAE J498b
- 16/32-11 teeth

Adapter

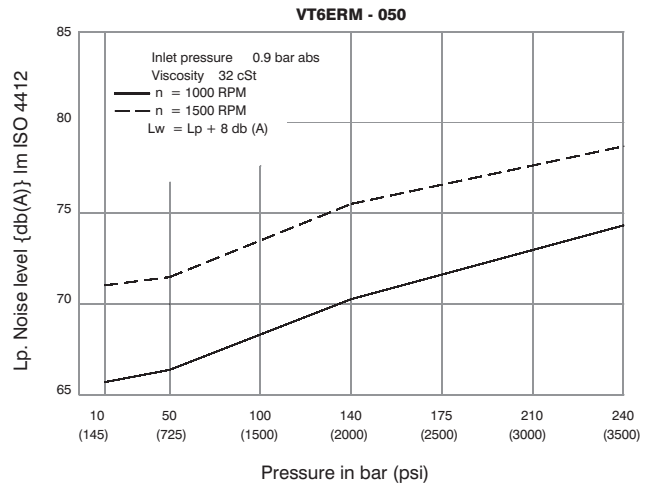
- 0 = None
- A = SAE A
- B = SAE B
- C = SAE C



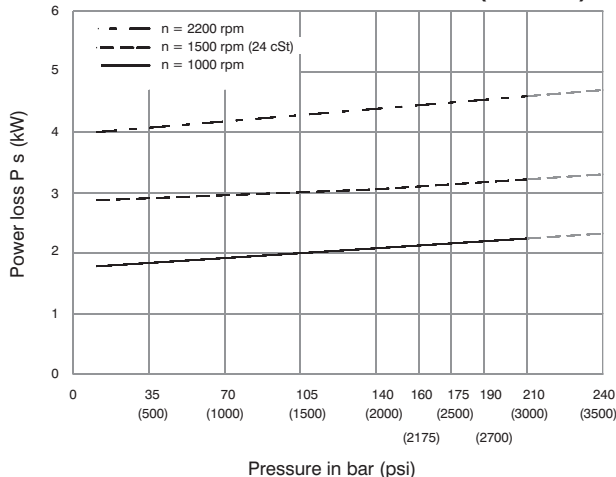
INTERNAL LEAKAGE (TYPICAL)



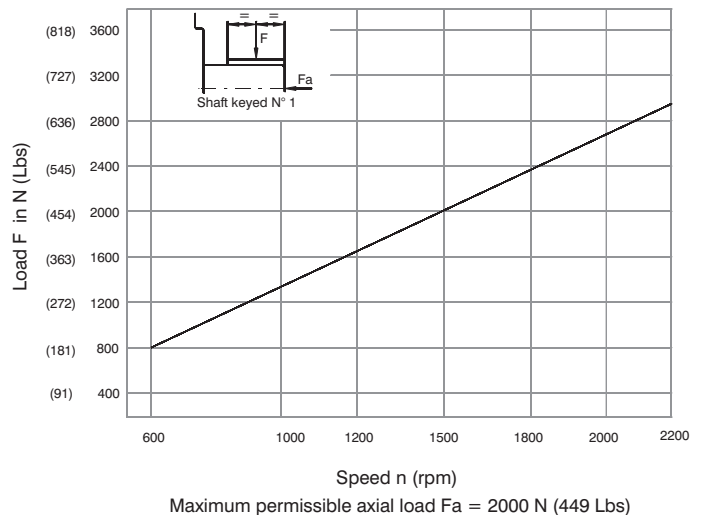
NOISE LEVEL (TYPICAL)



HYDROMECHANICAL POWER LOSS (TYPICAL)



PERMISSIBLE RADIAL LOAD



VT7EE or VT7EES - 066 - 045 - 1 R 00 - A 1 0 - 00 *

Series

VT7EE series- 250 B4HW
ISO 3019-2 mounting flange

VT7EES series- SAE E 4 bolts
Mounting flange J744c

Cam ring for "P1" & "P2"

Volumetric displacement cm³/rev (in³/rev)

042 = 132.2 (8.07)	057 = 183.2 (11.18)
045 = 142.5 (8.70)	062 = 196.6 (12.0)
050 = 158.5 (9.67)	066 = 213.0 (13.0)
052 = 163.8 (10.0)	072 = 227.1 (13.86)
054 = 170.9 (10.43)	085 = 268.7 (16.40)

Type of shaft VT7EE

2 - keyed G45N(ISO/R775 -G38M)

Type of shaft VT7EES

- 1 - keyed (SAE CC)
- 3 - splined (SAE CC)
- 4 - splined (SAE D & E)
- 5 - splined (SAE D & E)

Modifications

Mounting W/connection variables

P1 & P2= 11"		S=4"
	VT7EES	VT7EE-VT7EES
Type	UNC	METRIC
code	00	M0

Coupling adaptor

- 0 - none
- 2 - SAE B
- 3 - SAE BB

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 BM-1-5)

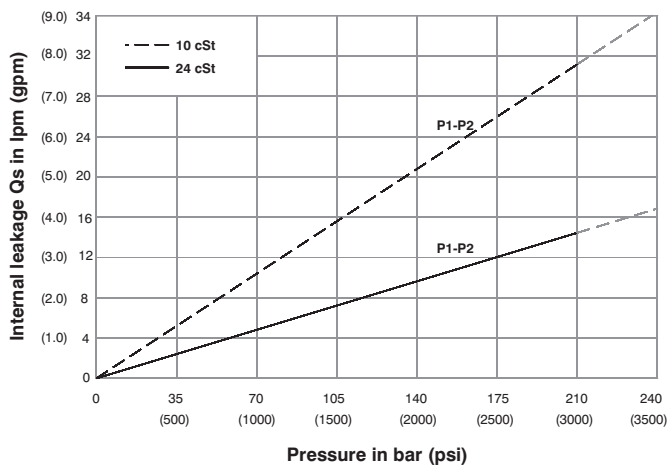
00 - standard

Direction of rotation

(view on shaft end)

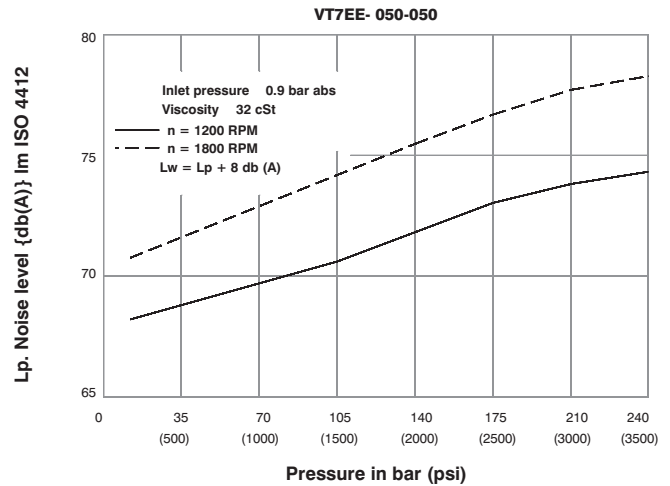
- R - clockwise
- L - counter-clockwise

INTERNAL LEAKAGE (TYPICAL)



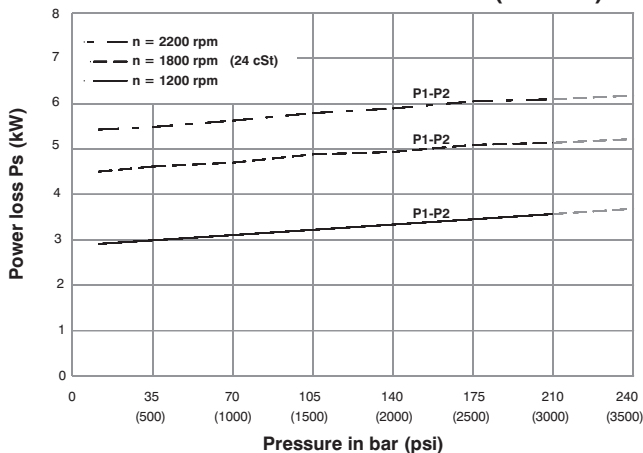
Do not operate pump more than 5 seconds at any speed or viscosity if internal leakage is more than 50% of theoretical flow.
Total leakage is the sum of each section loss at its operating conditions.

NOISE LEVEL (TYPICAL)



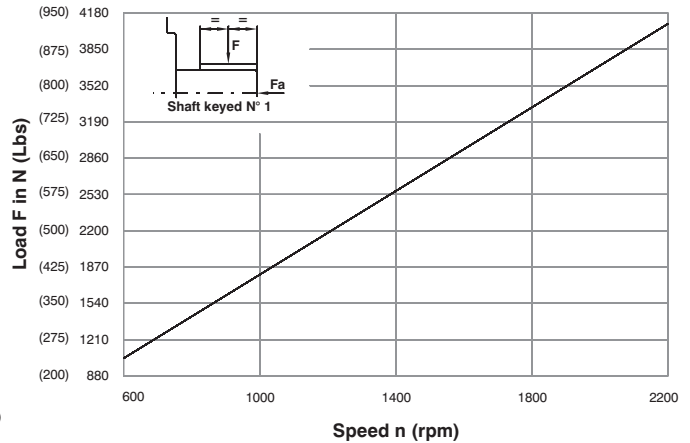
Double pump noise level is given with each section discharging at the pressure noted on the curve.

HYDROMECHANICAL POWER LOSS (TYPICAL)



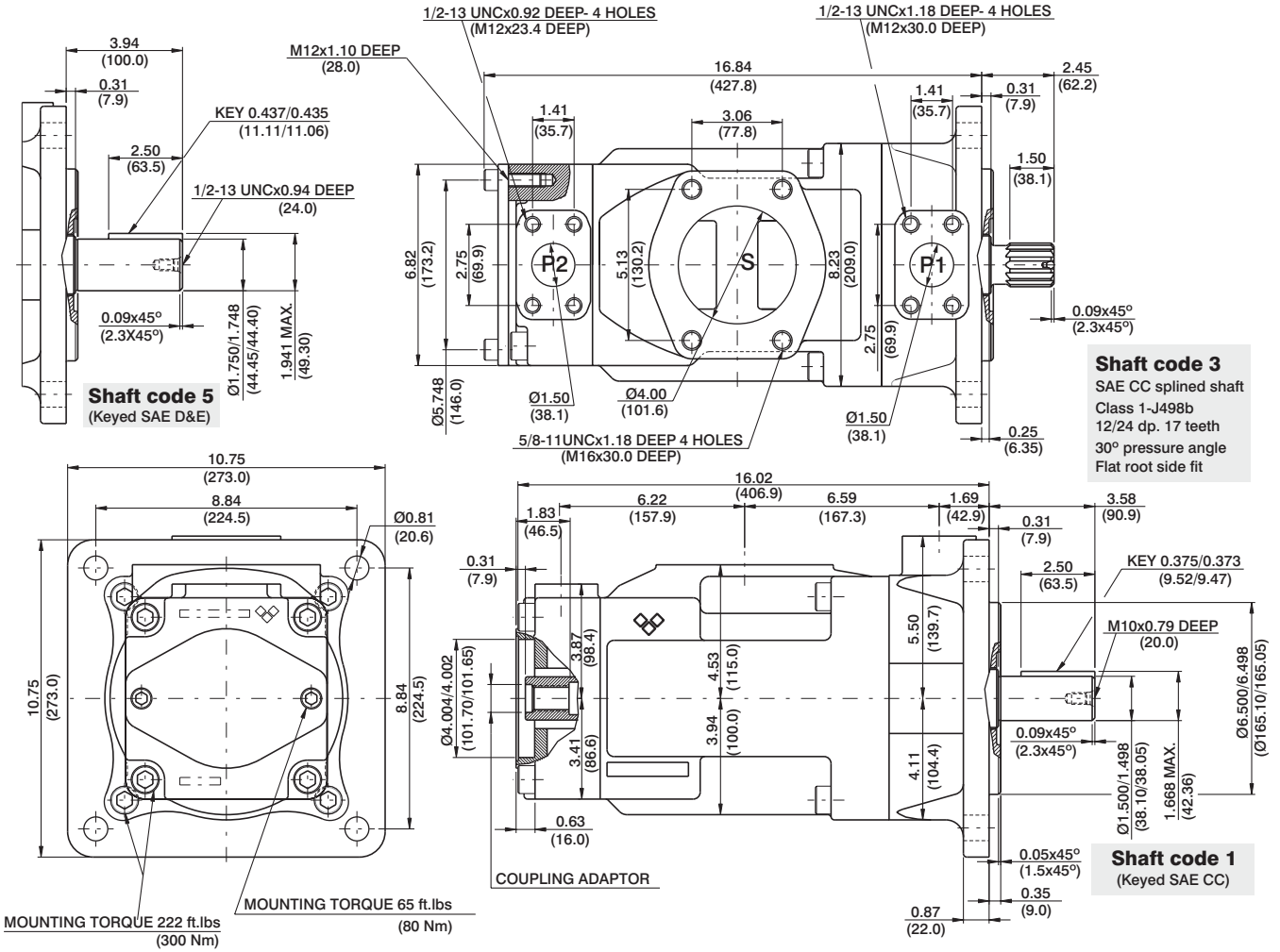
Total hydromechanical power loss is the sum of each section at its operating conditions.

PERMISSIBLE RADIAL LOAD



Maximum axial load permissible Fa = 2000 N (449 Lbs)





Shaft torque limits in ³ /rev x psi (ml/rev x bar)			
Shaft	Vi x p Max.	Coupling	Vi x p Max.
1	80053 (90380)	SAE-B	18246 (20600)
2	101506 (114600)	SAE-BB	28937 (32670)
3	112312 (126800)		
4	112312 (126800)		
5	104818 (110840)		

Code	Coupling adaptor
0	Without coupling
2	SAE B -13 teeth -pitch 16/32 Major dia (min) 0.875 (22.225) Minor dia (min.) 0.753 (19.126)
3	SAE BB -15 teeth -pitch 16/32 Major dia (min) 1.00 (25.4) Minor dia (min.) 0.877 (22.275)

OPERATING CHARACTERISTICS - TYPICAL (24 cST) (Input power p (KW) for one cartridge only)

Pressure port	Series	Volumetric Displacement Vp		Flow q & n = 1800 rpm						Input power p & n = 1800 rpm					
		in ³ /rev	cm ³ /rev	p = 0 bar (0 psi)		p = 140 bar (2000 psi)		p = 240 bar (3500 psi)		p = 7 bar (100 psi)		p = 140 bar (2000 psi)		p = 240 bar (3500 psi)	
				gpm	lpm	gpm	lpm	gpm	lpm	hp	kw	hp	kw	hp	kw
P1 & P2	042	8.07	132.2	62.92	237.8	60.37	228.2	58.52	221.2	8.09	6.03	78.44	58.49	133.80	99.77
	045	8.70	142.5	67.72	255.9	65.17	246.3	63.32	239.3	8.37	6.24	84.04	62.66	143.60	107.08
	050	9.67	158.5	75.38	284.9	72.83	275.3	70.98	268.3	8.82	6.58	92.97	69.32	159.24	118.75
	052	10.00	163.8	78.37	296.2	75.82	286.6	73.97	279.6	8.99	6.70	96.47	71.94	165.36	123.31
	054	10.43	170.9	81.27	307.2	78.72	297.6	76.87	290.6	9.17	6.84	99.75	74.38	177.46	132.33
	057	11.18	183.2	87.12	329.3	84.57	319.7	82.72	312.7	9.51	7.09	106.57	79.47	189.84	141.56
	062	12.00	196.6	93.54	353.6	90.99	343.9	89.14	336.9	9.88	7.37	114.17	85.13	196.34	146.41
	066	13.00	213.0	101.44	383.4	98.89	373.8	97.04	366.8	10.34	7.71	123.38	92.0	212.46	158.43
	072	13.86	227.1	108.00	408.2	105.45	398.6	103.60	391.6	10.72	7.99	131.04	97.71	225.86	166.42
085	16.40	268.7	127.79	483.0	126.13 ¹⁾	476.7 ¹⁾	--	--	11.88	8.85	101.66 ¹⁾	75.80 ¹⁾	--	--	

1) 085 = 90 bar (1300 psi) max.int.



JPVR Design Series Variable Volume Vane Pumps



Features

- ▶ Compact and Simple Design
- ▶ Fewer internal parts for greater reliability
- ▶ High Volumetric efficiency with minimum power loss
- ▶ Low Noise
- ▶ Self Lubricating D.U. Bush bearings for long service life
- ▶ Suction and discharge ports so configured to reduce operating noise
- ▶ Delivery with minimal pressure pulsation
- ▶ Precise control of flow characteristics
- ▶ Direct spring controlled pressure compensator with quick response to system demands
- ▶ Prompt response at both ON-OFF and OFF-ON ensures instantaneous, stable and high precision operation.

We Help You See Your Ideas Work

General Information

JPVR Series-variable volume vane pumps are ideal for medium and low pressure hydraulic systems. They are economical and easy to use. These pumps made from specially selected materials with precision machining of the components ensure outstanding durability, minimum power loss and high efficiency.

Features

- Compact and Simple Design
- Fewer internal parts for greater reliability
- High Volumetric efficiency with minimum power loss
- Low Noise
- Self Lubricating D.U. Bush bearings for long service life
- Suction and discharge ports so configured to reduce operating noise
- Delivery with minimal pressure pulsation
- Precise control of flow characteristics
- Direct spring controlled pressure compensator with quick response to system demands
- Prompt response at both ON-OFF and OFF-ON ensures instantaneous, stable and high precision operation.

Working Principle

The variable volume vane pump consists of Housing (01), Cover plate (02), shaft integral with rotor (03), Vanes (04), Port plates (05&07), Ring (06), Spring (12), Pressure adjustment screw and Flow adjustment screw. Cross sectional drawings show how the ring provides variable volume at constant set pressure.

As the rotor (03) rotates with in the ring (06), the vanes are pressed against the inside diameter of the ring by centrifugal force. As the rotor (03) turns clockwise, the volume between two adjacent vanes (04) (chamber) increases at the suction port. When these chambers enter the discharge port area, the volume is reduced and forces the fluid out through the discharge port. When the system requirements are less than the maximum pump output, system pressure forces the ring against the spring (12) reducing eccentricity and resulting in less flow. Maximum output occurs when the ring (06) is in extreme eccentric position. When the system volume demand falls to zero, the system pressure drives the ring to a concentric position resulting zero flow. Constant pressure from zero to full flow is maintained by spring (12).

Installation

The thrust screw (part No:19 of cross section drawing) is precision adjusted during assembly at factory and this should not be disturbed.

The direction of rotation is clock wise when viewed from the shaft side.

Drain piping must be direct up to a point that is below tank oil level. Back pressure due to piping should not exceed 0.3 kg/cm^2 .

For pressure adjustment, rotate the pressure adjusting screw in clock wise direction for increasing the pressure and in counter clock wise direction for decreasing.

For flow rate adjustment rotate the flow adjusting screw in clock wise direction for decreasing the flow rate and in counter clock wise direction for increasing.

Mount the pump so that the pump shaft is oriented horizontally. The pump shaft and the motor shaft should be aligned with in 0.08 mm . Sufficient rigidity should be ensured for the pump mounting base.

Start Up :

To ensure proper lubrication of the pump's rubbing surfaces, fill the interior of the pump with clean oil before starting operation. Before operating the pump for the first time set discharge side of the pump in to no-load state and then repeatedly start and stop the motor to bleed all air from inside the pump and the suction piping. After conforming that the pump is discharging oil, continue the operation for at least 10 minutes to expel all the air from the circuit.

Hydraulic Fluid :

Use good quality, petroleum based mineral oil with anti-wear additives with viscosity index of at least 90. Also the hydraulic fluid should provide kinematic viscosity during operation in the range of 20 to $150 \text{ mm}^2/\text{sec}$.

Temperature :

The operating temperature range is 15°C - 60°C . If the oil temperature at starting is less than 15°C , perform warm up operation at low pressure until the oil temperature reaches 15°C .

Filtration :

Suction - 100 Microns (150 mesh).
Return - 25 Microns.

Drive Coupling :

Jaw type with flexible web recommended. Avoid pulley, gear and other drive systems.

Ordering Code

J	PVR	1	17	55
Veljan	Variable Volume Vane Pump	Series Code	Flow Rate	Maximum Adjusting Pressure

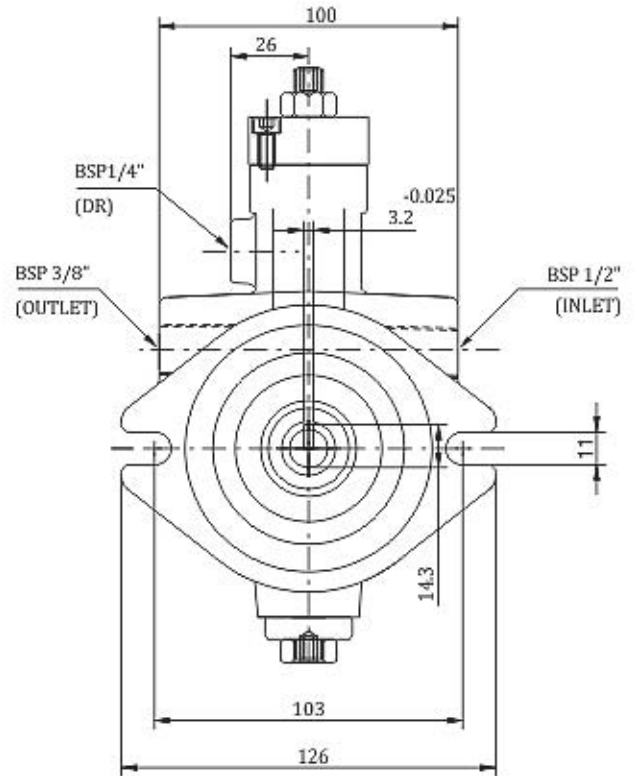
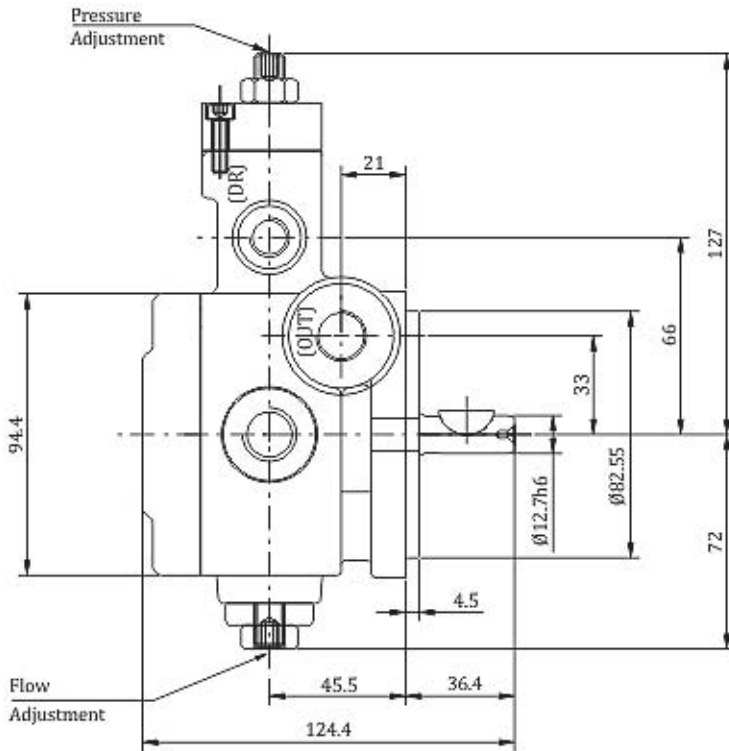
General Specification

Model No.	Maximum Operating Pressure Kgf/cm ²	Capacity Cm ³ / rev.	No Load Discharge rate l/min @1500 rpm	Pressure Adj. range Kgf/cm ²	Shaft Speed range rpm	Weight Kg.
JPVR1 10 20	20	6.7	10	10 - 20	800 - 1500	5
JPVR1 10 35	35			10 - 35		
JPVR1 10 55	55			10 - 55		
JPVR1 10 70	70			10 - 70		
JPVR1 17 20	20	11.1	17	10 - 20	800 - 1500	5
JPVR1 17 35	35			10 - 35		
JPVR1 17 55	55			10 - 55		
JPVR1 17 70	70			10 - 70		
JPVR1 25 20	20	16.7	25	10 - 20	800 - 1500	9
JPVR1 25 35	35			10 - 35		
JPVR1 25 55	55			10 - 55		
JPVR1 25 70	70			10 - 70		
JPVR1 35 20	20	22.2	35	10 - 20	800 - 1500	9
JPVR1 35 35	35			10 - 35		
JPVR1 35 55	55			10 - 55		
JPVR1 35 70	70			10 - 70		

Installation Dimension Drawings

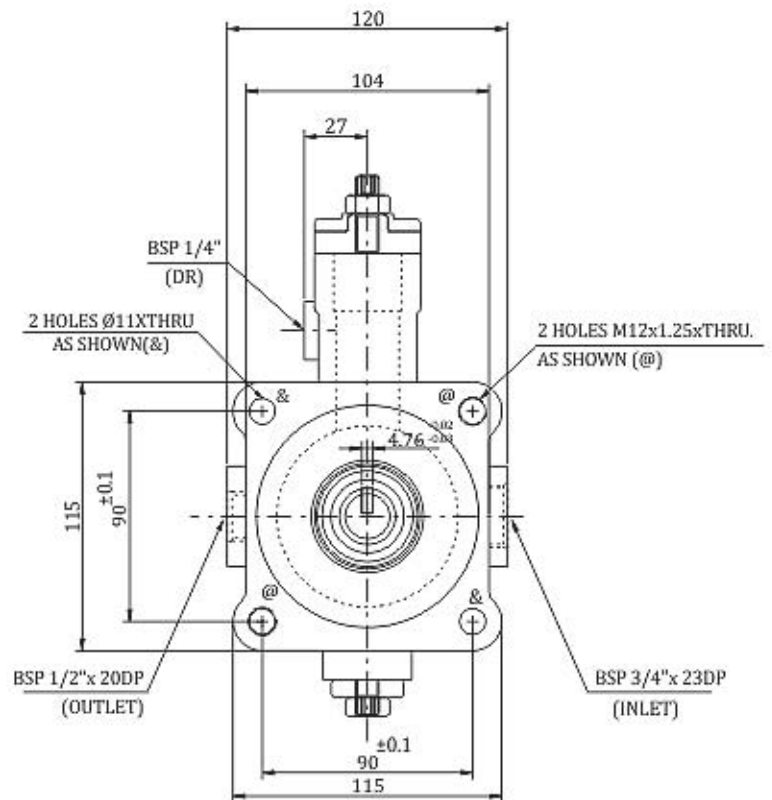
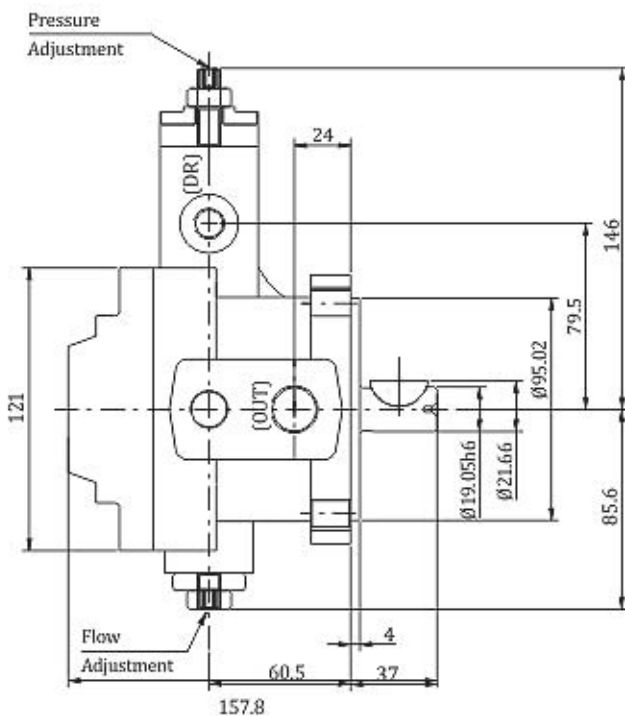
JPVR 1 10/17

Flange Mounting

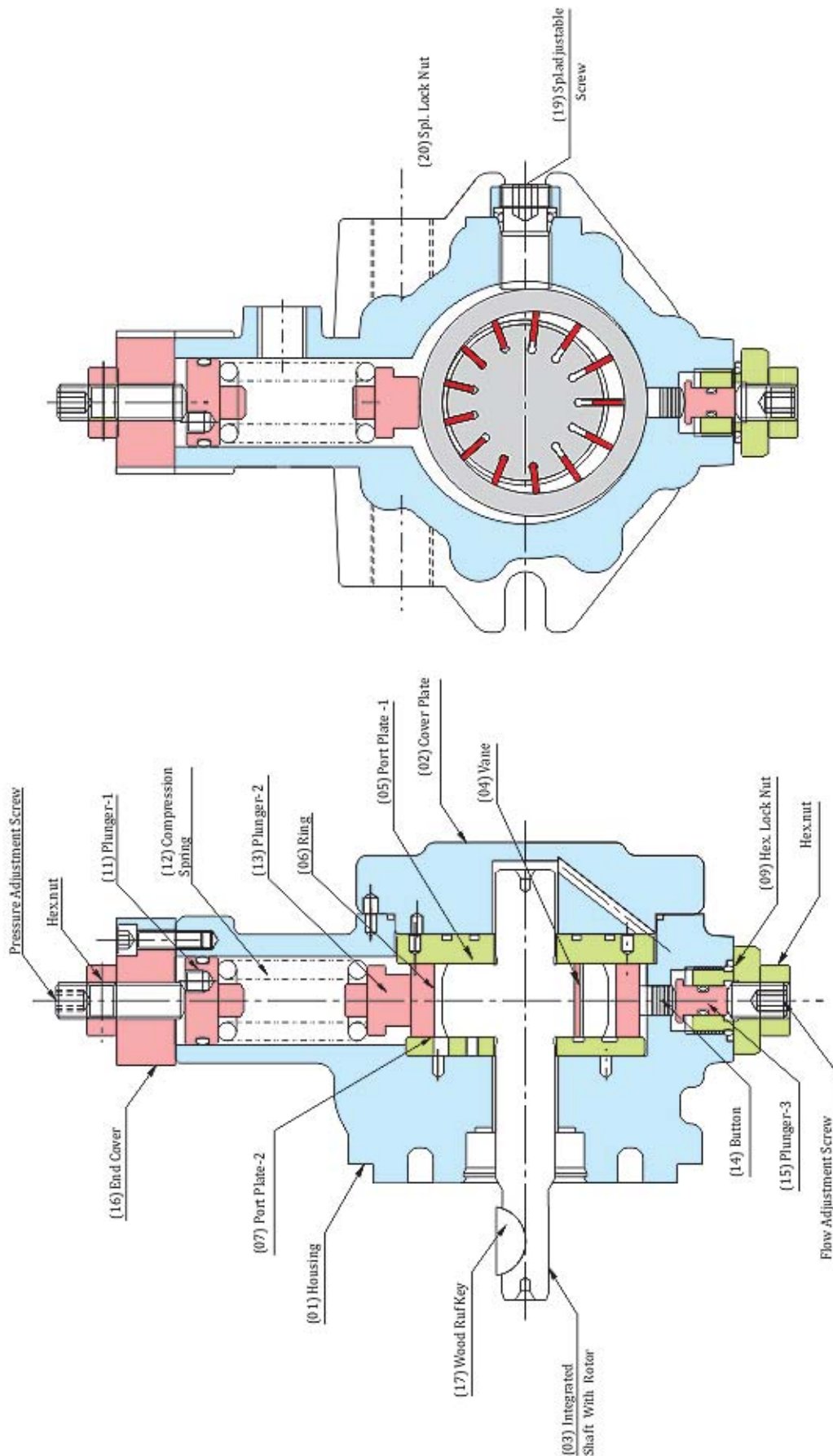


JPVR 1 25/35

Flange Mounting



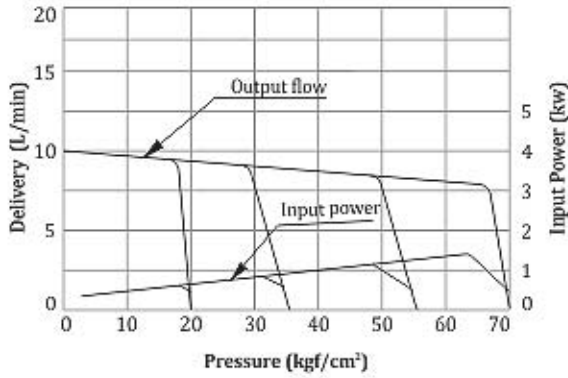
Cross - Sectional Drawings



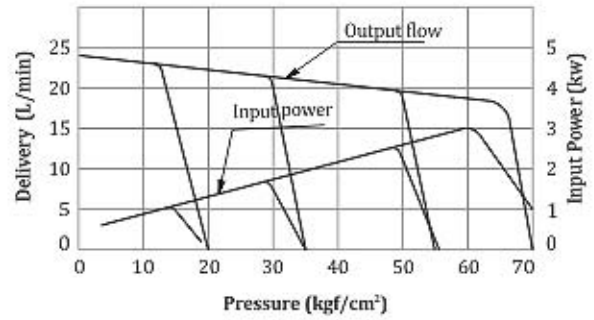
Performance Curves

Performance Characteristics

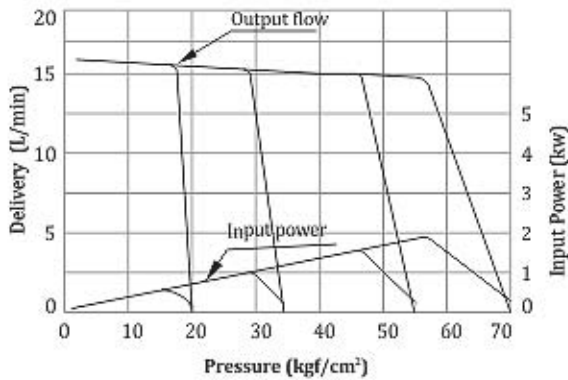
JPVR 1 10



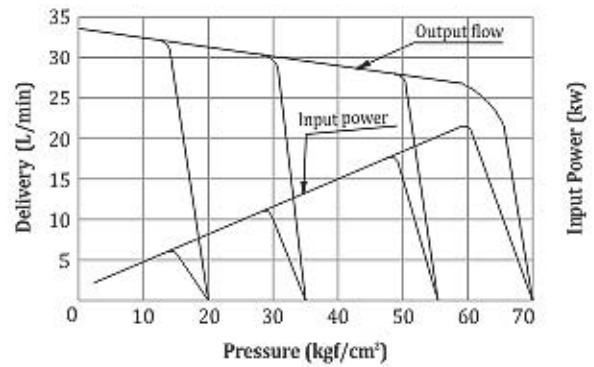
JPVR 1 25



JPVR1 17

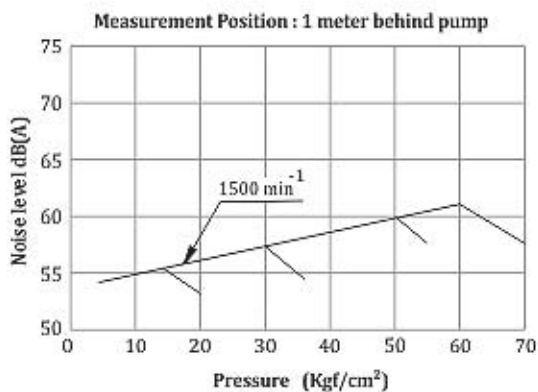


JPVR 1 35

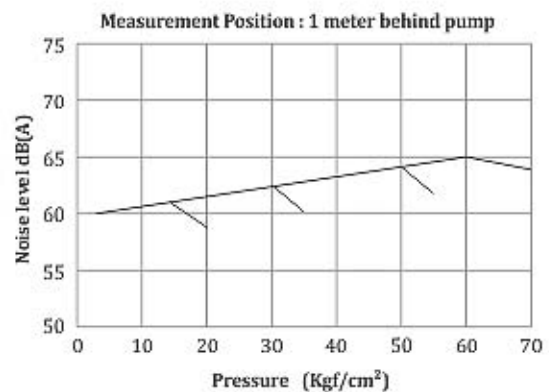


Noise Characteristics

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Veljan is a pioneer Hydraulics and Pneumatics company in India and a leader in its own right.

Veljan has a wealth of experience in developing and manufacturing a wide range of Hydraulic and Pneumatic Products and systems for over 40 years now at its three manufacturing plants near Hyderabad. These plants are equipped with state-of-the-art production and test facilities and supported by a 500 – strong skilled workforce.

HYDRAULICS :

- Pumps** and
- Vane : • Fixed Displacement (Single / Double / Triple & Drive Train) 6 to 540 cc / rev up to 320 bar pressure
 - Variable Displacement Vane (11 & 22 cc / rev)
 - Piston : • Variable Displacement Piston (Swash plate design for Open loop) 9 to 140 cc/rev and up to 280 bar pressure
- Motors**
- Vane : • 5 to 811 Nm Torque and Max. Pressure 4000 rpm
 - Roller Cam : • 71 to 3040 Nm Torque & 400 to 750 rpm
- Pressure Controls**
- Relief / Reducing / Unloader / Sequence Valves (up to 350 Bar pressure with threaded or flanged ports) 3/8" to 1 1/2"
- Check Valves**
- Direct and Pilot operated (3/8" to 2")
- Throttle Valves**
- With & without free return flow check valve (3/8" to 1 1/2")
- Flow Control Valves**
- pressure and temperature compensated (3/8" to 3/4")
- Directional Control Valves**
- Manual / Pilot and Solenoid operated (1/4" to 3/4")
- Mobile Valves**
- 1 to 12 sections, 80 LPM flow and up to 350 bar pressure.
- Cartridge & Seat valves**
- Manifolds and Complete Power packs
- Cylinders**
- 40 to 1000 mm bore, up to 8500 mm stroke and 500 bar pressure Tie Rod, Mill Duty, Mobile Duty and Custom designs

PNEUMATICS:

- FRLs**
- 1/4" to 2"
- Cylinders**
- Compact, ISO, Heavy Duty Tie Rod and Custom designs (10 - 500 mm Bore) and up to 17 bar pressure
- Rotary actuators**
- 90° actuation
- 2/3/4-way DC Valves**
- Spool (with & without seals), Poppet, Diaphragm & D-slide Designs. M5 and 1/8 to 1" size. Manual / Mechanical / Pilot & Solenoid Operators.
- Auxilliary Valves**
- Flow Control, Non-Return, Shuttle, Quick Exhaust Etc.
- Presses**
- C-frame and Column type

SYSTEMS:

- Ship Stabilizers & Steering Gear and complete Turnkey Hydraulic /Pneumatic / Hydro Mechanical systems

With its own in-house product development & enhancement, expansion of product range is an ongoing process at Veljan to meet the market demands.

If you are looking for a reliable and an economical supplier to source your hydraulic & pneumatic products, think of Veljan.



Hydraulic Pumps & Motors Plant



Hydraulic Valves Plant



Hydraulic Cylinders & Naval Systems Plant



Pneumatics Plant

Note : Product details are liable to change without notice

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