

VTXBB

VT6BB

VT6CB

VT6CC

VT6CCSH

VT6DC

VT6DDS

VT6EC

VT6ED

VT6EE

VT6CCM

VT6CCZ

VT6GCC

VT6DCM

VT6ECM

VT6EDM

VT7BB

VT7QCC

VT7DB

VT7QDC

VT7DD

VT7EB

VT7QEC

VT7ED

VT67BB

VT67CB

VT67DB

VT67EB

VT67EC

DOUBLE VANE PUMPS

VTXBB 1 - B09 - B11 - 1 R 00 - D 1 02 *

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)

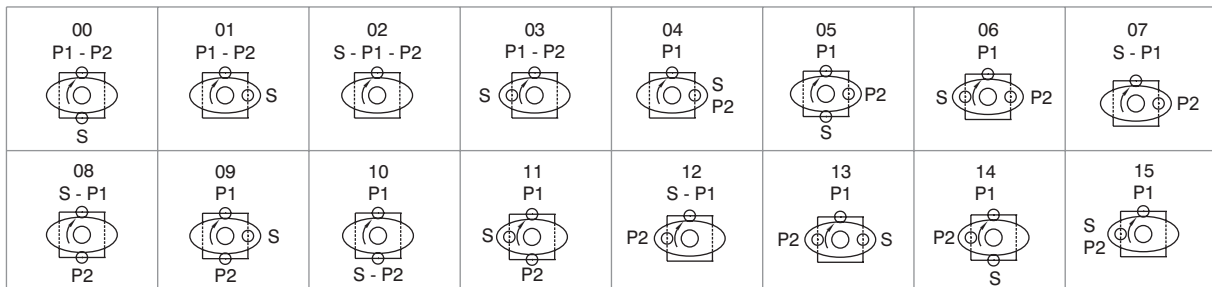
Seal class

- 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



S: Suction port P1 & P2 : Pressure ports

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

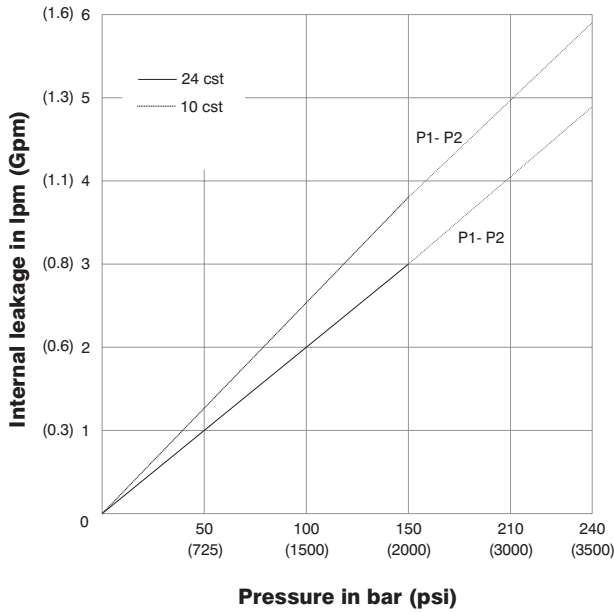
Pressure port	Series	Volumetric Displacement Vp		Flow q & n = 1500 rpm						Input power p & n = 1500 rpm					
		in ³ /rev	cm ³ /rev	p = 0 bar (0 psi)		p = 140 bar (2000 psi)		p = 210 bar (3000 psi)		p = 7 bar (100 psi)		p = 140 bar (2000 psi)		p = 210 bar (3000 psi)	
				gpm	lpm	gpm	lpm	gpm	lpm	hp	kw	hp	kw	hp	kw
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	--	--	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.

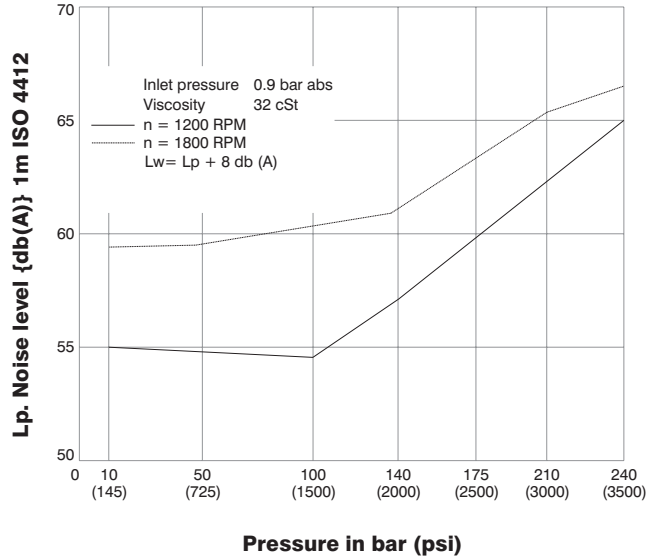
* B12= 210 bar(3000 psi) Max.Int

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

INTERNAL LEAKAGE (TYPICAL)



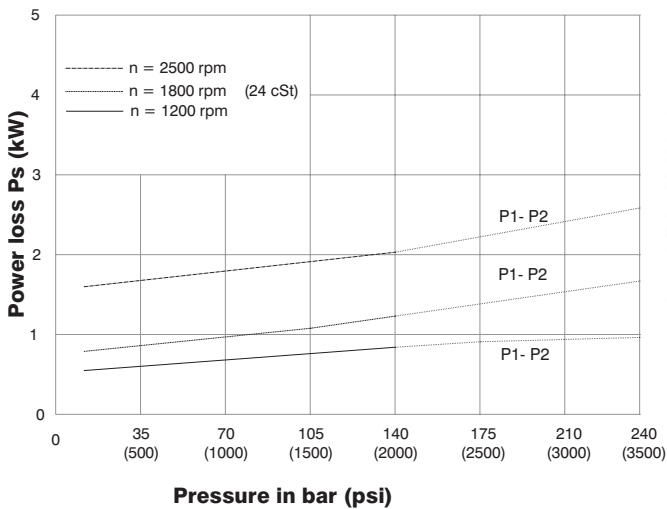
NOISE LEVEL (TYPICAL) VTXBB- B10-B09



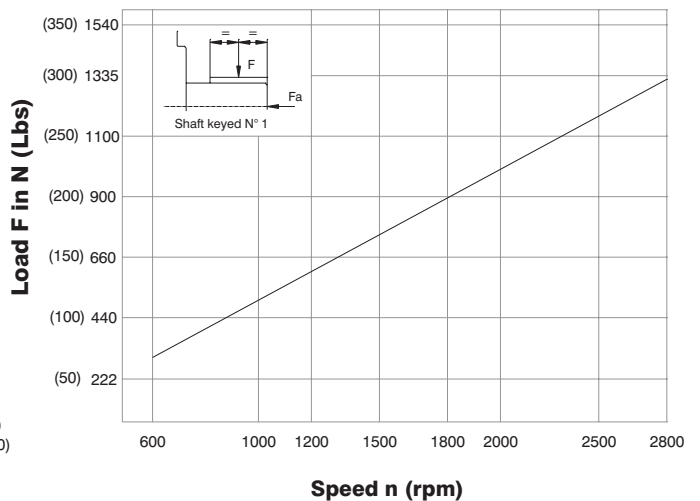
Do not operate pump more than 5 seconds at any speed or viscosity if internal leakage is more than 50% of theoretical flow. Total leakage is the sum of each section loss at its operating conditions.

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

HYDROMECHANICAL POWER LOSS (TYPICAL)

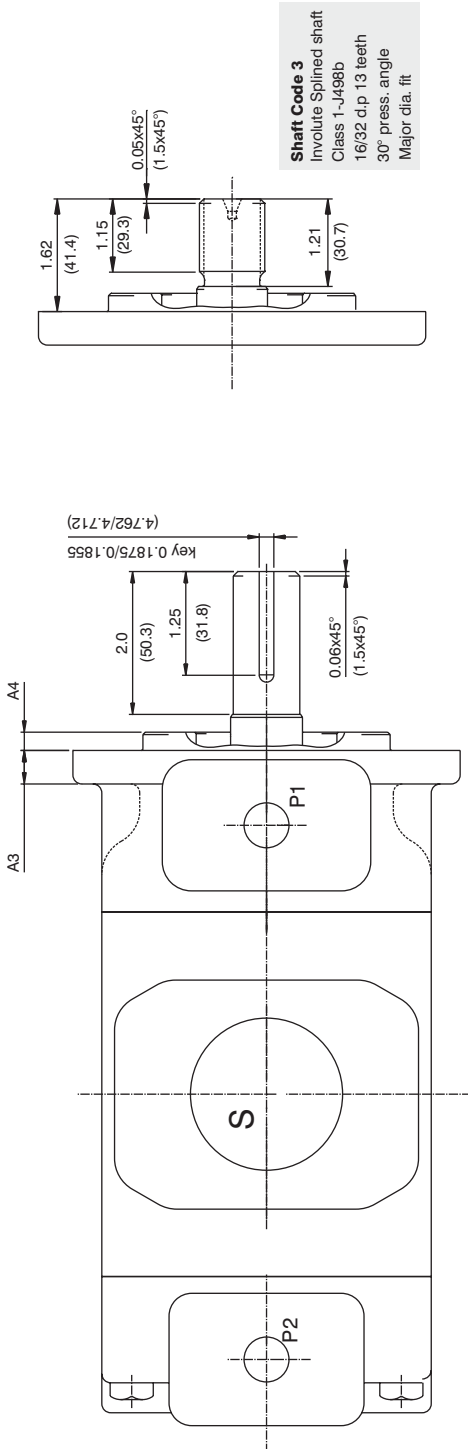


PERMISSIBLE RADIAL LOAD

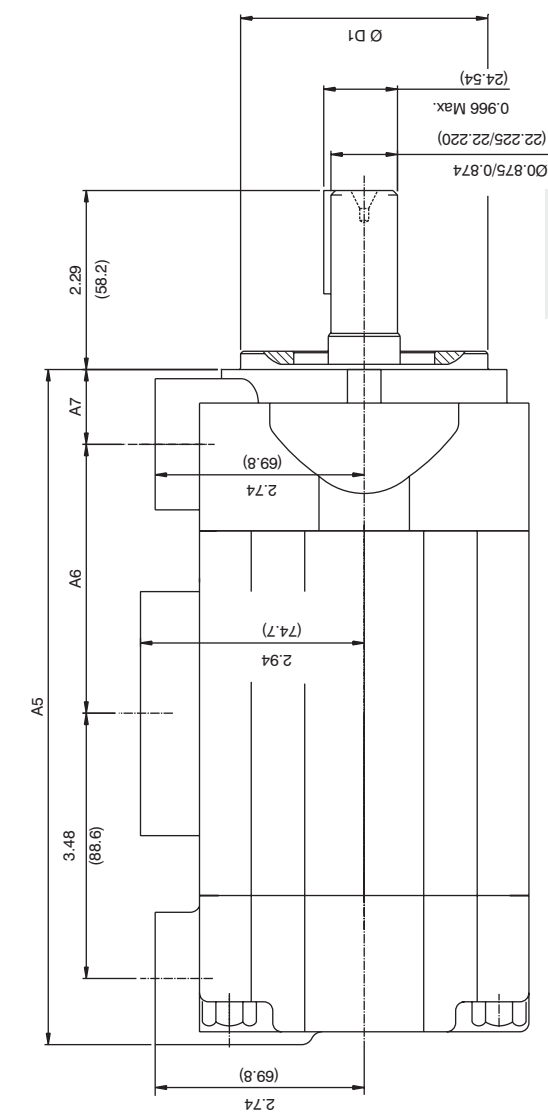
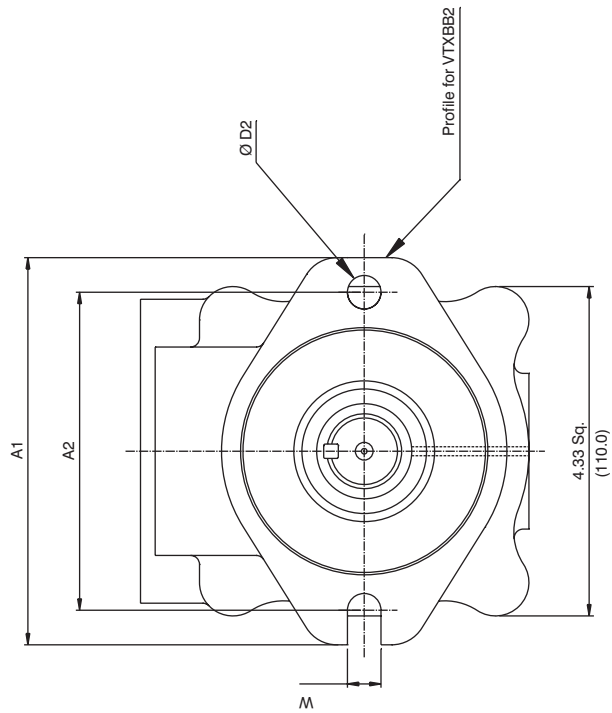


Total hydromechanical power loss is the sum of each section at its operating conditions.

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



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

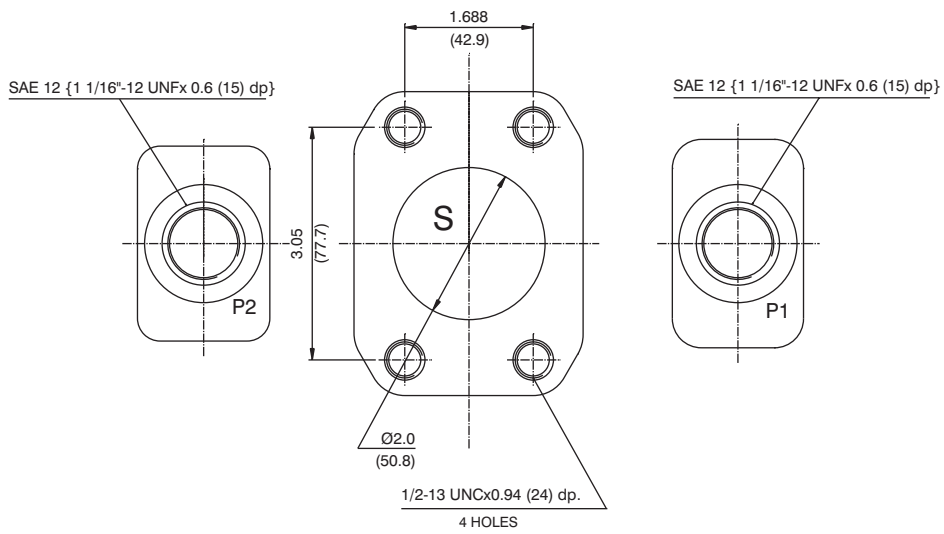


Shaft Code 1
 (keyed non SAE)

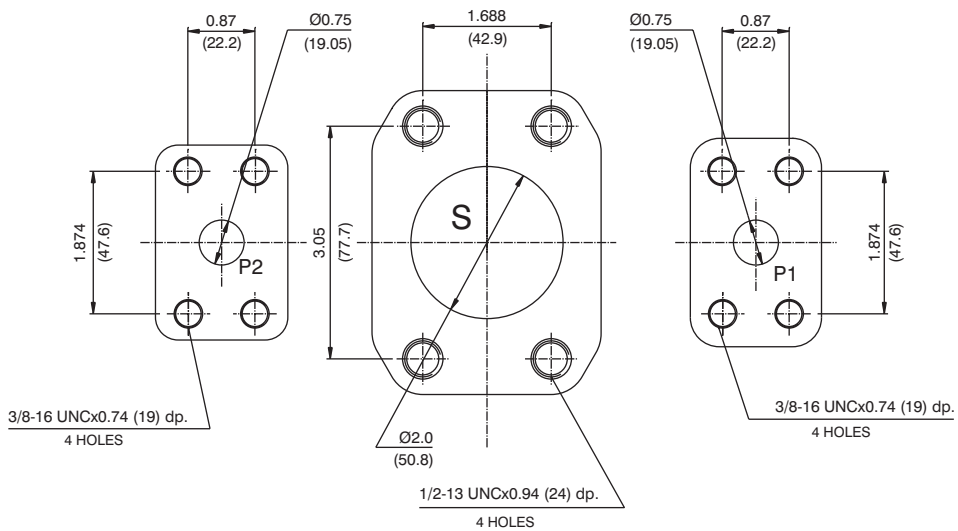
DIMENSIONS																				
MODEL	A1		A2		A3		A4		A5		A6		A7		ØD1		W		ØD2	
	inches	mm	inches	mm	inches	mm	inches	mm	inches	mm	inches	mm	inches	mm	inches	mm	inches	mm	inches	mm
VTXBB1	5.11	130	4.18	106.2	0.44	11.2	0.24	6.1	8.85	225	3.53	89.9	0.98	25	3.25/3.24	82.55/82.50	0.44	11.2	--	--
VTXBB2	6.87	174.5	5.74	146	0.5	12.7	0.37	9.4		3.36	85.4	1.22	31	4.00/3.99	101.60/101.55	--	--	0.56	14.3	

4.33 Sq. (110.0)

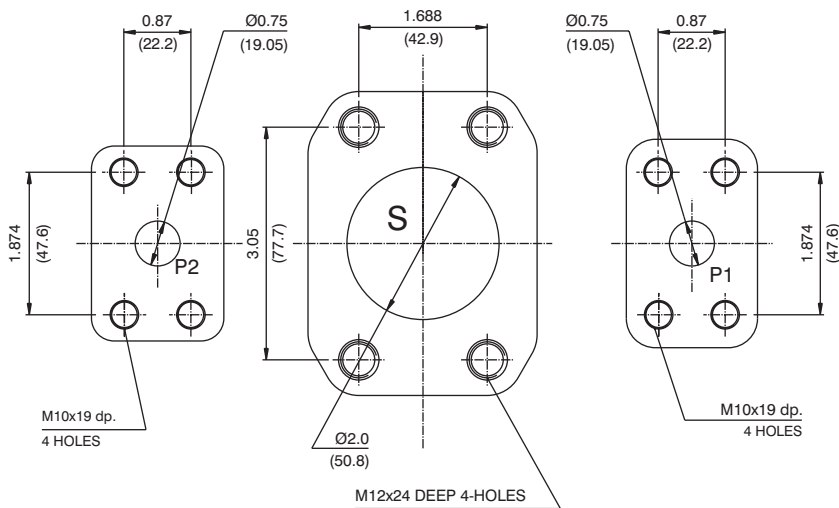
Port Connection : 00



Port Connection : 01



Port Connection : M0



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

Series



Modifications

Port connections

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)

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

Type of Shaft

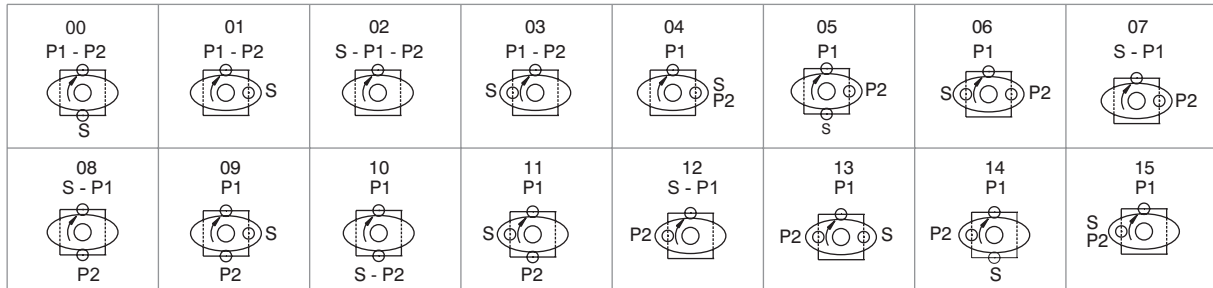
- 1 - Keyed (Non SAE)
- 3 - Splined

Direction of rotation (view on shaft end)

- R - clockwise
- L - counter-clockwise

Porting combination

- 00 - standard



S - Suction port

P - Pressure port

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

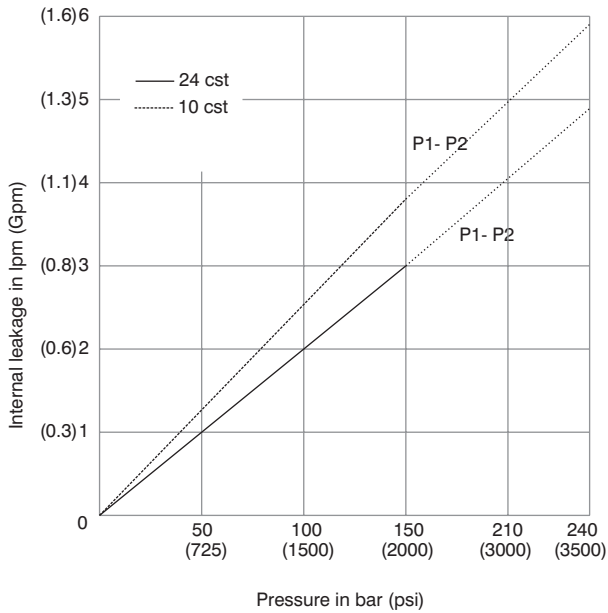
Pressure port	Series	Volumetric Displacement Vp		Flow q & n = 1500 rpm						Input power p & n = 1500 rpm					
		in^3/rev	cm^3/rev	p = 0 bar (0 psi)		p = 140 bar (2000 psi)		p = 210 bar (3000 psi)		p = 7 bar (100 psi)		p = 140 bar (2000 psi)		p = 210 bar (3000 psi)	
				gpm	lpm	gpm	lpm	gpm	lpm	hp	kw	hp	kw	hp	kw
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	--	--	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

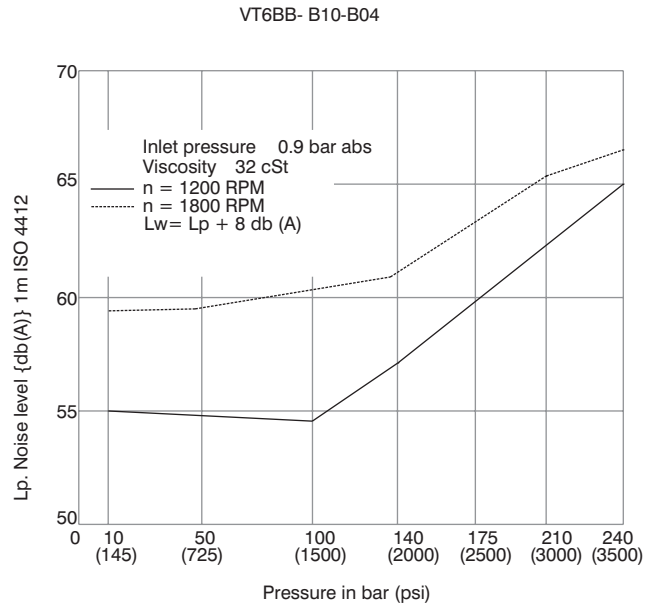
**B14=175bar(2500psi)Max.Int

INTERNAL LEAKAGE (TYPICAL)



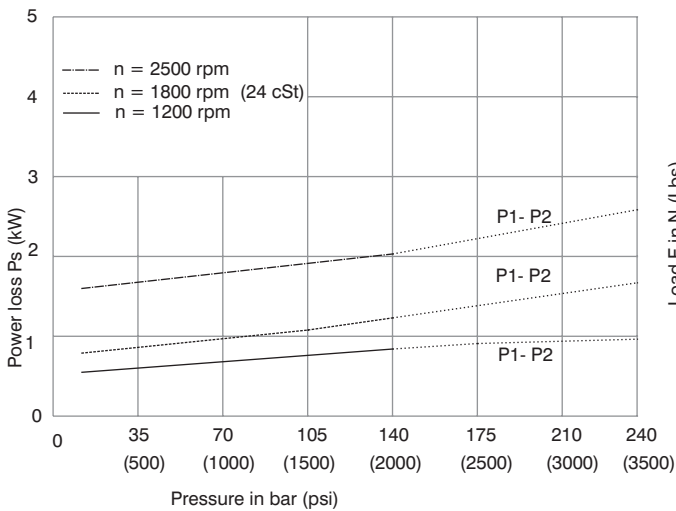
Do not operate pump more than 5 seconds at any speed or viscosity if internal leakage is more than 50% of theoretical flow.
Total leakage is the sum of each section loss at its operating conditions.

NOISE LEVEL (TYPICAL)



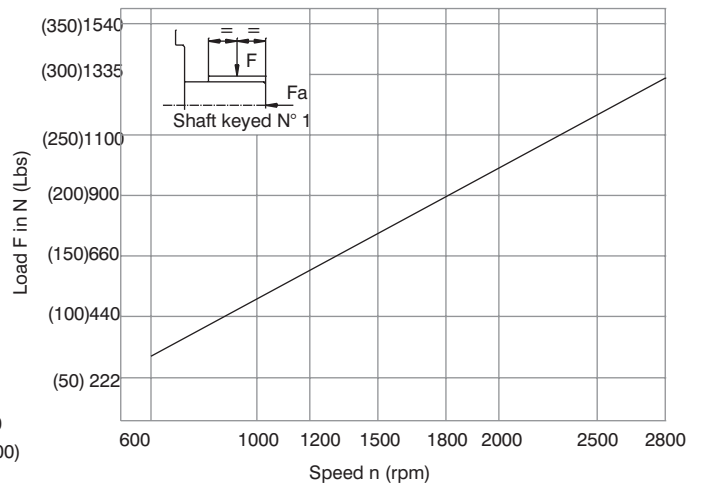
Double pump noise level is given with each section discharging at the pressure noted on the curve.

HYDROMECHANICAL POWER LOSS (TYPICAL)

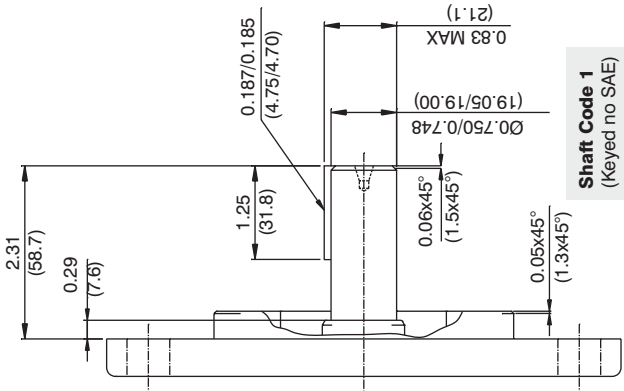


Total hydromechanical power loss is the sum of each section at its operating conditions.

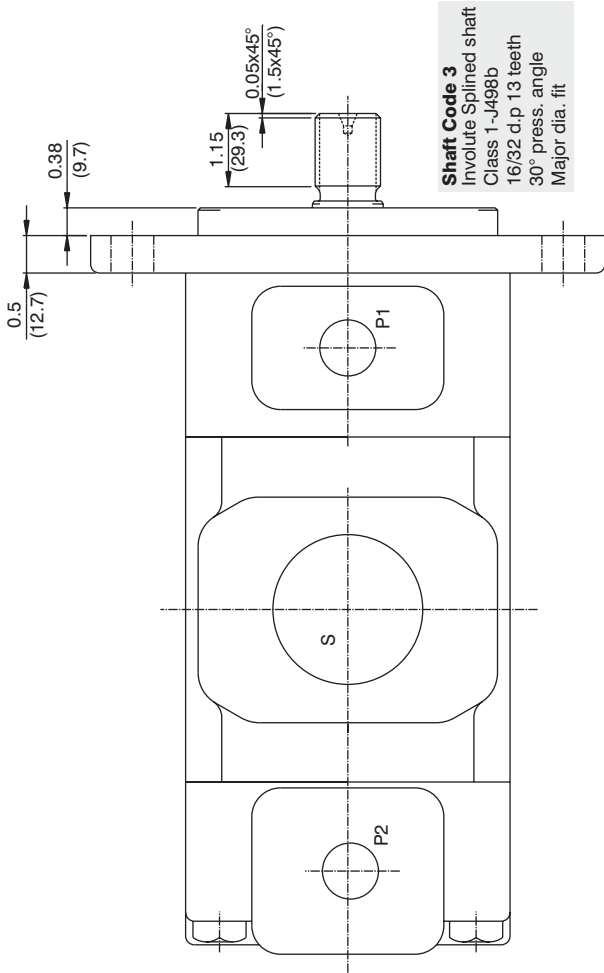
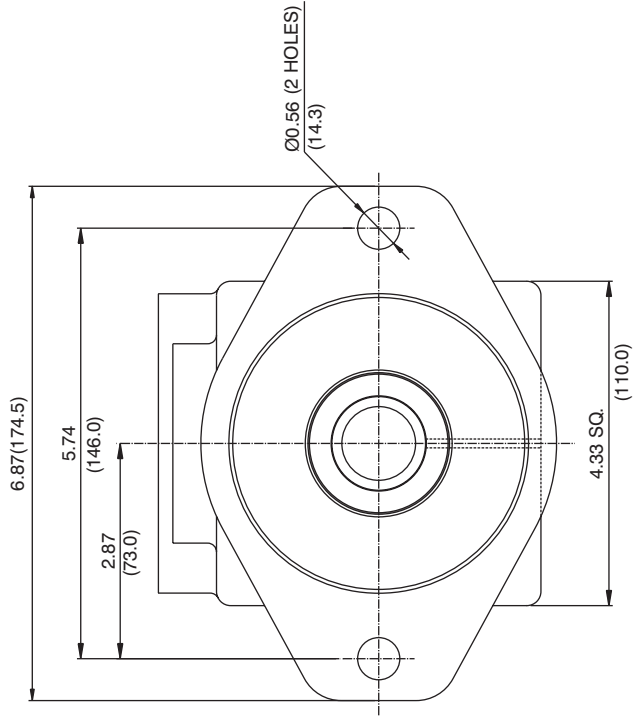
PERMISSIBLE RADIAL LOAD



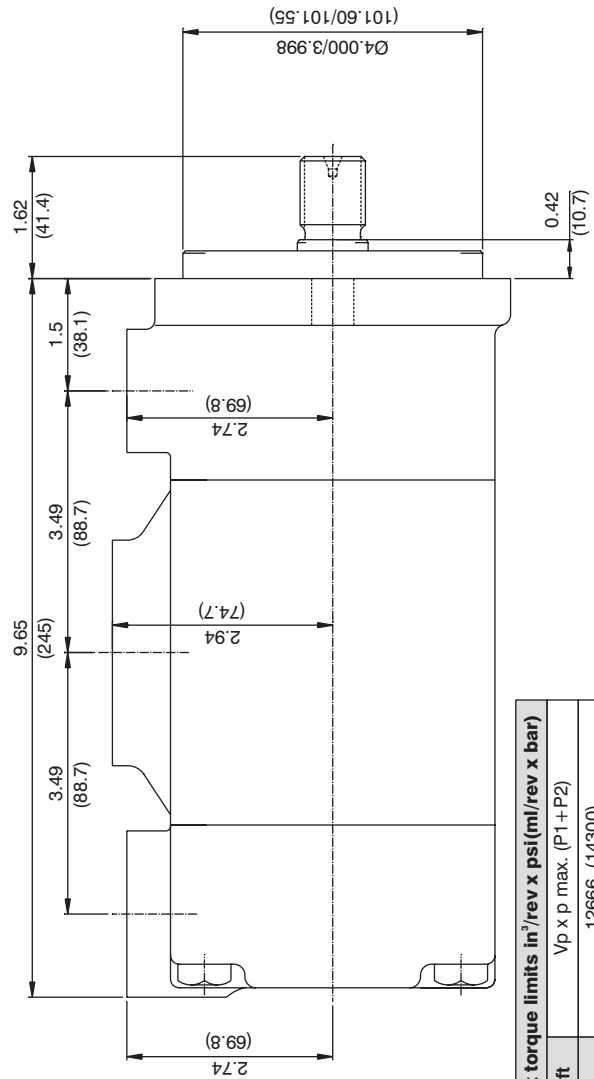
Maximum permissible axial load Fa = 800N (180 lbs)



Shaft Code 1
(Keyed no SAE)

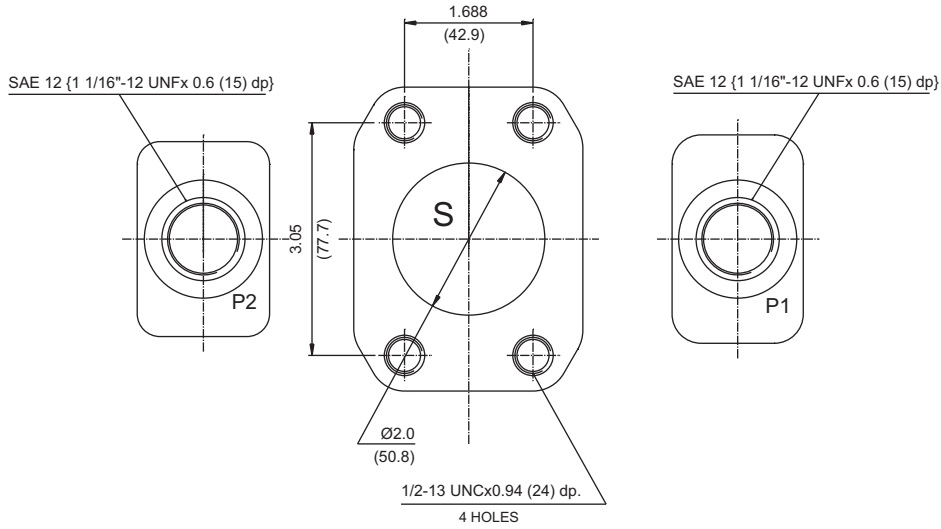


Shaft Code 3
Involute Splined shaft
Class 1 -J498b
16/32 d.p 13 teeth
30° press. angle
Major dia. fit

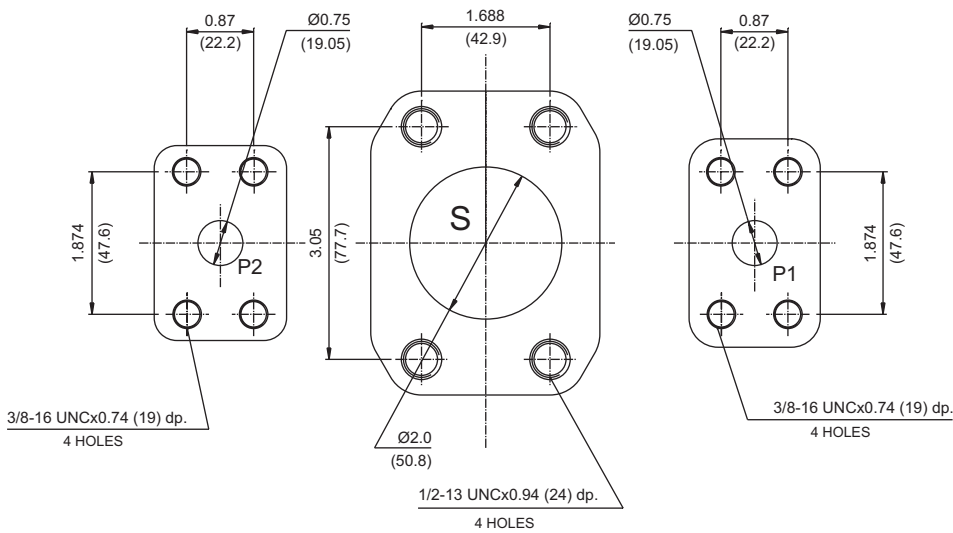


Shaft torque limits in ³ /rev x psi (ml/rev x bar)	
Shaft	Vp x p max. (P1 + P2)
1	12666 (14300)
3	18246 (20602)

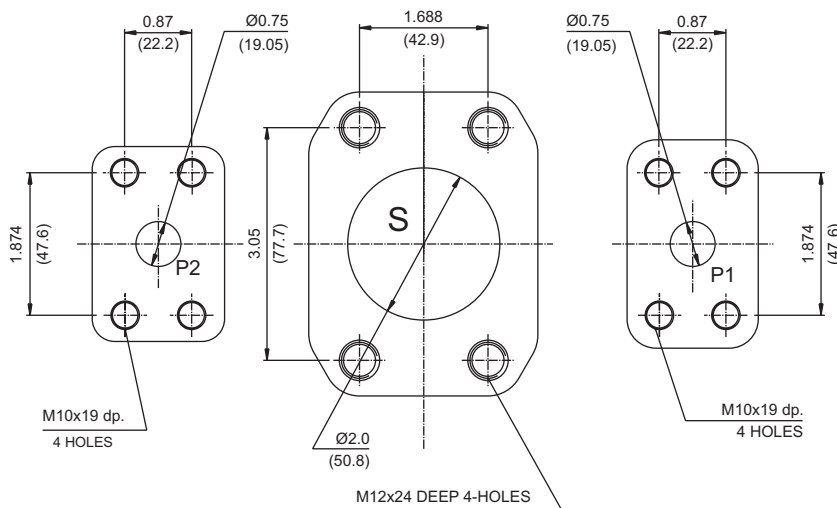
Port Connection : 00



Port Connection : 01



Port Connection : M0



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

Series

Camring for "P1"

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

Camring for "P2"

Volumetric displacement cm³/rev (in³/rev)

B02 = 6.5 (0.39)
B03 = 8.8 (0.54)
B04 = 12.8 (0.78)
B06 = 20.7 (1.26)
B08 = 26.1 (1.59)
B09 = 31.5 (1.92)
B12 = 39.7 (2.42)

Type of shaft

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

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)

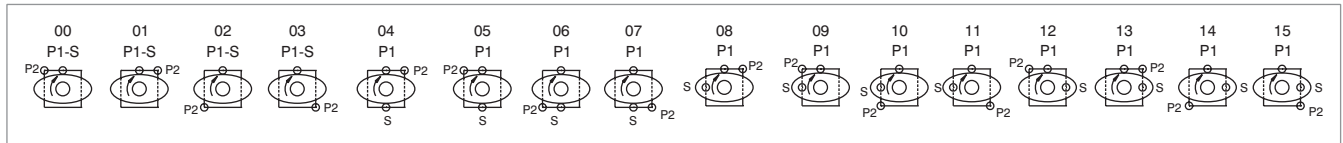
Design letter

Porting combination

00 - standard

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

Porting combination



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

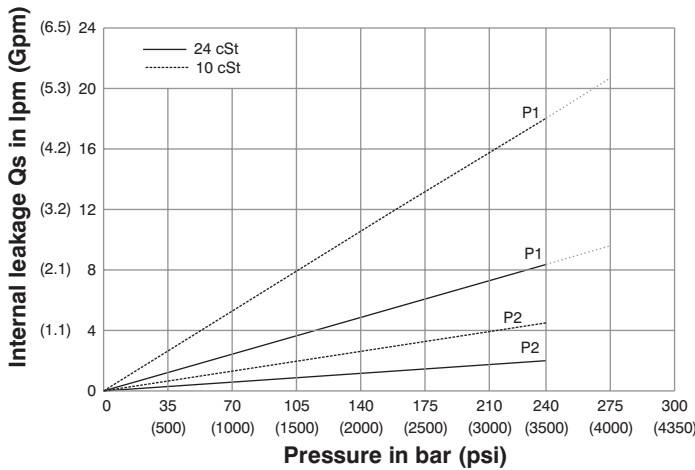
Pressure port	Series	Volumetric Displacement Vp		Flow q & n = 1500 rpm						Input power p & n = 1500 rpm					
		in ³ /rev	cm ³ /rev	p = 0 bar (0 psi)		p = 140 bar (2000 psi)		p = 240 bar (3500 psi)		p = 7 bar (100 psi)		p = 140 bar (2000 psi)		p = 240 bar (3500 psi)	
				gpm	lpm	gpm	lpm	gpm	lpm	hp	kw	hp	kw	hp	kw
P1	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	--	--	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 (300 psi) max. int **B14 = 175 bar (2500 psi) max. int.

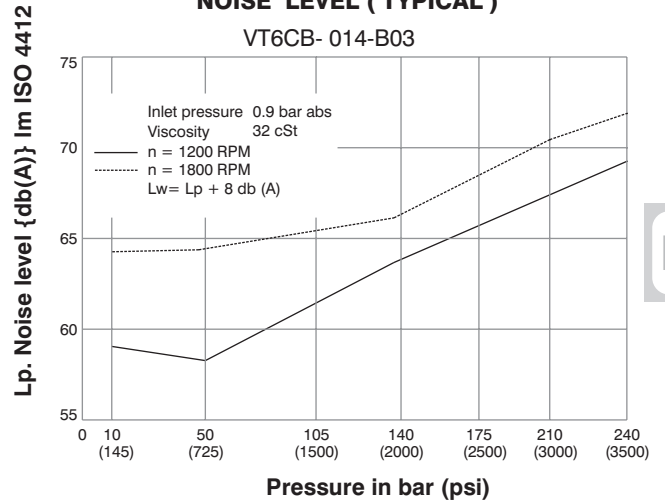
- Not to use because internal leakage greater than 50 of theoretical flow.

INTERNAL LEAKAGE (TYPICAL)



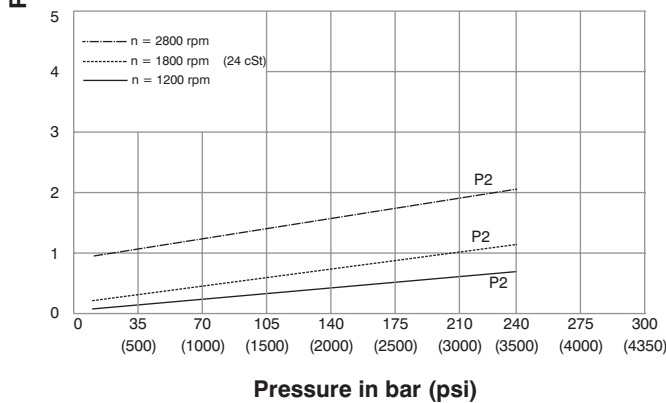
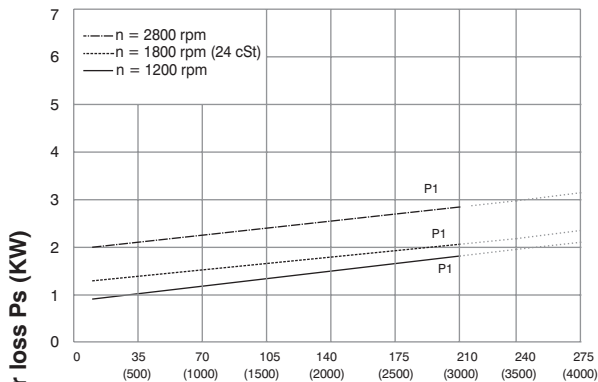
Do not operate pump more than 5 seconds at any speed or viscosity if internal leakage is more than 50% of theoretical flow. Total leakage is the sum of each section loss at its operating conditions.

NOISE LEVEL (TYPICAL)



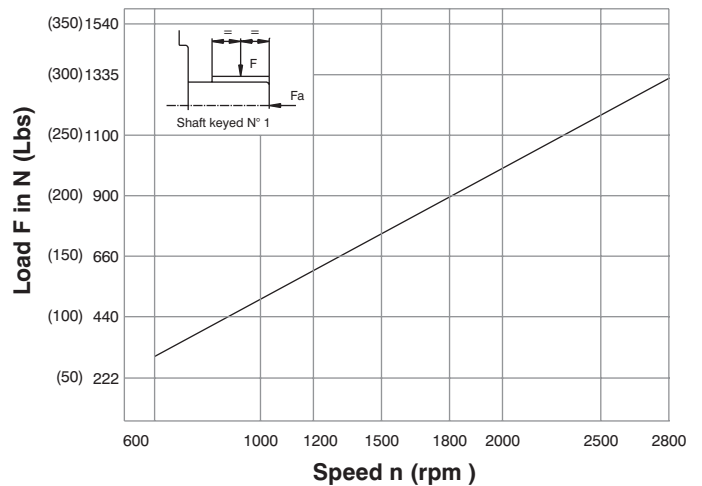
Double pump noise level is given with each section discharging at the pressure noted on the curve.

HYDROMECHANICAL POWER LOSS (TYPICAL)

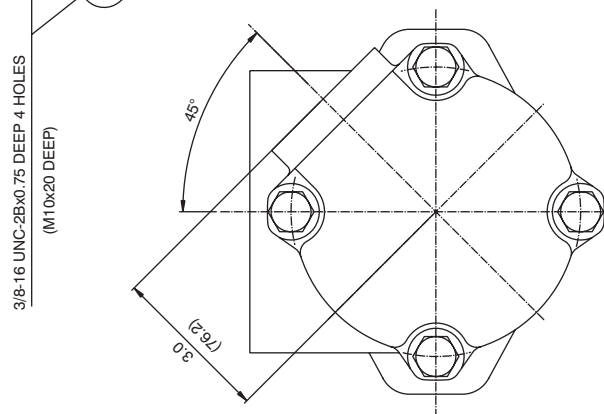
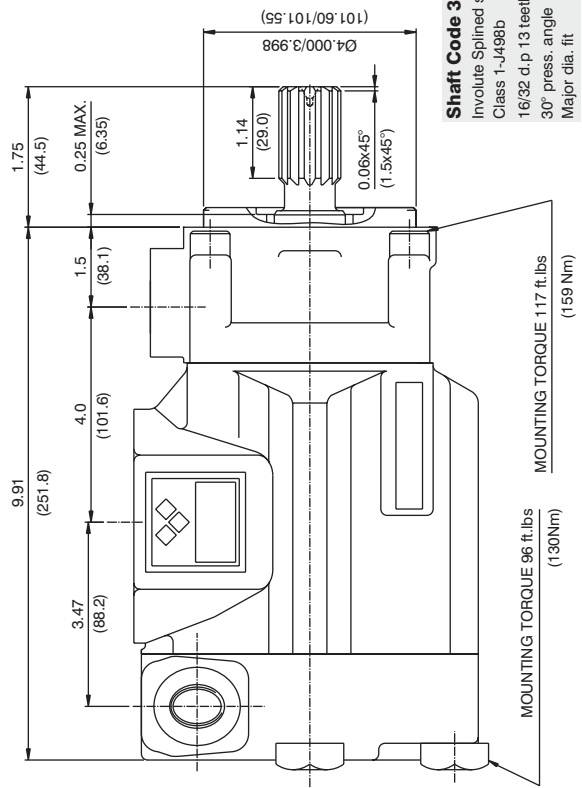
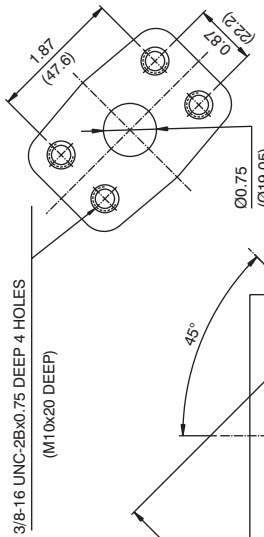
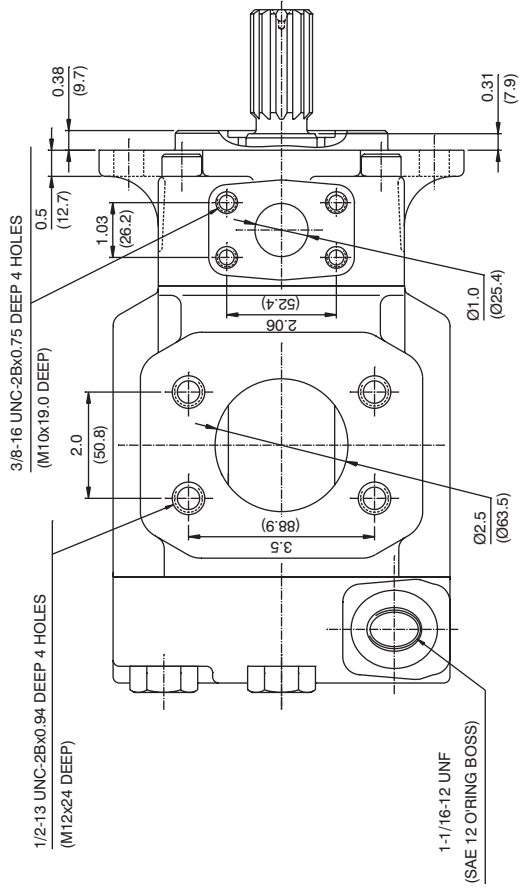
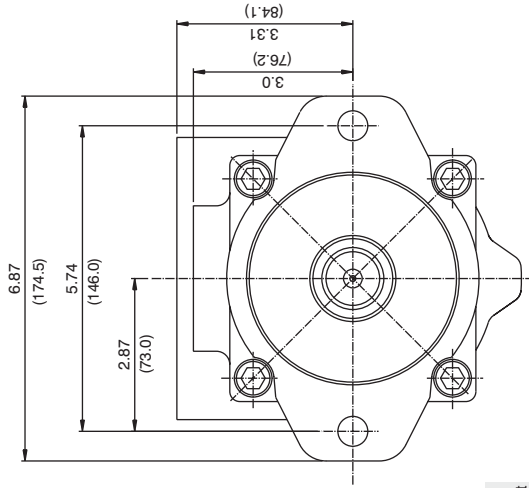
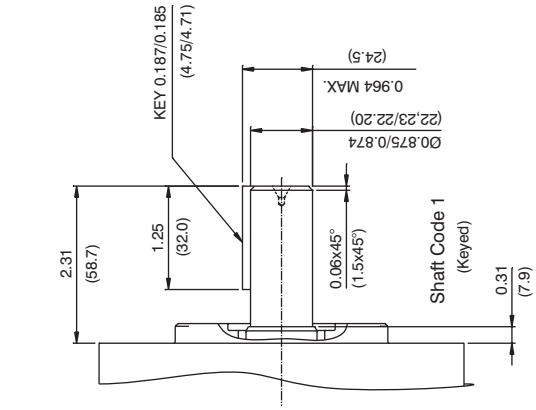


Total hydromechanical power loss is the sum of each section at its operating conditions.

PERMISSIBLE RADIAL LOAD



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



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

Use for severe duty shaft only

Cam ring for "P1" & "P2"

Volumetric displacement cm^3/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

code	P1=1" - S=3"		P1=1" - S=2 1/2" ²⁾	
	1"	3/4" ¹⁾	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

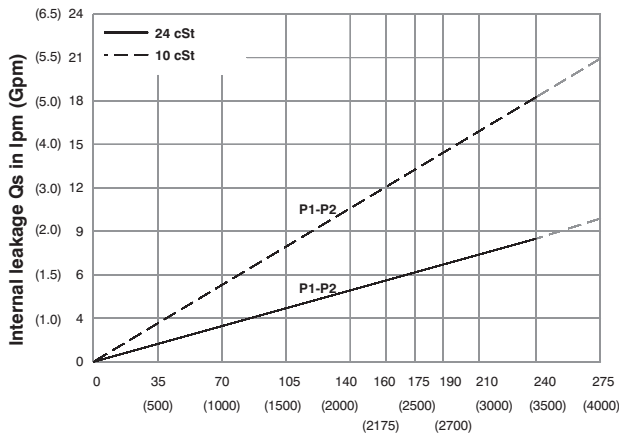
Porting combination (see page BM-1-5)

00 - standard

Direction of rotation (view on shaft end)

- R - clockwise
- L - counter-clockwise

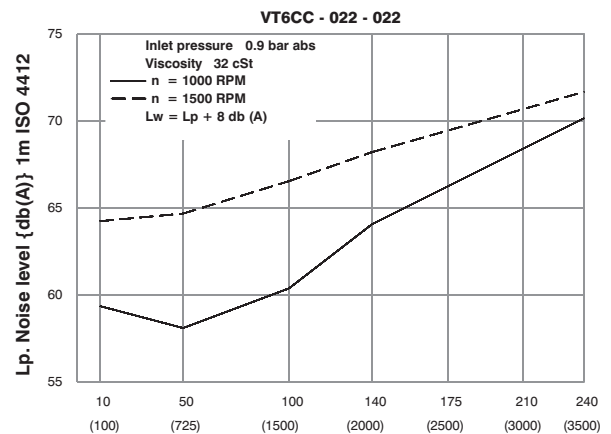
INTERNAL LEAKAGE (TYPICAL)



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.

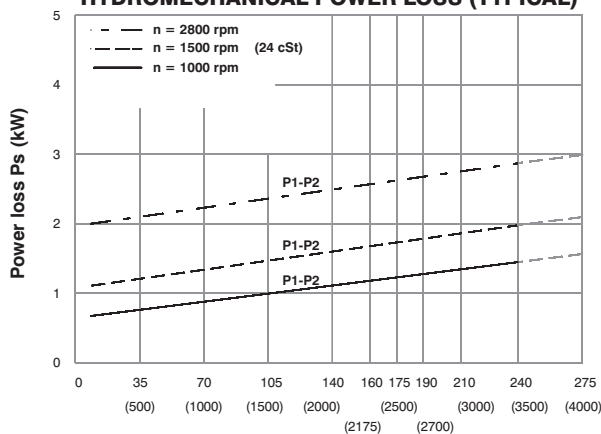
NOISE LEVEL (TYPICAL)



Pressure in bar (psi)

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

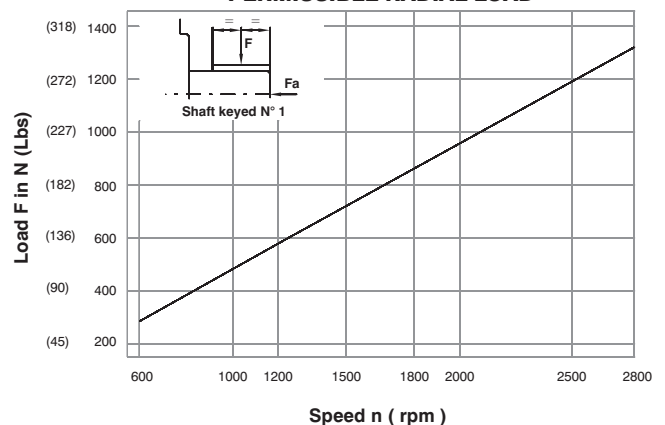
HYDROMECHANICAL POWER LOSS (TYPICAL)



Pressure in bar (psi)

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

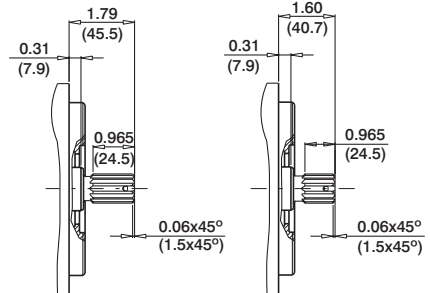
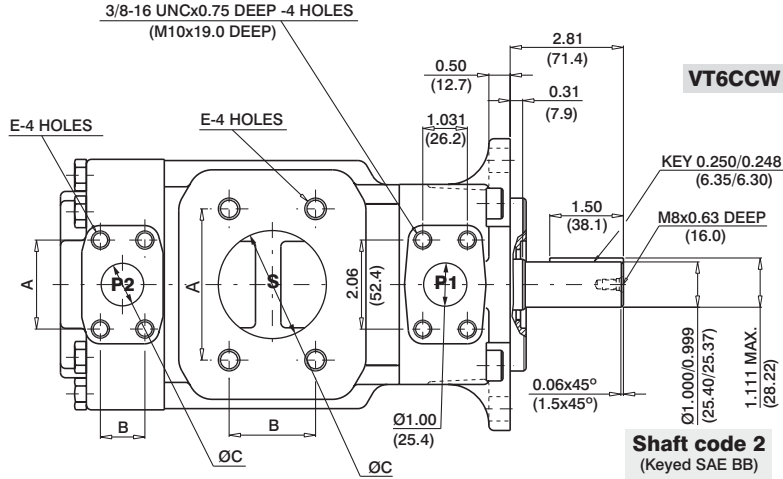
PERMISSIBLE RADIAL LOAD



Speed n (rpm)

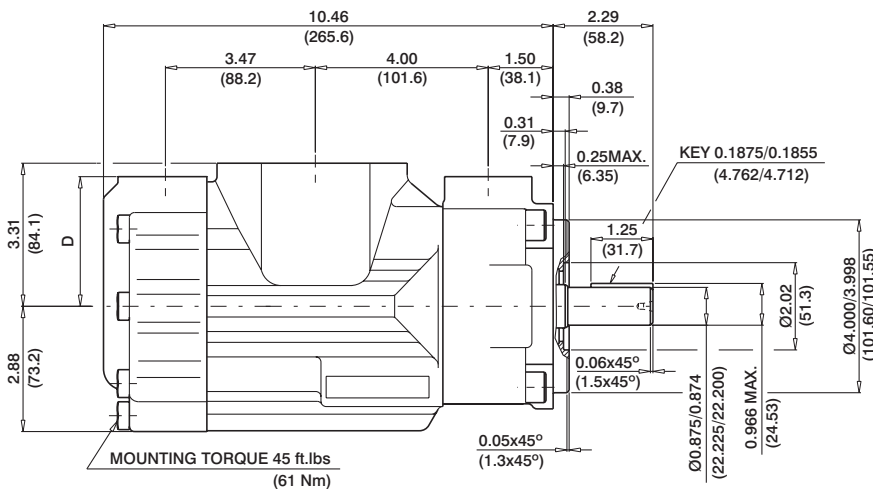
Maximum axial load permissible $F_a = 800 \text{ N (180 Lbs)}$



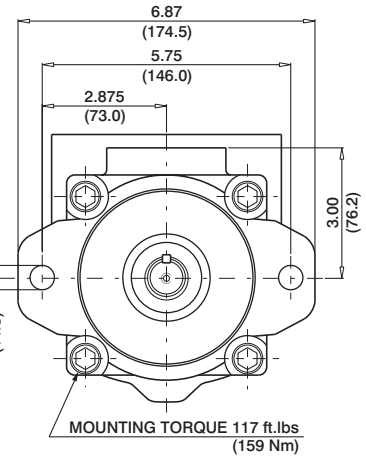


Shaft code 3
SAE BB splined shaft
Class 1-J498b
16/32 dp. 15 teeth
30° pressure angle
Flat root side fit

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

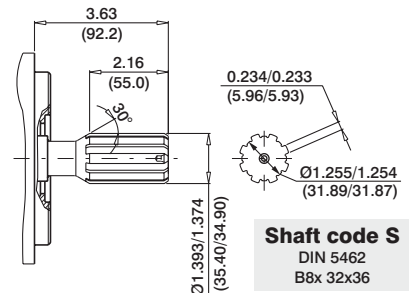


Shaft code 1
(Keyed no SAE)



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)

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	73.91	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	81.95	61.4

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

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

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)

Modifications

Mounting W/connection variables

		P1=1" - S=3"		P1=1" - S = 2 1/2"	
		1"	3/4"	1"	3/4"
code	Unc	00	01	10	11
	Metric	OM	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

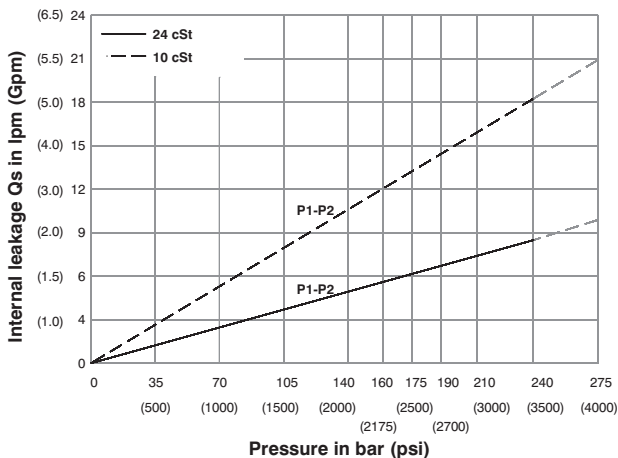
Porting combination (see page BM-1-5)

00 - standard

Direction of rotation (view on shaft end)

- R - clockwise
- L - counter-clockwise

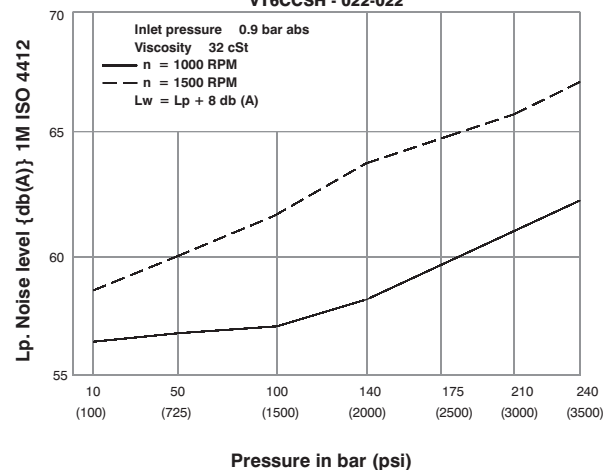
INTERNAL LEAKAGE (TYPICAL)



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.

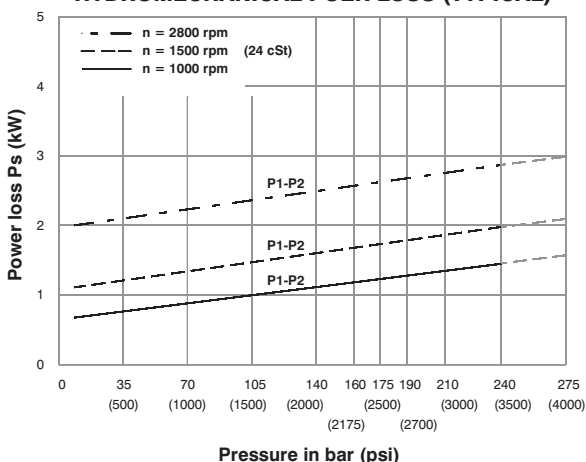
NOISE LEVEL (TYPICAL)

VT6CCSH - 022-022



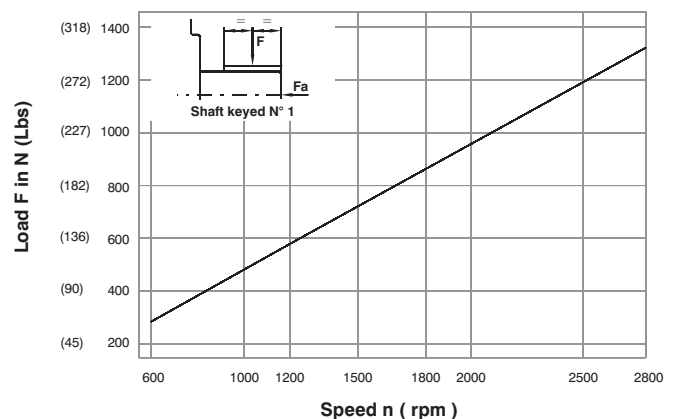
Double pump noise level is given with each section discharging at the pressure noted on the curve.

HYDROMECHANICAL POER LOSS (TYPICAL)



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

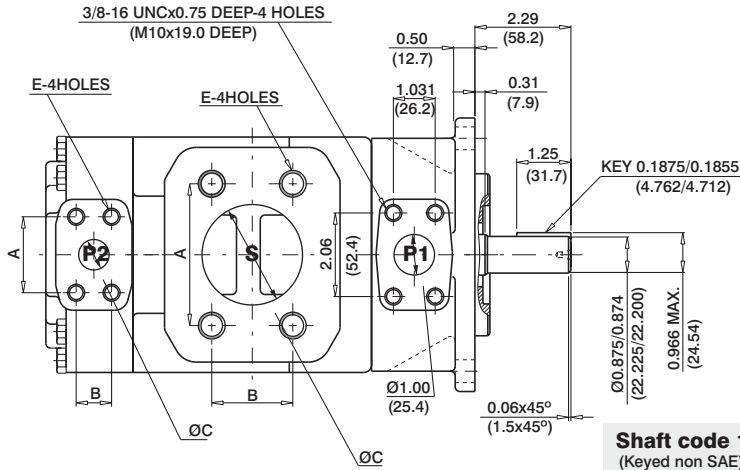
PERMISSIBLE RADIAL LOAD



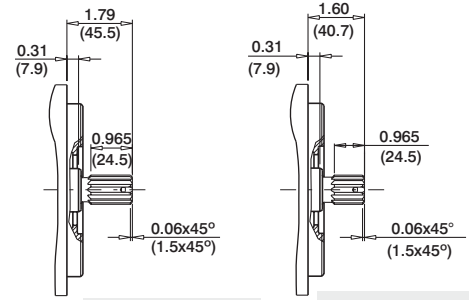
Maximum permissible axial load Fa = 800 N (180 Lbs)



HIGH PERFORMANCE VANE PUMP VT6CCSH

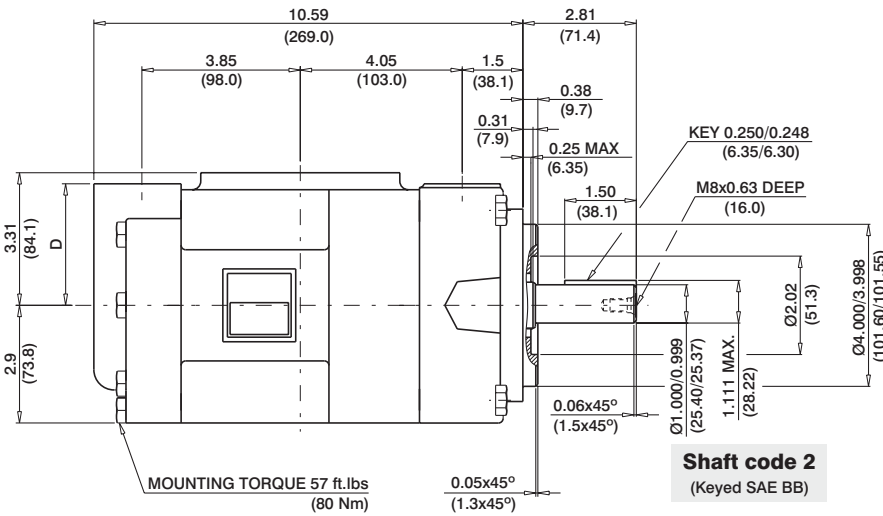


Shaft code 1
(Keyed non SAE)

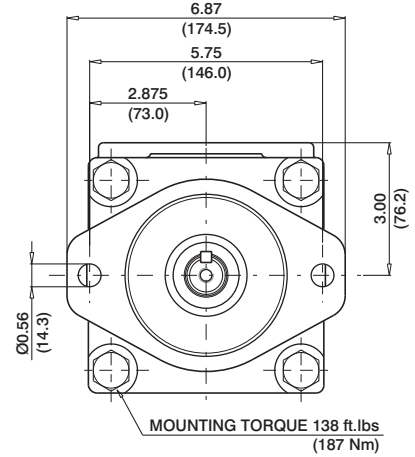


Shaft code 3
SAE BB splined shaft
Class 1-J498b
16/32 dp. 15 teeth
30° pressure angle
Flat root side fit

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	73.04	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	82.95	61.4	

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

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

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

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)

*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

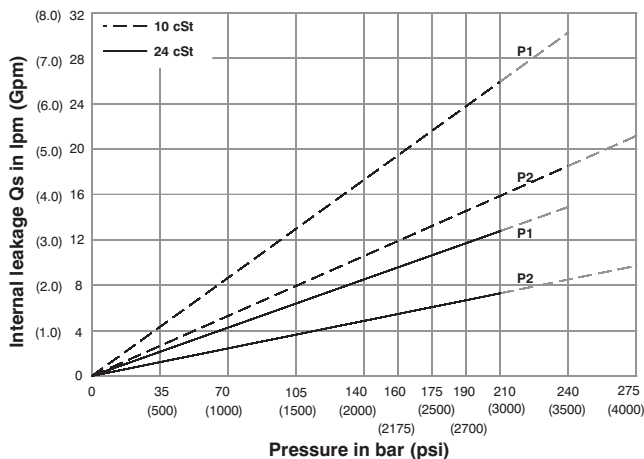
- 1 - keyed (SAE C)
- 2 - keyed (no SAE)
- 3 - splined (SAE C)
- 4 - splined (no SAE)

Sever duty (VT6DCW only)

- 5 - keyed (no SAE)



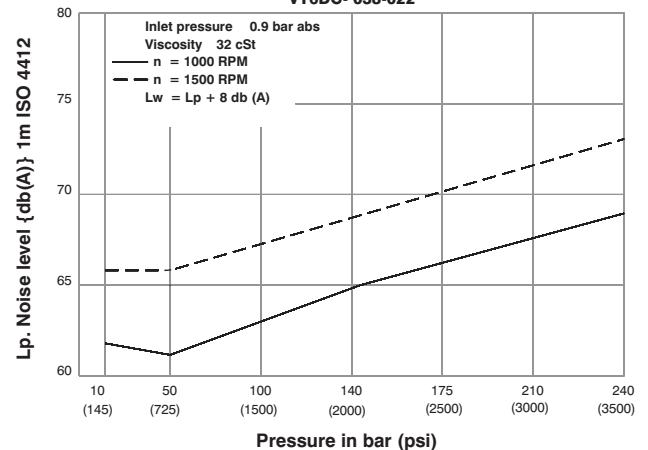
INTERNAL LEAKAGE (TYPICAL)



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.

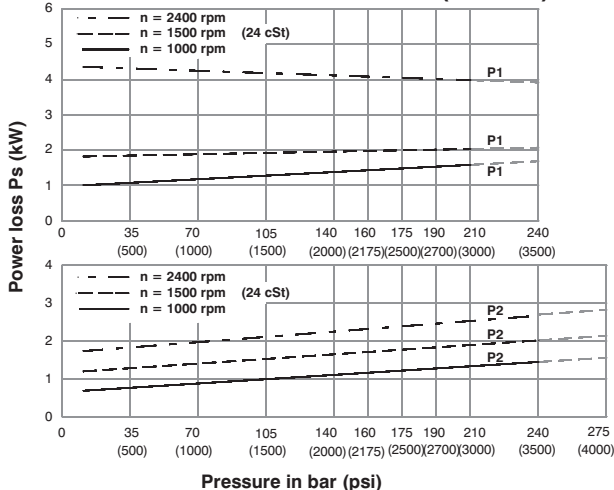
NOISE LEVEL (TYPICAL)

VT6DC- 038-022



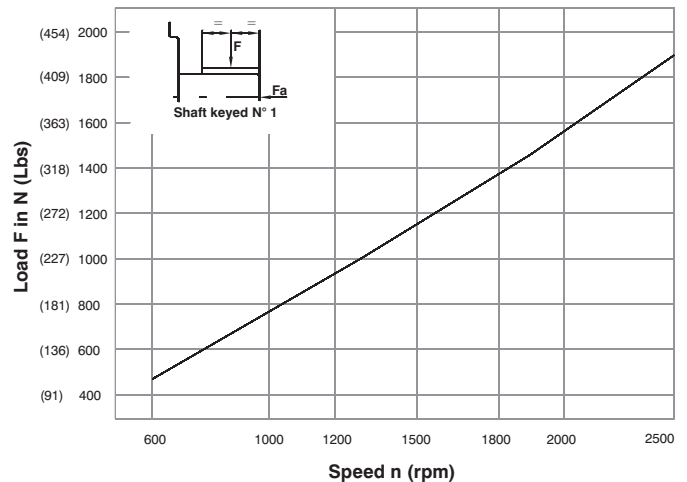
Double pump noise level is given with each section discharging at the pressure noted on the curve.

HYDROMECAHNICAL POWER LOSS (TYPICAL)



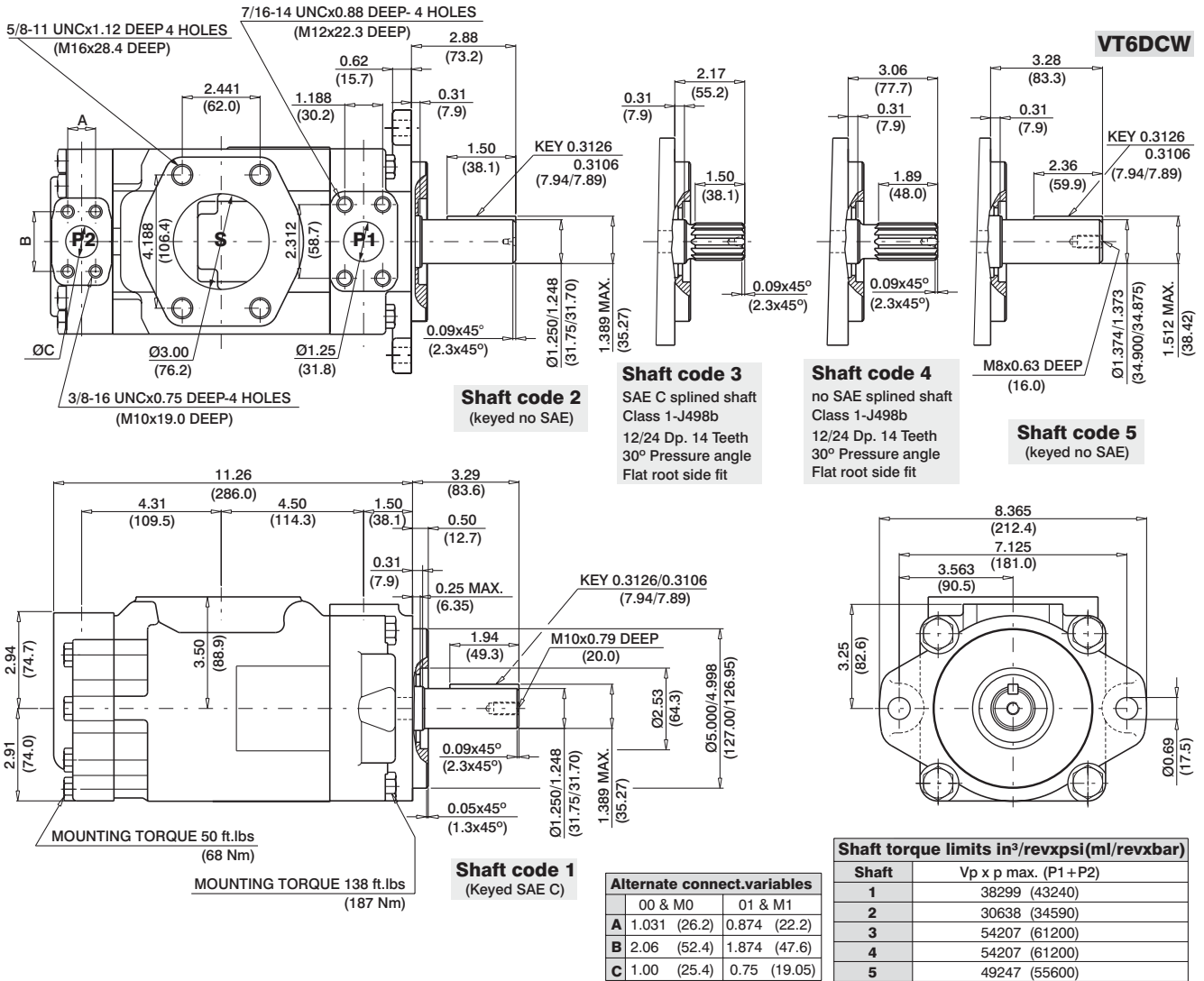
Total hydromechanical power loss is the sum of each section at its operating conditions.

PERMISSIBLE RADIAL LOAD



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

HIGH PERFORMANCE VANE PUMP VT6DC



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	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	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.

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)

P1 & P2=1-1/4"	S=4"
VT6DDS	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

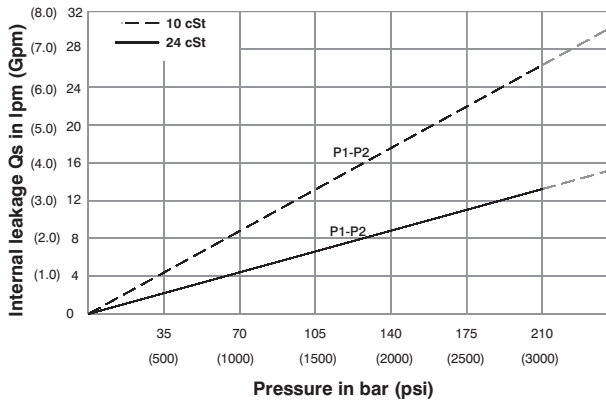
Porting combination (see page BM-1-5)

(00 = Standard)

Direction of rotation (view on shaft end)

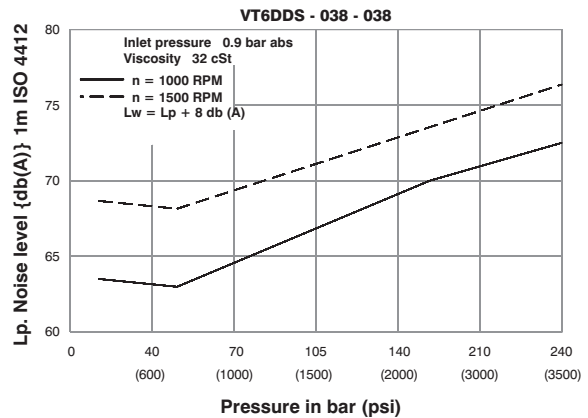
- R - Clockwise
- L - Counter - clockwise

INTERNAL LEAKAGE (TYPICAL)



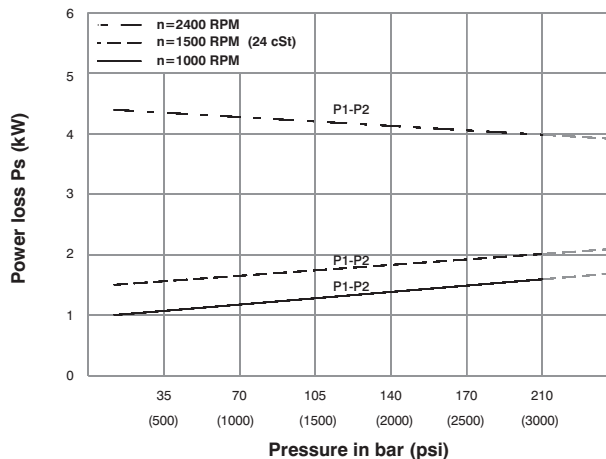
Do not operate pump more than 5 seconds at any speed or viscosity if internal leakage is more than 50% of theoretical flow. Total leakage is the sum of each section loss at its operating conditions.

NOISE LEVEL (TYPICAL)



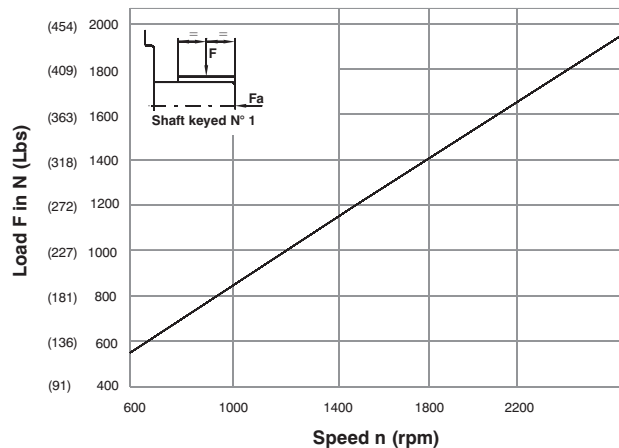
Double pump noise level is given with each section discharging at the pressure noted on the curve.

HYDROMECHANICAL POER LOSS (TYPICAL)



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

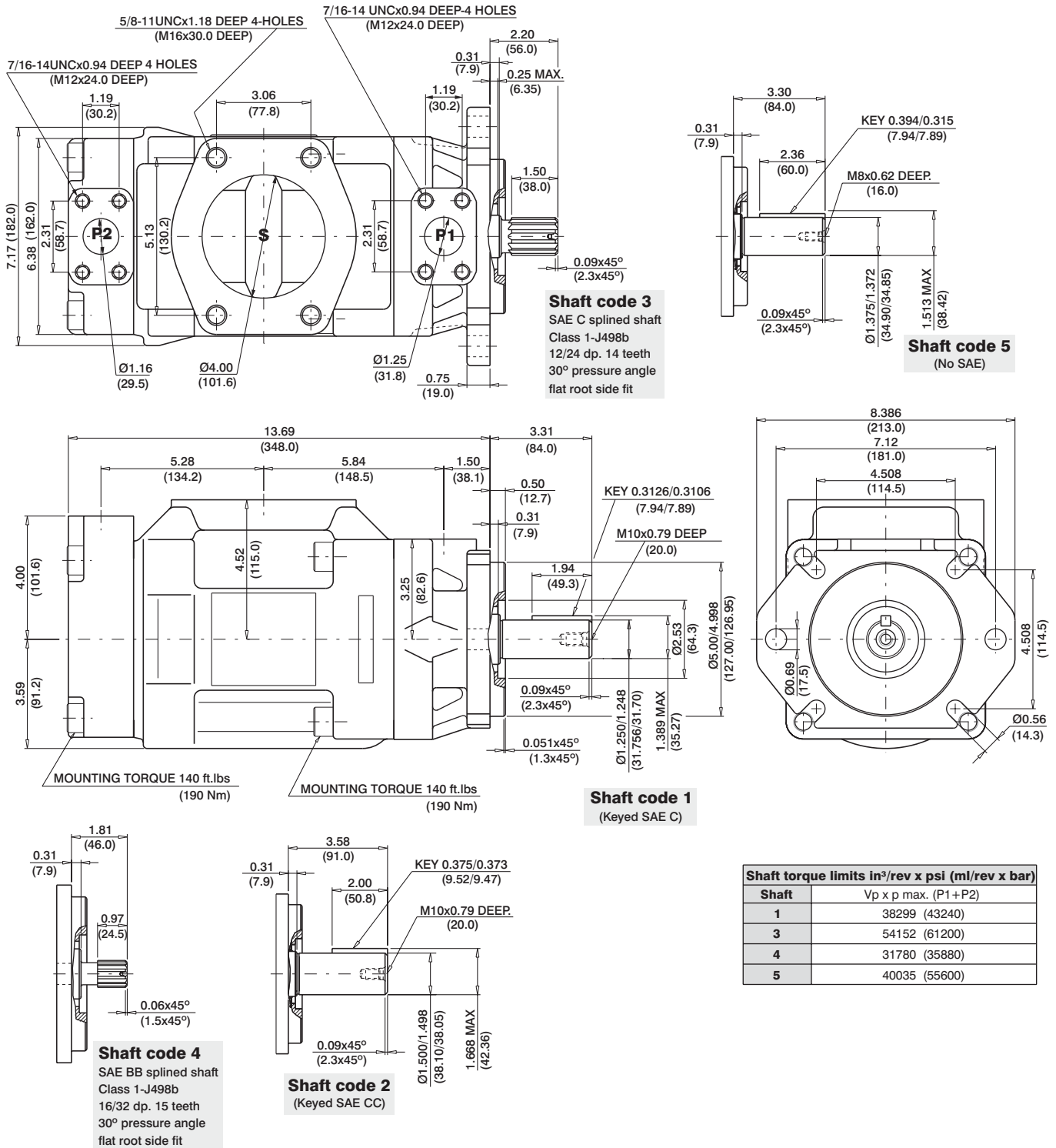
PERMISSIBLE RADIAL LOAD



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



HIGH PERFORMANCE VANE PUMP VT6DDS



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	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.

VT6EC * - 066 - 022 1 R 00 - B 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 = 180.7 (11.02)	

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)

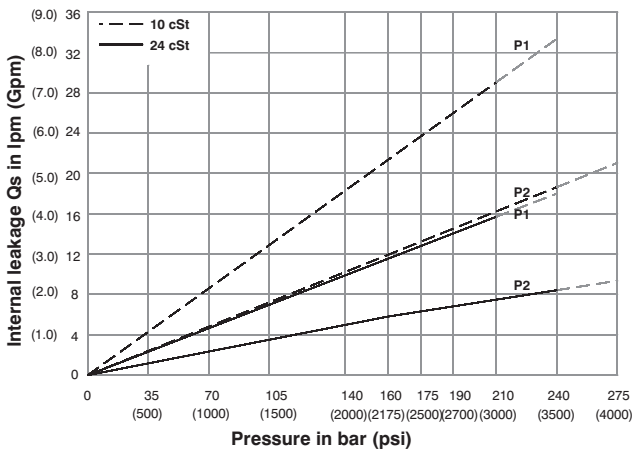
- R - clockwise
- L - counter-clockwise

Type of shaft

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

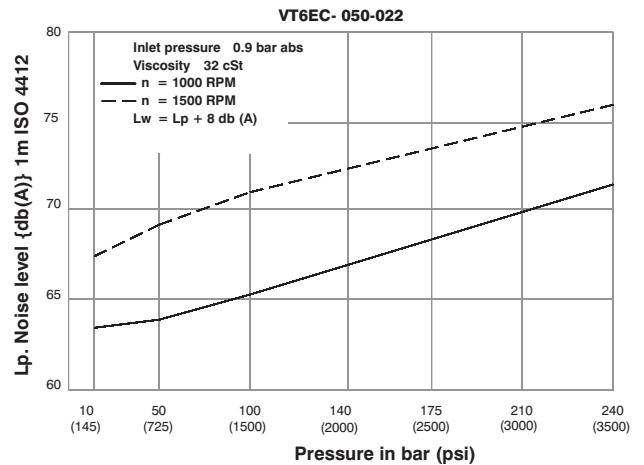


INTERNAL LEAKAGE (TYPICAL)



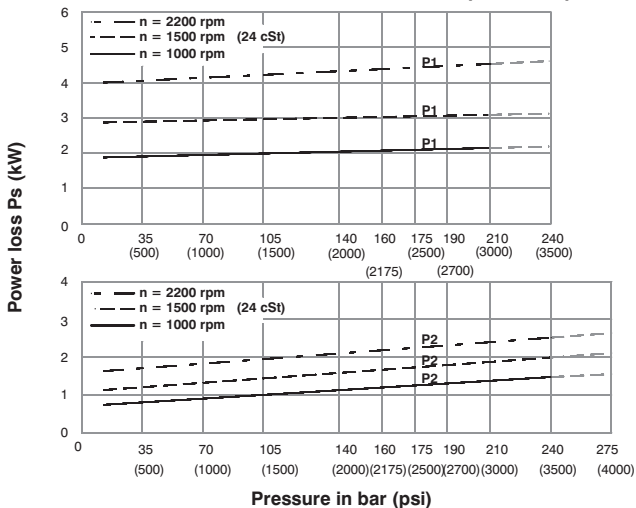
Do not operate pump more than 5 seconds at any speed or viscosity if internal leakage is more than 50% of theoretical flow. Total leakage is the sum of each section loss at its operating conditions.

NOISE LEVEL (TYPICAL)



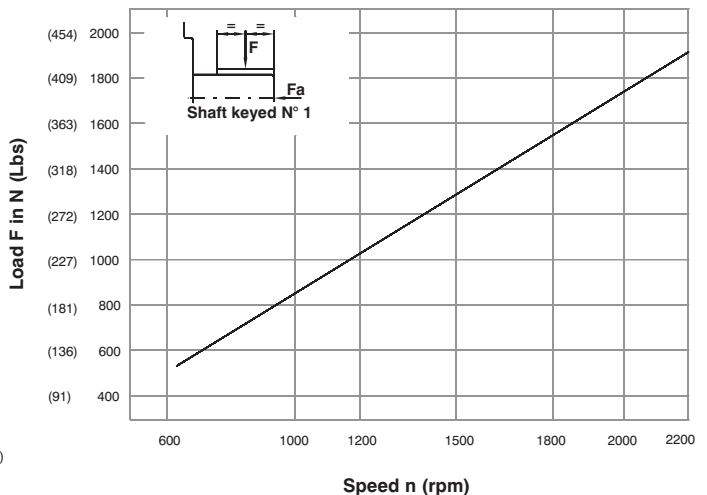
Double pump noise level is given with each section discharging at the pressure noted on the curve.

HYDROMECHANICAL POWER LOSS (TYPICAL)



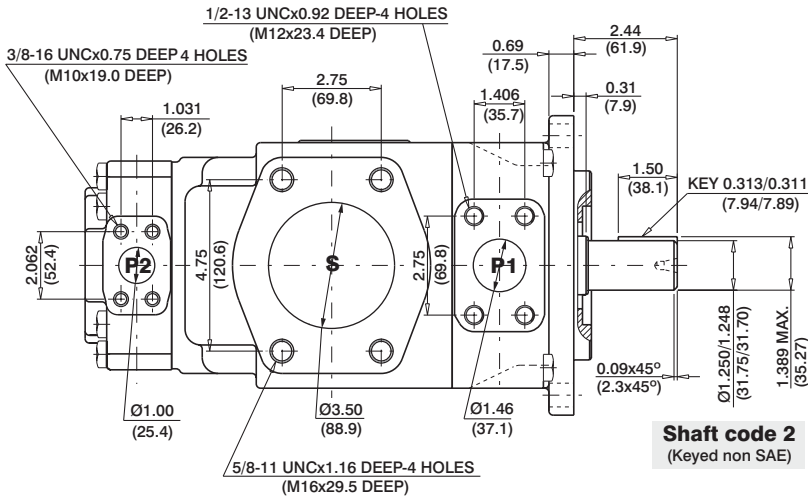
Total hydromechanical power loss is the sum of each section at its operating conditions.

PERMISSIBLE RADIAL LOAD

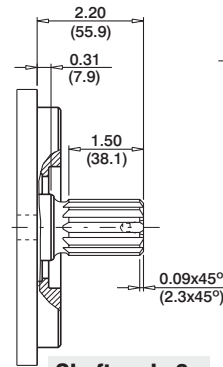


Maximum permissible axial load Fa = 2000 N (449 Lbs)

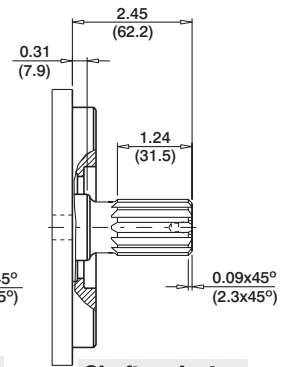
HIGH PERFORMANCE VANE PUMP VT6EC



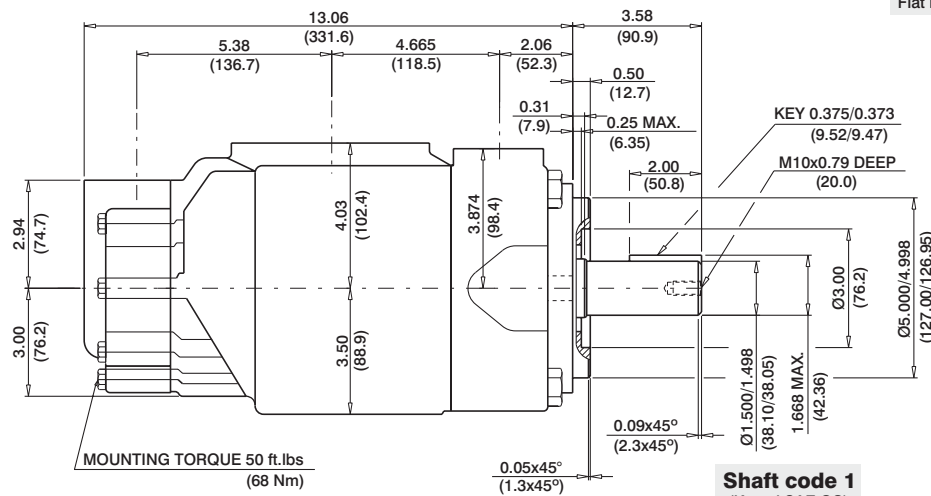
Shaft code 2
(Keyed non SAE)



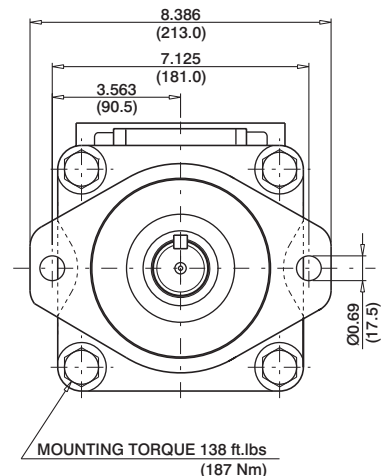
Shaft code 3
SAE C splined shaft
Class 1-J498b
12/24 dp. 14 teeth
30° pressure angle
Flat root side fit



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)	
		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	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.

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

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)

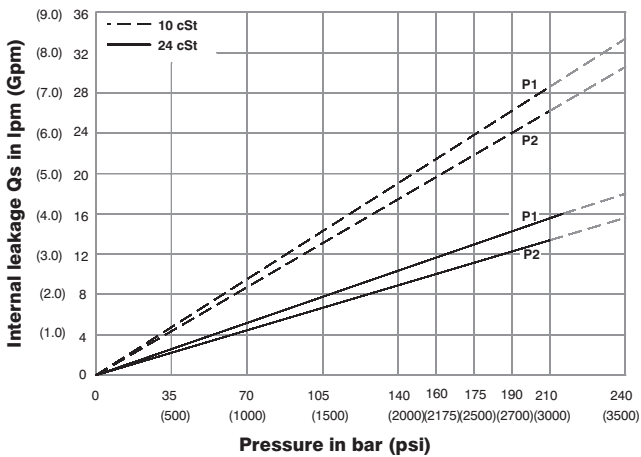
- R - clockwise
- L - counter-clockwise

Type of shaft

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

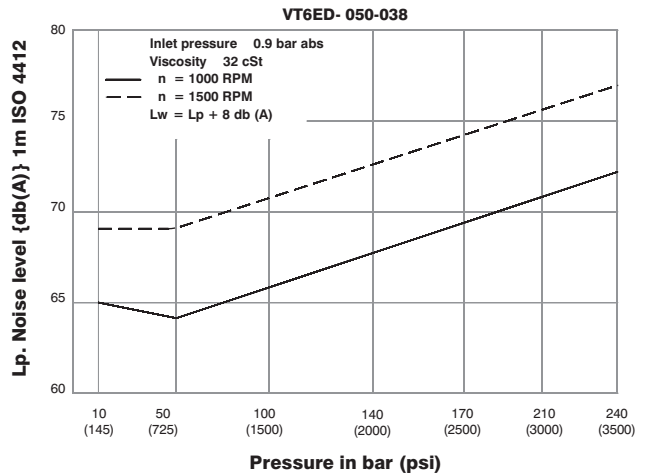


INTERNAL LEAKAGE (TYPICAL)



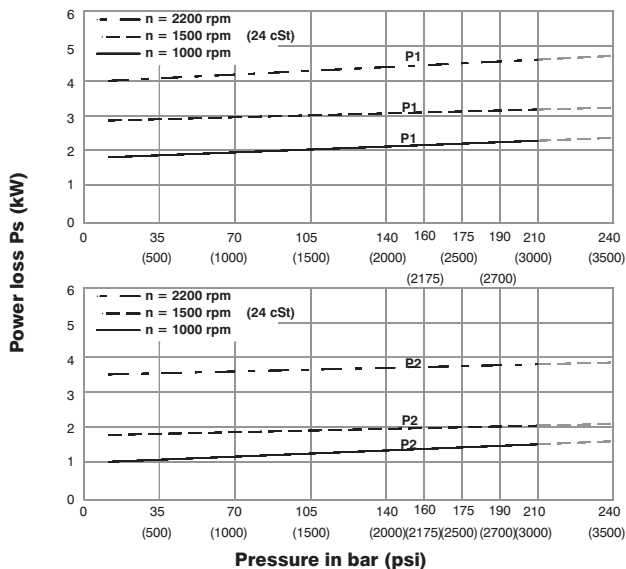
Do not operate pump more than 5 seconds at any speed or viscosity if internal leakage is more than 50% of theoretical flow.

NOISE LEVEL (TYPICAL)



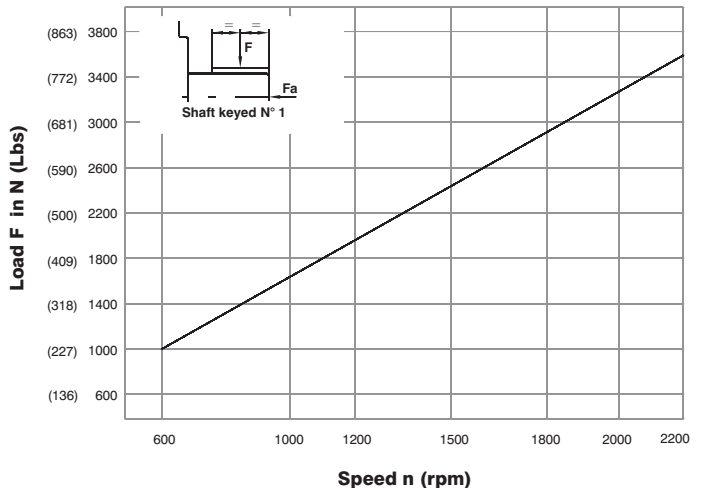
Double pump noise level is given with each section discharging at the pressure noted on the curve.

HYDROMECHANICAL POWER LOSS (TYPICAL)



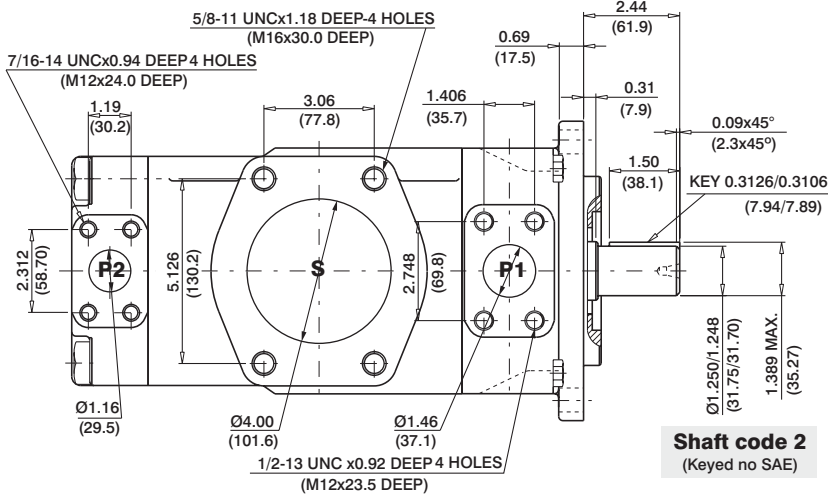
Total hydromechanical power loss is the sum of each section at its operating conditions.

PERMISSIBLE RADIAL LOAD

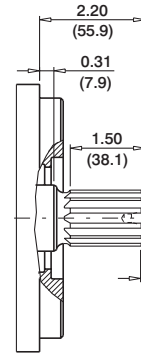


Maximum permissible axial load Fa = 2000 N (449 Lbs)

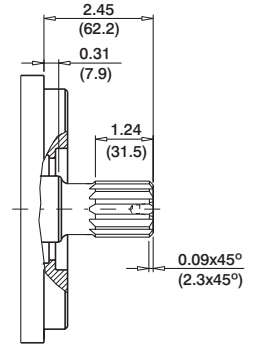
HIGH PERFORMANCE VANE PUMP VT6ED



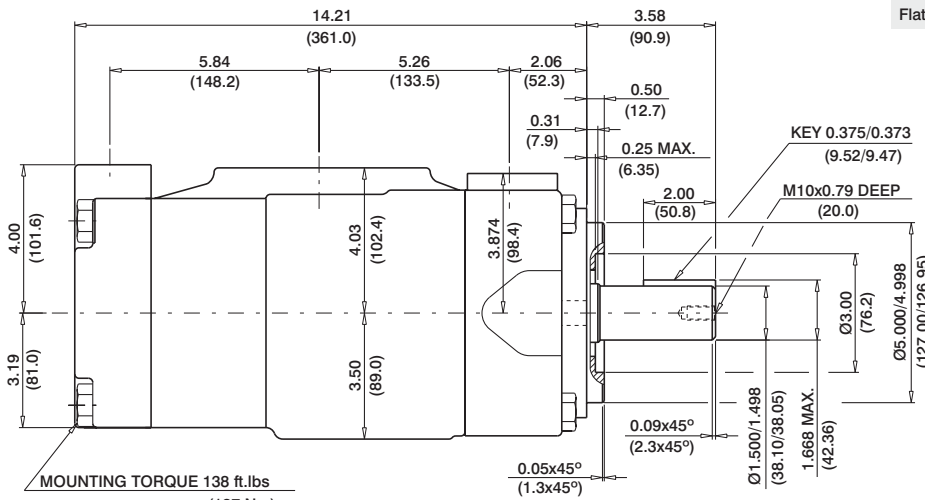
Shaft code 2
(Keyed no SAE)



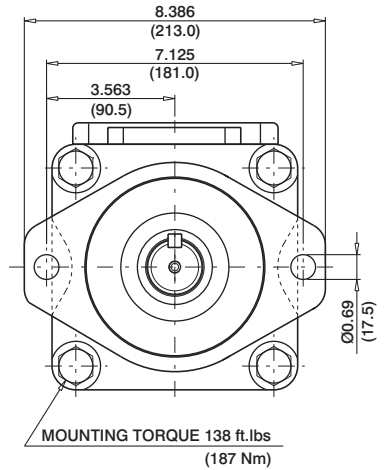
Shaft code 3
SAE C splined shaft
Class 1-J498b
12/24 dp. 14 teeth
30° pressure angle
Flat root side fit



Shaft code 4
SAE CC splined shaft
Class 1-J498b
12/24 dp. 14 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					
		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)	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.

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

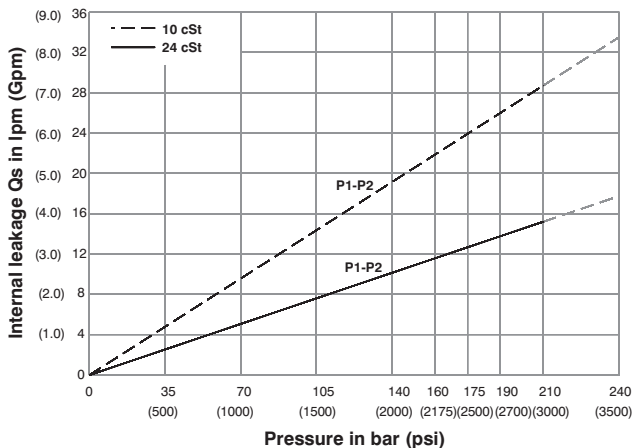
Porting combination (see page BM-1-5)

00 = Standard

Direction of rotation (View on shaft end)

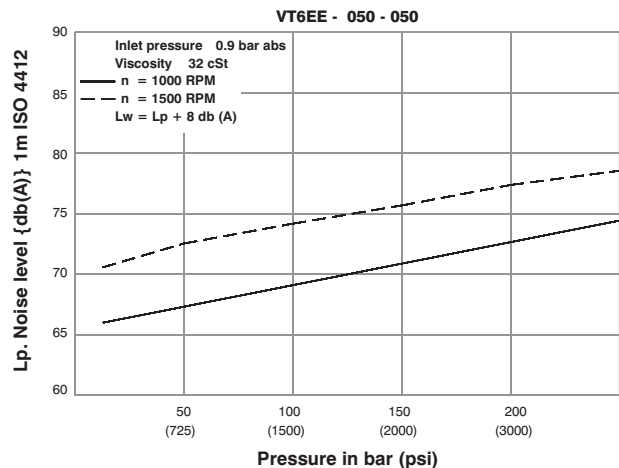
- R - Clockwise
- L - Counter - clockwise

INTERNAL LEAKAGE (TYPICAL)



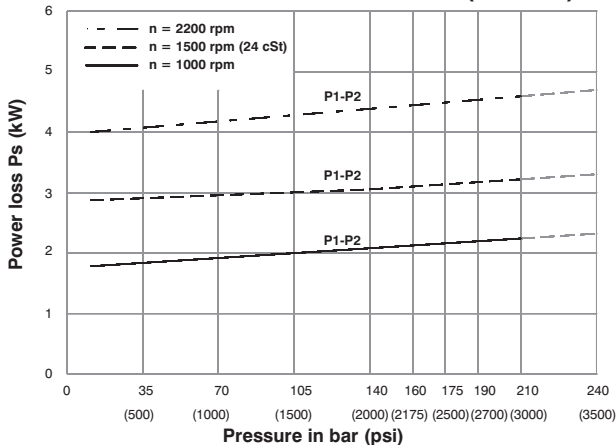
Do not operate pump more than 5 seconds at any speed or viscosity if internal leakage is more than 50% of theoretical flow. Total leakage is the sum of each section loss at its operating conditions.

NOISE LEVEL (TYPICAL)



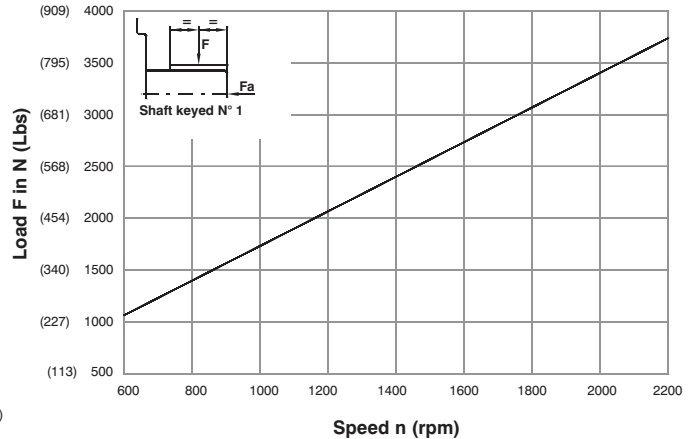
Double pump noise level is given with each section discharging at the pressure noted on the curve.

HYDROMECHANICAL POWER LOSS (TYPICAL)



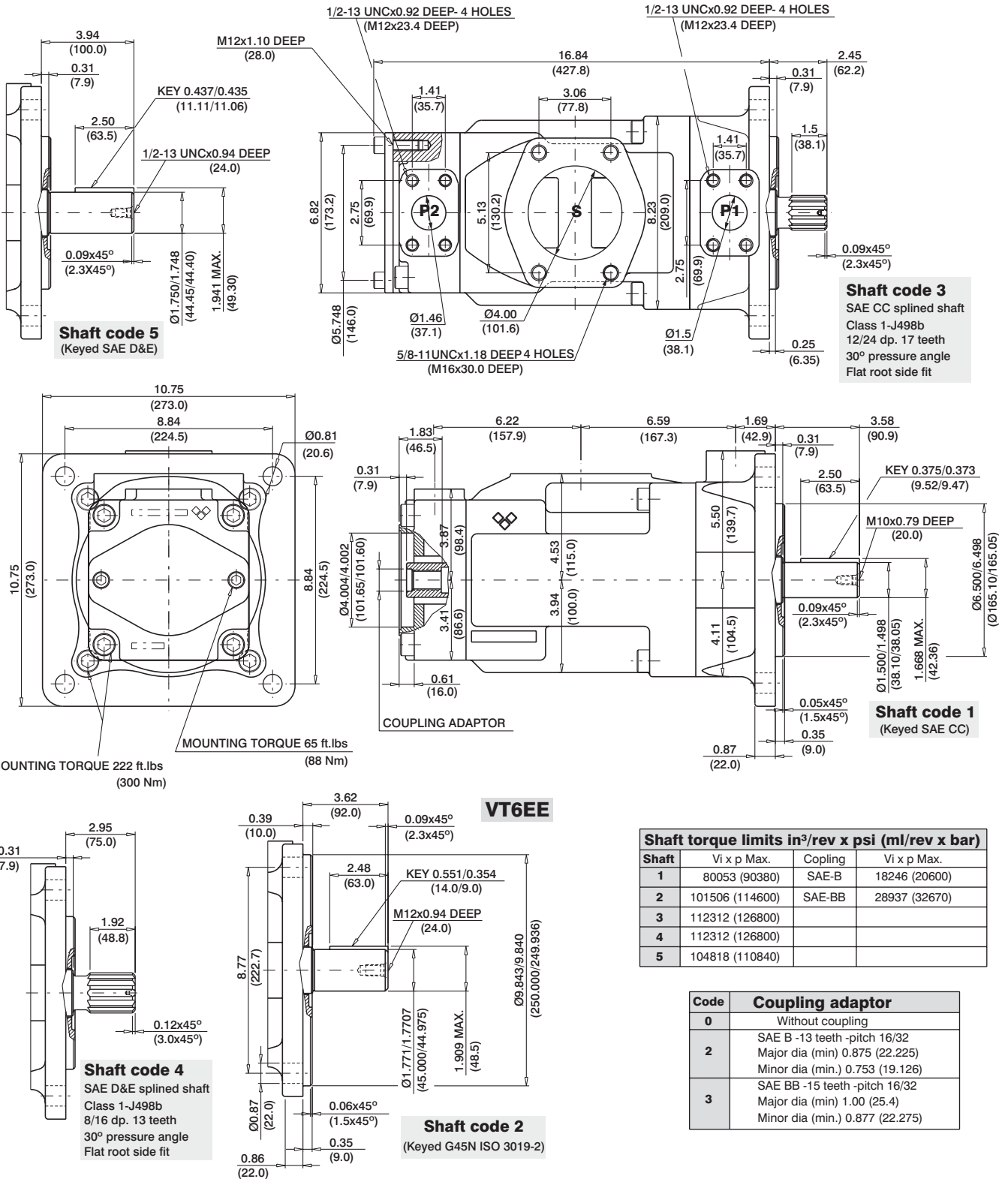
Total hydromechanical power loss is the sum of each section at its operating conditions.

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

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	MW version	P version
1 - keyed (no SAE)	2 - keyed (SAE BB)	3 - splined (no SAE)
3 - splined (SAE BB)	R - keyed special	4 - splined (SAE BB)
5 - splined (SAE B)	X - keyed special	6 - splined (no SAE)
	W - keyed special	
	V - keyed special	
	T - splined (SAE J718c)	
	S - splined (DIN5462)	
	Q - splined (SAE C)	

Modifications

Mounting W/connection variables

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

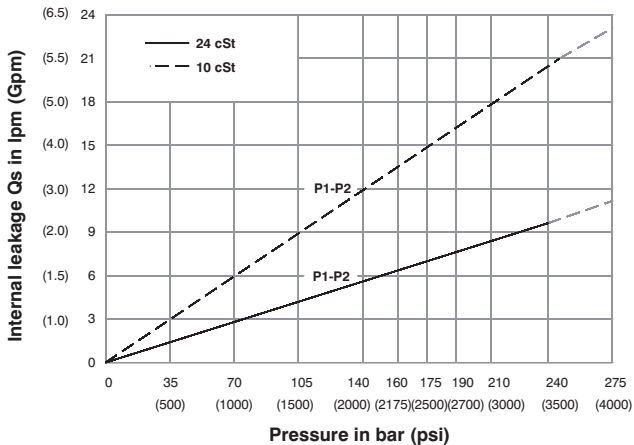
Porting combination (see page BM-1-5)

00 - standard

Direction of rotation (view on shaft end)

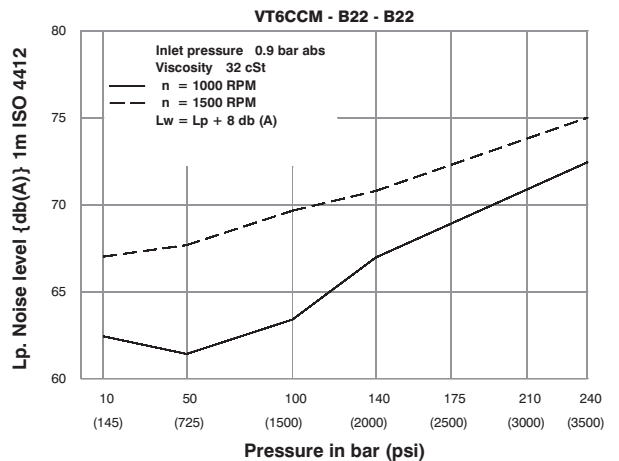
- R - clockwise
- L - counter-clockwise

INTERNAL LEAKAGE (TYPICAL)



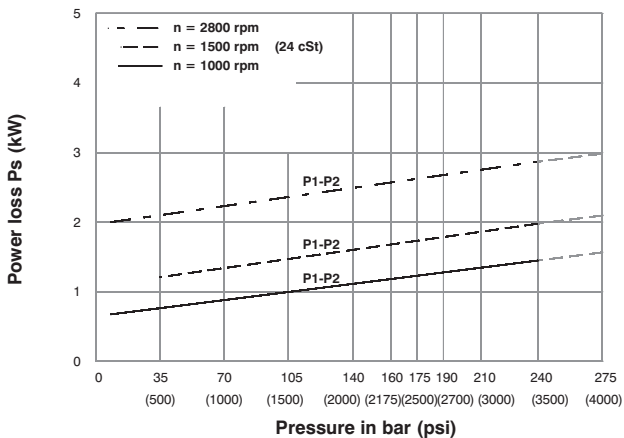
Do not operate pump more than 5 seconds at any speed or viscosity if internal leakage is more than 50% of theoretical flow. Total leakage is the sum of each section loss at its operating conditions.

NOISE LEVEL (TYPICAL)



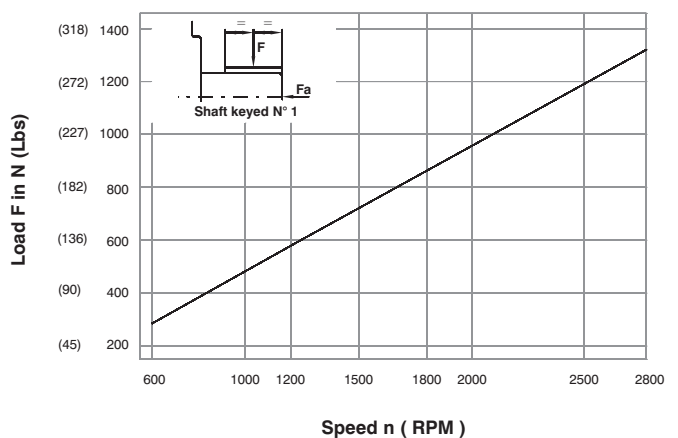
Double pump noise level is given with each section discharging at the pressure noted on the curve.

HYDROMECHANICAL POWER LOSS (TYPICAL)



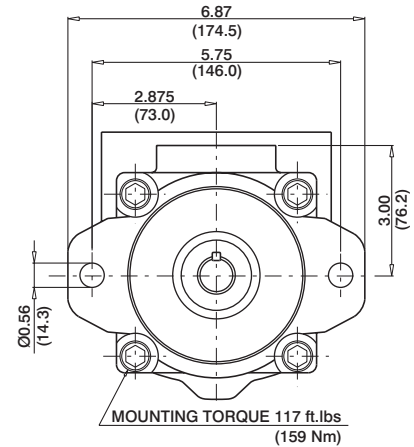
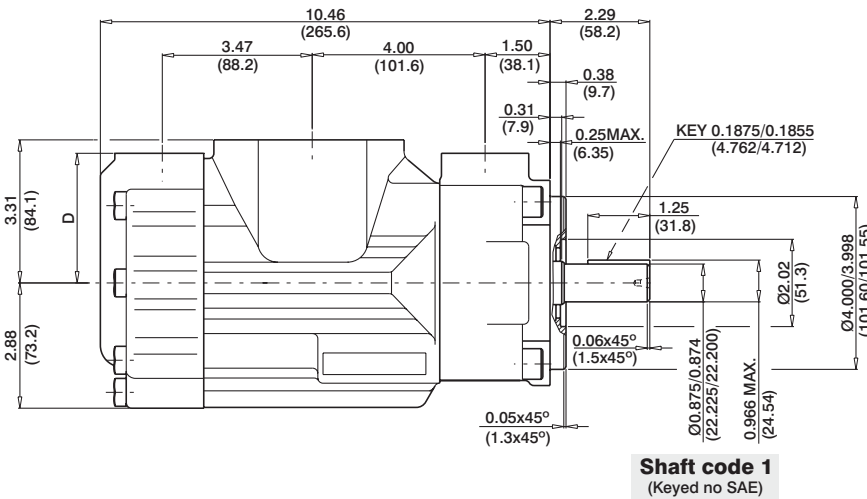
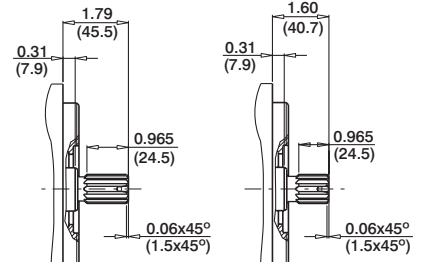
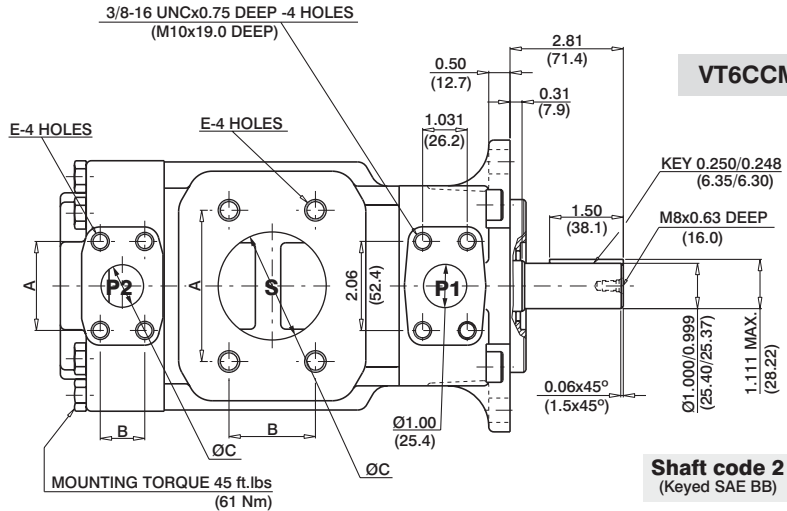
Total hydromechanical power loss is the sum of each section at its operating conditions.

PERMISSIBLE RADIAL LOAD



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





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)

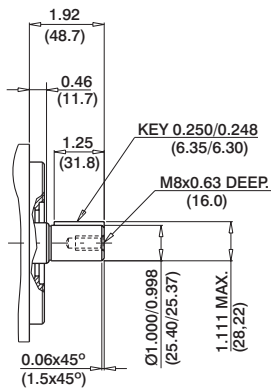
OPERATING CHARACTERISTICS - TYPICAL (24 cST) (Input power p (KW) for one cartridge only)

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

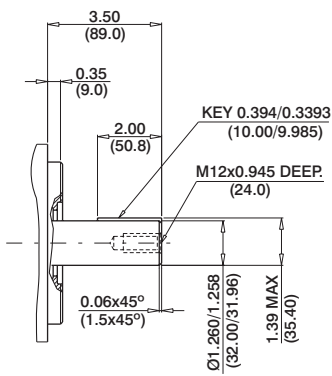
1) B25-B28-B31 = 2500 R.P.M. max.

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

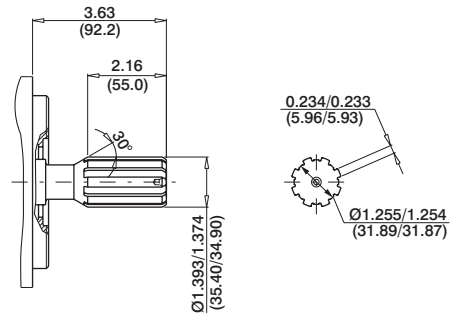
-- Not to use because internal leakage greater than 50% theoretical flow.



Shaft code R

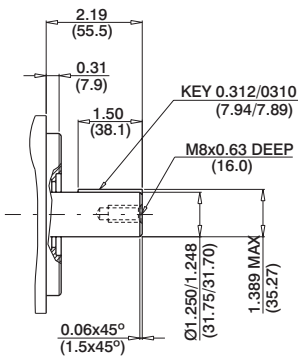


Shaft code V

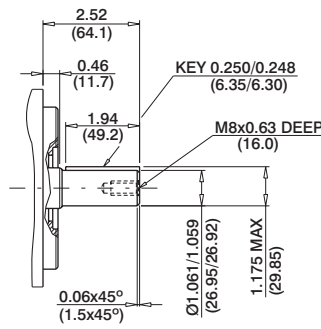


Shaft code S

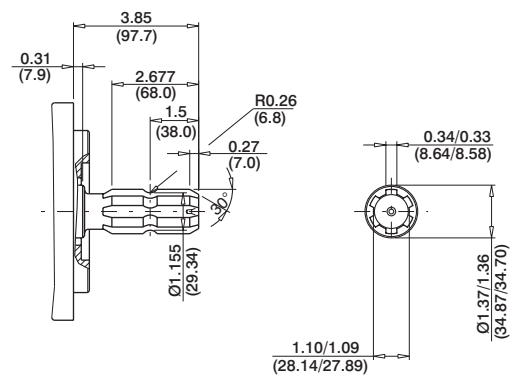
DIN 5462
B8x32x36



Shaft code W

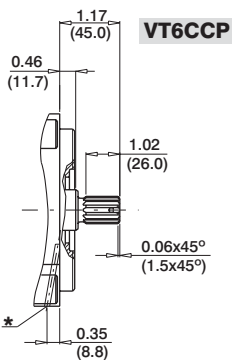


Shaft code X

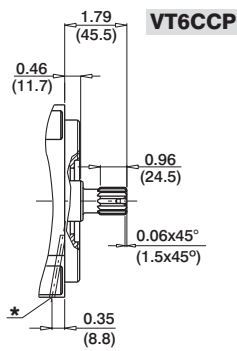


Shaft code T

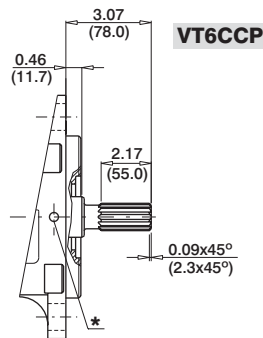
SAE J718C
540 rpm power take-off
For Farm Tractor application



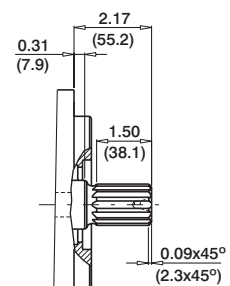
Shaft code 3
no SAE splined shaft
Class 1-J498b
16/32 dp. 13 teeth
30° pressure angle
Flat root side fit



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)

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)

Direction of rotation (view on shaft end)

- R - clockwise
- L - counter-clockwise

Modification

Mounting W/connection variables

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

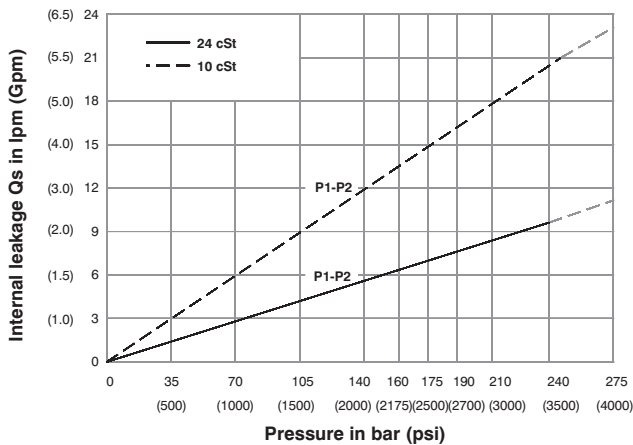
- 1 - S1 (for mineral oil)
- 4 - S4 (for fire resistant fluids)
- 5 - S5 (for mineral oil and fire resistant fluids)

Design letter

Porting combination (see page BM-1-5)

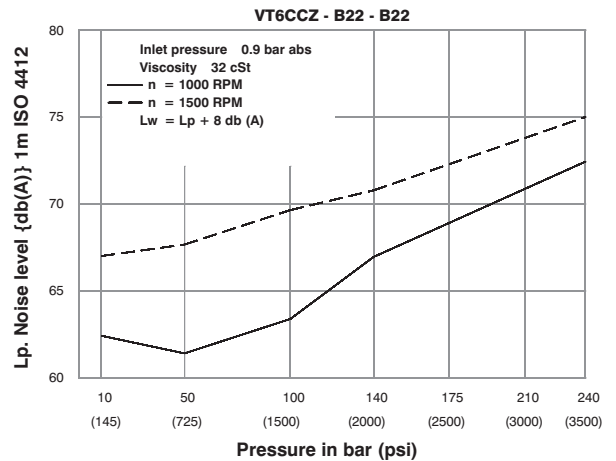
00 - standard

INTERNAL LEAKAGE (TYPICAL)



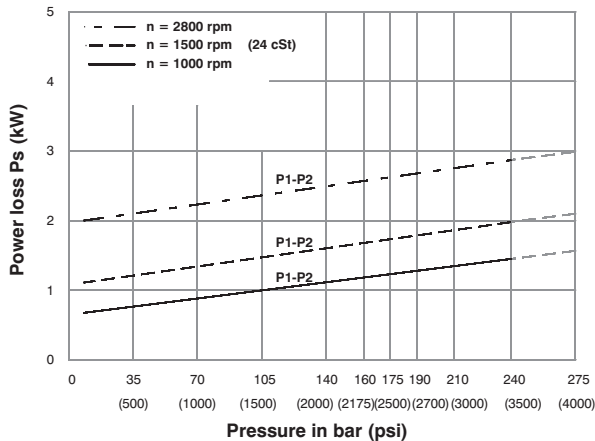
Do not operate pump more than 5 seconds at any speed or viscosity if internal leakage is more than 50% of theoretical flow. Total leakage is the sum of each section loss at its operating conditions.

NOISE LEVEL (TYPICAL)



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

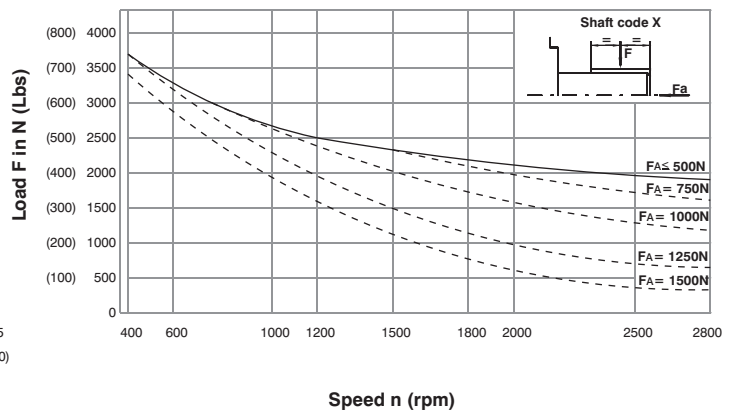
HYDROMECHANICAL POWER LOSS (TYPICAL)



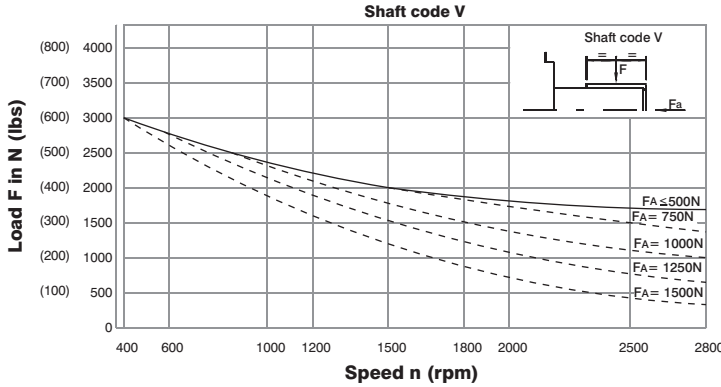
Total hydrodynamic power loss is the sum of each section at its operating conditions.

PERMISSIBLE RADIAL LOAD

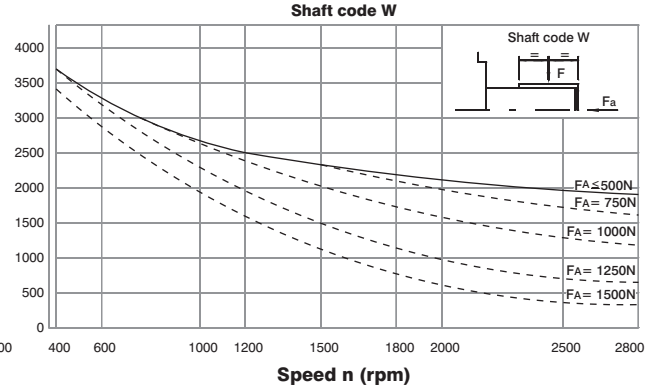
Shaft code X



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.

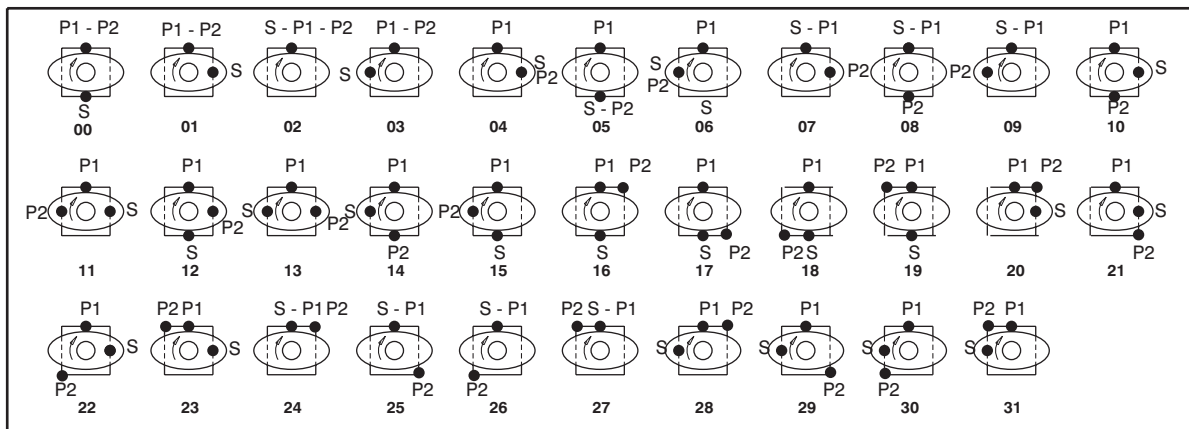
If F_a is smaller than minimum axial force on the curves then

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

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

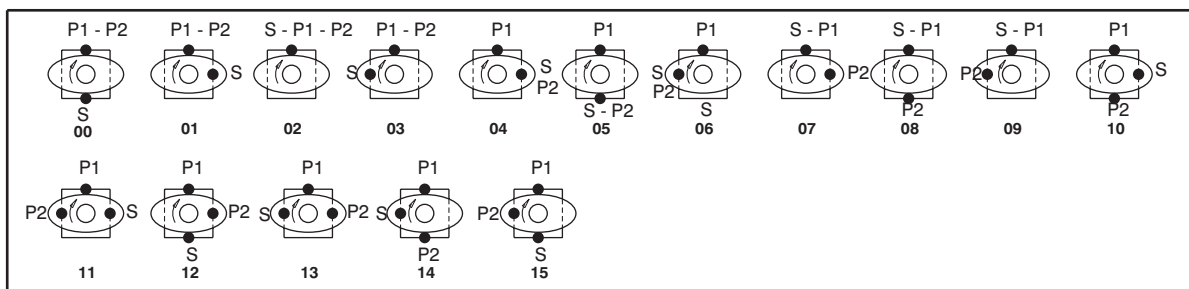


VT6CC/VT6CCM -VT6CCSH-VT6DC/VT6DCM -VT6EC/VT6ECM-VT6CP-VT6GCC

VT7BB/VT7BBS-VT7QCC-VT7DB/VT7DBS-VT7QDC

VT7EB/VT7EBS-VT7QEC

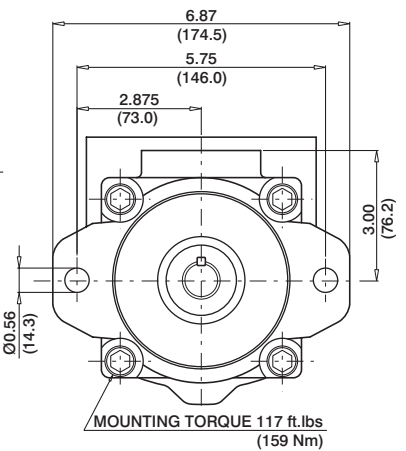
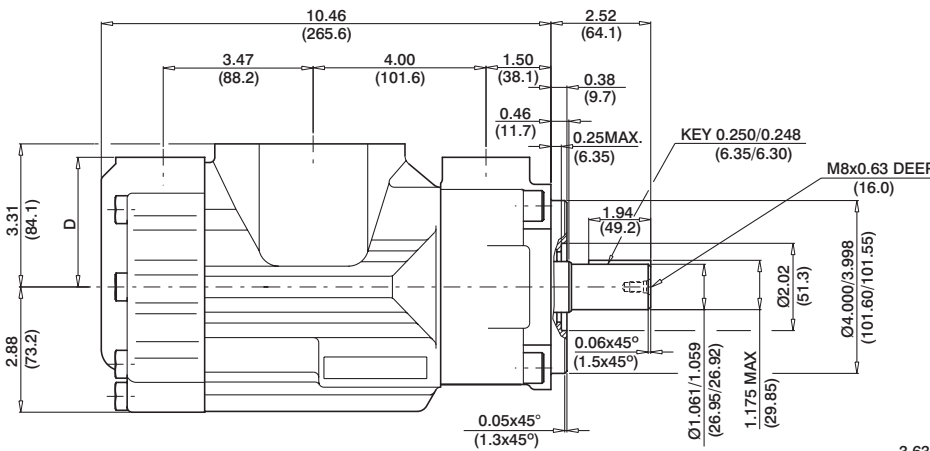
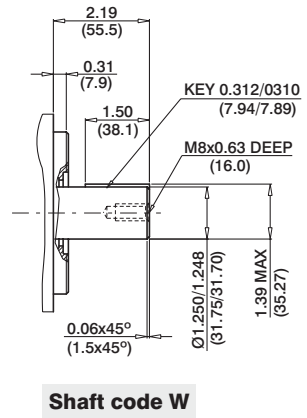
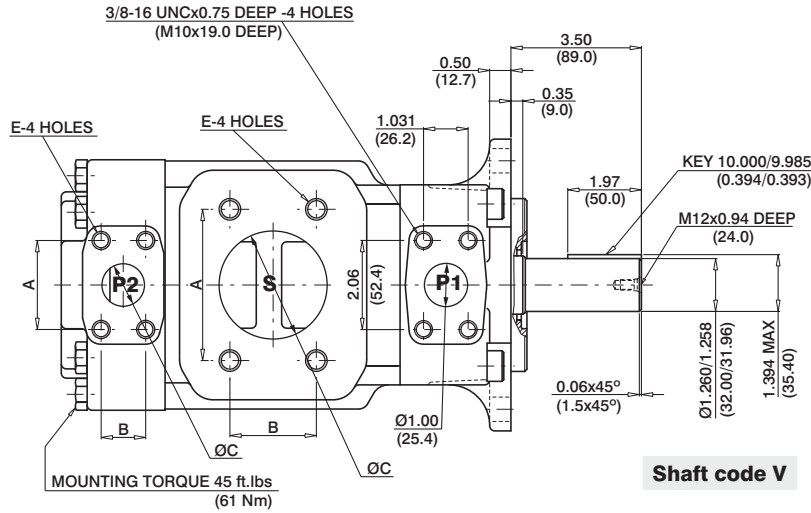
VT67CB-VT67DB-VT67EB-VT67BB-VT67CB-VT67EC



VT6DDS-VT6ED/VT6EDM-VT6EES

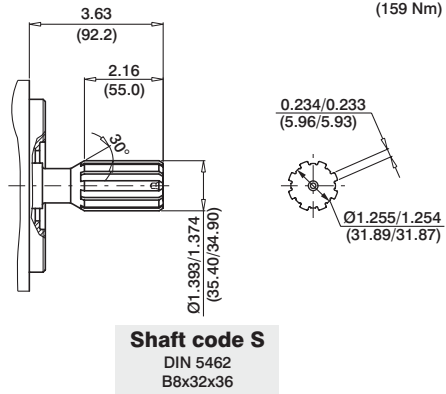
VT7DD/VT7DDS-VT7ED/VT7EDS

VT7EE/VT7EES



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)	3/8-16UNCx0.75 DEEP (M10x19.0 DEEP)



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.

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

Series

P1 P2

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"		P1=1"-S=2 1/2" ⁽²⁾	
		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

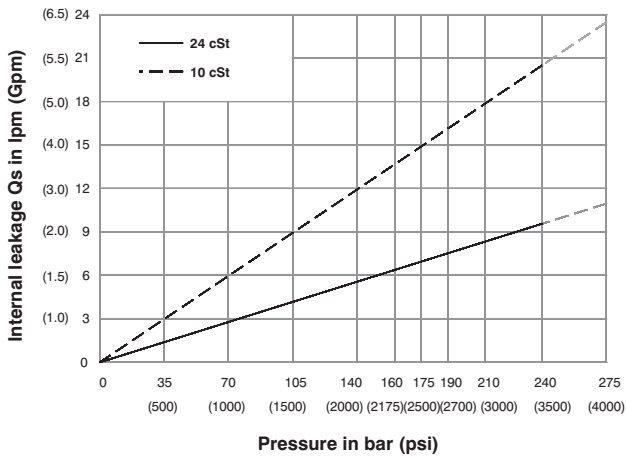
1 - S1

Design letter

Porting combination (see page BM-1-5)

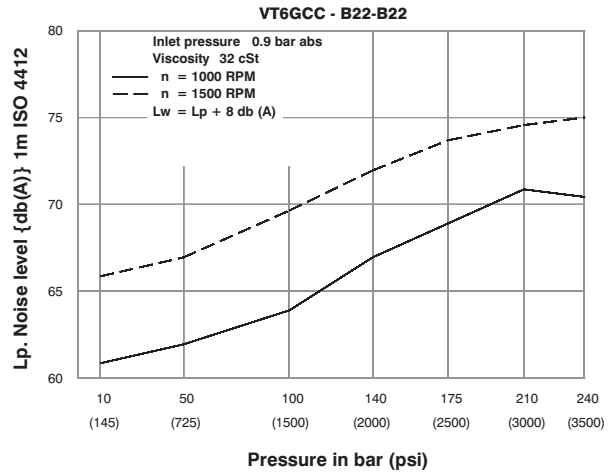
00 - standard

INTERNAL LEAKAGE (TYPICAL)



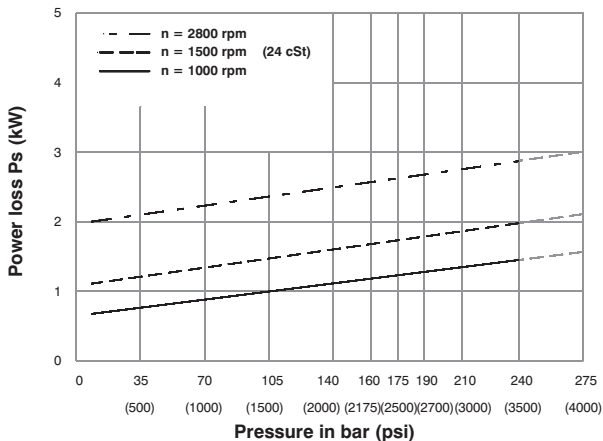
Do not operate pump more than 5 seconds at any speed or viscosity if internal leakage is more than 50% of theoretical flow. Total leakage is the sum of each section loss at its operating conditions.

NOISE LEVEL (TYPICAL)



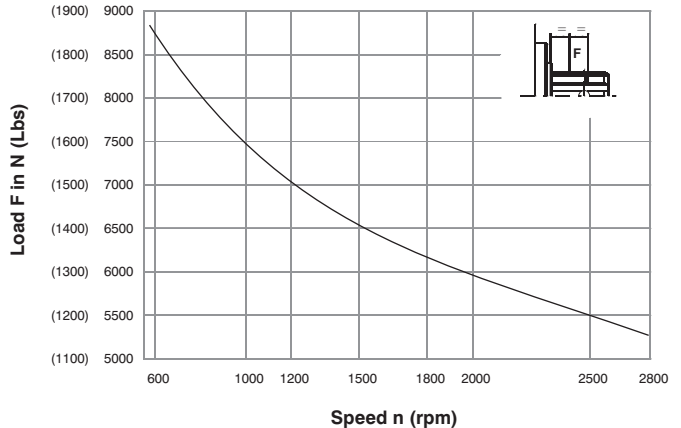
Double pump noise level is given with each section discharging at the pressure noted on the curve.

HYDROMECHANICAL POWER LOSS (TYPICAL)



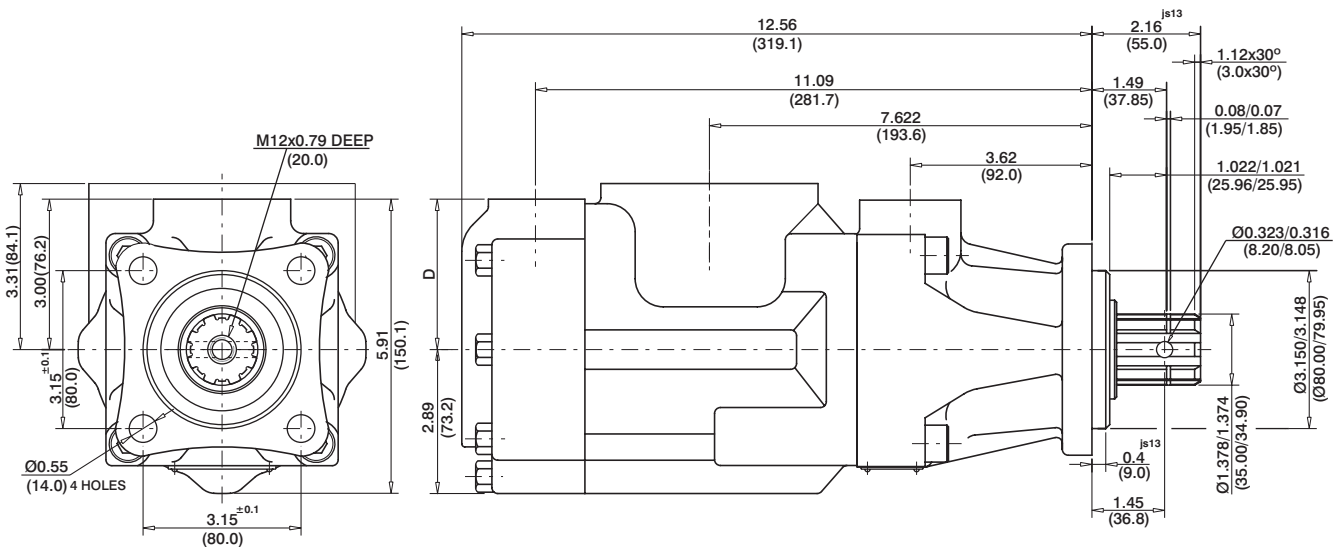
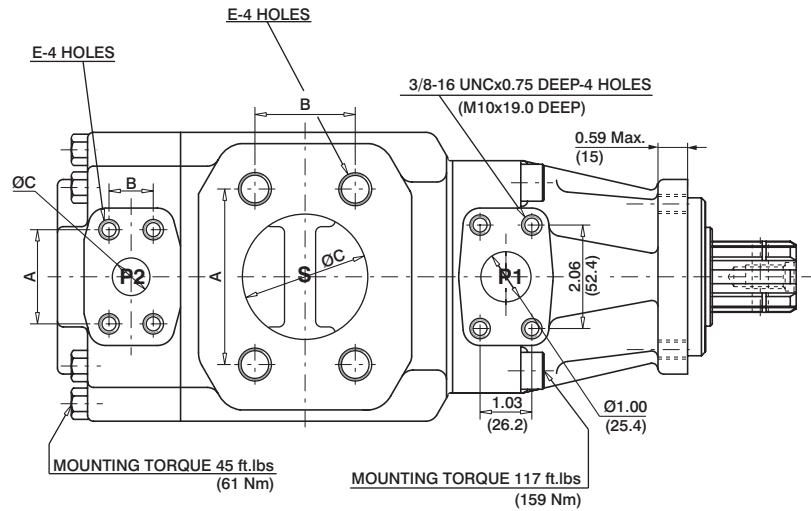
Total hydromechanical power loss is the sum of each section at its operating conditions.

PERMISSIBLE RADIAL LOAD



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





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					
				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.

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

	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 P version

3 - Splined (no SAE)

MW severe duty

5 - keyed (no SAE)

T - Splined (SAE J718c)

Type of shaft

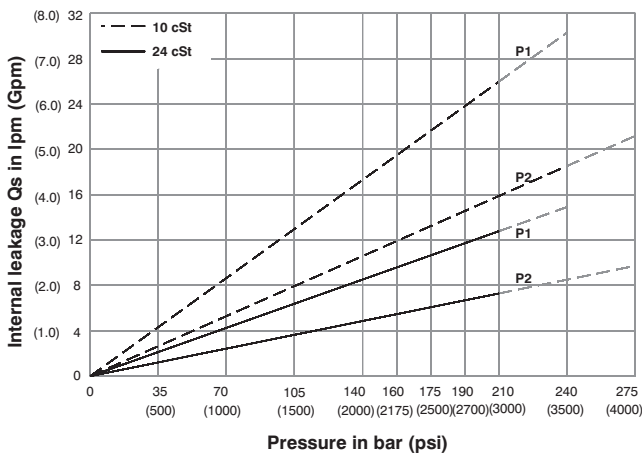
1 - keyed (SAE C)

2 - keyed (no SAE)

3 - splined (SAE C)

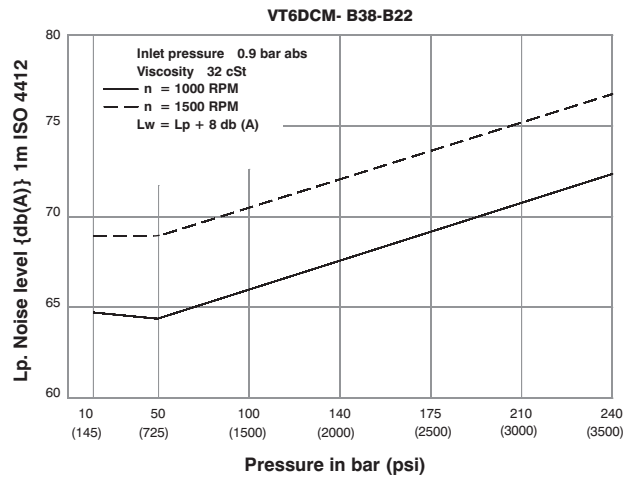
4 - splined (no SAE)

INTERNAL LEAKAGE (TYPICAL)



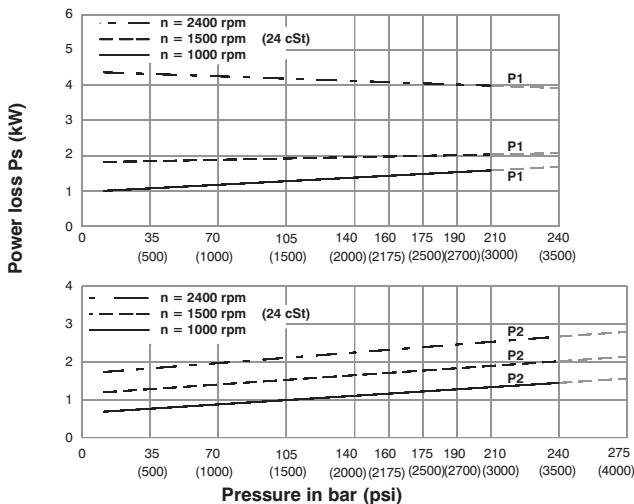
Do not operate pump more than 5 seconds at any speed or viscosity if internal leakage is more than 50% of theoretical flow. Total leakage is the sum of each section loss at its operating conditions.

NOISE LEVEL (TYPICAL)



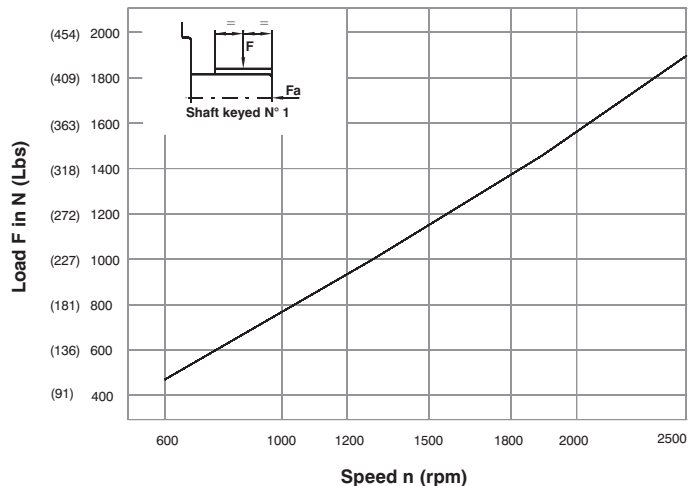
Double pump noise level is given with each section discharging at the pressure noted on the curve.

HYDROMECHANICAL POWER LOSS (TYPICAL)



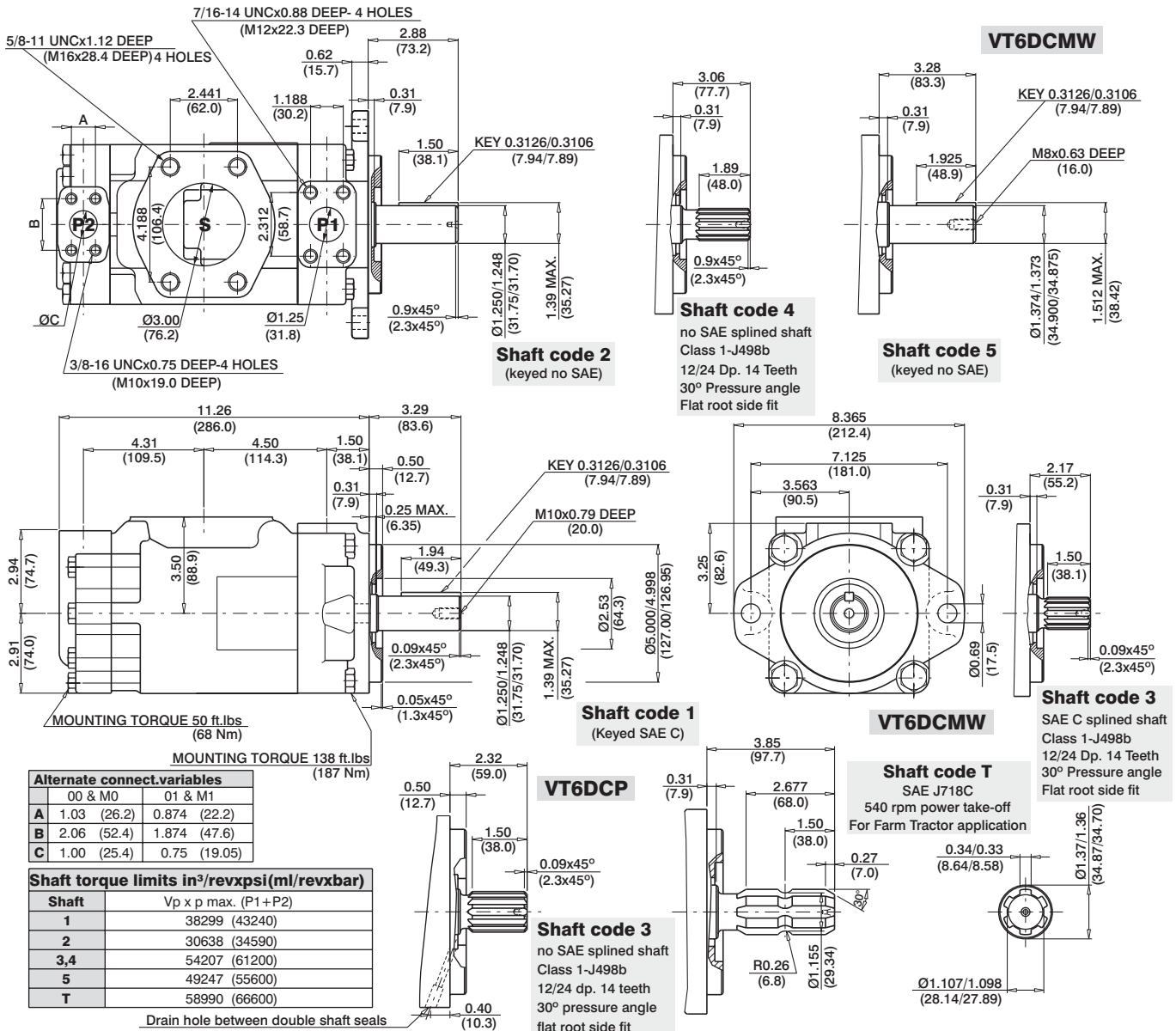
Total hydromechanical power loss is the sum of each section at its operating conditions.

PERMISSIBLE RADIAL LOAD



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





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	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) B61 = 120 bar (1740 psi) max. int, B61 = 80 bar (1160 psi) cont.

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

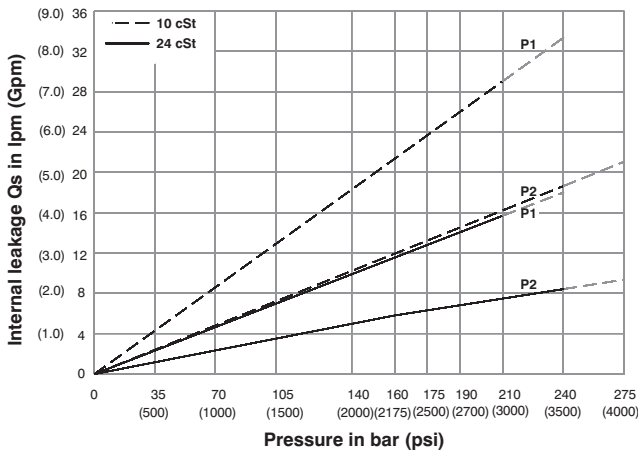
- P version**
- 3 - Splined (no SAE)

Type of shaft

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

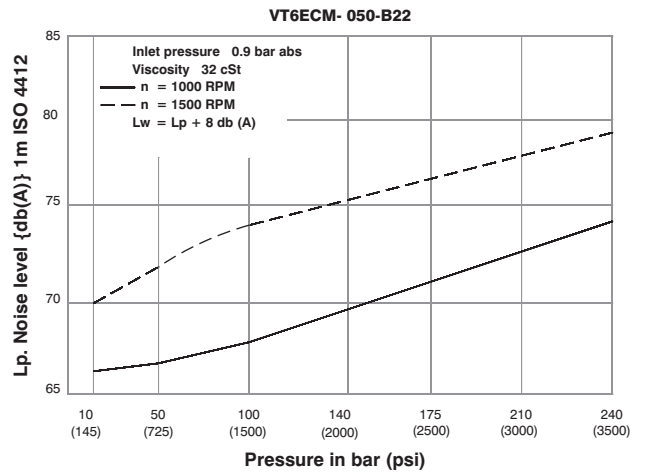


INTERNAL LEAKAGE (TYPICAL)



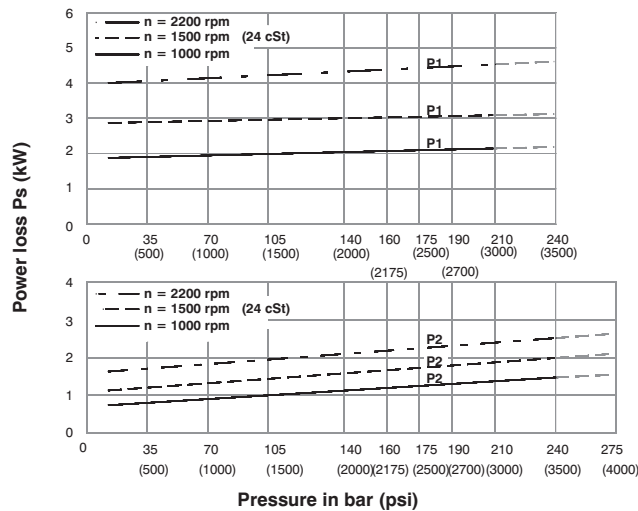
Do not operate pump more than 5 seconds at any speed or viscosity if internal leakage is more than 50% of theoretical flow. Total leakage is the sum of each section loss at its operating conditions.

NOISE LEVEL (TYPICAL)



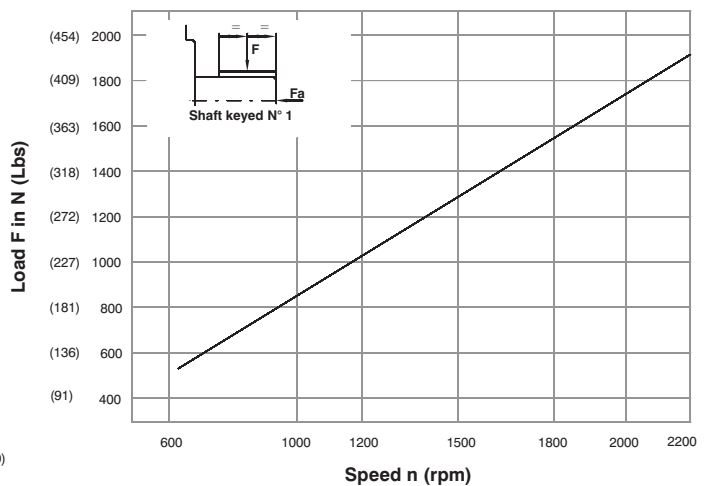
Double pump noise level is given with each section discharging at the pressure noted on the curve.

HYDROMECHANICAL POWER LOSS (TYPICAL)

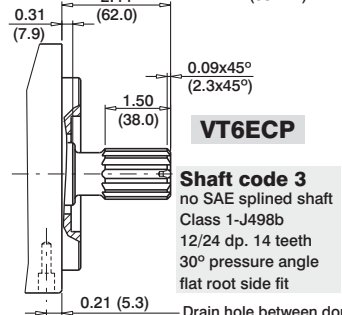
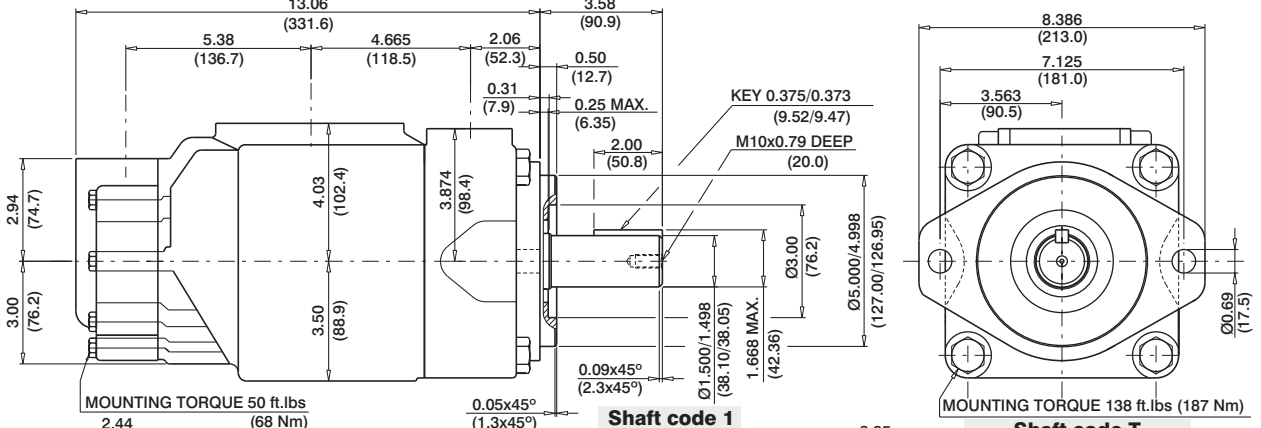
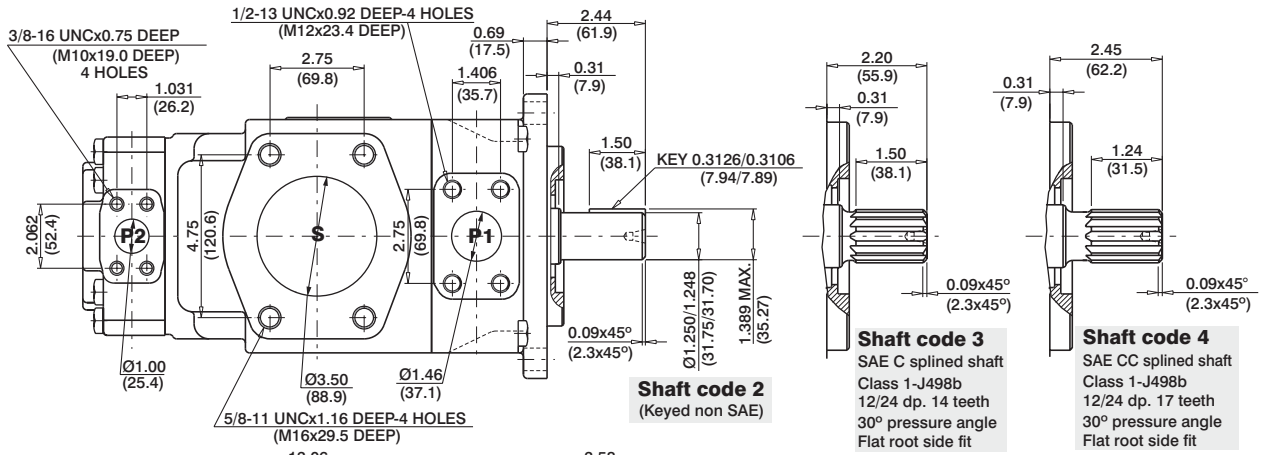


Total hydromechanical power loss is the sum of each section at its operating conditions.

PERMISSIBLE RADIAL LOAD



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



Shaft	Vp x p max. (P1+P2)
1	64044 (72306)
2	30638 (34590)
3	54207 (61200)
4	67582 (76376)
T	63256 (70400)
(VT6ECP) 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					
		Vp		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	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	74.04	55.4
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	81.95	62.4	

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.

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

00 - standard

Direction of rotation (view on shaft end)

- R - clockwise
- L - counter-clockwise

Type of shaft

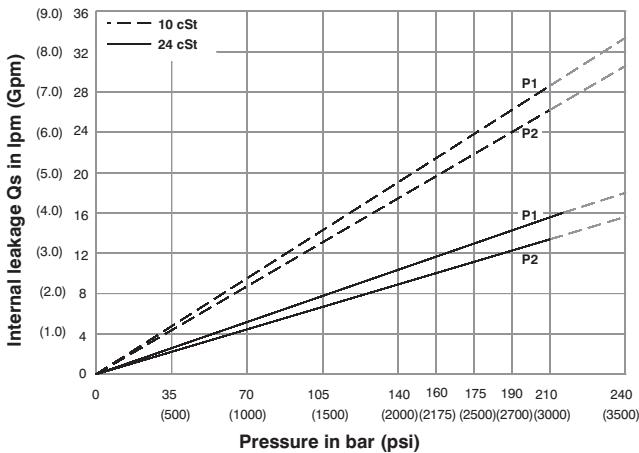
P version
3 - Splined (no SAE)

Type of shaft

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



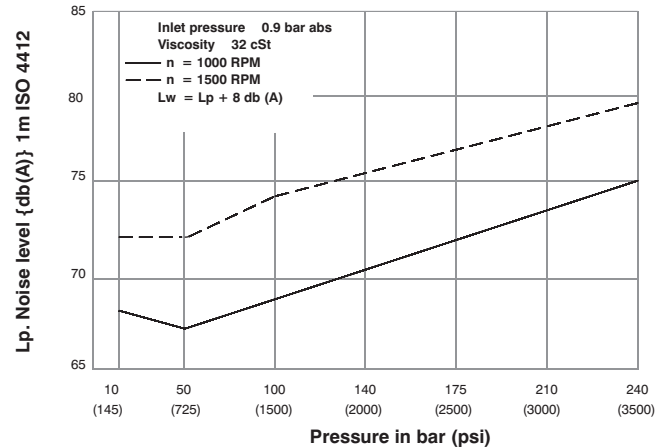
INTERNAL LEAKAGE (TYPICAL)



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.

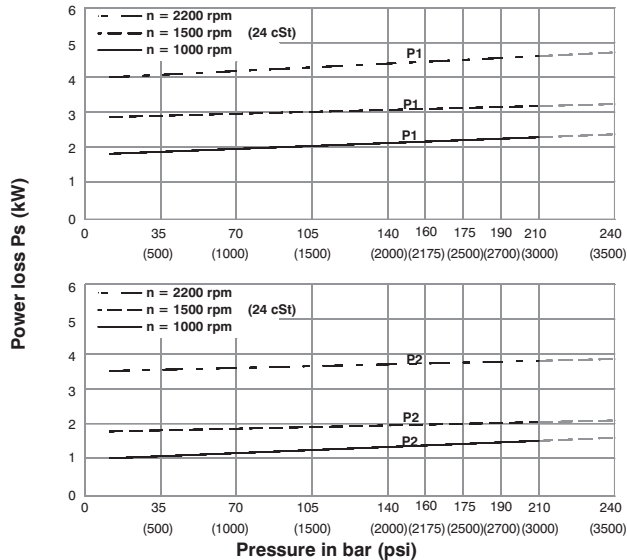
NOISE LEVEL (TYPICAL)

VT6EDM- 050-B38



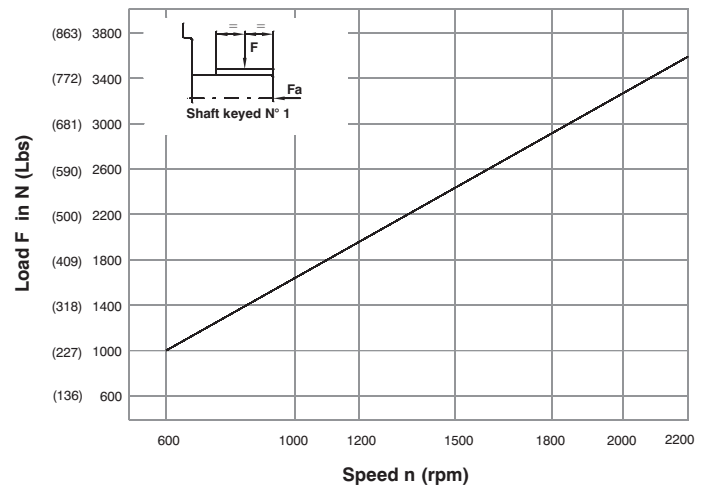
Double pump noise level is given with each section discharging at the pressure noted on the curve.

HYDROMECHANICAL POWER LOSS (TYPICAL)



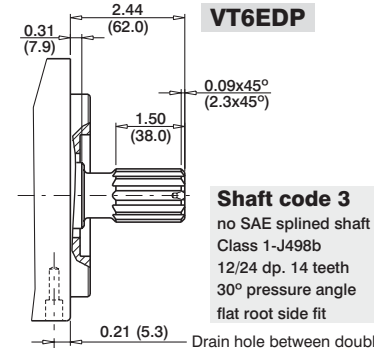
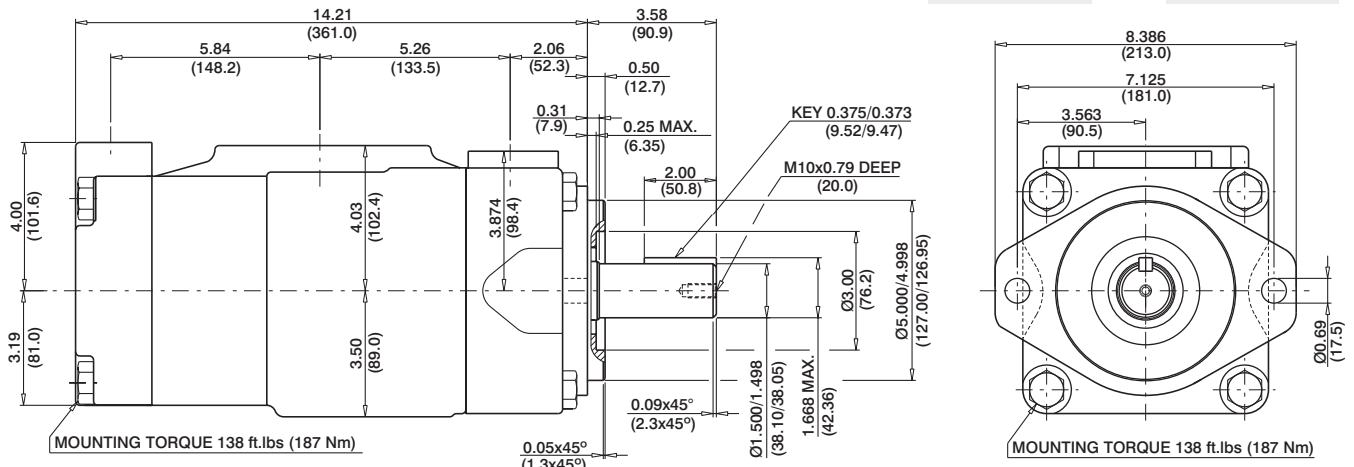
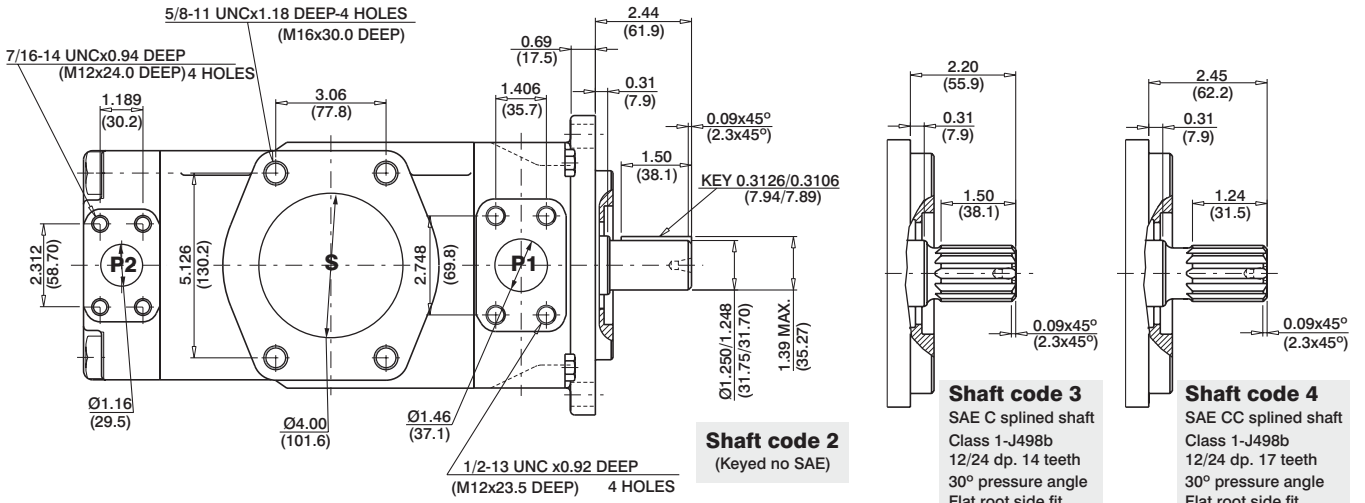
Total hydromechanical power loss is the sum of each section at its operating conditions.

PERMISSIBLE RADIAL LOAD



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

HIGH PERFORMANCE VANE PUMP VT6EDM



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					
		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	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	113.98	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.

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

VT7BB series-100 A2 HW
ISO 2 bolts 3019-2 mounting flange

VT7BBS series- SAE B 2 bolts
Mounting flange J744

Cam ring for "P1" & "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 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"

Seal class

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

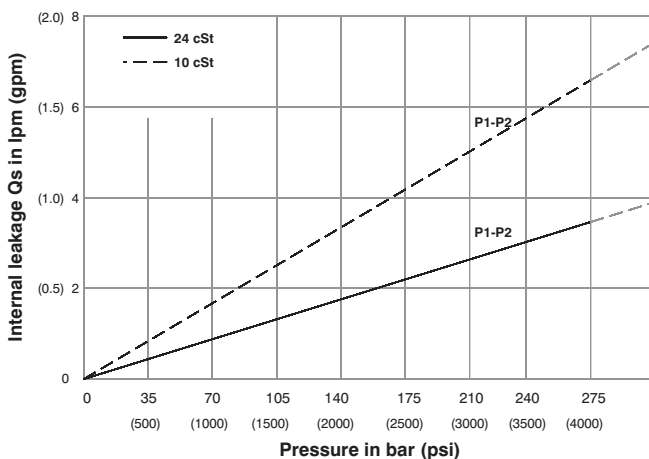
Design letter

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

Direction of rotation (view on shaft end)

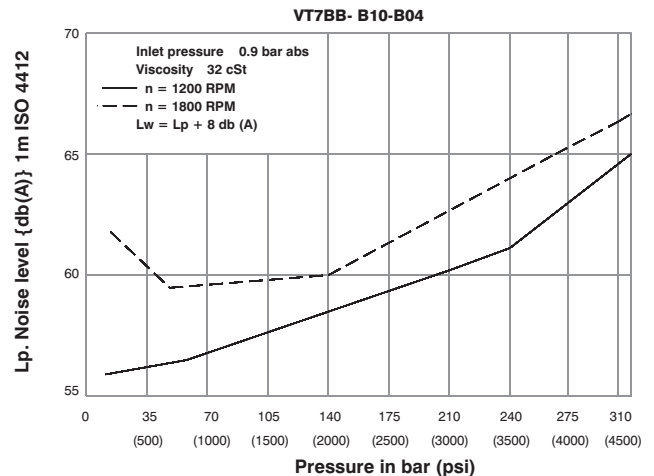
- R - clockwise
- L - counter-clockwise

INTERNAL LEAKAGE (TYPICAL)



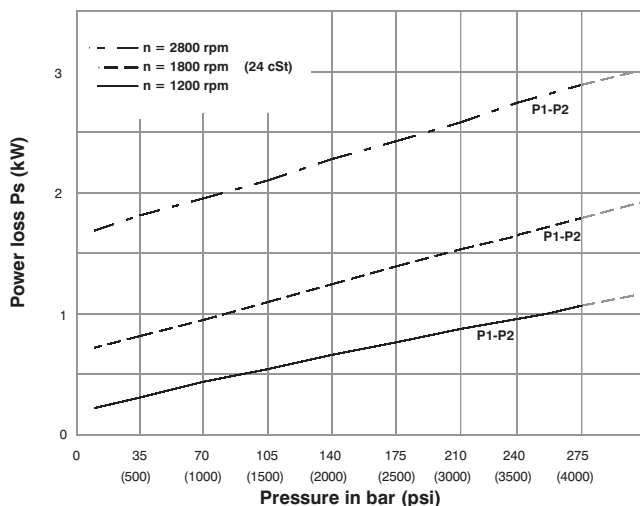
Do not operate pump more than 5 seconds at any speed or viscosity if internal leakage is more than 50% of theoretical flow.
Total leakage is the sum of each section loss at its operating conditions.

NOISE LEVEL (TYPICAL)



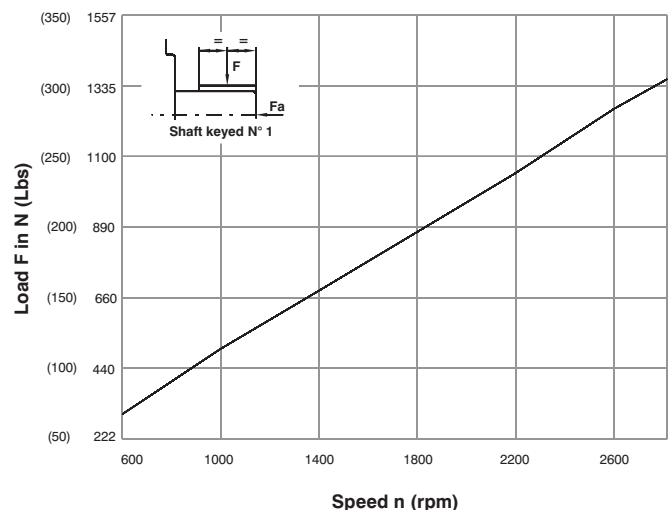
Double pump noise level is given with each section discharging at the pressure noted on the curve.

HYDROMECHANICAL POWER LOSS (TYPICAL)



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

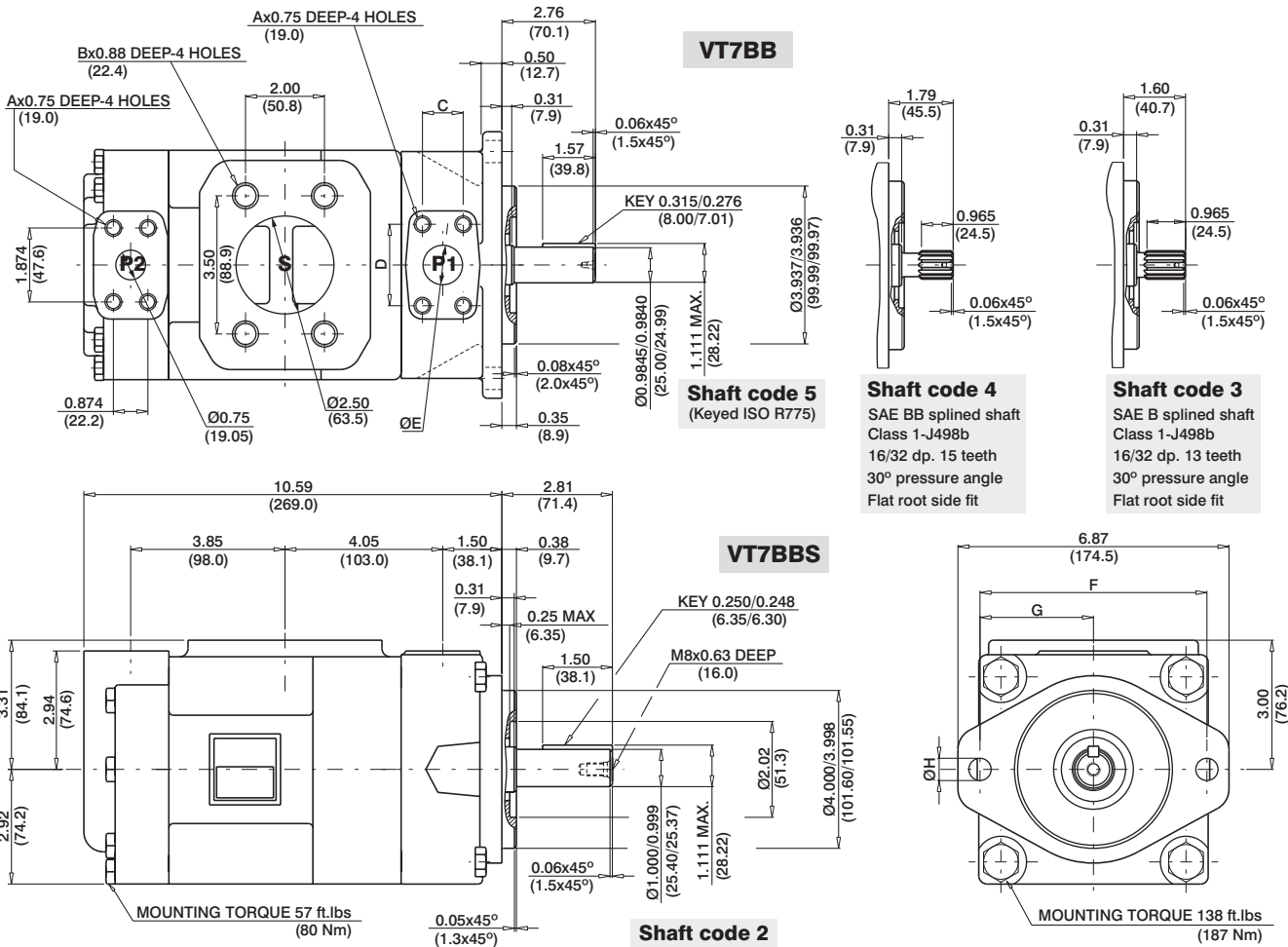
PERMISSIBLE RADIAL LOAD



Maximum permissible axial load $F_a = 800$ N (180 Lbs)



HIGH PERFORMANCE VANE PUMP VT7BB / VT7BBS



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	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						
		in ³ /rev	cm ³ /rev	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)	
				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

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"	
	Unc	Metric	Unc	Metric
P2	1"	3/4"	1"	3/4"
	00	01	10	11
	OM	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

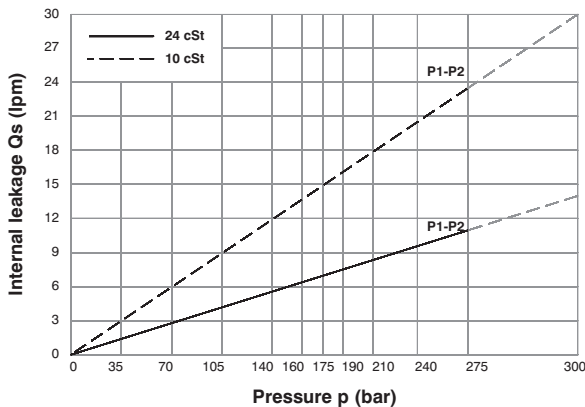
Porting combination (see page BM-1-5)

00 - standard

Direction of rotation (view on shaft end)

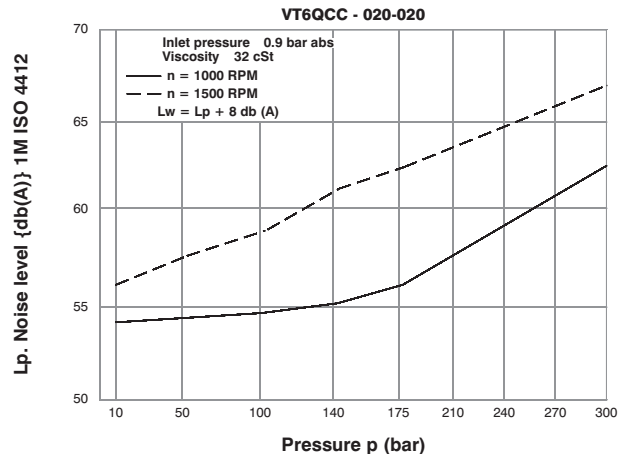
- R - clockwise
- L - counter-clockwise

INTERNAL LEAKAGE (TYPICAL)



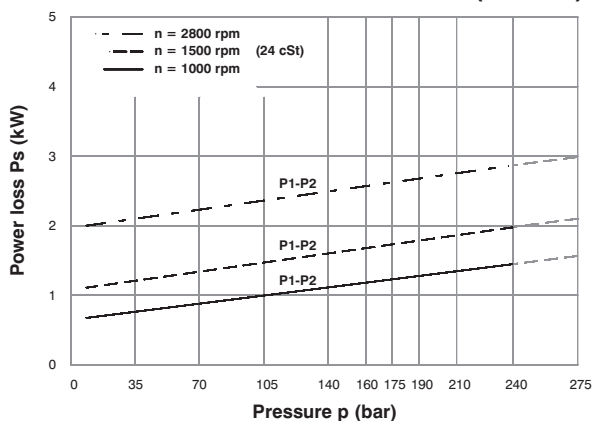
Do not operate pump more than 5 seconds at any speed or viscosity if internal leakage is more than 50% of theoretical flow. Total leakage is the sum of each section loss at its operating conditions.

NOISE LEVEL (TYPICAL)



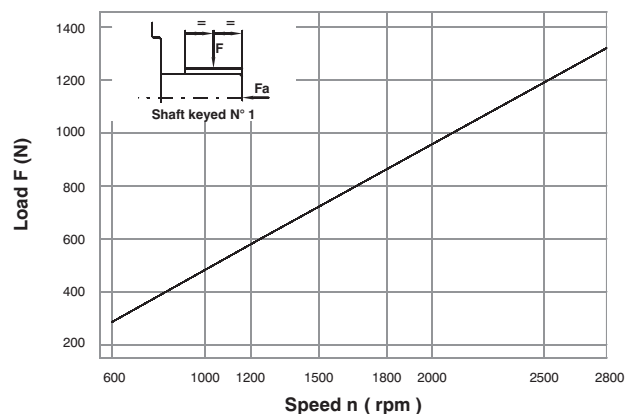
Double pump noise level is given with each section discharging at the pressure noted on the curve.

HYDROMECHANICAL POWER LOSS (TYPICAL)



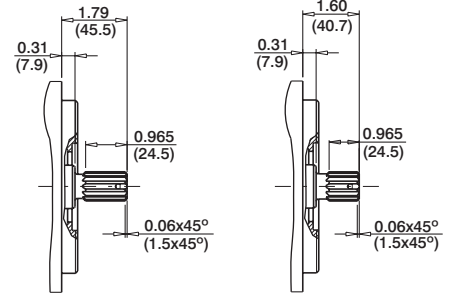
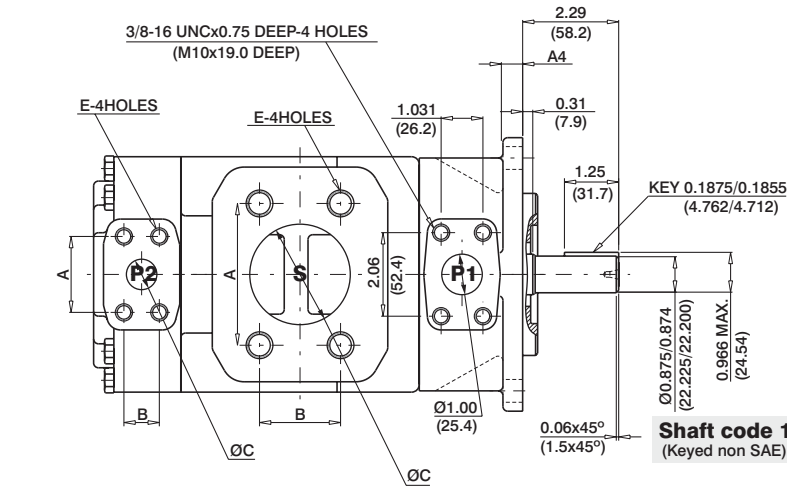
Total hydromechanical power loss is the sum of each section at its operating conditions.

PERMISSIBLE RADIAL LOAD



Maximum permissible axial load Fa = 800 N



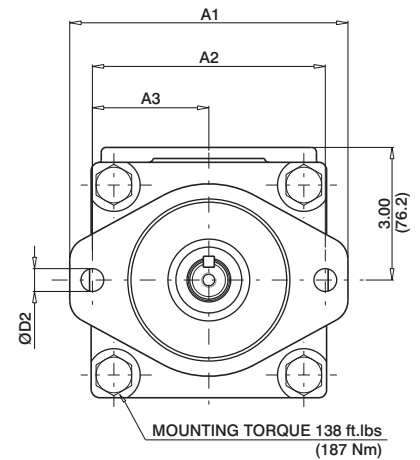
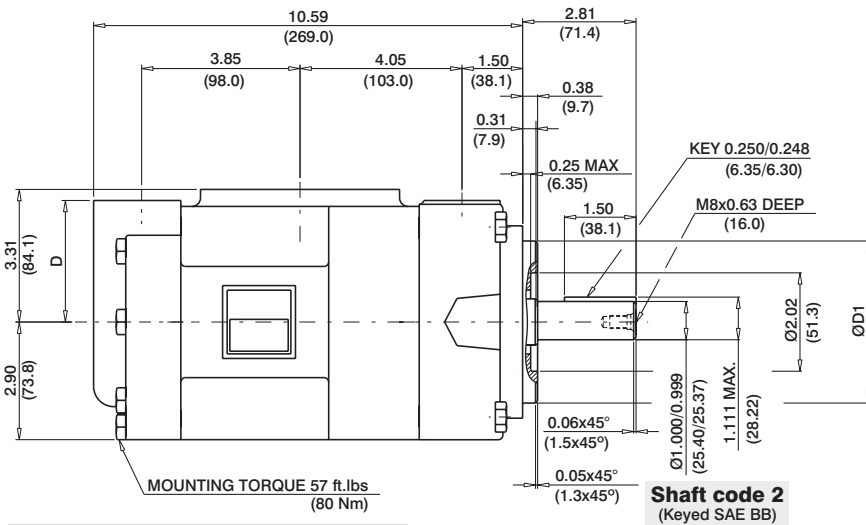


Shaft code 3

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 torque limits in³/revxpsi(ml/revxbar)

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)	

Mounting	VT7QCC1	VT7QCC2
	SAE B	SAE C
ØD1	4.000 (101.60)	5.000 (127.00)
	3.998 (101.55)	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)

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.

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

VT7DB series-125 A2 HW
ISO 2 bolts 3019-2 mounting flange

VT7DBS 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"

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

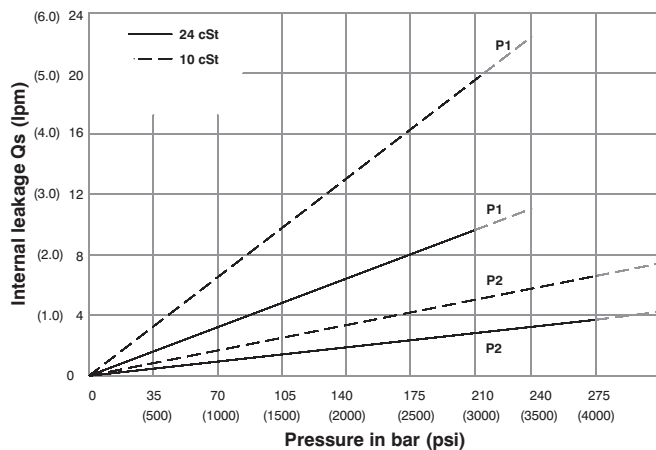
Type of shaft VT7DBS

- 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)

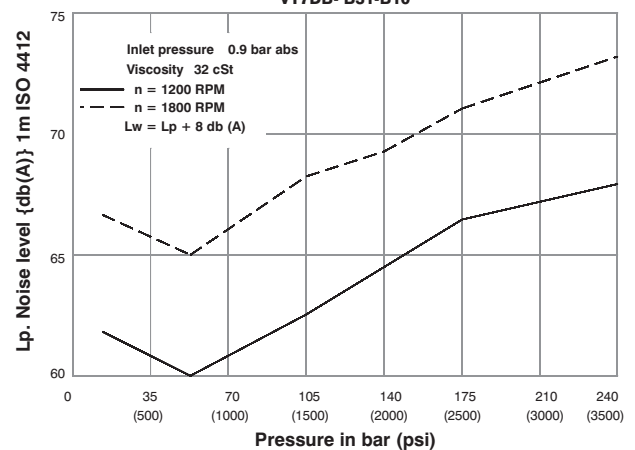
INTERNAL LEAKAGE (TYPICAL)



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.

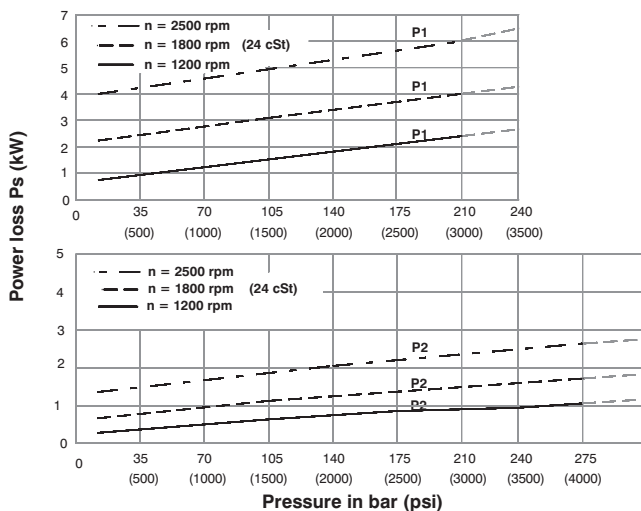
NOISE LEVEL (TYPICAL)

VT7DB- B31-B10



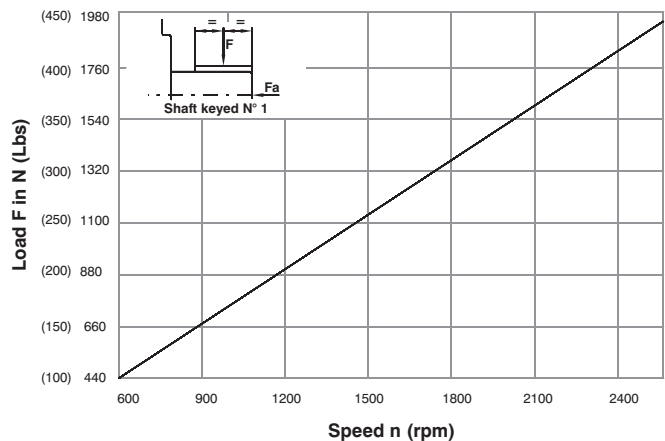
Double pump noise level is given with each section discharging at the pressure noted on the curve.

HYDROMECHANICAL POWER LOSS (TYPICAL)



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

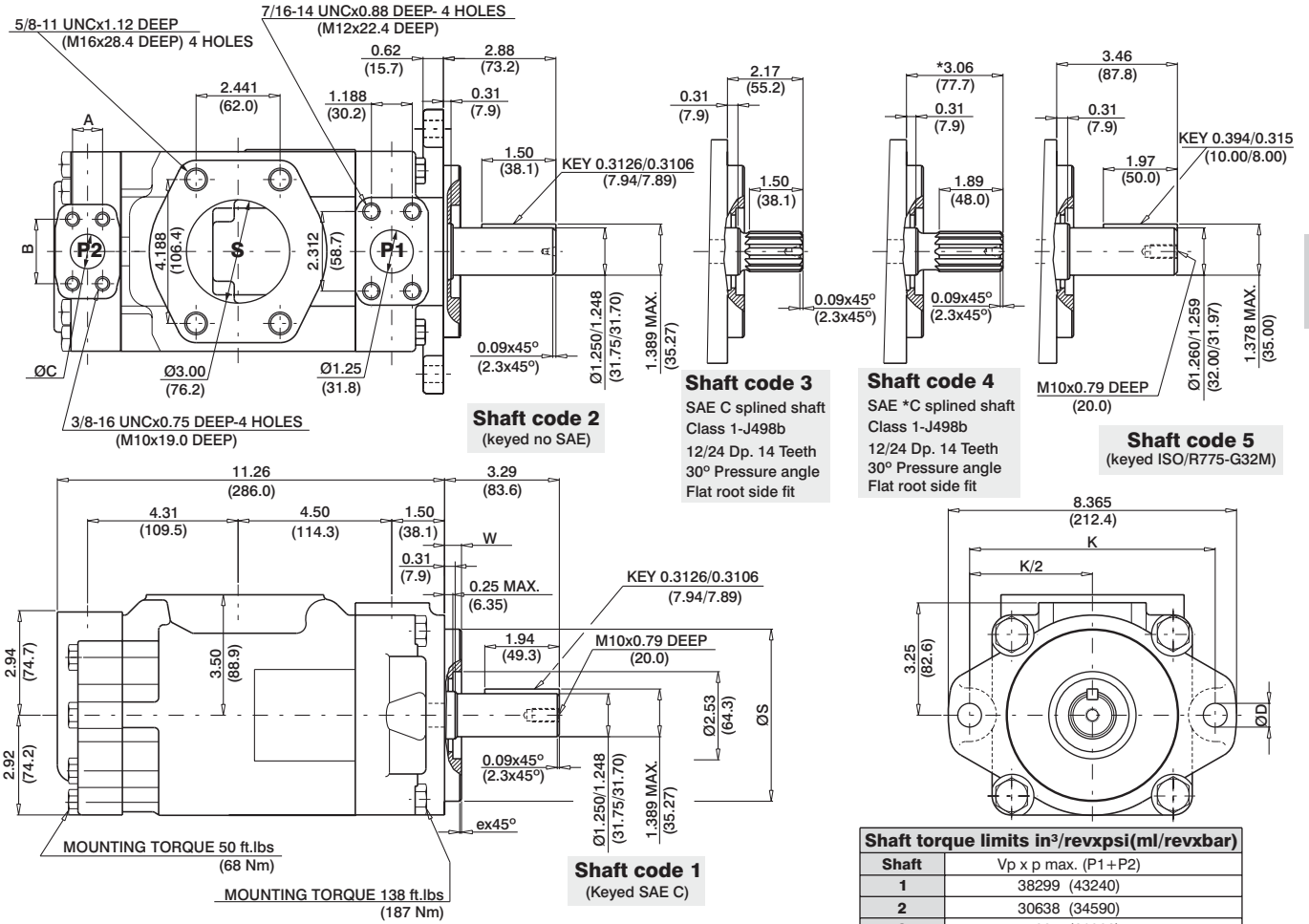
PERMISSIBLE RADIAL LOAD



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



HIGH PERFORMANCE VANE PUMP VT7DB / VT7DBS



Alternate mounting flange						
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 torque limits in ² /revxpsi(ml/revxbar)	
Shaft	Vp x p max. (P1 + P2)
1	38299 (43240)
2	30638 (34590)
3	54207 (61200)
4	54207 (61200)
5	37644 (42542)

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 = 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)						
	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

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

Series



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

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

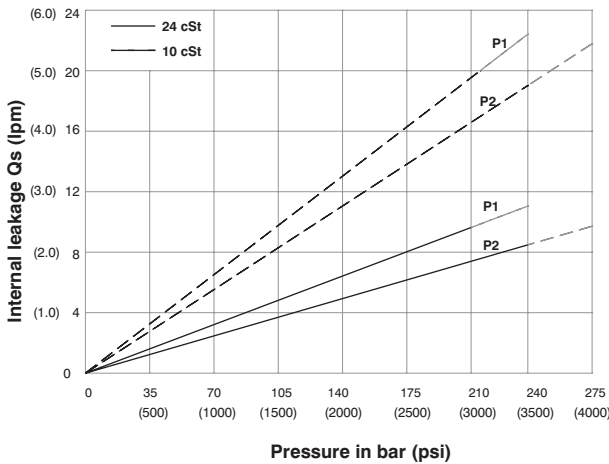
Direction of rotation (view on shaft end)

- R - clockwise
- L - counter-clockwise

Type of shaft

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

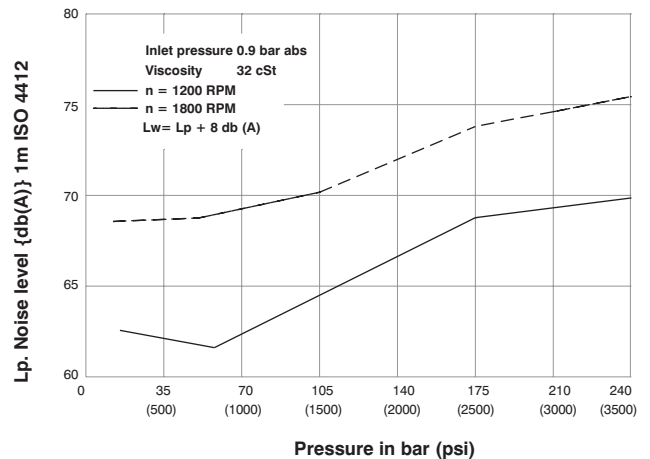
INTERNAL LEAKAGE (TYPICAL)



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.

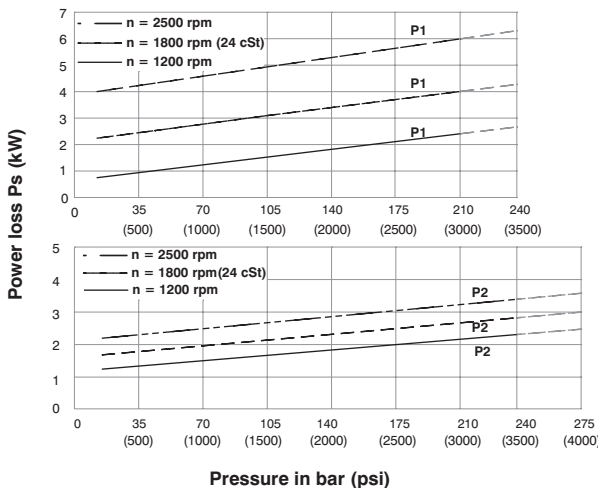
NOISE LEVEL (TYPICAL)

VT7QDC - B31-022



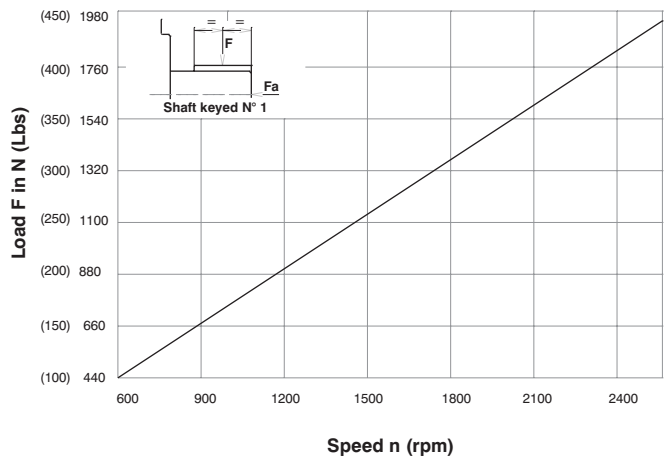
Double pump noise level is given with each section discharging at the pressure noted on the curve.

HYDROMECHANICAL POWER LOSS (TYPICAL)



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

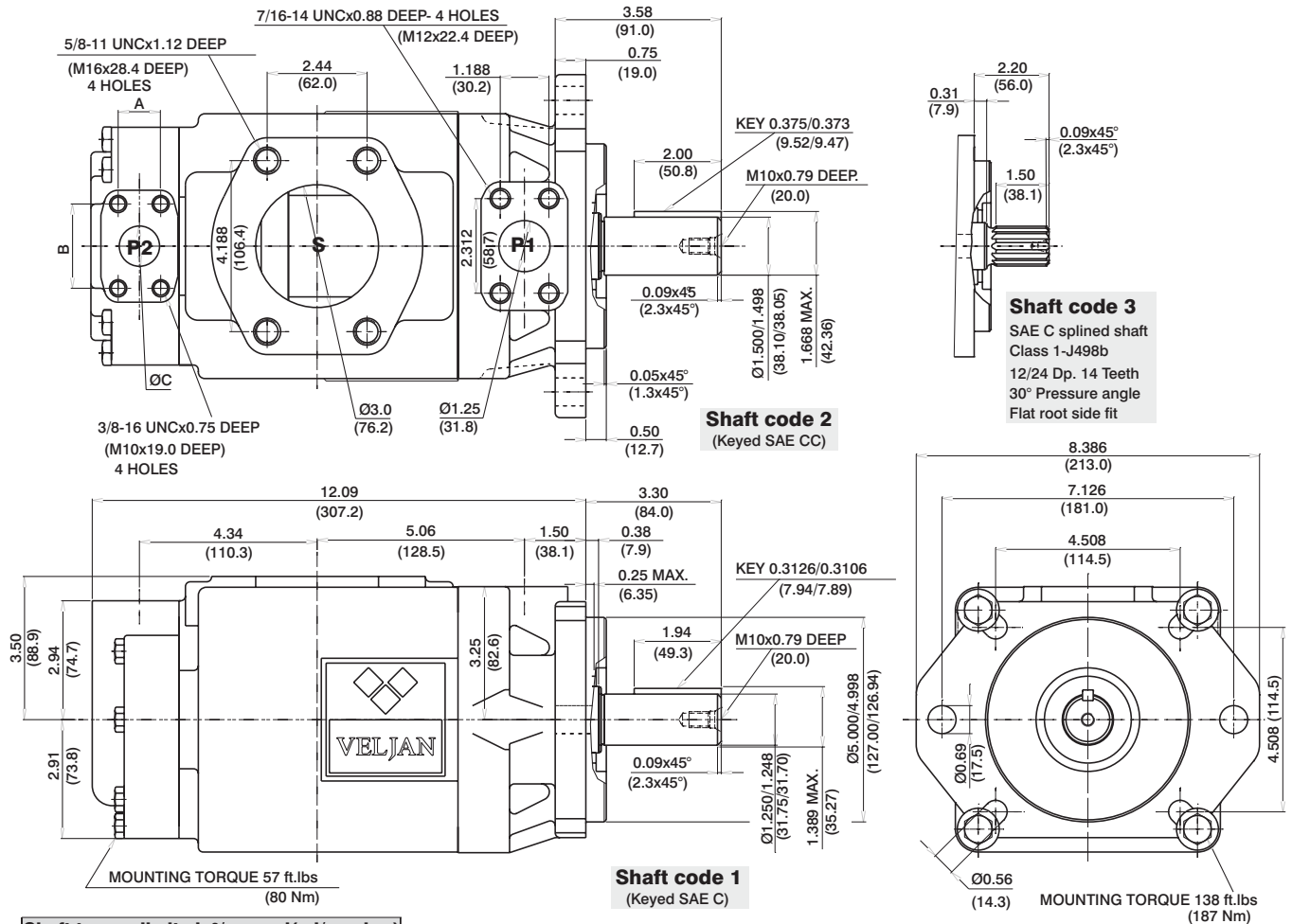
PERMISSIBLE RADIAL LOAD



Maximum permissible axial load Fa = 1200 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	Vp x p max. (P1+P2)
1	38299 (43240)
2	30638 (34590)
3	54207 (61200)

	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 = 7 bar (100 psi)	p = 140 bar (2000 psi)	p = 250 bar (3630 psi)	hp	kw	hp	kw	hp	kw
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	154.50	114.00	
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)	hp	kw	hp	kw	hp	kw
	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

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 J744

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) 045 = 145.7 (8.89)

B28 = 89.9 (5.49) 050 = 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)

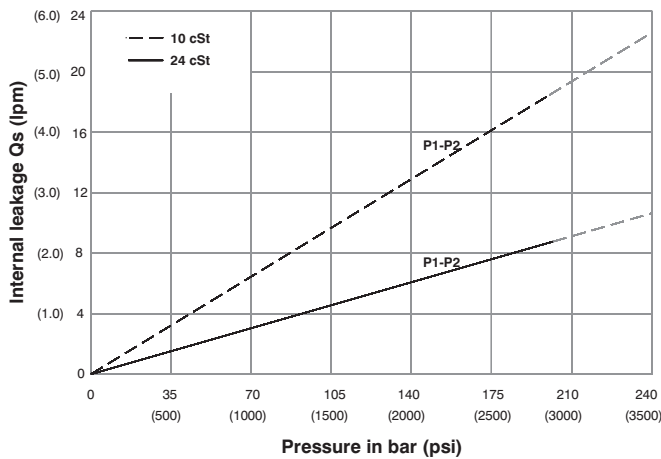
00 - standard

Direction of rotation (view on shaft end)

R - clockwise

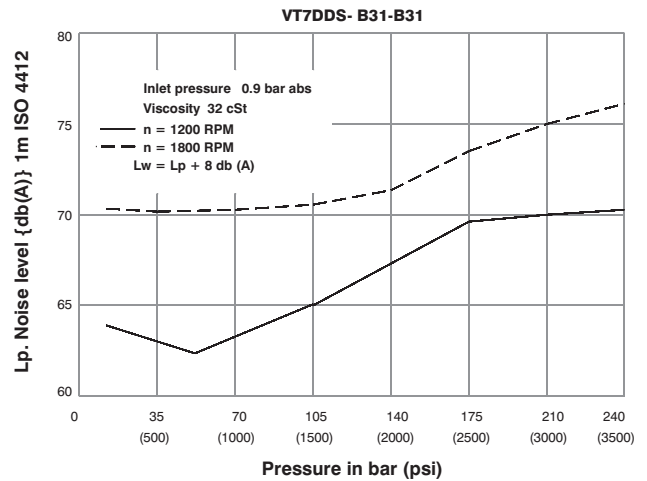
L - counter-clockwise

INTERNAL LEAKAGE (TYPICAL)



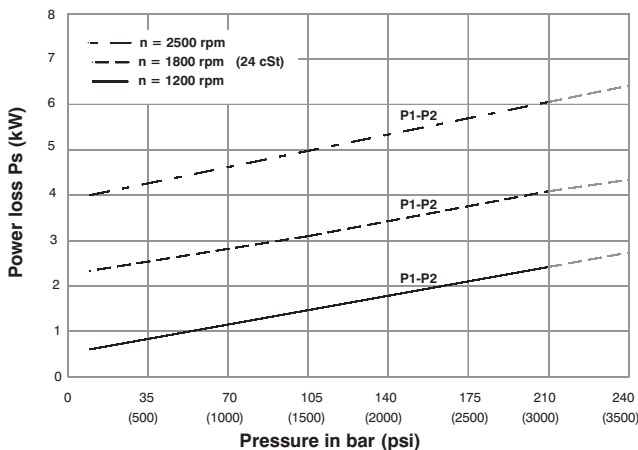
Do not operate pump more than 5 seconds at any speed or viscosity if internal leakage is more than 50% of theoretical flow. Total leakage is the sum of each section loss at its operating conditions.

NOISE LEVEL (TYPICAL)



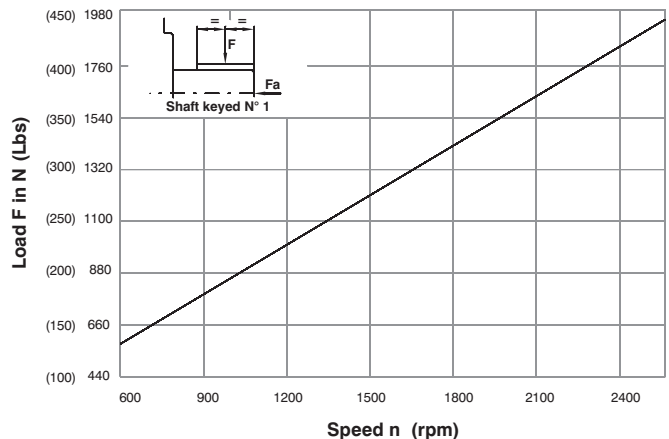
Double pump noise level is given with each section discharging at the pressure noted on the curve.

HYDROMECHANICAL POWER LOSS (TYPICAL)



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

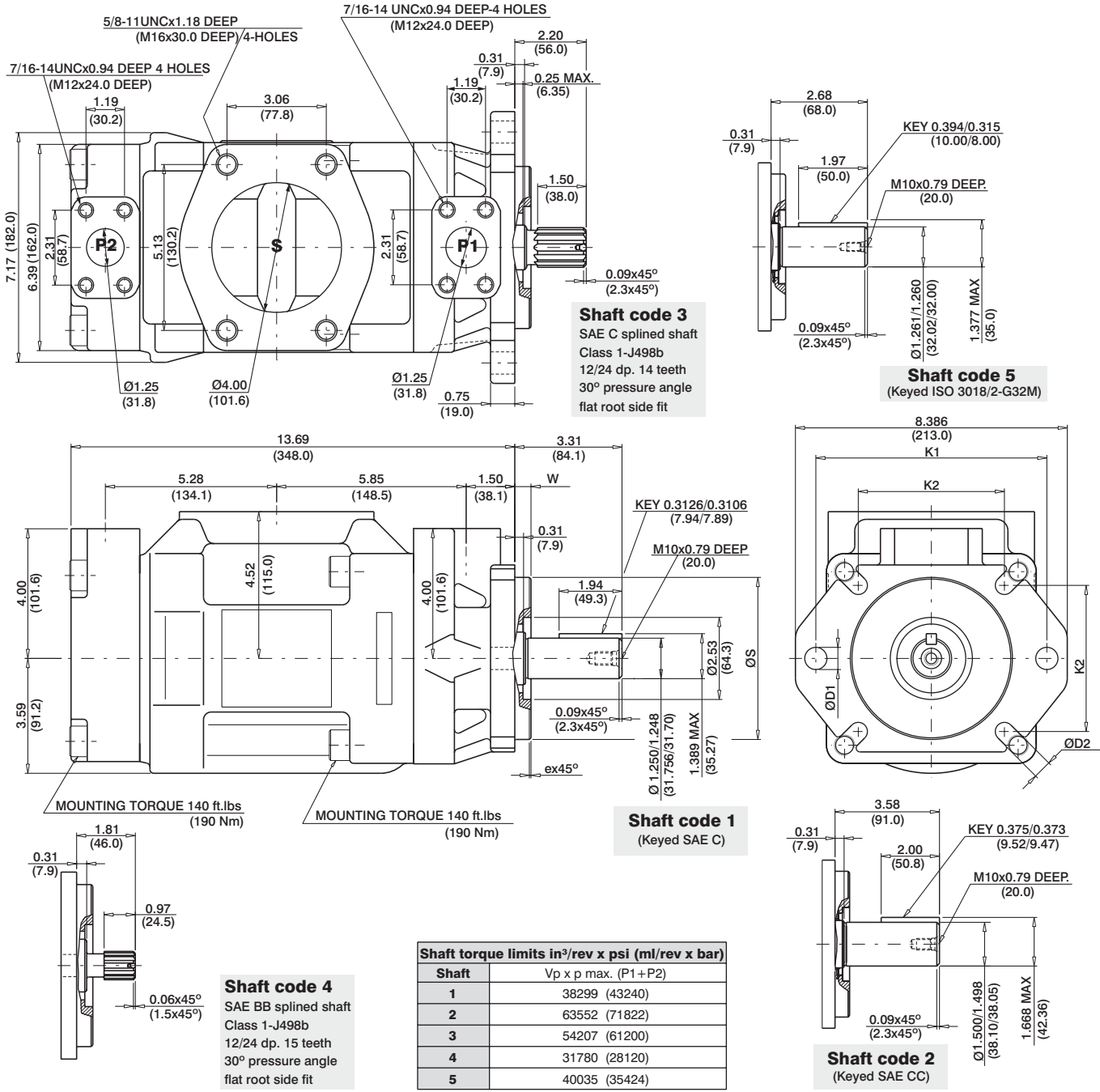
PERMISSIBLE RADIAL LOAD



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



HIGH PERFORMANCE VANE PUMP VT7DD / VT7DDS



Series	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					
		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 & 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
	O45 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
	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	154.50	115.30

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.

VT7EB or VT7EBS - 042 - B12 - 1 R 00 - A 1 01 *

Series

VT7EB series-ISO 4 bolts 3019-2

Mounting flange 125-A2 HW

VT7EBS series- SAE C 2 bolts

Mounting flange J744

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)

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=3-1/2"		
	VT7EBS	VT7EB-VT7EBS
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

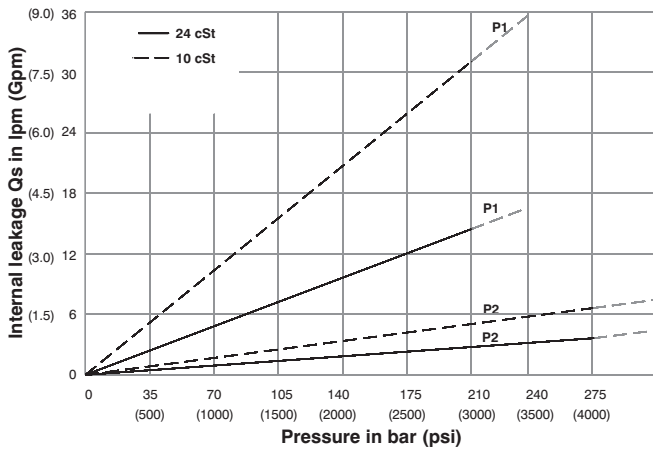
Type of shaft VT7EBS

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

Type of shaft VT7EB- VT7EBS

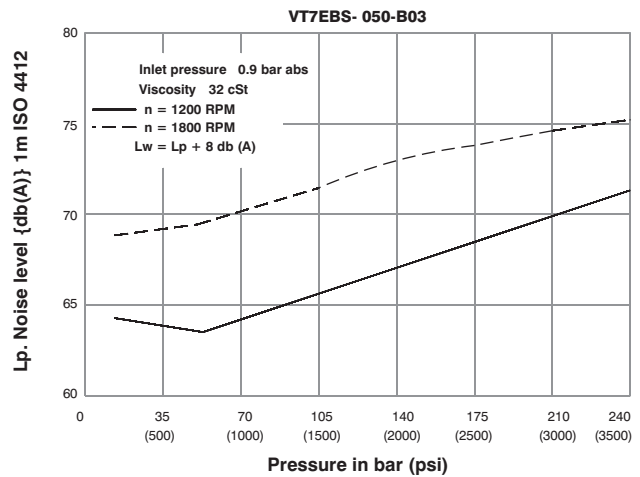
5 - keyed (ISO/R775 -G38M)

INTERNAL LEAKAGE (TYPICAL)



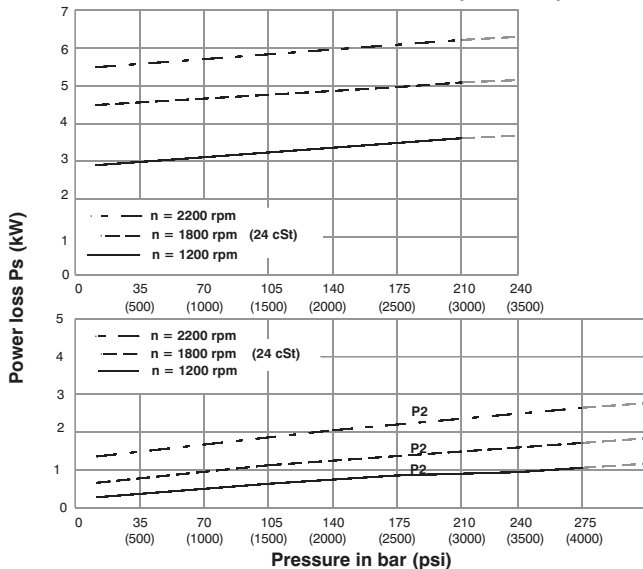
Do not operate pump more than 5 seconds at any speed or viscosity if internal leakage is more than 50% of theoretical flow. Total leakage is the sum of each section loss at its operating conditions.

NOISE LEVEL (TYPICAL)



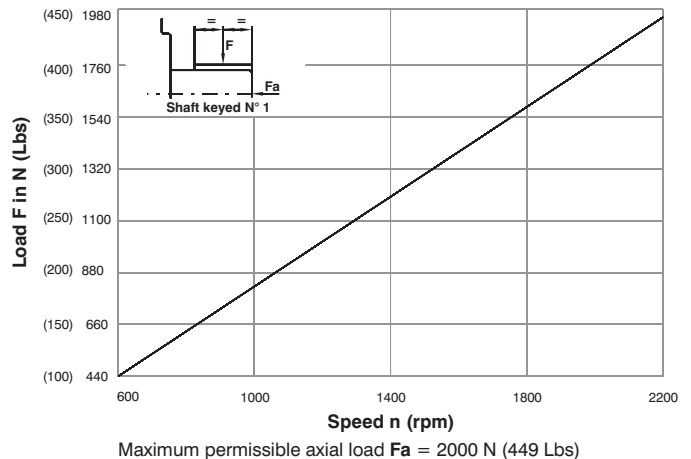
Double pump noise level is given with each section discharging at the pressure noted on the curve.

HYDROMECHANICAL POWER LOSS (TYPICAL)



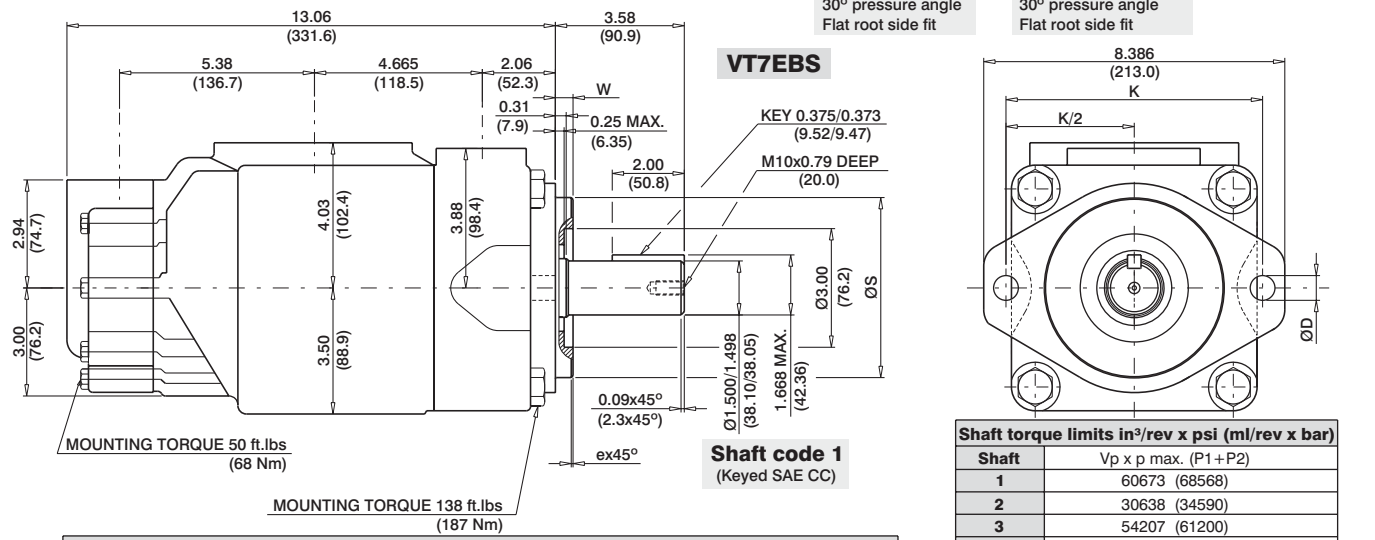
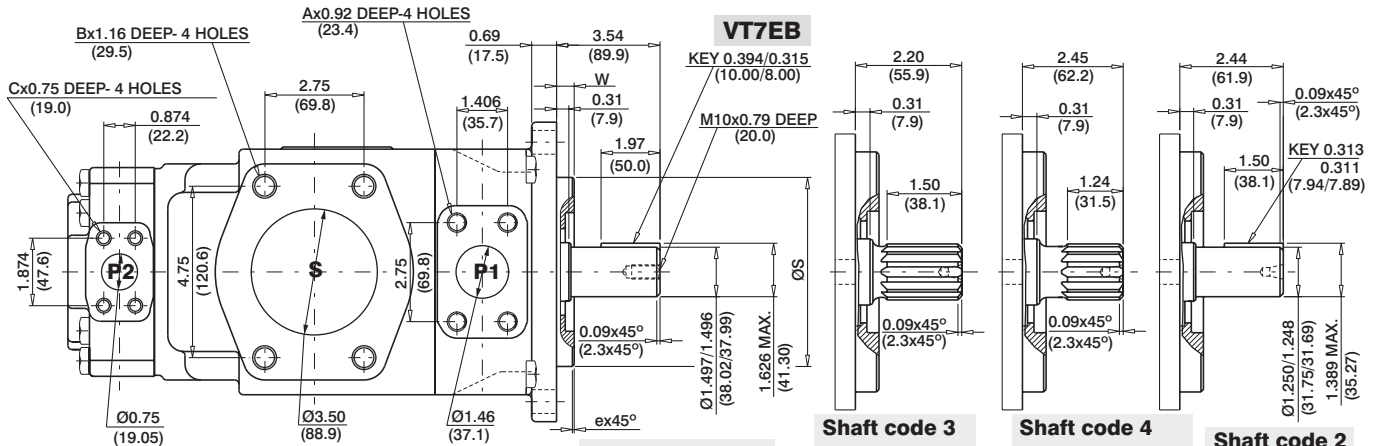
Total hydromechanical power loss is the sum of each section at its operating conditions.

PERMISSIBLE RADIAL LOAD



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

HIGH PERFORMANCE VANE PUMP VT7EB / VT7EBS



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)
5	60673 (68568)

Alternate connect.variables		
	O1	M1
A	1/2-13 UNC	M12
B	5/8-11 UNC	M16
C	3/8-16 UNC	M10

Alternate mounting flange						
Series	ØS		ex45°	W	K	ØD
	MAX.	Min.				
VT7EB	4.921 (124.99)	4.919 (124.94)	0.079 (2.0)	0.374 (9.49)	7.087 (180.0)	0.709 (18.0)
VT7EBS	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) (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	92.0	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				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	3.70	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	0.94	14.62	10.90	31.15	23.22
	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	26.03
	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 ²⁾	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	32.23
	B12 ²⁾	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 ²⁾	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 ²⁾	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) B11-B12-B14 = 300 bar (4350 psi) & B15 = 280 bar (4060 psi) max. int. And Max. Speed = 3000 rpm

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

Series

Y - Metric port connection, Omit for UNC

Cam ring for "P1"

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

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

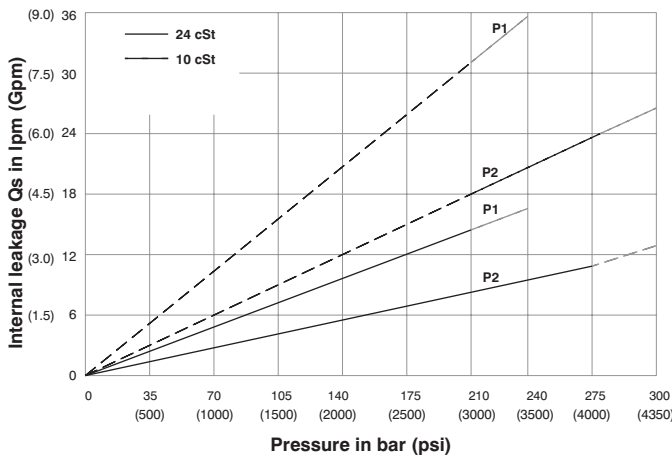
(view on shaft end)

- R - clockwise
- L - counter-clockwise

Type of shaft

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

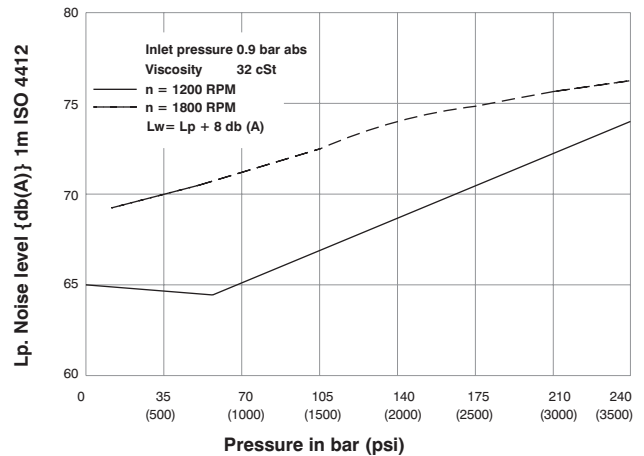
INTERNAL LEAKAGE (TYPICAL)



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.

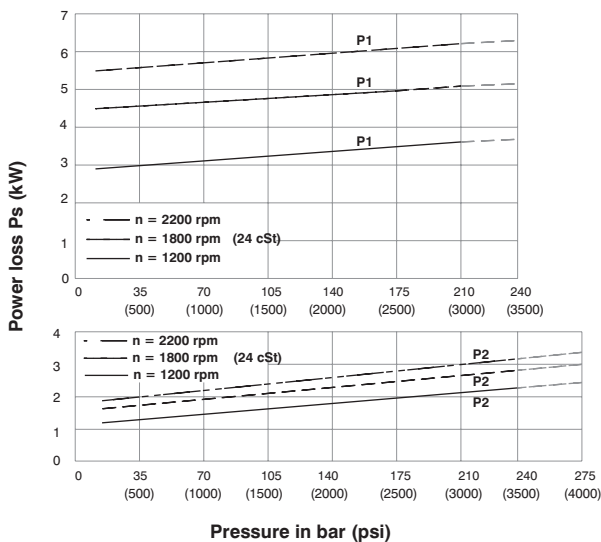
NOISE LEVEL (TYPICAL)

VT7QEC- 050-022



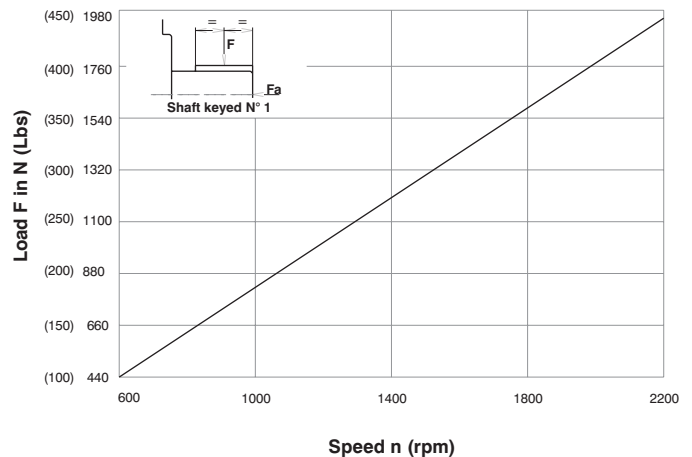
Double pump noise level is given with each section discharging at the pressure noted on the curve.

HYDROMECHANICAL POWER LOSS (TYPICAL)



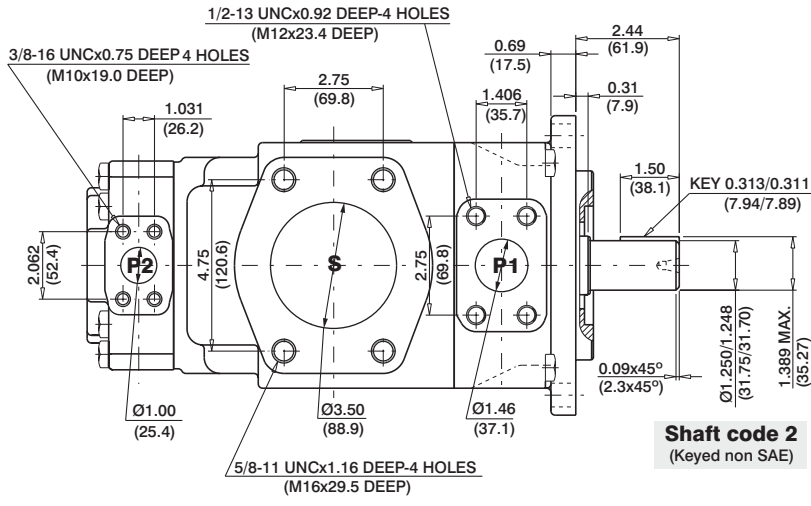
Total hydromechanical power loss is the sum of each section at its operating conditions.

PERMISSIBLE RADIAL LOAD

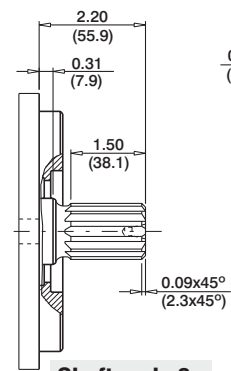


Maximum permissible axial load $F_a = 2000 \text{ N}$ (449 Lbs)

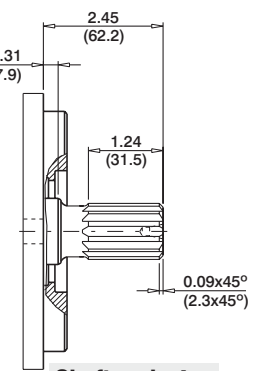
HIGH PERFORMANCE VANE PUMP VT7QEC



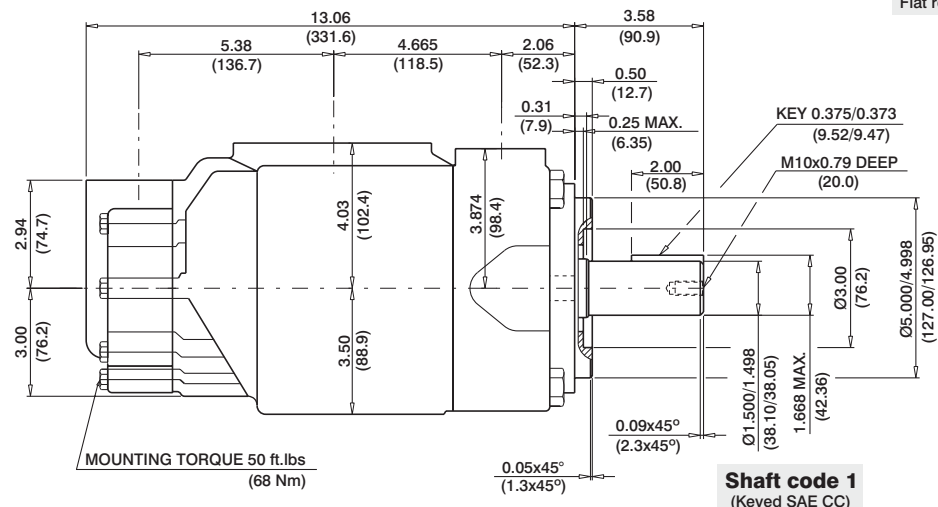
Shaft code 2
(Keyed non SAE)



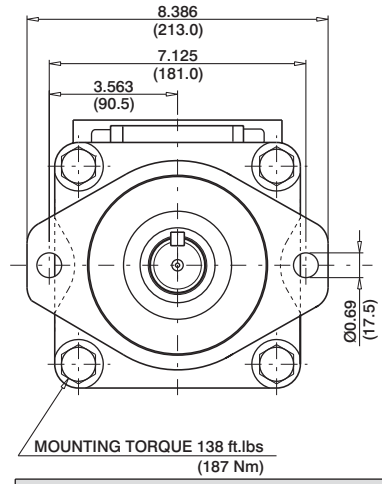
Shaft code 3
SAE C splined shaft
Class 1-J498b
12/24 dp. 14 teeth
30° pressure angle
Flat root side fit



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 = 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		
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.

HIGH PERFORMANCE VANE PUMP VT7ED / VT7EDS



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 J744

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

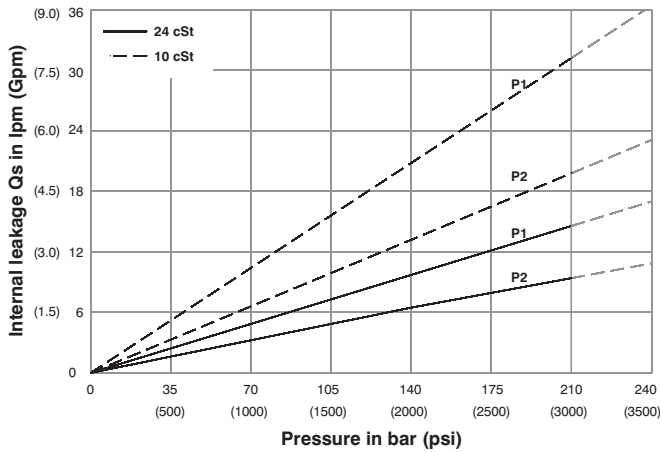
Type of shaft VT7EDS

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

Type of shaft VT7ED- VT7EDS

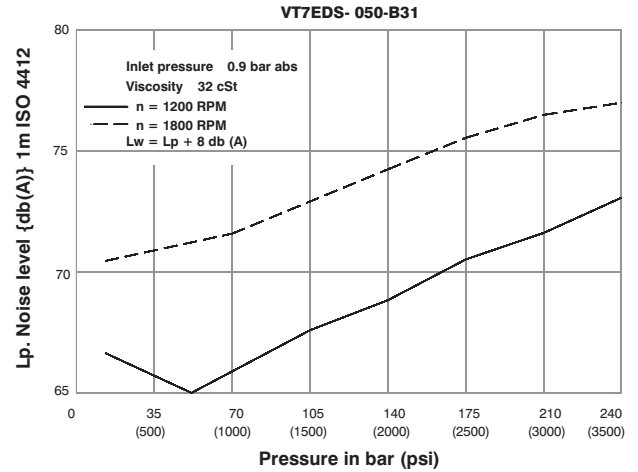
5 - keyed (ISO/R775 -G38M)

INTERNAL LEAKAGE (TYPICAL)



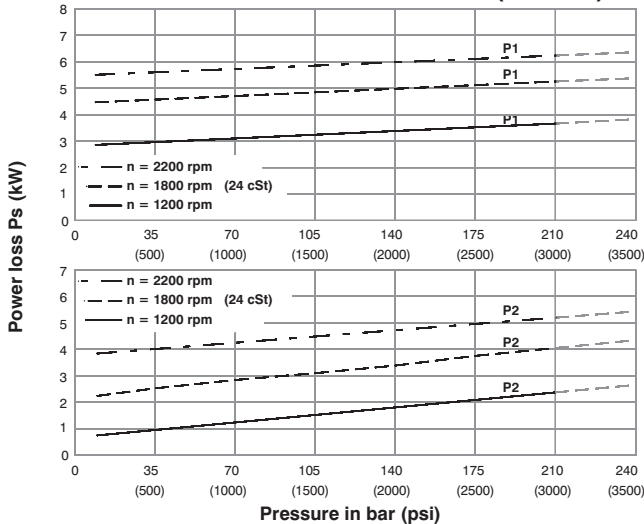
Do not operate pump more than 5 seconds at any speed or viscosity if internal leakage is more than 50% of theoretical flow.
Total leakage is the sum of each section loss at its operating conditions.

NOISE LEVEL (TYPICAL)



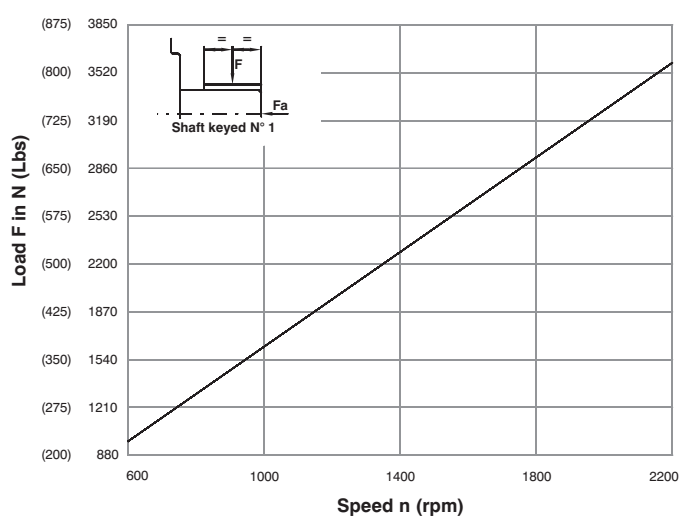
Double pump noise level is given with each section discharging at the pressure noted on the curve.

HYDROMECHANICAL POWER LOSS (TYPICAL)



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

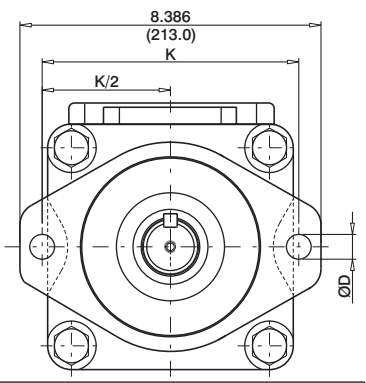
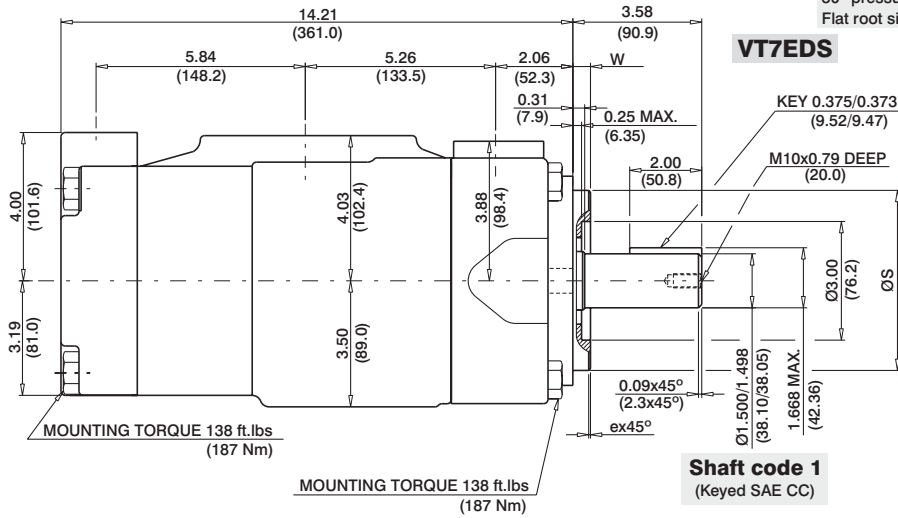
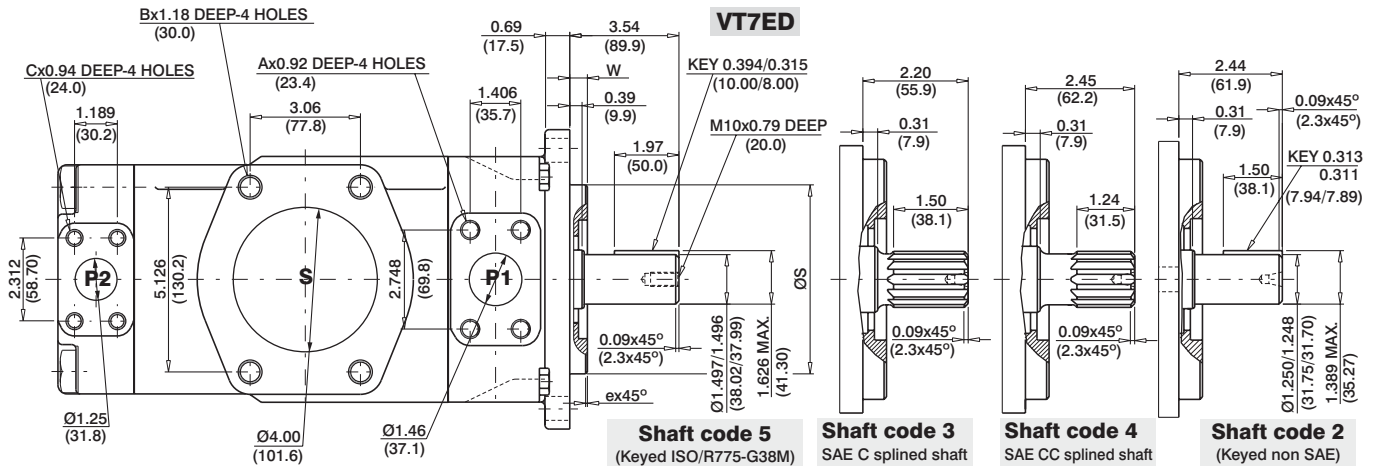
PERMISSIBLE RADIAL LOAD



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



HIGH PERFORMANCE VANE PUMP VT7ED / VT7EDS



Shaft	Vp x p max. (P1+P2)
1	64039 (72372)
2	30638 (34590)
3	54207 (61200)
4	60673 (68568)
5	60673 (68568)

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)

	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)	
				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	92.0	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 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	

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.

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 = 5.7 (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)
- 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

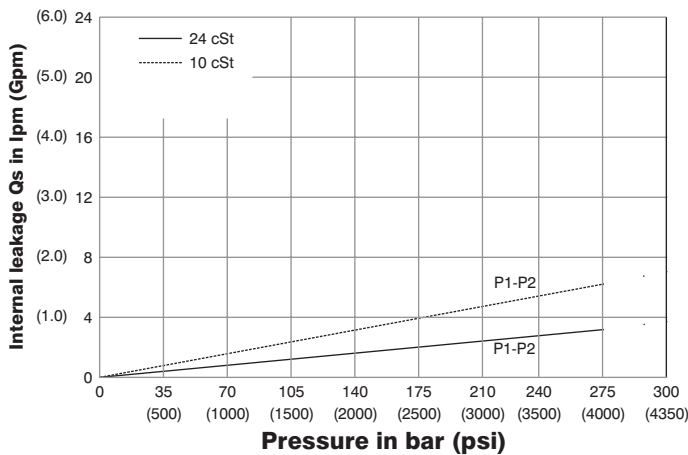
Porting combination (see page BM-1-5)

- 00 - standard

Direction of rotation (view on shaft end)

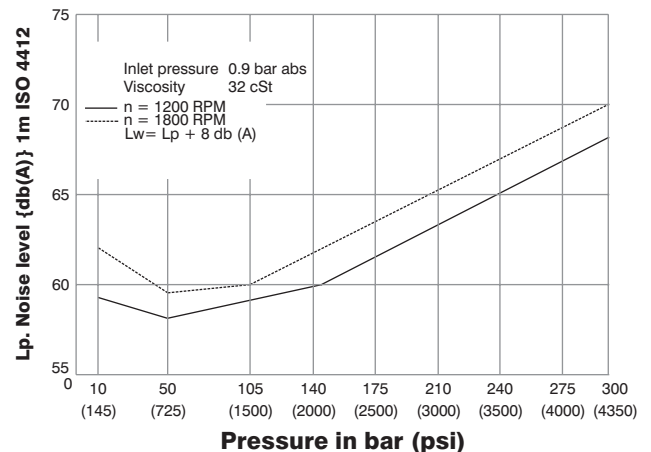
- R - clockwise
- L - counter-clockwise

INTERNAL LEAKAGE (TYPICAL)



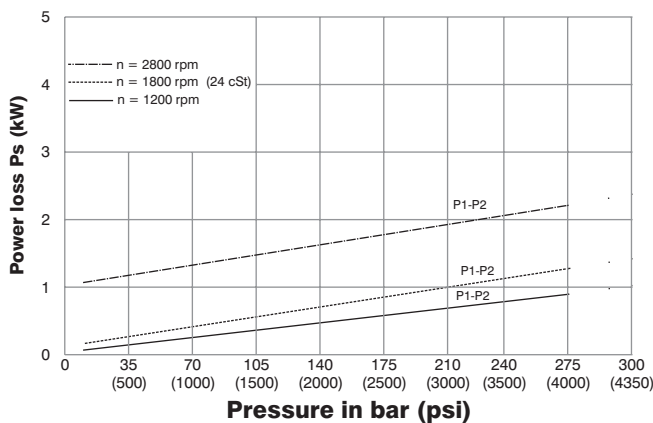
Do not operate pump more than 5 seconds at any speed or viscosity if internal leakage is more than 50 of theoretical flow.
Total leakage is the sum of each section loss at its operating conditions.

NOISE LEVEL (TYPICAL) VT67BB- B10-B03



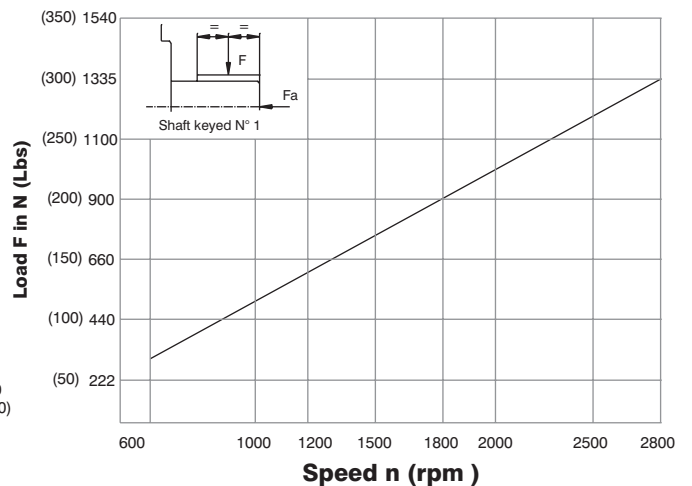
Double pump noise level is given with each section discharging at the pressure noted on the curve.

HYDROMECHANICAL POWER LOSS (TYPICAL)



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

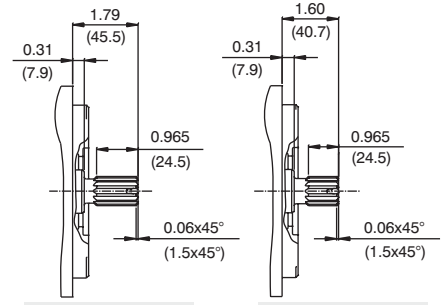
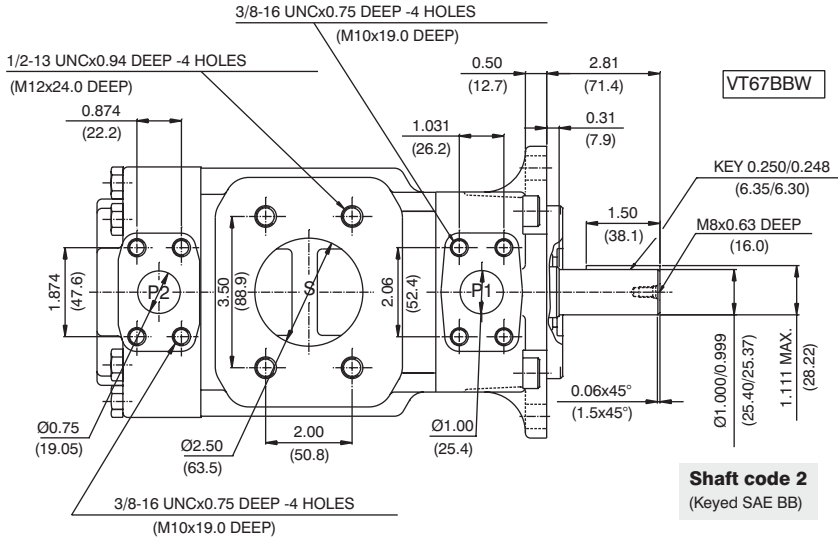
PERMISSIBLE RADIAL LOAD



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



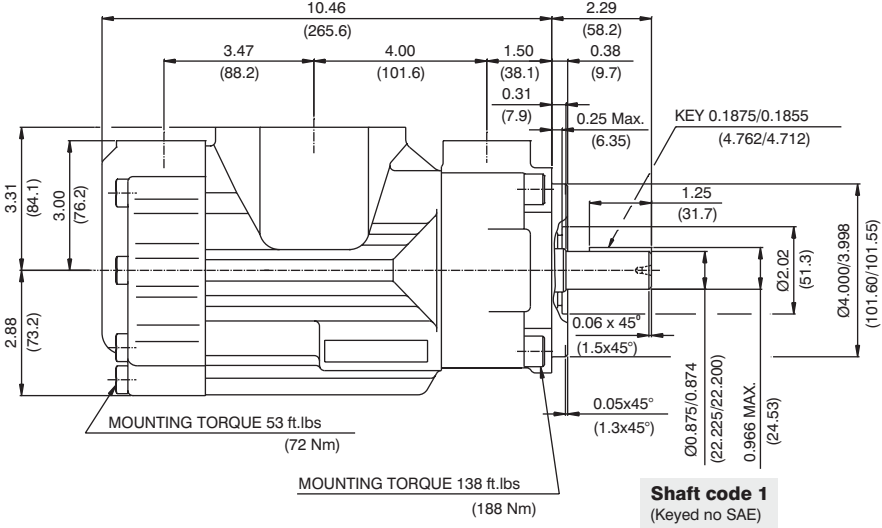
HIGH PERFORMANCE VANE PUMP VT67BB



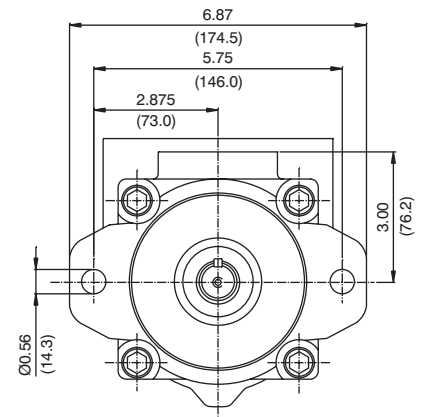
Shaft code 3
SAE BB splined shaft
Class 1-J498b
16/32 dp, 15 teeth
30° pressure angle
Flat root side fit

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)



Shaft code 1
(Keyed no SAE)



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					
				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)	
		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	1.80	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

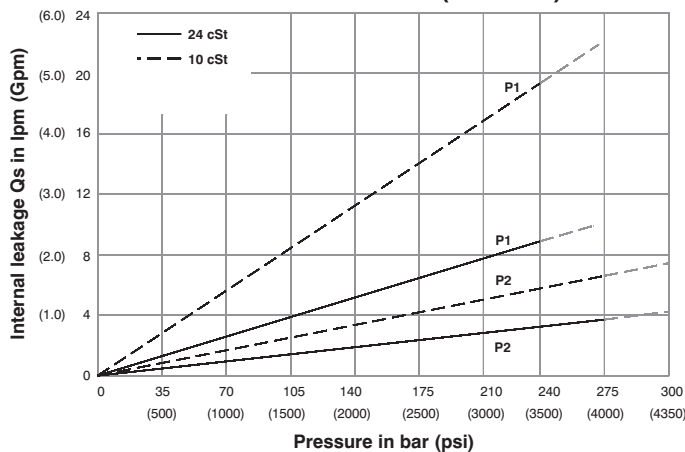
Porting combination (see page BM-1-5)

00 - standard

Direction of rotation (view on shaft end)

- R - clockwise
- L - counter-clockwise

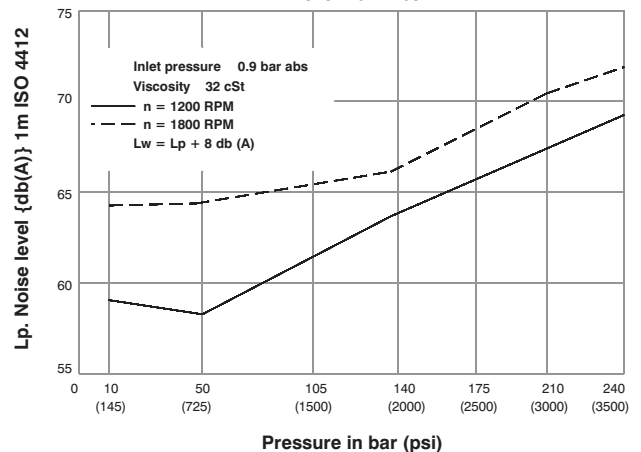
INTERNAL LEAKAGE (TYPICAL)



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.

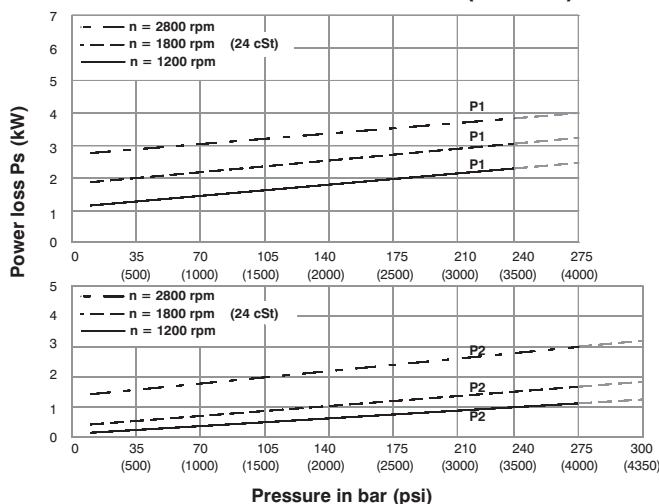
NOISE LEVEL (TYPICAL)

VT67CB- 014-B03



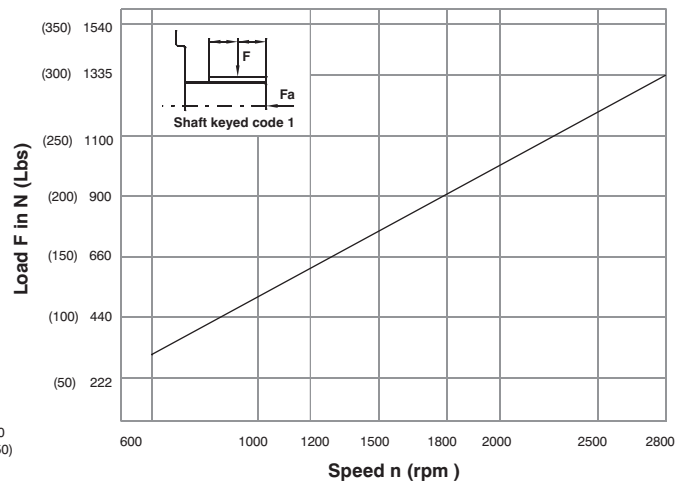
Double pump noise level is given with each section discharging at the pressure noted on the curve.

HYDROMECHANICAL POWER LOSS (TYPICAL)

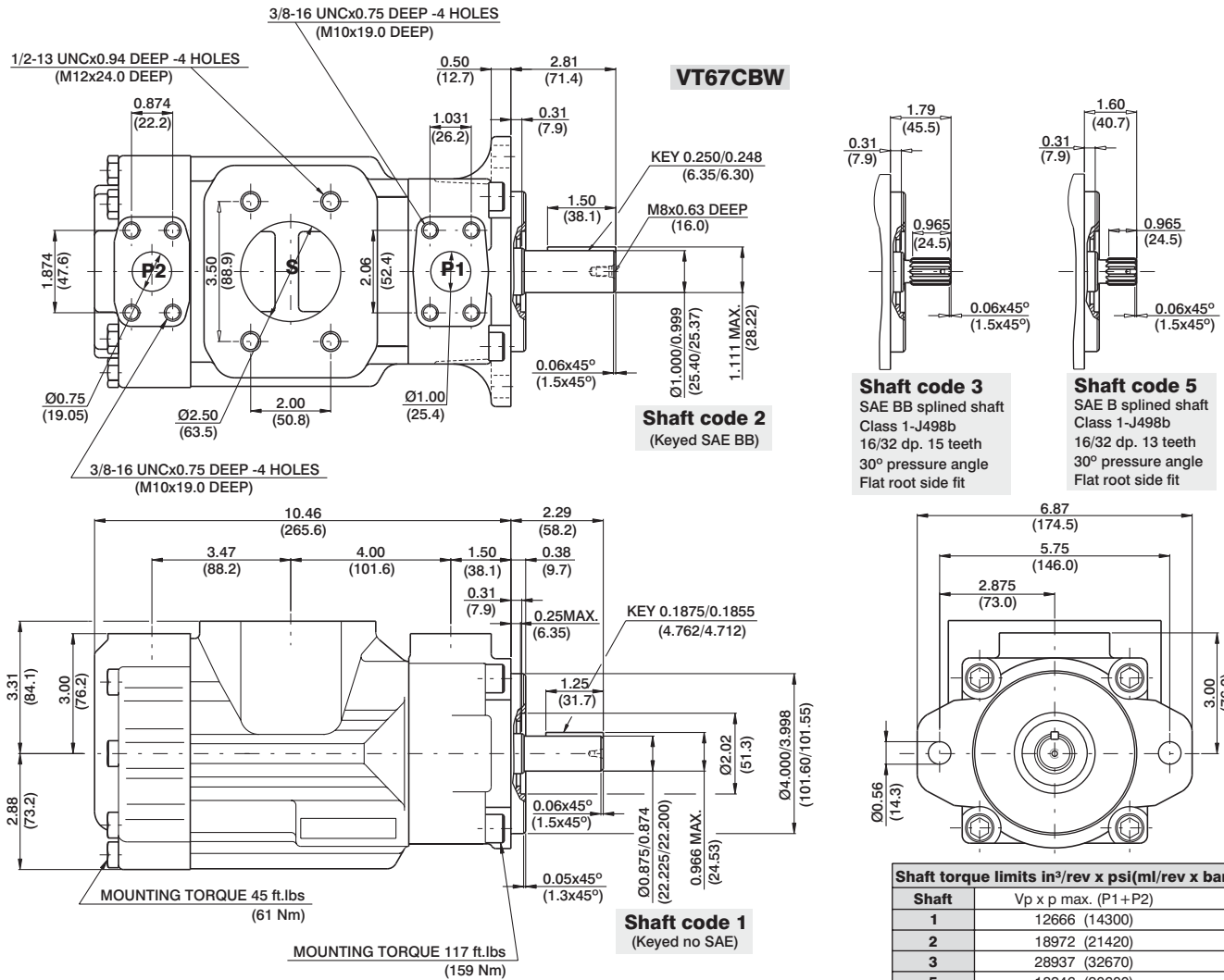


Total hydromechanical power loss is the sum of each section at its operating conditions.

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					
		in ³ /rev	cm ³ /rev	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)	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				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) 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 - directionalB' - 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)

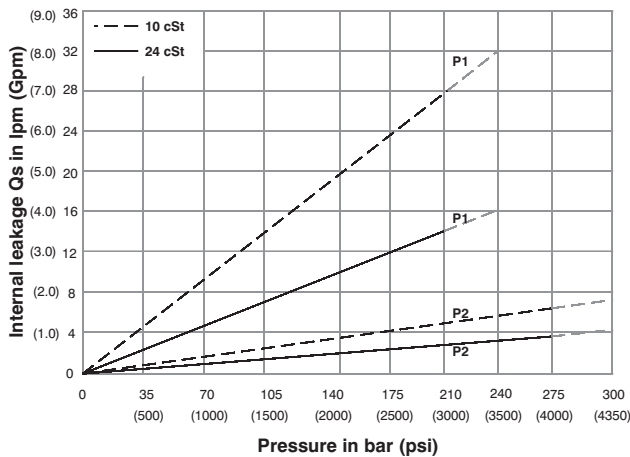
- R - clockwise
- L - counter-clockwise

Type of shaft

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

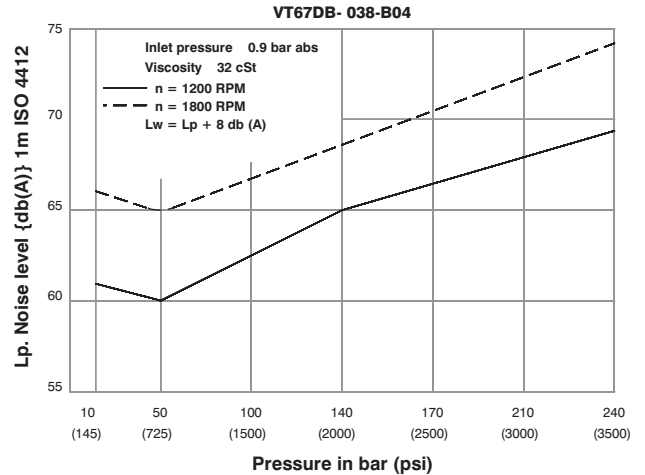
Sever duty (VT67DBW only)
5 - keyed (no SAE)

INTERNAL LEAKAGE (TYPICAL)



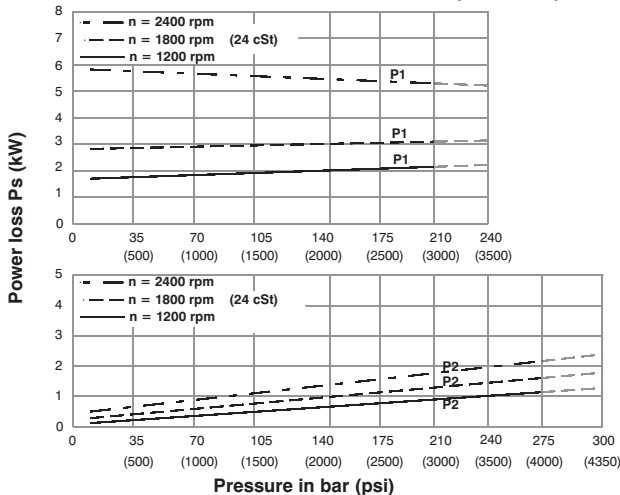
Do not operate pump more than 5 seconds at any speed or viscosity if internal leakage is more than 50% of theoretical flow.
Total leakage is the sum of each section loss at its operating conditions.

NOISE LEVEL (TYPICAL)



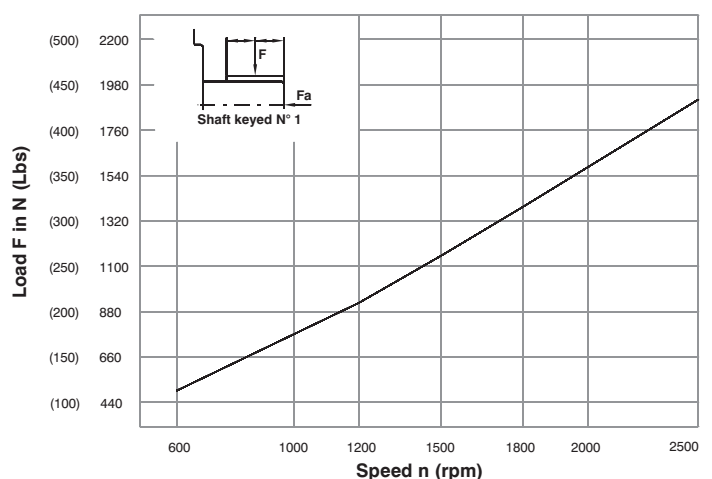
Double pump noise level is given with each section discharging at the pressure noted on the curve.

HYDROMECHANICAL POWER LOSS (TYPICAL)



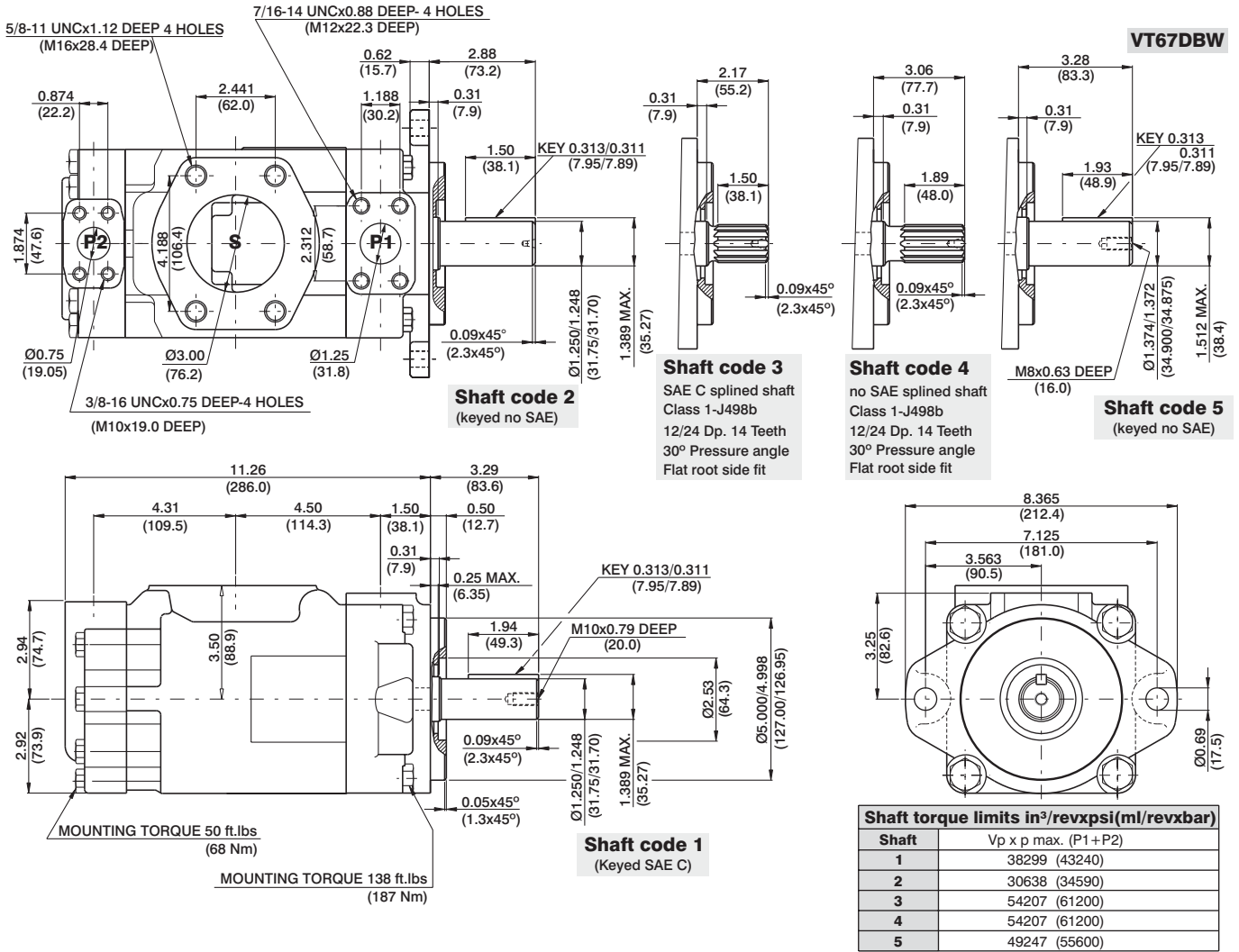
Total hydromechanical power loss is the sum of each section at its operating conditions.

PERMISSIBLE RADIAL LOAD



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

HIGH PERFORMANCE VANE PUMP VT67DB



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)	p = 7 bar (100 psi)	p = 140 bar (2000 psi)	p = 240 bar (3500 psi)	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

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

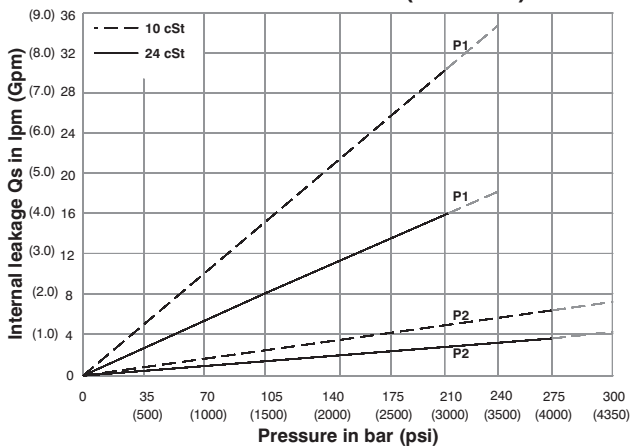
Porting combination (see page BM-1-5)

00 - standard

Direction of rotation (view on shaft end)

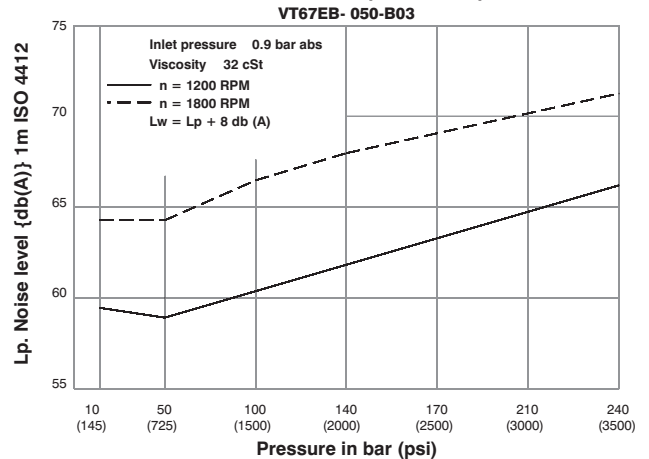
- R - clockwise
- L - counter-clockwise

INTERNAL LEAKAGE (TYPICAL)



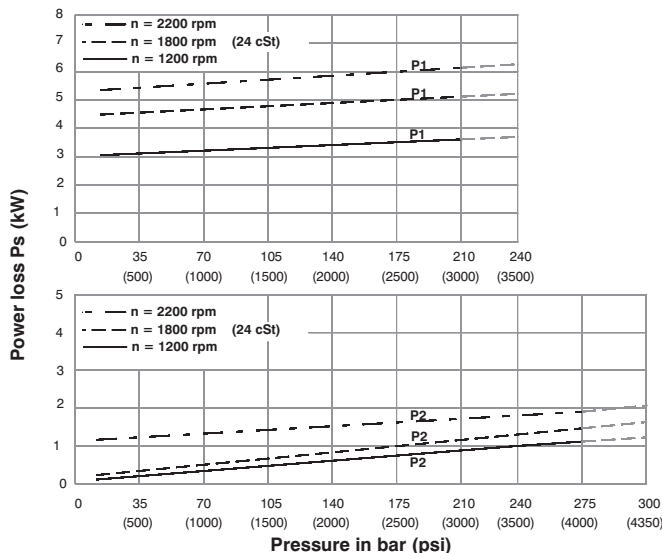
Do not operate pump more than 5 seconds at any speed or viscosity if internal leakage is more than 50% of theoretical flow.
Total leakage is the sum of each section loss at its operating conditions.

NOISE LEVEL (TYPICAL)



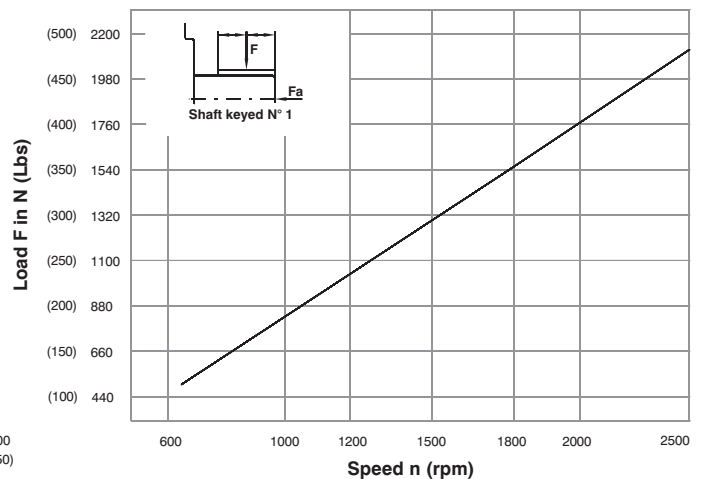
Double pump noise level is given with each section discharging at the pressure noted on the curve.

HYDROMECHANICAL POWER LOSS (TYPICAL)

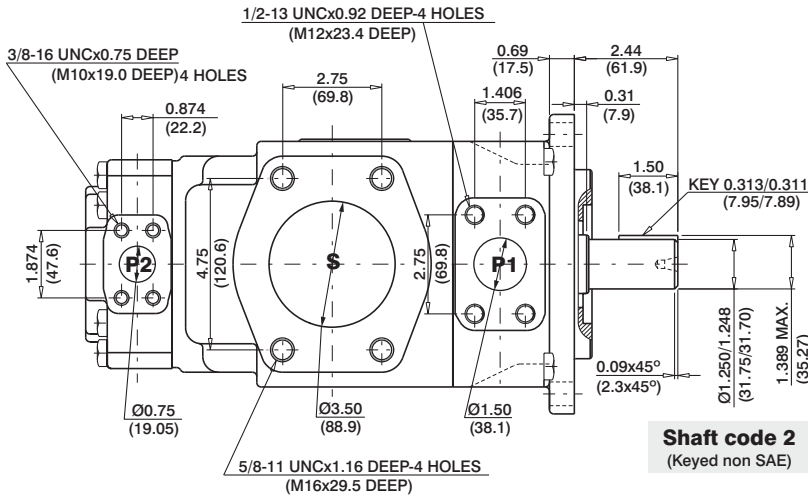


Total hydromechanical power loss is the sum of each section at its operating conditions.

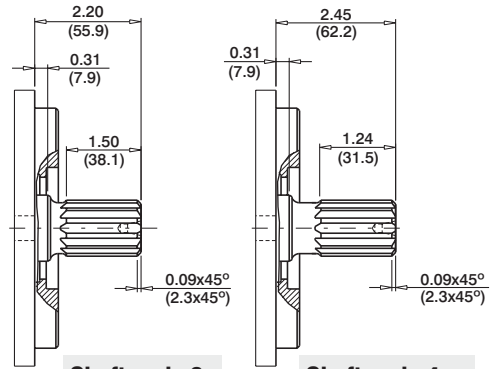
PERMISSIBLE RADIAL LOAD



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



Shaft code 2
(Keyed non SAE)

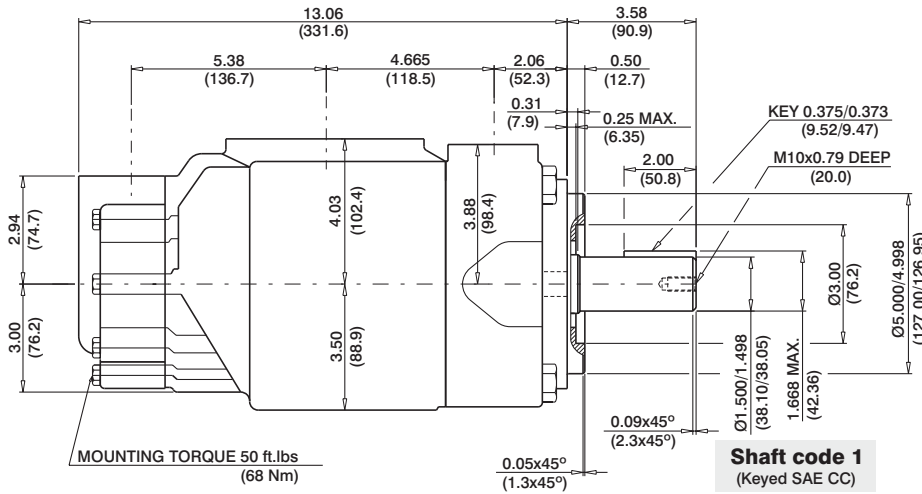


Shaft code 3

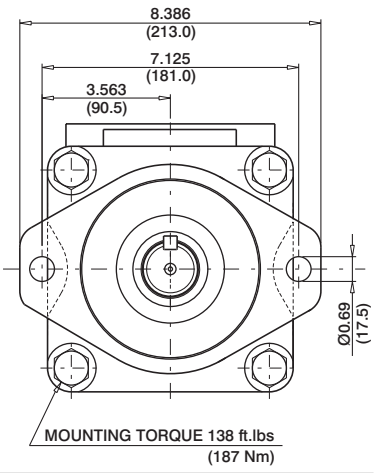
SAE C splined shaft
Class 1-J498b
12/24 dp. 14 teeth
30° pressure angle
Flat root side fit

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 = 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	127.08	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 cm³ /rev (in³ /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 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 = 63.8 (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

	P1 = 1 1/2" & S = 3 1/2"			
TYPE	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)

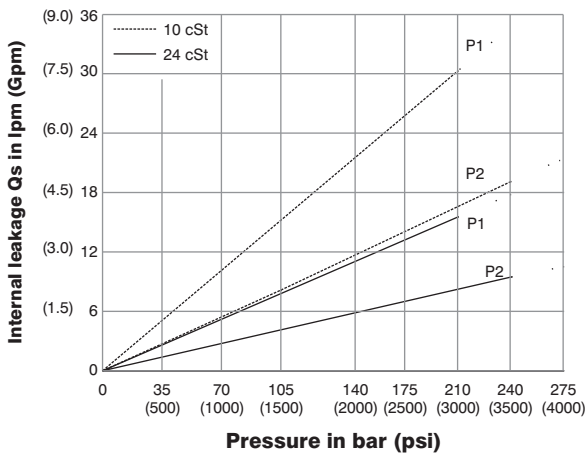
Design letter

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

Direction of rotation (view on shaft end)

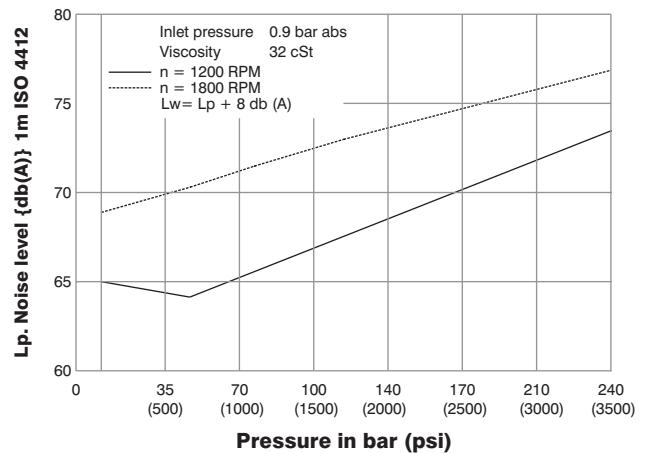
- R - clockwise
- L - counter-clockwise

INTERNAL LEAKAGE (TYPICAL)



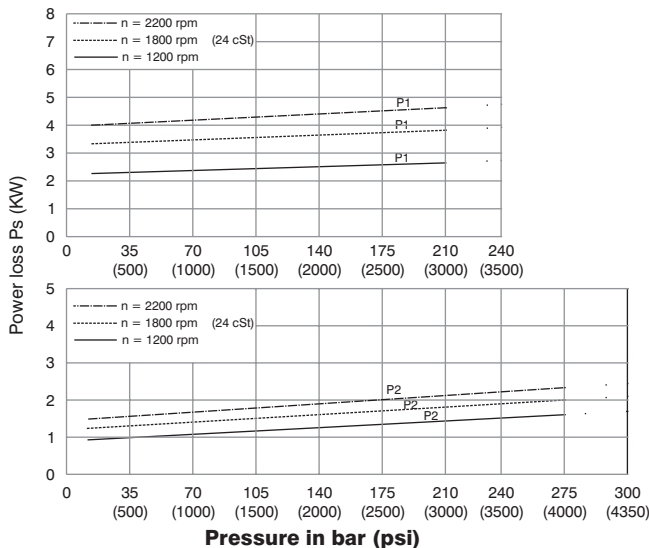
Do not operate pump more than 5 seconds at any speed or viscosity if internal leakage is more than 50 of theoretical flow.
Total leakage is the sum of each section loss at its operating conditions.

NOISE LEVEL (TYPICAL)
VT67EC- 050-022



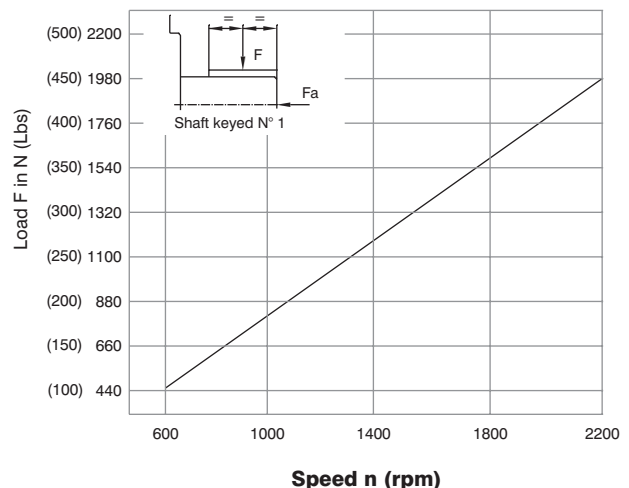
Double pump noise level is given with each section discharging at the pressure noted on the curve.

HYDROMECHANICAL POWER LOSS (TYPICAL)

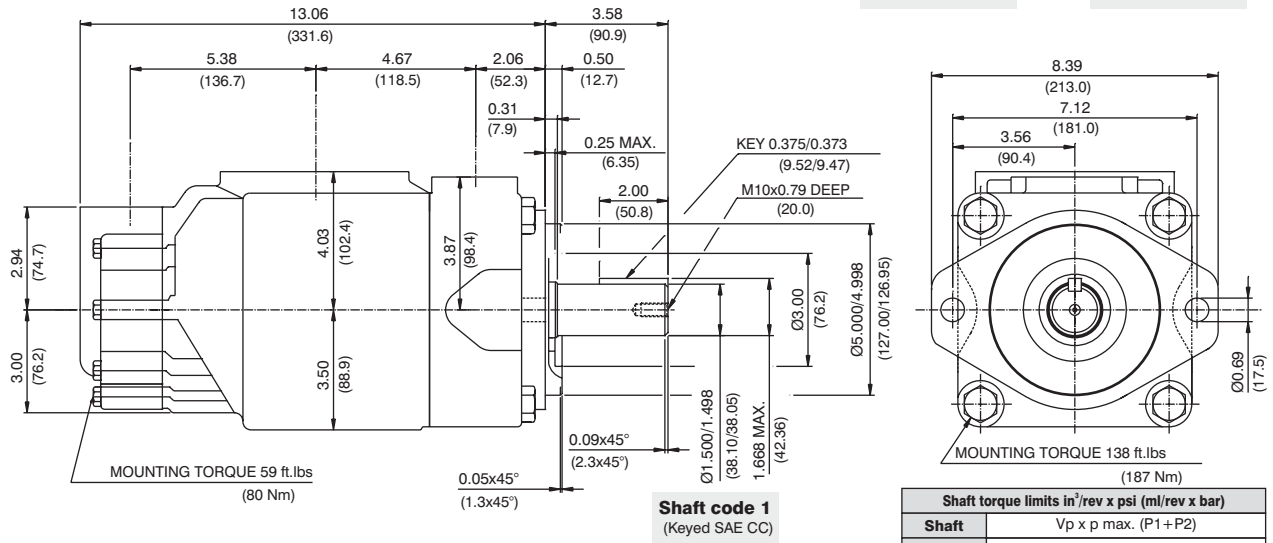
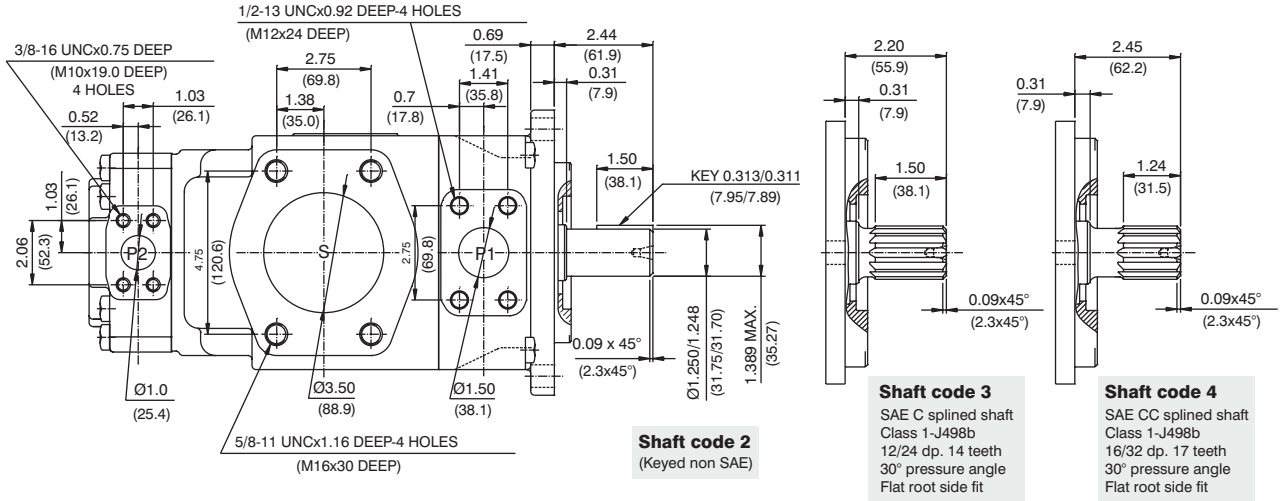


Total hydromechanical power loss is the sum of each section at its operating conditions.

PERMISSIBLE RADIAL LOAD



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



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 = 275 bar (4000 psi)	p = 7 bar (100 psi)	p = 140 bar (2000 psi)	p = 240 bar (3500 psi)	p = 275 bar (4000 psi)	p = 7 bar (100 psi)	p = 140 bar (2000 psi)	p = 240 bar (3500 psi)	p = 275 bar (4000 psi)
		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	92.01	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				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	19.6	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	86.73	64.72
	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	94.06	70.17

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.