

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

**Series**

**Cam ring for "P1"**

Volumetric displacement  $\text{cm}^3/\text{rev}$  ( $\text{in}^3/\text{rev}$ )

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  $\text{cm}^3/\text{rev}$  ( $\text{in}^3/\text{rev}$ )

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

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

**Modifications**

**Mounting W/connection variables**

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

**Seal class**

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

**Design letter**

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

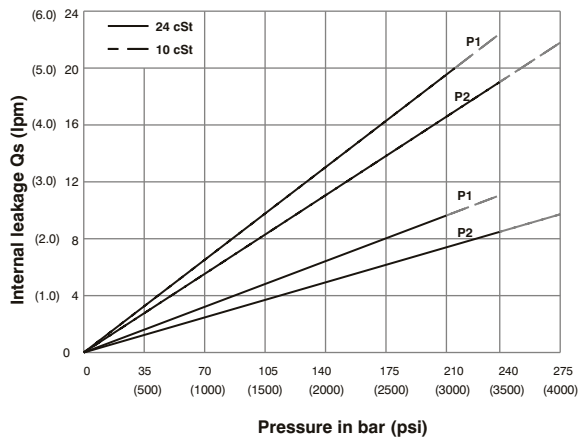
**Direction of rotation (view on shaft end)**

- R - clockwise
- L - counter-clockwise

**Type of shaft**

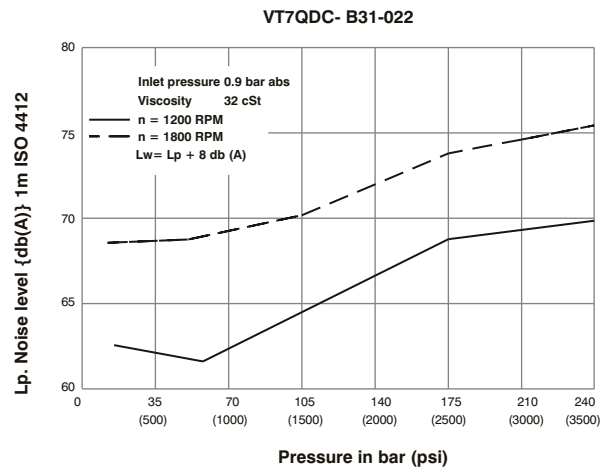
- 1 - keyed (SAE C)
- 2 - keyed (SAE CC)
- 3 - splined (SAE C)

**INTERNAL LEAKAGE ( TYPICAL )**



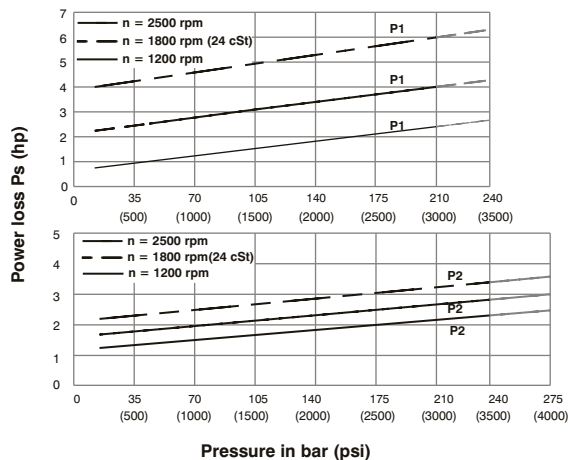
Do not operate pump more than 5 seconds at any speed or viscosity if internal leakage is more than 50% of theoretical flow. Total leakage is the sum of each section loss at its operating conditions.

**NOISE LEVEL ( TYPICAL )**



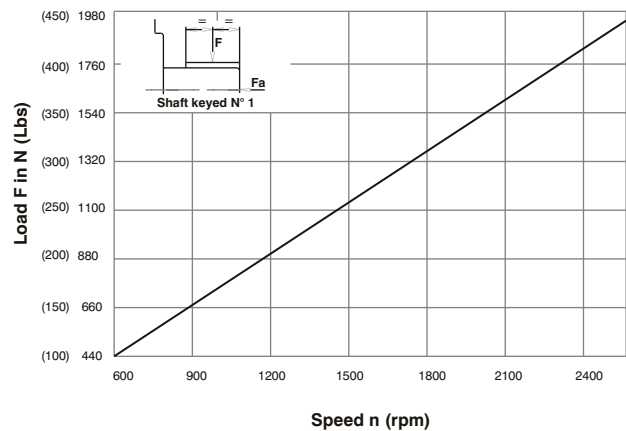
Double pump noise level is given with each section discharging at the pressure noted on the curve.

**HYDROMECHANICAL POWER LOSS ( TYPICAL )**



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

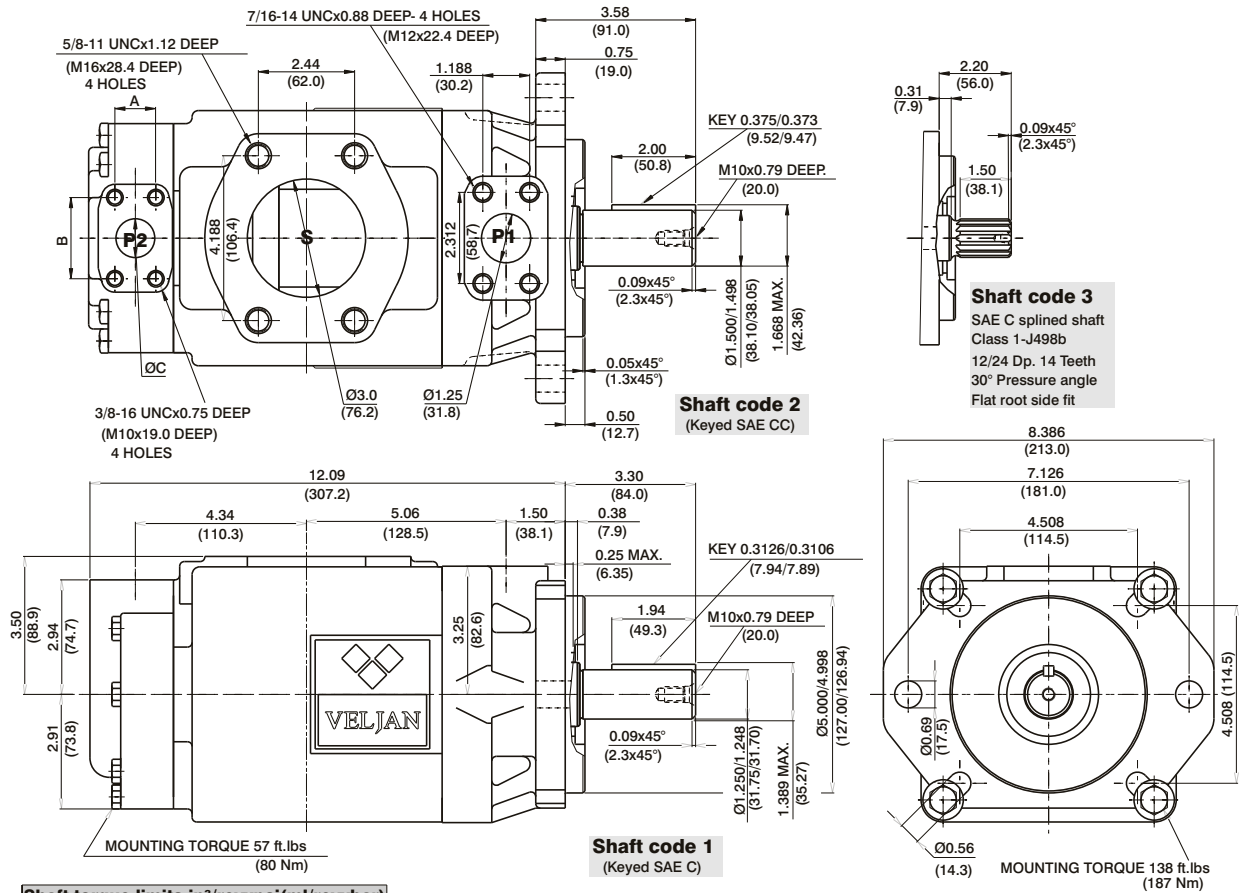
**PERMISSIBLE RADIAL LOAD**



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



# HIGH PERFORMANCE VANE PUMP VT7QDC



Shaft	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 <sup>3</sup> /rev	cm <sup>3</sup> /rev	p = 0 bar (0 psi)	p = 140 bar (2000 psi)	p = 250 bar (3630 psi)	p = 300 bar (4350 psi)	p = 7 bar (100 psi)	p = 140 bar (2000 psi)	p = 250 bar (3630 psi)	p = 300 bar (4350 psi)				
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 <sup>1)</sup>	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 <sup>1)</sup>	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 <sup>2)</sup>	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 <sup>3)</sup>	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 <sup>4)</sup>	9.64	157.9	75.14	284.0	72.96	275.8	71.78	271.30	7.08	5.30	90.58	67.50	134.50	100.30	
P2	003	0.66	10.8	5.14	19.6	3.85	14.6	--	--	2.11	1.57	8.45	6.30	--	--
	005	1.05	17.2	8.18	30.9	6.89	26.0	4.34	16.44	2.29	1.70	12.00	8.94	23.97	17.88
	006	1.30	21.3	10.13	38.3	8.84	33.4	5.71	21.60	2.40	1.78	14.28	10.64	28.96	21.60
	008	1.61	26.4	12.55	47.4	11.26	42.6	8.12	30.72	2.54	1.89	17.11	12.75	35.08	26.16
	010	2.08	34.1	16.22	61.3	14.93	56.4	11.81	44.64	2.76	2.06	21.38	15.94	44.25	33.00
	012	2.26	37.1	17.64	66.7	16.35	61.8	13.24	50.04	2.84	2.11	23.05	17.18	47.47	35.40
	014	2.81	46.0	21.88	82.7	20.59	77.8	17.46	66.00	3.09	2.30	27.99	20.87	58.73	43.80
	015	3.08	50.5	23.99	90.7	22.83	86.3	19.39	73.32	3.21	2.40	30.30	22.60	63.56	47.40
	017	3.56	58.3	27.73	104.8	26.44	99.9	23.33	88.20	3.43	2.55	34.81	25.95	73.54	54.84
	020	3.89	63.8	30.34	114.7	29.05	109.8	25.93	98.04	3.58	2.66	37.86	28.23	80.14	59.76
	022 <sup>6)</sup>	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 <sup>5,7)</sup>	4.84	79.3	37.71	142.5	36.42	137.6	--	--	4.01	2.99	46.46	34.64	--	--
	028 <sup>5,8)</sup>	5.42	88.8	42.23	159.6	40.94	154.7	--	--	4.27	3.18	51.74	38.58	--	--
	031 <sup>5,8)</sup>	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