

## VT7DDB or VT7DDBS - 050 - B28 - B10 - 1 R 00 - A 1 - 00 \*

**VT7DDB** series-125 B4 HW  
ISO 4 bolts 3019-2 mounting flange

**VT7DDBS** series- SAE C 6 bolts  
Mounting flange J744

### Cam ring for "P1" & "P2"

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

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

### Cam ring for "P3"

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

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

### Type of Shaft VT7DDBS

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

### Type of Shaft VT7DDB-VT7DDBS

- 5 - Keyed (ISO R775-G38M)

### Modifications

**Mounting w/connection variables**  
4 bolts SAE flange (J518)

P1 & P2 = 1"1/4 S = 4"			
	P3	UNC	METRIC
VT7DDB	1"		M0
VT7DDB	3/4"		M1
VT7DDBS	1"	00	M0
VT7DDBS	3/4"	01	M1

### Seal class

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

### Design letter

**Porting combination** (see page CI-1-4,5)

00 = Standard

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

- R - Clockwise
- L - Counter - clockwise



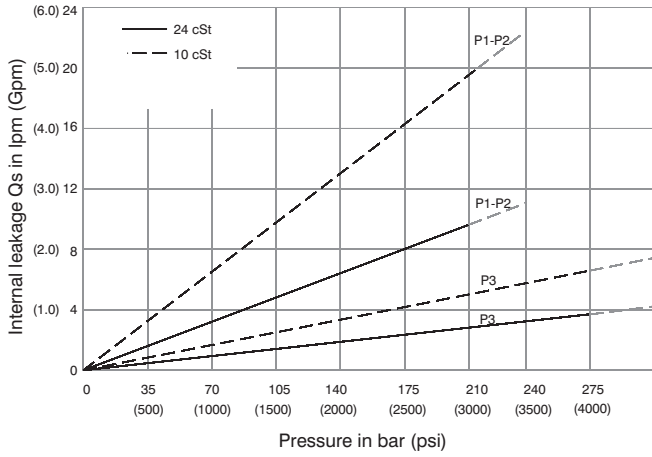
## OPERATING CHARACTERISTICS - TYPICAL (24 cST) (Input power p (KW) for one cartridge only)

Pressure port	Series	Volumetric Displacement Vp		Flow q & n = 1800 rpm						Input power p & n = 1800 rpm					
				p = 0 bar (0 psi)		p = 140 bar (2000 psi)		p = 250 bar (3630 psi)		p = 7 bar (100 psi)		p = 140 bar (2000 psi)		p = 250 bar (3630 psi)	
		in <sup>3</sup> /rev	cm <sup>3</sup> /rev	gpm	lpm	gpm	lpm	gpm	lpm	gpm	lpm	hp	kw	hp	kw
P1 & P2	B14	2.68	43.9	20.92	79.1	19.18	72.5	17.81	67.3	3.46	2.6	27.77	20.7	47.03	35.1
	B17	3.36	55.0	26.16	98.8	24.41	92.3	23.04	87.0	3.77	2.8	33.88	25.3	57.71	43.0
	B20	4.03	66.0	31.39	118.6	29.64	112.0	28.27	106.8	4.07	3.0	39.98	29.8	68.39	51.0
	B22	4.29	70.3	33.43	126.4	31.69	119.8	30.32	104.6	4.19	3.1	42.37	31.6	72.57	54.1
	B24	4.95	81.1	38.57	145.8	36.82	139.2	35.45	134.0	4.49	3.4	48.36	36.1	83.06	61.9
	B28	5.49	89.9	42.80	161.8	41.06	155.2	39.69	150.0	4.74	3.5	53.30	39.7	91.70	68.4
	B31	6.05	99.1	47.18	178.3	45.43	171.7	44.06	166.5	4.99	3.7	58.41	43.6	100.63	75.0
	B35	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	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	8.39	137.5	65.39	247.2	63.65	240.6	62.28	235.4	6.05	4.5	79.66	59.4	137.83	102.8
	045	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	9.64	157.9	75.14	284.0	72.96	275.8	71.78 <sup>1)</sup>	271.3 <sup>1)</sup>	7.08	5.3	90.58	67.5	134.50 <sup>1)</sup>	100.3 <sup>1)</sup>
				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)	
P3	B02	0.35	5.7	2.76	10.4	2.33	8.8	1.80	6.8	0.74	0.55	4.02	3.0	8.10	6.0
	B03	0.60	9.8	4.66	17.6	4.23	15.9	3.70	14.0	0.85	0.63	6.24	4.7	12.93	9.6
	B04	0.78	12.8	6.09	23.0	5.66	21.4	5.13	19.4	0.94	0.70	7.90	5.9	16.55	12.3
	B05	0.97	15.9	7.56	28.6	7.13	26.9	6.60	25.0	1.02	0.76	9.62	7.2	20.29	15.1
	B06	1.21	19.8	9.42	35.6	8.99	33.9	8.46	32.0	1.13	0.84	11.79	8.8	25.00	18.6
	B07	1.37	22.5	10.70	40.4	10.27	38.8	9.74	36.8	1.20	0.89	13.29	9.9	28.26	21.1
	B08	1.52	24.9	11.84	44.7	11.41	43.1	10.88	41.1	1.27	0.95	14.62	10.9	31.15	23.2
	B09	1.71	28.0	13.31	50.3	12.87	48.6	12.35	47.0	1.36	1.01	16.35	12.2	34.92	26.1
	B10	1.94	31.8	15.12	57.2	14.69	55.5	14.16	53.5	1.46	1.10	18.45	13.8	39.48	29.4
	B11	2.13	34.9	16.64	62.9	16.19	61.2	15.68	59.3	1.55	1.16	20.17	15.0	43.22	32.2
	B12	2.50	40.9	19.50	73.7	19.07	72.1	18.54	70.1	1.72	1.28	23.55	17.6	50.58	37.7
	B14	2.75	45.1	21.40	80.8	20.95	79.2	20.44	77.0	1.83	1.36	25.80	19.2	55.48	41.4
B15	3.05	50.0	23.78	89.8	23.35	88.3	22.88	86.5 <sup>2)</sup>	1.97	1.45	28.55	21.3	57.35 <sup>2)</sup>	42.7 <sup>2)</sup>	

1) 050 = 210 bar (3000 psi) max. int

2) B15 = 280 bar (4060 psi) max. int

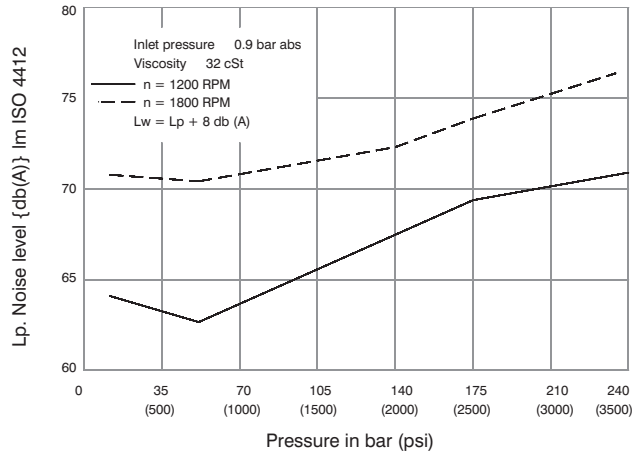
## INTERNAL LEAKAGE ( TYPICAL )



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

## NOISE LEVEL ( TYPICAL )

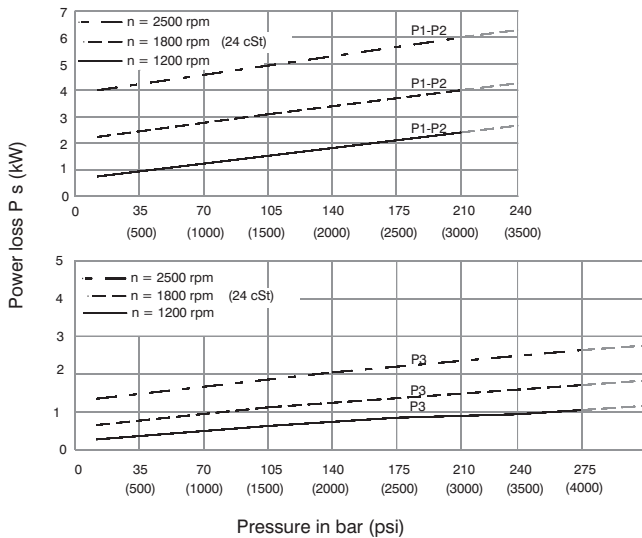
VT7DDB- B31-B31-B10



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

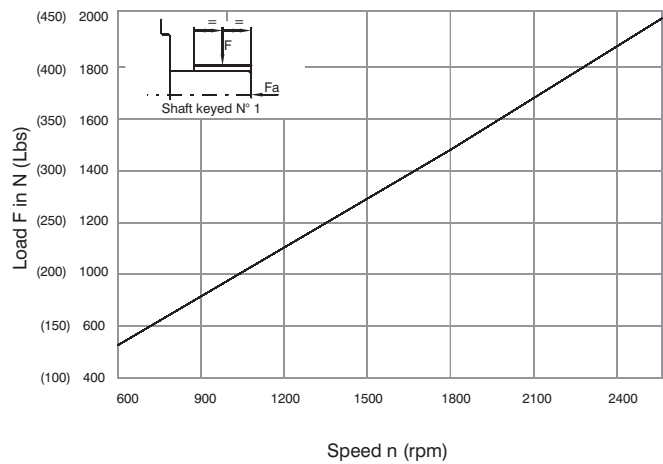


## HYDROMECHANICAL POWER LOSS ( TYPICAL )

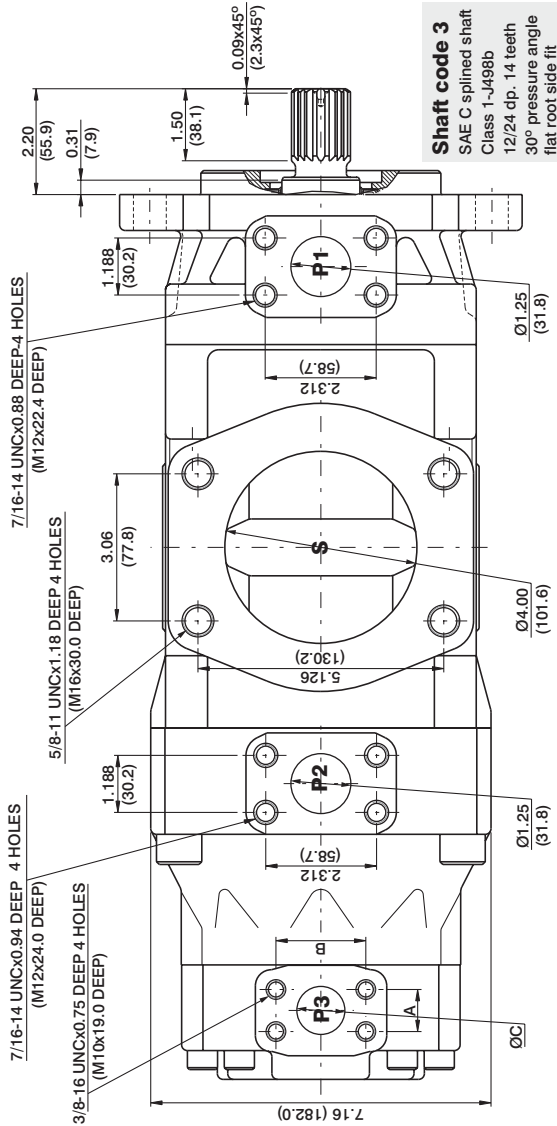


Total hydromechanical power loss is the sum of each section at its operating conditions.

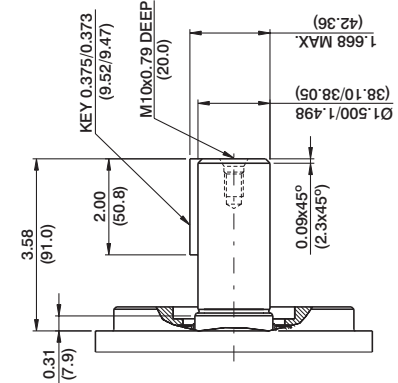
## PERMISSIBLE RADIAL LOAD



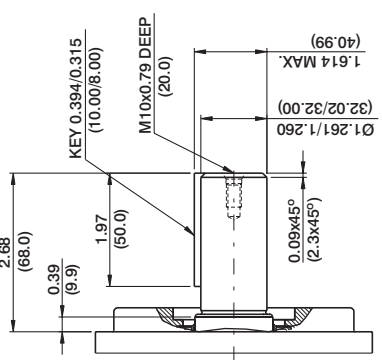
Maximum permissible axial load  $F_a = 1200 \text{ N (270 Lbs)}$



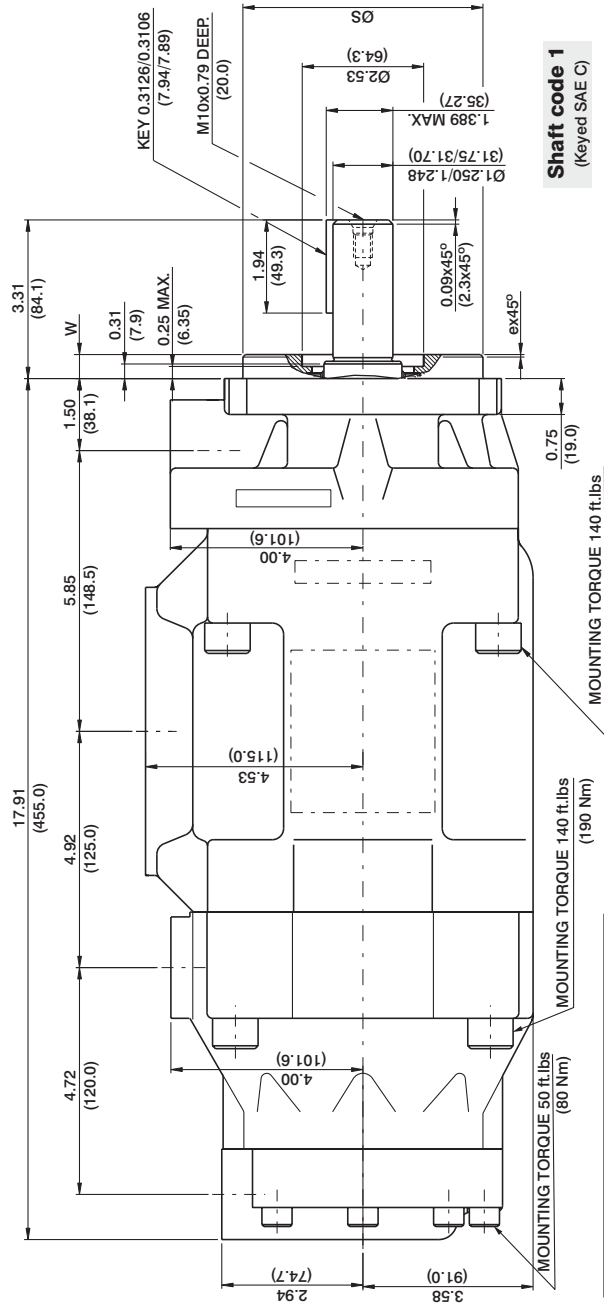
**Shaft code 3**  
SAE C splined shaft  
Class 1-J498b  
12/24 dp, 14 teeth  
30° pressure angle  
flat root side fit



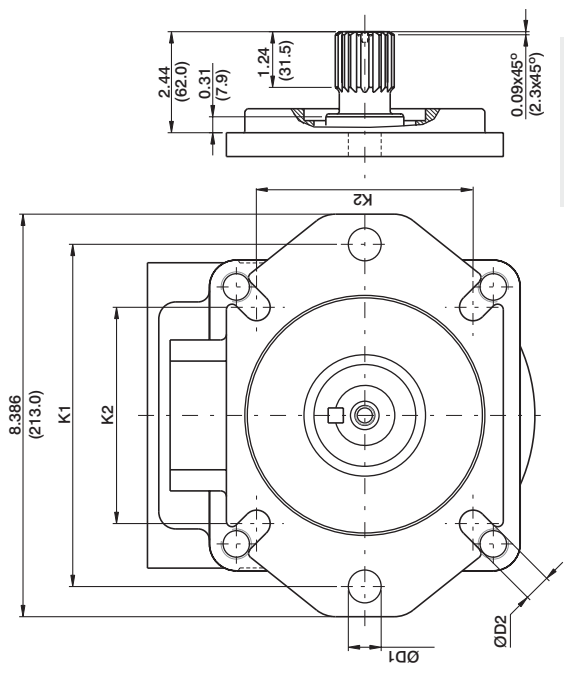
**Shaft code 2**  
(Keyed SAE CC)



**Shaft code 5**  
(Keyed ISO R775 - G38M)



**Shaft code 1**  
(Keyed SAE C)



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

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

Series	Alternate mounting flange		K1	ØD1	K2	ØD2
	MAX.	Min.				
VT7DDB	4.921 (124.99)	4.919 (124.94)	0.374 (9.49)	7.087 (180.0)	4.454 (113.1)	0.551 (13.9)
VT7DDBS	5.00 (127.00)	4.998 (126.94)	0.50 (12.7)	7.126 (181.0)	4.508 (114.5)	0.563 (14.3)

Shaft torque limits in <sup>3</sup> /rev x psi (ml/rev x bar)
1 38299 (43240)
2 64044 (72378)
3 54207 (61200)
4 58902 (66567)
5 47033 (53153)

MOUNTING TORQUE 140 ft.lbs (190 Nm)

MOUNTING TORQUE 140 ft.lbs (190 Nm)

MOUNTING TORQUE 50 ft.lbs (60 Nm)