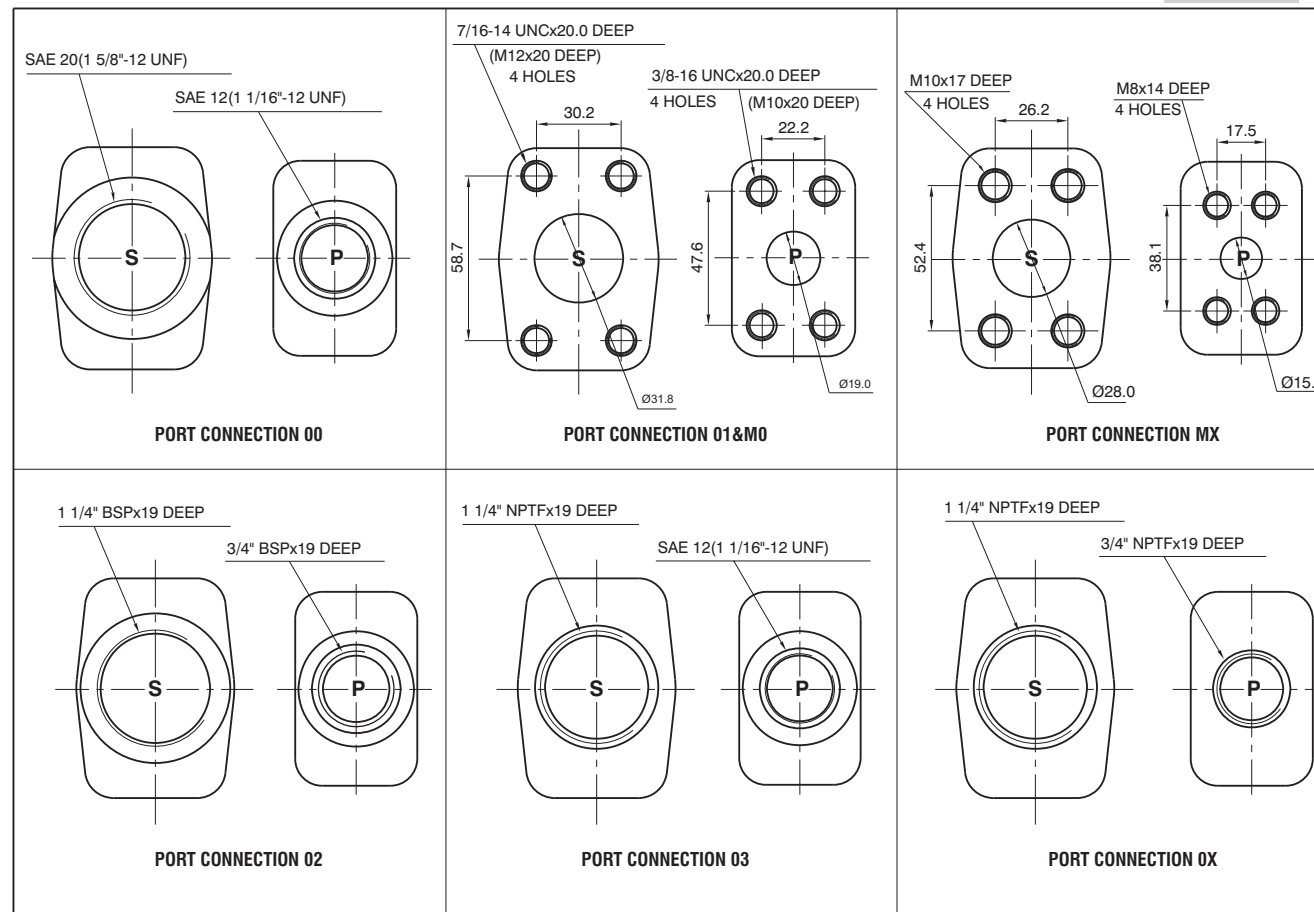
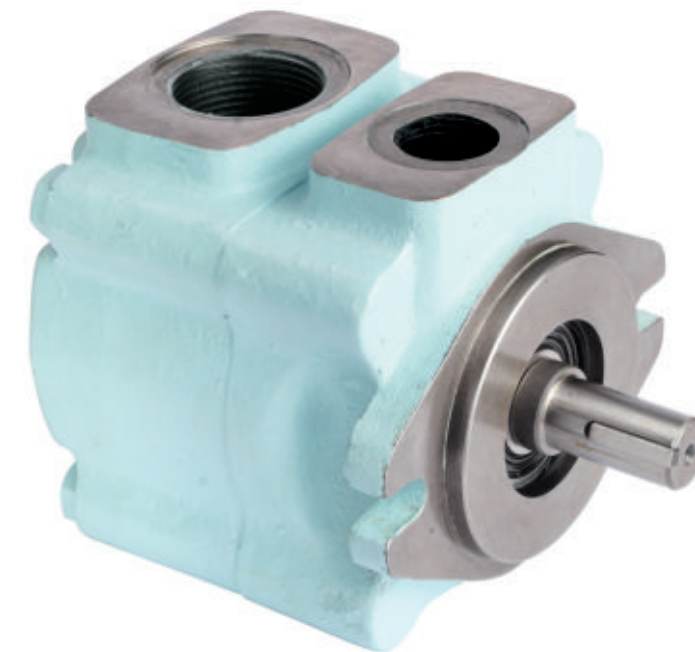


The VTXB series single vane pump have 12 vane drop-in cartridge, The rotor is driven by the shaft and carries vanes in radial slots, The vanes follows the cam ring contour through their cycles, two cycles per revolution for each vane. Each fluid chamber between two vanes is subjected to vacuum pressure at inlet area and high pressure at discharge area. The vanes are held against the cam ring by centrifugal force and hydraulic pressure. Both side plates provide suction and pressure areas and are clamped by fluid pressure in the pumping cartridge. All rotating parts are radially balanced. Vanes compensate for radial wear, oil viscosity and contaminant effects



### Features

- 12-vane design drop-in cartridge assembly contributes to lower noise level and pressure pulsation.
- Internal larger port sizes ensure better suction characteristics and higher rpm.
- Low ripple pressure reduces piping noise and increases lifetime of other components in the system.
- High pressure capacities (upto 240 bar intermittent and 210 bar continuous).
- High speed capability - 2500 rpm.
- High volumetric efficiency reduces heat generation and allows speeds down to 600 rpm at full pressure.
- High mechanical efficiency reduces energy consumption.
- Wide flow range and flexibility - 12 different sizes of camrings ( 5,8 to 45,0 cc/rev ).
- Mounting flexibility - VTXB1 - SAE A and VTXB2 - SAE B.
- Easy change of rotation by simple repositioning of the cam ring.
- Easy change of pump displacement by changing cam ring only.
- Wide range of acceptable viscosities 10 to 860 mm<sup>2</sup>/s ( cSt ).
- 860 mm<sup>2</sup>/s ( cSt ) max, viscosity ( cold start, low speed and pressure ).
- 108 mm<sup>2</sup>/s ( cSt ) max, ( full speed and pressure ).
- 10 mm<sup>2</sup>/s ( cSt ) minimum ( full speed and pressure ).
- 30 mm<sup>2</sup>/s ( cSt ) optimum ( max, life ).
- High resistance to particle contamination because of double lip vane - increases pump life Fluid cleanliness level to be NAS 1638 class 8 or ISO 18/14 or better.

### DENISON HYDRAULICS INDIA LIMITED

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Note : Product details are liable to change without notice



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

**Series** \_\_\_\_\_

**Mounting** \_\_\_\_\_

1 - SAE A  
2 - SAE B

**Cam ring** \_\_\_\_\_

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

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

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

**TXB1**

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

**TXB2**

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

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

R - clockwise  
L - counter-clockwise

**Modifications** \_\_\_\_\_

**Port connections**

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

**Seal class**

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

**Design letter** \_\_\_\_\_

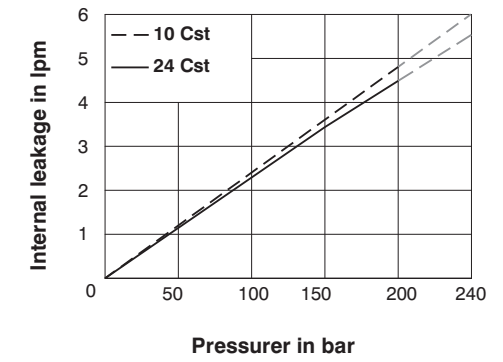
**Porting combination**

00 - standard

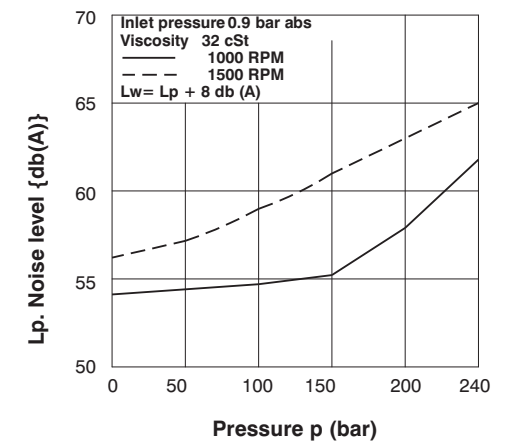
S - Suction port      P - Pressure port

### INTERNAL LEAKAGE (TYPICAL)

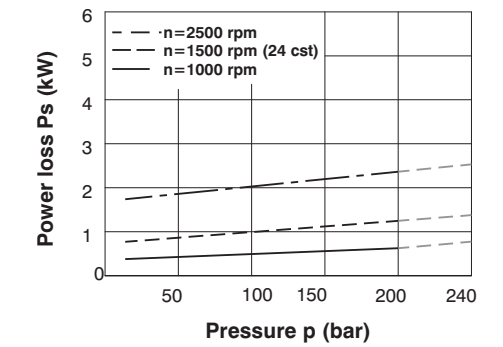
Do not operate pump for more than 5 seconds at any speed or viscosities if internal leakage is more than 50 % of theoretical flow.



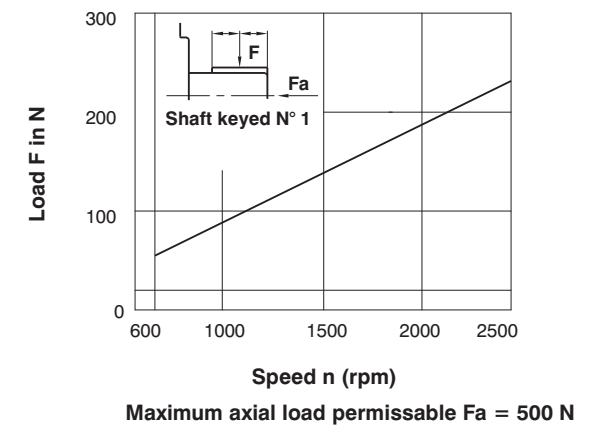
### NOISE LEVEL (TYPICAL)



### POWER LOSS HYDROMECHANICAL (TYPICAL)



### PERMISSIBLE RADIAL LOAD



### OPERATING CHARACTERISTICS (24 cSt)

Pressure port	Series	Volumetric Displacement Vp		Flow q & n = 1500 rpm						Input power p & n = 1500 rpm					
		in <sup>3</sup> /rev	cm <sup>3</sup> /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
VTXB1 VTXB2	B02	0.35	5.8	2.30	8.7	1.4	5.9	--	--	0.53	0.4	2.81	2.1	--	--
	B03	0.59	9.8	3.88	14.7	2.9	11.9	--	--	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

### GENERAL CHARACTERISTICS

	Mounting standard SAE 2 bolts - J 744C	Weight without connector and bracket - kg	Moment of inertia kg m <sup>2</sup> X 10 <sup>-4</sup>
VTXB1	SAE A	9.7	3.0
VTXB2	SAE B	10.9	