

## ORDERING CODE

VST7CBB - 022 - B09 - B02 1 R 00 - B 1 - 01 \*



Series

Cam ring for "P1"

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

B02 = 5.7 (0.35)

B03 = 9.8 (0.60)

B04 = 12.8 (0.78)

B05 = 15.9 (0.97)

B06 = 19.8 (1.21)

B07 = 22.5 (1.37)

B08 = 24.9 (1.52)

B09 = 28.0 (1.71)

B10 = 31.8 (1.94)

B11 = 34.9 (2.13)

B12 = 40.9 (2.50)

B14 = 45.1 (2.75)

B15 = 50.0 (3.05)

B17 = 58.3 (3.56)

B20 = 63.8 (3.89)

B22 = 70.3 (4.29)

B25 = 79.3 (4.84)

Cam ring for "P2" & "P3"

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

B02 = 5.7 (0.35)

B03 = 9.8 (0.60)

B04 = 12.8 (0.78)

B05 = 15.9 (0.97)

B06 = 19.8 (1.21)

B07 = 22.5 (1.37)

B08 = 24.9 (1.52)

B09 = 28.0 (1.71)

B10 = 31.8 (1.94)

B11 = 34.9 (2.13)

B12 = 40.9 (2.50)

Modifications

Mounting W/connection Variables

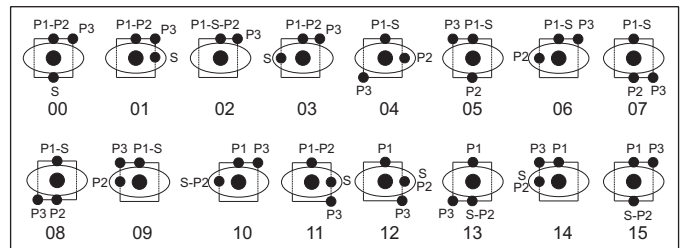
CODE		S = 2 1/2" SAE 4-Bolt Pad.		
UNC	METRIC	P1	P2	P3
01	W0	1" SAE 4 bolt Pad.	3/4" SAE 4 bolt Pad.	SAE 8,3/4" 16 UNF-2B O'ring Boss
11	W1			3/4" SAE 4 bolt Pad.
02	W2	SAE 16,1 5/16" 12 UNF-2B O'ring Boss	SAE 12,1 1/16" 12 UNF-2B O'ring Boss	SAE 8,3/4" 16 UNF-2B O'ring Boss

Seal Class

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

Design Letters

Porting Combination



Direction of rotation

(view on shaft end)

- R - clockwise
- L - Counter - Clockwise

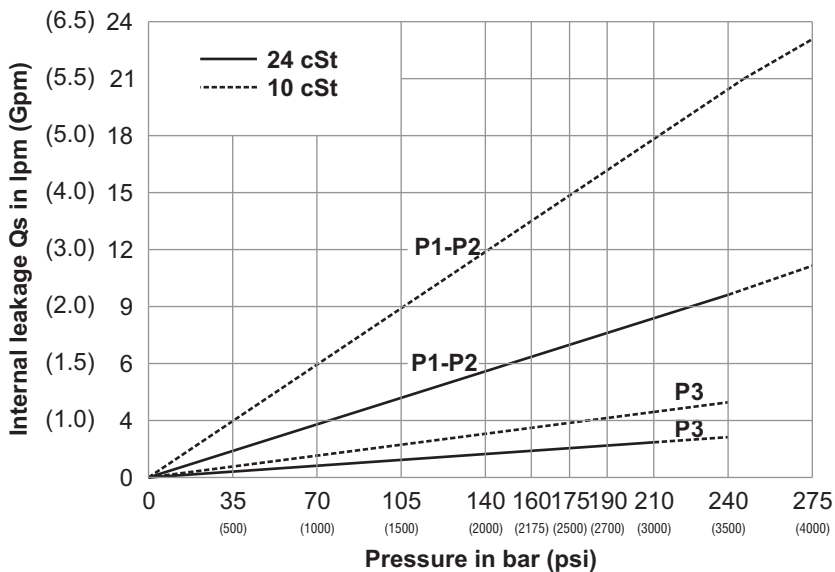
Type of shaft

- 1 - Keyed
- 2 - Keyed (SAE-BB)
- 3 - Splined (SAE-BB)
- 5 - Splined (SAE-B)
- E - Splined

TP

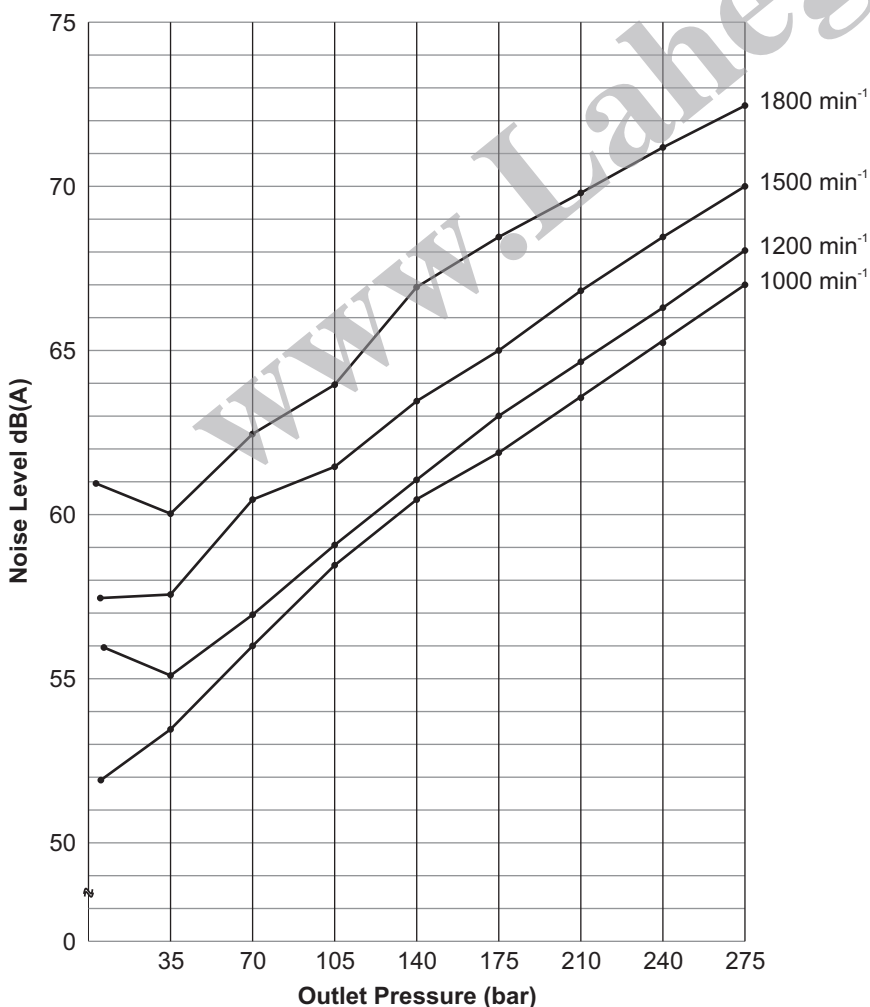
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**INTERNAL LEAKAGE (TYPICAL)**



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

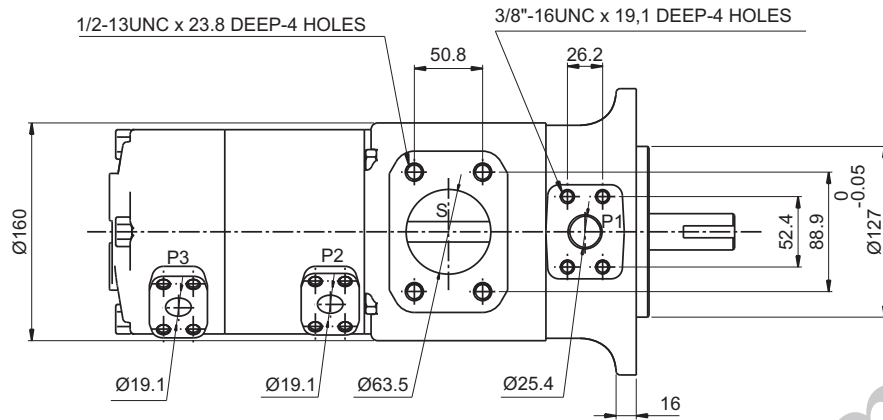
**NOISE LEVEL (TYPICAL) VST7CBB-B22-B09-B02**



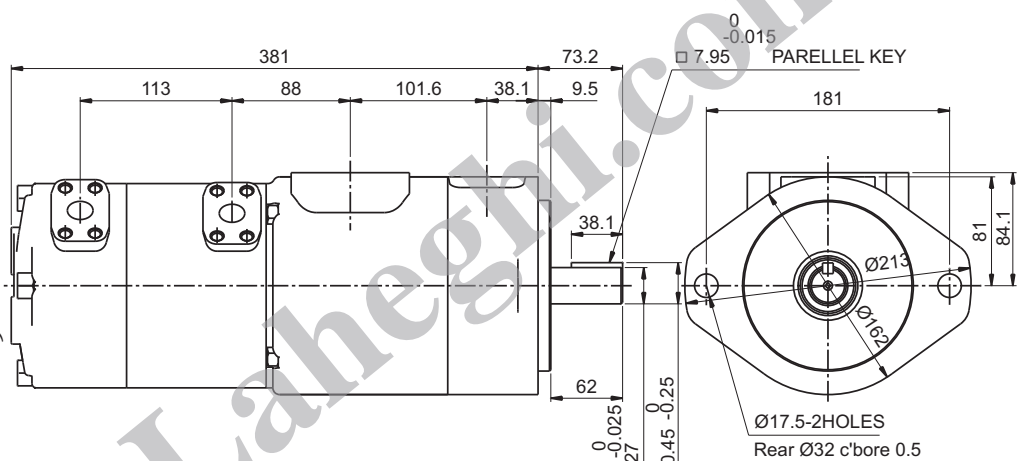
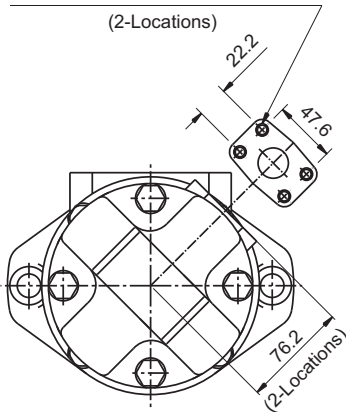
**Measurement Conditions:**  
ISO VG32 oil at 50°C and measured 1m from rear of pump cover



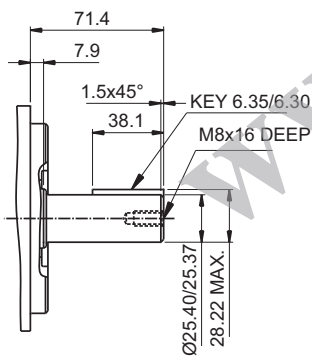
**INSTALLATION DRAWING**  
**FLANGE MOUNTING**



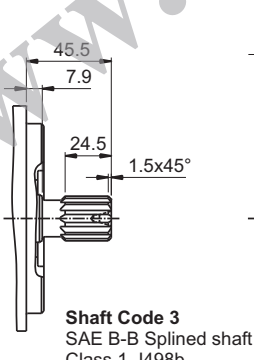
3/8-16UNC x 19.1 DEEP-4 HOLES  
(2-Locations)



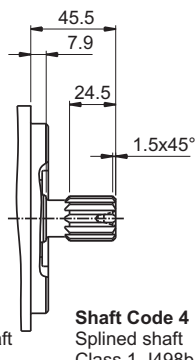
Shaft Code 1



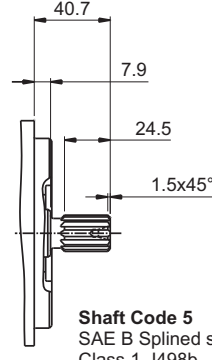
Shaft Code 2



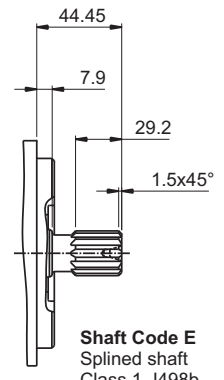
**Shaft Code 3**  
SAE B-B Splined shaft  
Class 1-J498b  
16/32 d.p - 15 teeth  
30° pressure angle  
flat root side fit



**Shaft Code 4**  
Splined shaft  
Class 1-J498b  
16/32 d.p-15teeth  
30° pressure angle  
major dia fit



**Shaft Code 5**  
SAE B Splined shaft  
Class 1-J498b  
16/32 d.p - 13 teeth  
30° pressure angle  
flat root side fit



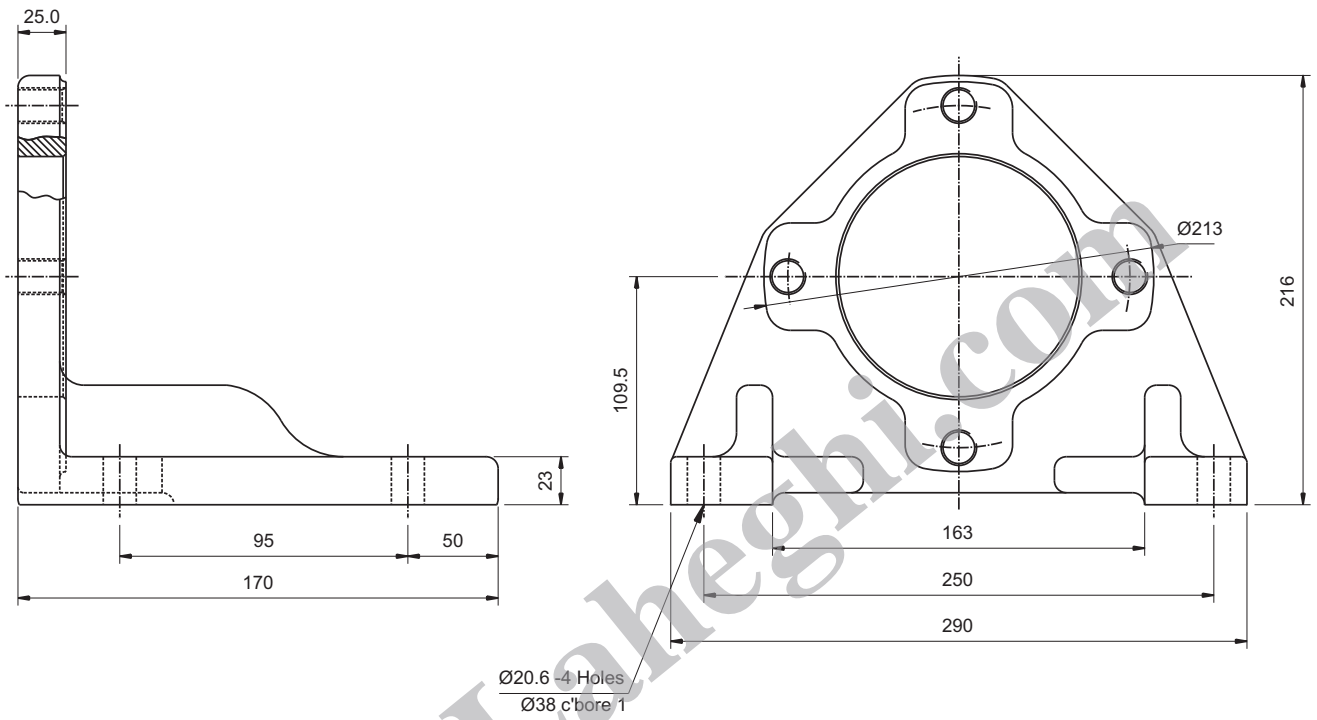
**Shaft Code E**  
Splined shaft  
Class 1-J498b  
16/32 d.p - 13 teeth  
30° pressure angle  
major dia fit

**Shaft torque limits V x P max. (P1+ P2+ P3)**

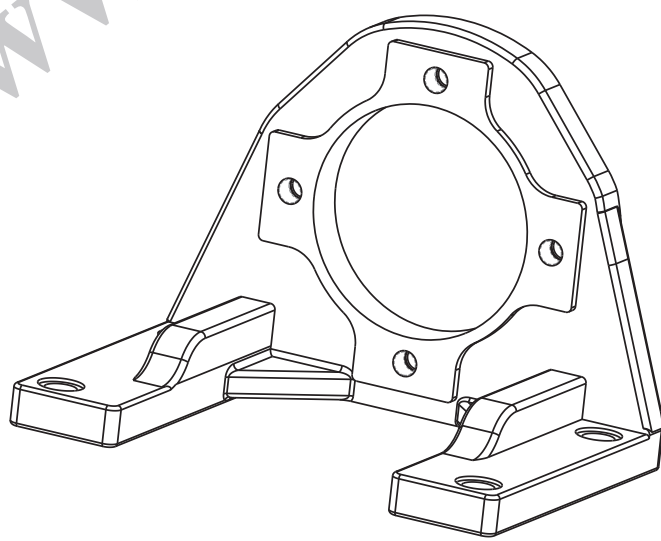
Shaft	in <sup>3</sup> /rev x psi (ml/rev x bar)
1	12666 (14300)
2	18972 (21470)
3	28937 (32670)
4	28937 (32670)
5	18246 (20600)
E	18246 (20600)

**Weight - 40.0 Kgs.**

**INSTALLATION DRAWING**  
**FOOT MOUNTING**



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Weight-9.5 Kgs.

**OPERATING CHARACTERISTICS (24 cSt)**

Pressure port	Series	Volumetric Displacement Vp		Flow q (lpm) & n = 1500 rpm					
				p = 0 bar (0 psi)		p=140bar(2000psi)		p=240bar(3500psi)	
		in <sup>3</sup> /rev	cm <sup>3</sup> /rev	gpm	lpm	gpm	lpm	gpm	lpm
P1	B02	0.35	5.7	2.29	8.70	1.72	6.50	1.32	5.0
	B03	0.60	9.8	3.88	14.7	3.30	12.5	2.91	11.0
	B04	0.78	12.8	5.07	19.2	4.49	17.0	4.09	15.5
	B05	0.97	15.9	6.31	23.9	5.68	21.5	5.28	20.0
	B06	1.21	19.8	7.85	29.7	7.13	27.0	6.87	26.0
	B07	1.37	22.5	8.90	33.7	8.19	31.0	7.79	29.5
	B08	1.52	24.9	9.88	37.4	9.25	35.0	8.85	33.5
	B09	1.71	28.0	11.07	41.9	10.43	39.5	10.04	38.0
	B10	1.94	31.8	12.62	47.8	11.88	45.0	11.23	42.5
	B11	2.13	34.9	13.81	52.26	13.21	50.0	12.81	48.5
	B12	2.50	40.9	16.25	61.50	15.59	59.0	15.19	57.5
	B14	2.75	45.1	17.81	67.65	17.04	64.5	16.77	63.5
	B15	3.08	50.5	20.25	76.64	19.55	74.0	19.15	72.5
	B17	3.56	58.3	23.10	87.45	22.32	84.5	22.06	83.5
	B20	3.89	63.8	25.28	95.70	24.70	93.5	24.30	92.0
	B22	4.29	70.3	27.87	105.5	27.21	103.0	26.81	101.5
B25	4.84	79.3	31.44	119.0	31.04	117.5	30.64	116.0	

Pressure port	Series	Volumetric Displacement Vp		Input power p & n = 1500 rpm					
				p=7 bar (100 psi)		p=140bar(2000psi)		p=240bar(3500psi)	
		in <sup>3</sup> /rev	cm <sup>3</sup> /rev	hp	kw	hp	kw	hp	kw
P1	B02	0.35	5.7	0.62	0.46	3.08	2.30	5.14	3.83
	B03	0.60	9.8	0.71	0.53	4.96	3.70	8.35	6.23
	B04	0.78	12.8	0.78	0.58	6.37	4.75	10.77	8.03
	B05	0.97	15.9	0.86	0.64	7.78	5.80	13.18	9.83
	B06	1.21	19.8	0.95	0.71	9.49	7.08	16.40	12.23
	B07	1.37	22.5	1.01	0.75	10.74	8.01	18.28	13.63
	B08	1.52	24.9	1.06	0.79	12.00	8.95	20.42	15.23
	B09	1.71	28.0	1.14	0.85	13.39	9.99	22.84	17.03
	B10	1.94	31.8	1.23	0.92	15.13	11.28	25.25	18.83
	B11	2.13	34.9	1.30	0.97	16.69	12.45	28.46	21.23
	B12	2.50	40.9	1.45	1.08	19.51	14.55	33.29	24.83
	B14	2.75	45.1	1.54	1.15	21.23	15.83	36.52	27.23
	B15	3.08	50.5	1.68	1.25	24.21	18.05	41.34	30.83
	B17	3.56	58.3	1.85	1.38	27.49	20.50	47.24	35.23
	B20	3.89	63.8	1.98	1.48	30.31	22.60	51.80	38.63
	B22	4.29	70.3	2.13	1.59	33.27	24.81	56.89	42.43
B25	4.84	79.3	2.35	1.75	37.82	28.20	64.68	48.23	

Max, cont. pressure 240 bar upto B12, 210 bar from B14 - B25

Measurement Conditions: ISO VG32 oil at 50°C

**OPERATING CHARACTERISTICS (24 cSt)**

Pressure port	Series	Volumetric Displacement Vp		Flow q (lpm) & n = 1500 rpm					
				p = 0 bar (0 psi)		p=140bar(2000psi)		p=240bar(3500psi)	
		in <sup>3</sup> /rev	cm <sup>3</sup> /rev	gpm	lpm	gpm	lpm	gpm	lpm
<b>P2 &amp; P3</b>	B02	0.35	5.7	2.29	8.70	1.72	6.50	–	–
	B03	0.60	9.8	3.88	14.7	3.30	12.5	2.91	11.0
	B04	0.78	12.8	5.07	19.2	4.49	17.0	4.09	15.5
	B05	0.97	15.9	6.31	23.9	5.68	21.5	5.28	20.0
	B06	1.21	19.8	7.85	29.7	7.13	27.0	6.87	26.0
	B07	1.37	22.5	8.90	33.7	8.19	31.0	7.79	29.5
	B08	1.52	24.9	9.88	37.4	9.25	35.0	8.85	33.5
	B09	1.71	28.0	11.07	41.9	10.43	39.5	10.04	38.0
	B10	1.94	31.8	12.62	47.8	11.88	45.0	11.23	42.5
	B11	2.13	34.9	13.81	52.26	13.21	50.0	12.81	48.5
	B12	2.50	40.9	16.25	61.50	15.59	59.0	15.19	57.5

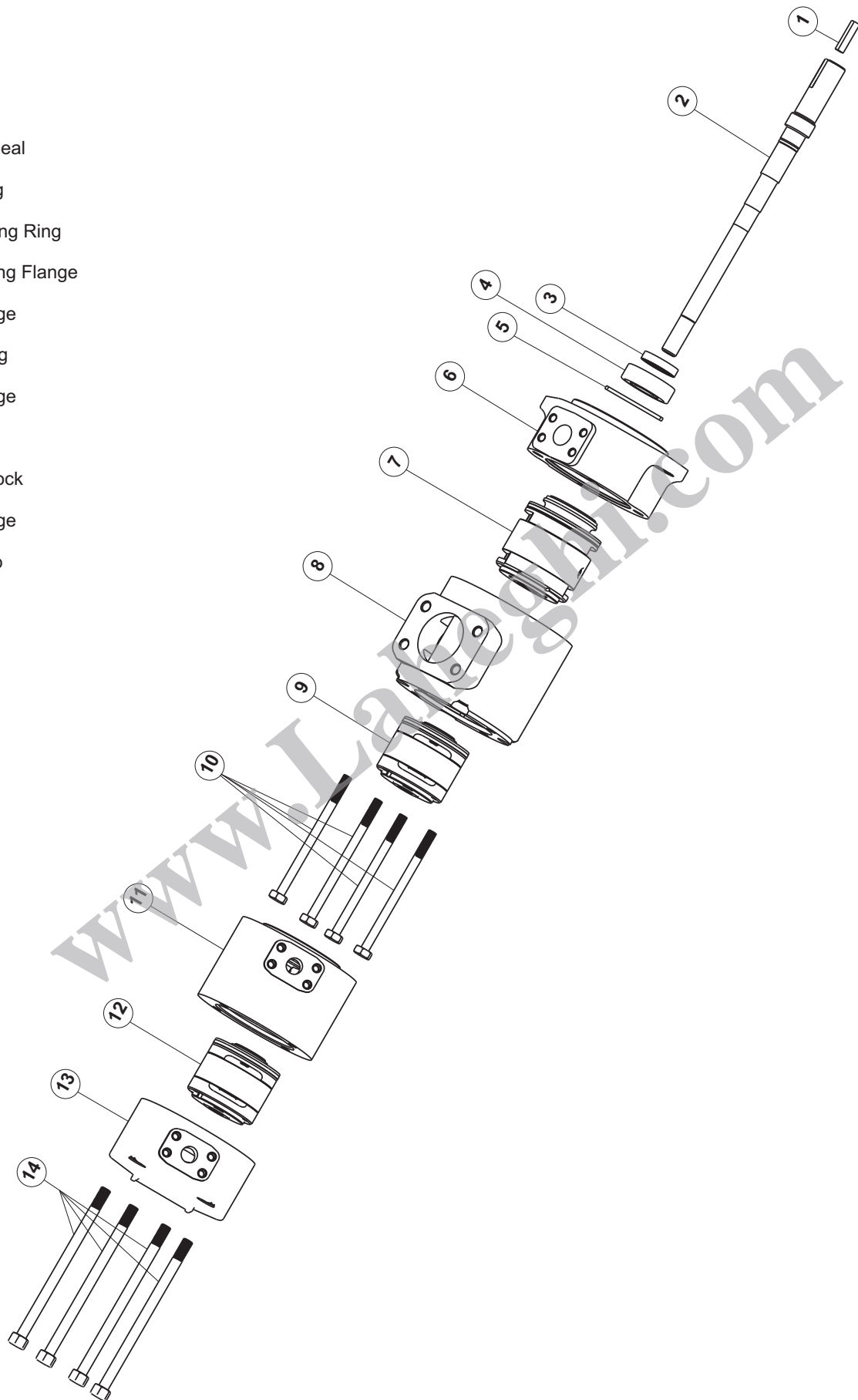


Pressure port	Series	Volumetric Displacement Vp		Input Power p & n = 1500 rpm					
				p = 7 bar (100 psi)		p=140bar(2000psi)		p=240bar(3500psi)	
		in <sup>3</sup> /rev	cm <sup>3</sup> /rev	hp	kw	hp	kw	hp	kw
<b>P2 &amp; P3</b>	B02	0.35	5.7	0.62	0.46	3.08	2.30	–	–
	B03	0.60	9.8	0.71	0.53	4.96	3.70	8.35	6.23
	B04	0.78	12.8	0.78	0.58	6.37	4.75	10.77	8.03
	B05	0.97	15.9	0.86	0.64	7.78	5.80	13.18	9.83
	B06	1.21	19.8	0.95	0.71	9.49	7.08	16.40	12.23
	B07	1.37	22.5	1.01	0.75	10.74	8.01	18.28	13.63
	B08	1.52	24.9	1.06	0.79	12.00	8.95	20.42	15.23
	B09	1.71	28.0	1.14	0.85	13.39	9.99	22.84	17.03
	B10	1.94	31.8	1.23	0.92	15.13	11.28	25.25	18.83
	B11	2.13	34.9	1.30	0.97	16.69	12.45	28.46	21.23
	B12	2.50	40.9	1.45	1.08	19.51	14.55	33.29	24.83

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

**CONSTRUCTION**

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



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