

# Industrial Hydraulic Pumps T7/T67/T6

Denison Vane Technology, fixed displacement

aerospace  
climate control  
electromechanical  
filtration  
fluid & gas handling  
**hydraulics**  
pneumatics  
process control  
sealing & shielding



ENGINEERING YOUR SUCCESS.



**Model No.**

**T67DDCS - 050 - B35 - B08 - 1 R 00 - A 1 - M0 - ..**

**Series - SAE C 6 bolts**  
J744 mounting flange

**P1 P2 P3**

**Displacement for "P1" & "P2"**

Volumetric displacement (ml/rev)

B14 = 44,0    B31 = 99,2  
B17 = 55,0    B35 = 113,4  
B20 = 66,0    B38 = 120,6  
B22 = 70,3    B42 = 137,5  
B24 = 81,1    045 = 145,7  
B28 = 90,0    050 = 158,0

**Displacement for "P3"**

Volumetric displacement (ml/rev)

003 = 10,8    017 = 58,3  
005 = 17,2    020 = 63,8  
006 = 21,3    022 = 70,3  
008 = 26,4    025 = 79,3  
010 = 34,1    028 = 88,8  
012 = 37,1    031 = 100,0  
014 = 46,0

**Type of shaft**

1 = keyed (SAE C)  
2 = keyed (SAE CC)  
3 = splined 12/24 (SAE C) (14 teeth)  
4 = splined 12/24 (SAE CC) (17 teeth)  
5 = keyed (non SAE)

**Modifications**

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

P1 & P2 = 1.1/4" - S = 4"				
	Metric thread		UNC thread	
P3	1"	3/4"	1"	3/4"
Code	M0	M1	00	01

**Seal class**

1 = S1 BUNA N - 0,7 bar max. (for mineral oil)  
4 = S4 EPDM - 7 bar max. (for fire resistant fluids)  
5 = S5 VITON® - 7 bar max. (for mineral oil and fire resistant fluids)

**Design letter**

**Porting combination (see pages 72 - 73)**  
00 = standard

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

R = Clockwise  
L = Counter-clockwise

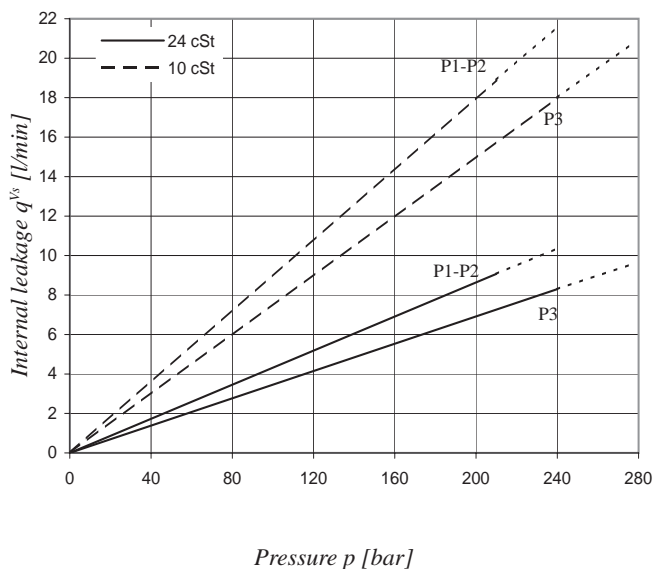
**OPERATING CHARACTERISTICS - TYPICAL [24 cSt]**

Pressure port	Series	Vi Volumetric displacement	Flow q <sub>v</sub> [l/min] & n = 1500 RPM			Input power P [kW] & n = 1500 RPM		
			p = 0 bar	p = 140 bar	p = 250 bar	p = 7 bar	p = 140 bar	p = 250 bar
P1 & P2	B14	44,0 ml/rev	66,0	59,4	54,2	1,5	16,6	29,0
	B17	55,0 ml/rev	82,5	75,9	70,7	1,7	20,4	35,8
	B20	66,0 ml/rev	99,0	92,4	87,2	1,9	24,3	42,7
	B22	70,3 ml/rev	105,5	98,8	93,7	2,0	25,8	45,4
	B24	81,1 ml/rev	121,7	115,0	109,9	2,2	29,5	52,1
	B28	90,0 ml/rev	135,0	128,4	123,2	2,3	32,7	57,7
	B31	99,2 ml/rev	148,8	142,2	137,0	2,5	35,9	63,5
	B35	113,4 ml/rev	170,1	163,5	158,3	2,7	40,8	72,3
	B38	120,6 ml/rev	180,9	174,3	169,1	2,9	43,4	76,8
	B42	137,5 ml/rev	206,3	199,6	194,5	3,2	49,3	87,4
	045	145,7 ml/rev	218,6	209,2	202,6 <sup>1)</sup>	4,1	52,8	89,5 <sup>1)</sup>
	050	158,0 ml/rev	237,0	227,7	223,0 <sup>2)</sup>	4,4	57,1	85,0 <sup>2)</sup>
			p = 0 bar	p = 140 bar	p = 275 bar	p = 7 bar	p = 140 bar	p = 275 bar
P3	003	10,8 ml/rev	16,2	11,2	*	1,3	5,3	*
	005	17,2 ml/rev	25,8	20,8	16,1	1,4	7,5	13,9
	006	21,3 ml/rev	31,9	26,9	22,2	1,5	8,9	16,8
	008	26,4 ml/rev	39,6	34,6	29,9	1,6	10,7	20,3
	010	34,1 ml/rev	51,1	46,1	41,4	1,7	13,4	25,6
	012	37,1 ml/rev	55,6	50,6	45,9	1,7	14,4	27,6
	014	46,0 ml/rev	69,0	64,0	59,3	1,9	17,6	33,7
	017	58,3 ml/rev	87,4	82,4	77,7	2,1	21,9	42,2
	020	63,8 ml/rev	95,7	90,7	86,0	2,2	23,8	46,0
	022	70,3 ml/rev	105,4	100,4	95,7	2,3	26,1	50,4
	025	79,3 ml/rev	118,9	113,9	109,2	2,5	29,2	56,6
	028	88,8 ml/rev	133,2	128,2	125,8 <sup>2)</sup>	2,8	32,7	48,5 <sup>2)</sup>
	031	100,0 ml/rev	150,0	145,0	142,6 <sup>2)</sup>	2,8	36,5	54,4 <sup>2)</sup>

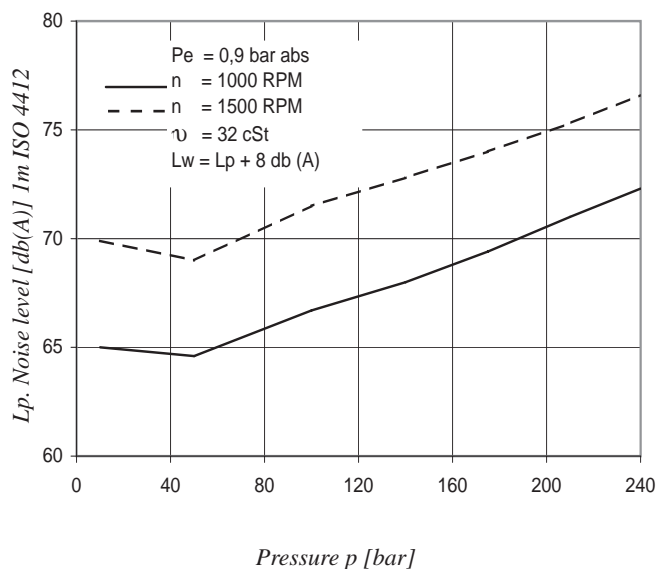
\* We do not recommend to use the size 003 in P3 at 275 bar & 1500 RPM as the internal leakage is over 50% of theoretical flow.

<sup>1)</sup> 045 = 240 bar max. int.    <sup>2)</sup> 050 - 028 - 031 = 210 bar max. int.

**INTERNAL LEAKAGE (TYPICAL)**



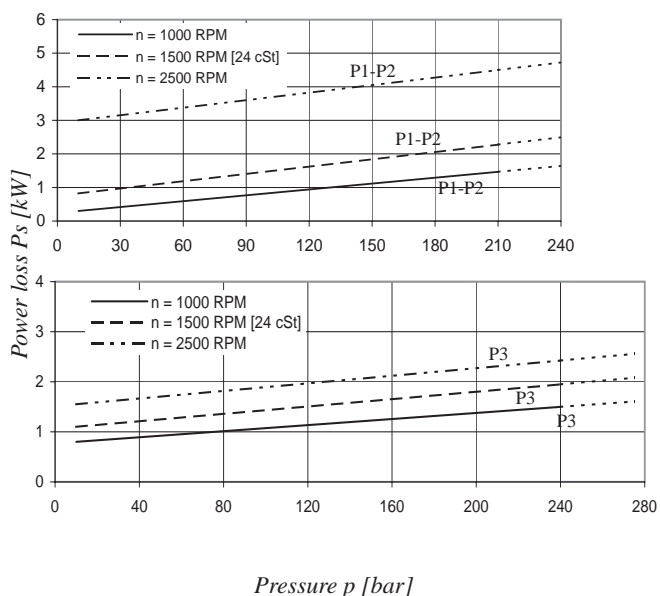
**NOISE LEVEL (TYPICAL) - T67DDCS - B31 - B31 - 022**



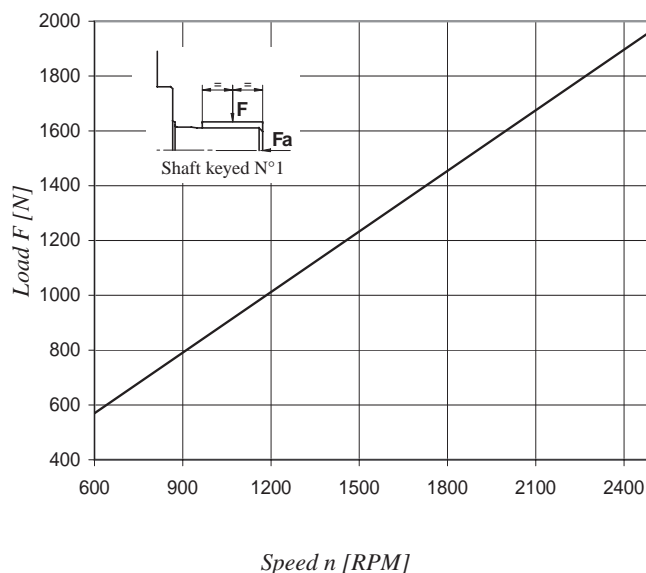
Do not operate pump more than 5 seconds at any speed or viscosity if internal leakage is higher than 50% of theoretical flow.  
 Total leakage is the sum of each section loss under its respective operating conditions.

Triple pump noise level is given with all stages discharging at the pressure value indicated on the curve.

**POWER LOSS HYDROMECHANICAL (TYPICAL)**



**PERMISSIBLE RADIAL LOAD**



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

Maximum permissible axial load  $F_a = 1200\text{ N}$

**Porting Diagrams**

**Hydraulic Pumps**

**T7/T67/T6C Industrial, Denison Vane Pumps**

**T7BB/T7BBS**

**T6CC**

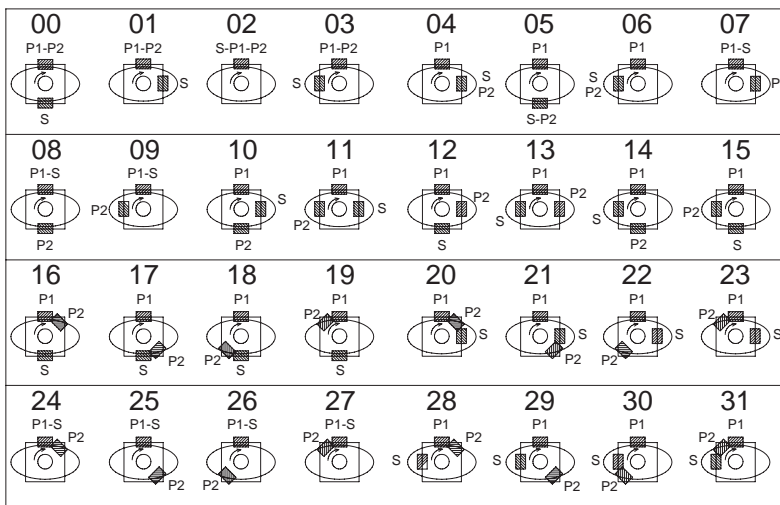
**T67CB**

**T7DB/T7DBS**

**T67DC**

**T7EB/T7EBS**

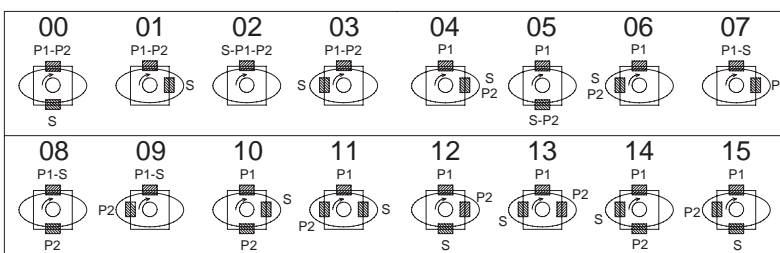
**T67EC**



**T7DD/T7DDS**

**T7ED/T7EDS**

**T7EE/T7EES**



**T7DBB/T7DBBS**

**T7DCB/T7DCBS**

**T7DCC/T7DCCS**

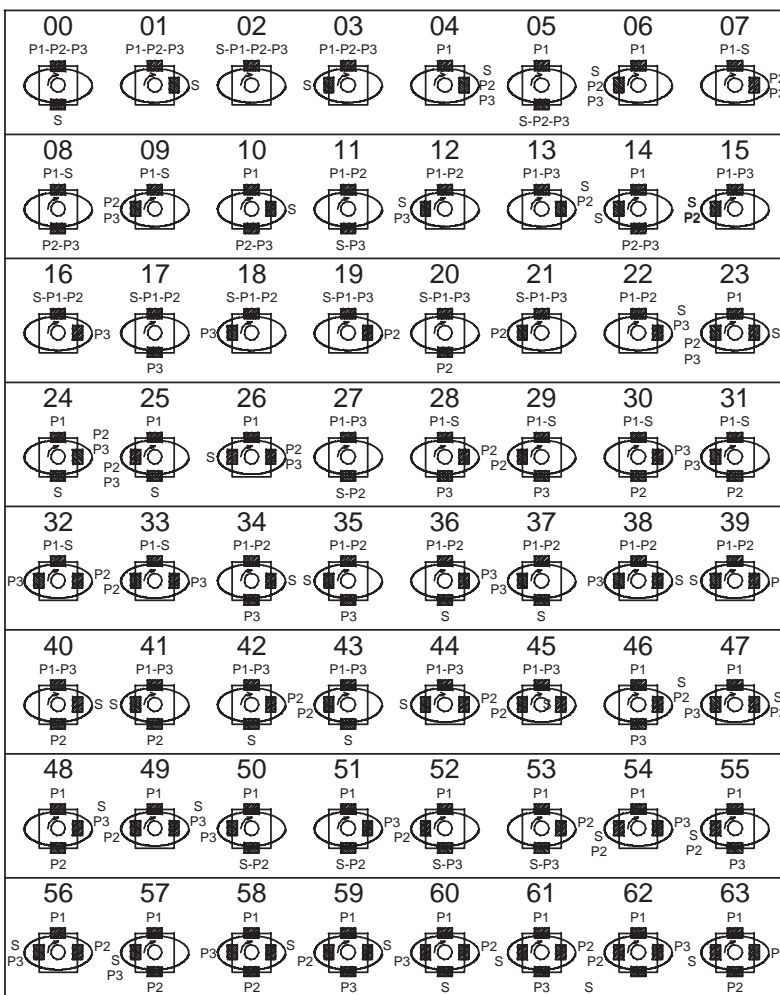
**T7DBB/T7DBBS**

**T67DDCS**

**T7EDB/T7EDBS**

**T67EDC/T67EDCS**

**T7EEC/T7EECS**

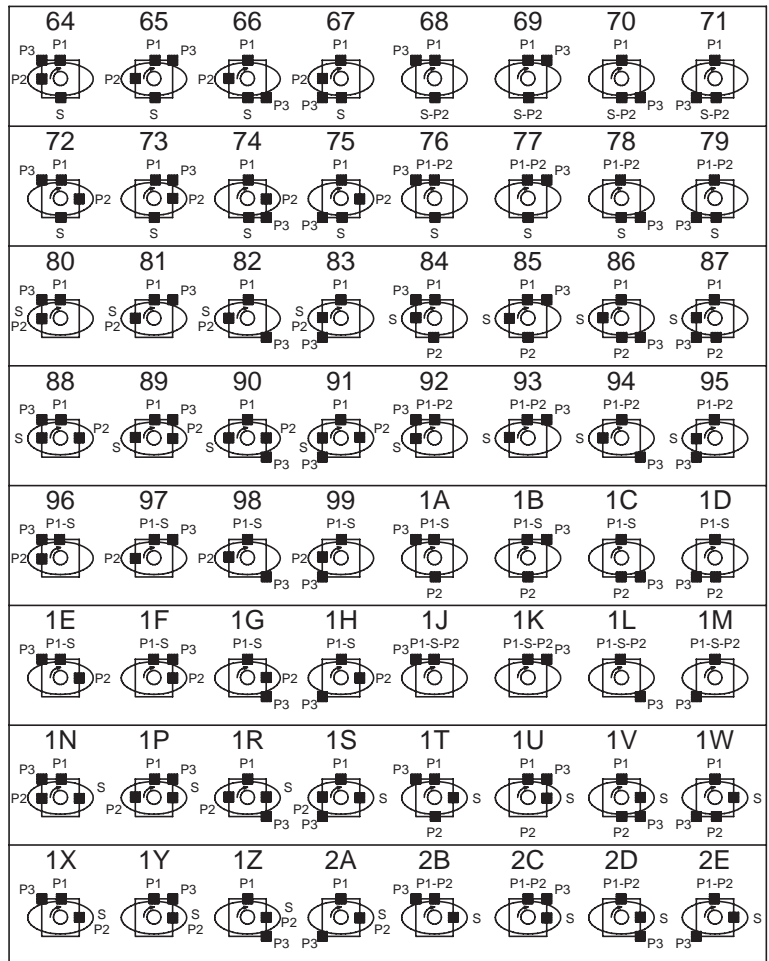


**Porting Diagrams**

**Hydraulic Pumps**

**T7/T67/T6C Industrial, Denison Vane Pumps**

- T7DBB/T7DBBS
- T7DCB/T7DCBS
- T7DCC/T7DCCS
- T7DBB/T7DBBS
- T67DDCS
- T7EDB/T7EDBS
- T67EDC/T67EDCS
- T7EEC/T7EECS



	S	P2	P3				P2	P3			
			02	16	17	18		20	30	08	31
			19	07	28	32		21	33	29	09
			01	22	34	38		40	48	10	58
			13	04	46	47		45	49	59	23
			00	36	11	37		27	51	05	50
			42	24	53	60		43	62	52	25
			03	39	35	12		41	63	14	57
			44	26	61	56		15	54	55	06



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