

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. T7DB or T7DBS - B42 - B10 - 1 R 00 - A 1 M1 - ..

T7DB series - 125 A2 HW
 ISO 2 bolts 3019-2 mounting flange
T7DBS series - SAE C 2 bolts
 J744 mounting flange

Displacement P1
 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 P2
 Volumetric displacement (ml/rev.)
 B02 = 5,8 B09 = 28,0
 B03 = 9,8 B10 = 31,8
 B04 = 12,8 B11 = 35,0
 B05 = 15,9 B12 = 41,0
 B06 = 19,8 B14 = 45,0
 B07 = 22,5 B15 = 50,0
 B08 = 24,9

Type of shaft T7DBS
 1 = keyed (SAE C) 3 = splined (SAE C) 14 teeth
 2 = keyed (non SAE) 4 = splined (spec. SAE C)

Type of shaft T7DB - T7DBS
 5 = keyed (ISO 3019 -2 - G32 M)

Modifications

Mounting w/connection variables
 4 bolts SAE flanges J518

| | Metric thread T7DB - T7DBS | | UNC thread T7DBS | |
|----|-------------------------------|--------|---------------------|--------|
| | M0 | M1 | 00 | 01 |
| P1 | 1.1/4" | 1.1/4" | 1.1/4" | 1.1/4" |
| P2 | 1" | 3/4" | 1" | 3/4" |
| S | 3" | 3" | 3" | 3" |

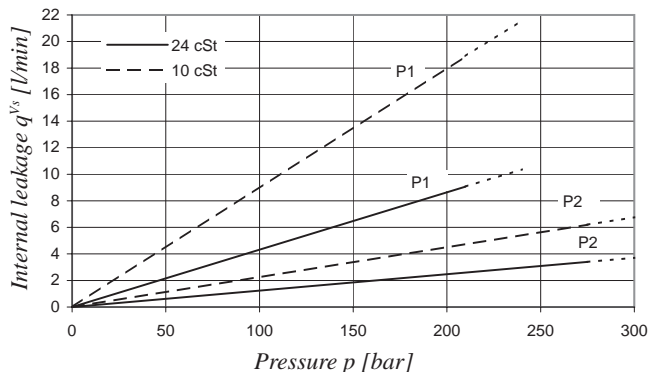
Seal class
 1 = S1 BUNA N - 0,7 bar max. (for mineral oil)
 4 = S4 EPDM - 7 bar max. (for fire resistant fluids)
 5 = S5 VITON® - 7 bar max. (for mineral oil and fire resistant fluids)

Design letter

Porting combination (see page 72)
 00 = standard

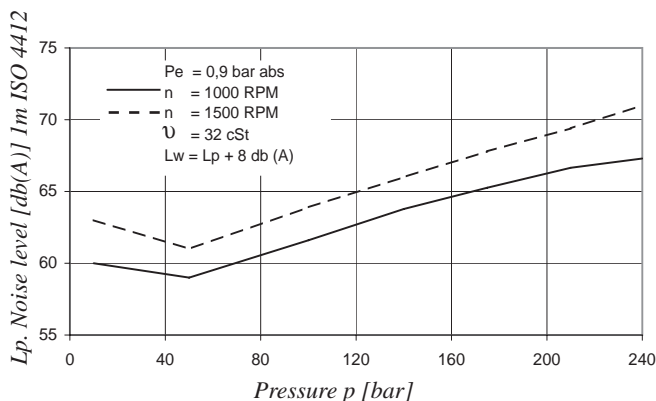
Direction of rotation (shaft end view)
 R = Clockwise
 L = Counter-clockwise

INTERNAL LEAKAGE (TYPICAL)



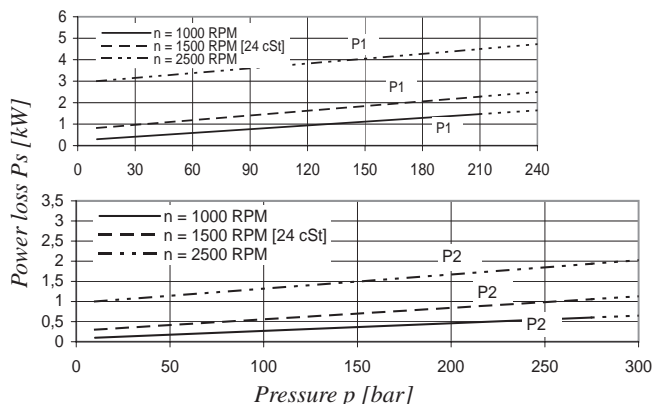
Do not operate pump more than 5 seconds at any speed or viscosity if internal leakage is higher than 50% of theoretical flow.
 Total leakage is the sum of each section loss under its respective operating conditions.

NOISE LEVEL (TYPICAL) - T7DBS - B31 - B10



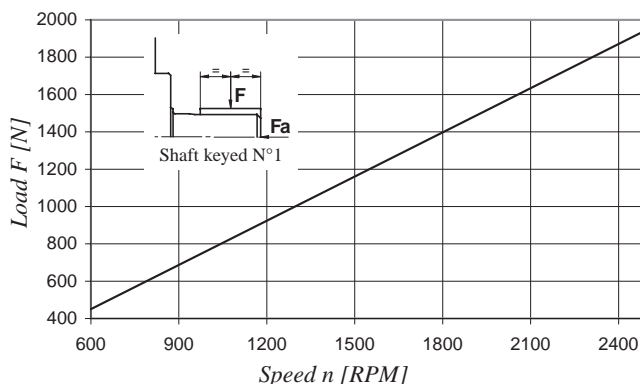
Double pump noise level is given with both stages discharging at the pressure value indicated on the curve.

POWER LOSS HYDROMECHANICAL (TYPICAL)



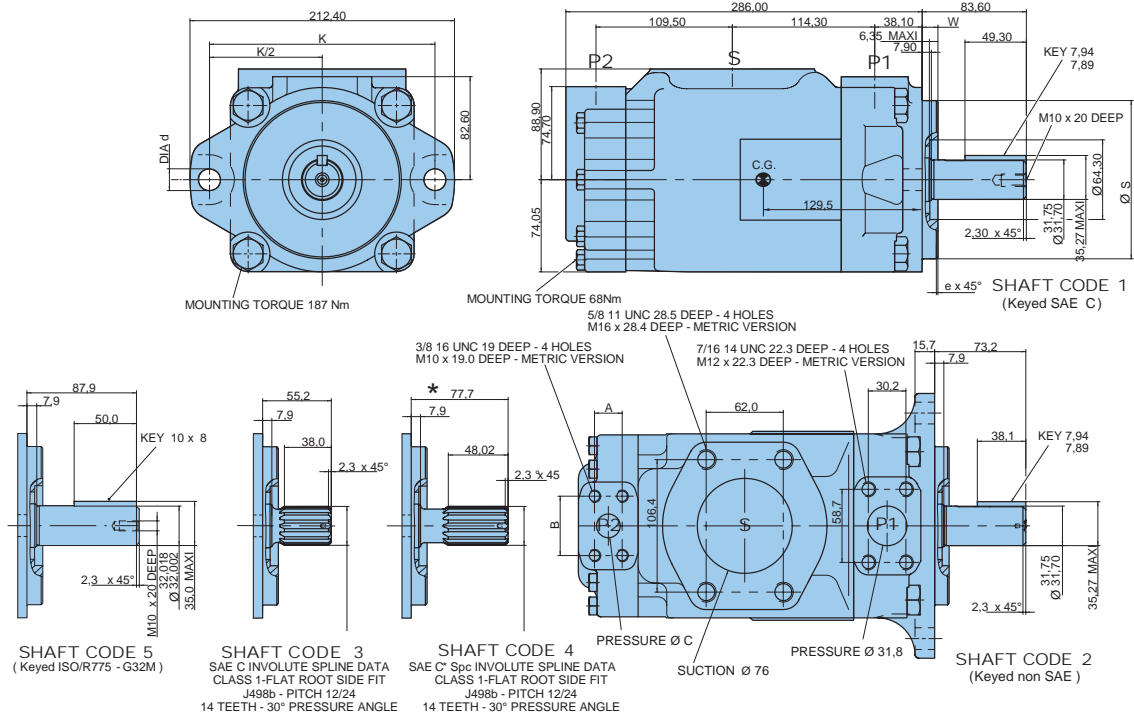
Total hydromechanical power loss is the sum of each section loss under its respective operating conditions.

PERMISSIBLE RADIAL LOAD



Maximum permissible axial load Fa = 1200 N





| Alternate mounting flange | | | | | | |
|---------------------------|---------|---------|---------|------|-------|-------|
| | Dia S | | e x 45° | W | K | Dia d |
| | Max. | Min. | | | | |
| T7DB | 125,000 | 124,937 | 2,0 | 9,5 | 180,0 | 18,0 |
| T7DBS | 127,000 | 126,950 | 1,3 | 12,7 | 181,0 | 17,5 |

| Alternate connect. variables | | |
|------------------------------|---------|---------|
| | 00 & M0 | 01 & M1 |
| A | 26,20 | 22,20 |
| B | 52,35 | 47,6 |
| C | 25,00 | 19,0 |

| Shaft torque limits [ml/rev. x bar] | | | |
|-------------------------------------|-------------|-------|-------------|
| Shaft | Vi x p max. | Shaft | Vi x p max. |
| 1 | 43240 | 4 | 61200 |
| 2 | 34590 | 5 | 42500 |
| 3 | 61200 | | |

OPERATING CHARACTERISTICS - TYPICAL [24 cSt]

| Pressure port | Series | Vi Volumetric displacement | Flow q _v [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 | 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 ¹⁾ | 4,1 | 52,8 | 89,5 ¹⁾ |
| | 050 | 158,0 ml/rev | 237,0 | 227,7 | 223,0 ²⁾ | 4,4 | 57,1 | 85,0 ²⁾ |
| P2 | | | p = 0 bar | p = 140 bar | p = 300 bar | p = 7 bar | p = 140 bar | p = 300 bar |
| | B02 | 5,8 ml/rev | 8,7 | 7,0 | 5,1 | 0,5 | 2,6 | 5,1 |
| | B03 | 9,8 ml/rev | 14,7 | 13,0 | 11,1 | 0,6 | 4,0 | 8,1 |
| | B04 | 12,8 ml/rev | 19,2 | 17,5 | 15,6 | 0,6 | 5,0 | 10,4 |
| | B05 | 15,9 ml/rev | 23,9 | 22,2 | 20,2 | 0,7 | 6,1 | 12,7 |
| | B06 | 19,8 ml/rev | 29,7 | 28,0 | 26,1 | 0,7 | 7,5 | 15,6 |
| | B07 | 22,5 ml/rev | 33,7 | 32,0 | 30,2 | 0,8 | 8,5 | 17,6 |
| | B08 | 24,9 ml/rev | 37,4 | 35,7 | 33,7 | 0,8 | 9,3 | 19,5 |
| | B09 | 28,0 ml/rev | 42,0 | 40,3 | 38,4 | 0,9 | 10,4 | 21,8 |
| | B10 | 31,8 ml/rev | 47,7 | 46,0 | 44,1 | 0,9 | 11,7 | 26,2 |
| | B11 | 35,0 ml/rev | 52,5 | 50,8 | 48,9 | 1,0 | 12,8 | 27,0 |
| | B12 | 41,0 ml/rev | 61,5 | 59,8 | 57,9 | 1,1 | 14,9 | 31,5 |
| | B14 | 45,0 ml/rev | 67,5 | 65,8 | 63,9 | 1,2 | 16,3 | 34,5 |
| | B15 | 50,0 ml/rev | 75,0 | 73,3 | 71,6 ³⁾ | 1,3 | 18,1 | 35,7 ³⁾ |

¹⁾ 045 = 240 bar max. int. ²⁾ 050 = 210 bar max. int. ³⁾ B15 = 280 bar max. int.

Porting Diagrams

Hydraulic Pumps

T7/T67/T6C Industrial, Denison Vane Pumps

T7BB/T7BBS

T6CC

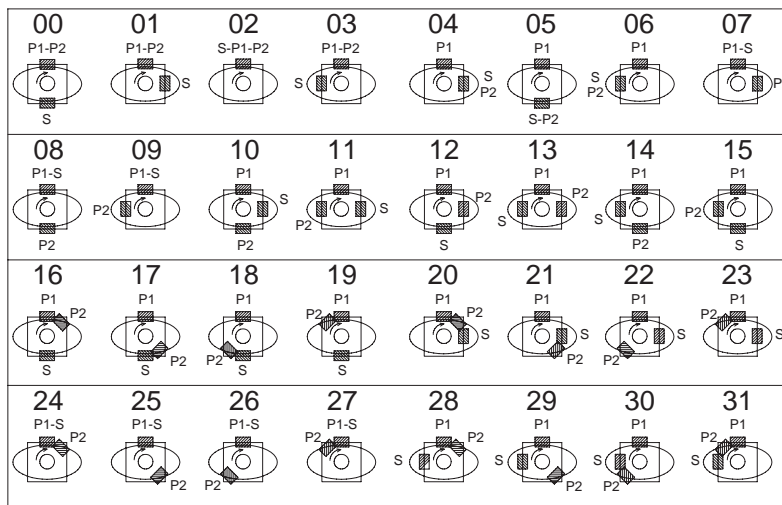
T67CB

T7DB/T7DBS

T67DC

T7EB/T7EBS

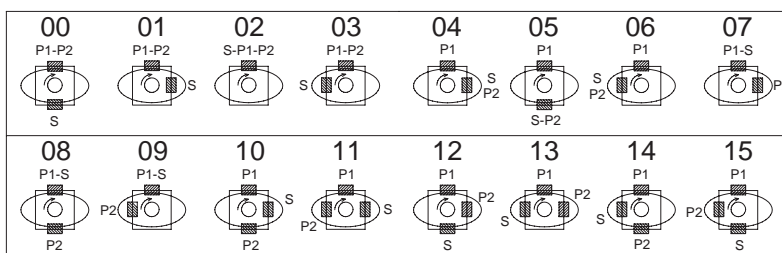
T67EC



T7DD/T7DDS

T7ED/T7EDS

T7EE/T7EES



T7DBB/T7DBBS

T7DCB/T7DCBS

T7DCC/T7DCCS

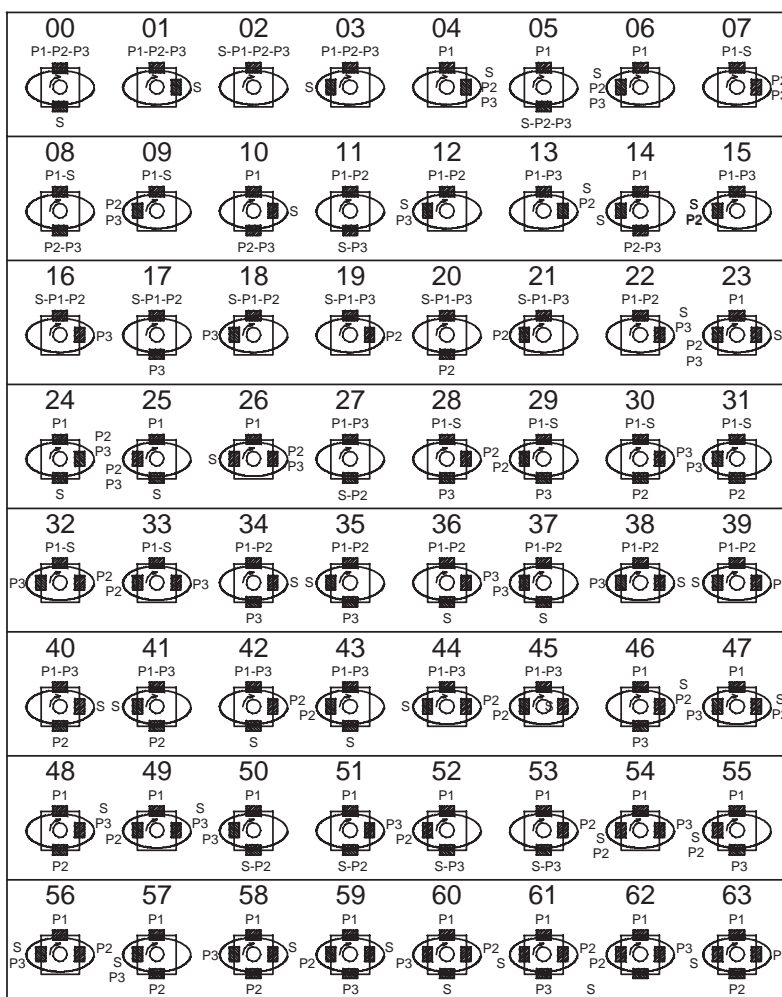
T7DBB/T7DBBS

T67DDCS

T7EDB/T7EDBS

T67EDC/T67EDCS

T7EEC/T7EECS



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