



# DTA

Damen Technical Agencies



## Industrial Hydraulic Pumps T7DDB, T7DDBS

Denison Vane Technology, fixed displacement

### Hydraulic Pumps

- Hydraulic Motors
- Hydraulic Valves
- Hydraulic Cylinders
- Hydraulic Filtration
- Hydraulic Accumulators



ENGINEERING YOUR SUCCESS.

## We are doing our parts to keep you moving!

DTA your 1 Stop Shop for Hydraulics, Pneumatics and Power Transmissions.

**Model No.**     **T7DDB or T7DDBS - 050 - B22 - B12 - 1 R 00 - A 1 - M0 - ..****T7DDB series** - ISO 6 bolts 3019-2

Mounting flange 125-A2-HW or 125-B4-HW

**P1****P2****P3****T7DDBS series** - SAE C 6 bolts

J744 mounting flange

**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)

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 T7DDBS**

1 = keyed (SAE C)

2 = keyed (SAE CC)

3 = splined 12/24 (SAE C) (14 teeth)

4 = splined 12/24 (SAE CC) (17 teeth)

**Type of shaft T7DDB & T7DDBS**

5 = keyed (ISO 3019/2 - G38M)

**Modifications****Mounting w/connection variables**

4 bolts SAE flange J518

| P1 & P2 = 1.1/4" - S = 4" |               |            |
|---------------------------|---------------|------------|
|                           | Metric thread | UNC thread |
| T7DDB-P3 = 1"             | M0            |            |
| T7DDB-P3 = 3/4"           | M1            |            |
| T7DDBS-P3 = 1"            | M0            | 00         |
| T7DDBS-P3 = 3/4"          | M1            | 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

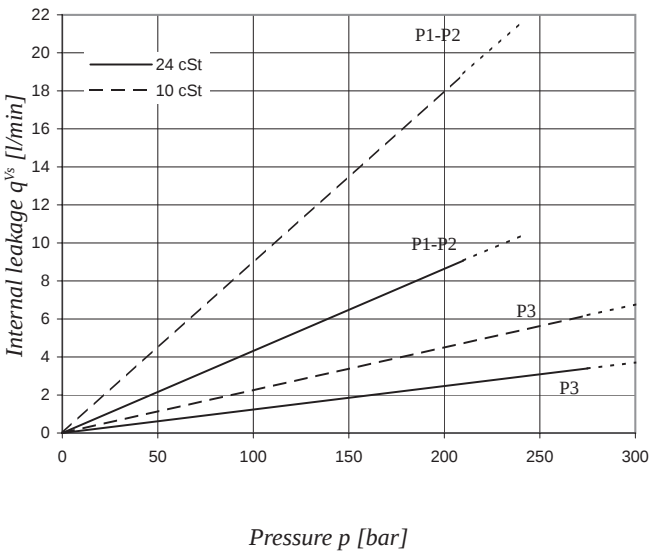
L = Counter-clockwise

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

| Pressure port      | Series | Vi Volumetric displacement | Flow $q_v$ [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        |
| <b>P1 &amp; P2</b> | 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               |
| <b>P3</b>          | 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 = 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               |
| <b>P3</b>          | 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 <sup>3)</sup>  | 1,3                               | 18,1        | 35,7 <sup>3)</sup> |

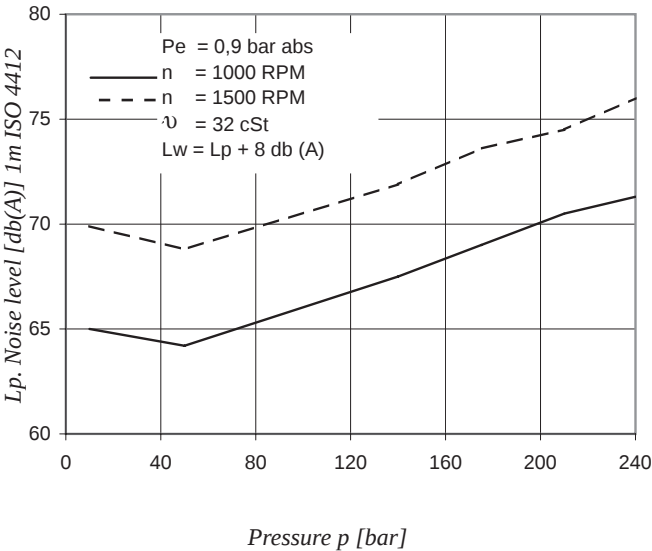
<sup>1)</sup> 045 = 240 bar max. int.<sup>2)</sup> 050 = 210 bar max. int.<sup>3)</sup> B15 = 280 bar max.int.

INTERNAL LEAKAGE (TYPICAL)



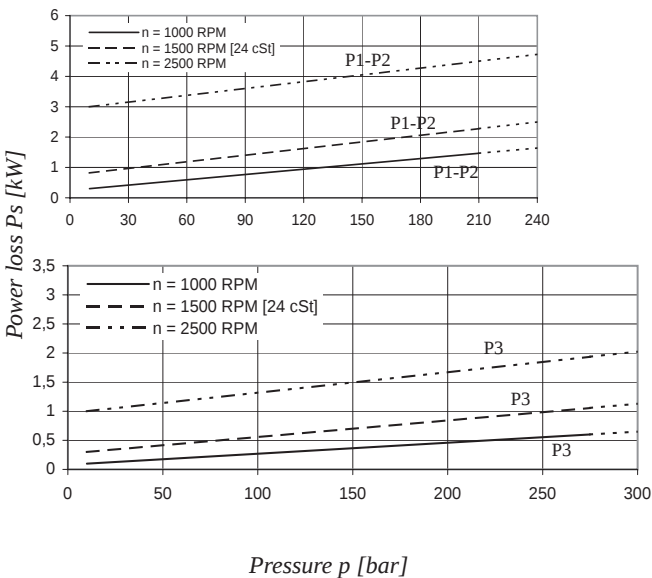
Do not operate pump more than 5 seconds at any speed or viscosity if internal leakage is higher than 50% of theoretical flow.  
Total leakage is the sum of each section loss under its respective operating conditions.

NOISE LEVEL (TYPICAL) - T7DDB - B31 - B31 - B10



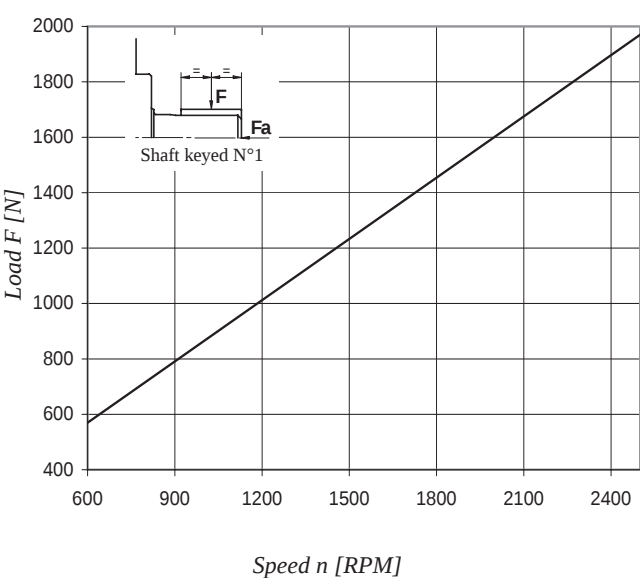
Triple pump noise level is given with all stages discharging at the pressure value indicated on the curve.

POWER LOSS HYDROMECHANICAL (TYPICAL)

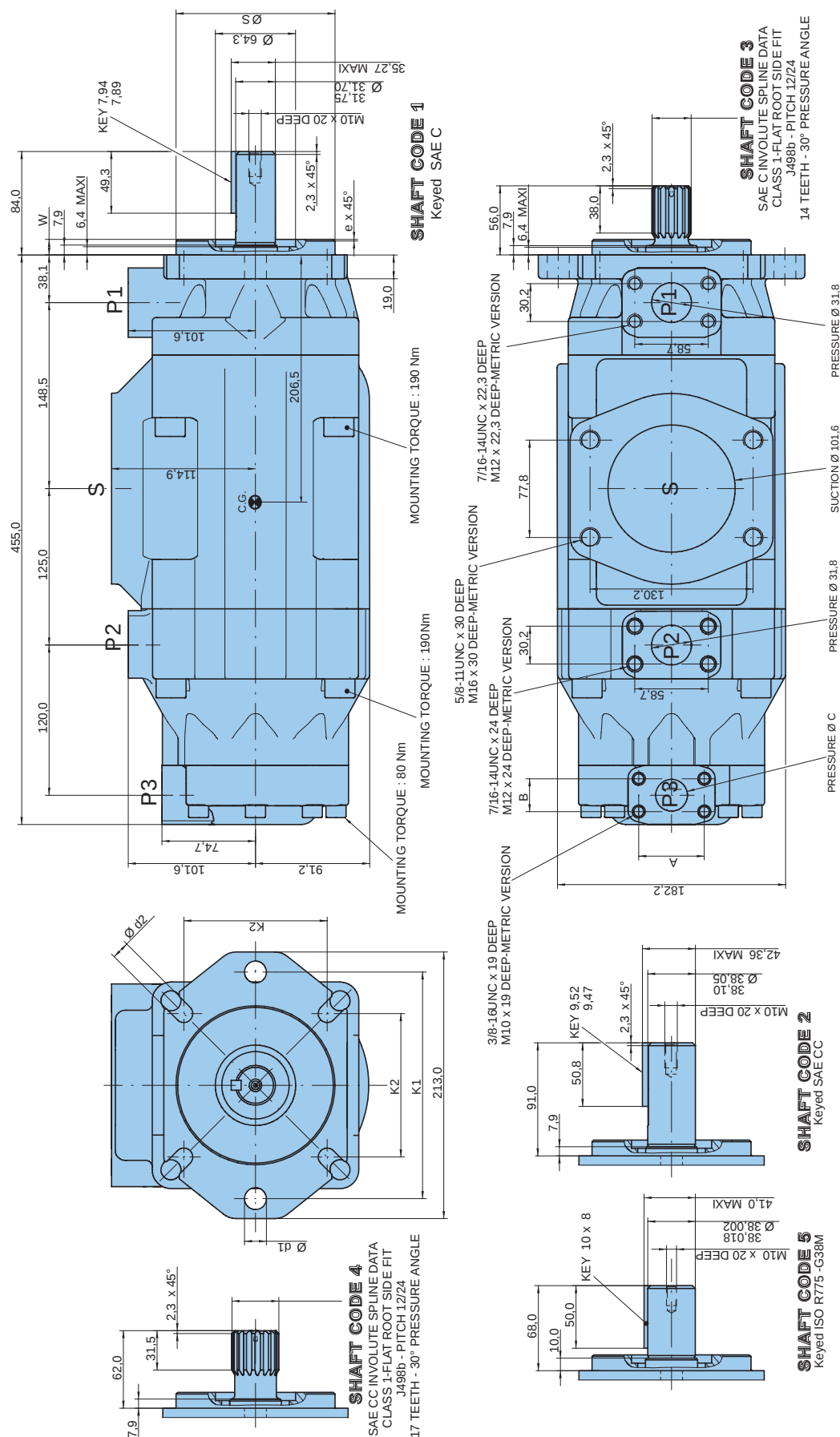


Total hydromechanical power loss is the sum of each section loss under its respective operating conditions.

PERMISSIBLE RADIAL LOAD



Maximum permissible axial load  $F_a = 1200$  N



| Alternate connect. variables |         |         |
|------------------------------|---------|---------|
|                              | 00 & M0 | 01 & M1 |
| A                            | 52,4    | 47,6    |
| B                            | 26,2    | 22,2    |
| C                            | 25,4    | 19,0    |

| Alternate mounting flange |         |         |         |      |       |        |        |        |
|---------------------------|---------|---------|---------|------|-------|--------|--------|--------|
| Series                    | Dia S   |         | e x 45° | W    | K1    | Dia d1 | K2     | Dia d2 |
|                           | Max.    | Min.    |         |      |       |        |        |        |
| T7DDB                     | 125,000 | 124,937 | 2,0     | 9,5  | 180,0 | 18,0   | 113,14 | 14,0   |
| T7DDBS                    | 127 000 | 126 950 | 1 5     | 12 7 | 181 0 | 17 5   | 115 50 | 14 3   |

| Shaft torque limits [ml/rev. x bar] |                          |       |                          |
|-------------------------------------|--------------------------|-------|--------------------------|
| Shaft                               | Vi x p max. P1 + P2 + P3 | Shaft | Vi x p max. P1 + P2 + P3 |
| 1                                   | 43240                    | 4     | 66500                    |
| 2                                   | 72306                    | 5     | 53100                    |
| 3                                   | 61200                    |       |                          |