

# Mobile Hydraulic Pumps T6\*M

Denison Vane Technology, fixed displacement

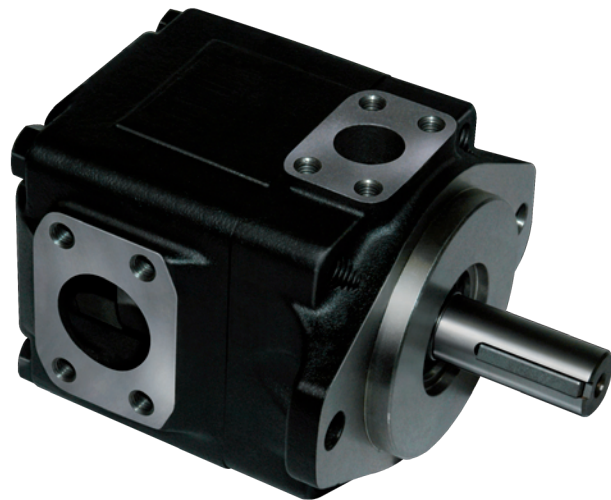
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climate control  
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fluid & gas handling  
**hydraulics**  
pneumatics  
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**GREATER FLOW**

Greater flow for the envelope size is achieved by increased displacement cam rings at high permissible speeds with atmospheric inlet  
 C → 3 to 31 GPM, 10 to 100 ml/rev.  
 D → 14 to 50 GPM, 48 to 158 ml/rev.  
 E → 42 to 72 GPM, 132 to 227 ml/rev.

**HIGHER PRESSURE**

Pressure ratings to 275 bar reduce size and cost of actuators, valves and lines, give extended life at reduced pressures.

**BETTER EFFICIENCY**

Better efficiency under load increases productivity, reduces heating and operating costs.

**MOUNTING FLEXIBILITY**

Up to 32 positions for double pumps and up to 128 for triple pumps: this reduces mounting costs and improves performance.

**LOWER NOISE LEVELS**

Increase operator safety and acceptance.

**COMPLETE CONFORMITY**

To SAE - J744c 2-bolt standards and to ISO 3019-1 (T6EDCS SAE E, T6EDCM ISO 3019/2) in the various keyed and splined shaft options offered.

**CARTRIDGE DESIGN**

Provides for drop-in assemblies. This allows easy conversion or renewal of serviceable elements in minutes at minimum expense and risk of contamination. The "C" & "D" cartridge pumps are birotational and indicated by "B" description in cartridge model number. Pump rotation is easy to change by changing position of cam ring on port plate dowel pin hole.

**WIDER RANGE OF ACCEPTABLE VISCOSITIES**

Viscosities from 2000 to 10 cSt permit colder starts and hotter running. The balanced design compensates for wear and temperature changes. At high viscosity or cold temperature, the rotor to side plates gap is well lubricated and improves mechanical efficiency.

**FIRE RESISTANT FLUIDS**

Including phosphate esters, chlorinated hydrocarbons, water glycols and invert emulsions may be pumped at higher pressures and with longer service life by these pumps.

**GENERAL APPLICATIONS INSTRUCTIONS**

1. Check speed range, pressure, temperature, fluid quality, viscosity and pump rotation.
2. Check inlet conditions of the pump, if it can accept application requirement.
3. Type of shaft : if it would support operating torque.
4. Coupling must be chosen to minimize pump shaft load (weight, misalignment).
5. Filtration : must be adequate for lowest contamination level.
6. Environment of pump : to avoid noise reflection, pollution and shocks.

Size	Series	Theoretical Displacement Vi	Minimum Speed	Maximum Speed		Maximum Pressure						
				HF-0, HF-1 HF-2	HF-3, HF-4 HF-5	HF-0, HF-2		HF-1, HF-4, HF-5		HF-3		
		ml/rev.		RPM	RPM	RPM	Int.	Cont.	Int.	Cont.	Int.	Cont.
							bar	bar	bar	bar	bar	bar
CM CP	B03	10,8	400	2800	1800	275	240	210	175	175	140	
	B05	17,2										
	B06	21,3										
	B08	26,4										
	B10	34,1										
	B12	37,1										
	B14	46,0										
	B17	58,3										
	B20	63,8										
	B22	70,3										
	B25	79,3										
	B28	88,8										
B31	100,0											
DM DP	B14	47,6	400	2500	1800	240	210	210	175	175	140	
	B17	58,2										
	B20	66,0										
	B24	79,5										
	B28	89,7										
	B31	98,3										
	B35	111,0										
	B38	120,3										
	B42	136,0										
	B45	145,7										
	B50	158,0										
	EM EP	042										132,3
045		142,4										
050		158,5										
052		164,8										
062		196,7										
066		213,3										
072		227,1										

HF-0, HF2 = Antiwear Petroleum Base  
 HF-1 = Non Antiwear Petroleum Base  
 HF-5 = Synthetic Fluids  
 HF-3 = Water in oil Emulsions  
 HF-4 = Water Glycols

For further information or if the performance characteristics outlined above do not meet your own particular requirements, please consult your local Parker office.

**PRIMING AT STARTING**

At first, start operation of the pump shaft at the lowest speed and at the lowest pressure to obtain priming. When a pressure relief valve is used at the outlet, it should be backed off to minimize return pressure.

When possible, an air bleed off should be provided in the circuit to facilitate purging of system air.

Never operate pump shaft at top speed and pressure without checking for completion of pump priming, and the fluid has no aeration disaerated.



**Minimum allowable inlet pressure (bar absolute) Series T6 Mobile, Denison Vane Pumps**

Cartridge		Speed RPM								Series				
Size	Series	1200	1500	1800	2100	2200	2300	2500	2800					
CM CP	B03	0,80	0,80	0,80	0,80	0,80	0,80	0,90	1,00	B03				
	B05									B05				
	B06									B06				
	B08									B08				
	B10									B10				
	B12									B12				
	B14									B14				
	B17									B17				
	B20									B20				
	B22									B22				
	B25									B25				
DM DP	B14	0,80	0,80	0,80	0,80	0,88	0,95	1,00	1,00	B14				
	B17				B17									
	B20				B20									
	B24				0,82					1,10	B24			
	B28				0,85					0,92	1,00	1,18	B28	
	B31				0,90					0,95	1,23	B31		
	B35				0,92					0,98	1,02	1,29	B35	
	B38				0,95					1,00	1,05	B38		
	B42				1,02					1,08	B42			
	B45				0,85					0,98	1,05	B45		
	B50				1,02					1,09	B50			
EM EP	042	0,80	0,80	0,80	0,88	1,00	1,00	1,00	1,00	042				
	045				045									
	050				050									
	052				052									
	062				0,85					0,95	062			
	066				0,85					0,85	0,95	1,00	1,09	066
	072				0,85					1,05	072			

Inlet pressure is measured at inlet flange with petroleum base fluids at viscosity between 10 and 65 cSt. The difference between inlet pressure at the pump flange and atmospheric pressure must not exceed 0.2 bar to prevent aeration.

Multiply absolute pressure by 1,25 for HF-3, HF-4 fluids.

by 1,35 for HF-5 fluid.

by 1,10 for ester or rapeseed base.

Use highest cartridge absolute pressure for double & triple pump.

**GENERAL CHARACTERISTICS**

	Mounting standard	Weight without connector and bracket - kg	Moment of inertia kgm <sup>2</sup> x 10 <sup>-4</sup>	SAE 4 bolts		
				J518c - ISO/DIS 6162-1 - <sup>4)</sup> ISO/DIS 6162-2		
				Suction	Pressure	
T6CM	SAE J744c ISO/3019-1 SAE B	15,7	7,5	1.1/2"	1"	
T6CP	SAE J744c ISO/3019-1 SAE C	18,0	7,8	2 <sup>4)</sup>	1.1/4 <sup>4)</sup>	
T6D*		24,0	23,3	2"	1.1/4"	
T6E*		43,3	51,5	3"	1.1/2"	
T6CC*	SAE J744c ISO/3019-1 SAE B	26,0	14,9	2.1/2" or 3"	<b>P1</b> 1"	<b>P2</b> 1" or 3/4"
T6DC*	SAE J744c ISO/3019-1 SAE C	36,6	30,4	3"	1.1/4"	1"
T6EC*		55,0	73,4	3.1/2"	1.1/2"	1"
T6ED*		66,0	73,4	4"	1.1/2"	1"1/4
T6DCC*		61,0	37,3	4"	<b>P1</b> 1.1/4"	<b>P2</b> 1"
T6EDC*	SAE "E" (T6EDCS) ISO/3019-2 (T6EDCM)	100,0	80,2	4"	1.1/2"	1.1/4" 1" or 3/4"

**CALCULATION**

<i>To resolve</i>			Performances required
Volumetric displacement	$V_i$ [ml/rev.]	Requested flow	$Q$ [l/min] 60
Available flow	$Q$ [l/min]	Speed	$n$ [R.P.M.] 1500
Input power	$P$ [kW]	Pressure	$p$ [bar] 150

**ROUTINE AND EXAMPLE**

*Routine :*

*Example :*

1. First calculation  $V_i = \frac{1000 Q}{n}$   $V_i = \frac{1000 \times 60}{1500} = 40 \text{ ml/rev}$

2. Choice  $V_i$  of pump immediately greater (see tabulation) T6CM B14  $V_i = 46 \text{ ml/rev}$ .

3. Theoretical flow of this pump  $Q_{theo.} = \frac{V_i \times n}{1000}$   $Q_{theo.} = \frac{46 \times 1500}{1000} = 69 \text{ l/min}$

4. Find  $Q_{per.}$  leakage function of pressure  $Q_{per.} = f(p)$  on curve at 10 or 24 cSt T6CM (page 10) :  $Q_{per.} = 5 \text{ l/min}$  at 150 bar, 24 cSt

5. Available flow  $Q = Q_{theo.} - Q_{per.}$   $Q = 69 - 5 = 64 \text{ l/min}$

6. Theoretical input power  $P_{theo.} = \frac{Q_{theo.} \times p}{600}$   $P_{theo.} = \frac{69 \times 150}{600} = 17,3 \text{ kW}$

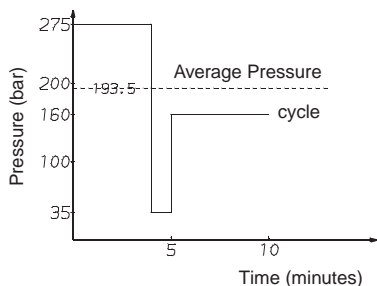
7. Find  $P_s$  hydrodynamic power loss on curve T6CM (page 10) :  $P_s$  at 1500 R.P.M., 150 bar = 1,5 kW

8. Calculation of necessary input power  $P_{eff.} = P_{theo.} + P_s$   $P = 17,3 + 1,5 = 18,8 \text{ kW}$

9. Results 
 $V_i = 46,0 \text{ ml/rev}$   
 $Q_{eff.} = 64,0 \text{ l/min}$   
 $P_{eff.} = 18,8 \text{ kW}$ 
 } T6CM B14

*These calculation steps must be followed for each application.*

**INTERMITTENT PRESSURE RATING**



T6 units may be operated intermittently at pressures higher than the recommended continuous rating when the time weighted average of pressure is less than or equal to the continuous duty pressure rating.

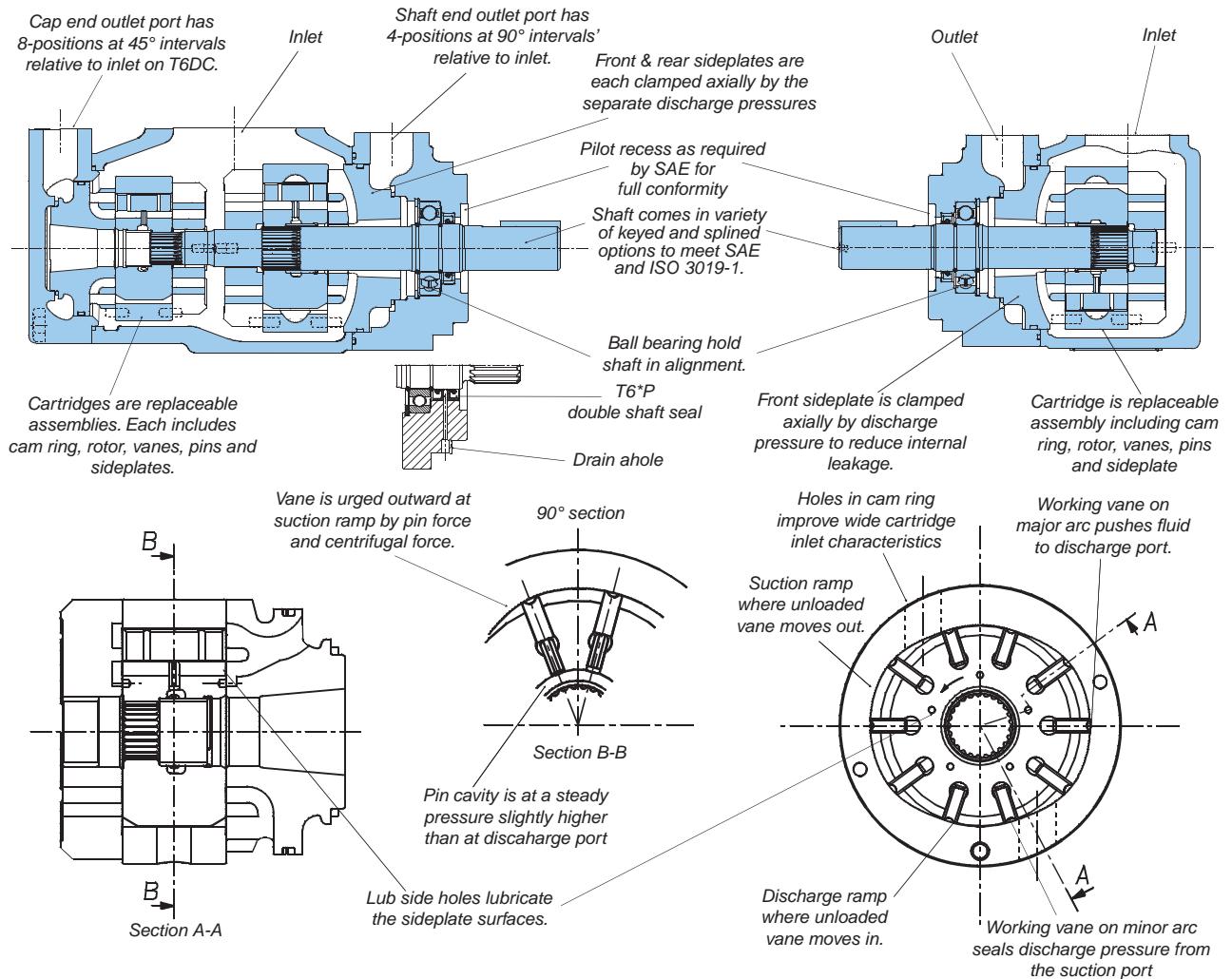
This intermittent pressure rating calculation is only valid if other parameters; speed, fluid, viscosity and contamination level are respected.

For total cycle time higher than 15 minutes, please consult your Parker representative.

Example : T6CM - B14  
 Duty cycle 4 min. at 275 bar  
 1 min. at 35 bar  
 5 min. at 160 bar

$$\frac{(4 \times 275) + (1 \times 35) + (5 \times 160)}{10} = 193,5 \text{ bar}$$

193,5 bar is lower than 240 bar allowed as continuous pressure for T6CM - B14 with HF-0 fluid.



**APPLICATION ADVANTAGES**

- The high pressure capability to 275 bar, in the small envelope, reduces installation costs and provides extended life at reduced pressure.
- The high volumetric efficiency, typically 94%, reduces heat generation, and allows speeds down to 400 RPM at full pressure.
- The high mechanical efficiency, typically 94%, reduces energy consumption.
- The wide speed range from 400 RPM to 2800 RPM, combined with large size cartridge displacements, will optimize operation for the lowest noise level in the smallest envelope.
- The low speed 400 RPM, low pressure, high viscosity 2000 cSt allow application in cold environments with minimum energy consumption and without seizure risk.
- The low ripple pressure  $\pm 2$  bar reduces piping noise and increases life time of other components in the circuit.
- The high resistance to particle contamination because of the double lip vane increases pump life.
- The large variety of options (cam displacement, shaft, porting) allows customized installation.
- The shaft option T (SAE J718c), allows direct drive (at 540 or 1000 RPM) on tractors.
- The double shaft seal (T6\*P version) and drain hole allow direct mounting onto gear boxes.

<b>RECOMMENDED FLUIDS</b>	<p>Petroleum based antiwear R &amp; O fluids.                  These fluids are the recommended fluids for T6 series pumps. Maximum catalog ratings and performance data are based on operation with these fluids. These fluids are covered by DENISON fluid specifications HF-0 and HF-2.</p>
<b>ACCEPTABLE ALTERNATE FLUIDS</b>	<p>The use of fluids other than petroleum based antiwear R &amp; O fluids, requires that the maximum ratings of the pumps will be reduced. In some cases the minimum replenishment pressures must be increased. Consult specific sections for more details.</p>
<b>VISCOSITY</b>	<p>Max (cold start, low speed &amp; pressure) _____ 2000 mm<sup>2</sup>/s (cSt)                  Max (full speed &amp; pressure) _____ 108 mm<sup>2</sup>/s (cSt)                  Optimum (max. life) _____ 30 mm<sup>2</sup>/s (cSt)                  Min (full speed &amp; pressure for HF-1, HF-3, HF-4 &amp; HF-5 fluids) _____ 18 mm<sup>2</sup>/s (cSt)                  Min (full speed &amp; pressure for HF-0 &amp; HF-2 fluids) _____ 10 mm<sup>2</sup>/s (cSt)</p>
<b>VISCOSITY INDEX</b>	<p>90° min. higher values extend range of operating temperatures.                  Maximum fluid temperature (θ) °C                  HF-0, HF-1, HF-2 _____ + 100°                  HF-3, HF-4 _____ + 50°                  HF-5 _____ + 70°                  Biodegradable fluids (esters &amp; rapeseed base) _____ + 65°</p> <p>Minimum fluid temperature (θ) °C                  HF-0, HF-1, HF-2, HF-5 _____ - 18°                  HF-3, HF-4 _____ + 10°                  Biodegradable fluids (esters &amp; rapeseed base) _____ - 20°</p>
<b>FLUID CLEANLINESS</b>	<p>The fluid must be cleaned before and during operation to maintain contamination level of NAS 1638 class 8 (or ISO 19/17/14) or better. Filters with 25 micron (or better β<sub>10</sub> ≥ 100) nominal ratings may be adequate but do not guarantee the required cleanliness levels. Suction strainers must be of adequate size to provide minimum inlet pressure specified. 100 mesh (149 micron) is the finest mesh recommended. Use oversize strainers or omit them altogether on applications which require cold starts or use fire resistant fluids.</p>
<b>OPERATING TEMPERATURES AND VISCOSITIES</b>	<p>Operating temperatures are a function of fluid viscosities, fluid type, and the pump. Fluid viscosity should be selected to provide optimum viscosity at normal operating temperatures. For cold starts the pumps should be operated at low speed and pressure until fluid warms up to an acceptable viscosity for full power operation.</p>
<b>WATER CONTAMINATION IN THE FLUID</b>	<p>Maximum acceptable content of water.                  • 0,10 % for mineral base fluids.                  • 0,05 % for synthetic fluids, crankcase oils, biodegradable fluids.                  If amount of water is higher, then it should be drained off the circuit.</p>
<b>COUPLINGS AND FEMALE SPLINES</b>	<ul style="list-style-type: none"> <li>• The mating female spline should be free to float and find its own center. If both members are rigidly supported, they must be aligned within 0,15 TIR or less to reduce fretting. The angular alignment of two spline axes must be less than ± 0,05 per 25,4 radius.</li> <li>• The coupling spline must be lubricated with a lithium molydisulfide grease or a similar lubricant.</li> <li>• The coupling must be hardened to a hardness between 27 and 45 R.C.</li> <li>• The female spline must be made to conform to the Class 1 fit as described in SAE-J498b (1971). This is described as a Flat Root Side Fit.</li> </ul>
<b>KEYED SHAFTS</b>	<p>Parker supplies the T6 series keyed shaft pumps with high strength heat-treated keys. Therefore, when installing or replacing these pumps, the heat-treated keys must be used in order to insure maximum life in the application. If the key is replaced it must be a heat-treated key between 27 and 34 R.C. hardness. The corners of the keys must be chamfered from 0,76 to 1,02 at 45° to clear radii in the key way.</p>
<b>NOTE</b>	<p>Alignment of keyed shafts must be within tolerances given for splined shafts.</p>
<b>SHAFT LOADS</b>	<p>These products are designed primarily for coaxial drives which do not impose axial or side loading on the shaft. Consult specific sections for more details.</p>





Model No. **T6CM - B22 - 1 R 00 - C 1**

Series M = Mobile 1 shaft seal

Cam ring

(Delivery at 0 bar & 1500 r.p.m.)

B03 = 16,2 l/min	B17 = 87,4 l/min
B05 = 25,8 l/min	B20 = 95,7 l/min
B06 = 31,9 l/min	B22 = 105,4 l/min
B08 = 39,6 l/min	B25 = 118,9 l/min
B10 = 51,1 l/min	B28 = 133,2 l/min
B12 = 55,6 l/min	B31 = 150,0 l/min
B14 = 69,0 l/min	

Type of shaft

- 1 = keyed (SAE B)
- 2 = keyed (no SAE)
- 3 = splined (SAE B)
- 4 = splined (SAE BB)

Modification

Seal class

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

Design letter

Porting combination

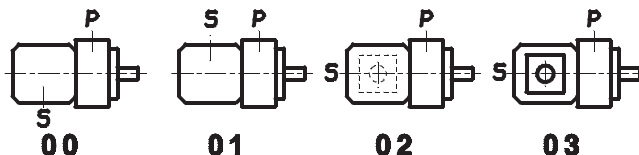
00 = standard

Direct. of rotation (view on shaft end)

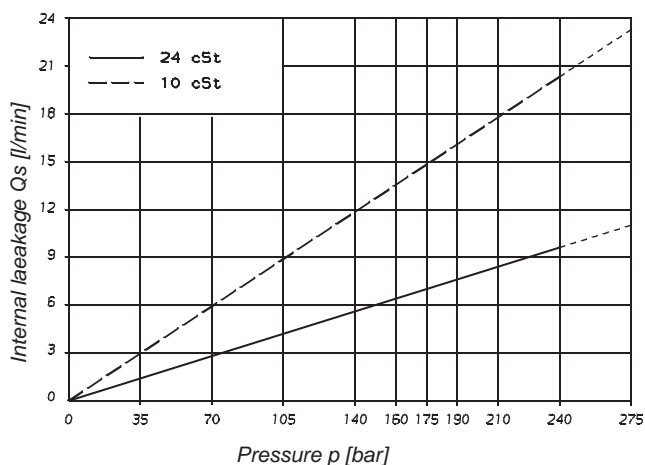
- R = clockwise
- L = counter-clockwise

P = Pressure port

S = Suction port

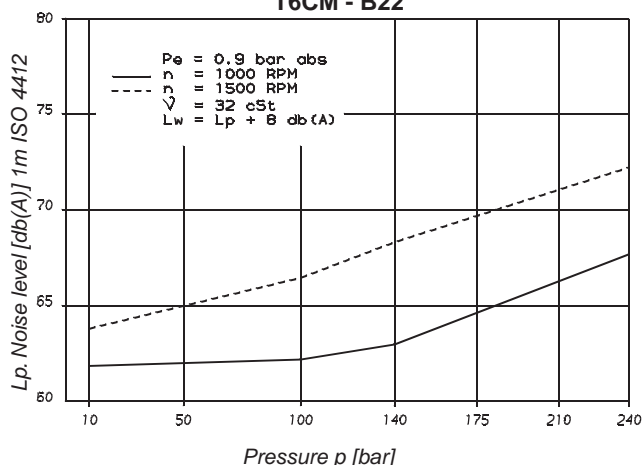


**INTERNAL LEAKAGE (TYPICAL)**

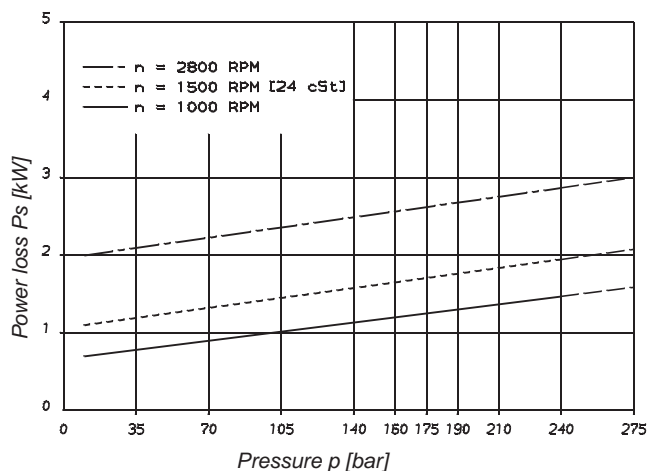


Do not operate the pump more than 5 seconds at any speed or viscosity if internal leakage is more than 50 % of theoretical flow.

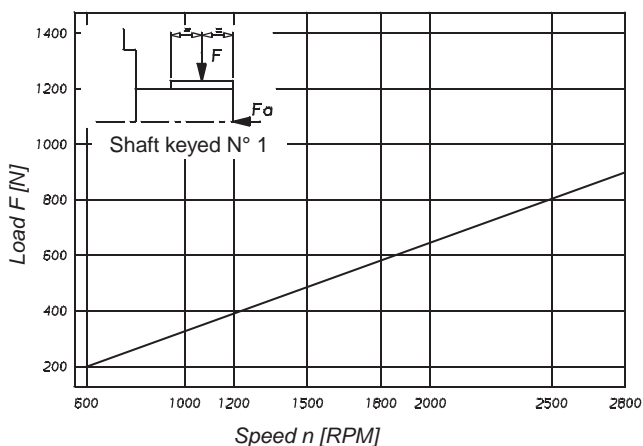
**NOISE LEVEL (TYPICAL)**  
**T6CM - B22**



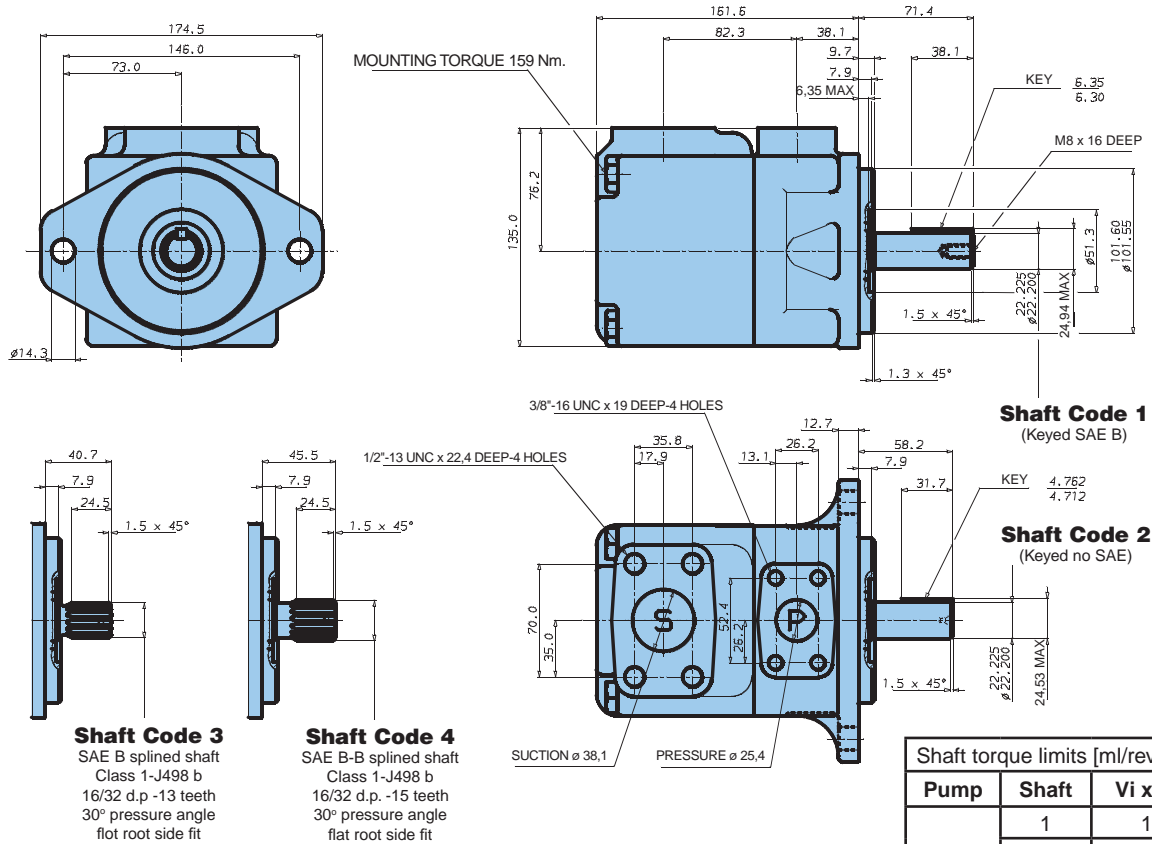
**POWER LOSS HYDROMECHANICAL (TYPICAL)**



**PERMISSIBLE RADIAL LOAD**



Maximum permissible axial load  $F_a = 800\text{ N}$



Shaft torque limits [ml/rev x bar]		
Pump	Shaft	Vi x p max.
T6CM	1	16500
	2	14300
	3	20600
	4	21800

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

Series	Volumetric Displacement Vi	Speed n [R.P.M.]	Flow Q [l/min]			Input power P [kW]		
			p = 0 bar	p = 140 bar	p = 240 bar	p = 7 bar	p = 140 bar	p = 240 bar
B03	10,8 ml/rev	1000	10,8	-	-	1,0	-	-
		1500	16,2	10,7	-	1,3	5,3	-
B05	17,2 ml/rev	1000	17,2	11,7	-	1,1	5,1	-
		1500	25,8	20,3	15,8	1,4	7,5	12,2
B06	21,3 ml/rev	1000	21,3	15,8	11,3	1,1	6,0	10,0
		1500	31,9	26,5	22,0	1,5	8,9	14,7
B08	26,4 ml/rev	1000	26,4	20,9	16,4	1,2	7,2	12,1
		1500	39,6	34,1	29,6	1,6	10,7	17,7
B10	34,1 ml/rev	1000	34,1	28,6	24,1	1,3	8,9	15,1
		1500	51,1	45,7	41,2	1,7	13,4	22,3
B12	37,1 ml/rev	1000	37,1	31,6	27,1	1,3	9,6	16,3
		1500	55,6	50,2	45,7	1,7	14,4	24,1
B14	46,0 ml/rev	1000	46,0	40,5	36,0	1,4	11,7	19,9
		1500	69,0	63,5	59,0	1,9	17,6	29,5
B17	58,3 ml/rev	1000	58,3	52,8	48,3	1,6	14,5	24,8
		1500	87,4	82,0	77,5	2,1	21,9	36,9
B20	63,8 ml/rev	1000	63,8	58,3	53,8	1,6	15,8	27,0
		1500	95,7	90,2	85,7	2,2	23,8	40,2
B22	70,3 ml/rev	1000	70,3	64,8	60,3	1,7	17,3	29,6
		1500	105,4	100,0	95,5	2,3	26,1	44,1
B25 <sup>1)</sup>	79,3 ml/rev	1000	79,3	73,8	69,3	1,8	19,3	33,2
		1500	118,9	113,5	109,0	2,5	29,2	49,5
B28 <sup>1)</sup>	88,8 ml/rev	1000	88,8	83,3	80,1 <sup>2)</sup>	1,9	21,9	32,5 <sup>2)</sup>
		1500	133,2	127,7	124,5 <sup>2)</sup>	2,8	32,7	48,5 <sup>2)</sup>
B31 <sup>1)</sup>	100,0 ml/rev	1000	100,0	94,5	91,3 <sup>2)</sup>	2,0	24,4	36,4 <sup>2)</sup>
		1500	150,0	144,5	141,3 <sup>2)</sup>	2,8	36,5	54,4 <sup>2)</sup>

<sup>1)</sup> B25 - B28 - B31 = 2500 R.P.M. max.

<sup>2)</sup> B28 - B31 = 210 bar max. int.

- Not to use because internal leakage greater than 50% theoretical flow.

Port connection can be furnished with metric threads

**Model No.** T6CP - B22 - 2 R 00 - A 1

**Series P = Mobile 2 shaft seals**

**Cam ring**

(Delivery at 0 bar & 1500 r.p.m.)

B14 = 69,0 l/min      B25 = 118,9 l/min

B17 = 87,4 l/min      B28 = 133,2 l/min

B20 = 95,7 l/min      B31 = 150,0 l/min

B22 = 105,4 l/min

**Type of shaft**

2 = keyed (no SAE)

3 = splined (SAE C)

**Modification**

**Seal class**

1 = S1 (for mineral oil)

4 = S4 (for the resistant fluids)

5 = S5 (for mineral oil and fire resistant fluids)

**Design letter**

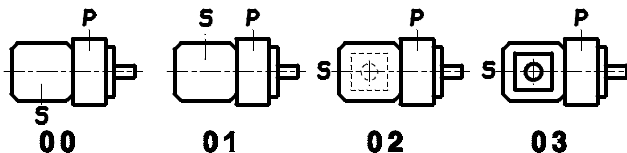
**Porting combination**

00 = standard

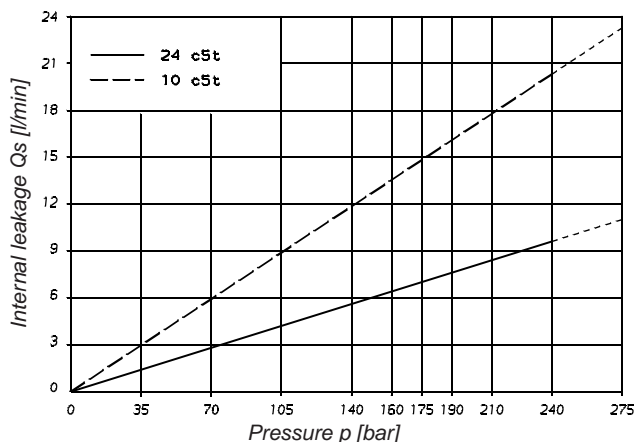
**Direct. of rotation (view on shaft end)**

R = clockwise

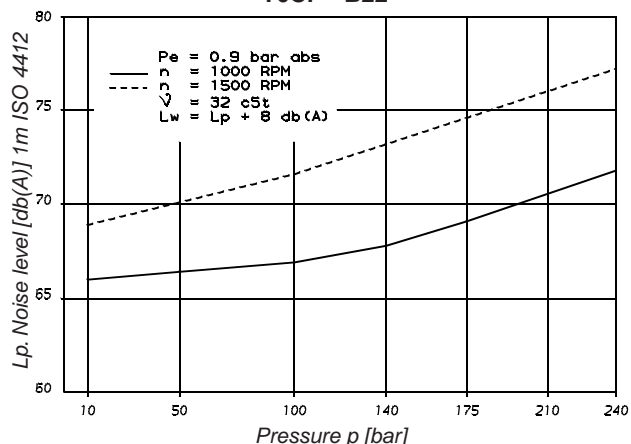
L = counter-clockwise



**INTERNAL LEAKAGE (TYPICAL)**

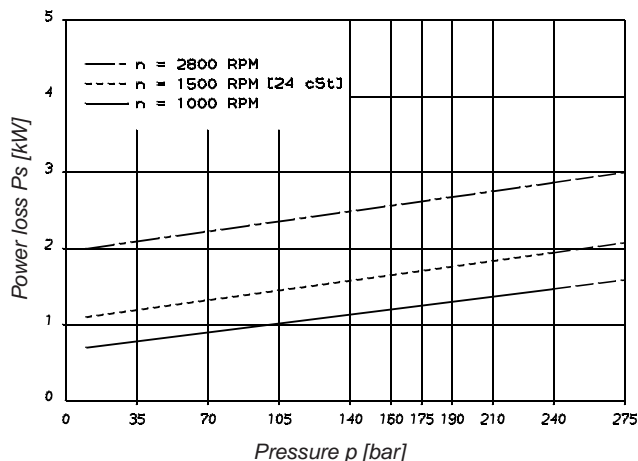


**NOISE LEVEL (TYPICAL)**  
 T6CP - B22

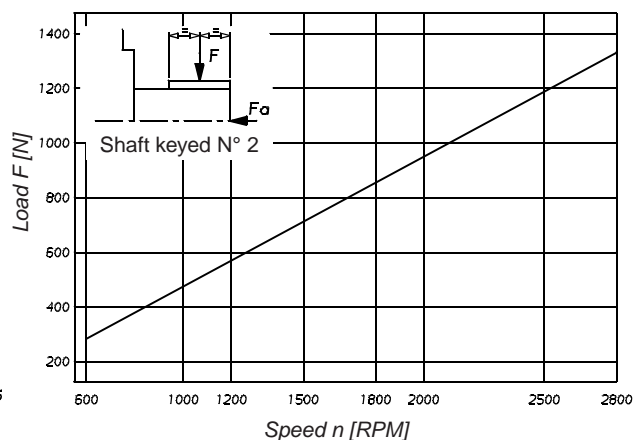


Do not operate the pump more than 5 seconds at any speed or viscosity if internal leakage is more than 50 % of theoretical flow.

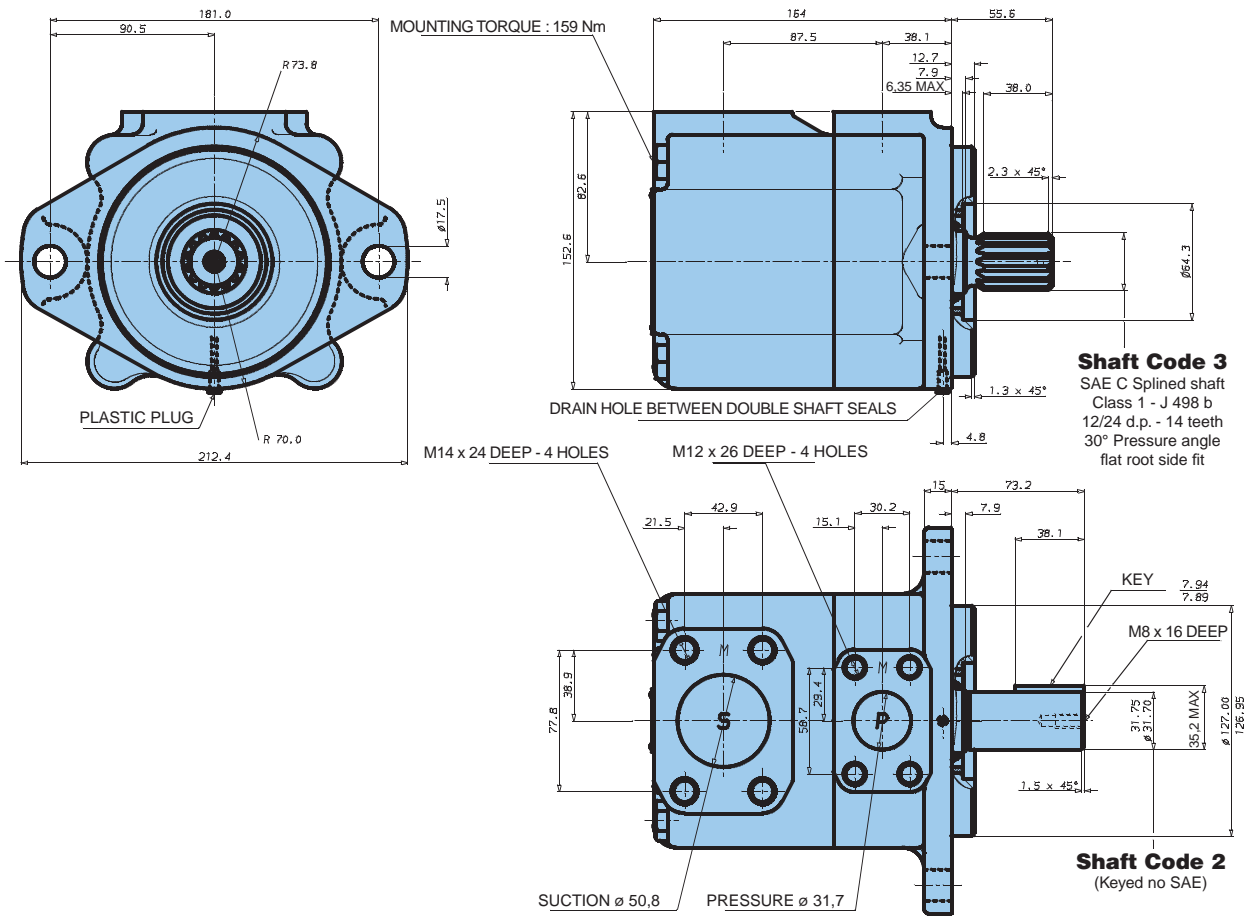
**POWER LOSS HYDROMECHANICAL (TYPICAL)**



**PERMISSIBLE RADIAL LOAD**



Maximum permissible axial load Fa = 800 N



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

Series	Volumetric Displacement Vi	Speed n [R.P.M.]	Flow Q [l/min]			Input power P [kW]		
			p = 0 bar	p = 140 bar	p = 240 bar	p = 7 bar	p = 140 bar	p = 240 bar
B14	46,0 ml/rev	1000	46,0	40,5	36,0	1,4	11,7	19,9
		1500	69,0	63,5	59,0	1,9	17,6	29,5
B17	58,3 ml/rev	1000	58,3	52,8	48,3	1,6	14,5	24,8
		1500	87,4	82,0	77,5	2,1	21,9	36,9
B20	63,8 ml/rev	1000	63,8	58,3	53,8	1,6	15,8	27,0
		1500	95,7	90,2	85,7	2,2	23,8	40,2
B22	70,3 ml/rev	1000	70,3	64,8	60,3	1,7	17,3	29,6
		1500	105,4	100,0	95,5	2,3	26,1	44,1
B25 <sup>1)</sup>	79,3 ml/rev	1000	79,3	73,8	69,3	1,8	19,3	33,2
		1500	118,9	113,5	109,0	2,5	29,2	49,5
B28 <sup>1)</sup>	88,8 ml/rev	1000	88,8	83,3	80,1 <sup>2)</sup>	1,9	21,9	32,5 <sup>2)</sup>
		1500	133,2	127,7	124,5 <sup>2)</sup>	2,8	32,7	48,5 <sup>2)</sup>
B31 <sup>1)</sup>	100,0 ml/rev	1000	100,0	94,5	91,3 <sup>2)</sup>	2,0	24,4	36,4 <sup>2)</sup>
		1500	150,0	144,5	141,3 <sup>2)</sup>	2,8	36,5	54,4 <sup>2)</sup>

<sup>1)</sup> B25 - B28 - B31 = 2500 R.P.M. max.

<sup>2)</sup> B28 - B31 = 210 bar max. int.

**Model No.**

T6D\* - B45 - 1 R 00 - C 1

Series M = Mobile 1 shaft seal  
Series P = Mobile 2 shaft seals

**Cam ring**

(Delivery at 0 bar & 1500 r.p.m.)

- B14 = 71,4 l/min
- B17 = 87,3 l/min
- B20 = 99,0 l/min
- B24 = 119,3 l/min
- B28 = 134,5 l/min
- B31 = 147,4 l/min
- B35 = 166,5 l/min
- B38 = 180,4 l/min
- B42 = 204,0 l/min
- B45 = 218,5 l/min
- B50 = 237,0 l/min

**Type of shaft**

- M version**
- 1 = keyed (SAE C)
  - 2 = keyed (no SAE)
  - 3 = splined (SAE C)
  - 4 = splined (no SAE)
  - T = splined (SAE J718c)

**Type of shaft**

- P version**
- 3 = splined (no SAE)

**Modification**

**Seal class**

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

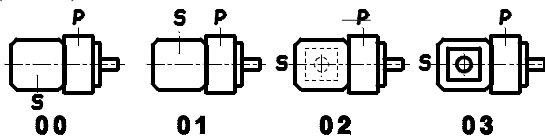
**Design letter**

**Porting combination**

00 = standard

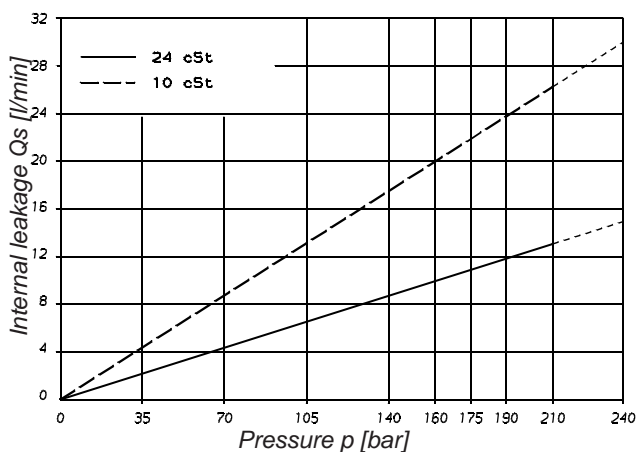
**Direct. of rotation (view on shaft end)**

- R = clockwise
- L = counter-clockwise

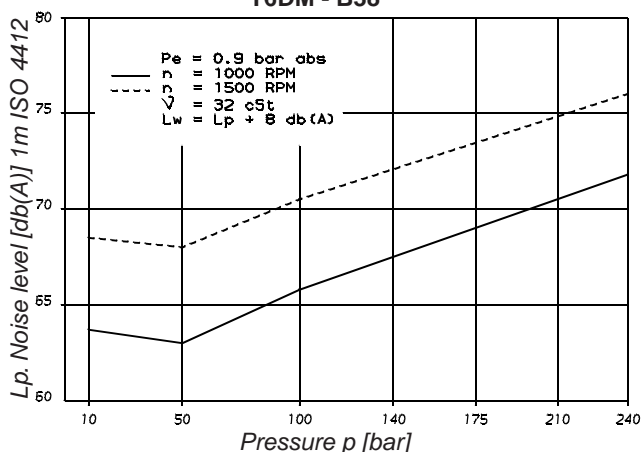


P = Pressure port  
S = Suction port

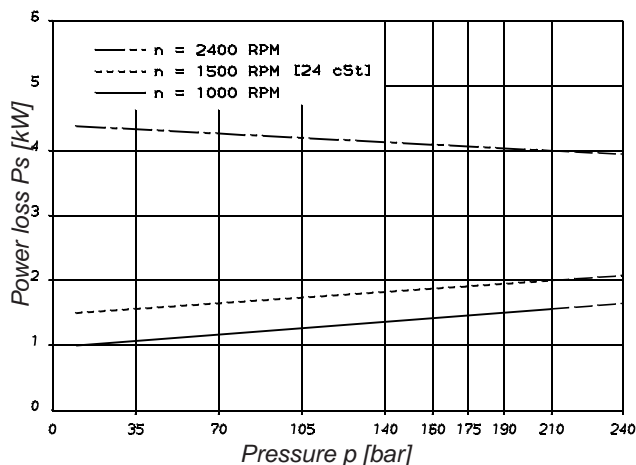
**INTERNAL LEAKAGE (TYPICAL)**



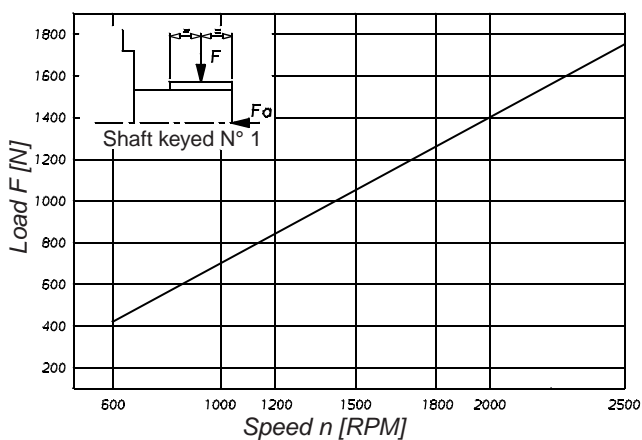
**NOISE LEVEL (TYPICAL)**  
T6DM - B38



**POWER LOSS HYDROMECHANICAL (TYPICAL)**

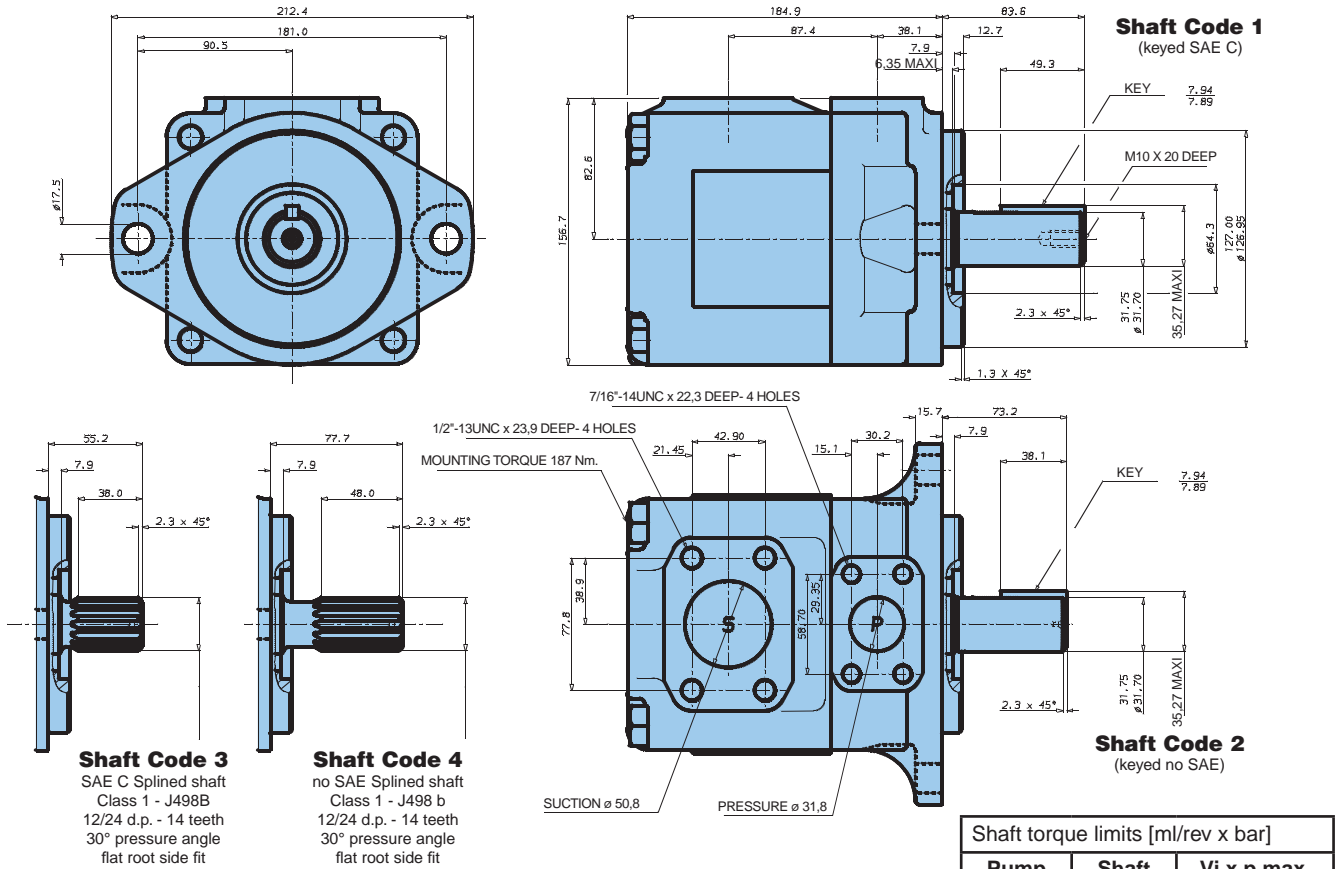


**PERMISSIBLE RADIAL LOAD**



Maximum permissible axial load Fa = 1200 N





Additional T6DM shaft code T: see page 33  
 Additional T6DP version shaft see page 33

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

Series	Volumetric Displacement Vi	Speed n [R.P.M.]	Flow Q [l/min]			Input power P [kW]		
			p = 0 bar	p = 140 bar	p = 240 bar	p = 7 bar	p = 140 bar	p = 240 bar
B14	47.6 ml/rev	1000	47.6	38.3	32.1	1.5	12.5	20.7
		1500	71.4	62.1	55.9	2.3	18.5	30.6
B17	58.2 ml/rev	1000	58.2	48.9	42.7	1.6	14.9	24.9
		1500	87.3	78.0	71.8	2.5	22.2	37.0
B20	66.0 ml/rev	1000	66.0	56.7	50.5	1.7	16.8	28.0
		1500	99.0	89.7	83.5	2.8	24.9	41.7
B24	79.5 ml/rev	1000	79.5	70.2	64.0	1.9	19.9	33.4
		1500	119.3	110.0	103.8	3.0	29.6	49.8
B28	89.7 ml/rev	1000	89.7	80.4	74.2	2.0	22.3	37.5
		1500	134.5	125.2	119.0	3.2	33.2	55.9
B31	98.3 ml/rev	1000	98.3	89.0	82.8	2.1	24.3	40.9
		1500	147.4	138.1	131.9	3.3	36.2	61.0
B35	111.0 ml/rev	1000	111.0	101.7	95.5	2.3	27.3	46.0
		1500	166.5	157.2	151.0	3.5	40.7	68.7
B38	120.3 ml/rev	1000	120.3	111.0	104.8	2.4	29.4	49.8
		1500	180.4	171.1	164.9	3.7	43.9	74.3
B42 <sup>1)</sup>	136.0 ml/rev	1000	136.0	126.7	120.5	2.6	33.1	56.0
		1500	204.0	194.7	188.5	4.0	49.4	83.7
B45 <sup>1)</sup>	145.7 ml/rev	1000	145.7	136.4	130.2	2.7	35.3	59.9
		1500	218.5	209.2	203.0	4.1	52.8	89.5
B50 <sup>1)</sup>	158.0 ml/rev	1000	158.0	148.7	145.0 <sup>2)</sup>	2.8	38.2	56.8 <sup>2)</sup>
		1500	237.0	227.7	224.0 <sup>2)</sup>	4.4	57.0	85.0 <sup>2)</sup>

<sup>1)</sup> B42 - B45 - B50 = 2200 R.P.M. max.

<sup>2)</sup> B50 = 210 bar max. int.

Port connection can be furnished with metric threads.

**Model No.**

T6E\* - 066 - 3 R 00 - B 1

Series M = Mobile 1 shaft seal  
Series P = Mobile 2 shaft seals

**Cam ring**

(Delivery at 0 bar & 1500 r.p.m.)

042 = 198,5 l/min      062 = 295,0 l/min  
045 = 213,6 l/min      066 = 319,9 l/min  
050 = 237,7 l/min      072 = 340,6 l/min  
052 = 247,2 l/min

**Type of shaft**

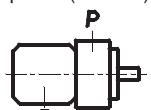
**M version**

1 = keyed (SAE CC)  
2 = keyed (no SAE)  
3 = splined (SAE C)  
4 = splined (SAE CC)  
T = splined (SAE J718c)

**Type of shaft**

**P version**

3 = splined (no SAE)



00

01

02

03

**Modification**

**Seal class**

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

**Design letter**

**Porting combination**

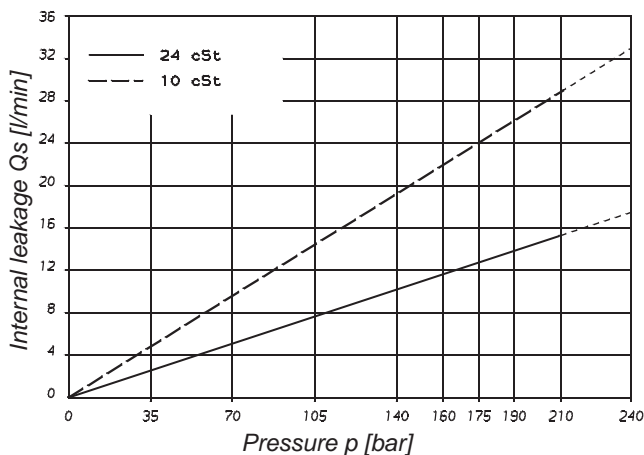
00 = standard

**Direct. of rotation (view on shaft end)**

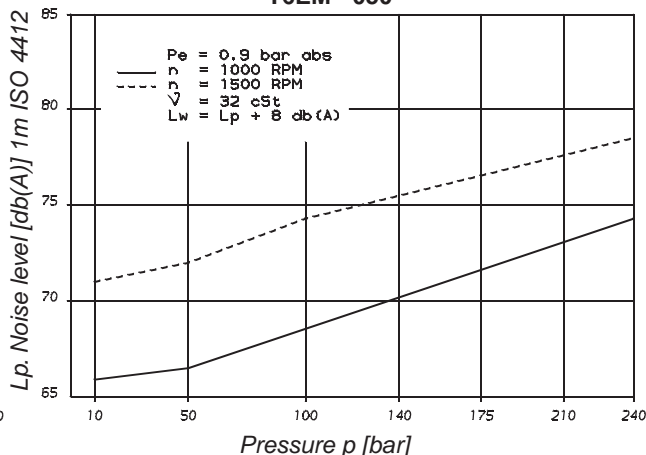
R = clockwise  
L = counter-clockwise

P = Pressure port  
S = Suction port

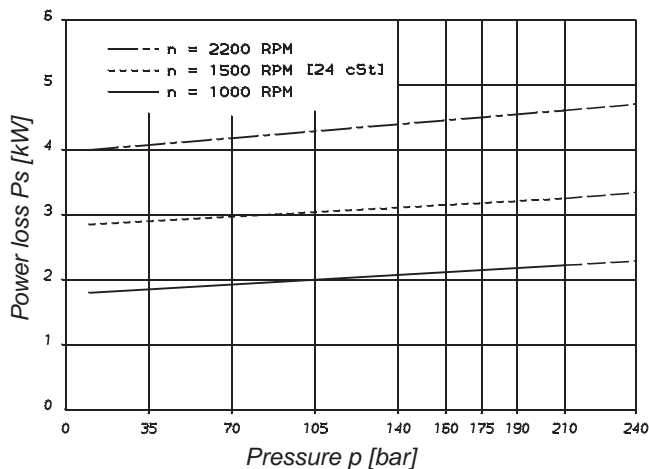
**INTERNAL LEAKAGE (TYPICAL)**



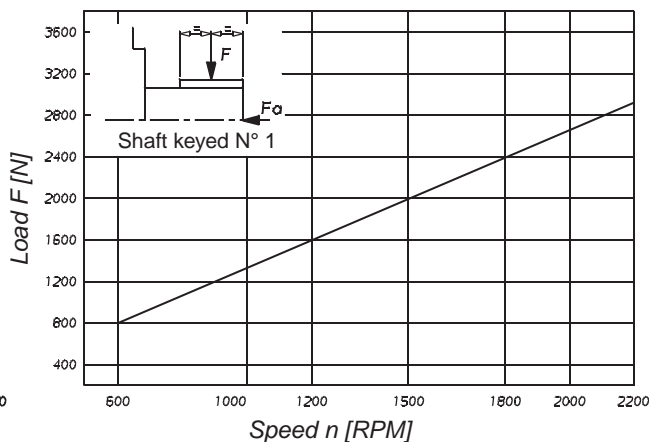
**NOISE LEVEL (TYPICAL)  
T6EM - 050**



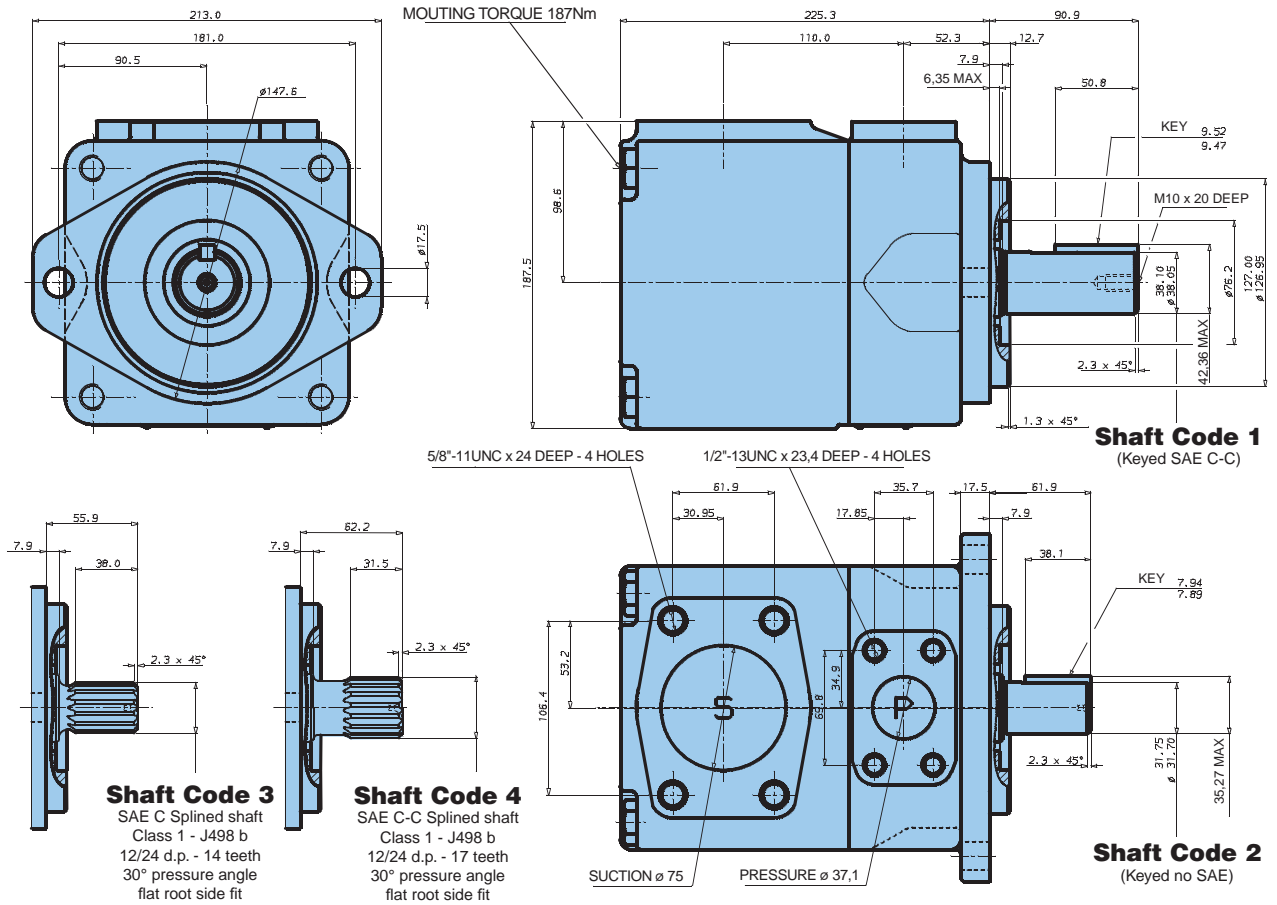
**POWER LOSS HYDROMECHANICAL (TYPICAL)**



**PERMISSIBLE RADIAL LOAD**



Maximum permissible axial load Fa = 2000 N



**Additional T6EM shaft code T: see page 33**  
**Additional T6EP version shaft see page 33**

Shaft torque limits [ml/rev x bar]		
Pump	Shaft	Vi x p max.
T6EM	1	54500
	2	34590
	3	61200
	4	61200

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

Series	Volumetric Displacement Vi	Speed n [R.P.M.]	Flow Q [l/min]			Input power P [kW]		
			p = 0 bar	p = 140 bar	p = 240 bar	p = 7 bar	p = 140 bar	p = 240 bar
042	132,3 ml/rev	1000	132,3	122,3	115,2	3,2	32,9	55,2
		1500	198,5	188,5	181,3	5,2	49,4	82,6
045	142,4 ml/rev	1000	142,4	132,4	125,3	3,4	35,3	59,2
		1500	213,6	203,6	196,5	5,4	52,9	88,7
050	158,5 ml/rev	1000	158,5	148,5	141,4	3,5	39,0	65,6
		1500	237,7	227,7	220,6	5,7	58,5	98,3
052	164,8 ml/rev	1000	164,8	154,8	147,7	3,6	40,5	68,2
		1500	247,2	237,2	230,1	5,8	60,8	102,1
062	196,7 ml/rev	1000	196,7	186,7	179,6	4,0	47,9	80,9
		1500	295,0	285,0	277,9	6,4	71,9	121,3
066	213,3 ml/rev	1000	213,3	203,3	196,2	4,2	51,8	87,6
		1500	319,9	309,9	302,8	6,7	77,7	131,2
072	227,1 ml/rev	1000	227,1	217,1	210,0	4,3	55,0	93,1
		1500	340,6	330,6	323,5	6,9	82,6	139,5

Port connection can be furnished with metric threads.

**Ordering Code**

**Model No.**

T6CC\* W - B22 - B08 - 1 R 00 - D 1-00

Series M = Mobile 1 shaft seal

Series P = Mobile 2 shaft seals

Use for severe duty shaft only\*

Cam ring for "P1" & "P2"

(Delivery at 0 bar & 1500 r.p.m.)

B03 = 16,2 l/min      B17 = 87,4 l/min

B05 = 25,8 l/min      B20 = 95,7 l/min

B06 = 31,9 l/min      B22 = 105,4 l/min

B08 = 39,6 l/min      B25 = 118,9 l/min

B10 = 51,1 l/min      B28 = 133,2 l/min

B12 = 55,6 l/min      B31 = 150,0 l/min

B14 = 69,0 l/min

Type of shaft      Type of shaft

**M version**

1 = keyed (no SAE)

3 = splined (SAE BB)

5 = splined (SAE B)

**P version**

3 = splined (no SAE)

4 = splined (SAE BB)

6 = splined (no SAE)

**MW severe duty**

\*2 = keyed (SAE BB)

\*R = keyed special

\*X = keyed special

\*W = keyed special

\*V = keyed special

\*T = splined (SAE J718c)

**Modification**

**Mounting W/connection variables**

	P1 = 1" - S = 3"		P1 = 1" - S = 2.1/2"²)	
P2	1"	3/4"¹)	1"	3/4"¹)
Code	00	01	10	11

¹) for 46 ml/rev. max.

²) for 126 ml/rev. max.

The largest cartridge must be always mounted in the front.

**Seal Class**

1 = S1 (for mineral oil)

4 = S4 (for the resistant fluids)

5 = S5 (for mineral oil and fire resistant fluids)

**Design letter**

**Porting combination (see page 34)**

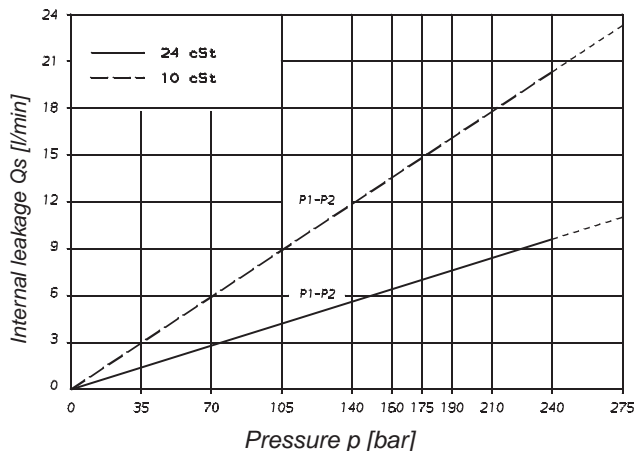
00 = standard

**Direct. of rotation (view on shaft end)**

R = clockwise

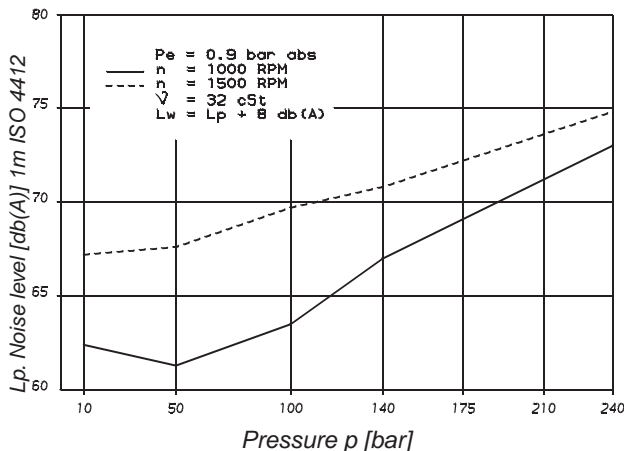
L = counter-clockwise

**INTERNAL LEAKAGE (TYPICAL)**



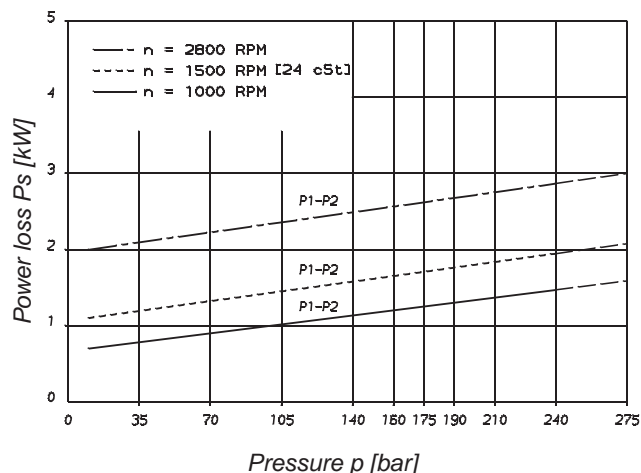
Do not operate the pump more than 5 seconds at any speed or viscosity if internal leakage is more than 50 % of theoretical flow. Total leakage is the sum of each section loss at its operating conditions.

**NOISE LEVEL (TYPICAL)  
T6CCM - B22 - B22**



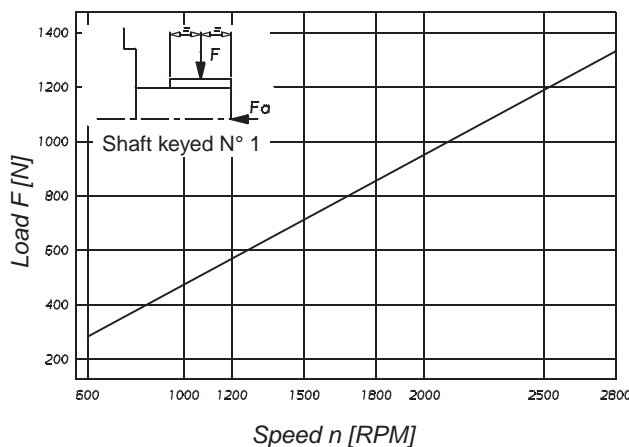
Double pump noise level is given with each section discharging at the pressure noted on the curve.

**POWER LOSS HYDROMECHANICAL (TYPICAL)**

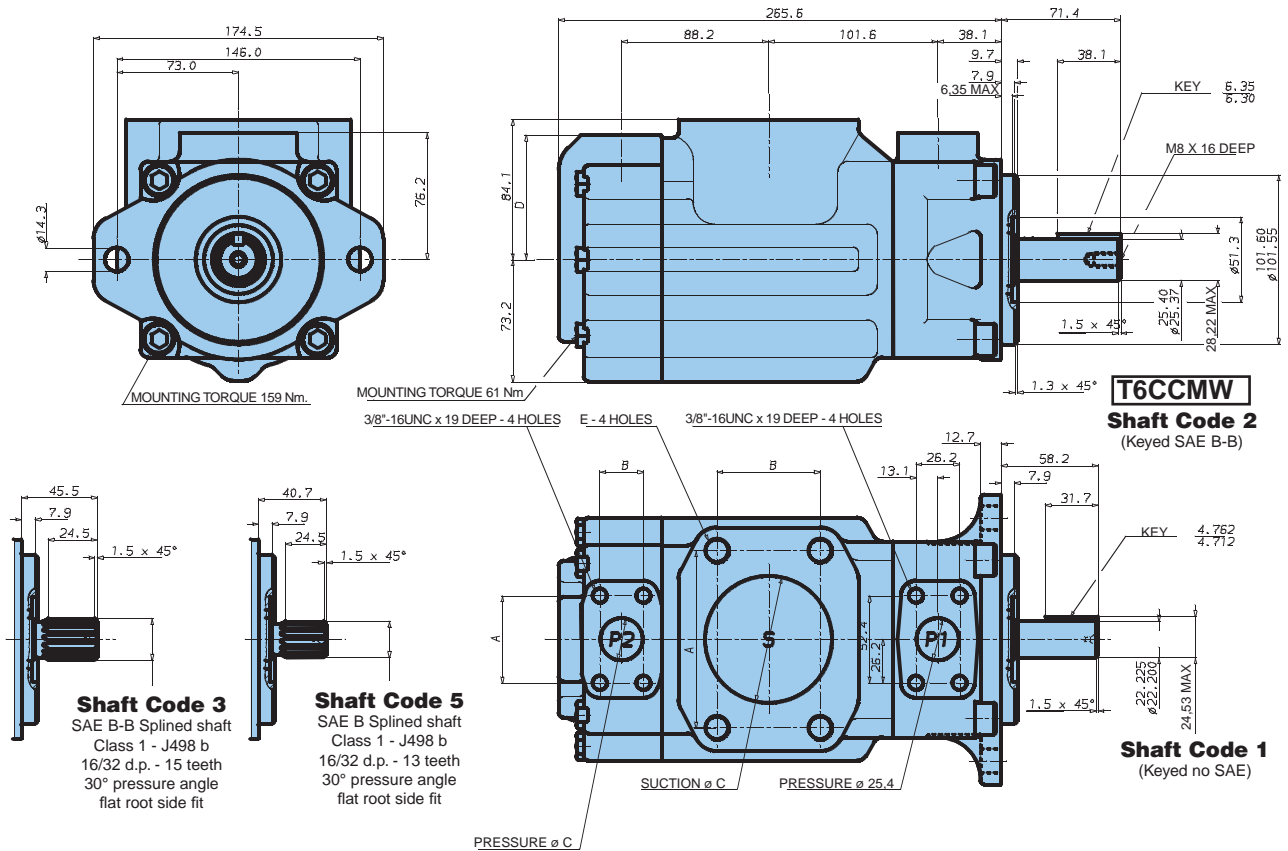


Total hydrodynamic power loss is the sum of each section at its operating conditions.

**PERMISSIBLE RADIAL LOAD**



Maximum permissible axial load Fa = 800 N



Additional special shafts: see page 33  
 Additional T6CCMW shaft code T: see page 33  
 Additional T6CCP version shaft see page 33

Port	Code	A	B	C	D	E
S	3"	106,4	61,9	76,2		5/8"-11 x 28.4 deep
S	2"1/2	88,9	50,8	63,5		1/2"-13 x 23.9 deep
P1	1"	52,4	26,2	25,4	76,2	
P2	3/4"	47,7	22,2	19,0	76,2	
P2	1"	52,4	26,2	25,4	74,7	

Shaft torque limits [ml/rev x bar]		
Pump	Shaft	Vi x p max. P1 + P2
T6CCM	1	14300
T6CCMW	2	21420
T6CCM	3	32670
T6CCM	5	20600

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

Pressure port	Series	Volumetric Displacement Vi	Flow Q [l/min] & n = 1500 RPM			Input power P [kW] & n = 1500 RPM		
			p = 0 bar	p = 140 bar	p = 240 bar	p = 7 bar	p = 140 bar	p = 240 bar
P1 & P2	B03	10,8 ml/rev	16,2	10,7	-	1,3	5,3	-
	B05	17,2 ml/rev	25,8	20,3	15,8	1,4	7,5	12,2
	B06	21,3 ml/rev	31,9	26,5	22,0	1,5	8,9	14,7
	B08	26,4 ml/rev	39,6	34,1	29,6	1,6	10,7	17,7
	B10	34,1 ml/rev	51,1	45,7	41,2	1,7	13,4	22,3
	B12	37,1 ml/rev	55,6	50,2	45,7	1,7	14,4	24,1
	B14	46,0 ml/rev	69,0	63,5	59,0	1,9	17,6	29,5
	B17	58,3 ml/rev	87,4	82,0	77,5	2,1	21,9	36,9
	B20	63,8 ml/rev	95,7	90,2	85,7	2,2	23,8	40,2
	B22	70,3 ml/rev	105,4	100,0	95,5	2,3	26,1	44,1
	B25 <sup>1)</sup>	79,3 ml/rev	118,9	113,5	109,0	2,5	29,2	49,5
	B28 <sup>1)</sup>	88,8 ml/rev	133,2	127,7	124,5 <sup>2)</sup>	2,8	32,7	48,5 <sup>2)</sup>
	B31 <sup>1)</sup>	100,0 ml/rev	15,0	144,5	141,3 <sup>2)</sup>	2,8	36,5	54,4 <sup>2)</sup>

<sup>1)</sup> B25 - B28 - B31 = 2500 R.P.M. max.      <sup>2)</sup> B28 - B31 = 210 bar max. int.  
 - Not to use because internal leakage greater than 50% theoretical flow.

Port connection can be furnished with metric threads.





**Ordering Code**

**Model No.**

T6DC\* W - B38 - B22 - 1 R 00 - C 1

Series M = Mobile 1 shaft seal  
Series P = Mobile 2 shaft seals  
Use for severe duty shaft only\*

**Cam ring for "P1"**

(Delivery at 0 bar & 1500 r.p.m.)

B14 = 71,4 l/min	B35 = 166,5 l/min
B17 = 87,3 l/min	B38 = 180,4 l/min
B20 = 99,0 l/min	B42 = 204,0 l/min
B24 = 119,3 l/min	B45 = 218,5 l/min
B28 = 134,5 l/min	B50 = 237,0 l/min
B31 = 147,4 l/min	

**Cam ring for "P2"**

(Delivery at 0 bar & 1500 r.p.m.)

B03 = 16,2 l/min	B17 = 87,4 l/min
B05 = 25,8 l/min	B20 = 95,7 l/min
B06 = 31,9 l/min	B22 = 105,4 l/min
B08 = 39,6 l/min	B25 = 118,9 l/min
B10 = 51,1 l/min	B28 = 133,2 l/min
B12 = 55,6 l/min	B31 = 150,0 l/min
B14 = 69,0 l/min	

**Modification**

**Seal Class**

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

**Design letter**

**Porting combination (see page 34)**

00 = standard

**Direct. of rotation (view on shaft end)**

- R = clockwise
- L = counter-clockwise

**Type of shaft**

- P version
- 3 = splined (no SAE)

**Type of shaft**

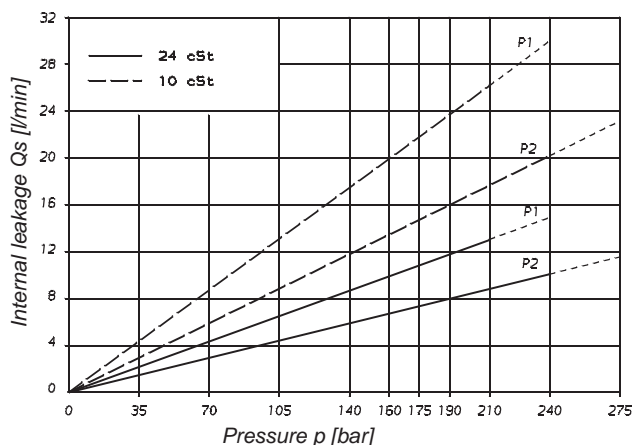
**M version**

- 1 = keyed (SAE C)
- 2 = keyed (no SAE)
- 3 = splined (SAE C)
- 4 = splined (no SAE)

**MW severe duty**

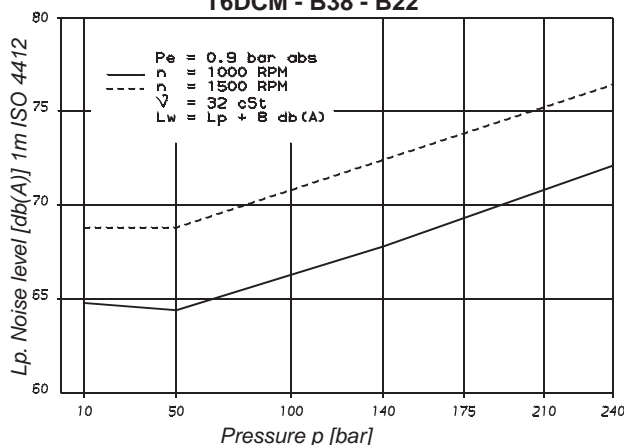
- \*5 = keyed (no SAE)
- \*T = splined (SAE J718c)

**INTERNAL LEAKAGE (TYPICAL)**



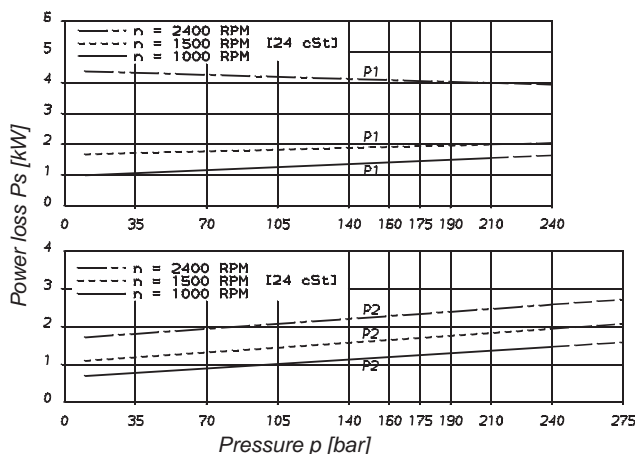
Do not operate the pump more than 5 seconds at any speed or viscosity if internal leakage is more than 50 % of theoretical flow. Total leakage is the sum of each section loss at its operating conditions.

**NOISE LEVEL (TYPICAL)**  
T6DCM - B38 - B22



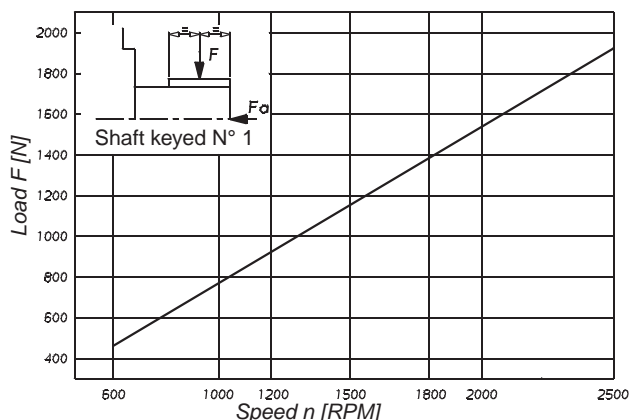
Double pump noise level is given with each section discharging at the pressure noted on the curve.

**POWER LOSS HYDROMECHANICAL (TYPICAL)**

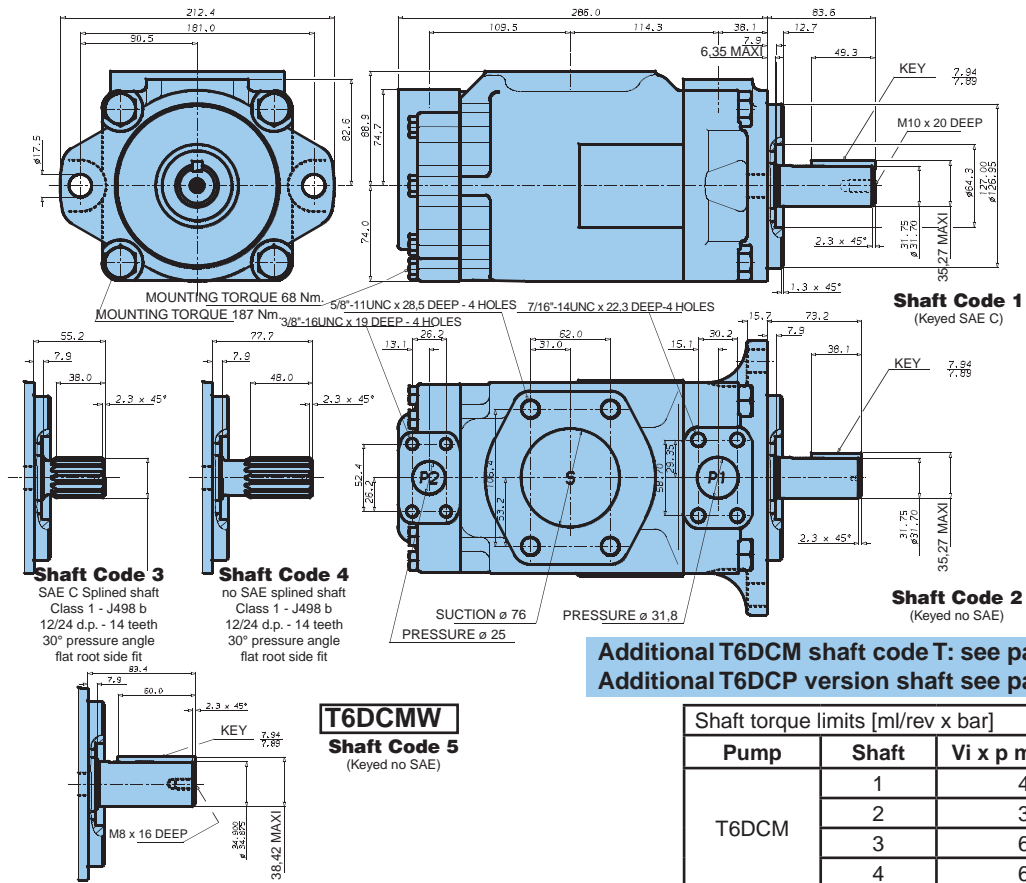


Total hydrodynamic power loss is the sum of each section at its operating conditions.

**PERMISSIBLE RADIAL LOAD**



Maximum permissible axial load Fa = 1200 N



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

Pressure port	Series	Volumetric Displacement Vi	Flow Q [l/min] & n = 1500 RPM			Input power P [kW] & n = 1500 RPM		
			p = 0 bar	p = 140 bar	p = 240 bar	p = 7 bar	p = 140 bar	p = 240 bar
P1	B14	47,6 ml/rev	71,4	62,1	55,9	2,3	18,5	30,6
	B17	58,2 ml/rev	87,3	78,0	71,8	2,5	22,2	37,0
	B20	66,0 ml/rev	99,0	89,7	83,5	2,8	24,9	41,7
	B24	79,5 ml/rev	119,3	110,0	103,8	3,0	29,6	49,8
	B28	89,7 ml/rev	134,5	125,2	119,0	3,2	33,2	55,9
	B31	98,3 ml/rev	147,4	138,1	131,9	3,3	36,2	61,0
	B35	111,0 ml/rev	166,5	157,2	151,0	3,5	40,7	68,7
	B38	120,3 ml/rev	180,4	171,1	164,9	3,7	43,9	74,3
	B42 <sup>2)</sup>	136,0 ml/rev	204,0	194,7	188,5	4,0	49,4	83,7
	B45 <sup>2)</sup>	145,7 ml/rev	218,5	209,2	203,0	4,1	52,8	89,5
B50 <sup>2)</sup>	158,0 ml/rev	237,0	227,7	224,0 <sup>1)</sup>	4,4	57,0	85,0 <sup>1)</sup>	
P2	B03	10,8 ml/rev	16,2	10,7	-	1,3	5,3	-
	B05	17,2 ml/rev	25,8	20,3	15,8	1,4	7,5	12,2
	B06	21,3 ml/rev	31,9	26,5	22,0	1,5	8,9	14,7
	B08	26,4 ml/rev	39,6	34,1	29,6	1,6	10,7	17,7
	B10	34,1 ml/rev	51,1	45,7	41,2	1,7	13,4	22,3
	B12	37,1 ml/rev	55,6	50,2	45,7	1,7	14,4	24,1
	B14	46,0 ml/rev	69,0	63,5	59,0	1,9	17,6	29,5
	B17	58,3 ml/rev	87,4	82,0	77,5	2,1	21,9	36,9
	B20	63,8 ml/rev	95,7	90,2	85,7	2,2	23,8	40,2
	B22	70,3 ml/rev	105,4	100,0	95,5	2,3	26,1	44,1
	B25	79,3 ml/rev	118,9	113,5	109,0	2,5	29,2	49,5
	B28	88,8 ml/rev	133,2	127,7	124,5 <sup>1)</sup>	2,8	32,7	48,5 <sup>1)</sup>
	B31	100,0 ml/rev	150,0	144,5	141,3 <sup>1)</sup>	2,8	36,5	54,4 <sup>1)</sup>

<sup>1)</sup> B28 - B31 - B50 = 210 bar max. int.      <sup>2)</sup> B42 - B45 - B50 = 2200 R.P.M. max

- Not to use because internal leakage greater than 50% theoretical flow

Port connection can be furnished with metric threads.

**Model No.**

T6EC\* - 066 - B22 - 1 R 00 - C 1 -

Series M = Mobile 1 shaft seal  
 Series P = Mobile 2 shaft seals

**Cam ring for "P1"**

(Delivery at 0 bar & 1500 r.p.m.)

042 = 198,5 l/min	062 = 295,0 l/min
045 = 213,6 l/min	066 = 319,9 l/min
050 = 237,7 l/min	072 = 340,6 l/min
052 = 247,2 l/min	

**Cam ring for "P2"**

(Delivery at 0 bar & 1500 r.p.m.)

B03 = 16,2 l/min	B17 = 87,4 l/min
B05 = 25,8 l/min	B20 = 95,7 l/min
B06 = 31,9 l/min	B22 = 105,4 l/min
B08 = 39,6 l/min	B25 = 118,9 l/min
B10 = 51,1 l/min	B28 = 133,2 l/min
B12 = 55,6 l/min	B31 = 150,0 l/min
B14 = 69,0 l/min	

**Modification**

**Seal Class**

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

**Design letter**

**Porting combination (see page 34)**

00 = standard

**Direct. of rotation (view on shaft end)**

- R = clockwise
- L = counter-clockwise

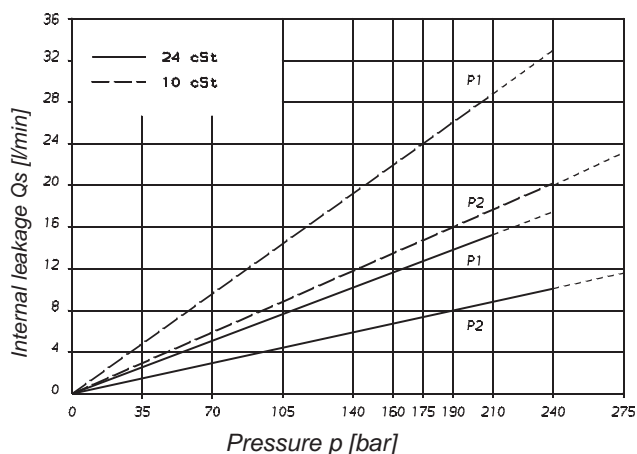
**Type of shaft**

**P version**  
 3 = splined (non SAE)

**Type of shaft**

- M version**
- 1 = keyed (SAE CC)
  - 2 = keyed (no SAE)
  - 3 = splined (SAE C)
  - 4 = splined (SAE CC)
  - T = splined (SAE J718c)

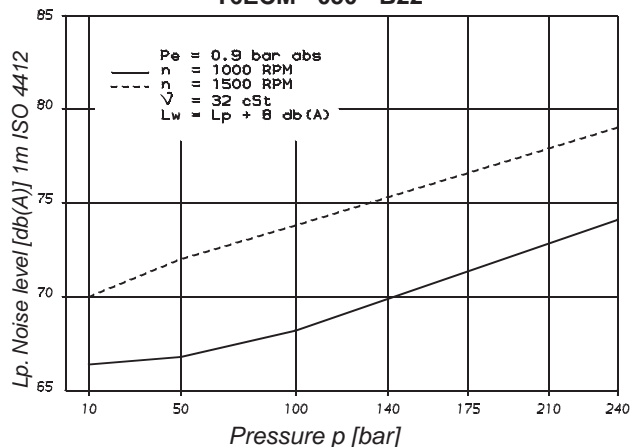
**INTERNAL LEAKAGE (TYPICAL)**



Do not operate the 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.

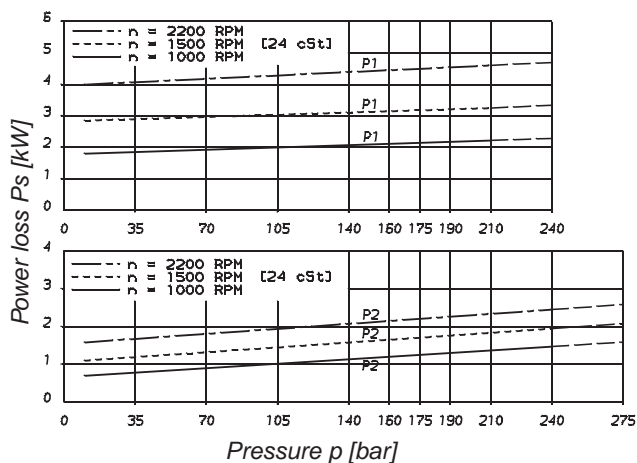
**NOISE LEVEL (TYPICAL)**

T6ECM - 050 - B22



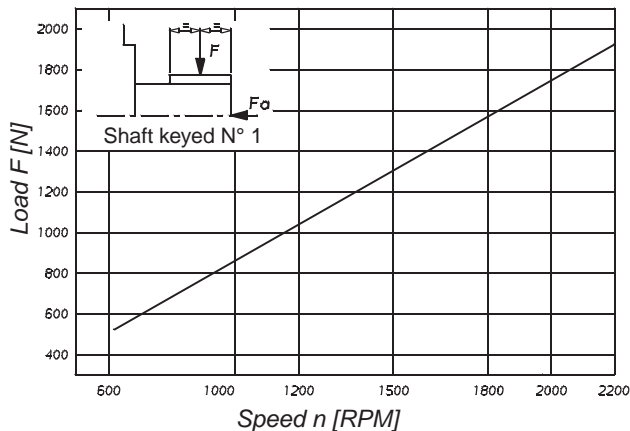
Double pump noise level is given with each section discharging at the pressure noted on the curve.

**POWER LOSS HYDROMECHANICAL (TYPICAL)**

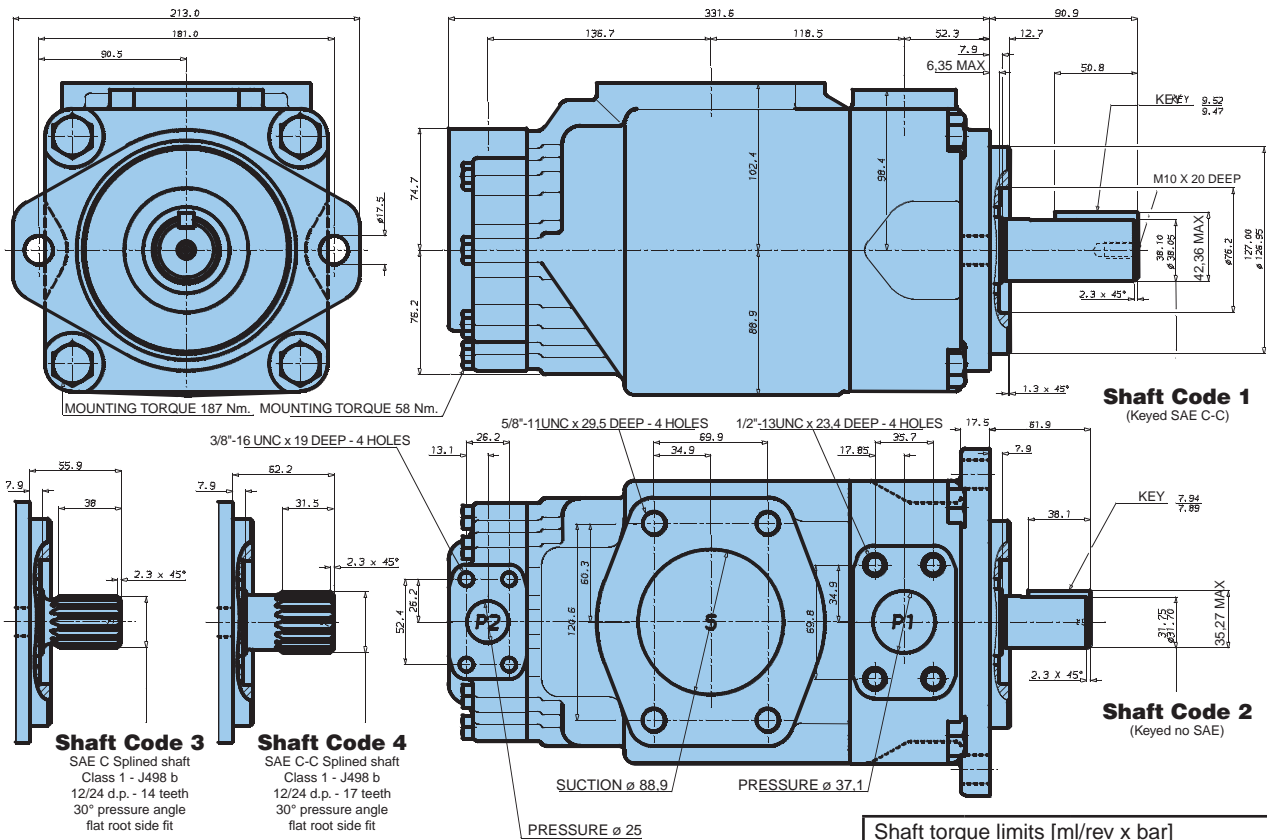


Total hydrodynamic power loss is the sum of each section at its operating conditions.

**PERMISSIBLE RADIAL LOAD**



Maximum permissible axial load  $F_a = 2000$  N



**Additional T6ECM shaft code T: see page 33**  
**Additional T6ECP version shaft see page 33**

Shaft torque limits [ml/rev x bar]		
Pump	Shaft	Vi x p max. P1 + P2
T6ECM	1	72300
	2	34590
	3	61200
	4	76300

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

Pressure port	Series	Volumetric Displacement Vi	Flow Q [l/min] & n = 1500 RPM			Input power P [kW] & n = 1500 RPM		
			p = 0 bar	p = 140 bar	p = 240 bar	p = 7 bar	p = 140 bar	p = 240 bar
P1	042	132,3 ml/rev	198,5	188,5	181,3	5,2	49,4	82,6
	045	142,4 ml/rev	213,6	203,6	196,5	5,4	52,9	88,7
	050	158,5 ml/rev	237,7	227,7	220,6	5,7	58,5	98,3
	052	164,8 ml/rev	247,2	237,2	230,1	5,8	60,8	102,1
	062	196,7 ml/rev	295,0	285,0	277,9	6,4	71,9	121,3
	066	213,3 ml/rev	319,9	309,9	302,8	6,7	77,7	131,2
	072	227,1 ml/rev	340,6	330,6	323,5	6,9	82,6	139,5
P2	B03	10,8 ml/rev	16,2	10,7	-	1,3	5,3	-
	B05	17,2 ml/rev	25,8	20,3	15,8	1,4	7,5	12,2
	B06	21,3 ml/rev	31,9	26,5	22,0	1,5	8,9	14,7
	B08	26,4 ml/rev	39,6	34,1	29,6	1,6	10,7	17,7
	B10	34,1 ml/rev	51,1	45,7	41,2	1,7	13,4	22,3
	B12	37,1 ml/rev	55,6	50,2	45,7	1,7	14,4	24,1
	B14	46,0 ml/rev	69,0	63,5	59,0	1,9	17,6	29,5
	B17	58,3 ml/rev	87,4	82,0	77,5	2,1	21,9	36,9
	B20	63,8 ml/rev	95,7	90,2	85,7	2,2	23,8	40,2
	B22	70,3 ml/rev	105,4	100,0	95,5	2,3	26,1	44,1
	B25	79,3 ml/rev	118,9	113,5	109,0	2,5	29,2	49,5
	B28	88,8 ml/rev	133,2	127,7	124,5 <sup>1)</sup>	2,8	32,7	48,5 <sup>1)</sup>
	B31	100,0 ml/rev	150,0	144,5	141,3 <sup>1)</sup>	2,8	36,5	54,4 <sup>1)</sup>

<sup>1)</sup> B28 - B31 = 210 bar max. int. - Not to use because internal leakage greater than 50% theoretical flow  
 Port connection can be furnished with metric threads.

**Model No.**

**T6ED\* - 066 - B38 - 1 R 00 - C 1 -**

Series M = Mobile 1 shaft seal  
 Series P = Mobile 2 shaft seals

**Cam ring for "P1"**  
 (Delivery at 0 bar & 1500 r.p.m.)  
 042 = 198,5 l/min    062 = 295,0 l/min  
 045 = 213,6 l/min    066 = 319,9 l/min  
 050 = 237,7 l/min    072 = 340,6 l/min  
 052 = 247,2 l/min

**Cam ring for "P2"**  
 (Delivery at 0 bar & 1500 r.p.m.)  
 B14 = 71,4 l/min    B35 = 166,5 l/min  
 B17 = 87,3 l/min    B38 = 180,4 l/min  
 B20 = 99,0 l/min    B42 = 204,0 l/min  
 B24 = 119,3 l/min    B45 = 218,5 l/min  
 B28 = 134,5 l/min    B50 = 237,0 l/min  
 B31 = 147,4 l/min

**Modification**

**Seal Class**

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

**Design letter**

00 = standard

**Direct. of rotation (view on shaft end)**

- R = clockwise
- L = counter-clockwise

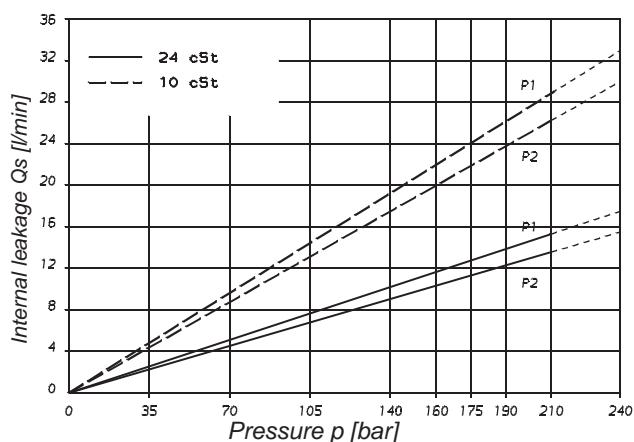
**Type of shaft  
 P version**

3 = splined (no SAE)

**Type of shaft  
 M version**

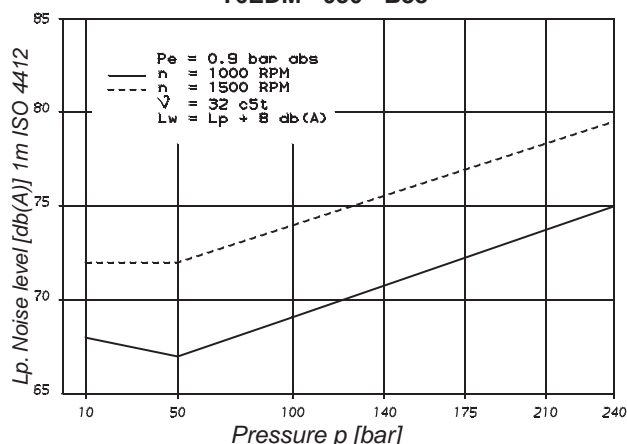
- 1 = keyed (SAE CC)
- 2 = keyed (no SAE)
- 3 = splined (SAE C)
- 4 = splined SAE CC
- T = splined (SAE J718c)

**INTERNAL LEAKAGE (TYPICAL)**



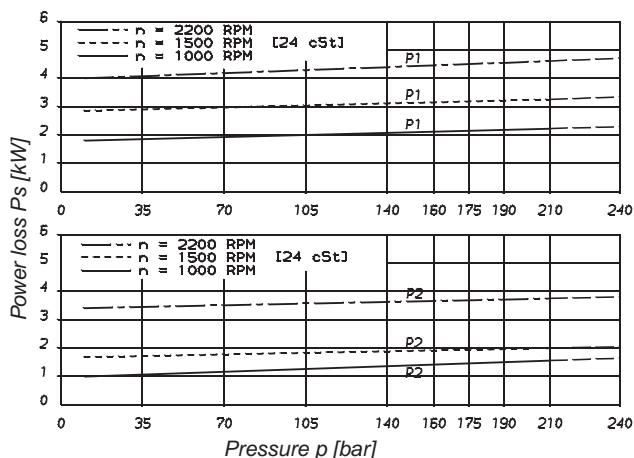
Total leakage is the sum of each section loss at its operating conditions.

**NOISE LEVEL (TYPICAL)  
 T6EDM - 050 - B38**



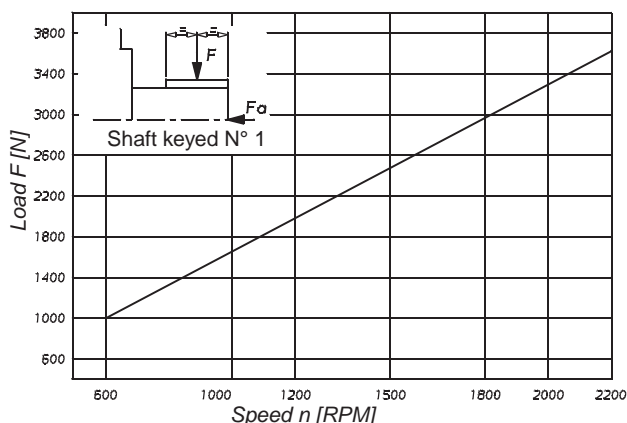
Double pump noise level is given with each section discharging at the pressure noted on the curve.

**POWER LOSS HYDROMECHANICAL (TYPICAL)**



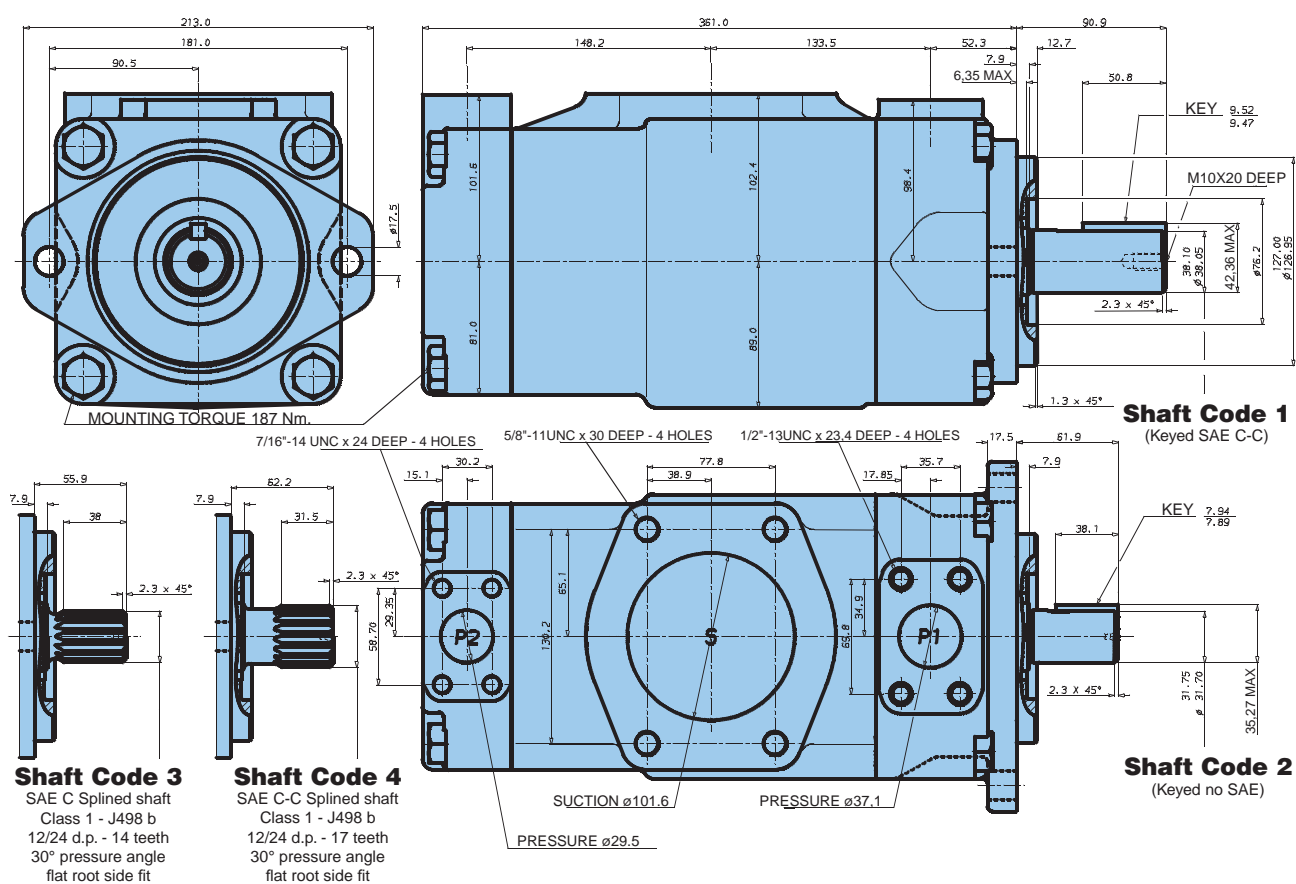
Total hydrodynamic power loss is the sum of each section at its operating conditions.

**PERMISSIBLE RADIAL LOAD**



Maximum permissible axial load Fa = 2000 N





**Additional T6EDM shaft code T: see page 33**  
**Additional T6EDP version shaft see page 33**

Shaft torque limits [ml/rev x bar]		
Pump	Shaft	Vi x p max. P1 + P2
T6EDM	1	72300
	2	34590
	3	61200
	4	68500

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

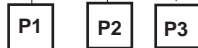
Pressure port	Series	Volumetric Displacement Vi	Flow Q [l/min] & n = 1500 RPM			Flow Q [l/min] & n = 1500 RPM		
			p = 0 bar	p = 140 bar	p = 240 bar	p = 7 bar	p = 140 bar	p = 240 bar
P1	042	132,3 ml/rev	198,5	188,5	181,3	5,2	49,4	82,6
	045	142,4 ml/rev	213,6	203,6	196,5	5,4	52,9	88,7
	050	158,5 ml/rev	237,7	227,7	220,6	5,7	58,5	98,3
	052	164,8 ml/rev	247,2	237,2	230,1	5,8	60,8	102,1
	062	196,7 ml/rev	295,0	285,0	277,9	6,4	71,9	121,3
	066	213,3 ml/rev	319,9	309,9	302,8	6,7	77,7	131,2
	072	227,1 ml/rev	340,6	330,6	323,5	6,9	82,6	139,5
P2	B14	47,6 ml/rev	71,4	62,1	55,9	2,3	18,5	30,6
	B17	58,2 ml/rev	87,3	78,0	71,8	2,5	22,2	37,0
	B20	66,0 ml/rev	99,0	89,7	83,5	2,8	24,9	41,7
	B24	79,5 ml/rev	119,3	110,0	103,8	3,0	29,6	49,8
	B28	89,7 ml/rev	134,5	125,2	119,0	3,2	33,2	55,9
	B31	98,3 ml/rev	147,4	138,1	131,9	3,3	36,2	61,0
	B35	111,0 ml/rev	166,5	157,2	151,0	3,5	40,7	68,7
	B38	120,3 ml/rev	180,4	171,1	164,9	3,7	43,9	74,3
	B42	136,0 ml/rev	204,0	194,7	188,5	4,0	49,4	83,7
	B45	145,7 ml/rev	218,5	209,2	203,0	4,1	52,8	89,5
	B50	158,0 ml/rev	237,0	227,7	224,0 <sup>1)</sup>	4,4	57,0	85,0 <sup>1)</sup>

<sup>1)</sup> B50 = 210 bar max. int. Port connection can be furnished with metric threads.



Model No. T6DCCM - B38 - B28 - B08 - 1 R 00 - B 1 - 00

Series



Cam ring for "P1"

(Delivery at 0 bar & 1500 r.p.m.)

B14 = 71,4 l/min	B35 = 166,5 l/min
B17 = 87,3 l/min	B38 = 180,4 l/min
B20 = 99,0 l/min	B42 = 204,0 l/min
B24 = 119,3 l/min	B45 = 218,5 l/min
B28 = 134,5 l/min	B50 = 237,0 l/min
B31 = 147,4 l/min	

Cam ring for "P2" & "P3"

(Delivery at 0 bar & 1500 r.p.m.)

B03 = 16,2 l/min	B17 = 87,4 l/min
B05 = 25,8 l/min	B20 = 95,7 l/min
B06 = 31,9 l/min	B22 = 105,4 l/min
B08 = 39,6 l/min	B25 = 118,9 l/min
B10 = 51,1 l/min	B28 = 133,2 l/min
B12 = 55,6 l/min	B31 = 150,0 l/min
B14 = 69,0 l/min	

Modification

Mounting W/connection variables

Type	UNC		Metric	
	P3	1"	3/4"	1"
Code	00	01	M0	M1

Seal class

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

Design letter

Porting combination (see pages 34 - 35)

00 = standard

Direct. of rotation (view on shaft end)

- R = clockwise
- L = counter-clockwise

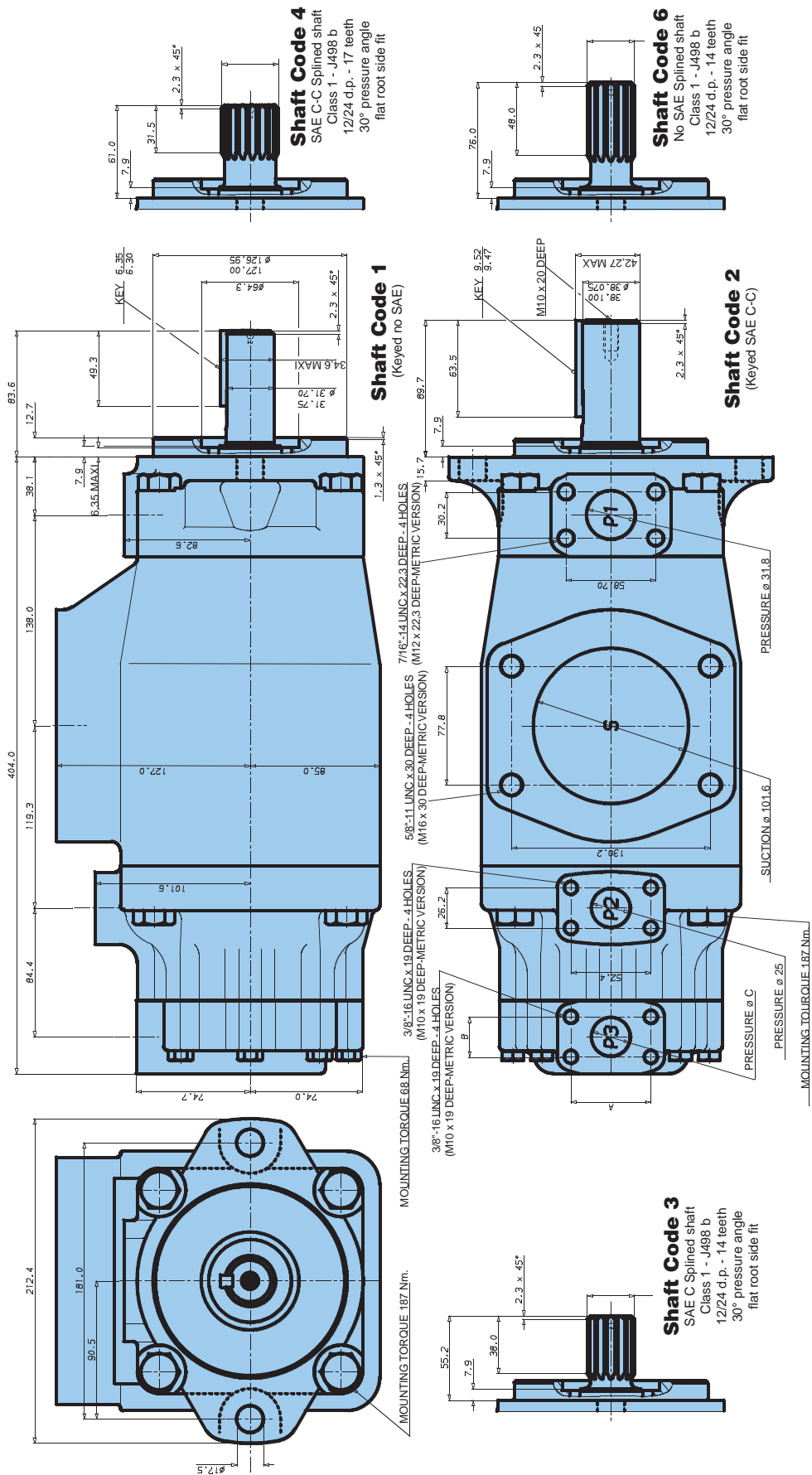
Type of shaft

- 1 = keyed (no SAE)
- 2 = keyed (SAE CC)
- 3 = splined (SAE C)
- 4 = splined (SAE CC)
- 6 = splined (no SAE)

OPERATING CHARACTERISTICS - TYPICAL [24 cSt]

Pressure port	Series	Volumetric Displacement Vi	Flow Q [l/min] & n = 1500 RPM			Input power P [kW] & n = 1500 RPM		
			p = 0 bar	p = 140 bar	p = 240 bar	p = 7 bar	p = 140 bar	p = 240 bar
P1	B14	47.6 ml/rev	71.4	62.1	55.9	2.3	18.5	30.6
	B17	58.2 ml/rev	87.3	78.0	71.8	2.5	22.2	37.0
	B20	66.0 ml/rev	99.0	89.7	83.5	2.8	24.9	41.7
	B24	79.5 ml/rev	119.3	110.0	103.8	3.0	29.6	49.8
	B28	89.7 ml/rev	134.5	125.2	119.0	3.2	33.2	55.9
	B31	98.3 ml/rev	147.4	138.1	131.9	3.3	36.2	61.0
	B35	111.0 ml/rev	166.5	157.2	151.0	3.5	40.7	68.7
	B38	120.3 ml/rev	180.4	171.1	164.9	3.7	43.9	74.3
	B42 <sup>2)</sup>	136.0 ml/rev	204.0	194.7	188.5	4.0	49.4	83.7
	B45 <sup>2)</sup>	145.7 ml/rev	218.5	209.2	203.0	4.1	52.8	89.5
B50 <sup>2)</sup>	158.0 ml/rev	237.0	227.7	224.0 <sup>1)</sup>	4.4	57.0	85.0 <sup>1)</sup>	
P2 & P3	B03	10.8 ml/rev	16.2	10.7	-	1.3	5.3	-
	B05	17.2 ml/rev	25.8	20.3	15.8	1.4	7.5	12.2
	B06	21.3 ml/rev	31.9	26.5	22.0	1.5	8.9	14.7
	B08	26.4 ml/rev	39.6	34.1	29.6	1.6	10.7	17.7
	B10	34.1 ml/rev	51.1	45.7	41.2	1.7	13.4	22.3
	B12	37.1 ml/rev	55.6	50.2	45.7	1.7	14.4	24.1
	B14	46.0 ml/rev	69.0	63.5	59.0	1.9	17.6	29.5
	B17	58.3 ml/rev	87.4	82.0	77.5	2.1	21.9	36.9
	B20	63.8 ml/rev	95.7	90.2	85.7	2.2	23.8	40.2
	B22	70.3 ml/rev	105.4	100.0	95.5	2.3	26.1	44.1
	B25	79.3 ml/rev	118.9	113.5	109.0	2.5	29.2	49.5
	B28	88.8 ml/rev	133.2	127.7	124.5 <sup>1)</sup>	2.8	32.7	48.5 <sup>1)</sup>
B31	100.0 ml/rev	150.0	144.5	141.3 <sup>1)</sup>	2.8	36.5	54.4 <sup>1)</sup>	

<sup>1)</sup> B28 - B31 - B50 = 210 bar max. int.      <sup>2)</sup> B42 - B45 - B50 = 2200 R.P.M. max  
- Not to use because internal leakage greater than 50% theoretical flow

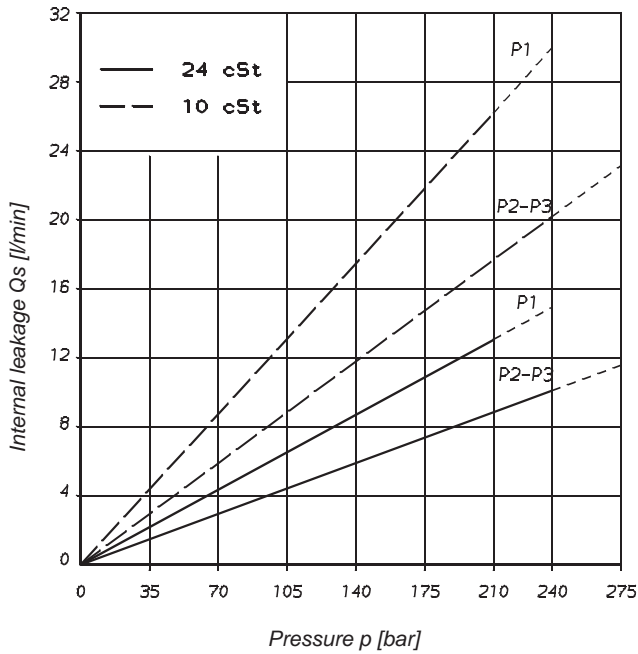


Alternate port				
Port	Code	A	B	C
P3	00 & M0	52.4	26.2	25.4
P3	01 & M1	47.6	22.2	19.0

Shaft torque limits [ml/rev x bar]				
Pump	Shaft	Vi x p max. P1 + P2 + P3	Shaft	Vi x p max. P1 + P2 + P3
T6DCCM	1	43240	3	61200
	2	66500	4	66500

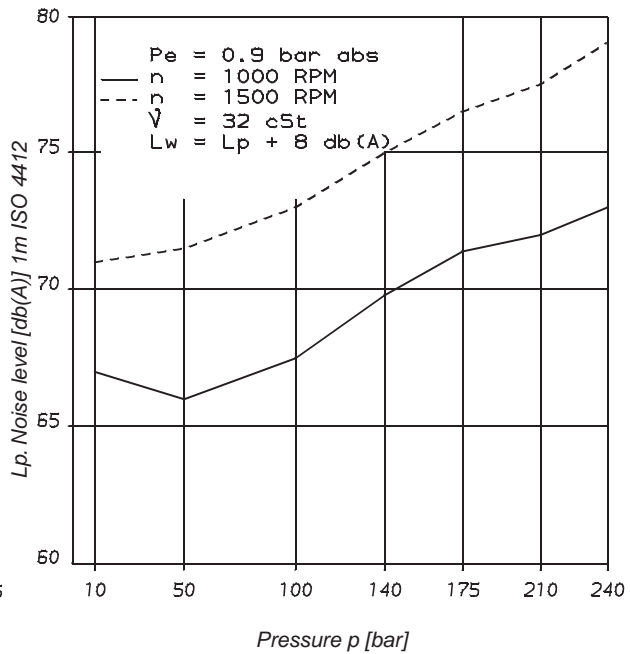


**INTERNAL LEAKAGE (TYPICAL)**



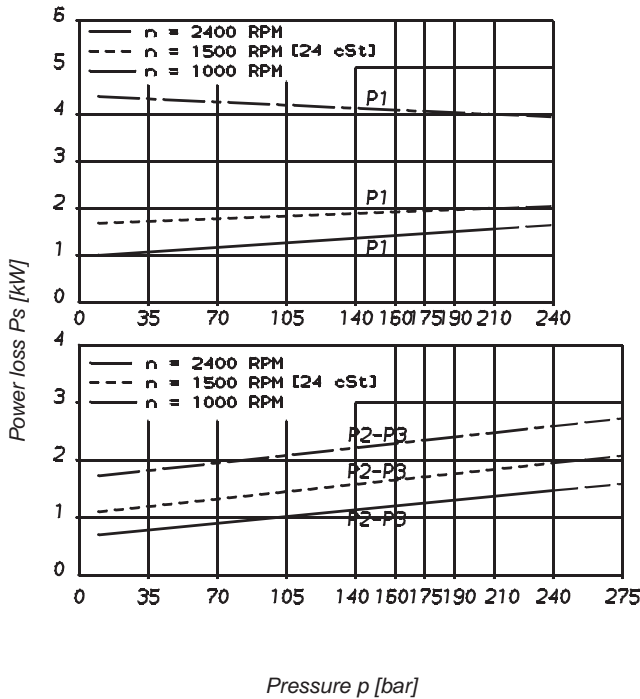
Total leakage is the sum of each section loss at its operating conditions.

**NOISE LEVEL (TYPICAL)**  
T6DCCM - B38 - B22 - B22



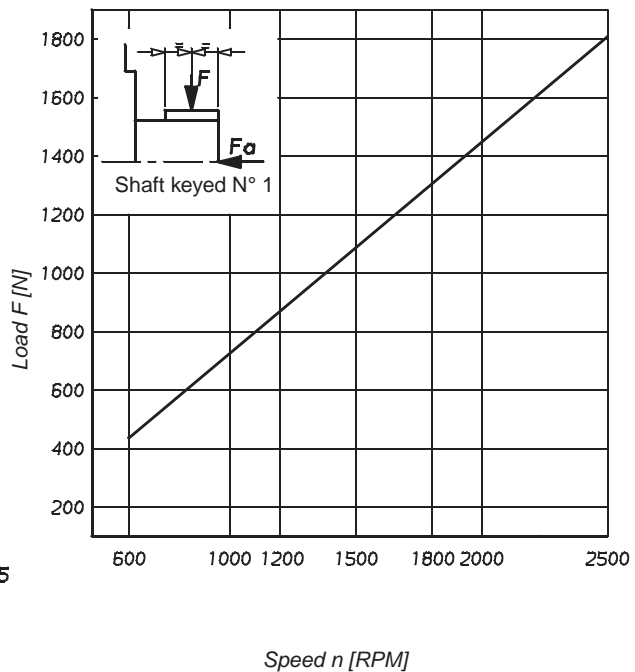
Triple pump noise level is given with each section discharging at the pressure noted on the curve.

**POWER LOSS HYDROMECHANICAL (TYPICAL)**



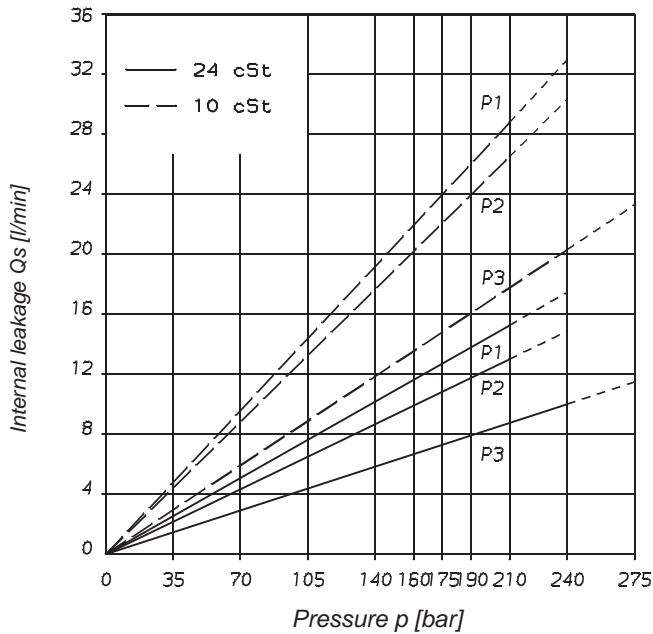
Total hydrodynamic power loss is the sum of each section at its operating conditions.

**PERMISSIBLE RADIAL LOAD**



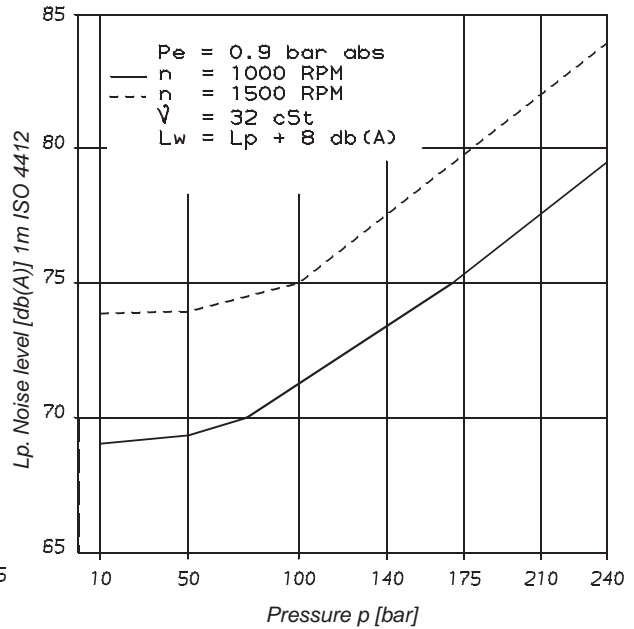
Maximum permissible axial load  $F_a = 800\text{ N}$

**INTERNAL LEAKAGE (TYPICAL)**



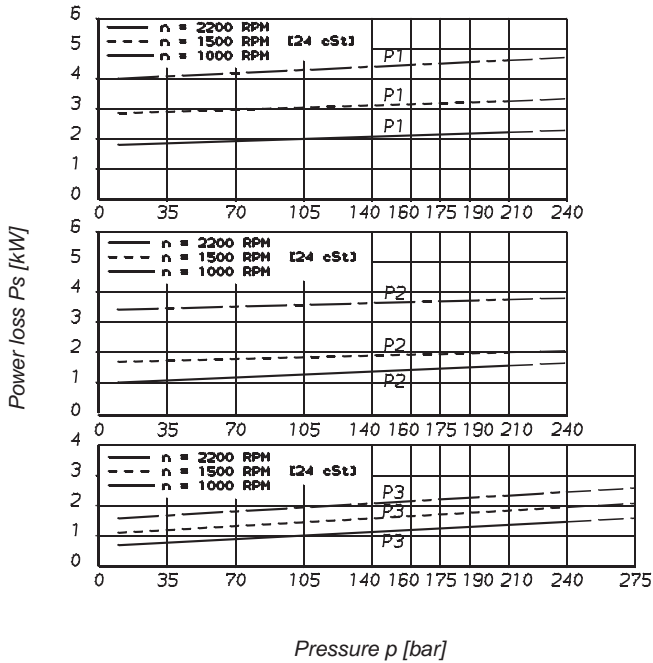
Total leakage is the sum of each section loss at its operating conditions.

**NOISE LEVEL (TYPICAL)**  
**T6EDCM - 062 - B35 - B17**



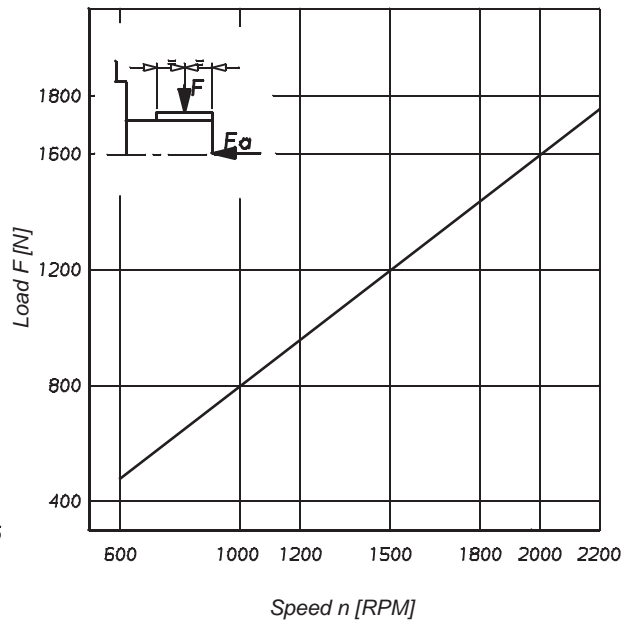
Triple pump noise level is given with each section discharging at the pressure noted on the curve.

**POWER LOSS HYDROMECHANICAL (TYPICAL)**



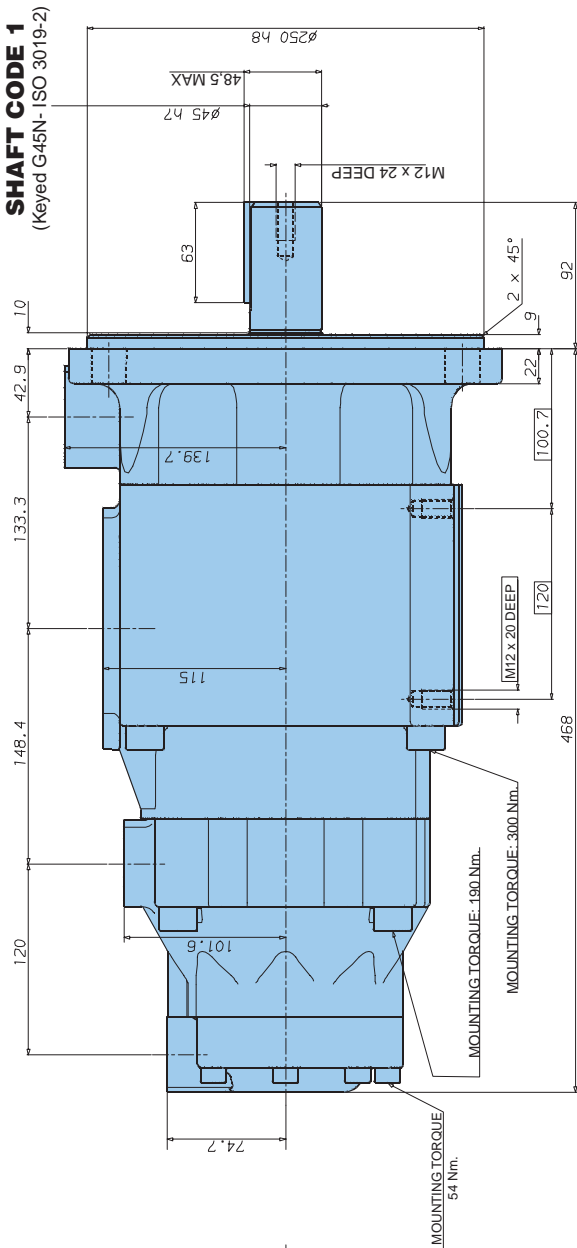
Total hydrodynamic power loss is the sum of each section at its operating conditions.

**PERMISSIBLE RADIAL LOAD**



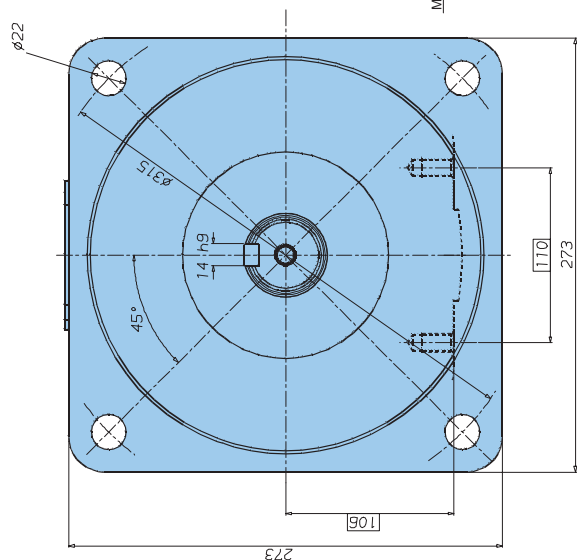
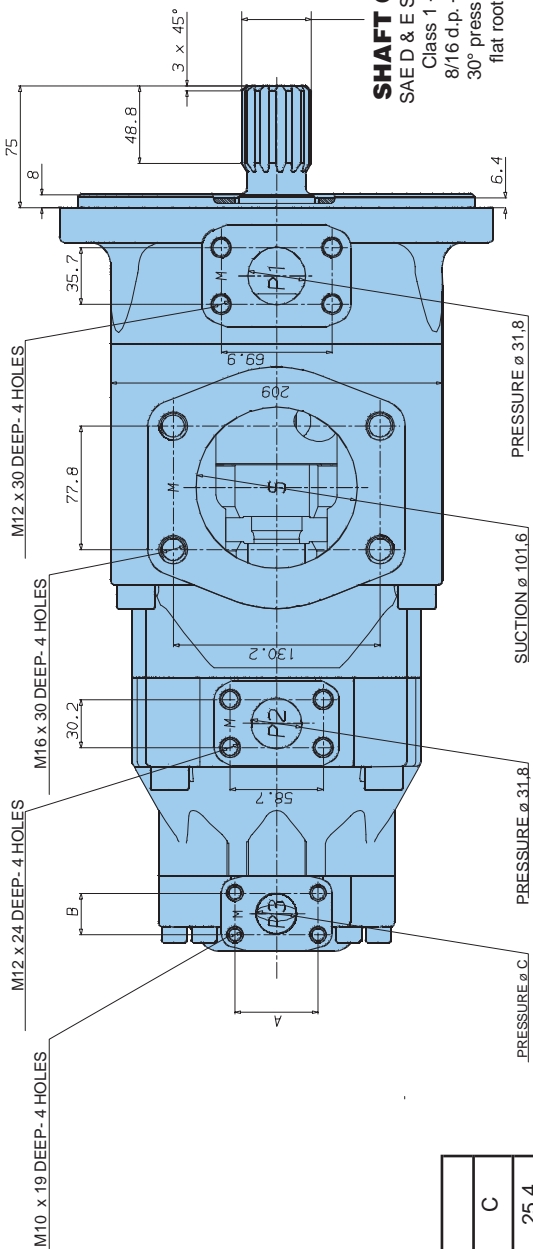
Maximum permissible axial load  $F_a = 2000\text{ N}$

**SHAFT CODE 1**  
 (Keyed G45N - ISO 3019-2)

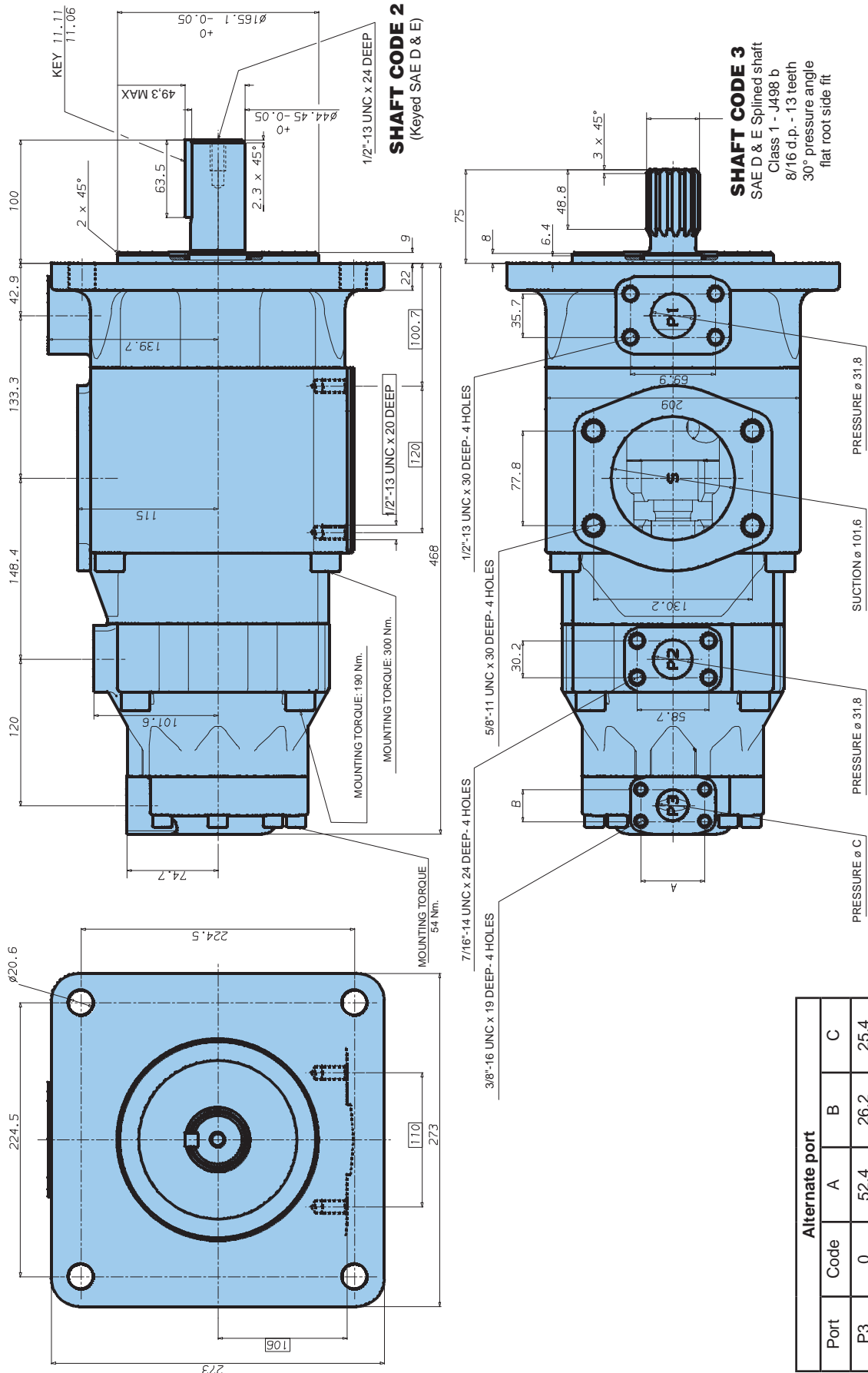


**SHAFT CODE 3**

SAE D & E Splined shaft  
 Class 1 - J498 b  
 8/16 d.p. - 13 teeth  
 30° pressure angle  
 flat root side fit



Port	Alternate port			
	Code	A	B	C
P3	0	52,4	26,2	25,4
P3	1	47,6	22,2	19,0



Port	Alternate port			
	Code	A	B	C
P3	0	52,4	26,2	25,4
P3	1	47,6	22,2	19,0



**T6EDCS**  
**T6EDCM - 062 - B35 - B17 - 1 R 00- A 1 - P 0 -**

**Model No.**

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

**Cam ring for "P1"**  
(Delivery at 0 bar & 1500 r.p.m.)  
042 = 198,5 l/min      062 = 295,0 l/min  
045 = 213,6 l/min      066 = 319,9 l/min  
050 = 237,7 l/min      072 = 340,6 l/min  
052 = 247,2 l/min

**Cam ring for "P2"**  
(Delivery at 0 bar & 1500 r.p.m.)  
B14 = 71,4 l/min      B35 = 166,5 l/min  
B17 = 87,3 l/min      B38 = 180,4 l/min  
B20 = 99,0 l/min      B42 = 204,0 l/min  
B24 = 119,3 l/min      B45 = 218,5 l/min  
B28 = 134,5 l/min      B50 = 237,0 l/min  
B31 = 147,4 l/min

**Cam ring for "P3"**  
(Delivery at 0 bar & 1500 r.p.m.)  
B03 = 16,2 l/min      B17 = 87,4 l/min  
B05 = 25,8 l/min      B20 = 95,7 l/min  
B06 = 31,9 l/min      B22 = 105,4 l/min  
B08 = 39,6 l/min      B25 = 118,9 l/min  
B10 = 51,1 l/min      B28 = 133,2 l/min  
B12 = 55,6 l/min      B31 = 150,0 l/min  
B14 = 69,0 l/min

**Modification**  
**Mounting W/connection variables**  
0 = P3 = 1" SAE  
1 = P3 = 3/4" SAE

**Options**  
P = 4 holes for external support

**Seal class**  
1 = S1 (for mineral oil)  
4 = S4 (for the resistant fluids)  
5 = S5 (for mineral oil and fire resistant fluids)

**Design letter**  
**Porting combination (see pages 34 - 35)**  
00 = standard

**Direct. of rotation (view on shaft end)**  
R = clockwise  
L = counter-clockwise

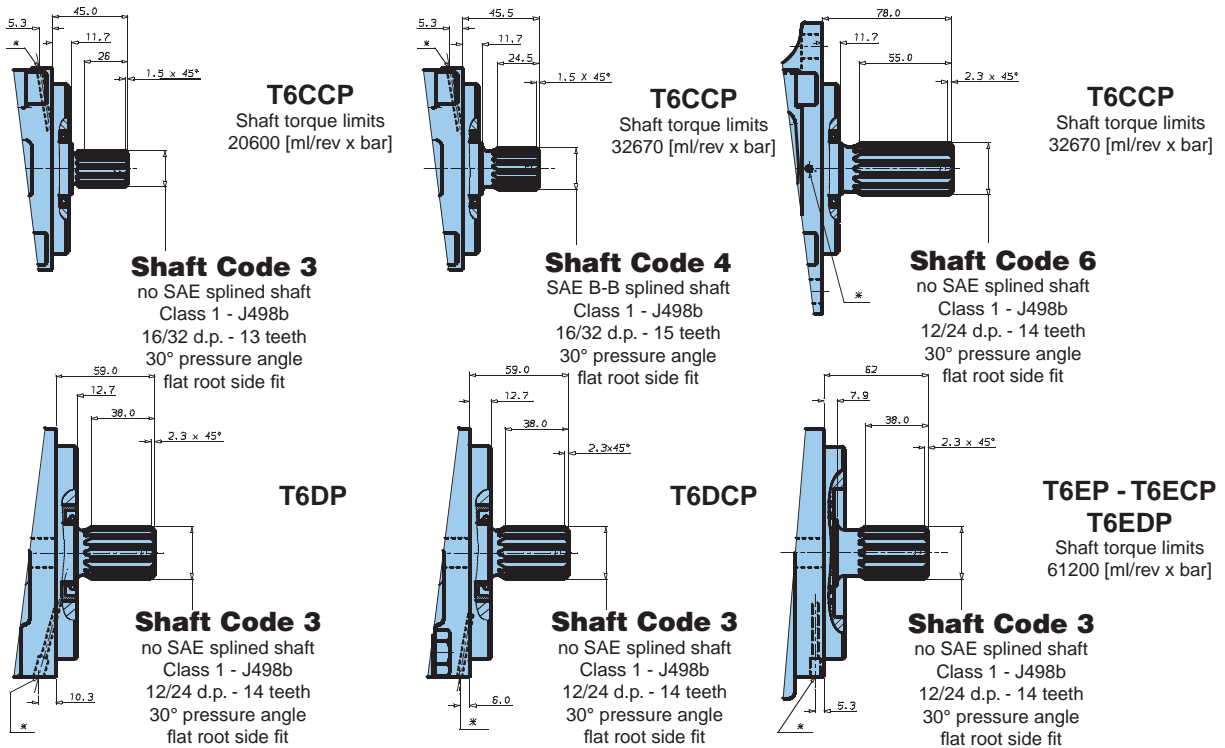
**Type of shaft**  
1 = keyed (G45N - ISO 3019-2) (T6EDCM)  
2 = keyed (SAE D & E) (T6EDCS)  
3 = splined (SAE D & E) (T6EDCM-T6EDCS)

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

Pressure port	Series	Volumetric Displacement Vi	Flow Q [l/min] & n = 1500 RPM			Input power P [kW] & n = 1500 RPM		
			p = 0 bar	p = 140 bar	p = 240 bar	p = 7 bar	p = 140 bar	p = 240 bar
P1	042	132.3 ml/rev	198.5	188.5	181.3	5.2	49.4	82.6
	045	142.4 ml/rev	213.6	203.6	196.5	5.4	52.9	88.7
	050	158.5 ml/rev	237.7	227.7	220.6	5.7	58.5	98.3
	052	164.8 ml/rev	247.2	237.2	230.1	5.8	60.8	102.1
	062	196.7 ml/rev	295.0	285.0	277.9	6.4	71.9	121.3
	066	213.3 ml/rev	319.9	309.9	302.8	6.7	77.7	131.2
	072	227.1 ml/rev	340.6	330.6	323.5	6.9	82.6	139.5
P2	B14	47.6 ml/rev	71.4	62.1	55.9	2.3	18.5	30.6
	B17	58.2 ml/rev	87.3	78.0	71.8	2.5	22.2	37.0
	B20	66.0 ml/rev	99.0	89.7	83.5	2.8	24.9	41.7
	B24	79.5 ml/rev	119.3	110.0	103.8	3.0	29.6	49.8
	B28	89.7 ml/rev	134.5	125.2	119.0	3.2	33.2	55.9
	B31	98.3 ml/rev	147.4	138.1	131.9	3.3	36.2	61.0
	B35	111.0 ml/rev	166.5	157.2	151.0	3.5	40.7	68.7
	B38	120.3 ml/rev	180.4	171.1	164.9	3.7	43.9	74.3
	B42	136.0 ml/rev	204.0	194.7	188.5	4.0	49.4	83.7
	B45	145.7 ml/rev	218.5	209.2	203.0	4.1	52.8	89.5
P3	B50	158.0 ml/rev	237.0	227.7	224.0 <sup>1)</sup>	4.4	57.0	85.0 <sup>1)</sup>
	B03	10.8 ml/rev	16.2	10.7	-	1.3	5.3	-
	B05	17.2 ml/rev	25.8	20.3	15.8	1.4	7.5	12.2
	B06	21.3 ml/rev	31.9	26.5	22.0	1.5	8.9	14.7
	B08	26.4 ml/rev	39.6	34.1	29.6	1.6	10.7	17.7
	B10	34.1 ml/rev	51.1	45.7	41.2	1.7	13.4	22.3
	B12	37.1 ml/rev	55.6	50.2	45.7	1.7	14.4	24.1
	B14	46.0 ml/rev	69.0	63.5	59.0	1.9	17.6	29.5
	B17	58.3 ml/rev	87.4	80.0	77.5	2.1	21.9	36.9
	B20	63.8 ml/rev	95.7	90.2	85.7	2.2	23.8	40.2
	B22	70.3 ml/rev	105.4	100.0	95.5	2.3	26.1	44.1
	B25	79.3 ml/rev	118.9	113.5	109.0	2.5	29.2	49.5
	B28	88.8 ml/rev	133.2	127.7	124.5 <sup>1)</sup>	2.8	32.7	48.5 <sup>1)</sup>
B31	100.0 ml/rev	150.0	144.5	141.3 <sup>1)</sup>	2.8	36.5	54.4 <sup>1)</sup>	

<sup>1)</sup> B28 - B31 - B50 = 210 bar max. int. - Not to use because internal leakage greater than 50% theoretical flow

**ADDITIONAL P VERSION**



\* Drain hole between double shaft seals.

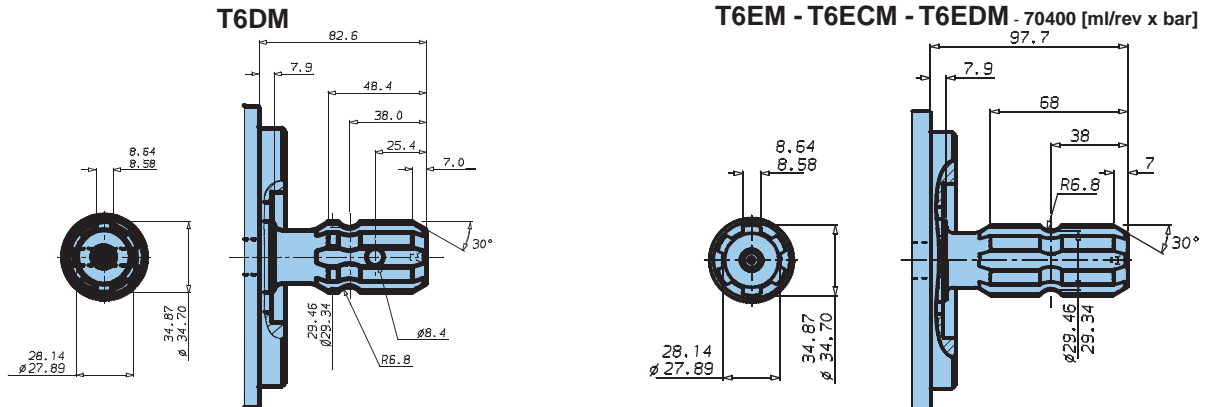
**ADDITIONAL SHAFT CODE T : 540 RPM POWER TAKE-OFF - SAE J718C FOR FARM TRACTORS**

Shaft torque limits

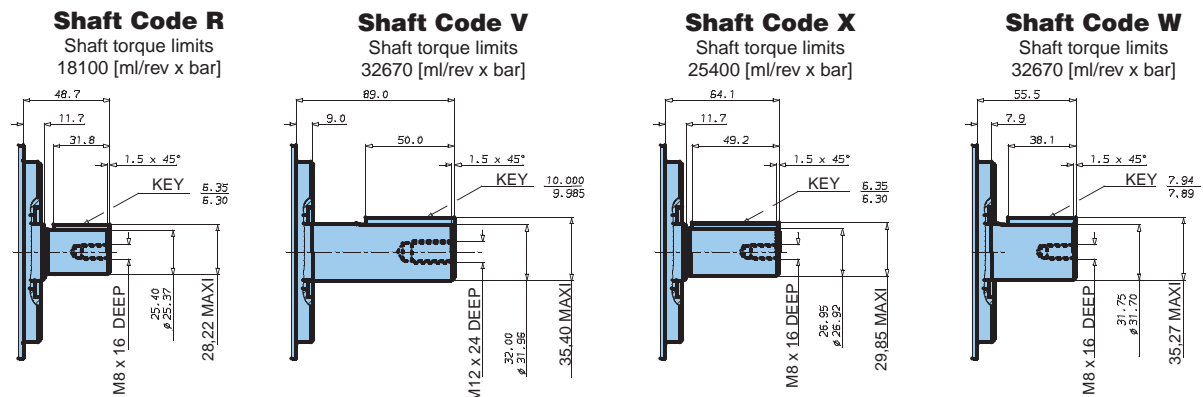
**T6CCMW - 32670 [ml/rev x bar]**

**T6DCMW - 66600 [ml/rev x bar]**

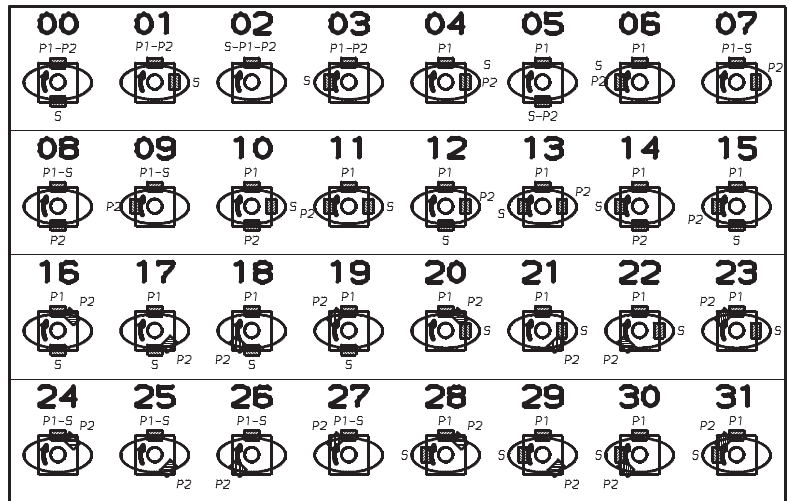
**T6EM - T6ECM - T6EDM - 70400 [ml/rev x bar]**



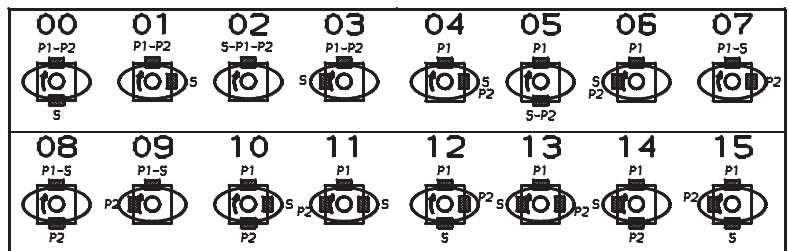
**ADDITIONAL SPECIAL T6CCMW SHAFTS**



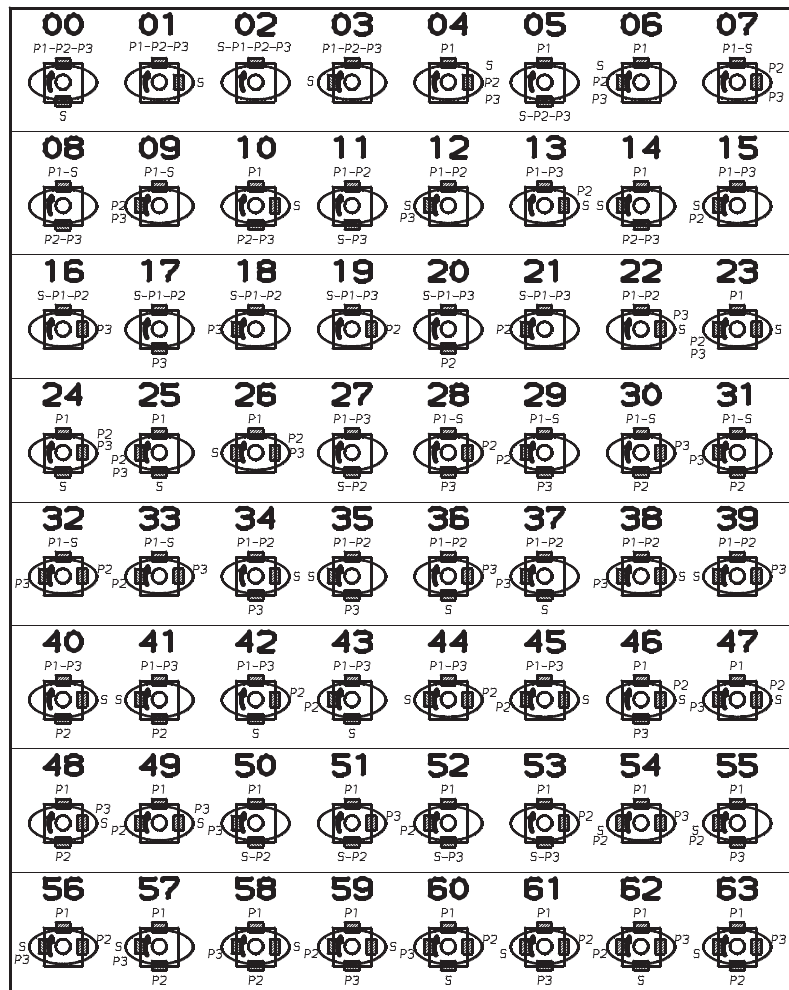
**T6CC\* - T6DC\* - T6EC\***



**T6ED\***



**T6DCCM - T6EDC\***



T6DCCM - T6EDC\*



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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