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Mobile Hydraulic Pumps T6*M

Denison Vane Technology, fixed displacement

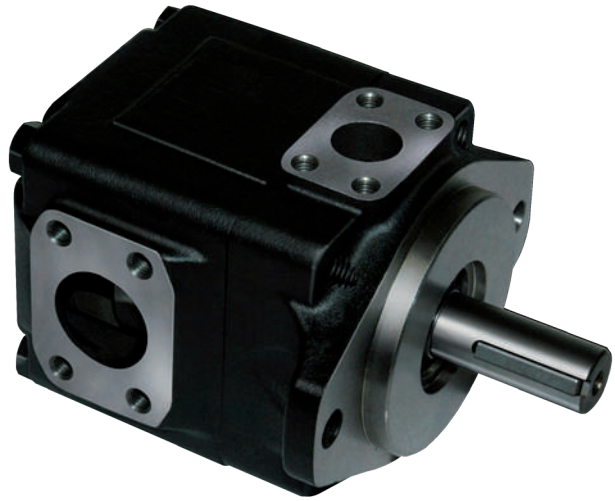
aerospace
climate control
electromechanical
filtration
fluid & gas handling
hydraulics
pneumatics
process control
sealing & shielding

Parker

ENGINEERING YOUR SUCCESS.

Contents

Parker Hannifin SAS
VPDE, Denison Vane Pumps
Vierzon - France



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	
						Int.	Cont.	Int	Cont	Int	Cont
		ml/rev.	RPM	RPM	RPM	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		2500							
	B28	88,8				210	160		160		
	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		2200							
	B45	145,7									
	B50	158,0				210	160		160		
EM EP	042	132,3	400	2200	1800	240	210	210	175	175	140
	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.

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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						0,85	0,92		B12
	B14							0,95		B14
	B17					0,85	0,90		1,03	B17
	B20									B20
	B22				0,85	0,90		0,98	1,05	B22
	B25				0,90	0,95	0,95	1,05		B25
	B28					0,98	0,98	1,08		B28
	B31				0,85	0,90	1,00	1,11		B31
DM DP	B14	0,80	0,80	0,80	0,80	0,88	0,95	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				042
	045				0,90					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 $kgm^2 \times 10^{-4}$	SAE 4 bolts J518c - ISO/DIS 6162-1 - [4] 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"[4]	1.1/4"[4]		
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"	P1	P2	
					1"	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"	P1	P2	P3
					1.1/4"	1"	1" or 3/4"
T6EDC*	SAE "E" (T6EDCS) ISO/3019-2 (T6EDCM)	100,0	80,2	4"	1.1/2"	1.1/4"	1" or 3/4"

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CALCULATION

To resolve			Performances required			
Volumetric displacement	Vi	[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 $Vi = \frac{1000\ Q}{n}$

$Vi = \frac{1000 \times 60}{1500} = 40$ ml/rev

2. Choice Vi of pump immediately greater (see tabulation)

T6CM B14 Vi = 46 ml/rev.

3. Theoretical flow of this pump

$Q_{theo.} = \frac{Vi \times n}{1000}$

$Q_{theo.} = \frac{46 \times 1500}{1000} = 69$ 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 l/min at 150 bar, 24 cSt

5. Available flow $Q = Q_{theo.} - Q_{per.}$

Q = 69 - 5 = 64 l/min

6. Theoretical input power

$P_{theo.} = \frac{Q_{theo.} \times p}{600}$

$P_{theo.} = \frac{69 \times 150}{600} = 17{,}3$ kW

7. Find ps hydrodynamic power loss on curve

T6CM (page10) : Ps at 1500 R.P.M., 150 bar = 1,5 kW

8. Calculation of necessary input power $P_{eff.} = P_{theo.} + Ps$

P = 17,3 + 1,5 = 18,8 kW

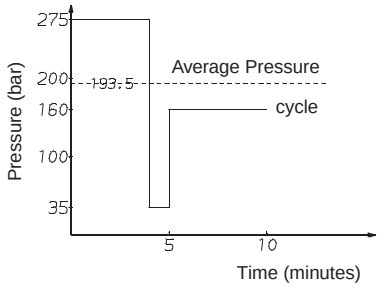
9. Results

Vi = 46,0 ml/rev
$Q_{eff.}$ = 64,0 l/min
$P_{eff.}$ = 18,8 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

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

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

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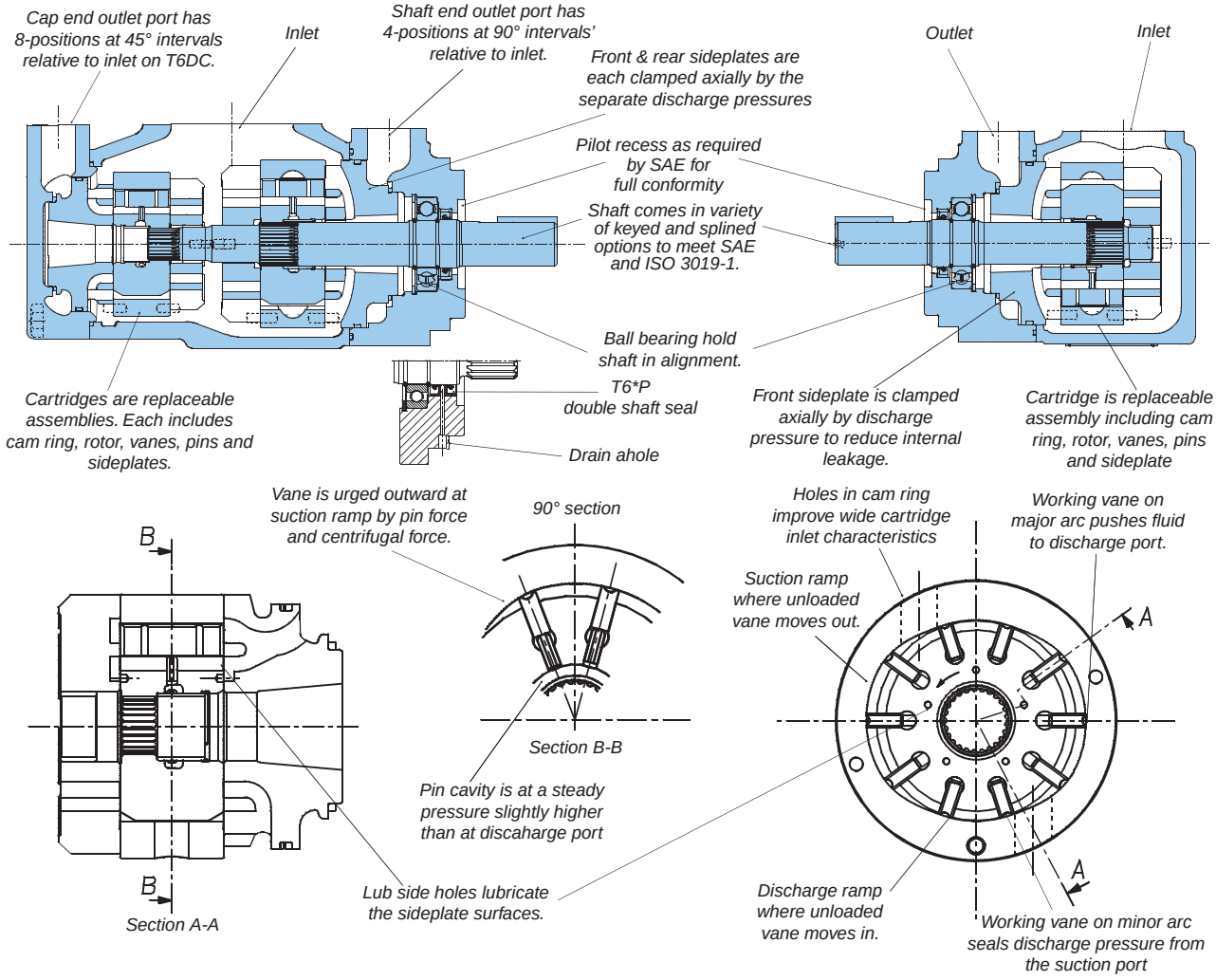

APPLICATION ADVANTAGES

- 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 ± 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.

RECOMMENDED FLUIDS

Petroleum based antiwear R & O fluids.
These fluids are the recommended fluids for T6 series pumps. Maximum catalog ratings aand performance data are based on operation with these fluids. These fluids are covered by DENISON fluid specifications HF-0 and HF-2.

ACCEPTABLE ALTERNATE FLUIDS

The use of fluids other than petroleum based antiwear R & 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.

VISCOSITY

Max (cold start, low speed & pressure)	2000	mm^2/s (cSt)
Max (full speed & pressure)	108	mm^2/s (cSt)
Optimum (max. life)	30	mm^2/s (cSt)
Min (full speed & pressure for HF-1, HF-3, HF-4 & HF-5 fluids)	18	mm^2/s (cSt)
Min (full speed & pressure for HF-0 & HF-2 fluids)	10	mm^2/s (cSt)

VISCOSITY INDEX

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 & rapeseed base)	+ 65°

Minimum fluid temperature (θ) °C

HF-0, HF-1, HF-2, HF-5	- 18°
HF-3, HF-4	+ 10°
Biodegradable fluids (esters & rapeseed base)	- 20°

FLUID CLEANLINESS

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 ß10 ≥ 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.

OPERATING TEMPERATURES AND VISCOSITIES

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.

WATER CONTAMINATION IN THE FLUID

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.

COUPLINGS AND FEMALE SPLINES

- 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.
- The coupling spline must be lubricated with a lithium molydisulfide grease or a similar lubricant.
- The coupling must be hardened to a hardness between 27 and 45 R.C.
- 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.

KEYED SHAFTS

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.

NOTE

Alignment of keyed shafts must be within tolerances given for splined shafts.

SHAFT LOADS

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.

Parker Hannifin SAS
VPDE, Denison Vane Pumps
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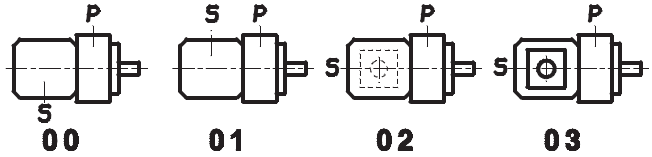
Model No. **T6CM - B22 - 1 R 00 - C 1**

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)

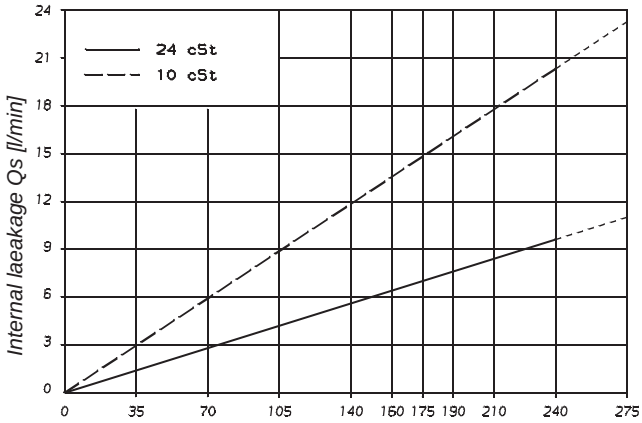
Design letter

Porting combination
00 = standard

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

P = Pressure port
S = Suction port

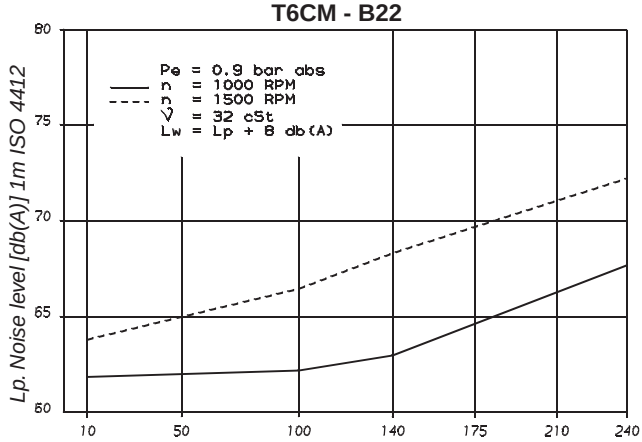
INTERNAL LEAKAGE (TYPICAL)



Pressure p [bar]

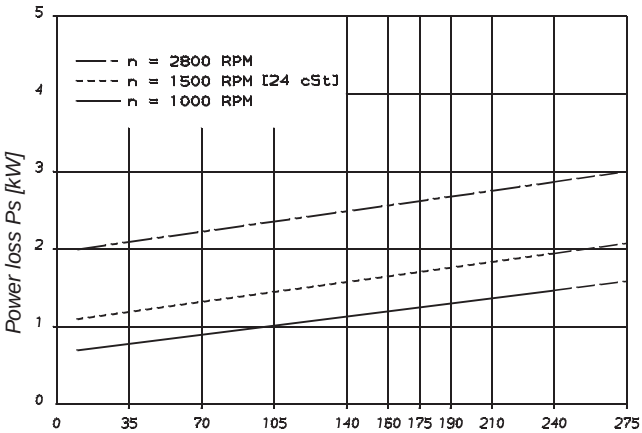
Do not operate the pump more than 5 seconds at any speed or viscosity if internal leakage is more than 50 % of theoretical flow.

NOISE LEVEL (TYPICAL) T6CM - B22



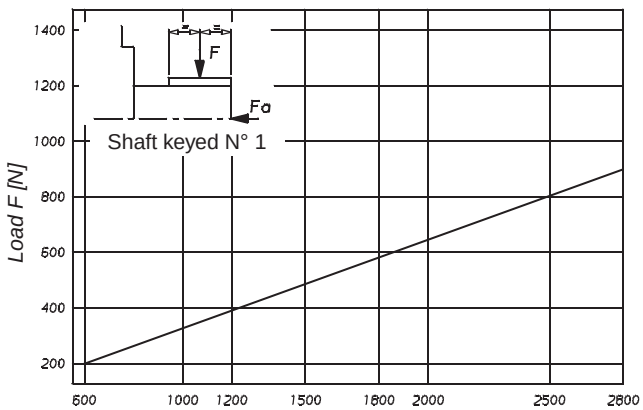
Pressure p [bar]

POWER LOSS HYDROMECHANICAL (TYPICAL)



Pressure p [bar]

PERMISSIBLE RADIAL LOAD



Speed n [RPM]

Maximum permissible axial load Fa = 800 N

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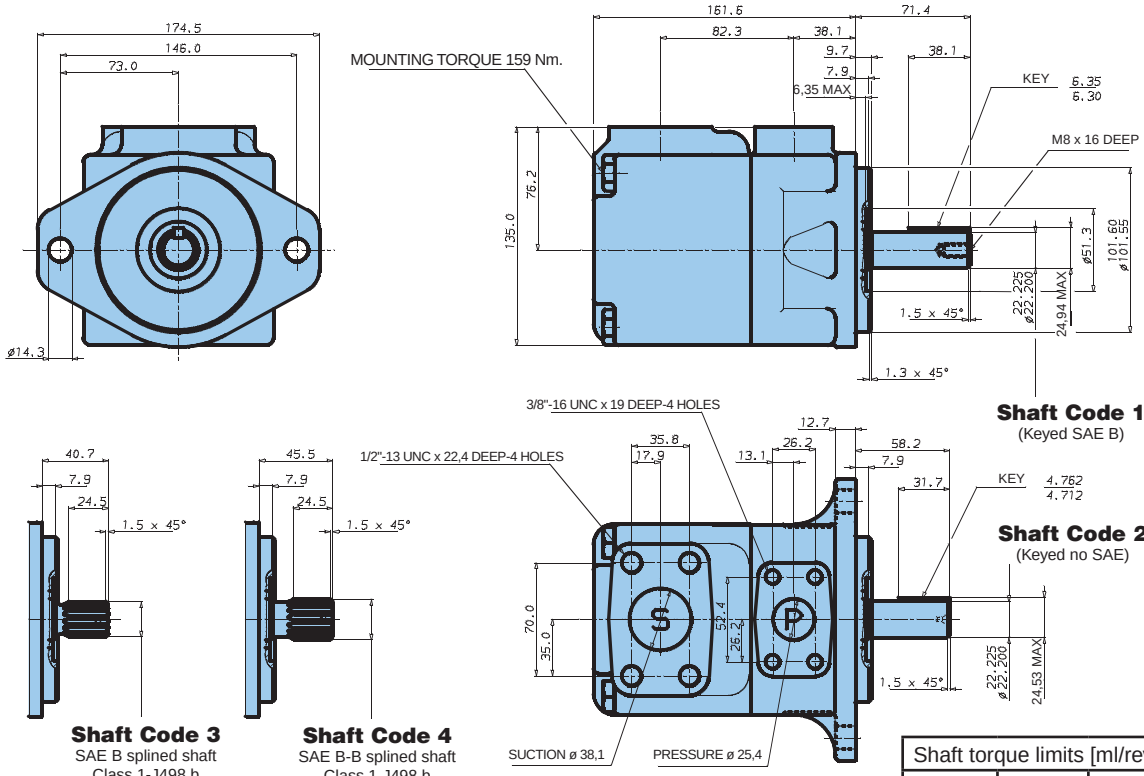


Shaft Code 1
(Keyed SAE B)

Shaft Code 2
(Keyed no SAE)

Shaft Code 3
SAE B splined shaft
Class 1-J498 b
16/32 d.p -13 teeth
30° pressure angle
flot root side fit

Shaft Code 4
SAE B-B splined shaft
Class 1-J498 b
16/32 d.p. -15 teeth
30° pressure angle
flat root side fit

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 1500	10,8 16,2	- 10,7	- -	1,0 1,3	- 5,3	- -
B05	17,2 ml/rev	1000 1500	17,2 25,8	11,7 20,3	 15,8	1,1 1,4	5,1 7,5	- 12,2
B06	21,3 ml/rev	1000 1500	21,3 31,9	15,8 26,5	11,3 22,0	1,1 1,5	6,0 8,9	10,0 14,7
B08	26,4 ml/rev	1000 1500	26,4 39,6	20,9 34,1	16,4 29,6	1,2 1,6	7,2 10,7	12,1 17,7
B10	34,1 ml/rev	1000 1500	34,1 51,1	28,6 45,7	24,1 41,2	1,3 1,7	8,9 13,4	15,1 22,3
B12	37,1 ml/rev	1000 1500	37,1 55,6	31,6 50,2	27,1 45,7	1,3 1,7	9,6 14,4	16,3 24,1
B14	46,0 ml/rev	1000 1500	46,0 69,0	40,5 63,5	36,0 59,0	1,4 1,9	11,7 17,6	19,9 29,5
B17	58,3 ml/rev	1000 1500	58,3 87,4	52,8 82,0	48,3 77,5	1,6 2,1	14,5 21,9	24,8 36,9
B20	63,8 ml/rev	1000 1500	63,8 95,7	58,3 90,2	53,8 85,7	1,6 2,2	15,8 23,8	27,0 40,2
B22	70,3 ml/rev	1000 1500	70,3 105,4	64,8 100,0	60,3 95,5	1,7 2,3	17,3 26,1	29,6 44,1
B25[1)]	79,3 ml/rev	1000 1500	79,3 118,9	73,8 113,5	69,3 109,0	1,8 2,5	19,3 29,2	33,2 49,5
B28[1)]	88,8 ml/rev	1000 1500	88,8 133,2	83,3 127,7	80,1[2)] 124,5[2)]	1,9 2,8	21,9 32,7	32,5[2)] 48,5[2)]
B31[1)]	100,0 ml/rev	1000 1500	100,0 150,0	94,5 144,5	91,3[2)] 141,3[2)]	2,0 2,8	24,4 36,5	36,4[2)] 54,4[2)]

[1)] B25 - B28 - B31 = 2500 R.P.M. max. *[2)] 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*

Parker Hannifin SAS
VPDE, Denison Vane Pumps
Vierzon - France

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
B17 = 87,4 l/min
B20 = 95,7 l/min
B22 = 105,4 l/min
B25 = 118,9 l/min
B28 = 133,2 l/min
B31 = 150,0 l/min

Type of shaft
2 = keyed (no SAE)
3 = splined (SAE C)

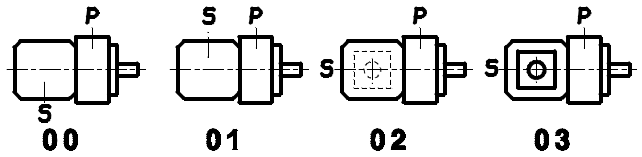
Modification

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

Design letter

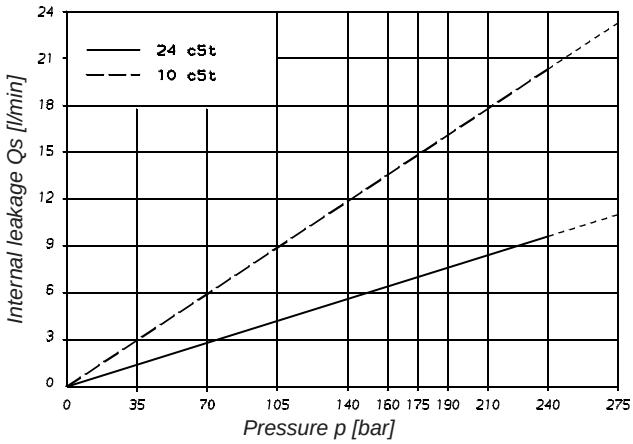
Porting combination
00 = standard

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

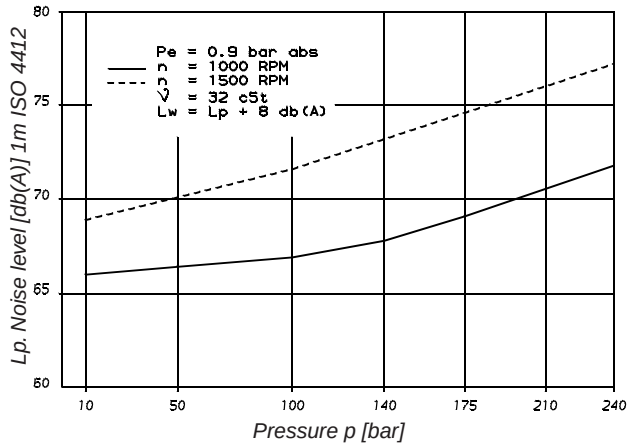


P = Pressure port
S = Suction port

INTERNAL LEAKAGE (TYPICAL)

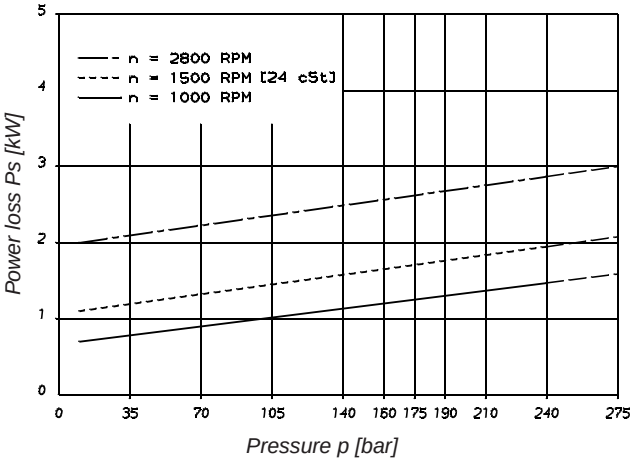


NOISE LEVEL (TYPICAL)
T6CP - B22

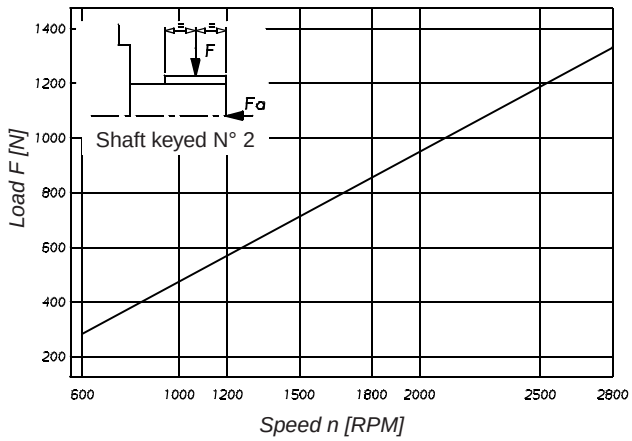


Do not operate the pump more than 5 seconds at any speed or viscosity if internal leakage is more than 50 % of theoretical flow.

POWER LOSS HYDROMECHANICAL (TYPICAL)

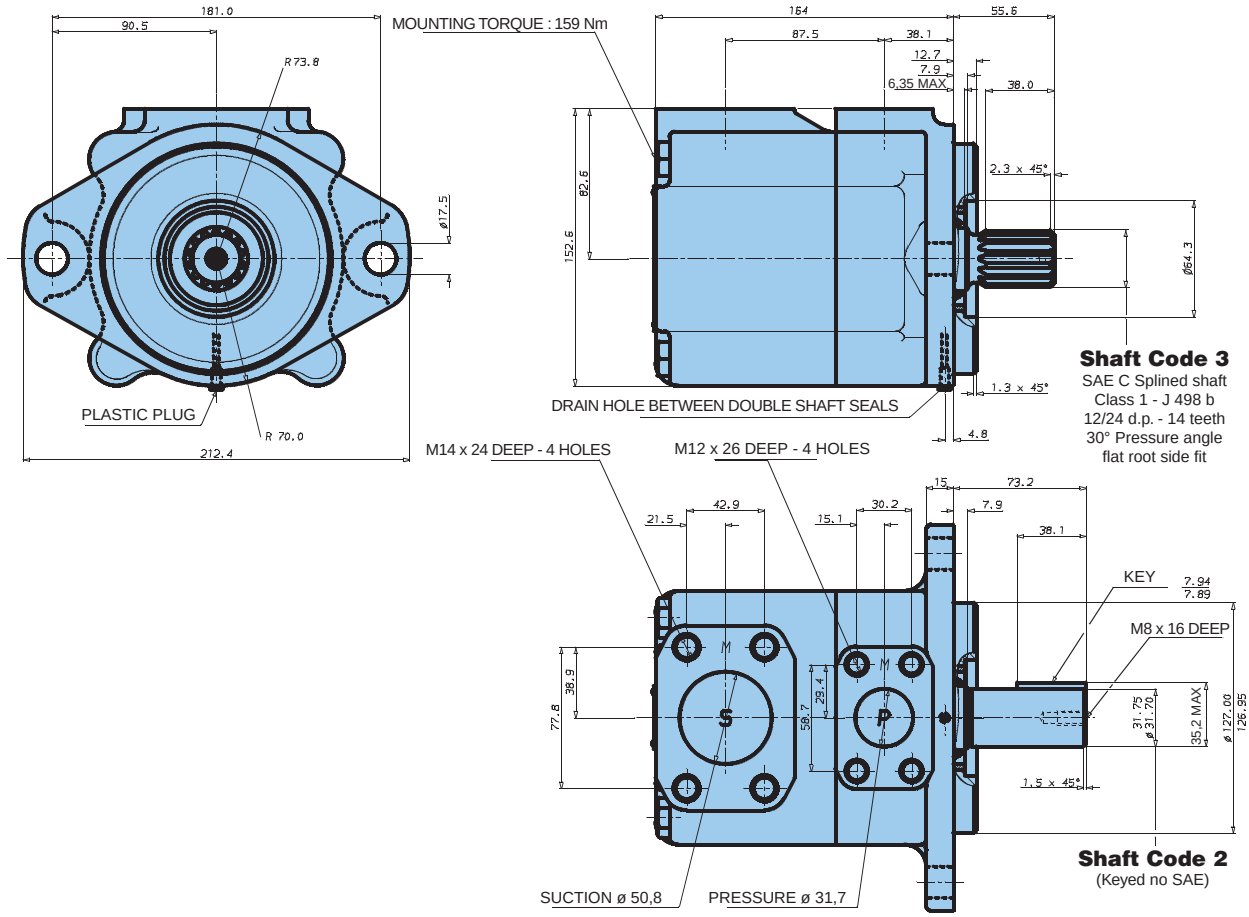


PERMISSIBLE RADIAL LOAD



Maximum permissible axial load Fa = 800 N

Parker Hannifin SAS
VPDE, Denison Vane Pumps
Vierzon - France



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 1500	46,0 69,0	40,5 63,5	36,0 59,0	1,4 1,9	11,7 17,6	19,9 29,5
B17	58,3 ml/rev	1000 1500	58,3 87,4	52,8 82,0	48,3 77,5	1,6 2,1	14,5 21,9	24,8 36,9
B20	63,8 ml/rev	1000 1500	63,8 95,7	58,3 90,2	53,8 85,7	1,6 2,2	15,8 23,8	27,0 40,2
B22	70,3 ml/rev	1000 1500	70,3 105,4	64,8 100,0	60,3 95,5	1,7 2,3	17,3 26,1	29,6 44,1
B25[1)]	79,3 ml/rev	1000 1500	79,3 118,9	73,8 113,5	69,3 109,0	1,8 2,5	19,3 29,2	33,2 49,5
B28[1)]	88,8 ml/rev	1000 1500	88,8 133,2	83,3 127,7	80,1[2)] 124,5[2)]	1,9 2,8	21,9 32,7	32,5[2)] 48,5[2)]
B31[1)]	100,0 ml/rev	1000 1500	100,0 150,0	94,5 144,5	91,3[2)] 141,3[2)]	2,0 2,8	24,4 36,5	36,4[2)] 54,4[2)]

[1)] B25 - B28 - B31 = 2500 R.P.M. max.

[2)] B28 - B31 = 210 bar max. int.

Parker Hannifin SAS
VPDE, Denison Vane Pumps
Vierzon - France

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	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	

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)

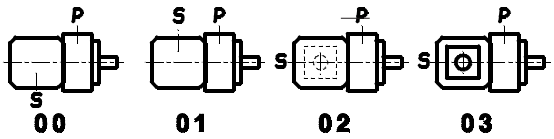
Modification

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

Design letter

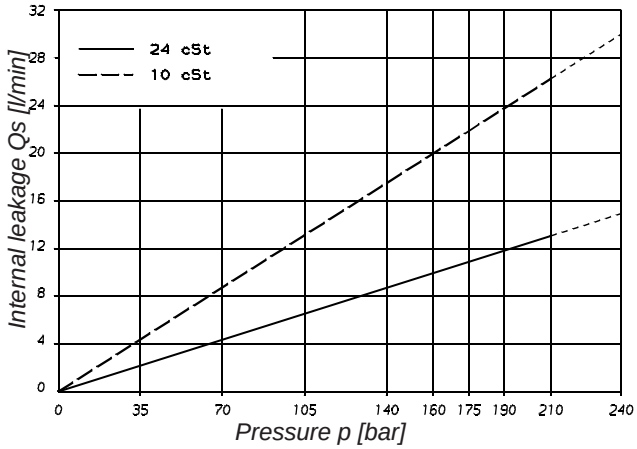
Porting combination
00 = standard

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

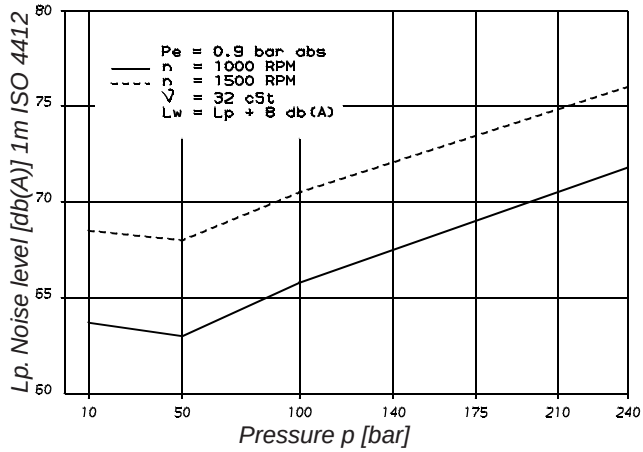


P = Pressure port
S = Suction port

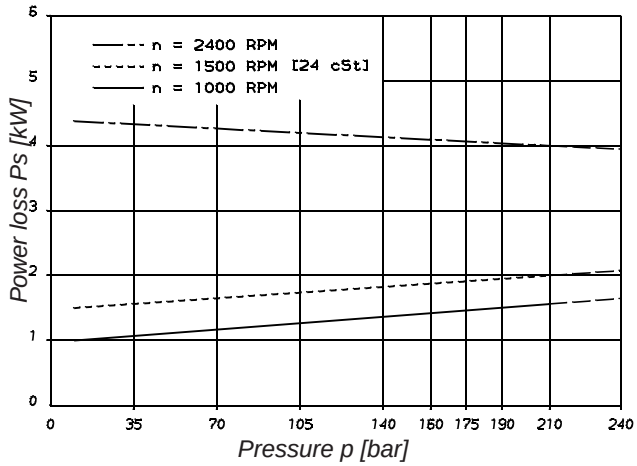
INTERNAL LEAKAGE (TYPICAL)



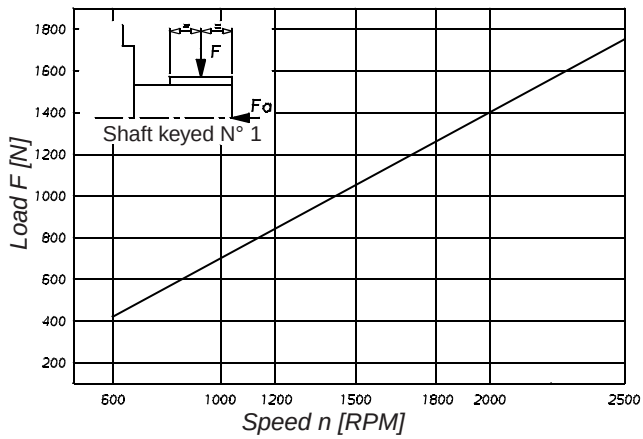
NOISE LEVEL (TYPICAL)
T6DM - B38



POWER LOSS HYDROMECHANICAL (TYPICAL)

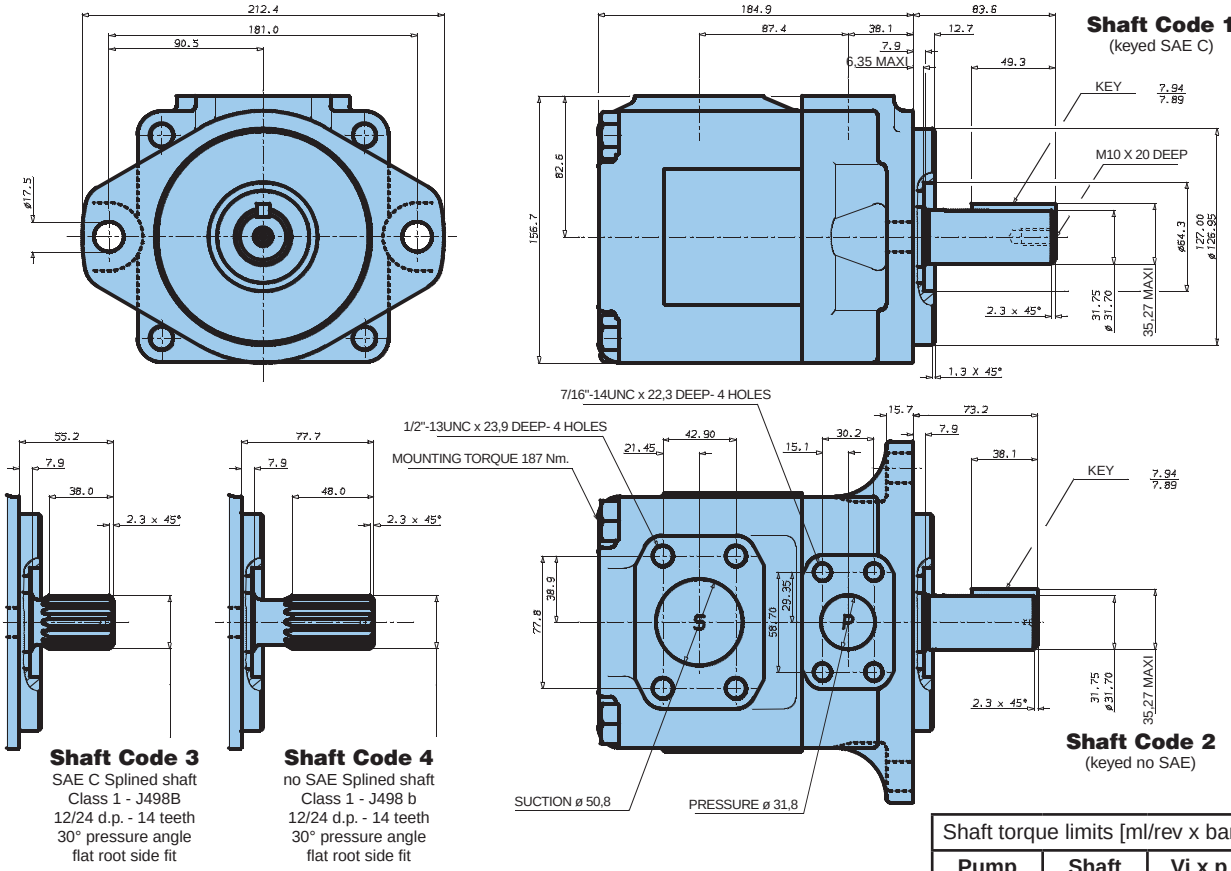


PERMISSIBLE RADIAL LOAD



Maximum permissible axial load Fa = 1200 N

Parker Hannifin SAS
VPDE, Denison Vane Pumps
Vierzon - France



Shaft torque limits [ml/rev x bar]		
Pump	**Shaft**	**Vi x p max.**
T6DM	1	43240
	2	34590
	3	61200
	4	61200

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

[1)] B42 - B45 - B50 = 2200 R.P.M. max. *[2)] B50 = 210 bar max. int.* *Port connection can be furnished with metric threads.*

Parker Hannifin SAS
VPDE, Denison Vane Pumps
Vierzon - France

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

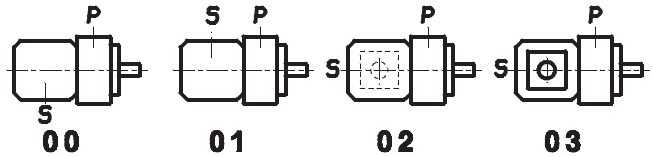
Modification

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

Design letter

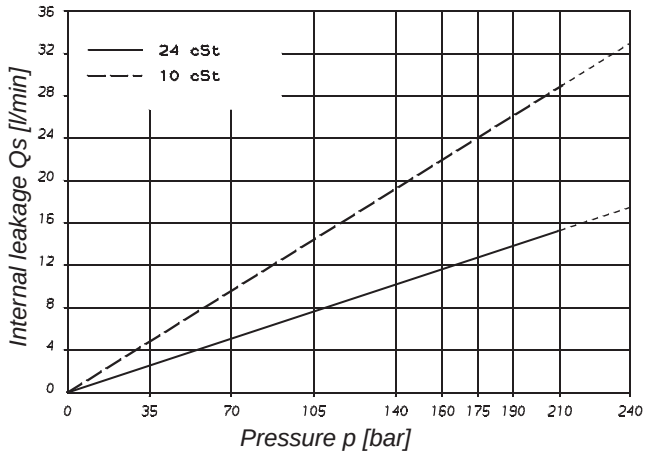
Porting combination
00 = standard

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

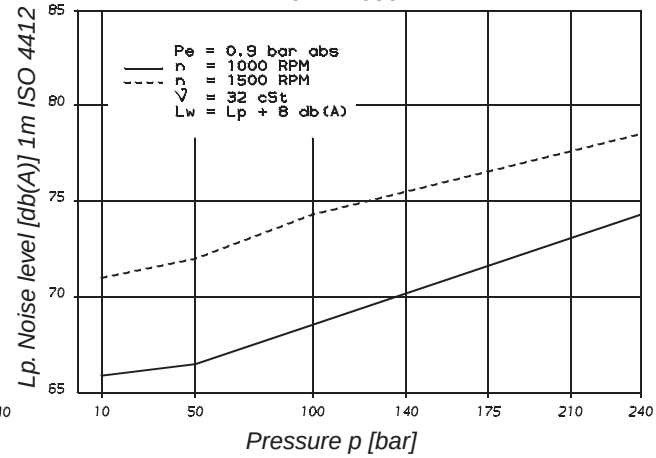


P = Pressure port
S = Suction port

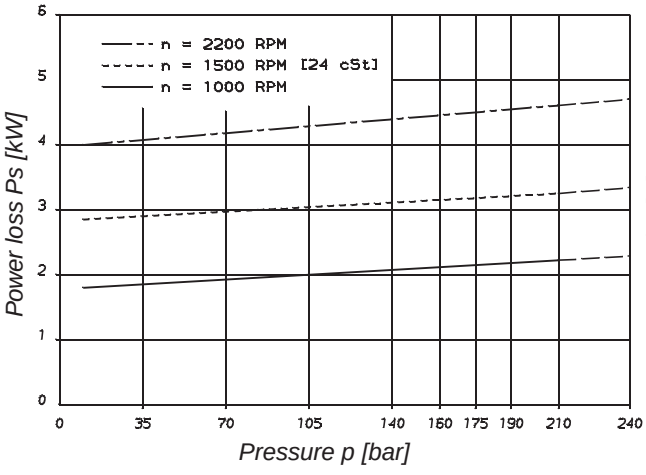
INTERNAL LEAKAGE (TYPICAL)



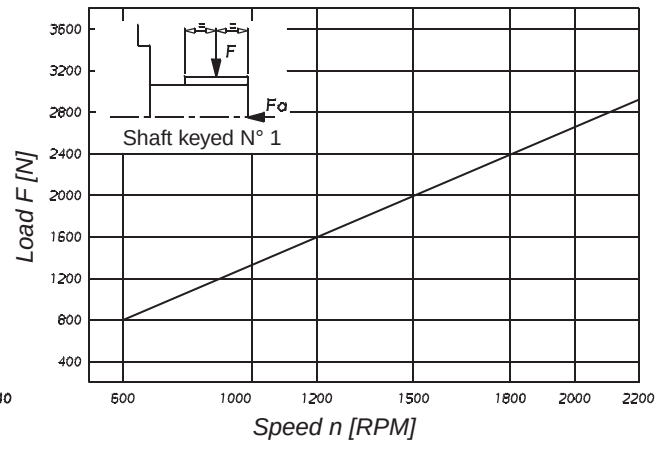
NOISE LEVEL (TYPICAL)
T6EM - 050



POWER LOSS HYDROMECHANICAL (TYPICAL)

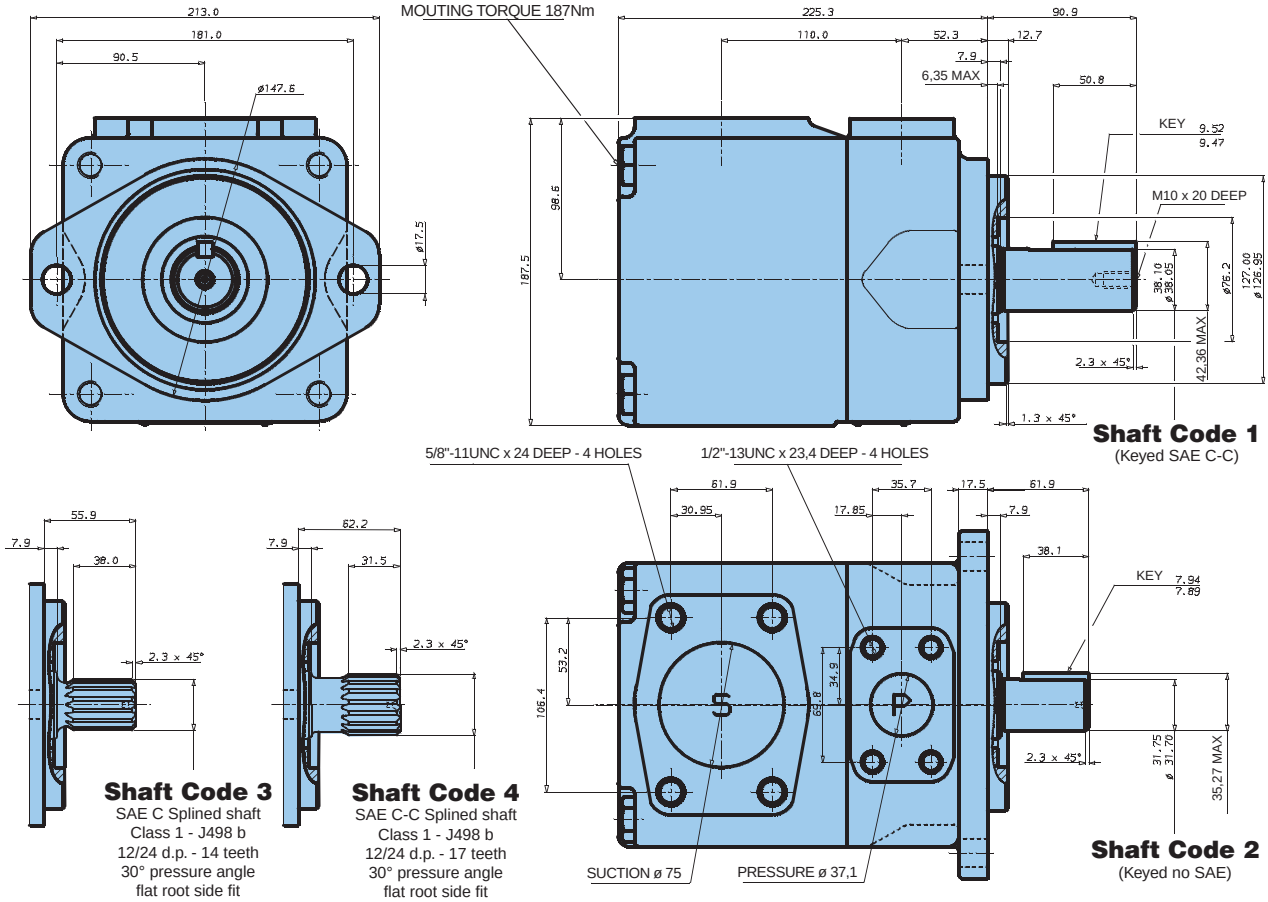


PERMISSIBLE RADIAL LOAD



Maximum permissible axial load Fa = 2000 N

Parker Hannifin SAS
VPDE, Denison Vane Pumps
Vierzon - France



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 1500	132,3 198,5	122,3 188,5	115,2 181,3	3,2 5,2	32,9 49,4	55,2 82,6
045	142,4 ml/rev	1000 1500	142,4 213,6	132,4 203,6	125,3 196,5	3,4 5,4	35,3 52,9	59,2 88,7
050	158,5 ml/rev	1000 1500	158,5 237,7	148,5 227,7	141,4 220,6	3,5 5,7	39,0 58,5	65,6 98,3
052	164,8 ml/rev	1000 1500	164,8 247,2	154,8 237,2	147,7 230,1	3,6 5,8	40,5 60,8	68,2 102,1
062	196,7 ml/rev	1000 1500	196,7 295,0	186,7 285,0	179,6 277,9	4,0 6,4	47,9 71,9	80,9 121,3
066	213,3 ml/rev	1000 1500	213,3 319,9	203,3 309,9	196,2 302,8	4,2 6,7	51,8 77,7	87,6 131,2
072	227,1 ml/rev	1000 1500	227,1 340,6	217,1 330,6	210,0 323,5	4,3 6,9	55,0 82,6	93,1 139,5

Port connection can be furnished with metric threads.

Parker Hannifin SAS
VPDE, Denison Vane Pumps
Vierzon - France

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	

P1 P2

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)

Type of shaft
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 most be always mounted in the front.

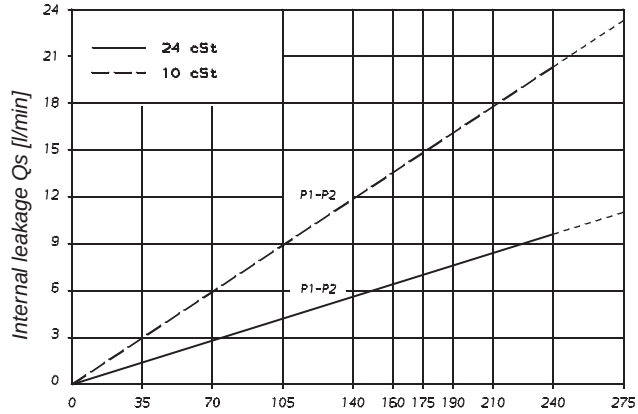
Seal Class
1 = S1 (for mineral oil)
4 = S4 (for the resistant fluids)
5 = S5 (for mineral oil and fire resistant fluids)

Design letter

Porting combination (see page 34)
00 = standard

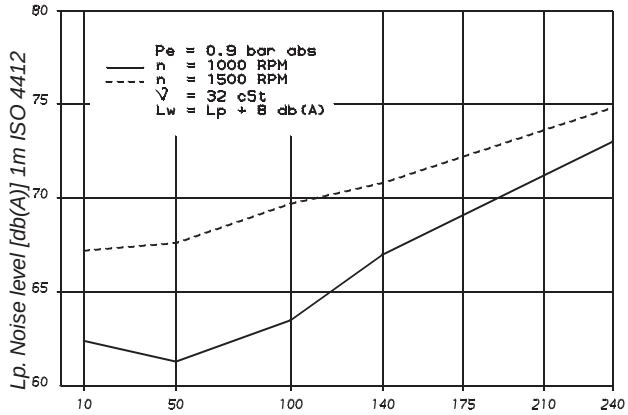
Direct. of rotation (view on shaft end)
R = clockwise
L = counter-clockwise

INTERNAL LEAKAGE (TYPICAL)



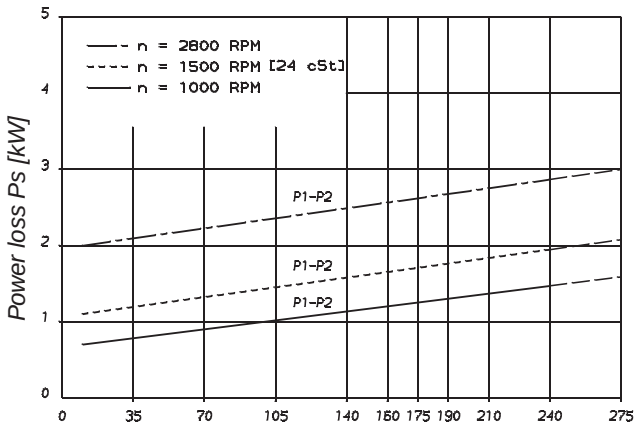
Do not operate the pump more than 5 seconds at any speed or viscosity if internal leakage is more than 50 % of theoretical flow. Total leakage is the sum of each section loss at its operating conditions.

NOISE LEVEL (TYPICAL)
T6CCM - B22 - B22



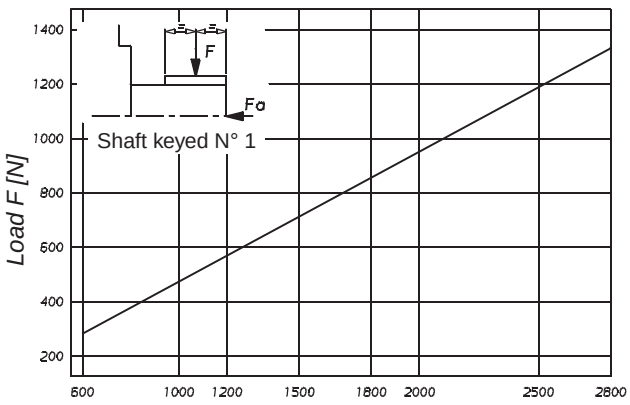
Double pump noise level is given with each section discharging at the pressure noted on the curve.

POWER LOSS HYDROMECHANICAL (TYPICAL)



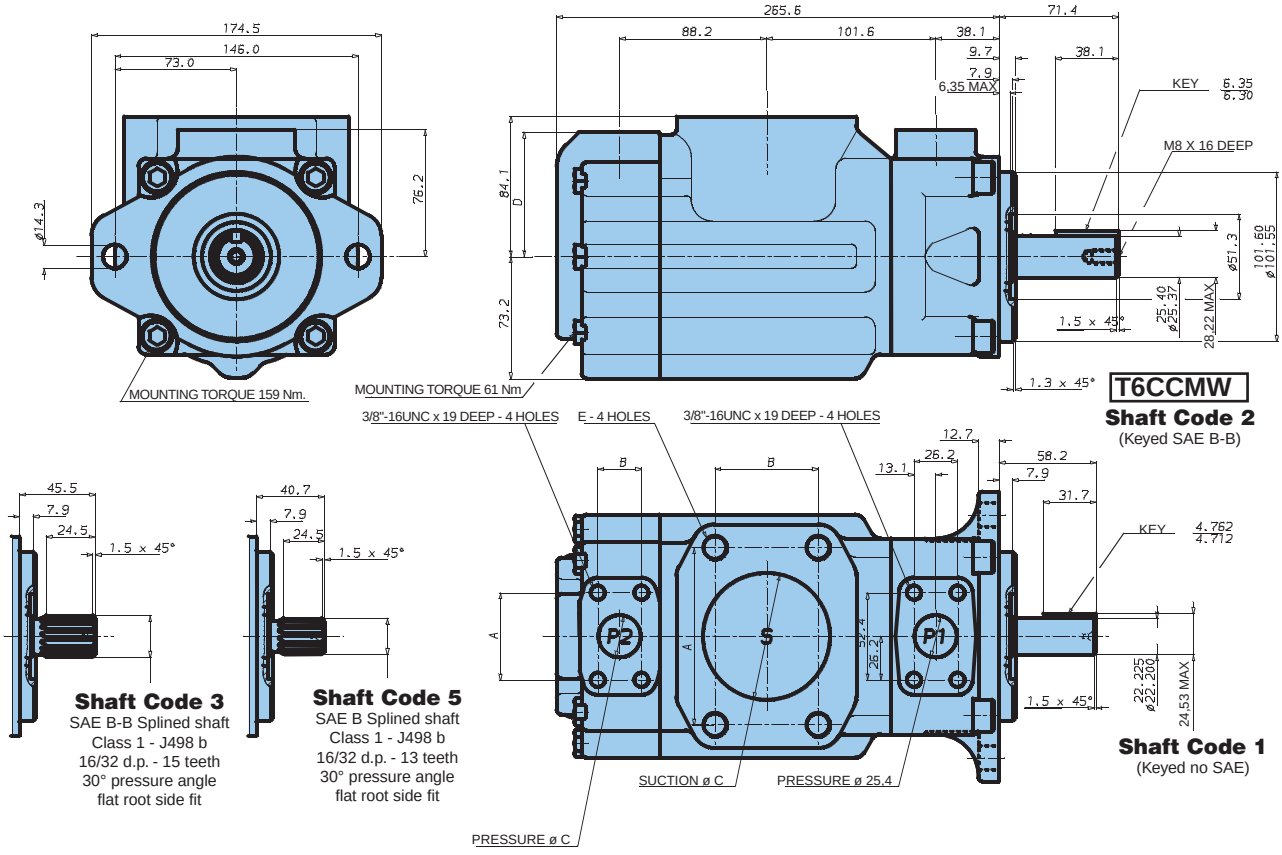
Total hydrodynamic power loss is the sum of each section at its operating conditions.

PERMISSIBLE RADIAL LOAD



Maximum permissible axial load Fa = 800 N

Parker Hannifin SAS
VPDE, Denison Vane Pumps
Vierzon - France



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[1)]	79,3 ml/rev	118,9	113,5	109,0	2,5	29,2	49,5
	B28[1)]	88,8 ml/rev	133,2	127,7	124,5[2)]	2,8	32,7	48,5[2)]
	B31[1)]	100,0 ml/rev	15,0	144,5	141,3[2)]	2,8	36,5	54,4[2)]

[1)] B25 - B28 - B31 = 2500 R.P.M. max. *[2)] 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" (P1)
(Delivery at 0 bar & 1500 r.p.m.)
B14 = 71,4 l/min
B17 = 87,3 l/min
B20 = 99,0 l/min
B24 =119,3l/min
B28 =134,5l/min
B31 =147,4l/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

Cam ring for "P2" (P2)
(Delivery at 0 bar & 1500 r.p.m.)
B03 = 16,2 l/min
B05 = 25,8 l/min
B06 = 31,9 l/min
B08 = 39,6 l/min
B10 = 51,1 l/min
B12 = 55,6 l/min
B14 = 69,0 l/min
B17 = 87,4 l/min
B20 = 95,7 l/min
B22 = 105,4 l/min
B25 = 118,9 l/min
B28 = 133,2 l/min
B31 = 150,0 l/min

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)

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

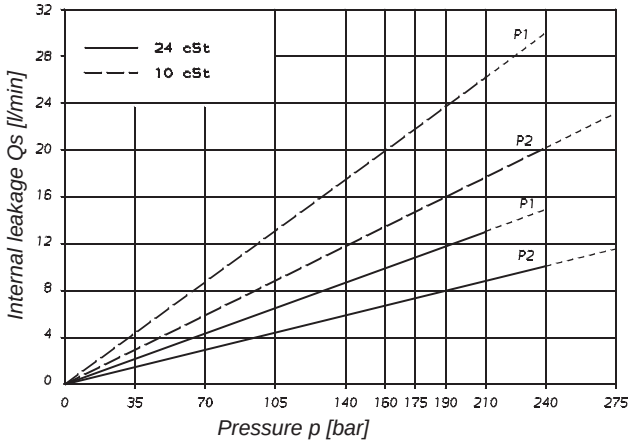
Porting combination (see page 34)
00 = standard

Design letter

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

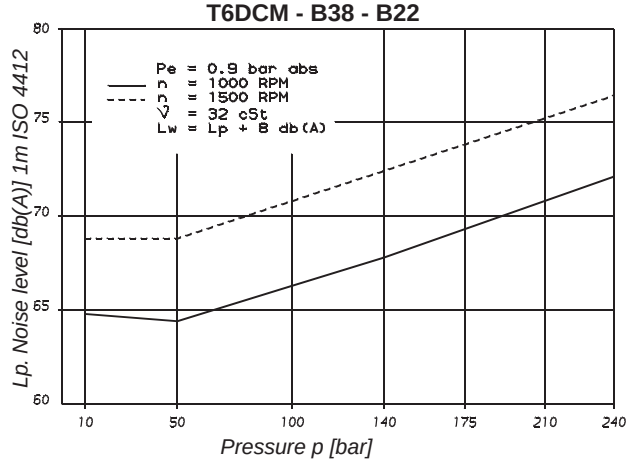
Modification

INTERNAL LEAKAGE (TYPICAL)



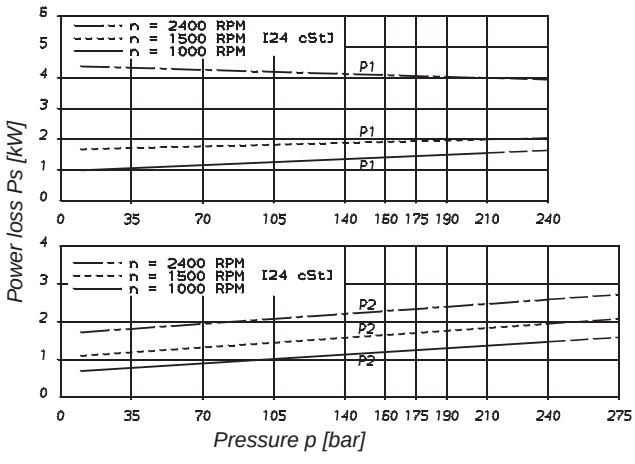
Do not operate the pump more than 5 seconds at any speed or viscosity if internal leakage is more than 50 % of theoretical flow. Total leakage is the sum of each section loss at its operating conditions.

NOISE LEVEL (TYPICAL)
T6DCM - B38 - B22



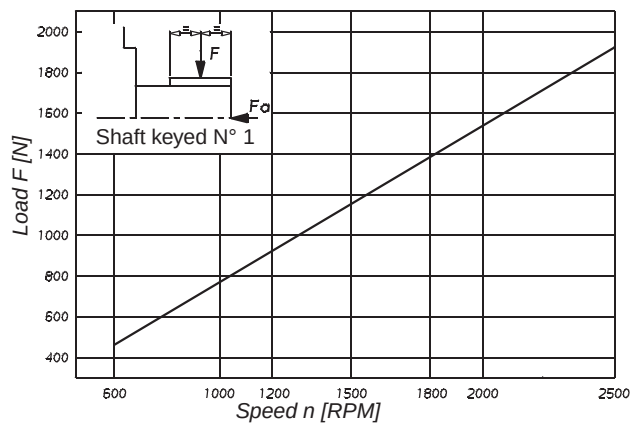
Double pump noise level is given with each section discharging at the pressure noted on the curve.

POWER LOSS HYDROMECHANICAL (TYPICAL)



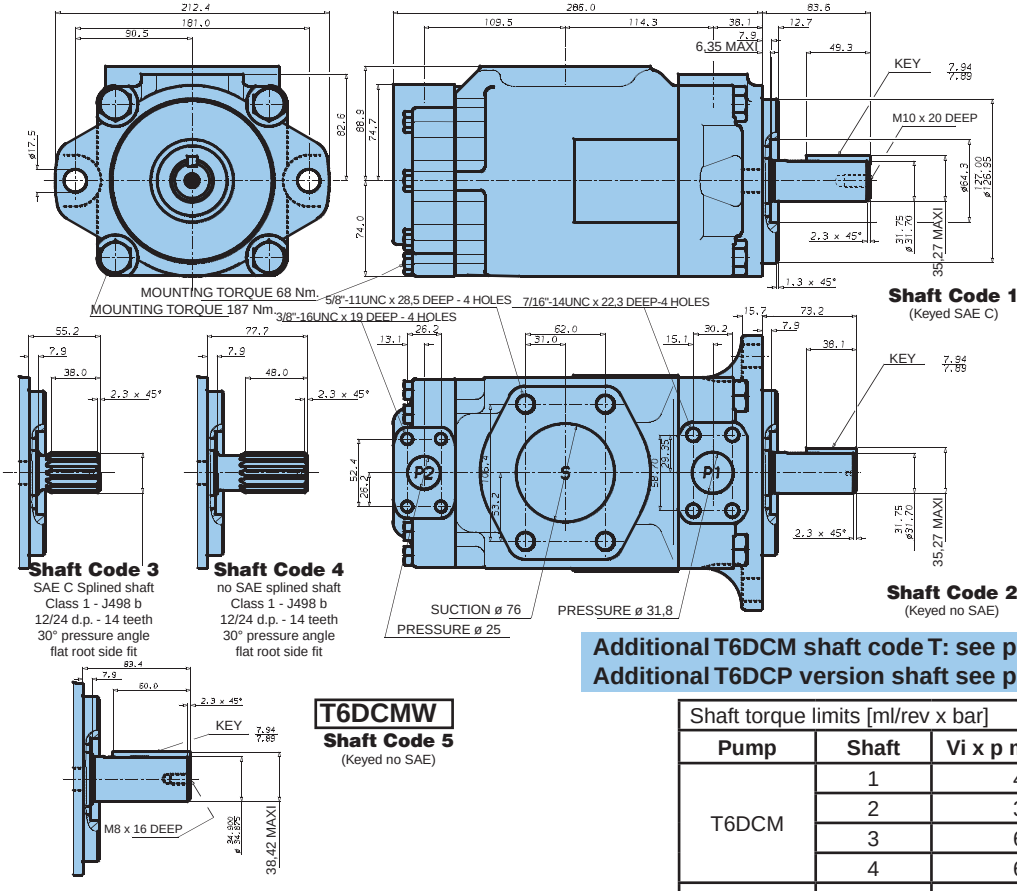
Total hydrodynamic power loss is the sum of each section at its operating conditions.

PERMISSIBLE RADIAL LOAD



Maximum permissible axial load Fa = 1200 N

Parker Hannifin SAS
VPDE, Denison Vane Pumps
Vierzon - France



T6DCMW
Shaft Code 5
(Keyed no SAE)

Additional T6DCM shaft code T: see page 33
Additional T6DCP version shaft see page 33

Shaft torque limits [ml/rev x bar]		
Pump	**Shaft**	**Vi x p max. P1 + P2**
T6DCM	1	43240
	2	34590
	3	61200
	4	61200
T6DCMW	5	55600

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[2)]	136,0 ml/rev	204,0	194,7	188,5	4,0	49,4	83,7
	B45[2)]	145,7 ml/rev	218,5	209,2	203,0	4,1	52,8	89,5
	B50[2)]	158,0 ml/rev	237,0	227,7	224,0[1)]	4,4	57,0	85,0[1)]
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[1)]	2,8	32,7	48,5[1)]
	B31	100,0 ml/rev	150,0	144,5	141,3[1)]	2,8	36,5	54,4[1)]

[1)] B28 - B31 - B50 = 210 bar max. int. *[2)] 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.*

Parker Hannifin SAS
VPDE, Denison Vane Pumps
Vierzon - France

Model No. **T6EC* - 066 - B22 - 1 R 00 - C 1 -**

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

P1

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

P2

Cam ring for "P2"
(Delivery at 0 bar & 1500 r.p.m.)
B03 = 16,2 l/min
B05 = 25,8 l/min
B06 = 31,9 l/min
B08 = 39,6 l/min
B10 = 51,1 l/min
B12 = 55,6 l/min
B14 = 69,0 l/min
B17 = 87,4 l/min
B20 = 95,7 l/min
B22 = 105,4 l/min
B25 = 118,9 l/min
B28 = 133,2 l/min
B31 = 150,0 l/min

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)

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

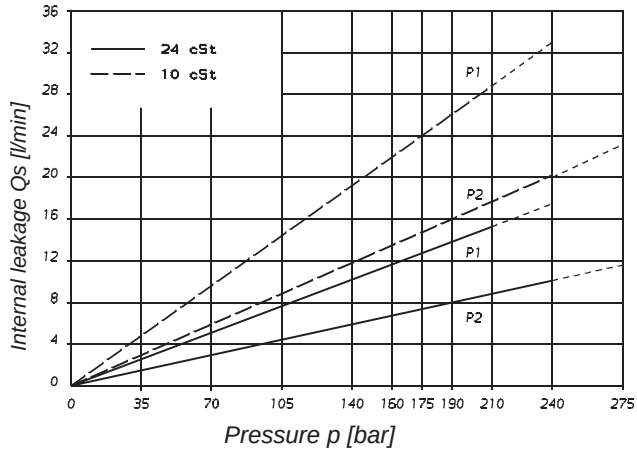
Porting combination (see page 34)
00 = standard

Design letter

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

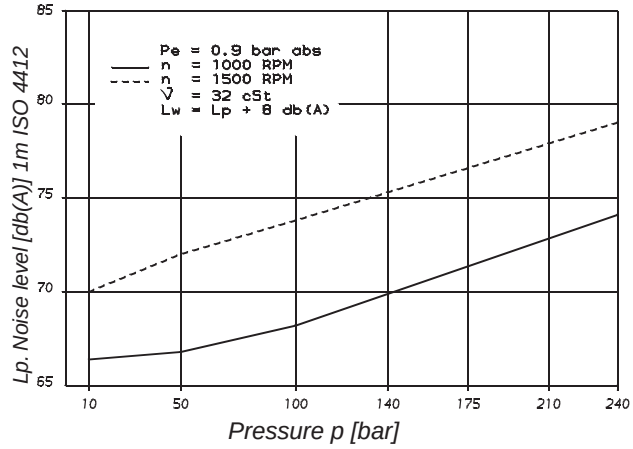
Modification

INTERNAL LEAKAGE (TYPICAL)



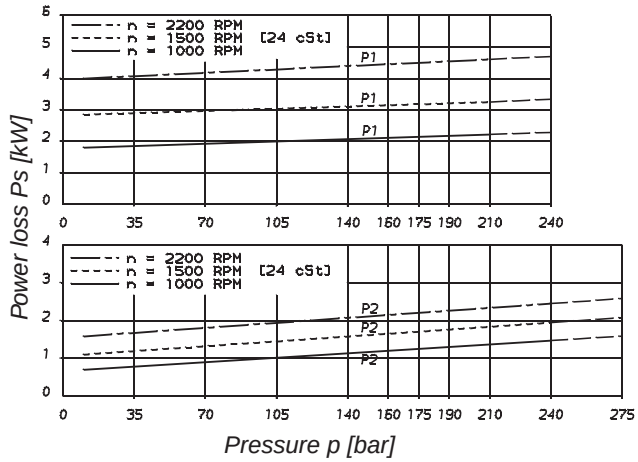
Do not operate the pump more than 5 seconds at any speed or viscosity if internal leakage is more than 50% of theoretical flow. Total leakage is the sum of each section loss at its operating conditions.

NOISE LEVEL (TYPICAL)
T6ECM - 050 - B22



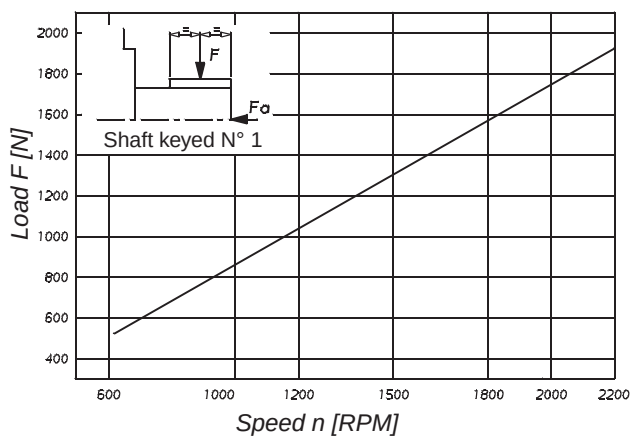
Double pump noise level is given with each section discharging at the pressure noted on the curve.

POWER LOSS HYDROMECHANICAL (TYPICAL)



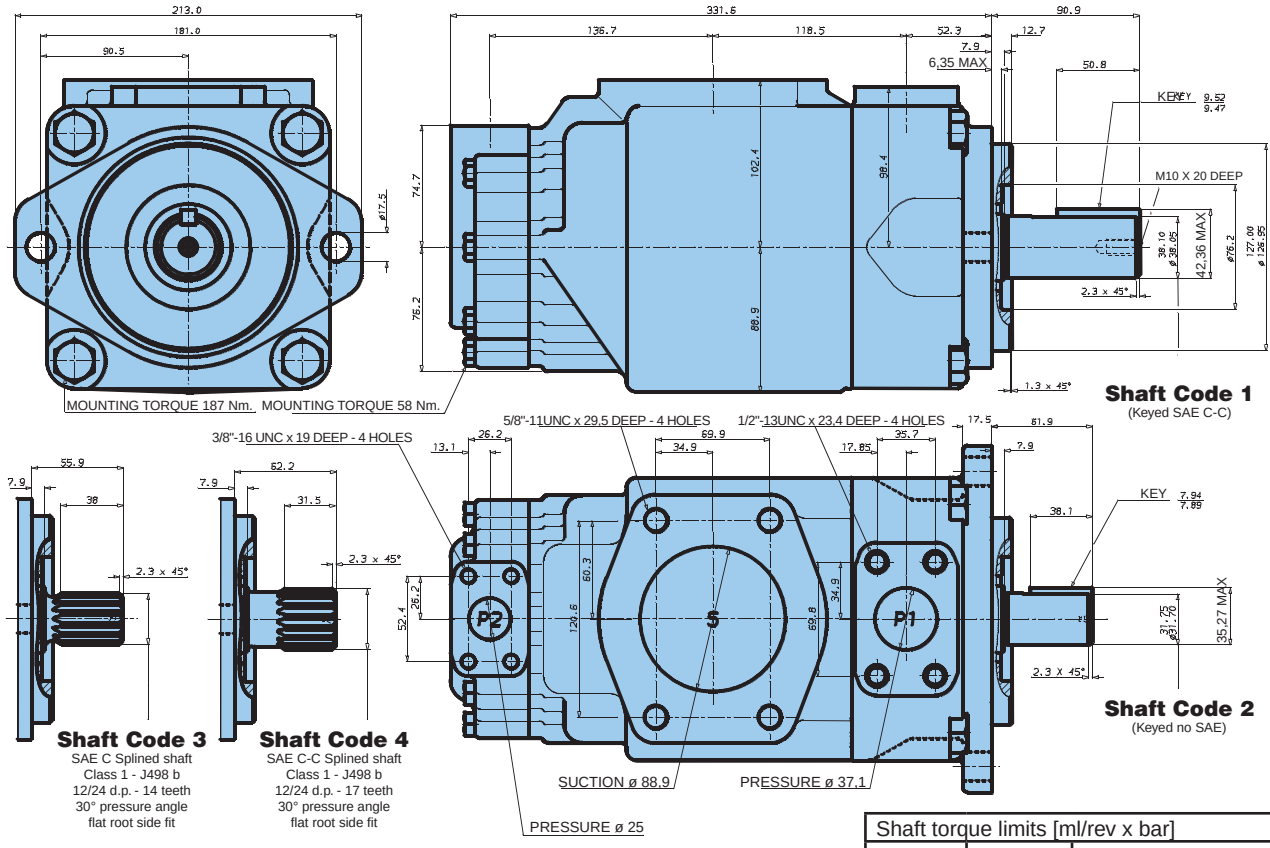
Total hydrodynamic power loss is the sum of each section at its operating conditions.

PERMISSIBLE RADIAL LOAD



Maximum permissible axial load Fa = 2000 N

Parker Hannifin SAS
VPDE, Denison Vane Pumps
Vierzon - France



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

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

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[1)]	2,8	32,7	48,5[1)]
	B31	100,0 ml/rev	150,0	144,5	141,3[1)]	2,8	36,5	54,4[1)]

[1)] 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.

Parker Hannifin SAS
VPDE, Denison Vane Pumps
Vierzon - France

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

Cam ring for "P2" (P2)
(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
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)

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

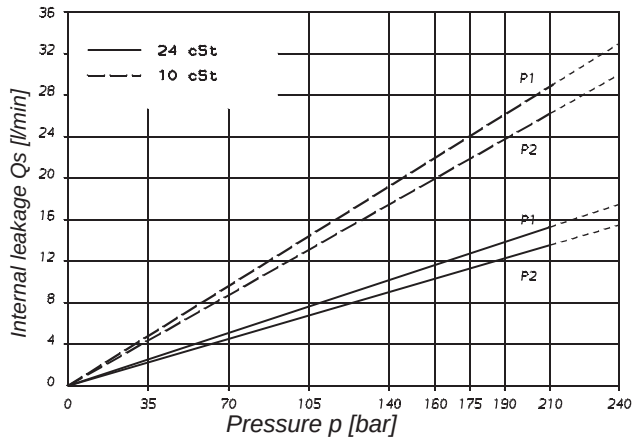
Porting combination (see page 34)
00 = standard

Design letter

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

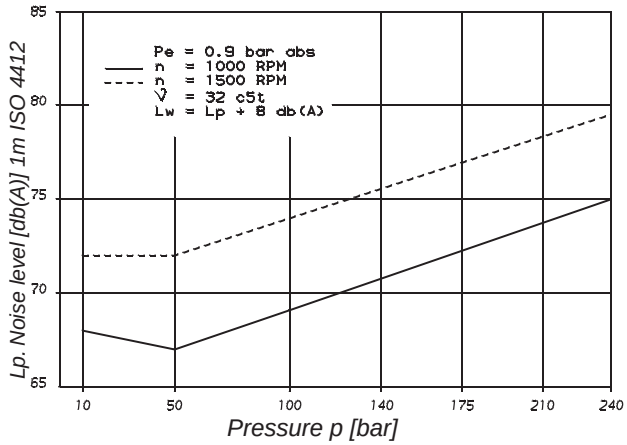
Modification

INTERNAL LEAKAGE (TYPICAL)



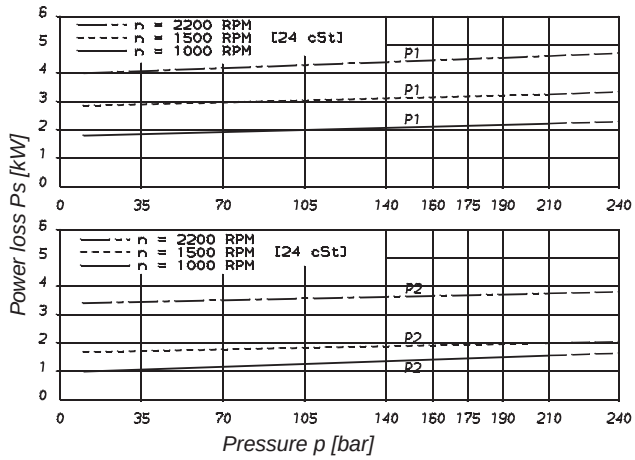
Total leakage is the sum of each section loss at its operating conditions.

NOISE LEVEL (TYPICAL)
T6EDM - 050 - B38



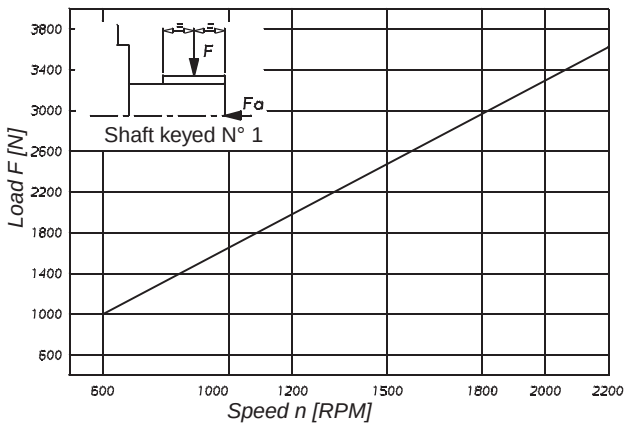
Double pump noise level is given with each section discharging at the pressure noted on the curve.

POWER LOSS HYDROMECHANICAL (TYPICAL)



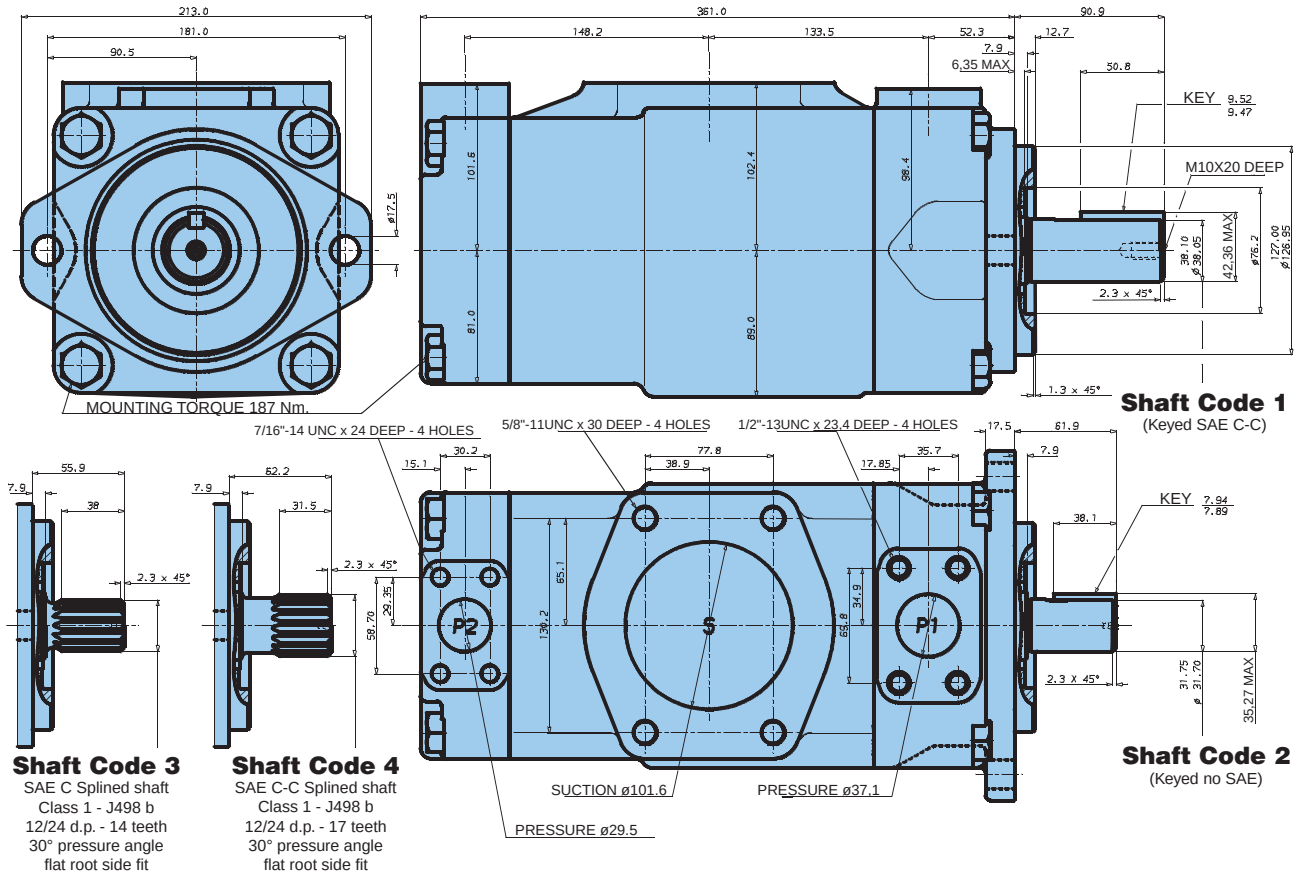
Total hydrodynamic power loss is the sum of each section at its operating conditions.

PERMISSIBLE RADIAL LOAD



Maximum permissible axial load Fa = 2000 N

Parker Hannifin SAS
VPDE, Denison Vane Pumps
Vierzon - France



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

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

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[1)]	4,4	57,0	85,0[1)]

[1)] B50 = 210 bar max. int. *Port connection can be furnished with metric threads.*

Parker Hannifin SAS
VPDE, Denison Vane Pumps
Vierzon - France

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

Series

P1 P2 P3

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"	3/4"
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

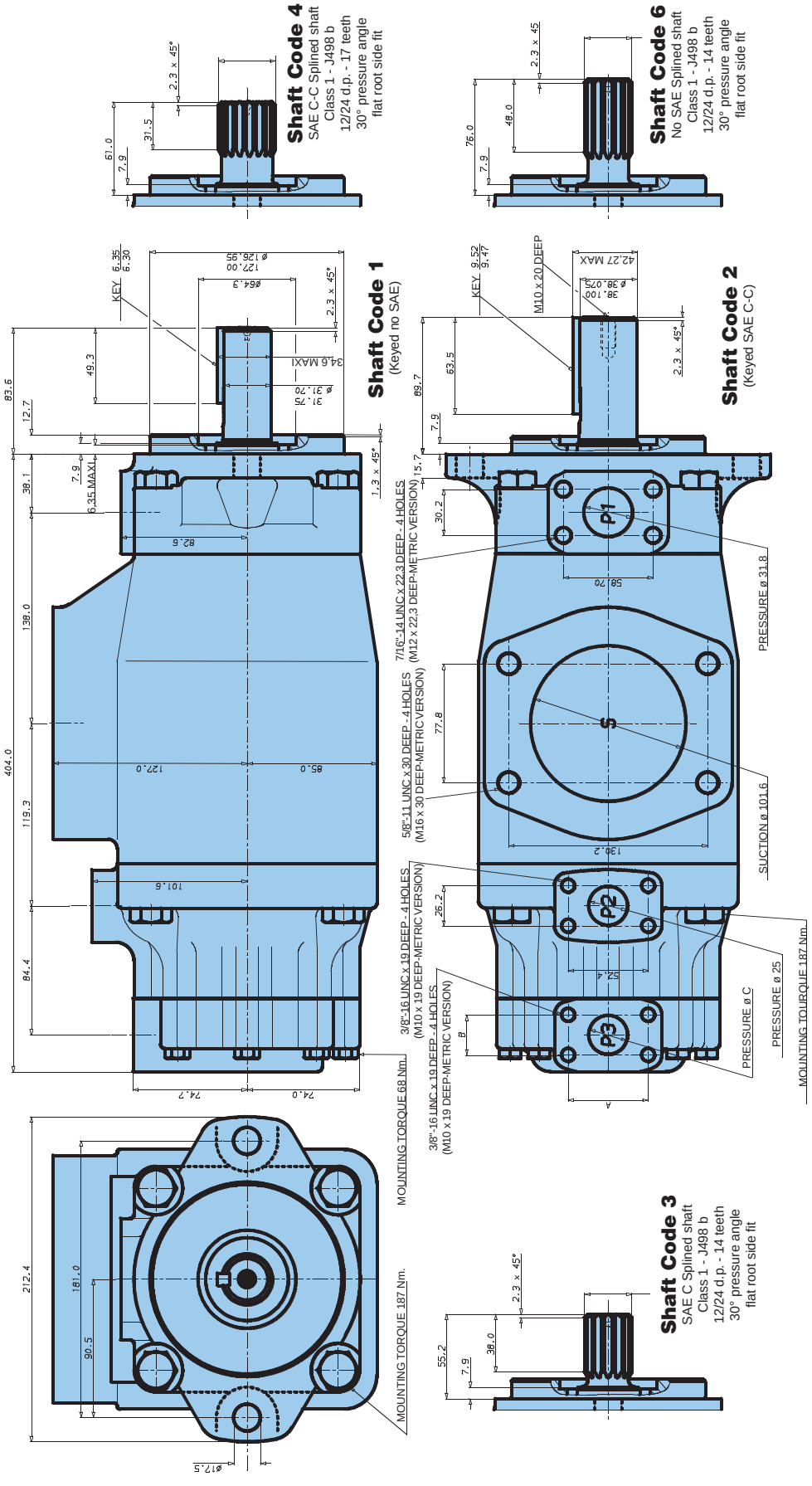
Direct. of rotation (view on shaft end)
R = clockwise
L = counter-clockwise

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[2)]	136.0 ml/rev	204.0	194.7	188.5	4.0	49.4	83.7
	B45[2)]	145.7 ml/rev	218.5	209.2	203.0	4.1	52.8	89.5
	B50[2)]	158.0 ml/rev	237.0	227.7	224.0[1)]	4.4	57.0	85.0[1)]
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[1)]	2.8	32.7	48.5[1)]
	B31	100.0 ml/rev	150.0	144.5	141.3[1)]	2.8	36.5	54.4[1)]

[1)] B28 - B31 - B50 = 210 bar max. int. *[2)] 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

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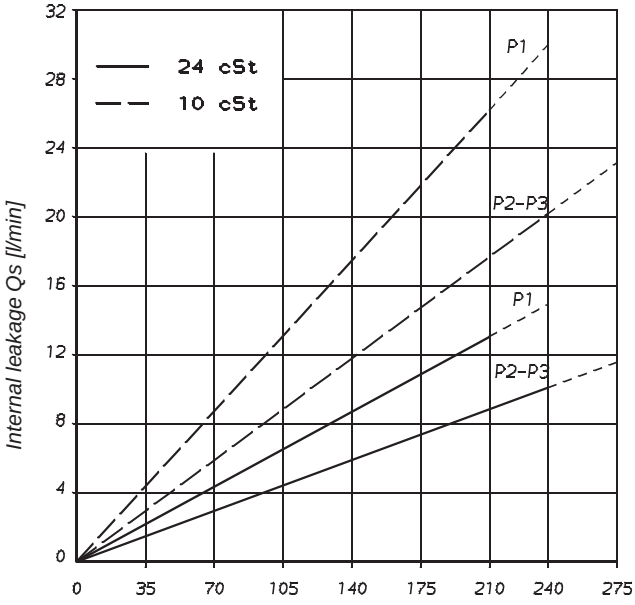
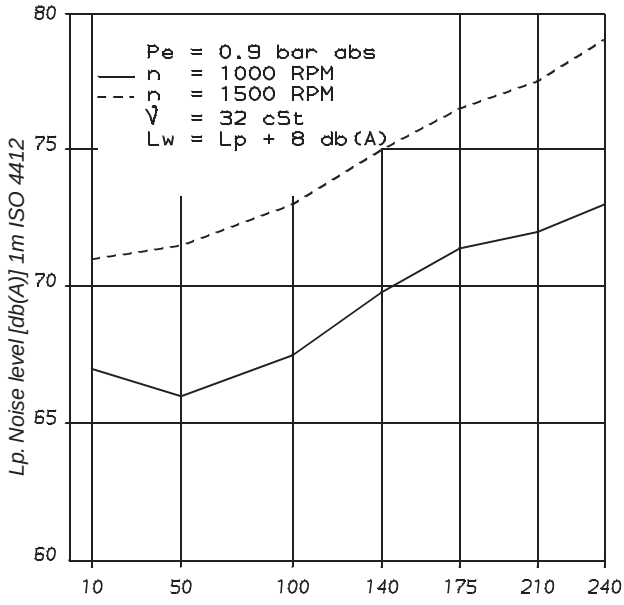
INTERNAL LEAKAGE (TYPICAL)



Pressure p [bar]

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

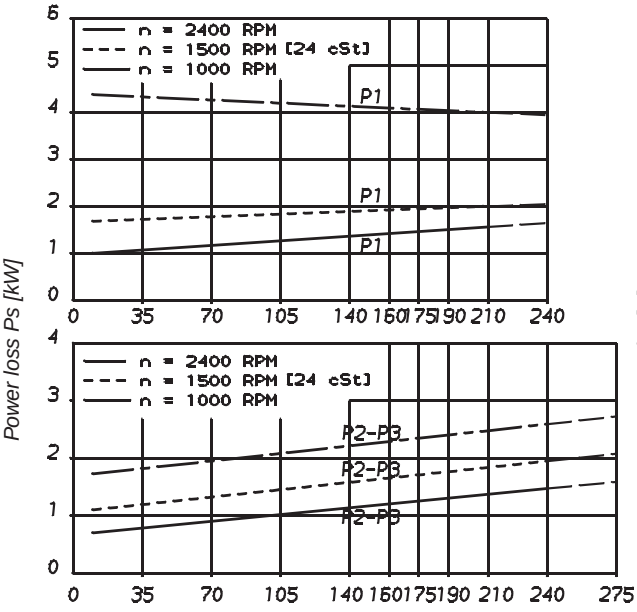
NOISE LEVEL (TYPICAL)
T6DCCM - B38 - B22 - B22



Pressure p [bar]

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

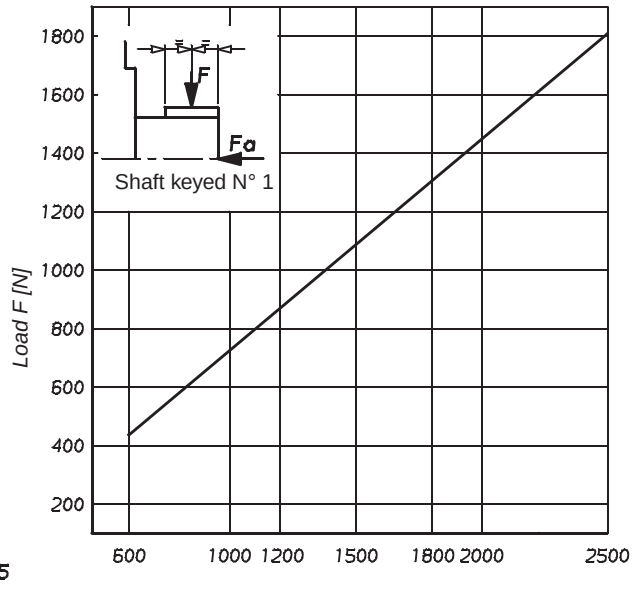
POWER LOSS HYDROMECHANICAL (TYPICAL)



Pressure p [bar]

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

PERMISSIBLE RADIAL LOAD



Speed n [RPM]

Maximum permissible axial load Fa = 800 N

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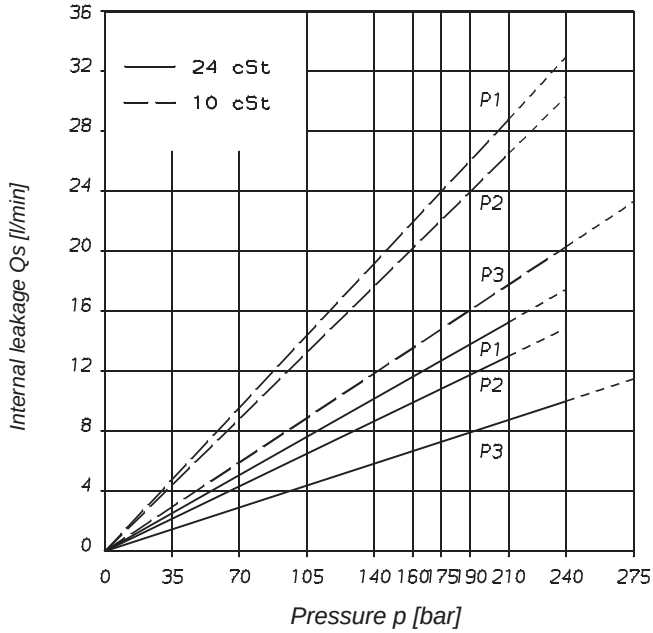
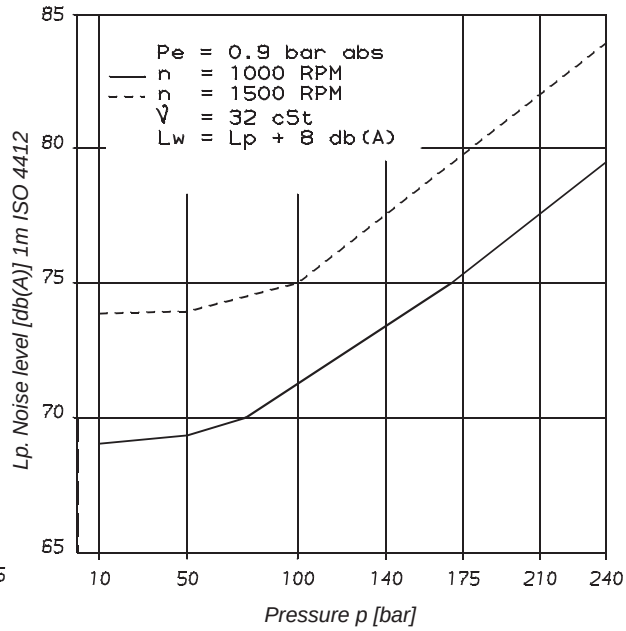
INTERNAL LEAKAGE (TYPICAL)



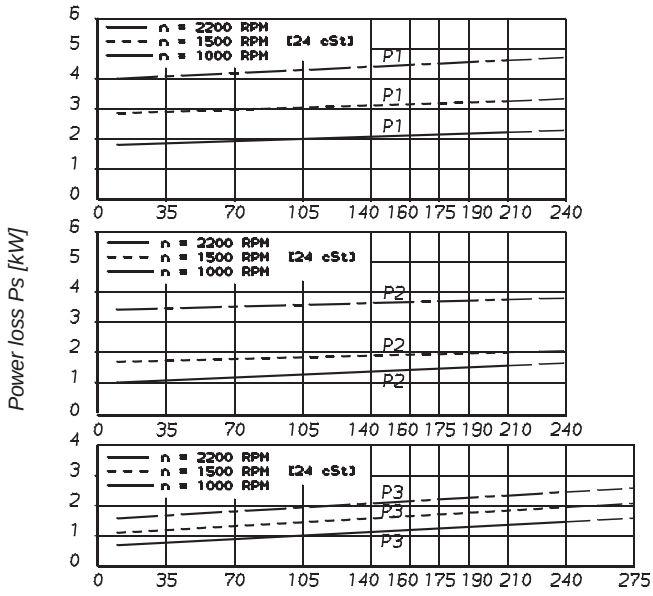
Total leakage is the sum of each section loss at its operating conditions.

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



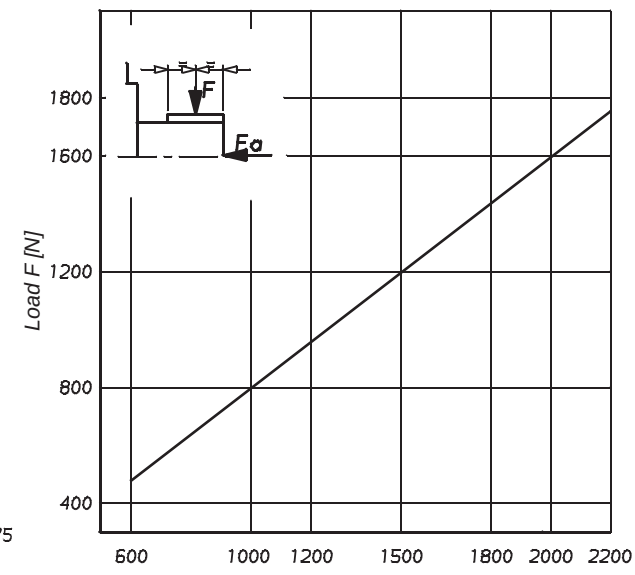
Triple pump noise level is given with each section discharging at the pressure noted on the curve.

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 Fa = 2000 N

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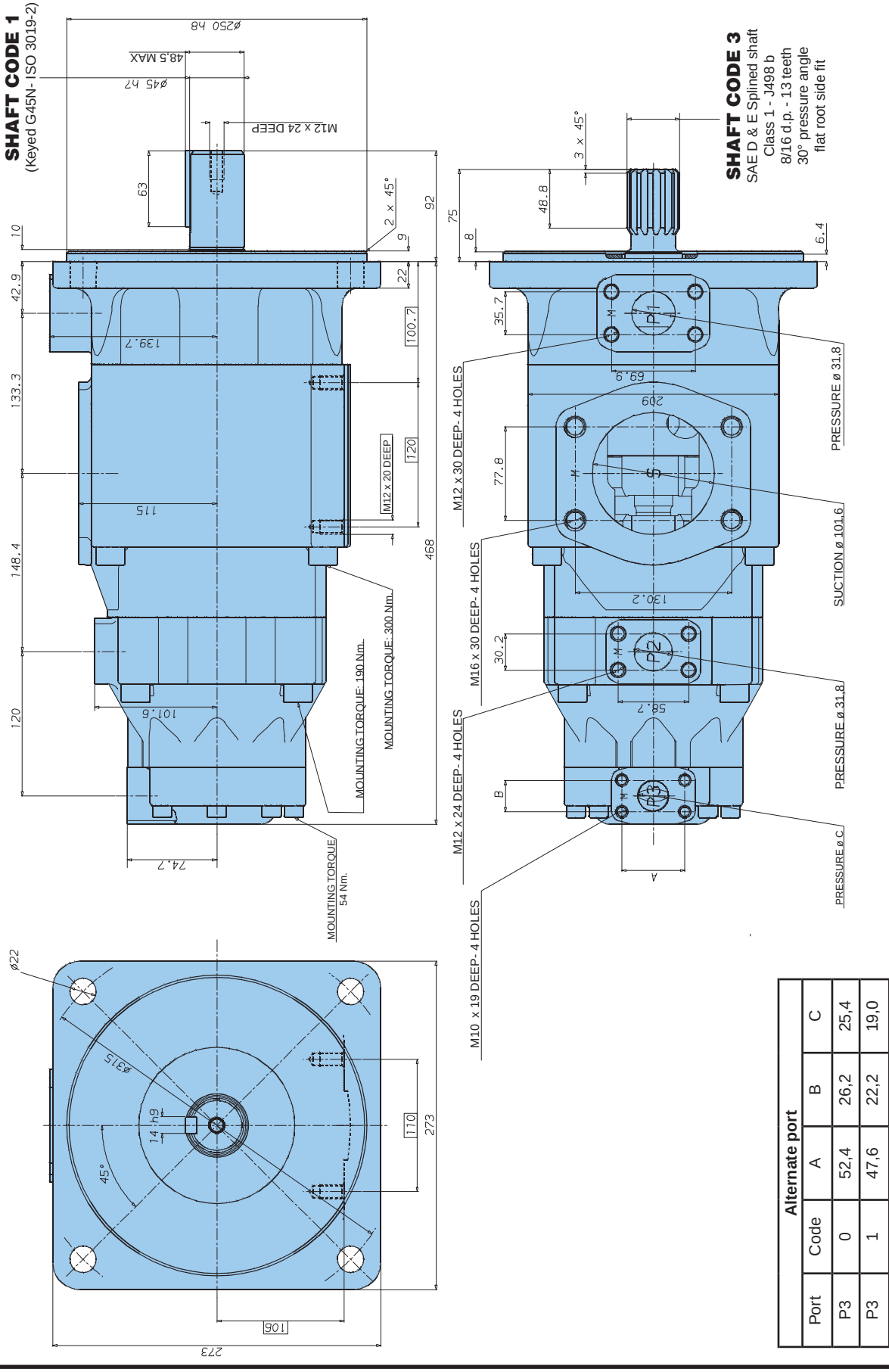

Alternate port				
Port	Code	A	B	C
P3	0	52,4	26,2	25,4
P3	1	47,6	22,2	19,0

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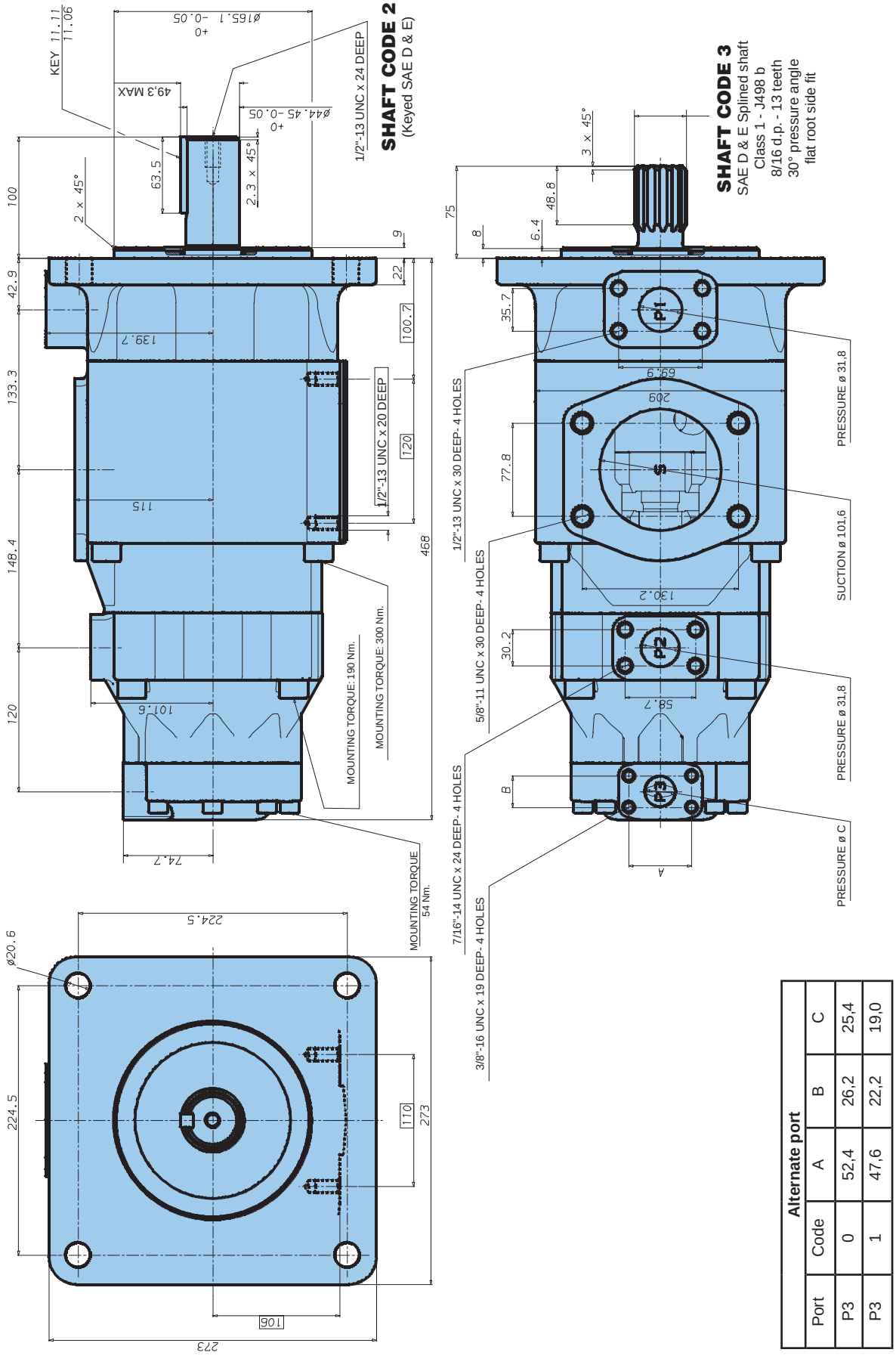

Alternate port				
Port	Code	A	B	C
P3	0	52,4	26,2	25,4
P3	1	47,6	22,2	19,0

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Model No. **T6EDCS**
T6EDCM - 062 - B35 - B17 - 1 R 00 - A 1 - P 0 -

Series

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

Cam ring for "P2"
(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 /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

Cam ring for "P3"
(Delivery at 0 bar & 1500 r.p.m.)
B03 = 16,2 l/min
B05 = 25,8 l/min
B06 = 31,9 l/min
B08 = 39,6 l/min
B10 = 51,1 l/min
B12 = 55,6 l/min
B14 = 69,0 l/min
B17 = 87,4 l/min
B20 = 95,7 l/min
B22 = 105,4 l/min
B25 = 118,9 l/min
B28 = 133,2 l/min
B31 = 150,0 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
	B50	158.0 ml/rev	237.0	227.7	224.0[1)]	4.4	57.0	85.0[1)]
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	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[1)]	2.8	32.7	48.5[1)]
	B31	100.0 ml/rev	150.0	144.5	141.3[1)]	2.8	36.5	54.4[1)]

[1)] B28 - B31 - B50 = 210 bar max. int. *- Not to use because internal leakage greater than 50% theoretical flow*

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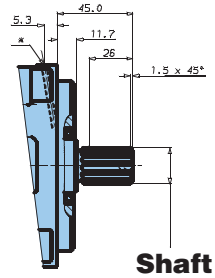
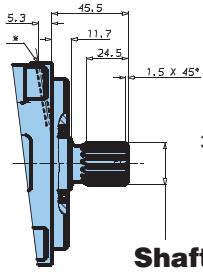
ADDITIONAL P VERSION



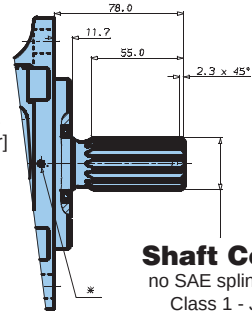
T6CCP
Shaft torque limits
20600 [ml/rev x bar]

Shaft Code 3
no SAE splined shaft
Class 1 - J498b
16/32 d.p. - 13 teeth
30° pressure angle
flat root side fit



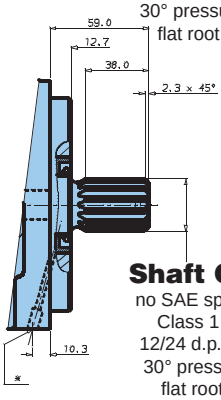
T6CCP
Shaft torque limits
32670 [ml/rev x bar]

Shaft Code 4
SAE B-B splined shaft
Class 1 - J498b
16/32 d.p. - 15 teeth
30° pressure angle
flat root side fit



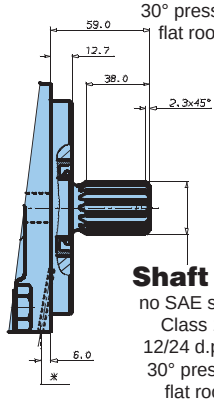
T6CCP
Shaft torque limits
32670 [ml/rev x bar]

Shaft Code 6
no SAE splined shaft
Class 1 - J498b
12/24 d.p. - 14 teeth
30° pressure angle
flat root side fit



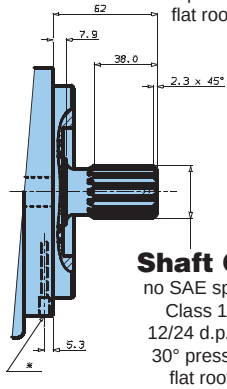
T6DP

Shaft Code 3
no SAE splined shaft
Class 1 - J498b
12/24 d.p. - 14 teeth
30° pressure angle
flat root side fit



T6DCP

Shaft Code 3
no SAE splined shaft
Class 1 - J498b
12/24 d.p. - 14 teeth
30° pressure angle
flat root side fit



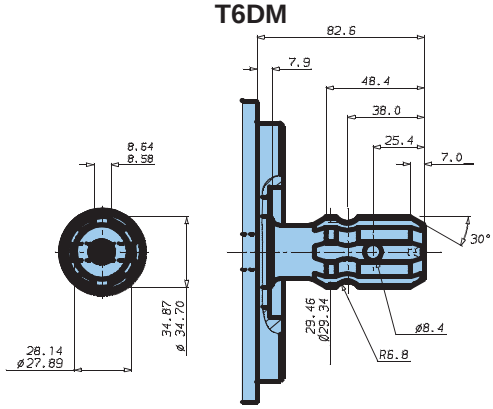
T6EP - T6ECP
T6EDP
Shaft torque limits
61200 [ml/rev x bar]

Shaft Code 3
no SAE splined shaft
Class 1 - J498b
12/24 d.p. - 14 teeth
30° pressure angle
flat root side fit

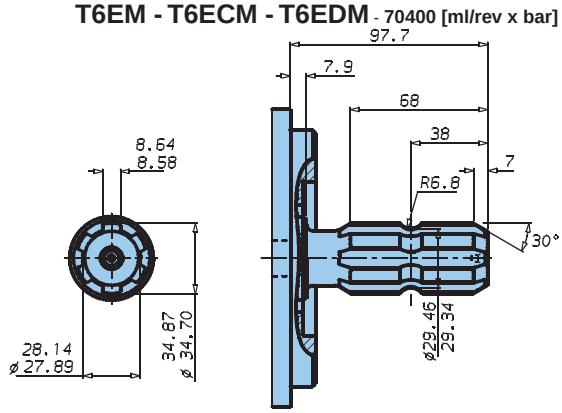
** Drain hole between double shaft seals.*

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

T6DM

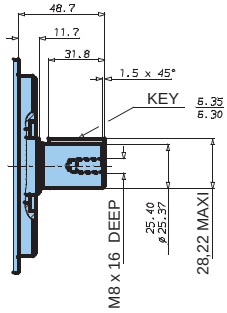


Shaft torque limits
T6CCMW - 32670 [ml/rev x bar]
T6DCMW - 66600 [ml/rev x bar]
T6EM - T6ECM - T6EDM - 70400 [ml/rev x bar]

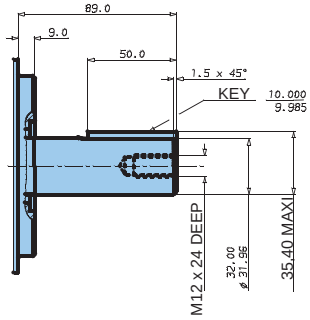


ADDITIONAL SPECIAL T6CCMW SHAFTS

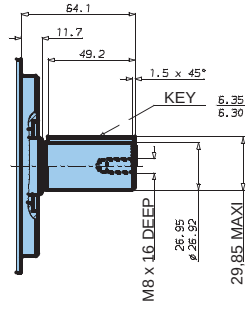
Shaft Code R
Shaft torque limits
18100 [ml/rev x bar]



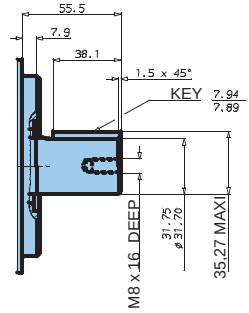
Shaft Code V
Shaft torque limits
32670 [ml/rev x bar]



Shaft Code X
Shaft torque limits
25400 [ml/rev x bar]



Shaft Code W
Shaft torque limits
32670 [ml/rev x bar]



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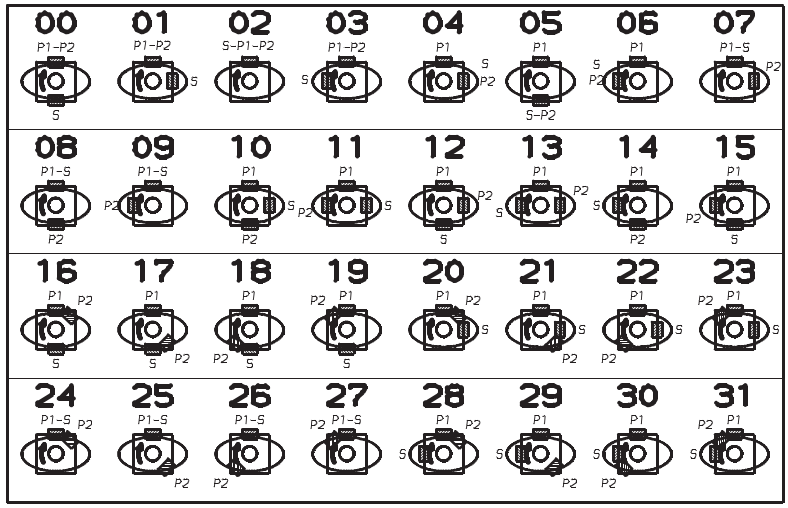
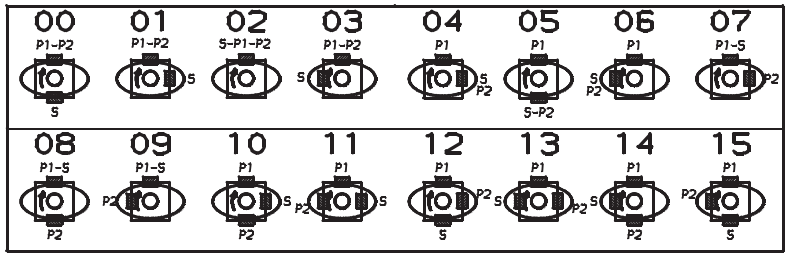
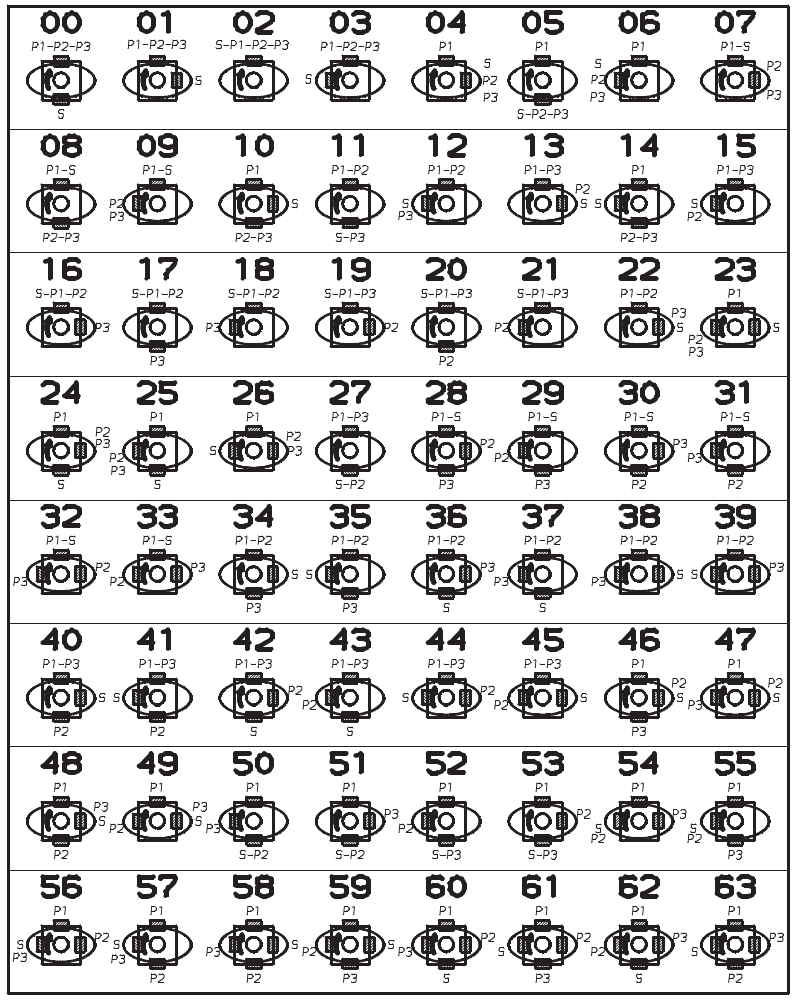
T6CC* - T6DC* - T6EC*



T6ED*



T6DCCM - T6EDC*



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T6DCCM - T6EDC*

P1

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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