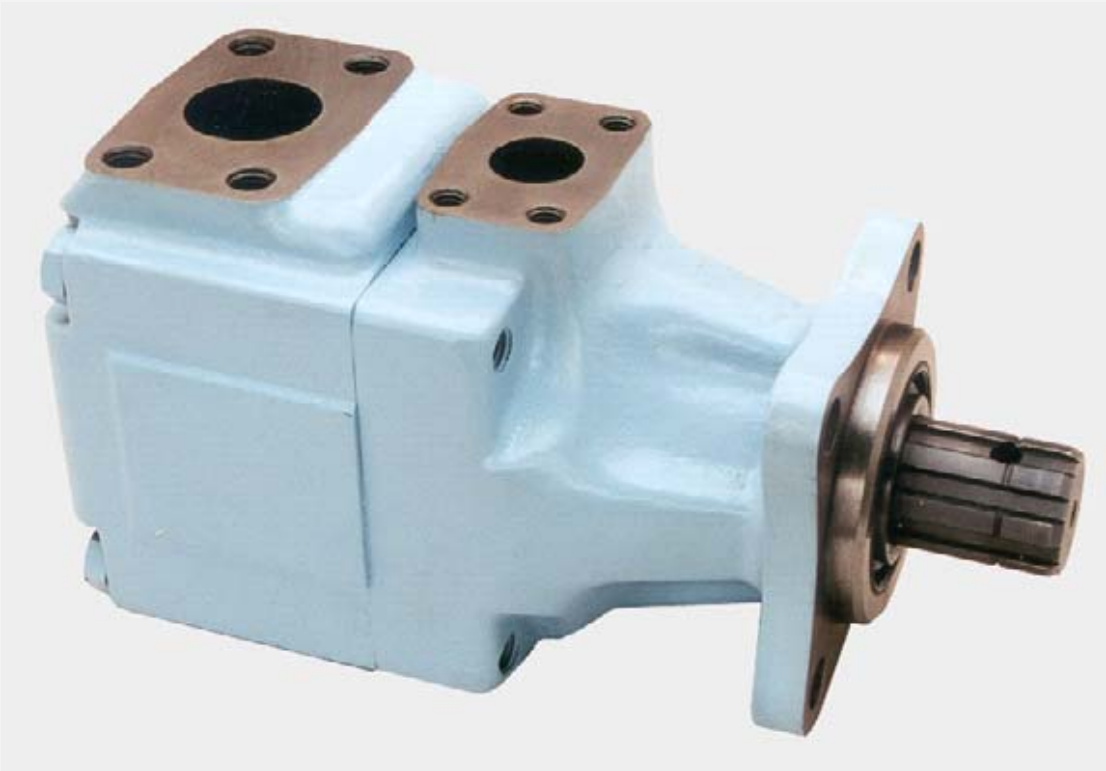
Vane pumps
single & double
T6G - T67G - T6ZC series



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DENISON Hydraulics

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Denison Vane Pump Division
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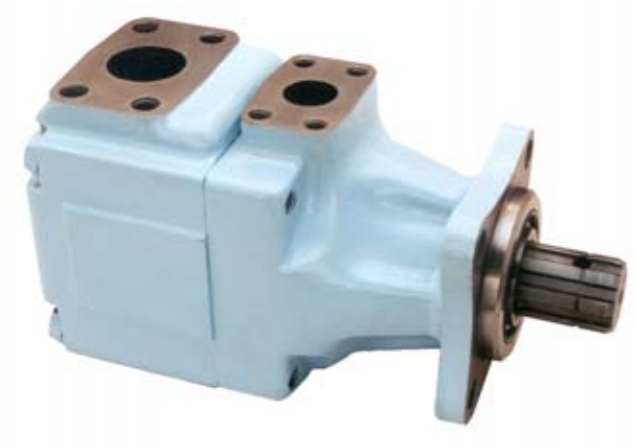

OPERATION

These pumps are specially designed for PTO drives for direct installation (Tipping trucks, refuse trucks cranes...)

These T6 and T67 series vane pumps have been equipped with B or C cartridges in mobile version. The combination of different cartridges in single and double pumps allows low flow at high pressure and high flow at lower pressure. This is the clever way to optimize your circuit design.
In double pumps, the larger suction port is common.

GREATER FLOW

B size cartridge : .35 to 3.05 in^3/rev.
C size cartridge : .66 to 6.10 in^3/rev.

HIGH PRESSURE

B size cartridge : 4350 PSI max.
C size cartridge : 4000 PSI max.

WIDE SPEED RANGE

400 to 2800 RPM.

HIGH EFFICIENCY

Over 94% under high pressure, which increases the productivity and reduces the heating and operations costs.

HIGH SHAFT LOAD CAPABILITY

High shaft load capability up to 1685 lbs radial load on T6GC shaft.

LOW NOISE LEVELS

Low noise levels increase the operator's safety and acceptance.

MOUNTING FLEXIBILITY

Single pump : 4 different positions
Double pump : 32 different positions

CARTRIDGE DESIGN

Interchangeable cartridges permit easy conversion and service at a minimum cost and minimum contamination risk.

WIDE RANGE OF ACCEPTABLE VISCOSITIES

Viscosities permit colder starts and higher temperature. Between 60 and 9240 SUS, the balanced design compensates for wear and temperature changes.

FIRE RESISTANTE FLUIDS AND BIODEGRADABLE FLUIDS

Fire resistante fluids including phosphate esters, organic esters, rapeseed, water glycols and chlorinated hydrocarbons may be pumped at higher pressures with longer service life by these pumps.

GENERAL CHARACTERISTICS

	Mounting standard	Weight without connector and bracket - lbs	Moment of inertia $lbin^2$	SAE 4 bolts J518c - ISO/DIS 6162-1		
				Suction	Pressure	
T6ZC	3 bolts	31.1	2.9	1"1/2	1" BSP	
T6GC/T67GB	R. 17 - 102	39.7	3.1	1"1/2	1" SAE	
T6GCC	R. 17 - 102	60.0	5.4		P1	P2
				3"	1"	1"
				3"	1"	3/4"
				2"1/2	1"	1"
				2"1/2	1"	3/4"

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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.
		$in^3/rev.$	RPM	RPM	RPM	PSI	PSI	PSI	PSI	PSI	PSI
B	B02	.35	600	3600	1800	4350	4000	3500	3000	2500	2000
	B03	.66									
	B04	.78									
	B05	.97									
	B06	1.21									
	B07	1.37									
	B08	1.52									
	B10	1.94									
	B12	2.50		3000							
	B15	3.05				4060	3500				
C	B03	.66	400	2800	1800	4000	3500	3000	2500	2500	2000
	B05	1.05									
	B06	1.30									
	B08	1.61									
	B10	2.08									
	B12	2.26									
	B14	2.81									
	B17	3.56									
	B20	3.89									
	B22	4.29									
	B25	4.84		2500							
	B28	5.42				3000	2300		2300		
	B31	6.10									

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 DENISON Hydraulics office.

MINIMUM ALLOWABLE INLET PRESSURE (PSI ABSOLUTE)

Cartridges		Speed RPM								Series
Size	Series	1800	2100	2200	2300	2500	2800	3000	3600	
B	B02-B03-B04-B05	11.6	11.6	11.6	11.6	11.6	11.6	11.6	11.6	B02-B03-B04-B05
	B06-B07							11.9	14.2	B06-B07
	B08							12.3	15.2	B08
	B10							13.0	16.7	B10
	B12									B12
	B15					12.2	14.4	13.3		B15
C	B03	11.6	11.6	11.6	11.6	13.0	14.5			B03
	B05									B05
	B06									B06
	B08									B08
	B10									B10
	B12				12.3	13.3				B12
	B14					13.8				B14
	B17			12.3	13.0		14.9			B17
	B20									B20
	B22		12.3	13.0		14.2	15.2			B22
	B25		13.0	13.8	13.8	15.2				B25
	B28			14.2	14.2	15.7				B28
	B31		12.3	13.0	14.5	16.1				B31

Inlet pressure is measured at inlet flange with petroleum base fluids at viscosity between 60 and 300 SUS. The difference between inlet pressure at the pump flange and atmospheric pressure must not exceed 2.9 PSI 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 pump.

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CALCULATION

To resolve		Performances required			
Volumetric displacement	*Vi [in³/rev]*	Requested flow	qve	[GPM]	15.8
Available flow	*qve [GPM]*	Speed	n	[RPM]	1500
Input power	*P [HP]*	Pressure	p	[PSI]	2200

Routine :	Example :
1. First calculation $Vi = \frac{231\ Q}{n}$	$Vi = \frac{231\ x\ 15.8}{1500} = 2.43$ in³/rev.
2. Choice Vi of pump immediately greater (see tabulation)	T6GC B14 Vi = 2.81 in³/rev.
3. Theoretical flow of this pump $q_{Vi} = \frac{Vi\ x\ n}{231}$	$q_{Vi} = \frac{2.81\ x\ 1500}{231} = 18.25$ GPM
4. Finds q_{Vs} *leakage function of pressure* $q_{Vs} = f(p)$ *on curve at 60 or 115 SUS*	T6GC (page 12) : q_{VS} = 1.32 GPM at 2200 PSI, 115 SUS
5.Available flow $q_{Ve} = q_{Vi} - q_{Vs}$	q_{Ve} = 18.25 - 1.32 = 16.93 GPM
6. Theoretical input power $Pi = \frac{qvi\ x\ p}{1714}$	$Pi = \frac{18.25\ x\ 2200}{1714} = 23.42$ HP
7. Finds Ps hydrodynamic power loss on curve	T6GC (page 12) : Ps at 1500 R.P.M., 2200 PSI = 2.0 HP
8. Calculation of necessary input power P = Pi + Ps	P = 23.42 + 2.0 = 25.42 HP
9. Results	Vi = 2.81 in³/rev. q_{Ve} = 16.93 GPM P = 25.42 HP } T6GC B14

These calculation steps must be followed for each application.

FLUID POWER FORMULAS

Pump input torque	*lbs.in.*	$\frac{pressure\ (PSI)\ x\ displacement\ (in^3/rev)}{2\ \pi\ x\ mech.eff.}$
Pump input power (P)	*HP*	$\frac{speed\ (rpm)\ x\ displacement\ (in^3/rev)\ x\ pressure\ (PSI)}{395934\ x\ overall\ eff.}$
Pump output flow (q_{Ve})	*U.S. gpm*	$\frac{speed\ (rpm)\ x\ displacement\ (in^3/rev)\ x\ volumetric\ eff.}{231}$
Fluid motor speed	*RPM*	$\frac{231\ x\ flow\ \ rate\ (U.S.gpm)\ x\ volumetriceff.}{displacement\ (in^3/rev.)}$
Fluid motor torque	*lbs. in.*	$\frac{pressure\ (PSI)\ x\ displacement\ (in^3/rev)\ x\ mech.\ eff.}{2\ \pi}$
Fluid motor power	*HP*	$\frac{speed\ (rpm)\ x\ displacement\ (in^3/rev)\ x\ pressure\ (PSI)\ x\ overall\ eff.}{395934}$

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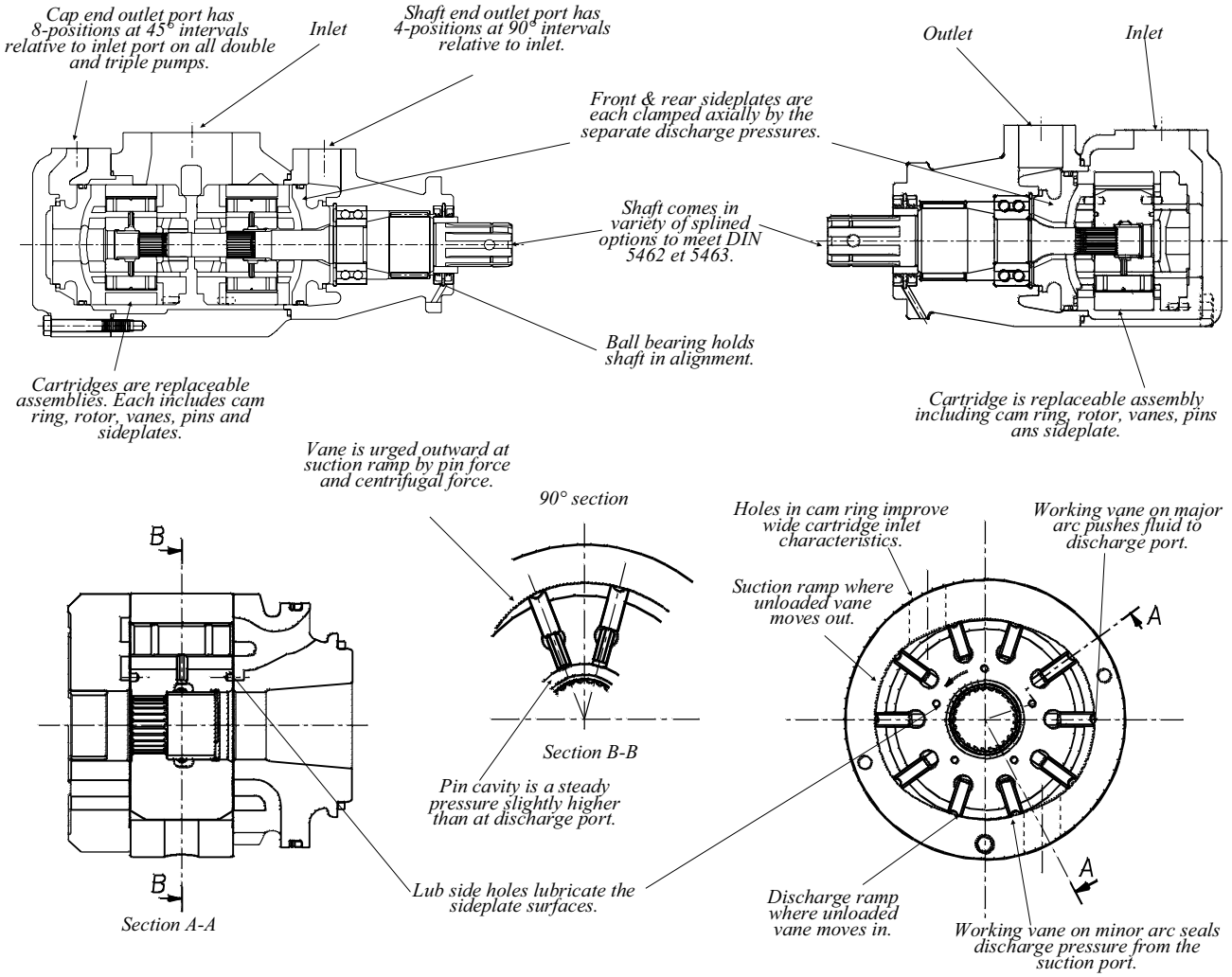

APPLICATION ADVANTAGES

- The high pressure capability to 4000 PSI, 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 9240 SUS allow applications in cold environments with minimum energy consumption and without seizure risk.
- The low ripple pressure ± 29 PSI 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.

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RECOMMENDED FLUIDS

Petroleum based antiwear R & 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 Hydraulics HF-0 and HF-2 specification.

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)	9240 (SUS)
Max (full speed & pressure)	500 (SUS)
Optimum (max. life)	140 (SUS)
Min (full speed & pressure for HF-1, HF-3, HF-4 & HF-5 fluids)	90 (SUS)
Min (full speed & pressure for HF-0 & HF-2 fluids)	60 (SUS)

VISCOSITY INDEX

90° min. higher values extend range of operating temperatures.

Maximum fluid temperature (θ) °C

HF-0, HF-1, HF-2	+ 212°
HF-3, HF-4	+ 122°
HF-5	+ 158°
Biodegradable fluids (esters & rapeseed base)	+ 149°

Minimum fluid temperature (θ) °C

HF-0, HF-1, HF-2, HF-5	- 0.4°
HF-3, HF-4	+ 50°
Biodegradable fluids (esters & rapeseed base)	- 4.4°

FLUID CLEANLINESS

The fluid must be cleaned before and during operation to maintain contamination level of NAS 1638 class 8 (or ISO 18/14) 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.
ù 0,10 % for mineral base fluids.
ù 0,05 % for synthetic fluids, crankcase oils, biodegradable fluids.
If the amount of water is higher, then it should be drained off the circuit.

INTERMITTENT PRESSURE RATING

T6 units may be operated intermittently at higher pressures 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 DENISON Hydraulics representative.

Example : T6GC - B14
Duty cycle 4 min. at 4000 PSI
1 min. at 500 PSI
5 min. at 2300 PSI

$$\frac{(4\ x\ 4000) + (1\ x\ 500) + (5\ x\ 2300)}{10} = 2800\ \text{PSI}$$

2800 PSI is lower than 3500 PSI allowed as continuous pressure for T6GC - B14 with HF-0 fluid.

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 the 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.

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 the return pressure.
When possible an air bleed off should be provided in the circuit to facilitate purging of system air.
Never operate the pump shaft at top speed and pressure without checking for completion of pump priming, and the fluid has no aeration disaerated.

Model No. **T67GB - B15 - 6 R 00 - A 1 - 00 -**

Series

Cam ring
(Delivery at 0 PSI & 1200 r.p.m.)
B02 = 1.84 GPM B07 = 7.13 GPM
B03 = 3.11 GPM B08 = 7.89 GPM
B04 = 4.06 GPM B10 = 10.08 GPM
B05 = 5.04 GPM B12 = 13.00 GPM
B06 = 6.28 GPM B15 = 15.85 GPM

Type of shaft
6 = splined (DIN 5462)

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

Modification

Mounting W/connection variables

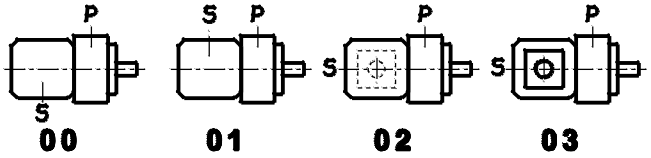
	UNC		Metric	
Code	00	01	M0	M1
S = 1"1/2	SAE	SAE	SAE	SAE
P = 1"	BSPP	SAE	BSPP	SAE

Seal class
1 = S1 - BUNA N

Design letter

Porting combination
00 = standard

P = Pressure port
S = Suction port



OPERATING CHARACTERISTICS - TYPICAL [115 SUS]

Series	Volumetric Displacement Vi	Speed n [R.P.M.]	Flow qv_e [GPM]			Input power P [HP]		
			p = 0 PSI	p = 2000 PSI	p = 4350 PSI	p = 100 PSI	p = 2000 PSI	p = 4350 PSI
B02	.35 in^3/rev	1200 1800	1.84 2.76	1.41 2.33	- 1.80	0.27 0.74	2.54 4.02	- 8.10
B03	.60 in^3/rev	1200 1800	3.11 4.66	2.68 4.23	3.70	0.34 0.85	4.02 6.24	12.93
B04	.78 in^3/rev	1200 1800	4.06 6.09	3.63 5.66	5.13	0.40 0.94	5.13 7.90	16.55
B05	.97 in^3/rev	1200 1800	5.04 7.56	4.61 7.13	6.60	0.45 1.02	6.27 9.62	20.29
B06	1.21 in^3/rev	1200 1800	6.28 9.42	5.85 8.99	8.46	0.53 1.13	7.71 11.79	25.00
B07	1.37 in^3/rev	1200 1800	7.13 10.70	6.70 10.27	9.74	0.58 1.20	8.71 13.29	28.26
B08	1.52 in^3/rev	2000 1800	7.89 11.84	7.46 11.41	10.88	0.62 1.27	9.60 14.62	31.15
B10	1.94 in^3/rev	1200 1800	10.08 15.12	9.65 14.69	14.16	0.75 1.46	12.15 18.45	39.48
B12	2.50 in^3/rev	1200 1800	13.00 19.50	12.57 19.07	12.03 18.54	0.92 1.72	15.56 23.55	33.59 50.58
B15	3.05 in^3/rev	1200 1800	15.85 23.78	15.42 23.35	14.95 [1)] 22.88 [1)]	1.08 1.97	18.89 28.55	38.11 [1)] 57.35 [1)]

1) B15 = 4060 PSI max. int.
- Not to use if the internal leakage greater than 50% of the theoretical flow.

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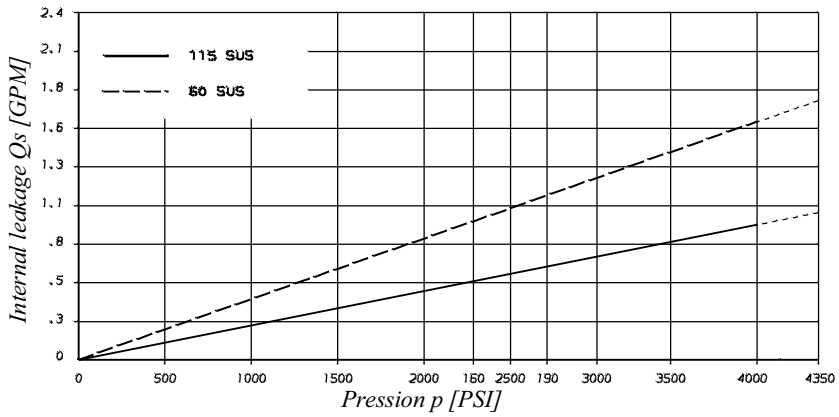
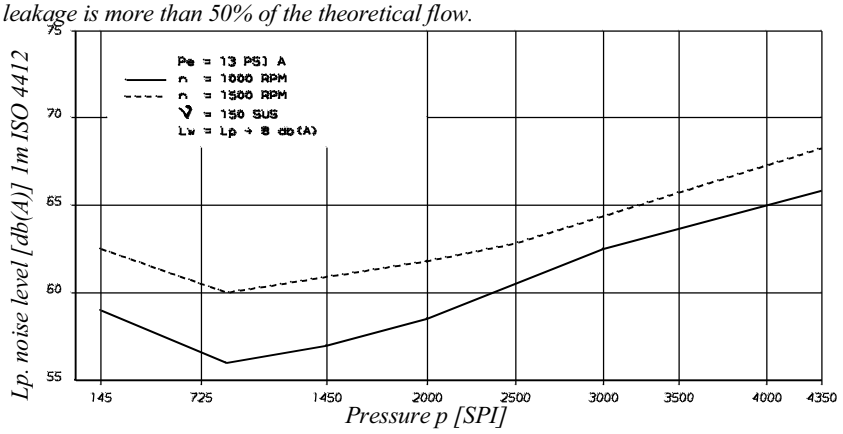
INTERNAL LEAKAGE (TYPICAL)

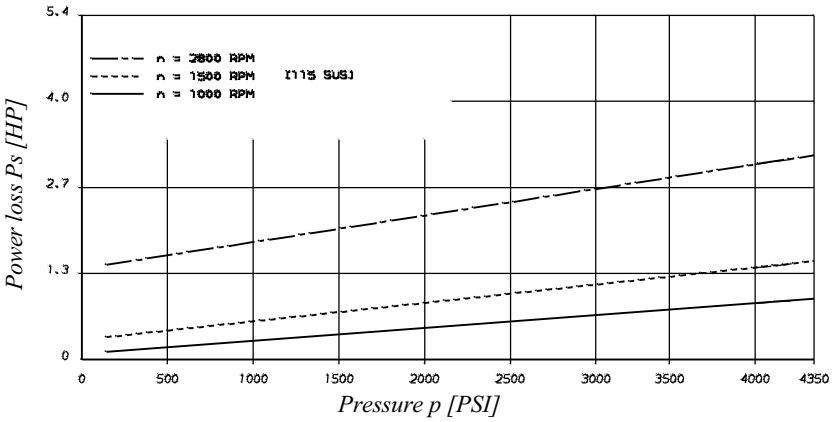


Do not operate pump more than 5 seconds at any speed or viscosity if the internal leakage is more than 50% of the theoretical flow.

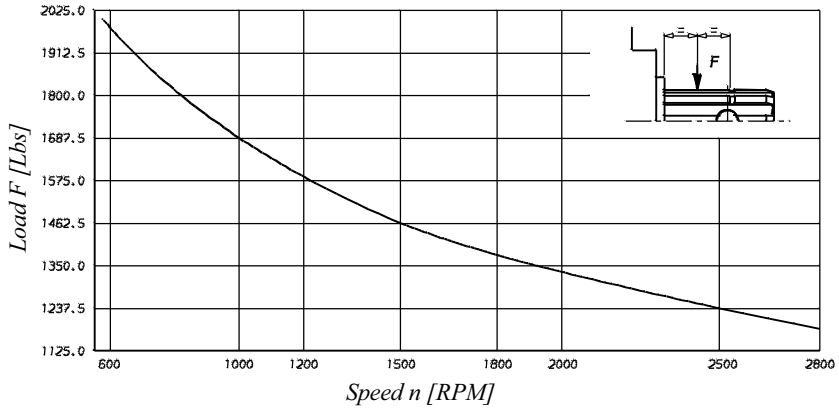
NOISE LEVEL (TYPICAL) T67GB - B10



HYDROMECHANICAL POWER LOSS (TYPICAL)



PERMISSIBLE RADIAL LOAD



Life time 3000 hours when 70% of the time at 112 Lbs and 30% at max. load.

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Model No. T6ZC / T6GC - B22 - 6 R 00 - A 1 - 00 -

Series

Cam ring
(Delivery at 0 PSI & 1200 r.p.m.)

B03 = 3.42 GPM	B17 = 18.48 GPM
B05 = 5.45 GPM	B20 = 20.23 GPM
B06 = 6.75 GPM	B22 = 22.29 GPM
B08 = 8.37 GPM	B25 = 25.14 GPM
B10 = 10.81 GPM	B28 = 28.15 GPM
B12 = 11.76 GPM	B31 = 31.70 GPM
B14 = 14.58 GPM	

Type of shaft
6 = splined (DIN 5462) T6GC
6 = splined (DIN 5463) T6ZC

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

Modification

Mounting W/connection variables

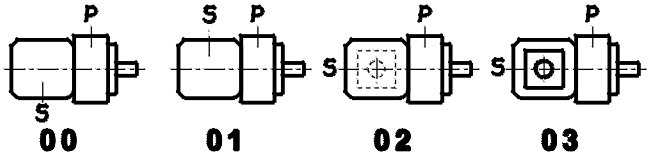
	UNC		Metric (T6GC only)	
Code	00	01	M0	M1
S = 1"1/2	SAE	SAE	SAE	SAE
P = 1"	BSPP	SAE	BSPP	SAE

Seal class
1 = S1 (T6GC - T6ZC)
5 = S5 (T6ZC)

Design letter

Porting combination
00 = standard

P = Pressure port
S = Suction port



OPERATING CHARACTERISTICS - TYPICAL [115 SUS]

Series	Volumetric Displacement Vi	Speed n [R.P.M.]	Flow q_{Ve} [GPM]			Input power P [HP]		
			p = 0 PSI	p = 2000 PSI	p = 3500 PSI	p = 100 PSI	p = 2000 PSI	p = 3500 PSI
B03	.66 in^3/rev	1200 1800	3.42 5.14	- 3.61	- -	1.43 2.11	- 8.45	- -
B05	1.05 in^3/rev	1200 1800	5.45 8.18	3.99 6.65	- 5.56	1.55 2.29	8.17 12.00	- 19.59
B06	1.30 in^3/rev	1200 1800	6.75 10.13	5.22 8.60	4.13 7.51	1.62 2.40	9.69 14.28	16.13 23.57
B08	1.61 in^3/rev	1200 1800	8.37 12.55	6.84 11.02	5.75 9.93	1.72 2.54	11.58 17.11	19.43 28.53
B10	2.08 in^3/rev	1200 1800	10.81 16.22	9.28 14.69	8.19 13.60	1.86 2.76	14.43 21.38	24.42 36.00
B12	2.26 in^3/rev	1200 1800	11.76 17.64	10.23 16.11	9.14 15.02	1.92 2.84	15.53 23.05	26.36 38.92
B14	2.81 in^3/rev	1200 1800	14.58 21.88	13.05 20.35	11.96 19.26	2.08 3.09	18.83 27.99	32.12 47.56
B17	3.56 in^3/rev	1200 1800	18.48 27.73	16.95 26.20	15.86 25.11	2.31 3.43	23.38 34.81	40.08 59.51
B20	3.89 in^3/rev	1200 1800	20.23 30.34	18.70 28.81	17.61 27.42	2.41 3.58	25.41 37.86	43.64 64.85
B22	4.29 in^3/rev	1200 1800	22.29 33.43	20.76 31.90	19.67 30.81	2.53 3.76	27.82 41.47	47.85 71.16
B25[1]	4.84 in^3/rev	1200 1800	25.14 37.71	23.61 36.18	22.52 35.09	2.70 4.01	31.15 46.46	53.68 79.90
B28[1]	5.42 in^3/rev	1200 1800	28.15 42.23	26.62 40.70	25.86[2] 39.94[2]	2.87 4.27	34.66 51.74	51.37[2] 76.73[2]
B31[1]	6.10 in^3/rev	1200 1800	31.70 47.56	30.17 46.03	29.41[2] 45.27[2]	3.08 4.58	38.80 57.95	57.58[2] 86.06[2]

1) B25 - B28 - B31 = 2500 R.P.M. max. *2) B28 - B31 = 3000 PSI max. int.*
- Not to use if the internal leakage is greater than 50% of the theoretical flow.

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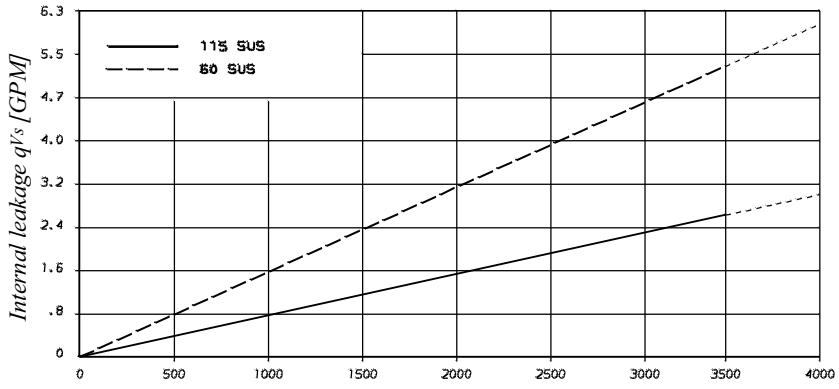
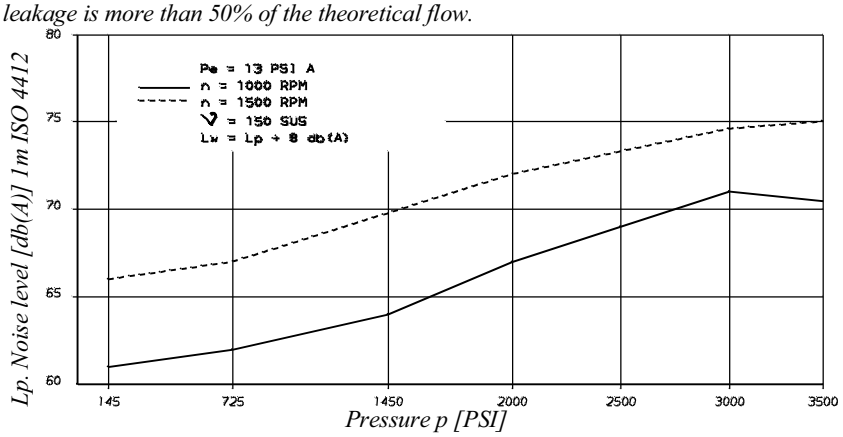
Vierzon - France

INTERNAL LEAKAGE (TYPICAL)

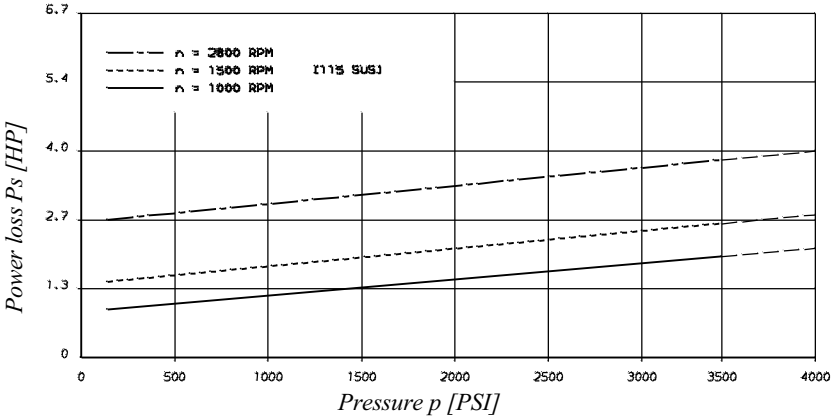


Do not operate pump more than 5 seconds at any speed or viscosity if the internal leakage is more than 50% of the theoretical flow.

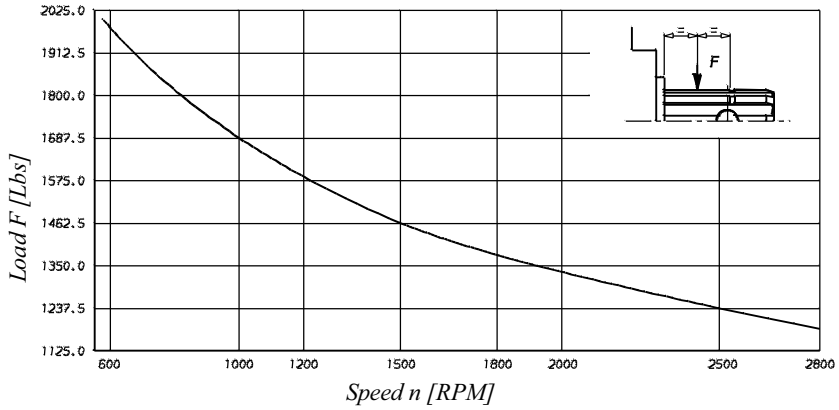
NOISE LEVEL (TYPICAL) T6GC - B22



HYDROMECHANICAL POWER LOSS (TYPICAL)



PERMISSIBLE RADIAL LOAD - T6GC



Life time 3000 hours when 70% of the time at 112 Lbs and 30% at max. load.

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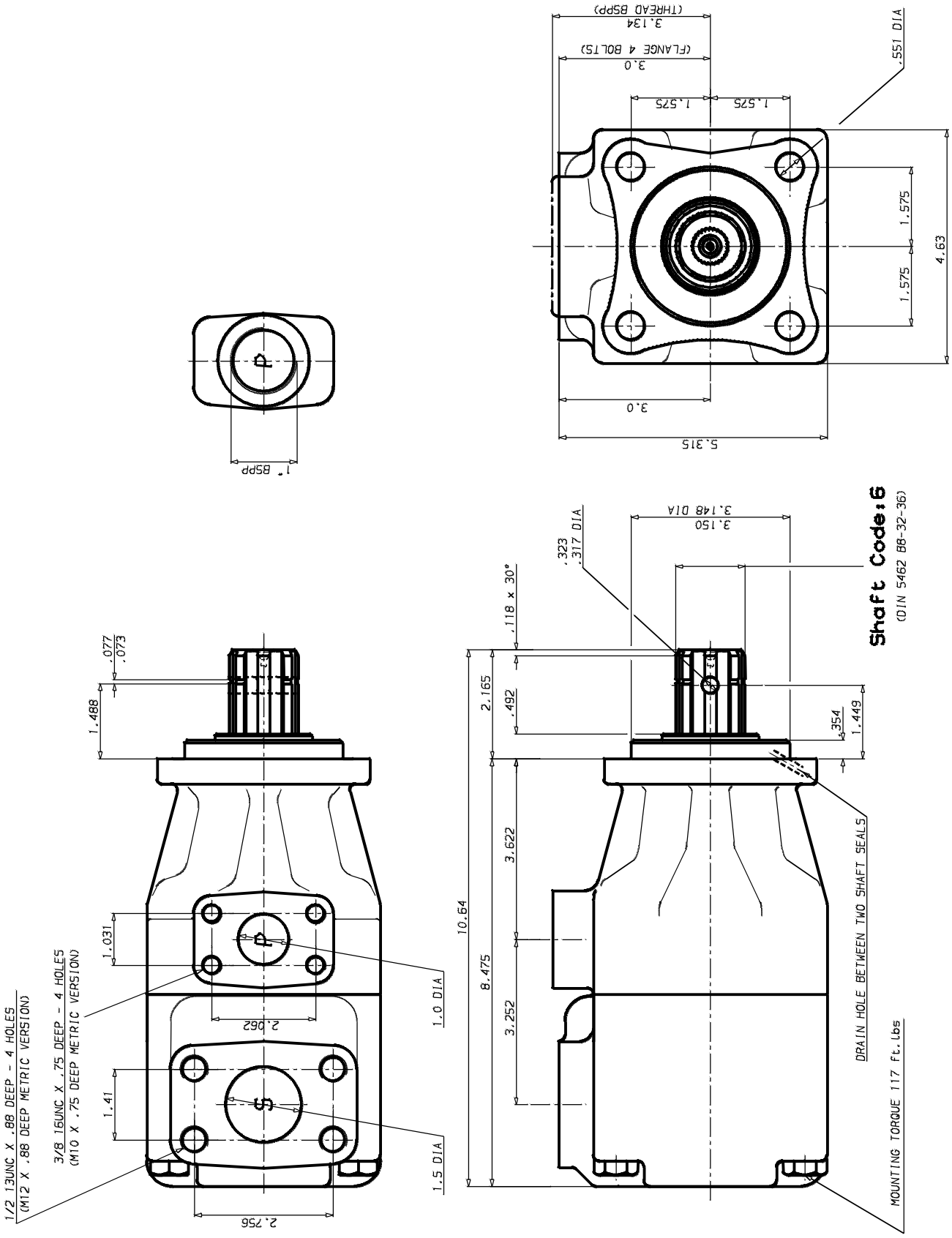
Vierzon - France



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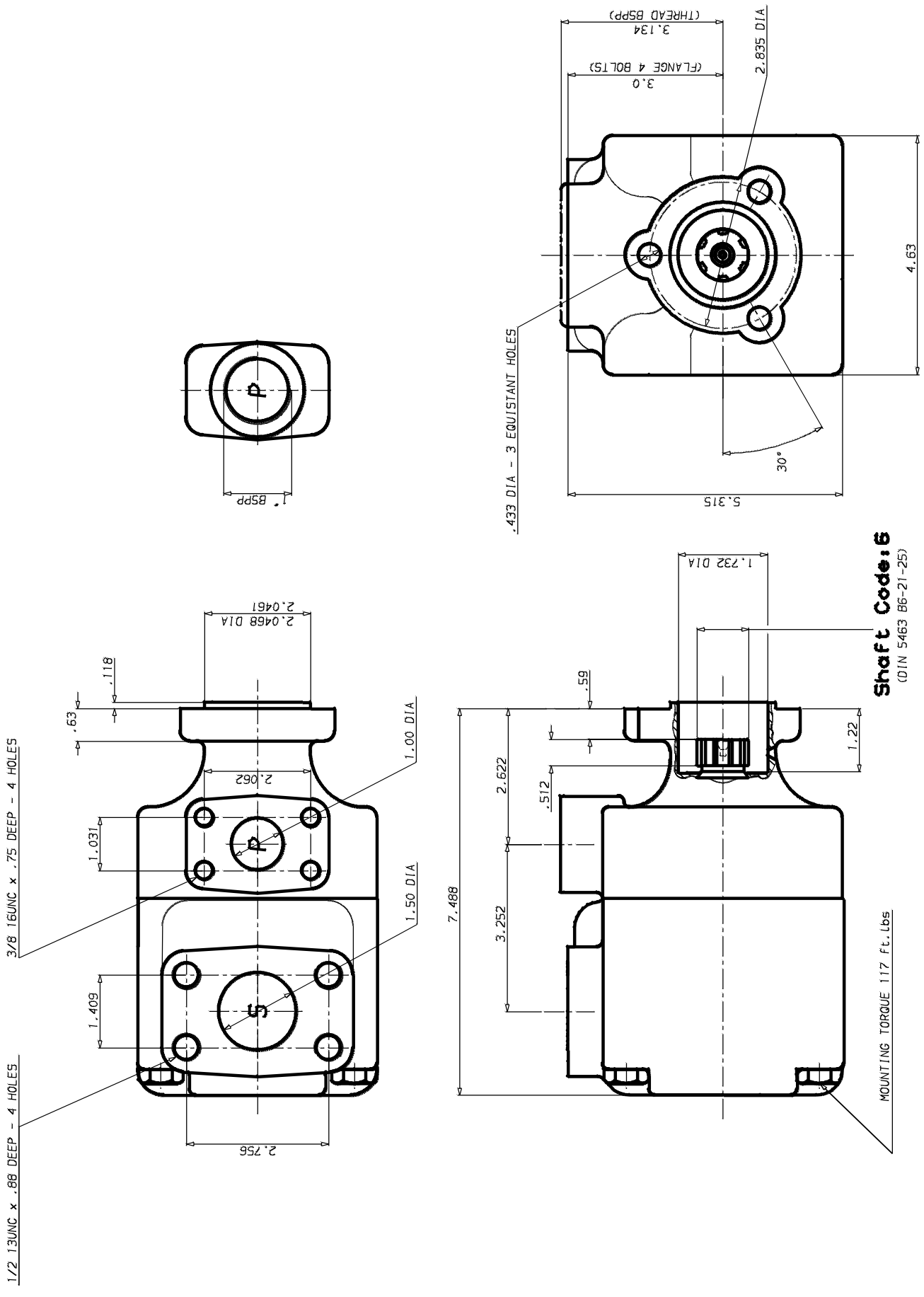

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Model No. T6GCC - B22 - B08 - 6 R 00 - B 1 - 00

Series

Cam ring for "P1" & "P2"
(Delivery at 0 PSI & 1200 r.p.m.)

B03 = 3.42 GPM	B17 = 18.48 GPM
B05 = 5.45 GPM	B20 = 20.23 GPM
B06 = 6.75 GPM	B22 = 22.29 GPM
B08 = 8.37 GPM	B25 = 25.14 GPM
B10 = 10.81 GPM	B28 = 28.15 GPM
B12 = 11.76 GPM	B31 = 31.70 GPM
B14 = 14.58 GPM	

P1 P2

Type of shaft
6 = splined (DIN5462)

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

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 - 0M	01 - M0	10 - 1M	11 - M1

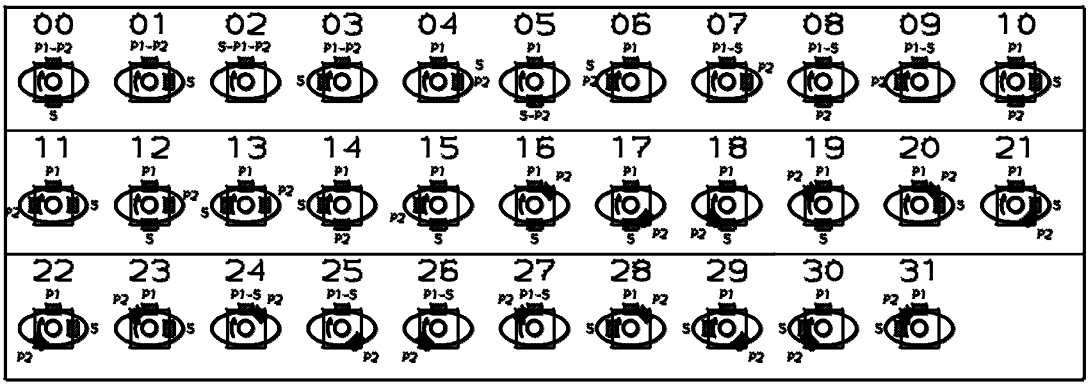
0 = UNC thread M = metric thread
1) for 2.81 in^3/rev. max.
2) for 7.70 in^3/rev. max.
The larger cartridge must be always mounted in the front.

Seal class
1 = S1

Design letter

Porting combination
00 = standard

P = Pressure port
S = Suction port



OPERATING CHARACTERISTICS - TYPICAL [115 SUS]

Series	Volumetric Displacement Vi	Speed n [R.P.M.]	Flow q_{Ve} [GPM]			Input power P [HP]		
			p = 0 PSI	p = 2000 PSI	p = 3500 PSI	p = 100 PSI	p = 2000 PSI	p = 3500 PSI
B03	.66 in^3/rev	1200 1800	3.42 5.14	- 3.61	- -	1.43 2.11	- 8.45	- -
B05	1.05 in^3/rev	1200 1800	5.45 8.18	3.99 6.65	- 5.56	1.55 2.29	8.17 12.00	- 19.59
B06	1.30 in^3/rev	1200 1800	6.75 10.13	5.22 8.60	4.13 7.51	1.62 2.40	9.69 14.28	16.13 23.57
B08	1.61 in^3/rev	1200 1800	8.37 12.55	6.84 11.02	5.75 9.93	1.72 2.54	11.58 17.11	19.43 28.53
B10	2.08 in^3/rev	1200 1800	10.81 16.22	9.28 14.69	8.19 13.60	1.86 2.76	14.43 21.38	24.42 36.00
B12	2.26 in^3/rev	1200 1800	11.76 17.64	10.23 16.11	9.14 15.02	1.92 2.84	15.53 23.05	26.36 38.92
B14	2.81 in^3/rev	1200 1800	14.58 21.88	13.05 20.35	11.96 19.26	2.08 3.09	18.83 27.99	32.12 47.56
B17	3.56 in^3/rev	1200 1800	18.48 27.73	16.95 26.20	15.86 25.11	2.31 3.43	23.38 34.81	40.08 59.51
B20	3.89 in^3/rev	1200 1800	20.23 30.34	18.70 28.81	17.61 27.42	2.41 3.58	25.41 37.86	43.64 64.85
B22	4.29 in^3/rev	1200 1800	22.29 33.43	20.76 31.90	19.67 30.81	2.53 3.76	27.82 41.47	47.85 71.16
B25[1)]	4.84 in^3/rev	1200 1800	25.14 37.71	23.61 36.18	22.52 35.09	2.70 4.01	31.15 46.46	53.68 79.90
B28[1)]	5.42 in^3/rev	1200 1800	28.15 42.23	26.62 40.70	25.86[2)] 39.94[2)]	2.87 4.27	34.66 51.74	51.37[2)] 76.73[2)]
B31[1)]	6.10 in^3/rev	1200 1800	31.70 47.56	30.17 46.03	29.41[2)] 45.27[2)]	3.08 4.58	38.80 57.95	57.58[2)] 86.06[2)]

1) B25 - B28 - B31 = 2500 R.P.M. max. *2) B28 - B31 = 3000 PSI max. int.*
- Not to use if the internal leakage is greater than 50% of the theoretical flow.

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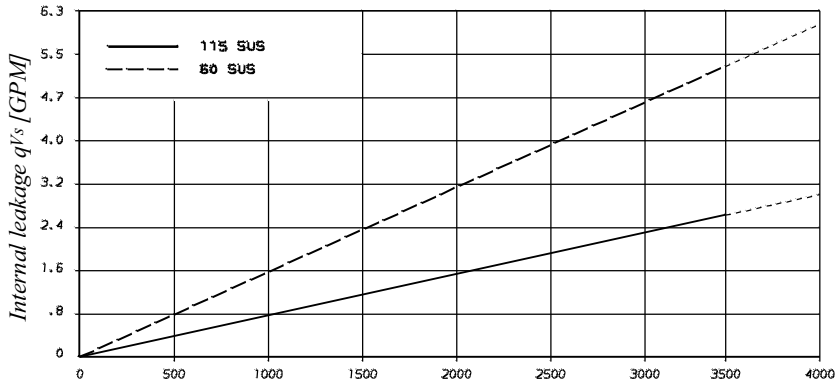
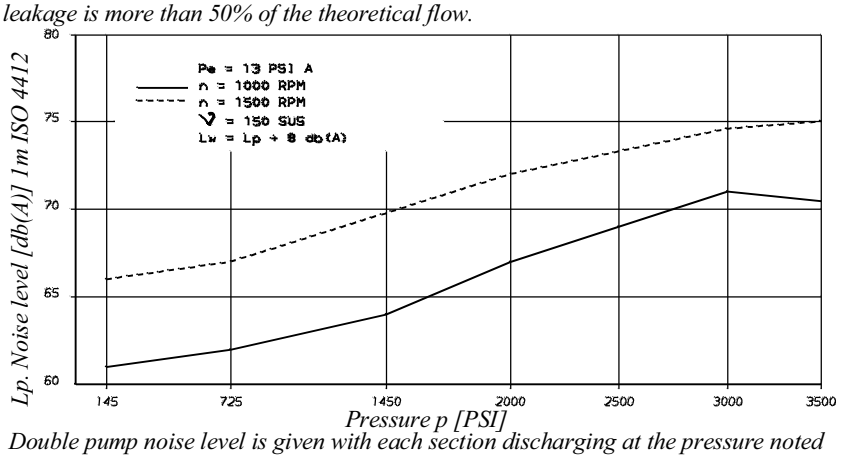
INTERNAL LEAKAGE (TYPICAL)



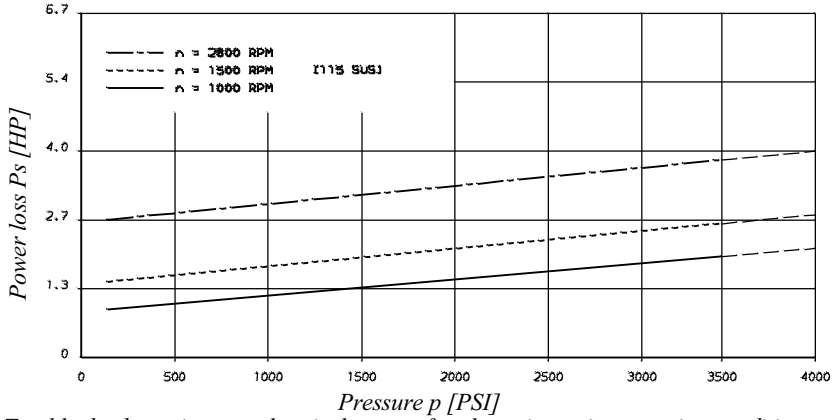
Do not operate pump more than 5 seconds at any speed or viscosity if the internal leakage is more than 50% of the theoretical flow.

NOISE LEVEL (TYPICAL) T6GCC - B22 - B22



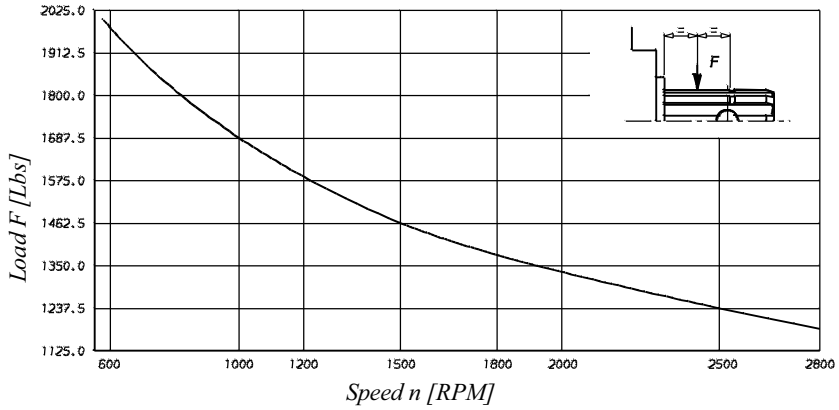
Double pump noise level is given with each section discharging at the pressure noted on the curve.

HYDROMECHANICAL POWER LOSS (TYPICAL)



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

PERMISSIBLE RADIAL LOAD - T6GCC



Life time 3000 hours when 70% of the time at 500 N and 30% at max. load.

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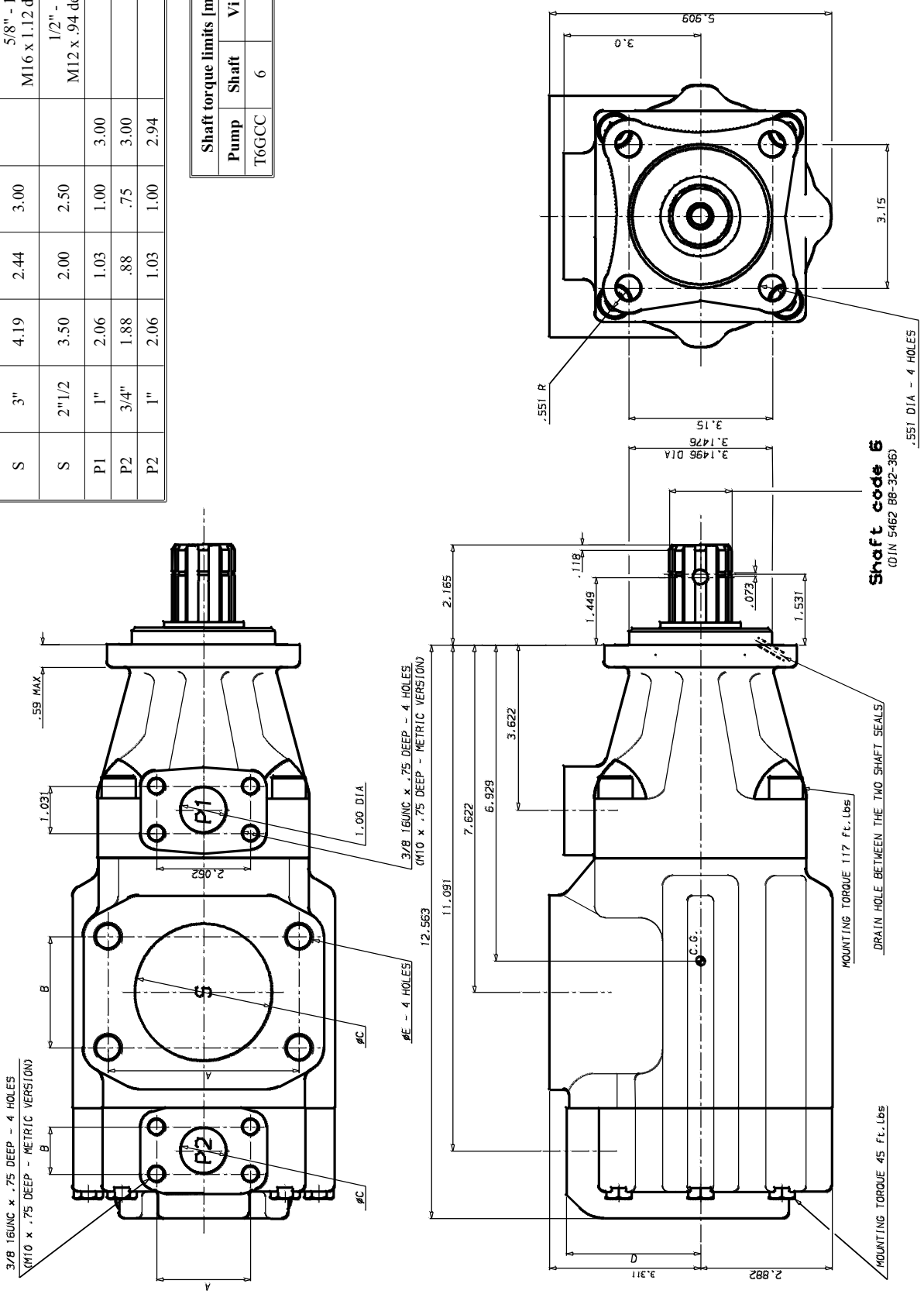
Port	Code	A	B	C	D	E
S	3"	4.19	2.44	3.00		5/8" - 11 x 1.12 deep M16 x 1.12 deep - metric version
S	2"1/2	3.50	2.00	2.50		1/2" - 13 x .94 deep M12 x .94 deep - metric version
P1	1"	2.06	1.03	1.00	3.00	
P2	3/4"	1.88	.88	.75	3.00	
P2	1"	2.06	1.03	1.00	2.94	

Shaft torque limits [ml/rev x bar]		
Pump	Shaft	Vi x p max. P1 + P2
T6GCC	6	28937



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