hydraut

T6 / T7 SERIES HYDRAULIC VANE PUMPS

Parts and mounting are interchangeable with **Denison**

hydraut

PUMPS

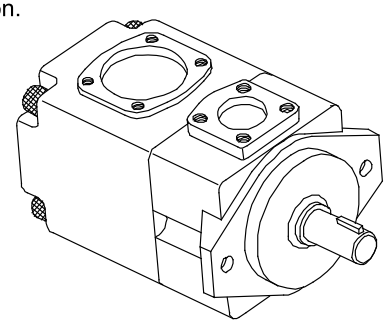
FIXED DISPLACEMENT VANE PUMPS- [275BAR]

Model	Mounting Std. (SAE J744c, ISO/3019-1)	Displacement (ml/rev.)	Speed		Max. Pressure		Weight (Without Connectors and Bracket)		SAE 4 Bolts J518-ISO/DIS 6162-1			Page
			Max.	Min.	PSI	Bar	lbs	Kg	Suction	Pressure		
T6C/T6CM	SAE-B	10.8~100.0	2800	600/400	4000	275	34.0	15.5	1-1/2"	1"		177
T6D/T6DM	SAE-C	47.6~190.5	2500	600/400	3500	240	52.9	24.0	2"	1-1/4"		179
T6E/T6EM	SAE-C	132.3~269.8	2200	600/400	3500	240	95.5	43.3	3"	1-1/2"		181
T6GC	R.17-102	10.8~100.0	2800	400	4000	275	39.7	18.0	1-1/2"	1" SAE		183
T7B	ISO 3019-2 100 A2 HW	5.7~50.0	3600	600	4640	320	50.7	23.0	1-1/2"	1" or 3/4"		184
T7BS	SAE B											
T7D	ISO 3019-2 100 A2 HW	43.9~158.0	3000	600	4350	300	57.3	26.1	2"	1" or 1/4"		185
T7DS	SAE C											
T6CR	SAE-B	10.8~100.0	2800	600/400	4000	275	37.6	17.1	1-1/2"	1"		177
T6DR	SAE-C	47.6~190.5	2500	600/400	3500	240	63.9	29.0	2"	1-1/4"		179
T6ER	SAE-C	132.3~269.8	2200	600/400	3500	240	86.4	39.2	3"	1-1/2"		181
										P1	P2	
T6CC/T6CCM	SAE-B	P1= 10.8~100.0 P2= 10.8~100.0	2800	600/400	4000	275	57.4	26.0	2-1/2" or 3"	1"	1" or 3/4"	186
T6GCC	R.17-102	P1= 10.8~100.0 P2= 10.8~100.0	2800	400	4000	275	60.0	27.2	1"	1"	1" or 3/4"	191
T6DC/T6DCM	SAE-C	P1=47.6~190.5 P2= 10.8~100.0	2500	600/400	3500 4000	240 275	80.7	36.6	3"	1-1/4"	1" or 3/4"	187
T6DDS	SAE-C	P1=47.6~190.5 P2=47.6~190.5	2500	600	3500	240	123.4	56.0	4"	1-1/4"	1-1/4"	188
T6EC/T6ECM	SAE-C	P1=132.3~269.8 P2= 10.8~100.0	2200	600/400	3500 4000	240 275	121.0	55.0	3-1/2"	1-1/2"	1"	189
T6ED/T6EDM	SAE-C	P1=132.3~269.8 P2=47.6~190.5	2200	600/400	3500 3500	240 240	145.5	66.0	4"	1-1/2"	1-1/4"	190
T7EE	ISO 3019-2 250 B4 HW	P1=132.3~269.8 P2=132.3~269.8	2200	600	3500	240	209.4	95.0	4"	1-1/2"	1-1/4"	196
T7EES	SAE-E											
T67CB	SAE B	P1= 10.8~100.0 P2=5.7~50.0	2800	600	4350	300	57.2	26.0	2-1/2"	1"	3/4"	192
T7DB	SAE C	P1=47.6~190.5 P2=5.7~50.0	2500	600	4350	300	80.5	36.6	3"	1-1/4"	3/4"	193
T7EB	SAE C	P1=132.2~269.8 P2=5.7~50.0	2200	600	4350	300	122.1	55.0	3-1/2"	1-1/2"	3/4"	195
										P1	P2 P3	
T6DCC	SAE-C	P1=47.6~190.5 P2=10.8~100.0 P3=10.8~100.0	2500	600/400	3500 4000	240 275	134.5	61.0	4"	1`1/4"	1" 1" or 3/4"	197
T6DCCS	SAE-C	P1=47.6~190.5 P2=47.6~190.5 P3=10.8~100.0	2500	600/400	3500 4000	240 275	145.2	66.0	4"	1-1/4"	1-1/4" 1" or 3/4"	198
T6EDC	ISO 3019-2 250 B4 HW	P1=132.3~269.8 P2=47.6~190.5 P3=10.8~100.0	2200	600/400	3500 3500 3500	240 240 275	220.4	100.0	4"	1-1/2"	1-1/4" 1" or 3/4"	199
T67DCB	SAE C	P1=47.6~190.5 P2=10.8~100.0 P3=5.7~50.0	2500	600	4350	300	134.5	61.0	4"	1-1/4"	1" 3/4"	201

PUMPS

FIXED DISPLACEMENT VANE PUMPS- [275BAR]

【T6/T7- MOBILE & INDUSTRIAL APPLICATION 】



CARE IN APPLICATIONS

1. Check speed range, pressure, temperature, fluid quality, viscosity and pump rotation.
2. Check inlet conditions of the pump, if it can accept application requirements.
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. Enviroment of pump: to avoid noise reflection, pullution and shocks.

LARGE FLOW

General flow for the envelope size achieved by increased displacement cam ring: at high permissible speeds with atmospheric inlet.
B → 5,8 to 50,0 ml/rev. C → 6 to 31 GPM, (21 to 100 ml/rev.)
D → 20 to 50 GPM, (66 to 158 ml/rev.) E → 42 to 72 GPM, (132 to 227 ml/rev.)

HIGH PRESSURE

Pressure rating to 320 bar, reduce size and cost of acuators, valves and lines, give extended lift at reduced pressures.

EXCELLENT EFFICIENCY

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

FLEXIBLE MOUNTING

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

LOW NOISE

Increase operator safety and acceptance.

CONFORM TO

To SAE-J744c 2 Bolt standards and to ISO 3019-1 in the various keyed and splined shaft options offered.

REAR DRIVE

Mounting pads and couplings are fully conformable to SAE J744c and ISO 3019-1. Simple pumps: SAE A/B/C rear adaptors, SAE A/B/BB/C couplings. Triple pumps: SAE A adaptor and coupling.

ADVANCED LARGE CARTRIDGE

Provide for drop-in assembles. They permit easy conversion or renewal of serviceable elements in minutes at minimum expense and risk of contamination. Pump rotation is easy to change by changing position of cam ring on port plate dowel pin hole.

ALLOW LARGE RANGE OF 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 rotors to side plates gap is well lubricated and improves mechanical efficiency.

SYNTHETIC FIRE RESISTANT FLUIDS

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

CAUTIONS FOR STARTING

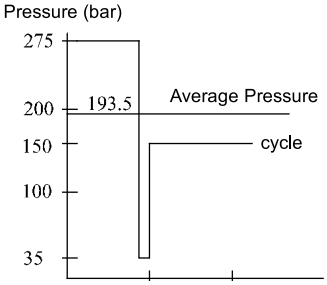
After first operation of the pump shaft at the lowest speed and at the lowest pressure to obtain priming. When a pressure releft valve is used at the outlet it should be backed off to minimize return pressure.
When possible an air bleed off should be provided in the circuit to facilitate purging of system air.
Never operate pump shaft at top speed and pressure without checking for completion of pump priming, and the fluid has no aeration disaerated.

INTERMITTENT PRESSURE RATING

T6 units may be operated intermittently at pressure 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 HYDRAUT hydraulic representative.

Example: T6C-014
Duty cycle 4 min. at 275 bar
1 min. at 35 bar
5 min. at 160 bar

$$\frac{(4x275)+(1x35)+(5x160)}{10} = 193.5 \text{ bar}$$



193.5 bar is lower than 240 bar allowed as continuous pressure for KT6C-014 with HF-0 fluid.

PUMPS

FIXED DISPLACEMENT VANE PUMPS- [275BAR]

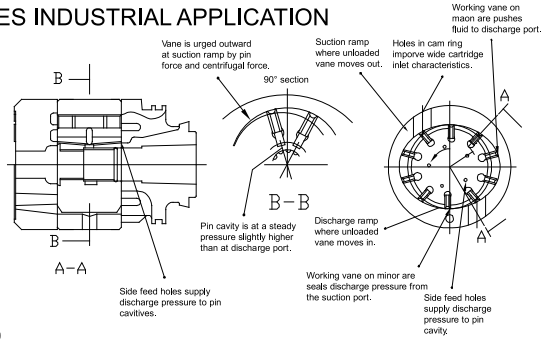
Size	Series	Theoretical Displacement Vi	Minimum Speed	Maximum Speed		Maximum Pressure					
				HF-0 , HF-1 HF-2	HF-3 , HF-4 HF-5	HF-0 , HF-2		HF-1 , HF-4 , HF-5		HF-3	
						Int.	Cont.	Int.	Cont.	Int.	Cont.
		ml/rev	RPM	RPM	RPM	bar	bar	bar	bar	bar	bar
C	003	10.8	600	2800	1800	275	240	210	175	175	140
	005	17.2									
	006	21.3									
	008	26.4									
	010	34.1									
	012	37.1									
	014	46.0									
	017	58.3									
	020	63.8									
	022	70.3									
	025	79.3									
	028	88.8		2500		210	160		160		
	031	100.0									
D	014	46.0	600	2500	1800	240	210	210	175	175	175
	017	58.2									
	020	66.0									
	024	79.5									
	028	89.7									
	031	98.3									
	035	111.0									
	038	120.3									
	042	136.0									
	045	145.0		2200							
	050	158.0				210	160		160		
E	042	132.3	600	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									
	085	269.0				210	175	175	175	160	140

HF-0 , HF-2 = Antiwear Petroleum Base
HF-1 = Non Antiwear Petroleum Base
HF-3 = Water in oil Emulsions
HF-4 = Water Glycols
HF-5 = Synthetic Fluids

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 600 RPM at full pressure.
The high mechanical efficiency, typical 94%, reduces energy consumption.
The wide speed range from 600 RPM to 2800 RPM, combined with large size cartridge displacements, will optimize operation for the lowest noice level in the smallest envelope.
The low speed 600 RPM, low pressure, high viscosity 860 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.

DESCRIPTION-T6 SERIES INDUSTRIAL APPLICATION



RECOMMENDED FLUID

Petroleum based antiwear R&O fluids. These fluids are recommended fluids for HYDRAUT series pumps. Maximum catalog ratings and performance data are based on operation with these fluids. These fluids are covered by HYDRAUT 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 pump will be reduced. In some cases the minimum replenishment pressures must be increased. Consult specific for more detail.

VISCOSITY

	mm²/s (cSt)
Max. (cold start, low speed & pressure)	860
Max. (full speed & pressure)	108
Optimum (Max. life)	18
Min (full speed & pressure for HF-1, HF-3, HF-4 & HF-5 fluids)	10
Min (full speed & pressure for HF-0 & HF-2 fluids)	

PUMPS

FIXED DISPLACEMENT VANE PUMPS- [275BAR]

VISCOSITY INDEX

90° min. higher values extend range of operating temperatures.			
Maximum fluid temperature (θ) °C	mm²/s (cSt)	Minimum fluid temperature (θ) °C	mm²/s (cSt)
HF-0, HF-1, HF-2	+ 100°	HF-0, HF-1, HF-2, HF-5	- 18°
HF-3, HF-4	+ 50°	HF-3, HF-4	+ 10°
HF-5	+ 70°		
Biodegradable fluids (esters & rapeseed base)	+ 65°	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 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.
• 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

HYDRAUT Hydraulics 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.

PORTING DIAGRAMS

T6DD, T6DDS, T6EE, T6EES, T6ED

00	01	02	03	04	05	06	07	08	09
									
10	11	12	13	14	15	16	17	18	19
									

T6CC, T6DC, T6EC, T6GCC, T67CB, T67DB, T67EB

00	01	02	03	04	05	06	07	08	09
									
10	11	12	13	14	15	16	17	18	19
									
20	21	22	23	24	25	26	27	28	29
30	31								

T6DCC, T6EDC, T6DCCS, T67DCB

00	01	02	03	04	05	06	07	08	09
10	11	12	13	14	15	16	17	18	19
20	21	22	23	24	25	26	27	28	29
30	31	32	33	34	35	36	37	38	39
40	41	42	43	44	45	46	47	48	49
50	51	52	53	54	55	56	57	58	59
60	61	62	63						

PUMPS

FIXED DISPLACEMENT VANE PUMPS- [275BAR]

※MODEL NUMBER DESIGNATION

T6C(M)-	014-	1-	R-	00-	B-	1-	(M0)
Ⅰ	Ⅱ	Ⅲ	Ⅳ	Ⅴ	Ⅵ	Ⅶ	Ⅷ

Ⅰ : Series No.
T6C: Industrial Application
T6CM: Moblie Application

Ⅱ : Volumetric Displacement(ml/rev.)

003 = 10.8
005 = 17.2
006 = 21.3
008 = 26.4
010 = 34.1
012 = 37.1
014 = 46.0
017 = 58.3
020 = 63.8
022 = 70.3
025 = 79.3
028 = 88.8
031 = 100.0

Ⅲ : Type of shaft

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

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

Ⅴ : Porting combination

00 (Standard)	01	02	03
			

Ⅵ : Design letter

P = Pressure port, S = Suction port

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

Ⅷ : Port Connection
M0: DIN 912 Bolts(Metric Std.) Omit: UNC Bolts

T6CR-	014-	1-	R-	00-	A-	1-	0-	A-	1-	(M0)
Ⅰ	Ⅱ	Ⅲ	Ⅳ	Ⅴ	Ⅵ	Ⅶ	Ⅷ	Ⅸ	Ⅹ	ⅩⅠ

Ⅰ : Series No: Rear Drive Type

Ⅱ : Volumetric Displacement(ml/rev.)

003 = 10.8
005 = 17.2
006 = 21.3
008 = 26.4
010 = 34.1
012 = 37.1
014 = 46.0
017 = 58.3
020 = 63.8
022 = 70.3
025 = 79.3
028 = 88.8
031 = 100.0

Ⅲ : Type of shaft

1 = keyed (SAE BB), 3 = splined (SAE B),
2 = keyed (No SAE), 4 = splined (SAE BB),
5 = keyed (No SAE)

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

Ⅴ : Porting combination

00(Standard)	01	02	03
			

Ⅵ : Adaptor
0 = None, B = SAE B,
A = SAE A, C = SAE C

Ⅶ : Coupling
1 = SAE A, 3 = SAE BB, 5 = SAE J498b,
2 = SAE B, 4 = SAE C 16/32-11 TEETH

Ⅷ : Porting adaptor

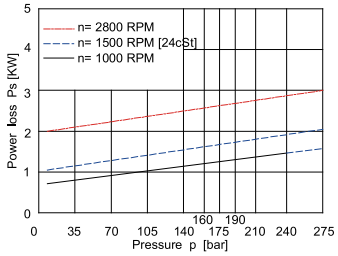
SAE C			
SAE A - SAE B		---	
0	1	2	3
			

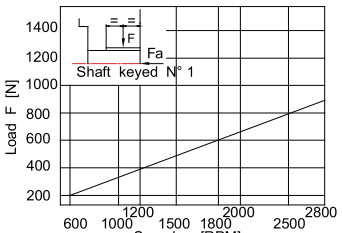
Ⅸ : Design letter

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

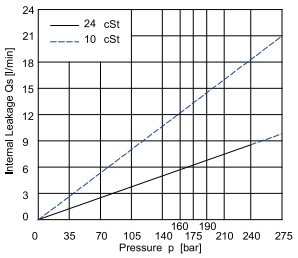
ⅩⅠ : Port Connection
M0: DIN 912 Bolts(Metric Std.) Omit: UNC Bolts

※PERFORMANCE CURVE





Maximum permissible axial load Fa = 800 N



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

OPERATING CHARACTERISTICS - TYPICAL [24 cSt]

Series	Volumetric Displacement Vp	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
003	10.8ml/rev	1000(1500)	10.8(16.2)	7.5(11.2)	5.1(7.7)	0.9(1.3)	3.6(5.3)	5.7(8.4)
005	17.3ml/rev		17.2(25.8)	13.9(20.8)	11.5(17.3)	1.0(1.4)	5.1(7.5)	8.3(12.2)
006	21.3ml/rev		21.3(31.9)	16.3(26.9)	12.8(23.4)	1.1(1.5)	6.0(8.9)	10.0(14.7)
008	26.4 ml/rev		26,4(39,6)	34.6(21.4)	17.9(31.1)	1.2(1.6)	7.2(10.7)	12.1(17.7)
010	34.1ml/rev		34,1(51,1)	29.1(46.1)	25.6(42.6)	1.3(1.7)	8.9(13.4)	15.1(22.3)
012	37.1 ml/rev		37,1(55,6)	32.1(50.6)	28.6(47.1)	1.3(1.7)	9.6(14.4)	16.3(24.1)
014	46.0ml/rev		46,0(69,0)	41.0(64.0)	37.5(60.5)	1.4(1.9)	11.7(17.6)	19.9(29.5)
017	58.3 ml/rev		58,3(87,4)	53.3(82.4)	49.8(78.9)	1.6(2.1)	14.5(21.9)	24.8(36.9)
020	63.8ml/rev		63,8(95,7)	58,3(90,2)	55.3(87.2)	1.6(2.2)	15.81(23.82)	27.0(40.2)
022	70.3 ml/rev		70,3(105,4)	65.3(100.4)	61.8(96.9)	1.7(2.3)	17.3(26.1)	29.6(44.1)
025 1)	79.3ml/rev		79,3(118,9)	74.3(113.9)	70.8(110.4)	1.8(2.5)	19.3(29.2)	33.2(49.5)
028 1)	88.8 ml/rev		88,8(133,2)	83.8(128.2)	81.4(125.8) 2)	1.9(2.8)	21.9(32.7)	32.5(48.5) 2)
031 1)	100.0ml/rev		100,0(150,0)	95.0(145.0)	92.6(142.6) 2)	2.0(2.8)	24.4(36.5)	36.4(54.4) 2)

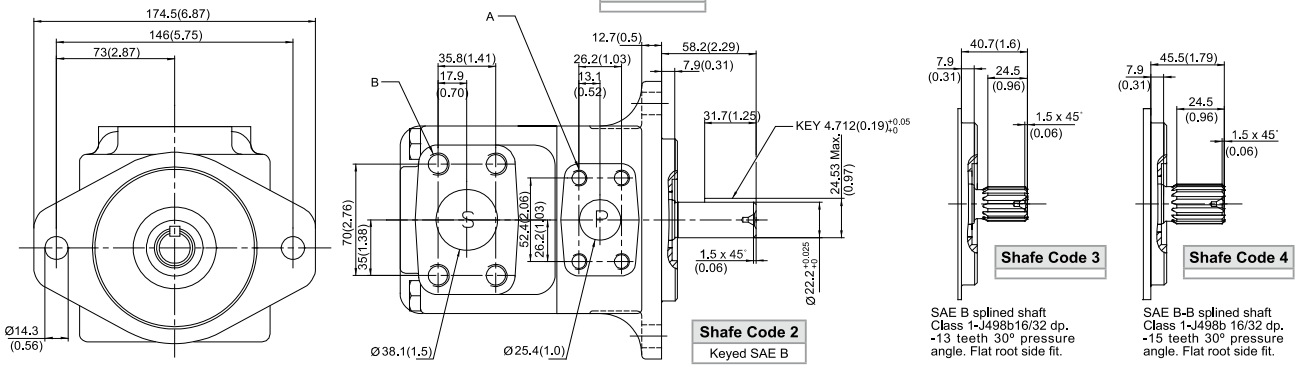
1) 025 - 028 - 031 = 2500 R.P.M. max. 2) 028 - 031 = 210 bar max. int. T6C/T6CR Min. Speed = 600 r.p.m. T6CM Min. Speed = 400 r.p.m.
- Not to use because internal leakage greater than 50% theoretical flow. Port connection can be furnished with metric threads.

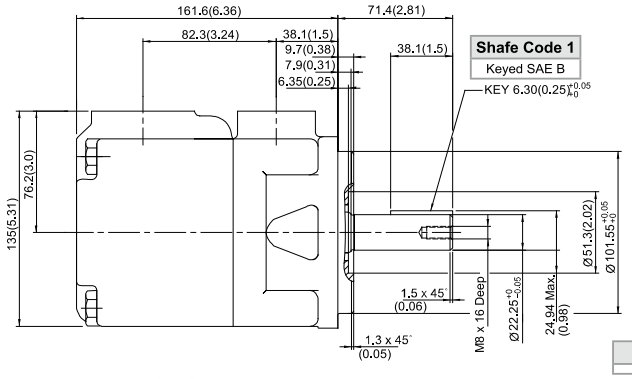
PUMPS

FIXED DISPLACEMENT VANE PUMPS- [275BAR]

※DIMENSIONS

T6C/T6CM

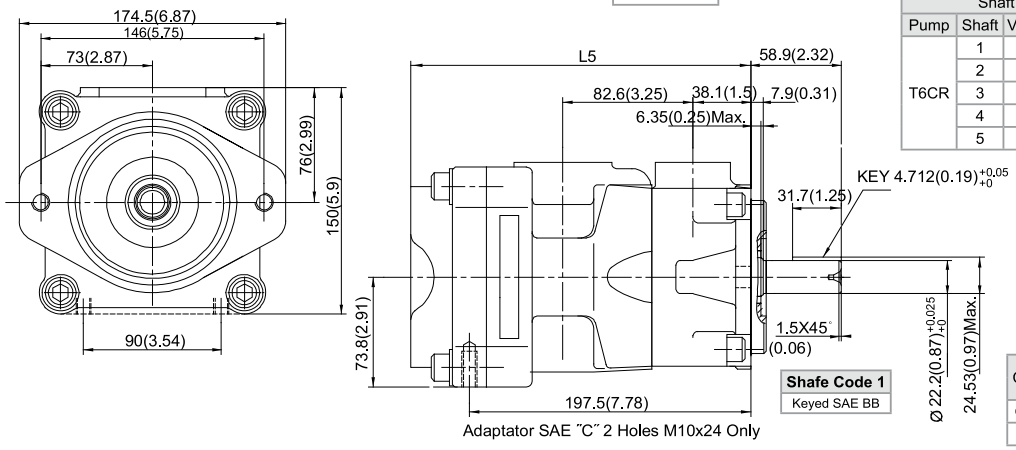




Shaft torque limits [ml/rev x bar]		
Pump	Shaft	Vi x p max.
T6C/T6CM	1	16500
	2	14300
	3	20600
	4	21812

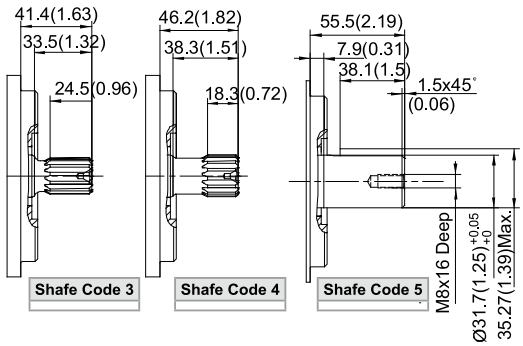
Code	Dimension for 4 Holes	
	B(S Port)	A(P Port)
Omit	1/2"-13UNC x 0.88 Deep	3/8"-16UNC x 0.75 Deep
M0	M12 x 22.3	M10 x 19

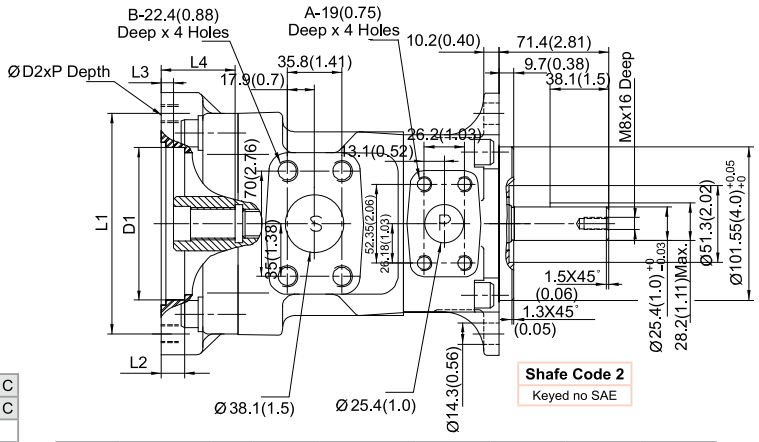
T6CR



Shaft torque limits [ml/rev x bar]				
Pump	Shaft	V x p Max.	Coupling Drive	V x p Max.
T6CR	1	21420	SAE A	11000
	2	14300	SAE B	20600
	3	20600	SAE BB	22050
	4	32670	SAE C	22050
	5	34180	SAE-11 Teeth	15850

Code	Dimension for 4 Holes	
	B(S Port)	A(P Port)
Omit	1/2"-13UNC	3/8"-16UNC
M0	M12 x 22.4	M10 x 19





Adapter	SAE A		SAE B			SAE C
Coupling Drive	SAE A	SAE 11 Teeth	SAE B	SAE B	SAE BB	SAE C
Number of Teeth	9	11	13	13	15	14
Pitch	16/32	16/32	16/32	16/32	16/32	12/24
Pressure Angle	30°	30°	30°	30°	30°	30°
Major Dia.(min)	15.875	19.05	22.225	22.225	25.40	31.750
Minor Dia.(min)	12.7	16.017	19.134	19.134	22.268	27.589

Adapter	D1	D2	P	L1	L2	L3	L4	L5
SAE A	82.6(3.25)	M10	24(0.94)	106.4(4.19)	11(0.43)	7.9(0.31)	32(1.26)	209(8.23)
SAE B	101.65(4.0)	M12	28(1.10)	146(5.75)	16(0.63)	7.9(0.31)	46(1.81)	223(8.78)
SAE C	127.1(5.0)	M16	—	181(7.13)	16(0.63)	7.9(0.31)	56(2.20)	233(9.17)

PUMPS

FIXED DISPLACEMENT VANE PUMPS- [240BAR]

※MODEL NUMBER DESIGNATION

T6D(M)-	045-	1-	R-	00-	B-	1-	(M0)
Ⅰ	Ⅱ	Ⅲ	Ⅳ	Ⅴ	Ⅵ	Ⅶ	Ⅷ

Ⅰ: Series No.
T6D: Industrial Application
T6DS: SAE C 6 Bolts
T6DM: Moblie Application

Ⅱ: Volumetric Displacement(ml/rev.)

014 = 47.6	035 = 111.0
017 = 58.2	038 = 120.3
020 = 66.0	042 = 136.0
024 = 79.5	045 = 145.7
028 = 89.7	050 = 158.0
031 = 98.3	

Ⅲ: Type of shaft
1 = keyed (SAE C)
2 = keyed (no SAE)
3 = splined (SAE C)
4 = splined (no SAE)

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

Ⅴ: Porting combination

00 (Standard)	01	02	03
			

P = Pressure port, S = Suction port

Ⅵ: Design letter

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

Ⅷ: Port Connection
M0: DIN 912 Bolts(Metric Std.) Omit: UNC Bolts

T6DR(S)-	045-	1-	R-	00-	A-	1-	0-	A-	1-	(M0)
Ⅰ	Ⅱ	Ⅲ	Ⅳ	Ⅴ	Ⅵ	Ⅶ	Ⅷ	Ⅸ	Ⅹ	Ⅺ

Ⅰ: Series No: Rear Drive Type
DRS: SAE C 6 Bolts
DRSS: SAE C 4 Bolts

Ⅱ: Volumetric Displacement(ml/rev.)

014 = 47.6	035 = 111.0
017 = 58.2	038 = 120.3
020 = 66.0	042 = 136.0
024 = 79.5	045 = 145.7
028 = 89.7	050 = 158.0
031 = 98.3	

Ⅲ: Type of shaft
1 = keyed (SAE C), 3 = splined (SAE C),
2 = keyed (SAE CC), 5 = keyed (no SAE),

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

Ⅴ: Porting combination

00(Standard)	01	02	03
			

Ⅵ: Adaptor
0 = None, A = SAE A, B = SAE B, C = SAE C

Ⅶ: Coupling
1 = SAE A, 3 = SAE BB, 5 = SAE J498b,
2 = SAE B, 4 = SAE C, 16/32-11 TEETH

Ⅷ: Porting adaptor

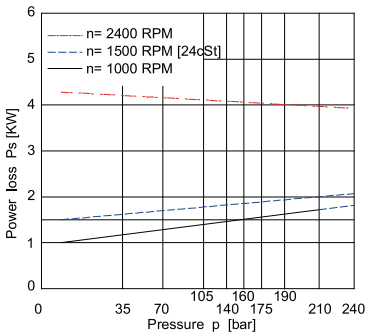
SAE C			
SAE A - SAE B		--	
0	1	2	3
			

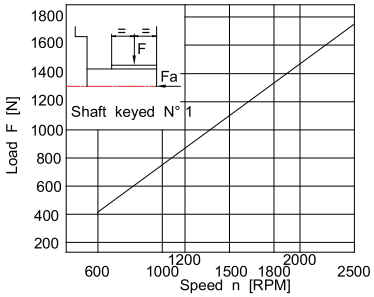
Ⅸ: Design letter

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

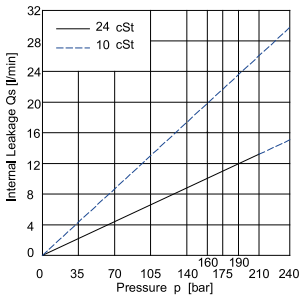
Ⅺ: Port Connection
M0: DIN 912 Bolts(Metric Std.) Omit: UNC Bolts

※PERFORMANCE CURVE





Maximum permissible axial load Fa = 1200 N



OPERATING CHARACTERISTICS - TYPICAL [24 cSt]

Series	Volumetric Displacement Vp	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
014	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)
017	58.2 ml/rev		58.2(87.3)	52.0(78.0)	47.8(71.8)	1.6(2.5)	14.8(22.2)	24.6(37.0)
020	66.0 ml/rev		66.0(99.0)	56.7(89.7)	50.5(83.5)	1.7(2.8)	16.8(24.9)	28.0(41.7)
024	79.5 ml/rev		79.5(119.3)	70.2(110.0)	64.0(103.8)	1.9(3.0)	19.9(29.6)	33.4(49.8)
028	89.7 ml/rev		89.7(134.5)	80.4(125.2)	74.2(119.0)	2.0(3.2)	22.3(33.2)	37.5(55.9)
031	98.3 ml/rev		98.3(147.4)	89.0(138.1)	82.8(131.9)	2.1(3.3)	24.3(36.2)	40.9(61.0)
035	111.0 ml/rev		111.0(166.5)	101.7(157.2)	95.5(151.0)	2.3(3.5)	27.3(40.7)	46.0(68.7)
038	120.3 ml/rev		120.3(180.4)	111.0(171.1)	104.8(164.9)	2.4(3.7)	29.4(43.9)	49.8(74.3)
042 [1]	136.0 ml/rev		136.0(204.0)	126.7(194.7)	120.5(188.5)	2.6(4.0)	33.1(49.4)	56.0(83.7)
045 [1]	145.7 ml/rev		145.7(218.2)	136.4(209.2)	130.2(203.0)	2.7(4.1)	35.3(52.8)	59.9(89.5)
050 [1]	158.0 ml/rev		158.0(237.0)	148.7(227.7)	145.0(224.0) [2]	2.8(4.4)	38.2(57.0)	56.8(85.0) [2]

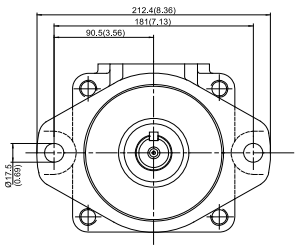
1) 042 - 045 - 050 = 2200 R.P.M. max. 2) 050 = 210 bar max. int. Port connection can be furnished with metric threads. T6D/T6DR Min. Speed = 600 r.p.m. T6DM Min. Speed = 400 r.p.m.

PUMPS

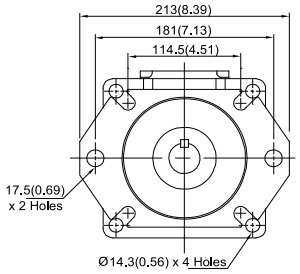
FIXED DISPLACEMENT VANE PUMPS- [240BAR]

※DIMENSIONS

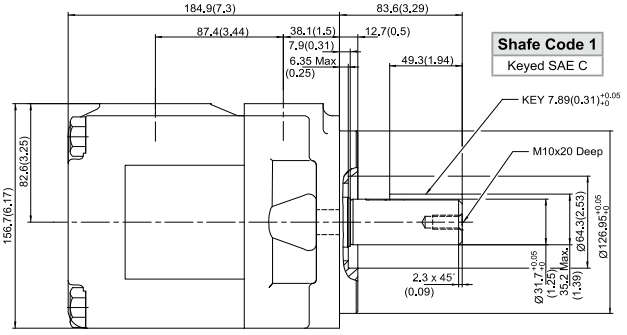
T6D/T6DM



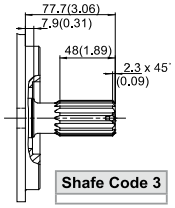
T6DS



T6D/T6DM

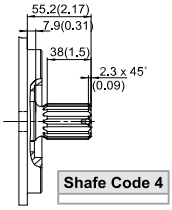


Shafe Code 1
Keyed SAE C



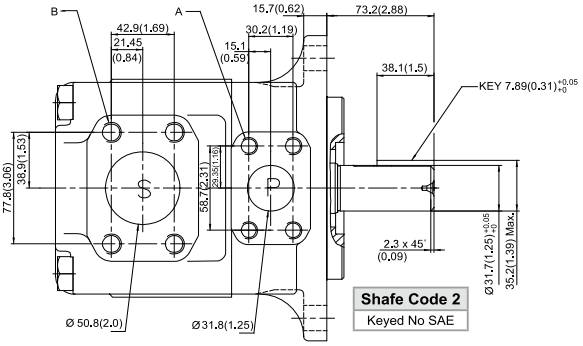
Shafe Code 3

SAE C splined shaft, Class 1-J498b 12/24 dp.-14 teeth, 30° pressure angle, flat root side fit.



Shafe Code 4

NO SAE splined shaft Class 1-J498b 12/24 dp.-14 teeth, 30° pressure angle, flat root side fit.

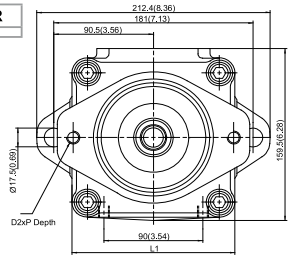


Shafe Code 2
Keyed No SAE

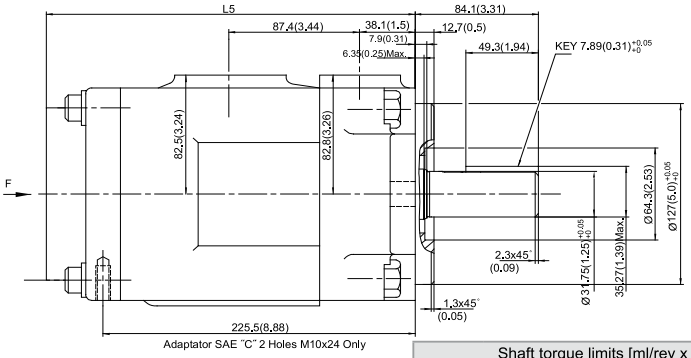
Code	Dimension for 4 Holes	
	S Port	P Port
Omit	1/2"-13UNC x 0.94 Deep	7/16"-14UNC x 0.88 Deep
M0	M12 x 23.9	M12 x 22.3

Shaft torque limits [ml/rev x bar]		
Pump	Shaft	Vp x p max.
T6D/T6DM	1	43283
	2	34590
	3	61200
	4	61200

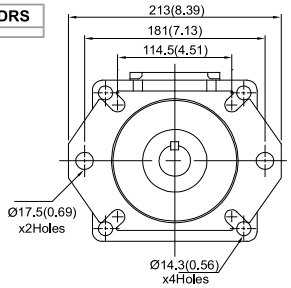
T6DR



T6DR/T6DRS/T6DRSS



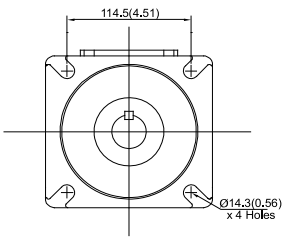
T6DRS

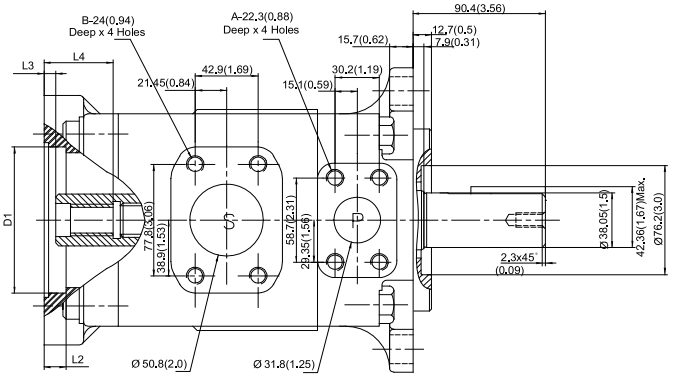


Code	Dimension for 4 Holes	
	B(S Port)	A(P Port)
Omit	1/2"-13UNC	7/16"-14UNC
M0	M12 x 22.3	M12 x 22.3

Shaft torque limits [ml/rev x bar]				
Pump	Shaft	V x p Max.	Coupling Drive	V x p Max.
T6DR/ T6DRS/ T6DRSS	1	43240	SAE A	11000
	2	66036	SAE B	20600
	3	61200	SAE BB	32670
	5	55600	SAE C	37390
			SAE-11 Teeth	15850

T6DRSS





Adapter	SAE A			SAE B		SAE C
Coupling Drive	SAE A	SAE 11 Teeth	SAE B	SAE B	SAE BB	SAE C
Number of Teeth	9	11	13	13	15	14
Pitch	16/32	16/32	16/32	16/32	16/32	12/24
Pressure Angle	30°	30°	30°	30°	30°	30°
Major Dia.(min)	15.875	19.05	22.225	22.225	25.40	31.750
Minor Dia.(min)	12.7	16.017	19.134	19.134	22.268	27.589

Adapter	D1	D2	P	L1	L2	L3	L4	L5
SAE A	82.6/82.65(3.25)	M10	24(0.94)	106.4(4.19)	11(0.43)	7.9(0.31)	32(1.26)	237(9.33)
SAE B	101.65/101.70(4.0)	M12	28(1.10)	146(5.75)	16(0.63)	7.9(0.31)	46(1.81)	251(9.88)
SAE C	127.05/127.1(5.0)	M16	---	181(7.13)	16(0.63)	7.9(0.31)	56(2.20)	261(10.28)

PUMPS

FIXED DISPLACEMENT VANE PUMPS- [240BAR]

※MODEL NUMBER DESIGNATION

T6E(M)-	066-	1-	R-	00-	B-	1-	(M0)
Ⅰ	Ⅱ	Ⅲ	Ⅳ	Ⅴ	Ⅵ	Ⅶ	Ⅷ

Ⅰ : Series No.
T6D: Industrial Application
T6DM: Moblie Application

Ⅱ : Volumetric Displacement(ml/rev.)
042= 132.3 062 = 196.7
045 = 142.4 066 = 213.3
050 = 158.5 072 = 227.1
052 = 164.8 085 = 269.8

Ⅲ : Type of shaft
1 = keyed (SAE C)
2 = keyed (no SAE)
3 = splined (SAE C)
4 = splined (SAE CC)

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

Ⅴ : Porting combination

00 (Standard)	01	02	03
			

P = Pressure port, S = Suction port

Ⅵ : Design letter

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

Ⅷ : Port Connection
M0: DIN 912 Bolts(Metric Std.) Omit: UNC Bolts

T6ER	066-	1-	R-	00-	A-	1-	0-	A-	1-	(M0)
Ⅰ	Ⅱ	Ⅲ	Ⅳ	Ⅴ	Ⅵ	Ⅶ	Ⅷ	Ⅸ	Ⅹ	Ⅺ

Ⅰ : Series No: Rear Drive Type

Ⅱ : Volumetric Displacement(ml/rev.)
042= 132.3 062 = 196.7
045 = 142.4 066 = 213.3
050 = 158.5 072 = 227.1
052 = 164.8 085 = 269.8

Ⅲ : Type of shaft
1 = keyed (SAE CC),
3 = splined (SAE C),
4 = splined (SAECC),

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

Ⅴ : Porting combination

00(Standard)	01	02	03
			

Ⅵ : Adaptor
0 = None, A = SAE A, B = SAE B, C = SAE C

Ⅶ : Coupling
1 = SAE A, 3 = SAE BB, 5 = SAE J498b,
2 = SAE B, 4 = SAE C, 16/32-11 TEETH

Ⅷ : Porting adaptor

SAE C	
SAE A - SAE B	---

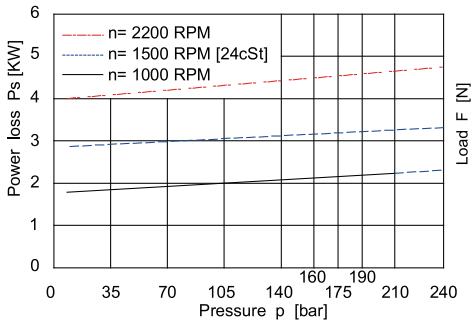
0	1	2	3
			

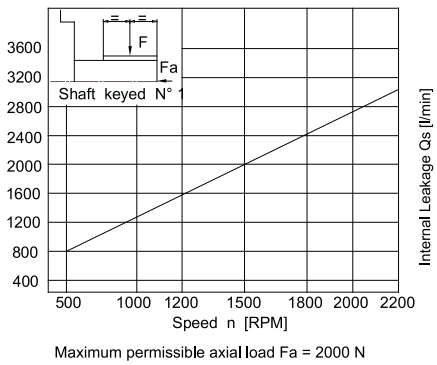
Ⅸ : Design letter

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

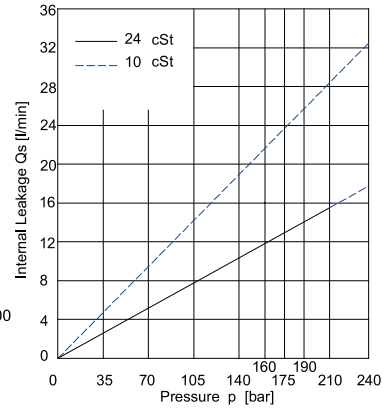
Ⅺ : Port Connection
M0: DIN 912 Bolts(Metric Std.) Omit: UNC Bolts

※PERFORMANCE CURVE





Maximum permissible axial load Fa = 2000 N



OPERATING CHARACTERISTICS - TYPICAL [24 cSt]

Series	Volumetric Displacement Vp	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		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		158.5(237.7)	148.5(227.2)	141.4(220.6)	3.5(5.7)	39.0(58.5)	65.6(98.3)
052	164.8 ml/rev		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		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		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		227.1(340.6)	217.1(330.6)	210.0(323.5)	4.3(6.9)	55.0(82.6)	93.1(139.5)
085 [1]	269.8 ml/rev		269.8(404.7) [2]	265.1(397.7)	—	4.8(7.3) [2]	43.5(65.3) [2]	—

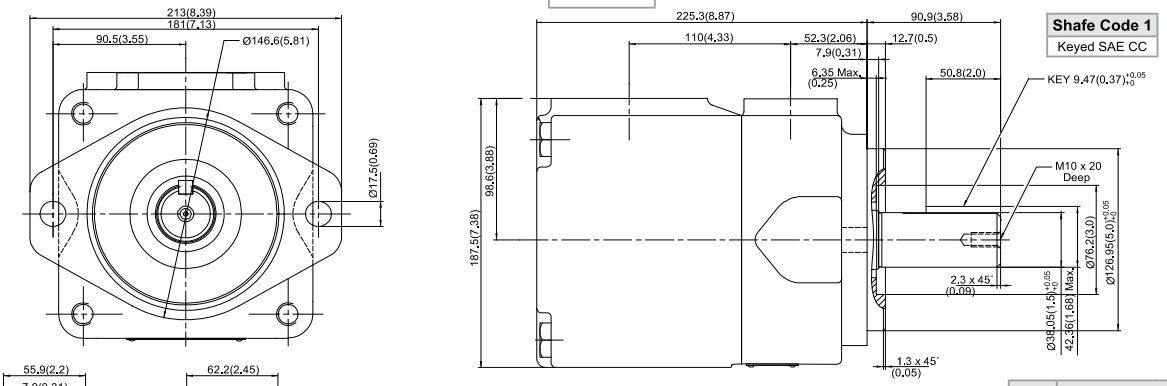
1) 085 = 2000 R.P.M. max. 2) 085 = 75 bar max. cont. Port connection can be furnished with metric threads. T6E/T6ER Min. Speed = 600 r.p.m. T6EM Min. Speed = 400 r.p.m.

PUMPS

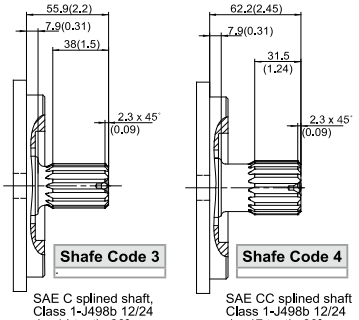
FIXED DISPLACEMENT VANE PUMPS- [240BAR]

※DIMENSIONS

T6E/T6EM



Shafe Code 1
Keyed SAE CC

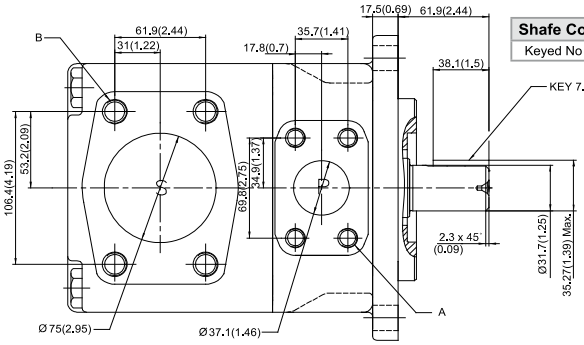


Shafe Code 3

SAE C splined shaft,
Class 1-J498b 12/24
dp.-14 teeth, 30°
pressure angle, flat
root side fit.

Shafe Code 4

SAE CC splined shaft
Class 1-J498b 12/24
dp.-17 teeth, 30°
pressure angle, flat
root side fit.

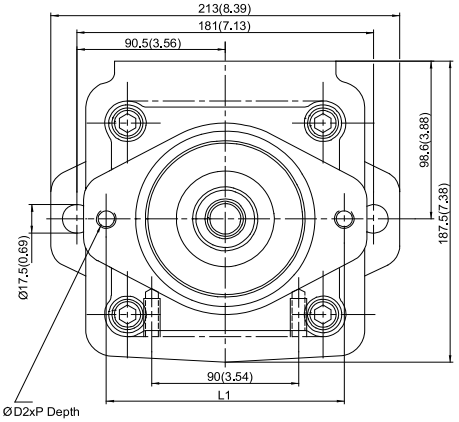


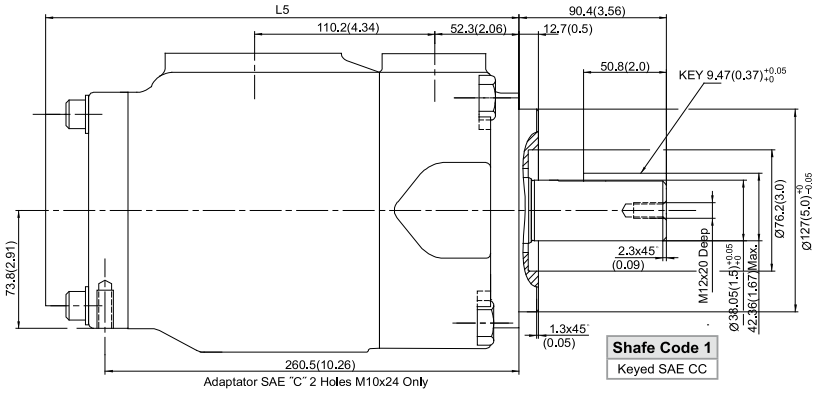
Shafe Code 2
Keyed No SAE

Code	Dimension for 4 Holes	
	A(P Port)	B(S Port)
Omit	1/2"-13UNC x 0.92 Deep	5/8"-11UNC x 0.94 Deep
M0	M12 x 23.4	M16 x 24

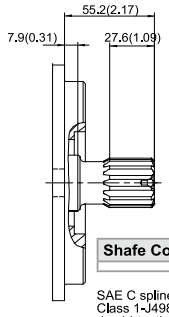
Shaft torque limits [ml/rev x bar]		
Pump	Shaft	Vp x p max.
T6E/T6EM	1	54555
	2	34590
	3	61200
	4	61200

T6ER





Shafe Code 1
Keyed SAE CC

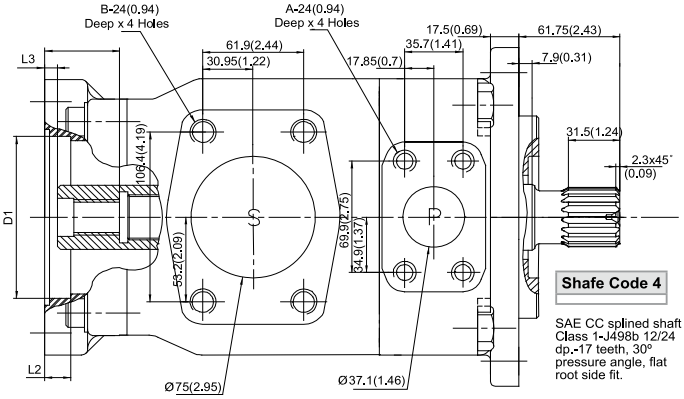


Shafe Code 3

SAE C splined shaft,
Class 1-J498b 12/24
dp.-14 teeth, 30°
pressure angle, flat
root side fit.

Shaft torque limits [ml/rev x bar]				
Pump	Shaft	V x p Max.	Coupling Drive	V x p Max.
T6ER	1	80560	SAE A	11000
	3	61200	SAE B	20600
	4	120210	SAE BB	32670
			SAE C	66480
			SAE-11 Teeth	15850

Code	Dimension for 4 Holes	
	A(P Port)	B(S Port)
Omit	1/2"-13UNC	5/8"-11UNC
M0	M12 x 23.4	M16 x 24



Shafe Code 4

SAE CC splined shaft
Class 1-J498b 12/24
dp.-17 teeth, 30°
pressure angle, flat
root side fit.

Adapter	SAE A		SAE B			SAE C
Coupling Drive	SAE A	SAE 11 Teeth	SAE B	SAE B	SAE BB	SAE C
Number of Teeth	9	11	13	13	15	14
Pitch	16/32	16/32	16/32	16/32	16/32	12/24
Pressure Angle	30°	30°	30°	30°	30°	30°
Major Dia.(min)	15.875	19.05	22.225	22.225	25.40	31.750
Minor Dia.(min)	12.7	16.017	19.134	19.134	22.268	27.589

Adapter	D1	D2	P	L1	L2	L3	L4	L5
SAE A	82.6/82.65(3.25)	M10	24(0.94)	106.4(4.19)	11(0.43)	7.9(0.31)	32(1.26)	272(10.7)
SAE B	101.65/101.70(4.0)	M12	28(1.10)	146(5.75)	16(0.63)	7.9(0.31)	46(1.81)	286(11.26)
SAE C	127.05/127.1(5.0)	M16	---	181(7.13)	16(0.63)	7.9(0.31)	56(2.20)	296(11.65)

PUMPS

FIXED DISPLACEMENT VANE PUMPS- [275BAR]

※MODEL NUMBER DESIGNATION

T6GC-	B14-	6-	R-	00-	A-	1-	00-
Ⅰ	Ⅱ	Ⅲ	Ⅳ	Ⅴ	Ⅵ	Ⅶ	Ⅷ

Ⅰ : Series No.
High Shaft Load Type

Ⅱ : Volumetric Displacement(ml/rev.)

B03 = 10.8	B17 = 58.3
B05 = 17.2	B20 = 63.8
B06 = 21.3	B22 = 70.3
B08 = 26.4	B25 = 79.3
B10 = 34.1	B28 = 88.8
B12 = 37.1	B31 = 100.0
B14 = 46.0	

Ⅲ : Type of shaft
6 = splined (DIN 5462)

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

Ⅴ : Porting combination: See page 173
00 = Standard

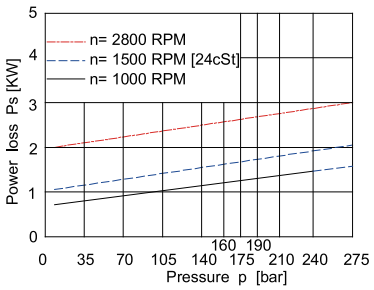
Ⅵ : Design letter

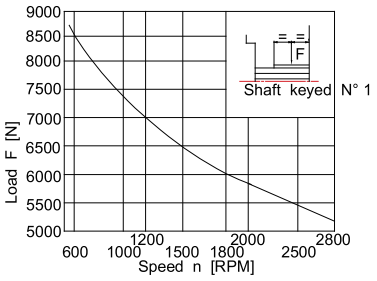
Ⅶ : Seal class 1 = S1 (for mineral oil)

Ⅷ : Mounting W/connection variables

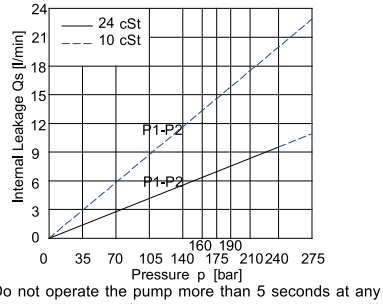
	UNC		Metric	
Code	00	01	M0	M1
S=1-1/2"	SAE	SAE	SAE	SAE
P=1"	BSPP	SAE	BSPP	SAE

※PERFORMANCE CURVE





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



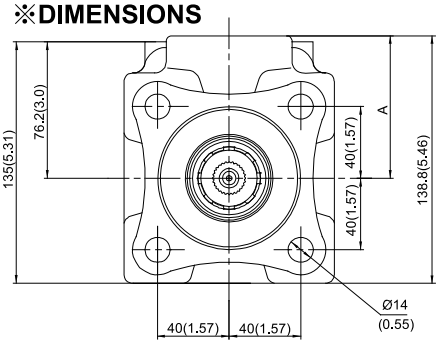
Do not operate the pump more than 5 seconds at any speed or viscosity if internal leakage is more than 50% of theoretical flow. Total leakage is the sum of each section loss at its operating conditions.

OPERATING CHARACTERISTICS - TYPICAL [24 cSt]

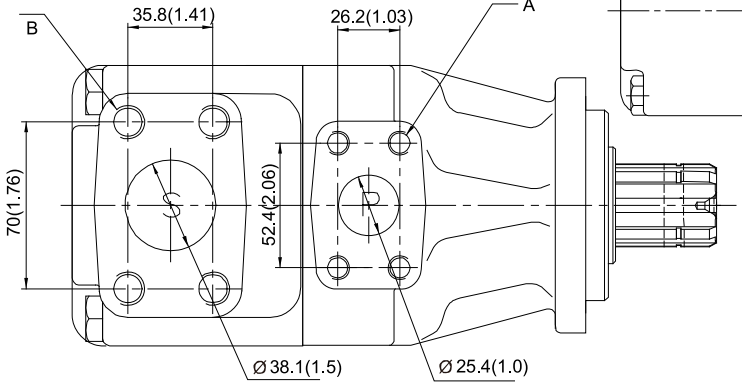
Series	Volumetric Displacement Vp	Speed n [R.P.M.]	Flow Q [l/min]			Input power P [kW]		
			p = 0 bar	p = 140 bar	p = 240 bar	p = 7 bar	p = 140 bar	p = 240 bar
B03	10.8ml/rev	1000(1500)	10.8(16.2)	7.5(11.2)	---	0.9(1.3)	3.6(5.3)	—
B05	17.3ml/rev		17.2(25.8)	13.9(20.8)	11.5(17.3)	1.0(1.4)	5.1(7.5)	8.3(12.2)
B06	21.3ml/rev		21.3(31.9)	16.3(26.9)	12.8(23.4)	1.1(1.5)	6.0(8.9)	10.0(14.7)
B08	26.4 ml/rev		26,4(39,6)	34.6(21.4)	17.9(31.1)	1.2(1.6)	7.2(10.7)	12.1(17.7)
B10	34.1ml/rev		34,1(51,1)	29.1(46.1)	25.6(42.6)	1.3(1.7)	8.9(13.4)	15.1(22.3)
B12	37.1 ml/rev		37,1(55,6)	32.1(50.6)	28.6(47.1)	1.3(1.7)	9.6(14.4)	16.3(24.1)
B14	46.0ml/rev		46,0(69,0)	41.0(64.0)	37.5(60.5)	1.4(1.9)	11.7(17.6)	19.9(29.5)
B17	58.3 ml/rev		58,3(87,4)	53.3(82.4)	49.8(78.9)	1.6(2.1)	14.5(21.9)	24.8(36.9)
B20	63.8ml/rev		63,8(95,7)	58,3(90,2)	55.3(87.2)	1.6(2.2)	15.81(23.82)	27.0(40.2)
B22	70.3 ml/rev		70,3(105,4)	65.3(100.4)	61.8(96.9)	1.7(2.3)	17.3(26.1)	29.6(44.1)
B25 1)	79.3ml/rev		79,3(118,9)	74.3(113.9)	70.8(109)	1.8(2.5)	19.3(29.2)	33.2(49.5)
B28 1)	88.8 ml/rev		88,8(133,2)	83.8(128.2)	81.4(1224.5) 2)	1.9(2.8)	21.9(32.7)	32.5(48.5) 2)
B31 1)	100.0ml/rev		100,0(150,0)	95.0(145.0)	92.6(141.3) 2)	2.0(2.8)	24.4(36.5)	36.4(54.4) 2)

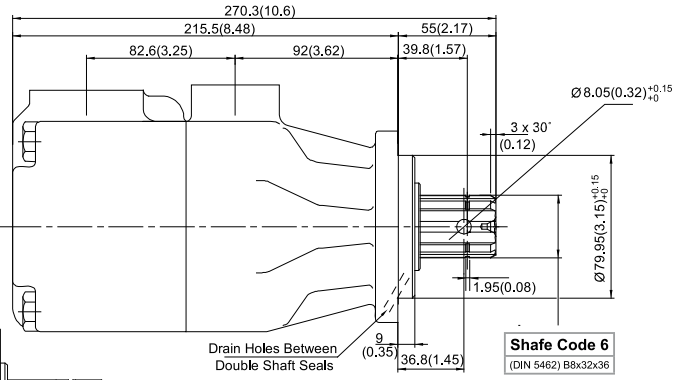
1) B25, B28, B31 = 2500 R.P.M. max. 2) B28, B31 = 210 bar max. int.
* Not to use because internal leakage greater than 50% theoretical flow.

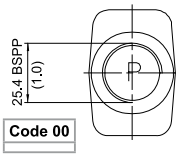
※DIMENSIONS



Code	Dimension for 4 Holes	
	A(P Port)	B(S Port)
01	3/8"-16UNCx0.75 Deepx4Holes	1/2"-13UNCx0.9 Deepx4Holes
M1	M10x19	M12x22.4







PUMPS

FIXED DISPLACEMENT VANE PUMPS- [320BAR]

※MODEL NUMBER DESIGNATION

T7B(S)-	B14-	4-	R-	00-	A-	1-	00-
Ⅰ	Ⅱ	Ⅲ	Ⅳ	Ⅴ	Ⅵ	Ⅶ	Ⅷ

Ⅰ : Series No.
T7B: 100 A2 HW, ISO 2 Bolts 3019-2 mounting flange.
T7BS: SAE B 2 Bolts, J744 mounting flange

Ⅱ : Volumetric Displacement(ml/rev.)

B02 = 5.7	B09 = 28.0
B03 = 9.8	B10 = 31.8
B04 = 12.8	B11 = 34.9
B05 = 15.9	B12 = 40.9
B06 = 19.8	B14 = 45.1
B07 = 22.5	B15 = 50.0
B08 = 24.9	

Ⅲ : Type of shaft: T7B, T7BS
2 = keyed (ISO R775)
Type of shaft: T7BS
1 = keyed (SAE B)
3 = splined (SAE B)
4 = splined (SAE BB)

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

Ⅴ : Porting combination

00 (Standard)	01	02	03
			

P = Pressure port, S = Suction port

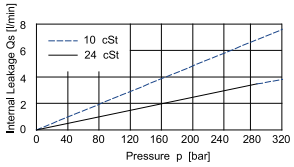
Ⅵ : Design letter

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

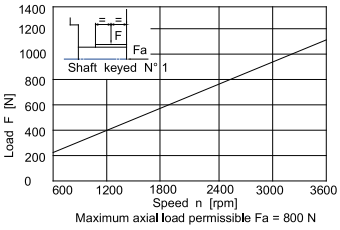
Ⅷ : Mounting W/connection variables: 4 bolts SAE flange (J518C)

Standard	UNC		Metric	
Model	T7BS		T7B, T7BS	
Code	00	01	M0	M1
P	1"	3/4"	1"	3/4"
S	1-1/2"			

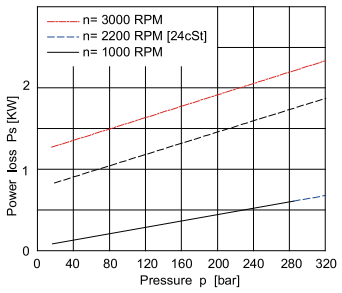
※PERFORMANCE CURVE



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



Maximum axial load permissible Fa = 800 N

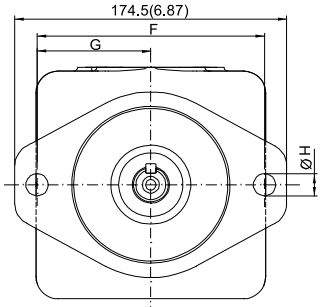


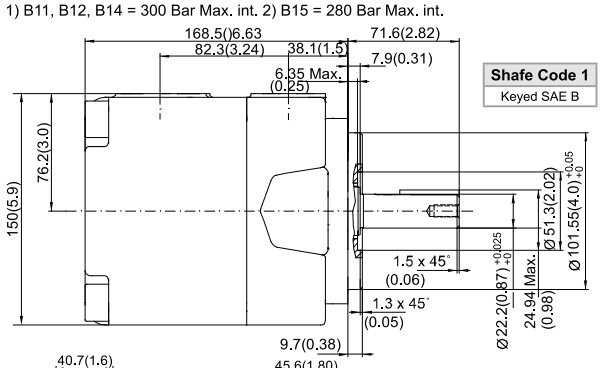
OPERATING CHARACTERISTICS - TYPICAL [24 cSt]

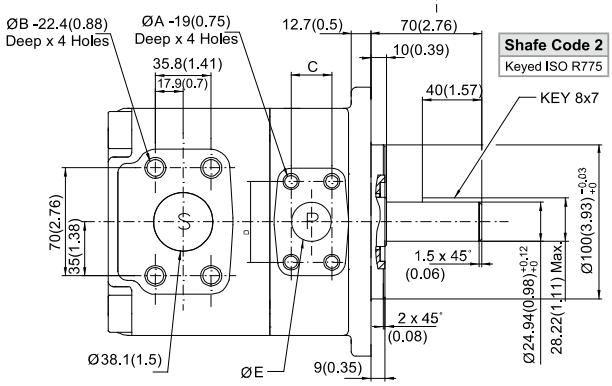
Series	Volumetric Displacement Vp	Speed n [R.P.M.]	Flow Q [l/min]			Input power P [kW]		
			p = 0 bar	p = 140 bar	p = 320 bar	p = 7 bar	p = 140 bar	p = 320 bar
B02	5.8 ml/rev.	1500 (1800)	8.7(10.4)	7(8.8)	4.8(6.5)	0.5(0.55)	2.6(2.99)	5.4(6.4)
B03	9.8 ml/rev.		14.7(17.6)	13(15.9)	10.8(13.7)	0.6(0.63)	4(4.65)	8.6(10.25)
B04	12,8 ml/rev		19.2(23)	17.5(21.4)	15,3(19.2)	0,6(0.7)	5(5.89)	11(13.13)
B05	15,9 ml/rev		23.9(28.6)	22.2(26.9)	20(24.6)	0.7(0.76)	6.1(7.17)	13.5(16.12)
B06	19,8 ml/rev		29.7(35.6)	28(33.9)	25.8(31.7)	0.7(0.84)	7.5(8.79)	16.6(19.88)
B07	22,5 ml/rev		33.7(40.4)	32(38.8)	29.9(36.5)	0.8(0.89)	8.5(9.91)	18.8(22.47)
B08	24,9 ml/rev		37.4(44.7)	35.7(43.1)	33.5(40.9)	0.8(0.94)	9.3(10.9)	20.7(24.78)
B09	28,0 ml/rev		42(50.3)	40.3(48.6)	38.1(46.4)	0.9(1.01)	10.4(12.19)	23.2(27.77)
B10	31,8 ml/rev		47.7(57.2)	46(55.5)	43.8(53.4)	0.9(1.11)	11.7(13.75)	26.2(31.42)
B11	35,0 ml/rev		52.5(62.9)	50.8(61.2)	48.9(59) 1)	1(1.15)	12.8(15.04)	27(32.22) 1)
B12	41,0 ml/rev		61.5(73/7)	59.8(72.1)	57.9(70.1) 1)	1.1(1.28)	14.9(17.56)	31.5(37.71) 1)
B14	45,0 ml/rev		67.5(80.8)	65.8(79.2)	63.9(77) 1)	1.2(1.36)	16.3(19.23)	34.5(41.37) 1)
B15	50,0 ml/rev		75(89.8)	73.3(88.3)	71.6(86.5) 2)	1.3(1.47)	18.1(21.28)	35.7(42.76) 2)

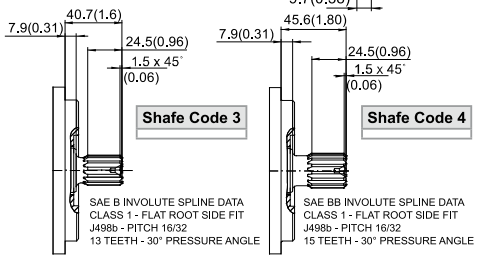
1) B11, B12, B14 = 300 Bar Max. int. 2) B15 = 280 Bar Max. int.

※DIMENSIONS









Code	T7BS		T7B	
	00	01	M0	M1
A	3/8"-16UNC		M10x19	
B	1/2"-13UNC		M12x22.4	
C	26.2(1.03)	22.25(0.88)	26.2(1.03)	22.25(0.88)
D	52.4(2.06)	47.65(1.88)	52.4(2.06)	47.65(1.88)
E	25.4(1.0)	19.1(0.75)	25.4(1.0)	19.1(0.75)
F	146(5.75)		140(5.51)	
G	73(2.87)		70(2.76)	
H	14.3(0.56)		14(0.55)	

Shaft torque limits [ml/rev x bar]		
Pump	Shaft	Vp x p max.
T7B	1	16516
	2	20620
	3	20620
	4	20620

PUMPS

FIXED DISPLACEMENT VANE PUMPS- [300BAR]

※MODEL NUMBER DESIGNATION

T7D(S)-	B24-	4-	R-	00-	A-	1-	00-
Ⅰ	Ⅱ	Ⅲ	Ⅳ	Ⅴ	Ⅵ	Ⅶ	Ⅷ

Ⅰ : Series No.
T7B: 125 A2 HW, ISO 2 Bolts 3019-2 mounting flange.
T7BS: SAE C 2 Bolts, J744 mounting flange

Ⅱ : Volumetric Displacement(ml/rev.)

B14 = 44.0	B31 = 99.2
B17 = 55.0	B35 = 113.4
B20 = 66.0	B38 = 120.6
B22 = 70.3	B42 = 137.5
B24 = 81.1	045 = 147.5
B28 = 90.0	050 = 158.0

Ⅲ : Type of shaft: T7D, T7DS
5 = keyed (ISO 3019-2-G32M)
Type of shaft: T7DS
1 = keyed (SAE C 32-1)
2 = keyed (non SAE)
3 = splined (SAE C 32-4)
4 = splined (non SAE)

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

Ⅴ : Porting combination

00 (Standard)	01	02	03
			

P = Pressure port, S = Suction port

Ⅵ : Design letter

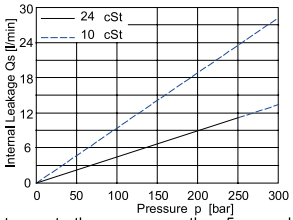
Ⅶ : Seal class: 1 = S1 (for mineral oil)
4 = S4 (for the resistant fluids)
5 = S5 (for mineral oil and fire resistant fluids)

Ⅷ : Mounting W/connection variables: 4 bolts SAE flange (J518)

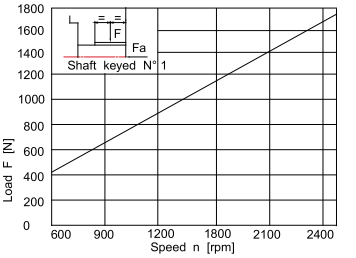
	P= 1-1/4", S= 2"		
Standard	UNC	Metric	
T7D		M0	
T7DS	00	M0	Y0*

Y0* = 250 Bar Max. int.

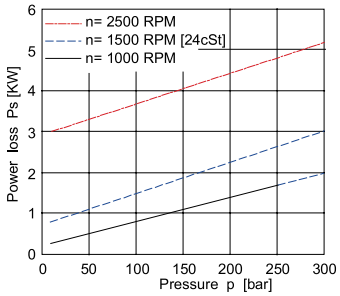
※PERFORMANCE CURVE



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



Maximum permissible axial load Fa = 1200 N

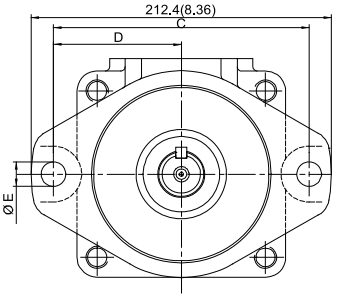


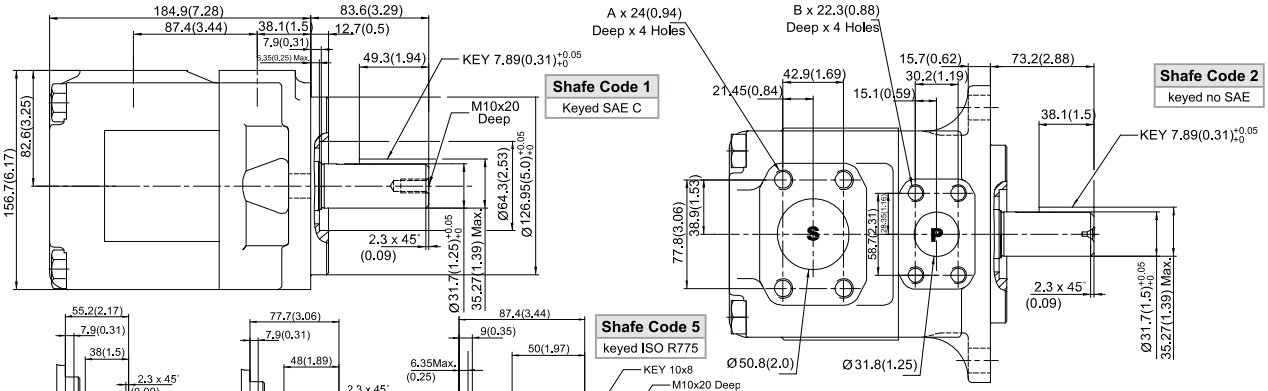
OPERATING CHARACTERISTICS - TYPICAL [24 cSt]

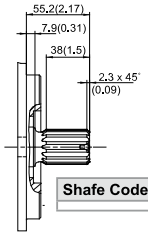
Series	Volumetric Displacement Vp	Speed n [R.P.M.]	Flow Q [l/min]			Input power P [kW]		
			p = 0 bar	p = 140 bar	p = 300 bar	p = 7 bar	p = 140 bar	p = 300 bar
B14	44,0 ml/rev.	1500 (1800)	66(79.1)	59.4(72.5)	51.9(64.9)	1.5(2.6)	16.6(20.7)	34.2(43.6)
B17	55,0 ml/rev.		82.5(98.8)	75.9(92.3)	68.4(84.7)	1.7(2.8)	20.4(25.3)	42.4(53.6)
B20	66.0 ml/rev		99(118.6)	92.4(112)	84.9(104.5)	1.9(3.0)	24.3(29.8)	50.7(63.6)
B24	81,1 ml/rev		121.7(145.8)	115(139.2)	107.5(131.6)	2.2(3.4)	29.5(36.1)	62(77.4)
B28	90,0 ml/rev		135(161.8)	128.4(155.2)	120.9(147.6)	2.3(3.5)	32.7(39.7)	68.7(85.5)
B31	99,2 ml/rev		148.8(178.3)	142.2(171.7)	134.7(164.2)	2.5(3.7)	35.9(43.6)	75.6(93.7)
B35	113,4 ml/rev		170.1(203.9)	163.5(197.2)	156.9(190.6) 1)	2.7(4.0)	40.8(49.4)	80.5(97.2) 1)
B38	120,6 ml/rev		180.9(216.8)	174.3(210.2)	167.7(203.6) 1)	2.9(4.2)	43.4(52.4)	85.6(103.2) 1)
B42	137,5 ml/rev		206.3(247.2)	199.6(240.6)	194(234.9) 2)	3.2(4.5)	49.3(59.4)	90.5(111.4) 2)
B45	145,7 ml/rev		218.6(262)	209.2(253.6)	202.6(247.5) 3)	4.1(5.0)	52.8(62.4)	89.5(107.7) 3)
B50	158.0 ml/rev		237(284)	227.7(275.8)	223(271.3) 4)	4.4(5.3)	57.1(67.5)	85(100.3) 4)

1) B35, B38 = 280 Bar Max. int. 2) B42 = 260 Bar Max. int. 3) B45 = 240 Bar Max. int. 4) B50 = 210 Bar Max. int.

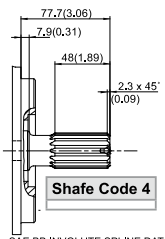
※DIMENSIONS



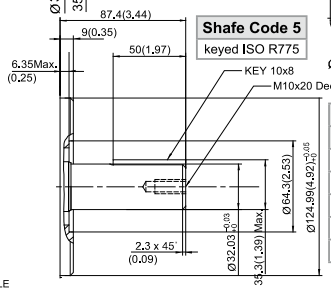




SAE B INVOLUTE SPLINE DATA
CLASS 1 - FLAT ROOT SIDE FIT
J498b - PITCH 16/32
13 TEETH - 30° PRESSURE ANGLE



SAE BB INVOLUTE SPLINE DATA
CLASS 1 - FLAT ROOT SIDE FIT
J498b - PITCH 16/32
15 TEETH - 30° PRESSURE ANGLE



	T7DS			T7D
Code	00	01	M0	M1
A	1/2"-13UNC	M12	M12	M12
B	7/16"-14UNC	M12	M10	M12
C	181(7.13)			180(7.09)
D	90.5(3.56)			90(3.54)
E	17.5(0.69)			18(0.71)

Shaft torque limits [ml/rev x bar]		
Pump	Shaft	Vp x p max.
T7D	1	4283
	2	34590
	3	61200
	4	61200
	5	44344

PUMPS

FIXED DISPLACEMENT VANE PUMPS- [275BAR]

※MODEL NUMBER DESIGNATION

T6CC-	W-	022-	008-	1-	R-	00-	C-	1	00
Ⅰ	Ⅱ	Ⅲ(P1)	Ⅳ(P2)	Ⅴ	Ⅵ	Ⅶ	Ⅷ	Ⅸ	Ⅹ

Ⅰ: Series No.
Ⅱ: Use for severe duty shaft only*
Ⅲ, Ⅳ: Volumetric Displacement(ml/rev.)

003 = 10.8	017 = 58.3
005 = 17.2	020 = 63.8
006 = 21.3	022 = 70.3
008 = 26.4	025 = 79.3
010 = 34.1	028 = 88.8
012 = 37.1	031 = 100.0
014 = 46.0	

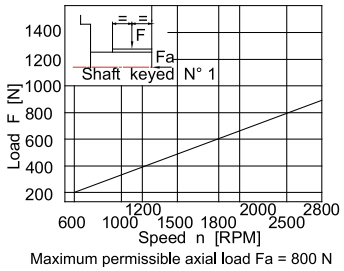
Ⅴ: Type of shaft
1 = keyed (no SAE), 3 = splined (SAE BB),
5 = splined (SAE B)
W Version:
2 = keyed (SAE BB), S = splined(DIN 5462)
Ⅵ: Direct. of rotation (view on shaft end)
R = clockwise, L = counter-clockwise

Ⅶ: Porting combination: See page 173
00 = Standard
Ⅷ: Design letter
Ⅸ: Seal class
1 = S1 (for mineral oil), 4 = S4 (for the resistant fluids),
5 = S5 (for mineral oil and fire resistant fluids)
Ⅹ: Mounting W/connection variables: 4 bolts SAE flange (J518)

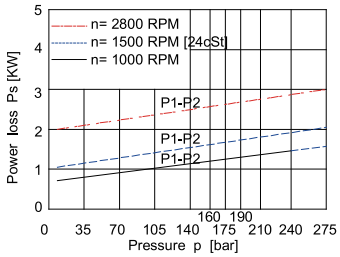
		P1=1",S=3"		P1 = 1" , S= 2-1/2"2)	
P2		1"	3/4"1)	1"	3/4"2)
Code	UNC	00	01	10	11
	Metric	M0	W0	1M	W1

1) for 46 ml/rev. max., 2) for 126 ml/rev. max. The largest cartridge must be always mounted in the front.

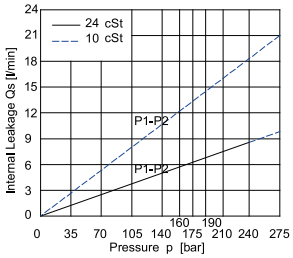
※PERFORMANCE CURVE



Maximum permissible axial load Fa = 800 N



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



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.

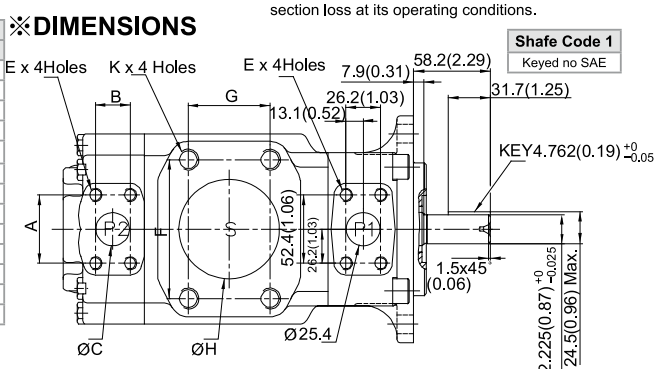
OPERATING CHARACTERISTICS - TYPICAL [24 cSt]

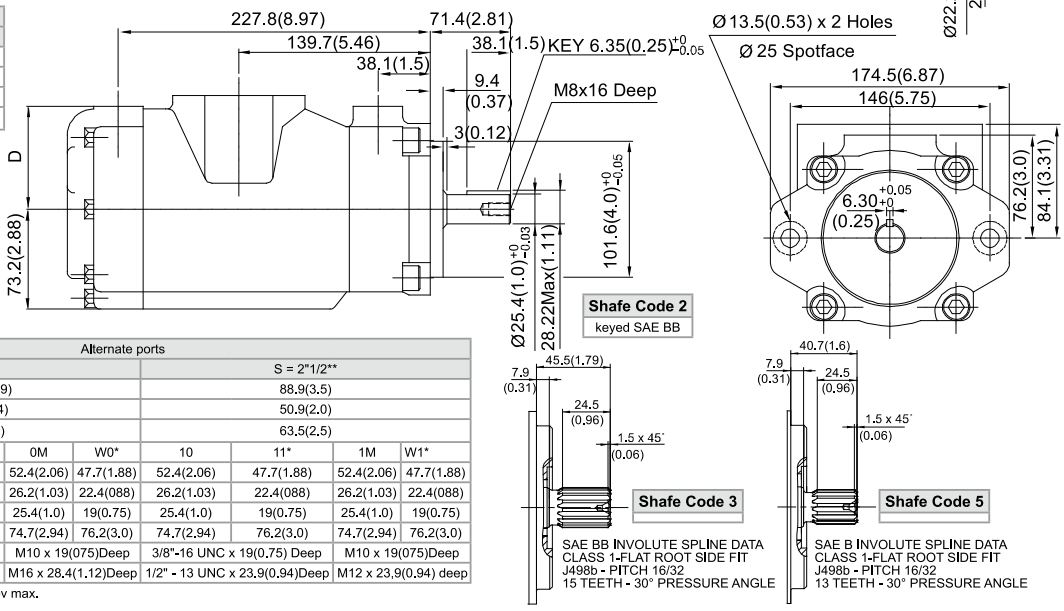
Pressure Port	Series	Volumetric Displacement Vp	Flow Q [l/min] & n= 1500 RPM			Input power P [kW] & n=1500 RPM		
			p = 0 bar	p = 140 bar	p = 240 bar	p = 7 bar	p = 140 bar	p = 240 bar
P1 & P2	003	10.8 ml/rev	16.2	11.2	7.7	1.3	5.3	8.4
	005	17.2 ml/rev	25.8	20.8	17.3	1.4	7.5	12.2
	006	21.3 ml/rev	31.9	26.9	23.4	1.5	8.9	14.7
	008	26.4 ml/rev	39.6	34.6	31.1	1.6	10.7	17.7
	010	34.1 ml/rev	51.1	46.1	42.6	1.7	13.4	22.3
	012	37.1 ml/rev	55.6	50.6	47.1	1.7	14.4	24.1
	014	46.0 ml/rev	69.0	64.0	60.5	1.9	17.6	29.5
	017	58.3 ml/rev	87.4	82.4	78.9	2.1	21.9	36.9
	020	63.8 ml/rev	95.7	90.7	87.2	2.2	23.8	40.2
	022	70.3 ml/rev	105.4	100.4	96.9	2.3	26.1	44.1
	025 1)	79.3 ml/rev	118.9	113.9	110.4	2.5	29.2	49.5
	028 1,2)	88.8 ml/rev	133.2	128.2	125.8	2.8	32.7	48.5
	031 1,2)	100.0 ml/rev	150.0	145.0	142.6	2.8	36.5	54.4

1) 025, 028, 031 = 2500 R.P.M. max. 2) 028, 031 = 210 bar max. int.

Shaft torque limits [ml/rev x bar]		
Pump	Shaft	V x p max. P1+P2
T6CC	1	14300
	2	21420
	3	32670
	5	20600

※DIMENSIONS





Alternate ports								
	S = 3"				S = 2"1/2**			
F	106.4(4.19)				88.9(3.5)			
G	61.9(2.44)				50.9(2.0)			
H	76.2(3.0)				63.5(2.5)			
Code	00	01*	0M	W0*	10	11*	1M	W1*
A	52.4(2.06)	47.7(1.88)	52.4(2.06)	47.7(1.88)	52.4(2.06)	47.7(1.88)	52.4(2.06)	47.7(1.88)
B	26.2(1.03)	22.4(088)	26.2(1.03)	22.4(088)	26.2(1.03)	22.4(088)	26.2(1.03)	22.4(088)
C	25.4(1.0)	19(0.75)	25.4(1.0)	19(0.75)	25.4(1.0)	19(0.75)	25.4(1.0)	19(0.75)
D	74.7(2.94)	76.2(3.0)	74.7(2.94)	76.2(3.0)	74.7(2.94)	76.2(3.0)	74.7(2.94)	76.2(3.0)
E	3/8"-16 UNC x 19(0.75) Deep		M10 x 19(075)Deep		3/8"-16 UNC x 19(0.75) Deep		M10 x 19(075)Deep	
K	5/8"-11 UNC x 28.4(1.12) Deep		M16 x 28.4(1.12)Deep		1/2" - 13 UNC x 23.9(0.94)Deep		M12 x 23,9(0.94) deep	

* Max. cam 014, ** P1 + P2 = 126 ml/rev max.

PUMPS

FIXED DISPLACEMENT VANE PUMPS- [275BAR]

※MODEL NUMBER DESIGNATION

T6DC-	W-	045-	014-	1-	R-	00-	B-	1	00
I	II	III (P1)	IV (P2)	V	VI	VII	VIII	IX	X

I : Series No.

II : Use for severe duty shaft only*

III : Volumetric Displacement(ml/rev.) for P1

014 = 44.0	035 = 113.4
017 = 55.0	038 = 120.6
020 = 66.0	042 = 137.5
024 = 81.1	045 = 147.5
028 = 90.0	050 = 158.0
031 = 99.2	

IV : Volumetric Displacement(ml/rev.) for P2

003 = 10.8	017 = 58.3
005 = 17.2	020 = 63.8
006 = 21.3	022 = 70.3
008 = 26.4	025 = 79.3
010 = 34.1	028 = 88.8
012 = 37.1	031 = 100.0
014 = 46.0	

V : Type of shaft
1 = keyed (SAE C), 2 = keyed (no SAE), 3 = splined (SAE C), 4 = splined (no SAE)
Type of shaft- Severe duty (T6DCW only) 5 = keyed (no SAE)

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

VII : Porting combination: See page 173
00 = Standard

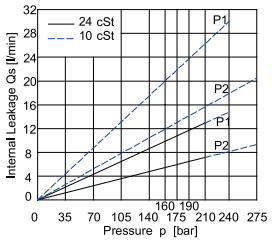
VIII : Design letter

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

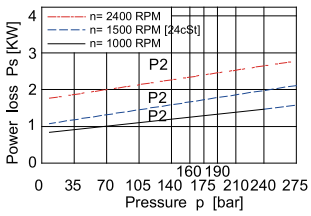
X : Mounting W/connection variables

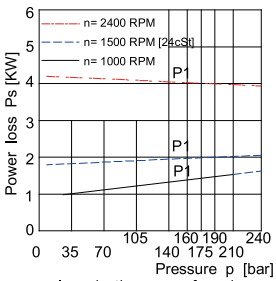
	UNC		Metric	
Code	00	01	M0	M1
P2	1"	3/4"	1"	3/4"

※PERFORMANCE CURVE

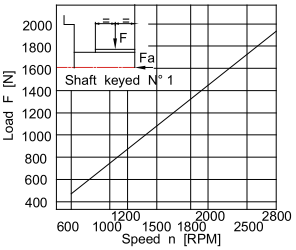


Do not operate the pump more than 5 seconds at any speed or viscosity if internal leakage is more than 50% of theoretical flow. Total leakage is the sum of each section loss at its operating conditions.





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



Maximum permissible axial load Fa = 1200 N

OPERATING CHARACTERISTICS - TYPICAL [24 cSt]

Pressure Port	Series	Volumetric Displacement Vp	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	014	47.6 ml/rev	71.4	62.1	55.9	2.3	18.5	30.6
	017	58.2 ml/rev	87.3	78.0	71.8	2.5	22.2	37.0
	020	66.0ml/rev	99.0	89.7	83.5	2.8	24.9	41.7
	024	79.5 ml/rev	119.3	110.0	103.8	3.0	29.6	49.8
	028	89.7 ml/rev	134.5	125.2	119.0	3.2	33.2	55.9
	031	98.3 ml/rev	147.4	138.1	131.9	3.3	36.2	61.0
	035	111.0 ml/rev	166.5	157.2	151.0	3.5	40.7	68.7
	038	120.3 ml/rev	180.4	171.1	164.9	3.7	43.9	74.3
	042 1)	136.0 ml/rev	204.0	194.7	188.5	4.0	49.4	83.7
	045 1)	145.7 ml/rev	218.5	209.2	203.0	4.1	52.8	89.5
	050 1)	158.0 ml/rev	237.0	227.7	224.0 2)	4.4	57.0	85.0 2)

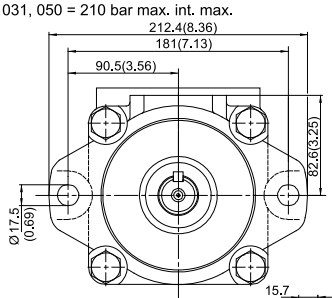
Pressure Port	Series	Volumetric Displacement Vp	Flow Q [l/min] & n= 1500 RPM			Input power P [kW] & n=1500 RPM		
			p = 0 bar	p = 140 bar	p = 240 bar	p = 7 bar	p = 140 bar	p = 240 bar
P2	003	10.8 ml/rev	16.2	11.2	7.7	1.3	5.3	8.4
	005	17.2 ml/rev	25.8	20.8	17.3	1.4	7.5	12.2
	006	21.3 ml/rev	31.9	26.9	23.4	1.5	8.9	14.7
	008	26.4 ml/rev	39.6	34.6	31.1	1.6	10.7	17.7
	010	34.1 ml/rev	51.1	46.1	42.6	1.7	13.4	22.3
	012	37.1 ml/rev	55.6	50.6	47.1	1.7	14.4	24.1
	014	46.0 ml/rev	69.0	64.0	60.5	1.9	17.6	29.5
	017	58.3 ml/rev	87.4	82.4	78.9	2.1	21.9	36.9
	020	63.8 ml/rev	95.7	90.7	87.2	2.2	23.8	40.2
	022	70.3 ml/rev	105.4	100.4	96.9	2.3	26.1	44.1
	025	79.3 ml/rev	118.9	113.9	110.4	2.5	29.2	49.5
	028	88.8 ml/rev	133.2	128.2	125.8 2)	2.8	32.7	48.5 2)
	031	100.0 ml/rev	150.0	145.0	142.6 2)	2.8	36.5	54.4 2)

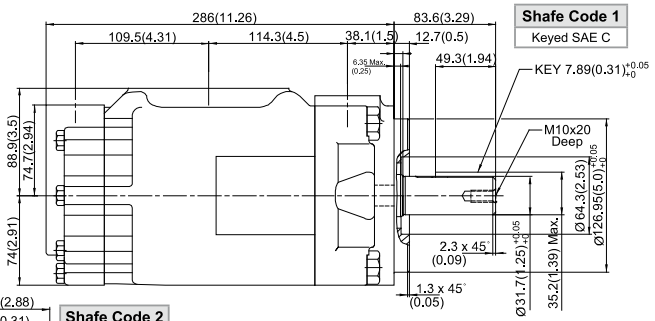
1) 042, 045, 050 = 2200 R.P.M. 2) 028, 031, 050 = 210 bar max. int. max.

※DIMENSIONS

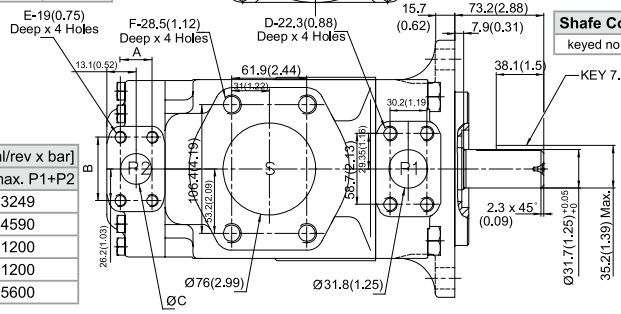
Code	00 & M0	01 & M1
A	26.2(1.03)	22.2(0.87)
B	52.4(2.06)	47.6(1.87)
C	25.4(1.0)	19.05(0.75)

Code	00 & 01	M0 & M1
D	7/16"-14UNC	M12
E	3/8"-16UNC	M10
F	5/8"-11UNC	M16



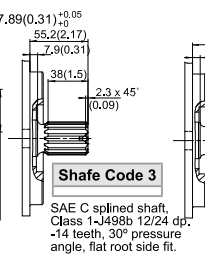


Shafe Code 1
Keyed SAE C

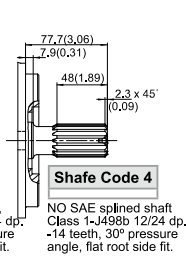


Shafe Code 2
keyed no SAE

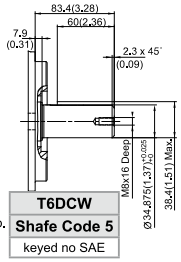
Shaft torque limits [ml/rev x bar]		
Pump	Shaft	V x p max. P1+P2
T6DC	1	43249
	2	34590
	3	61200
	4	61200
	5	55600



Shafe Code 3
SAE C splined shaft, Class 1-J498b 12/24 dp. -14 teeth, 30° pressure angle, flat root side fit.



Shafe Code 4
NO SAE splined shaft Class 1-J498b 12/24 dp. -14 teeth, 30° pressure angle, flat root side fit.



T6DCW
Shafe Code 5
keyed no SAE

PUMPS

FIXED DISPLACEMENT VANE PUMPS- [240BAR]

※MODEL NUMBER DESIGNATION

T6DDS-	024-	024-	1-	R-	00-	C-	1	00
Ⅰ	Ⅱ(P1)	Ⅲ(P2)	Ⅳ	Ⅴ	Ⅵ	Ⅶ	Ⅷ	Ⅸ

Ⅰ: Series No.: SAE C 6 Bolts

Ⅱ, Ⅲ: Volumetric Displacement(ml/rev.)

014 = 44.0	031 = 99.2
017 = 55.0	035 = 113.4
020 = 66.0	038 = 120.6
022 = 70.3	042 = 137.5
024 = 81.1	045 = 147.5
028 = 90.0	050 = 158.0

Ⅳ: Type of shaft

1 = keyed (SAE C), 4 = splined (SAE BB),
2 = keyed (SAE CC), 5 = keyed(no SAE)
3 = splined (SAE C)

Ⅴ: Direct. of rotation (view on shaft end)

R = clockwise, L = counter-clockwise

Ⅵ: Porting combination: See page 173

00 = Standard

Ⅶ: Design letter

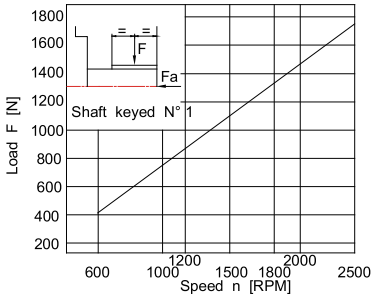
Ⅷ: Seal class

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

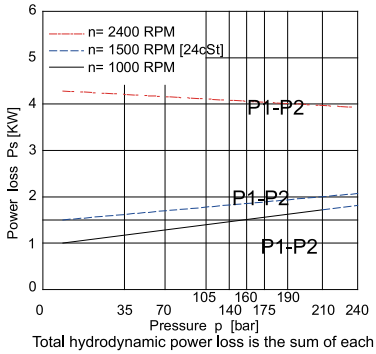
Ⅸ: Mounting W/connection variables: 4 bolts SAE flange (J518)

P1 & P2 = 1-1/4", S = 4"		
T6DDS	UNC	Metric
	00	M0

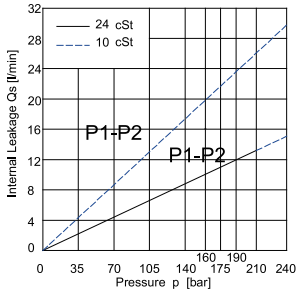
※PERFORMANCE CURVE



Maximum permissible axial load Fa = 1200 N



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



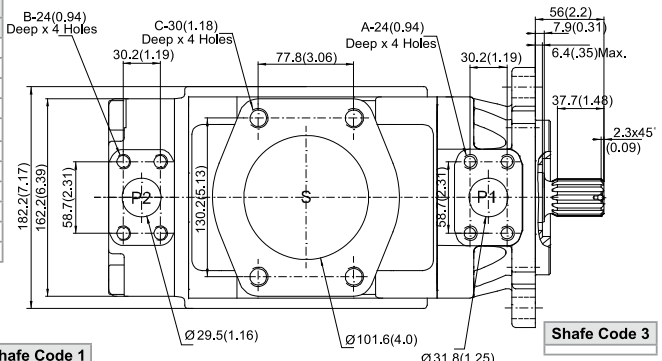
Do not operate the pump more than 5 seconds at any speed or viscosity if internal leakage is more than 50% of theoretical flow. Total leakage is the sum of each section loss at its operating conditions.

OPERATING CHARACTERISTICS - TYPICAL [24 cSt]

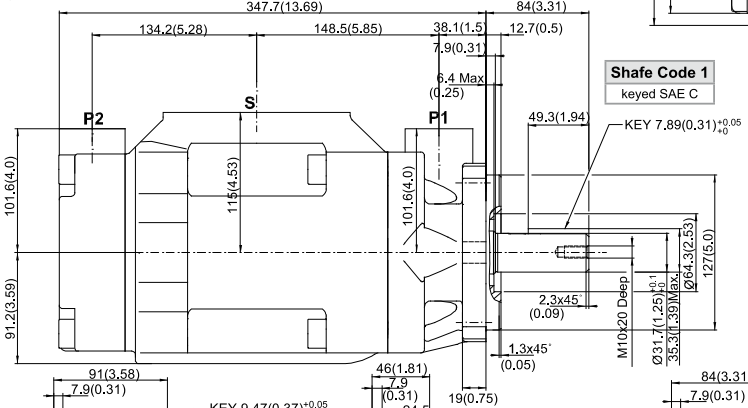
Pressure Port	Series	Volumetric Displacement Vp	Flow Q [l/min] & n= 1500 RPM			Input power P [kW] & n=1500 RPM		
			p = 0 bar	p = 140 bar	p = 240 bar	p = 7 bar	p = 140 bar	p = 240 bar
P1 & P2	014	47.6 ml/rev	71.4	62.1	55.9	2.3	18.5	30.6
	017	58.2 ml/rev	87.3	78.0	71.8	2.5	22.2	37.0
	020	66.0ml/rev	99.0	89.7	83.5	2.8	24.9	41.7
	024	79.5 ml/rev	119.3	110.0	103.8	3.0	29.6	49.8
	028	89.7 ml/rev	134.5	125.2	119.0	3.2	33.2	55.9
	031	98.3 ml/rev	147.4	138.1	131.9	3.3	36.2	61.0
	035	111.0 ml/rev	166.5	157.2	151.0	3.5	40.7	68.7
	038	120.3 ml/rev	180.4	171.1	164.9	3.7	43.9	74.3
	042 1)	136.0 ml/rev	204.0	194.7	188.5	4.0	49.4	83.7
	045 1)	145.7 ml/rev	218.5	209.2	203.0	4.1	52.8	89.5
	050 1)	158.0 ml/rev	237.0	227.7	224.0 2)	4.4	57.0	85.0 2)

1) 042 - 045 - 050 = 2200 R.P.M. max. 2) 050 = 210 bar max. int.

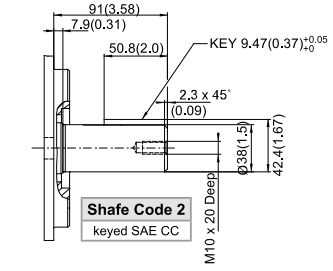
※DIMENSIONS



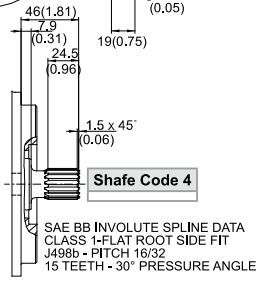
Shafe Code 3



Shafe Code 1
keyed SAE C

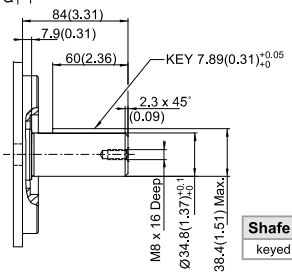


Shafe Code 2
keyed SAE CC



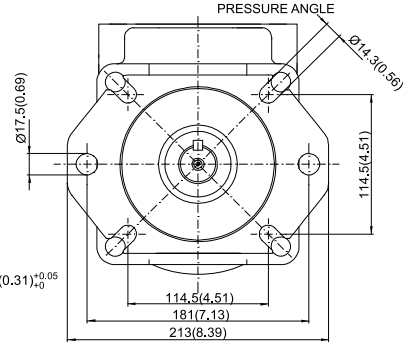
Shafe Code 4

SAE BB INVOLUTE SPLINE DATA
CLASS 1-FLAT ROOT SIDE FIT
J498b - PITCH 16/32
15 TEETH - 30° PRESSURE ANGLE



Shafe Code 5
keyed no SAE

SAE C INVOLUTE SPLINE DATA
CLASS 1-FLAT ROOT SIDE FIT
J498b -PITCH
14TEETH -30°
PRESSURE ANGLE



Shaft torque limits [ml/rev x bar]		
Pump	Shaft	V x p max. P1+P2
T6DDS	1	14300
	2	21420
	3	32670
	5	20600

hydraut

PUMPS

FIXED DISPLACEMENT VANE PUMPS- [275BAR]

※MODEL NUMBER DESIGNATION

T6EC-	066-	014-	1-	R-	00-	B-	1	(M0)
Ⅰ	Ⅱ(P1)	Ⅲ(P2)	Ⅳ	Ⅴ	Ⅵ	Ⅶ	Ⅷ	Ⅸ

Ⅰ : Series No.

Ⅱ : Volumetric Displacement(ml/rev.) for P1

042 = 198.5 062 = 295.0
045 = 213.6 066 = 319.9
050 = 237.7 072 = 340.6
052 = 247.2 085 = 402.0

Ⅲ : Volumetric Displacement(ml/rev.) for P2

003 = 10.8 017 = 58.3
005 = 17.2 020 = 63.8
006 = 21.3 022 = 70.3
008 = 26.4 025 = 79.3
010 = 34.1 028 = 88.8
012 = 37.1 031 = 100.0
014 = 46.0

Ⅳ : Type of shaft

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

Ⅴ : Direct. of rotation (view on shaft end)

R = clockwise, L = counter-clockwise

Ⅵ : Porting combination: See page 173

00 = Standard

Ⅶ : Design letter

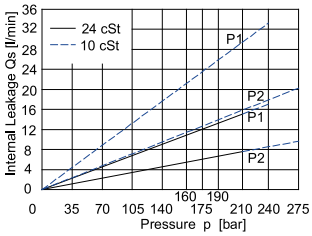
Ⅷ : Seal class

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

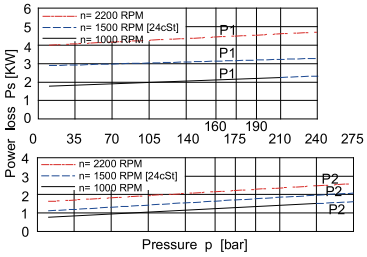
Ⅸ : Port Connection

M0: DIN 912 Bolts(Metric Std.) Omit: UNC Bolts

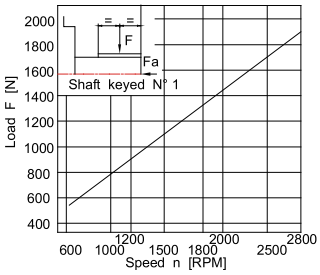
※PERFORMANCE CURVE



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.



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



Maximum permissible axial load Fa = 2000 N

OPERATING CHARACTERISTICS - TYPICAL [24 cSt]

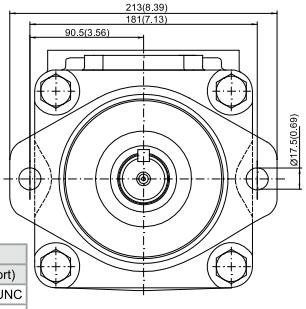
Pressure Port	Series	Volumetric Displacement Vp	Flow Q [l/min] & n= 1500 RPM			Input power P [kW] & n=1500 RPM		
			p = 0 bar	p = 140 bar	p = 240 bar	p = 7 bar	p = 140 bar	p = 240 bar
P1	042	132.3ml/rev	198.5	188.5	181.3	5.2	49.4	82.6
	045	142.4 ml/rev	213.6	203.6	196.5	5.4	52.9	88.7
	050	158.5 ml/rev	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	196.7ml/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	227.1ml/rev	340.6	330.6	323.5	6.9	82.6	139.5
	085 1)	268.0ml/rev	404.7	397.7 2)	---	7.3	65.3 2)	—
P2	003	10.8 ml/rev	16.2	11.2	7.7	1.3	5.3	8.4
	005	17.2 ml/rev	25.8	20.8	17.3	1.4	7.5	12.2
	006	21.3 ml/rev	31.9	26.9	23.4	1.5	8.9	14.7
	008	26.4 ml/rev	39.6	34.6	31.1	1.6	10.7	17.7
	010	34.1 ml/rev	51.1	46.1	42.6	1.7	13.4	22.3
	012	37.1 ml/rev	55.6	50.6	47.1	1.7	14.4	24.1
	014	46.0 ml/rev	69.0	64.0	60.5	1.9	17.6	29.5
	017	58.3 ml/rev	87.4	82.4	78.9	2.1	21.9	36.9
	020	63.8 ml/rev	95.7	90.7	87.2	2.2	23.8	40.2
	022	70.3 ml/rev	105.4	100.4	96.9	2.3	26.1	44.1
	025	79.3 ml/rev	118.9	113.9	110.4	2.5	29.2	49.5
	028	88.8 ml/rev	133.2	128.2	125.8 3)	2.8	32.7	48.5 3)
	031	100.0 ml/rev	150.0	145.0	142.6 3)	2.8	36.5	54.4 3)

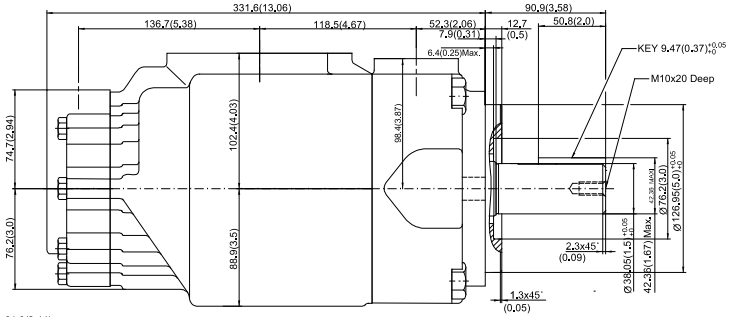
1) 085= 2000 rpm Max. 2) 085 = 90 Bar Max. int. 3) 028, 031 = 210 bar max. int.

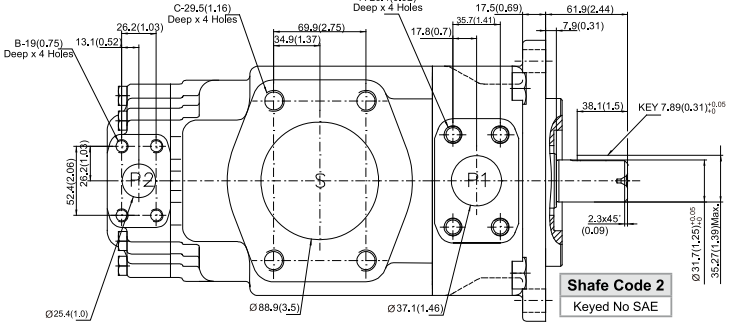
※DIMENSIONS

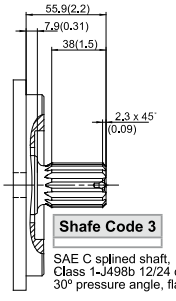
Shaft torque limits [ml/rev x bar]		
Pump	Shaft	V x p max. P1+P2
T6EC	1	72306
	2	34590
	3	61200
	4	76376

Code	Dimension for 4 Holes		
	A(P1 Port)	B(P2 Port)	C(S Port)
Omit	1/2"-13UNC	3/8"-16UNC	5/8"-11UNC
M0	M12 x 23.4	M10x19	M16 x 29.5

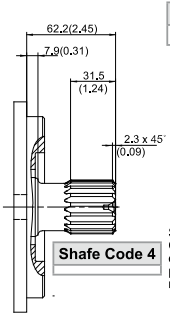




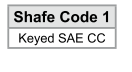




SAE C splined shaft, Class 1-J498b 12/24 dp.-14 teeth, 30° pressure angle, flat root side fit.



SAE CC splined shaft Class 1-J498b 12/24 dp.-17 teeth, 30° pressure angle, flat root side fit.



PUMPS

FIXED DISPLACEMENT VANE PUMPS- [240BAR]

※MODEL NUMBER DESIGNATION

T6ED-	066-	024-	1-	R-	00-	B-	1	(M0)
Ⅰ	Ⅱ(P1)	Ⅲ(P2)	Ⅳ	Ⅴ	Ⅵ	Ⅶ	Ⅷ	Ⅸ

Ⅰ: Series No.

Ⅱ: Volumetric Displacement(ml/rev.) for P1

042 = 198.5 062 = 295.0
045 = 213.6 066 = 319.9
050 = 237.7 072 = 340.6
052 = 247.2 085 = 402.0

Ⅲ: Volumetric Displacement(ml/rev.) for P2

014 = 44.0 031 = 99.2
017 = 55.0 035 = 113.4
020 = 66.0 038 = 120.6
022 = 70.3 042 = 137.5
024 = 81.1 045 = 147.5
028 = 90.0 050 = 158.0

Ⅳ: Type of shaft

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

Ⅴ: Direct. of rotation (view on shaft end)

R = clockwise, L = counter-clockwise

Ⅵ: Porting combination: See page 173

00 = Standard

Ⅶ: Design letter

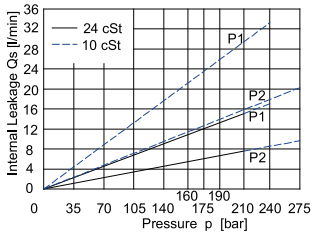
Ⅷ: Seal class

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

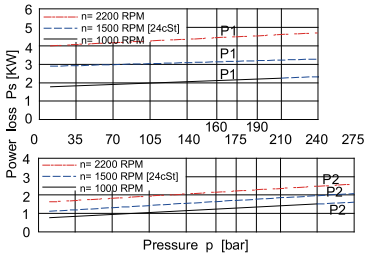
Ⅸ: Port Connection

M0: DIN 912 Bolts(Metric Std.) Omit: UNC Bolts

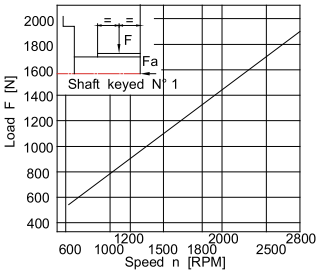
※PERFORMANCE CURVE



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.



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



Maximum permissible axial load Fa = 2000 N

OPERATING CHARACTERISTICS - TYPICAL [24 cSt]

Pressure Port	Series	Volumetric Displacement Vp	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	132.3ml/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	196.7ml/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	227.1ml/rev	340.6	330.6	323.5	6.9	82.6	139.5
	085 1)	268.0ml/rev	402.0	397.7 2)	---	7.3	65.3 2)	—

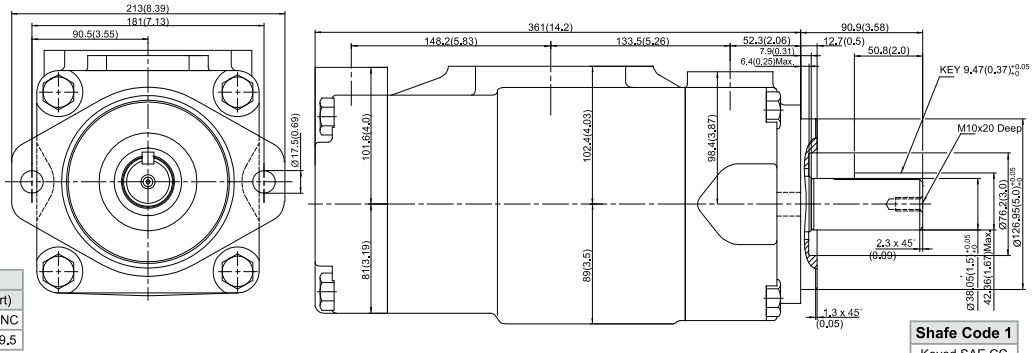
Pressure Port	Series	Volumetric Displacement Vp	Flow Q [l/min] & n= 1500 RPM			Input power P [kW] & n=1500 RPM		
			p = 0 bar	p = 140 bar	p = 240 bar	p = 7 bar	p = 140 bar	p = 240 bar
P2	014	47.6 ml/rev	71.4	62.1	55.9	2.3	18.5	30.6
	017	58.2 ml/rev	87.3	78.0	71.8	2.5	22.2	37.0
	020	66.0ml/rev	99.0	89.7	83.5	2.8	24.9	41.7
	024	79.5 ml/rev	119.3	110.0	103.8	3.0	29.6	49.8
	028	89.7 ml/rev	134.5	125.2	119.0	3.2	33.2	55.9
	031	98.3 ml/rev	147.4	138.1	131.9	3.3	36.2	61.0
	035	111.0 ml/rev	166.5	157.2	151.0	3.5	40.7	68.7
	038	120.3 ml/rev	180.4	171.1	164.9	3.7	43.9	74.3
	042	136.0 ml/rev	204.0	194.7	188.5	4.0	49.4	83.7
	045	145.7 ml/rev	218.5	209.2	203.0	4.1	52.8	89.5
	050	158.0 ml/rev	237.0	227.7	224.0 3)	4.4	57.0	85.0 3)

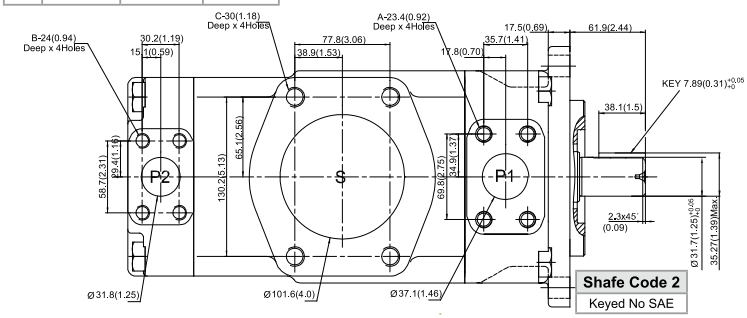
1) 085= 2000 rpm Max. 2) 085 = 90 Bar Max. int. 3) 050 = 210 bar max. int.

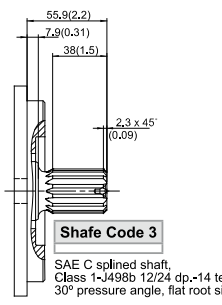
※DIMENSIONS

Shaft torque limits [ml/rev x bar]		
Pump	Shaft	V x p max. P1+P2
T6ED	1	72306
	2	34590
	3	61200
	4	76376

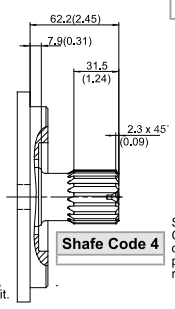
Code	Dimension for 4 Holes		
	A(P1 Port)	B(P2 Port)	C(S Port)
Omit	1/2"-13UNC	7/16"-14UNC	5/8"-11UNC
M0	M12 x 23.4	M10x19	M16 x 29.5







SAE C splined shaft,
Class 1-J498b 12/24 dp.-14 teeth,
30° pressure angle, flat root side fit.



SAE CC splined shaft
Class 1-J498b 12/24
dp.-17 teeth, 30°
pressure angle, flat
root side fit.

PUMPS

FIXED DISPLACEMENT VANE PUMPS- [275BAR]

※MODEL NUMBER DESIGNATION

T6GCC-	B14-	B14-	6-	R-	00-	A-	1-	00-
Ⅰ	Ⅱ	Ⅲ	Ⅳ	Ⅴ	Ⅵ	Ⅶ	Ⅷ	Ⅸ

Ⅰ : Series No.
High Shaft Load Type

Ⅱ, Ⅲ : Volumetric Displacement(ml/rev.)

B03 = 10.8	B17 = 58.3
B05 = 17.2	B20 = 63.8
B06 = 21.3	B22 = 70.3
B08 = 26.4	B25 = 79.3
B10 = 34.1	B28 = 88.8
B12 = 37.1	B31 = 100.0
B14 = 46.0	

Ⅴ : Type of shaft
6 = splined (DIN 5462)

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

Ⅵ : Porting combination: See page 173
00 = Standard

Ⅶ : Design letter

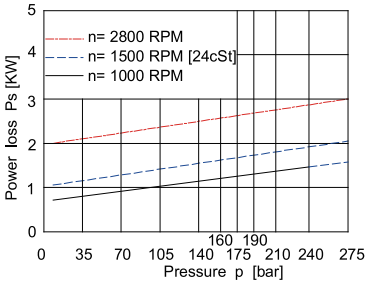
Ⅷ : Seal class 1 = S1 (for mineral oil)

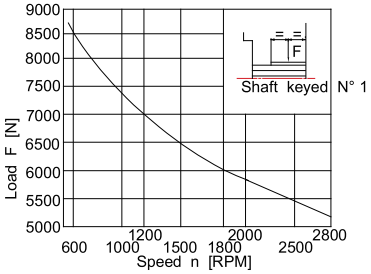
Ⅸ : Mounting W/connection variables

		P1=1", S=3"		P1=1", S=2-1/2" 2)	
P2		1"	3/4" 1)	1"	3/4" 1)
Code	UNC	00	01	10	11
	Metric	0M	M0	1M	M1

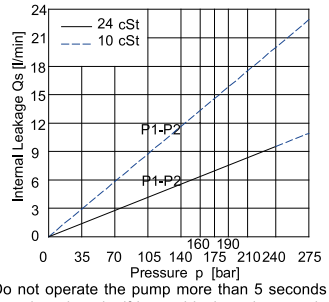
1) for 46 ml/rev. Max. 2) for 126 ml/rev. Max. The large cartridge must be always mounted in the front.

※PERFORMANCE CURVE





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



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.

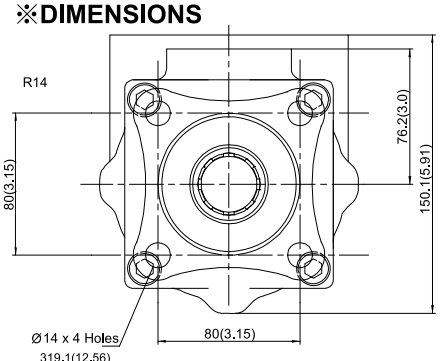
OPERATING CHARACTERISTICS - TYPICAL [24 cSt]

Series	Volumetric Displacement Vp	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	10.8ml/rev	1000(1500)	10.8(16.2)	7.5(11.2)	—	0.9(1.3)	3.6(5.3)	—
B05	17.3ml/rev		17.2(25.8)	13.9(20.8)	11.5(17.3)	1.0(1.4)	5.1(7.5)	8.3(12.2)
B06	21.3ml/rev		21.3(31.9)	16.3(26.9)	12.8(23.4)	1.1(1.5)	6.0(8.9)	10.0(14.7)
B08	26.4 ml/rev		26,4(39,6)	34.6(21.4)	17.9(31.1)	1.2(1.6)	7.2(10.7)	12.1(17.7)
B10	34.1ml/rev		34,1(51,1)	29.1(46.1)	25.6(42.6)	1.3(1.7)	8.9(13.4)	15.1(22.3)
B12	37.1 ml/rev		37,1(55,6)	32.1(50.6)	28.6(47.1)	1.3(1.7)	9.6(14.4)	16.3(24.1)
B14	46.0ml/rev		46,0(69,0)	41.0(64.0)	37.5(60.5)	1.4(1.9)	11.7(17.6)	19.9(29.5)
B17	58.3 ml/rev		58,3(87,4)	53.3(82.4)	49.8(78.9)	1.6(2.1)	14.5(21.9)	24.8(36.9)
B20	63.8ml/rev		63,8(95,7)	58,3(90,2)	55.3(87.2)	1.6(2.2)	15.81(23.82)	27.0(40.2)
B22	70.3 ml/rev		70,3(105,4)	65.3(100.4)	61.8(96.9)	1.7(2.3)	17.3(26.1)	29.6(44.1)
B25 1)	79.3ml/rev		79,3(118,9)	74.3(113.9)	70.8(110.4)	1.8(2.5)	19.3(29.2)	33.2(49.5)
B28 1)	88.8 ml/rev		88,8(133,2)	83.8(128.2)	81.4(125.8) 2)	1.9(2.8)	21.9(32.7)	32.5(48.5) 2)
B31 1)	100.0ml/rev		100,0(150,0)	95.0(145.0)	92.6(142.6) 2)	2.0(2.8)	24.4(36.5)	36.4(54.4) 2)

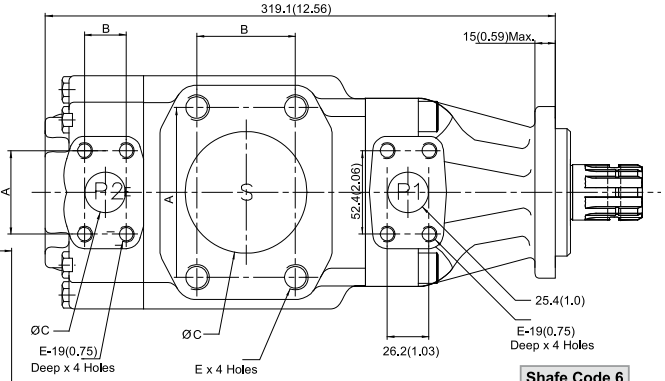
1) B25, B28, B31 = 2500 R.P.M. max. 2) B28, B31 = 210 bar max. int.

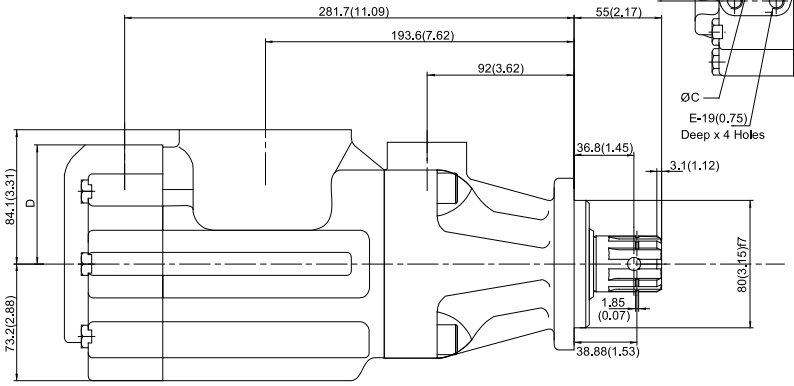
* Not to use because internal leakage greater than 50% theoretical flow.

※DIMENSIONS



PORT	A	B	C	D	E	
					UNC	Metric
S	106.4(4.19)	61.9(2.44)	76.2(3.0)	—	5/8"-11UNCx1.12	M16x28.4Deep
S	88.9(3.5)	50.8(2.0)	63.5(2.5)	—	1/3"-13UNCx0.94	M12X24Deep
P2	47.7(1.88)	22.2(0.87)	19(0.75)	76.2(3.0)	3/8"-16UNCx0.75	M10X19Deep
P2	52.4(2.06)	26.2(1.03)	25.4(1.0)	74.7(2.94)		





Shafe Code 6
(DIN 5462) B8x32x36

Shaft torque limits(ml/rev x Bar)	
Shaf	Vp x p Max.(P1+P2)
6	32670

PUMPS

FIXED DISPLACEMENT VANE PUMPS- [300BAR]

※MODEL NUMBER DESIGNATION

T67CB-	W-	014-	B04-	1-	R-	00-	A-	1-	M1
Ⅰ	Ⅱ	Ⅲ(P1)	Ⅳ(P2)	Ⅴ	Ⅵ	Ⅶ	Ⅷ	Ⅸ	Ⅹ

Ⅰ : Series No.: SAE B 2 Bolts

Ⅱ : Use for severe duty shaft only*

Ⅲ : Volumetric Displacement(ml/rev.) for P1

003 = 10.8 017 = 58.3
005 = 17.2 020 = 63.8
006 = 21.3 022 = 70.3
008 = 26.4 025 = 79.3
010 = 34.1 028 = 88.8
012 = 37.1 031 = 100.0
014 = 46.0

Ⅳ : Volumetric Displacement(ml/rev.) for P2

B02 = 5.7 B09 = 28.0
B03 = 9.8 B10 = 31.8
B04 = 12.8 B11 = 34.9
B05 = 15.9 B12 = 40.9
B06 = 19.8 B14 = 45.1
B07 = 22.5 B15 = 50.0
B08 = 24.9

Ⅴ : Type of shaft
1 = keyed (no SAE), 3 = splined (SAE BB), 5 = splined (SAE B)
Type of shaft- Severe duty (T67CBW only) 2 = keyed(SAE BB)

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

Ⅶ : Porting combination: See page 173
00 = Standard

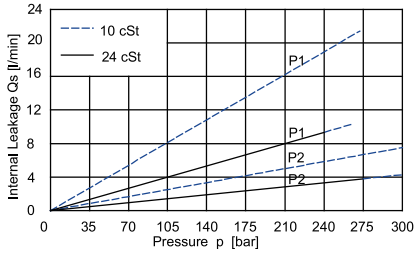
Ⅷ : Design letter

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

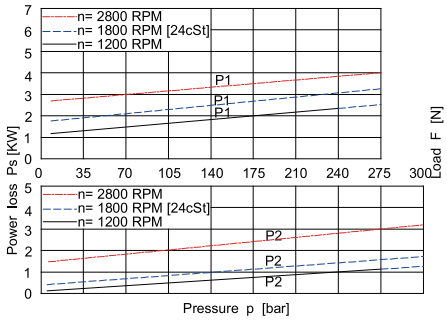
Ⅹ : Mounting W/connection variables

Standard	UNC	Metric
Code	11	M1

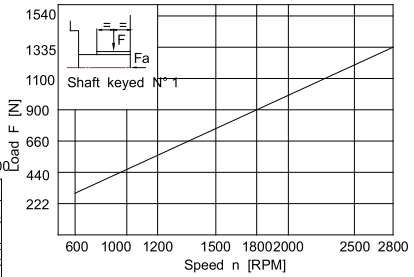
※PERFORMANCE CURVE



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.



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



Maximum permissible axial load Fa = 800 N

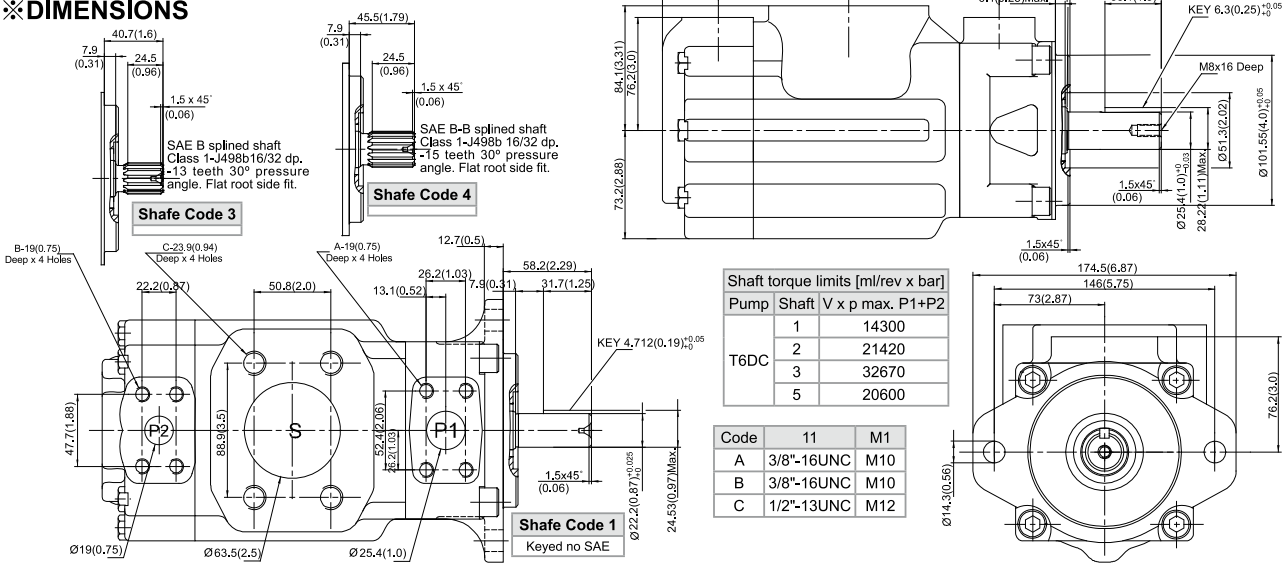
OPERATING CHARACTERISTICS - TYPICAL [24 cSt]

P1 Series	Volumetric Displacement Vp	Speed [r.p.m.]	Flow Q [l/min] p = 0 bar	Flow Q [l/min] p = 140 bar	Flow Q [l/min] p = 275 bar	Input power P [kW] RPM p = 7 bar	Input power P [kW] RPM p = 140 bar	Input power P [kW] RPM p = 275 bar
003	10.8ml/rev	1500	16,2	11,2	—	1,3	5,3	—
005	17.3ml/rev		25.8	20.8	16,1	1.4	7.5	13,9
006	21.3ml/rev		31.9	26.9	22,2	1.5	8.9	16,8
008	26.4 ml/rev		39,6	34.6	29,9	1.6	10.7	20,3
010	34.1ml/rev		51,1	46.1	41,4	1.7	13.4	25,6
012	37.1 ml/rev		55,6	50.6	45,9	1.7	14.4	27,6
014	46.0ml/rev		69,0	64.0	59,3	1.9	17.6	33,7
017	58,3 ml/rev		87,4	82.4	77,7	2.1	21.9	42,2
020	63.8ml/rev		95,7	90,2	86,0	2.2	23.82	46,0
022	70.3 ml/rev		105,4	100.4	95,7	2.3	26.1	50,4
025	79.3ml/rev		118,9	113.9	109,2	2.5	29.2	56,6
028	88.8 ml/rev		133,2	128.2	125,8 1)	2.8	32.7	48,5 1)
031	100.0ml/rev		150,0	145.0	142,6 1)	2.8	36.5	54,4 1)

1) 028, 031 = 2500 R.P.M., 2) B15= 280 Bar Max.

P2 Series	Volumetric Displacement Vp	Speed [r.p.m.]	Flow Q [l/min] p = 0 bar	Flow Q [l/min] p = 140 bar	Flow Q [l/min] p = 300 bar	Input power P [kW] p = 7 bar	Input power P [kW] p = 140 bar	Input power P [kW] p = 300 bar
B02	5.8 ml/rev.	1500	8.7	7	5,1	0.5	2.6	5,1
B03	9,8 ml/rev.		14.7	13	11,1	0.6	4	8,1
B04	12,8 ml/rev		19.2	17.5	15,6	0,6	5	10,4
B05	15,9 ml/rev		23.9	22.2	20,2	0.7	6.1	12,7
B06	19,8 ml/rev		29.7	28	26,1	0.7	7.5	15,6
B07	22,5 ml/rev		33.7	32	30,2	0.8	8.5	17,6
B08	24,9 ml/rev		37.4	35.7	33,7	0.8	9.3	19,5
B09	28,0 ml/rev		42	40,3	38,4	0.9	10.4	21,8
B10	31,8 ml/rev		47.7	46	44,1	0.9	11.7	26,2
B11	35,0 ml/rev		52.5	50.8	48,9	1	12.8	27,0
B12	41,0 ml/rev		61.5	59.8	57,9	1.1	14.9	31,5
B14	45,0 ml/rev		67.5	65.8	63,9	1.2	16.3	34,5
B15	50,0 ml/rev		75	73.3	71,6 2)	1.3	18.1	35,7 2)

※DIMENSIONS



Shaft torque limits [ml/rev x bar]		
Pump	Shaft	V x p max. P1+P2
T6DC	1	14300
	2	21420
	3	32670
	5	20600

Code	11	M1
A	3/8"-16UNC	M10
B	3/8"-16UNC	M10
C	1/2"-13UNC	M12

PUMPS

FIXED DISPLACEMENT VANE PUMPS- [300BAR]

※MODEL NUMBER DESIGNATION

T7DB(S)-	B24-	B04-	1-	R-	00-	A-	1-	M1
Ⅰ	Ⅱ(P1)	Ⅲ(P2)	Ⅳ	Ⅴ	Ⅵ	Ⅶ	Ⅷ	Ⅸ

Ⅰ : Series No.:
T7DB: 125 A2 HW, ISO 2 Bolts 3019-2 mounting flange.
T7DBS: SAE C 2 Bolts, J744 mounting flange

Ⅱ : Volumetric Displacement(ml/rev.) for P1

B14 = 44.0	B31 = 99.2
B17 = 55.0	B35 = 113.4
B20 = 66.0	B38 = 120.6
B22 = 70.3	B42 = 137.5
B24 = 81.1	045 = 147.5
B28 = 90.0	050 = 158.0

Ⅲ : Volumetric Displacement(ml/rev.) for P2

B02 = 5.7	B09 = 28.0
B03 = 9.8	B10 = 31.8
B04 = 12.8	B11 = 34.9
B05 = 15.9	B12 = 40.9
B06 = 19.8	B14 = 45.1
B07 = 22.5	B15 = 50.0
B08 = 24.9	

Ⅳ : Type of shaft 1 = keyed (SAE C), 2 = keyed (no SAE),
3 = splined (SAE C), 4 = splined (spec.SAE C)
Type of shaft- Severe duty (T7DBW only) 5 = splined (ISO 3019-2-G32M)

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

Ⅵ : Porting combination: See page 173
00 = Standard

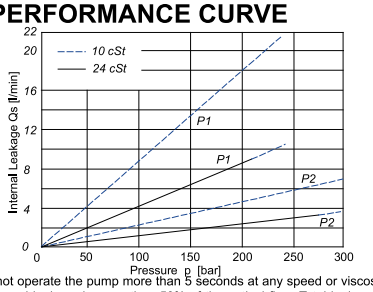
Ⅶ : Design letter

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

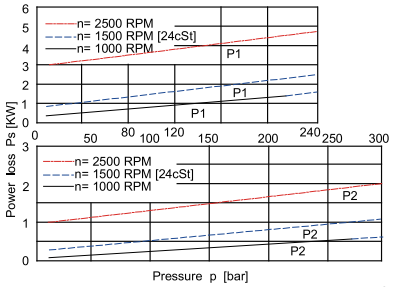
Ⅸ : Mounting W/connection variables: 4 bolts SAE flanges J518

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

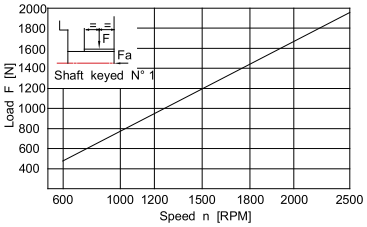
※PERFORMANCE CURVE



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.



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



Maximum permissible axial load Fa = 1200 N

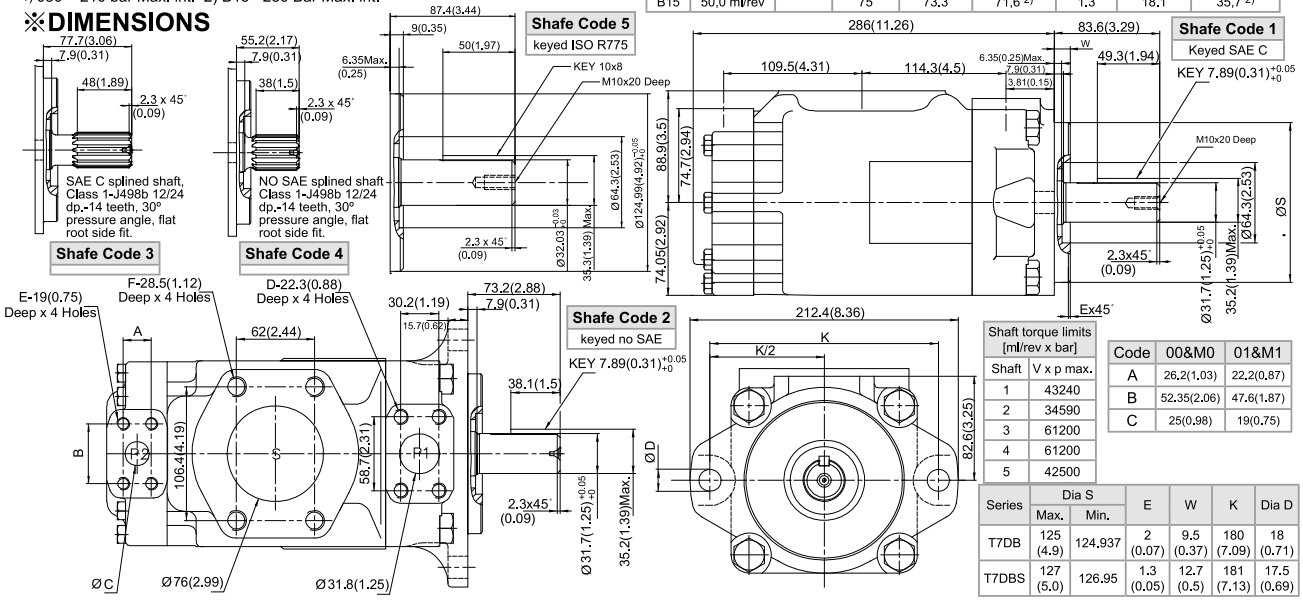
OPERATING CHARACTERISTICS - TYPICAL [24 cSt]

P1 Series	Volumetric Displacement Vp	Flow Q [l/min] & n = 1500 r.p.m.			Input power P [kW] & n = 1500 r.p.m.		
		p = 0 bar	p = 140 bar	p = 250 bar	p = 7 bar	p = 140 bar	p = 250 bar
B14	44.0 ml/rev.	66	59.4	54.2	1.5	16.6	34.2
B17	55,0 ml/rev.	82.5	75.9	70.7	1.7	20.4	42.4
B20	66.0 ml/rev	99	92.4	87.2	1.9	24.3	50.7
B24	81,1 ml/rev	121.7	115	109.9	2.2	29.5	62
B28	90,0 ml/rev	135	128.4	123.2	2.3	32.7	68.7
B31	99,2 ml/rev	148.8	142.2	137	2.5	35.9	75.6
B35	113,4 ml/rev	170.1	163.5	158.3	2.7	40.8	80.5
B38	120,6 ml/rev	180.9	174.3	169.1	2.9	43.4	85.6
B42	137,5 ml/rev	206.3	199.6	195.4	3.2	49.3	90.5
B45	145,7 ml/rev	218.6	209.2	202.6	4.1	52.8	89.5
B50	158.0 ml/rev	237	227.7	223 1)	4.4	57.1	85 1)

1) 050 = 210 bar Max. int. 2) B15= 280 Bar Max. int.

P2 Series	Volumetric Displacement Vp	Speed n [R.P.M.]	Flow Q [l/min]			Input power P [kW]		
			p = 0 bar	p = 140 bar	p = 300 bar	p = 7 bar	p = 140 bar	p = 300 bar
B02	5.8 ml/rev.	1500	8.7	7	5,1	0.5	2.6	5,1
B03	9,8 ml/rev.		14.7	13	11,1	0,6	4	8,1
B04	12,8 ml/rev		19.2	17.5	15,6	0,6	5	10,4
B05	15,9 ml/rev		23.9	22.2	20,2	0.7	6.1	12,7
B06	19,8 ml/rev		29.7	28	26,1	0.7	7.5	15,6
B07	22,5 ml/rev		33.7	32	30,2	0.8	8.5	17,6
B08	24,9 ml/rev		37.4	35.7	33,7	0.8	9.3	19,5
B09	28,0 ml/rev		42	40.3	38,4	0.9	10.4	21,8
B10	31,8 ml/rev		47.7	46	44,1	0.9	11.7	26,2
B11	35,0 ml/rev		52.5	50.8	48,9	1	12.8	27,0
B12	41,0 ml/rev		61.5	59.8	57,9	1.1	14.9	31,5
B14	45,0 ml/rev		67.5	65.8	63,9	1.2	16.3	34,5
B15	50,0 ml/rev		75	73.3	71,6 2)	1.3	18.1	35,7 2)

※DIMENSIONS



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

Code	00&M0	01&M1
A	26.2(1.03)	22.2(0.87)
B	52.35(2.06)	47.6(1.87)
C	25(0.98)	19(0.75)

Series	Dia S		E	W	K	Dia D
	Max.	Min.				
T7DB	125 (4.9)	124.937	2 (0.07)	9.5 (0.37)	180 (7.09)	18 (0.71)
T7DBS	127 (5.0)	126.95	1.3 (0.05)	12.7 (0.5)	181 (7.13)	17.5 (0.69)

PUMPS

FIXED DISPLACEMENT VANE PUMPS- [275BAR]

※MODEL NUMBER DESIGNATION

T67DC-	W-	B45-	014-	1-	R-	00-	B-	1	00
Ⅰ	Ⅱ	Ⅲ(P1)	Ⅳ(P2)	Ⅴ	Ⅵ	Ⅶ	Ⅷ	Ⅸ	Ⅹ

Ⅰ : Series No.

Ⅱ : Use for severe duty shaft only*

Ⅲ : Volumetric Displacement(ml/rev.) for P1

B14 = 44.0	B31 = 99.2
B17 = 55.0	B35 = 113.4
B20 = 66.0	B38 = 120.6
B22 = 70.3	B42 = 137.5
B24 = 81.1	045 = 147.5
B28 = 90.0	050 = 158.0

Ⅳ : Volumetric Displacement(ml/rev.) for P2

003 = 10.8	017 = 58.3
005 = 17.2	020 = 63.8
006 = 21.3	022 = 70.3
008 = 26.4	025 = 79.3
010 = 34.1	028 = 88.8
012 = 37.1	031 = 100.0
014 = 46.0	

Ⅴ : Type of shaft
1 = keyed (SAE C), 2 = keyed (no SAE), 3 = splined (SAE C), 4 = splined (spec. SAE)
Type of shaft- Severe duty (T6DCW only) 5 = keyed (no SAE)

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

Ⅶ : Porting combination: See page 173
00 = Standard

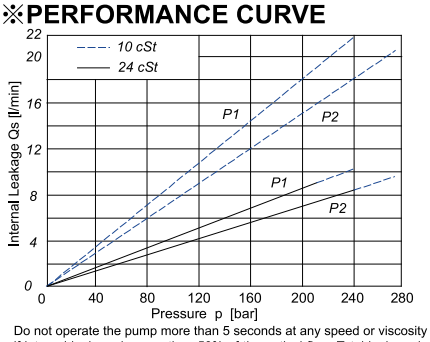
Ⅷ : Design letter

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

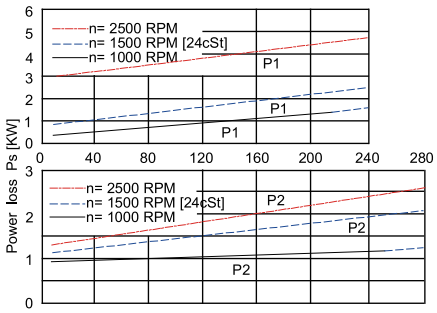
Ⅹ : Mounting W/connection variables

	UNC		Metric	
Code	00	01	M0	M1
P2	1"	3/4"	1"	3/4"

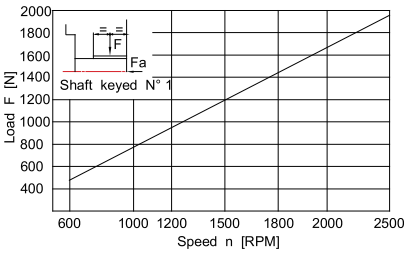
※PERFORMANCE CURVE



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.



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



Maximum permissible axial load Fa = 1200 N

OPERATING CHARACTERISTICS - TYPICAL [24 cSt]

P1 Series	Volumetric Displacement Vp	Flow Q [l/min] & n= 1500 RPM			Input power P [kW] & n=1500 RPM		
		p = 0 bar	p = 140 bar	p = 250 bar	p = 7 bar	p = 140 bar	p = 250 bar
B14	44.0 ml/rev.	66	59.4	54,2	1.5	16.6	29,0
B17	55,0 ml/rev.	82.5	75.9	70,7	1.7	20.4	35,8
B20	66.0 ml/rev	99	92.4	87,2	1.9	24.3	42,7
B24	81,1 ml/rev	121.7	115	109,9	2.2	29.5	52,1
B28	90,0 ml/rev	135	128.4	123,2	2.3	32.7	57,7
B31	99,2 ml/rev	148,8	142.2	137,0	2.5	35.9	63,5
B35	113,4 ml/rev	170.1	163.5	158,3	2.7	40.8	72,3
B38	120,6 ml/rev	180.9	174.3	169,1	2.9	43.4	76,8
B42	137,5 ml/rev	206.3	199.6	194,5	3.2	49.3	87,4
B45	145,7 ml/rev	218.6	209.2	202,6	4.1	52.8	89,5
B50	158.0 ml/rev	237	227.7	223.0 1)	4.4	57.1	85,0 1)

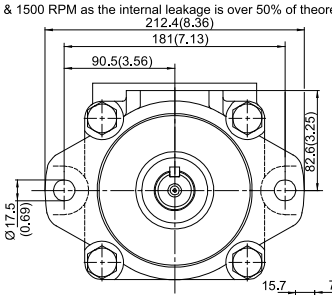
P2 Series	Volumetric Displacement Vp	Flow Q [l/min] & n= 1500 RPM			Input power P [kW] & n=1500 RPM		
		p = 0 bar	p = 140 bar	p = 275 bar	p = 7 bar	p = 140 bar	p = 275 bar
003	10.8 ml/rev	16.2	11.2	7.7	1.3	5.3	8.4
005	17.2 ml/rev	25.8	20.8	17.3	1.4	7.5	12.2
006	21.3 ml/rev	31.9	26.9	23.4	1.5	8.9	14.7
008	26.4 ml/rev	39.6	34.6	31.1	1.6	10.7	17.7
010	34.1 ml/rev	51.1	46.1	42.6	1.7	13.4	22.3
012	37.1 ml/rev	55.6	50.6	47.1	1.7	14.4	24.1
014	46.0 ml/rev	69.0	64.0	60.5	1.9	17.6	29.5
017	58.3 ml/rev	87.4	82.4	78.9	2.1	21.9	36.9
020	63.8 ml/rev	95.7	90.7	87.2	2.2	23.8	40.2
022	70.3 ml/rev	105.4	100.4	96.9	2.3	26.1	44.1
025	79.3 ml/rev	118.9	113.9	110.4	2.5	29.2	49.5
028	88.8 ml/rev	133.2	128.2	125.8 1)	2.8	32.7	48.5 1)
031	100.0 ml/rev	150.0	145.0	142.6 1)	2.8	36.5	54.4 1)

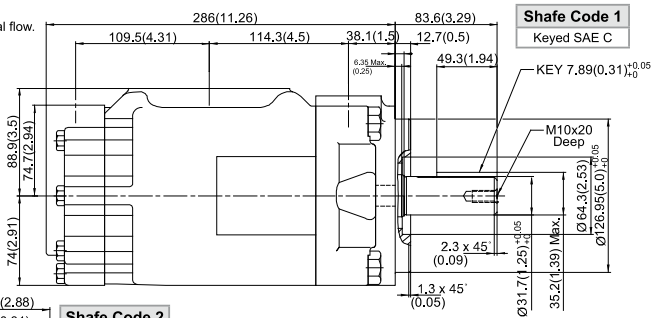
-We do not recommand to use this 003 at 275 bar & 1500 RPM as the internal leakage is over 50% of theoretical flow.
1) 028, 031, 050 = 210 bar max. int.

※DIMENSIONS

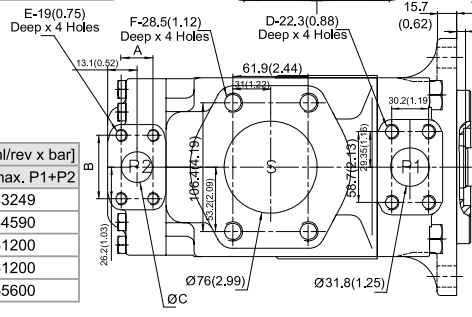
Code	00 & M0	01 & M1
A	26.2(1.03)	22.2(0.87)
B	52.4(2.06)	47.6(1.87)
C	25.4(1.0)	19.05(0.75)

Code	00 & 01	M0 & M1
D	7/16"-14UNC	M12
E	3/8"-16UNC	M10
F	5/8"-11UNC	M16

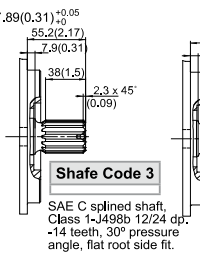




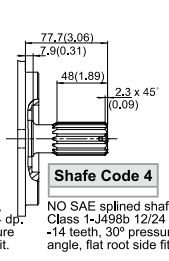
Shafe Code 1
Keyed SAE C



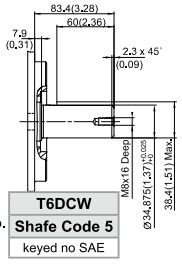
Shafe Code 2
keyed no SAE



Shafe Code 3
SAE C splined shaft. Class 1-J498b 12/24 dp. -14 teeth, 30° pressure angle, flat root side fit.



Shafe Code 4
NO SAE splined shaft Class 1-J498b 12/24 dp. -14 teeth, 30° pressure angle, flat root side fit.



T6DCW
Shafe Code 5
keyed no SAE

Shaft torque limits [ml/rev x bar]		
Pump	Shaft	V x p max. P1+P2
T6DC	1	43249
	2	34590
	3	61200
	4	61200
	5	55600

hydraut

PUMPS

FIXED DISPLACEMENT VANE PUMPS- [300BAR]

※MODEL NUMBER DESIGNATION

T7EB(S)-	014-	B04-	1-	R-	00-	A-	1-	M1
Ⅰ	Ⅱ (P1)	Ⅲ (P2)	Ⅳ	Ⅴ	Ⅵ	Ⅶ	Ⅷ	Ⅸ

Ⅰ : Series No.:
T7EB: 125 A2 HW, ISO 4 Bolts 3019-2 mounting flange.
T7EBS: SAE C 2 Bolts, J744 mounting flange

Ⅱ : Volumetric Displacement(ml/rev.) for P1
042= 132.3 062 = 196.7
045 = 142.4 066 = 213.3
050 = 158.5 072 = 227.1
052 = 164.8 085 = 269.8

Ⅲ : Volumetric Displacement(ml/rev.) for P2
B02 = 5.7 B09 = 28.0
B03 = 9.8 B10 = 31.8
B04 = 12.8 B11 = 34.9
B05 = 15.9 B12 = 40.9
B06 = 19.8 B14 = 45.1
B07 = 22.5 B15 = 50.0
B08 = 24.9

Ⅳ : Type of shaft
1 = keyed (SAE CC), 3 = splined (SAE C)
2 = keyed (no BB), 4 = splined(SAE CC)

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

Ⅵ : Porting combination: See page 173
00 = Standard

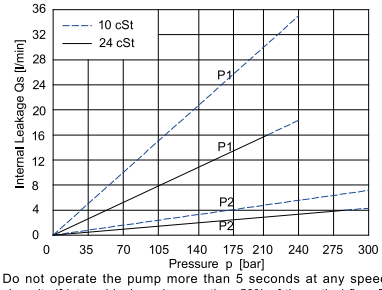
Ⅶ : Design letter

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

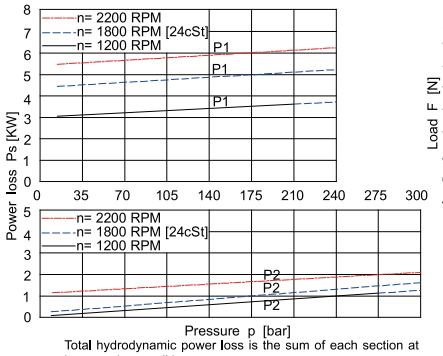
Ⅸ : Mounting W/connection variables

Standard	UNC	Metric
Code	01	M1

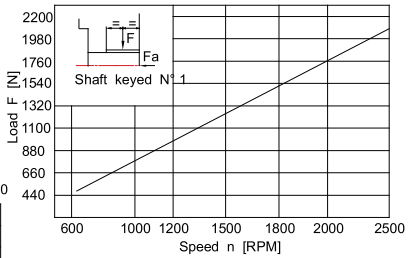
※PERFORMANCE CURVE



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.



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



Maximum permissible axial load Fa = 800 N

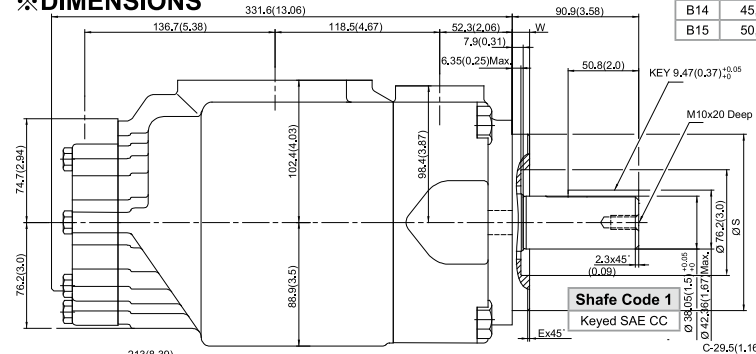
OPERATING CHARACTERISTICS - TYPICAL [24 cSt]

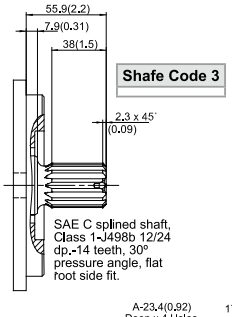
P1 Series	Volumetric Displacement Vp	Speed [r.p.m.]	Flow Q [l/min]			Input power P [kW]		
			p = 0 bar	p = 140 bar	p = 240 bar	p = 7 bar	p = 140 bar	p = 240 bar
042	132.3ml/rev	1500	198.5	188.5	181.3	5.2	49.4	82.6
045	142.4 ml/rev		213.6	203.6	196.5	5.4	52.9	88.7
050	158.5 ml/rev		237.7	227.7	220.6	5.7	58.5	98.3
052	164.8 ml/rev		247.2	237.2	230.1	5.8	60.8	102.1
062	196.7ml/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	227.1ml/rev		340.6	330.6	323.5	6.9	82.6	139.5
085 1)	268.0ml/rev		402.0	381.0	—	7.1	97.4	--

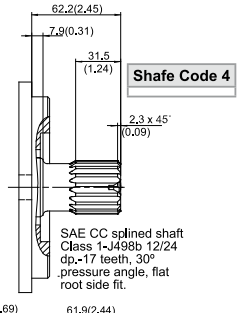
1) 085 = 2000 rpm Max. 2) 085= 75 Bar cont. , 90 Bar Max. int. 3) B15= 280 Bar Max.

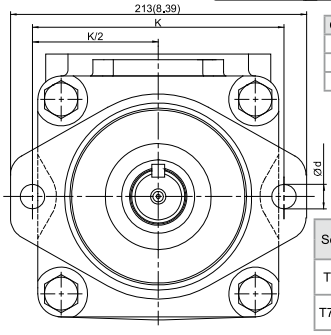
P2 Series	Volumetric Displacement Vp	Speed [r.p.m.]	Flow Q [l/min]			Input power P [kW]		
			p = 0 bar	p = 140 bar	p = 300 bar	p = 7 bar	p = 140 bar	p = 300 bar
B02	5.8 ml/rev.	1500 (1800)	8.7	7	5,1	0.5	2.6	5,1
B03	9.8 ml/rev.		14.7	13	11,1	0.6	4	8,1
B04	12,8 ml/rev		19,2	17.5	15,6	0,6	5	10,4
B05	15,9 ml/rev		23,9	22,2	20,2	0.7	6.1	12,7
B06	19,8 ml/rev		29.7	28	26,1	0.7	7.5	15,6
B07	22,5 ml/rev		33.7	32	30,2	0.8	8.5	17,6
B08	24,9 ml/rev		37.4	35.7	33,7	0.8	9.3	19,5
B09	28,0 ml/rev		42	40.3	38,4	0.9	10.4	21,8
B10	31,8 ml/rev		47.7	46	44,1	0.9	11.7	26,2
B11	35,0 ml/rev		52.5	50.8	48,9	1	12.8	27,0
B12	41,0 ml/rev		61.5	59.8	57,9	1.1	14.9	31,5
B14	45,0 ml/rev		67.5	65.8	63,9	1.2	16.3	34,5
B15	50,0 ml/rev		75	73.3	71,6 2)	1.3	18.1	35,7 2)

※DIMENSIONS



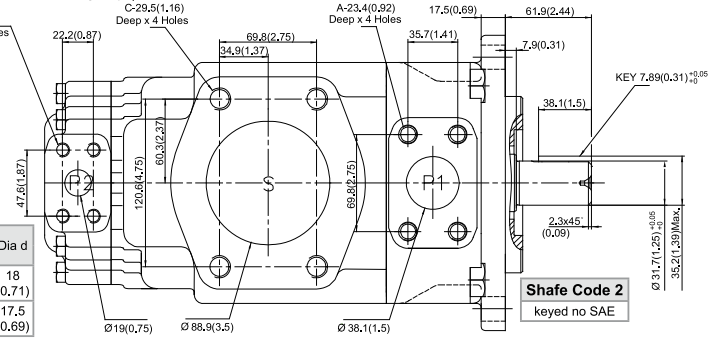






Code	01	M1
A	1/2"-13UNC	M12
B	5/8"-16UNC	M10
C	5/8"-11UNC	M16

Shaft torque limits [ml/rev x bar]	
Shaft	V x p max.
1	72306
2	34590
3	61200
4	76376



Series	Dia S		E	W	K	Dia d
	Max.	Min.				
T7EB	125 (4.9)	124.937	2 (0.07)	9.5 (0.37)	180 (7.09)	18 (0.71)
T7EBS	127 (5.0)	126.95	1.3 (0.05)	12.7 (0.5)	181 (7.13)	17.5 (0.69)

PUMPS

FIXED DISPLACEMENT VANE PUMPS- [240BAR]

※MODEL NUMBER DESIGNATION

T7EE(S)-	042-	045-	4-	R-	00-	A-	1-	0-	00
Ⅰ	Ⅱ	Ⅲ	Ⅳ	Ⅴ	Ⅵ	Ⅶ	Ⅷ	Ⅸ	Ⅹ

Ⅰ : Series No.
T7EE: 250 B4 HW, ISO 2 Bolts 3019-2 mounting flange.
T7EES: SAE E 4 Bolts, J744 mounting flange

Ⅱ, Ⅲ : Volumetric Displacement(ml/rev.)
042= 132.3 062 = 196.7
045 = 142.4 066 = 213.3
050 = 158.5 072 = 227.1
052 = 164.8 085 = 269.8

Ⅳ : Type of shaft:
1 = keyed (SAE CC)
3 = splined (SAE CC)
4 = splined (SAE D&E)
5 = keyed (SAE D&E)

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

Ⅴ : Porting combination: See page 173
00 = Standard

Ⅶ : Design letter

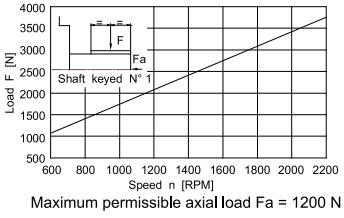
Ⅷ : Seal class: 1 = S1 (for mineral oil)
4 = S4 (for the resistant fluids)
5 = S5 (for mineral oil and fire resistant fluids)

Ⅸ : Coupling Adapter:
0 = None
2 = SAE B
3 = SAE BB

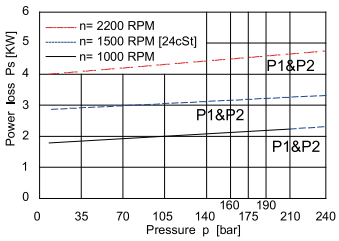
Ⅹ : Mounting W/connection variables

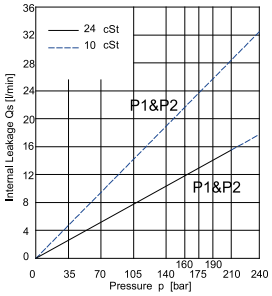
	P1&P2= 1-1/2", S= 4"	
Standard	UNC	Metric
T7EE		M0
T7EES	00	M0

※PERFORMANCE CURVE



Maximum permissible axial load Fa = 1200 N





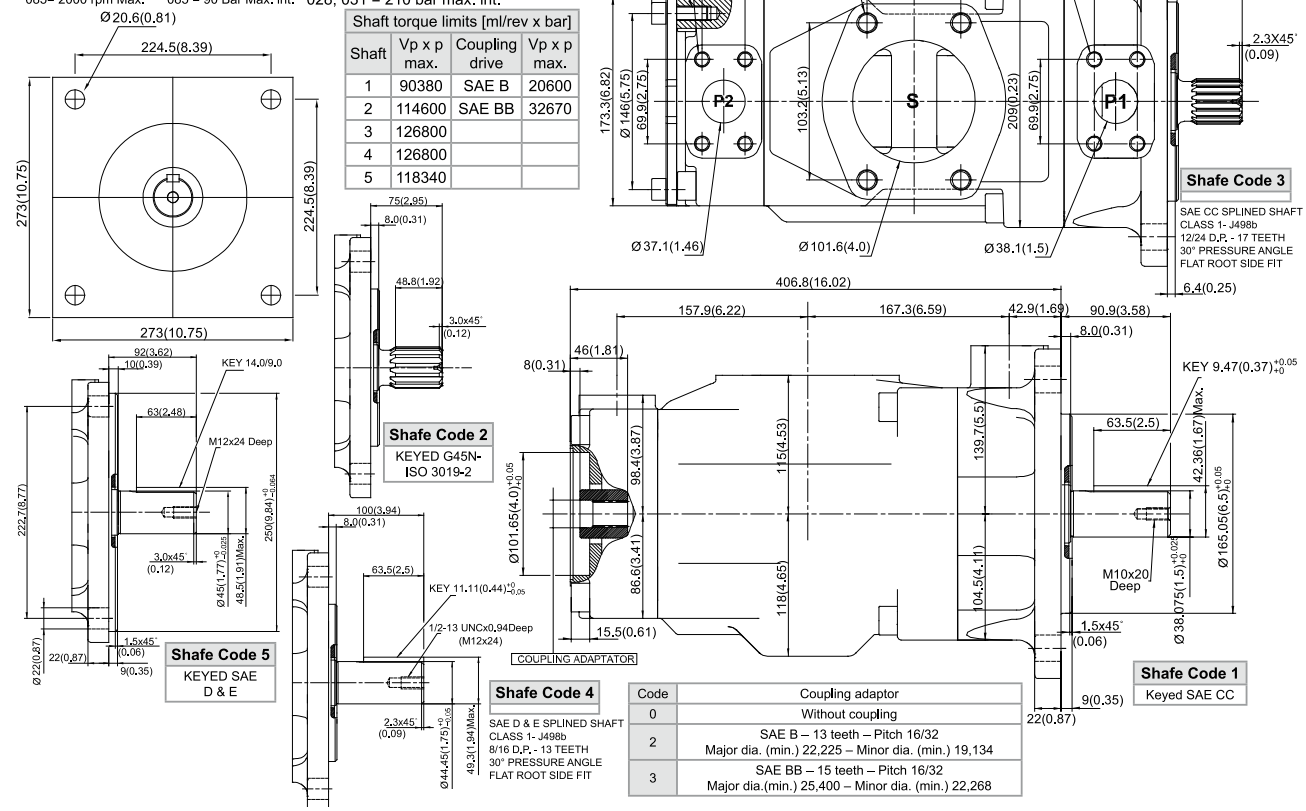
Do not operate the pump more than 5 seconds at any speed or viscosity if internal leakage is more than 50% of theoretical flow

OPERATING CHARACTERISTICS - TYPICAL [24 cSt]

Pressure Port	Series	Volumetric Displacement Vp	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	132.3ml/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	196.7ml/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	227.1ml/rev	340.6	330.6	323.5	6.9	82.6	139.5
	085*	268.0ml/rev	402.0	381.0	—	7.1	97.4	—

** 085= 2000 rpm Max. *** 085 = 90 Bar Max. int. * 028, 031 = 210 bar max. int.

※DIMENSIONS



Shaft torque limits [ml/rev x bar]

Shaft	Vp x p max.	Coupling drive	Vp x p max.
1	90380	SAE B	20600
2	114600	SAE BB	32670
3	126800		
4	126800		
5	118340		

Code	Coupling adaptor
0	Without coupling
2	SAE B – 13 teeth – Pitch 16/32 Major dia. (min.) 22,225 – Minor dia. (min.) 19,134
3	SAE BB – 15 teeth – Pitch 16/32 Major dia.(min.) 25,400 – Minor dia. (min.) 22,268

PUMPS

FIXED DISPLACEMENT VANE PUMPS- [275BAR]

※MODEL NUMBER DESIGNATION

T6DCC-	024-	014-	014-	1-	R-	00-	A-	1	00
Ⅰ	Ⅱ(P1)	Ⅲ(P2)	Ⅳ(P3)	Ⅴ	Ⅵ	Ⅶ	Ⅷ	Ⅸ	Ⅹ

Ⅰ: Series No.

Ⅱ: Volumetric Displacement(ml/rev.) for P1

014 = 44.0 035 = 113.4
017 = 55.0 038 = 120.6
020 = 66.0 042 = 137.5
024 = 81.1 045 = 147.5
028 = 90.0 050 = 158.0
031 = 99.2

Ⅲ, Ⅳ: Volumetric Displacement(ml/rev.) for P2&P3

003 = 10.8 017 = 58.3
005 = 17.2 020 = 63.8
006 = 21.3 022 = 70.3
008 = 26.4 025 = 79.3
010 = 34.1 028 = 88.8
012 = 37.1 031 = 100.0
014 = 46.0

Ⅴ: Type of shaft 1 = keyed (no SAE), 3 = splined (SAE C), 2 = keyed (SAE CC), 4 = splined (SAE CC)

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

Ⅶ: Porting combination: See page 173
00 = Standard

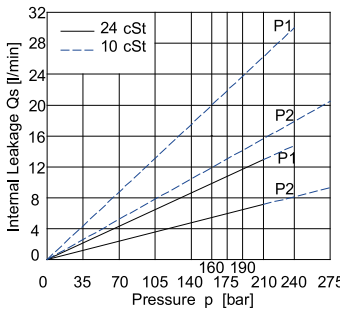
Ⅷ: Design letter

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

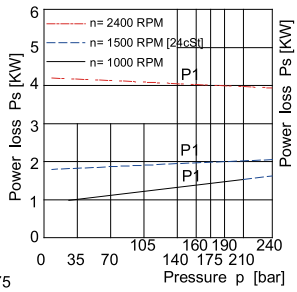
Ⅹ: Mounting W/connection variables

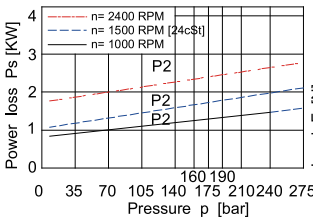
	UNC		Metric	
Code	00	01	M0	M1
P3	1"	3/4"	1"	3/4"

※PERFORMANCE CURVE

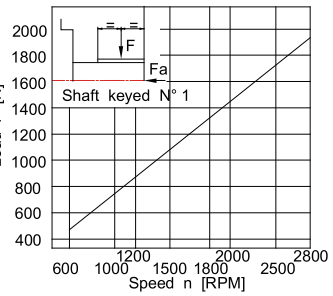


Do not operate the pump more than 5 seconds at any speed or viscosity if internal leakage is more than 50% of theoretical flow. Total leakage is the sum of each section loss at its operating conditions.





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



Maximum permissible axial load Fa = 1200 N

OPERATING CHARACTERISTICS - TYPICAL [24 cSt]

P1 Series	Volumetric Displacement Vp	Speed [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
014	47.6 ml/rev	1500	71.4	62.1	55.9	2.3	18.5	30.6
017	58.2 ml/rev		87.3	78.0	71.8	2.5	22.2	37.0
020	66.0 ml/rev		99.0	89.7	83.5	2.8	24.9	41.7
024	79.5 ml/rev		119.3	110.0	103.8	3.0	29.6	49.8
028	89.7 ml/rev		134.5	125.2	119.0	3.2	33.2	55.9
031	98.3 ml/rev		147.4	138.1	131.9	3.3	36.2	61.0
035	111.0 ml/rev		166.5	157.2	151.0	3.5	40.7	68.7
038	120.3 ml/rev		180.4	171.1	164.9	3.7	243.9	74.3
042 2)	136.0 ml/rev		204.0	194.7	188.5	4.0	49.4	83.7
045 2)	145.7 ml/rev		218.2	209.2	203.0	4.1	52.8	89.5
050 2)	158.0 ml/rev		237.0	227.7	224.0 1)	4.4	57.0	85.0 1)

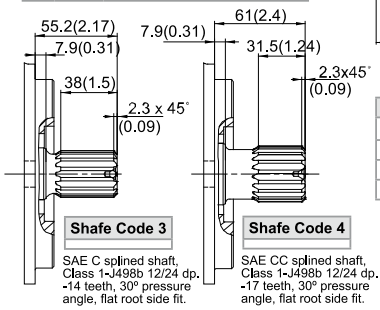
1) 028, 031, 050 = 210 bar max. int. 2) 042 - 045 - 050 = 2200 R.P.M. max.

P2&P3 Series	Volumetric Displacement Vp	Speed [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
003	10.8ml/rev	1500	16.2	11.2	7.7	1.3	5.3	8.4
005	17.3ml/rev		25.8	20.8	17,3	1.4	7.5	12.2
006	21.3ml/rev		31.9	26.9	23,4	1.5	8.9	14.7
008	26.4 ml/rev		39,6	34,6	31.1	1.6	10.7	17.7
010	34.1ml/rev		51,1	46,1	42,6	1.7	13.4	22,3
012	37.1 ml/rev		55,6	50.6	47.1	1.7	14.4	24.1
014	46.0ml/rev		69,0	64.0	60.5	1.9	17.6	29.5
017	58.3 ml/rev		87,4	82.4	78.9	2.1	21.9	36.9
020	63.8ml/rev		95,7	90,2	87.2	2.2	23.82	40.2
022	70.3 ml/rev		105,4	100.4	96.9	2.3	26.1	44.1
025	79.3ml/rev		118,9	113.9	110.4	2.5	29.2	49.5
028	88.8 ml/rev		133,2	128.2	125.8 1)	2.8	32.7	48.5 1)
031	100.0ml/rev		150,0	145.0	142.6 1)	2.8	36.5	54.2 1)

※DIMENSIONS

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

Port	Code	A	B	C
P3	00&M0	52.4(2.06)	26.2(1.03)	25.4(1.0)
	01&M1	47.6(1.874)	22.2(0.874)	19(0.75)

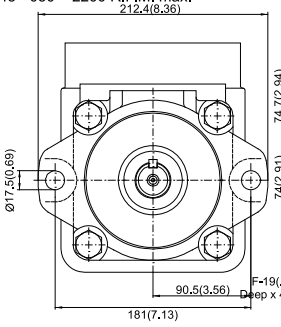


Shafe Code 3

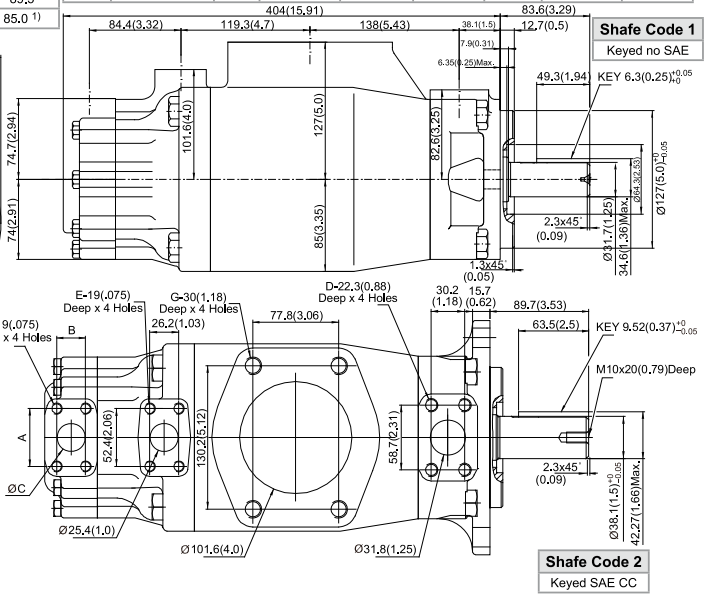
SAE C splined shaft, Class 1-J498b 12/24 dp. -14 teeth, 30° pressure angle, flat root side fit.

Shafe Code 4

SAE CC splined shaft, Class 1-J498b 12/24 dp. -17 teeth, 30° pressure angle, flat root side fit.



Code	00&01	M0&M1
D	7/16"-14UNC	M12
E	3/8"-16UNC	M10
F	3/8"-16UNC	M10
G	5/8"-11UNC	M16



Shafe Code 1

Keyed no SAE

Shafe Code 2

Keyed SAE CC

PUMPS

FIXED DISPLACEMENT VANE PUMPS- [275BAR]

※MODEL NUMBER DESIGNATION

T67DDCS-	B24-	014-	014-	1-	R-	00-	A-	1	00
Ⅰ	Ⅱ(P1)	Ⅲ(P2)	Ⅳ(P3)	Ⅴ	Ⅵ	Ⅶ	Ⅷ	Ⅸ	Ⅹ

Ⅰ: Series No.: SAE C 6 Bolts

Ⅱ: Volumetric Displacement(ml/rev.) for P1&P2

B14 = 44.0 B35 = 113.4
B17 = 55.0 B38 = 120.6
B20 = 66.0 B42 = 137.5
B24 = 81.1 045 = 147.5
B28 = 90.0 050 = 158.0
B31 = 99.2

Ⅲ, Ⅳ: Volumetric Displacement(ml/rev.) for P3

003 = 10.8 017 = 58.3
005 = 17.2 020 = 63.8
006 = 21.3 022 = 70.3
008 = 26.4 025 = 79.3
010 = 34.1 028 = 88.8
012 = 37.1 031 = 100.0
014 = 46.0

Ⅴ: Type of shaft 1 = keyed (SAE C), 4 = splined (SAE CC)
2 = keyed (SAE CC), 5 = keyed (noSAE)
3 = splined (SAE C),

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

Ⅶ: Porting combination: See page 173
00 = Standard

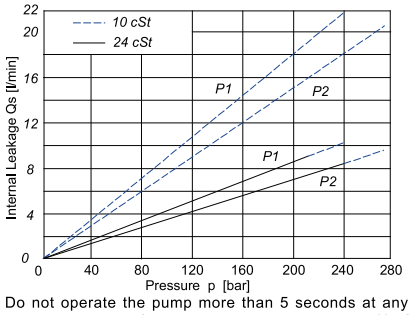
Ⅷ: Design letter

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

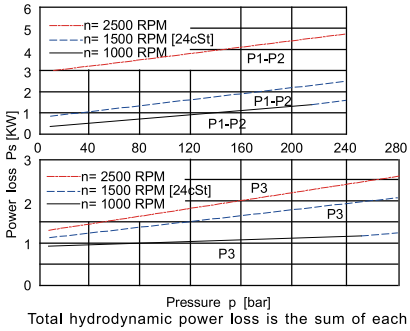
Ⅹ: Mounting W/connection variables

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

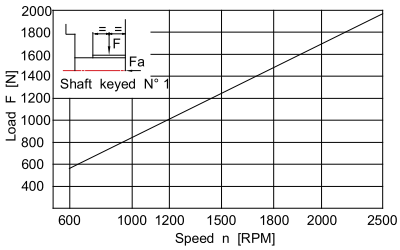
※PERFORMANCE CURVE



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.



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



Maximum permissible axial load Fa = 1200 N

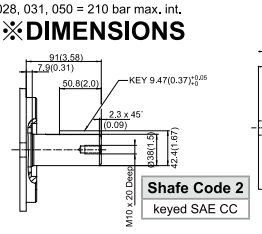
OPERATING CHARACTERISTICS - TYPICAL [24 cSt]

P1&P2 Series	Volumetric Displacement Vp	Speed [r.p.m]	Flow Q [l/min]			Input power P [kW]		
			p = 0 bar	p = 140 bar	p = 250 bar	p = 7 bar	p = 140 bar	p = 250 bar
B14	44.0 ml/rev.	1500	66	59.4	54,2	1.5	16.6	29,0
B17	55,0 ml/rev.		82.5	75.9	70,7	1.7	20.4	35,8
B20	66.0 ml/rev		99	92.4	87,2	1.9	24.3	42,7
B24	81,1 ml/rev		121.7	115	109,9	2.2	29.5	52,1
B28	90,0 ml/rev		135	128.4	123,2	2.3	32.7	57,7
B31	99,2 ml/rev		148.8	142.2	137,0	2.5	35.9	63,5
B35	113,4 ml/rev		170.1	163.5	158,3	2.7	40.8	72,3
B38	120,6 ml/rev		180.9	174.3	169,1	2.9	43.4	76,8
B42	137,5 ml/rev		206.3	199.6	194,5	3.2	49.3	87,4
B45	145,7 ml/rev		218.6	209.2	202,6	4.1	52.8	89,5
B50	158.0 ml/rev		237	227.7	223.0 1)	4.4	57.1	85,0 1)

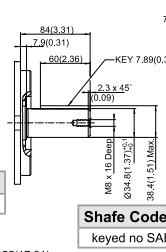
P3 Series	Volumetric Displacement Vp	Speed [r.p.m]	Flow Q [l/min]			Input power P [kW]		
			p = 0 bar	p = 140 bar	p = 275 bar	p = 7 bar	p = 140 bar	p = 275 bar
003	10.8ml/rev	1500	16,2	11.2	—	1.3	5.3	—
005	17.3ml/rev		25.8	20.8	16,1	1.4	7.5	13,9
006	21.3ml/rev		31,9	26,9	22,2	1.5	8.9	16,8
008	26.4 ml/rev		39,6	34.6	29,9	1.6	10.7	20,3
010	34.1ml/rev		51,1	46.1	41,4	1.7	13.4	25,6
012	37.1 ml/rev		55,6	50.6	45,9	1.7	14.4	27,6
014	46.0ml/rev		69,0	64.0	59,3	1,9	17.6	33,7
017	58.3 ml/rev		87,4	82.4	77,7	2.1	21.9	42,2
020	63.8ml/rev		95,7	90,2	86,0	2.2	23,82	46,0
022	70.3 ml/rev		105,4	100.4	95,7	2.3	26.1	50,4
025	79.3ml/rev		118,9	113.9	109,2	2.5	29.2	56,6
028	88.8 ml/rev		133,2	128.2	125,8 1)	2.8	32.7	48,5 1)
031	100.0ml/rev		150,0	145.0	142,6 1)	2.8	36.5	54,4 1)

-We do not recommand to use this 003 at 275 bar & 1500 RPM as the internal leakage is over 50% of theoretical flow.
1) 028, 031, 050 = 210 bar max. int.

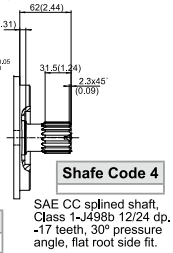
※DIMENSIONS



Shafe Code 2
keyed SAE CC

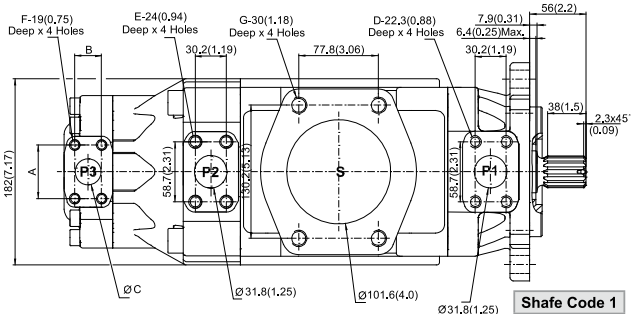


Shafe Code 5
keyed no SAE

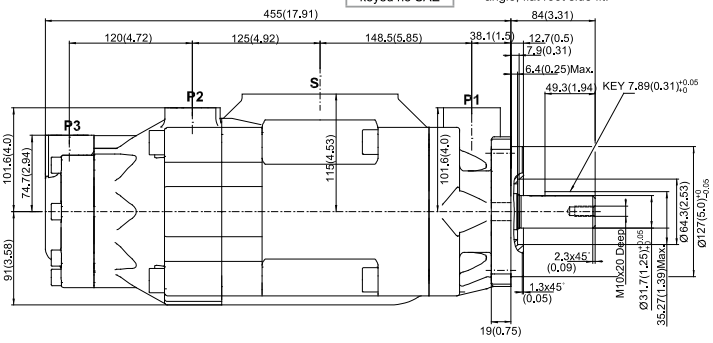


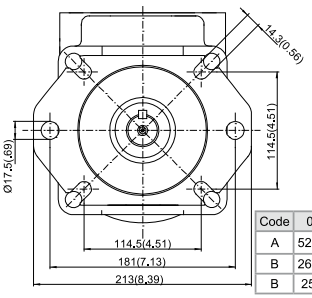
Shafe Code 4

SAE CC splined shaft, Class 1-J498b 12/24 dp. -17 teeth, 30° pressure angle, flat root side fit.



Shafe Code 1
Keyed SAE C





Code	00&M0	01&M1
A	52.4(2.06)	47.6(1.874)
B	26.2(1.03)	22.2(0.874)
B	25.4(1.0)	19(0.75)

Code	00&01	M0&M1
D	7/16"-14UNC	M12
E	7/16"-14UNC	M12
F	3/8"-16UNC	M10
G	5/8"-11UNC	M16

Shaft torque limits [ml/rev x bar]	
Shaft	V x p max.
1	43240
2	72306
3	61200
4	66500
5	55600

PUMPS

FIXED DISPLACEMENT VANE PUMPS- [240BAR]

※MODEL NUMBER DESIGNATION

T6EDC-	054-	B24-	014-	1-	R-	00-	A-	1-	P-	M1
Ⅰ	Ⅱ(P1)	Ⅲ(P2)	Ⅳ(P3)	Ⅴ	Ⅵ	Ⅶ	Ⅷ	Ⅸ	Ⅹ	ⅩⅠ

Ⅰ: Series No.

T6EDC: 250-B4 HW
ISO 4 Bolts 3019-2 mounting flange

Ⅱ: Volumetric Displacement(ml/rev.) for P1

042= 132.3 062 = 196.7
045 = 142.4 066 = 213.3
050 = 158.5 072 = 227.1
052 = 164.8 085 = 269.8

Ⅲ: Volumetric Displacement(ml/rev.) for P2

014 = 44.0 035 = 113.4
017 = 55.0 038 = 120.6
020 = 66.0 042 = 137.5
024 = 81.1 045 = 147.5
028 = 90.0 050 = 158.0
031 = 99.2

Ⅳ: Volumetric Displacement(ml/rev.) for P3

003 = 10.8 017 = 58.3
005 = 17.2 020 = 63.8
006 = 21.3 022 = 70.3
008 = 26.4 025 = 79.3
010 = 34.1 028 = 88.8
012 = 37.1 031 = 100.0
014 = 46.0

Ⅴ: Type of shaft

1 = keyed (G45N - ISO 3019-2)

Ⅵ: Direct. of rotation (view on shaft end)

R = clockwise,
L = counter-clockwise

Ⅶ: Porting combination: See page 173

00 = Standard

Ⅷ: Design letter

Ⅸ: Seal class

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

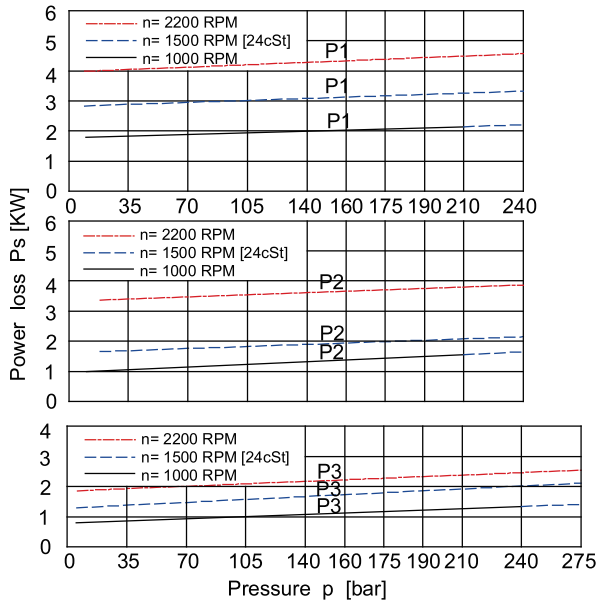
Ⅹ: Option

F: Face Mounting
P: Pedestal Mounting

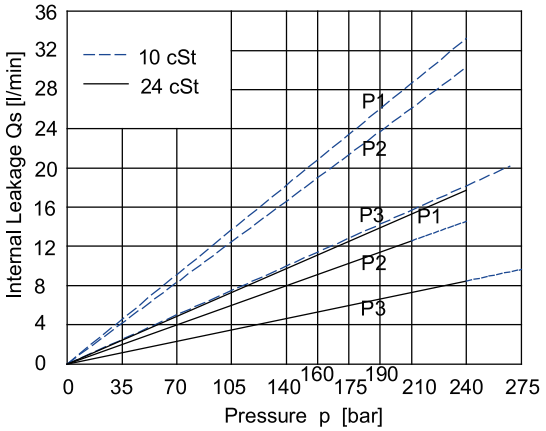
Ⅹ: Mounting W/connection variables

0: P3=1" SAE
1: P3= 3/4" SAE

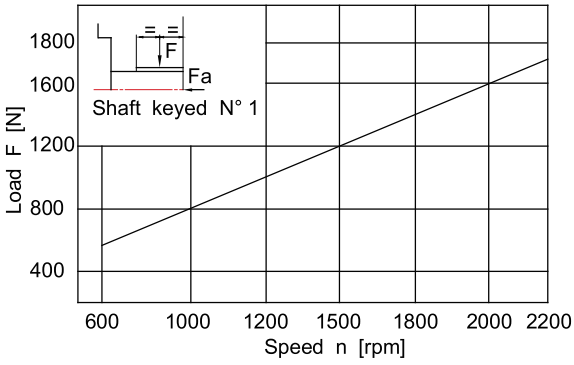
※PERFORMANCE CURVE



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



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

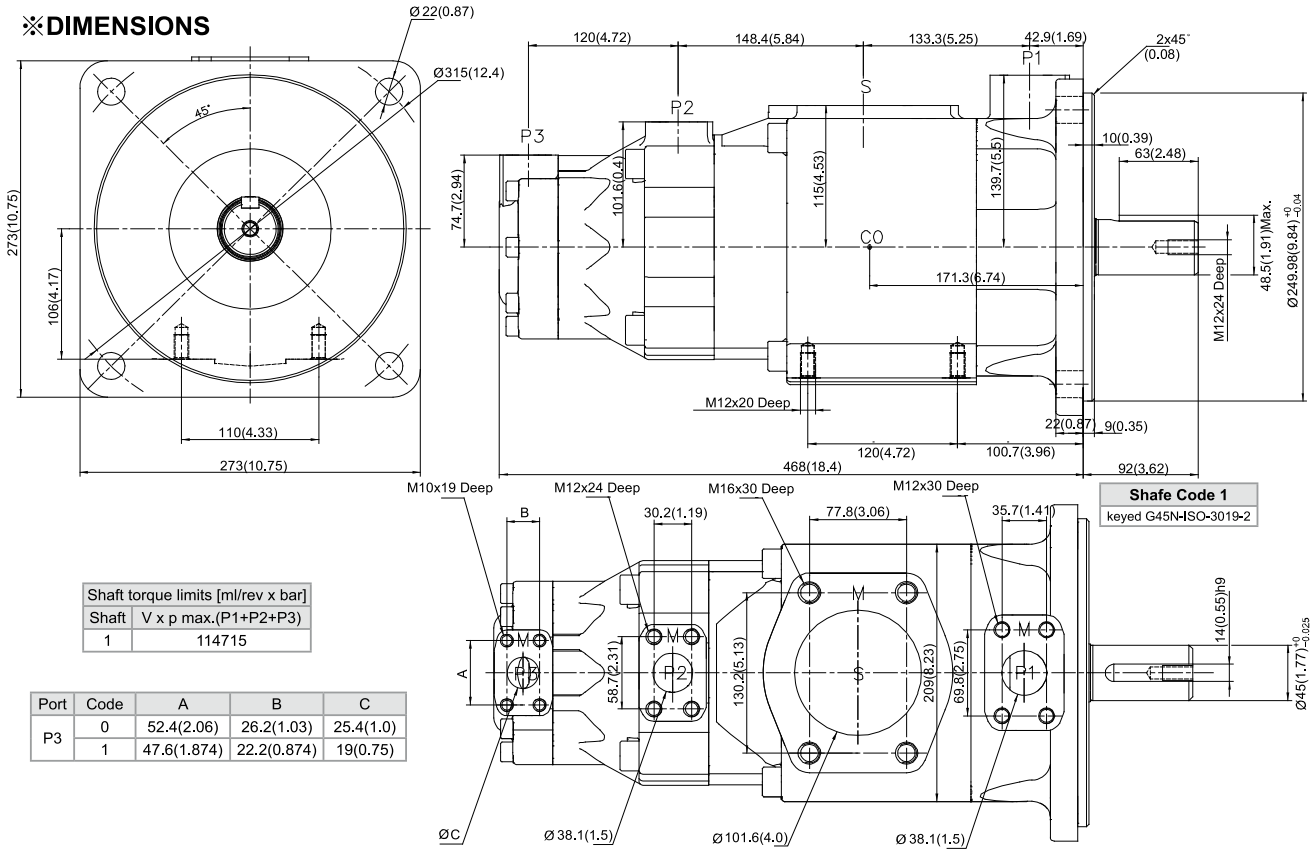


Maximum permissible axial load Fa = 2000 N

PUMPS

FIXED DISPLACEMENT VANE PUMPS- [240BAR]

※DIMENSIONS



Shafe Code 1
keyed G45N-ISO-3019-2

Shaft torque limits [ml/rev x bar]	
Shaft	V x p max.(P1+P2+P3)
1	114715

Port	Code	A	B	C
P3	0	52.4(2.06)	26.2(1.03)	25.4(1.0)
	1	47.6(1.874)	22.2(0.874)	19(0.75)

OPERATING CHARACTERISTICS - TYPICAL [24 cSt]

P1 Series	Volumetric Displacement Vp	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	1500	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	227.2	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
085 [1]	269.8 ml/rev		404.7 [2]	397.7	---	7.3 [2]	65.3 [2]	—
P2 Series	**Volumetric Displacement Vp**	**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
014	47.6 ml/rev	1500	71.4	62.1	55.9	2.3	18.5	30.6
017	58.2 ml/rev		87.3	78.0	71.8	2.5	22.2	37.0
020	66.0 ml/rev		99.0	89.7	83.5	2.8	24.9	41.7
024	79.5 ml/rev		119.3	110.0	103.8	3.0	29.6	49.8
028	89.7 ml/rev		134.5	125.2	119.0	3.2	33.2	55.9
031	98.3 ml/rev		147.4	138.1	131.9	3.3	36.2	61.0
035	111.0 ml/rev		166.5	157.2	151.0	3.5	40.7	68.7
038	120.3 ml/rev		180.4	171.1	164.9	3.7	243.9	74.3
042 [3]	136.0 ml/rev		204.0	194.7	188.5	4.0	49.4	83.7
045 [3]	145.7 ml/rev		218.2	209.2	203.0	4.1	52.8	89.5
050 [3]	158.0 ml/rev		237.0	227.7	224.0 [4]	4.4	57.0	85.0 [4]
P3 Series	**Volumetric Displacement Vp**	**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
003	10.8ml/rev	1500	16.2	11.2	7.7	1.3	5.3	8.4
005	17.3ml/rev		25.8	20.8	17.3	1.4	7.5	12.2
006	21.3ml/rev		31.9	26.9	23.4	1.5	8.9	14.7
008	26.4 ml/rev		39,6	34.6	31.1	1.6	10.7	17.7
010	34.1ml/rev		51,1	46.1	42.6	1.7	13.4	22.3
012	37.1 ml/rev		55,6	50.6	47.1	1.7	14.4	24.1
014	46.0ml/rev		69,0	64.0	60.5	1.9	17.6	29.5
017	58.3 ml/rev		87,4	82.4	78.9	2.1	21.9	36.9
020	63.8ml/rev		95,7	90,2	87.2	2.2	23.82	40.2
022	70.3 ml/rev		105,4	100.4	96.9	2.3	26.1	44.1
025	79.3ml/rev		118,9	113.9	110.4	2.5	29.2	49.5
028	88.8 ml/rev		133,2	128.2	125.8 [4]	2.8	32.7	48.5 [4]
031	100.0ml/rev		150,0	145.0	142.6 [4]	2.8	36.5	54.4 [4]

1) 085 = 2000 R.P.M. max. 2) 085 = 75 bar max. cont. 085=90 bar max. int. 3) 042, 045, 050 = 2200 R.P.M 4) 028, 031, 050 = 210 bar

PUMPS

FIXED DISPLACEMENT VANE PUMPS- [250BAR]

※MODEL NUMBER DESIGNATION

T67DCB-	B24-	014-	B04-	1-	R-	00-	B-	1-	M1
Ⅰ	Ⅱ(P1)	Ⅲ(P2)	Ⅳ(P3)	Ⅴ	Ⅵ	Ⅶ	Ⅷ	Ⅸ	Ⅹ

Ⅰ: Series No.

Ⅱ: Volumetric Displacement(ml/rev.) for P1

B14 = 44.0
B17 = 55.0
B20 = 66.0
B24 = 81.1
B28 = 90.0
B31 = 99.2
B35 = 113.4
B38 = 120.6
B42 = 137.5
045 = 147.5
050 = 158.0

Ⅲ: Volumetric Displacement(ml/rev.) for P2

003 = 10.8
005 = 17.2
006 = 21.3
008 = 26.4
010 = 34.1
012 = 37.1
014 = 46.0
017 = 58.3
020 = 63.8
022 = 70.3
025 = 79.3
028 = 88.8
031 = 100.0

Ⅳ: Volumetric Displacement(ml/rev.) for P3

B02 = 5.7
B03 = 9.8
B04 = 12.8
B05 = 15.9
B06 = 19.8
B07 = 22.5
B08 = 24.9
B09 = 28.0
B10 = 31.8
B11 = 34.9
B12 = 40.9
B14 = 45.1
B15 = 50.0

Ⅴ: Type of shaft

1 = keyed (non SAE)
2 = keyed (SAE CC)
3 = splined (SAE C)
4 = splined (SAECC)

Ⅵ: Direct. of rotation (view on shaft end)

R = clockwise,
L = counter-clockwise

Ⅶ: Porting combination: See page 173

00 = Standard

Ⅷ: Design letter

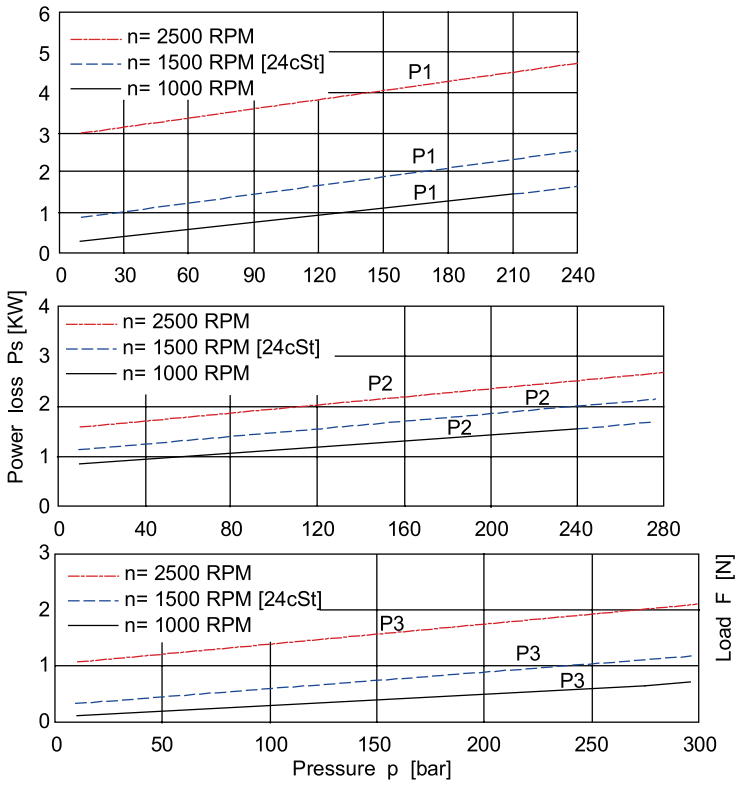
Ⅸ: Seal class

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

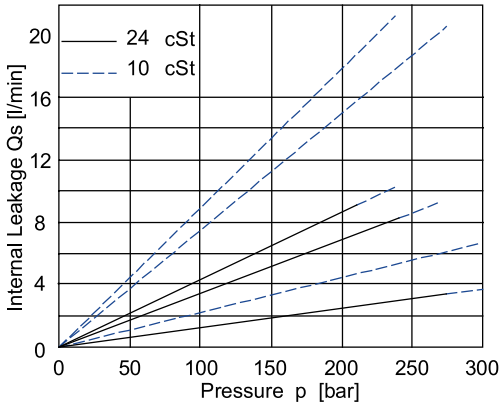
Ⅹ: Mounting W/connection variables

Standard	UNC	Metric
Code	01	M1

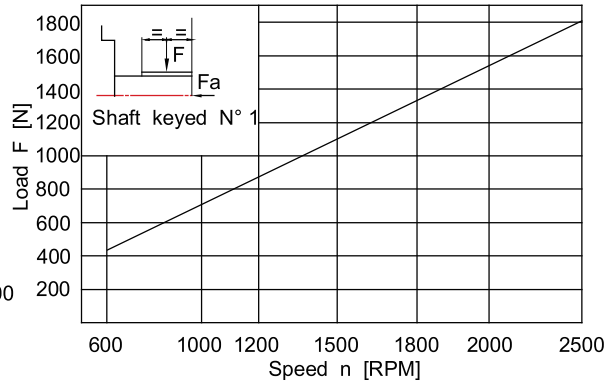
※PERFORMANCE CURVE



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



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

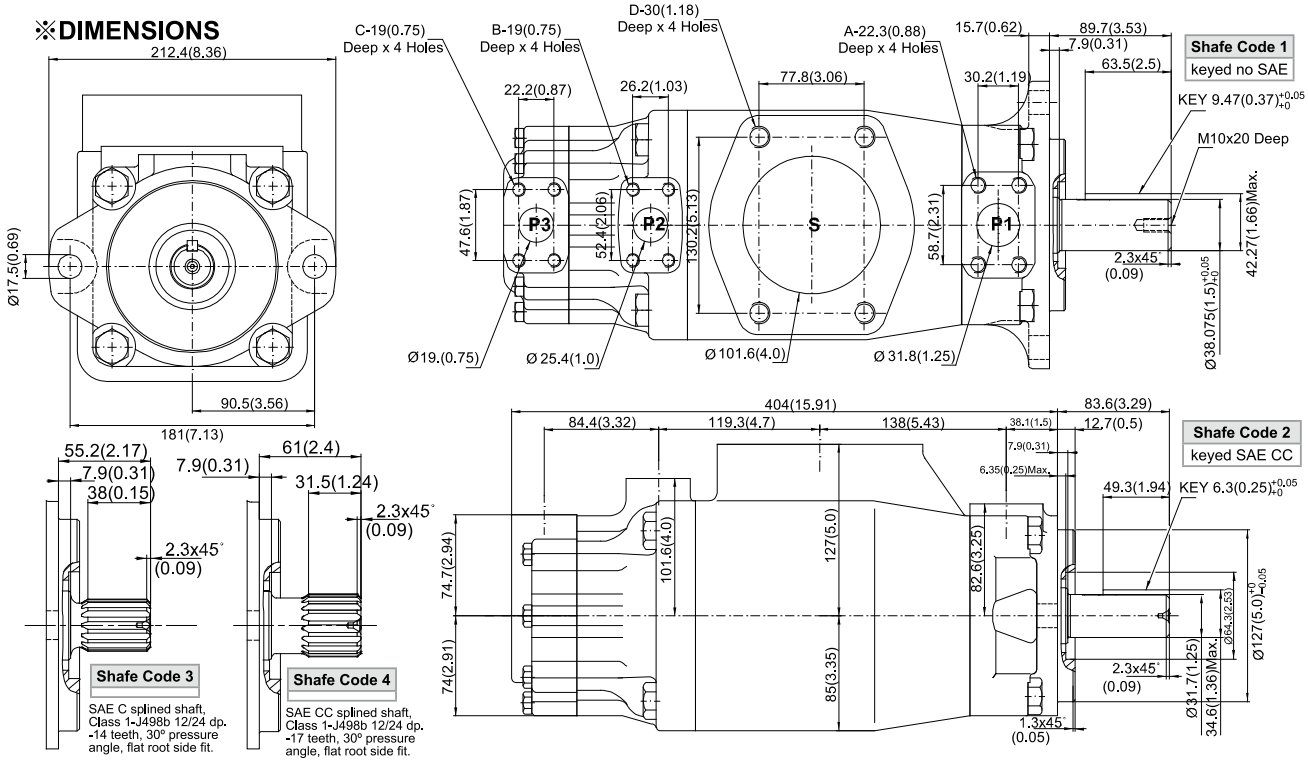


Maximum permissible axial load Fa = 2000 N

PUMPS

FIXED DISPLACEMENT VANE PUMPS- [250BAR]

※DIMENSIONS



OPERATING CHARACTERISTICS - TYPICAL [24 cSt]

Series	Volumetric Displacement Vp	Speed n [R.P.M.]	Flow Q [l/min]			Input power P [kW]		
			p = 0 bar	p = 140 bar	p = 250 bar	p = 7 bar	p = 140 bar	p = 250 bar
B14	44.0 ml/rev.	1500	66	59.4	54,2	1.5	16.6	29,0
B17	55,0 ml/rev.		82.5	75.9	70,7	1.7	20.4	35,8
B20	66.0 ml/rev		99	92.4	87,2	1.9	24.3	42,7
B24	81,1 ml/rev		121.7	115	109,9	2.2	29.5	52,1
B28	90,0 ml/rev		135	128.4	123,2	2.3	32.7	57,7
B31	99,2 ml/rev		148.8	142.2	137,0	2.5	35.9	63,5
B35	113,4 ml/rev		170.1	163.5	158,3	2.7	40.8	72,3
B38	120,6 ml/rev		180.9	174.3	169,1	2.9	43.4	76,8
B42	137,5 ml/rev		206.3	199.6	194,5	3.2	49.3	87,4
045	145,7 ml/rev		218.6	209.2	202,6	4.1	52.8	89,5
050	158.0 ml/rev		237	227.7	223.0 1)	4.4	57.1	85,0 1)
P3 Series	Volumetric Displacement Vp	Speed n [R.P.M.]	Flow Q [l/min]			Input power P [kW]		
			p = 0 bar	p = 140 bar	p = 275 bar	p = 7 bar	p = 140 bar	p = 275 bar
003	10.8ml/rev	1500	16.2	11.2	—	1.3	5.3	--
005	17.3ml/rev		25.8	20.8	16,1	1.4	7.5	13,9
006	21.3ml/rev		31.9	26.9	22,2	1.5	8.9	16,8
008	26.4 ml/rev		39,6	34.6	29,9	1.6	10.7	20,3
010	34.1ml/rev		51,1	46.1	41,4	1.7	13.4	25,6
012	37.1 ml/rev		55,6	50.6	45,9	1.7	14.4	27,6
014	46.0ml/rev		69,0	64.0	59,3	1.9	17.6	33,7
017	58.3 ml/rev		87,4	82.4	77,7	2.1	21.9	42,2
020	63.8ml/rev		95,7	90,2	86,0	2.2	23.82	46,0
022	70.3 ml/rev		105,4	100.4	95,7	2.3	26,1	50,4
025	79.3ml/rev		118,9	113.9	109,2	2.5	29.2	56,6
028	88.8 ml/rev		133,2	128.2	125,8 1)	2.8	32.7	48,5 1)
031	100.0ml/rev		150,0	145.0	142,6 1)	2.8	36.5	54,4 1)
Series	Volumetric Displacement Vp	Speed n [R.P.M.]	Flow Q [l/min]			Input power P [kW]		
			p = 0 bar	p = 140 bar	p = 300 bar	p = 7 bar	p = 140 bar	p = 300 bar
B02	5.8 ml/rev.	1500	8.7	7	5,1	0.5	2.6	5,1
B03	9.8 ml/rev.		14.7	13	11,1	0.6	4	8,1
B04	12,8 ml/rev		19.2	17.5	15,6	0,6	5	10,4
B05	15,9 ml/rev		23.9	22.2	20,2	0.7	6.1	12,7
B06	19,8 ml/rev		29.7	28	26,1	0.7	7.5	15,6
B07	22,5 ml/rev		33.7	32	30,2	0.8	8.5	17,6
B08	24,9 ml/rev		37.4	35.7	33,7	0.8	9.3	19,5
B09	28,0 ml/rev		42	40.3	38,4	0.9	10.4	21,8
B10	31,8 ml/rev		47.7	46	44,1	0.9	11.7	26,2
B11	35,0 ml/rev		52.5	50.8	48,9	1	12.8	27,0
B12	41,0 ml/rev		61.5	59.8	57,9	1.1	14.9	31,5
B14	45,0 ml/rev		67.5	65.8	63,9	1.2	16.3	34,5
B15	50,0 ml/rev		75	73.3	71,6 2)	1.3	18.1	35,7 2)

1) 028, 031, 050 = 210 bar max. int. 2) B15 = 280 bar max. int.