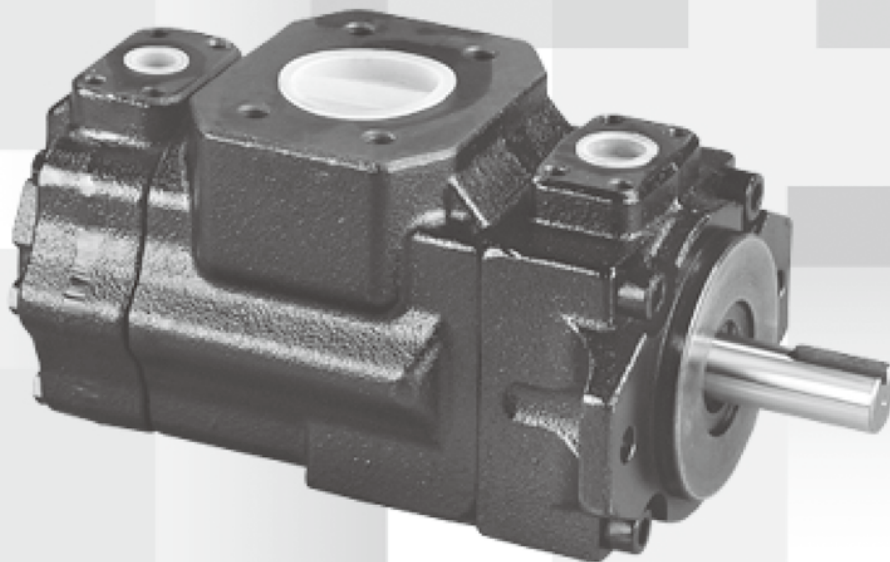


Double Lips and Piston Type Vane Pump -Single, Double, Triple YT6 Industrial & Mobile Application



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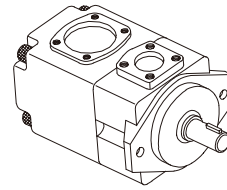
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YT6 SERIES



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 requirement.
3. Type of shaft: if it would support operating torque.
4. Coupling must be chosen to minimize pump shaft load (weight, misalignment).
5. Filtration: must be adequate for lowest contamination level.
6. Environment of pump : to avoid noise reflection, pollution and shocks.

HIGHER PRESSURE

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

EXCELLENT EFFICIENCY

Better efficiency under load, increases 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 improves 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.

ADVANCED CARTRIDGE

Provides for drop-in assemblies. 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

Viscosities from 860 to 10 cSt, permit colder starts and hotter running. The balanced design compensates for wear and temperature changes. At high viscosity or cold temperature the rotor to side plates gap is well lubricated and improves mechanical efficiency.

SYNTHETIC

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

**MINIMUM & MAXIMUM SPEED, PRESSURE RATINGS -
YT6 SERIES INDUSTRIAL AND MOBILE APPLICATION**

Size	Series	Theoretical Displacement Vi m ³ /rev	Minimum Speed RPM	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	
				RPM	RPM	Int. bar	Cont. bar	Int. bar	Cont. bar	Int. bar	Cont. bar
C			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									
	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									
	050	158.0									
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	160		160		
						210	160		160		
						210	175	175	175	160	140

HF-0 , HF-2 = Antiwear Petroleum Base
HF-1 = Non Antiwear Petroleum Base
HF-5 = Synthetic Fluids

HF-3 = Water in oil Emulsions
HF-4 = Water Glycols

For further information or if performance characteristics outlined above do not meet your own particular requirements, please **consult your local YKL Hydraulics distributor**

ATTENTION AT STARTING

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

PUMP SELECTION - YT6 SERIES INDUSTRIAL AND MOBILE APPLICATION

PUMP CALCULATIONS

To Resolve :

Initial displacement : $V_i(\text{cm}^3/\text{rev})$
(based on requested flow)

Input power $P(\text{kw})$

Required Performance :

Required flow : $Q (\text{l/min})$ 60

Speed : $n (\text{rpm})$ 1500

Pressure : $P (\text{bar})$ 150

FORMULA AND EXAMPLE

V_p = Volumetric displacement

Q_a = Actual pump flow @ operating condition

Q_{th} = Theoretical flow of pump chosen at rpm

Q_s = Pump internal leakage

P_s = Power Loss

P_i = Theoretical input power

Formula :

1.First calculation $V_i = \frac{1000 Q}{n}$

2.Choose V_p of pump with next highest displacement (see chart tabulations)
($V_p > V_i$)

3.Theoretical flow of this pump

$$Q_{th} = \frac{V_p \times n}{1000}$$

4.Find Q_s leakage function of pressure $Q_s = f(p)$ on curve at 10 or 24 cst (see chart page 10)

5.Available flow $Q_a = Q_{th} - Q_s$

6.Theoretical input power

$$P_i = \frac{Q_{th} \times p}{600}$$

7.Find P_s hydrodynamic power loss on curve (see chart page 10)

8.Calculation of necessary input power $P = P_i + P_s$

9.Results

Example :

$$V_i = \frac{1000 \times 60}{1500} = 40 \text{ cm}^3/\text{rev}$$

YT6C - 014 $V_p = 46 \text{ cm}^3/\text{rev}$

$$Q_{th} = \frac{46 \times 1500}{1000} = 69 \text{ l/min}$$

YT6C (page 12 - 13): $Q_s = 5 \text{ l/min}$ at 150 bar, 24 cSt

$$Q_a = Q_{th} - Q_s$$

$$P_i = \frac{69 \times 150}{600} = 17.3 \text{ kw}$$

YT6C (page 12 - 13): P_s at 1500 rpm, 150 bar = 1.5 kw

$$P = 17.3 + 1.5 = 18.8 \text{ kw}$$

$$\left. \begin{array}{l} V_p = 46.0 \text{ cm}^3/\text{rev} \\ V_a = 64.0 \text{ l/min} \\ p = 18.8 \text{ kw} \end{array} \right\} \text{YT6C-014}$$

if Q_a is close enough to Q then done
if Q_a is too low choose YT6C-017
if Q_a is too high choose YT6C-012

The above calculations be followed for pump selection each application.

INTERMITTENT PRESSURE RATING

YT6 and **YT7** units may be operated intermittently at pressures higher than the recommended continuous rating when the time weighted average of pressure is less than or equal to the continuous duty pressure rating.

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

For total cycle time higher than 15 minutes please consult your [YKL Hydraulics](#) representative.

Example:YT6C-014

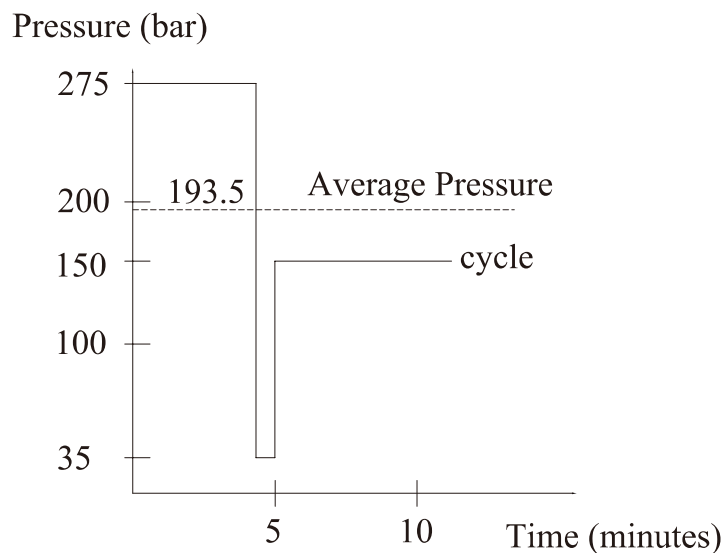
Duty cycle 4 min. at 275 bar

1 min. at 35 bar

5 min. at 160 bar

$$\frac{(4 \times 275) + (1 \times 35) + (5 \times 160)}{10} = 193.5 \text{ bar}$$

193.5 bar is lower than 240 bar allowed as continuous pressure for YT6C-014 with HF-0 fluid.



DESCRIPTION - YT6/YT7 SERIES INDUSTRIAL AND MOBILE APPLICATION

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, typically 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 noise level in the smallest envelope.

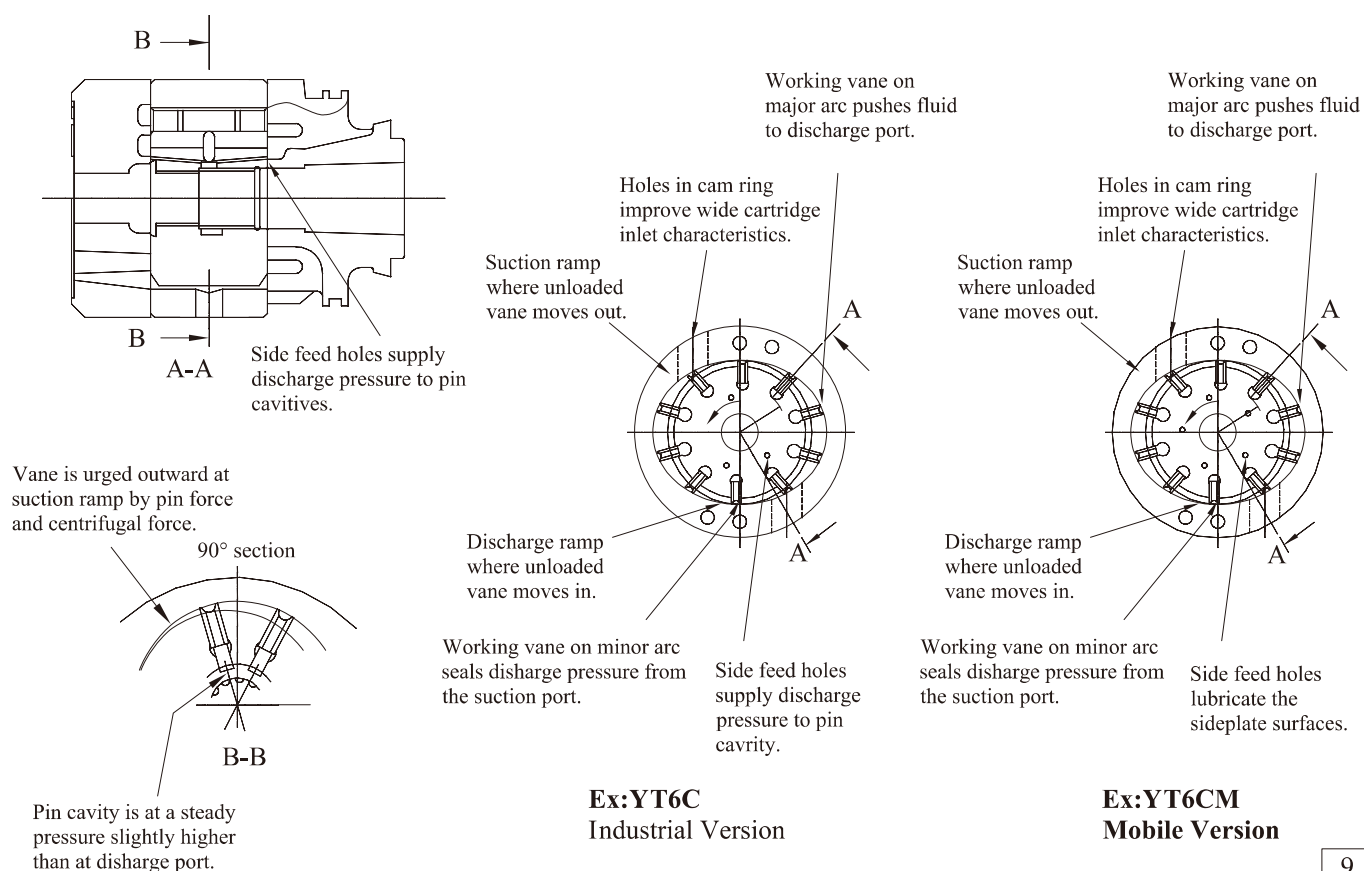
The low speed 600 RPM, low pressure, high viscosity 860 cSt allow application in cold environments with minimum energy consumption and without seizure risk.

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-YT6/YT7 SERIES INDUSTRIAL AND MOBILE APPLICATION



SHAFTS AND HYDRAULIC FLUIDS - YT6/YT7 SERIES INDUSTRIAL AND MOBILE APPLICATION

RECOMMENDED FLUIDS	Petroleum based antiwear R & O fluids. These fluids are the recommended fluids for YT6 series pumps. Maximum catalog ratings and performance data are based on operation with these fluids. These fluids are covered by YKL Hydraulics HF-0 and HF-2 specification.
ACCEPTABLE ALTERNATE FLUIDS	The use of fluids other than petroleum based antiwear R & O fluids, requires that the maximum ratings of the pumps will be reduced. In some cases the minimum replenishment pressures must be increased. Consult specific for more details.
VISCOSITY	Max (cold start, low speed & pressure) 860 mm ² /s (cSt) Max (full speed & pressure) 108 mm ² /s (cSt) Optimum (max. life) 30 mm ² /s (cSt) Min (full speed & pressure for HF-1, HF-3, HF-4 & HF-5 fluids) 18 mm ² /s (cSt) Min (full speed & pressure for HF-0 & HF-2 fluids) 10 mm ² /s (cSt)
VISCOSITY INDEX	90° min, higher values extend range of operation temperatures. Maximum fluid temperature HF-0, HF-1, HF-2 373 (+100° C) HF-3, HF-4 323 (+50° C) HF-5 343 (+70° C) Biodegradable fluids (esters & rapeseed base) 338 (+65° C) Minimum fluid temperature HF-0, HF-1, HF-2, HF-5 255 (-18° C) HF-3, HF-4 283 (+10° C) Biodegradable fluids (esters & rapeseed base) 253 (-20° C)
FLUID CLEANLINESS	The fluid must be cleaned before and during operation to maintain contamination level of NAS1638 class 8 (or ISO 18/14) or better. Filters with 25 micron (or better, B10 ≥ 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 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	YKL Hydraulics supplies the YT6 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.

YT6C * 014 - 1 R 00 - B 1 *
 ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨

① Series

② Y- Metric port connection ,
 Omit for UNC

③ Cam ring

Volumetric displacement (cm³/rev)

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

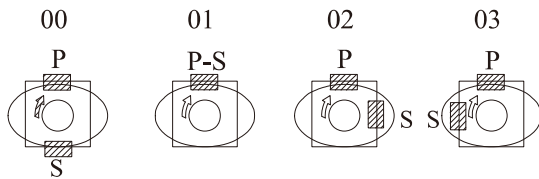
④ Type of shaft

1= keyed (SAE B)

2= keyed (no SAE)

3= Splined (SAE B)

4= Splined (SAE BB)



S=Suction port

P=Pressure port

⑤ Direction of rotation

(view on shaft end)

R=clockwise

L=counter-clockwise

⑥ Porting combination

00=standard

⑦ Design letter

⑧ Seal class

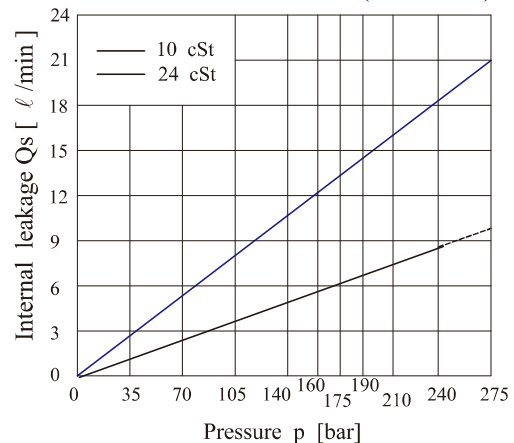
1 = S1 (for mineral oil)

4 = S4 (for fire resistant fluids)

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

⑨ Modifications

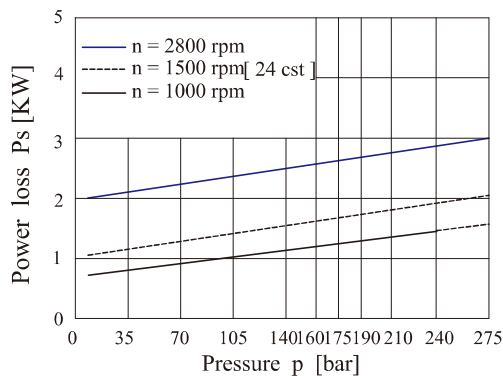
INTERNAL LEAKAGE (TYPICAL)



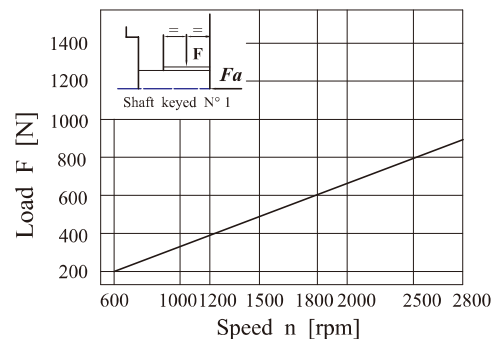
Pressure p [bar]

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

HYDROMECHANICAL POWER LOSS (TYPICAL)

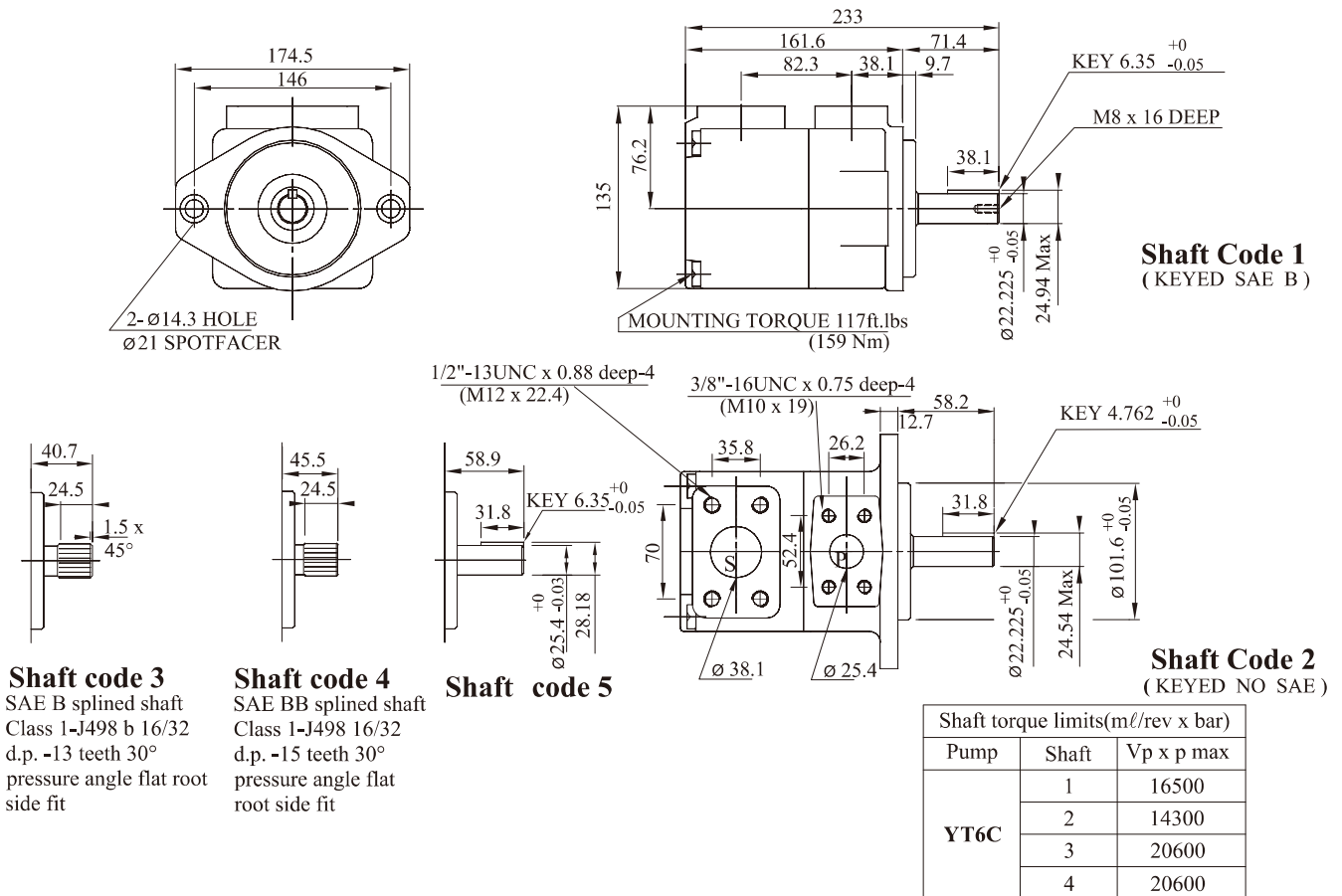


PERMISSIBLE RADIAL LOAD



Maximum permissible axial load Fa = 800 N

YT6C Dimensional Drawing



YT6C OPERATING CHARACTERISTICS - TYPICAL [24 cSt]

Series	Volumetric Displacement Vp	Speed n [R.P.M]	Flow qve [l/min]=1500rpm			Input power P [KW]=1500rpm			P Max Kg/cm ²	Max r.p.m
			p = 0 bar	p = 140 bar	p = 240 bar	p = 7 bar	p = 140 bar	p = 240 bar		
005	17.2ml/rev	1500	25.8	20.8	17.3	1.4	7.5	12.2	275	2800
006	21.3ml/rev	1500	31.9	26.9	23.4	1.5	8.9	14.7		
008	26.4ml/rev	1500	39.6	34.6	31.1	1.6	10.7	17.7		
010	34.1ml/rev	1500	51.1	46.1	42.6	1.7	13.4	22.3		
012	37.1ml/rev	1500	55.6	50.6	47.1	1.7	14.4	24.1		
014	46.0ml/rev	1500	69.0	64.0	60.5	1.9	17.6	29.5		
017	58.3ml/rev	1500	87.4	82.4	78.9	2.1	21.9	36.9		
020	63.8ml/rev	1500	95.7	90.7	87.2	2.2	23.8	40.2		
022	70.3ml/rev	1500	105.4	100.4	96.9	2.3	26.1	44.1	210	2500
025 1)	79.3ml/rev	1500	118.9	113.9	110.4	2.5	29.2	49.5		
028 1)	88.8ml/rev	1500	133.2	128.2	125.8 2)	2.8	32.7	48.5 2)		
031 1)	100.0ml/rev	1500	150.0	145.0	142.6 2)	2.8	36.5	54.4 2)		

1) 025 - 028 - 031 = 2500 R.P.M.max

2) 028 - 031 = 210 bar max. int.

Min Speed : 600 rpm

YT6CM * 014 - 1 R 00 - B 1 *
 ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨

① Series

② **Y-** Metric port connection ,
Omit for UNC

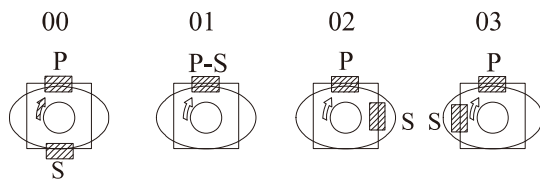
③ Cam ring

Volumetric displacement (cm³/rev)

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

④ Type of shaft

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



S=Suction port

P=Pressure port

⑤ Direction of rotation (view on shaft end)

R=clockwise

L=counter-clockwise

⑥ Porting combination 00=standard

⑦ Design letter

⑧ Seal class

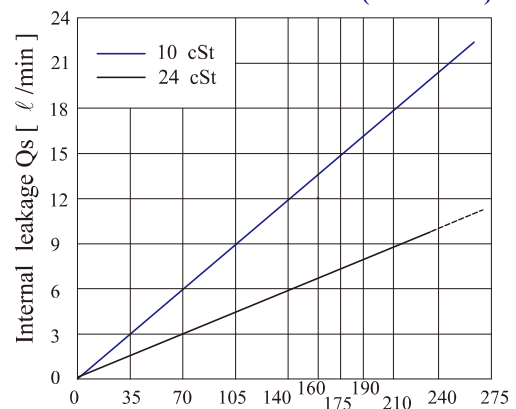
1 = S1 (for mineral oil)

4 = S4 (for fire resistant fluids)

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

⑨ Modifications

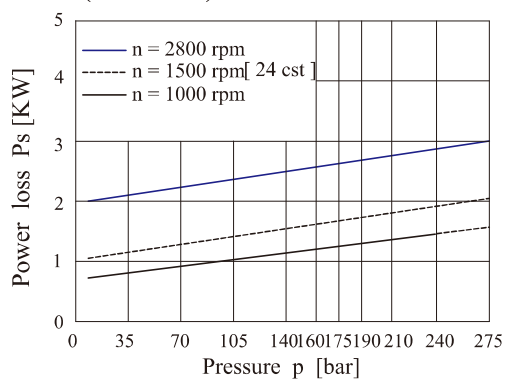
INTERNAL LEAKAGE (TYPICAL)



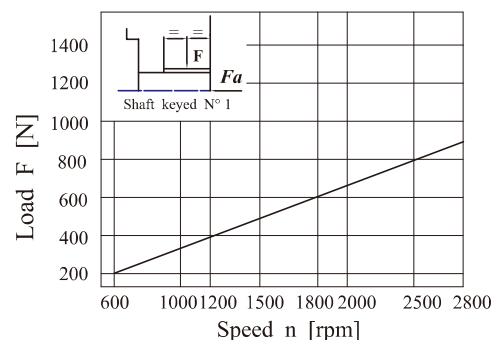
Pressure p [bar]

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

HYDROMECHANICAL POWER LOSS (TYPICAL)

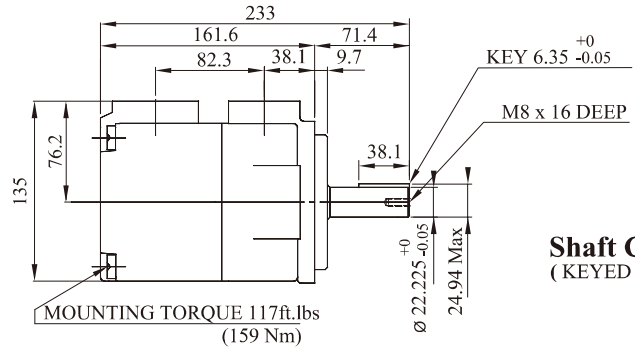
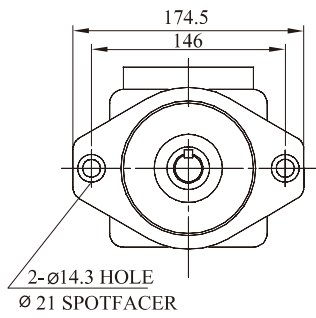


PERMISSIBLE RADIAL LOAD

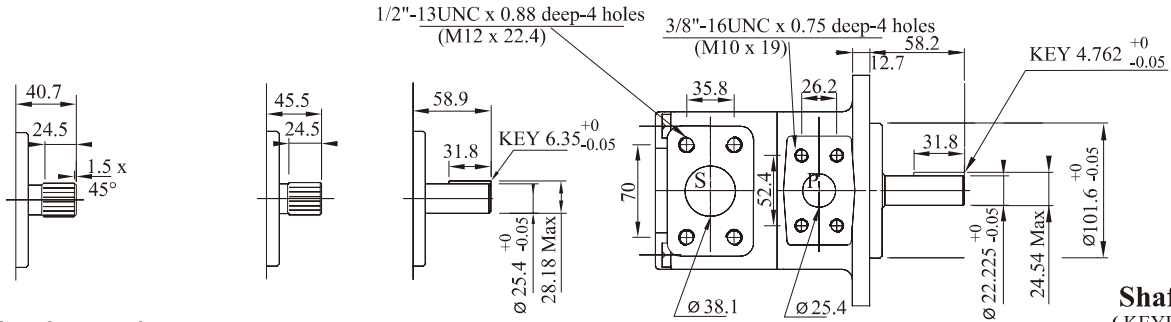


Maximum permissible axial load Fa = 800 N

YT6CM Dimensional Drawing



Shaft Code 1
(KEYED SAE B)



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

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

Shaft code 5

Shaft Code 2
(KEYED NO SAE)

Shaft torque limits(mℓ/rev x bar)		
Pump	Shaft	Vp x p max
YT6CM	1	16500
	2	14300
	3	20600
	4	21821

YT6CM OPERATING CHARACTERISTICS - TYPICAL [24 cSt]

Series	Volumetric Displacement Vp	Speed n [R.P.M]	Flow qve [ℓ/min]=1500 rpm			Input power P [KW]=1500 rpm			P Max Kg/cm ²	Max r.p.m
			p = 0 bar	p = 140 bar	p = 240 bar	p = 7 bar	p = 140 bar	p = 240 bar		
005	17.2mℓ/rev	1500	25.8	20.3	15.8	1.4	7.5	12.2	275	2800
006	21.3mℓ/rev	1500	31.9	26.5	22.0	1.5	8.9	14.7		
008	26.4mℓ/rev	1500	39.6	34.1	29.6	1.6	10.7	17.7		
010	34.1mℓ/rev	1500	51.1	45.7	41.2	1.7	13.4	22.3		
012	37.1mℓ/rev	1500	55.6	50.2	45.7	1.7	14.4	24.1		
014	46.0mℓ/rev	1500	69.0	63.5	59.0	1.9	17.6	29.5		
017	58.3mℓ/rev	1500	87.4	82.0	77.5	2.1	21.9	36.9		
020	63.8mℓ/rev	1500	95.7	90.2	85.7	2.2	23.8	40.2		
022	70.3mℓ/rev	1500	105.4	100.0	95.5	2.3	26.1	44.1		
025 1)	79.3mℓ/rev	1500	118.9	113.5	109.0	2.5	29.2	49.5	210	2500
028 1)	88.8mℓ/rev	1500	133.2	127.7	124.5 2)	2.8	32.7	48.5 2)		
031 1)	100.0mℓ/rev	1500	150.0	144.5	141.3 2)	2.8	36.5	54.4 2)		

1) 025 - 028 - 031 = 2500 R.P.M.max

2) 028 - 031 = 210 bar max. int.

YT6CP B14 - 1 R 00 - B 1 *
 ① ② ③ ④ ⑤ ⑥ ⑦ ⑧

① **Series**

② **Cam ring**

Volumetric displacement (cm³/rev)

B14=46.0

B17=58.3

B20=63.8

B22=70.3

B25=79.3

B28=88.8

B31=100.0

③ **Type of shaft**

2= keyed (no SAE)

3= Splined (SAE C)

X= Splined

④ **Direction of rotation**
(view on shaft end)

R=clockwise

L=counter-clockwise

⑤ **Porting combination**
00=standard

⑥ **Design letter**

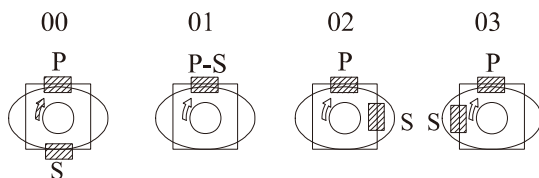
⑦ **Seal class**

1 = S1 (for mineral oil)

4 = S4 (for fire resistant fluids)

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

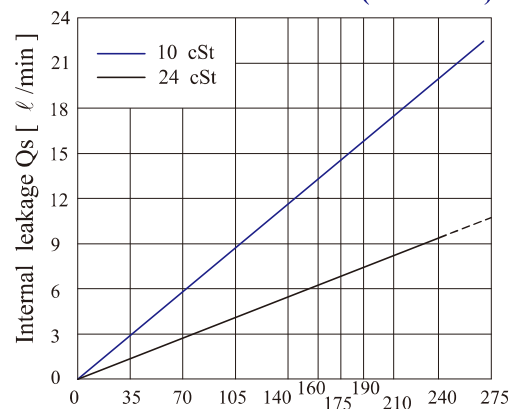
⑧ **Modifications**



S=Suction port

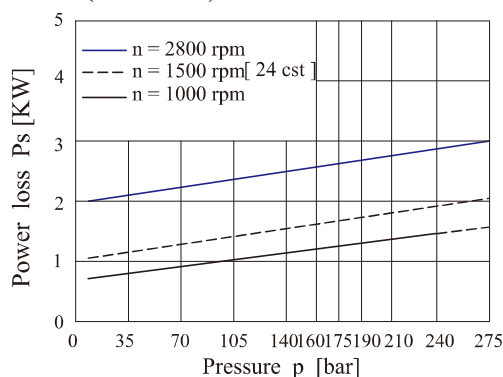
P=Pressure port

INTERNAL LEAKAGE (TYPICAL)

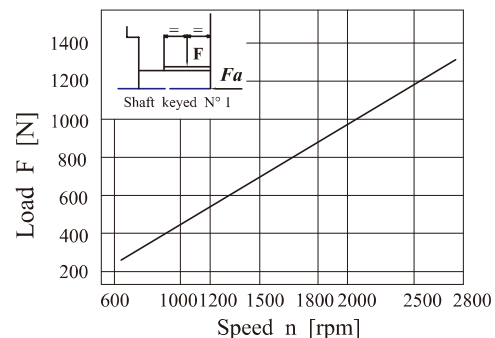


Do not operate pump more than 5 seconds at any speed or viscosity if internal leakage is more than 50 % of theoretical flow.

HYDROMECHANICAL POWER LOSS (TYPICAL)

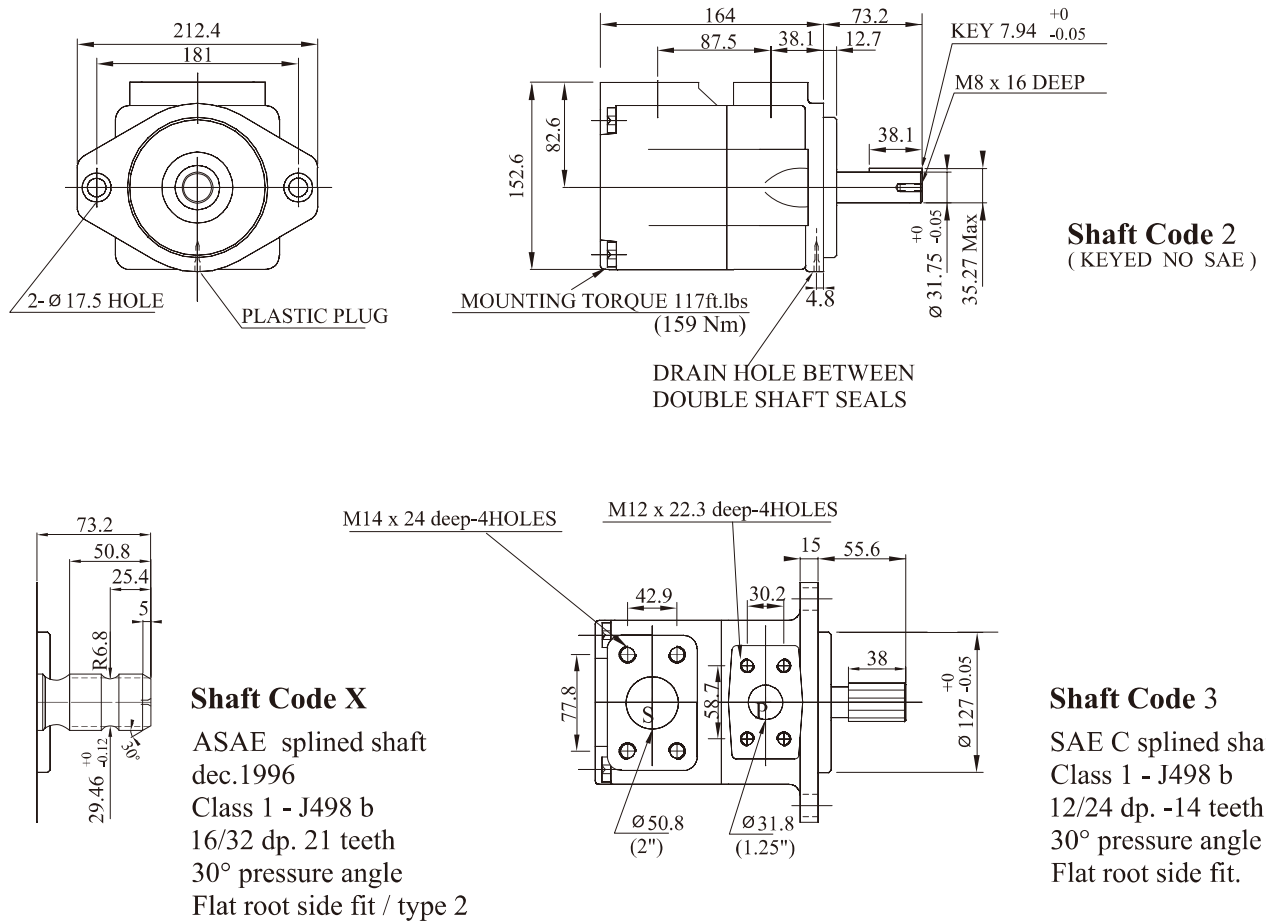


PERMISSIBLE RADIAL LOAD



Maximum permissible axial load Fa = 800 N

YT6CP Dimensional Drawing



OPERATING CHARACTERISTICS - TYPICAL [24 cSt]

Series	Volumetric Displacement Vp	Flow q [l/min] n=1500 rpm			Input power P [KW] n=1500 rpm			P Max ₂ Kg/cm ²	Max r.p.m
		p = 0 bar	p = 140 bar	p = 240 bar	p = 7 bar	p = 140 bar	p = 240 bar		
B14	46.0 ml/rev	69.0	63.5	59.0	1.9	17.6	29.5	275	2800
B17	58.3 ml/rev	87.4	82.0	77.5	2.1	21.9	36.9		
B20	63.8 ml/rev	95.7	90.2	85.7	2.2	23.8	40.2		
B22	70.3 ml/rev	105.4	100.0	95.5	2.3	26.1	44.1		
B25 1)	79.3 ml/rev	118.9	113.5	109.0	2.5	29.2	49.5	210	2500
B28 1)	88.8 ml/rev	133.2	127.7	124.5 2)	2.8	32.7	48.5 2)		
B31 1)	100.0 ml/rev	150.0	144.5	141.3 2)	2.8	36.5	54.4 2)		

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

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

Min Speed : 600 rpm

YT6D Ordering Code

YT6D * - 045 - 1 R 00 - B 1 *

① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨

① Series

② Y - Metric port connection (not for code Q)
Omit for UNC

③ Cam ring

Volumetric displacement (cm³/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	061=190.5

④ Type of shaft

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

⑤ Direct. of rotation

(view on shaft end)

R=clockwise

L=counter-clockwise

⑥ Porting combination

00=Standard

⑦ Design letter

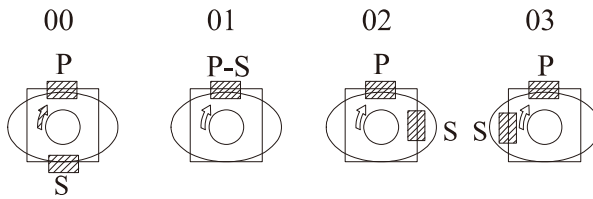
⑧ Seal class

1 = S1 (for mineral oil)

4 = S4 (for fire resistant fluids)

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

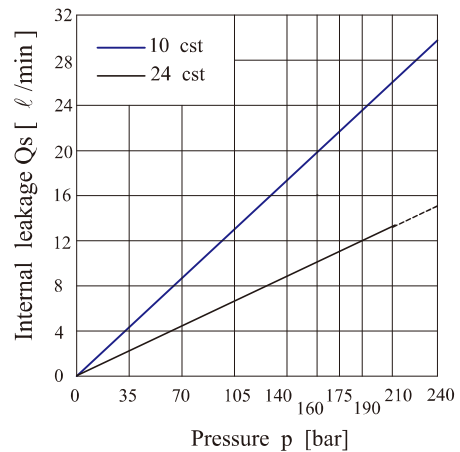
⑨ Modifications



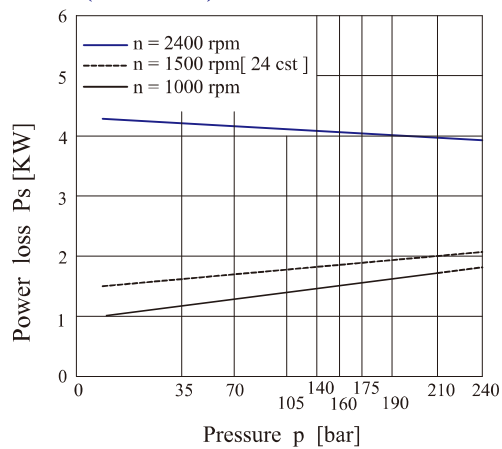
S=Suction port

P=Pressure port

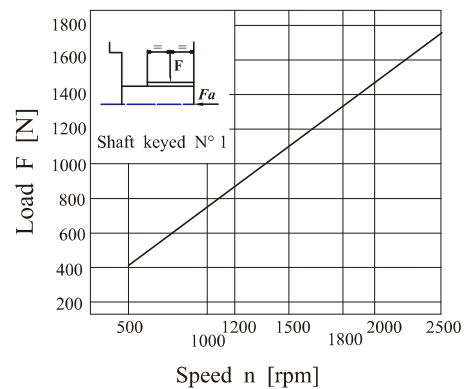
INTERNAL LEAKAGE (TYPICAL)



HYDROMECHANICAL POWER LOSS (TYPICAL)

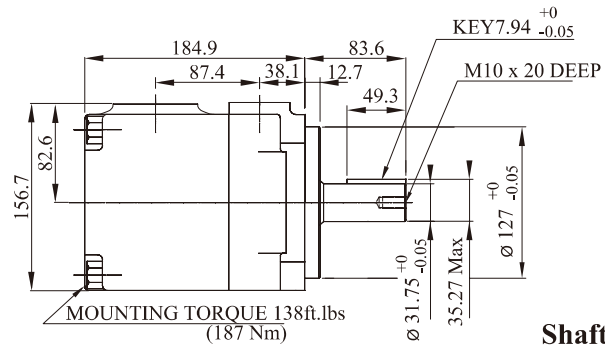
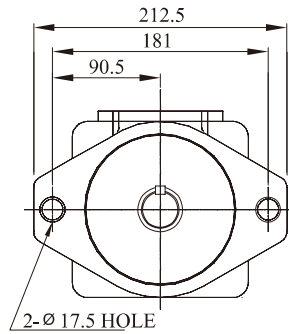


PERMISSIBLE RADIAL LOAD

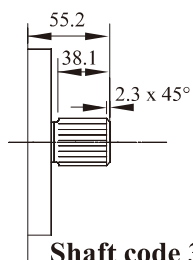


Maximum permissible axial load Fa = 1200 N

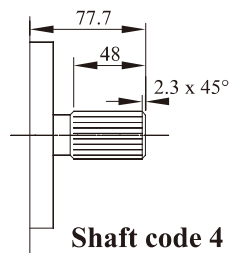
YT6D Dimensional Drawing



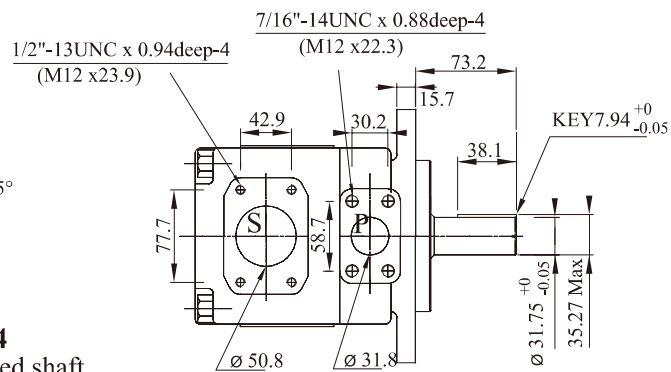
Shaft Code 1
(Keyed SAE C)



Shaft code 3
SAE C splined shaft
Class 1 - J498 b
12/24 dp. -14 teeth
30° pressure angle
Flat root side fit.



Shaft code 4
no SAE splined shaft
Class 1 - J498 b
12/24 dp. -14 teeth
30° pressure angle
Flat root side fit.



Shaft Code 2
(Keyed no SAE)

Shaft torque limits (mℓ/rev x bar)		
Pump	Shaft	Vp x p max
YT6D	1	43283
	2	34590
	3	61200
	4	61200

OPERATING CHARACTERISTICS - TYPICAL [24 cSt]

Series	Volumetric Displacement Vp	Speed n [R.P.M]	Flow qve [ℓ/min]=1500 rpm			Input power P [KW]=1500 rpm			P Max Kg/cm ²	Max r.p.m
			p = 0 bar	p = 140 bar	p = 240 bar	p = 7 bar	p = 140 bar	p = 240 bar		
014	47.6mℓ/rev	1500	71.4	62.1	55.9	2.3	18.5	30.6	240	2500
017	58.2mℓ/rev	1500	87.3	78.0	71.8	2.5	22.2	37.0		
020	66.0mℓ/rev	1500	99.0	89.7	83.5	2.8	24.9	41.7		
024	79.5mℓ/rev	1500	119.3	110.0	103.8	3.0	29.6	49.8		
028	89.7mℓ/rev	1500	134.5	125.2	119.0	3.2	33.2	55.9		
031	98.3mℓ/rev	1500	147.5	138.1	131.9	3.3	36.2	61.0		
035	111.0mℓ/rev	1500	166.5	157.2	151.0	3.5	40.7	68.7		
038	120.3mℓ/rev	1500	180.4	171.1	164.9	3.7	43.9	74.3		
042 1)	136.0mℓ/rev	1500	204.0	194.7	188.5	4.0	49.4	83.7	210	2200
045 1)	145.7mℓ/rev	1500	218.5	209.2	203.0	4.1	52.8	89.5		
050 1)	158.0mℓ/rev	1500	237.0	227.7	224.0 2)	4.4	57.0	85.0 2)		
061 1)	190.5mℓ/rev	1500	285.7	278.0 3)	—	4.6	60.6 3)	—		

1) 042 - 045 - 050 - 061 = 2200 R.P.M.max 2) 050 = 210 bar max. int. 3) 061 = 120 bar max. int. Min Speed : 600 rpm

YT6DM * - B45 - 1 R 00 - B 1 *

① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨

① Series

② Y - Metric port connection (not for code "Q ")
Omit for UNC

③ Cam ring

Volumetric displacement (cm³/rev)

B14=47.6	B35=111.0
B17=58.2	B38=120.3
B20=66.0	B42=136.0
B24=79.5	B45=145.7
B28=89.7	B50=158.0
B31=98.3	B61=190.5

④ Type of shaft

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

⑤ Direction of rotation

(view on shaft end)

R=clockwise

L=counter-clockwise

⑥ Porting combination

00=Standard

⑦ Design letter

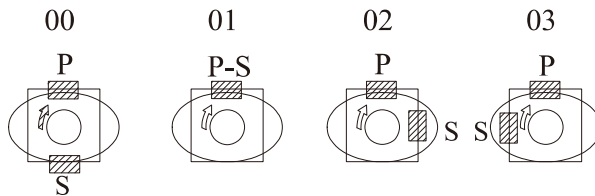
⑧ Seal class

1 = S1 (for mineral oil)

4 = S4 (for fire resistant fluids)

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

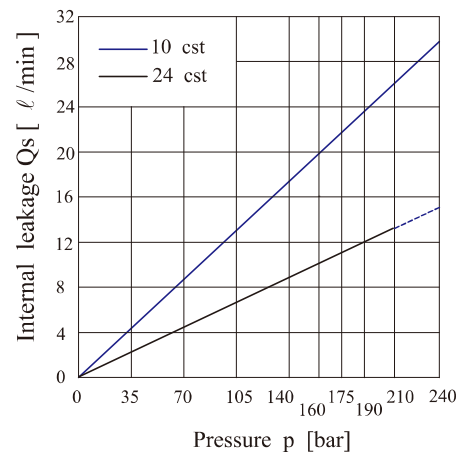
⑨ Modifications



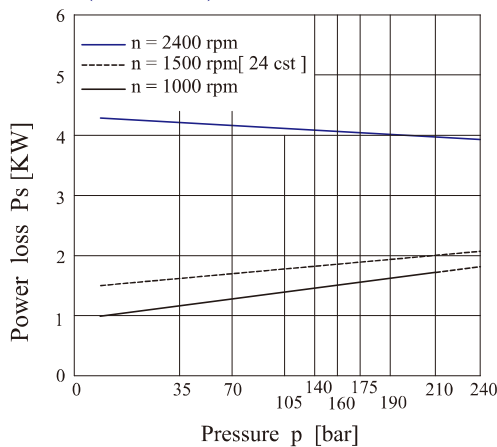
S=Suction port

P=Pressure port

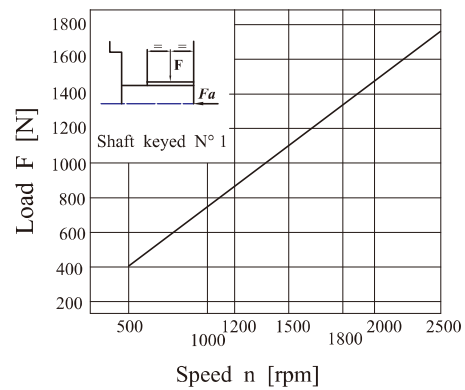
INTERNAL LEAKAGE (TYPICAL)



HYDROMECHANICAL POWER LOSS (TYPICAL)

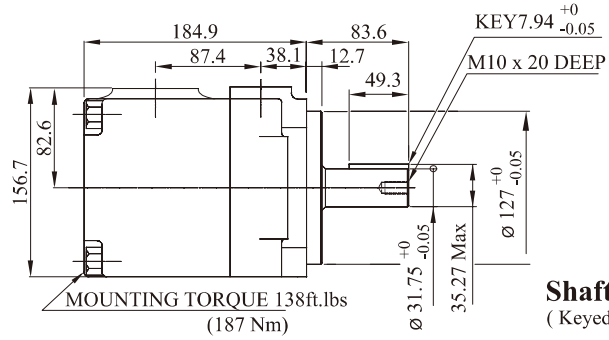
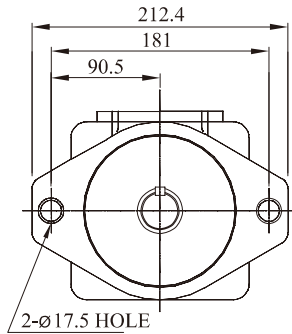


PERMISSIBLE RADIAL LOAD

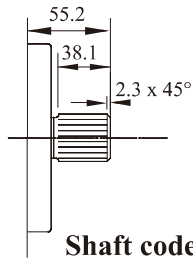


Maximum permissible axial load Fa = 1200 N

YT6DM Dimensional Drawing

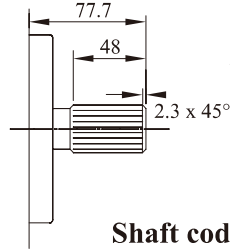


Shaft Code 1
(Keyed SAE C)



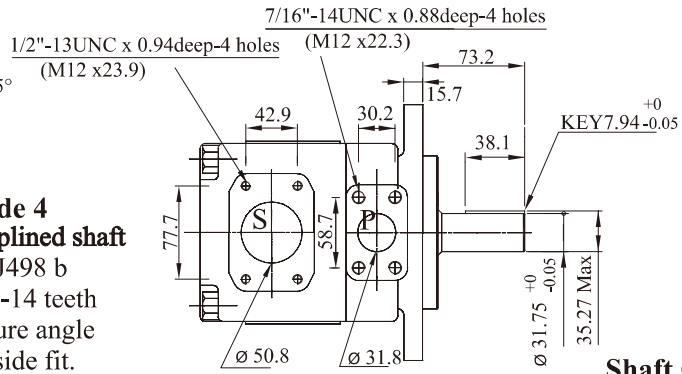
Shaft code 3

SAE C splined shaft
Class 1 - J498 b
12/24 dp. -14 teeth
30° pressure angle
Flat root side fit.

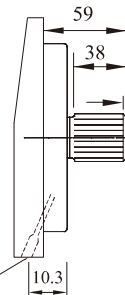


Shaft code 4

no SAE splined shaft
Class 1 - J498 b
12/24 dp. -14 teeth
30° pressure angle
Flat root side fit.



Shaft Code 2
(Keyed no SAE)



YT6DP

Shaft code 3

no SAE splined
shaft Class 1 - J498 b
12/24 dp. -14 teeth
30° pressure angle
Flat root side fit.

Drain hole between double shaft seals

Shaft torque limits (mℓ/rev x bar)		
Pump	Shaft	Vp x p max
YT6DM	1	43283
	2	34590
	3	61200
	4	61200

OPERATING CHARACTERISTICS - TYPICAL [24 cSt]

Series	Volumetric Displacement Vp	Speed n [R.P.M]	Flow qve [ℓ/min]=1500 rpm			Input power P [KW]=1500 rpm			P Max Kg/cm ²	Max r.p.m
			p = 0 bar	p = 140 bar	p = 240 bar	p = 7 bar	p = 140 bar	p = 240 bar		
B14	47.6mℓ/rev	1500	71.4	62.1	55.9	2.3	18.5	30.6	240	2500
B17	58.2mℓ/rev	1500	87.3	78.0	71.8	2.5	22.2	37.0		
B20	66.0mℓ/rev	1500	99.0	89.7	83.5	2.8	24.9	41.7		
B24	79.5mℓ/rev	1500	119.3	110.0	103.8	3.0	29.6	49.8		
B28	89.7mℓ/rev	1500	134.5	125.2	119.0	3.2	33.2	55.9		
B31	98.3mℓ/rev	1500	147.5	138.1	131.9	3.3	36.2	61.0		
B35	111.0mℓ/rev	1500	166.5	157.2	151.0	3.5	40.7	68.7		
B38	120.3mℓ/rev	1500	180.4	171.1	164.9	3.7	43.9	74.3	210	2200
B42 1)	136.0mℓ/rev	1500	204.0	194.7	188.5	4.0	49.4	83.7		
B45 1)	145.7mℓ/rev	1500	218.5	209.2	203.0	4.1	52.8	89.5		
B50 1)	158.0mℓ/rev	1500	237.0	227.7	224.0 2)	4.4	57.0	85.0 2)		
B61 1)	190.5mℓ/rev	1500	285.7	278.0 3)	—	4.6	60.6 3)	—	120	

1) B42 - B45 - B50 - B61 = 2200 R.P.M.max 2) B50 = 210 bar max. int. 3) B61 = 120 bar max. int.

YT6DS - 045 - 1 R 00 - B 1 *

① ② ③ ④ ⑤ ⑥ ⑦ ⑧

① **Series**

② **Cam ring**

Volumetric displacement (cm³/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	061=190.5

③ **Type of shaft**

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

④ **Direction of rotation**
(view on shaft end)

R=clockwise

L=counter-clockwise

⑤ **Porting combination**

00=Standard

⑥ **Design letter**

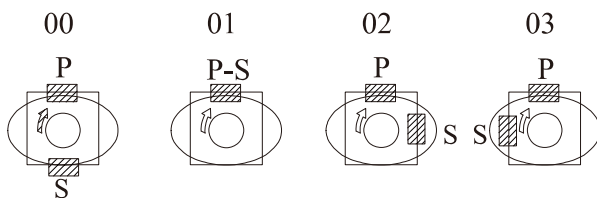
⑦ **Seal class**

1 = S1 (for mineral oil)

4 = S4 (for fire resistant fluids)

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

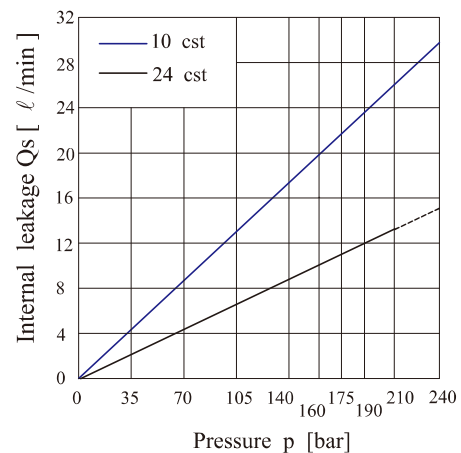
⑧ **Modifications**



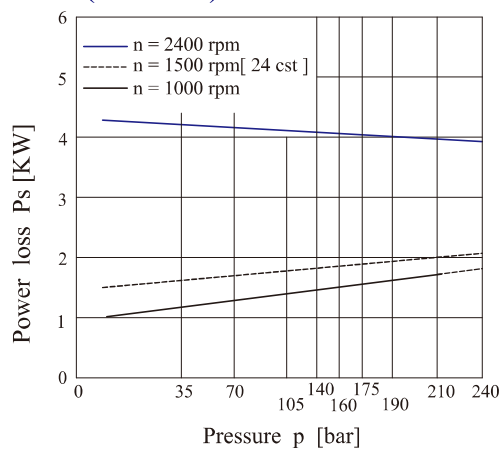
S=Suction port

P=Pressure port

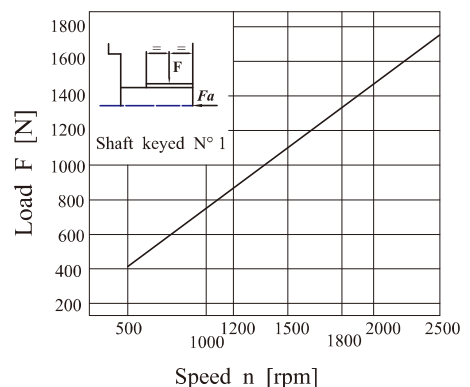
INTERNAL LEAKAGE (TYPICAL)



HYDROMECHANICAL POWER LOSS (TYPICAL)

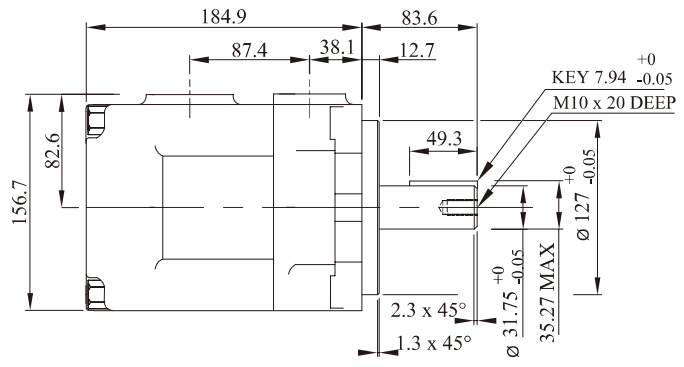
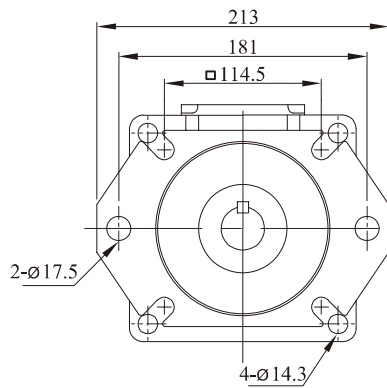


PERMISSIBLE RADIAL LOAD

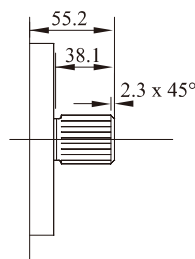


Maximum permissible axial load Fa = 1200 N

YT6DS Dimensional Drawing

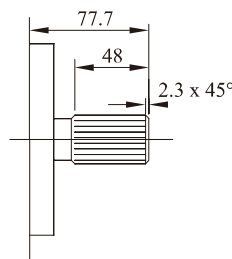


Shaft code 1
(Keyed SAE C)



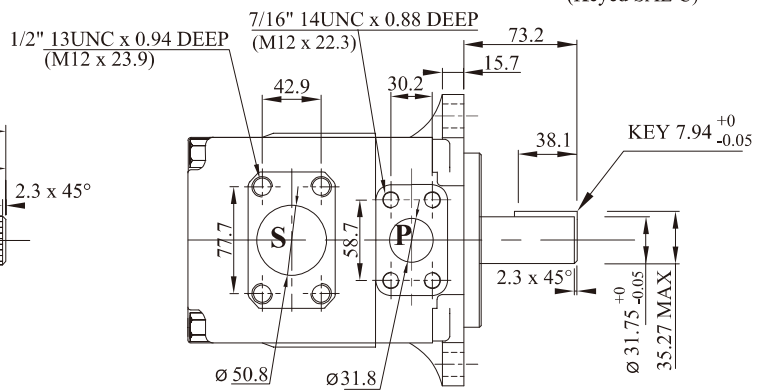
Shaft code 3

SAE C splined shaft
Class 1 - J498 b
12/24 dp. -14 teeth
30° pressure angle
Flat root side fit.



Shaft code 4

NO SAE splined shaft
Class 1 - J498 b 12/24
d.p. -14 teeth 30°
pressure angle Flat root
side fit.



Shaft code 2
(Keyed no SAE)

Shaft torque limits (mℓ/rev x bar)		
Pump	Shaft	Vp x p max
YT6DS	1	43283
	2	34590
	3	61200
	4	61200

OPERATING CHARACTERISTICS - TYPICAL [24 cSt]

Series	Volumetric Displacement Vp	Speed n [R.P.M]	Flow qve [ℓ/min] = 1500 rpm			Input power P [KW] = 1500 rpm			P Max Kg/cm ²	Max r.p.m
			p = 0 bar	p = 140 bar	p = 240 bar	p = 7 bar	p = 140 bar	p = 240 bar		
014	47.6mℓ/rev	1500	71.4	62.1	55.9	2.3	18.5	30.6	240	2500
017	58.2mℓ/rev	1500	87.3	78.0	71.8	2.5	22.2	37.0		
020	66.0mℓ/rev	1500	99.0	89.7	83.5	2.8	24.9	41.7		
024	79.5mℓ/rev	1500	119.3	110.0	103.8	3.0	29.6	49.8		
028	89.7mℓ/rev	1500	134.5	125.2	119.0	3.2	33.2	55.9		
031	98.3mℓ/rev	1500	147.5	138.1	131.9	3.3	36.2	61.0		
035	111.0mℓ/rev	1500	166.5	157.2	151.0	3.5	40.7	68.7		
038	120.3mℓ/rev	1500	180.4	171.1	164.9	3.7	43.9	74.3		
042 1)	136.0mℓ/rev	1500	204.0	194.7	188.5	4.0	49.4	83.7	210	2200
045 1)	145.7mℓ/rev	1500	218.5	209.2	203.0	4.1	52.8	89.5		
050 1)	158.0mℓ/rev	1500	237.0	227.7	224.0 2)	4.4	57.0	85.0 2)		
061 1)	190.5mℓ/rev	1500	285.7	278.0 3)	—	4.6	60.6 3)	—		

1) 042 -0045 - 050 - 061 = 2200 R.P.M.max 2) 050 = 210 bar max. int. 3) 061 = 120 bar max. int. Min Speed : 600 rpm

YT6E * **- 066 - 3 R 00 - A 1 ***

① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨

① **Series**

② **Y** - Metric port connection,
Omit for UNC

③ **Cam ring**

Volumetric displacement (cm³/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
057=180.7	

④ **Type of shaft**

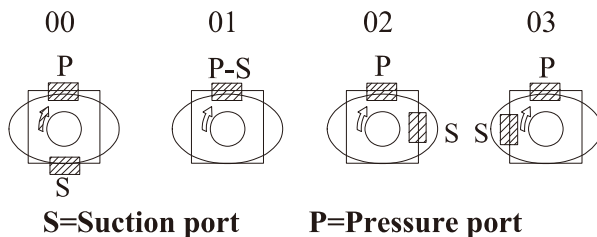
1 = keyed (SAE CC)
2 = keyed (no SAE)
3 = splined (SAE C)
4 = splined (SAE CC)

⑤ **Direction of rotation**

(view on shaft end)

R=clockwise

L=counter-clockwise



⑥ **Porting combination**

00=standard

⑦ **Design letter**

⑧ **Seal class**

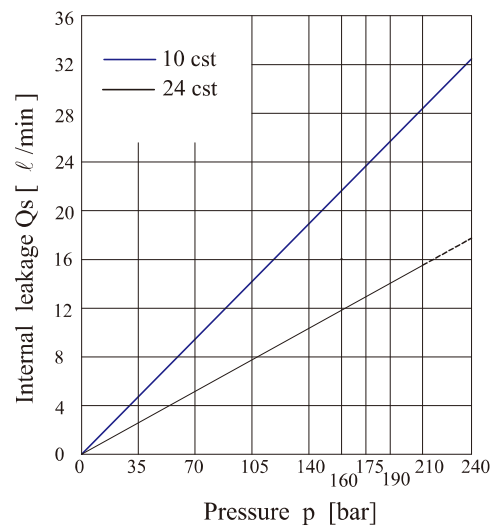
1=S1 (for mineral oil)

4=S4 (for fire resistant fluids)

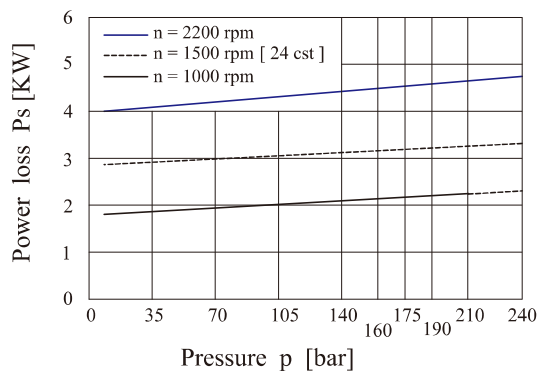
5=S5 (for mineral oil and fire
resistant fluids)

⑨ **Modifications**

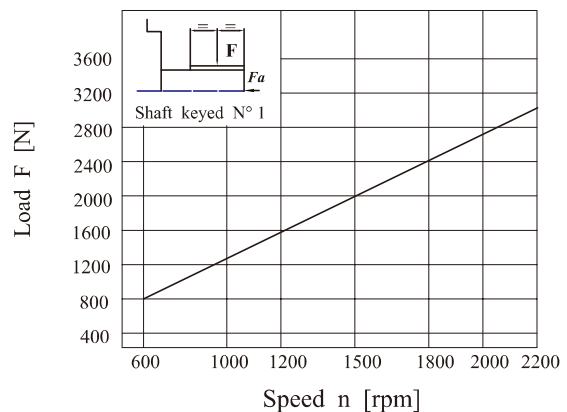
INTERNAL LEAKAGE (TYPICAL)



HYDROMECHANICAL POWER LOSS (TYPICAL)

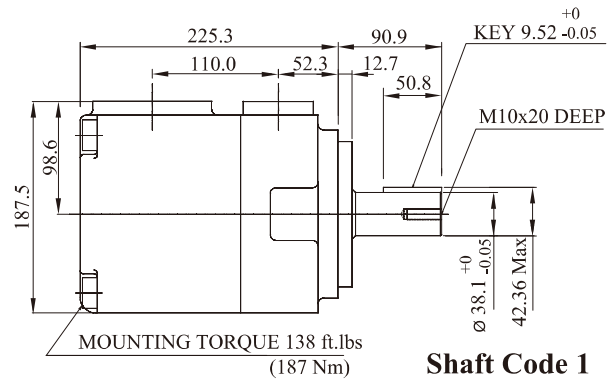
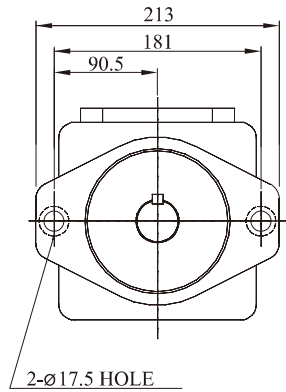


PERMISSIBLE RADIAL LOAD

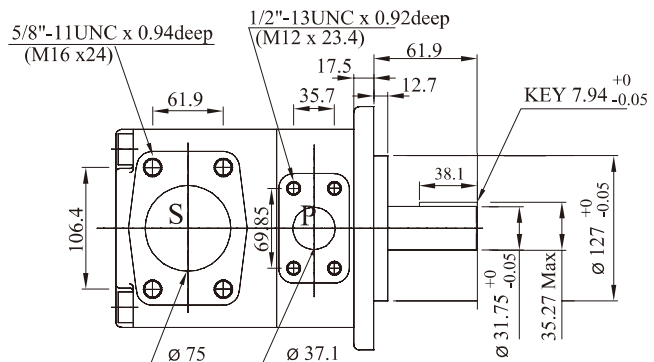
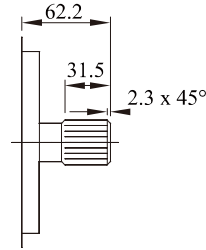
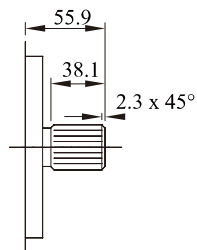


Maximum permissible axial load $F_a = 2000$ N

YT6E Dimensional Drawing



Shaft Code 1
(Keyed SAE CC)



Shaft code 3

SAE C Splined shaft
class 1 - J498b 12/24
dp. -14 teeth 30°
pressure angle. Flat root
side fit.

Shaft code 4

SAE CC Splined shaft
class 1 - J498b 12/24
dp. -17 teeth 30°
pressure angle. Flat root
side fit.

Shaft Code 2

(Keyed no SAE)

shaft torque limits(mℓ/rev x bar)		
Pump	Shaft	Vp x P max.
YT6E	1	54555
	2	34590
	3	61200
	4	61200

YT6E OPERATING CHARACTERISTICS - TYPICAL [24 cSt]

Series	Volumetric Displacement Vp	Speed n [R.P.M]	Flow qve [ℓ/min]			Input power P [KW]			P Max Kg/cm ²	Max r.p.m
			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	240	2200
045	142.4mℓ/rev	1500	213.6	203.6	196.5	5.4	52.9	88.7		
050	158.5mℓ/rev	1500	237.7	227.7	220.6	5.7	58.5	98.3		
052	164.8mℓ/rev	1500	247.2	237.2	230.1	5.8	60.8	102.1		
057	180.7mℓ/rev	1500	271.1	261.1	254.0	6.1	66.4	106.9		
062	196.7mℓ/rev	1500	295.0	285.0	277.9	6.4	71.9	121.3		
066	213.3mℓ/rev	1500	319.9	309.9	302.8	6.7	77.7	131.2		
072	227.1mℓ/rev	1500	340.6	330.6	323.5	6.9	82.6	139.5	90	2000
085 ¹⁾	269.8mℓ/rev	1500	404.7 ²⁾	397.7	—	7.3 ²⁾	65.3 ²⁾	—		

1) 085 = 2000 rpm max.

2) 085 = 75 bar cont.

085=90bar max. int

Min Speed : 600 rpm

YT6EM Ordering Code

YT6EM * - 066 - 3 R 00 - A 1 *

① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨

① **Series**

② **Y** - Metric port connection,
Omit for UNC

③ **Cam ring**

Volumetric displacement (cm³/rev)

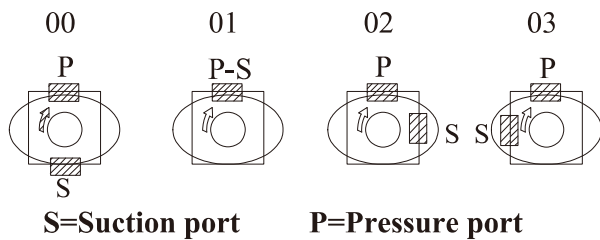
042=132.3	062=196.7
045=142.4	066=213.3
050=158.5	072=227.1
052=164.8	085=269.8
057=180.7	

④ **Type of shaft**

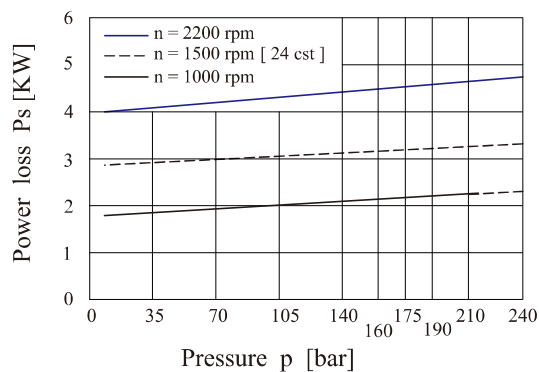
1 = keyed (SAE CC)
2 = keyed (no SAE)
3 = splined (SAE C)
4 = splined (SAE CC)

⑤ **Direction of rotation**

(view on shaft end)
R=clockwise
L=counter-clockwise



HYDROMECHANICAL POWER LOSS (TYPICAL)



⑥ **Porting combination**

00=standard

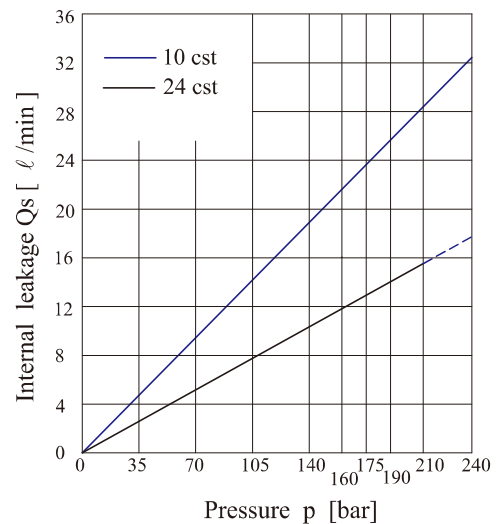
⑦ **Design letter**

⑧ **Seal class**

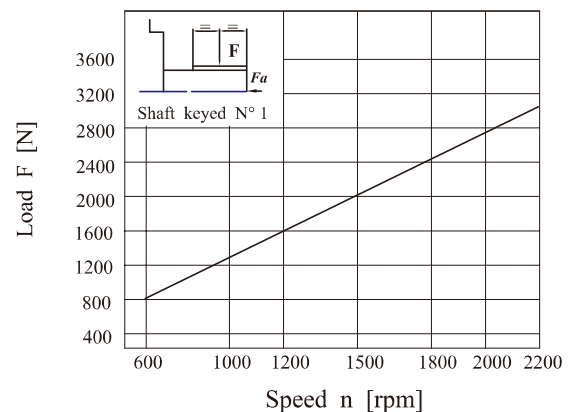
1=S1 (for mineral oil)
4=S4 (for fire resistant fluids)
5=S5 (for mineral oil and fire resistant fluids)

⑨ **Modifications**

INTERNAL LEAKAGE (TYPICAL)

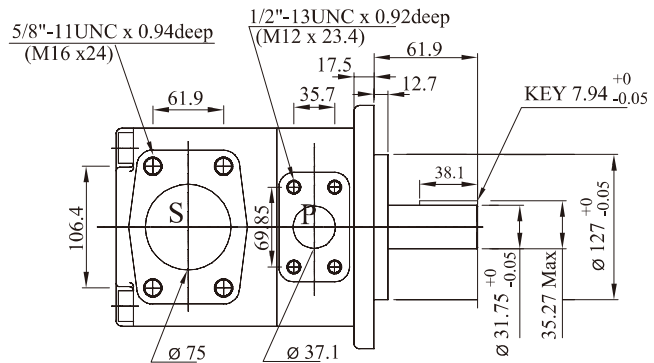
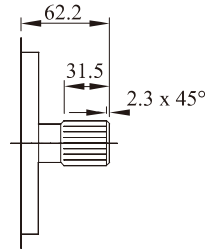
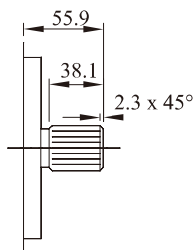
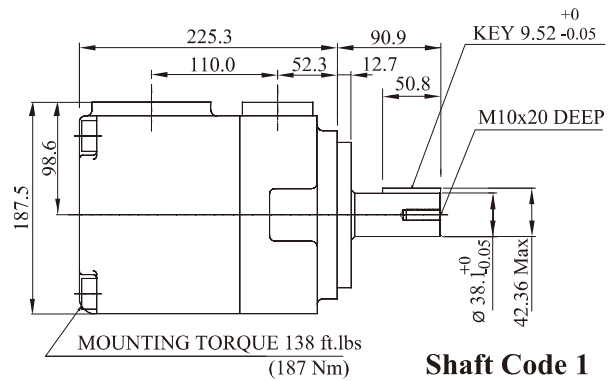
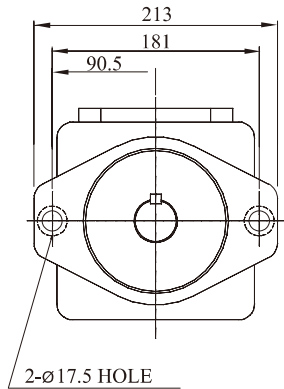


PERMISSIBLE RADIAL LOAD



Maximum permissible axial load $F_a = 2000$ N

YT6EM Dimensional Drawing



Shaft code 3

SAE C Splined shaft
class 1 - J498b 12/24
dp. -14 teeth 30°
pressure angle. Flat root
side fit.

Shaft code 4

SAE CC Splined shaft
class 1 - J498b 12/24
dp. -17 teeth 30°
pressure angle. Flat root
side fit.

Shaft Code 2

(Keyed no SAE)

shaft torque limits(mℓ/rev x bar)		
Pump	Shaft	Vp x P max.
YT6EM	1	54555
	2	34590
	3	61200
	4	61200

YT6EM OPERATING CHARACTERISTICS - TYPICAL [24 cSt]

Series	Volumetric Displacement Vp	Speed n [R.P.M]	Flow qve [ℓ/min]			Input power P [KW]			P Max Kg/cm ²	Max r.p.m
			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	240	2200
045	142.4mℓ/rev	1500	213.6	203.6	196.5	5.4	52.9	88.7		
050	158.5mℓ/rev	1500	237.7	227.7	220.6	5.7	58.5	98.3		
052	164.8mℓ/rev	1500	247.2	237.2	230.1	5.8	60.8	102.1		
057	180.7mℓ/rev	1500	271.1	261.1	254.0	6.1	66.4	106.9		
062	196.7mℓ/rev	1500	295.0	285.0	277.9	6.4	71.9	121.3		
066	213.3mℓ/rev	1500	319.9	309.9	302.8	6.7	77.7	131.2		
072	227.1mℓ/rev	1500	340.6	330.6	323.5	6.9	82.6	139.5		
085 ¹⁾	269.8mℓ/rev	1500	404.7 ²⁾	397.7	—	7.3 ²⁾	65.3 ²⁾	—	90	2000

1) 085 = 2000 rpm max.

2) 085 = 75 bar cont.

085=90bar max. int

YT6GC - B22 - 6 R 00 - A 1 - 00 *

① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨

① Series

② Cam ring

Volumetric displacement (cm³/rev)

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

③ Type of shaft

6-splined (DIN 5462)

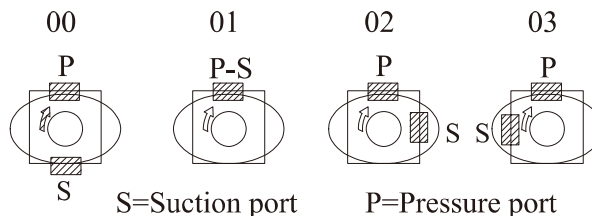
④ Direction of rotation(view on shaft end)

R=clockwise

L=counter-clockwise

⑤ Porting combination

00-standard



⑥ Design letter

⑦ Seal class

1-S1

⑧ Mounting W/connection variables

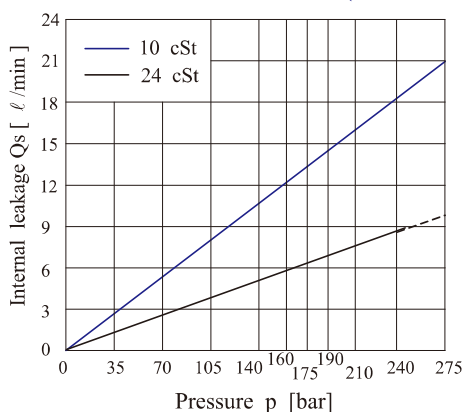
00-Flange 1" BSPP

01-Flange 1" SAE 4 bolts(UNC)

M1-Flange 1" SAE 4 bolts(METRIC)

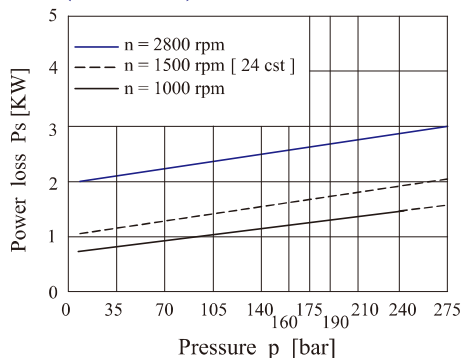
⑨ Modifications

INTERNAL LEAKAGE (TYPICAL)

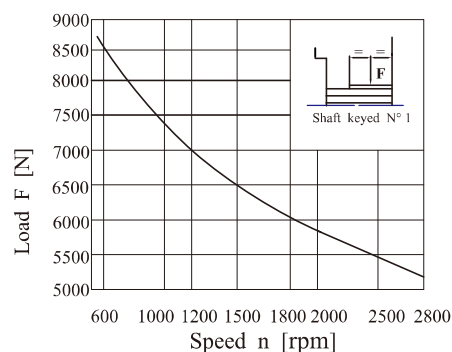


Do not operate pump more than 5 seconds at any speed or viscosity if internal leakage is more than 50 % of theoretical flow.

HYDROMECHANICAL POWER LOSS (TYPICAL)

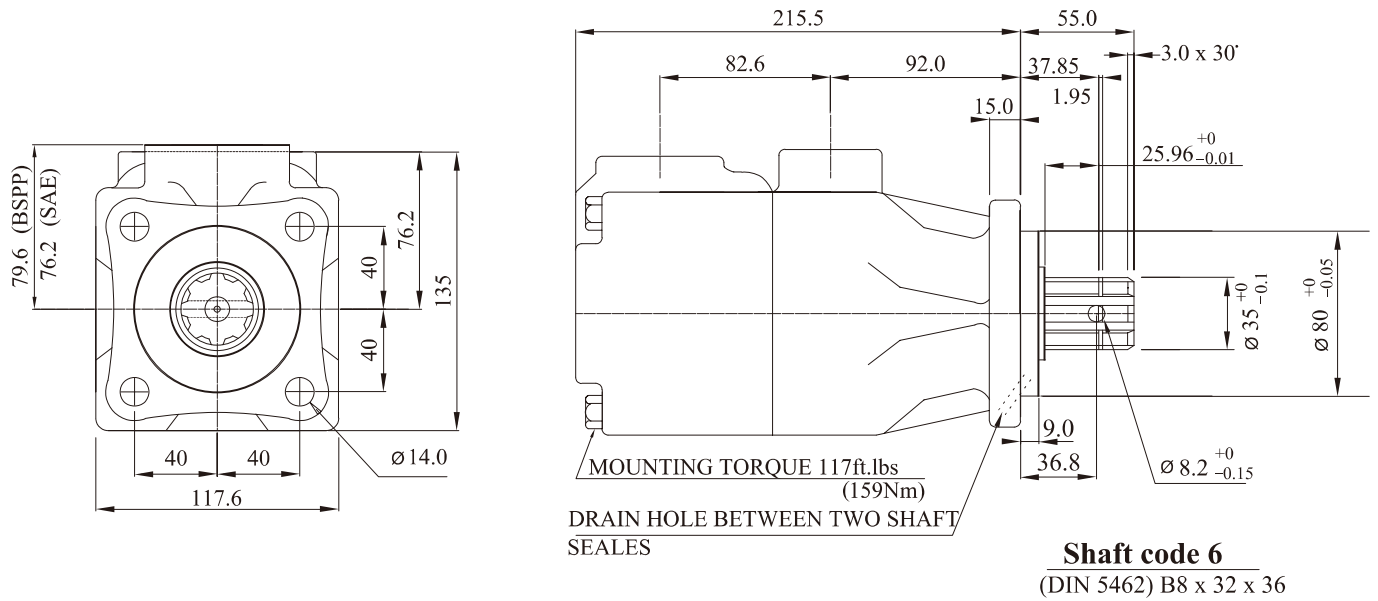


PERMISSIBLE RADIAL LOAD

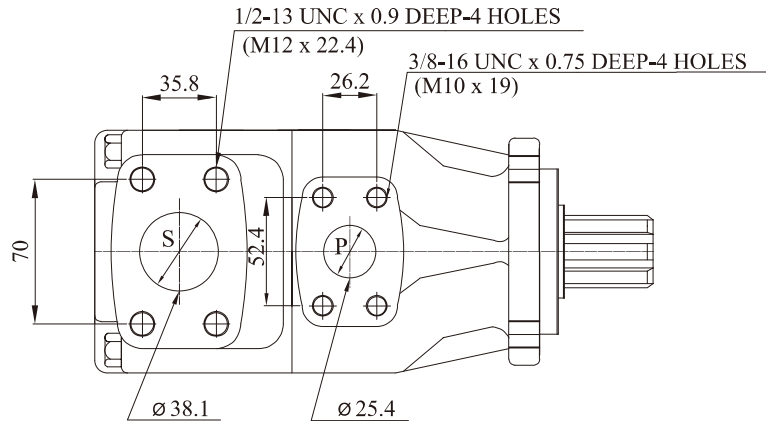
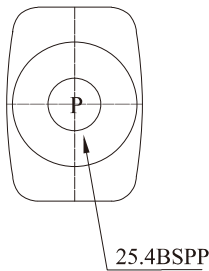


Life time 3000 hours when 70% of the time at 500 N and 30% at max. load

YT6GC Dimensional Drawing



CODE 00



OPERATING CHARACTERISTICS - TYPICAL (24 cST)

Pressure Port	Series	Volumetric Displacement Vp	Flow q & n =1500 rpm (ℓ/min)			Input power p & n =1500rpm (KW)			P Max Kg/cm ²	Max r.p.m
		cm ³ /rev	P=0 bar	P=140 bar	P=240 bar	P=7 bar	P=140 bar	P=240 bar		
YT6GC	B05	17.2	25.8	20.3	15.8	1.4	7.5	12.2	275	2800
	B06	21.3	31.9	26.5	22.0	1.5	8.9	14.7		
	B08	26.4	39.6	34.1	29.6	1.6	10.7	17.7		
	B10	34.1	51.1	45.7	41.2	1.7	13.4	22.3		
	B12	37.1	55.6	50.2	45.7	1.7	14.4	24.1		
	B14	46.0	69.0	63.5	59.0	1.9	17.6	29.5		
	B17	58.3	87.4	82.0	77.5	2.1	21.9	36.9		
	B20	63.8	95.7	90.2	85.7	2.2	23.8	40.2		
	B22	70.3	105.4	100.0	95.5	2.3	26.1	44.1		
	B25 ¹⁾	79.3	118.9	113.5	109.0	2.5	29.2	49.5	210	2500
	B28 ¹⁾	88.8	133.2	127.7	124.5 ²⁾	2.8	32.7	48.5 ²⁾		
	B31 ¹⁾	100.0	150.0	144.5	141.3 ²⁾	2.8	36.5	54.4 ²⁾		

1) B25-B28-B31=2500rpmmax.

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

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

Min Speed : 400 rpm

YT7B/YT7BS Ordering Code

YT7B / YT7BS - B10 - 1 R 00 - A 1 - 00 *

① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨

① Series

YT7B series-100 A2 HW

ISO 2 bolts 3019-2 mounting flange

YT7BS series-SAE B 2 bolts

Mounting flange J744

② Cam ring

Volumetric displacement (cm³/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

③ Type of shaft YT7B-KT7BS

2-Keyed (ISO R775)

Type of shaft YT7BS

1-Keyed (SAE B)

3-Splined (SAE B)

4-Splined (SAE BB)

④ Direction of rotation(view on shaft end)

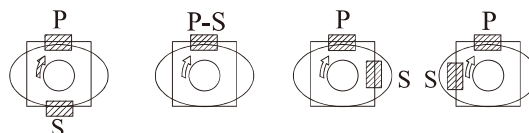
R=clockwise

L=counter-clockwise

⑤ Porting combination

00-standard

00 01 02 03



S=Suction port

P=Pressure port

⑥ Design letter

⑦ Seal class

1-S1 (for mineral oil)

4-S4 (for fire resistant fluids)

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

⑧ Mounting W/connection variables

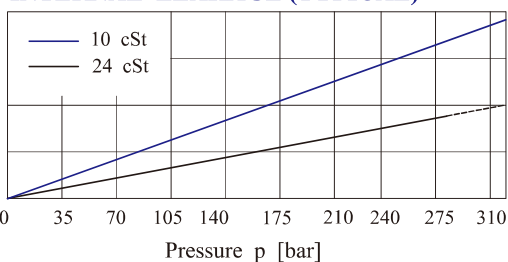
4 bolts SAE flange(J518C)

	Unc		Metric	
	YT7BS		YT7B-KT7BS	
	00	01	M0	M1
P	1"	3/4"	1"	3/4"
S	1 1/2"			

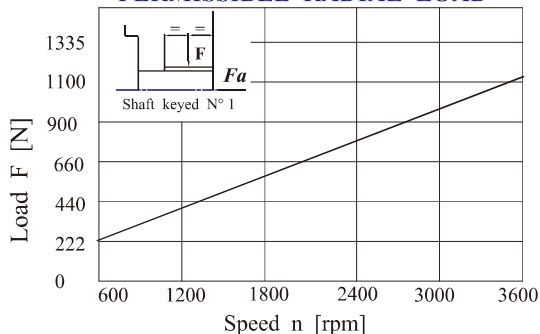
⑨ Modifications

Internal leakage Qs [ℓ /min]

INTERNAL LEAKAGE (TYPICAL)

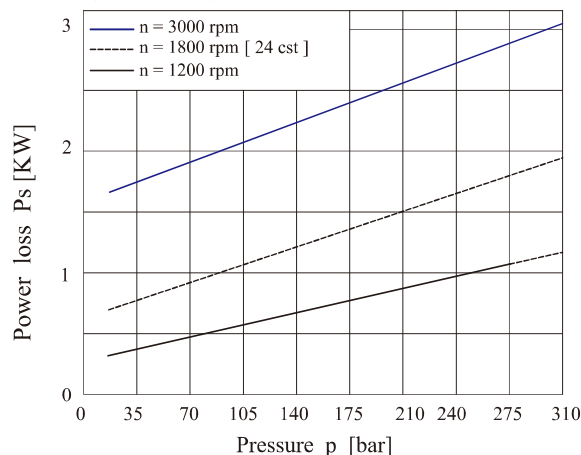


PERMISSIBLE RADIAL LOAD

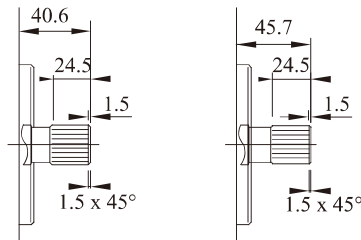
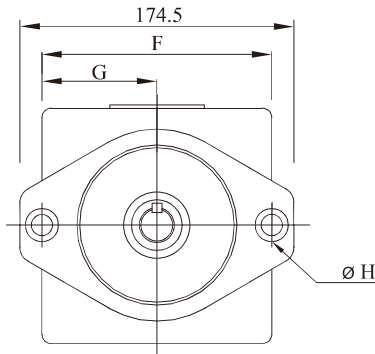


Maximum axial load permissible Fa = 800 N

HYDROMECHANICAL POWER LOSS (TYPICAL)



YT7B/YT7BS Dimensional Drawing

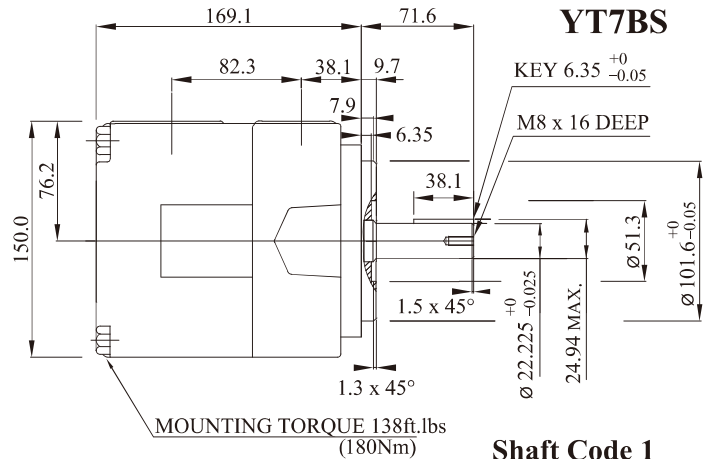


Shaft code 3

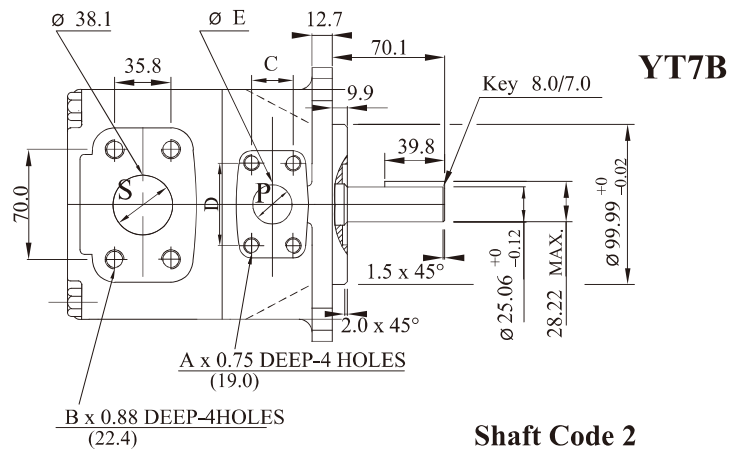
SAE B splined shaft
Class 1-J498 b 16/32 dp.
-13 teeth 30° pressure
angle flat root side fit

Shaft code 4

SAE BB splined shaft
Class 1-J498 b 16/32 dp.
-15 teeth 30° pressure
angle flat root side fit



Shaft Code 1 (KEYED SAE B)



Shaft Code 2 (KEYED ISO R775)

	YT7BS		YT7B	
	00	01	M0	M1
A	3/8-16 UNC		M10	
B	1/2-13 UNC		M12	
C	1.03 (26.2)	0.874 (22.2)	1.03 (26.2)	0.874 (22.2)
D	2.06 (52.4)	1.874 (47.6)	2.06 (52.4)	1.874 (47.6)
Ø E	1.00 (25.4)	0.75 (19.05)	1.00 (25.4)	0.75 (19.05)
F	5.75 (146.0)		5.51 (140.0)	
G	2.87 (73.0)		2.75 (70.0)	
Ø H	0.56 (14.3)		0.55 (14.0)	

Shaft torque limits(mℓ/rev x bar)		
Pump	Shaft	Vp x p max
YT7B	1	16516
	2	20620
	3	20620
	4	20620

OPERATING CHARACTERISTICS - TYPICAL (24 cST)

Pressure Port	Series	Volumetric Displacement Vp	Flow q & n =1800 rpm (ℓ/min)			Input power p & n =1800rpm (KW)			P Max Kg/cm ²	Max r.p.m
		cm ³ /rev	P=0 bar	P=140 bar	P=320 bar	P=7 bar	P=140 bar	P=320 bar		
P1	B02	5.7	10.4	8.8	6.5	0.55	2.99	6.40	320	3600
	B03	9.8	17.6	15.9	13.7	0.63	4.65	10.25		
	B04	12.8	23.0	21.4	19.2	0.70	5.89	13.13		
	B05	15.9	28.6	26.9	24.7	0.76	7.17	16.12		
	B06	19.8	35.6	33.9	31.7	0.84	8.79	19.88		
	B07	22.5	40.4	38.8	36.5	0.89	9.91	22.47		
	B08	24.9	44.7	43.1	40.9	0.94	10.9	24.78		
	B09	28.0	50.3	48.6	46.4	1.01	12.19	27.77		
	B10	31.8	57.2	55.5	53.4	1.11	13.75	31.42		
	B11	34.9	62.9	61.2	59.0 1)	1.15	15.04	32.22 1)	300	
	B12	40.9	73.7	72.1	70.1 1)	1.28	17.56	37.71 1)		
	B14	45.1	80.8	79.2	77.0 1)	1.36	19.23	41.37 1)		
	B15	50.0	89.8	88.3	86.5 2)	1.47	21.28	42.76 2)	280	

1) B11-B12-B14=300bar max. int.

2) B15=280 bar max. int.

Min Speed : 600 rpm

YT7QC1 / YT7QC2 Ordering Code

YT7QC 1 - **022** - **1 R 00** - **B 1 00** *

①
②
③
④
⑤
⑥
⑦
⑧
⑨
⑩

① **Series**

② **Mounting**

1 - SAE B

2 - SAE C

③ **Cam ring for P1**

Volumetric displacement (cm³/rev)

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

④ **Type of shaft**

1 = keyed (SAE B)

2 = keyed (non SAE)

3 = Splined (SAE B)

4 = Splined (SAE BB)

⑤ **Direction of rotation**

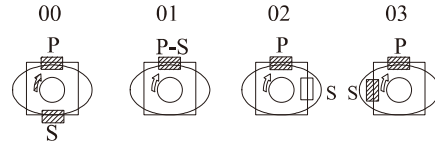
(view on shaft end)

R = clockwise

L = counter - clockwise

⑥ **Porting combination**

00 = standard



S=Suction port

P=Pressure port

⑦ **Design letter**

⑧ **Seal class**

1 = S1 (for mineral oil)

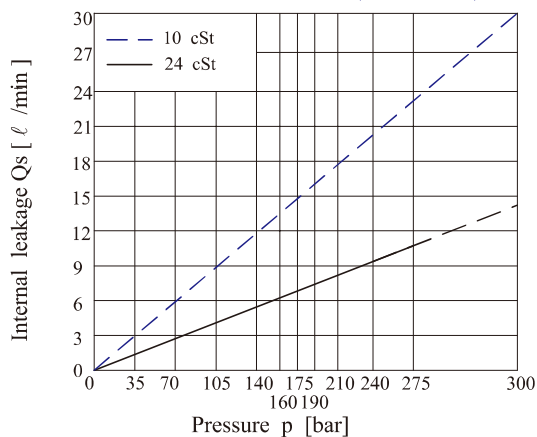
4 = S4 (for fire resistant fluids)

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

⑨ **Mounting W/connection variables**

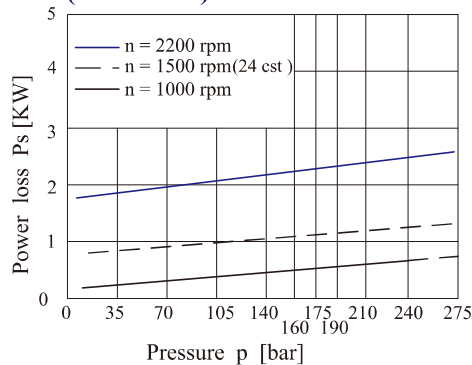
	UNC		METRIC	
	00	01	M0	M1
P	1"	3/4"	1"	3/4"
S	1 1/2"			

INTERNAL LEAKAGE (TYPICAL)

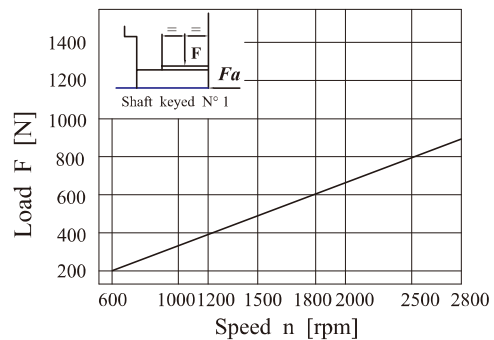


Do not operate pump more than 5 seconds at any speed or viscosity if internal leakage is more than 50 % of theoretical flow.

HYDROMECHANICAL POWER LOSS (TYPICAL)

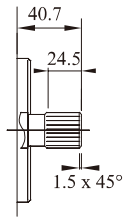
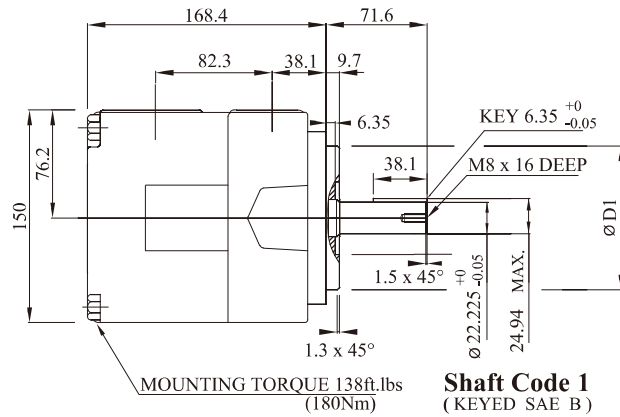
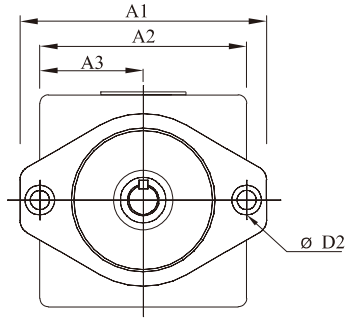


PERMISSIBLE RADIAL LOAD

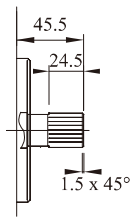


Maximum permissible axial load Fa = 800 N

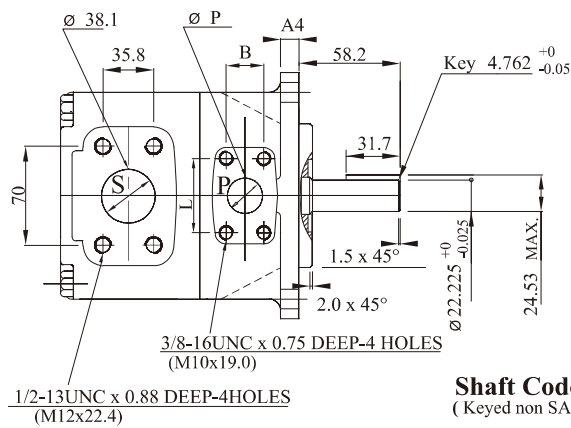
YT7QC1 / YT7QC2 Ordering Code



Shaft code 3
SAE B splined shaft
Class 1-J498 b 16/32 dp.
-13 teeth 30° pressure
angle flat root side fit



Shaft code 4
SAE BB splined shaft
Class 1-J498 b 16/32 dp.
-15 teeth 30° pressure
angle flat root side fit



	YT7QC1	YT7QC2
Mounting	SAE B	SAE C
ØD1	101.6 / 101.55	127 / 126.94
ØD2	14.3	17.5
A1	174.5	212.5
A2	146	181.0
A3	73	90.5
A4	12.7	15.7

CODE	ØP	L	B
01 / M1	19.05	47.6	22.2
00 / M0	25.4	52.4	26.2

Shaft torque limits (mℓ/rev x bar)		
Pump	Shaft	Vp x p max.P1+P2
YT7QC	1	16500
	2	14300
	3	20600
	4	21820

YT7QC OPERATING CHARACTERISTICS - TYPICAL [24 cSt]

(input power p (kw) for one cartridge only)

Pressure port	Series	Volumetric Displacement Vp	Flow qve ℓ/min 1500rpm				Input power P [KW] 1500rpm				P Max Kg/cm ²	Max r.p.m
			P = 0 bar	P = 140 bar	P = 240 bar	P = 300 bar	P = 7 bar	P = 140 bar	P = 240 bar	P = 300 bar		
P1	005	17.2mℓ/rev	25.8	21.5	17.7	13.7	1.4	7.5	12.2	14.9	300	2800
	006	21.3mℓ/rev	31.9	26.5	22.0	18.0	1.5	8.9	14.7	18.0		
	008	26.4mℓ/rev	39.6	34.1	29.6	25.6	1.6	10.7	17.7	21.8		
	010	34.1mℓ/rev	51.1	45.7	41.2	37.2	1.7	13.4	22.3	27.5		
	012	37.1mℓ/rev	55.6	50.2	45.7	41.7	1.7	14.4	24.1	29.8		
	014	46.0mℓ/rev	69.0	63.5	59.0	55.0	1.9	17.6	29.5	36.5		
	017	58.3mℓ/rev	87.4	82.0	77.5	73.5	2.1	21.9	36.9	45.7		
	020	63.8mℓ/rev	95.7	90.2	85.7	81.7	2.2	23.8	40.2	49.8		
	022	70.3mℓ/rev	105.4	100.0	95.5	91.5	2.3	26.1	44.1	50.3	275	2500
	025 ₁₎	79.3mℓ/rev	118.9	113.5	109.0	—	2.5	29.2	49.5	—	240	
	028 ₁₎	88.8mℓ/rev	133.2	127.7	124.5 ₂₎	—	2.8	32.7	48.5 ₂₎	—	210	
	031 ₁₎	100.0mℓ/rev	150.0	144.5	141.3 ₂₎	—	2.8	36.5	54.4 ₂₎	—	—	

1) 025 - 028 - 031 = 2500 rpm. max

2) 028 - 031 = 210 bar max. int.

Min Speed : 600 rpm

YT7D/YT7DS Ordering Code

YT7D/KT7DS - B45 - 1 R 00 - A 1 00 -

① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨

① Series

YT7D series-125 A2 HW
ISO 2 bolts 3019-2 mounting flange
YT7DS series- SAE C 2 bolts
Mounting flange J744

② Cam ring

Volumetric displacement (cm³/rev)
B14=43.9 B35=113.4
B17=55.0 B38=120.6
B20=66.0 B42=137.5
B24=81.1 B45=145.7
B28=89.9 B50=157.9
B31=99.1

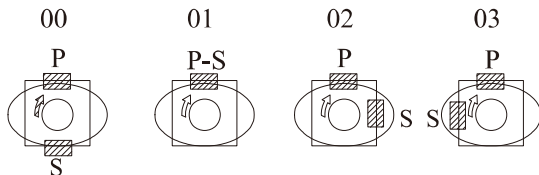
③ Type of shaft

1 = keyed (SAE C32-1)
2 = keyed (no SAE)
3 = splined (SAE C32-4)
4 = splined (no SAE)

Type of shaft YT7D - YT7DS
5 - keyed (ISO 3019-2-G32M)

④ Direction of rotation

(view on shaft end)
R=clockwise
L=counter-clockwise



S=Suction port P=Pressure port

⑤ Porting combination

00=Standard

⑥ Design letter

⑦ Seal class

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

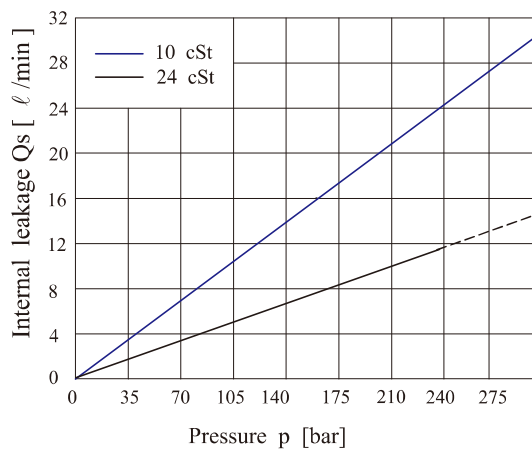
⑧ Mounting w / connection variables

	P = 1" 1/4 S = 2"	
	UNC	METRIC
YT7D		M0
YT7DS	00	M0 Y0 1)

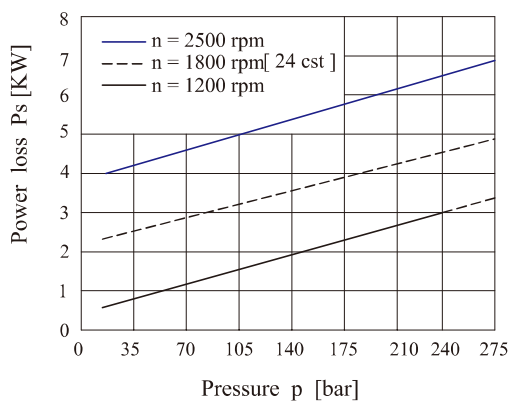
1) 250 bar max. int

⑨ Modifications

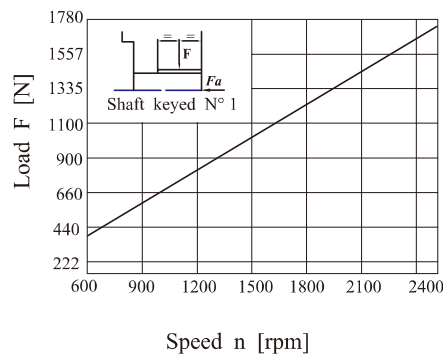
INTERNAL LEAKAGE (TYPICAL)



HYDROMECHANICAL POWER LOSS (TYPICAL)

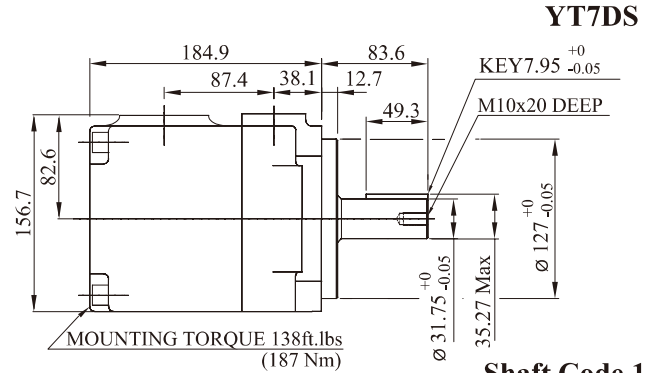
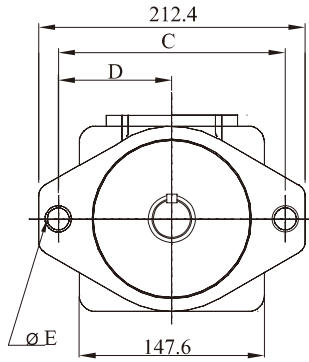


PERMISSIBLE RADIAL LOAD

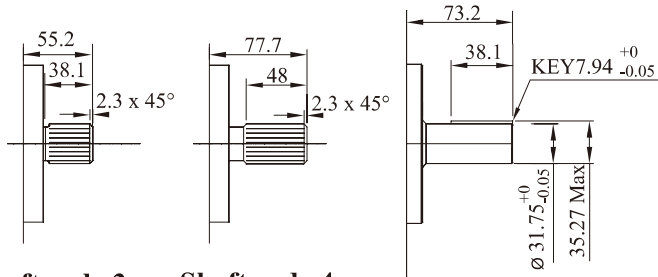


Maximum axial load permissible Fa = 1200 N

YT7D/YT7DS Dimensional Drawing



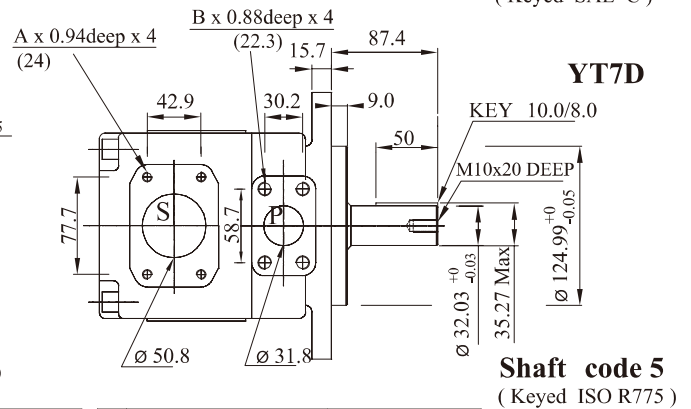
Shaft Code 1
(Keyed SAE C)



Shaft code 3
SAE C splined shaft
Class 1 - J498 b
12/24 dp. -14 teeth
30° pressure angle
Flat root side fit.

Shaft code 4
SAE C spc(*) splined
shaft Class 1 - J498 b
12/24 dp. -14 teeth
30° pressure angle
Flat root side fit.

Shaft Code 2
(Keyed no SAE)



Shaft code 5
(Keyed ISO R775)

Shaft torque limits (mℓ/rev x bar)	
Shaft	Vp x p max
1	43283
2	34590
3	61200
4	61200
5	44344

	YT7DS	YT7D
	00	M0
A	1/2-13UNC	M12
B	7/16-14UNC	M12
C	181	180
D	90.5	90
E	17.5	18

OPERATING CHARACTERISTICS - TYPICAL [24 cSt]

1) 250 bar max.int

Series	Volumetric Displacement Vp	Speed n [r.p.m]	Flow qve [ℓ/min]=1800rpm			Input power P [KW]=1800rpm			P Max Kg/cnf	Max r.p.m
			p = 0 bar	p = 140 bar	p = 300 bar	p =7 bar	p = 140 bar	p = 300 bar		
B14	43.9mℓ/rev	1800	79.1	72.5	64.9	2.6	20.7	43.6	300	3000
B17	55.0mℓ/rev	1800	98.8	92.3	84.7	2.8	25.3	53.6		
B20	66.0mℓ/rev	1800	118.6	112.0	104.5	3.0	29.8	63.6		
B24	81.1mℓ/rev	1800	145.8	139.2	131.6	3.4	36.1	77.4		
B28	89.9mℓ/rev	1800	161.8	155.2	147.6	3.5	39.7	85.5		
B31	99.1mℓ/rev	1800	178.3	171.7	164.2	3.7	43.6	93.7	280	
B35	113.4mℓ/rev	1800	203.9	197.2	190.6 1)	4.0	49.4	97.2 1)		
B38	120.6mℓ/rev	1800	216.8	210.2	203.6 1)	4.2	52.4	103.2 1)		
B42	137.5mℓ/rev	1800	247.2	240.6	234.9 2)	4.5	59.4	111.4 2)	260	
B45	145.7mℓ/rev	1800	262.0	253.6	247.5 3)	5.0	62.4	107.7 3)	240	
B50	157.9mℓ/rev	1800	284.0	275.8	271.3 4)	5.3	67.5	100.3 4)	210	

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

Min Speed : 600 rpm

YT7DSW - 045 - X R 00 - A 1 W1 -

① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨

① Series

② Cam ring

Volumetric displacement (cm³/rev)

014= 43.9	035=113.4
017=55.0	038=120.6
020=66.0	042=137.5
024=81.1	045=145.7
028=89.9	050=157.9
031=99.1	

③ Type of shaft

2 = keyed
X = keyed
W = keyed

④ Direction of rotation

(view on shaft end)

R=clockwise

L=counter-clockwise

⑤ Porting combination

00=Standard

⑥ Design letter

⑦ Seal class

1 = S1 (for mineral oil)

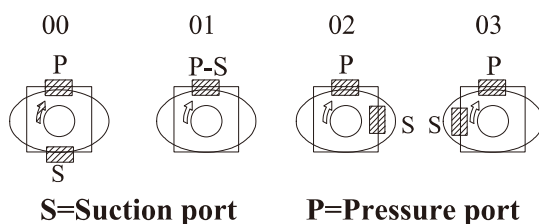
4 = S4 (for fire resistant fluids)

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

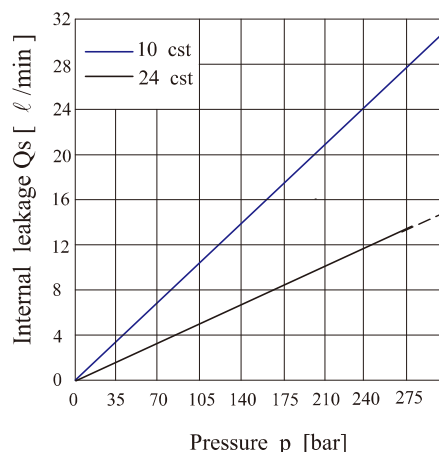
⑧ Mounting w / connection variables

YT7DXW	
P = 1" 1/4	S = 2 1/2"
UNC (W1)	METRIC (M0)

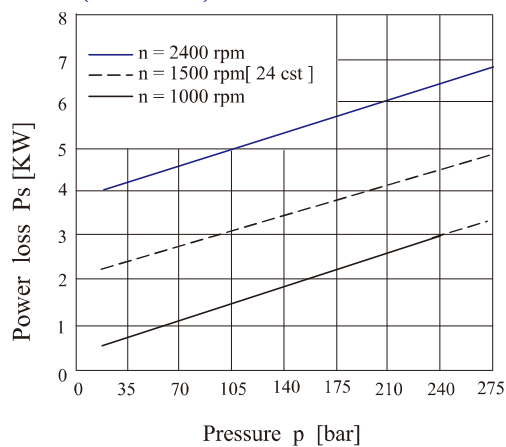
⑨ Modifications



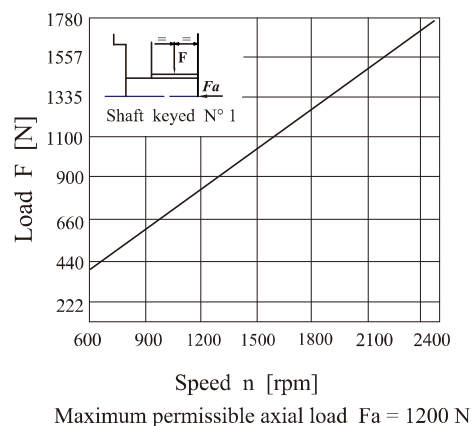
INTERNAL LEAKAGE (TYPICAL)



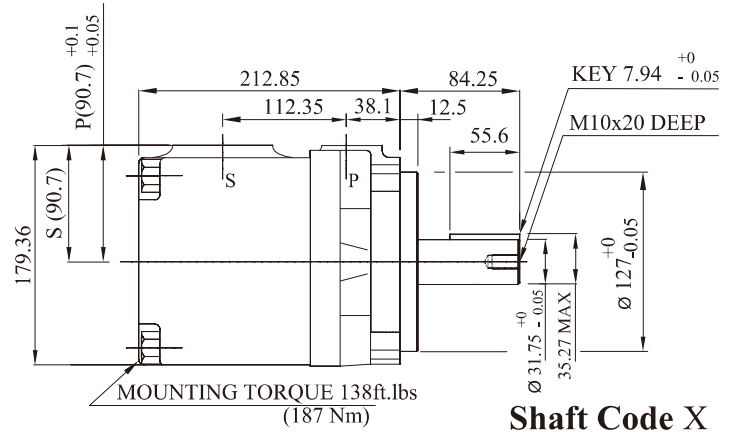
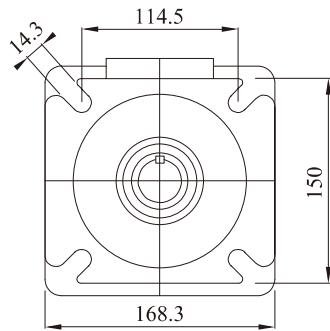
HYDROMECHANICAL POWER LOSS (TYPICAL)



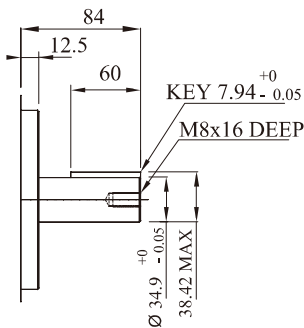
PERMISSIBLE RADIAL LOAD



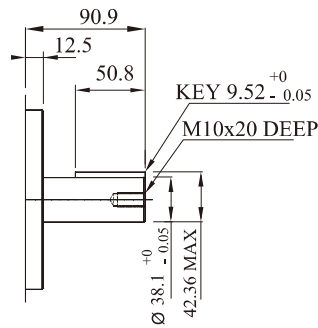
YT7DSW Dimensional Drawing



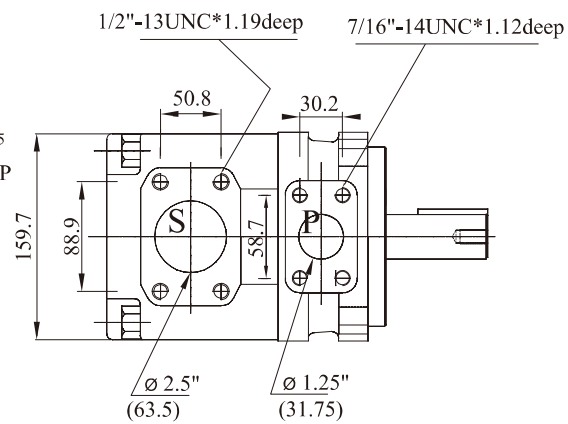
Shaft Code X



Shaft Code 2



Shaft Code W



OPERATING CHARACTERISTICS - TYPICAL [24 cSt]

Series	Volumetric Displacement Vp	Speed n [r.p.m]	Flow qve [ℓ/min]=1800 rpm			Input power P [KW]=1800 rpm			P Max Kg/cm ²	Max r.p.m
			p = 0 bar	p = 140 bar	p = 300 bar	p =7 bar	p = 140 bar	p = 300 bar		
014	43.9mℓ/rev	1800	79.1	72.5	64.9	2.6	20.7	43.6	300	3000
017	55.0mℓ/rev	1800	98.8	92.3	84.7	2.8	25.3	53.6		
020	66.0mℓ/rev	1800	118.6	112.0	104.5	3.0	29.8	63.6		
024	81.1mℓ/rev	1800	145.8	139.2	131.6	3.4	36.1	77.4		
028	89.9mℓ/rev	1800	161.8	155.2	147.6	3.5	39.7	85.5		
031	99.1mℓ/rev	1800	178.3	171.7	164.2	3.7	43.6	93.7		
035	113.4mℓ/rev	1800	203.9	197.2	190.6 1)	4.0	49.4	97.2 1)	280	
038	120.6mℓ/rev	1800	216.8	210.2	203.6 1)	4.2	52.4	103.2 1)		
042	137.5mℓ/rev	1800	247.2	240.6	234.9 2)	4.5	59.4	111.4 2)	260	
045	145.7mℓ/rev	1800	262.0	253.6	247.5 3)	5.0	62.4	107.7 3)	240	
050	157.9mℓ/rev	1800	284.0	275.8	271.3 4)	5.3	67.5	100.3 4)	210	

- 1) 035-038 = 280 bar max. int. 2) 042 = 206 bar max.int. 3) 045 = 240 bar max. int.
 4) 050 = 210 bar max. int.

YT7DSW2 - 045 - X R 00 - A 1 W1 -

① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨

① Series

② Cam ring

Volumetric displacement (cm³/rev)

014=43.9	035=113.4
017=55.0	038=120.6
020=66.0	042=137.5
024=81.1	045=145.7
028=89.9	050=157.9
031=99.1	

③ Type of shaft

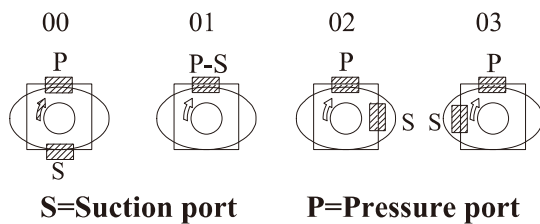
2 = keyed
X = keyed
W = keyed

④ Direction of rotation

(view on shaft end)

R=clockwise

L=counter-clockwise



⑤ Porting combination

00=Standard

⑥ Design letter

⑦ Seal class

1 = S1 (for mineral oil)

4 = S4 (for fire resistant fluids)

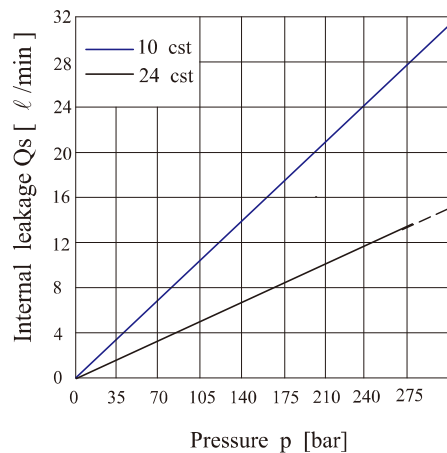
5 = S5 (for mineral oil and fire resistant fluids)

⑧ Mounting w / connection variables

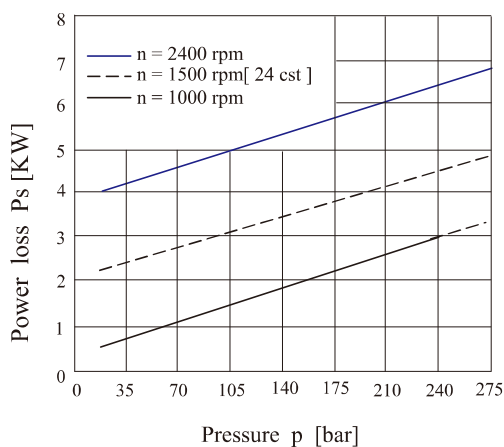
YT7DSW 2	
UNC (W1)	
P = 1" 1/4	S = 2 1/2"

⑨ Modifications

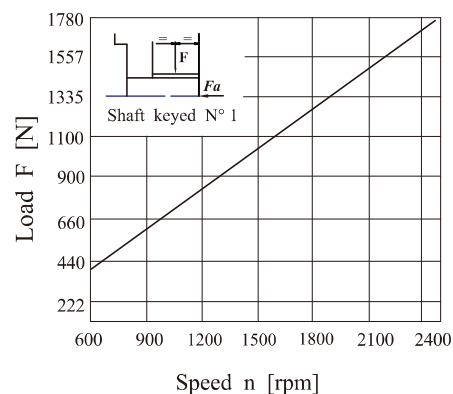
INTERNAL LEAKAGE (TYPICAL)



HYDROMECHANICAL POWER LOSS (TYPICAL)

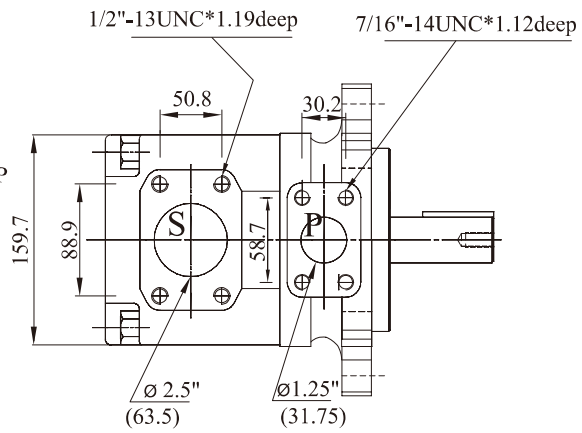
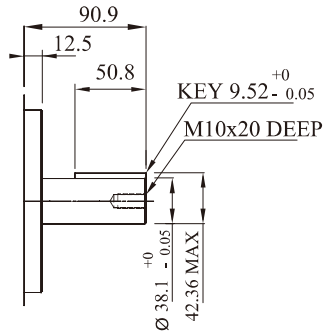
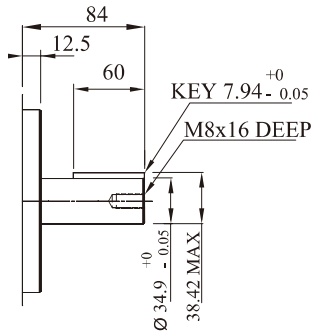
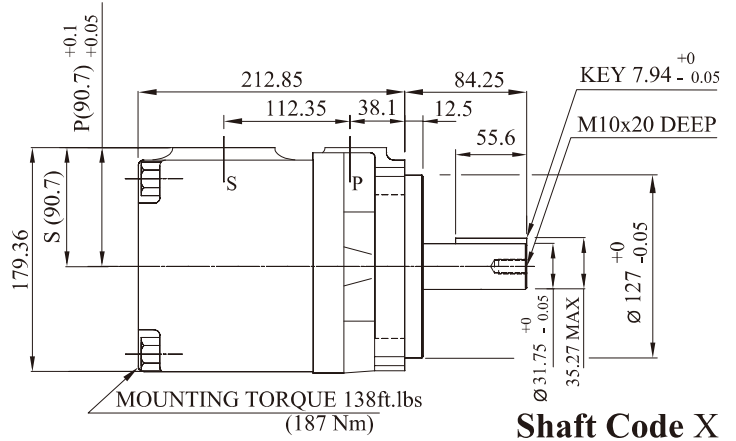
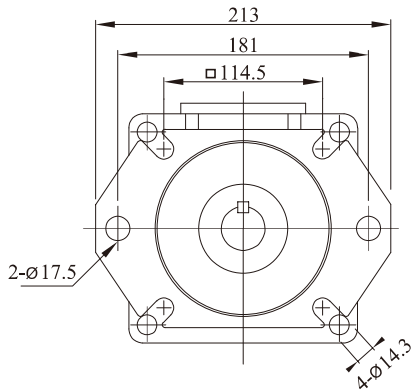


PERMISSIBLE RADIAL LOAD



Maximum permissible axial load Fa = 1200 N

YT7DSW2 Dimensional Drawing



Shaft Code 2

Shaft Code W

OPERATING CHARACTERISTICS - TYPICAL [24 cSt]

Series	Volumetric Displacement Vp	Speed n [r.p.m]	Flow qve [ℓ/min]=1800 rpm			Input power P [KW]=1800 rpm			P Max Kg/cm ²	Max r.p.m
			p = 0 bar	p = 140 bar	p = 300 bar	p =7 bar	p = 140 bar	p = 300 bar		
014	43.9mℓ/rev	1800	79.1	72.5	64.9	2.6	20.7	43.6	300	3000
017	55.0mℓ/rev	1800	98.8	92.3	84.7	2.8	25.3	53.6		
020	66.0mℓ/rev	1800	118.6	112.0	104.5	3.0	29.8	63.6		
024	81.1mℓ/rev	1800	145.8	139.2	131.6	3.4	36.1	77.4		
028	89.9mℓ/rev	1800	161.8	155.2	147.6	3.5	39.7	85.5		
031	99.1mℓ/rev	1800	178.3	171.7	164.2	3.7	43.6	93.7	280	
035	113.4mℓ/rev	1800	203.9	197.2	190.6 1)	4.0	49.4	97.2 1)		
038	120.6mℓ/rev	1800	216.8	210.2	203.6 1)	4.2	52.4	103.2 1)		
042	137.5mℓ/rev	1800	247.2	240.6	234.9 2)	4.5	59.4	111.4 2)		
045	145.7mℓ/rev	1800	262.0	253.6	247.5 3)	5.0	62.4	107.7 3)	240	
050	157.9mℓ/rev	1800	284.0	275.8	271.3 4)	5.3	67.5	100.3 4)	210	

1) 035-038 = 280 bar max. int. 2) 042 = 260 bar max.int. 3) 045 = 240 bar max. int.
4) 050 = 210 bar max. int.

YT7DXW - X45 - 1 R 00 - A 1 W1 -

① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨

① Series

② Cam ring

Volumetric displacement (cm³/rev)

X14=43.9	X35=113.4
X17=55.0	X38=120.6
X20=66.0	X42=137.5
X24=81.1	X45=145.7
X28=89.9	X50=157.9
X31=99.1	

③ Type of shaft

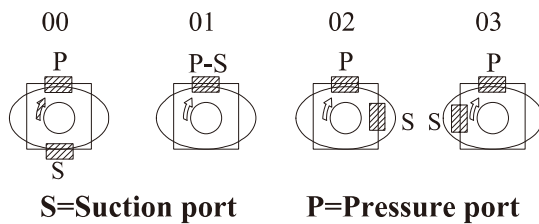
1 = keyed
2 = keyed
W = keyed

④ Direction of rotation

(view on shaft end)

R=clockwise

L=counter-clockwise



⑤ Porting combination

00=Standard

⑥ Design letter

⑦ Seal class

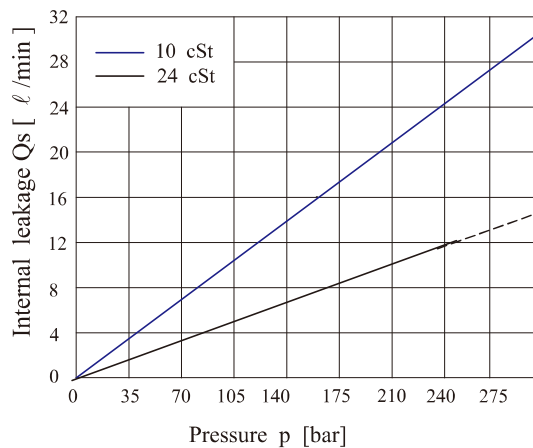
1 = S1 (for mineral oil)
4 = S4 (for fire resistant fluids)
5 = S5 (for mineral oil and fire resistant fluids)

⑧ Mounting w / connection variables

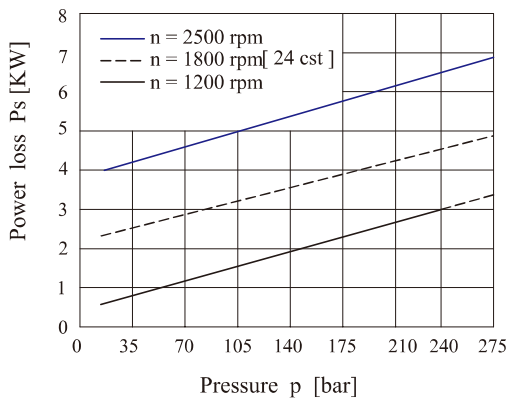
YT7DXW	
P = 1" 1/4	S = 2 1/2"
UNC (W1)	METRIC (M0)

⑨ Modifications

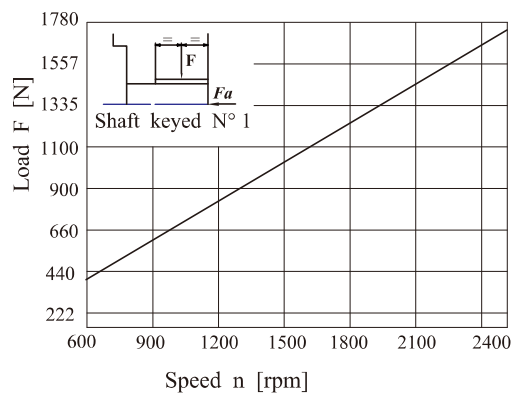
INTERNAL LEAKAGE (TYPICAL)



HYDROMECHANICAL POWER LOSS (TYPICAL)

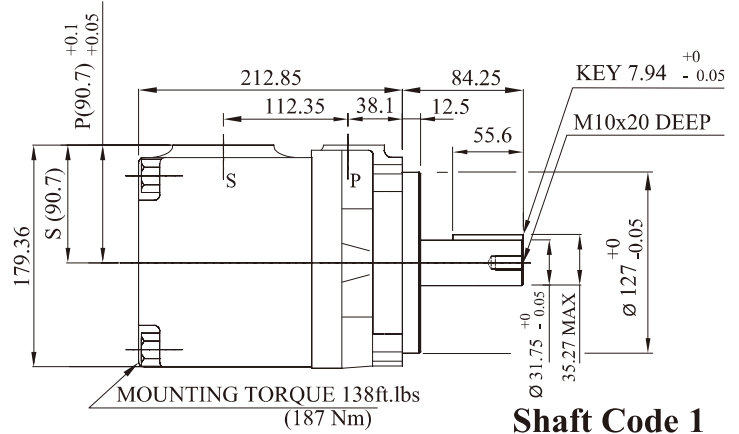
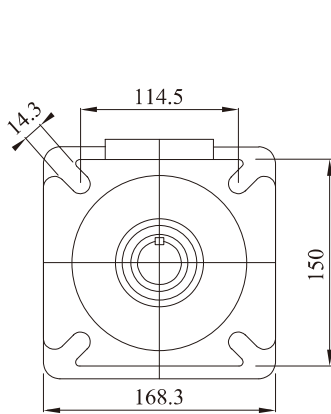


PERMISSIBLE RADIAL LOAD

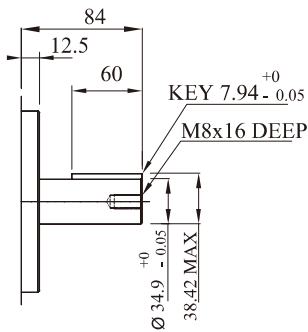


Maximum axial load permissible Fa = 1200 N

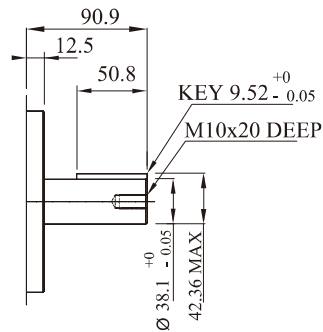
YT7DXW Dimensional Drawing



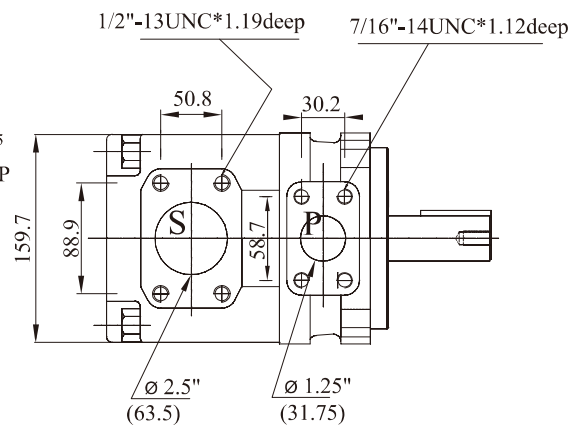
Shaft Code 1



Shaft Code 2



Shaft Code W



OPERATING CHARACTERISTICS - TYPICAL [24 cSt]

Series	Volumetric Displacement V _p	Speed n [r.p.m.]	Flow q _{ve} [ℓ/min] = 1800rpm			Input power P [KW] = 1800rpm			P Max Kg/cm ²	Max r.p.m
			p = 0 bar	p = 140 bar	p = 300 bar	p = 7 bar	p = 140 bar	p = 300 bar		
X14	43.9mℓ/rev	1800	79.1	72.5	64.9	2.6	20.7	43.6	300	3000
X17	55.0mℓ/rev	1800	98.8	92.3	84.7	2.8	25.3	53.6		
X20	66.0mℓ/rev	1800	118.6	112.0	104.5	3.0	29.8	63.6		
X24	81.1mℓ/rev	1800	145.8	139.2	131.6	3.4	36.1	77.4		
X28	89.9mℓ/rev	1800	161.8	155.2	147.6	3.5	39.7	85.5		
X31	99.1mℓ/rev	1800	178.3	171.7	164.2	3.7	43.6	93.7	280	2200
X35	113.4mℓ/rev	1800	203.9	197.2	190.6 1)	4.0	49.4	97.2 1)		
X38	120.6mℓ/rev	1800	216.8	210.2	203.6 1)	4.2	52.4	103.2 1)		
X42	137.5mℓ/rev	1800	247.2	240.6	234.9 2)	4.5	59.4	111.4 2)	260	
X45	145.7mℓ/rev	1800	262.0	253.6	247.5 3)	5.0	62.4	107.7 3)	240	2200
X50	157.9mℓ/rev	1800	284.0	275.8	271.3 4)	5.3	67.5	100.3 4)	210	

1) X35-X38 = 280 bar max. int. 2) X42 = 260 bar max. int. 3) X45 = 240 bar max. int.
4) X50 = 210 bar max. int.