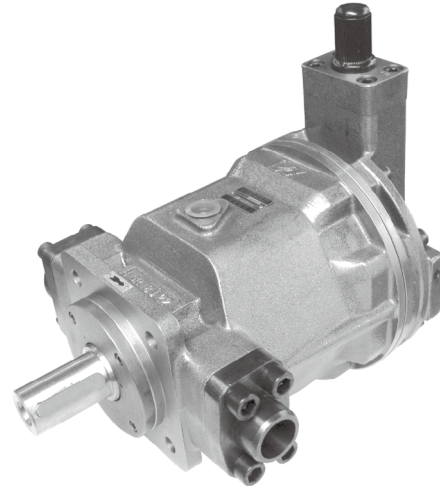# HY 系列轴向柱塞泵 (HY-HENGYUAN 简称 – 恒源品牌)

Variable Displacement Pump HY(HY The abbreviation of HENGYUAN brand)

|	
适用于开式回路	Apply to open circuits
规格 10~320	Size:10-320
额定压力 315Bar	Nominal pressure 315 Bar
峰值压力 400Bar	Peak pressure 400 Bar
斜盘式轴向柱塞泵	Swash plate design axial variable piston pump

目 录 Contents

特 点 Feature

1、用于开式回路的斜盘式轴向柱塞泵。
Swash plate design axial variable piston pump for open circuit.

2、连续工作压力可达 315bar，瞬时最高压力可达 400bar。
Continuous working pressure can reach 315 bar, and the highest instantaneous working pressure can reach 400 bar.

3、排量规格多，功率密度高。
Various displacements,high power density.

4、外观新颖、体积小、功率重量比大。
New appearance ,small volume,high power weight ratio.

5、变量形式多，有多种节能控制方式，且控制响应速度快。
Many variables firms, various saving energy, control code and control response speed.

6、噪声低、高效率、高可靠性。
Low noise level, high efficiency and high reliability.

7、优良的吸油性能。
Excellent oil absorbency.

8、泵体与泵壳一体化设计，取消了刻度盘。
Integrated design for pump body and pump shell and cancel the dial.

9、与 CY 泵一致的安装法兰，与 SAE 通用的油口法兰设计。
The same mounting flange with CY pump and design for SAE oil flange.

一、型号说明 Ordering code

HY	107	Y	-	R	P
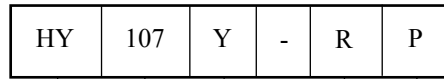
泵型号：恒源品牌
Model: HENGYUAN– HY(abbreviation)

额定压力 315bar Rated pressure 315 bar
峰值压力 400bar Peak pressure 400 bar

规格排量： 10、16、18 、25、28、32、40、
Displacement 45、55、63、71、80、90、95、100、
107、125、140、160、180、200、
225、250、280、300、320 ml/r

控制方式：Controller direction of rotation

M–– 定量泵
Y–– 恒功率控制
MY–– 定级变量
B–– 电液比例控制
S–– 手动控制

P01–– 节能型恒压控制
P02–– 节能型恒压 + 远程恒压控制
P03–– 节能型恒压 + 流量（负载感应）控制
P04–– 节能型高低压补偿控制
P–– 普通恒压控制

M-Fix displacement control
Y-Constant power control
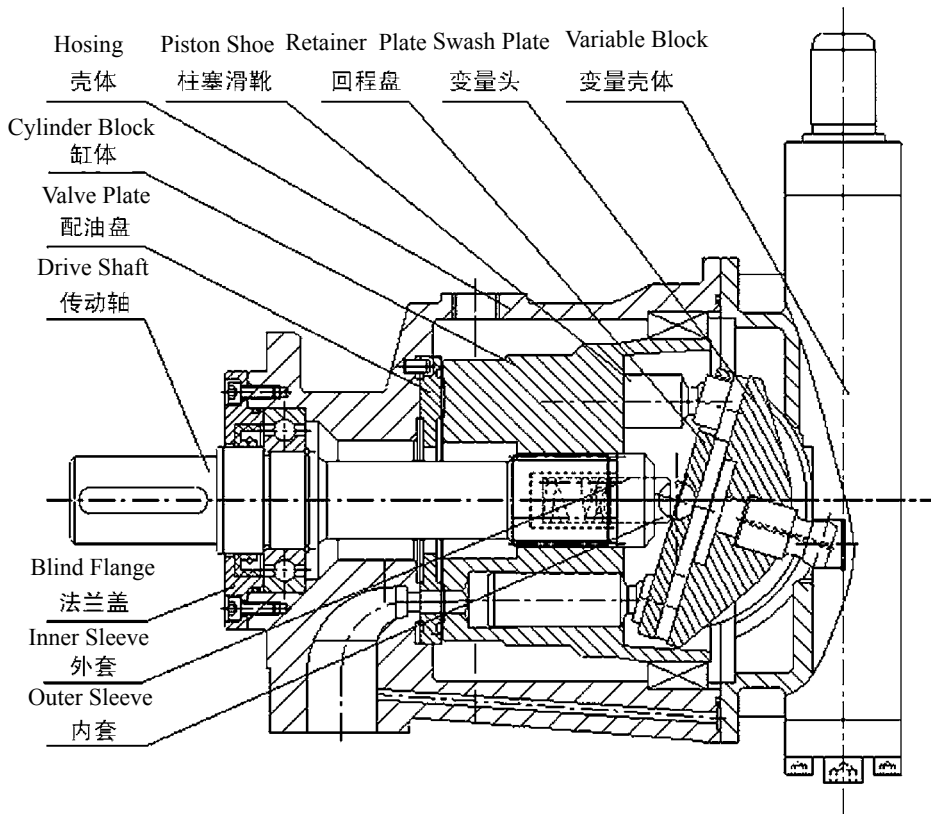MY-Grading variables control
B-Electro hydraulic
S-Manual control

轴端型式：P—公制平键
Shaft end   Metric parallel with key

转向（从轴端看）:R—顺时针
Clockwise
L—逆时针
Anti-clockwise

二、结 构 图 Construction

Hosing 壳体
Piston Shoe 柱塞滑靴
Retainer Plate 回程盘
Swash Plate 变量头
Variable Block 变量壳体
Cylinder Block 缸体
Valve Plate 配油盘
Drive Shaft 传动轴
Blind Flange 法兰盖
Inner Sleeve 外套
Outer Sleeve 内套

三、技术参数 Technical Data

进油口压力范围 Operating pressure range-inlet

进油口的绝对压力 Absolute pressure at inlet

$P_{abs\ min}$ ————————0.8 bar

$P_{abs\ max}$ ————————30 bar

工作压力范围

出油口压力 Pressure at outlet

公称压力 P_N ————————315 bar   Normial pressure P_N

峰值压力 P_{max} ————————400 bar   Peak pressure P_{max}

间隙工作压力（占 10% 循环周期）————————350 bar

Clearance work pressure (at 10% cycle period)

壳体泄油压力 Case drain pressure

泄油口最大允许压力：最高可比进油口压力 0.5bar，但不得高于 2bar 的绝对压力。

Maximum permissible pressure of oil drain port. Maximum 0.5 bar higher than inlet pressure, but no higher than 2 bar absolute pressure.

参数表（理论值，未考虑 η_{mh} 和 η_v ）
parameter list

排量 Displacement	V_g		ml	10	16	18	25	28	32	40	45	55	63	71	80	90
最大流量 Max. flow	1500 r/min	q_v	L/min	15	24	27	37.5	42	48	60	67.5	82.5	94.5	106.5	120	135
最大功率 Max. power	in 315bar 1500 r/min	P	kw	7.9	13	14	19.7	22	25.2	31.5	35.4	43.3	49.6	55.9	63	70.9
最大扭矩 Max. torque	in 315bar	T_{max}	Nm	50	80	90	125	140	160	200	225	275	316	356	401	451
排量 Displacement	V_g		ml	95	100	107	125	140	160	180	200	225	250	280	300	320
最大流量 Max. flow	1500 r/min	q_v	L/min	143	150	160.5	187.5	210	240	270	300	337.5	375	420	450	480
最大功率 Max. power	in 315bar 1500 r/min	P	kw	74.8	78.8	84.3	98.4	110	126	142	157.5	177.2	196.9	220.5	236.3	252
最大扭矩 Max. torque	in 315bar	T_{max}	Nm	476	501	536	626	701	802	902	1003	1128	1253	1403	1504	1605

参数关系 parameter relations

流量 Flow

$$q_v = \frac{v_g \cdot n \cdot \eta_V}{1000} \quad [L/min]$$

驱动转矩 Drive torque

$$T = \frac{1.59 \cdot v_g \cdot \triangle p}{100 \cdot \eta_{mh}} = \frac{v_g \cdot \triangle p}{20 \cdot \pi \cdot \eta_{mh}} \quad [Nm]$$

驱动功率 Drive power

$$T = \frac{T \cdot n}{9549} = \frac{2\pi \cdot T \cdot n}{60000} = \frac{q_v \cdot \triangle p}{600 \cdot \eta_t} \quad [kw]$$

v_g = 每转几何排量 $[cm^3]$ Geometry displacement each rotate

$\triangle p$ = 压差 [bar]   Differential pressure

n = 转速 [rpm]   Rotary speed

η_v = 容积效率   Cubage's efficiency

η_{mh} = 机械 – 液压效率   Mechanical-hydraulic efficiency

η_t = 总效率（ $\eta_t = \eta_v \times \eta_{mh}$ ）   Overall efficiency

四、安装注意事项 Installation Notes

　　流量 160L/min 及以上的泵不允许安装在油箱上，以下的泵可安装于油箱上，但要确保油箱盖有足够的刚度。与原动机的输出轴安装精度（同心度、垂直度）≤ 0.05mm。在试运行前，泵内必须灌满油液并在工作时保持充满。为了减低噪声，提高系统的可靠性，建议所有油泵尽可能下置于油箱安装。进油管路不允许安装滤网，建议系统采用出油或回油管路过滤。

1、垂直安装（轴端向上）

1.1 安装于油箱内
安装前先灌满油液并使其处于水平位置。
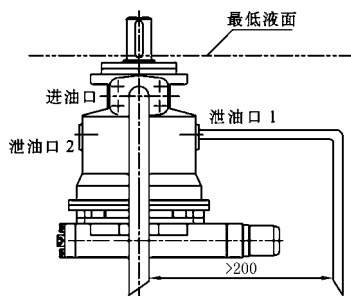a) 当油箱的最低液面高于或等于安装法兰面时，将 泄油口 2 堵死，而将泄油口 1 和进油口打开，建议按图 1 配管。

图 1

b) 如果油箱的最低液面低于泵的安装法兰面，则封闭泄油口 2，泄油口 1 及进油口按图 2 配管，并参见 1.2.1 节。

1.2 安装在油箱外面
在安装前泵置于水平位置并灌满油液。如安装于油箱的上方，参见图 2。
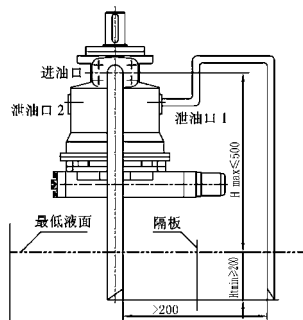1.2.1 在静态和动态情况下泵的最低吸油压力均为
$P_{absmin}=0.8bar$

图 2

1.2.2 此种方法安装时最大吸油口高度 $H_{max}=500mm$; 具体视吸油管路的阻力损失而定。阻力损失较大时，吸油高度尽量要小，吸油口的最小浸没深度 $H_{tmin}=200mm$。

2、水平安装（轴端水平）
水平安装时应确保泄油口 1 处于顶部位置。

2.1 安装在油箱内
a) 当油箱的最低液面在泵顶端之上时，把泄油口 2 堵住，泄油口 1 须配管，进油口也配管。（参见图 3）
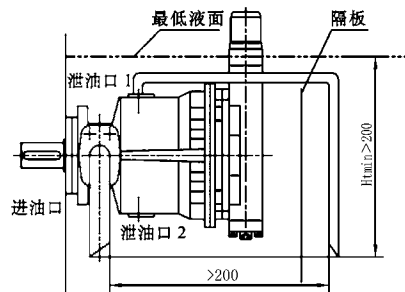
图 3

b) 当油箱的最低液面低于泵的顶部时，将泄油口 2 堵住，泄油口 1、进油口的配管要求参见图 4，注意 $H_{tmin}=200mm$。

2.2 安装在油箱外面
先把泵体内灌满油，泄油口 1 堵住。
a) 安装在油箱上，请参见图 4。
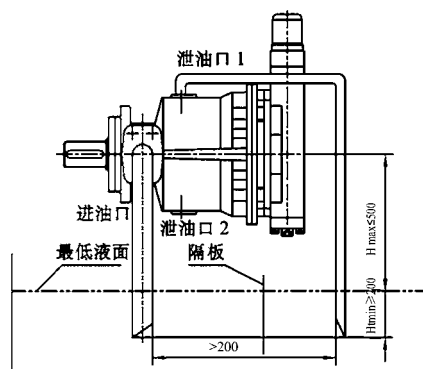
图 4

b) 如安装在油箱下泄油口 2 堵死，泄油口 1 及进油口配管请参见图 5。
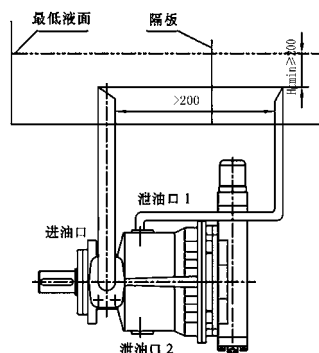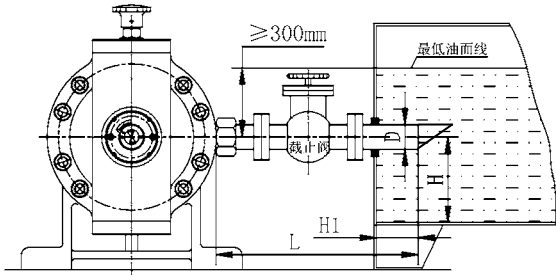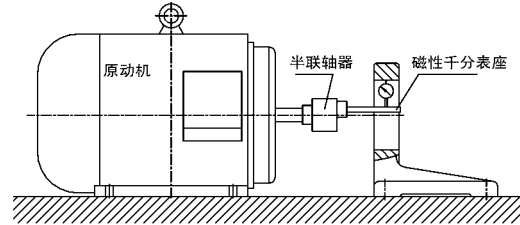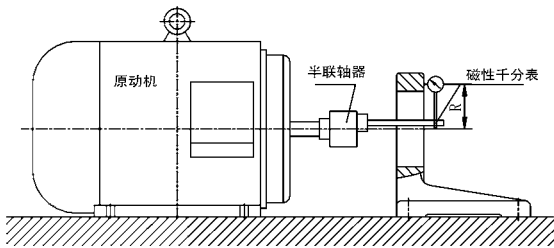

图 5

C）旁置于油箱

　　按上图方法安装时须注意以下事项：①油箱的最低油面至油泵中心的距离应≥300，泵可以小偏角启动自吸；②进油管通径不小于推荐的数值，截止阀的通径应比进油管大一档；③油泵的进油管长度 L ≤ 2500mm，管道的弯头不得多于两个，进油管端至油箱侧壁的距离 H1 ≥ 3D，至油箱底面的距离 H ≥ 2D。

3、安装精度检测

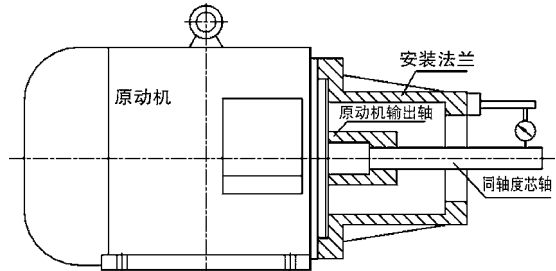　　3.1 支架安装：原动机输出轴与支架安装精度的检查方法见下图；

　　上图中，同轴度误差 ≤ Φ 0.05；右侧上图中，垂直度跳动 ≤ 0.05（R 为泵安装螺孔分布圆半径）；

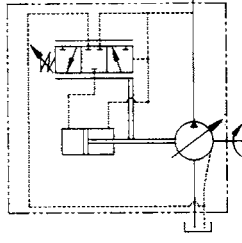　　3.2 法兰安装：在这种安装形式中，如果原动机与泵之间是采用联轴器联接，则其安装精度检查方法同上图。如果将泵轴直接插入原动机输出轴内，则其安装精度检查方法见下图。
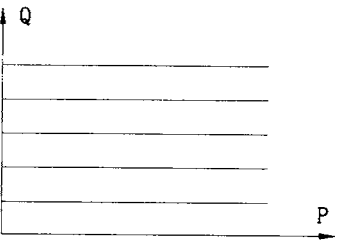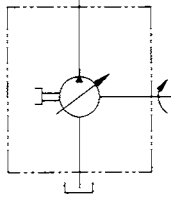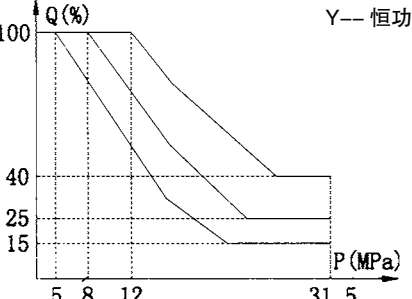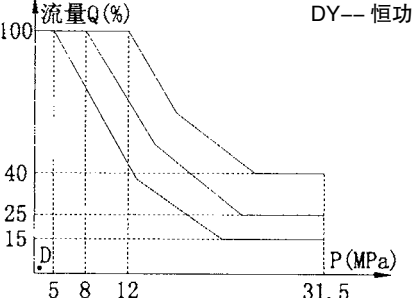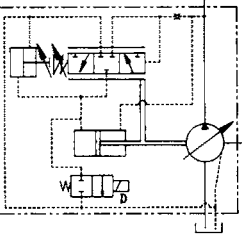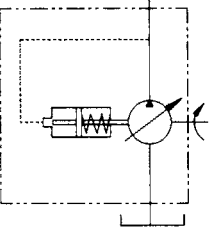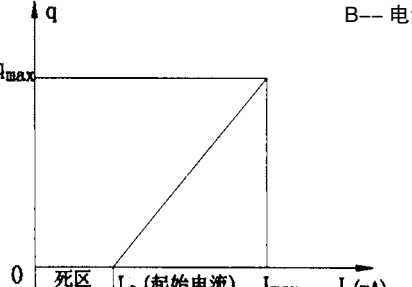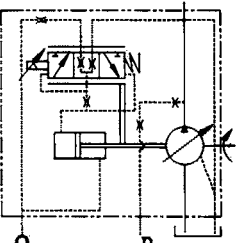
　　3.3 泵与电机的同心度不好，容易引起噪音、轴承与骨架油封的损坏。泵和原动机传动轴之间应尽可能采用弹性联轴器联接。推荐采内齿形弹性联轴器，以免泵轴承受径向力。电机与油泵安装好以后要检查联轴器的轴向是否有适量间隙（2mm 左右），如果没有轴向间隙会使油泵的轴承承受轴向力，造成轴承的损坏。

五、工作用油 Hydraulic fluid
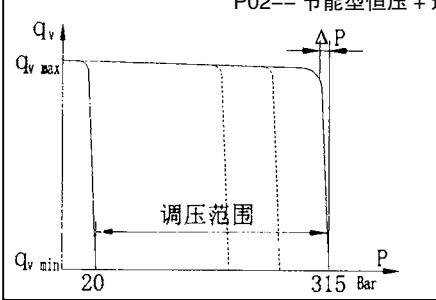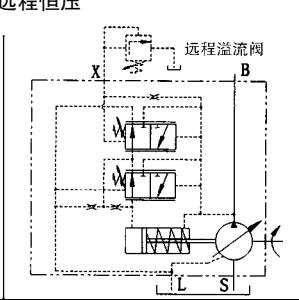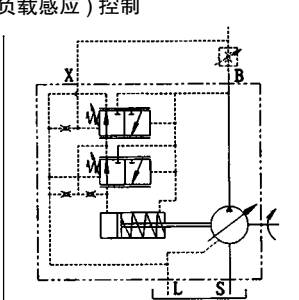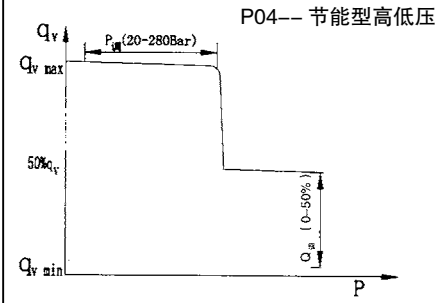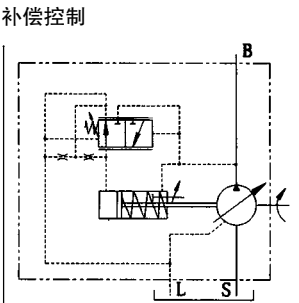
　　1、推荐油泵使用 L－HM32、46、68 号低凝高压抗磨液压油，并随气温的变化而进行不同的选型，气温或油温较高状态下，选用高牌号；气温或油温较低状态下，选用低牌号。
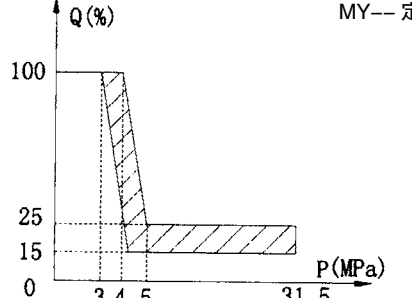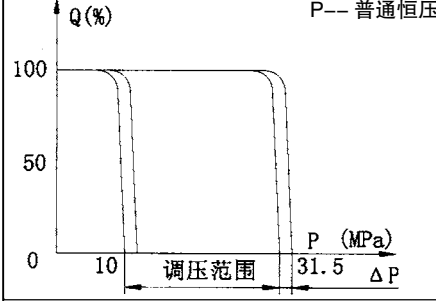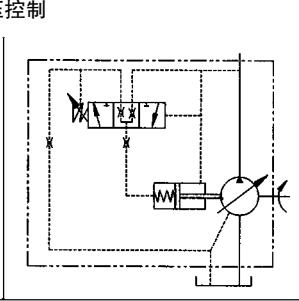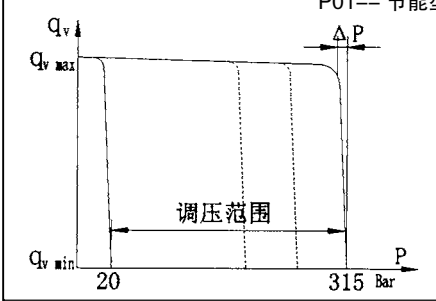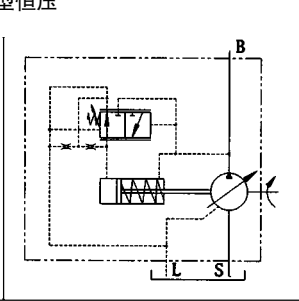
　　2、正常工作油温为 15 ~ 65℃，理想工作油温 50 ± 4℃，运动粘度为 27 ~ 43mm²/S 油液在正常工作温度下工作，应保证其运动粘度在 65℃时不低于 27mm²/S，15℃时不高于 43mm²/S。冷启动时由于油液运动粘度大而造成的自吸真空应不大于 0.016MPa。应将油液清洁度控制在 NAS10 级（或 19/16）以内，清洁度将显著影响油泵寿命！

六、控制型式 –1 Controller-1

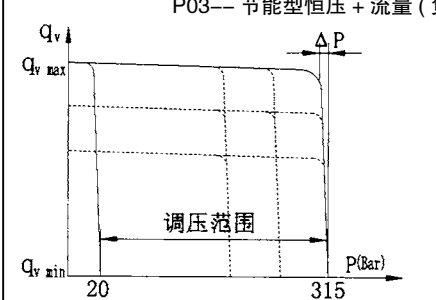| 变量特性曲线	液压原理符号	说　明
S-- 手动变量 Q ... P （特性曲线图）	（液压原理符号图）	**手动变量控制：** 　　手动变量泵改变流量靠外力转动调节手轮，旋转调节螺杆，带动变量活塞沿轴向移动，同时带动变量头绕中心转动，改变倾斜角，达到变量目的。当达到所需流量时可使锁紧螺母紧固。调节手轮顺时针转动时，流量减小。 　　调节手轮逆时针转动时，流量增加。工作时改变流量须卸荷操作。
Y-- 恒功率控制 Q(%) 100 40 25 15 ... P(MPa) 5 8 12 31.5	（液压原理符号图）	**恒功率控制：** 　　恒功率变量泵的出口流量随出口压力的大小近似地在一定范围内按恒功率曲线变化。 　　调节流量特性时，可先将限位螺钉拧至上端，根据所需的流量和压力变化范围，调节弹簧套，使其流量开始发生变化时的初始压力符合要求，然后将限位螺钉拧至终级压力时的流量不再发生变化，其中间的流量与压力变化关系由泵的本身设计所决定。
DY-- 恒功率待命控制 流量Q(%) 100 40 25 15 D ... P(MPa) 5 8 12 31.5	（液压原理符号图）	**恒功率待命控制：** 　　在恒功率泵液压原理的基础上，在变量缸的上腔接上一个二位二通的电磁阀（见液压原理符号图），就变成一台恒功率待命控制泵。 　　卸荷电磁阀可实现泵空载启动、也可实现系统压力和流量的快速卸载（应用系统中无卸荷回路）。
MY-- 定级变量 Q(%) 100 25 15 0 ... P(MPa) 3 4 5 31.5	（液压原理符号图）	**定级变量控制：** 　　这种泵是依靠内控油压操纵变量机构。该泵的压力调节范围比较小，油压在 3~4MPa 时产生变量后，流量迅速减小至所要求的高压流量值。这种泵实际上相当于高低压组合泵，泵的驱动功率选择可以参照恒功率变量泵的功率选择方法进行计算。调节变量特性时，根据所需流量和压力变化范围，调节调整套，使泵终级压力时的流量不再发生变化，然后调整调节螺杆使泵流量刚发生变化时初始压力符合要求。
B-- 电液比例 q q_{max} 0 死区 I_0(起始电流) I_{max} I(mA)	（液压原理符号图） o ... p	**电液比例控制：** 　　在额定工况下，一般外控油压力为 612MPa。泵的起始电流（死区）的大小，一般调节在 150~250mA，最大控制电流一般为 650~800mA。 　　BCY 电液比例泵的进出油口方向，与其它变量形式泵的进出油口方向正好相反，即从轴端看，顺时针旋转（正转泵）时进油口在右侧，出油口在左侧。 　　注意：BCY 变量泵在无电流输入时处于零偏角，故启动前应调大偏角，以防吸油不足导致油泵损坏。

控制型式 –2 Controller-2

变量特性曲线	液压原理符号	说　明
P–– 普通恒压控制 Q(%) 100 50 0 10　调压范围　31.5　ΔP P (MPa)		**普通恒压控制：** 　　在泵的调节范围内，能使系统保持恒定的工作压力。当泵的控制压力通过泵上的恒压阀设定后，在系统达到设定的压力时，泵的排量迅速自动下调为仅是维持该恒定的系统压力所需的排量。系统的压力可通过恒压阀进行无级调节，且系统溢流阀仅作安全阀作用，其调定的压力应大于恒压阀设定压力的 15~20%。
P01–– 节能型恒压 q_v $q_{v\,max}$ ΔP 调压范围 $q_{v\,min}$ 20　　315 Bar　P	B L S	**节能型恒压控制：** 　　在控制范围内使液压系统中压力维持恒压，泵仅提供系统所需流量，压力可无级设定。控制响应速度快，泄漏小。
P02–– 节能型恒压 + 远程恒压 q_v $q_{v\,max}$ ΔP 调压范围 $q_{v\,min}$ 20　　315 Bar　P	远程溢流阀 X　　　B L S	**节能型恒压 + 远程恒压控制：** 　　在控制范围内使液压系统中压力维持恒压，泵仅提供系统所需油量，压力可无级设定。控制响应速度快，泄漏小。 　　可在 X 口接上溢流阀作远程恒压控制；可实现零流量卸荷待命控制，也可实现多级压力控制。溢流阀不在供货范围内。
P03–– 节能型恒压 + 流量（负载感应）控制 q_v $q_{v\,max}$ ΔP 调压范围 $q_{v\,min}$ 20　　315　P(Bar)	X　　　B L S	**节能型恒压 + 负载感应控制：** 　　除了恒压的功能外，借助于负载（如一节流孔）的压差可改变泵的流量，泵仅供执行机构所需流量。可实现零流量卸荷待命控制。
P04–– 节能型高低压补偿控制 q_v $P_{高}$(20-280Bar) $q_{v\,max}$ $50\% q_v$ $Q_{高}$ (0~50%) $q_{v\,min}$ P	B L S	**节能型高低压补偿控制：** 　　该泵的压力调节范围较大，可在 2~28MPa 范围内进行调节。在小于设定压力下，泵全排量输出；达到或超过设定的压力，流量迅速减小至所调定的高压流量值。 　　（如定配远控阀口，可实现多级压力设定控制。）

四、 Installation Notes

Optional installation position. The displacement over 160L/min cann't be installed on the reservoir and should ensure the reservoir cover have enough rigidity.The concentricity (verticality) ≤ 0.05mm.The pump housing must be filled with fluid during commissioning and remain full when operating. In order to attain the lowest noise level, all connections (suction,pressure,case drain ports) must be linked by flexible couplings to tank. Avoid placing a check valve in the case drain line.

1. Vertical installation (shaft end upwards)

The following installation conditions must be taken

into account:

1.1. Arrangement in the reservoir

Before installation fill pump housing, keeping it in a

horizontal position.

a) If the minimum fluid level is equal to or above the pump mounting

face close port"outlet 2"plufgged,leave port "outlet 2"and "inlet"open,"outlet 2" piped and recommendation inlet piped (see Fig.1).
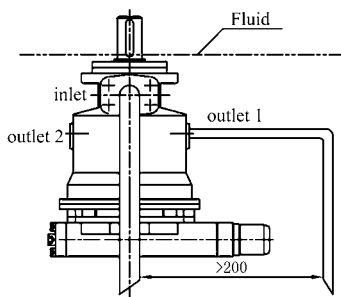

Fig. 1

b) If the minimum fluid level is below the pump mounting face pipe port"outlet 1" and "inlet"according to Fig 2

Close port "outlet 2" with respect taking into consideration.

Conditions in 1.2.1.

1.2. Arrangement outside the reservoir

Before installation fill the pump housing, keeping it

in a horizontal position. For mounting above reservoir see Fig. 2.

Limiting condition:

1.2.1. Minimum pump inlet pressure pabs min = 0.8bar under both static and dynamic conditions.

Note: Avoid mounting above reservoir wherever possible in order to achieve a low noise level.

Fig.2
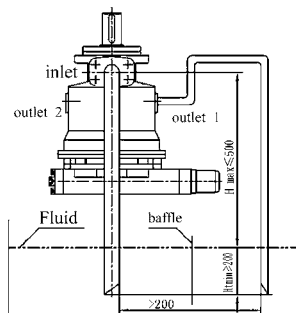
1.2.2The permissible suction height h comes from the

overall pressure loss, but may not be bigger than h_{max} = 500 mm (immersion depth $h_{t\,min}$ = 200 mm).

2. Horizontal installation

The pump must be installed, so that "outlet 1" is at the top.

2.1. Arrangement in the reservoir

a) If the minimum fluid level is above the top of the pump, port "outlet 2"closed,"outlet 1"and "inlet" should remain open, "outlet I" piped and recommendation "inlet" piped (see Fig. 3)
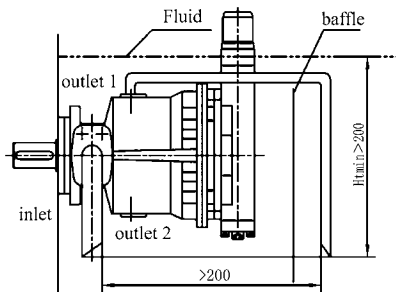

Fig. 3

b) If the minimum fluid level is equal to or below the top of the pump, pipe ports "outlet 1" and possibly "inlet" as Fig. 4.; close port "outlet 2". The conditions according to item 1.2.1.

2.2. Installation outside the reservoir

Fill the pump housing before commissioning.Close the port "outlet 1"

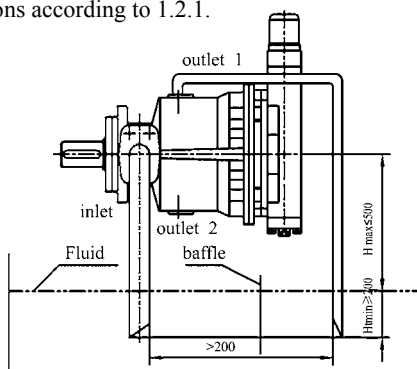a) When mounting above the reservoir, see Fig.

4.Conditions according to 1.2.1.

Fig. 4

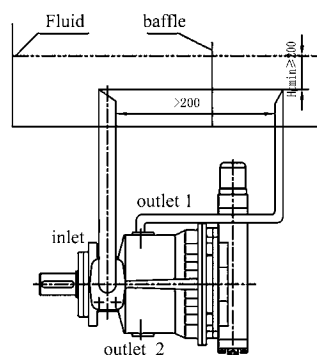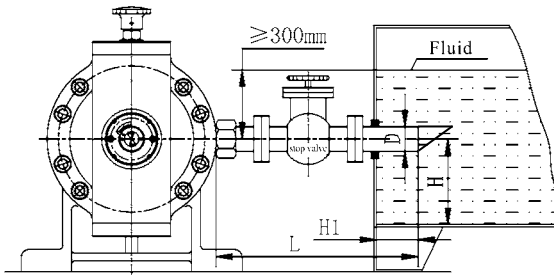b) Mounting below the reservoir Pipe ports"outlet "and "inlet"according to Fig.5,close port "outlet 2"

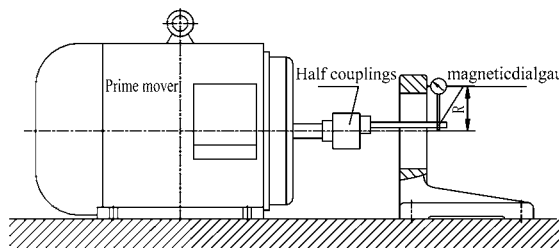

Fig.5

C) Next to the reservoir

Note:

① The minimum oil tank surface to pump center distance ≥ 300,pump can be little deflection angle self-printing start.

② The size of oil inlet should no less than the recommended numerical, globe valve size should big than oil inlet

③ L ≤ 2500,piping elbows should not more than two. H$_1$ ≥ 3D,H ≥ 2D

3. Installation precision testing

3.1 Stent installation:the checking method of installation accuracy of prime mover output shaft and support are shown in figure 3

In flgure 2,the coaxial tolerance of error ≤ Φ0.05 ; In flgure 3, Vertical degree beating ≤ 0.05 (R is circle radius of pump installation screw holes distribution)
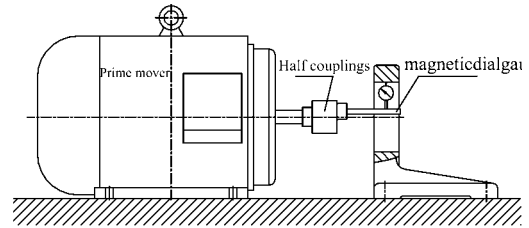
3.2 Flange installation:In this form, if prime mover and pump is connected with the coupling , the installation precision testing methods as shown in figure 3. If the pump shaft directly into prime mover in the output shaft, the installation precision testing method is as figure 4.
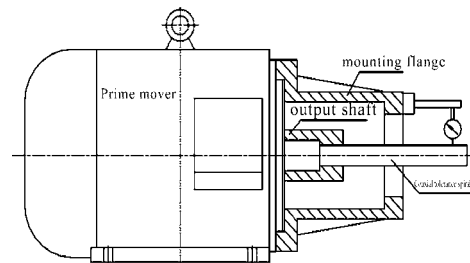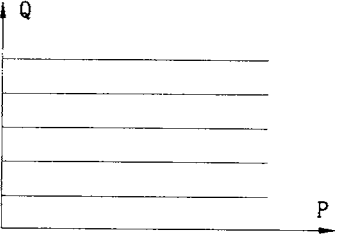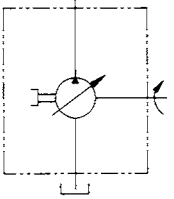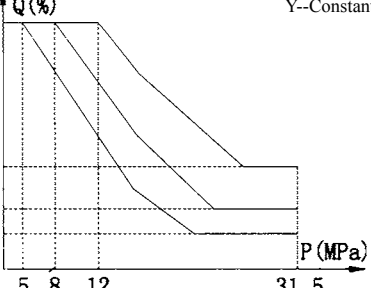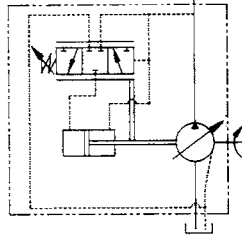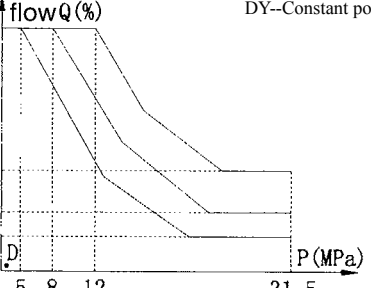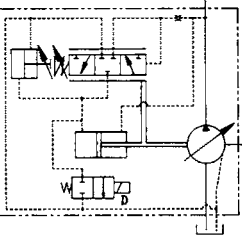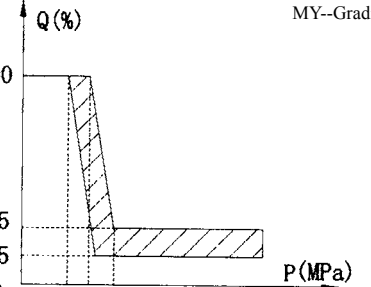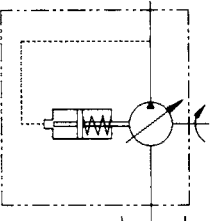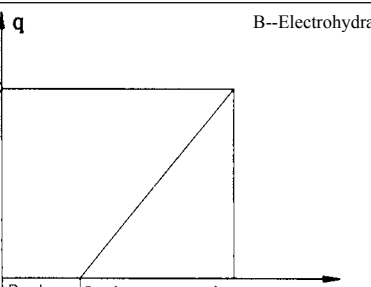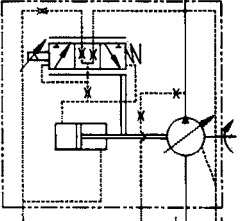

3.3 The bad coaxiality can cause the noise, the damge of bearing and skeleton oil seal. The shaft between pump and prime mover should us elastic coupling as far as possible. When electric motor and pump is installed,should check whether the coupling has axial clearance, if not ,can make pump bearing with axial force, causing the damage of the bearing.

五、 Hydraulic Fluid
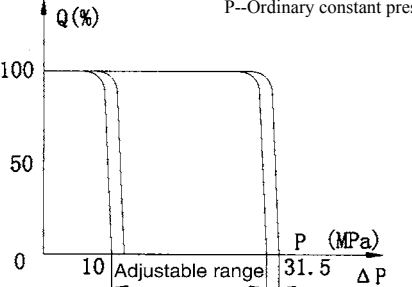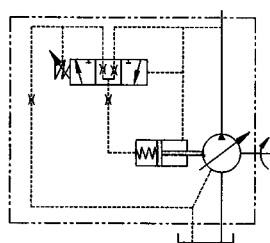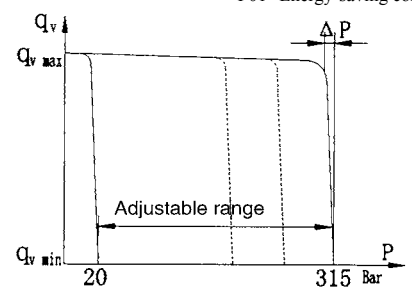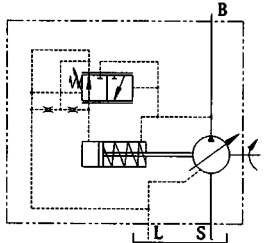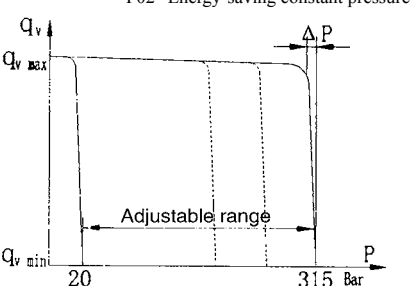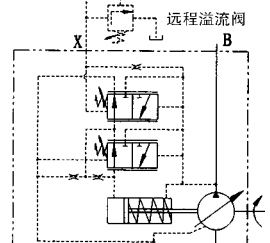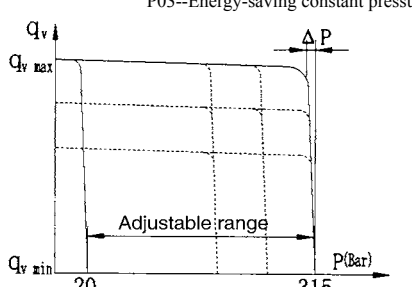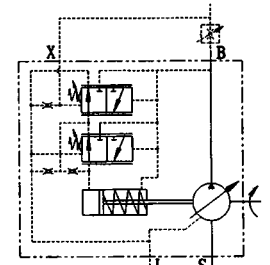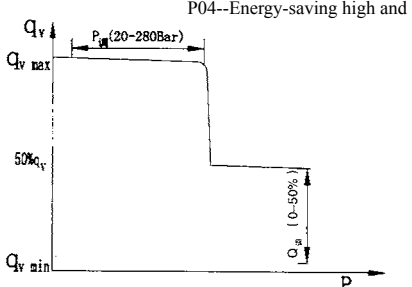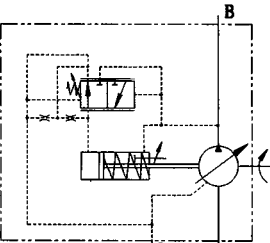
1. Recommend use low-freezing, high pressure and anti-wear hydraulic fluid as L-HM32 46 68. and choose the diffent oil with the change of the temperature. If temperature is high, choose high grades oil, conversely is also be such.

2. Normal work oil temperature is :15-65℃ Ideal work oil temperature is 50℃ .Operating viscosity is :27-43mm^2/s. we recommend that the operating viscosity (at normal work temperture) should no less than 27 mm^2/s of 65℃ .also no more than 43mm^2/s of 15℃ . The self-priming vacuum because of the high operating viscosity when it cold start. To ensure the functioning of the axial piston unit a mininun cleanliness level of NAS10 (19/16) is necessary.

六、 Controller-1

Static characteristic	Circuit drawing	Instruction
S--Manual variables		Manual variable pump change the flow by turning the handwheel, turn adjusting screw, driving the variable along the move of axial piston, and drive head variables around the center turn, change the dip angle, to achieve variables purpose. When meet the desired flow can make the lock nut tighten. If adjust the handwheel clockwise, flow decrease. If want to change the flow when working, should with unloading operation
Y--Constant power control		The outlet flow of constant power variable pump change with the size of the outlet pressure approximately in a certain range according to the constant power curve changes. Adjust flow characteristics, can put the limit screws to the top and according to need pressure range, adjusting spring set, make its initial pressure meet the requirements when the flowchanged and then will limit screws to ultimate pressure of the flow of change, of which no longer flow and pressure changes between the relationship of the pump design decision by itself.
DY--Constant power standby control		In the constant power hydraulic pressure, the basic principle of the variable cylinder in superior in the street a two two of the electromagnetic valve, become a constant power standby control pump. Unloading electromagnetic valve can realize pump start-up, also can achieve no-load pump system pressure and flow to quickly unload. (the application system without unloading loop).
MY--Grading variables		This pump is rely on internal control hydraulic control variable institutions. The pump pressure adjustment range are small, hydraulic in 3-4 Mpa generated when the variables, flow diminishes quickly to the requirements of high pressure flow value. This pump is equivalent to the combination of high and low voltage actually pumps, pump drive power choose reference may be made to the constant power variable pump power selection method to calculate. Adjust variable characteristics, according to need flow and pressure range, adjusting adjustment sets, making pump pressure flow of ultimate no longer changes, and then adjusting adjustment screw pump flow just change the initial pressure meets the requirement.
B--Electrohydraulic proportional		In general, the rated conditions for the oil pressure is 6 to 12 Mpa. The starting current (dead zone) of the pump, adjust the size of the general in 150-250 mA, the biggest control current general is 650-800 mA. BCY electro-hydraulic proportion of oil pump in and out, and its form variables mouth direction of pass in and out of the oil pump mouth is exactly the opposite, that is, from the shaft watch, clockwise (are turning pump) inlet on the right, the outlet on the left Note: BCY variable pump in zero deflection angle when no current input, so should on large deflection angle shall before start, in case of the damge of the pump.

六、Controller-2

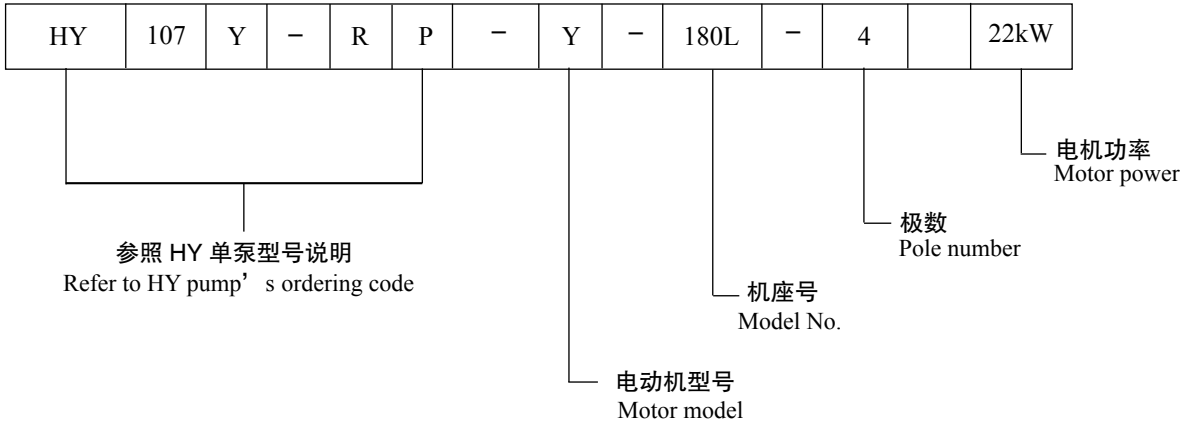| Static characteristic	Circuit drawing	Instruction
P--Ordinary constant pressure control		In the adjustment of the pump range, can make the system maintains a constant pressure of work. When the pump pressure under control through the constant pressure pump valve Settings, in the system to achieve the set pressure, pump emissions rapidly to only be able to maintain automatic cut the constant pressure of the system for emissions. The system pressure can through the constant pressure valve stepless adjustment, and the system relief valves are for the relief valve function, its adjustment pressure should be greater than constant pressure valve set up the pressure of 15%- 20%.
P01--Energy-saving constant pressure		In the control range of hydraulic system pressure to maintain constant pressure, pump system required only provide oil pressure, and stepless setting. Control response speed, small leakage.
P02--Energy-saving constant pressure+ Distance constant pressure	远程溢流阀	In the control range of hydraulic system pressure to maintain constant pressure, pump system required only provide oil pressure, and stepless setting. Control response speed, small leakage. Can be connected to the relief valve in the X mouth for remote constant pressure control; Can realize zero flow unloading can also be based on control, multilevel pressure control. Relief valve is not within the scope of supply.
P03--Energy-saving constant pressure+flow control		In addition to the functions of the constant pressure, by load (as orifice) differential pressure can change the flow rate of the pump, the pump is only enforce the flow of agencies need . Also can realize zero flow unloading standby control.
P04--Energy-saving high and low voltage compensation control		The adjusting range of the pump pressure is bigger, it can be within 2-28 Mpa range to regulation. In less than a set pressure, the displacement pump full output; When meet or exceed the set pressure, flow diminishes quickly decrease to the setting value high pressure flow. (if set with the remote control valve mouth, can realize multilevel pressure setting control.)

七、安装连接尺寸 Mounting Dimension
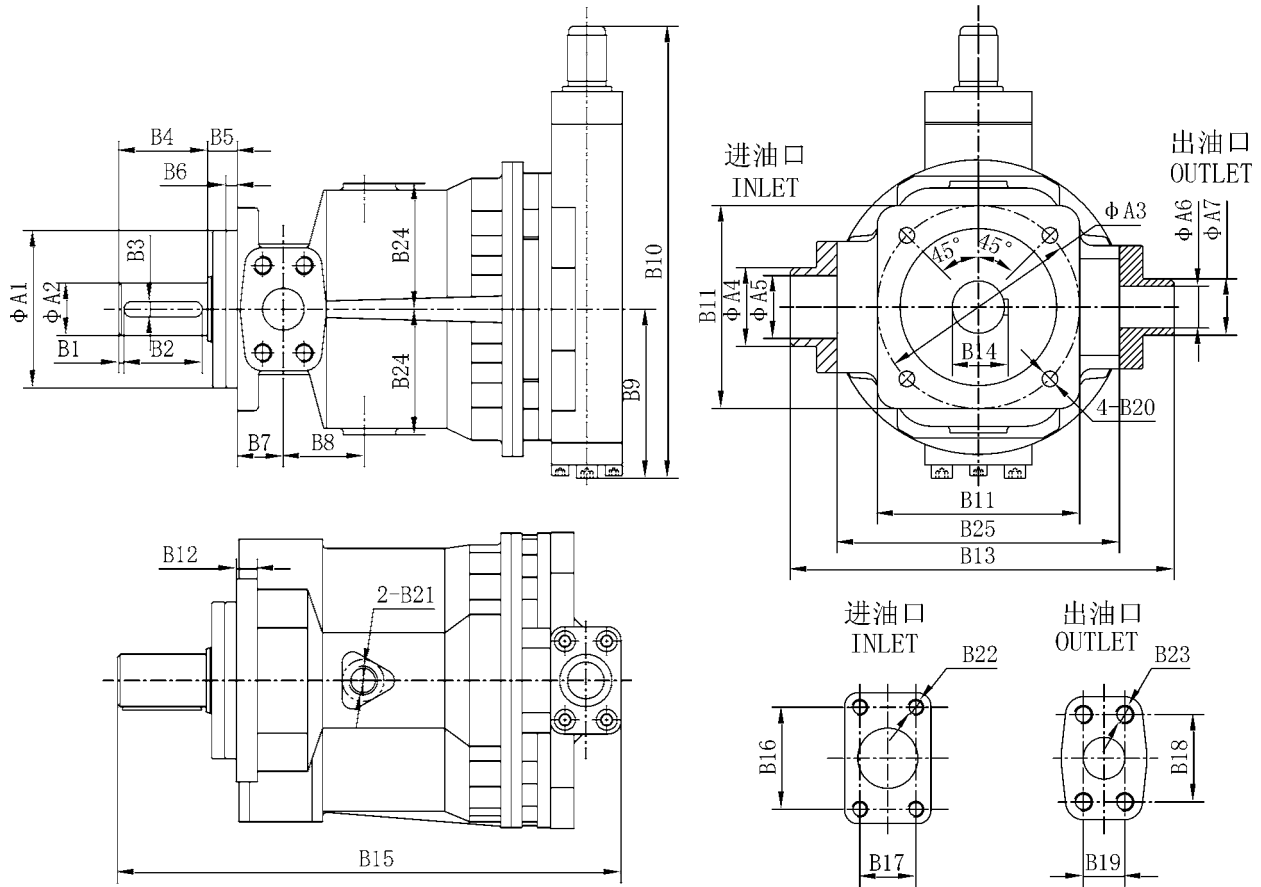
公称规格 Nominal size	A1	A2	A3	A4	A5	A6	A7	B1	B2	B3	B4	B5	B6	B7	B8	B9
10/16/18	75f9	25h6	100	35	25	15	25	4	30	8	39	18	9	25	33	102.4
25/28/32/40/45	100f9	30h6	125	42	34	20	28	4	45	8	52	21	9	30	48	108.2
55/63/71/80/90	120f9	40h6	155	50	40	25	35	4	50	12	60	21	9	35	57	129.5
95/100/107/125	120f9	40h6	155	60	50	32	43	4	60	12	68	23	9	35	62	131
140/160/180/200/225	150f9	55h6	198	76	66	38	52	4	100	16	105	25	9	44	74	146
250/280/300/320	180f9	60h6	230	100	90	50	65	5	100	18	110	23	9	75	95	168.5

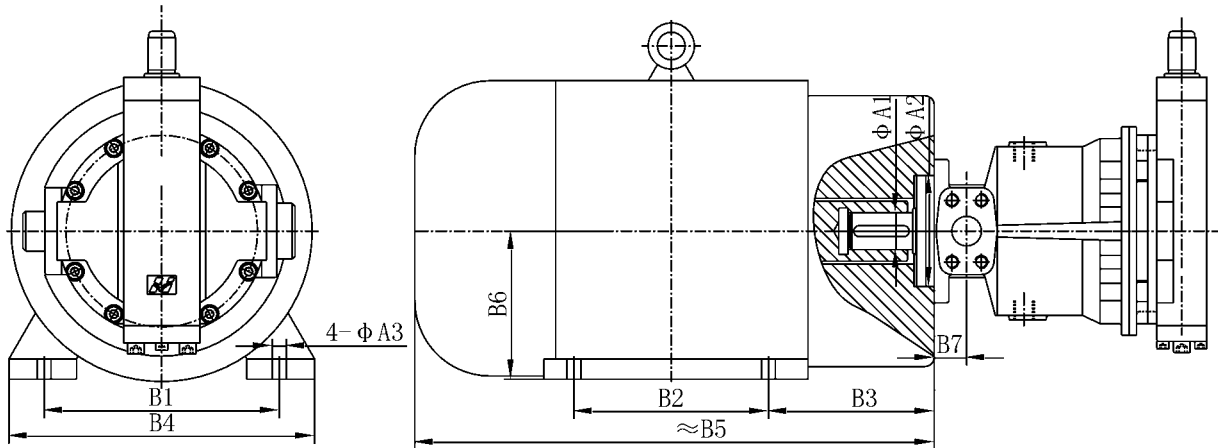| 公称规格 Nominal size	B10	B11	B12	B13	B14	B15	B16	B17	B18	B19	B20	B21	B22	B23	B24	B25
10/16/18	295	100	11	210	28	237.5	52.4	26.2	40.5	18.3	Φ12	M14×1.5	M10 深 16	M8 深 15	60	146
25/28/32/40/45	295	125	15	236	33	303	58.7	30.2	50.8	23.8	Φ12	M14×1.5	M10 深 18	M10 深 20	71	168
55/63/71/80/90	346	155	16	271	42.8	350	70	35.7	57.1	27.8	Φ14	M18×1.5	M12 深 20	M12 深 24	88	200
95/100/107/125	346	155	16	294	42.8	385.5	77.8	42.9	66.7	31.6	Φ14	M22×1.5	M12 深 20	M14 深 24	96	216
140/160/180/200/225	359	200	20	329	59	458.5	89	50.8	79.4	36.7	Φ18	M22×1.5	M12 深 20	M16 深 25	112.5	249
250/280/300/320	383	230	28	392	63.9	541.5	120.7	69.9	96.8	44.5	Φ24	M33×2	M16 深 27	M20 深 35	135	295

以上表中数据为恒功率外形连接尺寸，其它变量控制形式除后盖高度尺寸区别外，与上表数据一致；
同转向驱动时，P 型、B 型变量控制方式泵与其它 HY 变量控制方式泵，其进、出油口接法相反。**

八、**HY 专用电机组** Motor for HY series

1、 型号说明 Ordering code

HY	107	Y	—	R	P	—	Y	—	180L	—	4		22kW

参照 HY 单泵型号说明
Refer to HY pump's ordering code

电动机型号
Motor model

机座号
Model No.

极数
Pole number

电机功率
Motor power

2、 连接尺寸 Mounting dimension

HY 泵型号 HY size	电机规格 motor type	A1	A2	A3	B1	B2	B3	B4	B5	B6	B7
HY10~18	Y112M	25	75	12	190	140	92	245	360	112	25
HY25~45	Y132S(Y132M)	30	100	12	216	140(178)	107	280	410(445)	132	30
HY55~125	Y160M(Y160L)	40	120	15	254	210(254)	119	330	545(590)	160	35
	Y180M(Y180L)			15	279	241(279)	133	355	622(660)	180	
	Y200L			19	318	305	150	395	675	200	
	Y225S(Y225M)			19	356	286(311)	143	435	680(705)	225	
HY140~225	Y180M(Y180L)	55	150	15	276	241(279)	133	355	622(660)	180	44
	Y200L			19	318	305	150	395	675	200	
	Y225S(Y225M)			19	356	286(311)	143	435	680(705)	225	
	Y250M			24	406	349	161	490	784	250	
HY250~320	Y250M	60	180	24	406	349	161	490	784	250	75
	Y280S(Y280M)			24	457	368(419)	200	550	876(927)	280	

油泵的相关尺寸请参考前页。
The relerant dimension of pump, please refer to the front page.