

LY-A2F 定量柱塞泵/马达

Fixed Displacement Piston Pump/Motor LY-A2F

额定压力35Mpa，排量45~160共7个规格

说明

※斜轴式轴向柱塞元件，具有固定排量，在开式或闭式回路中用作静液压传动的泵或马达。

※作为泵工作时，流量与驱动转速和排量成正比。

※作为马达工作时，输出转速与流量成正比而与排量成反比。

※输出扭矩随高压侧与低压侧之间的压差增加而增大。

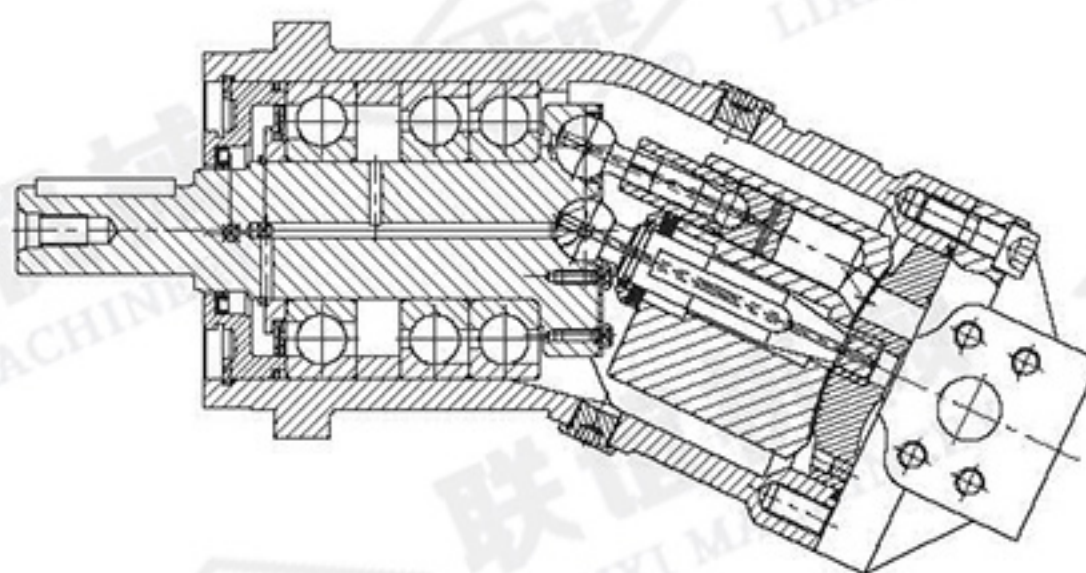
Description

※Axial plunger element, with fixed displacement, used as hydrostatic drive pump or motor in open or closed loop

※As a pump, the flow rate is proportional to the driving speed and displacement.

※As a motor, the output speed is proportional to the flow rate and inversely proportional to the displacement.

※The output torque increases with the pressure difference between the high pressure side and the low pressure side.



结构特点

※采用球面配流的转子组件具有自动对中、圆周速度低、效率高的优点。

※耐用的球轴承和滚子轴承促进长寿命工作。

※驱动轴能承受径向载荷。

※ISO安装法兰，与A6V变量马达一致。

Special Features

※The rotor assembly of the spherical valve has the advantages of automatic, high efficiency, low peripheral speed.

※Durable ball bearings and roller bearings for long life work.

※The drive shaft can bear radial load.

※ISO mounting flange, consistent with the A6V variable motor.

技术参数 Technical Data

1、工作压力范围（泵） Operation Pressure Range(Pump)

进口（S、A或B口）的工作压力

Import (A, B or S) working pressure

最低压力 p_{\min}

0.08MPa 绝对压力 absolute pressure

在闭式回路中，补油压力必须在0.2至0.6MPa之间，视泵的转速和液压油的粘度而定。

In the closed circuit, the oil pressure must be between 0.2 and 0.6MPa, depending on the pump's speed and the viscosity of the hydraulic oil.

2、出口工作压力范围（马达） Outlet Operating Pressure Range (Motor)

额定压力 p_n

35MPa

最高压力 p_{\max}

40MPa

A口和B口的压力之和不得超过70MPa，（每侧压力最高40MPa）。

The pressure at the mouth and A of the B and shall not exceed 70MPa, and the highest 40MPa per side pressure.

3、允许壳体压力 Allowed Case Pressure

最高压力 $p_{L\max}$

0.2MPa 绝对压力 absolute pressure

4、参数表 Technical Date

规格 Size				45	55	63	80	107	125	160	
排量 Displacement			V _g	mL/r	44.3	54.8	63	80	107	125	160
最高转速 Max.Speed	闭式回路 Closed loop		n _{max}	r/min	4500	3750	4000	3350	3000	3150	2650
	开式回路 Open circuit	0.09MPa	no.09	r/min	2850	2360	2550	2120	1900	2120	1650
		0.15MPa	no.15	r/min	3000	2500	2700	2240	2000	2240	1750
最大流量 Max.Flow	闭式回路 Closed loop	n=n _{max}	Q _{max}	L/min	199	206	253	268	321	394	424
		n=n0.09	Q0.09	L/min	122	125	158	165	197	257	256
	开式回路 Open circuit	n=n0.10	Q0.10	L/min	129	133	165	174	208	272	272
		n=n0.15	Q0.15	L/min	157	159	202	213	251	333	326
最大功率 Max. Power	闭式回路 Closed loop	Q=Q _{max}	P _{max}	KW	116	120	147	156	187	230	247
		Q=Q0.09	P0.09	KW	71	73	91	96	115	150	149
	开式回路 Open circuit	Q=Q0.10	P0.10	KW	75	78	96	101	121	159	159
		Q=Q0.15	P0.15	KW	92	93	118	124	148	194	190
电机转速 Motor speed n=1450r/min Δp=35MPa	流量Flow	闭式	Q _{E0}	L/min	64.2	79.5	91.3	116	155.2	181.2	232
		开式	Q _{E0}	L/min	62.3	77.1	88.6	112.5	150.5	175.8	225
	功率 Power	闭式	P _E	KW	27.4	46	53	67.7	90	106	135
扭矩Torque		Δp=10MPa	T ₁₀	Nm	70	87	100	127	170	199	254
		Δp=35MPa	T _{max}	Nm	247	305	35	445	595	696	890
重量Weight				kg	23	23	33	33	44	63	63

5、安装 Install

安装位置任选。壳体必须始终充满油液。Installation location option. Shell must always be filled with oil.

6、液压油 Hydraulic oil

a-粘度范围 Viscosity range

v_{min} = 10mm²/s 短时

v_{max} = 1000mm²/s 短时

最佳工作粘度 Best working viscosity

v_{opt} = 16~36mm²/s

b-油温范围 Temperature range

θ_{min} = -25℃

θ_{max} = +80℃

c-油液选择推荐粘度等级 Viscosity grade of oil selection

工作温度范围 Operating temperature range	粘度等级 Viscosity grade	40℃时粘度 Viscosity at 40℃
≥30~40℃	VG22	22mm ² /s
≥40~50℃	VG32	32mm ² /s
≥50~60℃	VG46	46mm ² /s
≥60~70℃	VG68	68mm ² /s
≥70~80℃	VG100	100mm ² /s

液压油过滤 Hydraulic oil filter

推荐过滤精度为10μm。Recommended filter accuracy is 10μm.

型号标识 Type Code

LY -	A2F	160	R	2	P	1
	1	2	3	4	5	6

1-结构形式 Machinery Type

轴向柱塞，斜轴式，定量泵/马达 Axial piston, bent axis, Ration pump/motor	A2F
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2-规格 Size

公称排量Nominaldisplacement mL/r	45	55	63	80	107	125	160
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3-旋转方向（从轴端看）Rotating Direction(View on Shaft End)

顺时针 Clockwise	R
逆时针 Counterclockwise	L
双向（不适用于开式回路中的泵）Two way (not suitable for open cicuit pump)	W

4-系列 Series

	●	●	-	-	●	-	-	1
	●	●	●	●	●	●	●	2

5-轴伸 Shaft End

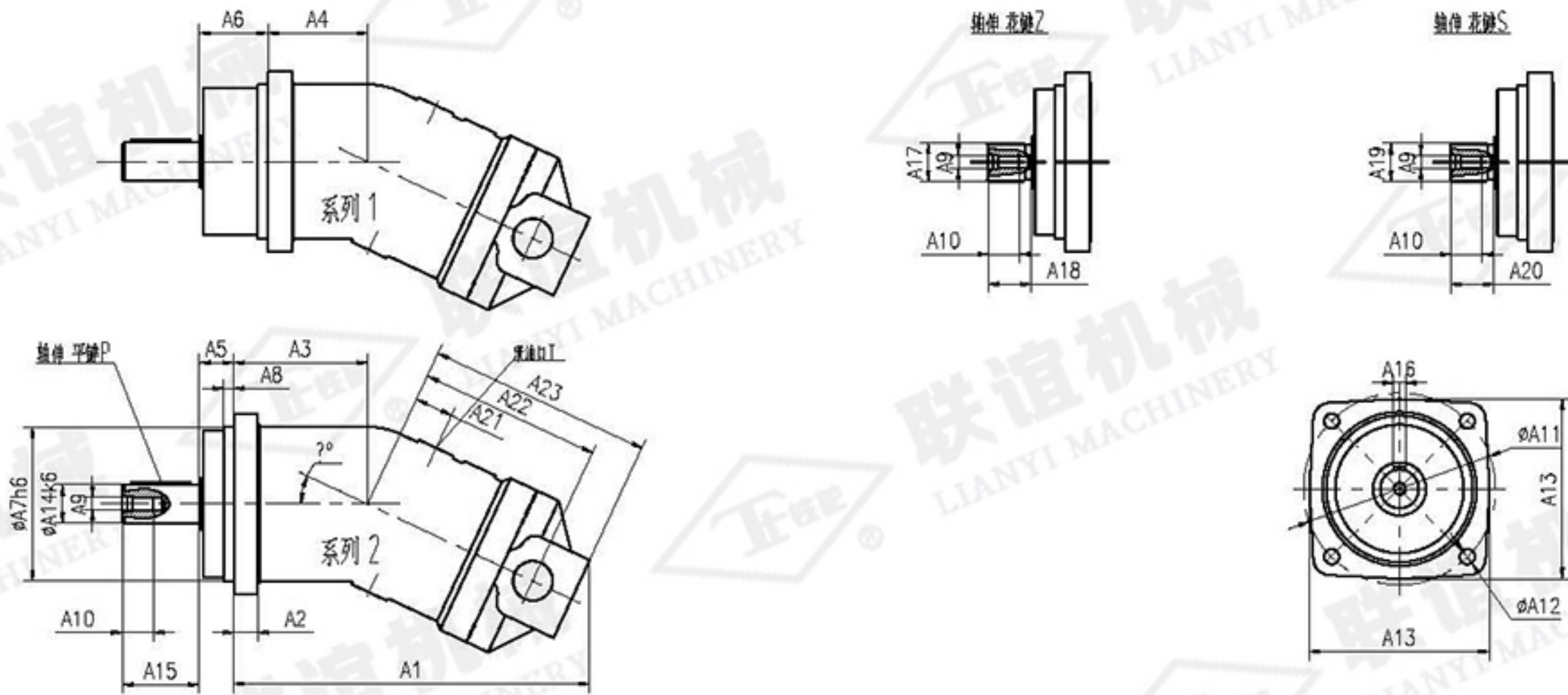
平键Keyed shaft GB1096-79	P
花键Splined shaft DIN 5480	Z
花键Splined shaft GB 3478.1	S

6-油口型式 Ports Type

油口A、B在后盖两侧，螺纹 Port A and B in both sides of the rear lid, thread	1
油口A、B在后盖两侧，SAE法兰 Port A and B in both sides of the rear lid, SAE flange	2
B口在后盖侧面，SAE法兰；S口在后面，法兰 Port B in the back cover side, SAE flange； port S in the rear, flange	3

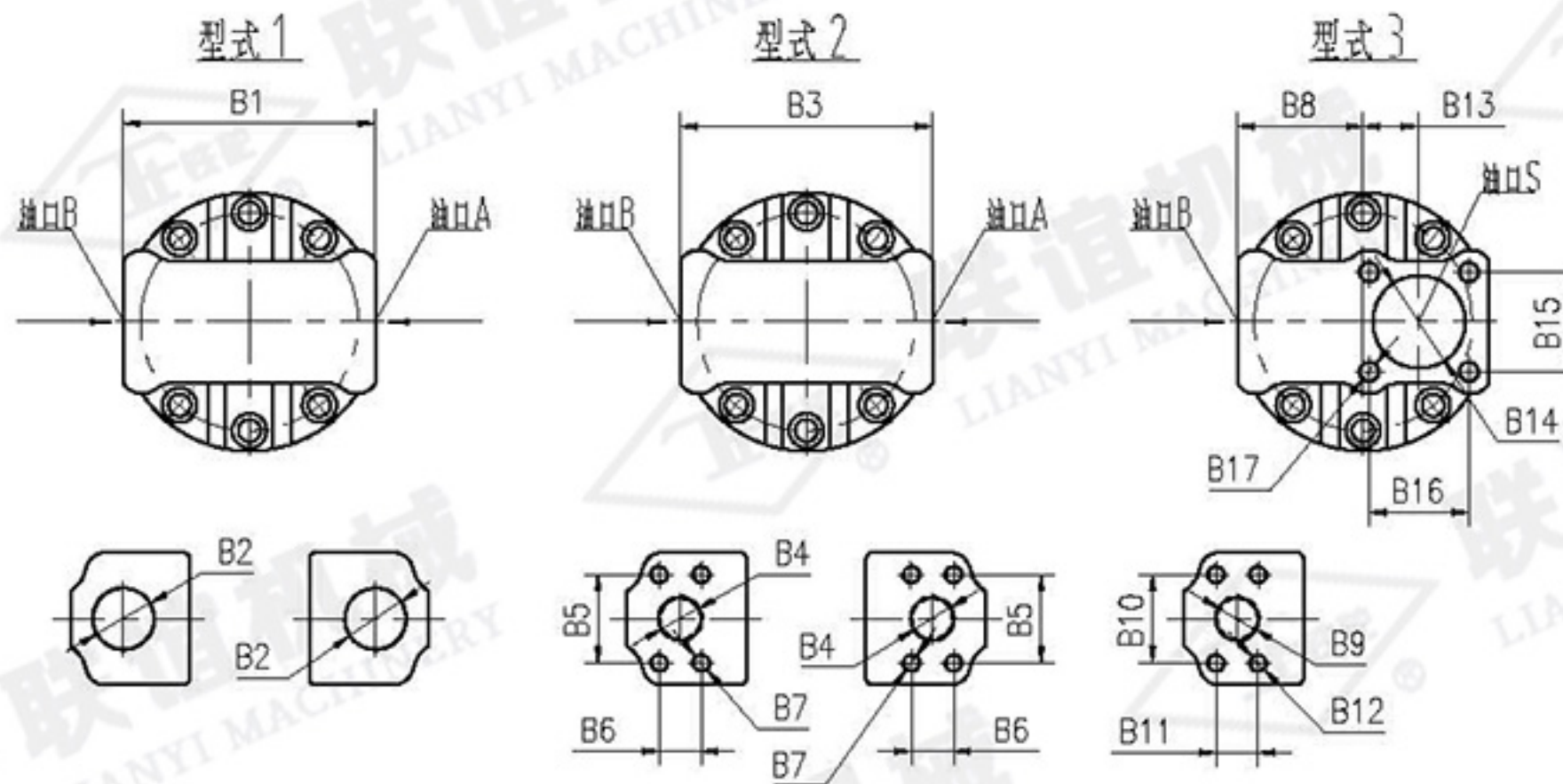
图表说明Chart shows: ●=可以供货Available, ○=在准备中In preparation, --=无Not available

外形尺寸 Dimensions Size



规格 Size	α°	A ₁	A ₂	A ₃	A ₄	A ₅	A ₆	ϕ A ₇	A ₈	A ₉	A ₁₀	ϕ A ₁₁	ϕ A ₁₂	ϕ A ₁₃	ϕ A ₁₄	A ₁₅	A ₁₆	A ₁₇	A ₁₈	A ₁₉	A ₂₀	A ₂₁	A ₂₂	A ₂₃
45	20	384	20	-	77	32	63	125	10	M12	28	160	16	150	30	60	8	W30x2x14x9g	35	EXT14Zx2mx30Rx5f	35	31.5	151	178
55	25	381	20	108	77	32	63	125	10	M12	28	160	16	150	30	60	8	W30x2x14x9g	35	EXT14Zx2mx30Rx5f	35	31.5	151	178
63	20	452	23	137	86	32	83	140	10	M12	28	180	16	165	35	70	10	W35x2x16x9g	40	EXT16Zx2mx30Rx5f	40	36	174	208
80	25	450	23	137	86	32	83	140	10	M12	28	180	16	165	35	70	10	W35x2x16x9g	40	EXT16Zx2mx30Rx5f	40	36	174	208
107	25	476	25	130	90	40	80	160	12	M12	28	200	20	190	40	80	12	W40x2x18x9g	45	EXT18Zx2mx30Rx5f	45	40	190	225
125	20	552	28	156	-	40	-	180	10	M16	36	224	20	210	45	90	14	W45x2x21x9g	50	EXT21Zx2mx30Rx5f	50	45	212	257
160	25	547	28	156	-	40	-	180	10	M16	36	224	20	210	45	90	14	W45x2x21x9g	50	EXT21Zx2mx30Rx5f	50	45	212	257

油口 Ports



规格 Size	B ₁	B ₂	B ₃	B ₄	B ₅	B ₆	B ₇	B ₈	B ₉	B ₁₀	B ₁₁	B ₁₂	B ₁₃	B ₁₄	B ₁₅	B ₁₆	B ₁₇	泄漏口 T
45	132	M33x2深18	126	ϕ 19	50.8	23.8	4-M10深16	63	ϕ 19	50.8	23.8	4-M10深16	29	ϕ 42	48	48	4-M10深16	M18x1.5
55	132	M33x2深18	126	ϕ 19	50.8	23.8	4-M10深16	63	ϕ 19	50.8	23.8	4-M10深16	29	ϕ 42	48	48	4-M10深16	M18x1.5
63	156	M42x2深20	150	ϕ 25	57.2	27.8	4-M12深16	75	ϕ 25	57.2	27.8	4-M12深16	35.5	ϕ 53	60	60	4-M12深18	M18x1.5
80	156	M42x2深20	150	ϕ 25	57.2	27.8	4-M12深16	75	ϕ 25	57.2	27.8	4-M12深16	35.5	ϕ 53	60	60	4-M12深18	M18x1.5
107	165	M42x2深20	160	ϕ 25	57.2	27.8	4-M12深18	80	ϕ 25	57.2	27.8	4-M12深18	35.5	ϕ 53	60	60	4-M12深18	M18x1.5
125	195	M48x2深22	190	ϕ 32	66.7	31.8	4-M14深21	95	ϕ 32	66.7	31.8	4-M14深21	42.2	ϕ 68	75	75	4-M16深24	M22x1.5
160	195	M48x2深22	190	ϕ 32	66.7	31.8	4-M14深21	95	ϕ 32	66.7	31.8	4-M14深21	42.2	ϕ 68	75	75	4-M16深24	M22x1.5