

Gelan Hydraulics 

北京格兰力士机电技术有限责任公司

Beijing Gelan M&E Technology Co.,Ltd.



JLB (A2VK)



A7VK



A2FK

Metering pump for PU-----

Variable pump and Fixed Pump

公司介绍

北京格兰力士机电技术有限责任公司（简称格兰液压），是中国领先的集液压泵生产、销售维修服务于一身的股份制企业。格兰液压成立于1995年8月，长期专注于液压泵领域的技术研发、生产销售和配套服务。经过格兰人十余载的不懈努力，公司的主要产品JLB系列聚氨酯高压泵已在全国乃至全球范围内创造了良好的口碑，并在国内聚氨酯高压泵领域占据较大的市场份额，得到了客户的认可和支持。

格兰人视振兴民族工业为己任，为满足各阶层用户的需求，不断研发新产品。JLB系列聚氨酯高压柱塞泵现已包括排量5、12、28、55、107、225的六种规格，涵盖了聚氨酯各种制品的生产需要。同时还推出了A2FK系列聚氨酯定量高压泵，排量范围为5、10、12、28、55、107。而最新研制成功的A7VK12/28型号聚氨酯高压泵可完全替代进口产品，具有很高的性价比，为用户提供多种选择。

“创经典品牌、做百年企业”是每个格兰人心中不灭的追求。我们深知其中的困难与责任，然而只有勇于承担责任，才能承担更大的责任。格兰人愿意承担这一切，期盼与您携手共进，成为您事业发展中值得信赖的伙伴，让我们共同用心血融铸经营理念，传承生生不息的企业文化。



Beijing Gelan M&E Technology Co.,Ltd.

Beijing Gelan M&E Technology Co., Ltd, known as Gelan Hydraulics, is one of the leading hydraulic pump manufacturer and supplier in China, with a comprehensive line of technology, production, sales and maintenance.

The company is established in August 1995, dedicated to innovative, manufacture and related services to provide high quality hydraulic pumps. It has acquired the ISO9001 Quality Management System Certification. The company has more than ten professional technicians with working experience in Germany. With extensive expertise, the company has developed into a Group Corporation which is made up of "Shanghai Branch" , "Guangzhou Branch" , and expanding worldwide with local agencies. The business continues to grow throughout the world by exporting to north America, South Korea, India, Italy, Brazil and Holland.

Please believe: Beijing Gelan Hydraulics will be your business development indispensable, let you trust the partner, we are your sincere friends!

JLB(A2VK)计量泵用途及特点

用途 Introduction

计量泵为高压轴向柱塞泵，该泵主要用于泵送和计量聚氨类液体

Gelan hydraulics developed pump “JLB”(A2VK) is a type of variable axial piston pump for pumping and metering polyurethane components

特点 Features

- 各种流量的计量精度重复性高

High metering accuracy and reproducibility of the variable pumped volumes

- 通过带内装精确测量刻度的手轮进行手动调节流量，调节准确，运行平稳

Robust manual adjustment via handwheel with integral precision measuring scale

- 工作压力可到25Mpa

Operating pressure up to 250bar

- 进口压力低，可泵送高粘度液体

Low suction pressure, even when pumping high viscosity materials

- 通过特殊的相匹配的材料和特殊密封的使用，泵零件与所泵送的材料（多羟基化合物、异氰酸酯）相容。

Pump components are compatible with the pumped media (polyol, isocyanate) due to special pairings of materials and sealing elements

- 流量脉动小，容积效率高

Excellent volumetric efficiency for high metering accuracy



技术参数 Technical Data

● 安装位置 Installs the position

任意。泵必须用流体完全住满。首次安装位置：传动轴水平

Any. The pump must be completely filled with fluid. Preferred installation position: drive shaft horizontal

● 工作压力范围 Working pressure range

● 进口侧 Input

开式回路：吸油口S处为0.1-0.3Mpa绝对压力

Filling pressure at the port S is 0.1-0.3Mpa

闭式回路：油口A和B的压力之和 ≤ 25 Mpa（32Mpa短期）在油口T或T处接泄油管，泄漏流体必须通过单独的管路经由油口T1或T2排出。

Closed circuit: Max. intermittent cumulative pressure

A+B pmax is 25Mpa (Output Maximum pressure is 32Mpa)

The leakage fluid must be removed via port T1 or T2 using a separate line.

● 出口侧（油口A或B的压力）

Output (Maximum pressure at port A or B)

公称压力PN—————25Mpa

Nominal pressure PN—————25Mpa

峰值压力Pmax—————32Mpa

Peak value pressure Pmax—————32Mpa



典型应用：聚氨酯高压发泡设备

液流方向 Through put flow

摆动方向	顺时针旋转		逆时针旋转	
Swivel direction	Clockwise rotation		Anti-clockwise rotation	
	开式回路 Open circuit	闭式回路 Close circuit	开式回路 Open circuit	闭式回路 Close circuit
顺时针 Clockwise	S 到 B (A 堵住) S to B (A plugged)	A 到 B A to B	S 到 A (B 堵住) S to B (B plugged)	B 到 A B to A
逆时针 Anti-clockwise	S 到 A (B 堵住) S to A (B plugged)	B 到 A B to A	S 到 B (A 堵住) S to B (A plugged)	A 到 B A to B

JLB (A2VK) / A2FK

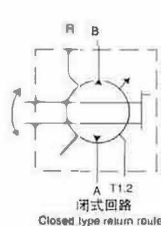
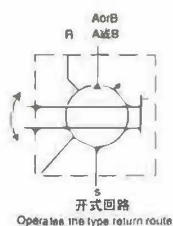
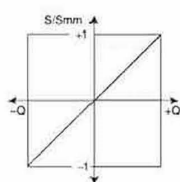
数据表Table of values (理论值, 不包括系数和公差)

供货型号Pump series				A2VK		A2VK	A2VK	A2VK	A2VK	A2VK
			A2FK	A2FK	A2FK	A2FK	A2FK	A2FK	A2FK	
						A7VK	A7VK			
规格Specification			2.5	5	10	12	28	55	107	225
排量Vg max Displacement Vg max		Cm ³	2.5	4.93	9.4	11.6	28.1	54.8	107	225.1
每秒钟最大排出量 (近似值)	N=1450	Kg	0.06	0.15	0.24	0.32	0.75	1.46	3.83	8.3
每分钟最大排出量 (近似值)	N=1450	Kg	4	8.5	14.9	19	45	88	170	380
最大流量Qmax Current capacity Qmax	n=735rpm	L/min	1.8	3.6	6.9	8.3	20	39	76	160
开式回路中, 转速分别为n时	N=970rpm		2.4	4.7	9.1	10.9	26	51	100	210
(粘度 $\nu=36\text{mm}^2/\text{s}$)	N=1450rpm		3.6	7.14	13.2	16.3	39	77	150	315
Flow at Vg max and speed n	N=1450rpm									
功率, 在 $\Delta p=25\text{Mpa}$ 转速为n	n=735rpm	L/min	0.7	1.5	3	4	9	17	33	69
Power, in $\Delta p=25\text{Mpa}$ and speed n	N=970rpm		1	2	4		12	22	43	90
	N=1450rpm		1.5	3	6	7.3	17	33	65	137
功率, 在 $\Delta p=16\text{Mpa}$, 转速为n	N=1450rpm	Kw	1	5	5.5	5.5	11	22	45	75
Power, in $\Delta p=16\text{Mpa}$ and speed n										
泵近似重量Weight (A2VK/A2FK/A7VK)		Kg	3	25/6	6	26/6/11.7	40/12/22.1	75/23	133/46	230

MA 手动变量 MA manual variable

通过转动手轮带动自锁螺杆使泵的摆角转动, 从而使泵的排量或输出流量 Q_0 到 Q_{max} 范围中无极变化

Turning the handwheel turns a self-locking threaded spindle which steplessly adjusts the pump's swivel section and thus the volumetric flow in the range from Q_0 to Q_{max} .



JLB	12	MA	0	R	P	1
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泵型式

Types of the Pump

计量泵

Metering Pump

规格

Specification

(排量)

(Displacement)

4.93 cm³

5

11.6 cm³

12

28.1 cm³

28

54.8 cm³

55

107.0 cm³

107

225.1 cm³

225

变量方式 (只允许单向变量)
(Control device)

手动变量

manual with handwheel

回路形式

Types of circuit

开式回路

Open circuit

闭式回路

Closed circuit

High permissible filling pressure for highly-viscous media or hydraulic fluid by separating the filling channel and pump housing

装配方式

Assembly version

手轮在左侧

Hand wheel on the left side

手轮在右侧

Hand wheel on the right side

(从轴端看)

(Looking onto drive shaft)

轴伸

平键

Parallel Keyed

平键 (加长)

Parallel Keyed
(Lengthens)

旋转方向(从轴端看)

Direction of rotation
(Looking onto drive shaft)

顺时针

Clockwise

逆时针

Anti-clockwise

定货举例

For example

JLB12MAORP1

计量泵JLB, 规格 (排量) 12

Metering pump JLB, Specification
(displacement) 12

带手动变量MA, 开式回路

Control device MA

Open circuit

顺时针旋转, 主轴平键, 手轮在左侧

Clockwise rotation, Parallel Keyed
handwheel on the left side

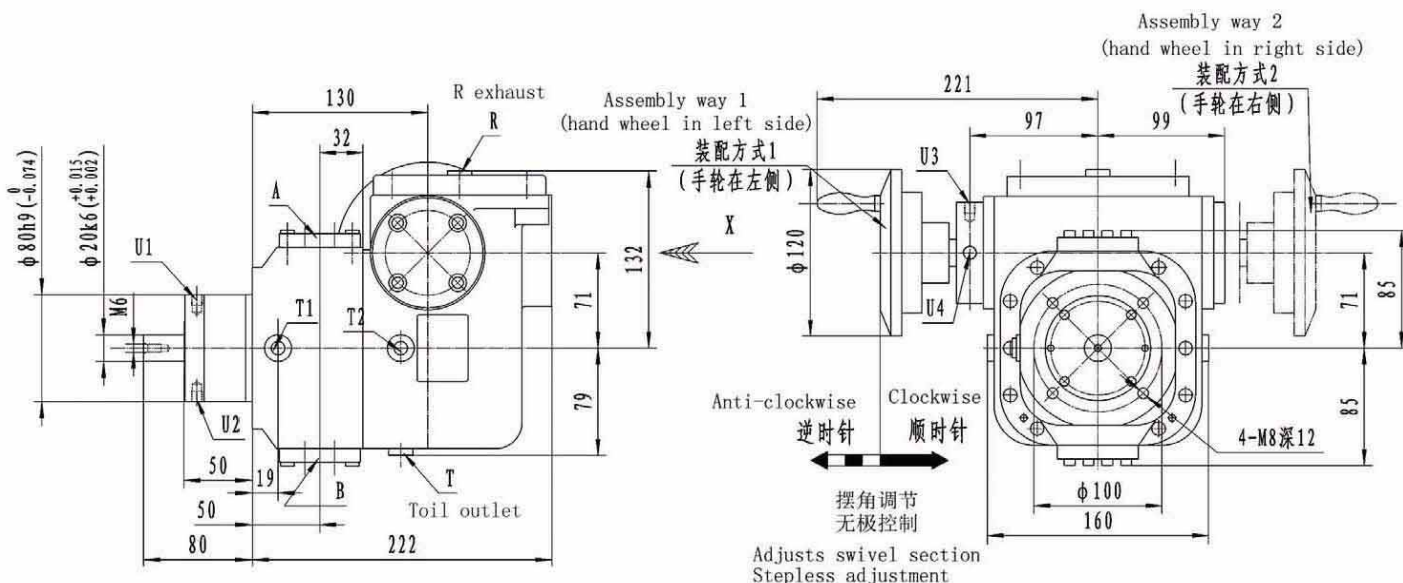
注 Note

计量泵JLB相当于力士乐
A2VK泵

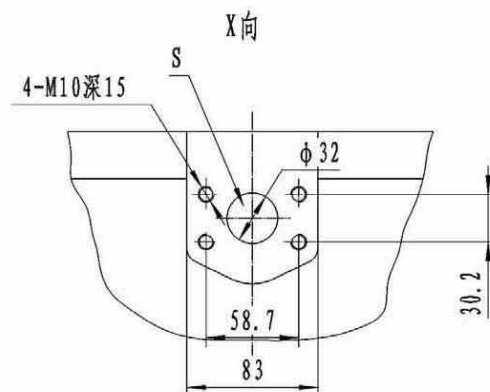
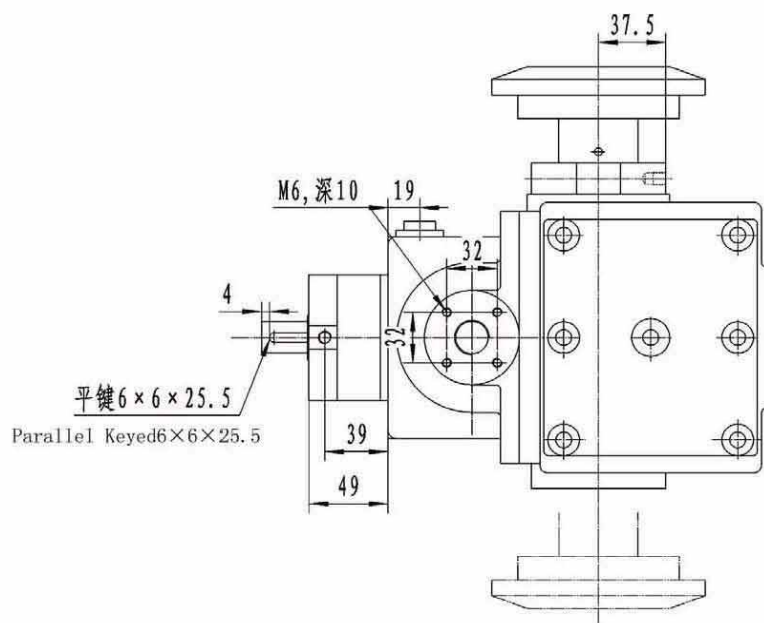
' JLB ' gives you perfect
compatibility with
Rexroth A2VK pumps

JLB5/12MA泵外形图

JLB5/12MA pumps installation drawing



特殊材料制成的双重轴密封圈可保证安全运行
Double shaft sealing made of special
material guarantee safe operation



油口连接

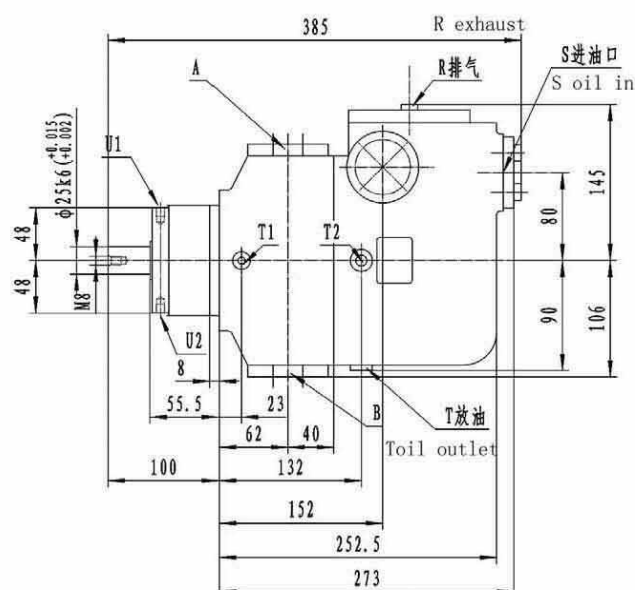
- A 压力油口 M22×1.5 (仅用于闭式回路)
- B 压力油口 M22×1.5
- S 进油口 (仅用于开式回路)
- T 放油口 M12×1.5
- T1,T2 泄油口 M12×1.5
- R 排气口 M12×1.5

Ports

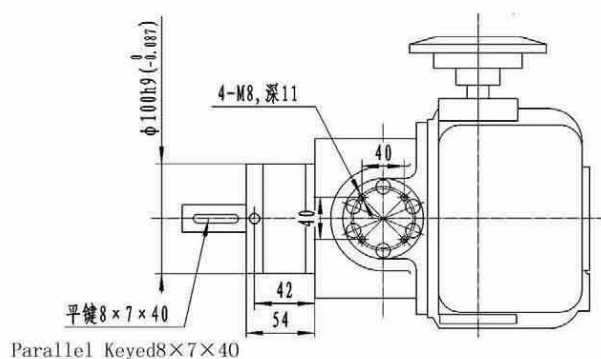
- A service line port M22×1.5
(only used in closed circuit)
- B Service line port M22×1.5
- S Suction port (only uses in open circuit)
- T Case drain fluid M12×1.5
- T1,T2 Leakage port M12×1.5
- R Air bleed M12×1.5

JLB28MA泵外形图

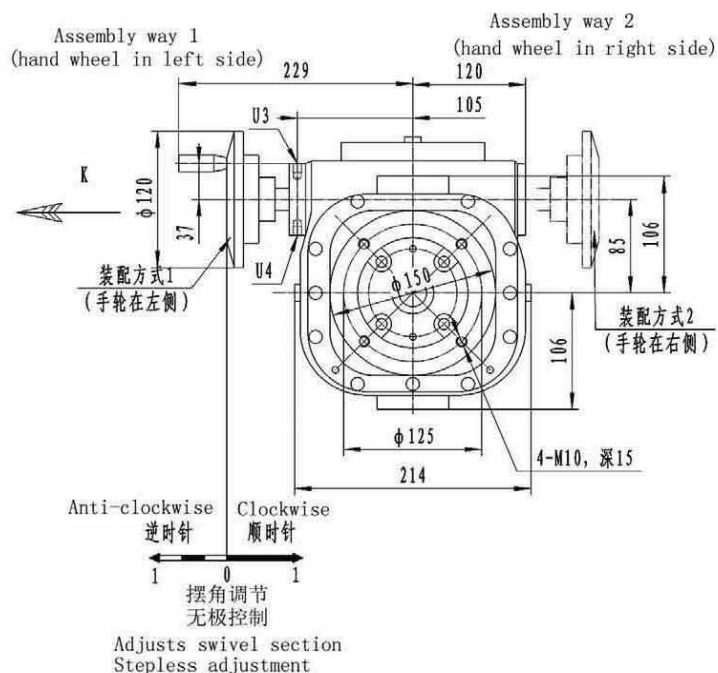
JLB28MA pumps installation drawing



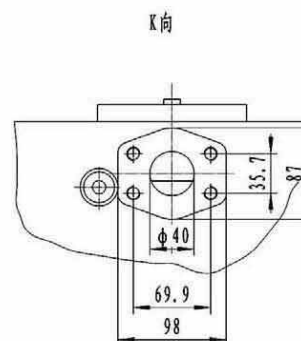
特殊材料制成的双重轴密封圈可保证安全运行
Double shaft sealing made of special material guarantee safe operation



Parallel Keyed 8×7×40



Adjusts swivel section
Stepless adjustment



油口连接

- A 压力油口 M27×2 (仅用于闭式回路)
- B 压力油口 M27×2
- S 进油口 (仅用于开式回路)
- T 放油口 M18×1.5
- T1, T2 泄油口 M14×1.5
- R 排气口 M12×1.5

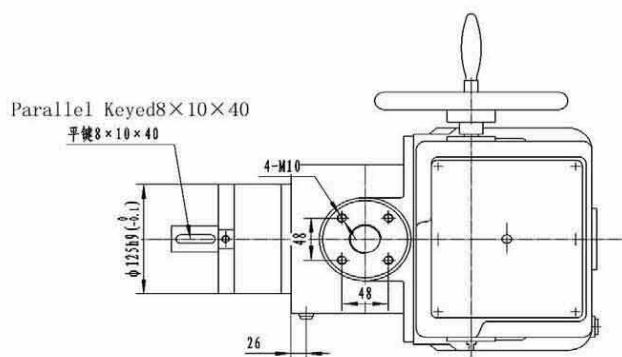
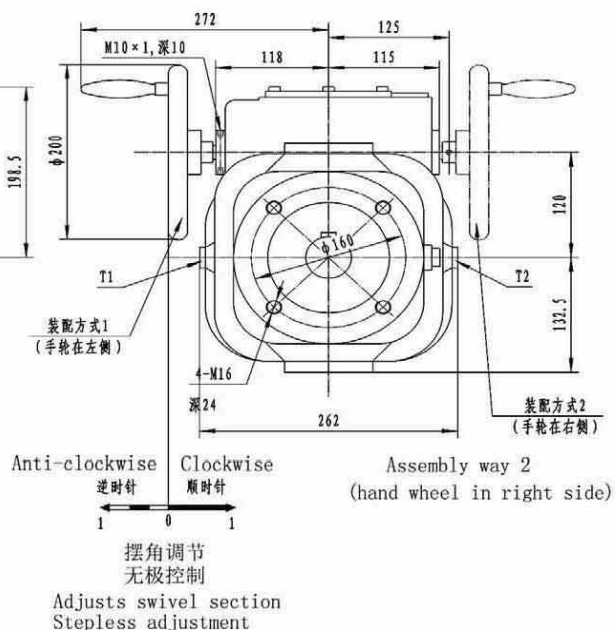
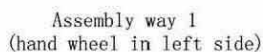
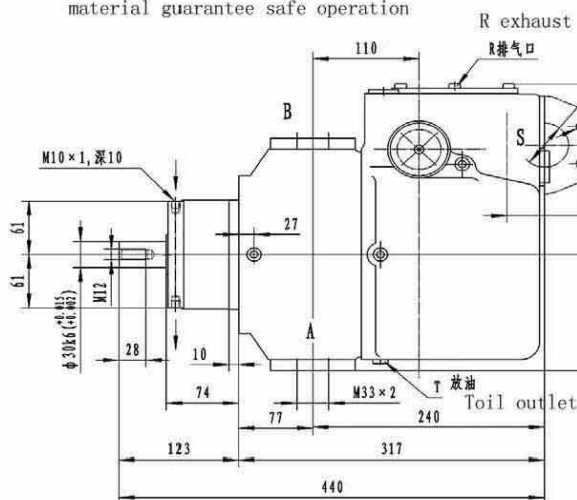
Ports

- A service line port M27×2 (only used in closed circuit)
- B Service line port M27×2
- S Suction port (only uses in open circuit)
- T Case drain fluid M18×1.5
- T1, T2 Leakage port M14×1.5
- R Air bleed M12×1.5

JLB55MA泵外形图

JLB55MA pumps installation drawing

特殊材料制成的双重轴密封圈可保证安全运行
Double shaft sealing made of special
material guarantee safe operation



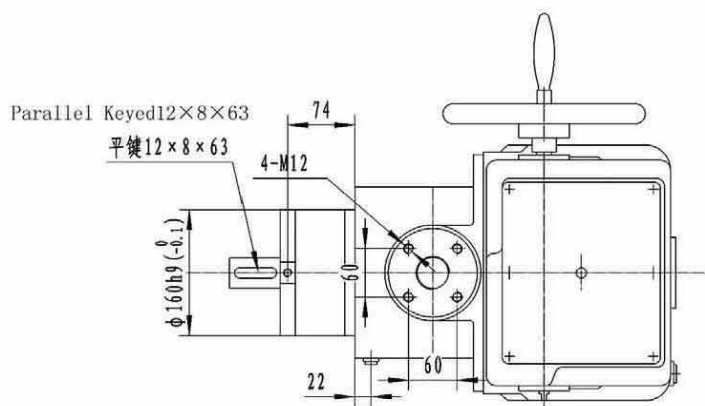
油口连接

A 压力油口 M33×2 (仅用于闭式回路)
B 压力油口 M33×2
S 进油口 (仅用于开式回路)
T 放油口 M22×1.5
T1,T2 泄油口 M22×1.5
R 排气口 M12×1.5

Ports

- A service line port M33×2
(only used in closed circuit)
- B Service line port M33×2
- S Suction port (only uses in open circuit)
- T Case drain fluid M22×1.5
- T1,T2 Leakage port M22×1.5
- R Air bleed M12×1.5

JLB107MA pumps installation drawing

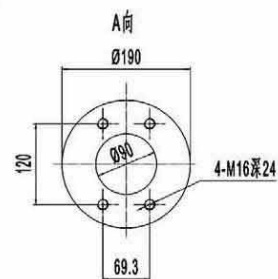
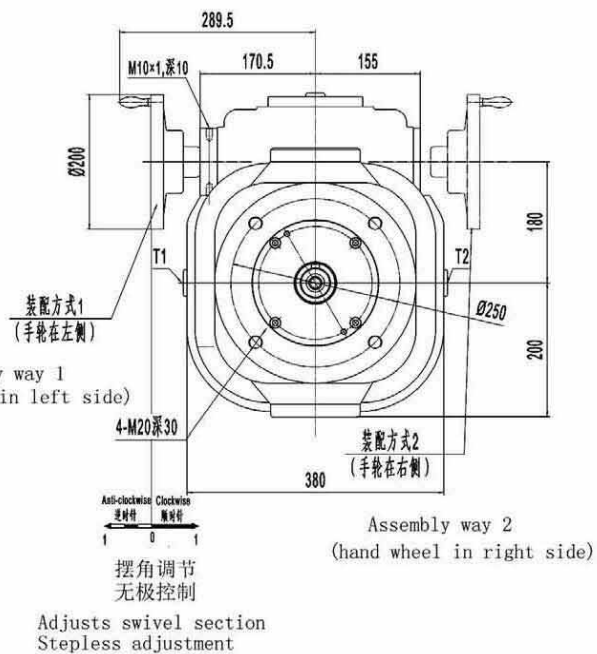
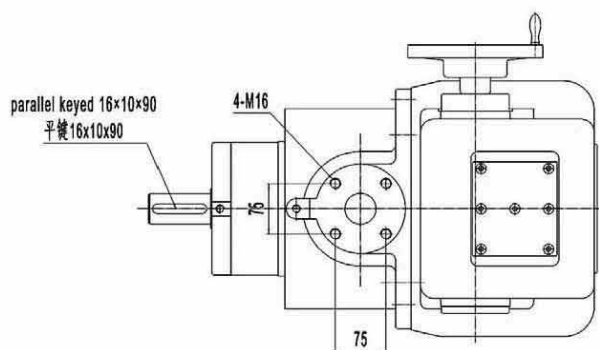
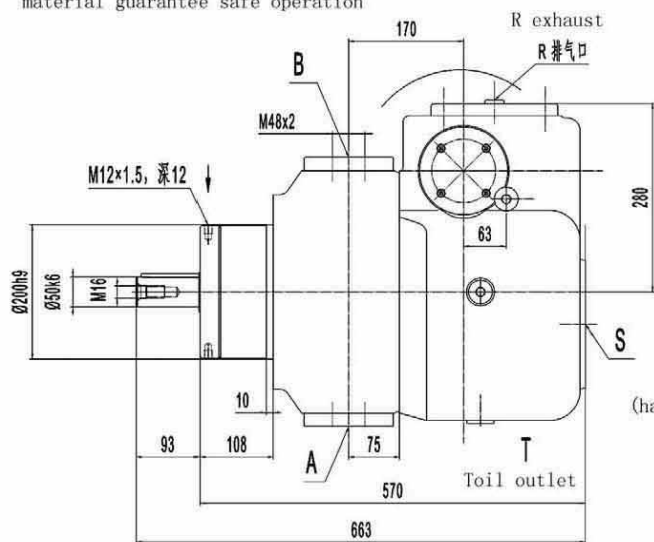


A service line port M42×2
(only used in closed circuit)
B Service line port M42×2
S Suction port (only uses in open circuit)
T Case drain fluid M27×2
T1,T2 Leakage port M18×1.5
R Air bleed M12×1.5

JLB225MA泵外形图

JLB225MA pumps installation drawing

特殊材料制成的双重轴密封圈可保证安全运行
Double shaft sealing made of special
material guarantee safe operation



油口连接

A 压力油口 M48×2 (仅用于闭式回路)
B 压力油口 M48×2
S 进油口 (仅用于开式回路)
T 放油口 M33×2
T1,T2 泄油口 M33×2
R 排气口 M12×1.5

Ports

- A service line port M48×2
(only used in closed circuit)
- B Service line port M48×2
- S Suction port (only uses in open circuit)
- T Case drain fluid M33×2
- T1,T2 Leakage port M33×2
- R Air bleed M12×1.5



A2FK polyurethane fixed flow pump

Axial piston pump for delivering the isocyanate and polyol media

Main features:

1. Double shaft seals eliminate oil leakage from the pump
2. Range of pump sizes to match customer applications
3. low inlet pressure, can pump high viscosity liquid
4. Special surface treatment increases corrosion protection
5. Small flow pulsation, high volume efficiency
6. Made of special materials of biaxial seals and flushing chamber, easy to damage inspection and environmental protection



Technical data

1. Operating viscosity range 1-2000 cSt
2. Drive speed range 500-1800 rpm
3. Optimum operating temperature range 10-50°C
4. Maximum operating temperature 80°C
5. Inlet pressure 1-8bar
6. Nominal pressure 250bar

型号说明/Ordering code

A2FK	12	R	4	P	4
01	02	03	04	05	06

泵型号 TYPE code

01	定量泵 Fixed Displacement Pump	A2FK
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规格 (NG) Size (NG)

02	理论排量 $\approx$ Displacement $V_{g, max}$ in cm^3	2.5	5	10	12	23	28	55	107
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旋转方向 Directions of rotation

03	从传动轴看 Viewed from drive shaft	顺时针 clockwise (standard)	R
		逆时针 counter-clockwise (option)	L

结构模式 Series

04	结构 Series	2.5	5	10	12	4
				23	28	3
				55	107	1

传动轴 Drive shafts

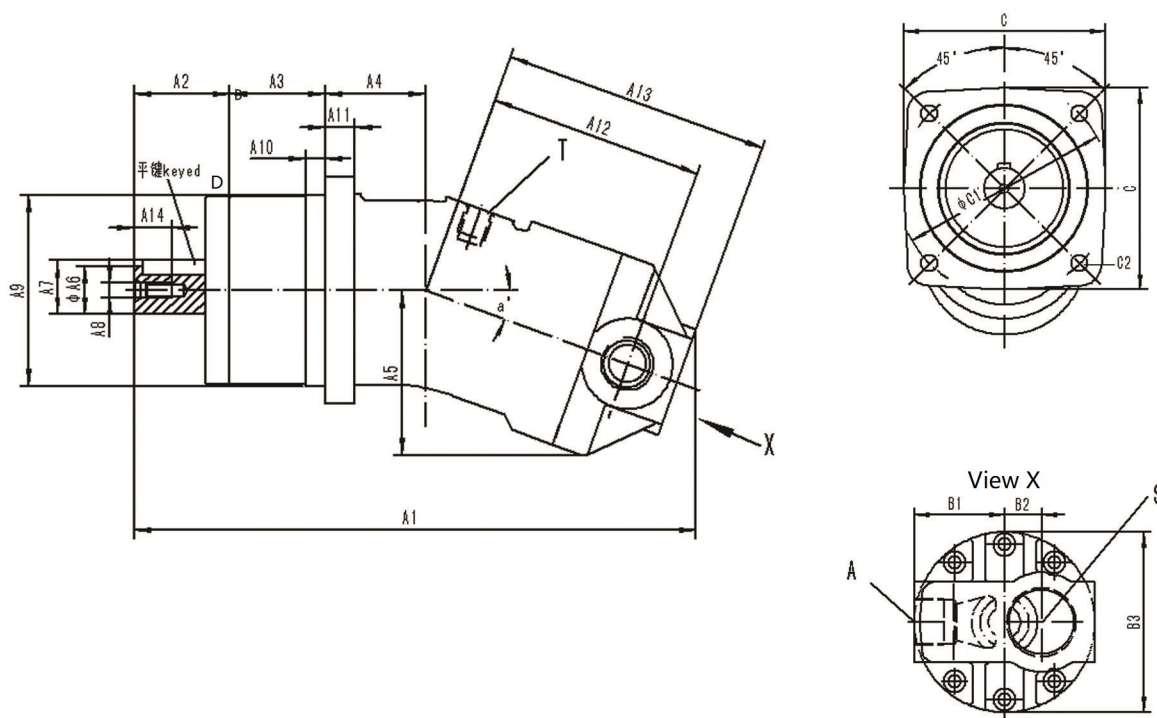
05	符合 GB1096-79 的平键轴 parallel keyed shaft according to GB1096-79	P
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后盖结构 Port Plate

06	结构 Series	2.5	5	10	12	23	28	4
						55	107	3

A2FK系列外形图

A2FK pumps installation drawing



Installation drawing

size	A1	A2	A3	A4	A5	A6	A7	A8	A9	A10	A11	A12	A13	A14
2.5	153	22	16	36	51	12	14	M4	60	5	8	65	81	10
5	225	29.5	51.5	46.5	68.6	20	22.5	M6	80	5.3	10	74	94	16
10	235	40	40	42	69	20	22.5	M6	80	8	12.5	90	112	16
12	232	40	40	42	75	20	22.5	M6	80	8	12.5	90	112	16
23	296	40	60	50	88	25	27.9	M8	100	8	16	118	145	19
28	293	40	60	50	95	25	27.9	M8	100	8	16	118	145	19
55	380	63	60	77	118	30	33	M12	125	10	20	150	183	28
107	468	68	92	90	149	40	43.1	M12	160	12	25	190	230	28
size	B1	B2	B3	C	C1	C2	D	S suction port		A outlet port		T drain port		
2.5	29	29	56	70	75	6.3	无	M22x1.5		M18x1.5		M10x1		
5	42.5	13	85	95	100	8.4	13	M22x1.5		M18x1.5		M8x1		
10	42.5	16	85	95	100	8.4	14	M33x2		M22x1.5		M12x1.5		
12	42.5	16	85	95	100	8.4	14	M33x2		M22x1.5		M12x1.5		
23	53	12.7	106	118	125	11	14	M42x2		M27x2		M16x1.5		
28	53	12.7	106	118	125	11	14	M42x2		M27x2		M16x1.5		
55	65	30	130	150	160	16	无	Flange 4-M10(48x48)		Flange 4-M10(50.8x23.8)		M18x1.5		
107	80	35.5	165	190	200	20	15	Flange 4-M10(60x60)		Flange 4-M10(57.1x27.8)		M18x1.5		

A7VK		MA			
01	02	03	04	05	06

轴向柱塞单元 Axial piston unit

01	可变斜轴设计, 公称压力 250 bar, 最大压力 315 bar	Variable bent axis design, nominal pressure 250 bar, peak pressure 315 bar	A7VK
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规格 (NG) Sizes (NG)

02	理论排量 $\rightarrow$ Displacement $V_{g \max}$ in cm^3	012	028
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控制设备 Control device

03	使用手轮手动控制	Control, manual with handwheel	MA
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工作模式 Operation modes

04	泵, 开式设计	Pump, open design	O
	泵, 闭式设计	Pump, closed design	G

旋转方向 Directions of rotation

05	从传动轴看	顺时针, 标准件	clockwise (standard)	R
	Viewed from drive shaft	逆时针, 选件	counter-clockwise (option)	L

传动轴 Drive shafts

06	符合 DIN 6885 的平键轴	$\varnothing 20$	012	028	
	Parallel keyed shaft according to DIN 6885	$\varnothing 25$	-	-	P

Features

- Compact design
- Reduced dimensions and mass in comparison to A2VK
- Mounting flange, drive shaft and functions identical to A2VK, thus easy to replace
- Increased corrosion protection through special surface treatment
- Manual adjustment with precision display and clamp unit to prevent accidental adjustment
- Double shaft sealing made of special material and flushing chamber to identify damage and protect environment
- Improved volumetric efficiency through robust rotary group using proven axial tapered piston technology
- Optionally available with mounted high-pressure relief valve
- Low noise level

Closed design (A7VKG)

- High permissible filling pressure for highly-viscous media or hydraulic fluid by separating the filling channel and pump housing
- Case drain fluid must be discharged

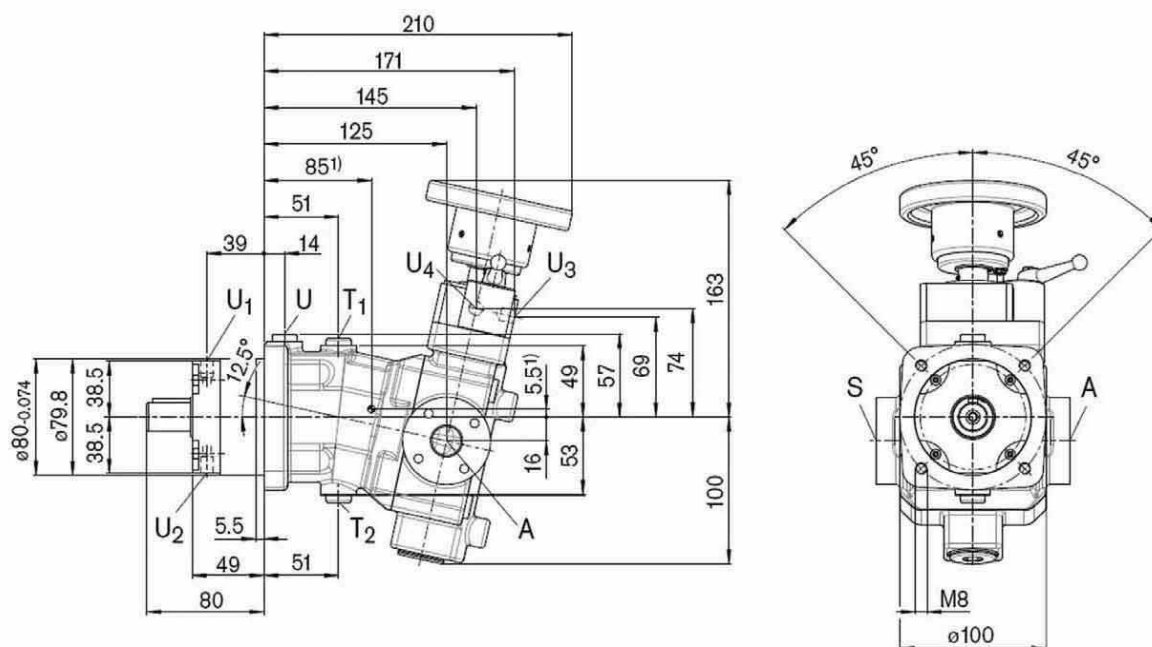
Open design (A7VKO)

- The housing is connected to the suction chamber. A case drain line between the housing and reservoir is not required

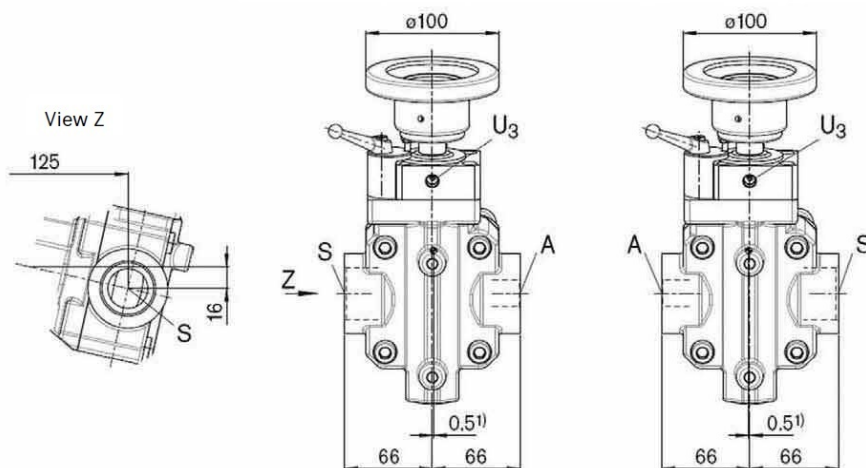


A7VK12泵外形图

A7VK12 pumps installation drawing

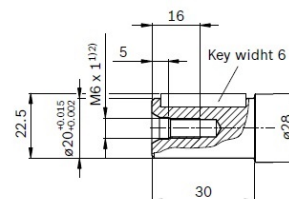


Direction of rotation counter-clockwise Direction of rotation clockwise



Parallel keyed shaft

P3 - A6x6x25.5

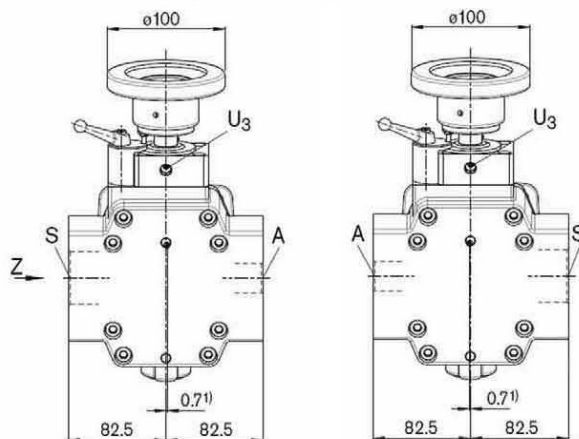


Ports		Standard	Size	p _{max} [bar]	State
A	Service port	DIN 3852	M22 x 1.5; 14 deep	315	O
S	Suction/filling port	DIN ISO 228	G1 1/4; 20 deep	6	O
T ₁	Case drain fluid	DIN 3852	M12 x 1.5; 12 deep	6	X
T ₂	Case drain fluid	DIN 3852	M12 x 1.5; 12 deep	6	X
U	Bearing flushing	DIN 3852	M12 x 1.5; 12 deep	6	X
U ₁ , U ₂	Barrier fluid	DIN 3852	M10 x 1; 8 deep	3	O
U ₃ , U ₄	Barrier fluid	DIN 3852	M10 x 1; 8 deep	3	O

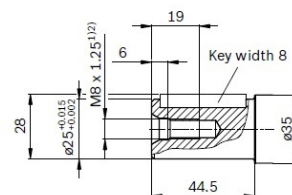
O = Must be connected (plugged on delivery)

X = Plugged (in normal operation)

A7VK28 pumps installation drawing



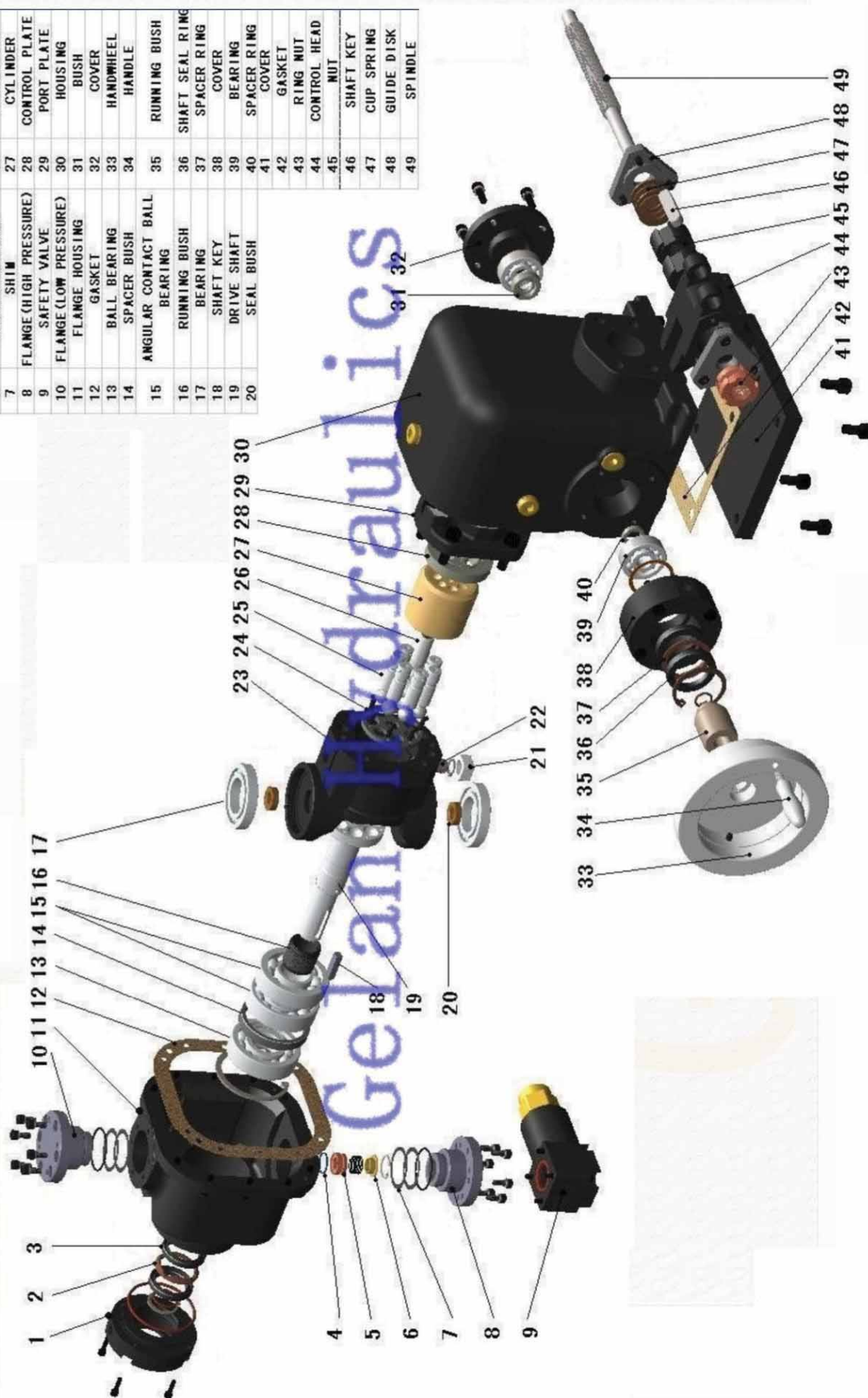
P5 - AS8x7x40



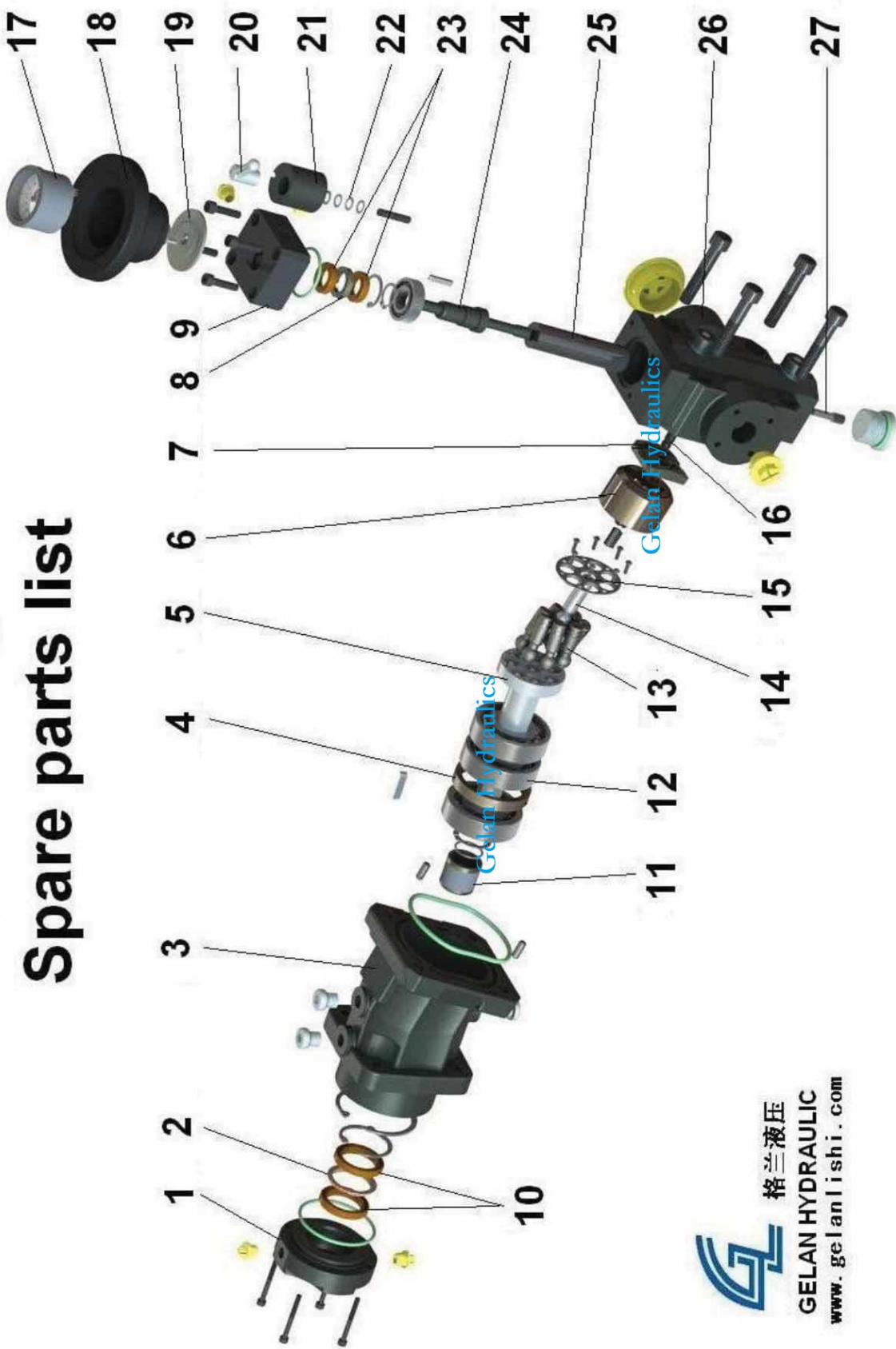
O = Must be connected (plugged on delivery)
X = Plugged (in normal operation)

JLB(A2VK) series spare parts

Item	Description	Item	Description
1	FRONT COVER	21	SLIDE RING
2	SPACER RING	22	PIN
3	SHAFT SEAL RING	23	SWIVEL HOUSING
4	SQUARE RING	24	RETAINING PLATE
5	SEAL BUSH	25	PISTON
6	RETAINING RING	26	CENTER PIN
7	SHIM	27	CYLINDER
8	FLANGE (HIGH PRESSURE)	28	CONTROL PLATE
9	SAFETY VALVE	29	PORT PLATE
10	FLANGE (LOW PRESSURE)	30	HOUSING
11	FLANGE HOUSING	31	BUSH
12	GASKET	32	COVER
13	BALL BEARING	33	HANDWHEEL
14	SPACER BUSH	34	HANDLE
15	ANGULAR CONTACT BALL BEARING	35	RUNNING BUSH
16	RUNNING BUSH	36	SHAFT SEAL RING
17	BEARING	37	SPACER RING
18	SHAFT KEY	38	COVER
19	DRIVE SHAFT	39	BEARING
20	SEAL BUSH	40	SPACER RING
		41	COVER
		42	GASKET
		43	RING NUT
		44	CONTROL HEAD
		45	NUT
		46	SHAFT KEY
		47	CUP SPRING
		48	GUIDE DISK
		49	SPINDLE



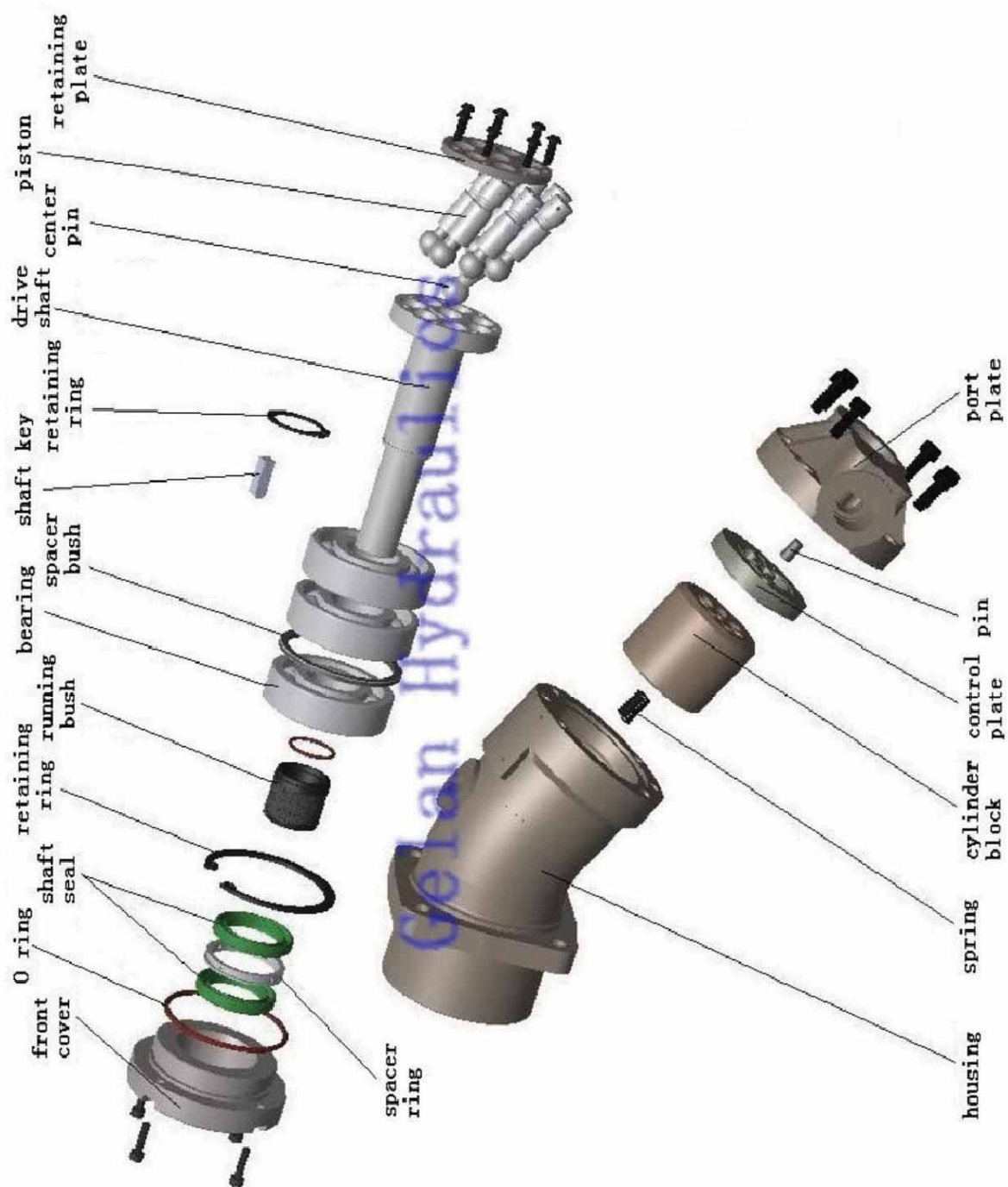
A7VK series spare parts list



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01	02	03	04	05	06	07	08	09
FRONT COVER 10	SPACER RING 11	HOUSING 12	SPACER RUSH 13	DRIVE SHAFT 14	CYLINDER 15	CONTROL PLATE 16	SPACER RING 17	COVER 18
SHAFT SEAL 19	RUNNING BUSH 20	BEARING 21	PISTON 22	CENTER PIN 23	RETAINING PLATE 24	POSITIONING PIN 25	INDICATOR 26	HANDWHEEL 27
FASTENING PLATE	HANDLE	FASTENING BASE	CUP SPRING	SHAFT SEAL	SPINDLE	STROKE PISTON	PORT PLATE	FASTENING BOLT

A2FK series spare parts list





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