



## 1. PREFACE

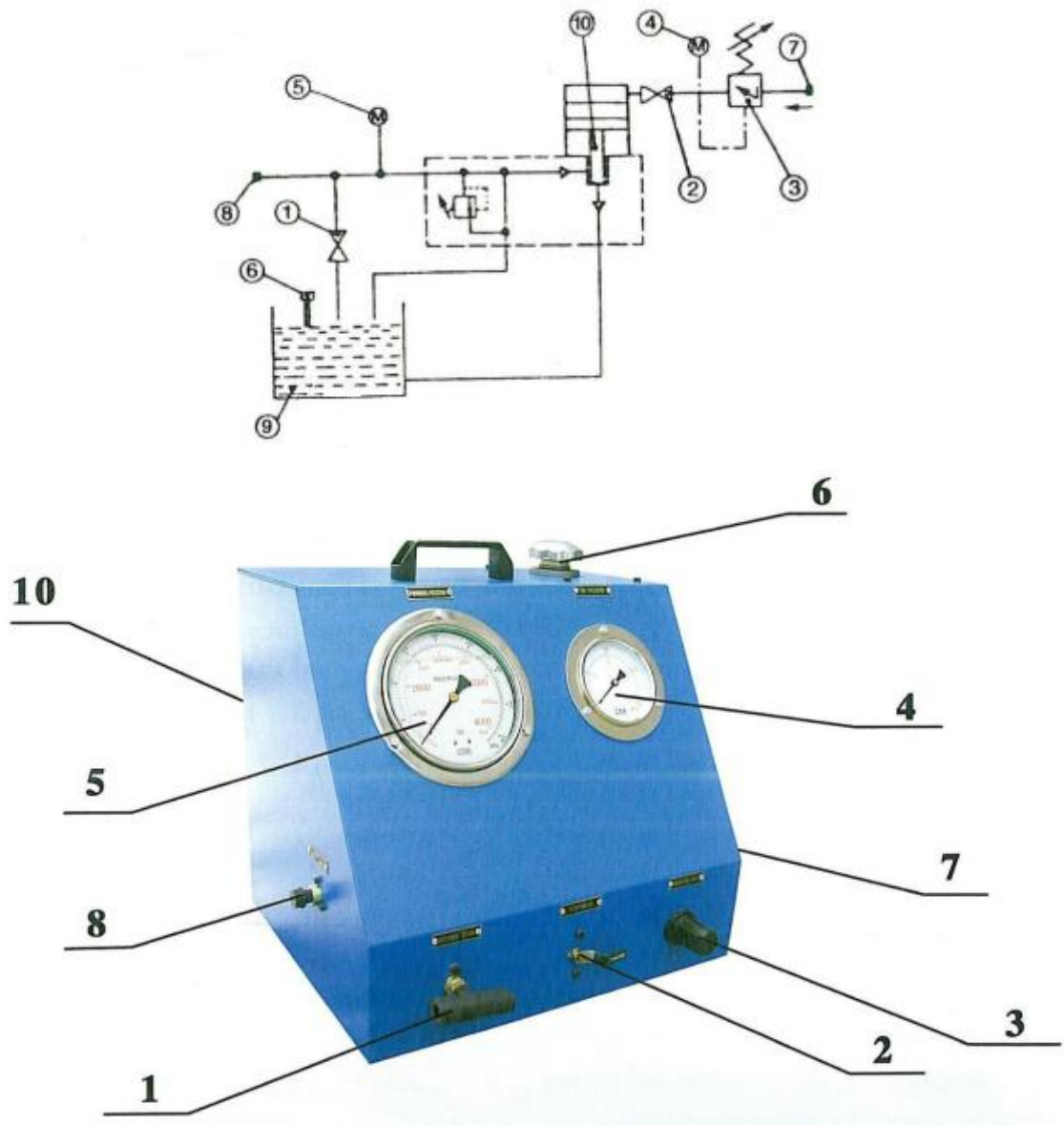
This manual gives you a better understanding of how the pneumatic hydraulic pump works and provides you with the right operation and maintenance instructions. Before using this pump, please read the instructions carefully and operate as required to ensure the safety of the person and equipment.

## 2. TECHNICAL DATA & WORKING PRINCIPLE

### Technical Data

<b>Weight:</b>	Approx. 30 Kg
<b>Dimensions:</b>	490×430×480 mm
<b>Oil output pressure:</b>	<b>Max. 350 Mpa @ 0.75 Mpa air input</b> <b>Max. 280 MPa @ 0.6 Mpa air input</b>
<b>Pump working speed:</b>	Approx. 400 cycles/min @ 0.7 Mpa air input
<b>Air consumption:</b>	Approx. 1050 l/min @ 0.6 Mpa air input
<b>Tank capacity:</b>	Approx. 8 L
<b>Min. flow:</b>	Approx. 0.45 l/min
<b>Air inlet:</b>	G1/2 standard internal thread
<b>Pressure oil outlet:</b>	G1/4 standard internal thread

**Working Principle Diagram**



**Fig.1 Working Principle & Outline Diagram Diagram**

- |                              |                            |
|------------------------------|----------------------------|
| ① Oil return valve           | ② Stop valve               |
| ③ Pressure control valve     | ④ Gauge for air pressure   |
| ⑤ Gauge for working pressure | ⑥ Oil filter               |
| ⑦ Air Inlet G1/2"            | ⑧ Pressure Oil Outlet G1/4 |
| ⑨ Oil tank                   | ⑩ Pump body                |

### 3. OPERATION STEPS

#### A. Before connecting the pump unit

- 1) Fill the oil tank with hydraulic oil through the oil filter(6) and add up to 90% of the tank, which can be confirmed by the oil level indicator on the right side.

**CAUTION**

Please fill up 10# or 15# hydraulic oil before using (viscosity grade ISO 10-15).

- 2) Open the oil return valve(1) by turning anti-clockwise.
- 3) Connect the outer air hose to the “Air Inlet G1/2”(7) on the right side of the cabinet.
- 4) Connect the hydraulic system to the “Pressure Oil Outlet G1/4”(8) on the left side of the cabinet.

Now the pump is ready to be used.

#### B. Use the pump

- 1) First, gently pull out the pressure control valve(3) and turn it clockwise, then the pressure of compressed air can be read in the gauge for air pressure(4), and the unit of the pressure gauge readings is Mpa.

**CAUTION**

Slowly rotate the pressure control valve(3) knob when use and read the inlet pressure of the air pressure gauge(4). The displayed inlet pressure should not exceed 0.6 Mpa.

- 2) Open the stop valve(2) by turning anti-clockwise. When the compressed air enters the hydraulic pump, it begins to work and the pressure oil goes back to the tank through the oil return valve(1). The work speed of the hydraulic pump can also be adjusted by opening the stop valve(2) slowly.

- 3) Close the oil return valve(1) by turning clockwise, the high pressure oil enters the hydraulic system through the pressure oil outlet(8), then the oil pressure can be read from the gauge for working pressure(5) on the left side of the panel. When the required pressure is reached, the hydraulic pump automatically stops working and maintains the oil pressure. If a pressure drop occurs in the hydraulic system, the hydraulic pump will work automatically.
- 4) If the reading on the gauge for working pressure(5) is deviated from the actual work pressure required by the user, you can adjust the handle of the pressure control valve(3) to achieve the required work pressure.

### **C. End of use**

Open the oil return valve(1) handle by turning anti-clockwise slowly, the high pressure oil in the system will return to the oil tank and simultaneously shut off the stop valve(2) by turning clockwise slowly. The pump should be stopped by turning the pressure control valve(3) anti-clockwise and the air hose can be removed when the gauge for air pressure(4) returns to zero and the external air hose stops supplying air.

#### **CAUTION**



For the sake of safety, it must be determined that the gauge for the hydraulic tools can be removed only after the gauge for working pressure(5) returns to zero.



#### **WARNING !**

In order to make the pump work properly, please pay attention to observe the oil level and never cut-off the oil supply in use.

#### **4. MAINTENANCE**

1. Use clean and suitable high quality hydraulic oil according to the manual.
2. Keep the oil tank clean inside and prevent metal particles and other substances from entering the tank to damage the sealing parts and affect the system work.
3. Regularly check and clean the tank and oil filter(6).
4. Even if the hydraulic pump is solid and the most reliable equipment, some wearing parts such as O-rings, V-rings and springs-specially in the pressure transformer also need to be replaced after a period of use. For convenience of ordering, we have an attached list for your reference (please see below Parts List). When ordering, please inform the product number, name, quantity and other information.

List 1

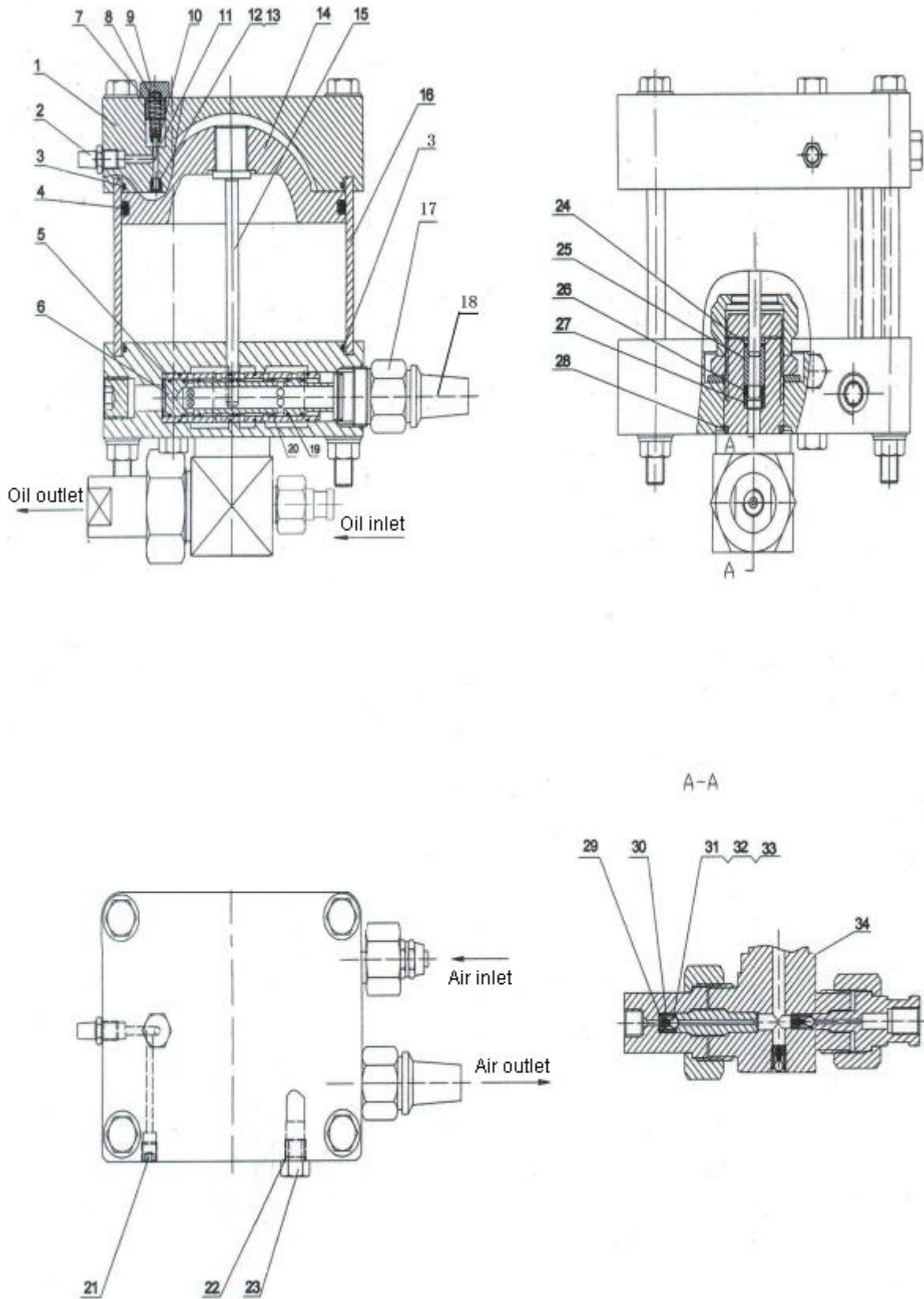
PARTS LIST

No.	Name	Qty	No.	Name	Qty
1	Upper valve body	1	18	Silencer	1
2	Silencer	1	19	O-ring	4
3	O-ring	2	20	O-ring	8
4	O-ring	1	21	Plug	1
5	Valve sleeve	1	22	O-ring	1
6	Valve spool	1	23	Plug	1
7	O-ring	2	24	Washer	1
8	Spring	2	25	Sleeve	1
9	Plug	2	26	Y-sealing ring	1
10	O-ring	4	27	Support ring	1
11	Guide bar	2	28	O-ring	1
12	Washer	2	29	Spring	2
13	Plug	2	30	Cap	2
14	Piston	1	31	Steel ball	2
15	Plunger	1	32	Washer	2
16	Cylinder	1	33	Spring	2
17	Air outlet connector	1	34	Oil cylinder	2

**Remark: In order to correctly order the required products, please refer to the product no. on Fig. 2.**

No.	Name	Qty	No.	Name	Qty
1	Oil return valve	1	6	Oil filter	1
2	Stop valve	1	7	Air Inlet G1/2	1
3	Pressure control valve	1	8	Pressure Oil Outlet G1/4	1
4	Gauge for air pressure	1	9	Oil tank	1
5	Gauge for working pressure	1	10	Pump body	1

**Remark: In order to correctly order the required products, please refer to the product no. on Fig. 1.**



**Fig. 2 Pump Structure Diagram**



## 5. COMMON FAULTS AND TROUBLESHOOTING

No.	Fault description	Probable cause of failure	Solutions
1	The oil pressure can not be established.	Hydraulic oil shortage.	Add hydraulic oil.
		The oil inlet hose for high pressure pump is empty.	Remove the white transparent hose and use the oil gun to fill the pump until the hose has a return oil spill.
		Pressure gauge damage.	Replace the pressure gauge.
2	The hydraulic pump cannot work.	One air pipe is blocked.	Check whether the air pipe connections inside the pump are unobstructed.
		The piston inside is stuck.	Disassemble the pump body to confirm whether the movement is smooth.
3	Pressure leakage.	Leakage of one internal connector.	Check whether the internal connectors are not tightened to cause leakage.
		Leakage caused by damage or wear of a seal.	Disassemble to confirm the damaged seal and then replace.
4	The reading on the pressure gauge cannot return to zero.	Residual gas or oil pressure inside the hydraulic pump.	Release residual gas or oil pressure.
		Pressure gauge damage.	Replace the pressure gauge.

If you have any unsolvable problem when using this product, please contact us at any time. We will serve you wholeheartedly.

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## 一、前言

本手册可以使您更详细地了解气动液压泵的工作原理，并为您提供了正确的使用操作及维护指导。本手册可以使您更详细地了解气动液压泵的工作原理，并为您提供了正确的使用操作及维护指导。在使用本气动泵之前，操作人员必须仔细阅读本说明书，并按要求操作，以确保人身及设备安全。

## 二、技术参数与工作原理

### 技术参数

重量	约 30Kg
尺寸	约 490×430×480 mm
输出油压	280Mpa（输入空气压力 0.6Mpa）
泵工作速度	约 400 次循环/每分钟（输入压力 0.7Mpa）
空气消耗量	约 1050 升/每分钟（输入空气压力 0.6Mpa）
油箱容量	约 8.0 升
流量	约 0.45 升/每分钟
空气进口	G1/2 标准内螺纹
压力油出口	G1/4 标准内螺纹

工作原理图：

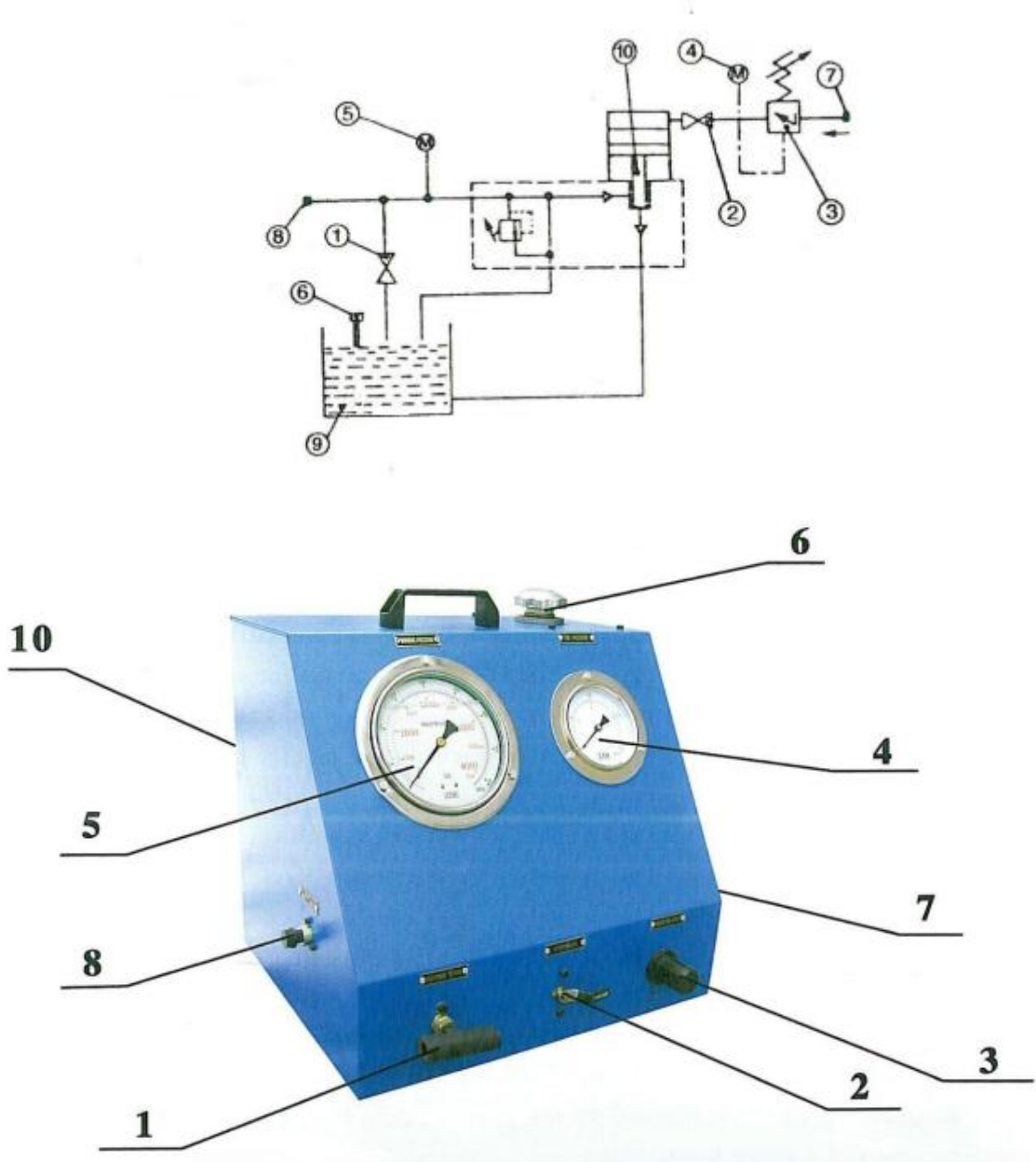


图1 气动液压泵工作原理及外型示意图

- |             |              |
|-------------|--------------|
| ① 回油阀       | ② 停止阀        |
| ③ 风压调节阀     | ④ 空气压力表      |
| ⑤ 工作压力表     | ⑥ 滤油器        |
| ⑦ 空气进口 G1/2 | ⑧ 压力油出口 G1/4 |
| ⑨ 油箱        | ⑩ 泵体         |

### 三、操作步骤

#### 1. 使用前准备:

- 1) 通过滤油器（6）给油箱加油，约加至油箱 90%。可通过右侧油位指示进行确认。



#### 注意

使用前请先加满 10#或者 15#液压油（粘度等级 ISO 10-15）。

- 2) 逆时针方向打开回油阀（1）。
- 3) 将外部空气软管连接到泵壳右侧标有“空气进口 G1/2”（7）接头上。
- 4) 将液压工具连接到泵壳左部标有“压力油出口 G1/4”（8）接头上。

此时，气动液压泵已经准备就绪，已满足使用条件。

#### 2. 使用液压泵:

- 1) 先轻轻拉出风压调节阀（3）旋钮，并顺时针旋转，这时压缩空气的压力可以在空气压力表（4）读出（压力表的单位为 Mpa）。



#### 注意

使用时，边缓慢旋转风压调节阀（3）旋钮边读取空气压力表（4）的进气压力，进气压力显示不得超过 0.6Mpa。

- 2) 逆时针方向打开停止阀（2），当压缩空气进入，液压泵随即开始工作，压力油通过回油阀（1）回油箱。通过缓慢打开停止阀（2）也可以调节液压泵工作速度。
- 3) 顺时针关闭回油阀（1），这时高压油通过压力油出口（8）进入液压工具，油压可以从面板左部的工作压力表（5）中读出。当达到所需的压力时，液压泵就会自动停止工作并保持油压。如果油压系统产生压力降，液压泵就会自动工作。
- 4) 如果工作压力表上的读数与用户实际所需的工作压力有偏差，此时可调节风压调节阀（3）手柄，利用调节空气压力达到所需的工作压力。

### 3. 使用结束:

- 1) 按逆时针缓慢旋转回油阀（1）手柄，系统中的高压油被放回到油箱中去，同时顺时针缓慢地关闭停止阀（2）；逆时针旋转关闭风压调节阀（3）使液压泵停止工作，当空气压力表（4）归零且外部空气软管停止供气时，即可拆除空气软管。



#### 注意

出于安全考虑，必须在确定工作压力表（5）归零的情况下，方可拆除液压工具。



#### 警告！

为了使泵正常工作，在使用中请注意观察油位，切勿断油。

## 四、产品维护与保养

1. 按本说明书规定使用清洁且合适的优质液压油。
2. 保持液压油箱内的清洁，防止金属颗粒及其他物质进入油箱损坏密封件，影响系统工作。
3. 定期检查油箱与滤油器（6）并清洗。
4. 即使液压泵是坚固的且最可靠的设备，但在使用一段时间后，我们建议更换一些易损件，例如：O型密封圈、V型密封圈和专用于压力转换的弹簧等，为了便于订购，我们列有《零部件清单》（详见附表1），订购时，请告知产品序号、名称、数量等信息。

附表 1

## 零部件清单

序号	名称	数量/台	序号	名称	数量/台
1	上阀体	1	18	消音器	1
2	消音器	1	19	O 型圈	4
3	O 型圈	2	20	O 型圈	8
4	O 型圈	1	21	螺塞	1
5	阀套	1	22	O 型圈	1
6	阀芯	1	23	螺塞	1
7	O 型圈	2	24	垫圈	1
8	弹簧	2	25	衬套	1
9	螺塞	2	26	Y 型密封圈	1
10	O 型圈	4	27	支撑环	1
11	导杆	2	28	O 型圈	1
12	垫圈	2	29	弹簧	2
13	螺塞	2	30	球罩	2
14	活塞	1	31	钢球	2
15	柱塞	1	32	垫圈	2
16	气缸	1	33	弹簧	2
17	出气接头	1	34	油缸	2

备注：为便于正确订购所需产品，请对照参见图二 泵体结构图上的序号。

序号	名称	数量/台	序号	名称	数量/台
1	回油阀	1	6	滤油器	1
2	停止阀	1	7	空气进口接头 G1/2	1
3	风压调节阀	1	8	压力油出口接头 G1/4	1
4	空气压力表	1	9	油箱	1
5	工作压力表	1	10	泵体	1

备注：为便于正确订购所需产品，请对照参见图一 气动液压泵外型示意图上的序号。

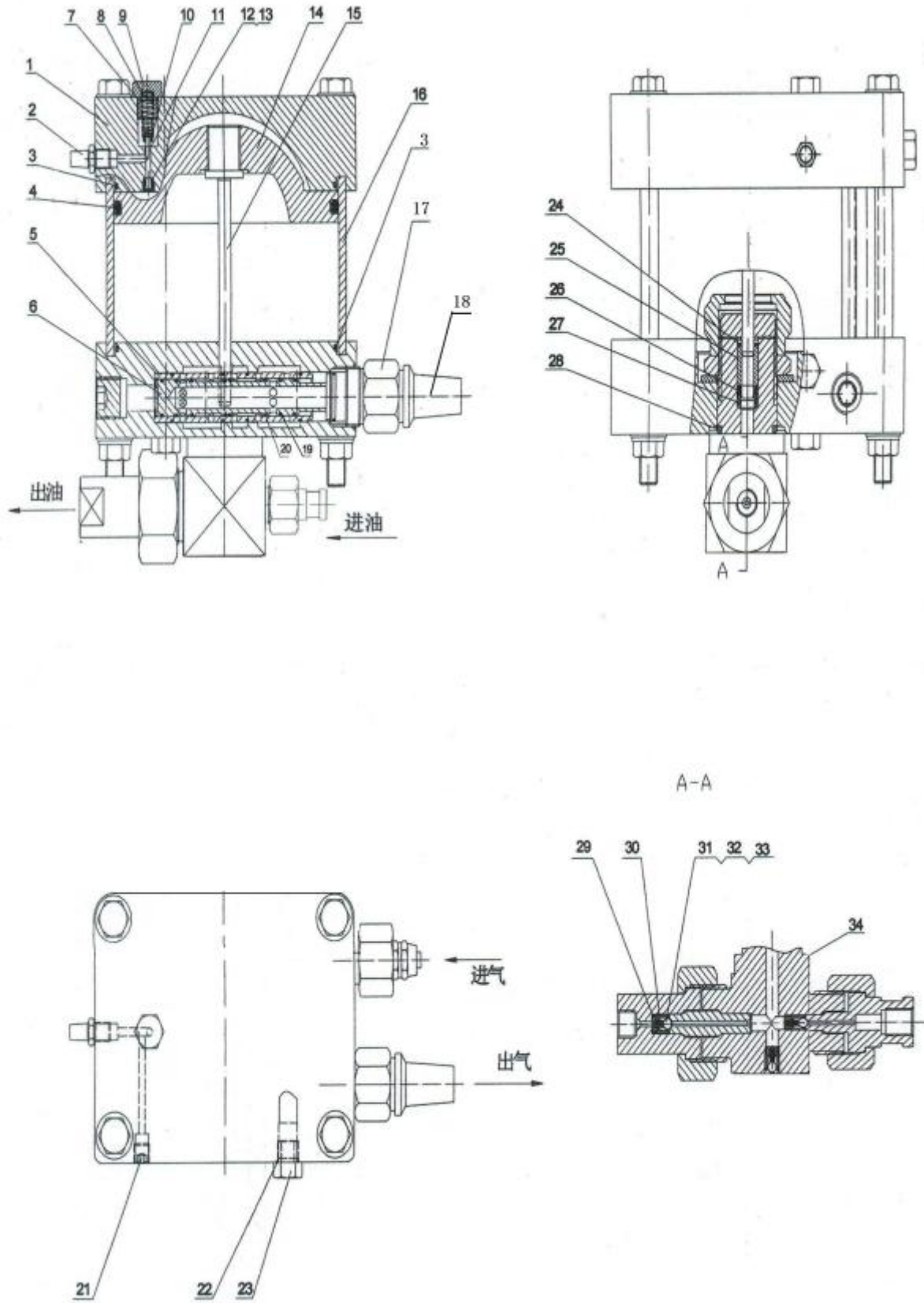


图 1 泵体结构图



## 五、常见故障与排除

序号	故障描述	可能故障原因	解决方法
1	油压无法建立	液压油不足	增加液压油
		高压泵体进油软管吸空	将白色透明软管拆下,用机油枪通过软管向泵内注油直至软管有回油溢出
		压力表损坏	更换压力表
2	液压泵不工作	液压泵某气管堵塞	检查液压泵内各气管连接是否通畅
		泵体内部运动活塞出现卡滞现象	拆检泵体,确认是否运动顺畅
3	压力泄漏	液压泵某一内部接头有渗漏	检查液压泵内部各接头是否未拧紧以致有渗漏现象
		泵体内部某密封件损坏或磨损有渗漏	拆检,确认损坏密封件,更换相应密封件
4	压力表不归零	液压泵内部有残余气体或油压	将残余气体或油压卸掉
		压力表损坏	更换压力表

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说明：如果您在使用本产品时，出现了上述故障且无法排查解决时，可随时与我们保持联系，我们会竭诚为您服务。

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