

# OPERATION AND MAINTENANCE MANUAL

Read the instructions, warnings, and cautions thoroughly before using the tools and keep it well for future referring.



## ORDERING INFORMATION

To know more about our Bolting units or to request a quote, please contact us at

Email: [cbhe@thegawindustries.com](mailto:cbhe@thegawindustries.com)

Phone: +971588156388

Website: [www.thegawindustries.com](http://www.thegawindustries.com)

# OPERATION AND MAINTENANCE MANUAL FOR ATEP SERIES TENSIONING PUMP



It is an operating manual for the ATEP-20P Tensioning Pump, please read carefully, follow instructions, warnings, and cautions before using the tools.

## SAFETY GUIDE

Air Driven Tensioner Pump's safe usage requires correct operation and regular inspect, the user is always requested to follow always and carefully regular inspect.

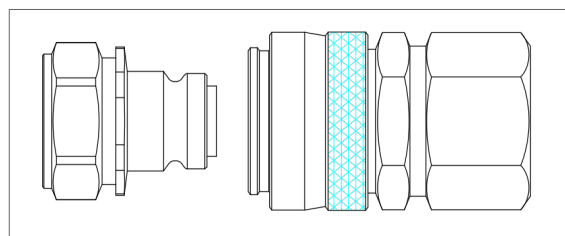
▲precaution to avoid direct loss in economy or property.

▲warning to avoid personal injury.

Please follow herein before!

When using, if something abnormal happens, please shut off the power immediately, and then consult TheGAW.

1. When using the pump, do not permit anyone to stand at the oil output in order to avoid personal injury and equipment damage. Please put the pump far away from the fire.
2. Ensure that the hose and quick coupler are connected before building up the pressure in order to avoid hydraulic fluid spurting out to cause personal injury.
3. The maximum operating pressure of this pump is 2000 bar (29000psi). TheGAW has set up the pressure to 2000 bar before selling this pump. Please do not adjust to a pressure higher than the maximum pressure that TheGAW has not set.
4. If this pump is used to operate other equipment, make sure the maximum operating pressure of the equipment will be less than 2000 bar. Please adjust the pressure at which the equipment is needed, or else the equipment will be damaged.
5. Make sure the air power of the pump is shut off before repairing it.
6. If the rapid release of pressure, lifting the jack in the load will fall or spring open, which may cause injuries; please refer to TheGAW, we will recommend the right valve.
7. Make sure the equipment is connected to the ground to avoid an electric shock.
8. Please do not change any part of the pump; if it must be changed, please inform TheGAW for help. Without the allowance of TheGAW, any refit of it will be out of our warranty range.
9. Please do not fill the pump reservoir with too much oil, otherwise, the pressure of the reservoir will increase and the oil will spill over, so the reservoir will be broken and the environment will be polluted.
10. Make sure the quick coupler is tightened; if the quick coupler is not tightened enough, the equipment will not work normally; if it is a synchronic system, the problem may cause one or several pieces of equipment out of order and the quick coupler may be broken and it may cause personal injury or equipment damage.
11. Please stand away from the position where the hydraulic oil may be spurted out; the hydraulic oil may penetrate your hand and hurt you.
12. If the hydraulic oil splashes in your eyes, please immediately wash your eyes for about minutes with clean water, then you must go to the hospital for help right now.
13. Please do not touch the pressurized hose; if the hydraulic oil splashes out, it will cause serious injury.
14. Hydraulic hose is easily spoiled fitting; you inspect the hose with your eyes regularly and find no problems, but the inner side may have cracks and small holes. We suggests you should change the hose regularly.



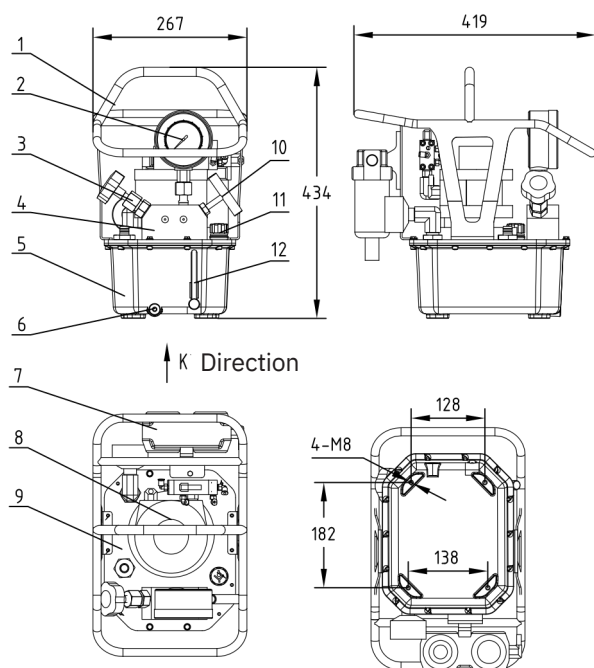
## PRECAUTION

1. Only hydraulic special oil is available.
2. Do not use a pressure regulating valve as a relief valve.
3. The used hydraulic oil should be put away according to the antipollution ordinance.

## DESCRIPTION

1. Tensioner pump is an integrated assembly; The oil pump, control valve, oil tank, air motor, and FRL, consisting of an independent and complete hydraulic device, has the advantages of small volume, light weight, simple structure, convenient operation, and high work pressure. Pump for high, low pressure oil pump and oil supply, which can obtain a larger oil output. High pressure, low pressure pump by unloading overflow valve automatically no-load returns oil, can reduce the power consumption, the output pressure is 90~2000 bar arbitrarily regulated.
2. Hydraulic oil: 46# wear-resistant hydraulic oil.
3. Working environment temperature: - 10~60C
4. Use TheGAW high-pressure hose and quick coupler. The maximum pressure of the hose is 1800 bar, please use the selection and matching pressure system.
5. This pump for use, please consult the TheGAW engineer.
6. Please don't use the air driven tensioner pump near the flame.
7. Please do not arbitrarily adjust the pressure regulating valve, in order to avoid the high pressure caused by equipment damage and personal injury.

## DESCRIPTIONS OF PARTS



Item	Description
1	Protective Frame
2	Pressure Gauge
3	Regulating Valve
4	Valve Block
5	Oil Tank
6	Oil Releasing Port
7	FRL
8	Air Motor
9	Tank Plate
10	Check Valve
11	Oil Gauge
12	Oil Filling Port


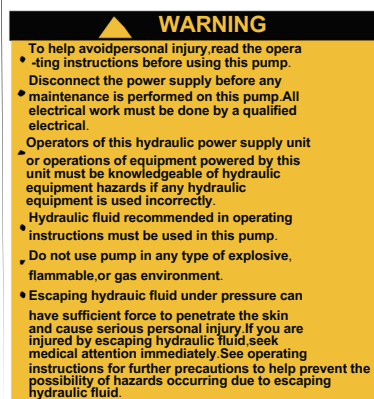
## CHARACTERISTIC

1. ATEP - 20P Air Driven Tensioner Pump is a double stage pump with 2000bar maximum operating pressure
2. Air input: 4 - 8 Bar
3. Temperature: - 10~60 °C
4. Oil tank: 5.5 L
5. ISO VG 46# anti-wearing hydraulic oil

## WARNING!!!

1. When operating, do not permit anyone to stand at the oil output, The oil output must connect other components when adjusting the pressure.
2. When using, do not overpass the maximum operating pressure.
3. When the Pump is working, the oil back to the oil reservoir may add the pressure. If open the cover plate, unnecessary injury and damage will happen.
4. Please do not use the pump without Hydraulic oil

Warning plate is shown in table 1

warning table	Meaning	Affixed Position
	For Safe Operation, Please Read	The Equipment Enclosure
 <p><b>WARNING</b></p> <p>To help avoid personal injury, read the operating instructions before using this pump.</p> <ul style="list-style-type: none"> <li>• Disconnect the power supply before any maintenance is performed on this pump. All electrical work must be done by a qualified electrical.</li> <li>• Operators of this hydraulic power supply unit or operations of equipment powered by this unit must be knowledgeable of hydraulic equipment hazards if any hydraulic equipment is used incorrectly.</li> <li>• Hydraulic fluid recommended in operating instructions must be used in this pump.</li> <li>• Do not use pump in any type of explosive, flammable, or gas environment.</li> <li>• Escaping hydraulic fluid under pressure can have sufficient force to penetrate the skin and cause serious personal injury. If you are injured by escaping hydraulic fluid, seek medical attention immediately. See operating instructions for further precautions to help prevent the possibility of hazards occurring due to escaping hydraulic fluid.</li> </ul>	Warning Notices	The Equipment Enclosure

## NOISE/VIBRATION AND TRANSPORT INFORMTION

### NOISE/VIBRATION AND TRANSPORT INFORMATION

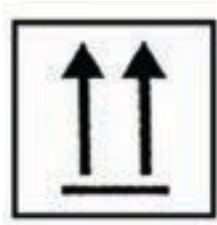
#### 1. Air Driven Tensioner Pump noise declaration

1.1. Noise:  $\leq 65$  db

#### 2. Air Driven Tensioner Pump transport information.

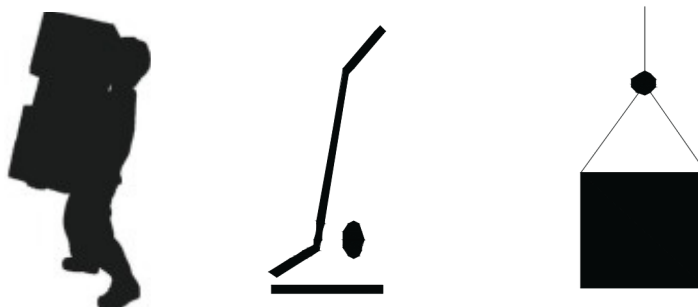
2.1 Handle with care.

2.2 The shipment should be vertical upward as shown in the figure 9-1.



**FIG 9-1**

2.3 Product handling, generally using portable, car handling and lifting and moving, as shown in the figure 9-2 .



**FIG 9-2**

## OPERATION INSTRUCTIONS

### 1. PREPARE

1.1 Make sure the air power is shut off before all connectings.

1.2 Please connect the Bolt Tensioner and High-Pressure Pump by quick Couplers, make sure they are connected correctly.

1.3 Open air power and make sure the input air pressure is kept more than 4 bar.

1.4 Please fill a few lube in FRL device(Filter, Regulator, lube).

## 2. Start to operate

2.1 Please turn to lock the check valve(right side of valve block) and loosen the regulating valve(left side of valve block) to the end (the position for min pressure).

2.2 Press and hold on the "Turn on" button on the air remote control, and adjust the regulating valve to the desired pressure (Check pressure - Tension capacity chart). The process of setting pressure is finished.

2.3 Place the Tensioner on the Bolt correctly.

2.4 Operate the pump and tensioner till the job is finished.

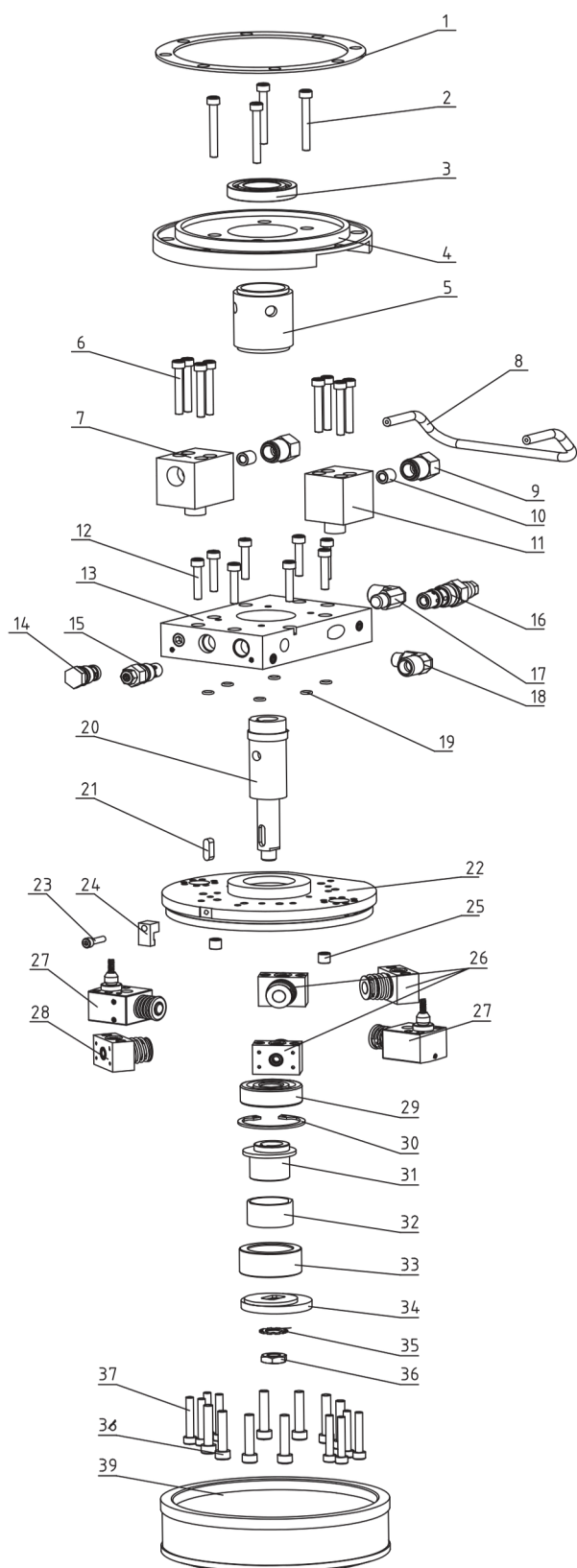
2.5 Press the button "Turn off" to release pressure till the Tensioner stroke is retracted to the end.

2.6 Disconnect with Pump, hose, and Tensioner.

## TROUBLE SHOOTING GUIDE OF HYDRAULIC PUMP

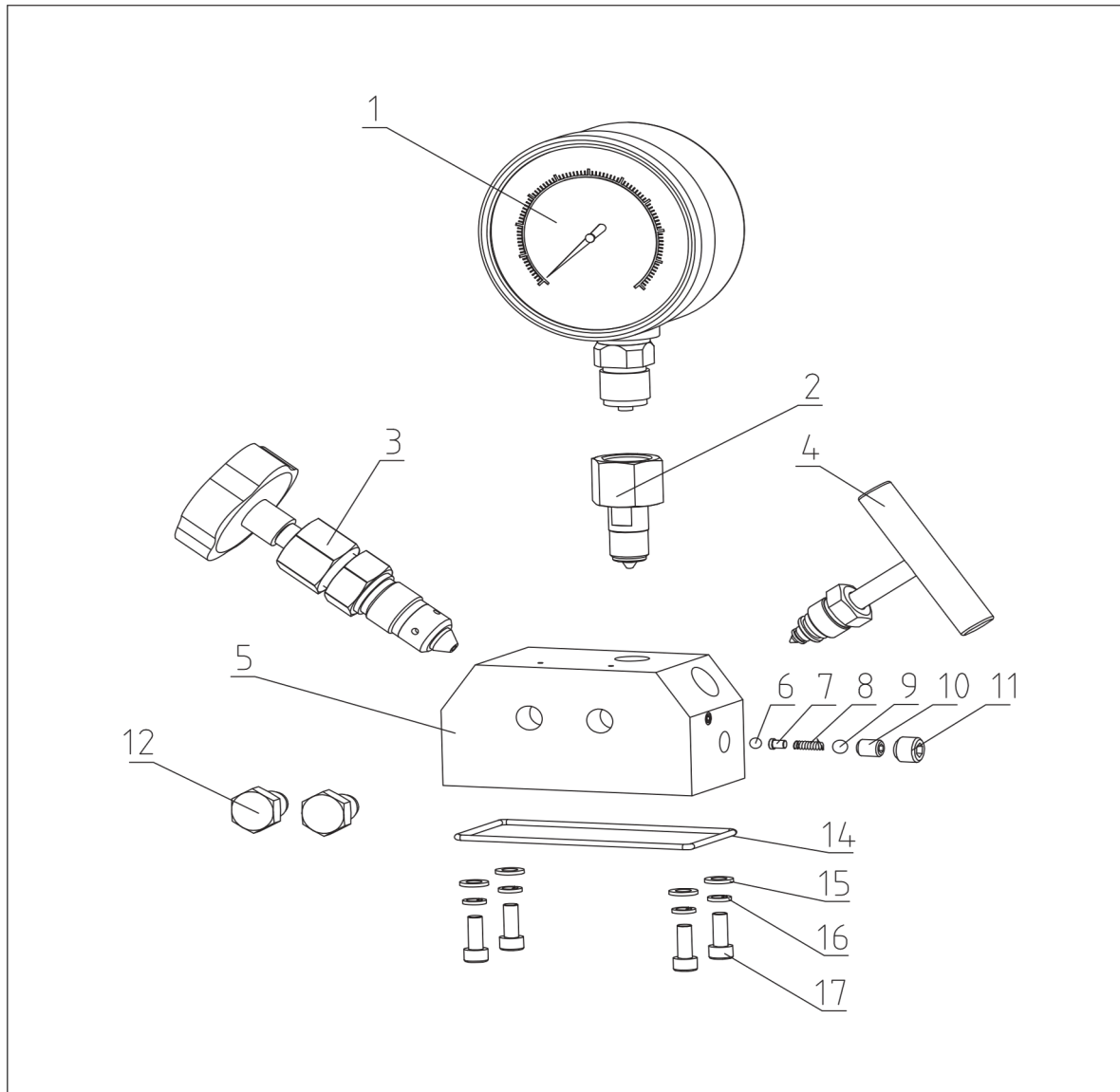
The pump can't be started	The input air pressure isn't suitable	Confirming input air pressure
	The air power hasn't be connected	Checked air power and remote control
The system has no pressure	The quick coupler hasn't be connected to the correct position	Take down and reinstall it
	No oil in the oil reservoir	Fill in oil
	Not enough oil in the oil reservoir	Inspect the check valve
	Check may not turn to lock	
After reinstalling the quick coupler,the system has no pressure	The quick coupler can't be connected to the correct position, which causes no pressure in the system	Take down the quick coupler, check if the boll is elastic with a rod, if it can't move,please knock it with a hammer to eliminate the mist hydraulic oil
Leakage in the quick coupler	The o ring and escape have worn out	Replace the quick coupler
The pressure can't reach to the set pressure	Oil is mixed with water	Change oil
	Not enough oil in the reservoir	Fill in oil
	Air in the system	Repeat operating the system with no load for several times to eliminate the air
	Check valve is wearing	Replace the check valve
When using under static pressure, the pressure reduces slowly	The seal is out of control, please check all the seal	Replace the seal
Pump during operation with strong noise	Radial plunger pump bearing damage	Replace the radial plunger

## Part List with drawing for Pump body



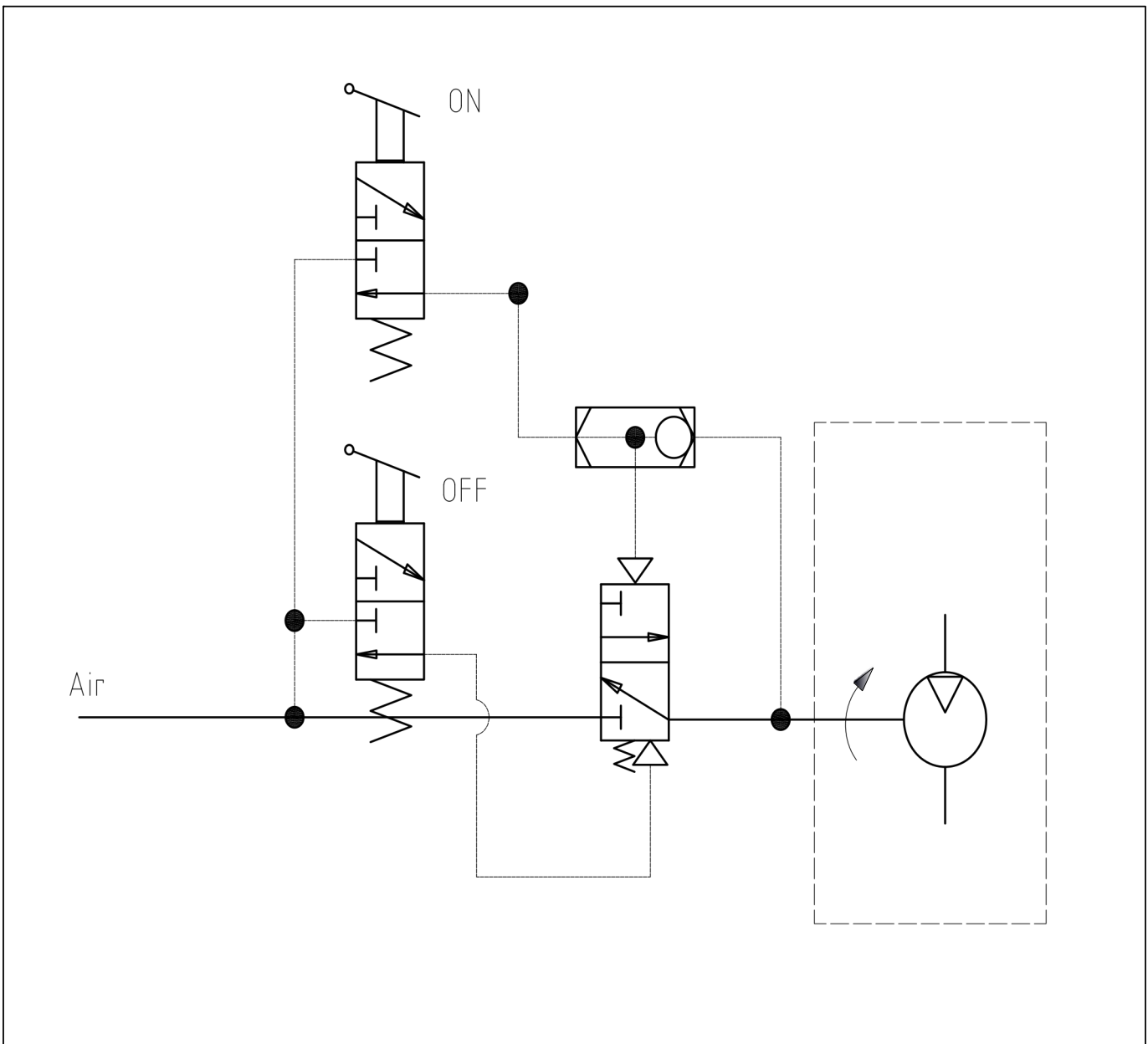
Item	Name	QTY
1	Seal Gasket	1
2	Screw	4
3	Bearing	1
4	Connect Flange	1
5	Body Sleeve	1
6	Screw	8
7	Block for HIgh Pressure	1
8	Pipe	1
9	Pipe Fitting	1
10	Connect Fitting	1
11	Connector 2(high pressure)	1
12	Screw 2	8
13	Pump head(low pressure)	1
14	Checking valve	1
15	Regulating valve	1
16	Relief valve(low pressure)	1
17	Fitting	1
18	Fitting	1
19	O ring	1
20	Bearing	1
21	Sleeve	1
22	Pump head(high pressure)	1
23	Screw 3	1
24	Fliter press	1
25	Retaining ring	1
26	piston 1	3
27	High pressure piston	2
28	Piston 2	1
29	Deep groove ball bearing 2	1
30	Retaining ring	1
31	Eccentric sleeve	1
32	Copper sleeve	1
33	Bearing outer ring	1
34	Eccentric block	1
35	Multi-tooth gasket	1
36	Nut	1
37	Screw 4	8
38	Screw 5	8
39	Filter cover	1



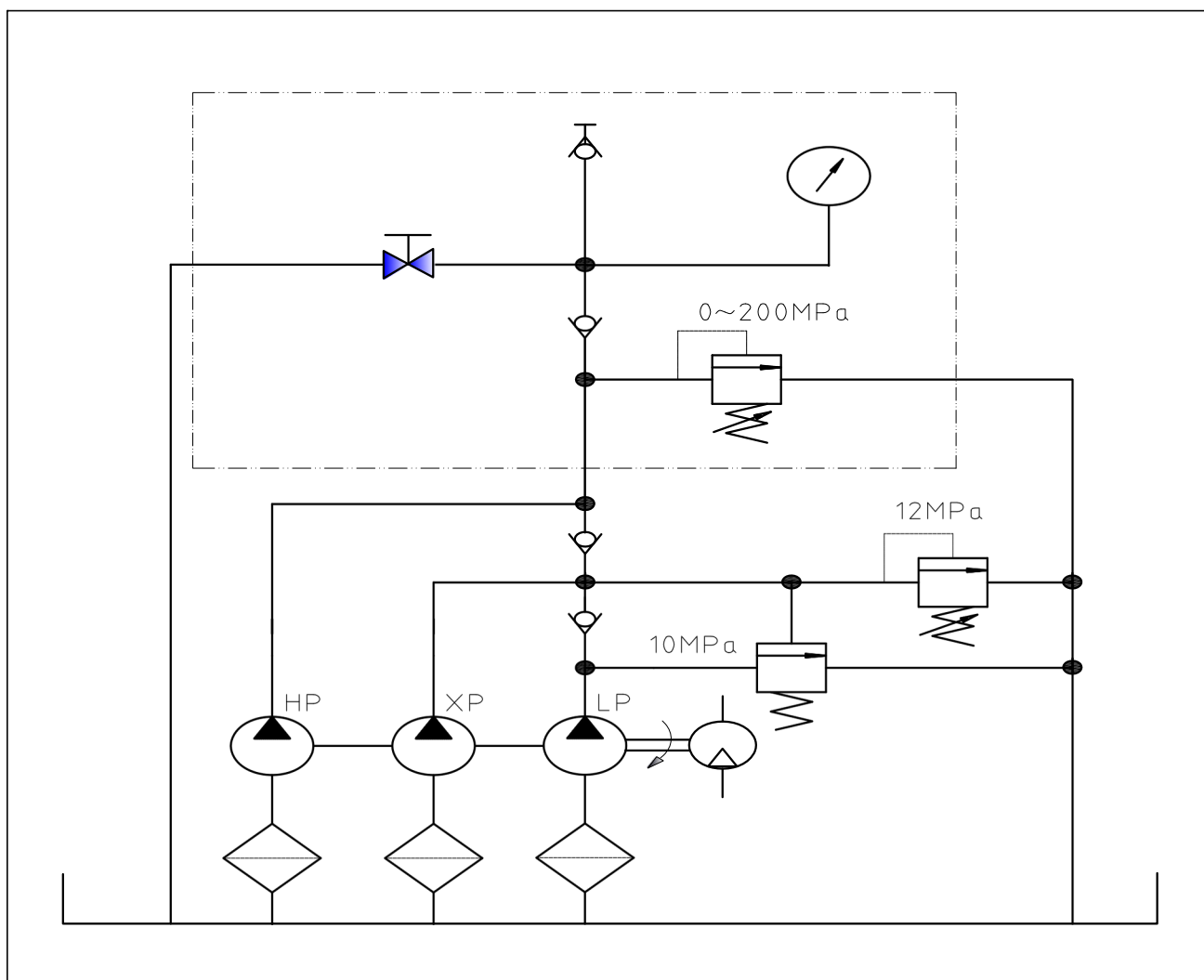


Item	Description	Quantity	Item	Description	Quantity
1	Gauge	1	10	Screw 1	1
2	Gauge adaptor	1	11	Screw 2	1
3	Regulating valve	1	12	Plug	2
4	Needle valve	1	13	O ring	1
5	Connector	1	14	Flat gasket	4
6	Steel ball 5	1	15	Spring gasket	4
7	Ejector pin	1	16	Screw	4
8	Spring	1			
9	Steel ball 6.35	1			

## Air Control Principle



## Hydraulic Principium



### Warning for using high pressure hose

1. The minimum bending radius:  $R > 120\text{mm}$ . Too small bending radius will destroy the high pressure hoses.
2. The maximum operating pressure is 1800bar, it is forbidden to overpass the pressure.
3. Do not tighten hoses excessively. Over tightening can cause to premature thread failure or high pressure fittings to split at a pressure lower than their rated capacities.
4. Do not use the hose to remove attached equipment. Stress can damage the hose, causing personal injury.
5. Do not subject the hose to potential hazard such as fire, sharp surfaces, extreme heat or cold or heavy impact. Do not kink, twist, or bend the hose so tightly that oil flowing in the hose is blocked or reduced. Periodically inspect the hose for wearing, because any of these conditions can damage the hose.
6. Should any hydraulic hose rupture, burst, or need to be disconnected, immediately shut off the pump. Never attempt to grasp a leaking pressurized hose with your hands. The force of escaping hydraulic fluid could cause serious injury.

NOTES:

All our products are guaranteed against defects in workmanship and materials for as long as you own them. Under this guarantee, free repair or replacement will be made to your satisfaction.

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