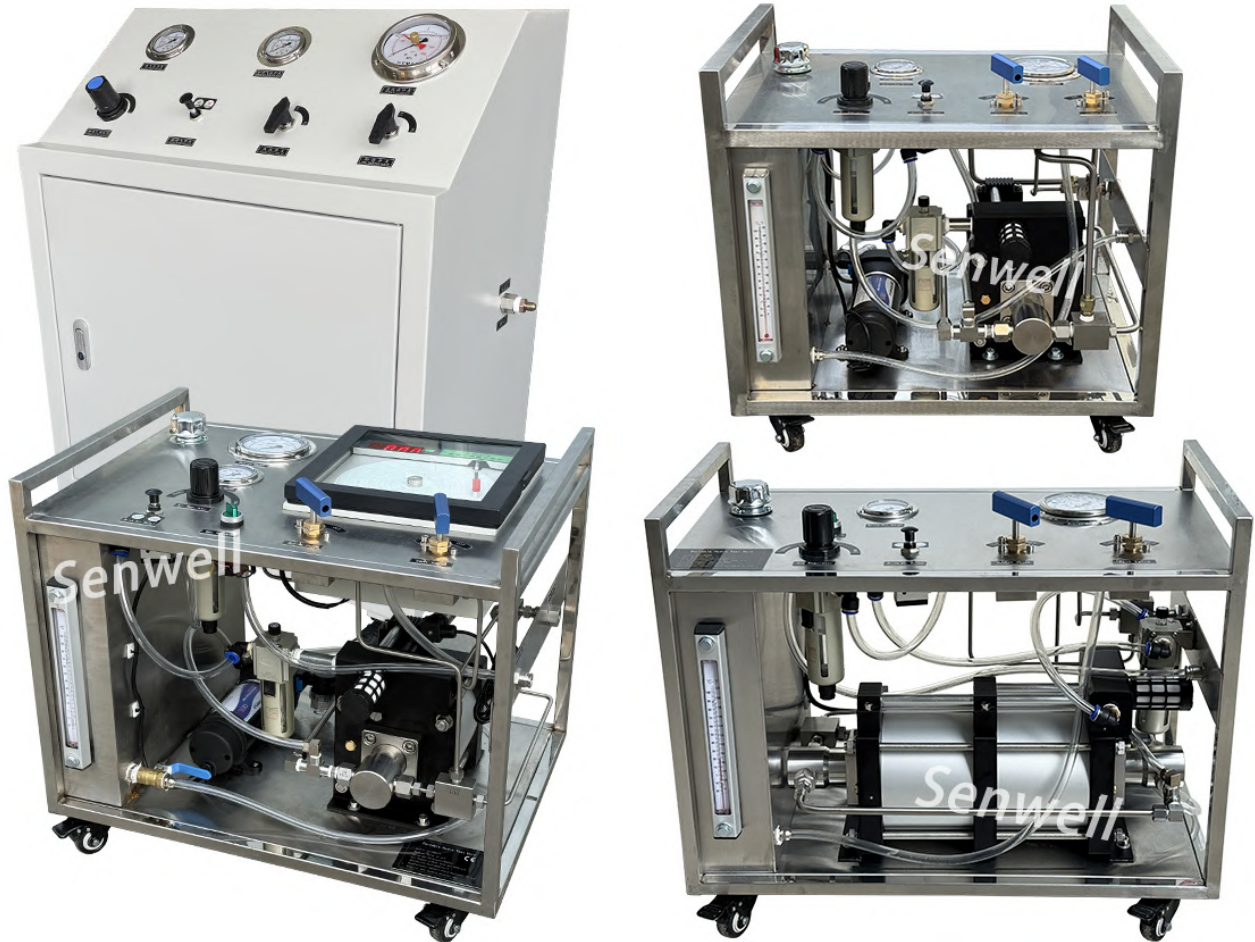


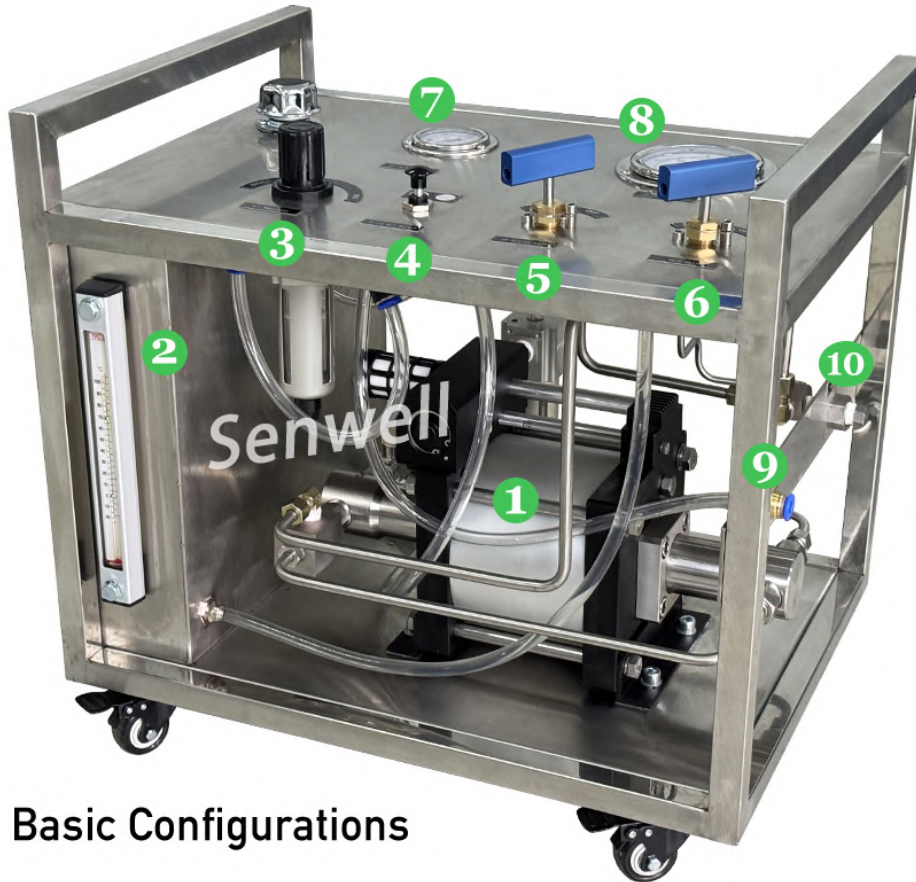
Hydro Test Unit Operation Guidance



Functions

Hydro test unit is a manual and portable hydrostatic test equipment. It can help you preform both hydrostatic test and burst pressure test on various workpieces, and maximum hydro test pressure up to 408MPa. This equipment is also suitable to serve as a portable hydraulic power pack.

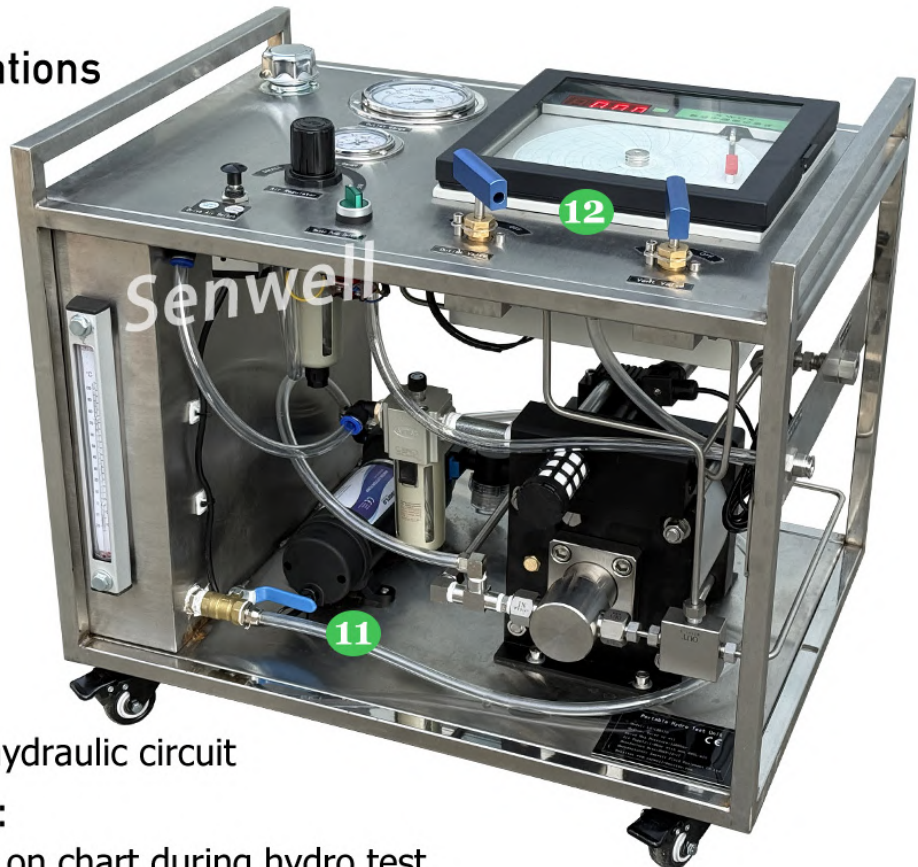
Main Components



- 1. Hydraulic pump
- 2. Liquid tank
- 3. Air regulator
- 4. Air switch
- 5. Outlet valve
- 6. Vent valve
- 6. Air gauge
- 7. Air gauge
- 8. Outlet gauge
- 9. Air inlet port
- 10. Test port

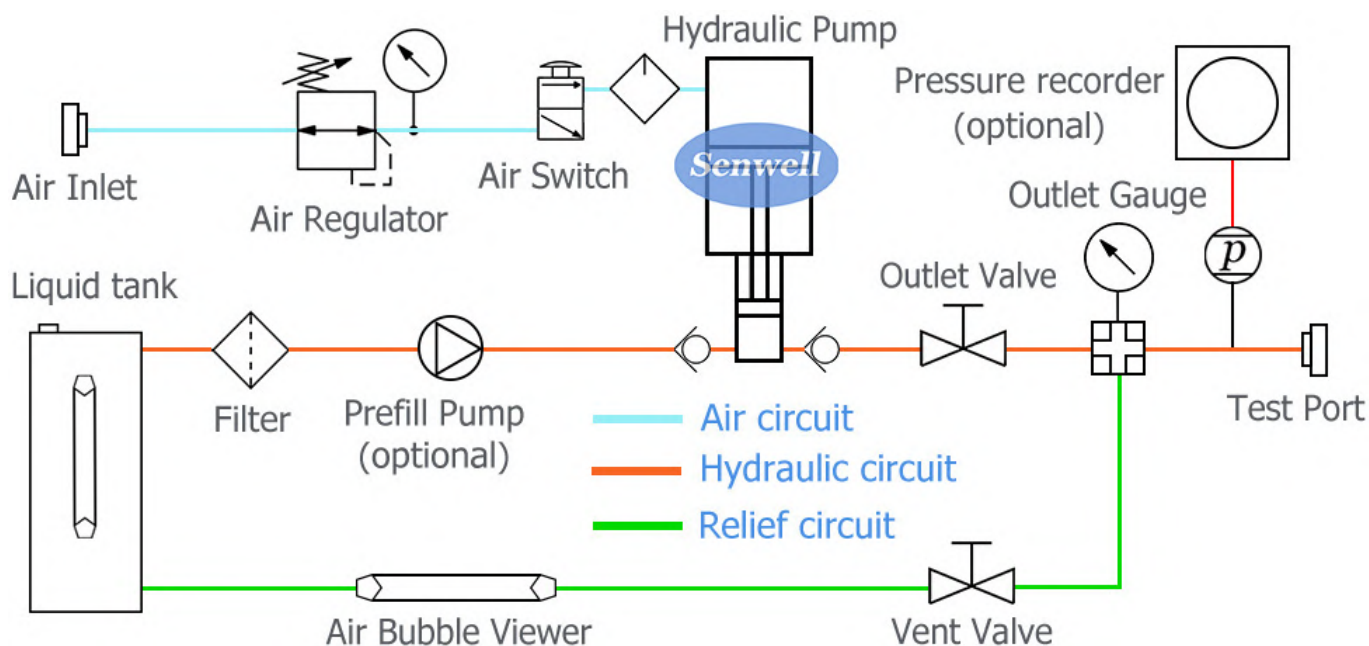
Basic Configurations

Optional Configurations



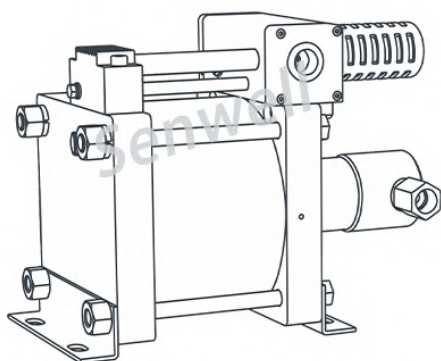
- 11. Prefill Pump:
quickly bleed air in hydraulic circuit
- 12. Pressure Recorder:
draw pressure curve on chart during hydro test

Circuit Schematic

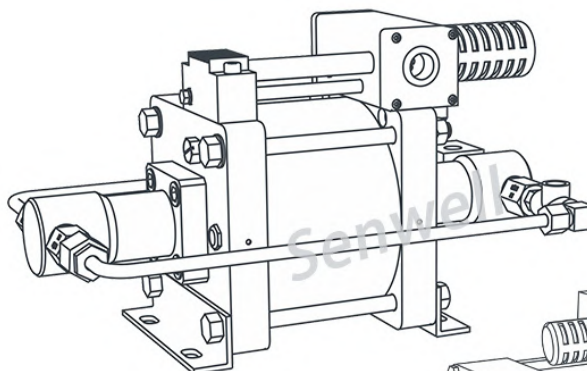


Built-in Hydraulic Pump

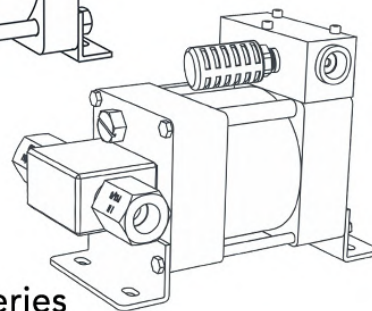
There may be one or multiple hydrostatic pumps built into your machine.



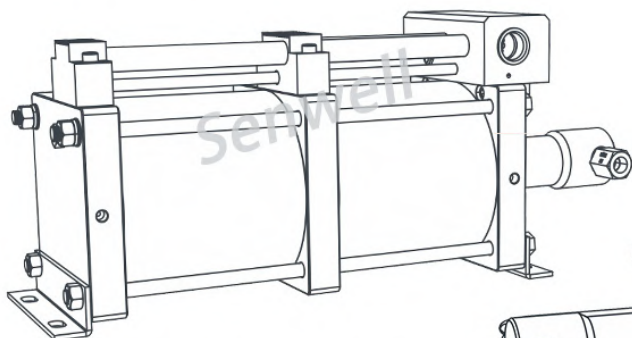
LBS Series (LBS07~LBS400)



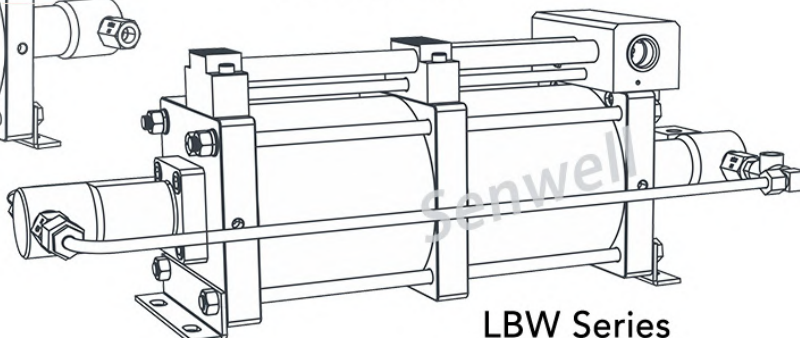
LBD Series



LBM Series



LBS Series (LBS510~LBS800)



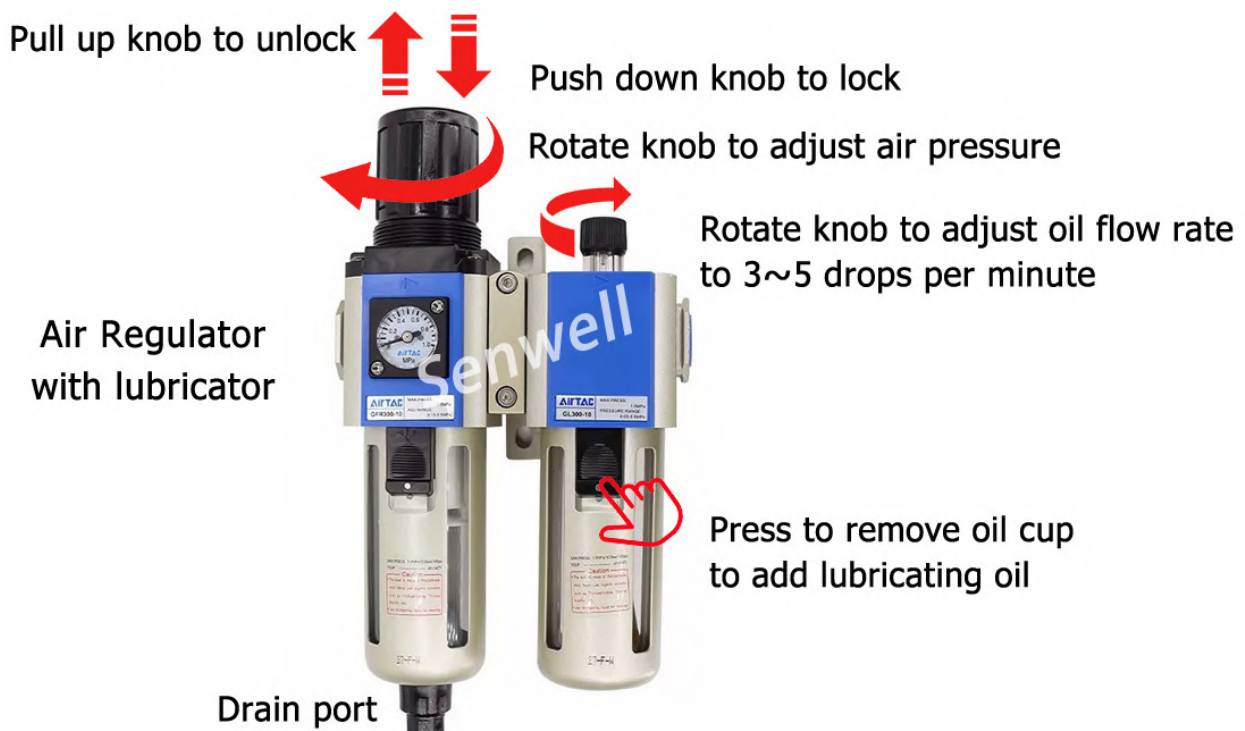
LBW Series

Preparations

1. Connect air supply onto Drive air inlet port.

(1). The hydro test unit's maximum air consumption is 800L/minute. 7.5KW/10HP air compressor is recommended. The machine will automatically adjust compressed air intake volume as per current working conditions and load, no requiring human intervention.

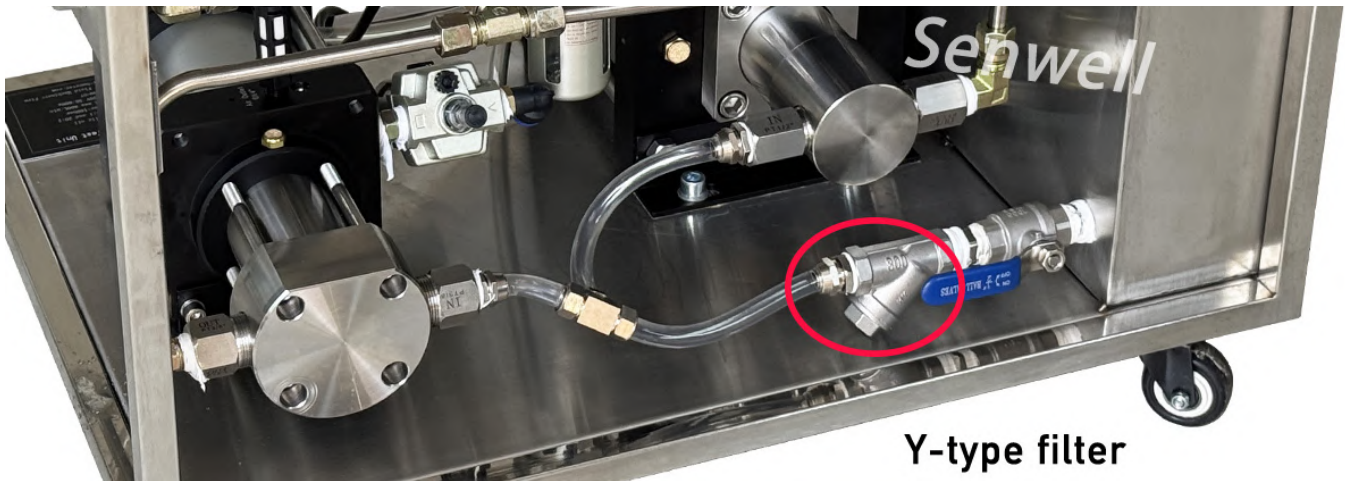
(2). Add lubricating oil into oil cup of Air Regulator, and the oil level should not exceed half capacity of oil cup. Lubricating oil type: ISO VG32. Please ensure there is sufficient lubricating oil in Air Regulator during machine running.



2. Fill clean water or hydraulic oil into Liquid tank.

The machine is equipped with a Y-type filter for filtering impurities from liquid.

You can unscrew and remove the filter periodically to clean any remaining debris.



3. Connect your workpiece to be test onto Test port.

Please make sure your workpiece is connected tightly to avoid pressure leaking.

Test Pressure Calculation Formula

There is an air driven hydrostatic pump built in the hydro test unit.

Hydro test unit's outlet pressure is always directly proportional to driving air pressure. Therefore, if you change driving air pressure, hydro test unit's outlet pressure will be changed accordingly; if you set a driving air pressure, hydro test unit's outlet discharge pressure will be preset too.

Each model of hydro test unit has a boost ratio. For example, model LS-LBS100 means its boost ratio is 100; model LS-LBD400 means its boost ratio is 400.

Hydro test unit outlet pressure = Driving air pressure x Boost ratio.

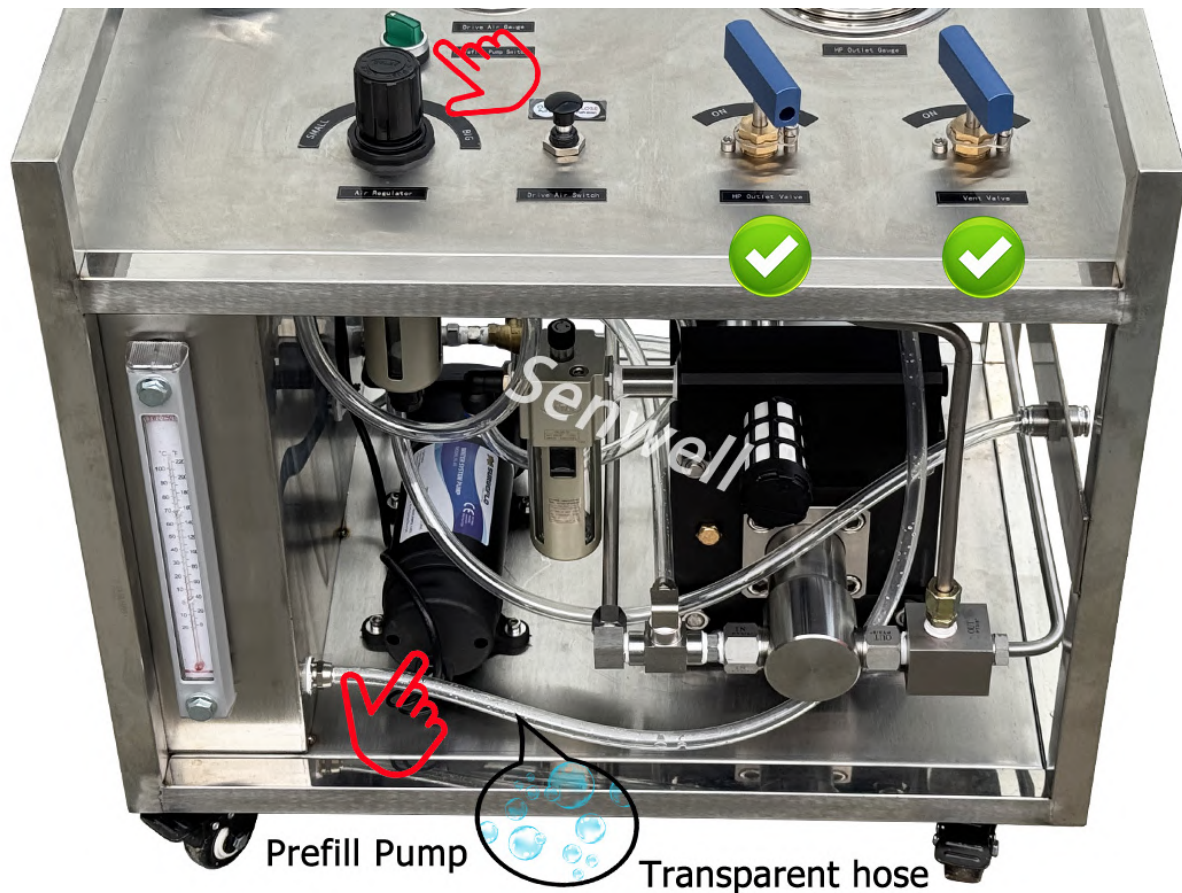
For example, model LS-LBS100, boost ratio is 100, when you set driving air pressure at 5bar, it will output 500bar high pressure.

Hydrostatic Testing Operating Steps

Bleed air ➡ Pressurize ➡ Hold pressure ➡ Relieve pressure ➡ Judge

Step1: Bleed air before hydro test. The air trapped in your workpiece & pipeline

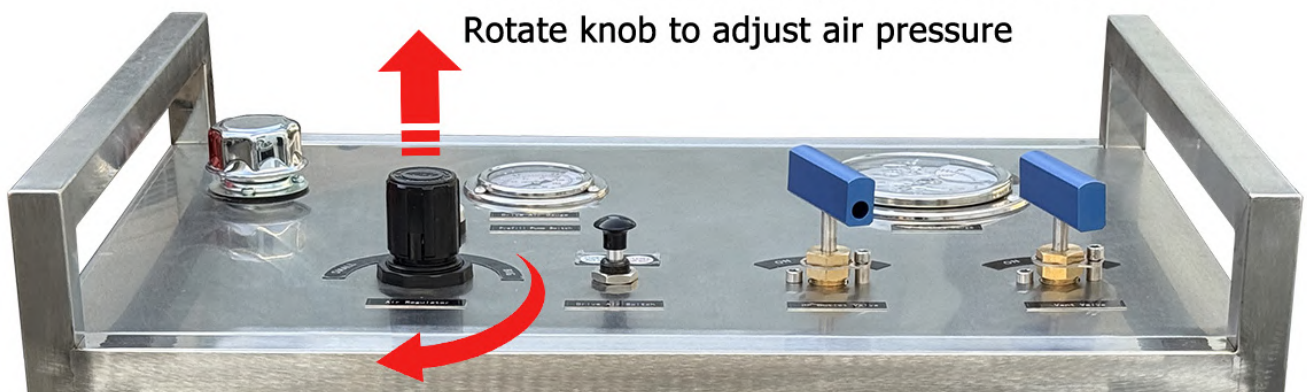
will affect the accuracy of test results. If the machine you purchased from us added a Prefill Pump, you can use it to quickly bleed air before hydro test.



Firstly, turn on **HP Outlet Valve** and **Vent Valve**, then turn on **Prefill Pump Switch** to start prefill pump. When all air bubbles disappear in **Transparent Hose**, stop bleed air. Then turn off **HP Outlet Valve** and **Vent Valve** tightly.

Step 2: Set a test pressure on the machine.

Pull up knob to unlock, Push down knob to lock
Rotate knob to adjust air pressure



Pull up **Air regulator** knob and rotate it clockwise, when air gauge readings reach

your desired pressure, push it down, then pull out **Air Switch** to start the machine.

Tips: If you accidentally set the testing pressure too high, or you plan to adjust testing pressure lower, just turn on **Vent Valve** a little (not fully) to release some excessive pressure, then turn off Vent valve and reset a new target pressure.

Step 3: Turn on **HP Outlet Valve** (ensure Vent Valve is closed tightly), the machine begins to pressurize your workpiece, and outlet gauge readings gradually rise.

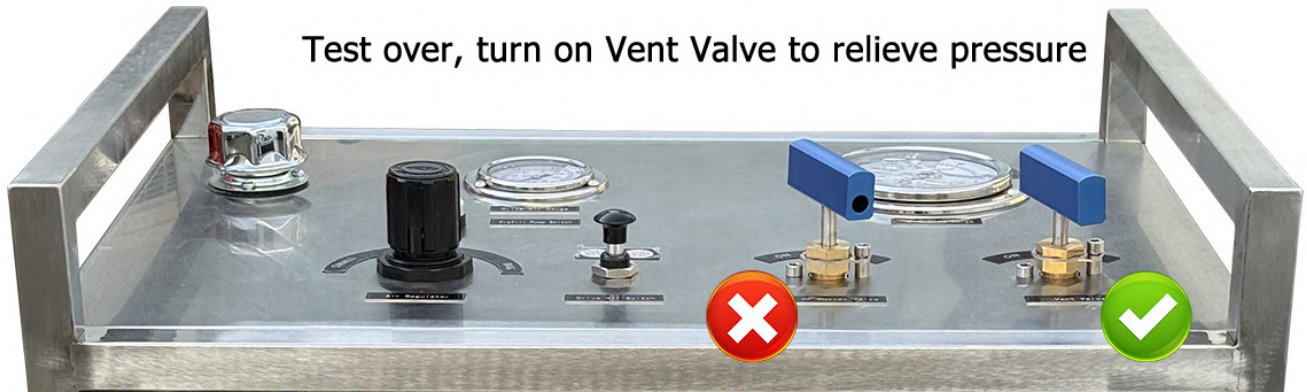


Step 4: The machine automatically stops when reaches your preset pressure. Turn off **HP Outlet Valve** tightly, the machine enters the pressure holding stage.



During pressure holding period, if your workpiece shows no leakage, deformation or cracking, it means your workpiece's pressure resistance is qualified, namely hydrostatic pressure test result is qualified. Otherwise, it is unqualified.

Step 5: Test over, turn on **Vent Valve** to relieve pressure, the water in your workpiece will flow back to Liquid tank.



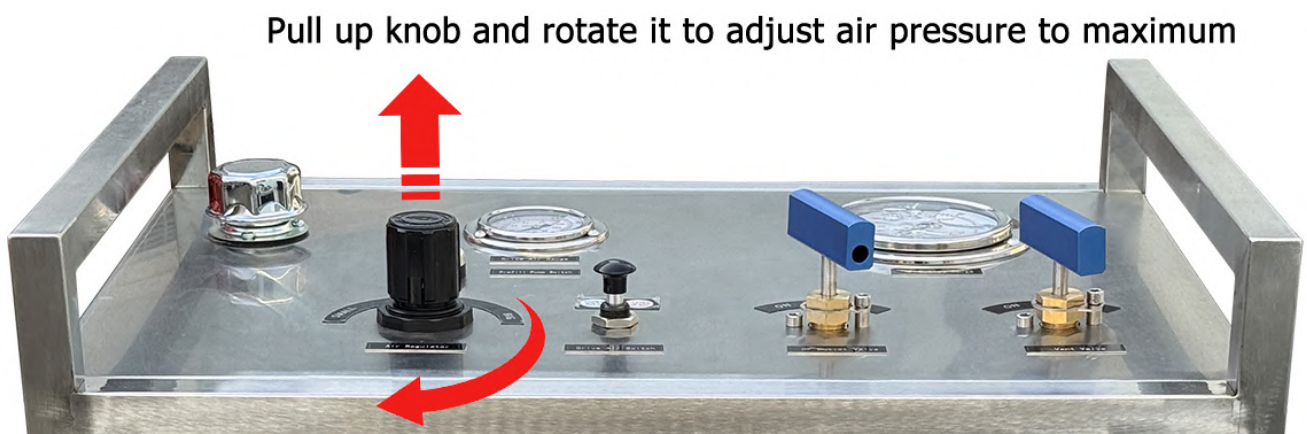
When outlet gauge reading returns to zero, it means no pressure inside your workpiece and the machine, now remove your workpiece from the test port.

Burst Pressure Testing Operating Steps

Bleed air → Pressurize → Burst → Record burst pressure

Normally, burst test comes after hydrostatic test, therefore, you do not need to repeat the operation of bleed air.

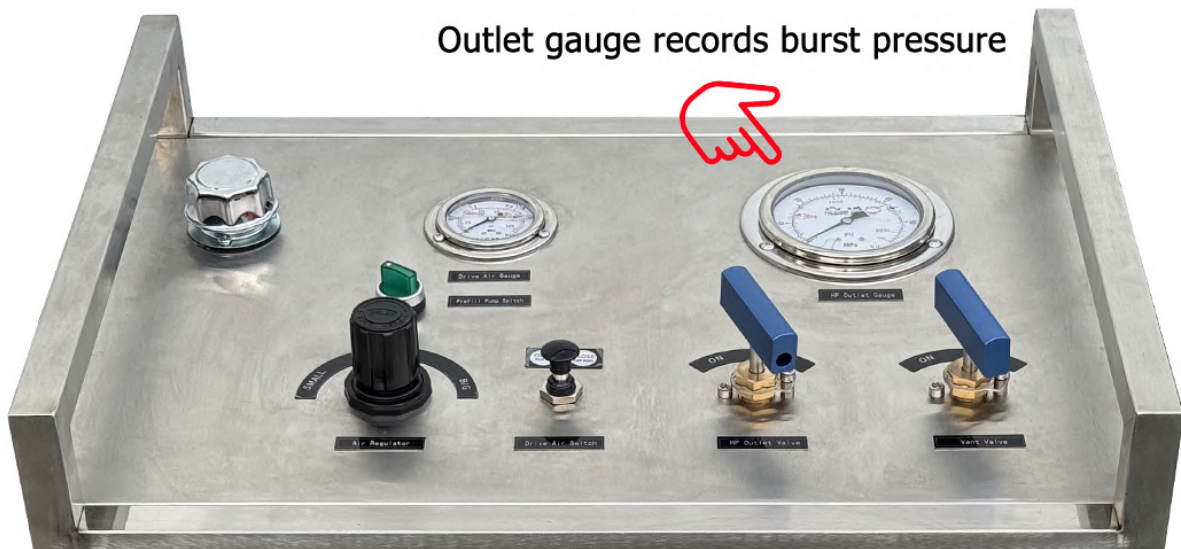
Step 1: Pull up **Air regulator** knob and rotate it clockwise to adjust air pressure to maximum, then pull out **Air Switch** to start the machine.



Step 2: Turn on **HP Outlet Valve** (ensure Vent Valve is closed tightly), the machine begins to pressurize your workpiece, and outlet gauge readings gradually rise.



Step 3: When your workpiece cannot withstand a certain pressure, it will crack. At this point, outlet gauge reading is the burst pressure value.

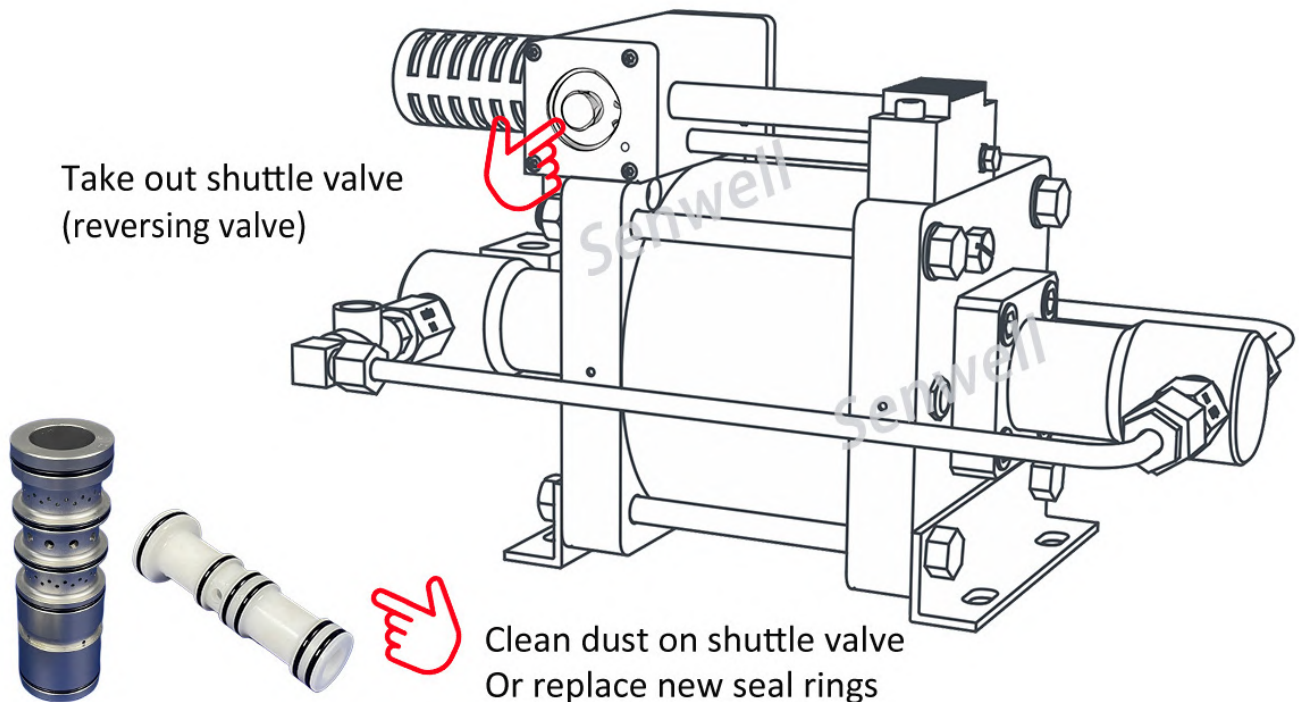


Step 4: Test over, turn on **Vent Valve** to relieve pressure. When outlet gauge reading returns to zero, it means no pressure inside your workpiece and the machine, now you can remove your workpiece from the test port.



Precautions

1. During machine running, if there is an emergency or you want to suspend the machine, please push down Air Switch.
2. The optimal range of driving air entering the machine is 1~8bar. If it exceeds 8bar, it may damage the pneumatic components inside the hydraulic pump.
3. If your normally working machine suddenly fails, the symptoms are that the hydraulic pump in the machine cannot reciprocate, and it can no longer output high pressure. In this case, it is basically because the dust and impurities contained in your compressed air accumulate in the shuttle valve of hydraulic pump, blocking the holes of the shuttle valve and even causing the shuttle valve seal rings to wear. Please remove the shuttle valve, clean off dust or replace new seal rings to solve the trouble.



Hydro Test Unit Troubleshooting

Each hydro test unit has been fully inspected before leaving factory. If the machine is not working properly for some reason, you can troubleshoot as below.

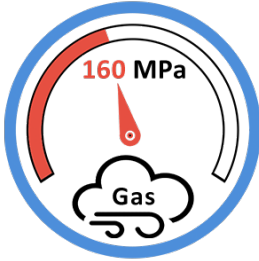
	Fault phenomenon	Reason Analysis	Solution
1.	The pump in Hydro test unit does not reciprocate, and muffler does not exhaust air or exhausts little air only.	1.Reversing valve is stuck	Take out the valve core of reversing valve, clean dust or foreign objects, apply grease and install it back
		2. Muffler blocked	Take the muffler off, clean it and install back.
2.	Pump does not reciprocate, but the muffler exhausts a lot of air.	O-rings on valve core of reversing valve severely worn.	Take out the valve core of reversing valve, replace new O-rings, apply grease and install it back.
3.	Pump piston reciprocates, but the piston stroke is not complete, causing pump working frequency is abnormally fast or slow.	1.The firing pin is stuck.	Remove firing pin and clean it
		2. Firing pin O-ring falls off	Remove the firing pin and reset the O-ring.
4.	The pump in Hydro test unit works normally, but can't pressurize medium or can't reach the rated pressure.	1. Foreign objects inside the check-valve cause it to jam	Disassemble the check valve and remove any foreign objects
		2. High-pressure piston seal is severely worn.	Replace new high-pressure seals for high-pressure piston.

Click to Watch Demo Videos

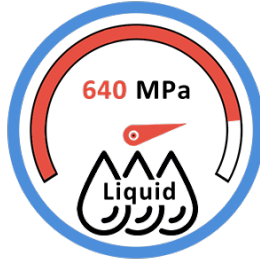
192MPa Portable Hydro Test Unit <https://youtu.be/pTOxv606ieo>

Hydro Test Unit with Pressure Recorder https://youtu.be/3meZBGoV_Bs

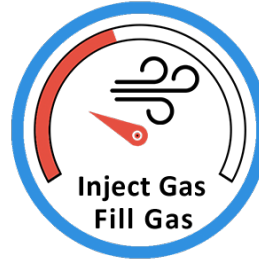
Hydro Test Unit with Prefill Pump <https://youtu.be/kwVwUJj2Bu0>



Gas booster



High pressure pump



Gas fill machine



Pressure test machine

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Any improvements or upgrades will be made without prior notification. Pls refer to actual products.

