Operation Manual

Content

1. Introduction

WY-50000W-BJ2 Portable hydro test pump is a multi-functional testing equipment using water as medium, as well as compressed air as driven power; it has the function of real-time record and step-less pressure regulation.

This equipment is available to the hydro static test for pressure vessel, piping, valves, cylinder, hose, etc, as well as used in various fields of chemical, construction, plumbing, petroleum, coal, metallurgy, shipbuilding, etc.

Improper operation on this high-pressure equipment has security risk,so please read this manual carefully before using the equipment.

1.1 Safety Criterion

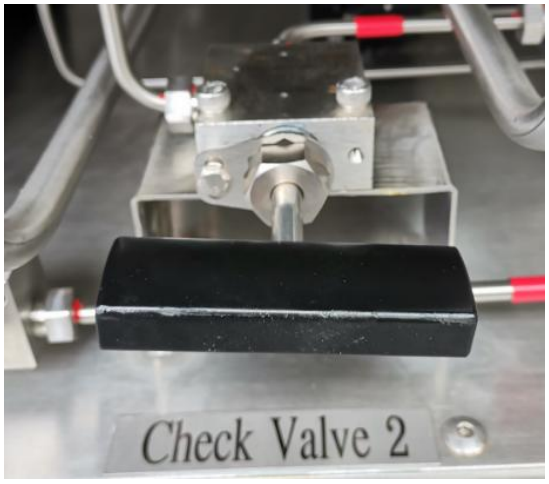
1.1.1 Equipment operation should be in accordance with process by professional or trained staffs.

1.1.2 Do not causally apart or change every connector, especially high-pressure nipple and safety valve nipple.

1.1.3 Driven air power must be cut off after using equipment.

1.1.4 Charging and power supply must be cut off after using equipment.

1.1.5 *WHEN PRESSURE EXCEEDS 30000PSI/250MPA, PLEASE CLOSE CHECK VALVE 2 ! OR, IT WILL DAMAGE THE SYSTEM !*



Warning

Do not tighten pipeline under pressure.

Only clean water can be the testing medium, do not use other medium.

1.2 Piping Color Instructions

NOTICE

Compressed Air

Low Pressure Medium

High Pressure Medium

1.3 After-Sales Service

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2.Working principle

2.1 Equipment Characteristics

2.11 Use low-pressure compressed air as driven power to keep convenience and safe.

2.12 Simple operation. Through the control panel, understand the operation method and principle quickly .

2.13 Chart recorder has data recording function.

2.14 Double scale shockproof pressure gauge display.

2.2 Schematic diagram

See attachment

3.Instructions

3.1 Working Condition

Ambient temperature: 0~ +60℃

Driven Air: 0-100 psi

Power supply: 220VAC 50Hz

3.2 Technical Data

1) Testing medium: Water
2) Max. Output pressure: 50000 psi
3) Max. Flow: 19 L/min
4) Max. Driven-air Operating pressure: 100 psi
5) Equipment connection:

   Compressed air inlet: 1/2 NPT

   Water tank outlet: DN15

   Drain outlet of water tank: G1/2

   High pressure outlet: 9/16 HP
6) Charging voltage: 220VAC 50Hz
7) Power: 15W

3.3 Main Elements Introduction

The equipment mainly consists of two parts, water pressurization and chart recorder.

Water pressurization refers to the relevant operation of the equipment through the panel to make the booster pump run and output the service pressure and flow required on site.

Chart recorder is a real-time paper recording method. The pressure data collected by the sensor is directly recorded on the paper in proportion through the pointer.

3.3.1 Booster pump 1

Model：WY2AH512　Pressure ratio：1: 512

Max. flow：0.47 L/min

Driven type：Compressed air driven

Driven-air pressure：0～120 psi

Max output pressure：61600 psi

3.3.2 Booster pump 2

Model: WYXH06　　Pressure ratio: 1: 06

Max. Flow: 19 L/min

Driven type: Compressed air driven

Driven-air pressure: 0～120 psi

Max output pressure: 1200 psi

3.3.3 Driven-air filter

Material: Plastic & Aluminum alloy

Model: EAF4000(Easun, China)

Max working pressure: 145 psi　　Connection: G1/2″

Usage: Driven-air filter provides clean compressed air and effectively filters moisture and dust not only in the compressed air, but also in the integrated auto drainage pipeline.

3.3.4 Driven-air Regulator

Material: Plastic & Aluminum alloy

Model: EAR4000(Easun, China)

Max Operating pressure: 145 psi　　Connection: G1/2(F)″

Usage: Adjust air pressure of low pressure pump, based on the pressure to estimate maximum output pressure of the low-pressure pump.

NOTICE

Use, pulls out regulator adjustment handle clockwise rotation regulator handle (H logo direction), increase drive air pressure can be achieved; counterclockwise rotation of the handle (L identifies directions), enabling the drive air pressure decreases, after adjustment is completed, press regulator handle, self-locking regulator.

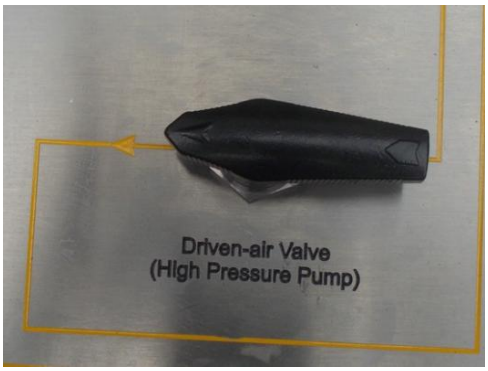
3.3.5 Driven Air Ball Valve

Model: BV-04OD(Rikun, China) Material: 316 stainless steel

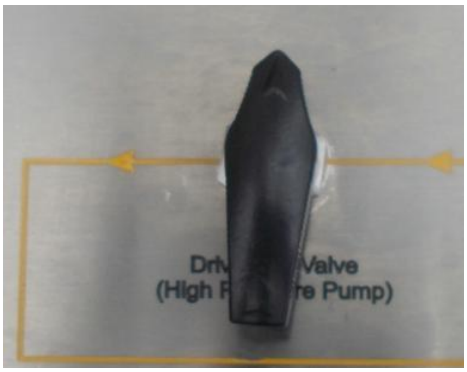
Maximum working pressure: 30 bar Diameter：9mm

Usage: Compressed air circuit for controlling the booster pump

Note: ON/OFF Instruction



ON



OFF

3.3.6 Driven-air Gauge

Model: BLD-YZ60/1.6

Material: 304 stainless steel

Max working pressure:16bar

Diameter: 60mm

Connection: NPT 1/4″

Usage: Observation of driven air after pressurization.

3.3.7 High Pressure Gauge

Model:YB100-600-HF4

Material: 304 stainless steel

Range: 0～60000psi

Connection: HF4

Usage: Observation of medium pressure after pressurization.

3.3.8 High Pressure Check Valve

Material: 316 stainless steel

Model: HS60121

Maximum operating pressure: 60000psi

Usage: Cut off the connection between the outlet of high pressure pump and the workpiece, but can not cut off the connection between outlet of low-pressure pump and the workpiece.

3.3.9 Tee

Model: T6023 Material: 316

Working pressure: 60000psi

3.3.10 Chart recorder

Power supply: 220 VAC 50Hz

Instructions attached

Function Description: Record on the paper in proportion through the pointer.

3.4 Operation

 **Warning**

Please stay away from high-pressure outlet when the equipment is running.

Turn on high pressure check valve while unloading pressure and stay away from discharge outlet**.**

3.4.1 Workpiece water injection operation

1) Connect the pressure test machine with the air supply source (air compressor) with the drive air pipeline.
2) Connect the pressure test machine with the test workpiece with the pressure test pipeline.
3) Turn on "driven air ball valve(1#)" and "HP check valve, turn off the" bleed off valve ", and the WYXH06 water injection booster pump starts to work.
4) After the completion of water injection, the WYXH06 will stop automatically.

3.4.2 Pressure test of workpiece

1) Adjust "pressure regulator" to "driven air gauge (2#)" to 2bar.
   See 3.3.4 for the application method of "pressure regulator".
2) Turn on "driven-air ball valve(2#)" and "HP check valve", turn off the "bleed off valve", and the WY2AH512 booster pump starts to work.
3) Slowly adjust the "pressure regulator", observe the value of "high pressure gauge" until the required test pressure is reached, and stop the operation.
4) It is recommended to turn off "driven-air ball valve" and "HP check valve" in the pressure holding stage.

5) After the test is completed, turn on "bleed off valve" to release the system pressure.

 ***NOTICE:***

1. During pressurization,please adjust the "driven air regulator" slowly to prevent overpressure caused by rapid operation

2. Output pressure= driven-air pressure x ratio

Example: when the driven-air is 5bar, the theoretical output pressure = 5 × 512=2560bar

3.4.3 Chart recorder

1) Open the protective mask of mechanical recorder.
2) Remove the recording pen (red).
3) Install recording paper.
4) Restore the recording pen.
5) Turn on the power supply switch of recorder equipment.
6) Automatic data recording.

4.Maintenance

 **NOTICE: Cut off driven- air and power before it's maintained.**

4.1 Maintenance for long-term stop usage

For keep excellent operation it should take following steps:

4.1.1 Cut off the air supply.

4.1.2 Drain the liquid storage tank.

4.1.3 Every other month, operate the system according to the methods in 4.1-4.2.

4.1.4 Regularly check the reliability of electrical control circuit of equipment.

4.2 Routine maintenance

Warning

Ensure Driven air is cut off and every pressure is unloading before its maintenance.

Maintenance should be taken by professional trainee.

4.2.1 Maintenance high pressure components

Adopted pressurized and high-pressure elements are both kinds of high accuracy which requires inspection and maintenance by professors. Please contact us if anything wrong.

4.2.2 Pipeline connection maintenance

After the long-distance transportation of the equipment, pay attention to check whether the connecting threads are loose. If they are loose, tighten them directly.

4.2.3 Equipment surface maintenance

Control panel dedusting twice a week, electrical circuit detection once a month.

4.2.4 Pressure regulator

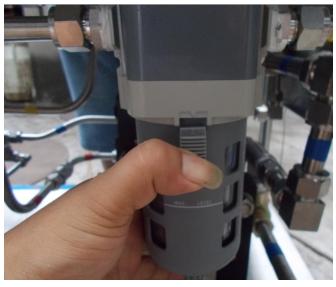
Regulator is used for output pressure adjusting. to adjust the output pressure of the elements of the device, and its main role is to come from the air compressor (gas tank) of 0.8Mpa air pressure adjusted to fit the device from the pressure regulator corresponding mechanical pressure gauge,It can display time-driven air pressure.

Use: Pulls out regulator adjustment handle clockwise rotation regulator handle (H logo direction), increase drive air pressure can be achieved; counterclockwise rotation of the handle (L identifies directions), enabling the drive air pressure decreases; after adjustment is completed, press regulator handle, self-locking regulator.

4.2.5 Air filter

Air filters is used to filter the impurities and water in the driven-air. It is should be installed at the compressor outlet of the filter. This secondary filter filters small impurities. If driven-air is not clean enough or after long-term use, the filter glass may have some water and impurities. When the filter stops working, water inside the cup will be automatically discharged, but the impurities should be regularly cleaned as follows:

Auto Drainer



Press this button →

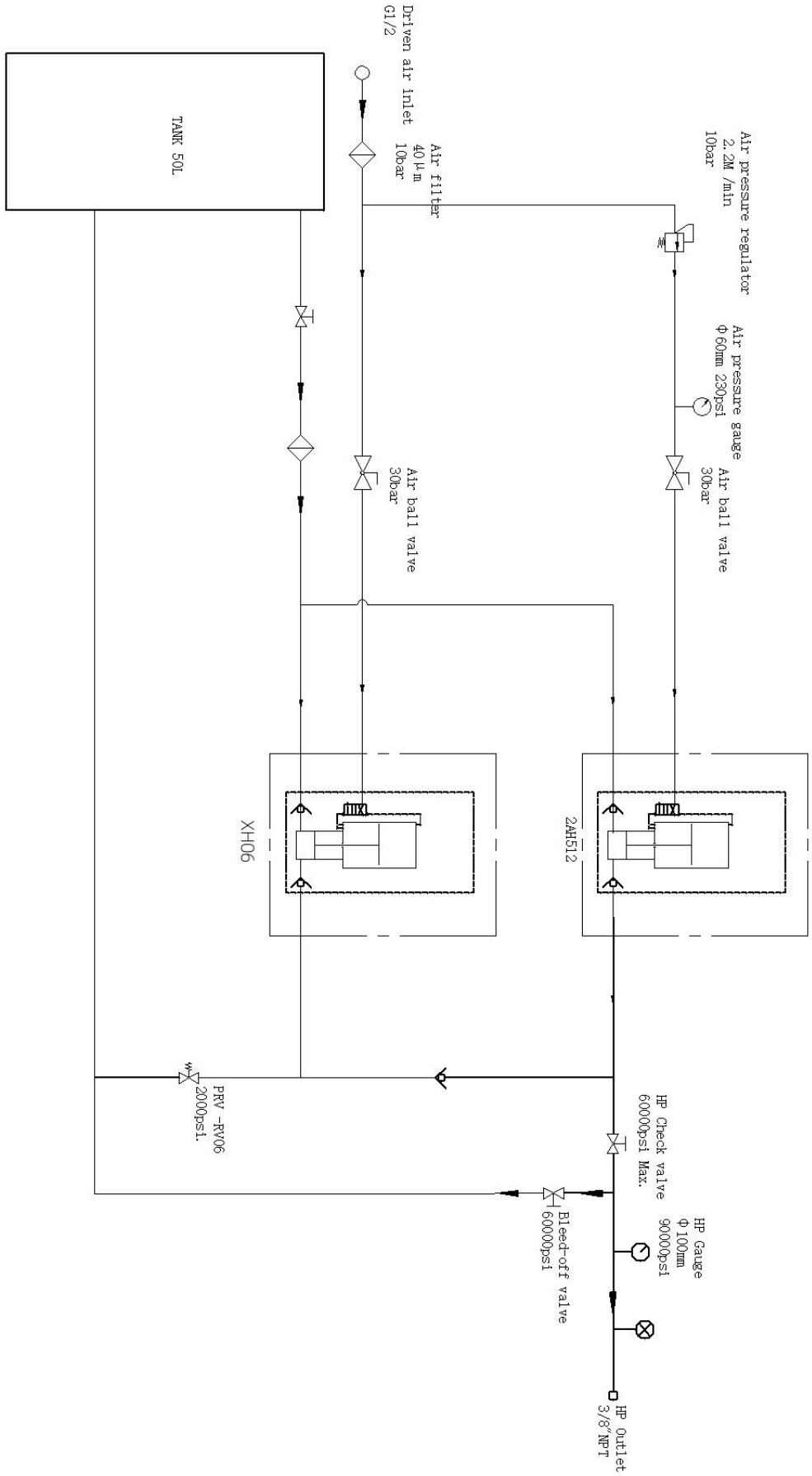
Rotate to this location →

Remove the cup

4.2.6 Parts Maintenance

Item	Maintenance period
Water inlet filter: Open the filter and get screens out to clean.	Once per month
Auto drainer: inspect storage condition	Once per month
Panel: clean dust	Twice per month
Pressure gauge: send to institutes for regularly inspection	Once per year

Attachment I: schematic diagram



Attachment II : electrical schematic