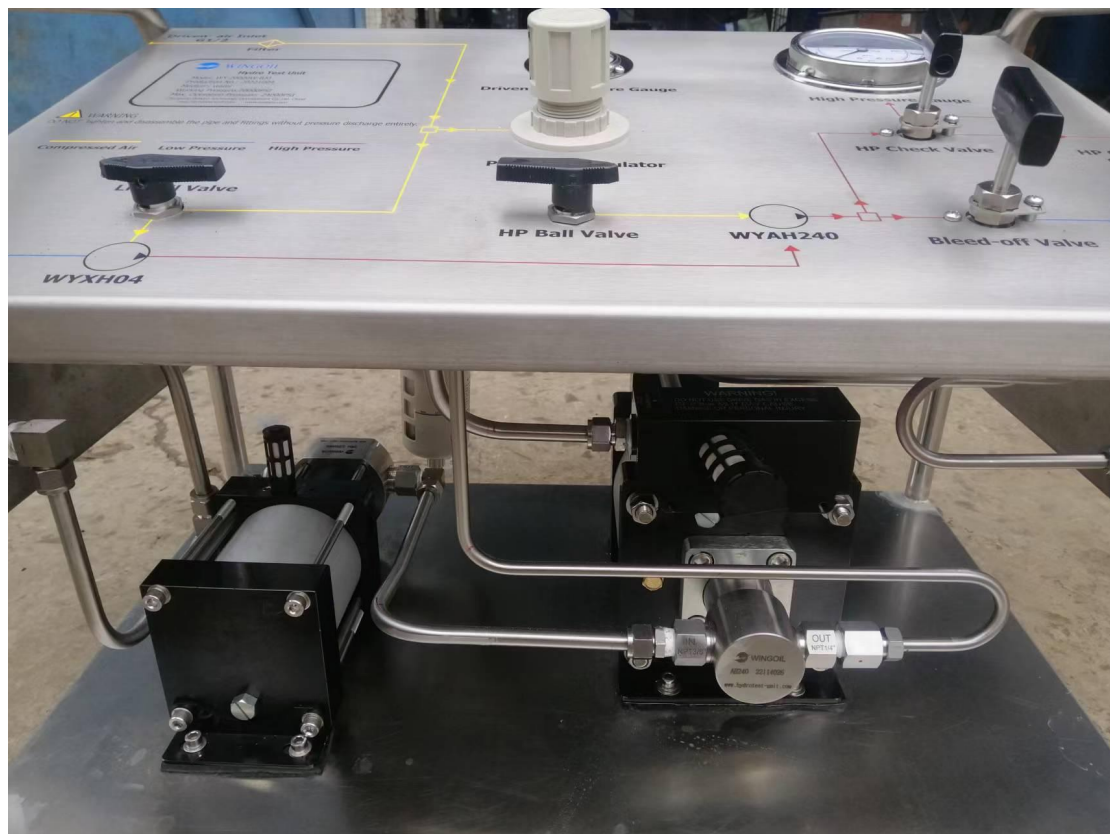


Operation Manual

(Portable Hydro Test Pump - WY-20000W-J0B)



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1. Introduction

WY-2000W-JOB Portable hydro test pump is a kind of pneumatic hydrostatic testing pump, which is designed and developed according to specific requirements and methods from customers.

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

1.1 Safety Criterion

- 1) Equipment operation should be in accordance with process by professional people or trainees.
- 2) Do not causally apart or change every connector, especially high-pressure nipples and safety valve nipples.
- 3) Routine maintenance should be taken in a certain period time. (see Chapter 5.2)
- 4) Driven air power must be cut off after using or repairing the equipment.



Warning




Do NOT tighten pipeline and fittings under pressure

Only clean water can be the testing medium, please confirm us ahead if use other medium or mixed liquid.

1.2 Color Instructions



NOTICE

	Compressed air
	Low pressure medium
	High pressure medium

1.3 After-Sales Service

Wellserv (Shandong) Petroleum Equipment Co., Ltd.

Address: Rm B-908, Jindayuan Times Square ,No.195 Huanghe Rd,

Dongying ,Shandong,P.R. of China

Email : info@wellservpec.com

Web : www.wellservpec.com

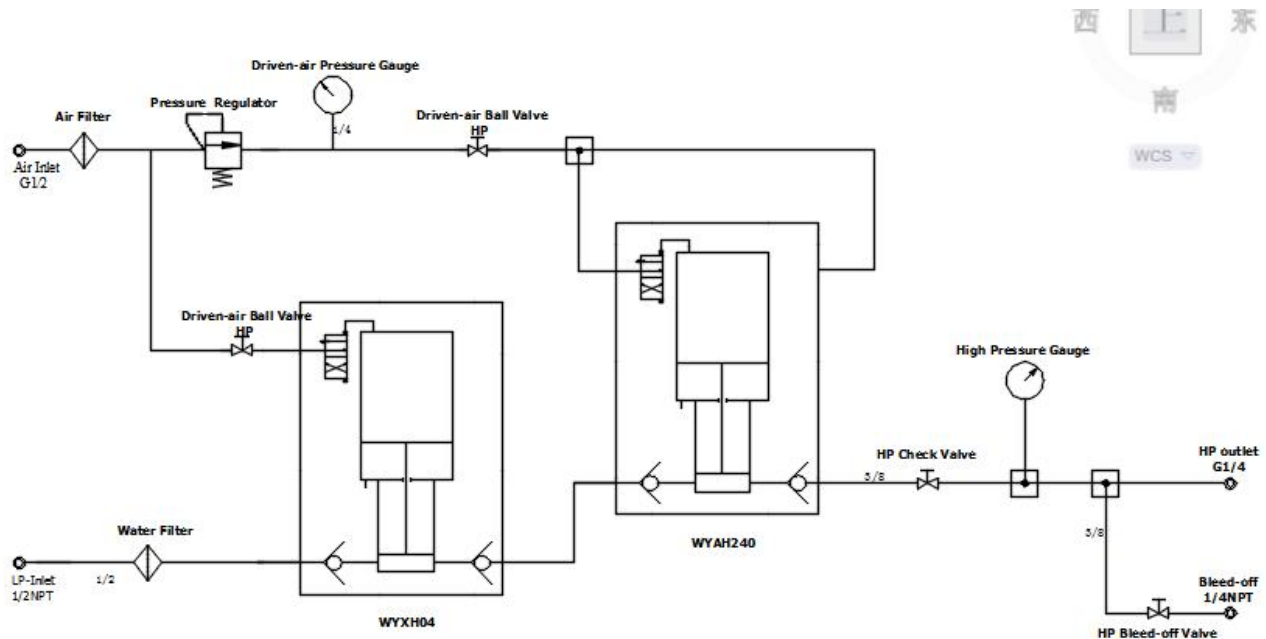
2. Working principle

2.1 Characteristics

- 1) Pressurized stable and reliable, equipment selecting air drive pump, can quickly complete the pressurized operation.
- 2) Simple operation, the user can be quickly familiar with the operation methods and mechanisms through the schematic diagram and instruction.
- 3) Safe use, using 316SS as the main pressure components.
- 4) Anti-corrosion strong, the wet parts and panel are made of stainless steel.
- 5) Low energy consumption, packing process does not require additional energy consumption.

2.2 Schematic diagram

The equipment is a pneumatic hydro testing pump. Compressed air is used as the power source to drive the plunger pump to operate, which can provide relatively stable pressure and flow. Meanwhile, it does not need additional energy consumption in the process of pressure holding, and there is no over pressure in the pressurization process.



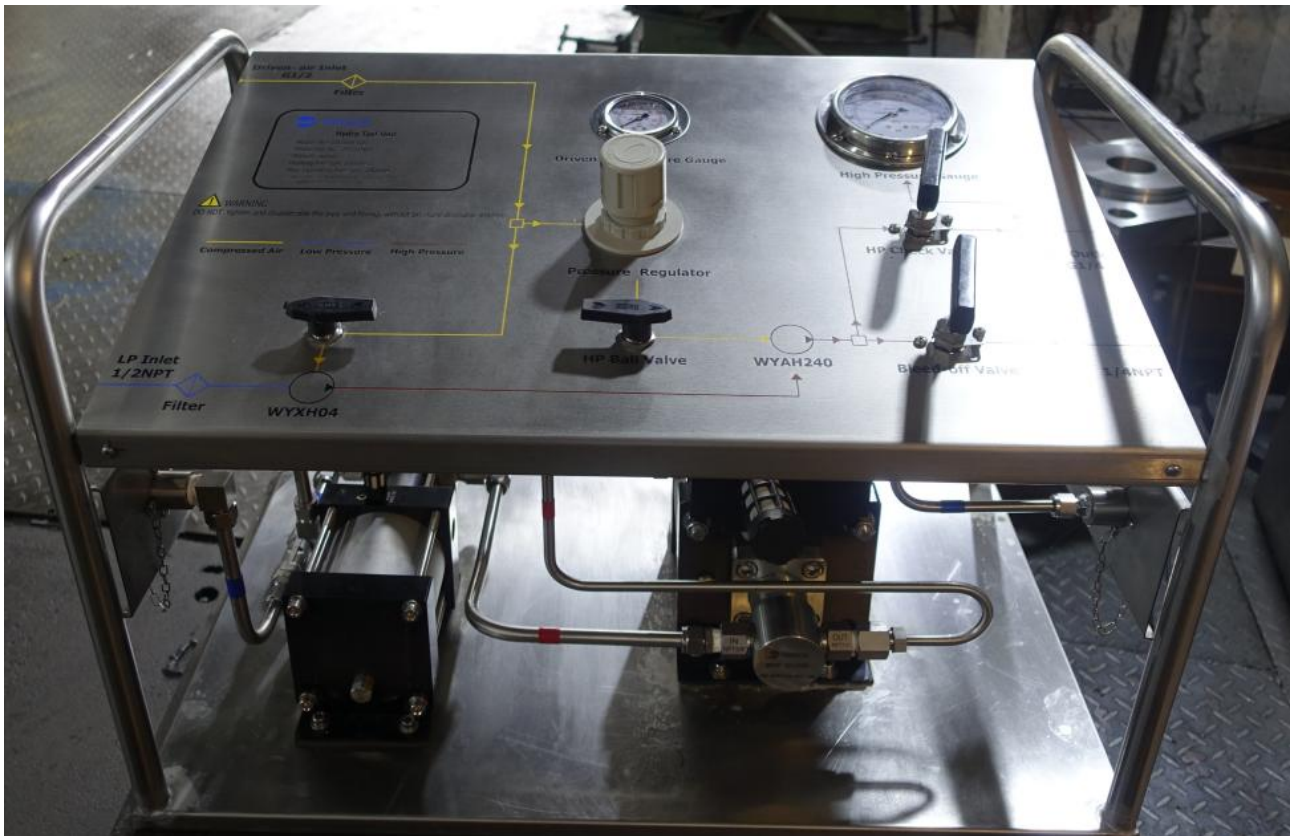
3. Instructions

3.1 Working Condition

Ambient temperature: 0~ +40℃

Driven air supply: 1-8bar

Low water: 40L/min



3.2 Technical Data

- 1) Testing medium: clean water
- 2) Max. output pressure: 20000psi
- 3) Max. flow: 26L/min
- 4) Gauge precision: +/-1.6FS
- 5) High pressure pipe: 316SS
- 6) Low pressure pipe: 316SS
- 7) Max. working pressure of valve: 30000Psi
- 8) Pressure gauge range: 0~35000psi, double scale
- 9) Connector:
 - Compressed air inlet: G1/2
 - Water Inlett: 1/2NPT

- high pressure outlet: G1/4

Bleed-off Outlet: 1/4NPT

10) Dimension: 800L×500W×550H

11) Net weight: ~65KG

Note: The connection and the operating panel flow chart are corresponding to the position indicated by the arrow.

3.3 Main Components

Function description: portable hydro test pump is consist of pressurized pump, pressure regulator, needle valve, check valve, bleed-off valve, filter and pressure gauge.

3.3.1 Booster pump 1

Model: WYXH04

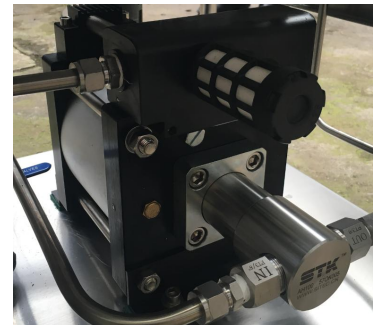
Pressure ratio: 1: 4

Max. flow: 26L/min

Driven type: Compressed air driven control type

Nominal driven pressure: 0~7bar (102psi)

Max. output pressure: 400psi@7bar air



3.3.2 Booster pump 2

Model: WYAH240

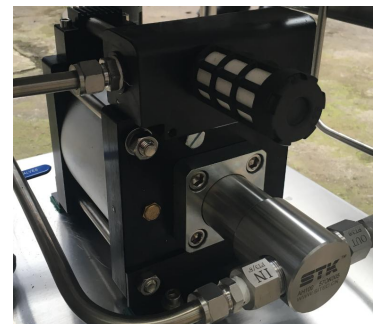
Pressure ratio: 1: 240

Max. flow: 0.5L/min

Driven type: Compressed air driven control type

Nominal driven pressure: 0~7bar (102psi)

Max. output pressure: 24000psi@7bar air



EAR系列减压阀EAR4000

3.3.3 Pressure Regulator

Model: EF4000

Operating pressure: 10bar (145psi)

Drive air outlet: G1/2 (F)

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

3.3.4 Driven-air filter

Model: EAF4000

Working pressure: 10bar (145psi)

Size: G1/2



Functional description: 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.

3.3.5 Driven Air Ball Valve

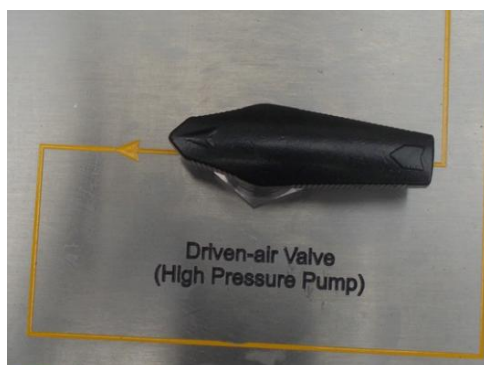
Model: BV-04OD1/2

Material: 316SS

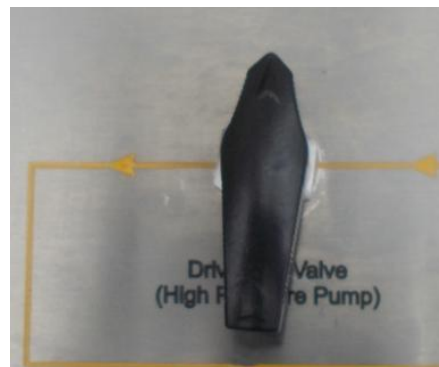
Maximum working pressure: 64MPa

Usage: compressed air circuit for controlling the booster pump

Note: ON/OFF Position as below



ON



OFF

4.Operation



Warning

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

4.1 Work piece pressure test operation

1) The pressure test skid and the air supply (air compressor) are connected together by the driving air line

2) The test skid is connected with the work piece by the test line

3) The test skid is connected with the low pressure water by line

4) Open the panel "LP Ball Valve" and "HP Check Valve", close the "Bleed-off valve", and the WYXH04 booster pump starts to operate.

5) Close the "LP Ball Valve" until the workpiece has been full filled.

6) Adjust the panel "Driven-air Regulator", so that the "Driven air gauge" to 2bar

4) Open the panel "HP Ball Valve" and "Check Valve", close the "Bleed-off valve", and the WYAH240 booster pump starts to operate

5) Slowly adjust the panel "Driven air Regulator", observe the "high-pressure gauge" indicator, until the required test pressure, stop operation

6) It is recommended to close the "Driven Air Ball Valve" and "Check Valve" during the pressure holding phase

7) Once the test is complete, start the "Bleed-off valve" to relieve the system pressure

P. S.

1) It is recommended to slowly adjust the "Driven air Regulator" in the pressurization process to prevent over pressure caused by fast operation

2) Theoretical output pressure calculation of booster pump:

Output pressure: P

Air-driven pressure: P1

$$P = P1 \times 240$$

E.g. when the driving air is 60psi, the theoretical output pressure $P = 60 \times 240 = 14400$ psi

5. Maintenance



Warning

Cut off driven air before it's maintained.

Disconnect the power supply before maintenance

5.1 maintenance for long-term stop usage

For keep excellent operation it should take following steps:

- 1) Disconnect the charging pile of the equipment
- 2) Do as the form in Chapter 4.1 every two month to prevent sealing ring from aging

5.2 Routine maintenance



Warning

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

Maintenance should be taken by professional trainee.

5.2.1 Booster pump and high pressure elements

Selected pressurized and high pressure resistant elements are both kinds of high accuracy

which requires inspection and maintenance by trainees. Please contact us if anything wrong.

5.2.2 Pipeline Connection

After the long-distance transportation of the equipment is completed, pay attention to check whether the connection threads are loose, and tighten them directly if they are loose.

5.2.3 Equipment Surface

Items	Check and maintenance period
Remove dust from the control panel surface	Twice a week
Test electrical circuit	Once a month

5.2.4 Pressure Regulator

5.2.4.1 The use of pressure regulator

Pressure regulator is the adjusting element of the output pressure of the equipment. Its basic principle is to control the output pressure of the pressurized equipment by changing the input pressure of the compressed air. Clockwise rotation of the pressure regulating valve handle (H marked direction), can achieve the increase of driving air pressure; Counterclockwise rotation of the handle (L marking direction) can reduce the pressure of the driving air.

5.2.4.2 Maintenance of pressure regulator

The main function of the pressure regulator is to adjust the 0.8mpa compressed air pressure from the air compressor (air storage tank) to the pressure suitable for the use of equipment. Through the mechanical pressure gauge corresponding to the pressure

regulating valve, the time driving air pressure can be displayed in real time. During using, pull up the handle of the pressure regulating valve to adjust. After the adjustment is complete, press the handle of the pressure regulator and the it is self-locked.

Attachment

Schematic diagram

