



Hydraulic Unit(MS-JY111-L)

Instruction Manual

眉山中车紧固件科技有限公司
MEISHAN CRRC FASTENING SYSTEM CO.,LTD.

Notice

1. Please read and understand the warning/caution label.
2. Only the personnel who have trained by Meishan CRRC Fastening System Company as well as learned this manual are allowed to operate this pump.
3. If any other information is required, please contact Meishan.

Warning

1. Please wear eye protection.
2. Only the approved part or components can be used for maintenance or repair.
3. This pump cannot be used in flammable environment.

Safety Instruction

1. A half hour long hands-on training session with qualified personnel is recommended before using Meishan equipment.
2. Meishan equipment must be maintained in a safe working condition at all times. Tools and hoses should be inspected at the beginning of each shift/day for damage or wear. Any repair should be done by a qualified repairman trained on Meishan procedures.
3. Repairman and Operator must read manual prior to using equipment. Warning and Caution stickers/labels supplied with equipment must be understood before connecting equipment to any primary power supply. As applicable, each of the sections in this manual have specific safety and other information.
4. Read MSDS Specifications before servicing the tool. MSDS Specifications are available from the product manufacturer or your Meishan representative.
5. When repairing or operating Meishan installation equipment, always wear approved eye protection.
6. Only genuine Meishan parts shall be used for replacements or spares. Use of any other parts can result in tooling damage or personal injury.
7. If a part affixed with warning labels is replaced, or labels are missing or damaged, the end user is responsible for replacement. Refer to assembly drawing and parts list for replacement part number and proper placement.
8. Disconnect primary power source before performing maintenance on Meishan equipment or changing Nose Assembly.
9. Tools and hoses should be inspected for leaks at the beginning of each shift/day. If any equipment shows signs of damage, wear, or leakage, do not connect it to the primary power supply.
10. Mounting hardware should be checked at the beginning of each shift/day.
11. Make sure proper power source is used at all times.

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1. Structure

1.1 Technical Data

Motor		1.5kw
Flow	piston pump	1.11L/min
	gear pump	4.0L/min
Max. Pressure	piston pump	700bar
	gear pump	170bar
Gross Weight		28kg
Unloading Valve		10-150bar
Regulating Valve		10-700bar
Pressure Limiting Valve of B Way		10-340bar
Dimension		540mm×400mm×700mm



1.2 Structure of Pump & Valve

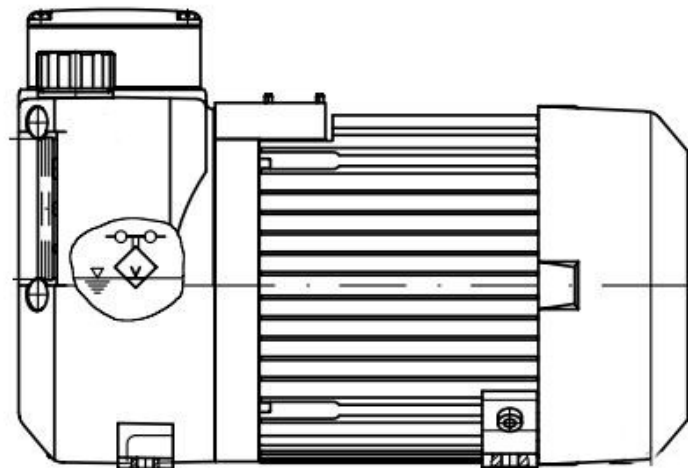


Fig.1 Structure of Pump

The pump contains motor, pump head, tank, liquid level switch, cooling system, etc..
The viscosity of hydraulic fluid shall be $4\sim 1500 \text{ mm}^2/\text{s}$ in which the best practise is

$10\sim500\text{ mm}^2/s$. The temperature shall be $-25^{\circ}\text{C}\sim+80^{\circ}\text{C}$. Depress the rivet tool in air for several circles before use to make sure the hydraulic fluid fully fills the hydraulic system.

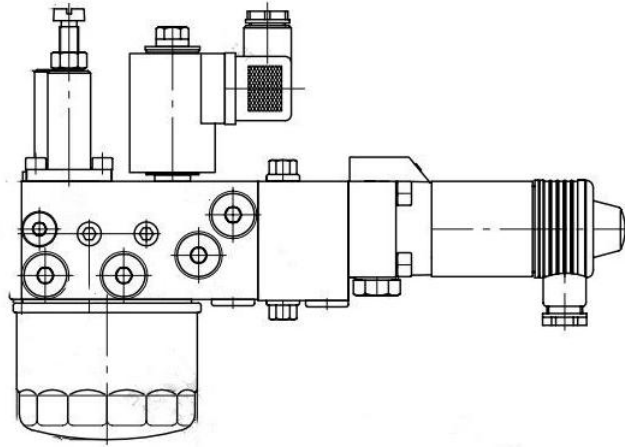


Fig. 2 Structure of Valves

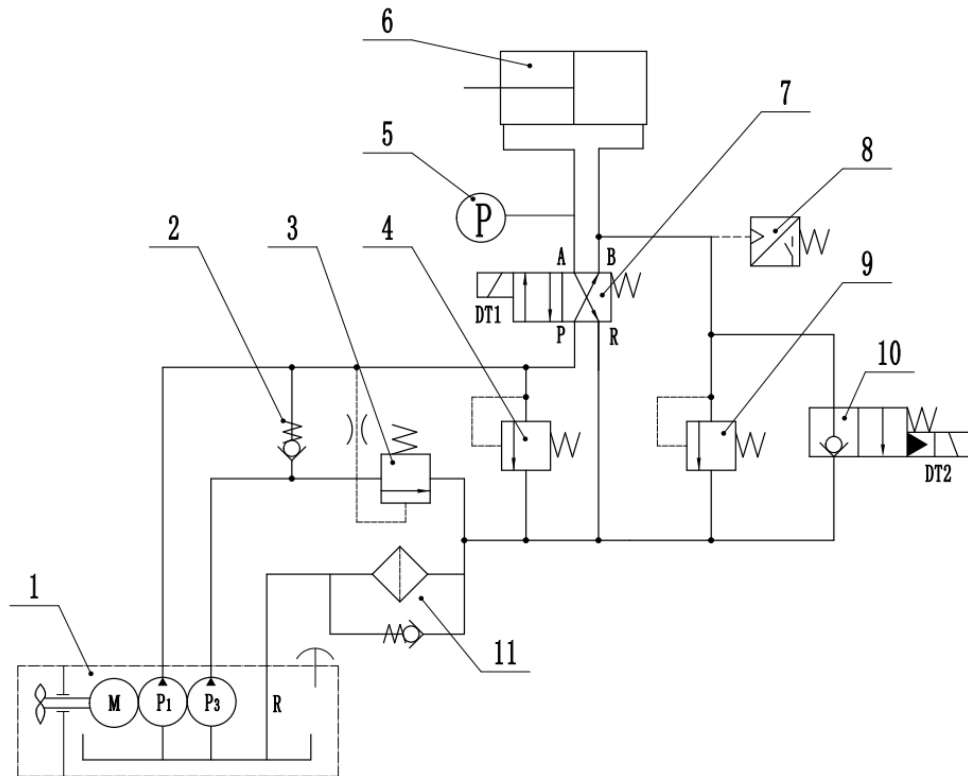
The valves contains master limiting valve, unloading valve, pressure limiting valve of B way, unloading changeover valve, magnetic directional valve, filter system, manifold block.

1.3 Hydraulic Tube

The hydraulic tube is equipped with high-pressure tube sourcing from CEJN, and quick disconnect couplers from Paker(paker371、paker372).

Recommended Hydraulic Fluid: 32# Anti-wear Hydraulic Fluid (temperature at $-12^{\circ}\text{C}\sim20^{\circ}\text{C}$) & 46# Anti-wear Hydraulic Fluid (temperature at $20^{\circ}\text{C}\sim50^{\circ}\text{C}$).

2. Principle of Operation



1	Hydraulic pump aggregate	7	Solenoid valve
2	Directional valve	8	Pressure relay
3	Unloading valve	9	Pressure-limiting valve
4	Overflow valve	10	Two-way solenoid valve
5	Pressure transmitter	11	Strainer
6	Installation tool		

Fig. 3 Principle Diagram

When the tool trigger is depressed, motor runs, DT1 is powered on, and the left contact of four-way solenoid closed, then the hydraulic unit start PULL circle. When PULL pressure reaches to a pre-set value, the DT1 is shut down, and the right contact of four-way solenoid closed, then the hydraulic unit start RETURN circle. When PUSH pressure reaches a pre-set value, the motor shut down, and DT2 is powered on for 1s, the pressure is released. See below for the action of solenoid valve.

Item Status	Trigger	Electromagnet DT1	Electromagnet DT2	Motor Status	Pressure Relay
Start Pull	+	+	-	On	Off
Pull Finished	+	+	-	On	Off
Start Return	-	-	-	On	On
Return Finished	-	-	-	On	On
Unloading	-	-	+	Off	Off

3. Pressure Setting of PULL & RETURN

3.1 Recommended PULL and RETURN pressure:

Tool Model	Nosepiece	PULL Pressure	RETURN Pressure
MS-2624PT	MS-5106	4900-5800psi	2650psi-3200psi
MS-BT20	MS-7880L (Installation)	4050psi-4350psi	2650psi-3200psi
	MS-7880CC (Cutting)	4650psi-5100psi	2650psi-3200psi

3.2 Adjusting the Pressure Setting

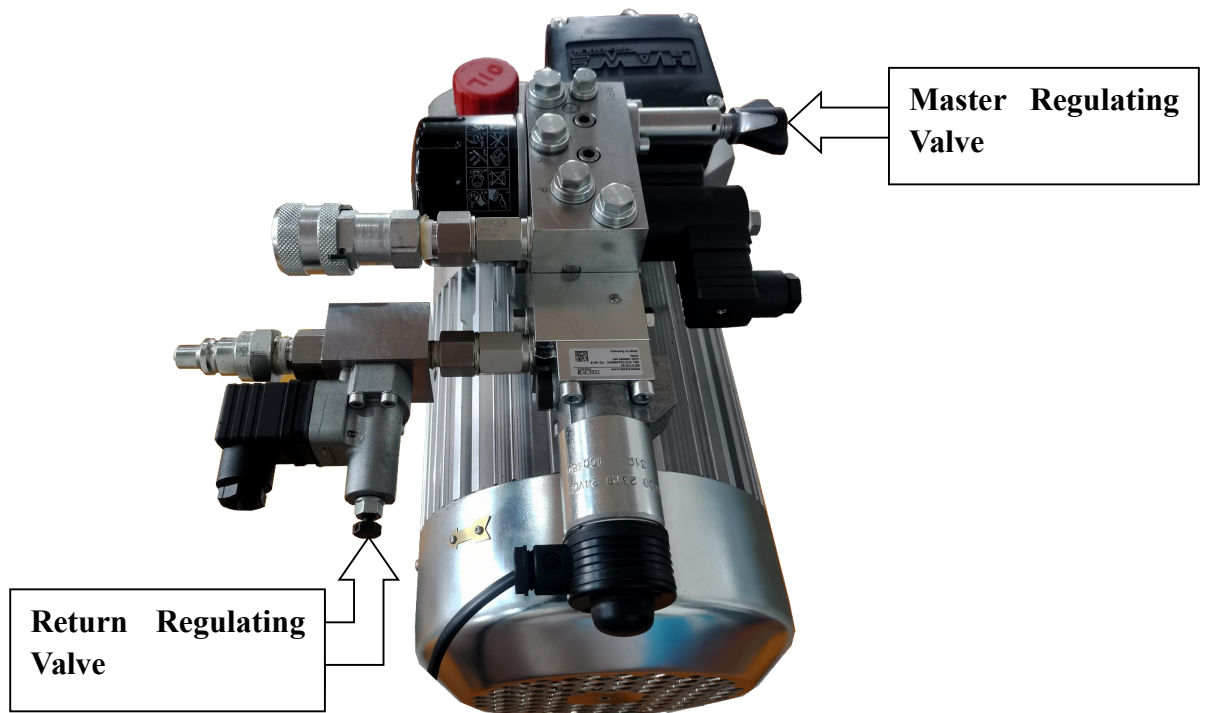


Fig. 4 Adjusting the Pressure

3.2.1 Master Regulating Valve for regulating the PULL pressure of installation and cutting tool:

- a. Turn the valve clockwise to rise the pull pressure;
- b. Turn the valve counterclockwise to decrease the pull pressure.

3.2.2 Return Regulating Valve for regulating the RETURN pressure:

- a. Loosen the locknut (white nut) on the valve;
- b. Start pumping;
- c. With a screwdriver, slowly turn the adjusting screw(black screw);
- d. Turn the adjusting screw clockwise to rise the pressure, turn the adjusting screw counterclockwise to decrease the pressure;
- e. When the desired pressure is reached, lock the adjusting screw in position by tightening the locknut while hold the position of the adjusting screw.

4. Preparation for Operation

- a. Repairman and Operator must read manual prior to using equipment. A training session with qualified personnel is recommended before using this equipment.
- b. Check all hoses and tools for damage and leaks. The leaks of hydraulic fluid leads to severe personal injury.
- c. Keep the coupler of pipe away from dirt. Any dirt or fiber leads to defect and must be cleaned up prior to using this equipment.
- d. The thread sealant tape is recommended to seal the thread of pipe to avoid leakage. DO NOT use plastic tape to enwind the thread of pipe, the chippings of plastic tape leads to damage to valve.
- e. Before connecting the tool trigger to hydraulic unit, the hydraulic pipe must be connected to the hydraulic unit first.

5. Maintenance & Cautions

- a. Keep the hydraulic unit clean.
- b. Replace the hydraulic fluid once running for every 250 hours.
- c. Disconnect the power supply of hydraulic unit while it is not supposed to be used.
- d. Inspect the level of hydraulic fluid regularly, add fluid as needed.
- e. Do not move the hydraulic unit by hauling the pipes; protect the structure shell from damage; protect the hydraulic unit from falling when moving it.
- f. Inspect all pipes and hoses for signs of damage and leaks, replace the hoses and accessories as needed.
- g. Inspect all connection of tools everyday before work.
- h. Regularly inspect the screws of tool and hydraulic unit for loosening.
- i. Take care of all connections from break, scrap and joint failure when using this hydraulic unit.



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