

Operation Manual

For KLV4020 series Electrical
Torque Wrench Pump



It is operating manual of KLW4020A Electrical Torque Wrench Pump,
please read carefully follow instructions, warnings and cautions before
using the tools.

Safety Guide

The hydraulic torque wrench pump's safe usage requires correct operation and regular inspect. And the user is requested to follow always and carefully .

▲ Precaution to avoid direct loss in economic 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 WREN or WREN's agent.

State: All product pictures descriptions may be changed due to product improvements and upgrades without notice. Please check with real products.

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WARNING

1. When using, do not permit any person stand at the oil output in order to avoid personal injury and equipment damage. Please put the pump far away from the fire.
2. Make sure that the hose and quick coupler be connected before building up the pressure in order to avoid hydraulic fluid spurting out to cause personal injury.
3. The maximum working pressure of this hydraulic pump is 700bar; the factory has set the pressure to 700bar when leaving the factory, never adjust the pressure to exceed the set pressure.
4. If the hydraulic pump is used to operate other supporting equipment, the working pressure of the supporting equipment should be less than 700bar, and the pressure should be adjusted to working pressure of the supporting equipment, otherwise the supporting equipment may be damaged; please refer to item 5 for the operation of adjusting the pressure regulating valve .
5. Fully consider safety, and the power source should be cut off before maintenance.
6. Before turning on the power source, turn off the button switch and loose the lock screw on pressure regulating valve.
7. Make sure to ground to avoid electric shock.
8. It is forbidden to start the hydraulic pump without oil, which will cause damage to the equipment.
9. Do not modify the hydraulic pump. If you do need to modify it, you should first consult the manufacturer or manufacturer's authorized agent. No manufacturer's book,It is agreed that modification is not covered by the warranty.
10. Do not fill hydraulic oil that exceeds the available oil volume, otherwise, the hydraulic oil in the oil tank will overflow, causing pollution to the environment and equipment.
11. When the quick coupler is interconnected, it must be fully engaged (Figure1),Only in this way can check valve in the quick coupler be opened to make the oil unblocked. Otherwise, the check valve in quick coupler cannot be opened after connection, causing oil circuit to be blocked, and there will be pressure in the pump when pressurizing, and the wrench cannot operate, the automatic relief valve on the swivel connector of the wrench opens, and the pressure begins to relieve. This may cause damage to the quick coupler, wrench, and even personal injury.
12. The hydraulic pump station must be kept clean, especially the oil outlet, quick connector, etc. The unclean hydraulic oil is the main cause of the hydraulic pump failure.
13. Stay away from locations where high pressure hydraulic oil may overflow; hydraulic oil may penetrate your hands and cause serious injury.
14. If hydraulic oil sprays into your eyes,immediately rinse with clean water for about 15 minutes, and then go to the hospital to clean your eyes.
15. Do not touch the hose with pressure;if the hydraulic oil is sprayed,it will cause serious injury.
16. The hydraulic hose is a consumable accessory. There is no problem after visual inspection, and there may be ruptures and pinholes inside. Considering the good condition of use, the hose should be replaced regularly, and sharp bends should be avoided during use.

NOTICE

1. Only use the correct hydraulic oil such as # 46 and #32 for hydraulic tools.
2. Used hydraulic oil should be disposed of in accordance with pollution prevention regulations.

1. Pump description

1.1 The KLW4020A series hydraulic pump, assembled in an integrated way, an independent and complete hydraulic device composed of power units, electrical units, control devices, etc., with large flow, small size, light weight, simple structure, convenient operation, and high working pressure characteristics, and the oil pressure at the high pressure outlet (port A) can be adjusted arbitrarily between 70bar and 700 bar.

1.2 Hydraulic oil used by electric hydraulic pump: 32# or 46# anti-wear hydraulic oil. It is strictly forbidden to use hydraulic oil that contains water and media that is corrosive to steel or aluminum.

1.3 The ambient temperature of the hydraulic pump: -10~60°C (If use the low-temperature hydraulic oil, it can be worked under -30°C).

1.4 The hydraulic pump is connected through high-pressure hoses and high-pressure couplers. For work safety, please use the original high-pressure hoses and high-pressure coupler. The maximum working pressure of the high-pressure hose equipped with the hydraulic pump is 700bar. Please select the matching pressure system when using it.

1.5 If you need to use accessory hydraulic products for this pump, please consult manufacturer's engineer.

1.6 Please do not use hydraulic pump near the flame.

1.7 The maximum working pressure of the hydraulic pump is 700bar. Please do not adjust the pressure regulating valve arbitrarily during use to avoid equipment damage and personal injury caused by high pressure.

1.8 Please confirm that the operating voltage of hydraulic pump is consistent with the voltage used on site.

1.9 Please use the pump indoors as much as possible, and rain-proof measures must be taken for outdoor use.

2. Profile Drawing and Parts Description

2.1. Description for main parts

(1) Oil reservoir: To store hydraulic oil, make sure there is enough oil to keep the pump working normally.

(2) Pressure Regulating Valve: Regulating pressure up and down or pressure value what you want by it.

(3) Pressure Gauge: Its range is 0~70Mpa(0~10,000psi), in other words, the maximum operating

(4) Frame: Pump frame for carrying and protection.

(5) Engine: 200V-240V/50Hz/1.1KW

(6) Oil Cooler: Cooling system for keeping long operation.

(7) Oil Gauge: Show oil level

(8) Oil Releasing Port: Take down the screw and release oil from this port.

(9) Electrical Control System

(10) Oil reservoir Plate

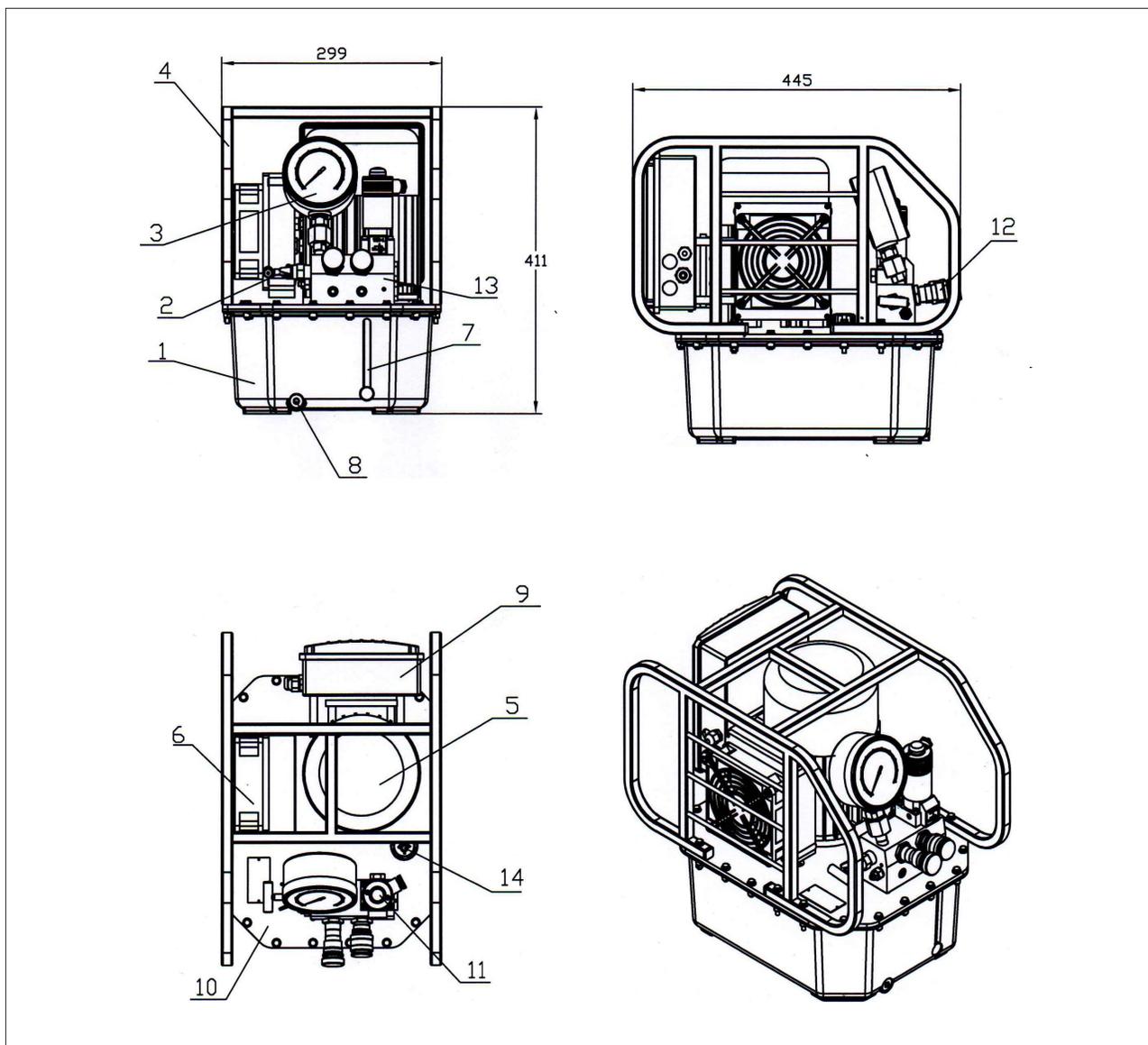
(11) Solenoid Valve: Remote control by this solenoid valve

(12) Quick Coupler: Connect Hydraulic system

(13) Valve Block

(14) Oil Filling Port

2.2 Profile Drawing



Item	Name	Item	Name
1	Oil reservoir	8	Oil Releasing Port
2	Pressure Regulating Valve	9	Electrical Control System
3	Pressure Gauge	10	Oil reservoir Plate
4	Frame	11	Solenoid Valve
5	Engine	12	Quick Coupler
6	Oil Cooler	13	Valve Block
7	Oil Gauge	14	Oil Filling Port

3. Characteristic

3.1 KLW4020 series is designed as a three stages high flow torque wrench pump, it can be operated one or two torque wrenches at same time. Port A is for high pressure connecting and Port B is for low pressure connecting.

3.2 MAX operating pressure: 700bar

3.3 Flow: 7L/min at low pressure; 1.6L/min at middle pressure; 0.8L/min at high pressure

3.4 Engine: Please see label sticker on engine

3.5 Temperature in working: 40~70°C

3.6 Dimension:299x445x411

3.7 Weight(without oil): 28kg

3.8 Hydraulic Oil: 32# or 46# anti-wearing Hydraulic Oil

4. Maintenance and Inspecting

4.1 Inspecting before operating

The inspection before operating

- (1).Please shut off the power and inspect whether the position of the power connection is loose or not. If it is loose, please tighten it.
- (2).Please inspect whether the hydraulic oil in the oil reservoir is enough or not, if it is not enough, please fill the oil in time.
- (3).The pump is still working when the direction of the solenoid operated direction control valve is changed, please build up pressure and inspect whether the whole equipment is normal or not.
- (4).Please inspect whether the house and other equipments are leaky or not, if this happened, please inspect to find the reason and repair it or replace it.

The inspection in operation

When inspecting the following items, if there is abnormal situation, please shut off the power and repair it.

- (1)Please inspect whether there are abnormal condition or not in the course of raising the pressure.
- (2)Please inspect whether the houses and other equipments are leaky or not.
- (3)Please inspect whether there is some abnormal noise, rocking and smell or not during the operation of the motor.
- (4)Please inspect whether the temperature of hydraulic oil is too high or not.

The inspection after finishing the operation of the pump.

- (1)Making sure the power must be cut off.
- (2)Please inspect whether there are leaky or abnormal condition or not. If there is abnormal situation, please inspect to find the reason and repair it
- (3)Please clean it after using the pump ,And cover on the dust cap.

Refer to the changing of hydraulic oil

The oil should be replaced once a year principally. If there are following abnormal conditions, please replace the oil immediately.

- (1)If dust mixes with the oil, please replace the oil.
- (2)If there is abnormal smell, please replace the oil.
- (3)If the water mixes with the oil, the colour of the oil has been changed into milkiness, please replace the oil.
- (4)If the colour of the oil has been changed into black-brown, please replace the oil.
- (5)unwonted status happened in pressure undulation.

The way replacing the hydraulic oil

- (1)Please loosen the oil filler port of oil reservoir.
- (2)Please take down the screw on the flank of the oil reservoir, let hydraulic oil out.
- (3)Please clean the inner of the oil reservoir.

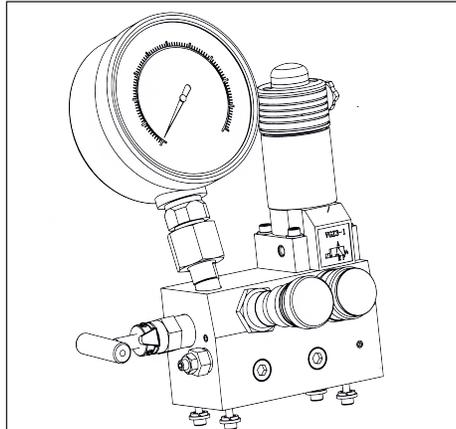
Please install the screw and fill the oil reservoir with the hydr

5. Operation

5.1 Preparation

5.1.1 Please tightly connect pump and torque wrench by hose , make sure the connecting is high port to high port and low port to low port.

5.1.2 Loosen the screw on regulating valve.

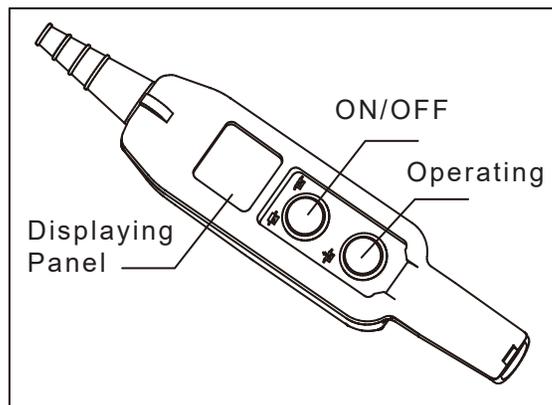


5.2 Regulating pressure to required value

5.2.1 Connect the power, turn on the switch at electronic box, then turn on the button on remote control to make pump starting.

5.2.2 Press down the operating button, and regulate the pressure to required value, then loosen from button and lock the regulating valve.

5.2.3 Press down operating button and try to operate several time without any load for eliminating air in system.



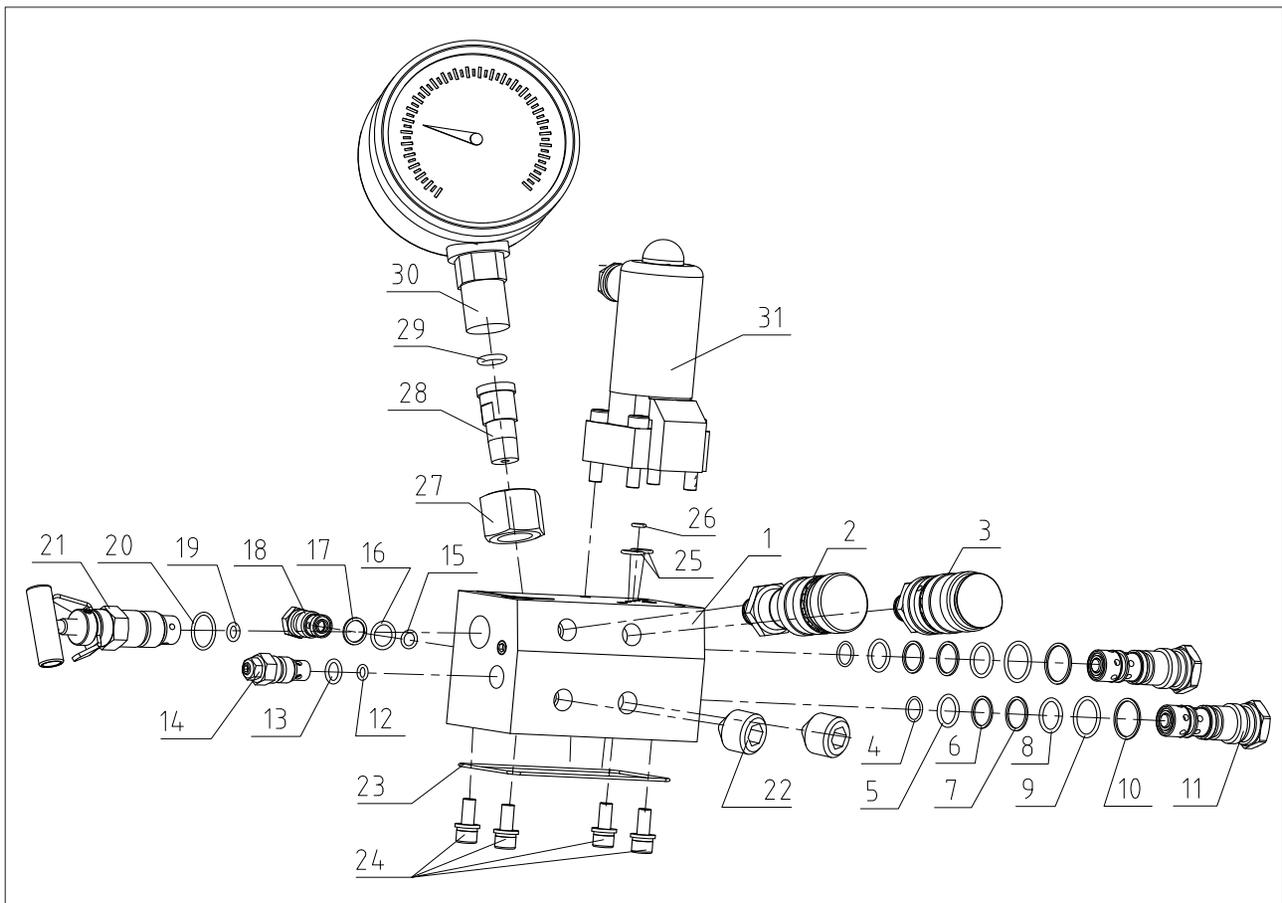
5.3 Working

5.3.1 Place tools on operated equipments, pressure down and hold on the operating button, pressure outputs, torque wrench starts to work; Loosen away from button and torque wrench piston will be retracted, then start again the operation till torque is finished.

5.3.2 After operation, press the button on remote control, then press the operating button to release pressure in system, if you can not release the system pressure, please press down top of solenoid valve to release pressure.

5.3.3 Turn off the button on electronic box and take down the power plug from power source, then take down the hoses, place pump, hose and tool in a safety and clean place for using in next time.

6. Part List for Valve Block Assembly



Item	Name	QTY	Item	Name	QTY
1	WE Valve Block	1	17	Backup Ring	1
2	Female Coupler	1	18	Check Valve	1
3	Male Coupler	1	19	O-Ring	1
4	O-Ring	2	20	O-Ring	1
5	O-Ring	2	21	Regulating Valve	1
6	Backup Ring	2	22	Plug Screw	2
7	Backup Ring	2	23	O-Ring	1
8	O-Ring	2	24	Inner Hex Screw	4
9	O-Ring	2	25	O-Ring	2
10	Backup Ring	2	26	O-Ring	1
11	Reversion Valve	2	27	Connecting Sleeve	1
12	O-Ring	1	28	Gauge Connecting Fitting	1
13	O-Ring	1	29	O-Ring	1
14	Low Pressure Regulating Valve	1	30	Pressure Gauge 1000Bar	1
15	O-Ring	1	31	Solenoid Valve	1
16	O-Ring	1			

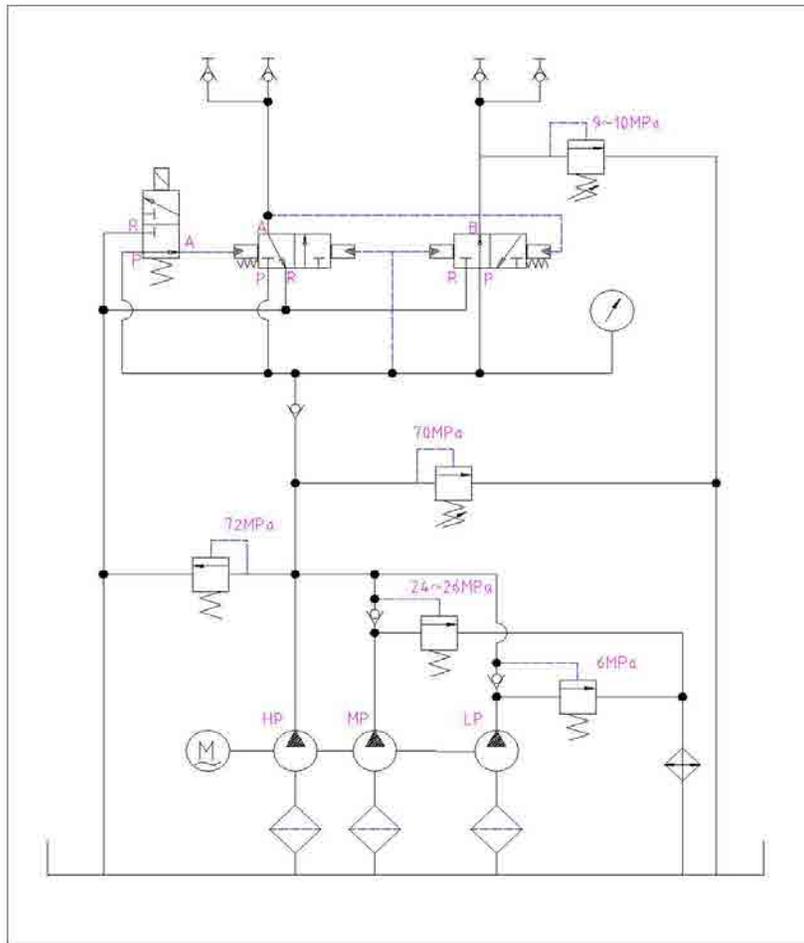
7. Part List for Pump Body Assembly

Item	Name	QTY
1	Gasket Seal	1
2	Bearing	1
3	Pump Shaft	1
4	Pump Body	1
5	Relief Valve ASSY	1
5-1	Relief Valve	1/set
5-2	Backup Ring	1/set
5-3	O-Ring	1/set
5-4	O-Ring	1/set
6	Safety Valve	1
7	Check Valve ASSY	2
7-1	Check Valve	1/set
7-2	Backup Ring	1/set
7-3	O-Ring	1/set
7-4	O-Ring	1/set
7-5	Backup Ring	1/set
8	Relief Valve ASSY	1
8-1	Relief Valve	1/set
8-2	Backup Ring	1/set
8-3	O-Ring	1/set
8-4	O-Ring	1/set
9	Fixing Plate	1
10	Screw	1
11	Bearing	1
12	Spring Clip	1
13	Spring Clip	1
14	Piston	4
15	Piston	2
16	Piston	2
17	Bearing	1
18	Pin	1
19	Terminal Plate	1
20	Screw	1
21	Connecting Plate	1
22	Screw	16
23	Filter	1

8.Trouble Shooting Guide of Hydraulic Pump

Mal function	Reason for caused malfunction	Solution
The pump can not be started	Un-suitable power source	Confirm if the power meets pump's need
	The power is not connected	Check the power
The system has no pressure	The coupler is not connected properly	Re-install
	No oil in the tank	Fill oil
	Not enough oil	Fill oil
	Check if flow control valve, single-direction valve in the system is open	Open the flow control valve to ensure the system is connected
The system has no pressure after reinstall the couplers	The couplers is not connected in the properly position	Uninstall the couplers, check if the steel roll is elastic with a rod, if it can not move please knock it with hammer to eliminate the mist hydraulic oil.
Leaking in the couplers	The o-ring, retaining ring worn out in the couplers	Replace the couplers
The system pressure can not reach to the rated pressure	The pressure for high-pressure leaking valve is adjusted too low	Please check the gauge, adjust it to rated value
	Oil is mixed with water	Replace the oil, please
	Ball steel in pressure relief valve may be broken or the valve seat may be frayed	Replace them, please
	Air may be sucked into the system	Repeat operating the system with no load for several times to eliminate air
	The leaking valve may be frayed	Replace it, please
	High-pressure leaking valve may not be tightened	Tighten it, please
	The o-ring for high-pressure leaking valve may be broken	Replace it, please
	There may be some inclusion into the oil	Wash the power pack valve and replace oil
There is a strong noise when the power pack is operated	The bearing may be broken	Replace it, please
	Air may be mixed into this power pack	Exhaust the air from the system
When using under static pressure, the pressure reduces slowly	The seal is out of control, please check all the seal	Replace the seal
High-pressure flux is not enough	Piston or spring may be broken	Change them, please
	Leaking may be happened at brushfire position	Tighten the couplers and replace the seals
	Oil lever may be too low	Fill the oil, please
	High-pressure system may not eliminate the oil fully	Please try several times without load before using
	Too low oil temperature may make lead to suck oil difficultly	Control the temperature at -10°C to 60°C , please
	Oil temperature may be too high that cause the damage of pump	If so, the power pack need to be replaced with new one

9. Drawing for Hydraulic Principle



10. Instruction for using Hydraulic Hose

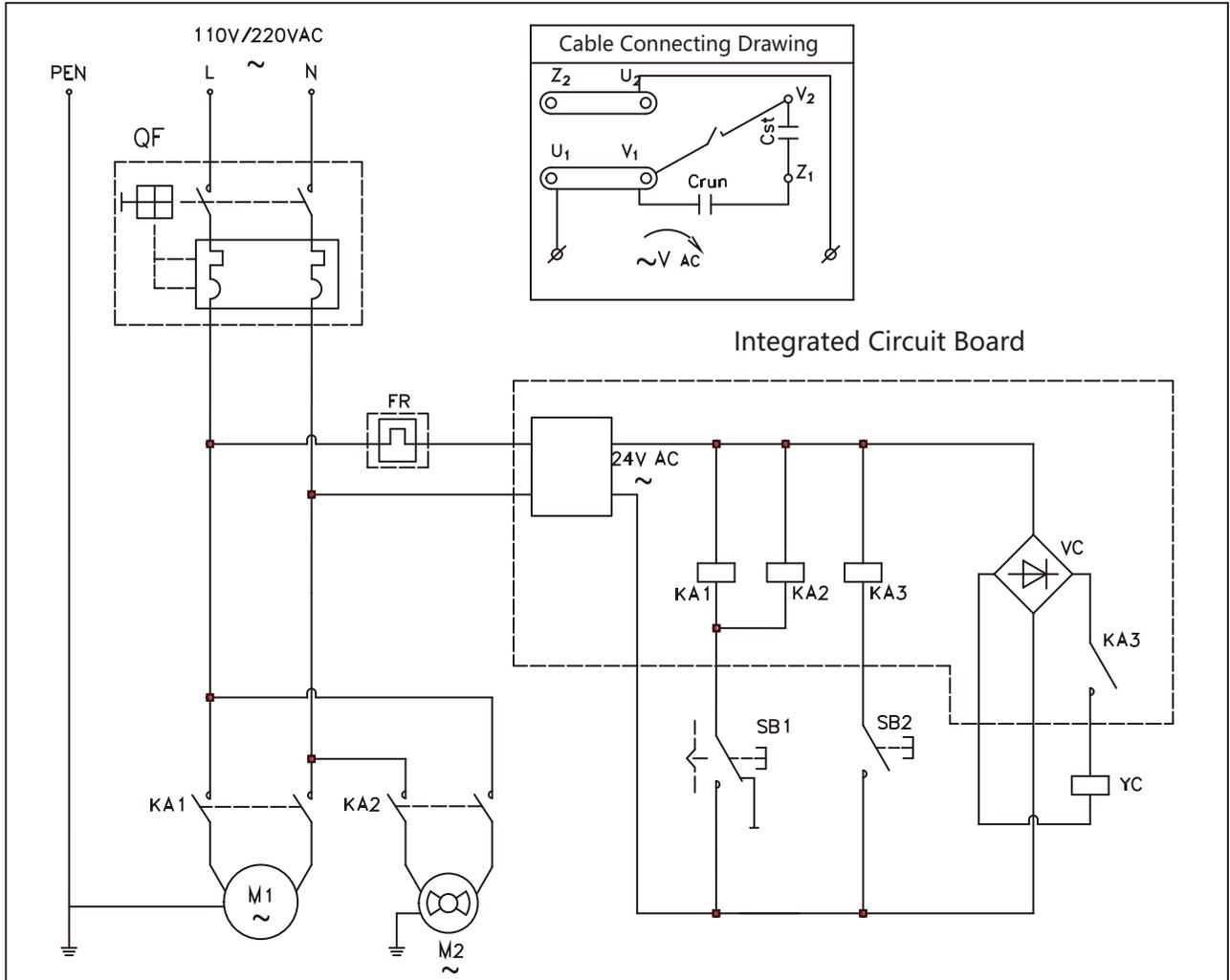
- 10.1 The minimum bending radius: $R > 120\text{mm}$. Too small bending radius will destroy the high pressure hoses.
- 10.2 The maximum operating pressure is 700 Bar, and it is forbidden to overpass the pressure.
- 10.3 Do not tighten hoses excessively. Over tightening can cause to premature thread failure or high pressure fittings to split at a pressure lower than their rated capacities.
- 10.4 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.
- 10.5 Do not use the hose to remove attached equipment. Stress can damage the hose, causing personal injury.
- 10.6 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.

After-sales Service

1. WREN guarantees quality of the material used for manufacturing products and quality of your technical fulfillment. The guarantee period of the products is 12 months from the date of selling.
2. If any quality issue due to the defects of the materials or craftsmanship is found within the guarantee period. WREN will be responsible and repair or replace the defective products for free.
3. If the equipment is damaged because of happenstance, wrong operating and modifying or repairing the parts without consulting WREN's technical service department, WREN will not guarantee these cases.

11. Drawing for Electronic Principle

For Pump with Voltage of 100V-220V

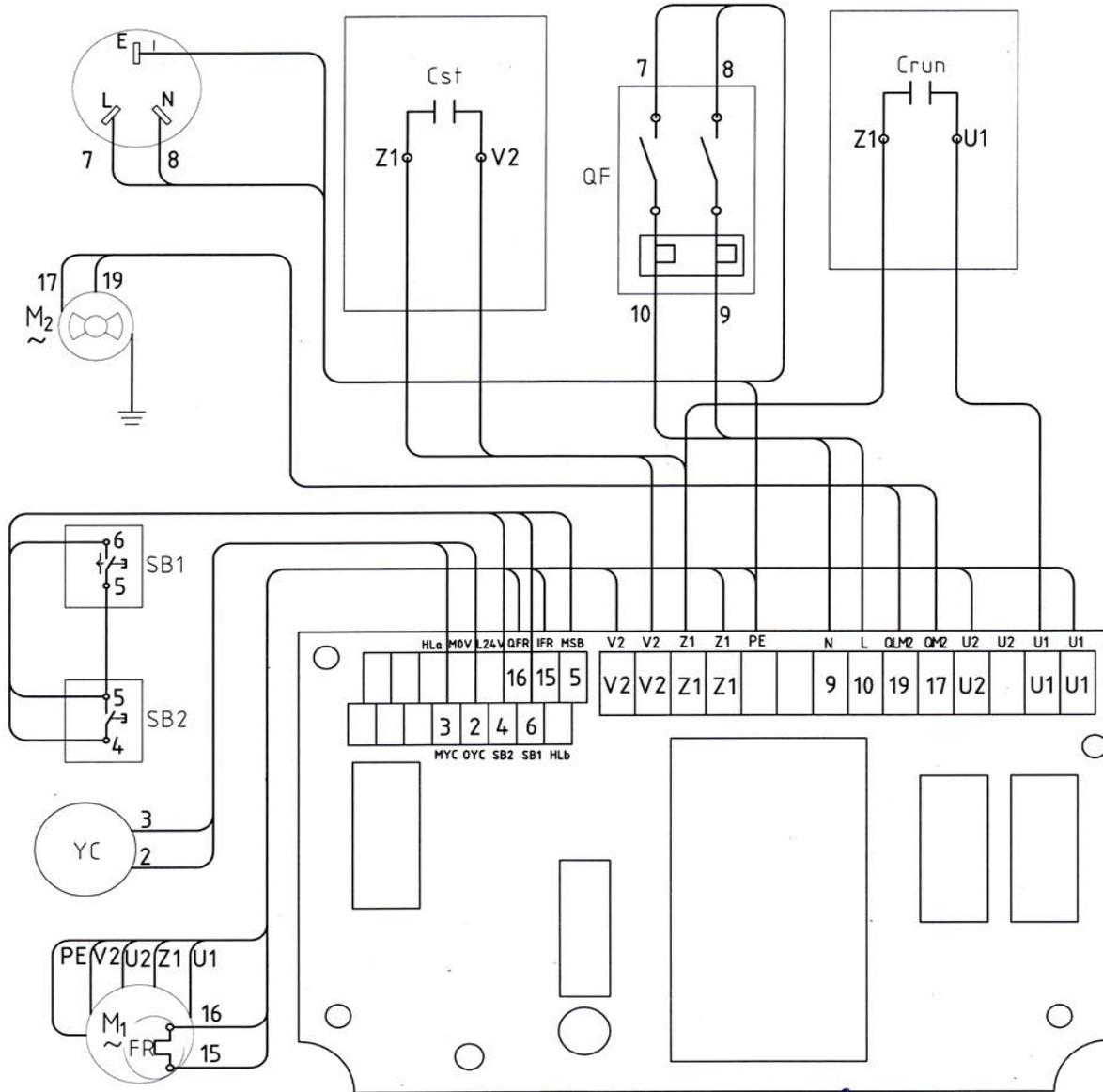


12. Part List for Electronic Elements

For Pump with Voltage of 200-240V/50HZ

Symbol :	Name	Specification	Remark
Crun	Working Capacitance	25uF 450V.AC	
Cst	Start Capacitance	150uF 300V.AC	
YC	Solenoid Valve	GZ3-1 24V.DC	
QF	Breaker	TRL32A(10A)	
M1	Single Phase Engine	1.1KW 220V.AC 50HZ	Thermal Relay (FR)
M2	Fan	220V.AC 23/21W	
SB1	Button (Lock)		
		GQ25-11Z	Remote Control
SB2	Button (Retract)		
		GQ25-11	Remote Control
	Integrated Circuit Board	BY31002	

13. Electronic Connecting Drawing



All Wren 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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