

BETW-200 ELECTRIC TORQUE PUMP INSTRUCTION MANUAL



Welcome to the world of Hydraulic Pump Tools This handbook contains the instructions, warning and trouble shooting guide.

Before operating, please read and follow carefully.

● Safety Guide

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

▲ Precaution to avoid direct loss in economic or property.

▲ Warning to avoid personal in jury.

Please follow hereinbefore!

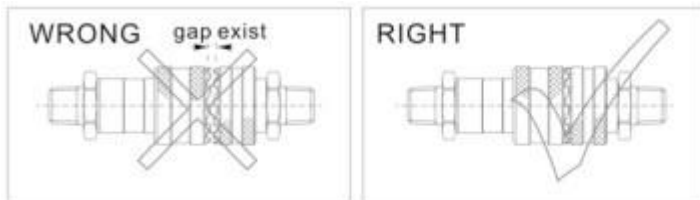
When using, if something abnormal happens, please shut off the power immediately, and the consult

ALL OF OUR PRODUCTS MAY HAVE UPGRADES AND CHANGES WITHOUT NOTICE, PLEASE MAKE THE OBJECT AS THE STANDARD.



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 operating pressure of this pump is 70Mpa (10,000Psi), has set up the pressure to 70Mpa before selling this pump. Please do not adjust to a pressure higher than the maximum pressure which has not set.
4. If this pump is used for operating other equipments, make sure the maximum operating pressure of the equipments will be less than 70Mpa. Please adjust the pressure to which the equipment need, or else the equipment would be damaged. (Reference content 5)
5. Make sure the power of the pump is shut off before repairing it.
6. Please shut off the switch before starting power; if the switch is on, the pressure may increase.
7. Make sure the equipment be connected with ground to avoid electric shock.
8. Do not start the pump without oil in tank.
9. Please do not change any part of the pump; if it must be changed, please inform or agent for help. Without allowance of or its agent, any refit of it will be out of our warranty range.
10. Please do not fill the pump reservoir with too much oil, otherwise, the pressure of the reservoir will increase and the oil will spill over, so the reservoir will be broken and the environment will be polluted.
11. When the pump works, the pressure may be increased with the returning oil. If the oil filler cop is opened at the moment, this may cause the injury.
12. make sure the quick coupler is tightened; if the quick coupler is not tightened enough, the equipment will not work normally; if it is a synchronic system, the problem may cause one or several pieces of equipment out of order and the quick coupler may be broken and it may cause personal injury of equipment damage.



PICTURE 1

13. Make sure to keep the pump in clean.
14. Please stand away from the position where the hydraulic oil may be spurt out; hydraulic oil may penetrate your hand and hurt you.
15. If the hydraulic oil splashed in your eyes, please immediately wash your eyes about 15minutes with clean water, then you must go to hospital for help right now.



PICTURE 2

16. Please do not touch the pressurized hose; if the hydraulic oil splashed out, it will cause serious injury.
17. Hydraulic hose is easily spoiled fitting; you inspect the hose with eyes regularly and find no problems, but the inner side may have crack and small hole; suggests you should change the hose regularly for smoothing use. When using, try to avoid bending the hose in sudden.

▲ PRECAUTION

1. Only hydraulic special oil available.
2. Do not use pressure regulator valve as relief valve.
3. The used hydraulic oil should be put always according to the antipollution ordinance.

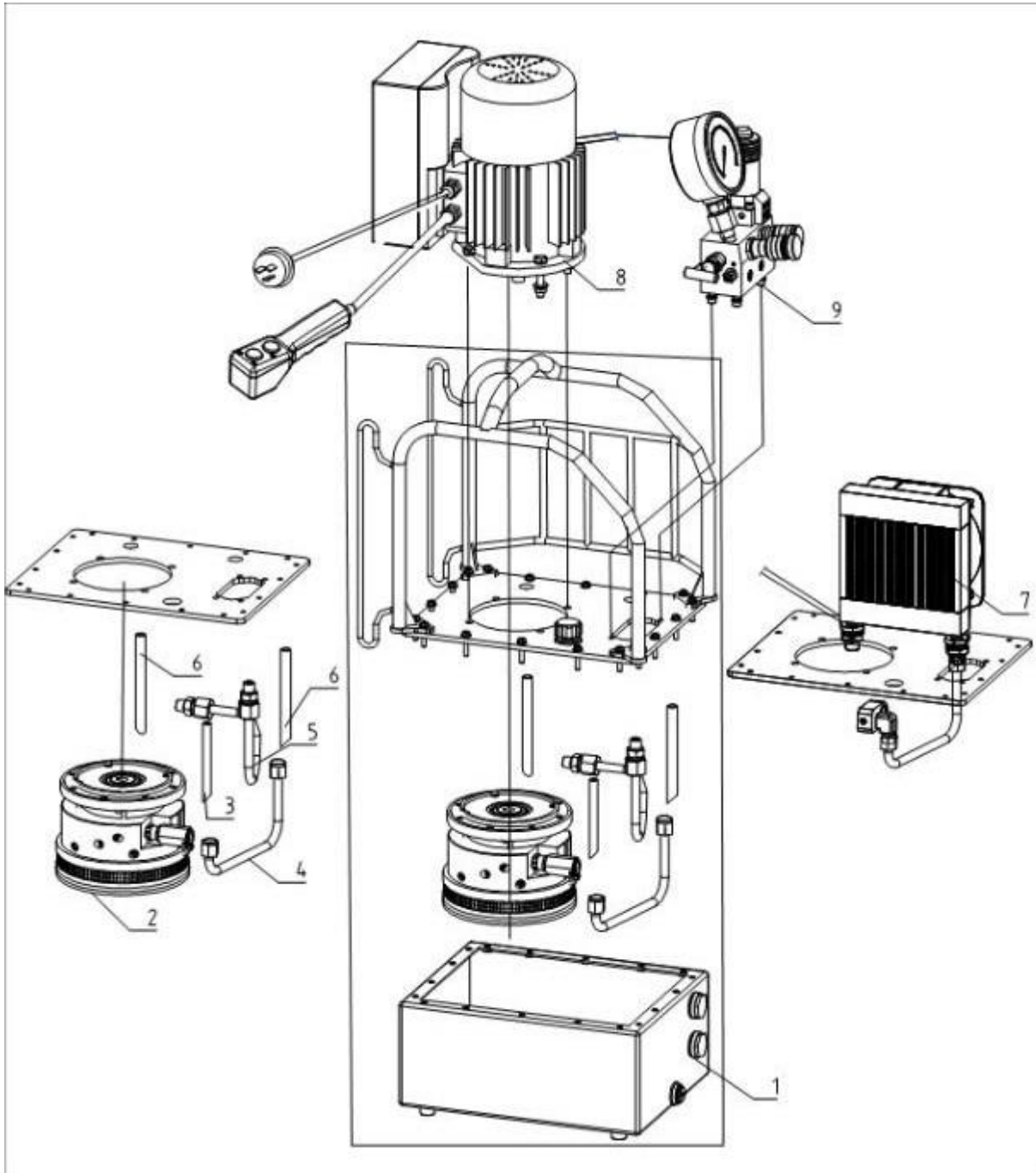
● DESCRIPTION

1. This pump is used for hydraulic torque wrench and fitted in integrated way, it its an independent hydraulic unit that mainly consists of pump, control valve, oil reservoir, motor, meter, control-line fitting, it has the peculiarity of small volume, light weight, simple composition, convenient operation, high working pressure. On high pressure, the pump can supply oil with one high and one low oil outlet at the same time, which could make a large quantity of oil outputting. On low pressure, the low pressure pump will automatically let oil return through the release flow valve, which can reduce power consumption, and the pressure of the outlet can be arbitrarily adjusted form 70 to 700bar.
2. Hydraulic oil for pump; 32# anti-wear hydraulic oil. No materials that contents water or have causticity to aluminum and steel are allowed.
3. Environmental temperature:-10-60°C(if change to use low temperature hydraulic oil, pump can operate in the state of -30°C)
4. Please use Belium's high pressure hose, high pressure coupler, and so on. The maximum operation pressure of high pressure hose for this pump is 100Mpa; please choose suitable system for it.
5. If you need to use attached hydraulic product for pump, please contact engineers.
6. Please do not use this pump around the fire.
7. Do not allow the working pressure over 700 Bar to avoid personal injury or equipment damage due to high pressure, If there are some special request, please feel free to contact engineers.
8. Please confirm that the voltage for this pump is the same as the voltage of using on the spot.
9. You'd better use the pump indoor, please protect the pump from rain if it is used outdoors.

● DESCRIPTIONS OF PARTS

1. Oil reservoir: to store hydraulic oil, make sure there is enough oil to keep the pump work normally.
2. The adjusting pressure regulator: Adjust this valve for setting the working pressure of power pack(the) max working pressure has been locked before sales, please do not change the locked pressure at any time.
3. Pressure gauge: its effect is 0-100Mpa, showing the working pressure of the power pack.
4. Frame for protecting: it is fixe don motor for carrying conveniently.
5. Motor: provide power.
6. Radiator: to exclude the heat, ensure the operating time and life of the pump.
7. Oil level measurer: it can help us know the oil level, when the oil less than the 1/3 of total, please fill thee special oil for hydraulic tools of
8. Release oil port: G1/4.
9. Control system: the integrated electric equipment of the pump
10. Cover plate for oil tank: seal the oil tank and install the parts of powerpack
11. Solenoid valve: its functions output oil when the pressure is very high, control the flow when return oil, and soon. It can be setup the maximum pressure and protect system to work normally at the pressure set up. The thread of oil output is NPT1/4".

● DESCRIPTIONS OF PARTS AND EXTERNAL DIMENSION



NO.	DESCRIPTION	QTY	NO.	DESCRIPTION	QTY
1	Reservoir	1	6	Oil Return Pipe 1	2
2	Pump Body	1	7	Oil cooler	1
3	Oil Return Pipe 1	1	8	Electrical Control	1
4	Oil Output Pipe 1	1	9	Hydraulic parts	1
5	Oil output pipe 2	1			

● CHARACTERISTICS

1. BETW-200 is three-stage pump. Pressure relief valve is assembled in the high pressure port. The flow of 0.8L/min is under the high pressure, the flow of 1.6L/min is under the middle pressure, and the flow of 7L/min is under the low pressure.
2. Max operating pressure: 70Mpa.
3. Flow: three-stage, can simultaneity use 2 torque wrenches.
4. Motor: 200-240V 50HZ 1.1KW /200-240V 60HZ 0.9KW /100-130V 60HZ 0.9KW
5. Suit working temperatune:-10-80℃
6. Reservoir dimension: 310x240x130cm
7. Weight(Without oil):27Kg
8. Hydraulic oil: SO VG 32#

● WHEN USING ONE SET OF WRENCH, PLEASE COVER TIGHTLY ANOTHER SER' S QUICK COUPLINGS WITH DUST CAP.



WARNING

----Must use stable electric source if power supply is un-stable (For instance, wind plant site and the environment that need the power direct)

1. When operating, do not permit anyone ot stand at the oil output.
2. When using, do not overpass the max operating pressure.
3. If need to check motor tank, please shut off the power.
4. When working, the oil back to oil reservoir may add the pressure. If open the cover plate, unnecessary in jury and damage will happen.
5. No operating without oil.
6. Keep the clean of the pump, especially the oil inlet, quick couplers.
7. Suggestion: in the conditions that do not use the pump frequently, please remember to replace the hydraulic oil every year.

Notice:

Please check if the connection is correct after adding the oil, if no error, and then operate.

Power supply must be firmly grounded.

● MAINTENANCE AND INSPECTION

1. 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 fo 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.
2. 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.
3. 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.

4. 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 color of the oil has been changed into milkiness, please replace the oil.

(4).If the color of the oil has been changed into black-brown, please replace the oil.

(5).unwonted status happened in pressure undulation.

5. 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 hydraulic oil.

WARNING: If the oil splashes into your eyes, please wash with clean water for at least 15 minutes, and Then see doctor immediately. If the oil bellows to industrial waste, it should be dealt with by special companies of collecting and processing these things.

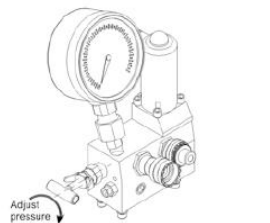
WARNING: Waste hydraulic oil bellows to industrial waste, it should be dealt with by special companies of collecting and processing this thing.

● OPERATION INSTRUCTION

1. Ready:

1.1 BETW-200 hydraulic power pump is designed for hydraulic torque wrench. There is a 2-way, 4-position solenoid operated direction control valve on the pump, port A is high pressure point, it can export the oil at the high pressure, and port B is low pressure point which can output the oil at the low pressure.

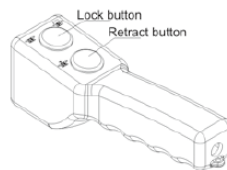
1.2 Please loosen the high-pressure valve for adjusting pressure before operating.



2. Adjust the pressure:

2.1 Please connect the power and push the switch at the position of "ON". Then press the lock button make the power pack working, then the power pack will output the low-pressure.

2.2 Please press the retract button on the controller and adjust the pressure unit the working.



Please reach to what you need, and then loosen the retract button on the controller.

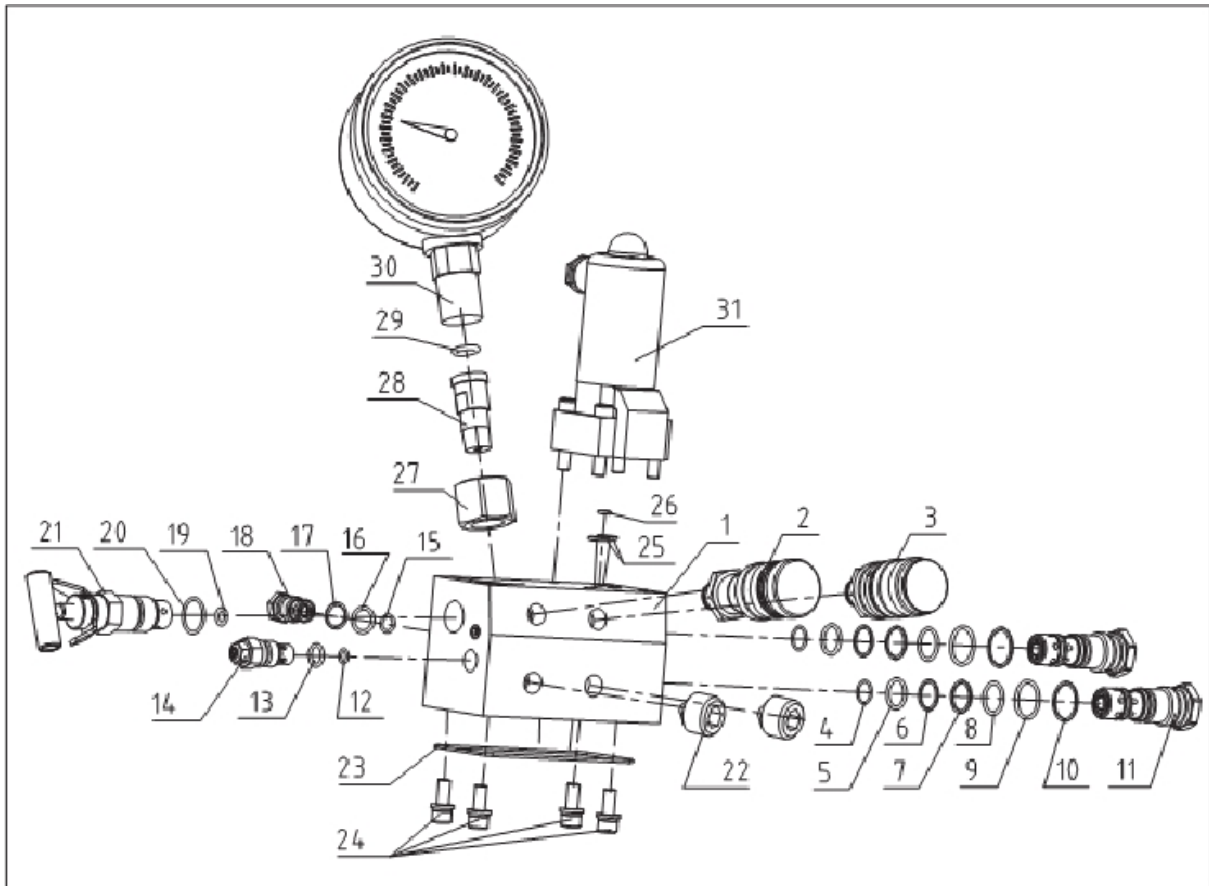
3. Operation:

3.1 Please press down the retract button on the controller, the pump output. The high pressure, torque wrench works; loosen from the retract button, the pump output the low pressure, the torque wrench retracts; press down the lock button, the button retracts, the pump stops.

3.2 After operating, please turn off the power. Then press the rubber button on the top of solenoid operated direction control valve in order to release the pressure in hoses and equipments, then you can take down the hose and cover the safety cap for the quick couplers.

Attention: First time to use or after service, please try several time to operate without any loading, this can eliminate the in system.

● PART LIST FOR VALVE SYSTEM



NO.	DESCRIPTION	QTY	NO.	DESCRIPTION	QTY
1	WE Type Block	1	17	Snap Ring	1
2	Fitting	1	18	Check Valve	1
3	Fitting	1	19	O-ring	1
4	O-ring	2	20	O-ring	1
5	O-ring	2	21	Pressure regulating Valve	1
6	Snap Ring	2	22	Block	2
7	Snap Ring	2	23	O-ring	1
8	O-ring	2	24	Hex Nut	4
9	O-ring	2	25	O-ring	2
10	Snap Ring	2	26	O-ring	1
11	Switch Valve	2	27	Gauge Fitting	1
12	O-ring	1	28	Gauge Fitting	1
13	O-ring	1	29	O-ring	1
14	Pressure regulating Valve	1	30	Gauge	1
15	O-ring	1	31	Switch Valve	1
16	O-ring	1			

● PART LIST FOR PUMP HEAD UNIT

Item	Description	QTY
1	Seal gasket	1
2	Circle	1
3	Bearing	1
4	Bearing pole	1
5	Pump head	1
6	O-ring	2
7	O-ring	2
8	Retaining ring	2
9	Release valve	1
10	Retaining ring	2
11	O-ring	2
12	O-ring	2
13	Retaining ring	2
14	Unilateralism valve	2
15	Safety valve	1
16	Release valve	1
17	Clip	1
18	Screw	1
19	Bearing	1
20	Circle	1
21	Piston	4
22	Piston	2
23	Piston	2
24	Bearing	1
25	Pin	1
26	Plate	1
27	Screw	1
28	Connecting plate	1
29	Screw	18
30	Filter	1

● TROUBLE SHOOTING GUIDE OF HYDRAULIC PUMP

Mal-function	Reason For mal-function	Solution
The pump cannot be started	Un-stable Power source	Confirm if the power meets the pump's need
	The power is not connected	Check the power connection
The system has no pressure	The coupler is not connected well	Re-install
	No oil in the tank	Fill oil
	Few oil in the tank	Fill oil
	Control valve or single direction valve is open	Open the flow control valve to ensure the system is connected
The system has no pressure after re-install the couplers	The couplers are not connected in the proper position	Uninstall the couplers; check if the steel roll is elastic with a rod. If it cannot move, knock it with a hammer to remove the mist hydraulic oil
Leaking in the couplers	The o-ring, retaining ring is worn out in the couplers	Replace couplers
The system pressure can not reach the rated pressure	The high-pressure valve is adjusted too low	Check the gauge, adjust it to rated pressure
	Oil is mixed with water	Change oil
	Steel ball in pressure relief valve may be broken or the valve seat may be frayed	Replace the ball and valve seat
	Air may be sucked into the system	Repeat operating the system without load several times to remove air
	The leaking valve may be frayed	Replace the leaking valve
	High pressure leaking valve may not be tightened	Tighten it
	The o-ring for high pressure valve may be broken	Replace it
	There may be some inclusion into the oil	Wash the power-pack valve and replace oil
Strong noise when the pump is running	The bearing may be broken	Replace
	Air may be sucked by this pump	Exhaust air in the system
When using under static pressure, the pressure reduces slowly	The seals are out of control	Check and replace the seals
High pressure flux is not enough	Piston or spring may be broken	Change them
	Leaking may happen at brushfire position	Tighten the couplers and replace the seals
	Oil level may be too low	Fill oil
	High-pressure system may not eliminate the oil fully	Operate several times without load before using
	Too low oil temperature may make lead to suck oil difficultly	Control the temperature at -10 to 60 degrees.
	Oil temperature is too high	

