



HYDRAULIC WINCH LV-HV200kN

Manual

OPERATION INSTRUCTION

CONTENTS

I HYDRAULIC WINCH OF INSTRUCTION	3
II STRUCTURE PRINCIPE AND MAIN TECHNICAL PARAMETERS	4
III Hydraulic winch installation instructions	5
IV MATTERS NEEDING ATTENTION IN OPERATOIN AND MAINTENANCE.....	8
V MAINTENANCE.....	11
VI LIFTING AND STORAGE.....	11
VII PACKING LIST.....	12

I HYDRAULIC WINCH INSTRUCTION

This hydraulic Winch is the latest new developed product. The structure consists of hydraulic motor, Multi-disc Brake - Spring applied and hydraulically released, Multi-stage planetary reduction, drum, frame, etc. The hydraulic motor has been chosen in order to supply highest mechanical efficiency, a large starting torque and low speed characteristic.

The winch is produced according to customer requests for: valve group to be directly equipped on the motor: (i.e. supply balance valve, shuttle valve,), other properties of the group such as brake, planetary gear reducer, etc. is installed directly in the drum.

According to mechanical principles, drums, supporting shaft and frame are designed and manufactured, simple, reasonable overall structure and sufficient strength and rigidity.

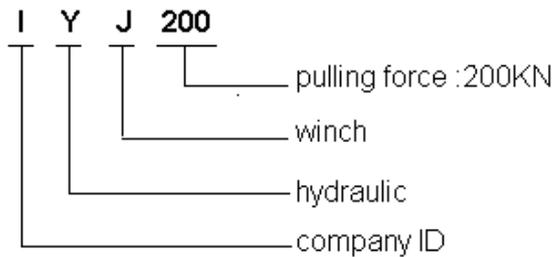
This way the winch has a compact structure, small volume, light weight and a beautiful appearance. Performing with good safety, high efficiency, large starting torque, low speed, good stability, low noise, reliable operation this winch has proven its value on the market for heavy duty pulling and lifting equipment.

The winch is equipped with pneumatic clutch, when the pressure air go in the air Cylinder, the clutch is opened, the free spooling is realized.

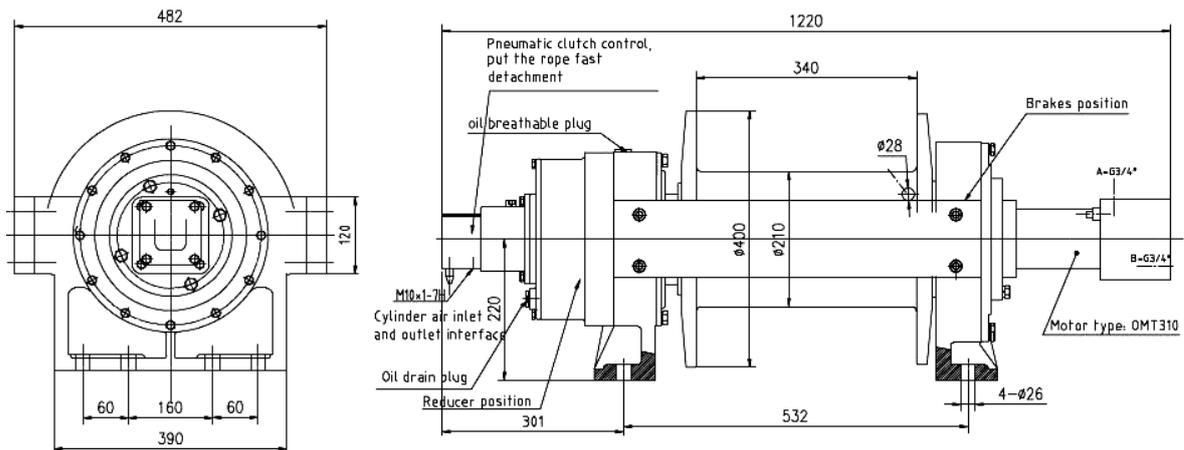
With these advantages the winch is widely used for shipbuilding, railways, engineering machinery, petroleum, geological exploration, metallurgy and other such industries.

II STRUCTURE AND MAIN TECHNICAL PARAMETERS

1 Model Description



2 Structure Principle



3. Technical parameter

Rated Torque (N·m)	23700	Rope Layers	5
Reduction Ratio	36	Associated Motor	OMT-310
Pulling Force (KN)	200	Motor Speed (rpm)	290
Rope Speed (m/min)	6	Motor Torque (N·m)	658
Steel Wire Diameter (mm)	26	Brakes Torque (N·m)	720
Rope Capacity (m)	50	Opening Pressure of Brakes(MPa)	3-4

III winch installation instructions

1. The fix way: use 8× M24 12.9 bolts (which are high strength bolts, intensity lever is 12.9) to fix the winch, the fasten torque of bolt is 1098-1464 N.m; the situation of bolts see figure 1

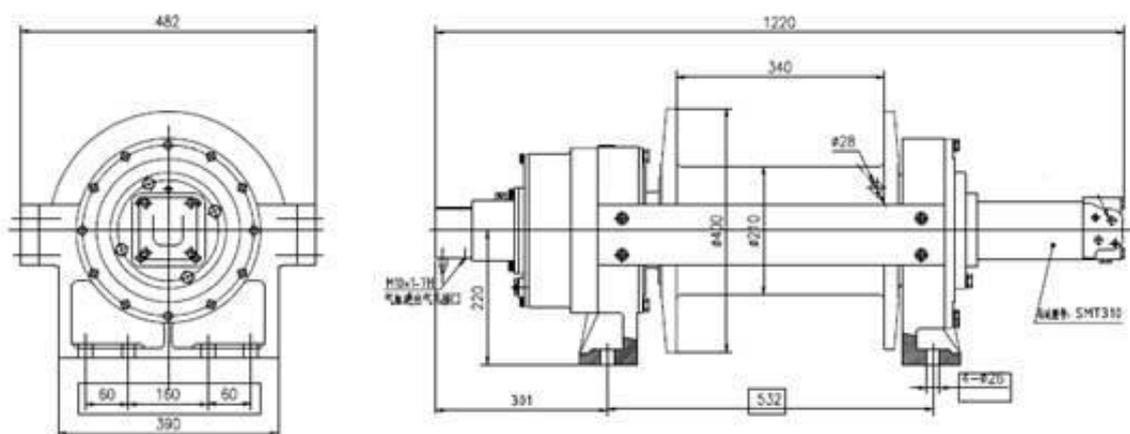
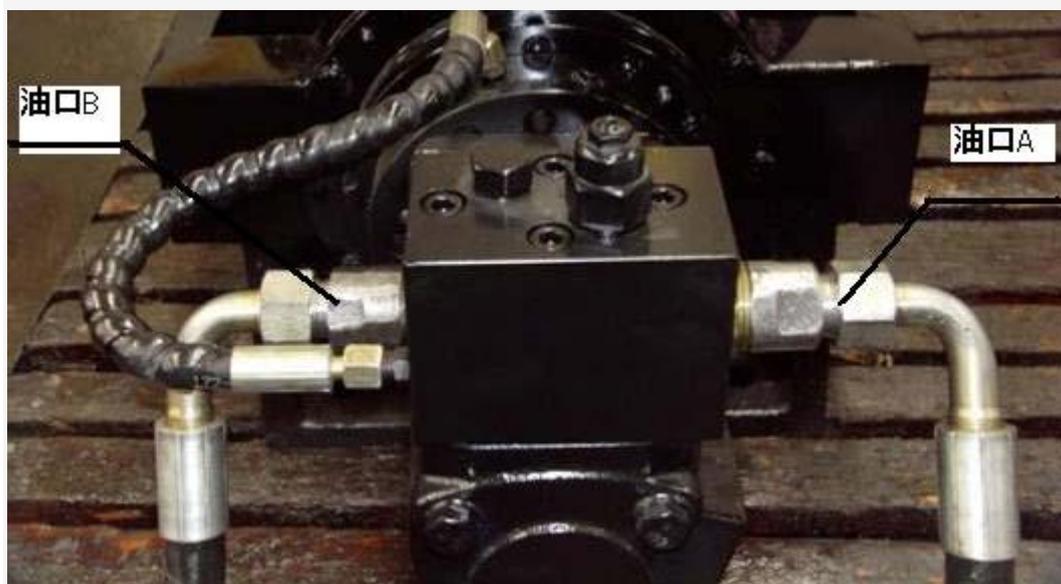


Figure 1

2. Pipe connection:

The hydraulic winch is equipped with a motor, valve group and brake pipe. ONLY connect the hydraulic pipe with valve inlet and outlet, the pipe connector is G3/4. The hoisting inlet see figure 2



3. The direction of balance valve

The direction of the balance valve is changed because of different rope situation and hoisting direction, sees figure3 and 4

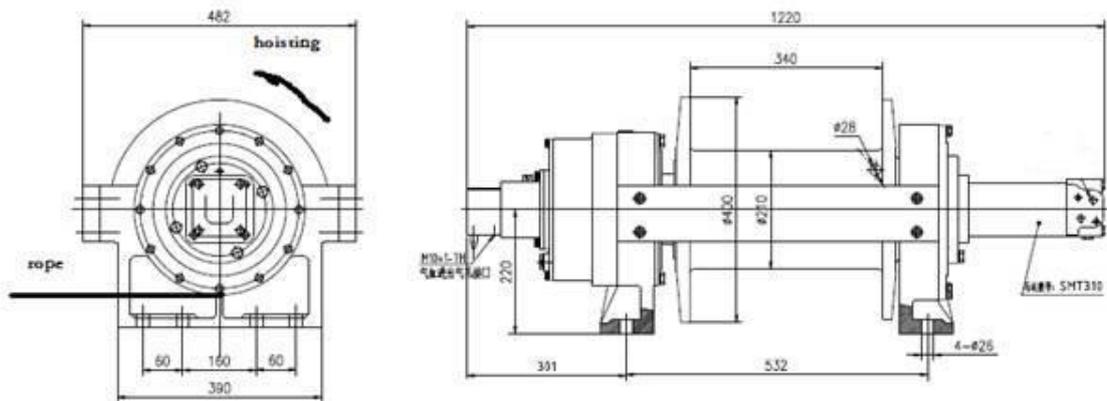
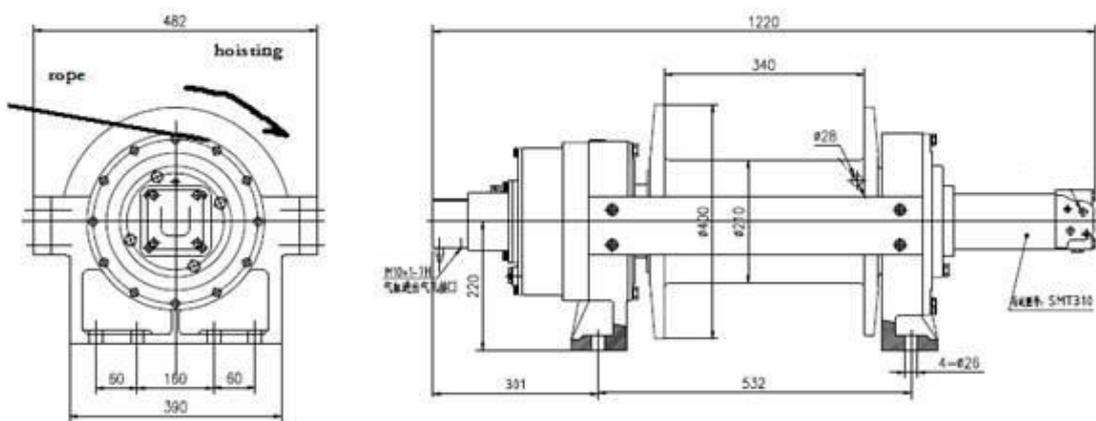


Figure 3



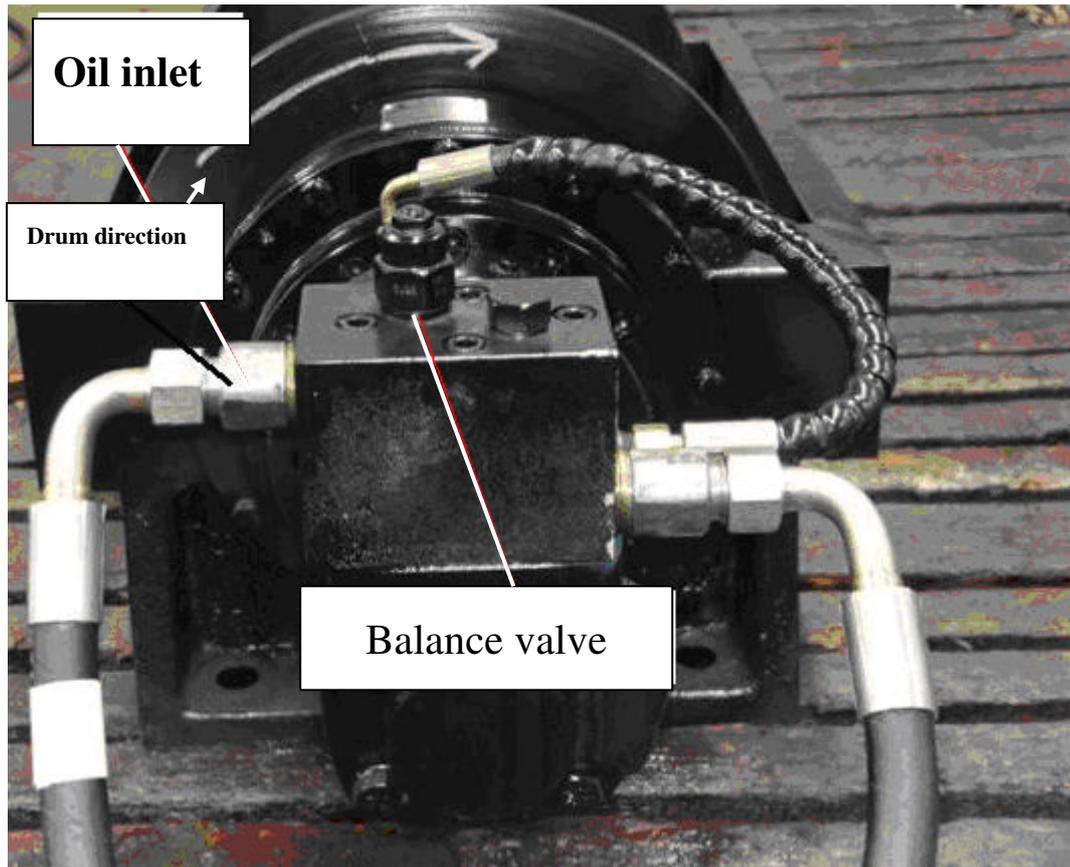


Figure 4

If the winch doesn't hold the hoisting mass and the winch is not overloaded, please check the direction of the valve and try to rotate the valve group 180 °and fasten .Make sure the surface on all parts are clean. A small object can damage the hydraulic components.

4. Clutch

Release the clutch by high pressure air, the winch will be in condition of free spooling, the rope can be pulled out by hand. The release pressure is 2.5—4BAR, the air pipe connector is M10×1

5. Precautions

- 1) Fastening the oil and air connector and make sure no leakage. The pipe can not be pressed and pulled
- 2) Adjust the rope roller according to the direction of rope out

IV MATTERS NEEDING ATTENTION IN OPERATOIN AND MAINTENANCE

Correct and reasonable use of the hydraulic winch is closely related to operation safety, and can effectively improve the service life of the hydraulic winch.

1. After being used for the first time clean the hydraulic oil and hydraulic system.

Please note the drain motor mouth installation location must be in the center of the motor above the horizon, hydraulic motor casing pressure shall not be greater than 0.1 Map.

Therefore discharge tubing directly back to the tank.

Keep the hydraulic system pipe flow and oil clean.

2. Check whether winch mounting screw fastening and reliable before each use, check the wire rope for damage.

3. Take care of the rope on the winch, make sure always to have at least 3 rounds of wire rope on the drum.

4. Pay attention that the wire rope is placed side by side on the drum and avoid disorderly placement of the rope.

5. Overload is prohibited. It will cause serious damage

6. Balancing valve opening pressure must be higher than the opening pressure of the brake: 0.1 to 0.4 MPa, otherwise the winch will vibrate.

The winch has been tested before leaving the factory. At the same time the balance valve has been adjusted to best condition, so normally there is no need for local adjustment.

If it's necessary to adjust the balance valve, Please see Figure 5

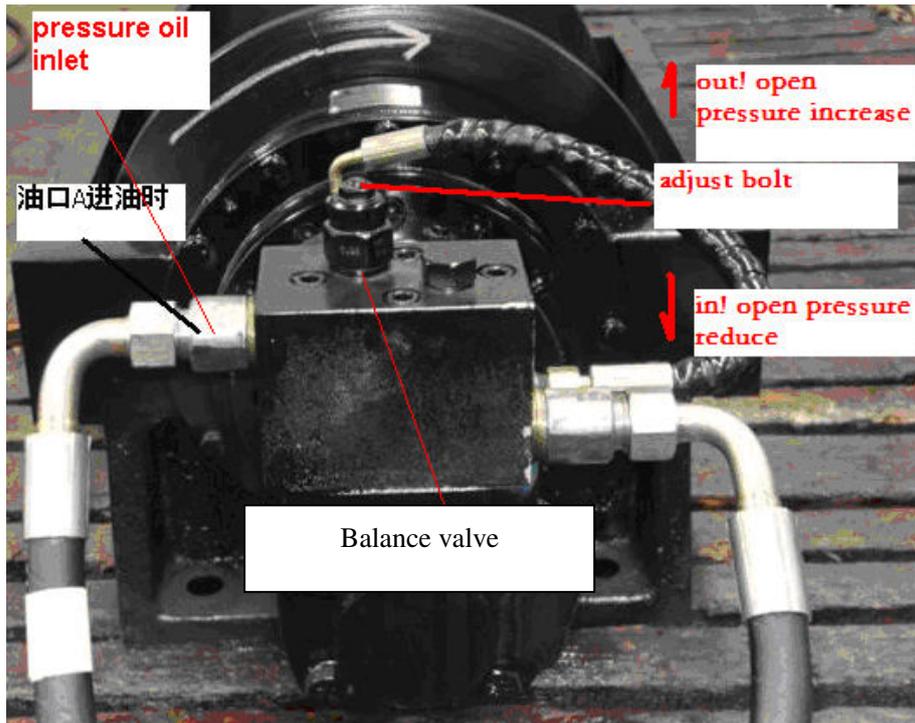


Figure 5

7. If system pressure increase abnormally when the winch is working , the reason must be found.

-Check if the leakage of hydraulic motor oil is normal. In general, when the hydraulic motor loads, drainage pipeline leaking oil should not be more than 1L/min.

In case of large amounts of oil spill, the hydraulic motor is damaged and need repair or replacement.

- If the motor is OK check the other parts inside the drum.

8. When operating the winch hydraulic winch as well as the performance of the system must be checked regularly. If any abnormal conditions are found (heating, leakage, vibration and noise or abnormal pressure pulsation) the operation must be stopped immediately and the reason found.

9. It's important to check to the tank liquid level and to check the hydraulic oil in the tank. If a large number of bubbles are discovered the operation must stop immediately in order to check the hydraulic system:

- whether there is a leakage near the inlet port
- whether the outlet port under the surface of hydraulic oil
- whether the hydraulic oil is emulsified

10. Mixed type hydraulic oil is prohibited to use.

Oil change:

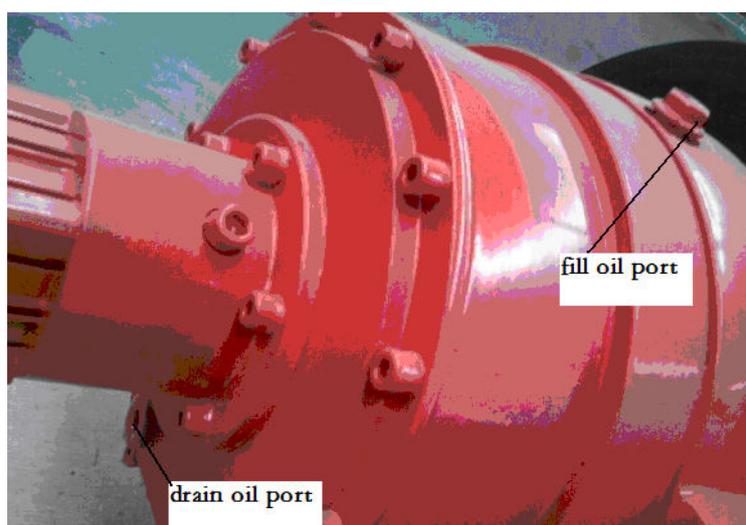
- Recommend change oil every 4000h
 - if the hydraulic oil is emulsified
 - if the oil is dirty

11. Lubrication

- Use the recommend lubrication oil or similar

Temperature(°C)	Company /oil type
>-20°C	Shell/ gear oil VG150
<-20°C	Sinopec /L-CKT220
	Mobil / gear oil VG220
	Shell /Omala HD220

- Inject lubrication oil before operation first time.



- Change lubrication oil every 1000H or 6 months

12. Regularly check the oil filter usage, do regular cleaning or replacement.

13. It is forbidden to stand under the hoist hook.

V MAINTENANCE

1) If repair is necessary, it should be done by a professional person.

If you have any questions please contact the manufacture.

2) If the winch is disassembled, please take care of every part, keep from damage and dirty, especial surfaces for seal and movement. And remember the order of disassembly

3) In reverse order assemble the winch

- Keep the workshop clean
- Clean and dry all parts
- Check and make sure no damage on every part
- Put lubrication oil on surfaces for seal and movement
- Put lock gel on the bolts before installation
- Make sure all seal rings ,bearing, bolts, washer be installed in right situation with right way

VI LIFTING AND STORAGE

1 Lifting and transportation of the winch

The gross weight is about 420KG, make sure the lifting equipment is sufficient

2. Store

- The hydraulic winch should be stored in dry, non-corrosive gases warehouse, not affected by high temperature and under - 20 °C environment for long-term storage, so as not to accelerate aging seals.

-For long-term storage: drain all oil, seal all ports, apply rust preventing oil on the surface and cover the winch.

VII PACKING LIST

1. IYJ200 hydraulic winch
2. 《The IYJ200 series hydraulic winch operation instruction handbook》