Indication：

Danger：The chuck arm and mechanical arm may rotate to cause the damage and injury！

Danger： The wheel may drop off to cause the damage and injury!

Danger: Tool head may rotate to cause the damage and injury!

Danger: The chuck may rotate to cause the damage and injury!

Danger: Electrical shock to cause the damage and injury!

CONTENT

Thanks for you purchase our products. To use this equipment much better and secure your safety, you must read this instruction manual and keep it well. This manual constitutes an integral part of the products. Please study the warning label and operation instruction carefully. All of these information is very important to the safety operation.

It is the full automatic universal truck tire changer. The movement of all the work parts is controlled by a movable console. It can easily dismount/mount the drop center rim, tubeless wheel and wheel with ring of truck, agricultural vehicle and industrial vehicles especially 14"-56"（Max. wheel diameter is 2200mm and the max. wheel width is 1100mm）。

This machine can n=only be used to dismount/mount the tire and not for the other purpose and we will not be responsible for the damage of the machine due to the improper use.

Important：The operator should be under the proper training and with the knowledge of mechanical, electrical, hydraulic and pneumatic.

Warning！ We must dismount/mount after the wheel is completely deflated！

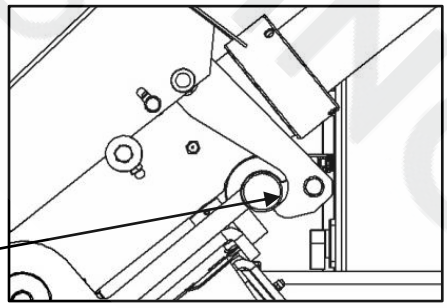
Warning！It is prohibited to inflate the wheel when mounted on the machine！

Warning！It needs at least 2person to move the especially heavy tire！

Warning！The installation and commission of all the electrical/ pneumatic/ hydraulic parts must be operated by the professional technicians.

Warning！You should purchase the wearable spare parts from the dealers or manufacturer to guarantee the original parts.

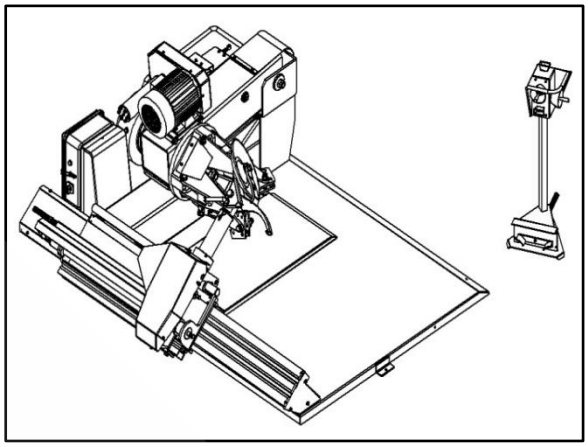
Warning！It is prohibited to move the tool arm when the hook at the lock position



The manufacturer does not promise to repair the damage due to the abnormal operation free of charge.

Technical parameter：

Overall dimension



L .....2100~2600 mm

W .....1900 mm

H .....870~1750 mm

Weight

NW 987kg

GW：.....1252kg

Dual speed gearbox

Speed：.....1430r/min 2870r/min

Power 2.4/3kW

Phase 3

Power supply .....AC 380V

Noise.....≤75 db

Hydraulic motor Power .....1.5 kW

Power supply .....AC 380V

Air pressure min/max…….....8-10 bar

Applied scope

Rim clamp range ……..…14 ″~ 46 ″

Clamp ring (optional) ……..……..46 ~ 56 ″

Max. wheel diameter…….....2200 mm

Max. wheel width…….....…..1100mm

Feature：

1 4-jaw hydraulic chuck（Fig 1）：

It can achieve the dual speed and t

wo way rotation of the chuck. The clamp

force can be adjustable.

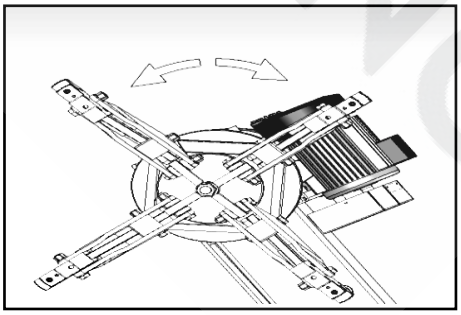


Fig1 4-jaw hydraulic

2 Clamp jaw（Fig 2）:

The design of the clamp jaw can secure the safety and reliable of clamp.

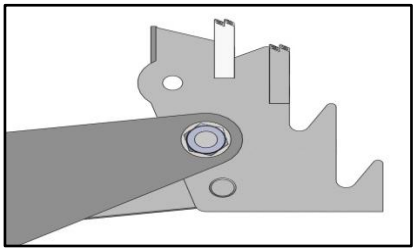


Fig 2 Clamp jaw

3 Movable console（Fig 3）:

It can realize the integrated control the move in all direction.

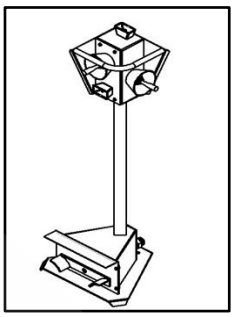


Fig3 Movable console

4 Hydraulic unit（Fig 4）:

Meet the clamp force requirement of varied alloy rim. This unit is not equipped with the pressure protective device.

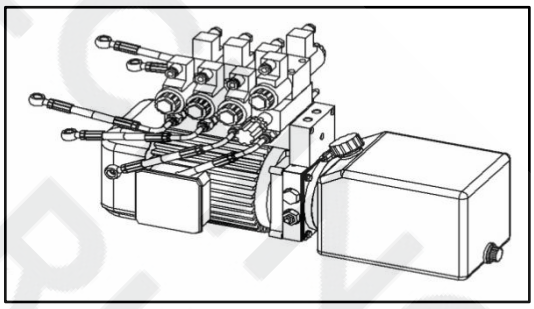


Fig 4 hydraulic unit

5 Mechanical arm（Fig 5）:

It is a quick rotation system can help to complete the detachment of the rim with varied flange from the tire. The tool head can be removed the tire.

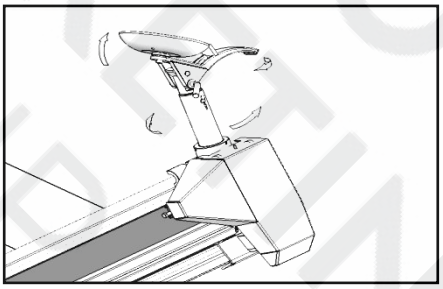


Fig 5 mechanical arm

Accessory:

Standard accessory:

1 crowbar（Fig 6）:

Remove the hard tire from the wheel

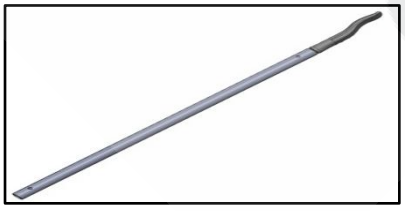


Fig 6 crowbar

2 Tire clamp with the protection cover and protection cushion（Fig 7）:

Use it when mount/demount the tubeless wheel and bus wheel.

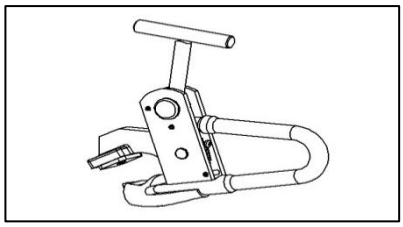


Fig7 tire clamp

3 Nylon protective jaw，4pieces（Fig8）:

When dismount/mount the aluminum alloy and light metal rim.

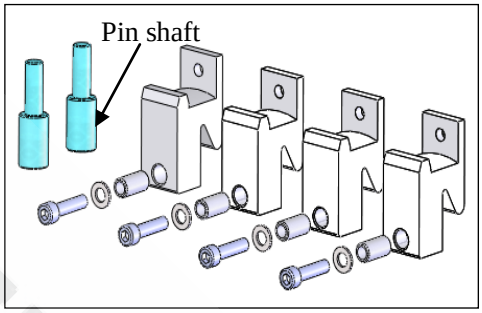


Fig8 Nylon protective

4 Extension jaw holder, 4pieces（Fig 9）

When dismount the rim of 46~56 ″,you should use this special accessory.

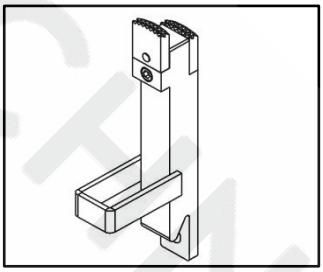


Fig 9 Extension jaw holder

5 Crowbar 20″、 24″ one pc for each（seeing Fig10）

It is used to remove the retaining ring at the edge of the rim.

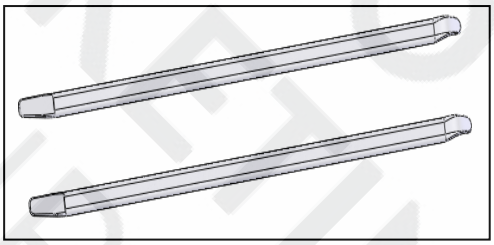


Fig 10 crowbar

Optional accessory:

1 Rim clamp 2pcs（seeing Fig11）

Clamp at the protrude of the rim to detach the rim from the tire.

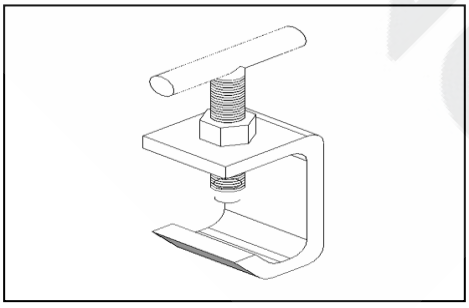


Fig 11 Rim clamp

2 Roller：one piece （seeing Fig12）

It is used to mount/demount the tubeless coach bus tire.

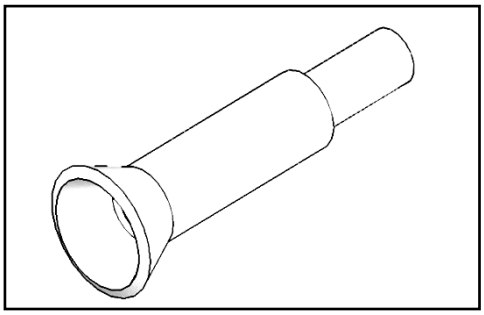


Fig 12 Roller

Unpacking, transportation and installation：

1 Unpacking

After receiving the machine, remove the package material. Be careful when remove the tie. Check if the machine is damaged or the part is missing. If you have any question to the normal operation, you can consult the qualified and professional personnel or agent.

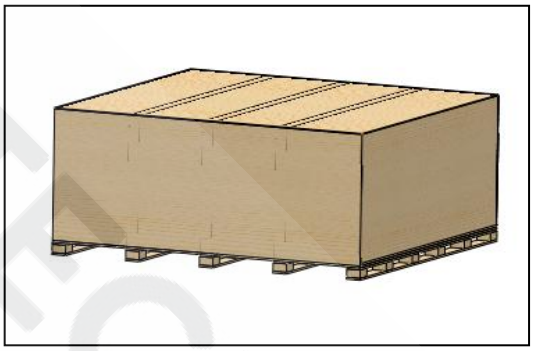


Fig13 package carton

Warning ！Package material such as wood, plastic bag, polyester board and nails must not be stored in the area that the children can reach. It has the potential danger to them.

2 Carriage and hoist：（Fig 14）

If the installation is a litter farther needing carriage, please execute as per the following instruction：

A Regarding the ropes, one is 2X1.5m and the other is 2X2m. The position to hoist is as per the Fig14.

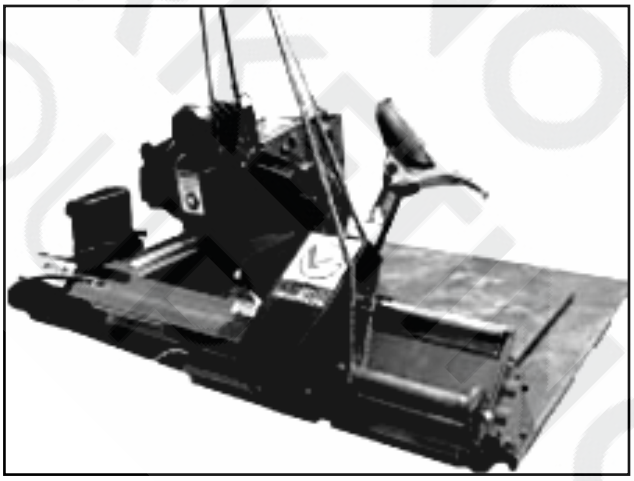


Fig14 Carriage and hoist

B Use the proper lifting device to lift it and the N.T of the machine is 987kg。

Whenever move the machine, you should care about safety and meet the condition to hoist.

3 Installation:

Max. overall dimension and installation space （Fig 15）：

Max. height：1750mm　width：1900 mm

Max. length：2600 mm

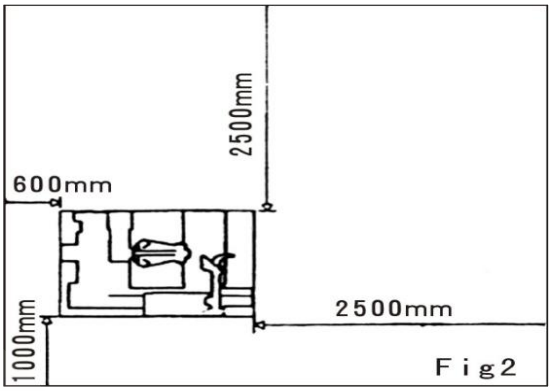


Fig15 overall dimension and installation space

Choose the site safety and convenient to connect in accordance with the related labor and safety regulation. The floor to install the machine must be flat and the enough space should be left around the machine for the convenience to move and operate the machine. After the installation of the machine, use the plug bolt to fix at the 3 fixing angle iron.（Fig 16）

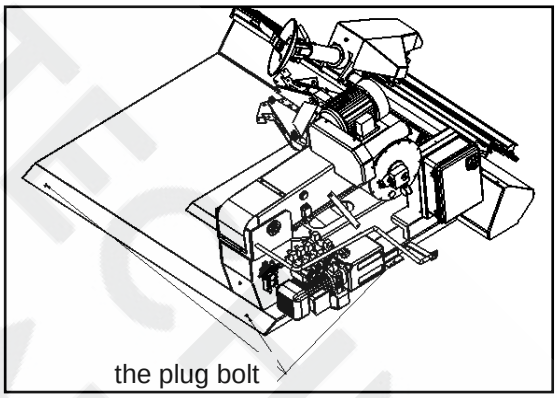


Fig 16 fixing angle

If it is installed outdoors, the machine must be equipped with the shed to protect the rain.

！ It is forbidden to use the machine outdoors

Electrical and pneumatic connection：

1 Electrical connection（Fig17）

All the work related to the electrical system must be executed by the qualified professional personnel. Check if the power supply is corresponding with the power supply indicated on the nameplate of the machine.

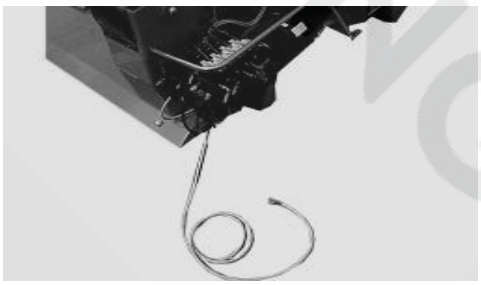


Fig17 Electrical connection

A Choose the plug as per the local regulation and the plug must be equipped with the earth terminator；

B Check if the earth is effective；

C The machine must be connected to the main circuit with the multi-level circuit breaker switch complied with CE standard. The distance to connect is at least 3m.

D Check if the plug of the electrical cabinet （Fig 18）is connected correctly.

E After connect the circuit of the machine, connect the switch to check if the rotation direction of the hydraulic unit is corresponding with Fig 19;

Fig 18 Electrical cabinet

F If the rotation direction of the oil pump motor is reverse, exchange any two phase at the power plug；

G If the running of the machine is abnormal, you should immediately switch off the power switch (No 15 in Fig 19）and check the reason of the troubleshooting and repair.

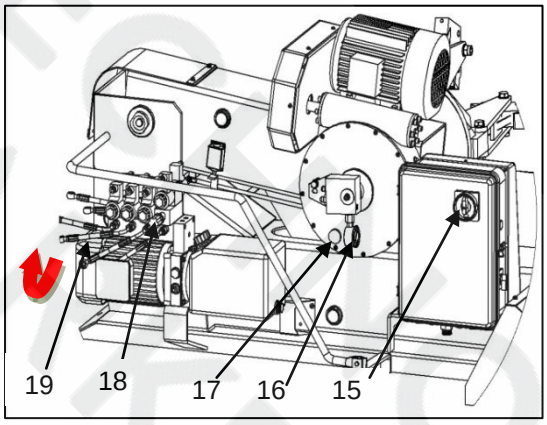


Fig 19 Construction drawing A

The manufacturer will not be responsible for the damage due to the above reversal connect of power cable

2 Pneumatic connection

As per Fig 20

Air supply connect

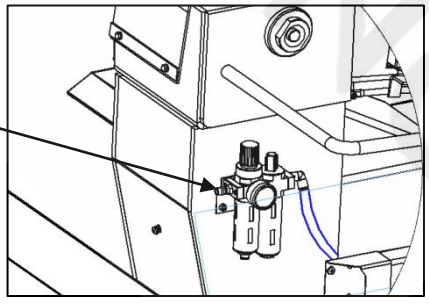


Fig20 Air regulator

Safety protection label 、safety protects：

1. Safety protection label

When operate, you should pay attention to the warning label on the machine.

A Warning the drop off of the wheel; 

B Warning the tool head may rotate. 

C Warning the chuck may rotate 

D Warning the tilt of the chuck arm and tool arm 

E Warning the electrical shock 

If you lose or damage one or more warning label above mentioned，you should order the lost warning labels from our company and note the relevant code for repair.

2 .tyre changer with the following safety protects ：

1） Chuck protective sheet（Fig 21）

Four metal protective sheets are used to protect the disk inside when the jaws open. Another function of it is to prevent the inward reach of the human body or the tools.

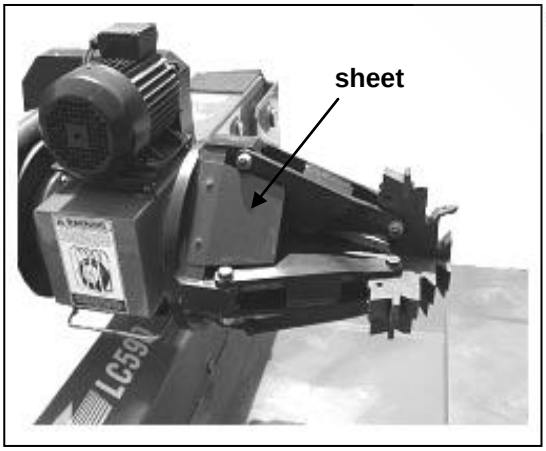


Fig21 Chuck protective sheet

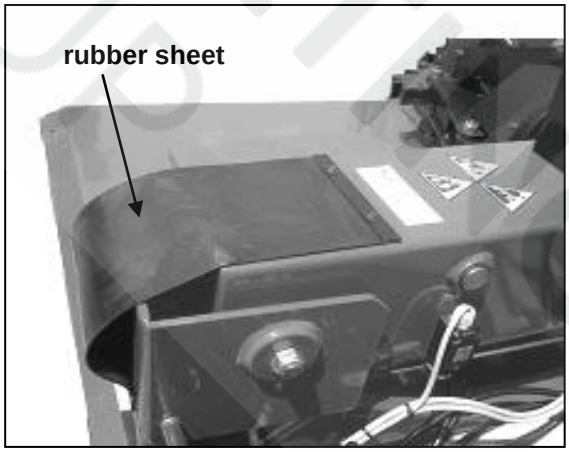


Fig22 Chuck protective rubber sheet

2）Chuck protective rubber sheet（Fig22）

It is used to prevent the reach of the human body or the tools inwards from the rear of the chuck arm.

3） Safety micro-switch（Fig23）

It is the electrical control device. When the chuck arm falls, it will immediately stop.

Warning！When exist the trouble shooting, if any of the above safety devices does not work, please repair at once.

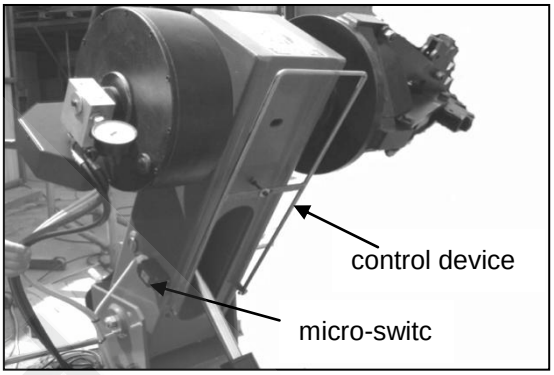


Fig23 Safety micro-switch

Operation and machine structure instruction

Switch in reference to Fig 24

Manual switch control to control

1. the movement of mechanic arm and tool head control
2. movement of mechanical arm
3. movement of carriage and tool arm
4. open/ close of jaw

Pedal control:

B． chuck rotation pedal（clockwise）

C． chuck rotation pedal（counterclockwise）

structure to Fig 24、 Fig 19：

5. Carriage
6. Mechanical arm
7. Chuck arm
8. Jaw

9. disk
10. tool head position joystick
11. mechanical arm position joystick
12. mechanical arm movement oil tank
13. tool arm
14. tool
15. power switch
16. rotation direction indicator
17. oil level indicator
18. hydraulic pressure adjust valve
19. pump station rotation direction indicator

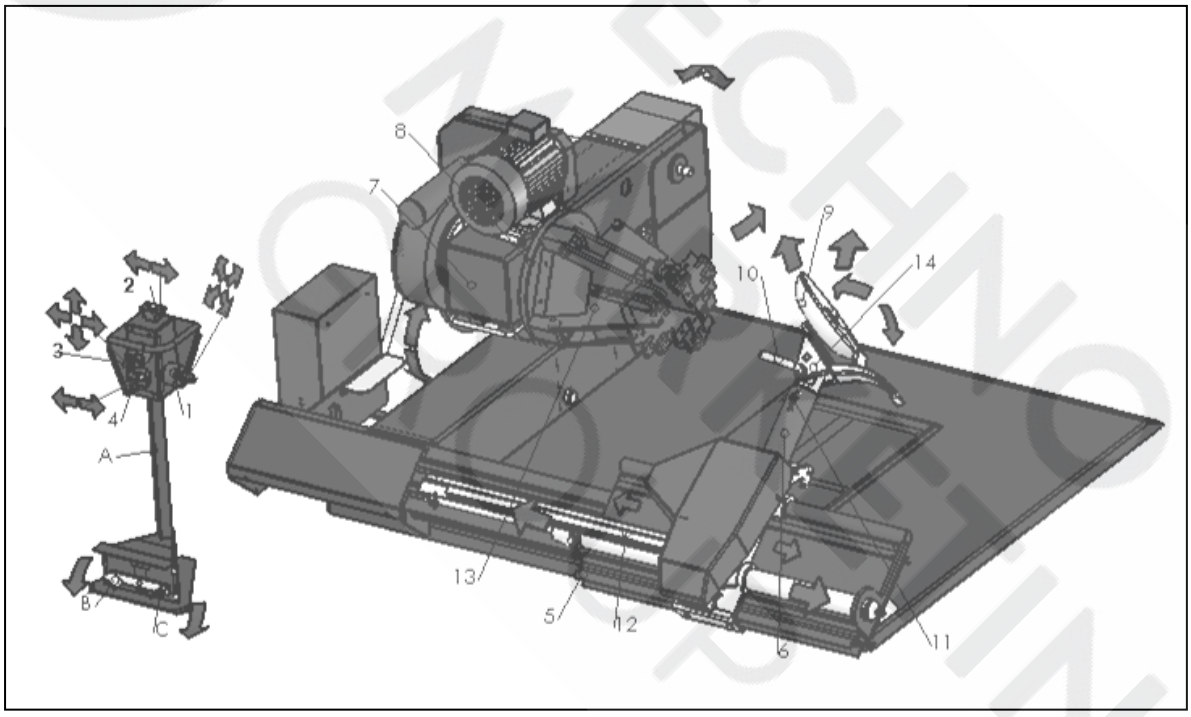


Fig24 structure B

the changer is an universal tire changer applied to dismount/mount 14"-56" rim of truck, agricultural trailer , extractor and shovel loader. It has a mechanical arm（6）and a full automatic carriage（5）. The movement of the mechanical arm and the carriage are controlled by the console.

Commission

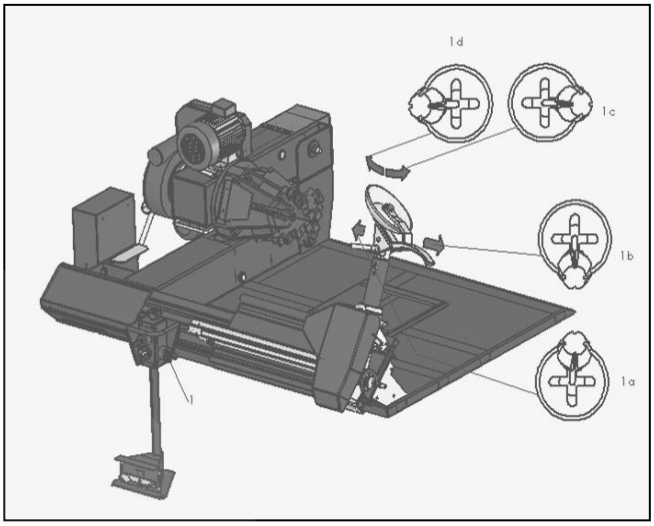


Fig25 structure C

Function check

1.Check if the movement of the mechanical arm（6）and tool head （9） is correct.（Fig 24 and Fig25）

- Pull upward the switch1（Fig25 1a）, the mechanical arm must go upwards
- Pull downward the switch1（Fig25 1b）, the mechanical arm must go downwards
- Pull rightward the switch1（Fig25 1c）, the tool head must rotate counterclockwise by 180°
- Pull leftward the switch1（Fig25 1d）, the tool head must rotate clockwise by 180°
- Pull rightward the switch 2（Fig 24 ）the tool arm must move rightwards.
- Pull leftward the switch 2（Fig 24 ）the tool arm must move leftwards.

2 Check if the movement directions of the carriag（5）and tool arm（7）is correct（see Fig 24）:

- Push leftward switch 3, carriage move leftward.
- Push rightward switch 3, carriage move rightward.
- Push upward the switch 3, the tool arm move upward
- Push downward the switch3, the tool arm move downward

3 Check if the function of the center chuck is correct （see Fig 24）:

- Push the switch4 leftward, the chuck will open.
- Push the switch4 rightward, the chuck will close.
- Step the pedal switch at the b side，the chuck will rotate clockwise.
- Step the pedal switch at the c side，the chuck will rotate counterclockwise

4 Check the vertical movement of the tool arm and the rotating function of the tool head

Adjust the throttle valve of the valve mounting board（Fig 26），the tool arm rising speed will increase or decrease.

Adjust the throttle valve of the direction switching cylinder (Fig 27) to increase or decrease the rotating speed of the direction changing device of the tool head.

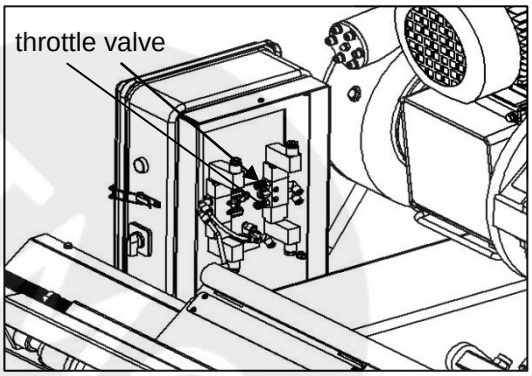


Fig 26 Valve mounting board

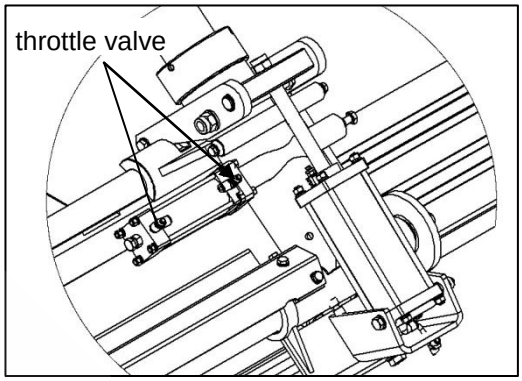


Fig27 direction switching cylinder

5 Tire clamp function：

Adjust the hydraulic clamp force of the chuck：

We can change the clamp force of the chuck by adjusting the pressure decrease valve rotation handle of the hydraulic power unit. The pressure ranges 130 bar, which can be displayed via hydraulic gauge. When dismount/mount the light alloy rim or the rim of very thin，you should decrease the pressure. The standard work pressure is 130 bar.

Chuck with 4 jaws can clamp any rim of 14~56″. To the rim of 46~56″, we provide 4 extension rod can be mounted on the jaw (See Fig 9)

To the wheel of the diameter less than 800mm and exceed 1500mm, you should insert the pin into the second hole. (See the 11 in Fig24)

For the aluminum rim, we can provide 4 nylon protective jaw mounted on the clamp. See Fig28.

The nylon protective cover should be mounted on the aluminum alloy rim (Fig28)

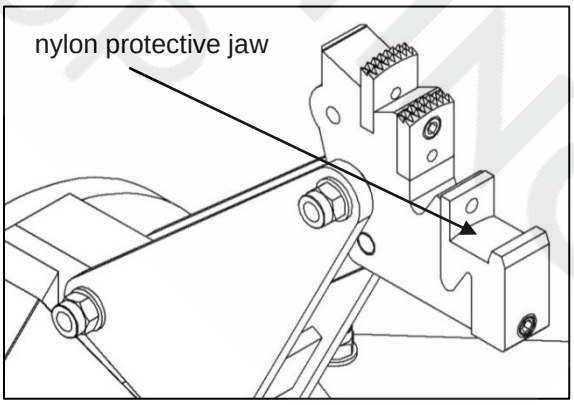


Fig 28 Mount the nylon protective

Note:

When mount/dismount the aluminum alloy rim difficult to handle，you can place 2pins in the hole of the terminal of the rim to avoid the nylon protective cover sliding on the rim. See Fig 8

Dismount/mount wheel：

wheel tubeless/ ring less coach car wheel

Completely deflate the wheel to be changed and place on the carriage. Pay attention to the construction of the rim. The small slope termination rim should be outside, that is far away from the chuck. Start the machine, use 4claws clamp the center hole or any other suitable position. Rise up the tool arm to the suitable height. Move the carriage to the side far away from the chuck. Contact the press disk on the tool head against the termination of the tire. Continue rotating the wheel and move the carriage towards the tire to make the press disk be contacted with the tire and then continue pressing for a little distance. You can observe that there will be some clearance at the position of the tire and rim pressed by the press disk. Spread evenly a layer of Vaseline Oil in the clearance. Continue rotate and spread the oil until all the contact plane between the rim and tire is spread with oil. Move steeply rightward the carriage to make the press disk about 200mm from the termination of the tire. Rise up the mechanical arm and rotate the tool head and move the carriage to the other side of the tire and lower the mechanical arm and rotate the chuck and steeply move the carriage to make the press disk on the termination of the tire until the entire tire is detached from the rim.

Mount the tire

A Use the chuck to clamp the rim and fix the tire on the flange of the rim and keep it far away from the chuck.

B Place the tire on the carriage and move the carriage and rotation tool arm to insert the tire pliers into the side of the tire hole. Rotate the chuck to rise up the tire and use the press disk to press the right termination of the tire to move the tire leftwards to the proper position. At this moment, one flange of the tire has been mounted in the rim. Take off the tire pliers and continue pressing the tire leftwards until the right side of the tire into the right side of the rim

and stop rotating the chuck and mount the tire pliers on the press disk. Rotate the chuck clockwise for a cycle to complete the mount of the tire and detach the tire pliers.

Engineer vehicle tire mount/dismount

A Place the wheel on the carriage and move the carriage.

B Clamp the chuck at the suitable position and rise up the tool arm and rotate the wheel counter clockwise. Use the press disk on the tool head to push and press the retaining ring and mount the 2 rim clamps as shown in Fig29.

C Use the press disk on the tool head to continue press the tire making it close to the termination of the retaining ring. The tire rotates for 2cycles and then move the carriage leftwards. This process needs 15minutes for the bind of the tire and rim due to long time of compression each other. This process should be stopped until the right side of the tire is completely detached from the rim and detach the rim clamp.

D Use the crowbar to prized up one end of the ring and fix it with the press disk. Rotate the chuck to take off the ring and continue press the rum and take off the sealing ring. Rotate the chuck and use the press key to pull the retaining ring and take off the rim and retaining ring.

E Move the carriage to the left side and use the press disk to press the termination of the tire. When you see the tire is detached from the rim, rotate the tool arm to place the tire on the tire carriage and move rightward the carriage to detach the tire from the rim.

F Mount the wheel in reference to the above procedure.

Warning! The movement of the especially heavy wheel, we need at least 2persons!

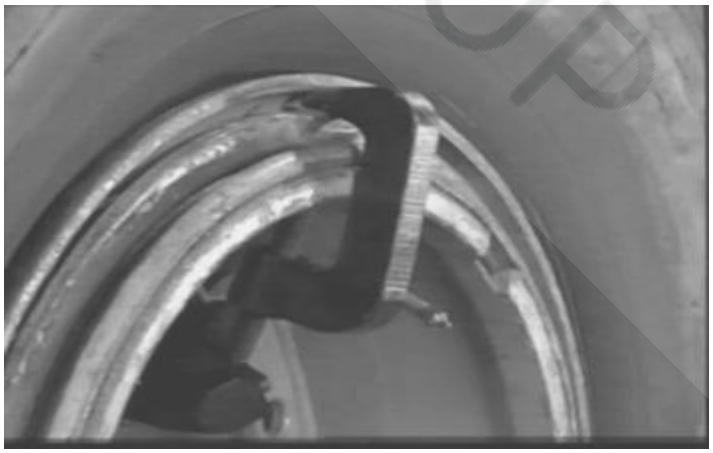


Fig 29

Troubleshooting and repair

Troubleshooting	reason	solution
Chuck does not rotate	1 .Power plug not plugged into the socket 2 .The wiring of the plug not correct 3 .Power supply voltage not corresponding with the requirement. 4 Main switch not connected 5 Fuse blown.	1 . Check if the power plug has been plugged into the socket effectively. 2 . As per 2~3, see the solution 1 3 . Connect the main switch. 4 . Change the fuse
The rotation force of the chuck not enough	1. Choice of the voltage not correct 2. Driven belt is loose 3. Capacity of the fuse is small.	1. Check if the power supply is corresponding with the ones on the name plate on the machine. 2. Adjust the tension of the belt; 3. Change fuse
Hydraulic jaw can not clamp the rim firmly	1. Thermal-magnet switch not connect 2. Work pressure of the hydraulic valve is adjusted too low. 3. Hydraulic system pressure too low.	1. Check if the rotation of the oil pump motor is correct 2. Adjust the work pressure of the one way valve 3. Settle the troubleshooting of the hydraulic system.
Hydraulic part of hydraulic system and machine can not work （carriage, tool arm and jaw）	1. Rotation direction of the hydraulic oil pump motor is not correct. 2. Thermal over-load protective device break 3. 24V fuse broken	1. Exchange fuse in the plug; 2. Connect the thermal over load protector 3. Change fuse

The other technical troubleshooting should be setled by the professional technicians authorized!

Maintenance

The operators should always clean and maintenance the machine.

The operators should maintenance the equipments in reference to the methods described in the instruction manual provided by the manufacturer.

Before clean and maintenance, you should cut off the power/pneumatic supply .

Mechanical maintenance

Periodically clean the chuck and carriage and lubricate carefully with gun.

Check the oil level of the hydraulic power unit. Add the wear resistance hydraulic oil with the viscosity required.

Transportation

The requirement to the rope or the methods to hoist, see the Fig15 of this manual.

Note：

Pull out the power plug and keep well the power cord if long time no use of machine.

Repair

No matter which troubleshooting, handle as per the methods listed on P12. The other troubleshooting should be handled by the professional personnel or contact with the dealer or the manufacturer.

Remind： After the troubleshooting happens and need repair, provide the following information

A model of machine; B series number; C detail of troubleshooting

Knowledge and note for the repair and maintenance

Before any maintenance and repair, you should cut off the power supply and air source to prevent the accident to the operator of equipment and the person responsible for the equipment should periodically check and survey.

1 . The power supply must be grounded reliable.

2 .The oil cup of the air regulator should be filled with the oil periodically and the oil feeding should be adjusted. When the pneumatic part active for 4times, one drop of oil will be feed.

3、You should secure the air supply pressure to be 8-10bar，or the machine can not operate normally.

4、The hydraulic system uses the HV 32# hydraulic oil.Please replace the hydraulic oil after new machine running 200-300 hours or the solenoid valve with hard. After the first replacement, when grand total using time about 800 hours, give another replacement.

Check the oil mass and the oil quality in oil tank of hydraulic unit weekly, if the oil mass is insufficient, please add HV 32# hydraulic oil; if the oil becomes black or goes bad, replace the hydraulic oil.

5、Feed the lithium grease to secure the lubrication of the rotation parts periodically (at least once per 3months).

6. Weekly check connect part to prevent loosing causing troubleshooting such as oil leakage.

7. Keep the hydraulic tank from moving to the limit position to prolong the life of the sealing parts inside.

8. the gearbox uses the 320# gear oil. Please replace the hydraulic oil after new machine running 200-300 hours. After the first replacement, when grand total using time about 1000 hours, give another replacement.

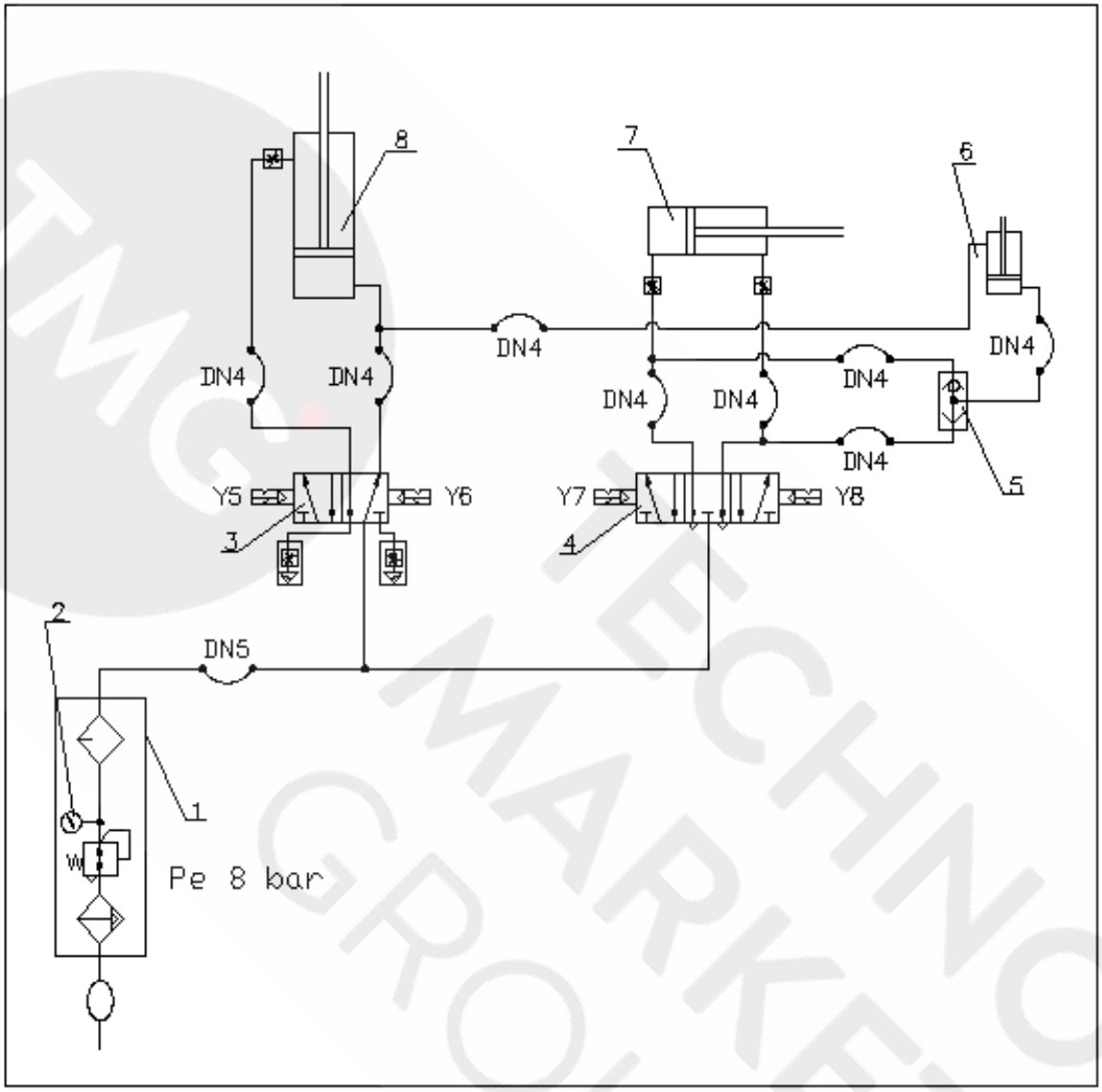
Periodically(one time per quarter) add the 320# gear oil to the gearbox. The oil level should be higher than half of the oil window.

9.After each operation, timely cut off the power supply of electrical/air to prolong the life of the machine and save energy.

10、At the end of one day or shift, you should clean the machine to prevent the rust of the surface of the machine causing the come off of the coat.

11、Pay attention to the clean of each guide rail and spread the grease to keep the lubrication well.

Pneumatic scheme



1 Air regulator

2 Pressure gauge

3 Valve

4 Valve

5 Valve

6 Tool head lift cylinder

7 Tool head rotating cylinder

8 Tool head bracket lift cylinder

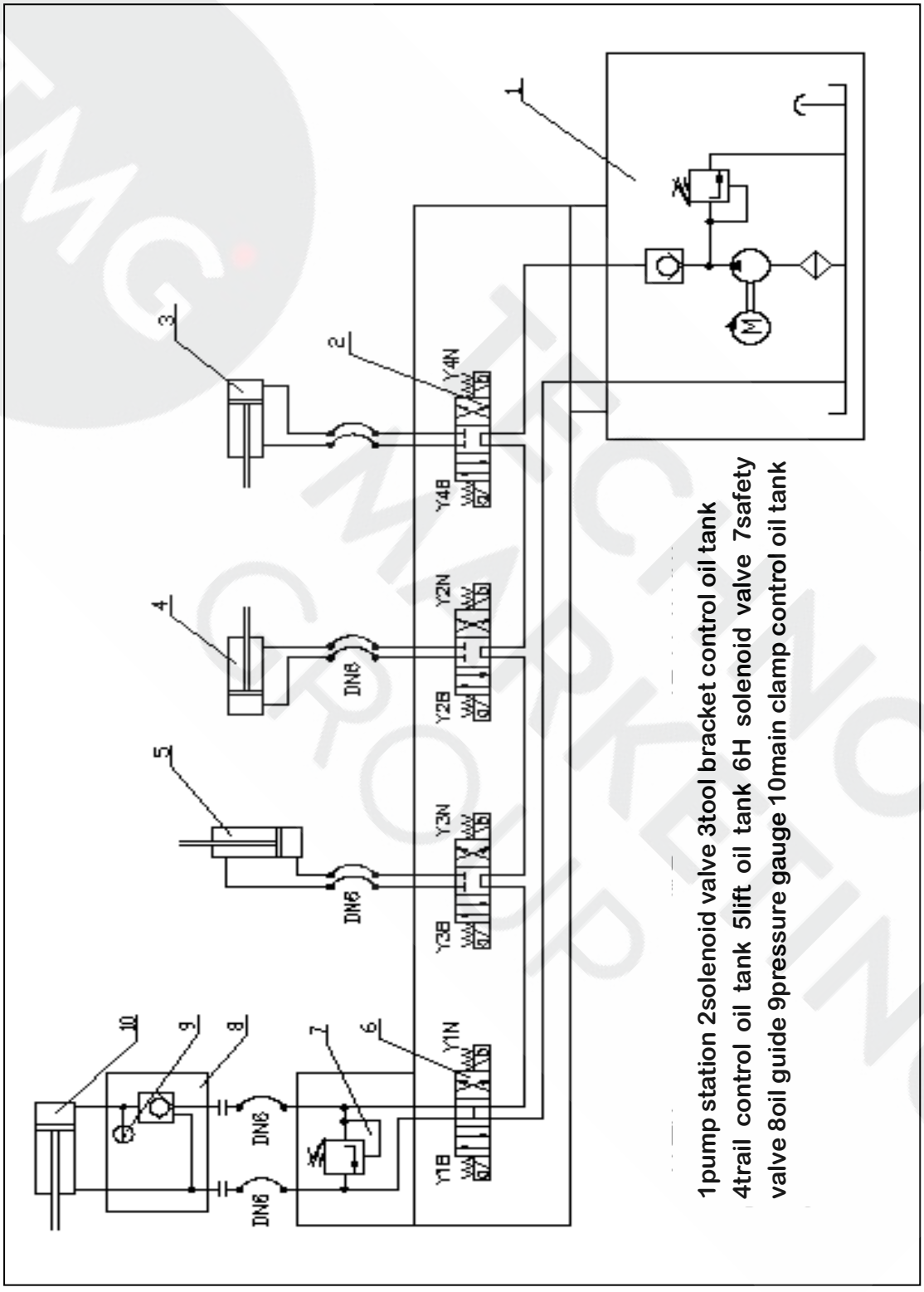
Counter clockwise

Clockwise

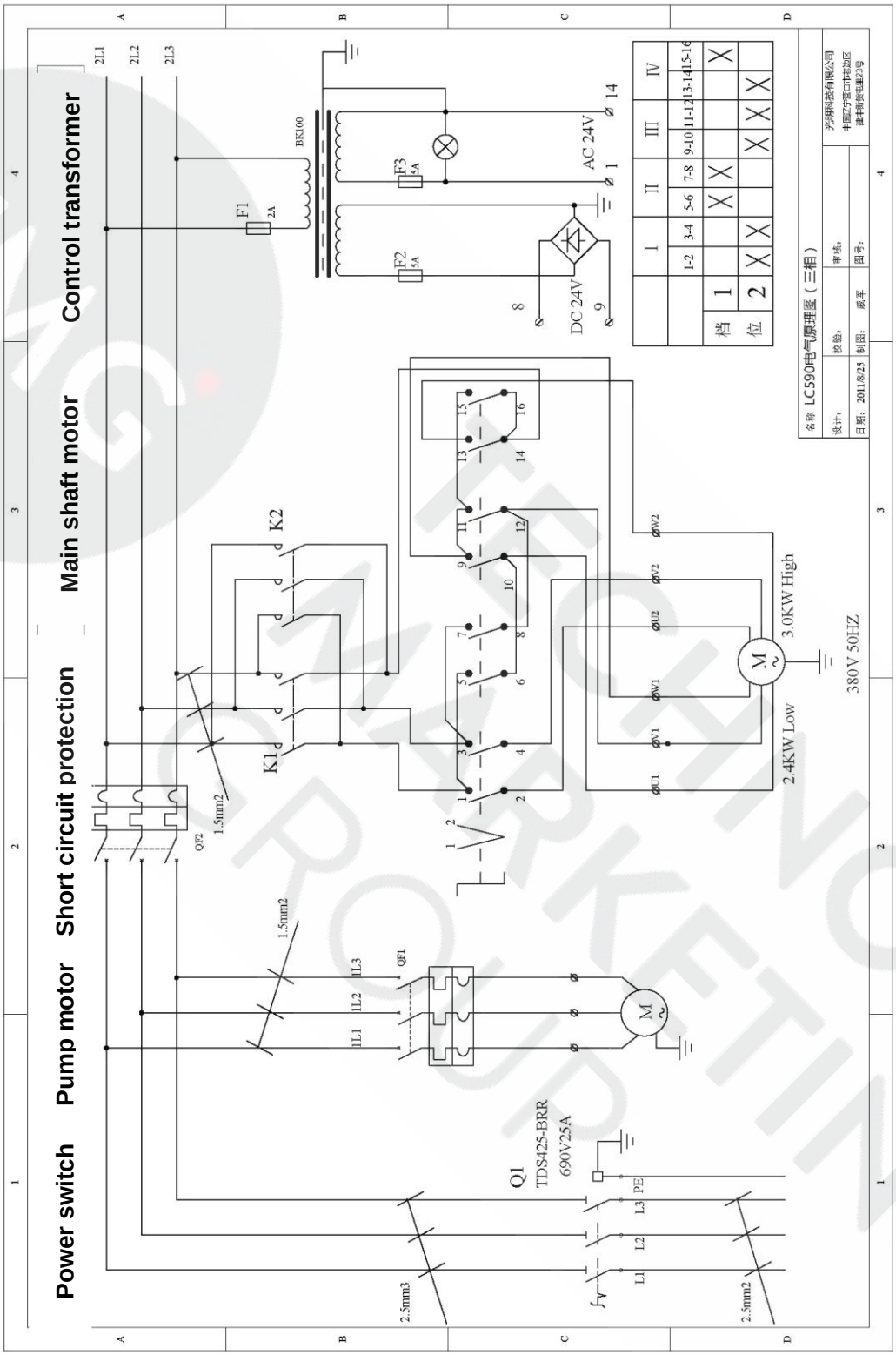
Hydraulic scheme

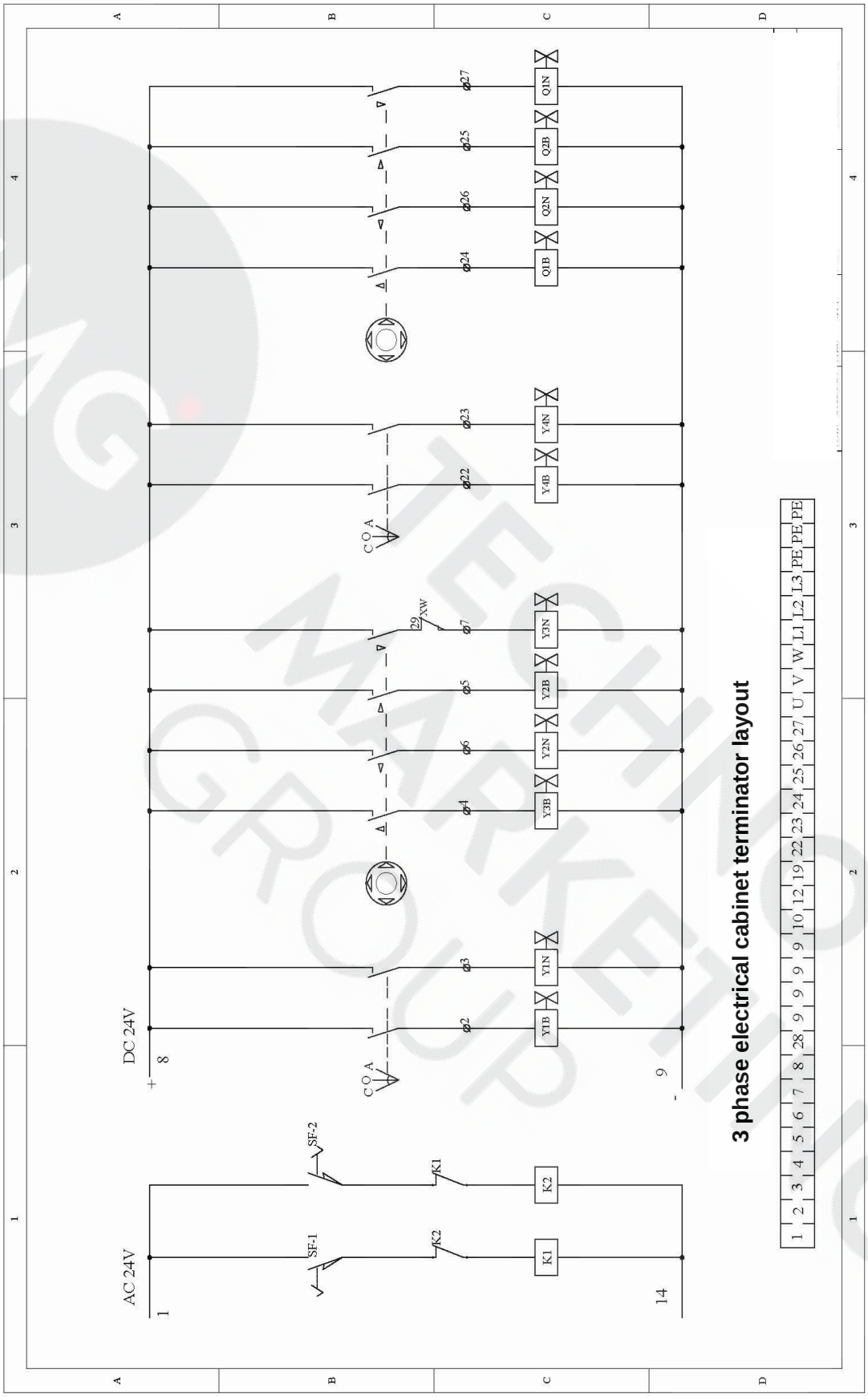
pump motor：Y90-4-1.5-220V/380V；

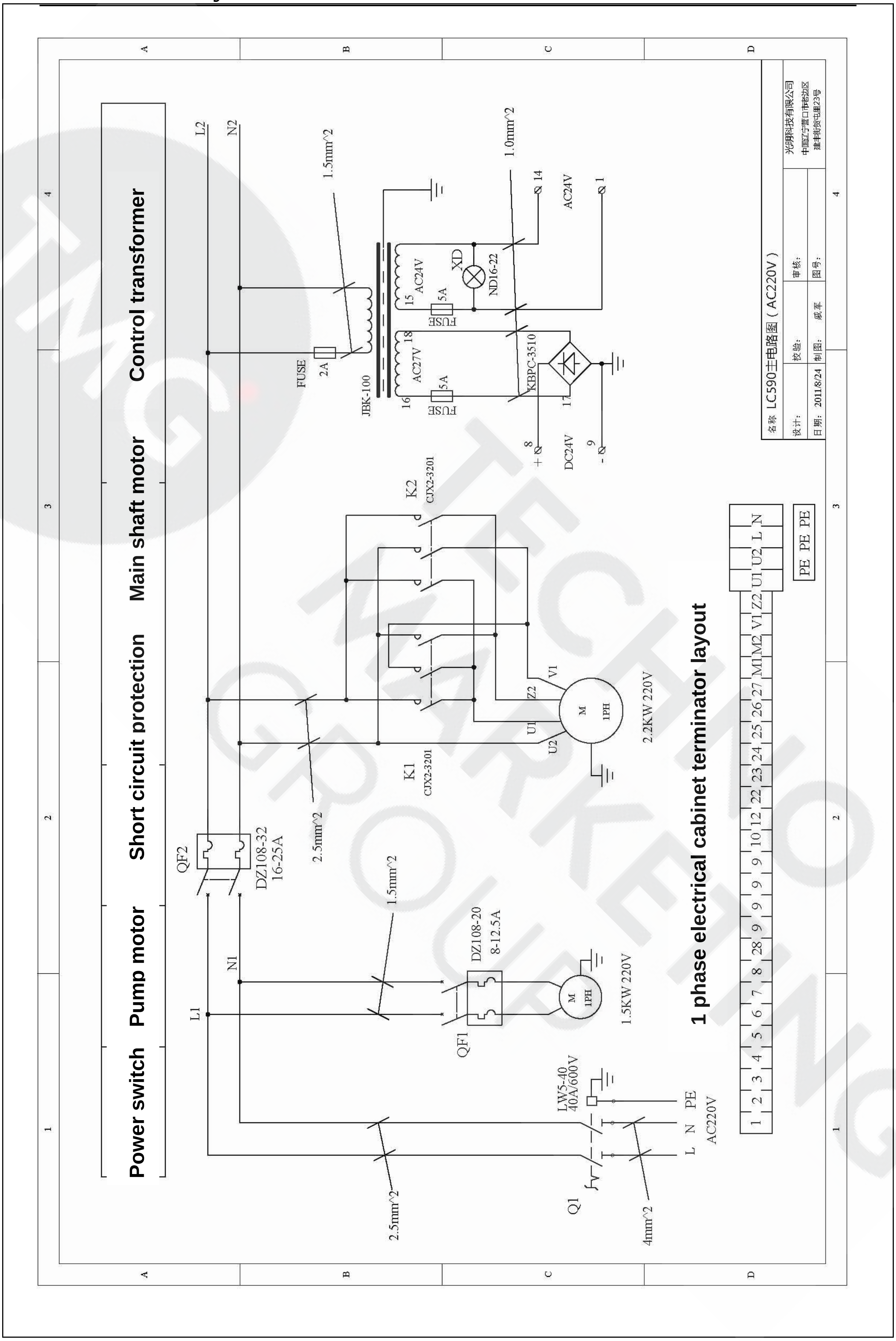
rated working pressure：15MPa



Control voltage：DC24V； motor, oil pump and valve plate is designed to be separated.




3 phase electrical cabinet terminator layout
DC 24V
AC 24V
SF-1
SF-2
K1
K2
Q1B
Q1N
Q2B
Q2N
Y1B
Y1N
Y2B
Y2N
Y3B
Y3N
Y4B
Y4N
XW
1 2 3 4 5 6 7 8 28 9 9 9 9 9 10 12 19 22 23 24 25 26 27 U V W L1 L2 L3 PE PE PE


Power switch
Pump motor
Short circuit protection
Main shaft motor
Control transformer
1 phase electrical cabinet terminator layout
LC590主电路图（AC220V）
Q1
LW5-40 40A/600V
QF1
DZ108-20 8-12.5A
1.5KW 220V
QF2
DZ108-32 16-25A
K1 CJX2-3201
K2 CJX2-3201
2.2KW 220V
JBK-100
KBPC-3510
ND16-22
AC220V
AC24V
AC27V
DC24V
2011/8/24