



PVC 500 series
Pipe production line Manual

金纬管道设备制造有限公司
SUZHOU JWELL PIPE EQUIPMENT CO.,LTD.

Catalogue

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I General

The instructions will together with the machines, correct use of the machine instruction, will help user security, reduce repair and downtime, enhanced the reliability of the machine, extend the machine service life, improve economic benefits.

The machine operators must read and understand the contents of this manual, the manual must be placed on the machine in order to get near.

The operation of the machine in addition to comply with the safety guidelines specified in this specification, safety regulations must also be required to comply with other related professional.

The design of the machine is to protect the operator in compliance with the provisions of this manual, safe handling, use, maintenance. Before doing any machine loading and unloading, cleaning, maintenance and repair work, please first cut off the power, to prevent accidental starting. Any damages due to the violation of the provisions of this manual are not in the scope of guarantee.

We improve our machines to reserve the right, but any improvements in technology, if not change the machine function, will do not modify the instructions.

This machine can only be used in the range of the purchase order (contract), any use beyond this range is not provided and manufacturer is not responsible for the use beyond the range not specified in the purchase order (contract)

The following are not allowed to operate:

Free replacement of the main components of the machine,

The safety device is incomplete or failure

Not fully read and understood the instructions

II Safety

1. Environment

Allow ambient air temperature: +5 to 35 DEG ;

The storage temperature: -20 degrees ~55 degrees;

The relative humidity: to 80%, without dew;

The class of pollution: 2, should not be installed on the dust, corrosive gas places;

The altitude of <1000 meters, >1000 meters: must be derated use, increases every 100 meters, the load capacity drop 1%.

PH - reservoir water to weak acidity (PH<7), recommended to add oxalic acid in the water, can determine the water with PH test paper, change the hard water to soft.

2. Electrical requirement

The power supply forms: three-phase five wire system, namely the TN-S system (3P/N/PE)

The three-phase voltage: 380V + 10% single-phase voltage: 220V + 10%

The power frequency: 50Hz

Incoming cables and breaker requirements:

Demand of workshop equipped with power supply cabinet, cable between plant distribution room (power supply cabinet) and the equipment should be provided by the user, the total installed capacity should according to the contract.

3. Worker requirement

Only trained and qualified personnel to operate the machine, and must be authorized by the manager.

Connection, installation, maintenance, repair work must be played by trained workers.

The worker during the training process to operate the machine must be in the supervision of experienced staff.

Manager clearly stipulates the machine operation, maintenance, repair requirement.

4. Manager responsibility

This manual should be placed near the machine.

Machine manager must comply with the correct rules and general laws, pay attention to prevent accident

Should pay more attention to the instructions, regular inspection of production, maintain safety awareness.

Without the consent of the manufacturer, manager shall not make any changes to the machine and PLC control unit.

Maintenance should according to the instructions provided on the manual.

5. Accednent prevent

The operator must be qualified through training, familiar with and understand well the instructionsAccording to this manual to operate, maintain, repair, adjust the machine

Before running should check whether the safety devices are effective

6. Machine operation notice

Before the machine running, make sure that nobody is in the danger zone, any operation of the machine must notice to related colleagues;

When the machine is running, do not climb up to the machine;

Do not have long hair, wear loose clothes, or with ornaments

7. Machine maintenance repair

Without the consent of the supplier, any changes related to machine safety effects are not allowed.

Maintenance, repair work, please according to this manual, turn off the machine, the main switch lock, and make a warning sign machine to near prevent accidental happened.

Strictly forbid to maintains and repair the machine with electricity

8. The security identity explanation

In order to remind the operator to avoid accident during operation, the equipment posted security warning and corresponding logo in many personal injury risk positions, please in the production, maintenance, and repair process, don't take these safety warning signs away, if need to move or remove some signs, please back to the original position after the completion of the corresponding work.

Because of regions and countries in the safety warning marks are differences in meaning, explanations are made below, please read such explanation before operate the machine



Note! When the power supply is switched on, any wires cover, wire pipe and the plug is forbid to open, or the operator maybe electric shock danger!



Danger of high speed rotary movement of the cover, the operating personnel shall not be removed or transposition in repair!



Device temperature is high; please wear gloves when operating against high temperature



Device temperature is high, the operation to wear anti high temperature service!



Note! Where the temperature is high, the operation to the Caution!, prevent scald!



Electrical equipment to prevent liquid, so as not to cause electrical equipment damage and personal electric shock hazard



The safety door can not open the boot promptly, casually



It is strictly prohibited to put his hand into the operation of the machine, so as to avoid danger.

III Transportation and installation

1. The overall transport must have the appropriate supporting and tensioning

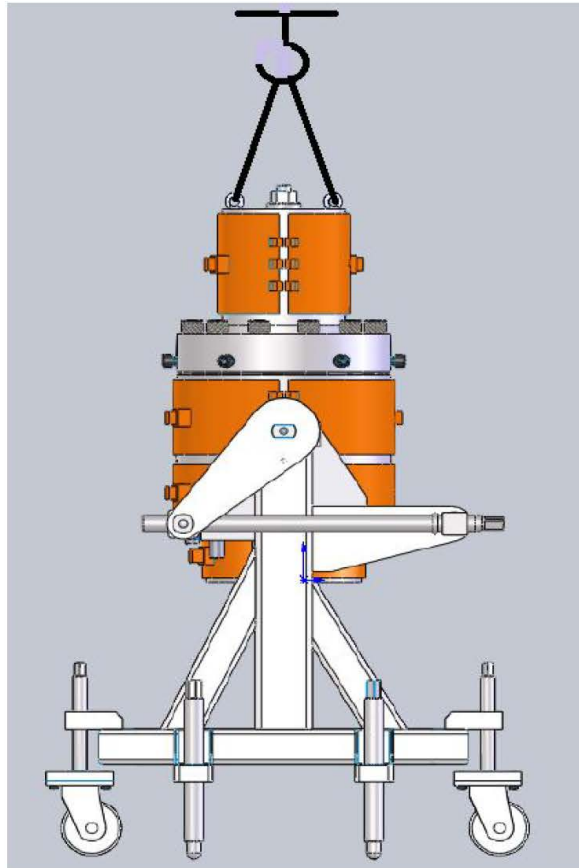
2. Forklift transportation

- Forklift operators must be trained and obtained the operation license;
- Note that the machine's center of gravity
- Fork machine, all personnel should immediately leave the danger zone

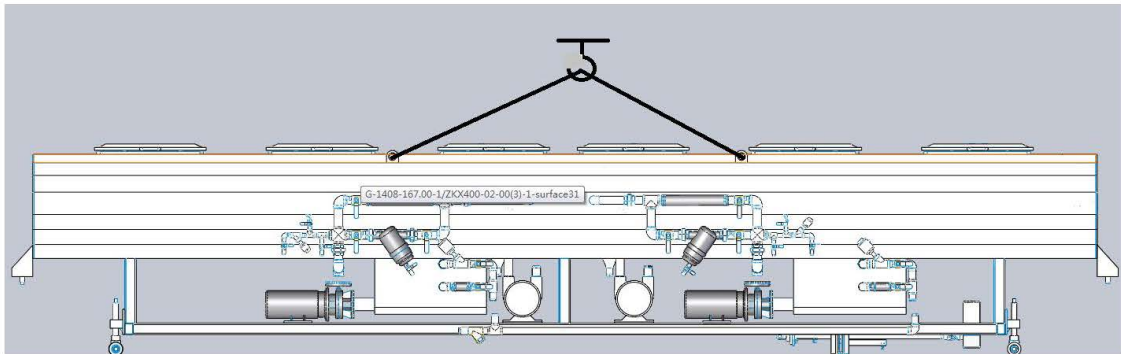
3. Equipment hoisting

3.1 Mould hoisting

- The die head weight distribution imbalance will cause the center of gravity shift in the course of transportation, in order to prevent sliding in sling hook, rope in the hook in hook more must be in a circle around.

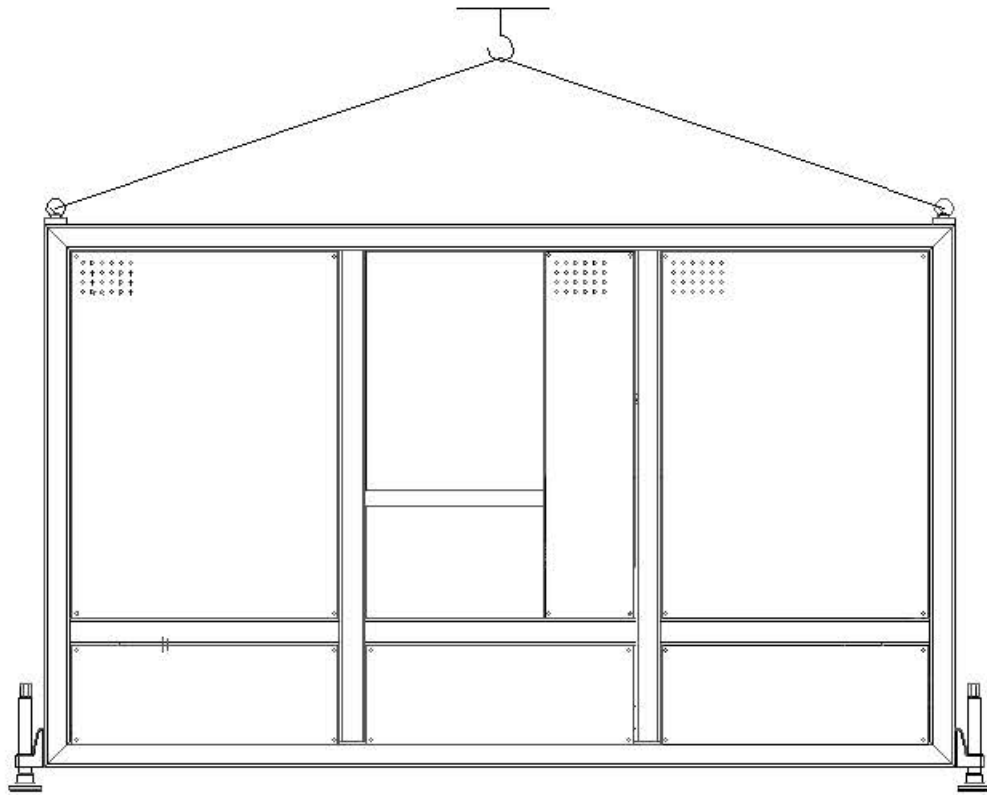


3.2 Vacuum hoisting

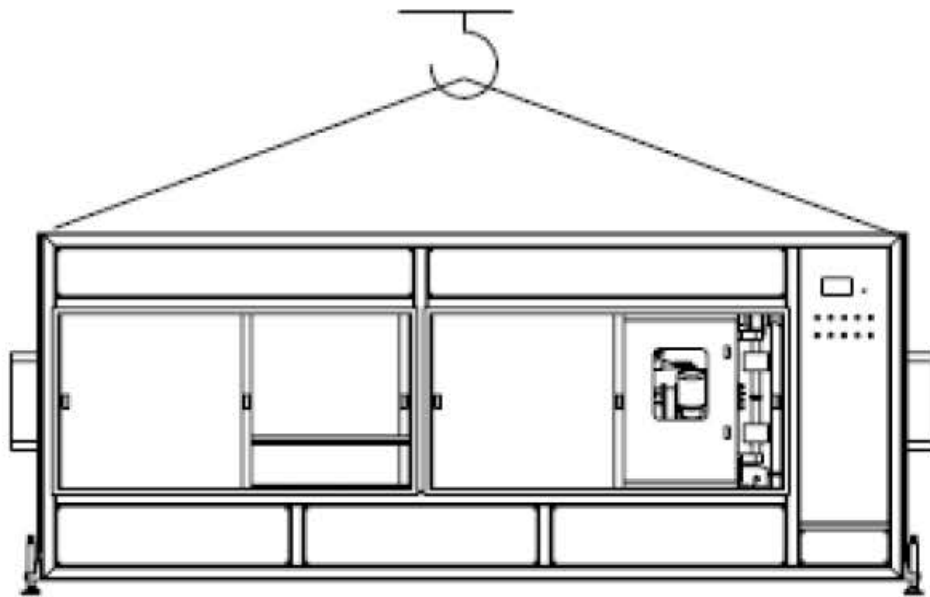


- Because the tank body weight distribution imbalance will cause the center of gravity shift in the course of transportation, in order to prevent sliding in sling hook, rope in the hook in hook more must be in a circle around.

3.3 Haul-off machine hoisting



3.4 Cutter hoisting



4. Installation

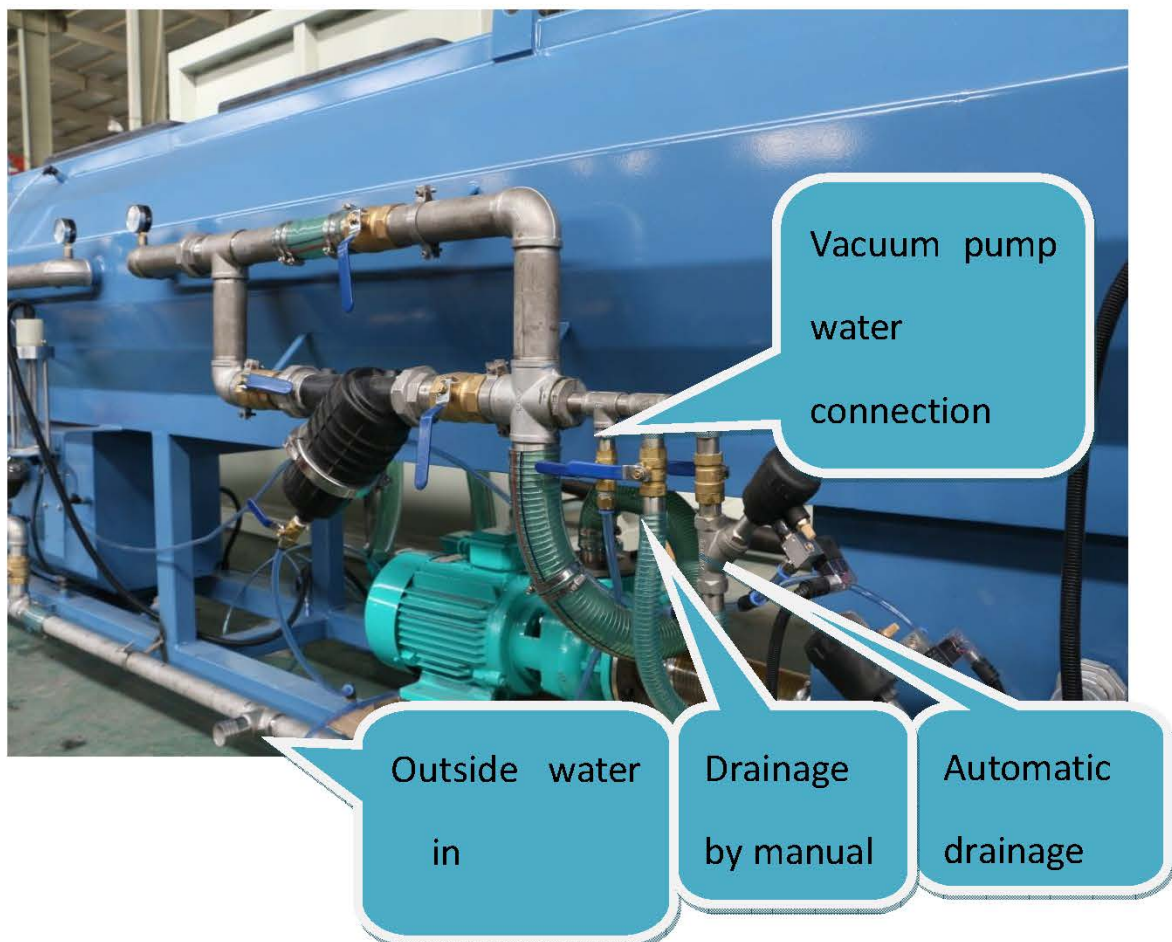
- When install PVC400 solid pipe machines, must according to the electrical drawings and layout drawings(additional documents)

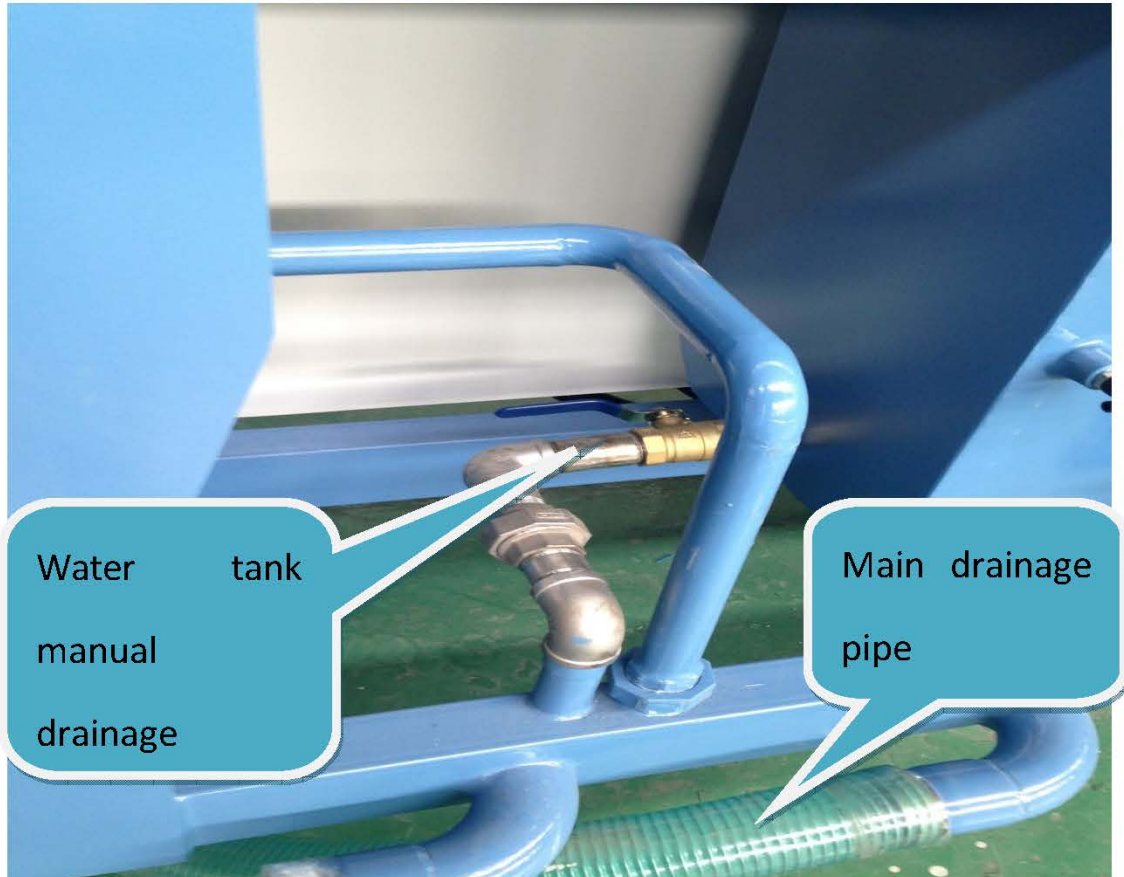
4.1 Arrangement of the machines

- After extruder finish installation
 1. Connect PVC400 mould on the extruder
 2. Then lay well vacuum tank, cooling tank, haul-off machine, cutter and stacker
 3. The distance for each machine please refer the layout
 4. Adjust the central line according to the extruder for the vacuum tank, cooling tank, haul-off machine, cutter and stacker

4.2 Water pipe connection

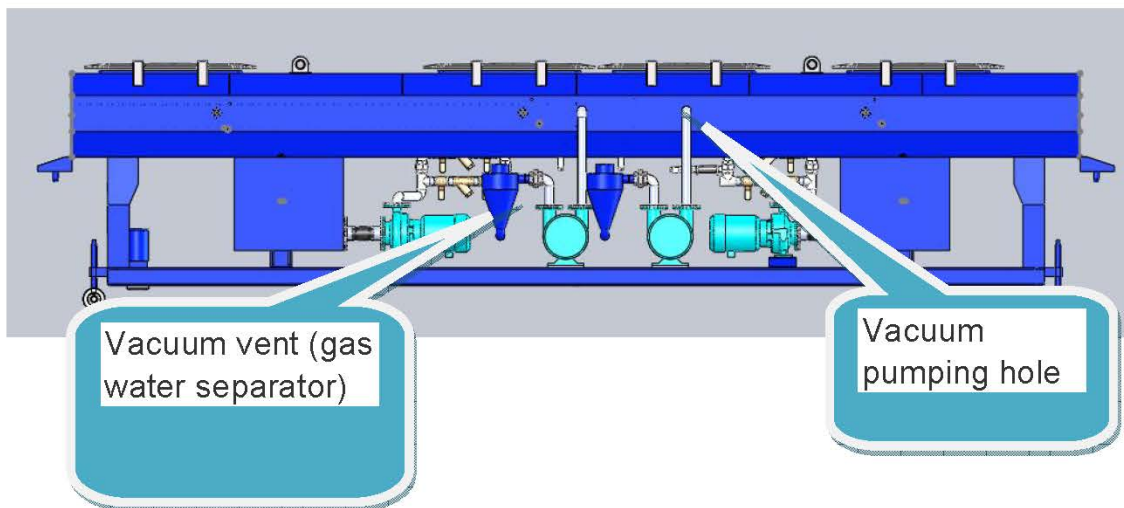
(1) a Vacuum tank water pipe connection

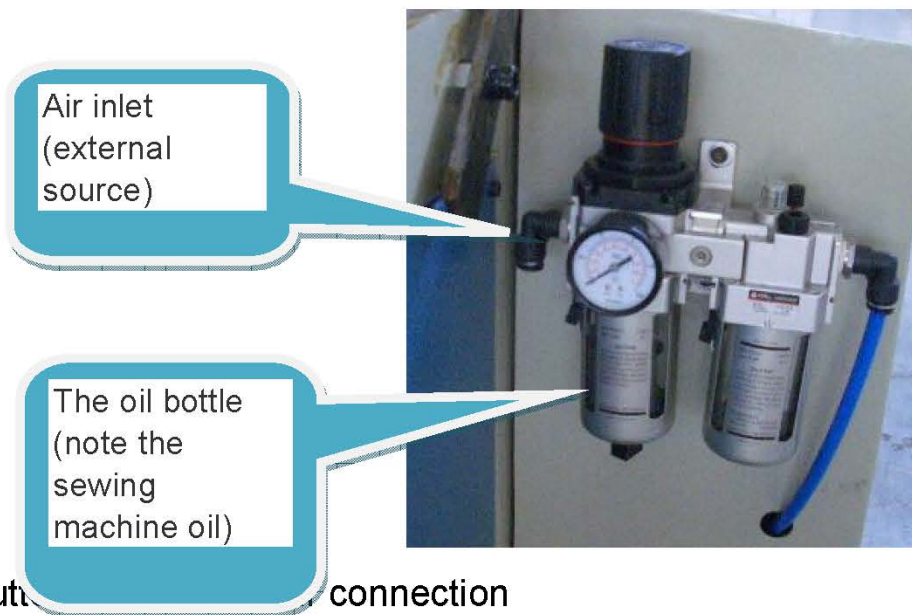
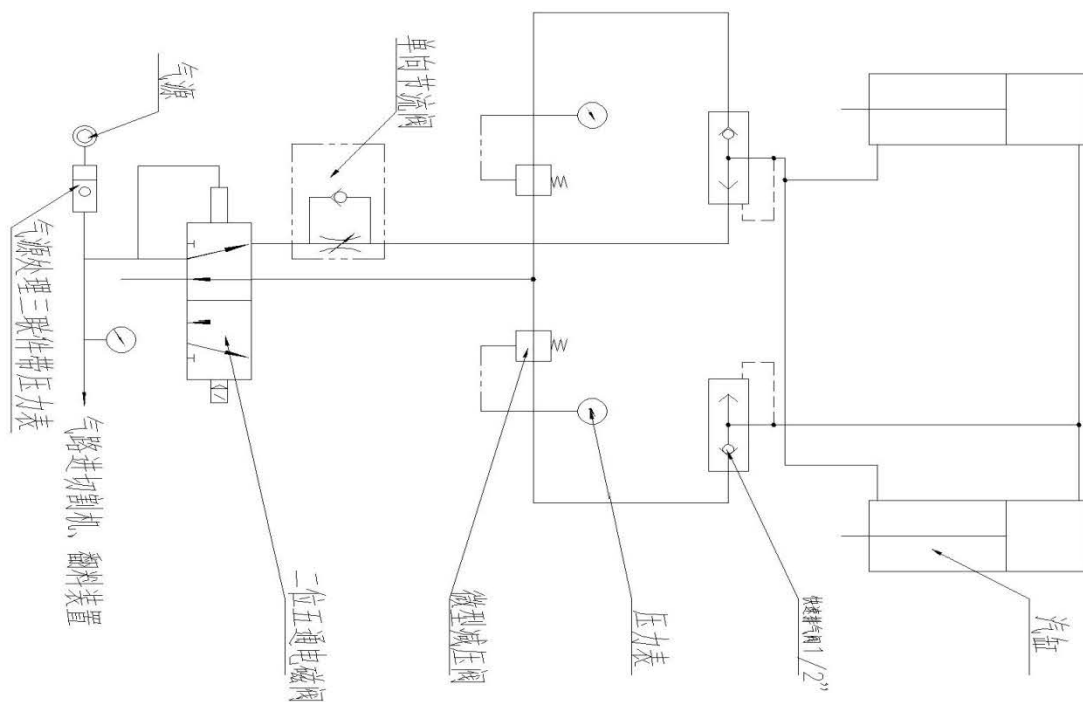




B Vacuum tank air pipe connection

(1) Vacuum tank air pipe connection





(5) Cutting connection

Air supply triplet respectively into cutting machine and stacker, and then through the solenoid valve to control air cylinder

4.3 Character and parameter of the machine

1.a vacuum tank character

Vacuum tank has a good shaping effect, simple operation, reliable use character. The device is provided with a liquid level control system can automatically control the water level of tank. The device is provided with the water circulation filter, can be regularly cleaned residue in the filter without affecting production. The device with a temperature control system, when the temperature exceeds the set temperature, the water pump outlet electromagnetic valve to open the water discharge, at the same time, the water level of the water tank is lower then water will come in automatically, the temperature of circulating water is reduced to the set temperature.

Vacuum tank parameter

Water tank parameter

3. a. Haul-off machine parameter

Caterpillar manufacturing Shanghai jwell pipeline equipment manufacturing Co., Ltd. traction machine, used for towing pipe uniform, in the process of

| | |
|---------------------|---------|
| Range | 125-400 |
| Main parameter | |
| Water pump kw | 5.5KW*2 |
| Effective length mm | 5600 |
| Central height mm | 1050 |
| Vacuum pump | 4kw*2 |
| stroke | 1000mm |

traction, traction arm synchronous rotation, and keep the same pace with the pipe. Crawler traction machine arm, upper and lower symmetrical distribution, following a traction arm is fixed, a traction arm above is controlled by the cylinder motion, pipe between the two traction arm through adjusting well, cylinder pressure, so as to ensure no slippage in the pipe

| | |
|---------------------|--------------------|
| Range | 125-400 |
| Main parameter | |
| Water pump kw | 5.5KW |
| Effective length mm | 5600 |
| Movement | By motor and screw |
| Central height mm | 1300 |

under the condition of pull-out. Traction device to rotate by the motor through the sprocket and chain drive, each with a chain wheel traction on the arm, a driving chain wheel sequentially through the chain around a week,

synchronization of upper and lower traction arm keep rotation. Four arms is provided with a rubber piece of good wear resistance, guarantees in traction when neither destroy the pipe surface can increase the friction traction, to prevent slipping phenomenon in the process of traction.

b. Haul-off machine parameter

| Model Main Parameter | GFQY400 |
|-------------------------|----------------|
| Range | 125-400 |
| Haul-off speed (m/min) | 0.6-6 |
| Motor power (Kw) | 1.1KW*4 |
| Central height (mm) | 1110 |
| Claw quantity | 4 |
| Outside size (L*W*H) mm | 3174*1750*1750 |

6.a.400 planetary cutting machine character

For the tube fixed length planetary cutting machine, moving during the cutting process, the frame sawing machine can move along the extrusion direction, and keep pace with the pipe. In the machine's front and rear is provided with a supporting wheel device, a supporting wheel play a supporting and guiding role, different diameter should be adjusted. When the encoder signal issued after cutting, clamping device for clamping pipe planetary cutting machine, make the tube in the cutting process is relatively fixed, the clamping device for aluminum clamping block, in the production of different specifications of the pipes, replacing Hough blocks corresponding.

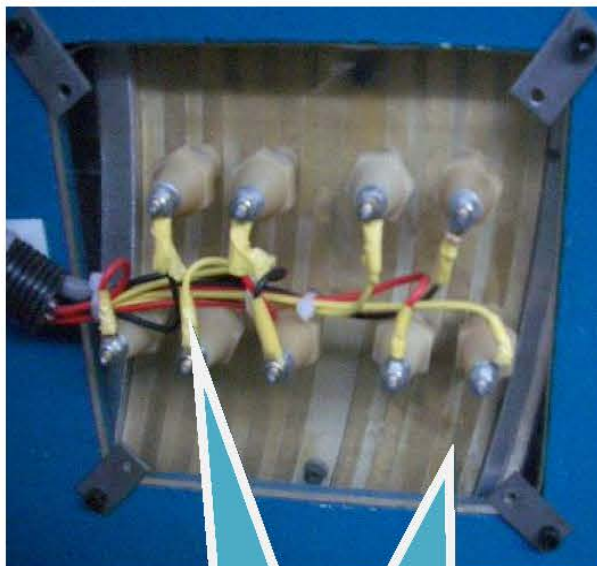
The cutting device is composed of a motor through a synchronous belt transmission, and the cutting feed of the saw blade is through the slow progress of the hydraulic cylinder, the cylinder thrust can be adjusted by the relief valve of the hydraulic pump station. See micro



Micro Hydraulic pump

Manual hydraulic pumping station. Blade of planetary rotation by the rotating device, the rotating disc is composed of large bearing supporting and positioning, so the center of rotation invariant to cutting machine for cutting pipe flat face, size specification. The cutting depth controlled by the oil cylinder, and there is a limiting plate there. Different specifications of the pipe, a limiting screw rod adjusting weight.

A rotating device cavity is equipped with conductive copper ring, an external power supply through it with a rotating disk connected on the electric appliance.



Conductive carbon brush

Conductive copper ring



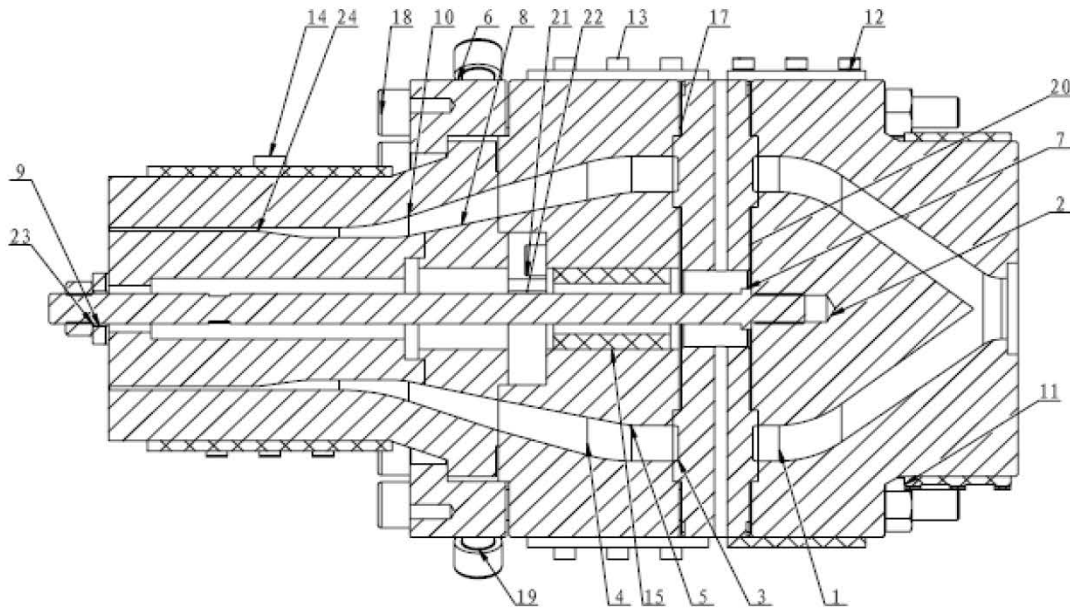
Brush protective cover

b. Cutter parameter

| | |
|------------------------|-----------|
| Parameter \ range | Φ400 |
| Range mm | 110~400 |
| Cycle r/min | 3 |
| Movement speed m / min | Follow up |
| Disk Diameter mm | 250 |
| Rotation speed r/min | 2800 |
| Motor KW | 3 |
| Max Stroke mm | 1200 |
| Pressure MPa | 0.7 |

5. Equipment Spare parts

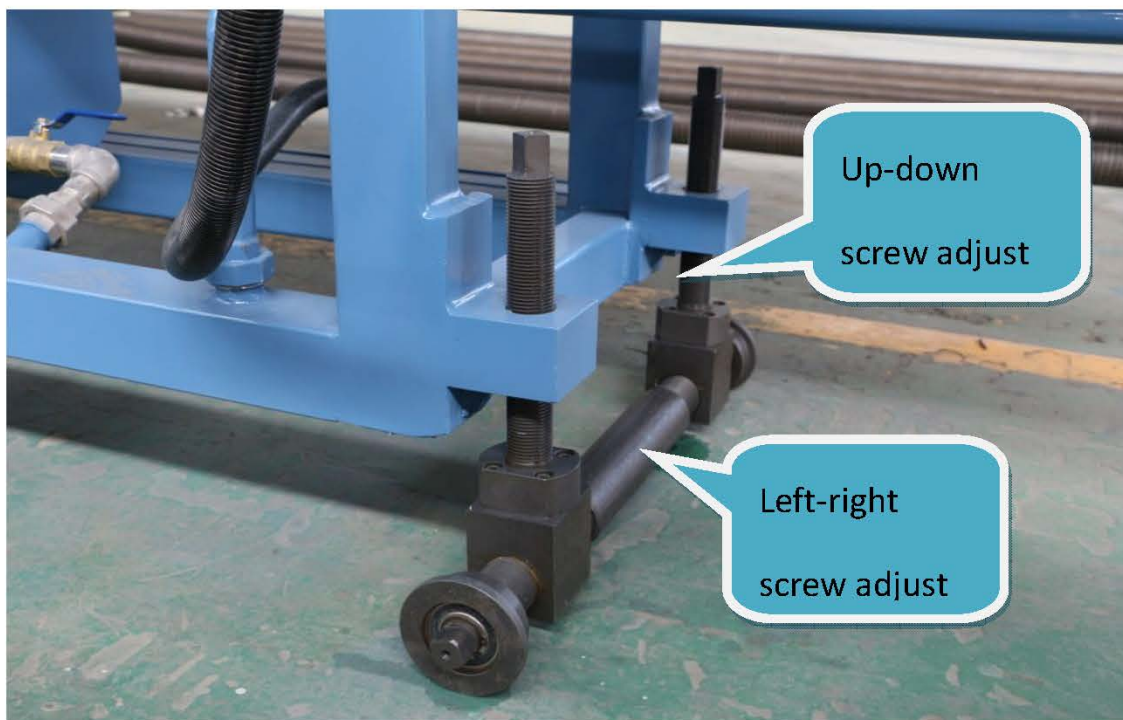
A. Mould parts name and the wall thickness of the adjusting member



No. 19 of 8 regulating screws, used to adjust the wall thickness deviation.

B. Components and function of vacuum tank

1) Vertical and horizontal adjustment mechanism

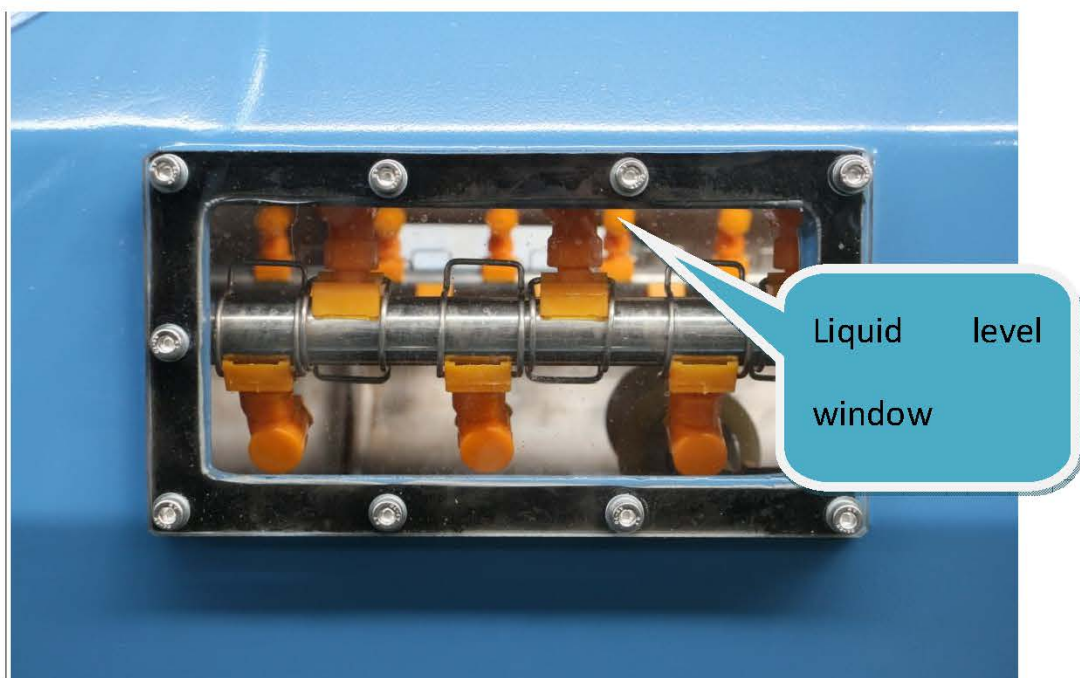


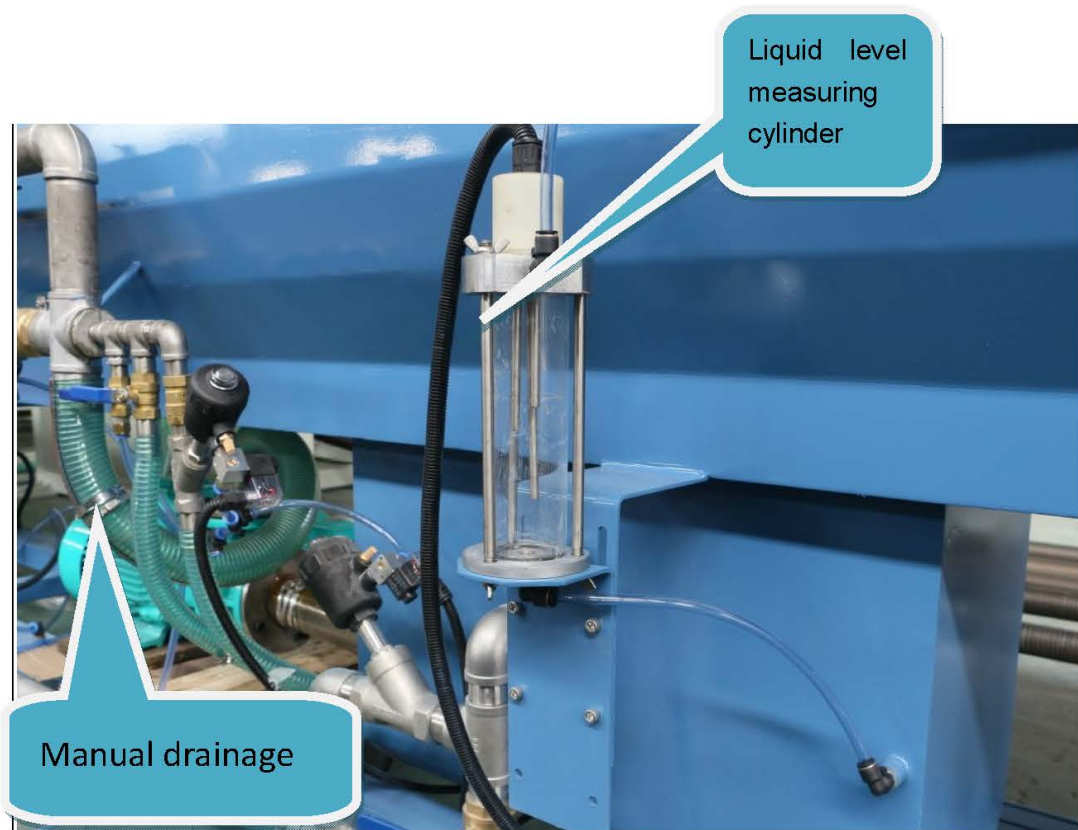
2) a. Water level observation window: reflect spray condition in the tank.

b. Liquid level measuring cylinder: reflect the sizing box level and signal feedback.

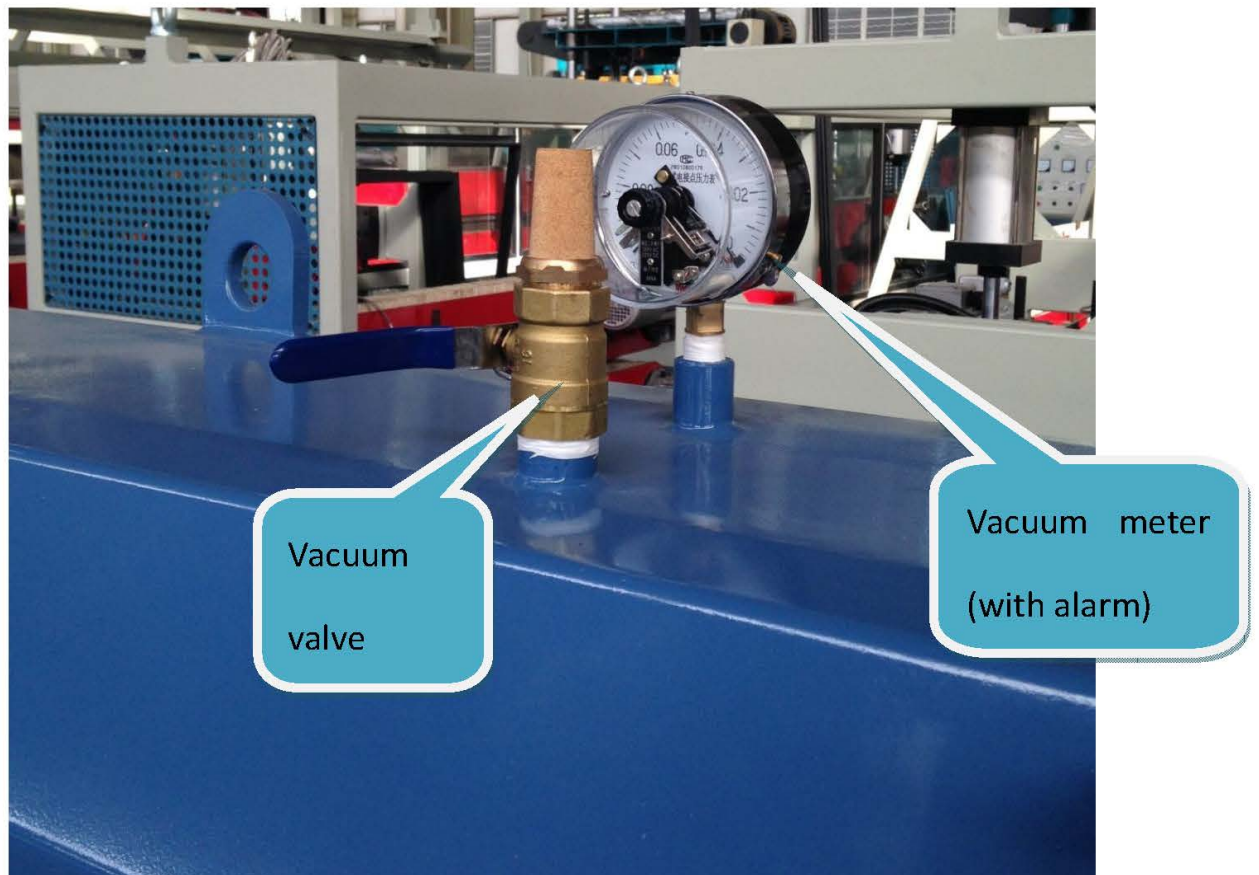
c. Manual drain: used to manually emptied the water for water tank

o

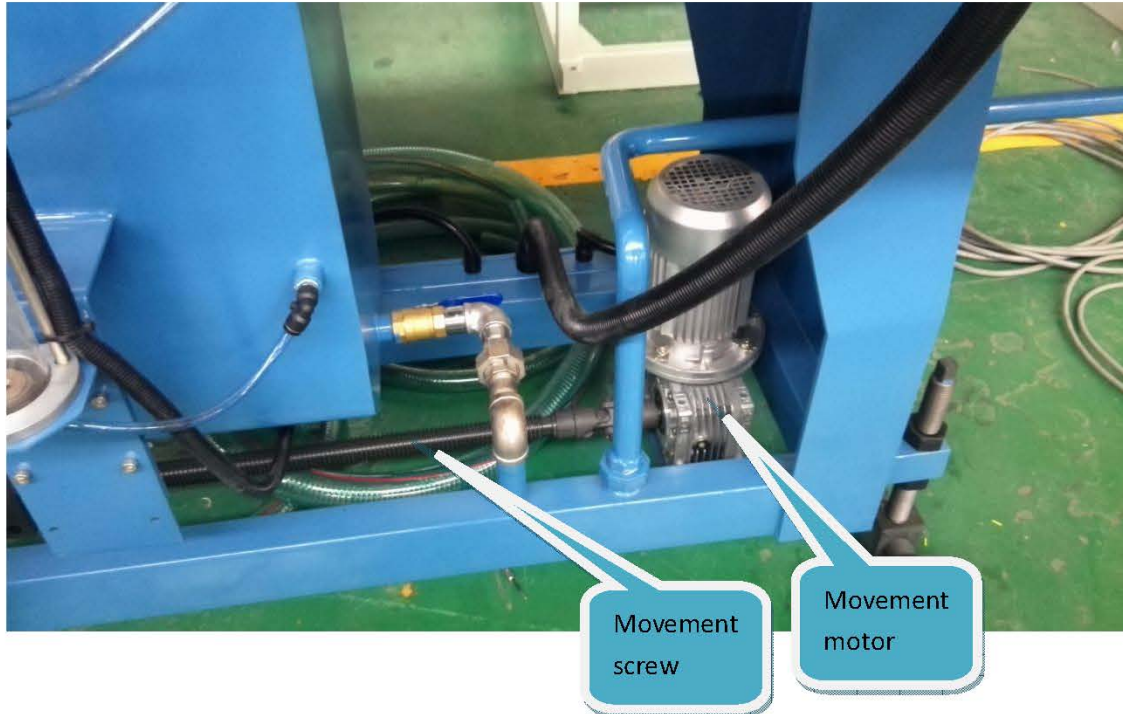




- 3) a. Vacuum meter : will reflect the vacuum degree in the tank.
- b. vacuum valve: Adjust the vacuum degree manually



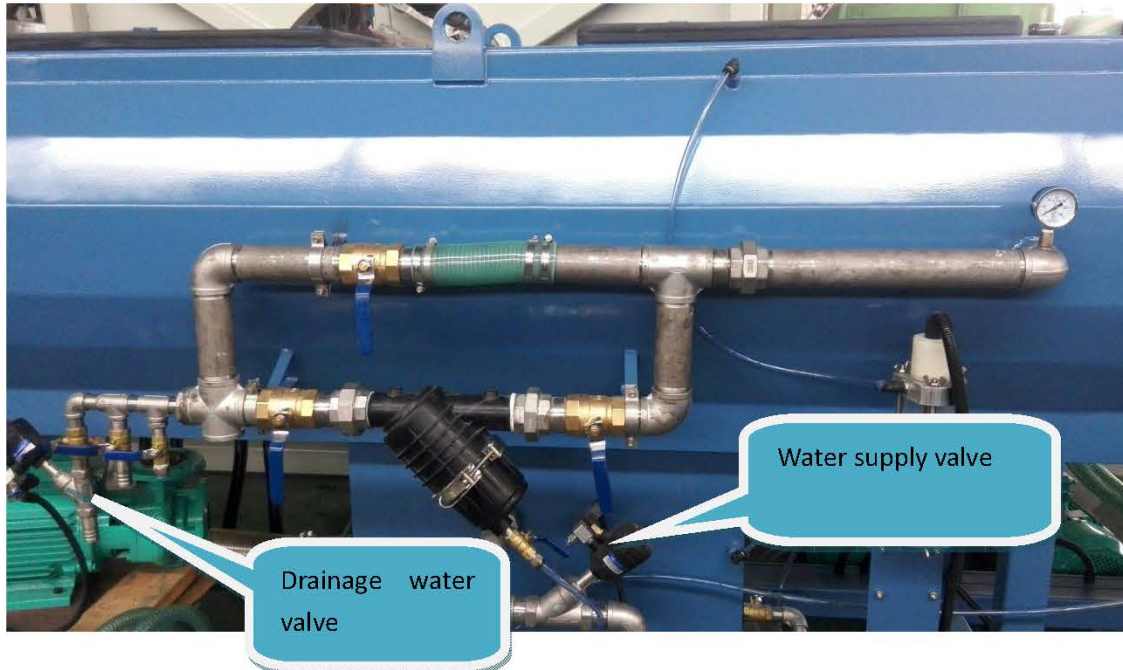
3) forward and backward movement system: Adjust the back and forward position of the tank (relative position with the mould)



4) a. Water drainage electromagnetic angle seat valve

: When temperature higher than reset ones, the valve will open, some of the water will come out, cold water will come in, water level will up and temperature will low.

b. Water supply electromagnetic angle seat valve: will supply water to the tank according to the liquid level measurement cylinder



5) a. support frame roller: Support frame roller position and dimension for different pipe size

125~400 vacuum tank support block



There are two kind support rollers

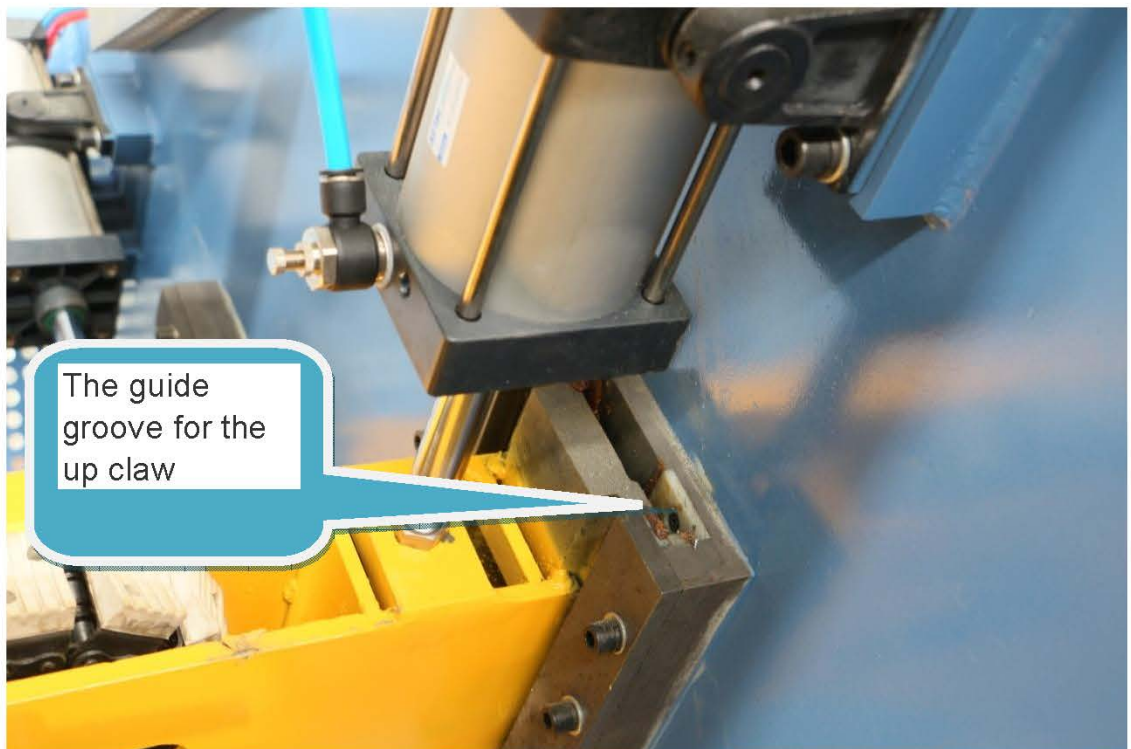
1 Adjust from the inner tank

2.Adjust from Outside (Check above photo)

C. Haul-off parts and faction

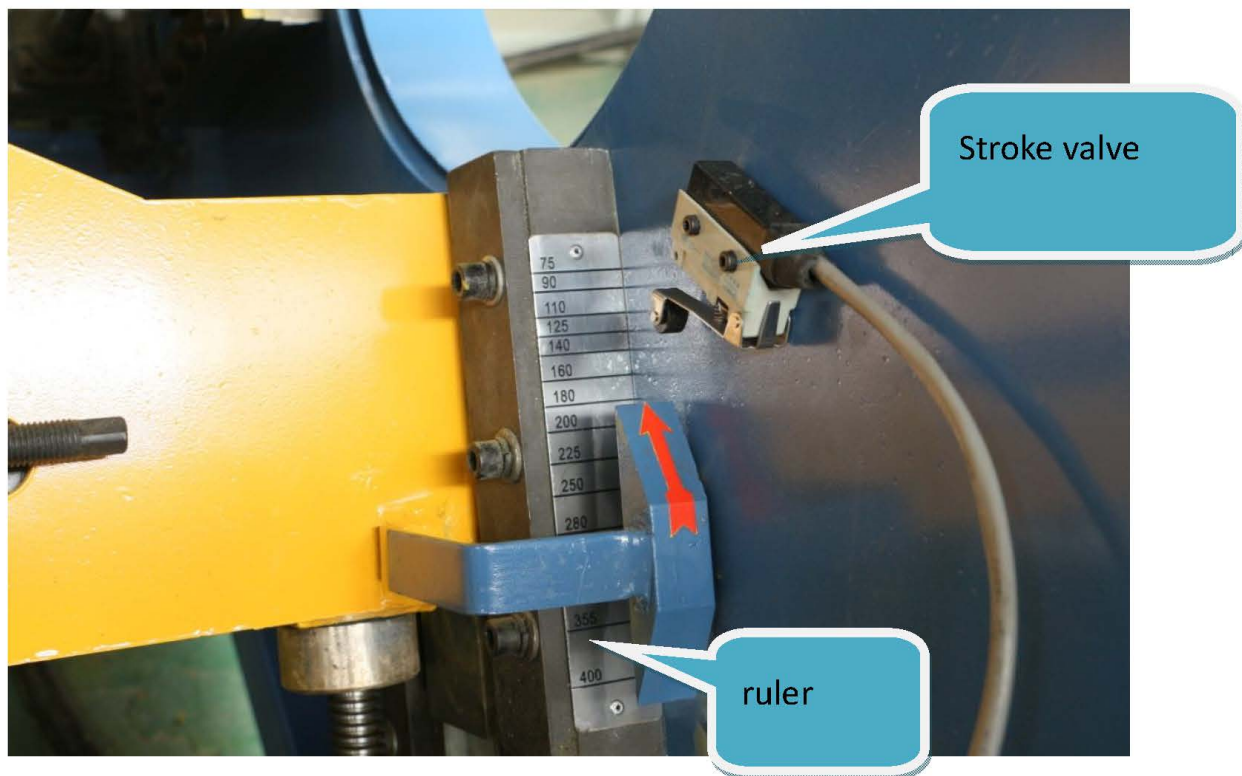


1) Tight parts



Through the air cylinder to clamp or loosen the pipe

2. The claw limiting parts



The stroke switch to traction arm limit which can scale to determine the size of the lifting.

3 tension parts



This can adjust the tension of the chain

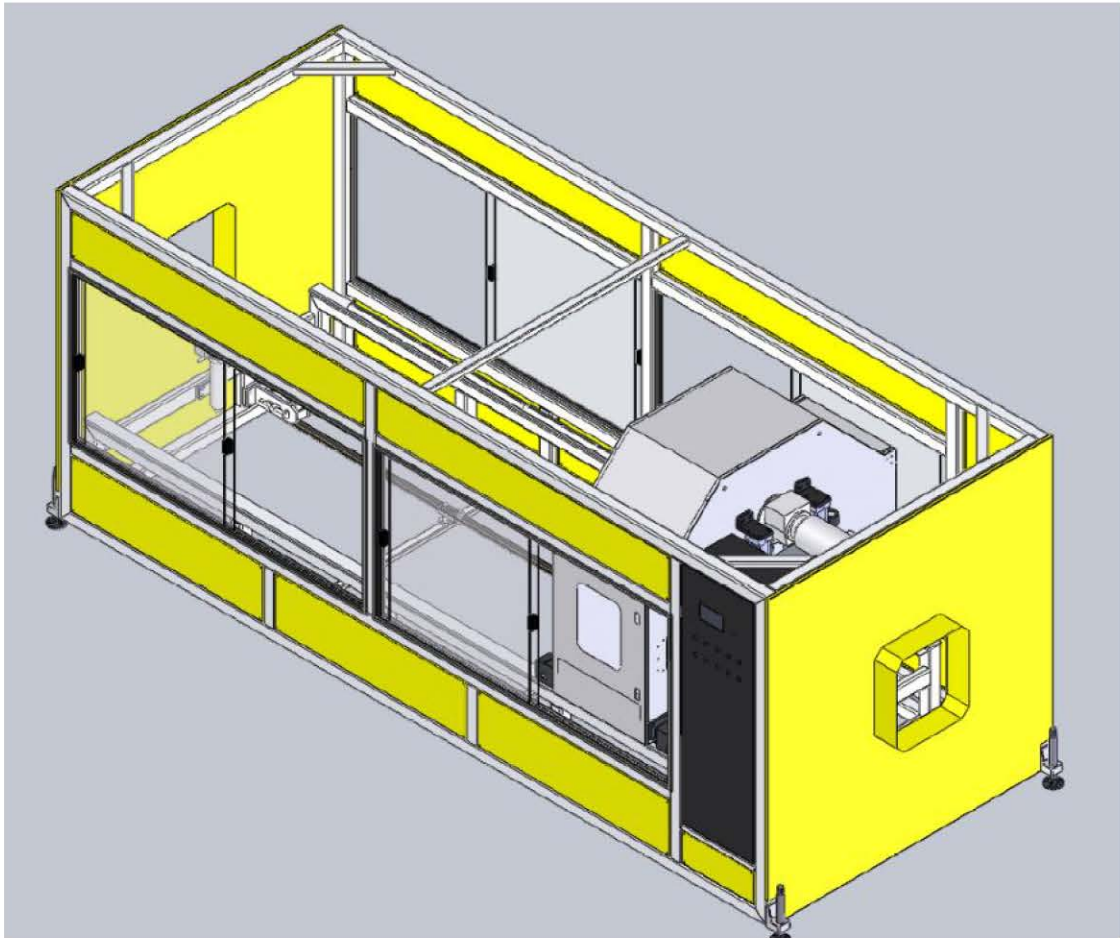
4 Up-down parts



Top haul-off arm clamping and relax regulation through the air cylinder;

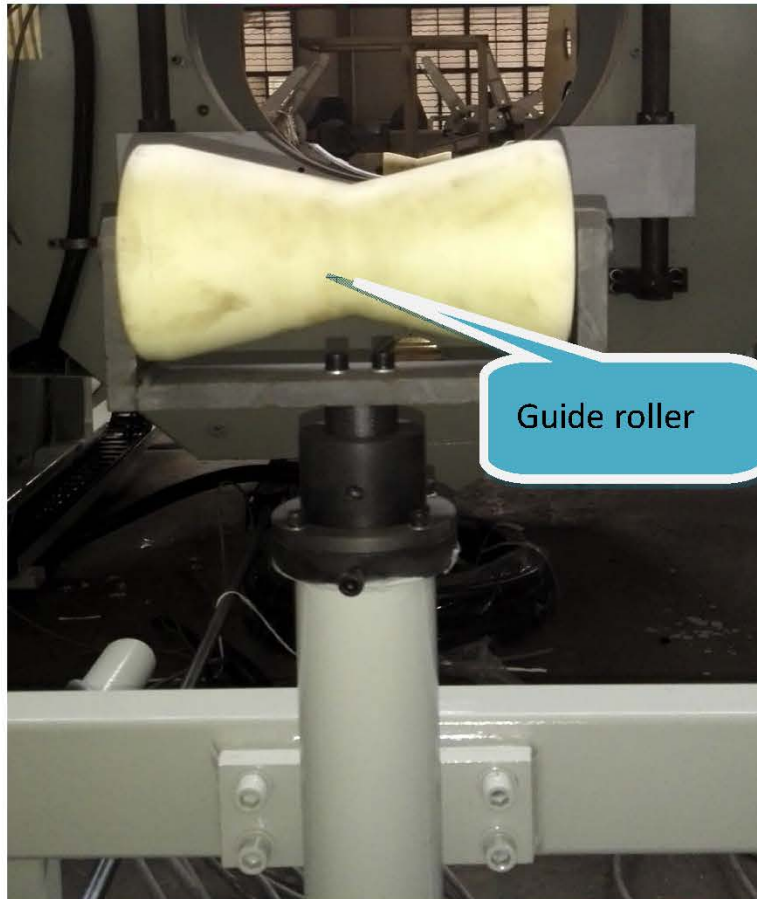
Down haul-off arm to complete the synchronous lifting by right angle gear box.

D cutter parts and function



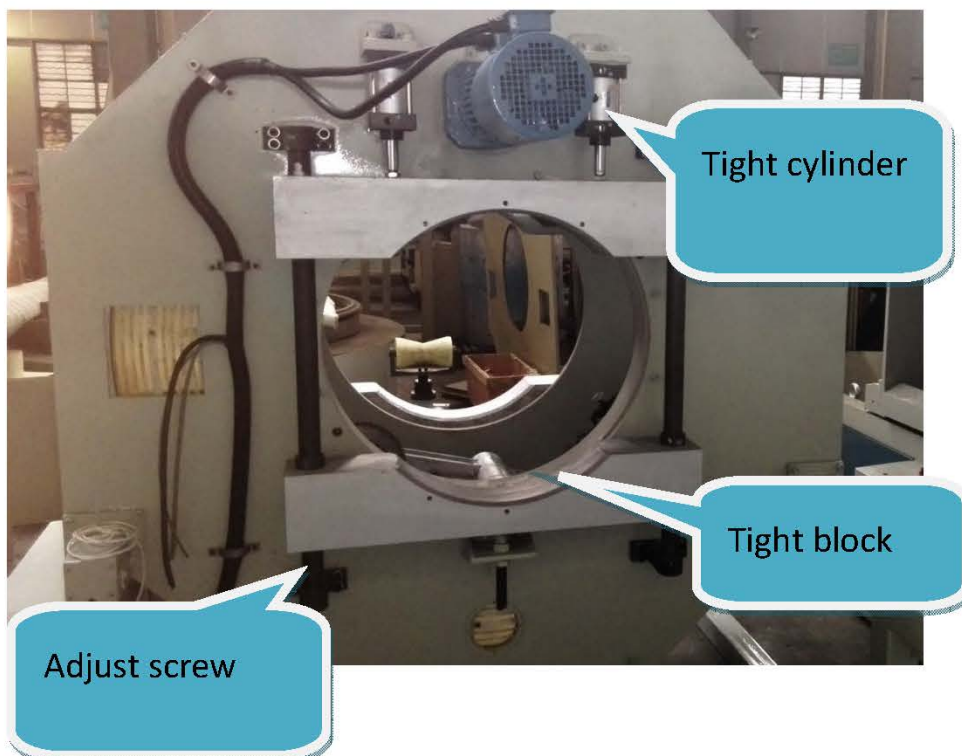
For the tube fixed length planetary cutting machine, moving during the cutting process, the frame sawing machine can move along the extrusion direction, and keep pace with the pipe. In the machine's front and rear is provided with a supporting wheel device, a supporting wheel play a supporting and guiding role, different diameter should be adjusted. When the encoder signal issued after cutting, clamping device for clamping pipe planetary cutting machine, make the tube in the cutting process is relatively fixed, the clamping device for aluminum clamping block, in the production of different specifications of the pipes, replacing Hough blocks corresponding. The cutting device is composed of a motor through a synchronous belt transmission, and the cutting feed of the saw blade is through the slow progress of the hydraulic cylinder, the cylinder thrust can be adjusted by the relief valve of the hydraulic pump station

1) support and guide parts

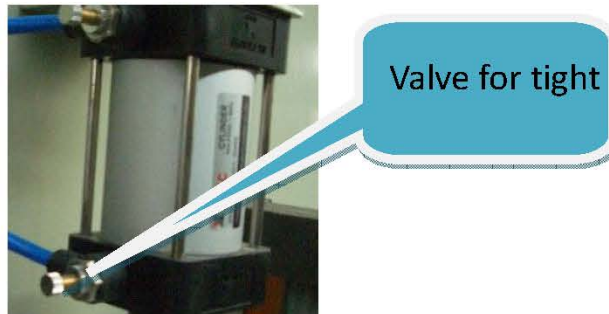


Guide roller to support the pipe

2.Tight parts

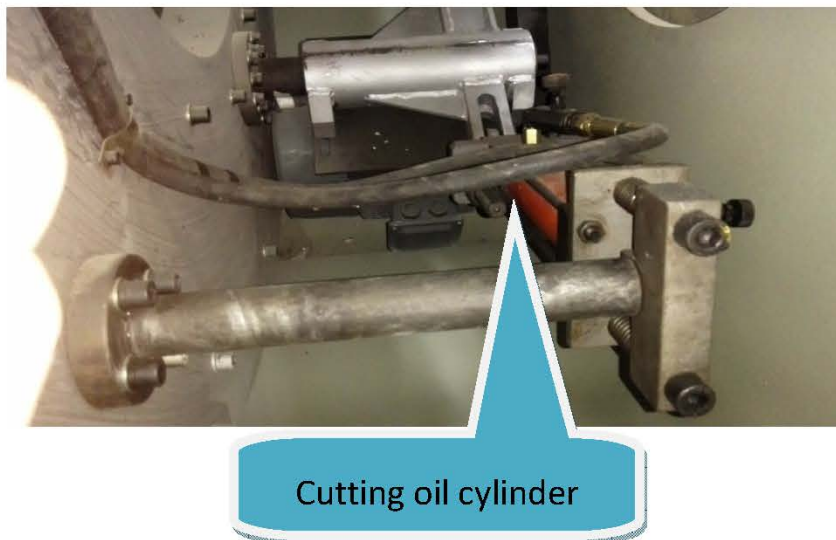


The upper part of tight block to clamping through the upper two cylinder, the lower part of the tight block through the screw rod to adjust the center height, wherein the cylinder pressure large mean upper pneumatic FRL pressure regulating valve which are, clockwise booster instead decompression.



Clamping pressure regulating throttle valve can be adjust the single cylinder pressure

2) Cutting system



1. The cutting depth is fixed on the cylinder side adjusting nut screw to achieve. Smooth rotation nut depth decreases, whereas the opposite.



Adjust screw

2. Hydraulic system

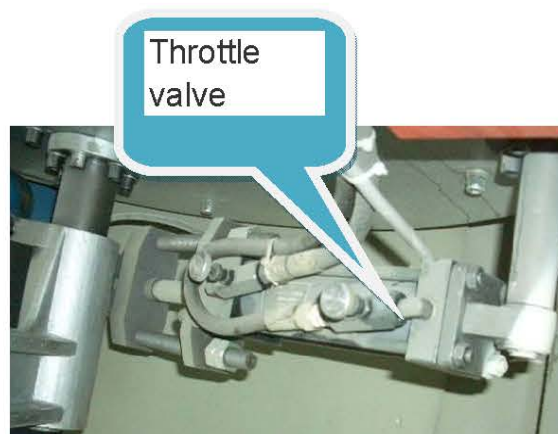
The pressure of the hydraulic system of hydraulic pump station adjusted through the micro adjusting the overflow valve device on the rotation disk. Loosen the lock nut, a right-handed screw pressure increased, but can not exceed the rated pressure 7Mpa

Note: the factory pressure regulator, in principle, do not adjust.

Proper hydraulic cylinder can very well, the saw arm pressure in the pipe to complete the cutting blade. If the pressure is too large thin wall pipe deformation. If pressure too low cannot cut through.

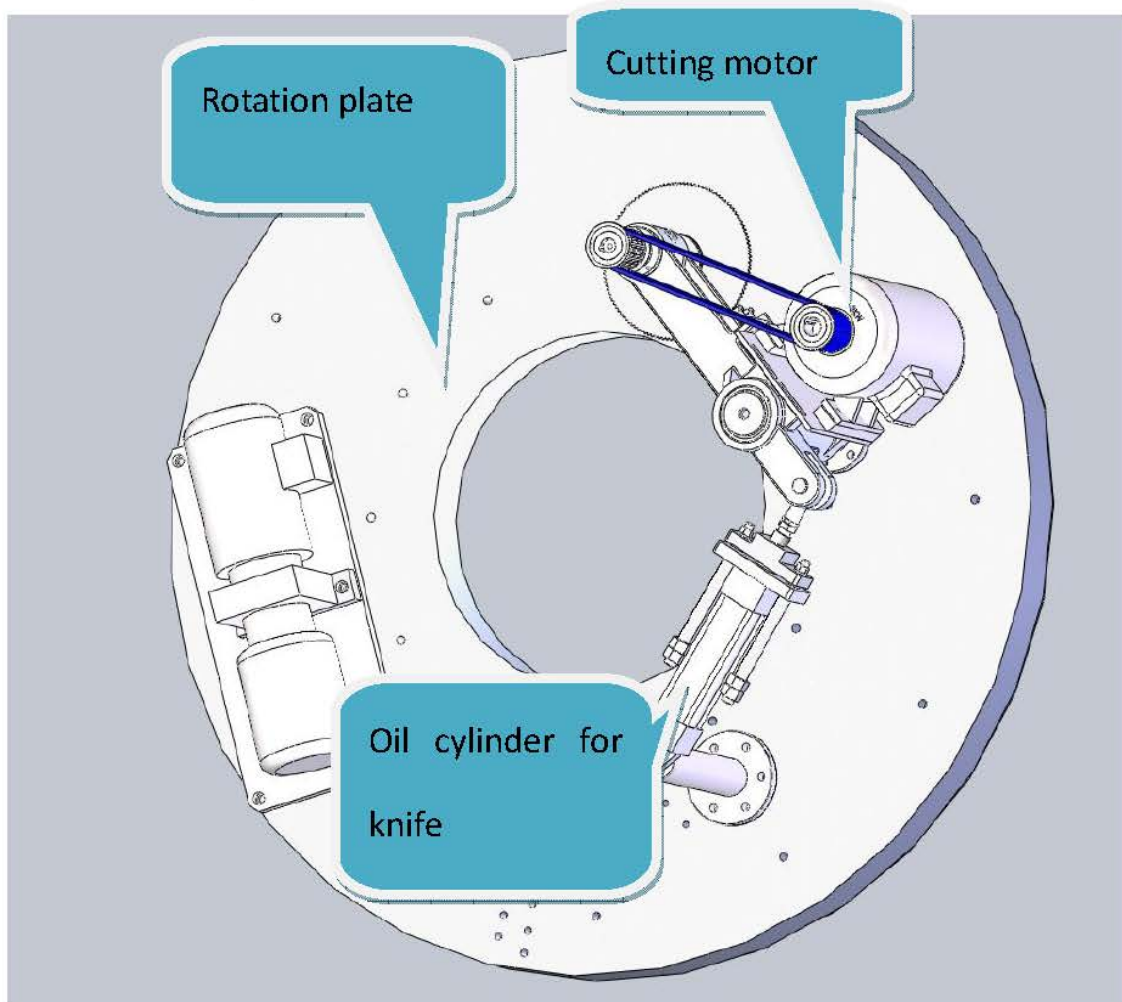
3. Blade feeding speed adjustment.

The one-way throttle valve is arranged on the hydraulic system, is used to adjust the blade feeding speed. Loosen the nut right-hand screw speed increased, whereas decreased, after adjusting lock nut.



Cutting feed by the piston cylinder rod slowly forward, until it meets the proximity switch back cylinder thrust size knife so far by air regulating valve control.

3) Rotation system



A rotary plate with the motor through a speed reducer and a pair of gear drive, motor speed adjustable. The rotating disk speed adjustment according to the following principles:

Tubules or thin tube to be high speed, bassoon or thick pipes should be low. In the cutting thickness, if the speed is too high the saw disc motor will overload tripping. Motor speed control from the control panel potentiometer control.

Can make better through the pipe cutting machine, be helpful for cutting.

IV Operation

1. Before starting the preparation

- ① check heating coil terminal and connection box is loose.
- ② The location of the thermocouple (or platinum resistance) and the status of the insert
- ③ Water pipe joint parts loose or not, do you have any leaks?
- ④ check the water pump and vacuum pump is working correctly
- ⑤ adjust the vacuum tank and extruding machine center is in the same level
- ⑥ Check whether the machine ground is smooth, adjust the anchor bolt to make workbench level and ensure the high center. Four points in the same level, prevent vibration in the machine work.
- ⑦ Use the connection parts to connect air power to pneumatic triple pieces. And pneumatic triple pieces connect with the traction frame lifting cylinder, check whether leak, and then air pressure transferred to 0.3-0.5MPa. adjust the pneumatic button on the control panel, make the traction on the arm to the ideal working height.
- ⑧ In the tractor traction arm is equipped with a gear speed reducer; need to inject the lubricating oil.
Oil product: Room temperature generally choose L-CKC68 ~ L-CKC150 extreme pressure industrial gear oil or better performance of lubricating oil.
- ⑨ Adjust the center of the cutting machine high consistent with the overall equipment center high.

2. Operating considerations

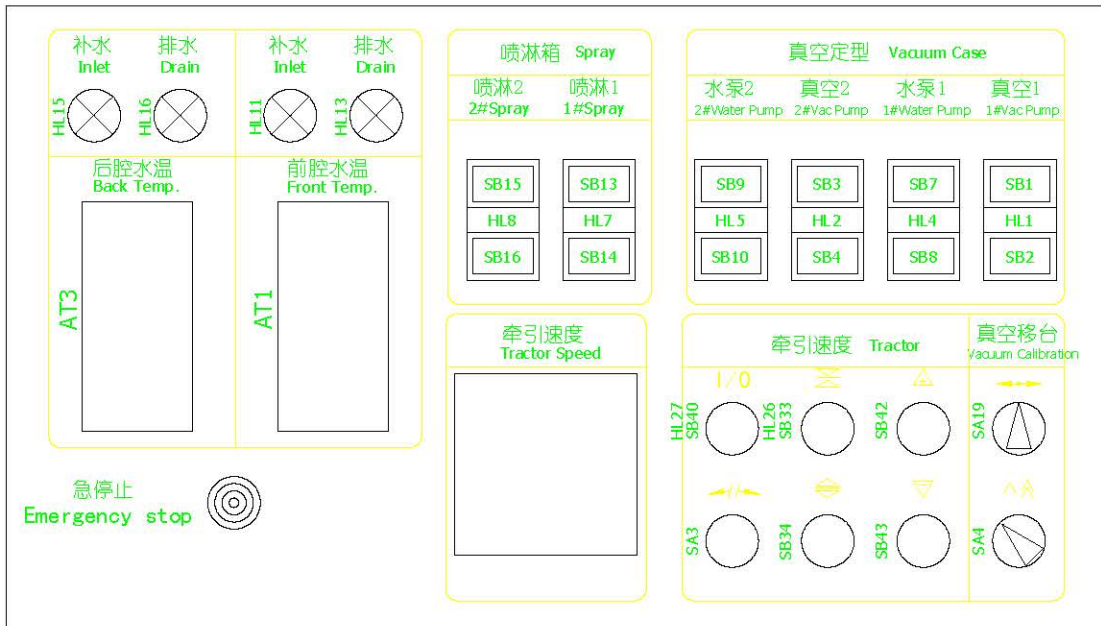
- ① Heat up to operating temperature first connect all the heating element, adjust

the temperature control system, set extruder district temperature to 100 °C, When the temperature rose to set temperature heat preservation after 30 min, Again according to the actual need of process temperature setting, temperature rise to process temperature warm after starting after 2 h. Observe the barrel were cooling fan operation is normal, steering is correct, if the reverse order to change the fan power supply wiring.

- ② Start out main motor, Make sure the screw to agree with beacon, the screw does not allow more than 5 r/min, when idle before trial should add lubricating oil to avoid shaving machine cylinder wall, and observe the main motor cooling fan, close the main motor after running in the right direction.
- ③ Start the feeding motor (watch feed screw torquein the process of)
- ④ Slowly increase the speed of extrusion machine and feeding system, observe the host current, adjust the feeding speed
- ⑤ Open the inlet valve sizing in water injection to the required position (from the level tube can be observed on)
- ⑥ In accordance with the specifications and adjust the position of the roller in the box
- ⑦ Start the adjust direction of nozzle spray pump, nozzle spray direction on products. Adjustment method: unscrew the spray pipe card hoop, rotating spray pipe to need position, then tighten the clamp (using, maintenance, maintenance of water pump please check the pump manual)
- ⑧ Start the vacuum pump, open the valve, according to the vacuum pump with manual regulation into water (the use of vacuum pump, preventive maintenance, please see the manual vacuum pump).
- ⑨ Adjust sizing box at the center of the high and the transverse position, make the center of the sizing box high aimed at the center of the extruder, adjustment method is as follows:
 - a. lift adjustment: adjust the nut on the adjusting roller make the center high to move up and down
 - b. Horizontal adjustment: adjustment roller adjusting screw the supporting frame
 - c. Longitudinal movement: the button panel, start the longitudinal and vertical back can make the longitudinal movement

3. A single auxiliary operation

- 1、 The control panel for vacuum tank



This panel can be set before, during and after the period of the water temperature, to control water is warm with drainage and filling water. Can also start the vacuum pump and water pump alone. Control tractor, speed alone, also can sync and host synchronous speed down, and the computer screen.

2、Haul-off machine

Below is the operation panel:



This panel can control haul-off claw

3. Cutting machine electric principle

After the machine connect electricity, indicator on, indicate power supply is connected; Through to the circuit breaker, the machine can be put into operation.

Use SB1 can choose automatic cutting and manual start cutting machine. Manually start the cutting machine mainly to test the blade, generally in automatic cutting gear, run automatically. When the pipe material reaches the specified length, the meter signal, are produced by the following actions:

Intermediate relay KA1 power, KM1, immediately KM2, cutting machine and suction motor started immediately.

- 1) Intermediate relay KA1 have electricity, leading to KA7 lost electricity, which in turn YV1 to move air cylinder, drive the head forward movement, movement speed can be used to throttle speed regulating valve adjustment, pay attention to slightly greater than the speed of haul-off
- 2) Time relay KT2 due to KA7 lost electricity, electricity, reaches the set delay after YV2 electricity, clamping cylinder will clamp, makes the tool post speed down to traction, then rest with tractors, pay attention to the clamp is in head movement

- delay some time to begin to act, this time by KT2 regulation
- 3) In clamping pipe fittings at the same time, the other relay KT3 began to delay. After reaching the set delay time, KT3 contact closure, YV3 electricity, will start the knife dish up cutting tool cylinder.
 - 4) Tool blade rise, when the cylinder on the magnetic switch SA1 action closure, cutting, the KA2 electricity and self-preservation, closed KA1, KM1, KM2 lose electric motor, KT3, YV3 lose electric razor blades began to fall
 - 5) SA2 closed when the blade back in place to make KA7 electricity, YV1, KT2 lost electricity at the same time, moving clamping cylinder and cylinder are reset, the end of a working cycle;
 - 6) When the push button manually cut SB5, is the same as above, and can cut any length of products; When encountered special circumstances, press the red button, to cut off the control power, reset all actions

Process: saw frame into, clamping, cutting knife, cutting knife back - clamping relax - saw frame reset, pushing, pushing the reset - waiting for the next meter long signal

3 Cutting machine control panel

DSSD is cutting machine's operation panel diagram below:



Can be set on TD400 panel cutting length, feed time, over time, revolution of counting, etc. When manually, but the motion of each part of the manual control. Press cutting ready, start cutting button manually, cutting machine will be a loop cutting action; Upon arrival automatically, when setting the length of the cutting machine will be a loop cutting action, manual cutting button manually, the same is true. When manual cutting not ready or have alarm, the power indicator light flashing time of 0.5 seconds.

Operator Panel instructions

HL2 After the power light is on, the indicator light flashing in 0.5 seconds; When pressing the cutting preparation or switch to the automatic cutting, the lamp will no longer flashing, would have been in a state of light.

BS1 Emergency stop switch, when pressed, the device will stop quickly, the cutter blade will automatically exit.

SA1 Manual/automatic conversion Used for manual or automatic switching working condition

SB7 Manual control revolution of the motor rotation

SB2 Manual control fixture clamping/loosening

SB3 Manual control of cutter feed/return

SB4 Longitudinal into longitudinal/manual control when cutting machine

SB8 Manual control of material

SB1 When the manual cutting, only after press can be manual cutting

SB5 Manual cutting. Press cutting preparation, then according to the manual cutting start button, cutting machine

An automatic cycle cutting movement. Manual cutting starting signal is given, the automatic start cutting the automatic measuring, control signal by encoder. Set length can be set in the TD400 text display

1) play to the "manual/automatic switch SA1 manual state, all kinds of manual operation can be performed at this time

- ① manual clamping button SB2, clamp clamping piece, then click the SB2, clamp block to relax
- ② hold the manual clamping button SB3, the pump starts, saw blades, feed, loosen, then hold down the manual clamping button SB3, saw blade knife back, this button with mechanical function, can adjust the feed quantity of saw blade
- ③ saw mobile button SB4, saw front into, and then click the SB4, sawing machine back
- ④ hold SB7 revolution button manually, big wheel began to turn
- ⑤ cut to button SB1, the running light from flashing into normal, manual cutting button SB5 at this time, the whole system for cutting action.

2) play to the "manual/automatic switch SA1 automatic position, the whole system is in automatic cutting condition, when remember long signal after reaching set length, automatic start cutting.

Complete the following steps

Sawing clip clamping, mobile, cutting motor rotation-----> The feed feed time-----> Rotary began to revolution, when the turn 360 °-----> Chamfering knife forward "feed time again-----> Wheel to continue revolution, when the turn 360 °"-----> Chamfering knife forward "feed time again -----> After the turn 360 ° Chamfering cutter to move on, through the nut to the mechanical limit (namely, chamfering depth) -----> Revolution of the motor to stop -----> The cutting tool return (return time same as the feed time) -----> Stop cutting motor -----> Piece of loose -----> Sawing machine back, return to the starting position, waiting for the beginning of the next action .

3) protection function

When saw blades due to unexpected stuck, can hold down the stop button, saw blades do return automatically. If due to the system parameter setting is not

reasonable, lead to walk saw bench is too long, saw touch live lead limit switch after SL5, saw the return action immediately, so as to protect the saw blade and other parts from damage.

4) TD200 text display screen operating methods

| button | picture | explain |
|--------|---|--|
| F1 | The current meter long XXXXm Fixed-length set XXXXm | Can be set after press ENTER |
| F2 | Thickening of the starting valueXXXXm Thickening of the final valueXXXXm | Generally no, some products have no the picture |
| F3 | Feed timeXX.Xs The revolution of numeration | According to general set of wall thickness 3-10 Adjust the Angle of revolution, more than 360 degrees |
| F4 | Delay over material XXXXs Ratio calibrationX.XX | Range of 0-3267 For number plate error can adjust, general is 1 + 0.2 |
| F6 | Feed time againXX.X s | At the same time press SHIFT and F2, F6 now |

| button | explain |
|--------|--|
| ENTER | Click this button to enter the set state, after setting, click this button to go back 出 Set the picture, and set effective |
| SHIFT | ↑↓ cooperation, at the same time hold down the SHIFT key, can move the cursor |
| ↑ ↓ | The symbol value of increase and decrease |
| ESC | This button said out of state now |

Parameters are modified, and press the ENTER key, return to original state:

Welcome to use "JWELL machinery QFG series planetary cutting machine"

5) failure to rule out (see table below)

| Phenomenon | Cause | Elimination methods |
|-------------------|--|--|
| No oil pressure | 1. Motor reversal 2. The pressure gauge is damaged 3. Oil plug 4. Fuel starvation | 1. Motor commutator 2.change the pressure gauge 3. Clean up the oil 4. refuel |
| No cutting action | 1. The oil pressure is too low | 1. Adjust the relief valve |

| | | |
|---|---|---|
| | 2. No action solenoid valve malfunction | 2. Check the solenoid valve |
| Cut continuously | 1. The revolution of value is too small 2. The feed quantity is not enough | 1. The value increase 2. Adjust the limit screw |
| Cutting face dislocation | Saw front into the speed and traction are not synchronized | Adjust the cylinder throttle valve |
| No longer remember | 1. The calibration ratio value is 0 2. The encoder bad | 1. To set to 1 2. Change the encoder |
| Turn the difficult cutting. Feed motor | 1. Motor open phase 2. Brush lighter | 1. Check the motor 2. brush changing |
| Saw touch switch | 1. The revolution speed too slow 2. Rotation Angle is too large | 1. Increase the frequency 2. Reduce the revolution of numeration |
| Cutting the big wheel can't stop | 1. photoelectric switch circuit problem 2. Photoelectric switch induction | 1. Check or change 2. Adjust the photoelectric switch location |
| After cutting, no retracting | 1. The hydraulic oil is too small 2. Oil plug | 1. Hydraulic oil pocket refueling 2. Clean up the oil |
| the big wheel isn't moved | 1. Revolution of bearing damage 2. Into the flying debris inside | 1. Replace or repair revolution of bearings 2. The flying debris clean. |
| Cutting trip | 1. Carbon brush short circuit 2. The solenoid valve short circuit | 1. Check the carbon brush circuit ; 2. Check the solenoid valve circuit. |

5. Trouble alarm

In order to improve the reliability of the system, the control system has the function of intelligent fault diagnosis. When there is a failure in the equipment accident alarm signal will occur. Alarm will continue to flashing, such as computer screen at the same time alarm screen will display the alarm content. Operation or maintenance personnel will be according to the content of the alarm prompt failure of elimination and recovery. The following will be according to all kinds of alarm status one by one:

| No | The fault content | elimination methods |
|----|---------------------------------------|--|
| 1、 | The host governor of failure | <ol style="list-style-type: none"> 1、 check the governor panel with or without display alarm code, if you have it out by alarm code check alarm content; 2、 if no alarm code check the governor with or without emergency alarm signal to the PLC input, such as a signal to the PLC input point indicator light will be bright; |
| 2 | Host cooling fan fault | <ol style="list-style-type: none"> 1、 check the cooling fan of the thermal protection switch tripping; 2、 check the cooling fan is bad 3、 check the cooling fan to PLC with or without alarm input signals, such as a signal to the PLC input point indicator light will be bright; |
| 3 | The host current limit | <ol style="list-style-type: none"> 1、 check the host computer screen current limit set is reasonable, should be greater than the motor rated current; 2、 check whether the load is too big; 3、 check the governor current display is normal; |
| 4 | The host current ultralimit | <ol style="list-style-type: none"> 1、 check the host computer screen current limit set is reasonable, should be greater than the current limit. 2、 check whether the load is too big; 3、 check the governor current display is normal; |
| 5 | Feeding speed governor of failure | Refer to the host governor of failure |
| 6 | Melt pressure exceeds limit or limits | <ol style="list-style-type: none"> 1、 check the pressure limit is set at the computer screen is reasonable; 2、 check the pressure sensor wiring is correct; 3、 check the pressure sensor is bad; |
| 7 | Melt temperature limit | <ol style="list-style-type: none"> 1、 check the computer screen melt temperature limit setting is reasonable 2、 check the melt temperature sensor wiring is |

| | | |
|----|---|---|
| | | correct; 3、 check the melt temperature sensor is bad; |
| 8 | Traction speed of failure | Refer to the host governor of failure |
| 9 | Ultra limit or ultralimit traction current | Refer to the host current |
| 10 | Temperature display one district 32767 or * * * * | 1、 check whether the thermocouple is bad or disconnection; 2、 check the wiring is reverse; |
| 11 | Temperature cannot control one district | 1、 check whether the temperature measuring line and hotline; 2、 check if there is a line fault controlled heating contactor; 3、 change of temperature control module; |
| 12 | The host can't start | 1、 check whether there is an alarm; 2、 check whether the heat preservation time; 3、 check the start the host |
| | | |
| | | |

V Maintenance

1. Vacuum spray tank maintenance and maintenance

① Attention

- Should turn off the main switch before maintenance and repair, and lock it, in case of accidental activation.
- Ready for the right tools.
- Vacuum pump starts must open the water inlet.
- Before the maintenance or repair shall wipe machine oil or dust, pay special attention to the power supply output or joint.
- When not in use for a long time, the water in the tank must be completely empty.

② The daily maintenance

- clean machine.
- Daily must check whether the pipe installation leak leakage, all fasteners are loose.
- Daily water pump outlet pressure, low filter to unpick and wash
- Organic glass water level observation hole must be kept clean
- Electric equipment, electric components are not allowed to have a water splashing

- Vertical adjustment screw, lifting screw adjustment good to antirust grease, and wrap

2. ① Tractor maintenance

1.1 Attention

- Should turn off the main switch before maintenance and repair, and lock it, in case of accidental activation.
- Ready for the right tools.
- Before the maintenance or repair shall wipe machine oil or dust, pay special attention to the power supply output or joint.

1.2 The daily maintenance

- Remove isolated in pneumatic triple pieces of water per day, if not clear in time there will be water into the cylinder and valve. Can make its internal rust and cause frequent fault. Oil mist detector cannot be broken, ensure the lubrication in the pneumatic components, the same is to reduce the fault.

1.3 Monthly maintenance

- clean machine.
- Check the electric switch button plugs are in good condition, if there are any damage, repair immediately.
- Monitor the tension of the traction tracks on the arm, if is too loose the adjusting the tension screws tensioning
- Check the gear speed reducer in oil level, keep between the upper and lower oil mark. When short of oil, to supplement the same brand of lubricating oil in time. 300 hours after the running of the new equipment, to do the first change, change to remove the remaining oil. After every work 3-4 months, change one more time
- **Clean the pneumatic triple pieces of the filter, and put on the new oil.**
- Drive chain **and 2L-2# lithium** soap base grease.

2. Trouble removal

| fault phenomenon | fault cause | Check method and ruled out |
|---------------------|--------------------------|---|
| Motor does not turn | Power supply is abnormal | Check the power supply and circuit breakers |
| | No start signal | Check the control switch is normal |
| | Without a given signal | Check the speed regulating motor is normal |
| | As protections | Reboot after downtime |

| | | |
|---|-------------------------|--|
| | Ac contactor | Change |
| | Control panel fault | After carefully check the external factors check control panel |
| Motor can not meet the high speed | Do not adjust the given | Check the potentiometer or PLC |
| Remove the control panel fault and sync up and down | | Check the inverter frequency Settings |
| The light is not bright | | Change |
| On the next sync | Bad driver output | Check the output point |

3. Cutting machine maintenance

① clean machine

Before inspection and cleaning, must cut off all the power on cutting machine

When cutting machine normal work after a while, you should check and clean cutting machine .If there are faults are determined according to the actual situation repair or replacement. Walking on a regular basis to guide for cleaning and descaling , anti-rust oil, protect guide rail, so the walk easily, no stuck phenomenon.



- ② Check whether all the clamping device of screw loosening, and tightening
- ③ Check the electric switch button plug cable conductive carbon brush is in good condition. if there are any damage, repair

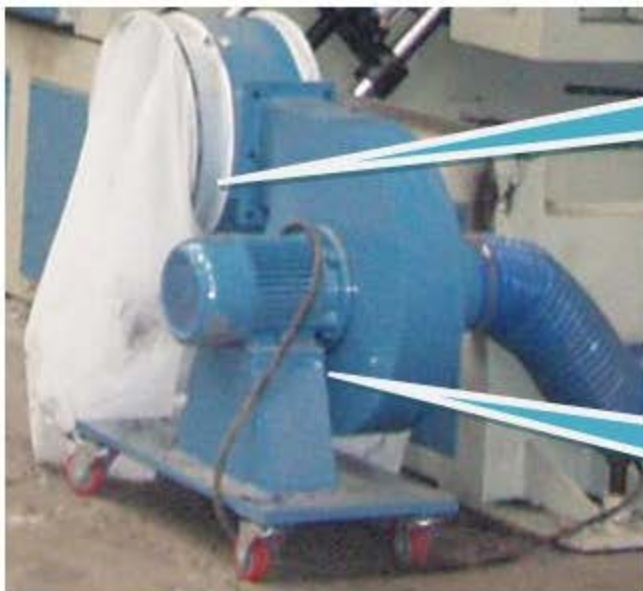
immediately.

- ④ Check whether all of the pipe or hose seal, all the pneumatic components and solenoid valves are in good condition, replaced immediately if there is any damage.
- ⑤ Pneumatic triple filter, clean up and replaced with fresh oil.
All the oil injection hole and sliding parts should cheer per shift.



Pneumatic
FRL

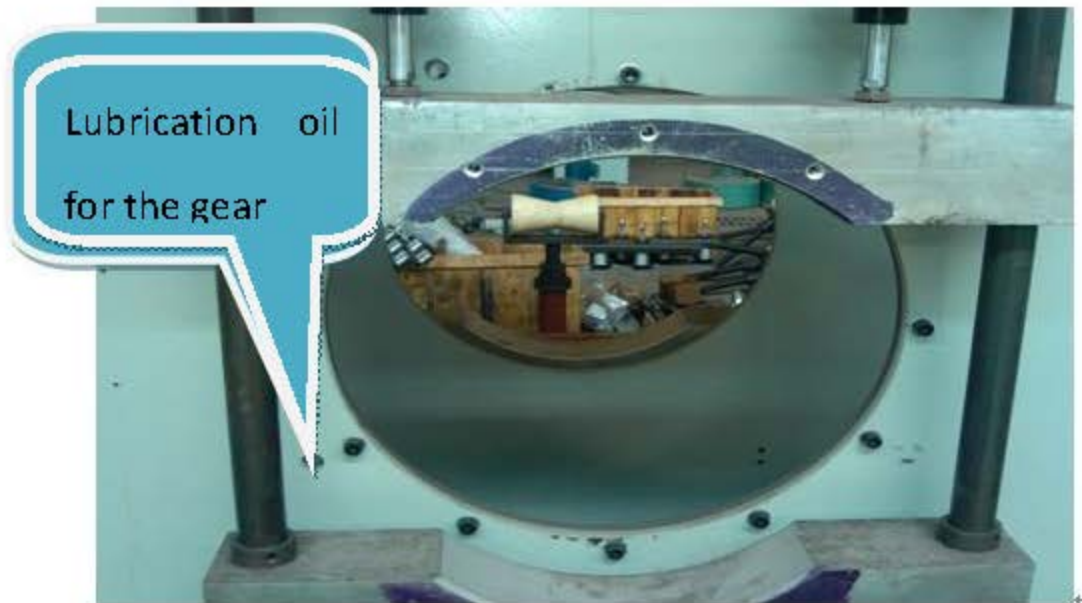
- ⑥ Daily sawdust in the cleaner. Best method is to use compressed air gun to blow the net.
Emptying replacement sawdust bags every day



Dust bag

Fan for
dust

- ⑦ Rotary drum shaft need lubrication and cleaning, once a day.



- ⑧ Saw blade hardness whether damage to sharpening or replacement.
- ⑨ Synchronous belt is damaged.

6. abandon treatment

When could the equipment to achieve the service life of it, the machine can no longer continue to use or maintenance, the user may not arbitrarily discarded it, should consider the perspective of environmental protection and energy saving, delivered to the relevant environmental management department or to properly handle in accordance with local environmental regulations.

At the same time, in the process of using and maintenance, take into account the importance of protecting the environment, waste of conversion from the machine down, such as replacement of the waste oil to properly handle, so as not to cause environmental pollution.

Also, in the process of production, look from the Angle of saving energy and materials, minimize waste.

VI Spare parts

- a. Serial two-position five-way magnet valve ((G1/4")
Q25DC-L8(0.15-0.8MPa)



b. pressure sensor(Pt131b)



d.K type thermocouple thermometer (M12*1.5)



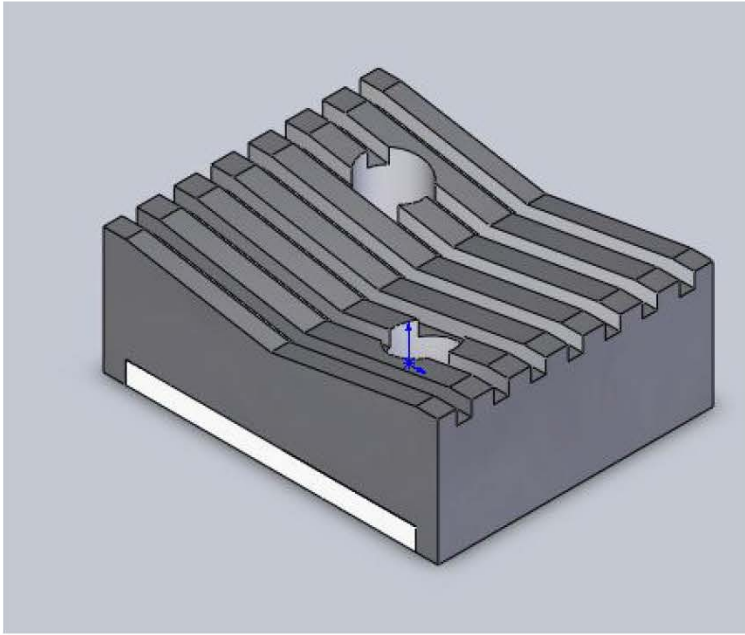
e. nozzle($\Phi 32$)



f.vacuum meter (Y60(-0.1-0)MPa) /pressure gage Y60(0-0.6)



g. Traction rubber block (QY 160-01)



j. travel switch (YBLX-P1/120/1e)



h. porcelain plug



The aviation plug



b.170 (Φ250*Φ30)



K. contactor



VII Complimentary Close

The company learned at home and abroad advanced technology and process, in the domestic leading position, committed to developing all kinds of new type pipe equipment. In the process of the development of the company for pipe equipment, sincere hope that the products of the users for our company to propose suggestions and requests, in this thank all new and old customers to patronize our company products.

Because the company constantly committed to the upgrading of products and development, So the instructions provided in the chart shows that parameters such as do not tally with the actual product if somewhat (The purchase contract shall prevail), Please kindly understanding, if you have any question, please contact our technical department.

The technical parameters are subject to change, without prior notice

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