



PE160 series Pipe production line Manual

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

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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

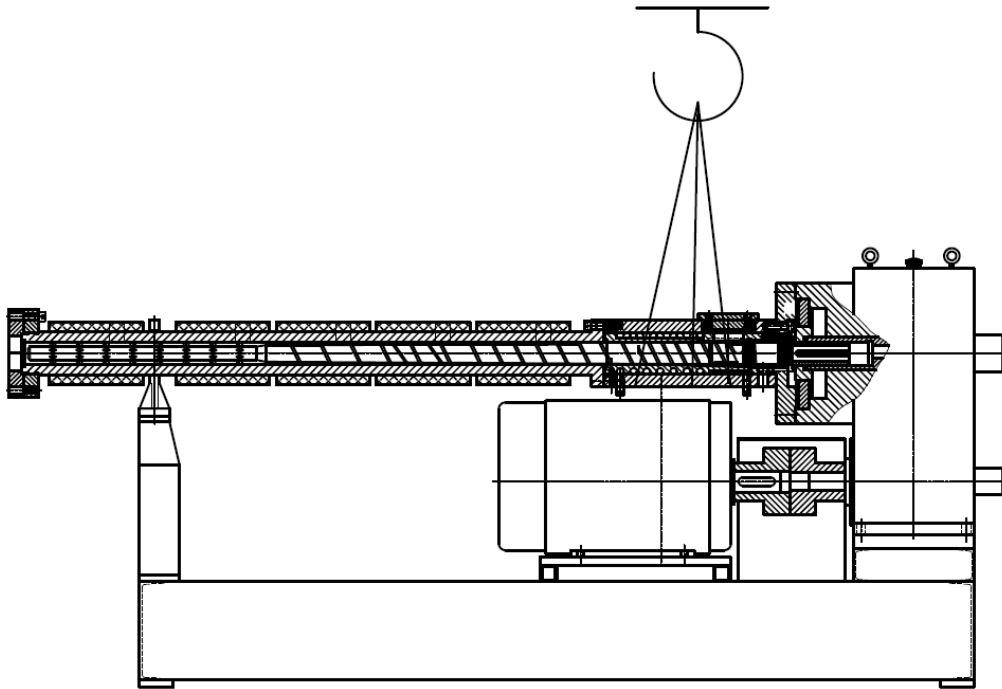
3. Equipment hoisting

3. 1 Extruder hoisting

- The operator must be trained and obtained the operation license;
- lift machine, all personnel required to leave the dangerous area immediately;

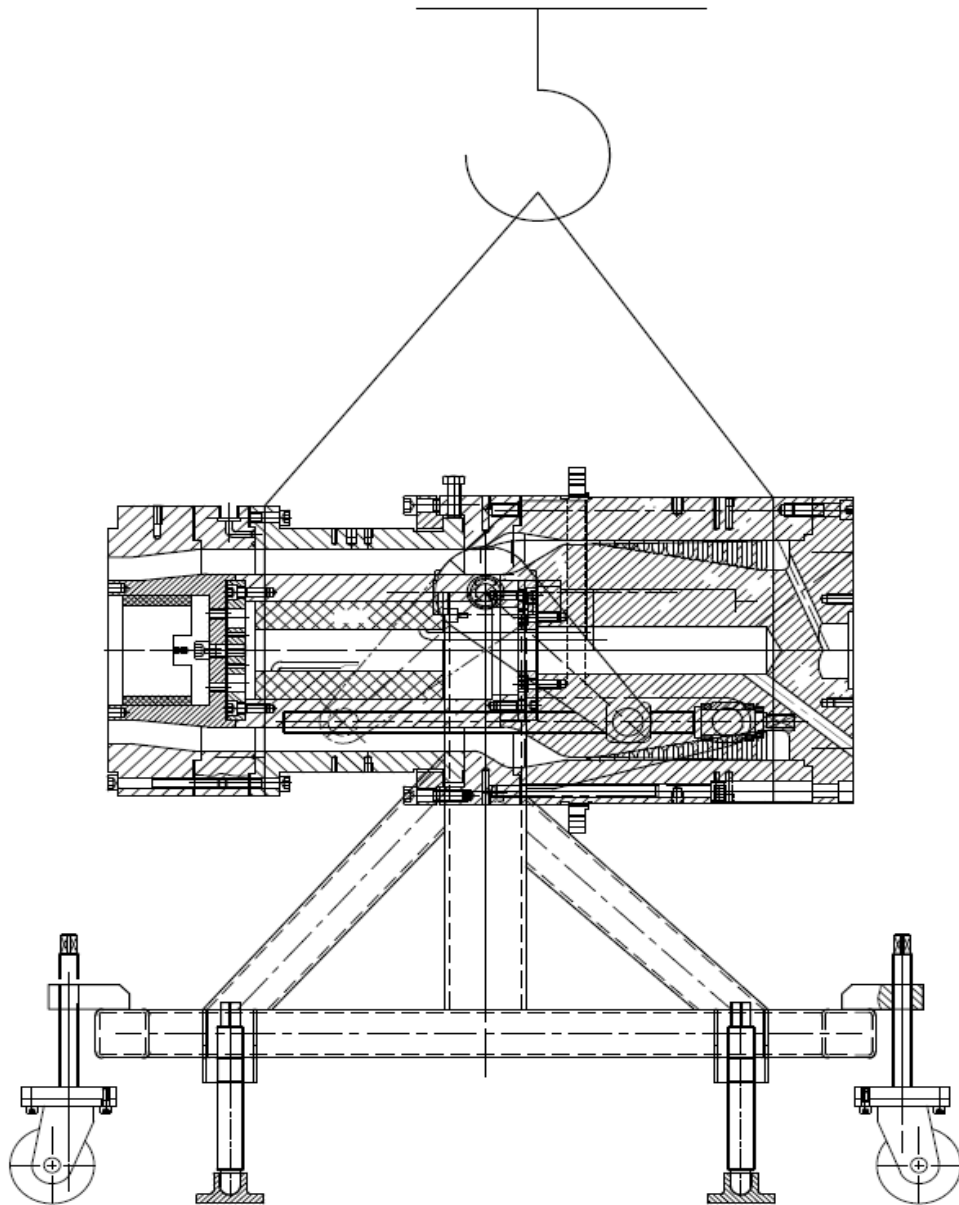
Do not use damaged ropes or chains;

Must not exceed the load of rope or chain;



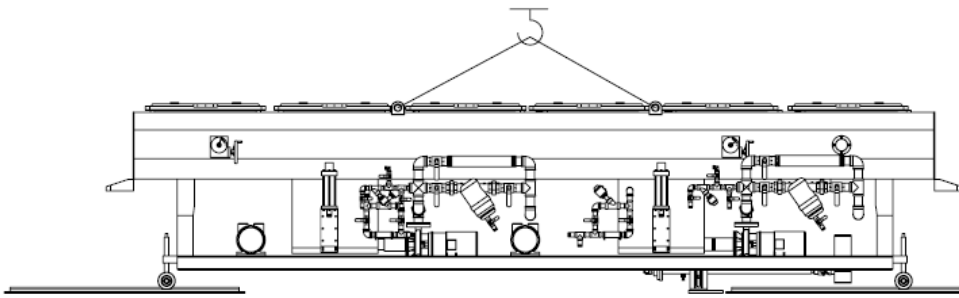
3. 2 Mould hoisting

- 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.

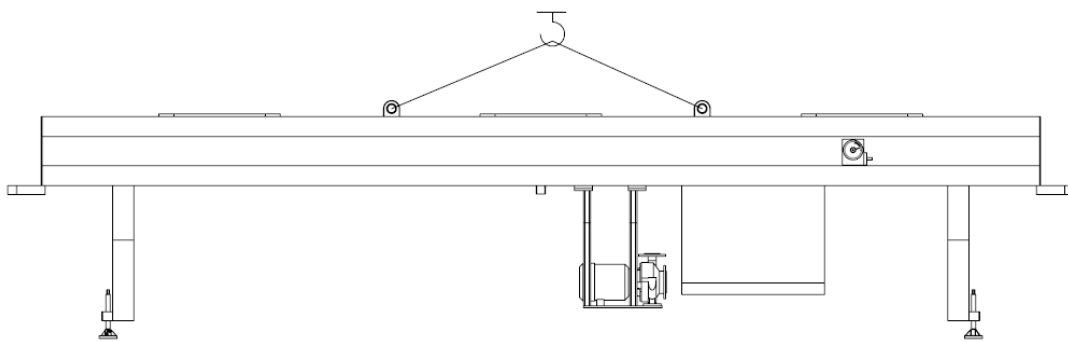


3. 3 Vacuum(cooling) hoisting

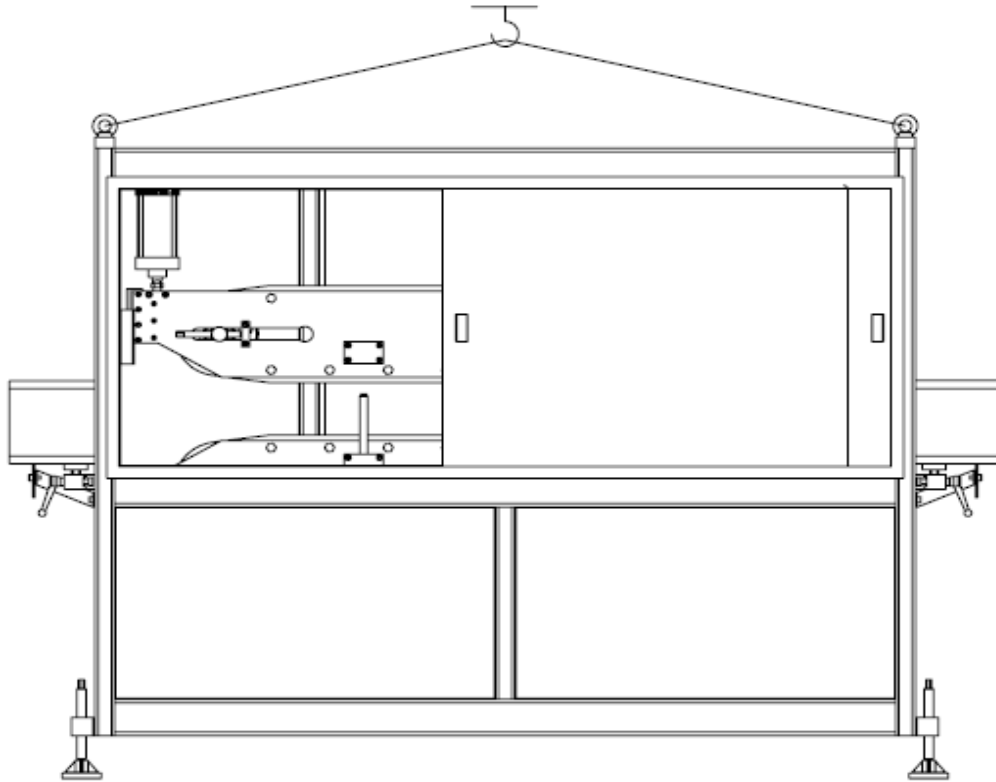
Because the tank body weight distribution imbalance will cause the center of gravity shift in the course of transportation, in order to prevent sliding in sling hook, rope in the hook in hook more must be in a circle around.



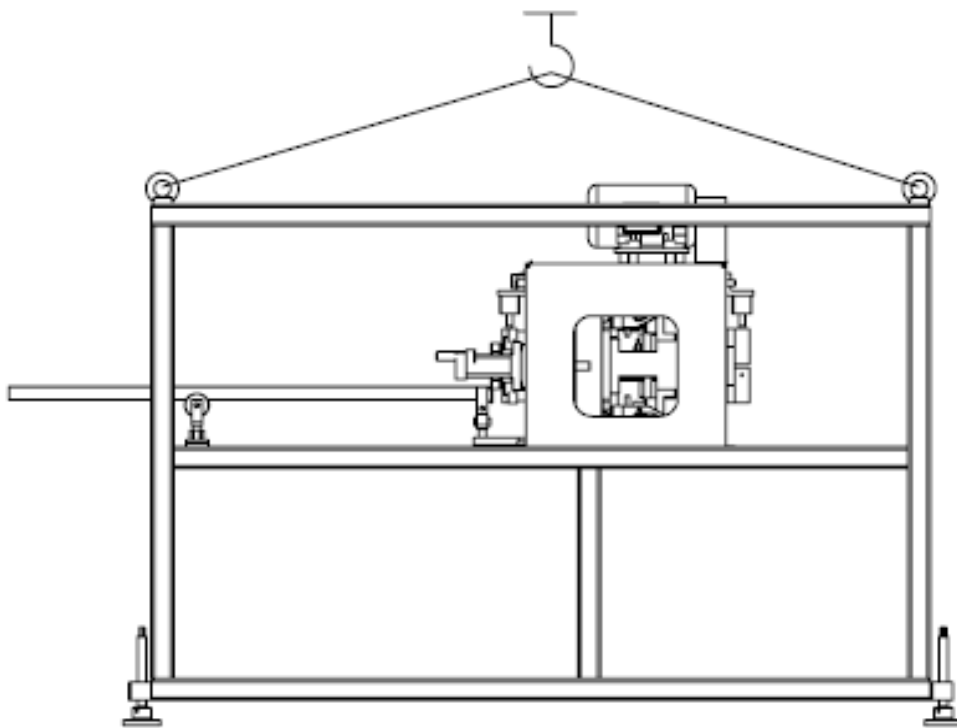
3. 4 Cooling tank Hoisting



3. 4 Haul-off machine hoisting



3. 6 Cutter hoisting

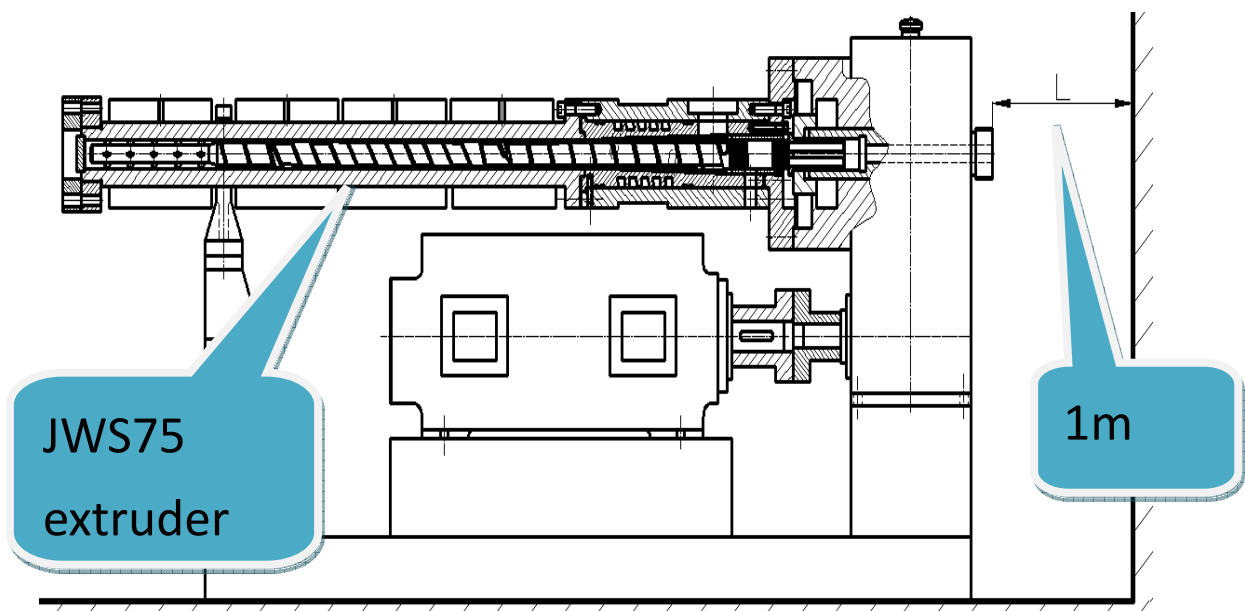


4. Installation

- When install PE160 solid pipe machines, must according to the electrical drawings and layout drawings(additional documents)

4. 1 Extruder install

- In the screw and barrel in the longitudinal direction, extrusion machine and should allow sufficient space, in order to facilitate the introduction of screw and screw pushing device, specific see below.



4. 2 Arrangement of the machines

- After extruder finish installation
 1. Connect PP160 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

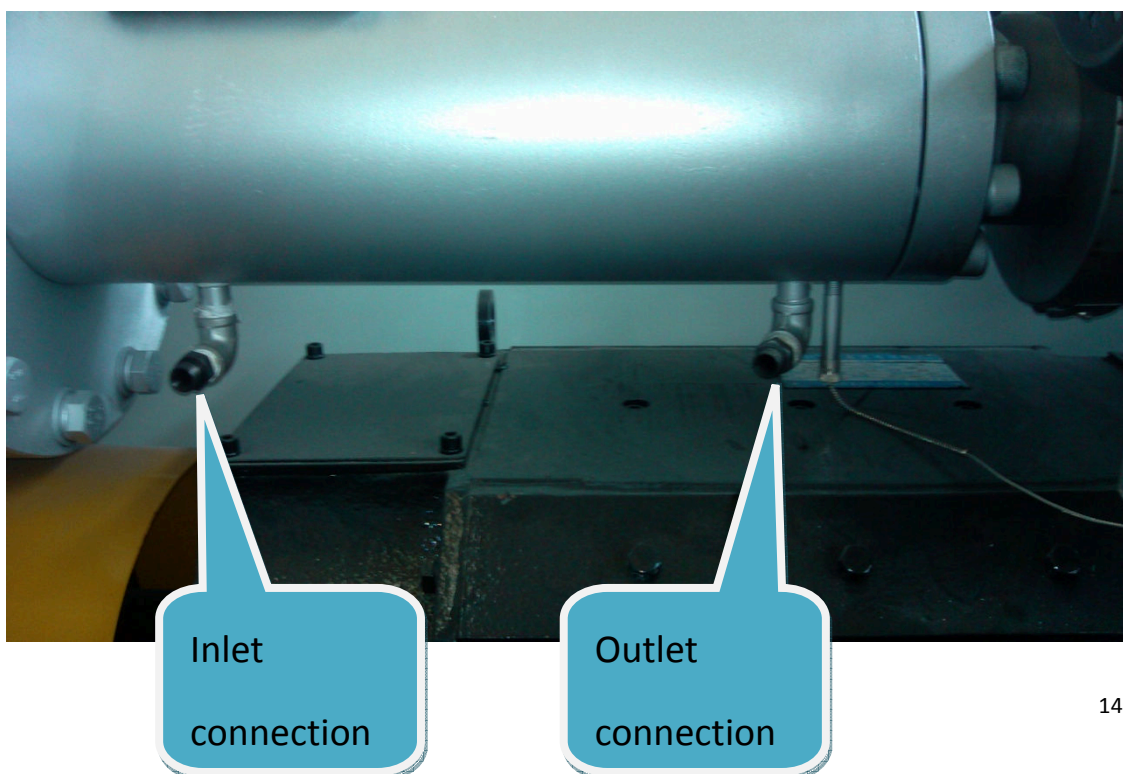
Adjust the central line according to the extruder for the vacuum tank,

cooling tank, haul-off machine, cutter and stacker

4. 3 Water pipe connection

(1) Single screw extruder water pipe connection

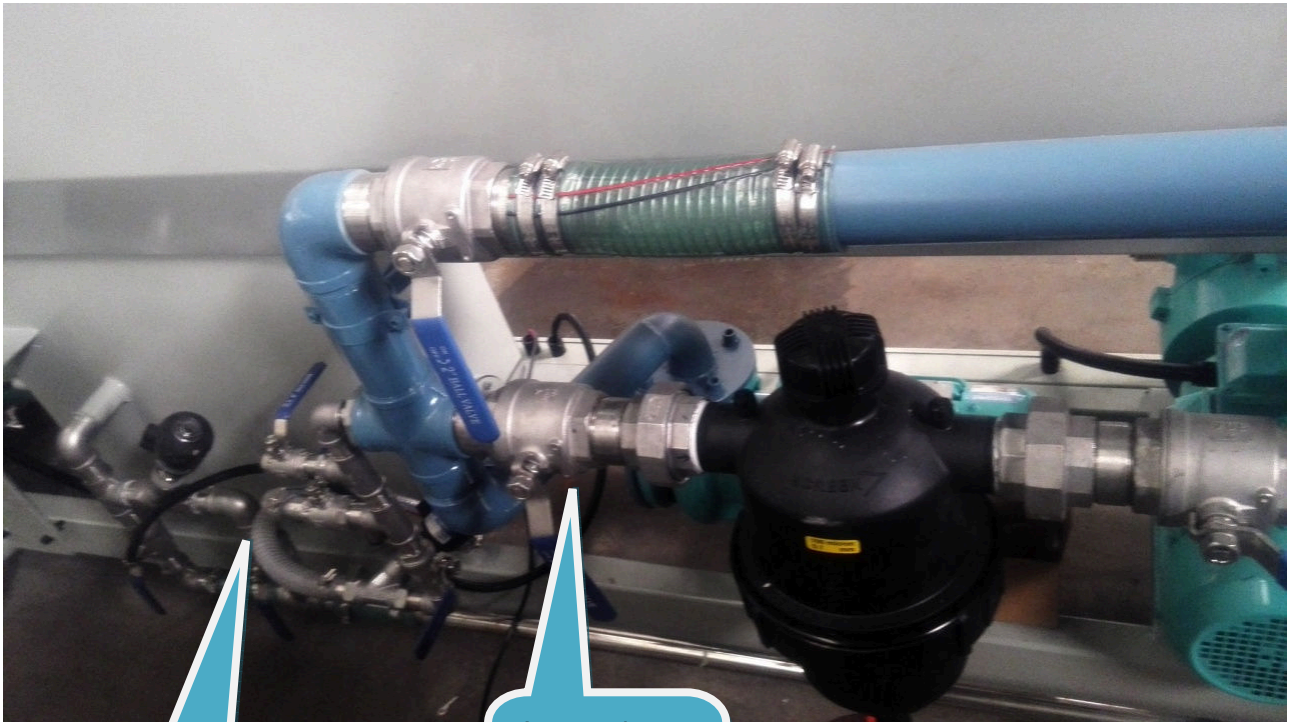
- a. The feed inlet shell of the single screw extruder is provided with a cold water liner, which is cooled by water and is provided with a cooling water pipe. Users in the pipeline should be added with water meter or meter, to ensure the import and the water pressure is equal to or greater than 0.1MPa outlet pipe to install a separate, does not allow mixed with other equipment, water pipes through diameter not less than equipment joint path。



(2) Calibrator inlet

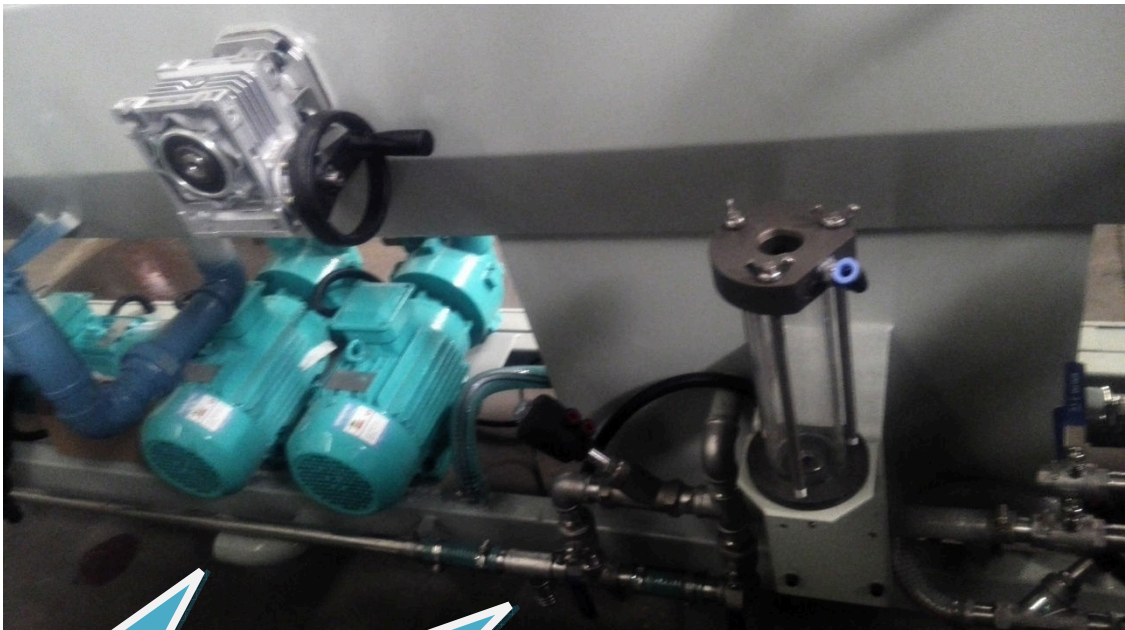


(3) vacuum tank water recycle



Manual feed ball valve

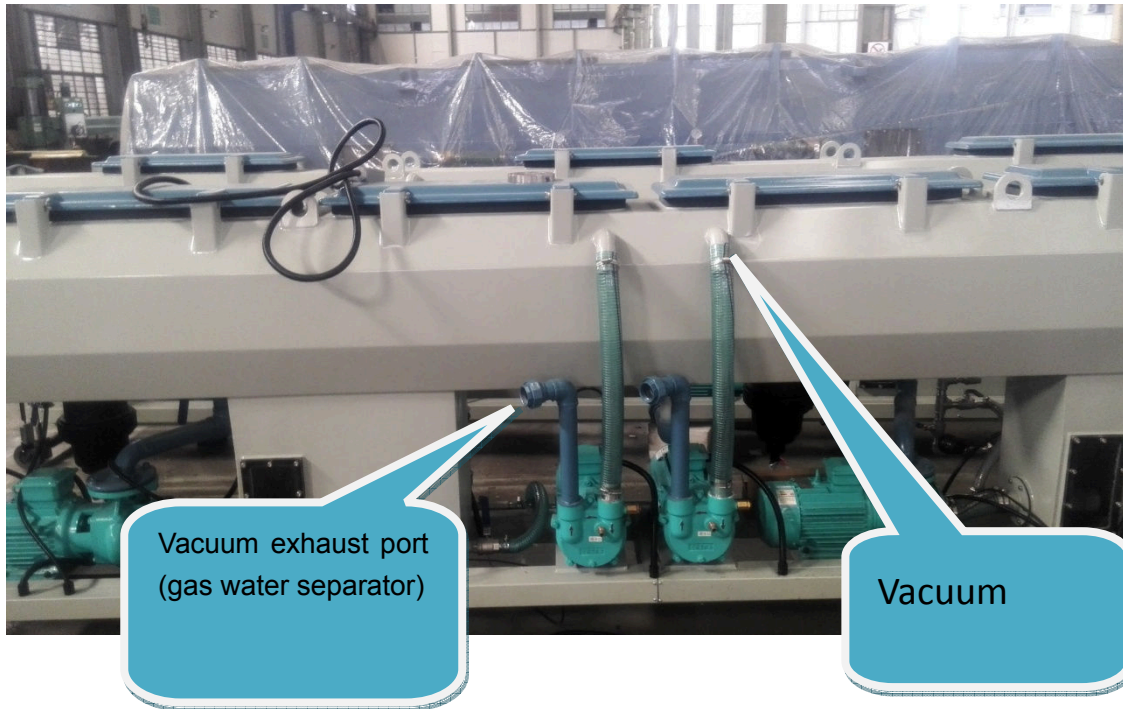
Automatic feed ball valve



Central drainage pipe intersection

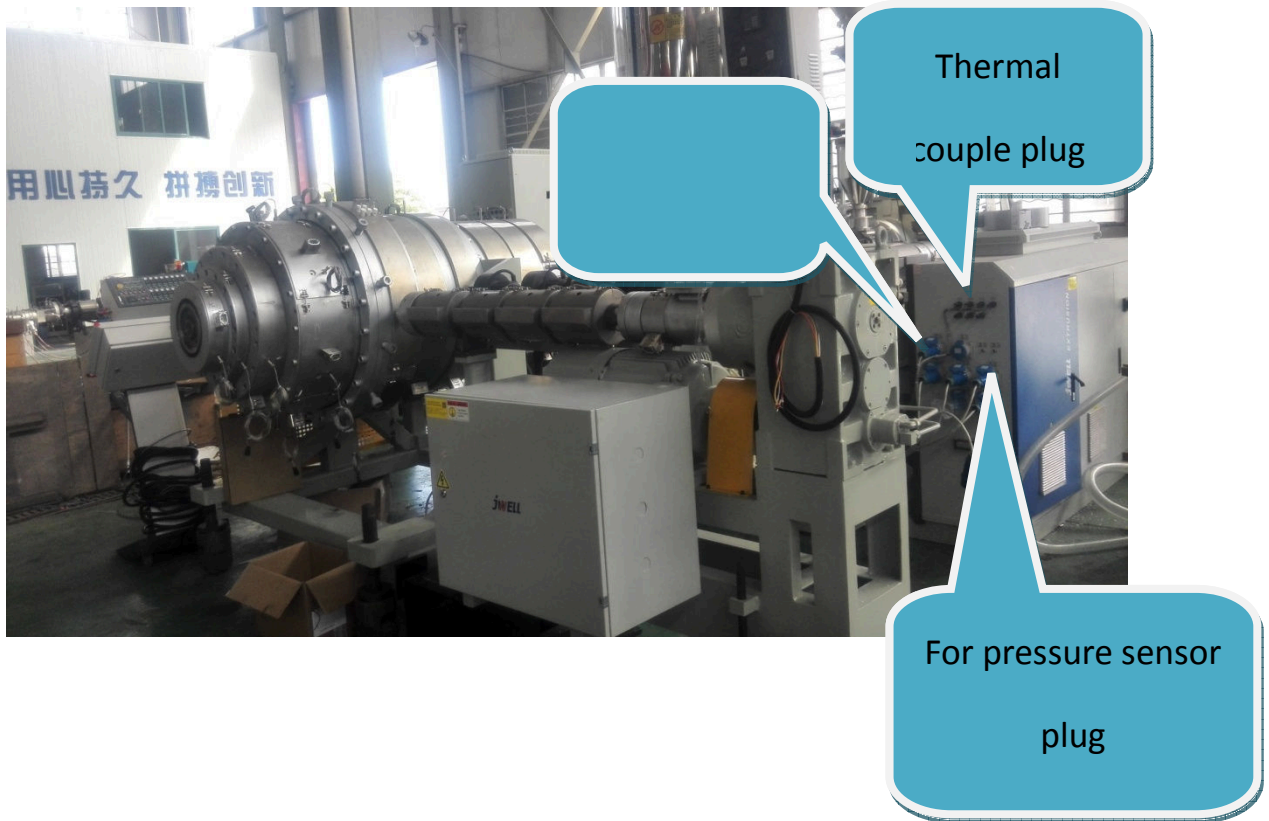
The external water inlet (with water)

B Vacuum air connection



4.4 Electrical connection

- should be connect by specialist person
- check drawings before connection



4.5 Character of the machine

1. a Single screw extruder character :

(1) Slot barrel: in the machine barrel processing axial groove (see Figure three), select the reasonable shape, depth and quantity, can greatly improve the feeding section of conveying capacity, control output stability.

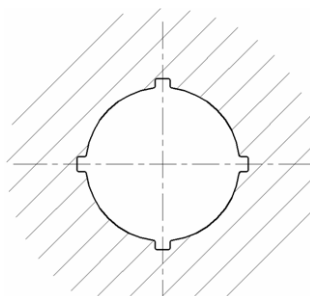


Figure three

(2) Special cooling and heating mechanisms: the use of a combination of tube, in the feeding section of the forced cooling, so as to ensure that the section of the solid friction transmission capacity. Heating mechanism is arranged in the compression section and the metering section to provide the heat required for the melting of the raw material.

(3) Optimization design of BM screw: screw segment parameters by computer

optimization portfolio can enhance the screw of the rigidity and strength, but also greatly increases the amount of extrusion. The screw adopts the LTM low temperature mixing element, which is helpful to improve the quality of the melt.

Practice has proved that this extruder has low temperature extrusion, uniform plasticization and molecular structure is not easy to be destroyed, stable extrusion capacity, high yield, and can be according to the specific circumstances of equipped with different forms of the screw, in order to meet the requirements of different materials.

b. 65/75 extruder character

Model	JWS65/33	JWS75/36
date		
Rotation speed	107	150
Reducer ratio	14	10
Motor KW	45	132
Heating KW	3×5 ☒+3.5	DF-2 / 5*6 ☒
Front Flange heating KW	2.2	2.5
Fan power KW	DF-2 / 0.25×5 ☒	DF-2 / 0.25×6
Output PE kg/h	120-150	550
Dryer / Vacuum loader	GZ148/ JL230	GZ148/ JL260
Central height mm	1000	

2. a 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.

b. Vacuum tank parameter

Range	20-160
Main parameter	
Water pump kw	4KW*2sets
Vacuum pump kw,	4KW* 2sets
Length mm	8600
Movement	By screw
Central height mm	1000

b. Water tank parameter

Range	20-160
Main parameter	
Water pump kw	4KW
Effective length mm	5600
Center height mm	1000

3a. Haul-off machine parameter

Our company manufacture belt type traction machine for pipe traction speed, in the process of traction traction arm to rotate synchronously, and keep pace with the pipe.

Belt type traction machine adopts the symmetrical distribution of two traction arm, following a traction arm is fixed, a traction arm above the movement controlled by the cylinder, pipe between the two traction arm through adjusting the pressure of the gas cylinder, so as to ensure the pipe without slippage will pull out.

Traction device by the motor to rotate through the sprocket and chain drive, each with a traction arm sprocket, the drive sprocket sequentially through the chain around a week, on the synchronization of the towing arm keep rotation. The traction belt arm are provided with good abrasion resistance, ensure the traction is not destroy the pipe surface and can increase the friction traction, to prevent slipping phenomenon in the process of traction

b. Haul-off machine character

Model	GFQY160
Main Parameter	
Range	20-160
Speed (m/min)	0.1-20
Motor (Kw)	1.8*2
Central height (mm)	1000mm
Claw quantity	2
Outside size (L*W*H) mm	2200*800*1750

6. a. Character of the Chipless cutter

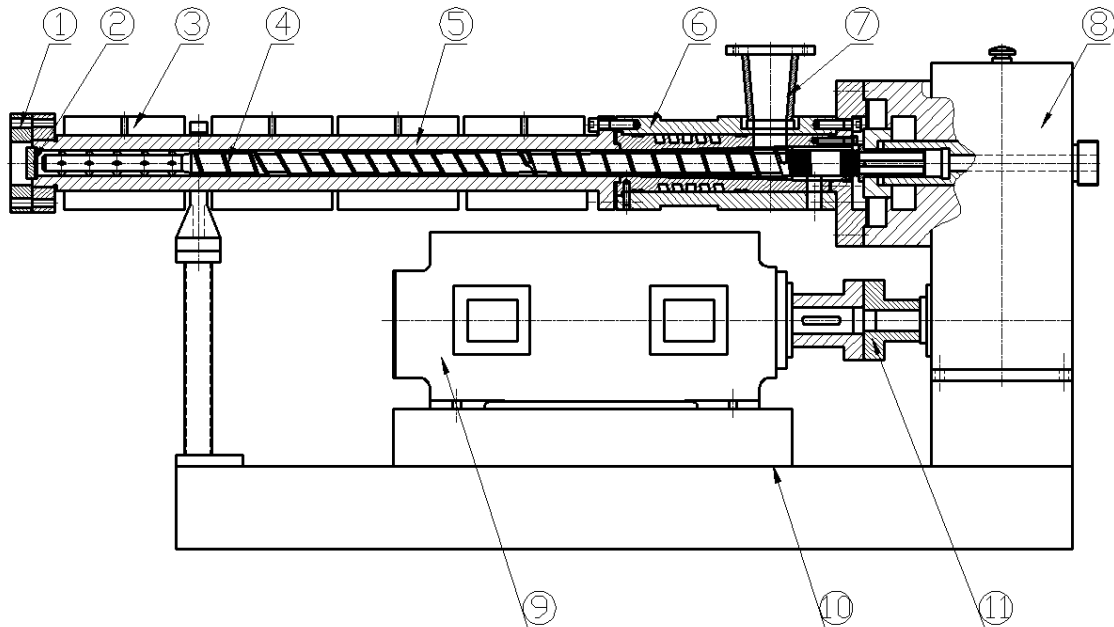
Chipless cutting machine cutting equipment is based on a new type of environmental needs of the market development of pipe industry in us, is cutting plastic pipe equipment upgrades, pipe cutting and cut of the smooth cutting, no dust, no artificial light repair, cost saving, high grade products, applicable to PPR, PPR, PE, PP and other plastic pipe automatic cutting and special pipe automatic and semi automatic cutting, this machine control system using PLC programmable control, can be modified better, more efficient data according to the size or speed of extrusion pipe extrusion machine, to improve the stability of the machine. Operation simpler and more durable. The manufacturer for many years with good results, to improve the guarantee for the production of high-grade products.

b. No-dust cutter character

Range: mm	ϕ 20- ϕ 160
Circulation : round/min	1-5
Movement of platform : m/min	0-10
Cutting disk: mm	ϕ 75
Cutting power: kw	2.2KW
Stroke: mm	500-1000
Air consumption: m/h	13-15
Pressure: Mpa	0.4-0.6

4.6 Parts of the machine

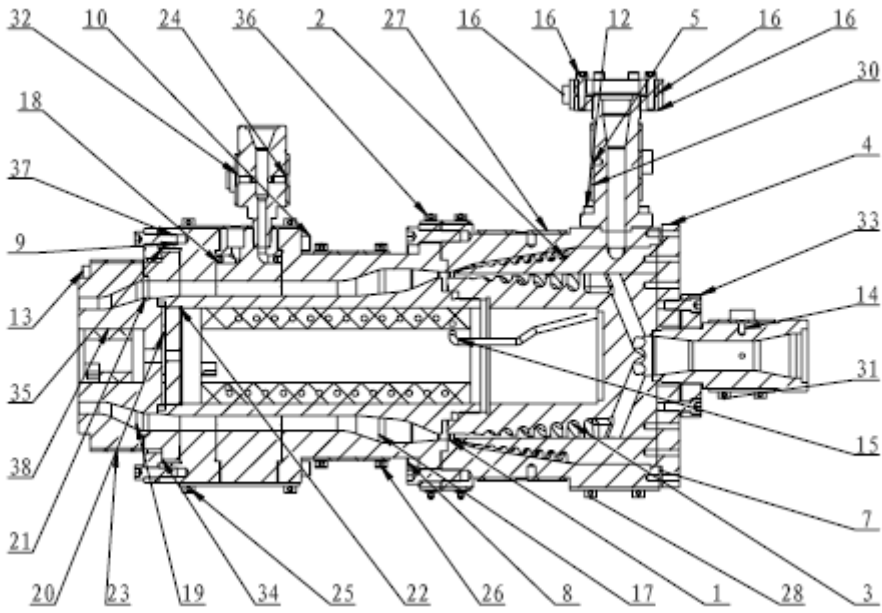
A. extruder parts



Serial Number	Name
1	Flange
2	Filter plate
3	Ceramic heater and pressure sensor
4	BM type screw
5	Front of the barrel
6	Raw material feeding parts
7	Hopper connection parts
8	gearbox
9	motor
10	frame

11	ML7
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B. Mould parts

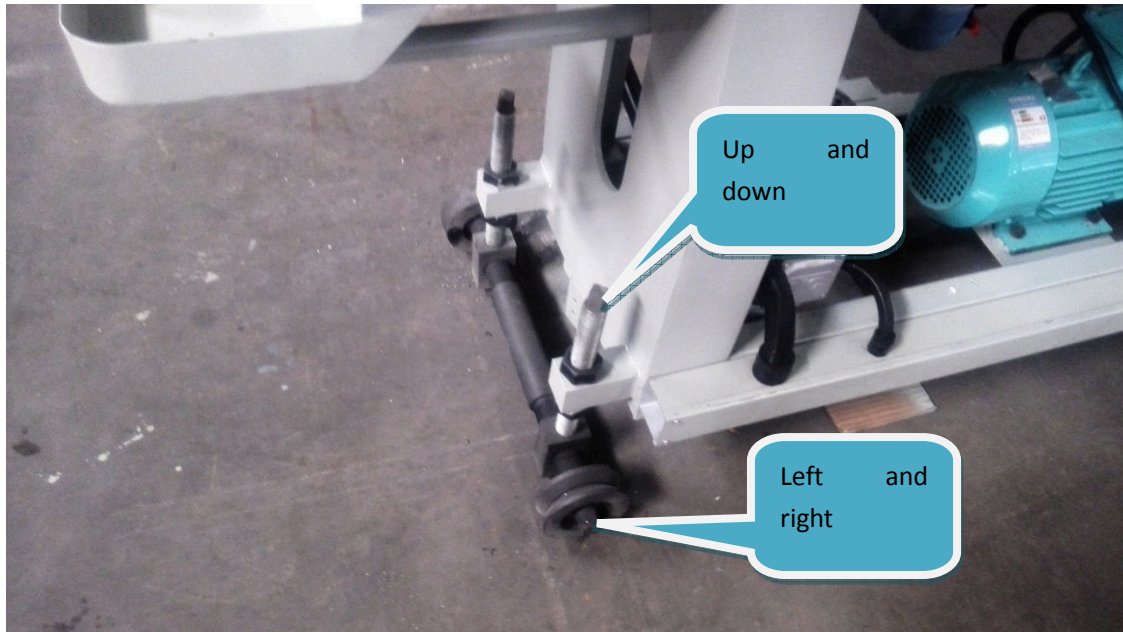


序号	零件号	名称	数量	材料	单重	总重	说明
1	2XM160C-12	尾模套	1	40Cr	140.93		借用
2	2XM160C-13-2014	外螺旋体	1	40Cr	68.50		
3	2XM160C-14-2014	内螺旋体	1	40Cr	86.68		
4	2XM160C-16H	后压盖	1	40Cr	31.64		
5	2XM160C-LD-30	口座	1	40Cr	7.04		
6	GB/T70.1-M14X40	内六角圆柱头螺钉M14X40	8	12.9S	0.079		
7	GB/T70.1-M16X45	内六角圆柱头螺钉M16X45	56	12.9S	0.114		
8	GB/T70.1-M20X70	内六角圆柱头螺钉M20X70	12	12.9S	0.258		
9	GB/T70.1-M16X55	内六角圆柱头螺钉M16X55	8	12.9S	0.130		
10	GB70.1-M16X170	内六角圆柱头螺钉M16X170	16	12.9S	0.310		
11	GB/T70.1-M16X60	内六角圆柱头螺钉M16X60	1	12.9S	0.138		
12	GB/T70.1-M12X45	内六角圆柱头螺钉M12X45	8	12.9S	0.059		
13	GB/T70.1-M14X120	内六角圆柱头螺钉M14X120	8	12.9S	0.175		
14	2XM160C-17-75	75主机连接体	1	40Cr	12.36		
15	XM160-JX-3	芯部加热圈5.5KW	1	铸铝Φ160X450			
16	3XM160BLD-00-65G14225	65主机流道部件	1	部件图	67.31		
17	2XM160C-08	前模套	1	40Cr	100.80		
18	XM160C-04B-8T-6-2	共挤环	1	40Cr	68.80		
19	XM160-03C-160T	口模	1	40Cr	28.89		
20	3XM160C-06	前模芯	1	40Cr	54.57		
21	XM160-02B	芯棒	1	40Cr	19.31		
22	XM160-05C	连接法兰	1	45	3.61		
23	XM160-J1-200	口模加热圈2.5KW	1	云母Φ310X88			
24	GJT-JWS45-01G14225	JWS45机共挤头	1	45	5.11		特制
25	YMJRQ-425-200T	共挤环加热圈6.6KW	1	云母Φ425X200			
26	YMJRQ-340-128	中间体加热圈3.4KW	1	云母Φ340X128			
27	YMJRQ-408-150	尾模套加热圈4.8KW	1	云母Φ408X150			
28	2-3XM160-J6B	尾模套加热圈二5KW	1	云母Φ440X150			弧长2X551
29	3XM160-22	加热圈固定条	2	Q235A	0.25		借用
30	YMJRQ-75-130	加热圈0.7KW	1	云母Φ75X130			
31	YMJRQ-110-110	连接体加热圈1KW	1	云母Φ110X110			
32		共挤加热圈0.5KW	1	云母Φ80X85			借用
33	2XM160C-FL-M95X3	连接体法兰	1	45	5.34		
34	XM160C-25	口座座	1	40Cr	16.41		
35	XM160C-09	压环	1	45	11.01		
36	YMJRQ-440-85	调节环加热圈3KW	1	云母Φ440X85			
37	XM160C-24B-YH	压环	1	40Cr	54.55		
38	ZLJRQ-90-80	过渡芯棒加热圈0.4KW	1	铸铝Φ100X55			

C. Vacuum parts

1) vertical and horizontal adjust device

■



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



3) a. Vacuum meter: will reflect the vacuum degree in the tank.

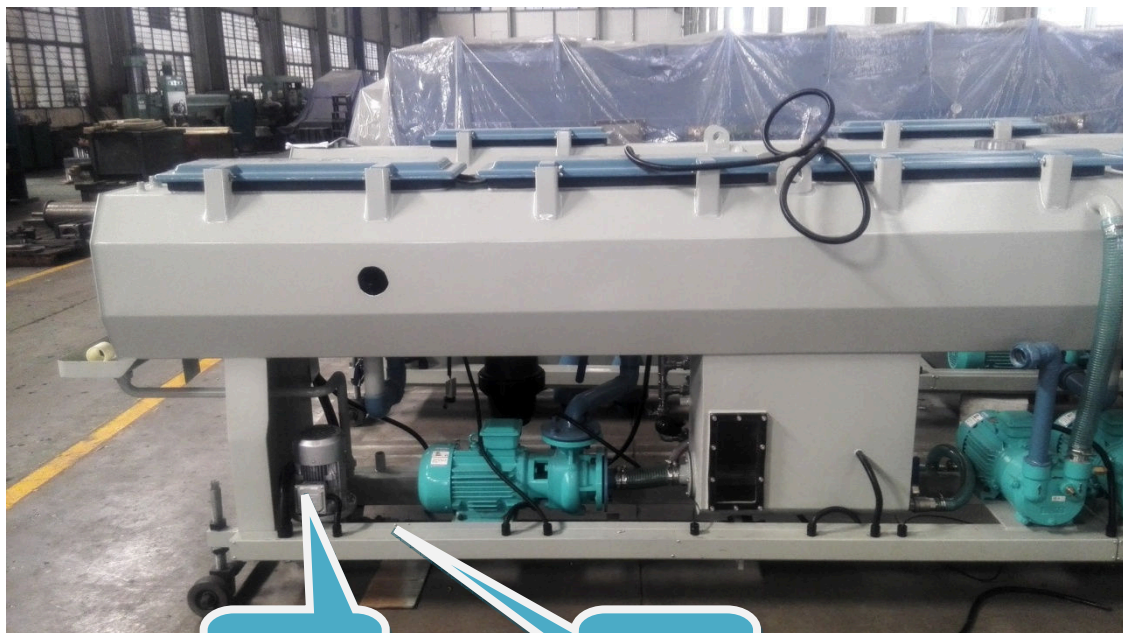
b. vacuum valve: Adjust the vacuum degree manually



Vacuum
meter

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

I



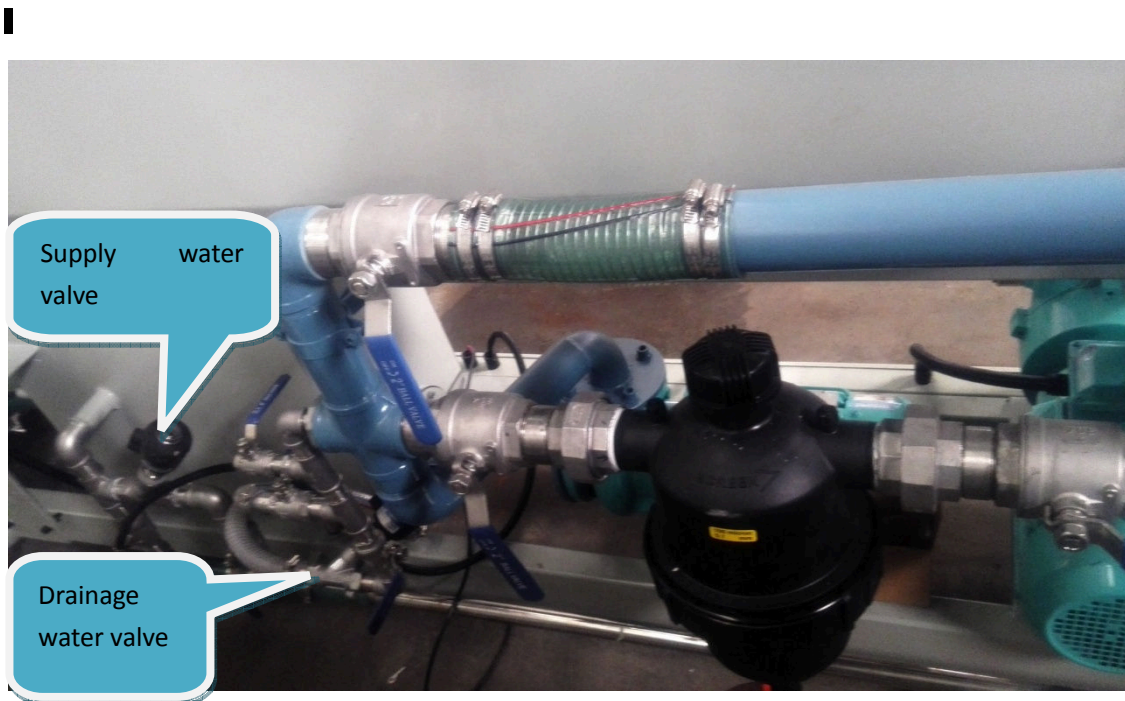
Forward-b
ack motor

Screw

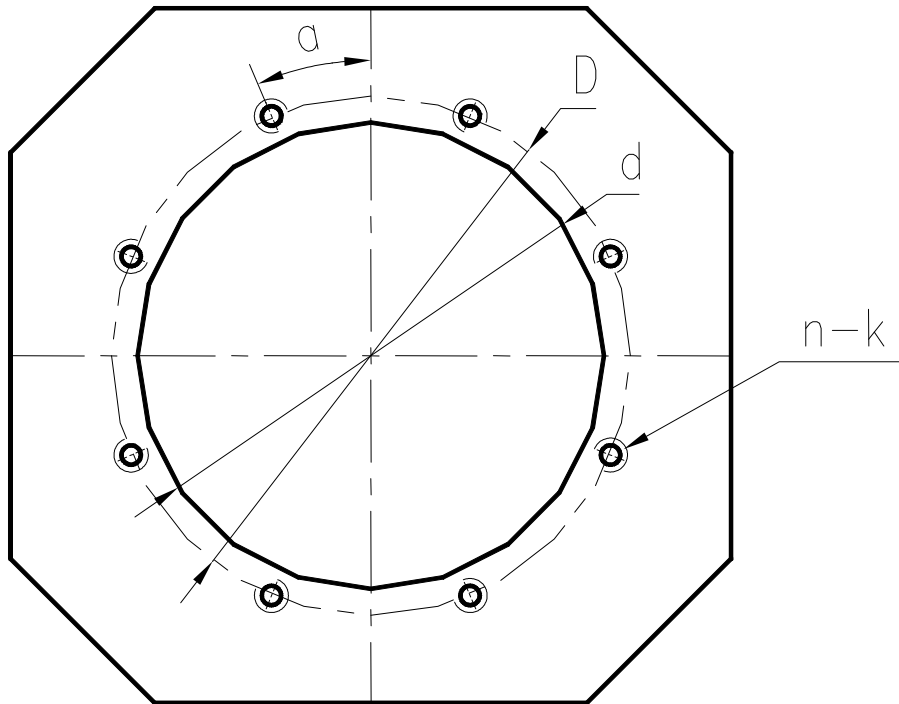
4) a. Water drainage electromagnetic angle seat valve

: 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



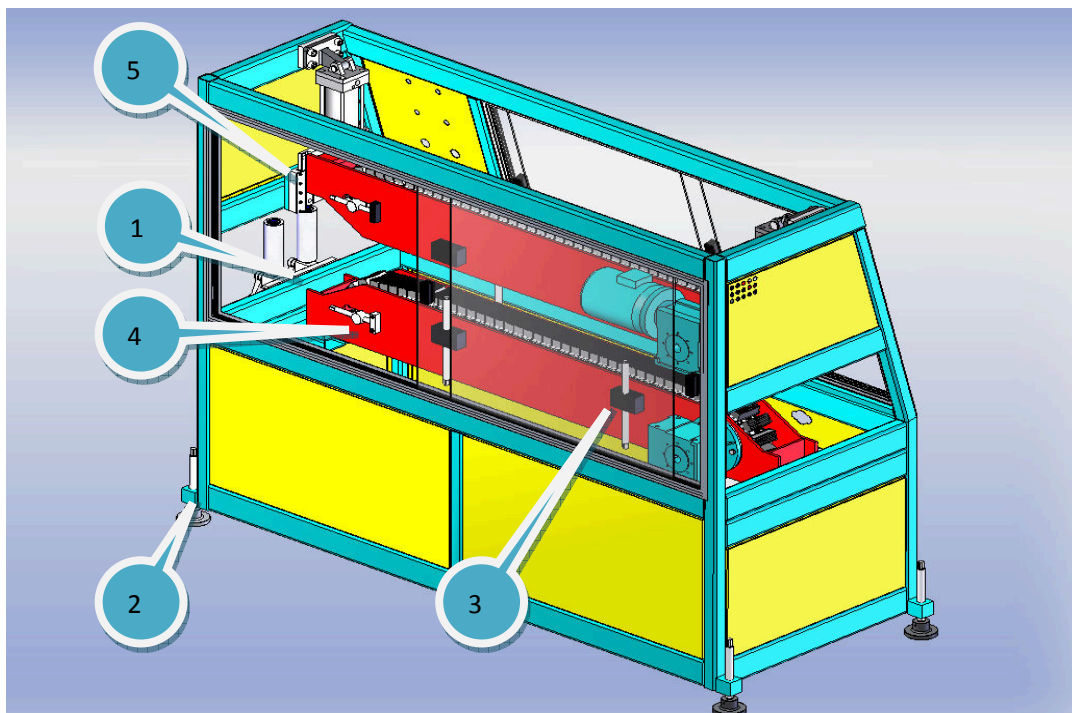
6) . 1、acuum tank indication (photo1)



Item Model	D (mm)	d (mm)	n	k	a°
GF75	Φ 200	Φ 174	6	M8	30
GF110	Φ 260	Φ 240	6	M8	30
GF160	Φ 396	Φ 356	8	M8	22.5

Note: n Number of hole; K screw diameter .

D. Haul-off parts



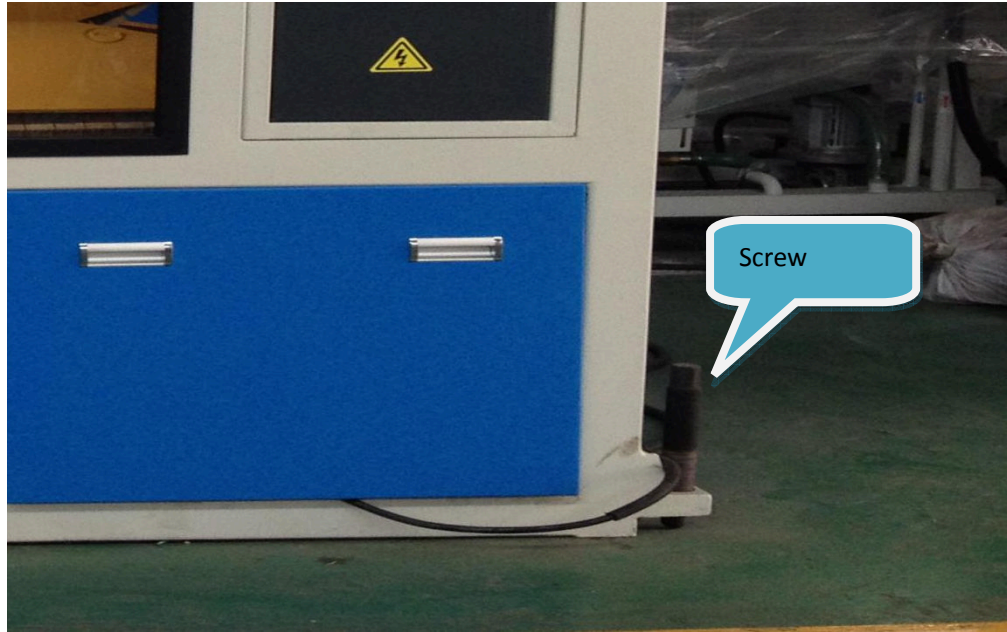
1) Guide parts



Guide device

The components are installed in the front end of the traction machine, when the tube into the tractor out of the spray box can adjust the components, ensures that the intermediate tube in the upper and lower tracks

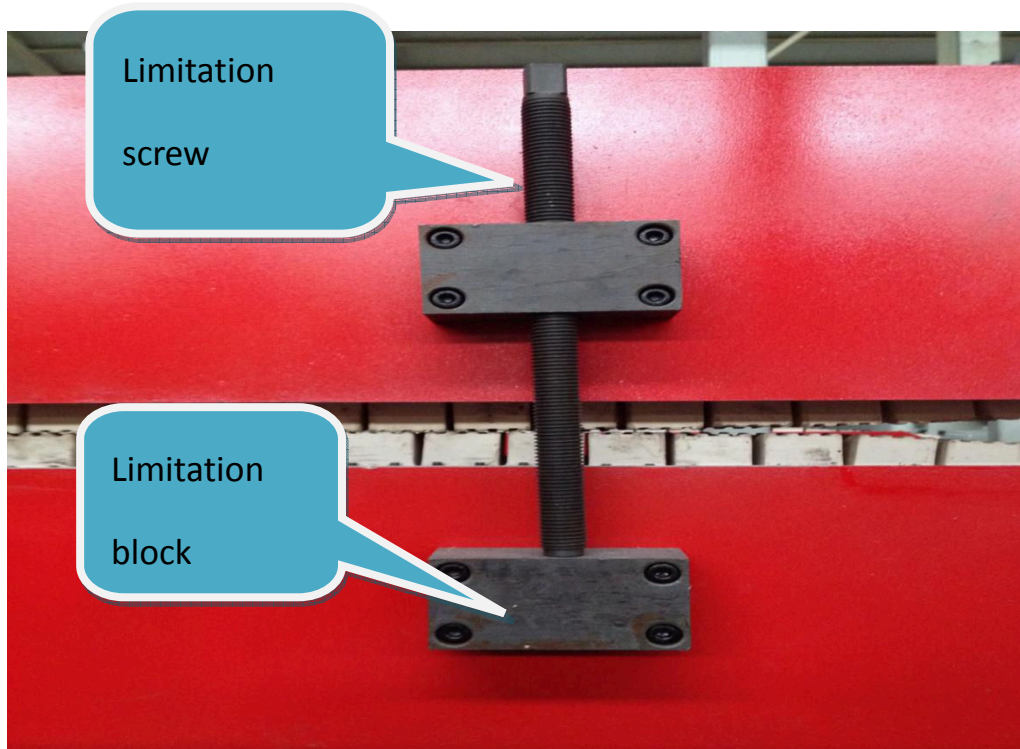
2) Seat parts



Seat parts

Four screws, can adjust the central height of the haul-off

3) **Limitation**

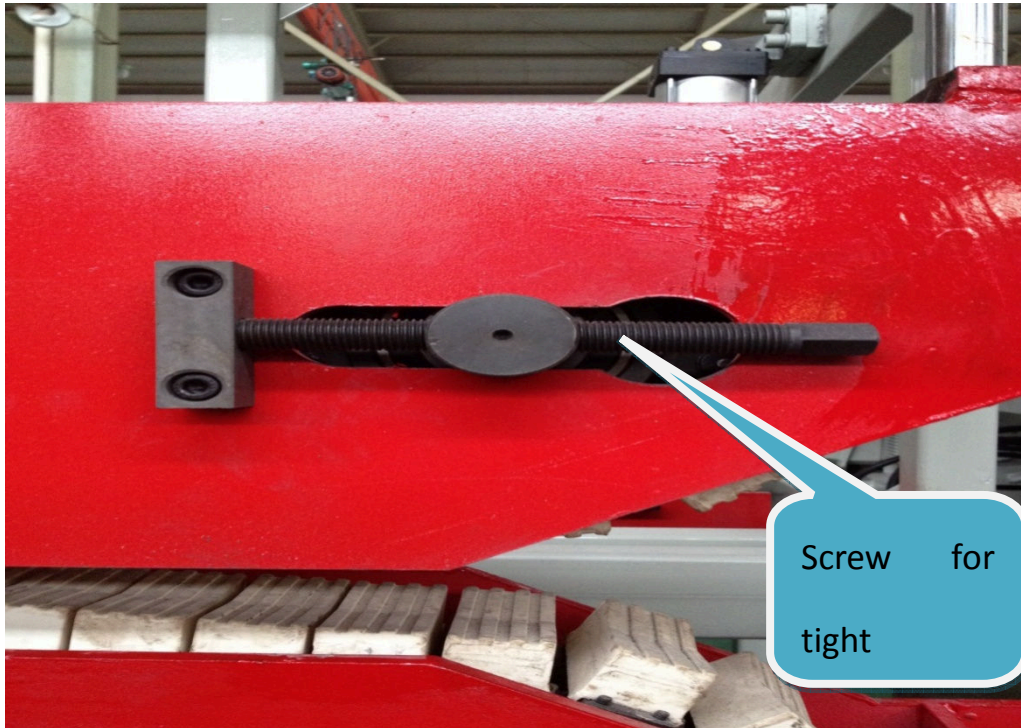


Mechanical limitation

The components are installed on the upper and lower of the towing arm on both sides, when the production of different specifications of the pipe, cylinder extending length is not the same, to prevent because the cylinder pressure is too large, resulting in pipe deformation; at the same time, each a traction arm of the clamping

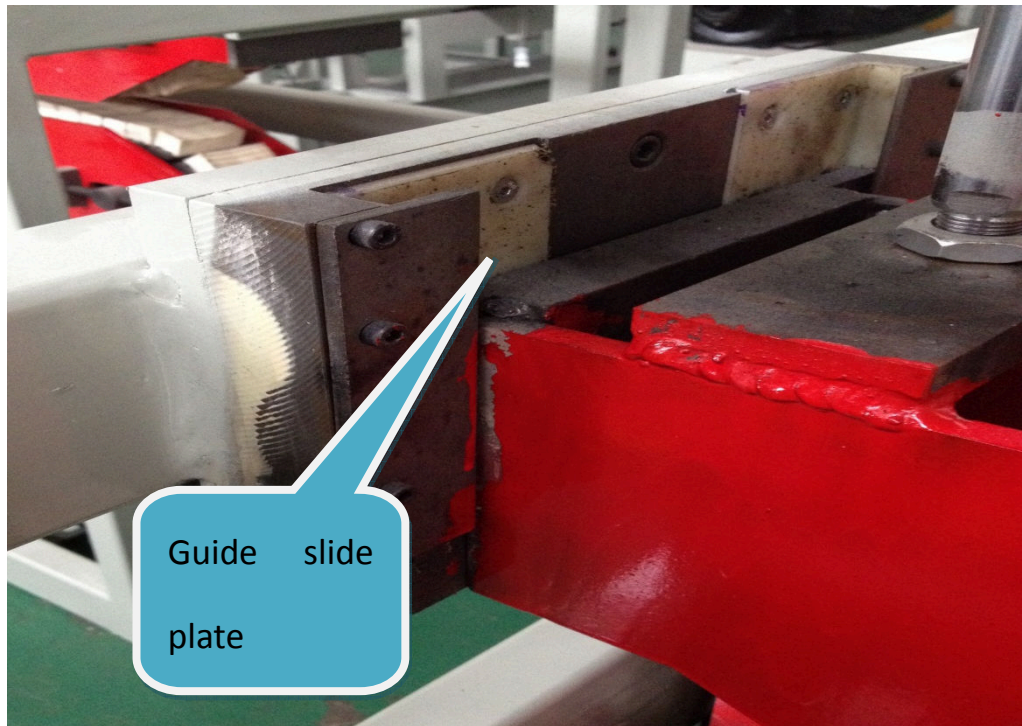
force can be adjusted, it is through the control panel corresponding to the pressure regulating valve for regulating the along the clockwise pressure whereas decompression. To ensure that the pipe does not slip down to the minimum pressure value can be.

Adjust the tightness for the rubber belt



After long time running, maybe belt loose, you can use this screw to tight

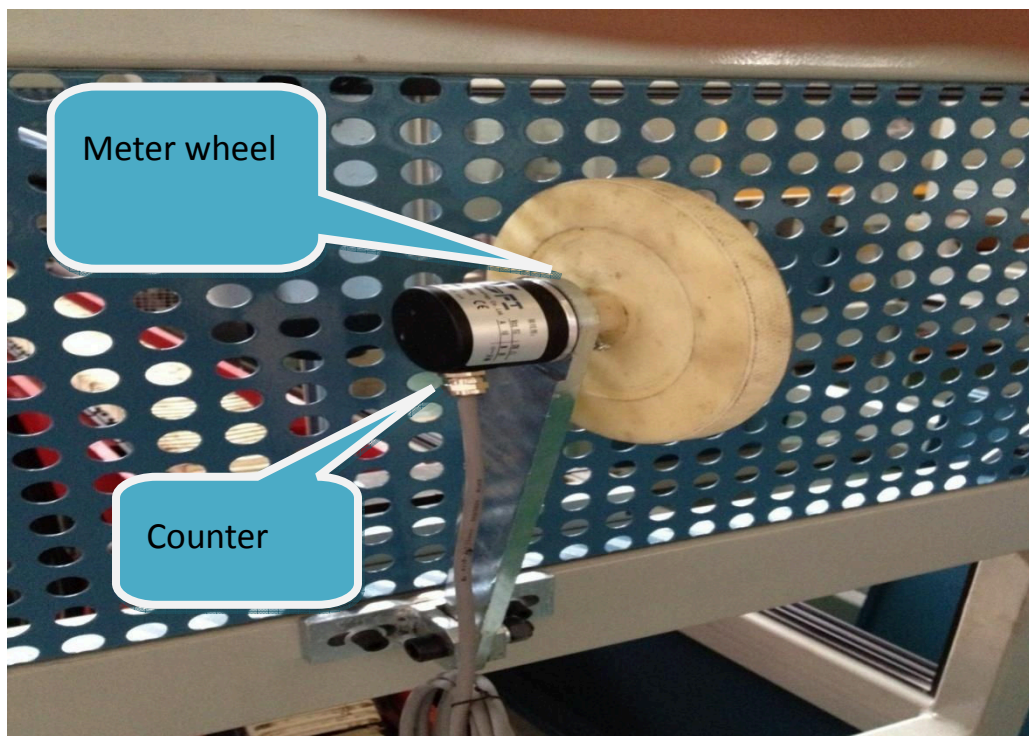
4) Guide for the top caterpillar



Top caterpillar guide

The role of this component is to make the two cylinders running in the same direction, and make the operation stable.

5) Meter wheel unit



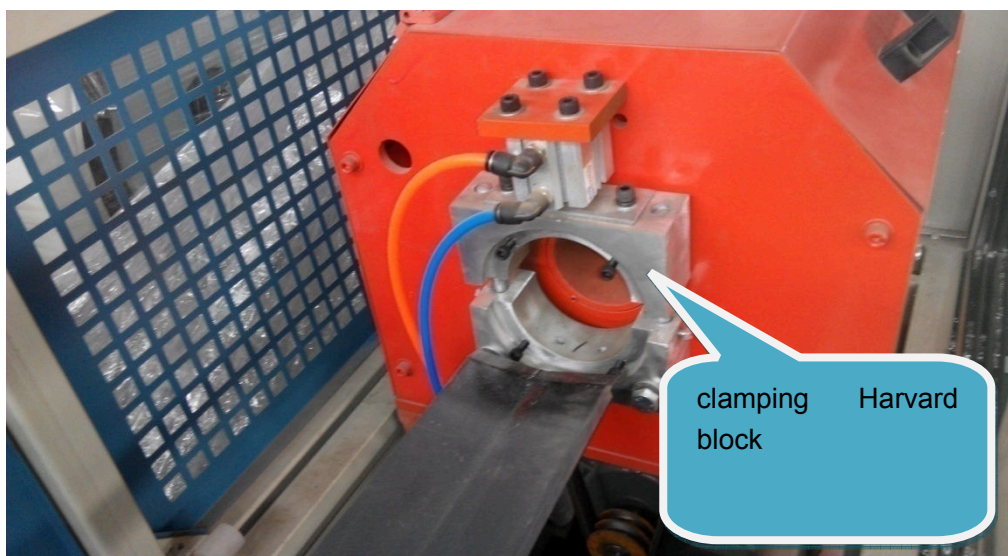
To detect the length of the pipe, when reaching the set length, the cutting signal will be sent to the cutting machine.

E. Cutter parts and function



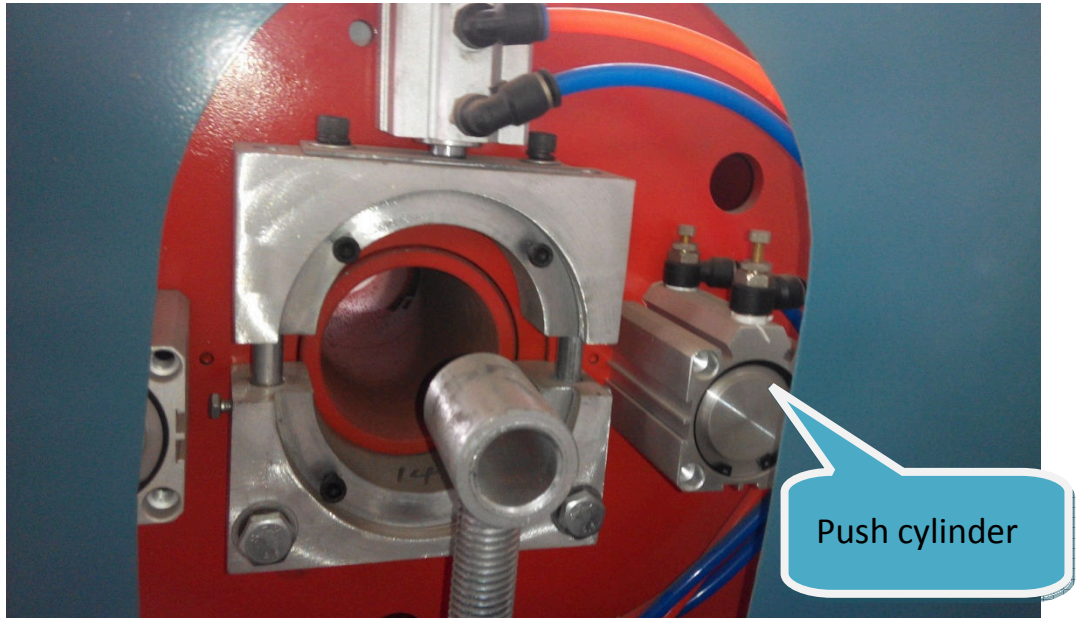
- The structure and principle of the machine: 1. Non chip cutting machine for pipe fixed length cutting, in the front of the machine with clamping Harvard block, cutting device for cutting blade is composed of a cylinder servo synchronous rotation and the cutting chip chip feed by the cylinder piston rod slowly forward, until he came to a proximity switch knife back so far, the size of the cylinder thrust by air regulating valve control.
2. A rotational position of the cutting blade is accomplished by a motor device and the rotation by the main bearing supporting and positioning, center of rotation invariant, make the cut tubing end surface to be smooth, specification size, feed depth adjust freely.

1) Clamp device



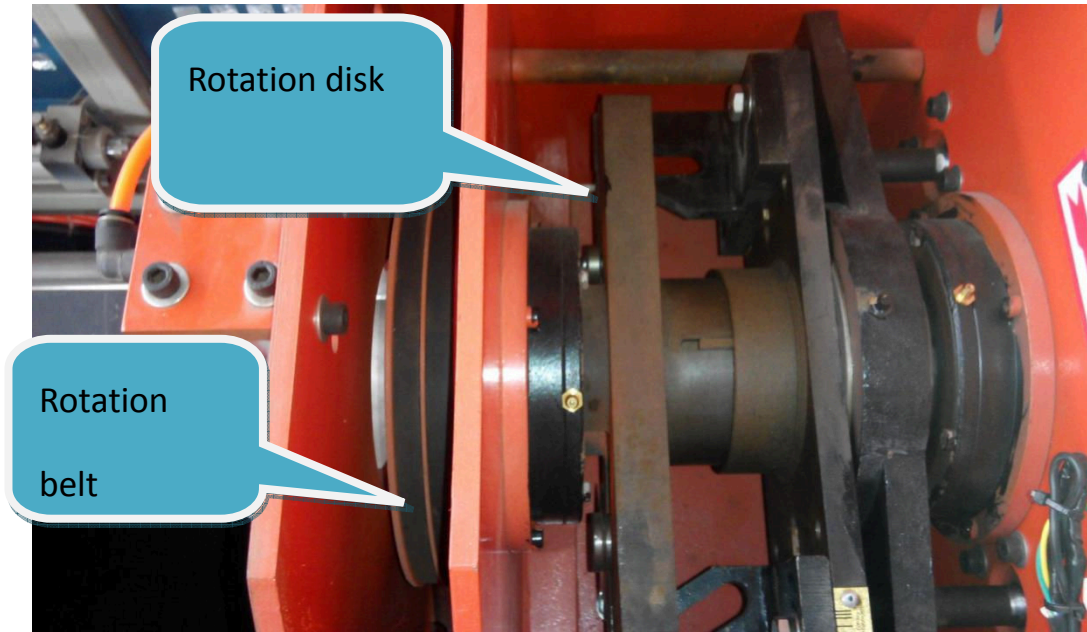
The block will be tight by the cylinder, during the cutting process, the pipe will not move

2) Knife feeding device



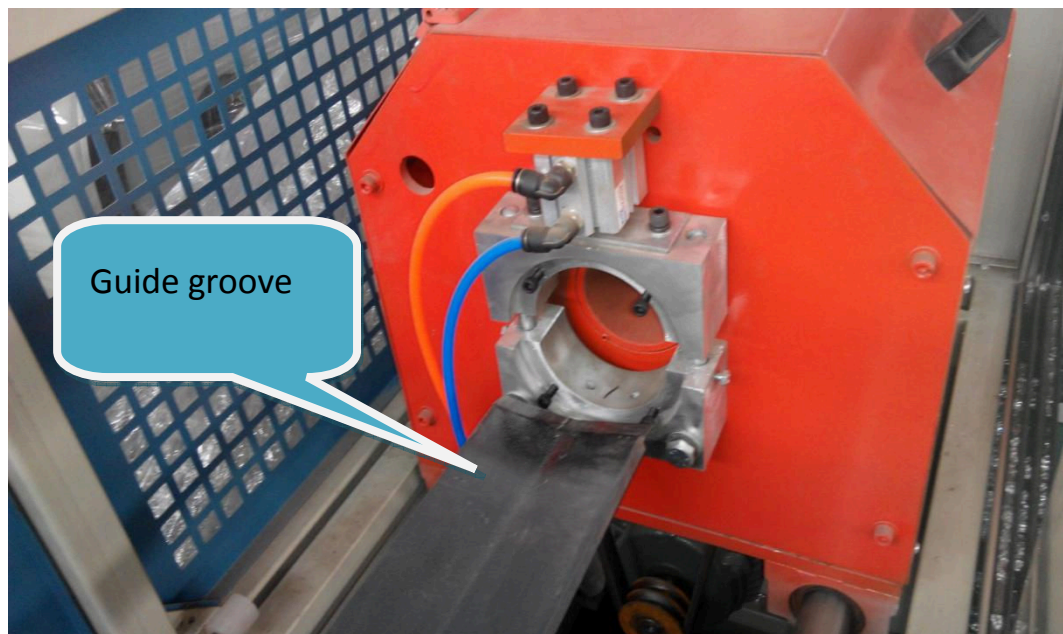
Chip feed is pushed by the piston cylinder rod until it touches the size of the cylinder thrust by the gas source control valve.

3) Big disk rotation device



Through the motor to drive the market for rotary cutting

4) Guide device



Can make the pipe better through the cutting machine, is conducive to cutting

IV、 Operation

1. Prepare to operation

- 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 Note! Gear oil in the gear box must be filled with oil before starting,

(the gear oil in the reducer is equipped with the operating principle), it is recommended to use (Kunlun) in the load gear oil ckc220. (280 reduction gear oil consumption of 80 kg/ units);

⑥ adjust the vacuum tank and extruding machine center is in the same level

⑦ 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.

⑧ 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.

⑨ In the tractor traction arm is equipped with a gear speed reducer; need to inject the lubricating oil.

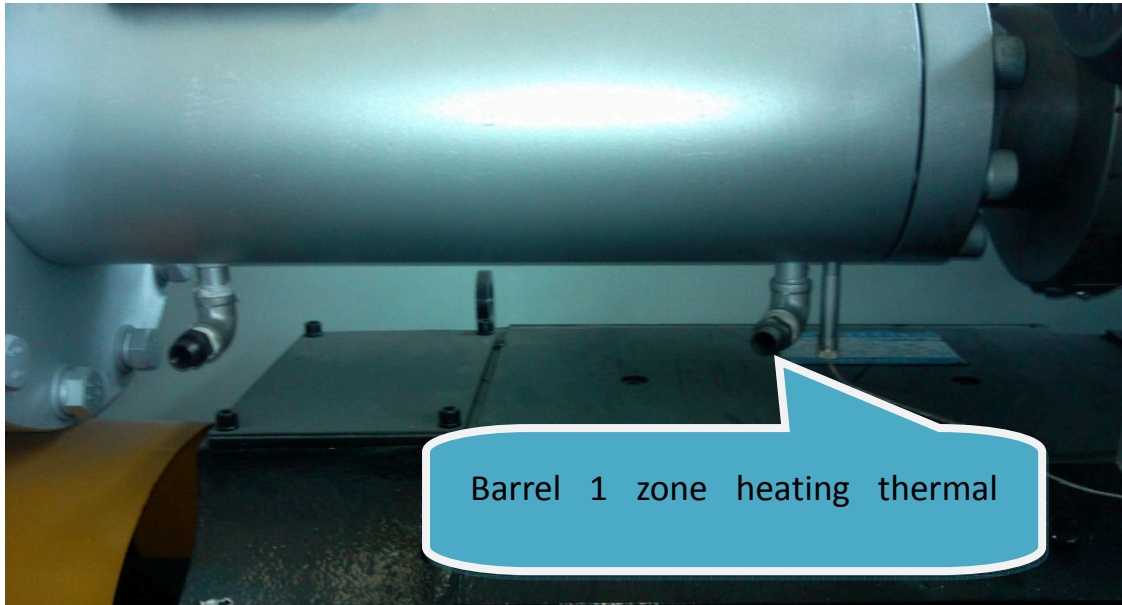
Oil product: Room temperature generally choose L-CKC68 ~

L-CKC150 extreme pressure industrial gear oil or better performance of lubricating oil.

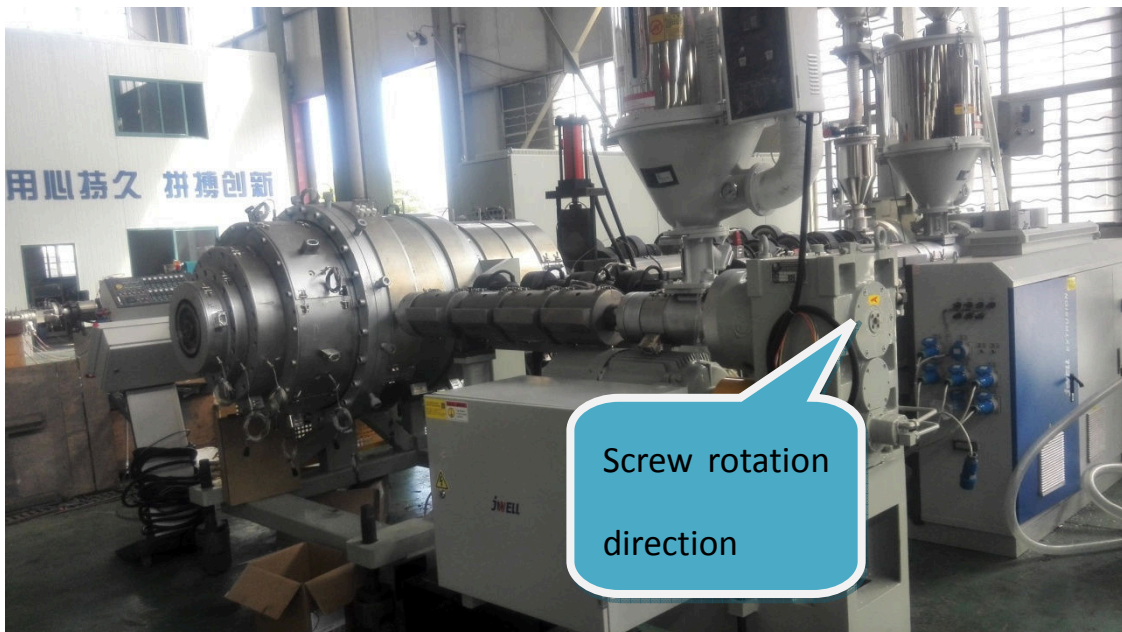
Adjust the center of the cutting machine high consistent with the overall equipment center high

2. Operating considerations

- ①. Heating to the operating temperature is firstly switched on all of the heating elements, temperature control system extruded District machine temperature is set to 100 DEG C, when the temperature rises to the set temperature thermal insulation 30min, according to the actual needs of process temperature setting, temperature rise to process temperature insulation 2h after starting. To observe whether the cooling fan in the cylinder is running normally, whether the steering is correct or not, if the inversion is to change the sequence of the fan power supply. Note that the barrel of a region (that is, a region near the hopper), in the normal production of a certain value to keep the temperature at a certain value (such as 45 C + 4).



- ②. Starts the extruding machine motor and ensure screw steering and subject to the agreement, the idle screw does not allow more than 10 revolutions per minute, before commissioning should add lubricating oil to avoid scraping the hair of the inner wall of the cylinder, observed the main motor cooling fan, running in the right direction after the closure of the main motor.



- ③ Test before the hopper at the bottom of the plug, open the vacuum drying machine, check the suction direction is correct, the material is full, set the drying temperature of 60 C -80. Open the hopper valve, start the extruder, and make it move at low speed

until the discharge of clean and no bubbles of the melt, and then slowly to accelerate, observe the pressure, temperature, there is no abnormal sound, vibration. Adjust the speed, so that the melt pressure to achieve the required working pressure. Check the quality of products, further adjust the process temperature and speed, so that the quality of products to meet the requirements.

④. Open the inlet valve to the desired position of the water injection to the desired position (from the liquid level can be observed). ◦

⑤. according to the pipe size adjust the roller position. ◦

⑥) Start pump to adjust the direction of the spray nozzle, the spray direction of the nozzle to the product. Adjustment method: loosen the clamp on the spray pipe, rotate the spray pipe to the desired position, and then tighten the clamp (water pump use, maintenance, maintenance, please check the pump manual). ◦

⑦ Start the vacuum pump, open the control valve, according to the instructions of the vacuum pump to adjust the amount of water (vacuum pump use, maintenance, maintenance, please check the vacuum pump manual). ◦

⑧ Adjust the center height and the lateral position of the sizing box, make the center of the center of the fixed diameter box align with the center of the extruder, and adjust the method as follows:

A. lift adjustment: adjust the adjustment nut on the roller to move up and down the center of the box.

B. horizontal adjustment: adjusting the adjustment screw on the roller support frame.

C. longitudinal movement: in the button panel, start vertical, longitudinal retreat can make the box longitudinal movement

◦

3. Computer panel operation

① summarize

The production line is mainly divided into two parts of main and auxiliary. The main part of the main screw extrusion

The auxiliary machine and the mold, divided into setting table, drawing machine, cutting machine etc.. Electrical control for the entire line of centralized control, the programmable controller control system of Siemens S7 Series PLC, PC using 2 sets of Siemens company MP277-10 'button panel, has convenient operation, stable performance and the response of the system speed, high degree of automation, with artificial intelligence can parameter memory function, both across the board synchronous operation, also can achieve single operation, the system has the advantages of simple operation, flexible and convenient, the automation degree to reach the international advanced level. Temperature control module uses the German CTS intelligent temperature control module, using the classic PID plus intelligent fuzzy algorithm, the precision of the temperature control precision can be within +0.5 degrees, greatly meet the requirements of plastic plastic. With a variety of alarm to protect the machine. Including the governor and inverter alarm, over current alarm, temperature abnormal alarm, melt pressure high alarm, etc.. Each motor has a variety of reliable protection functions, such as: over current protection, overload protection, ground fault protection, under voltage protection, etc.. Governor using DCS550 ABB series governor or ACS550, ACS355 series inverter, to ensure stable operation, speed characteristics to achieve the best state, the production of quality products

② Electrical compartment

The main electrical components of the equipment mainly consists of the following parts: PLC, the operation of the screen, text display

The transformer, the governor, the frequency converter, the contactor, the middle relay, the air switch, the transformer, the switch power supply, the temperature control module, the temperature control meter, the pressure sensor, the button and so on.

Follow the standard electrical companies supporting the electrical control system or device, whether it is design, procurement, installation shall comply with and implement the national technical standards, at the same time in order to take into account the needs of the exported to Europe and the United States, in the manufacturing and most of the products in accordance with CE standard production system for.

Main criteria:

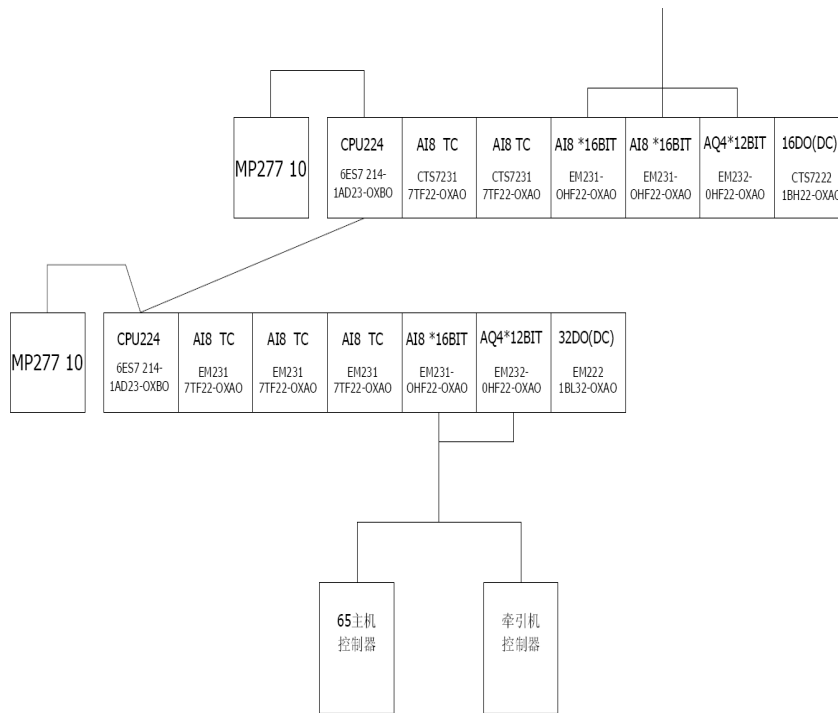
Guidelines for safety design of GB4064 electrical equipment.

Code for construction and acceptance of GBJ232 electrical equipment installation engineering

GB4720 electric drive control equipment low voltage electrical control equipment

GB4208 enclosure protection class

Electrical standards developed by the EN60204-1:1997 International Electrical Commission (IEC)



③ Computer screen operation (the following chart for example) if there is a different please understand:

1, TP 1200 operating screen appearance diagram



起始画面

2、Push to start



a、This picture is an inherent part of every picture, every picture is there.

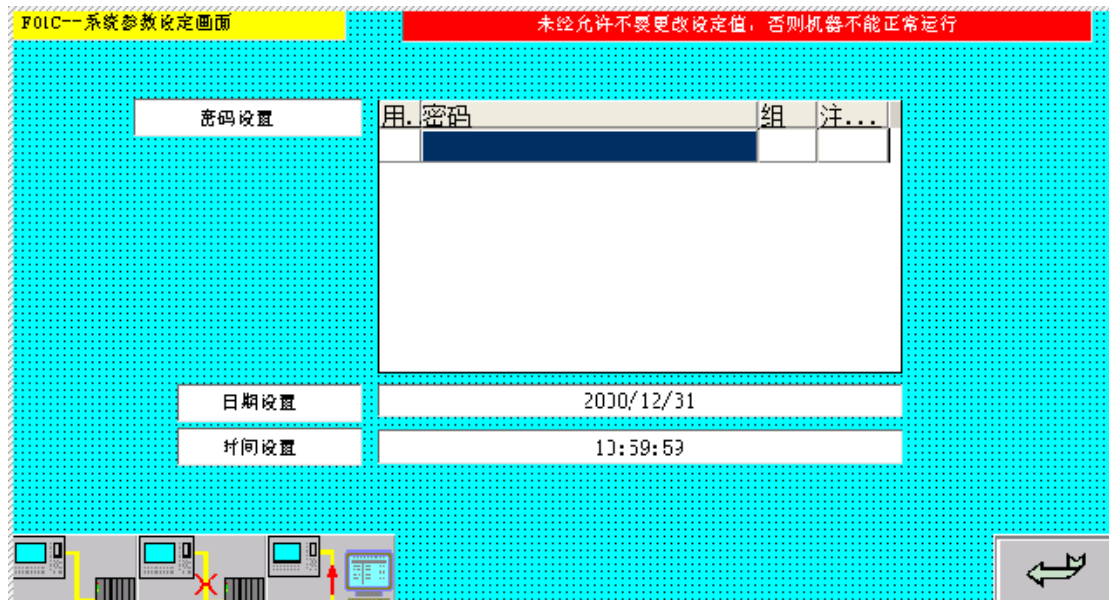


A, this screen for the first time after the boot display screen, you can switch to any picture of the system.

B, this screen shows the name, address and telephone number of the device manufacturers, and can be switched to the directory, password, in English and chinese.

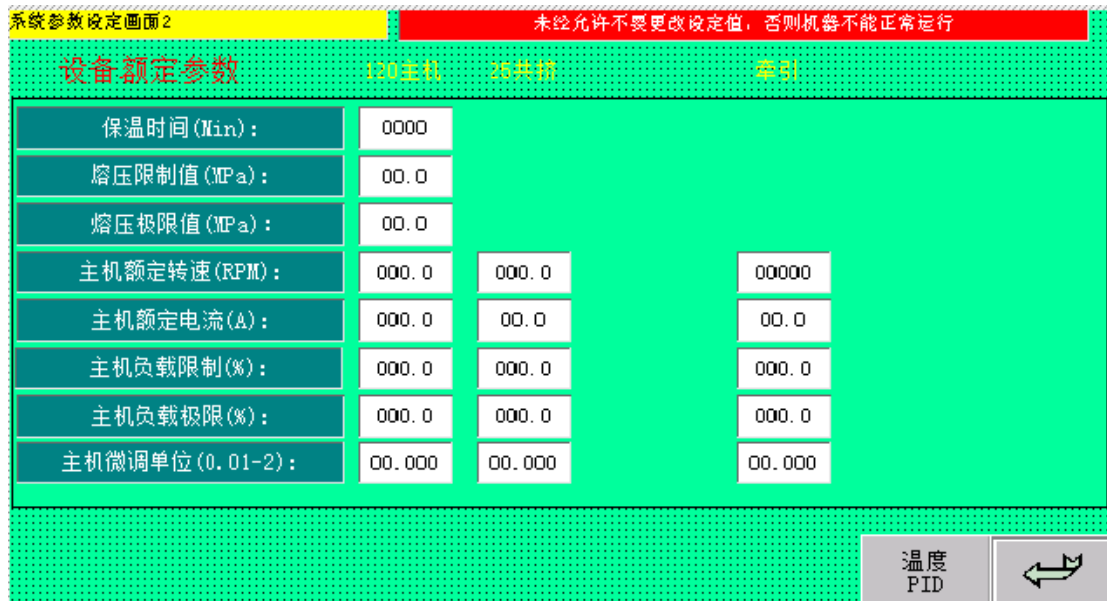
- c、  Screen calibration,  Wipe screen (to avoid false action)

- 3、 Push  Password page



- a、 In this picture, you can set and modify the password and password level. The maximum password is 9, for the administrator level, this password can only be known to the administrator, by the relevant authorized person to the company to ask for gold. The lowest level is 1, user name 123, password 69590740.
- b、 You can set the time and date 。

- 4、 Push  to set parameter



a、 In this screen to set the host and co extrusion machine and traction machine rated speed, rated current, pressure range and pressure limits and the limits value, pay attention to the picture in the parameters must be set correctly, otherwise it will cause the machine can not run.

速度画面

5、 Push  to extruder page



A, in this screen to control host and co extrusion machine and traction machine speed and start stop, observation host and co extrusion machine speed and current and melt pressure, and melt temperature.

B, can also record the running time of the machine.

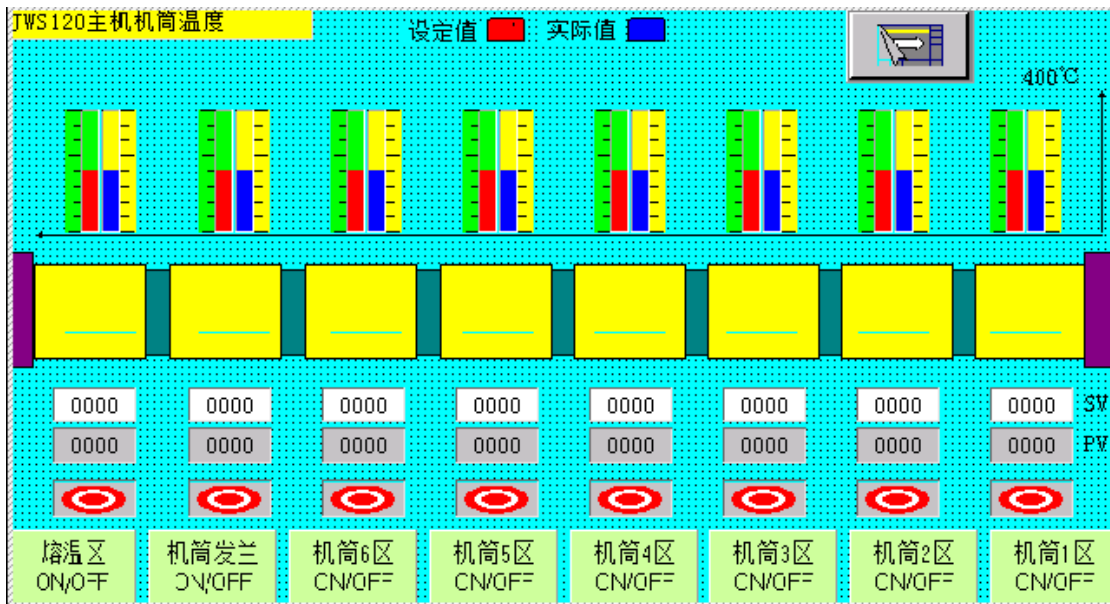
120主机
强制

c、Push button , Can be forced to start the host, which is also known as the cold start, with the holding time to the normal start of the corresponding.

d、 Note: forced start is easy to cause damage to the equipment. Under normal circumstances must wait for the temperature to reach the set value after the heat preservation time to start the host.


JWS120
温控画面

6、 Push button to the barrel temperature control page



。 this button can change to another page for temperature control 。

When temperature increase, Display , Cooling , display .

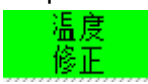
If not heating and cooling then, 。
其它区显示同理。

JWS120
温度画面

7、 Push into the temperature set page

JWS120温度设定								
	设定值	实测值		设定值	实测值		设定值	实测值
机筒1区:	00000	00000	模具4-2区:	00000	00000	口模6区:	00000	00000
机筒2区:	00000	00000	模具5-1区:	00000	00000	芯模1-1:	00000	00000
机筒3区:	00000	00000	模具6-2区:	00000	00000	芯模2:	00000	00000
机筒4区:	00000	00000	模具6-1区:	00000	00000	芯模3:	00000	00000
机筒5区:	00000	00000	模具6-2区:	00000	00000			
机筒6区:	00000	00000	模具7-1区:	00000	00000	芯模1-2:	00000	00000
机筒法兰:	00000	00000	模具7-2区:	00000	00000	备用1区:	00000	00000
熔温:	00000	00000	模具8区:	00000	00000	备用2区:	00000	00000
模具1区:	00000	00000						
模具2-1区:	00000	00000	口模1区:	00000	00000	共挤1区:	00000	00000
模具2-2区:	00000	00000	口模2区:	00000	00000	共挤2区:	00000	00000
模具3-1区:	00000	00000	口模3区:	00000	00000	共挤3区:	00000	00000
模具3-2区:	00000	00000	口模4区:	00000	00000	共挤模具:	00000	00000
模具4-1区:	00000	00000	口模5区:	00000	00000			
		温度		温度	上限值	下限值		
快速设定:	00000	配方	修正	00000	00000			

This screen can be set to the district temperature and the actual value of the district. Settings can be quickly set. You can also set the maximum limit temperature and the minimum limit temperature of all the temperature zones. Temperature is the need to manually set the lower limit, if there is a temperature above the upper limit or below the lower limit, the system will pop up the alarm, this alarm is only prompted to at least one area temperature anomalies, but not stop

Push  Key can enter the temperature correction screen, as follows:

JWS120 温度修正								
	修正值	实测值		修正值	实测值		修正值	实测值
机筒1区:	00000	00000	模具4-2区:	00000	00000	口模6区:	00000	00000
机筒2区:	00000	00000	模具5-1区:	00000	00000	芯模1-1:	00000	00000
机筒3区:	00000	00000	模具6-2区:	00000	00000	芯模2:	00000	00000
机筒4区:	00000	00000	模具6-1区:	00000	00000	芯模3:	00000	00000
机筒5区:	00000	00000	模具6-2区:	00000	00000			
机筒6区:	00000	00000	模具7-1区:	00000	00000	芯模1-2:	00000	00000
机筒法兰:	00000	00000	模具7-2区:	00000	00000	备用1区:	00000	00000
熔温:	00000	00000	模具8区:	00000	00000	备用2区:	00000	00000
模具1区:	00000	00000						
模具2-1区:	00000	00000	口模1区:	00000	00000	共挤1区:	00000	00000
模具2-2区:	00000	00000	口模2区:	00000	00000	共挤2区:	00000	00000
模具3-1区:	00000	00000	口模3区:	00000	00000	共挤3区:	00000	00000
模具3-2区:	00000	00000	口模4区:	00000	00000	共挤模具:	00000	00000
模具4-1区:	00000	00000	口模5区:	00000	00000			






This picture can be based on the actual temperature and sensor measurement temperature error values set the temperature correction value. If the temperature is 150 degrees, the temperature of the glass tube is measured to be 152 degrees, and the correction value is 2 degrees. Set to 2 in the white area of the area. If the temperature is low and the setting is the opposite.

Push **温度配方** Key to enter the temperature formula set screen:

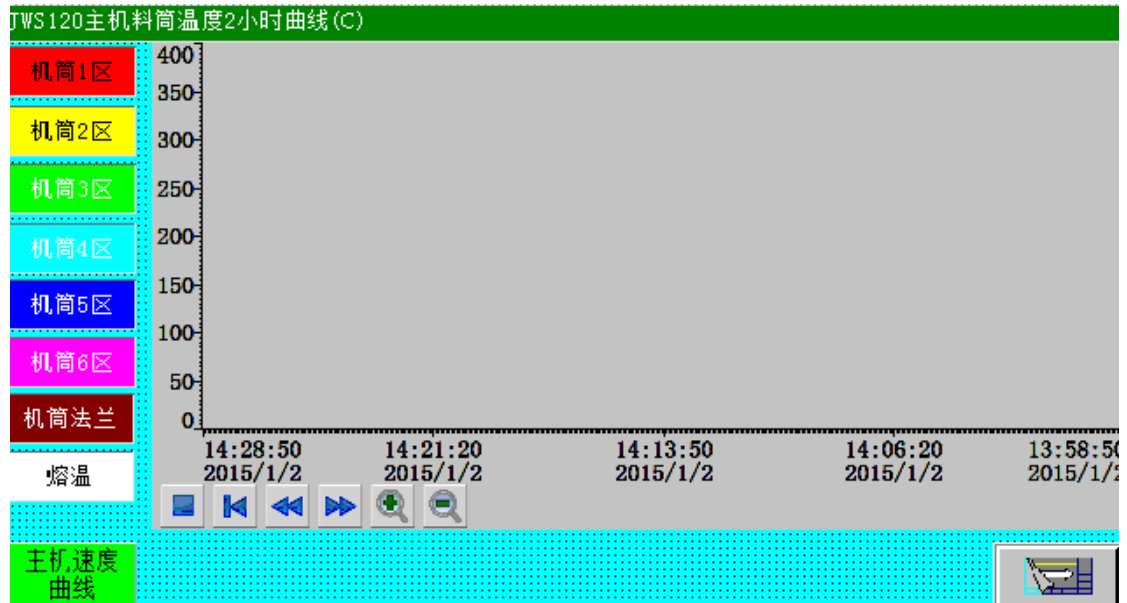
配方名: _____ 编号: -----
数据记录名: _____ 编号: -----

条目名	值
-----	---

状态栏

In this picture, you can save a set of temperature parameters to download to the PLC; also can upload a set of temperature parameters from PLC to save。  use loading,  use for upload。    These three keys are used to create, save, and delete recipe temperature parameters.。

Push **JWS120 温度曲线** Key to enter the temperature curve display screen:



- a、 These images, you can choose the temperature curve of the District, and observe the first 2 hours of the curve, every 8 seconds to collect a temperature measurement.
- B, if the thermocouple circuit, the temperature always shows the maximum.
- C, a district of the temperature reaches the set value of the deviation range. At that time, no temperature low or high alarm, if the sudden appearance of the temperature low or high alarm can be observed temperature curve is suddenly fell, at this time if the heating temperature is still down, please check the electric heating sheet.

报警画面

8、 Push 报警画面 to heating alarm page



a、 This page is alarm page, if there are alarm “” will display “”, or there are no alarm. Alarm when the alarm to clear the key can clear the alarm does not exist. If the alarm still exists or there is a new alarm, there will still be alarm display.

B, alarm, will pop up a dialog box, press the ACK key to confirm, and then to the alarm list to see what the specific alarm, and then according to the alarm confirmation, the alarm lights stop flashing. Then press the alarm button to clear the alarm that has disappeared

4. Single machine running

①. vacuum tank panel operation



Emergency stop



Haul-off speed

Single action and synchronization knob

Vacuum back and forward

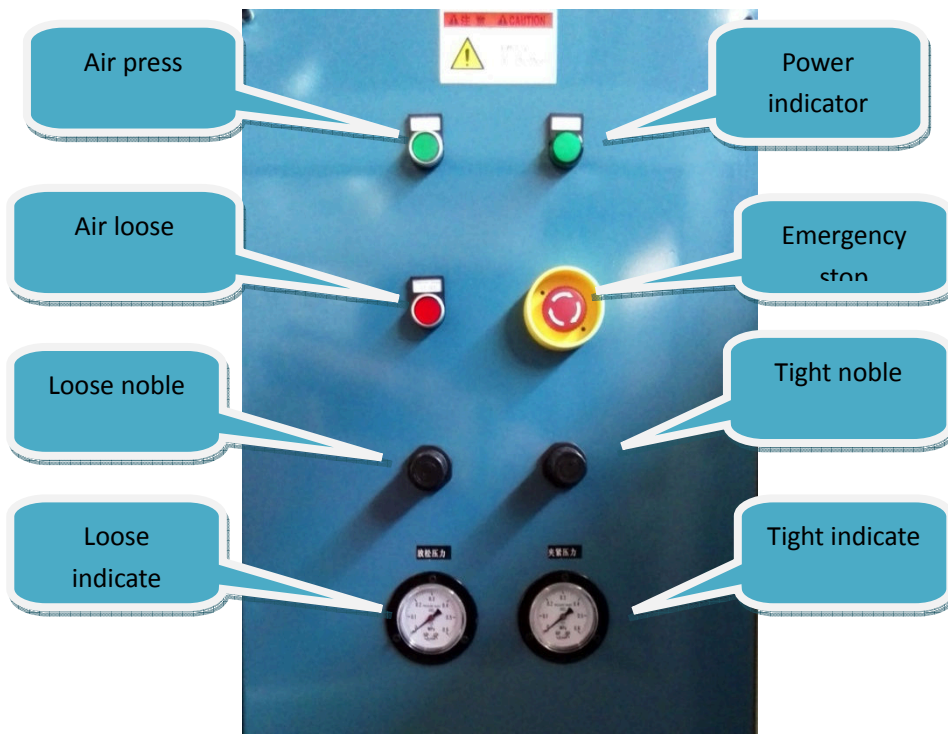
 vacuum start.  water pump start.

 vacuum close.  water pump close.

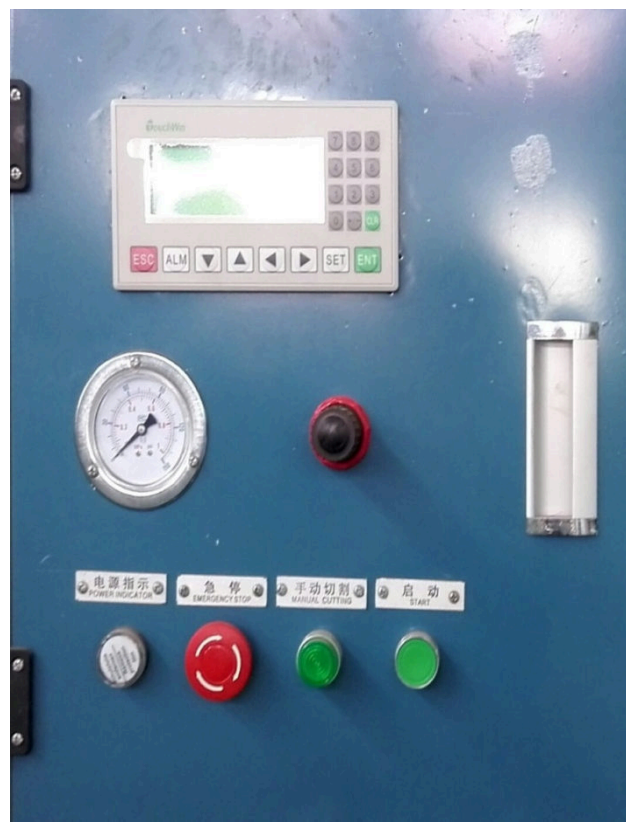
 haul-off tight.  haul-off loose .

 haul-off electrical start.

②. haul-off panel



③. cutter panel



1. Running Close the power supply, the power indicator light HL1
2. Start

Press the SB3 button, manual cutting button SB2 indicator light。

3. Cutter

A. according to the manual cutting button SB2 can not be fixed length arbitrary cutting pipe.

B. limit fixed length cutting, according to the terminal row of N24V and XO.

C. photoelectric switch fixed length cutting, according to the terminal row of P24V, N24V and XO three.

6 discharge time setting

Unloading time setting: the time of the pipe to leave the cutting machine, the reference time is 10-999S.

Note: 1 discharge is not finished (cutting machine --- cutting process is not over).

2 open the door protection: after the car door, press the start button SB3, (cutting button indicator light), can be cut.

3. On the cutting time is too long or cutting machine does not stop (cutting motor rotation can not stop) problem, first of all, please check the pressure is normal, and then check the feed proximity switch (x5) is working properly.

V 、 Maintenance

1. Extruder Maintenance

① Empty the extruder

When the output of the extruder is decreased or other factors affect the normal

operation of the screw, the screw and barrel should be checked, and the maintenance or replacement is decided according to the wear condition of the screw and the cylinder. Before maintenance or repair, the extruder must be emptied (see 4.4.2), and then cut off all the power supply of the extruder. ◦

② **remove screw**

Before removing the screw, the channel, the screen changer, the metering pump and the mold must be removed to ensure that the screw can be pulled out from the cylinder.

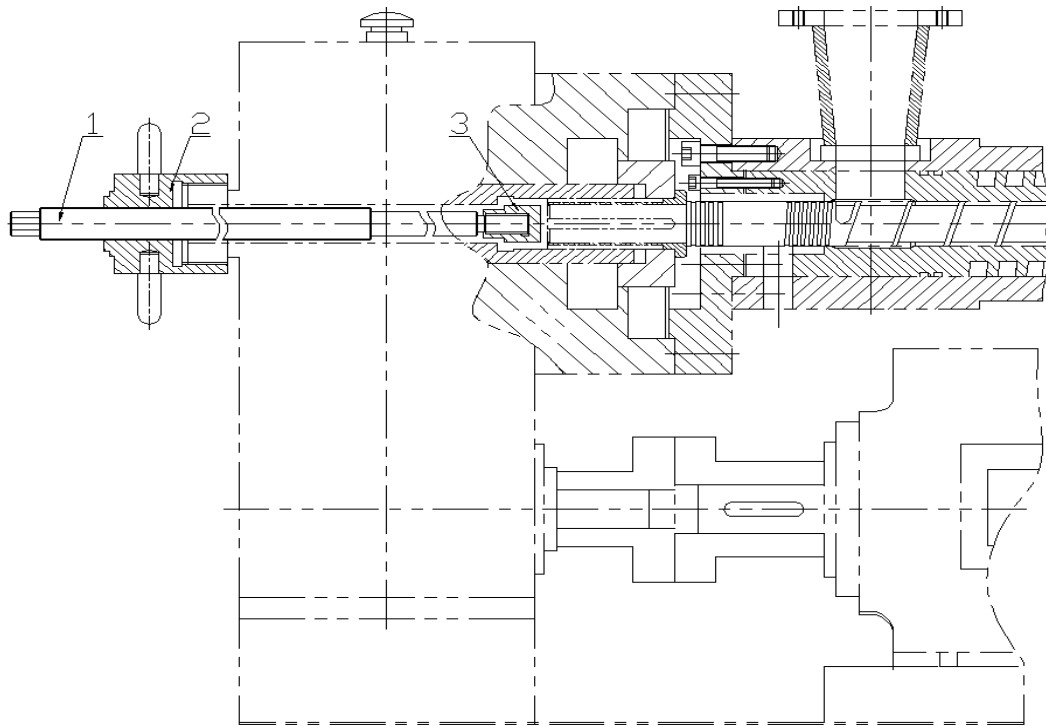
Dismantling screw by screw dismounting tool for supporting the machine, equipped with this kind of tool is in order to after extruder emptying directly dismantling the screw, this residual melt has not yet condensed, so screw is easy to be top of a

If the extruder has been cooled, the top of the screw is connected to the heating coil, and then heated to the operating temperature, and then disconnect the power supply.

The top should be supporting the lifting device to support during ejection screw.

As shown in Figure 6, the nut 3 is screwed into the loading and unloading mandrel 1, then the nut screw in the gear box, clockwise rotating spindle until the screw ejecting hole in the low speed shaft. Note: if machine barrel of the residual melt more, screw dismounting tool length is not the top of the screw, adding multiple sections of smooth iron bar between the screw dismounting tool and screw.

In the end, the screw can be pulled out and placed on the clean and soft material



③ Clean the screw

Use the brass wire brush, brass or aluminum or copper wire group cleaning scraper, screw, screw to prevent abrasion。

④ Clean the barrel

Barrel hole shall be cleaned in the heating, washing with internal diameter hole fixed on the pull rod of the semi circular blade, the first toward the blade is inserted into the sleeve, and facing the half round scraper, scrape off the residual melt, when necessary, this process is repeated. Finally, according to the diameter of the prepared brass brush or a copper brush to brush to clean sleeve。

⑤ Clean the filter

1) every time the gear box oil is changed, the magnetic filter must be cleaned of magnetic filter, the filter for the screw plug of the two sides of the bottom of the gear box. Cardiac department is equipped with a magnet, need to unscrew the plug cleaning filter, adsorption on the magnet particle removed.

2) clean the filter (with a filter)

For the first time, 12 hours after the filter should be cleaned. After that every week check reducer oil pump, due to the lack of fuel, causing abnormal sound, must stop cleaning filter filter, filter must be cleaned every three months. When cleaning,

remove the filter material, thoroughly clean with gasoline. Under the guidance of the factory staff, you can have no parking, otherwise the user should bear the consequences.

⑥ Inspection

1) in the introduction of the screw should be the first to check if there is no iron powder, if found to have iron powder, it should be out of the screw inspection, and decided to replace.

2) when a large amount of iron powder is found on the magnetic filter of the engine oil cooling system, the upper and the side of the reducer should be removed to check the window.

In the discovery of the above situation, there may be a precursor to a major accident, please contact the company quickly!

⑧ Lubrication

Gears and bearings are lubricated with oil sump or splash lubrication.

Lubrication point	Lubrication additive	Lubrication interval and description
Gearbox	N220 gear oil	Oil standard oil cap, injection volume is about 20 liters, 400 hours after the first oil change, after every run 3000 hours oil change time, oil for at least a year. The interval of each oil replacement should not be more than 12 months. To build oil change cycle oil temperature always no more than 70 DEG C, extruder works by repeatedly discharged a small amount of oil oil, each row of oil after the injection discharge clean oil until the oil is clean in a light color.
	CKC L- 220	
	Shell pressure 220 gear oil	
	Mobil Oil 630 gear oil	
		When the extrusion machine stops working, oil in the operating temperature of the discharge, and clean the oil injection, in the oil, gear box shell should all be using transmission lubrication with the same level of oil cleaning.
		The absolute prohibition of external impurities into the reducer, oil pipe, oil pump, nozzle, etc.. Wash and dry air with high pressure. The oil should be

		filled into the same level with the factory produced lubricating oil. When the external environment at low temperature, can be used as a submerged electric heater or steam heating coil heating oil, must be pre heated to +10. In order to prevent the lubricating oil from being carbonated, the electric power on the unit area of the electric heater should not exceed 0.7w/cm2.
Flange connection	Resistance to high temperature above 500 DEG MoS2 grease	Lubricate before fasten the screw
Screw axis		Before install, lubricate with oil
Screw inner hole	Silicone oil resistant to high temperature of 300	After clean, lubricate

A gear box with the forced cooling of the oil pump, in the initial stage of the car, may be due to the oil viscosity is too high, the oil pump range is too large to cause oil into the oil shortage, the issue of excessive noise. The phenomenon is common in the lubricating oil temperature rise after disappear naturally. In normal operation, such as the emergence of the pump noise is too high, generally may the oil resistance is too large. In this case please filter cleaning and other related components, regardless of the kind of specification of the gear box, in the long term without or under low temperature start should be empty running for a period of time, sufficient lubrication to be the bearing before loading operation. When the environment temperature is below zero degrees Celsius, the lubricating oil preheating. When the environment temperature is higher than 35 degrees, must strengthen cooling.

⑦ Gear reduction box and its seal and bearing

Should pay attention to the following points when installing and dismantling gear reducer:

- 1) in the transmission case, the dividing line and the bearing cover must be coated with 515 anaerobic adhesive or similar sealing material.
- 2) every time after the opening, must replace the seal
- 3) in the fastening and installation of the parts, be sure to pay attention to all the location of the hole and the plane clean and no damage

⑧ water sleeve maintenance

Extruder feeding port housing equipped with cold water unit, rely on the cooling water. Cold water unit every six months with high pressure water cleaning, to remove the impurities in the water jacket, and improve the cooling effect.

⑨ Coupling of maintenance

Coupling in the operation of a long time will be due to the vibration of equipment, and the motor and gear box relative position change, which led to the misalignment of the shaft coupling, nylon elastomer was wear and tear, affecting the smooth transmission. So every three months should check the coaxial coupling, the wear of the elastomer. In order to adjust the coupling or replace the elastomer.

⑩ Heater and fan maintenance

Heating coils and cooling fans are the components to maintain the heat balance of the extrusion unit, the normal operation of the heating coil and cooling fan is the guarantee of the stability of the extruder. In each temperature increment should check the heating temperature control table shows the error of the measured temperature of the temperature and the corresponding heating coil, as both temperature difference big, it must scrutinize the reason, according to the actual situation analysis and processing. In heating ring to ensure the normal work of the at the same time, also want to often check the working conditions of the cooling fan, the fan after working for a long time, it is recommended for cleaning fan inside the dust, to ensure it can work at a steady speed. At the same time, we should always clean out the air outlet of the wind hood, ensure the cooling process, the cooling air flow can be blown out smoothly, so as to ensure the quality of cooling. When the barrel temperature is close to the set temperature, the cooling fan will work intermittently, at this time to check the work of the fan. If found the problem, should be timely treatment. During the normal operation, the test temperature of the cylinder and the working condition of the fan should be checked during the handover of each shift.

⑪ Extruder parts maintenance

Extruder in the normal work, there are high-temperature and high-speed rotation of the risk (the corresponding position of a corresponding warning signs). In close to the operation of high temperature parts wear clothing against high temperature, high temperature resistant gloves, and wear non slip shoes. Motor and gear box connecting part is the high-speed rotation of the coupling, in the coupling cover not in the normal position or not firmly fixed on the machine frame, cannot start the extruder.

⑫ temperature testing parts

Temperature measuring element used in the device is a thermocouple, it is control system for precise control of extruding machine temperature protection, so before every car production to inspect thermocouple insertion depth is appropriate when thermocouple is ineffective or is damaged, it is necessary to timely replacement, in order to ensure the extrusion temperature control can accurately。

2. Vacuum spray tank 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 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
Motor can not meet the high speed	Do not adjust the given	After carefully check the external factors check control panel
		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, cleaning machine.

Screw clamping device, 2 check all is loose, and tighten.

3, check the electrical switch, plug, cable is in good condition. If damage, immediately repair.

Forth, check all the pipe or hose seal, all the gas dynamic element and the electromagnetic valve is intact, if damaged immediately replaced.

5, clean up the pneumatic three filter, and replaced with fresh oil.

All the oil hole and sliding parts should be in each class refueling

Waste treatment

When the service life of the equipment to its service life, the machine can no longer continue to use or maintenance, the user may not be arbitrarily discarded, should be to protect the environment and save energy angle consideration, delivery to relevant departments for environmental management or in accordance with the local regulations on environmental protection and properly deal with.

At the same time, in the use and maintenance of the process to take into account the importance of environmental protection, for from the machine disassembly and replacement down waste, replace the oil and to properly deal with, so as not to cause environmental pollution.

Also, in the production process, to save energy and materials from the point of view, as far as possible to reduce the production of waste materials

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VI、 Spare parts

a. five position two way solenoid valve (G1/4")

Q25DC-L8 (0.15-0.8MPa)



b. pressure sensor (Pt131b)



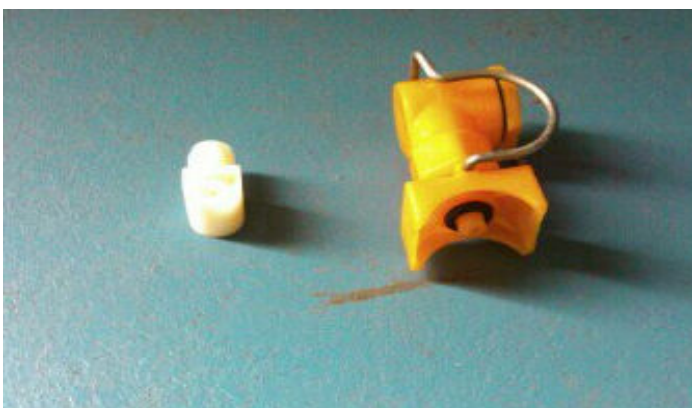
b. Heater



d. thermal couple K type (M12*1.5)



e. Nozzle ($\Phi 25$ - $\Phi 32$)



f. Vacuum meter (Y60(-0.1-0)MPA) / 压力表 Y60(0-0.6)



g. stoke switch (YBLX-P1/120/1e)



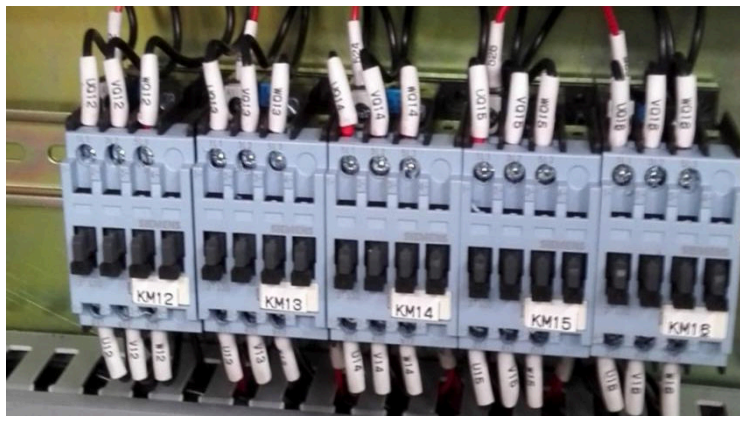
h. ceramic plug



i. Plug



j. Contactor



VII、 Conclusion

Our company absorbs the advanced technology and technology at home and abroad, has a leading position in the country, and will be committed to the development of various specifications of new pipe equipment, in order to fully meet the needs of domestic and foreign markets. In the company of pipe equipment development process. I sincerely hope that the users of the company's products put forward suggestions and requests, and we thank all new and old customers to the company's products of patronage.

Because the company continue to update the product upgrade and development, so provided the specification chart, description, parameters and actual product if somewhat inconsistent (subject to the purchase contract), please forgive me, if in doubt, please contact our technical department.

Technical parameters are subject to change without prior notice.

SHANGHAI JWELL PIPE EQUIPMENT CO. , LTD.