



用户使用說明書
USE MANUAL

规格 **SUPER** 系列高速精密冲床
TYPE SUPER SERIES HIGH SPEED PRECISION PRESS

浙江帅锋精密机械制造有限公司

Seftec precision machinery Manufacturing Co.,Ltd

The Press of SUPER Series

Dear Valued Customer:

Sincerely thanks for using Shuai Feng Press.

Shuai Feng Precision Machinery Manufacturing Co.,Ltd. specializes in producing all kinds of press 。 This machine is fully according to ISO90001-2008 international quality certification.

Over the years, according to customer feedback and our experience in the service, we know that proper use and regular maintenance is the important factor to keep the press having the best performance and maintain its original accuracy and vitality. So we hope this manual will help you take full advantage of the capabilities of our machine.

If you have any questions, please call the service line: **00860573-86572992**

Thank you for purchasing Shuai Feng Precision press

In order to properly use the press, Please read this manual carefully in advance.

Be sure to keep this manual beside the press for operators and maintenance staffs.

The manual corresponds to the technical execution of the machine at the time of print.

We reserve the right to make changes.

Seftec Seiki Manufacturing Co.,Ltd

Safety Precautions

Before the installation, operation, maintenance and inspection, please make sure you have read this manual. Only after fully understanding the principles of the security situation of the machine and all precautions, you can work on this machine then.

Description of the symbol:



Warning!

Wrong operation may cause an electric shock.



Notice!

Do not put hands or other objects into the danger zone, to avoid any possible accident.



Warning!

The machine must be grounded before operating. Grounding must be done in accordance with national standards or equivalent international standards. Otherwise, shock can happen.



Warning!

Don't put your hands or any part of the body into the danger zone.

Before a detailed study and fully understanding of the operation manual, don't operate, repair, adjust the press or install the mold.

If the flywheel and the motor is running, please don't maintain and install the mold.

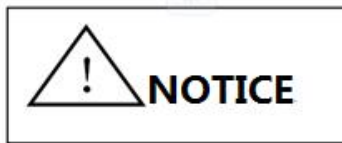
In order to indicate the degree of risk, this manual uses the following symbols:



Indicate an obvious danger, if the danger can not be avoided, it will result in deaths or serious injuries.



Indicate a potential danger, if the danger can not be avoided, it may result in deaths or serious injuries.



Indicate a potential danger, the danger may result in minor injuries or goods damages.

Contents:

	Subject	Content
A	Specification	After understanding this paper ,you can use the press normally according to its capacity.
B	Installation	Initially set and installation methods.
C	Operation	Must be known, in order to properly use the press.
D	Maintenance	To maintain the performance and accuracy. To make trouble shooting of the circuit, gas and oil systems of this press.
E	Information	Operation documents of other devices.

Personnel must read:

	Subject	Supervisor	Maintenance director	Operation director	Operator
A	Specification	⊙	⊙	⊙	⊙
B	Installation	⊙	⊙	○	○
C	Operation	⊙	⊙	⊙	⊙
D	Maintenance	⊙	⊙	⊙	○
E	Information	○	⊙	○	○

⊙and○express that it need to be read and understood,⊙express that it need to be read carefully.

Conversion Table

○ **Pressure capability conversion table (nominal pressure)**

Engineering unit (ton · f)	SI unit (kN)	Engineering unit (ton · f)	SI unit (kN)
5	50	60	600
10	100	70	700
15	150	80	800
20	200	90	900
25	250	100	1000
30	300	110	1100
35	350	120	1200
40	400	125	1250
50	500		

Conversion formula: 1 (kN) = 0.1(ton·f)

○ **Pressure Conversion Table (Air pressure·Oil pressure)**

Engineering unit (kgf/cm ²)	SI unit (MPa)	Engineering unit (kgf/cm ²)	SI unit (MPa)
0.5	0.05	23	2.25
1	0.10	24	2.35
1.5	0.15	25	2.45
2	0.20	26	2.55
2.5	0.25	27	2.65
3	0.29	28	2.74
3.5	0.34	29	2.84
4	0.39	30	2.94
4.5	0.44	40	3.92
5	0.49	50	4.90
5.5	0.54	60	5.88
6	0.59	70	6.86
7	0.69	80	7.84
8	0.78	90	8.82
9	0.88	100	9.80
10	0.98	110	10.78
11	1.08	120	11.76
12	1.18	130	12.74
13	1.27	140	13.72
14	1.37	150	14.70
15	1.47	160	15.68
16	1.57	170	16.66
17	1.67	180	17.64
18	1.76	190	18.62
19	1.86	200	19.60
20	1.96	210	20.58
21	2.06	220	21.56
22	2.16		

Conversion formula: 1 (kgf/cm²) =0.098 (MPa)

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1、 Press ability

Press ability is divided in three categories: pressure capacity、 torque capacity and operational capability. The Press cannot used beyond any one.

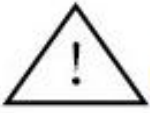
1.1pressure capacity (Be generally called nominal pressure)

 NOTICE	Considering the different die wear and material hardness increases operational pressure, So please limit maximum working pressure within 70% of the pressure capacity.
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Under the condition of no mechanical damage, Press is a machine which is used to produce the maximum pressure (unit:KN)for the machining. Press can generate infinite pressure in theory near lower dead point, So the actual pressure which produced by the Press is relative to the load. But if the actual pressure is beyond the limits of pressure capacity, it will damage the Press and happen serious accidents.


Working loads include stress and resistance ,the stress is generated by the forming workpiece's shape、dimension and material, the resistance is generated by the movable template、baffle and so on. The total load must not exceed the pressure capacity

1.2Torque capacity

 NOTICE	Workload's pressure must be within the scope of the pressure curves, exceed the permitted scope will damage the machine.
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Please refer to pressure stroke curve. Torque capacity is the distance from the Pressing position to the lower dead point. The pressure stroke curve, shows that, above the stroke position which can produce pressure, the pressure will be reduced. So above the position of the torque capacity. It must not beyond the scope of the curve, although the total load is the scale of the pressure capacity. Over the scope of curve, clutch will slip and heating, or other abnormal wear will happen. In bending or stretching process, the load is extremely high at the lower dead point, please pay special attention.

1.3 Operational ability

 NOTICE	The workload of each stroke should be within the scope of the energy curve 。 Overload will cause motor overheating or stuck the mode.
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Working capacity is the maximum available energy in the process of a stroke(unit:N·m) 。 Stamping is worked through the energy that it is released by the each rotation of the flywheel .Flywheel release the energy, and it supplement energy from the motor at the same time. Energy release and supplements must be balanced. As can be seen from the graph of energy, when

bearing and other parts to wear faster, affecting the service life of the press.

2. Specification and exterior size

2.1. Specification

Type		Super-40				
pressure capacity	KN	400				
Stroke	mm	20	25	30	35	40
Number of stroke	spm	200-1000	200-900	200-800	200-700	200-650
Die height	mm	220-270			215-265	220-265
Adjustment of slider	mm	50				45
Size of slider	mm	800X360				
Table size	mm	850X500				
Table thickness	mm	100				
The cut-out dimension	mm	650X120				
Material hole size	mm	600x100				
Main motor	kw	15X4P				

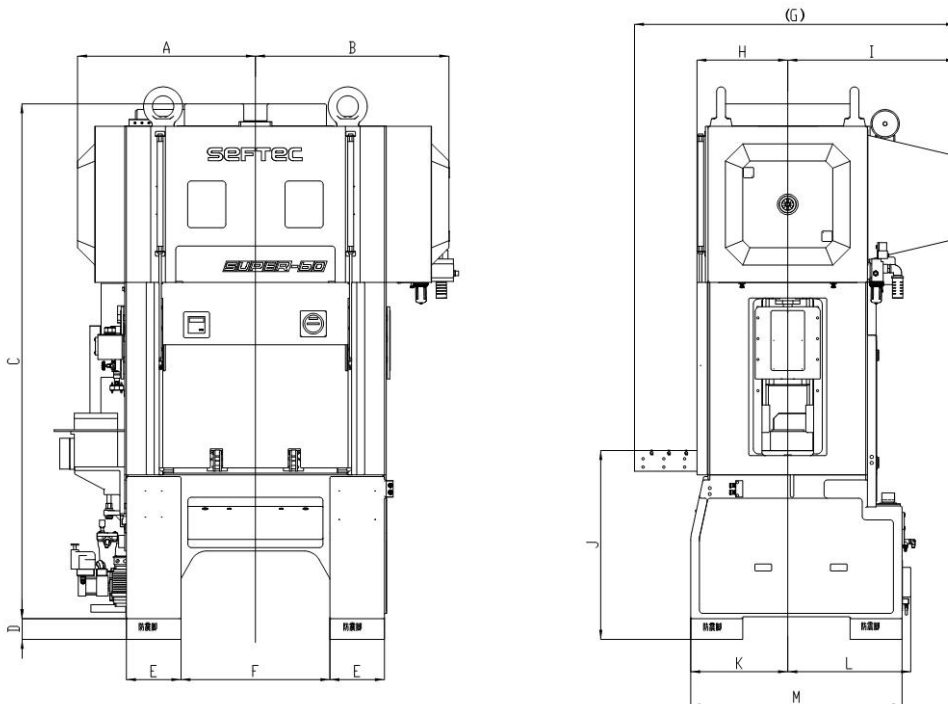
Type		Super-60				
pressure capacity	KN	600				
Stroke	mm	20	25	30	40	50
Number of stroke	spm	200-750	200-700	200-600	200-500	200-400
Die height	mm	300-350	295-345	295-345	290-340	285-335
Adjustment of slider	mm	50				
Size of slider	mm	950X480				
Table size	mm	950X650				
Table thickness	mm	140				
The cut-out dimension	mm	720X200				
Material hole size	mm	700x140				
Main motor	kw	18.5X4P				

Type		Super-80				
pressure capacity	KN	800				
Stroke	mm	20	30	50	60	80
Number of stroke	spm	200-700	200-500	180-350	180-300	100-230
Die height	mm	320-370	315-365	305-355	300-350	290-340
Adjustment of slider	mm	50				
Size of slider	mm	1200X600				
Table size	mm	1200X800				
Table thickness	mm	160				
The cut-out dimension	mm	900X200				
Material hole size	mm	1050 (900) x150				
Main motor	kw	22X4P				

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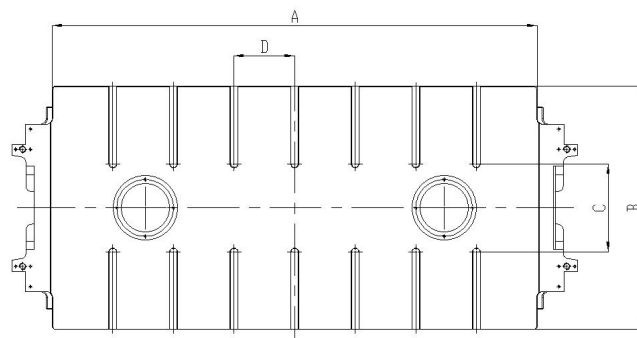
Standard Device	general converter+ constant speed motor	Optional Devices	<input type="radio"/>	Precision CAM type feeder
	Combined air clutch brake		<input type="radio"/>	Stop switch of material end(proximity print)
	Dynamic balancing device (Weight selection type)		<input type="radio"/>	one material guide (to work face)
	Electronic cam switches		<input type="radio"/>	Lower dead point detection device
	Automatic correction device of stop angle		<input type="radio"/>	Cut off the counter (6-digit of electronic)
	Electronic crankshaft Angle indicator (before)		<input type="radio"/>	air ejector (with radiotube)
	Touch screen (Simplified Chinese)			
	speedometer			
	total counter Electronic 8 digits			
	Preset counter electronic 8 digits (stop)			
	displayer of die height			
	Timer 7bit			
	Electric slide adjustment device			
	Feeding wrong socket (with switch) 1			
	A limit stop using socket 1			
	220V socket (10A)			
	380V socket (1.5Kw) 1			
	Circulating oil control components			
	Air control components			
	The air outlet (1/4)			
	Material oil feeder device (With the			
	safety gate (Only the front of the upper and lower style)			
	Mold lamp			
	Motor reversing device			
	Full stop loop			
	Operation counters (With rolling wheel). Noumenon operation board			
	Hands button			
	shock mounting			
	cooling device of oil			

2.2 Profile Dimension



	A	B	C	D	E	F	G	H	I	J	K	L	M
Super-40	953	900	2463	150	360	660	1270	437	800	1040 ± 30	470	620	1040
Super-60	1027	1117	2970	120	315	860	1854	524.5	969	1090 ± 30	560	710	1220
Super-80	1157	1288	3115	60	375	1040	2340	565	999	1060 ± 30	620	800	1370

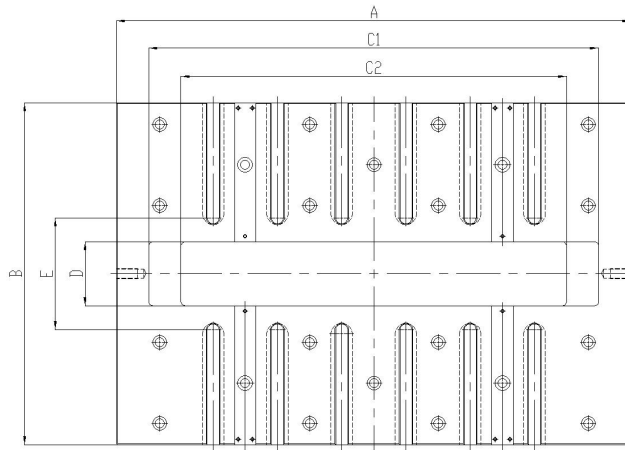
STANDARD SLIDE LOWER AREA



	A	B	C	D
Super-40	800	360	240	90
Super-60	950	480	318	100
Super-80	1200	600	218	150

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STANDARD BOLSTER



	A	B	C1	C2	D	E
Super-40	850	500	600	600	100	160
Super-60	950	650	700	700	140	220
Super-80	1200	800	1050	900	150	262

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1. The installation of the Presser

Without anti-vibration device

- (1) To prepare according to the foundation drawing. The foundation is stronger, the vibration is smaller.
- (2) Please check the leveling of the Presser correctly. Put the adjustable pads between the Press and the earth, until the level of the countertop is correct in all directions. Then fix with plaster.
- (3) After plaster hardening, tighten the foundation bolt, check again.

With anti-vibration device

- (1) requirements of resettlement surface of Presser:
 - a. Smooth cement surface;
 - b. Level difference less than 2 mm
- (2) With anti-vibration device, special foundation may not be necessary.
- (3) Fixing Press and anti-vibration device with the retaining bolt.
- (4) Check level with precision leveler which in the workbench.

In all directions, the acceptable tolerance of levelness in 1 meter length is $\pm 0.05\text{mm}$ allowed
- (5) The school level methods of the installation of vibration control box, of refer to "expansion packs anti-vibration device".
- (6) The installation and adjustment method of the anti-vibration device is in Information. Anti-vibration Device.

2. Preparation for operation

2.1 Connect compressed air

(1)Joint on the Presser internal diameter of pipe ϕ 19mm

Model	joint dimension	Aperture
Super-40/60/80	1/2"	21

(2)The required pressure (one side pressure) More than 0.59 MPa

(3)Set pressure of regulator 0.44~0.55MPa

(pressure that clutch brake required)

(4)Consumption of compressed air for one cycle of the clutch

Consumption	Super-40	Super-60	Super-80
brand-new	0.76 升 x0.55MPa	1.21 升 x0.55MPa	1.59 升 x0.55MPa
worn	1.14 升 x0.55MPa	1.85 升 x0.55MPa	2.35 升 x0.55MPa


(5)The output of air compressor > 500l/min

Note: the required volume for spray wind and inching has been taken into account.

Note: before use, need to check whether there are impurities in the air pipe, whether water or gas is clean.

General use 1/2 b diameter pipe, but if the pipe length is more than 5 m, please use 3/4 b tubes.

2.2 Lubricating oil

 <p style="margin: 0;">warning</p>	<p>If filling lubricating oil to up limit when the Presser is working lubricating oil may overflow when it is ston.</p> <p>When lubricating oil is below the lower limit in the oil gauge, crankshafts and other parts may be burn.</p>
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If oil cooler or oil heater is used, the pipe connecting the Presser and cooler of heater must be well connected before fill the oil. Input, output, joint "IN" and "OUT" connected to the Numbers 1, 2, respectively.

- (1) Open oil cover of lathe bed left back, adding specify brand, clean lubricating oil.
- (2) Oil grades refer to maintain article "categories" section.
- (3) Oil mass refer to the table below, adding higher than the middle of the gauge is slightly the appropriate.

Model	Capacity of tank (L)
Super-40	60
Super-60	85
Super-80	140

Note: the configuration of a thermostat, about 20 l oil amount should be increased.


(4) Oil drain, open oil drain valve of the bed behind.

(5) The types of oil:

The types of oil	ISO68
Great wall	L-HM68
MOBIL	DTE 26
COSMO	COSMO Ulpas 68
SHELL	Shell tellus Oil 68
ESSO	Telesso 68

2.3 Power connection

Electrical connection must be conducted by a certificated engineer.

	<p>In order to prevent electric shock, the ground terminal of control box must be grounded.</p> <p>supply voltage</p> <p>AC300V below: the resistance under 100 Ω</p> <p>AC301 ~ 600 V: the resistance under 10 Ω</p>
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(1) main power

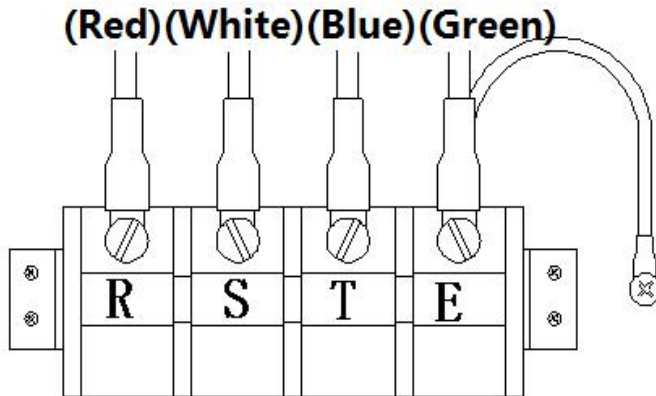
Each Presser need to set the switch box of protection device separately.

Model	The main motor capacity (kW)	The wire cross section (mm ²)		The switch capacity of retainer (A)
		power line	ground wire	
Super-40	15	16	16	100
Super-60	18.5	16	16	100
Super-80	25	16	16	100

* Power supply voltage of 200 v 50/60 hz or 60 hz, 220 v () for 380 v to 440 v.

* Numerical data of this form is the standard specifications. Special specifications of the occasion, there may be changes.

- (2) The order of power supply connection
- a. Cut off the total power supply
 - b. Puts the "power switch" operation of the operation box.
 - c. Open the front door of operation box, the switch should be placed in the "OFF".
 - d. R.S.T line connect terminal station.
 - e. Ground wire must be involved in ground terminal (E).



3. Confirmation before test run

All Presser have inspection according to the commissioning and testing standard before they leave the factory. Before users plant commissioning, please check for the following items.

inspection item	Confirm the content	Confirm the content
appearance	<ol style="list-style-type: none"> 1. No foreign bodies in the Press face 2. The appearance of the Press, operation box inside and outside without exception 3. please use antirusting agent 	<p>Visual</p> <p>Visual</p> <p>Visual</p>
oil	<ol style="list-style-type: none"> 1. Lubricating oil quantity 2. The amount of oil the slider locking hydraulic equipment 3. Join the turbine oil into fueler 4. Lubricating oil should be added into feeder 	<p>oil level gauge</p> <p>Visual</p> <p>Visual</p> <p>Visual</p>
Connect compressed air	<ol style="list-style-type: none"> 1. No leakage 	<p>Open the inlet valve, the pressure to rise to the required pressure. Within 10 minutes and then close</p>

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	<ol style="list-style-type: none"> 2. The clutch pressure in the required range 3. Status of barometric anti-vibration pad is normal, Press without tilt 	<p>the valve, if pressure maintenance in 0.35 MPa above, it is normal.</p> <p>Visual</p> <p>Visual, anti vibration level meter</p>
power connection	<ol style="list-style-type: none"> 1. The power line in operating box, ground wire is normal 2. Terminal fastening bolt tightening 3. Open the total power supply, after open the power switch of the operation box, the power indicator 4. press the motor start button, flywheel rotate in accordance with the direction 	<p>Visual</p> <p>Screwdriver</p> <p>Visual</p> <p>Power terminal station</p>

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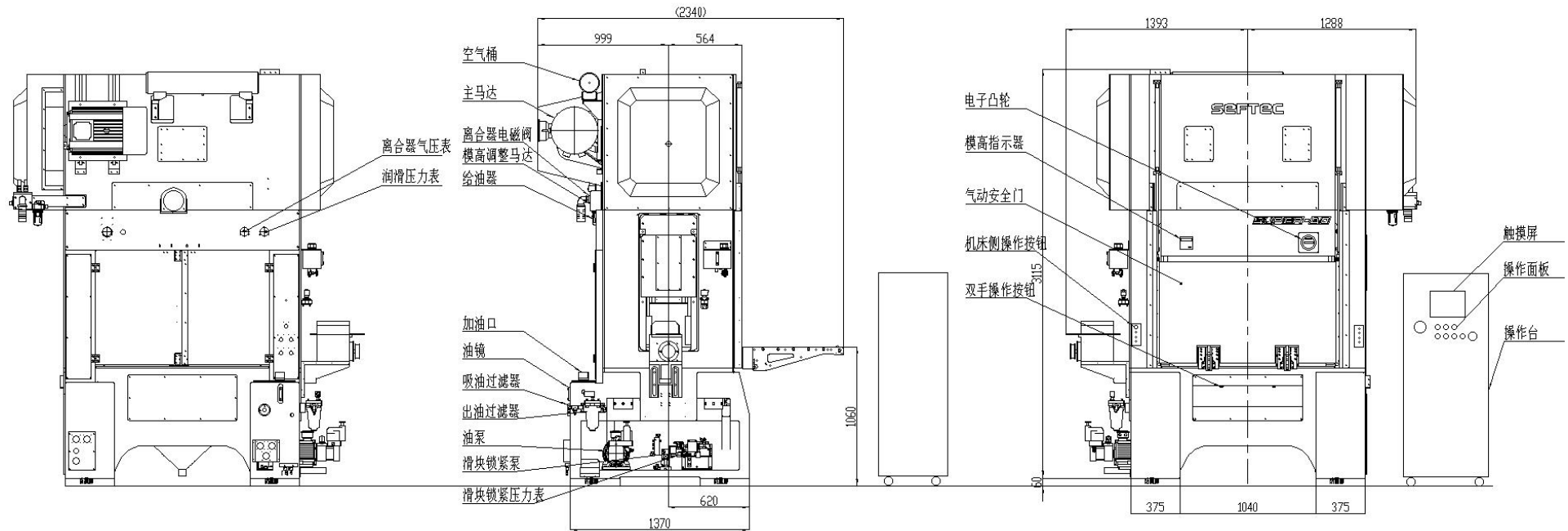
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1. Daily check the project and device

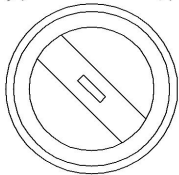
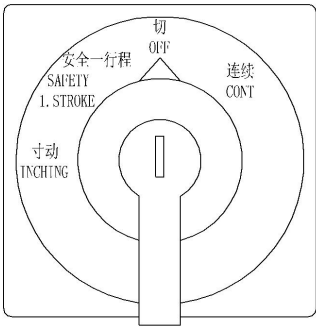
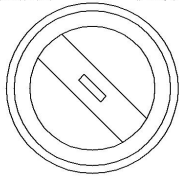


2. the types of the operating Operation

	<p>The key to the switch kept by the operations manager or keeper in a fixed place.</p>
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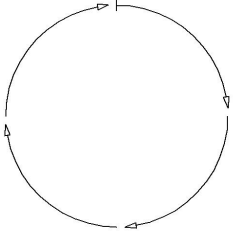
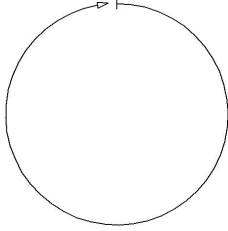
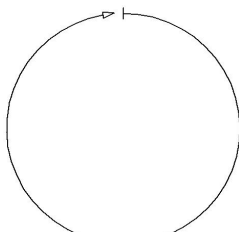
2-1、 The use of the key switch

The usage of the key on the electrical box and operation panel:

key switch	function	operation	Key pull plug position
<p>Electric control box control the power switch</p> <p>操作电源 关 开</p> 	<p>Power on or off Press power supply</p>	<p>Key right, open the power supply; Key left, turn off the power supply.</p>	<p>Can pull out the key in "off" position</p>
<p>Operation selector switch</p> 	<p>Choose the way to work</p>	<p>Key rotating to the right, can rotate switch choice operating method. The key to rotate to the left, rotary switch self-locking.</p>	<p>The key can pull out after rotation to the left</p>
<p>the fuselage panel of the left side</p> <p>操作模式 电控箱侧 机身侧</p> 	<p>Choose operation in electric cabinet side or body side</p>	<p>Key to turn right, operation at the side of the fuselage; Key turn left, operation on the electric cabinet.</p>	<p>Can pull out plug in two places</p>

2-2、 The method of operation of the switch

Switching operation	Press action
turn off	Even if press "run" button and the inching button, slider did not move.
Inching	Press the "run" and "inching" button when the slider movement, the slider stop moving after let go of the button.


	
<p align="center">one stroke</p> 	<p align="center">Press the "run" button, the slider movement a reciprocating stroke, stop at top dead center position. To make the slider movement a trip, need to let go of the button before then.</p>
<p align="center">continuous</p> 	<p align="center">After pressing the "continuous operation ready" button within two seconds press the "run" button, slider continuous motion. Release the "run" button slider does not stop. Press the "stop" button when continuous operation, the slider will stop at top dead center position.</p>

: Note:

Because the inching mode can be started by both hands simultaneously, two buttons must be pressed with in 0.5 seconds.

3、Prepare for work

3-1 Before turning on the power supply (prepare operation)


	<p align="center">Check the project before start work, as follows:</p> <ol style="list-style-type: none"> 1) The performance of the clutch and brake 2) If there is a bolt looseness 3) Performance of a trip to a stop, stop, emergency stop device 4) Performance of prevent the slider or blade dangerous organization 5) State of mould and the workbench
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Every day before starting, must be inspected according to the following items. In order to make the Press can safe and normal operation, should carry on the daily inspection and maintenance. The user has an obligation to mechanical routine check and maintenance, record accordingly.

Inspection item	Confirm the content	Treatment
1) Sorting, reorganization, cleaning	Keep the Press and the surrounding clean examination content: Workbench, slider, mould box operation, safety devices, the ground and Press	Sorting, reorganization, cleaning
2) Air pressure Check the clutch pressure	Air pressure should be more than 0.59MPa Open the drain valve, pressure meter back to 0Mpa. Open the air valve and pressure gauge shall be within the specified range. 0.44~0.55MPa	Check the inlet air. If pressure gauge can not come back to zero, it's pressure gauge failure, it's time to replace. When pressure is beyond, voltage regulator can be used.
3) Air leakage	The pipeline can not leak	Repair or replacement parts
4) The amount of lubricant Check the oil gauge in oil tank	Pressing machine downtime, the oil level should be within the scope specified in the oil gauge.	Insufficient, gas to the scale of the central.

3-2 Power-on

Open the power switch which in the electric cabinet, open “operating power supply” switch which on the electric cabinet. And then, puts operation select switch to "inching".

	For safety, confirm the main motor in the stop state.	
Inspection item	Confirm the content	Treatment
1) Power supply	The power indicator lights on operation box	If not light, check whether the power input is normal.
2) The slider locking pressure	The "closed mold height adjustment" switch to "Manual", pressure gauge indicates zero.	If not null, pressure gauge has fault, need to change.

Check the oil pressure gauge indicating pressure Oil mass	When the " die mold height adjustment" switch to "off", the gauge should be in the range specified below. 16.66~21.56Mpa Whether is the volume of oil tank pressure device in the range of allowable oil gauge.	When the pressure is beyond, voltage regulator can be used to adjust. If there is insufficient, come on to the ceiling.
3) Oil pressure (Before the motor starting) Check the indicating pressure of oil pressure gauge	Before the main motor starting, pressure gauge refers to the 0Mpa.	If not refers to the zero point, pressure meter is faulty, please change.

3.3 After the motor start

Press the “motor start” button on the operation panel, the main motor and the flywheel rotating, lubricating oil pump start.

Inspection item	Confirm the content	Treatment
1) Press the motor start button	Press the button, the main motor according to the indicating arrow direction, operation Angle controller, touch screen will display the main motor speed	Switch the power phase sequence
2) Oil pressure (After the motor starting) Check pressure gauge instructions	Press the motor start button, pressure gauge shall be within the specified range. 1.18~1.96MPa	Short of setting pressure, clean the filter. Also can adjust pump overflow valve.
3) V belt and the motor	V belt without sliding sound, abnormal vibration. The flywheel should not abnormal vibration.	When v belt skid, adjust the v belt according to the maintenance of the adjustment method of V belt.


4) The clutch action	Press the operation button, and listen to sniff of solenoid valve.	If there is something abnormal about Clutch solenoid valve action, please clean or replace vent valve.
5) Emergency stop working	The switch in "continuous" operation. Press the operation button, Press continuous operation. Then press the emergency stop button, and listen to the solenoid valve and find out If there is something normal.	
6) No material to stop	under no material condition, clutch is not work	Adjusting switch
7) Safety gate	When under open State, in a state of self-locking	
8) Safety device (optical barrier)	Clean shiny surface and photosensitive surface. Cover the light with the hand, then safety device is action. Please refer to the instructions.	Cleaning up. When action is abnormal, please contact with the company.

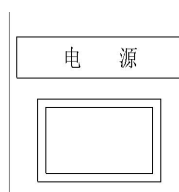
When lubricating oil heating/cooling thermostat (options) is chosen

Thermostat and Press pump moving, even if the main motor does not turn at this time, oil pressure will rise. So the thermostat should be cut off when confirm the oil pressure.

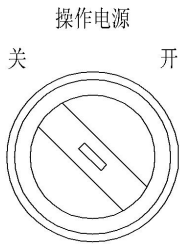
4、Running operation

4.1、The operation from the beginning.

	<p>Please operations after the "daily inspection" and "Adjusting the job".</p>
-------------------------------------------------------------------------------------	--------------------------------------------------------------------------------



(1) All the keys on the electronic control box and the control panel is fully inserted



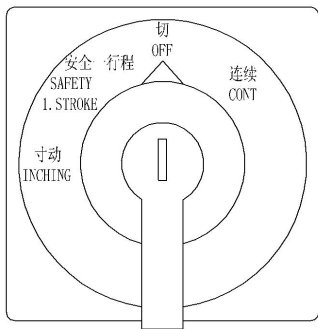
(2) After confirm the power indicator light is lit, puts "operating power supply" switch to "on"



(3) Check whether the emergency stop button is pressed. If yes, release the emergency stop button by turning it in the "REWSET" direction.

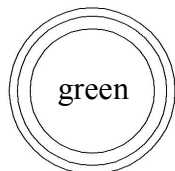


(4) Press the "motor start" button on the touch screen, start the main motor, at the same time indicator light turns green.



(5) According to the operation purpose choose the operation mode; When you first power on, should be in the "jog" position and confirm whether the direction of rotation of the flywheel is consistent with the direction indicated by the arrow.

operation for Continuous



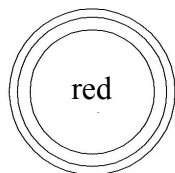
(6)-1 When the "operation select" switch on "continuous", touch screen will display a continuous operation

Press operation



(6)-2 Press "ready" for continuous operation button, and press " Press operation " button for 2 seconds later, the slider will begin to work. If the slider is not near the top dead center, the only inching operation. Then the "operation select" switch must be placed in the "inching", confirm the machine with and without exception in inching operation process; When slider running first near the dead point, a stroke and continuous operation can be performed.

Press stop

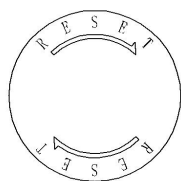


(7) Slider will stop in a designated spot after press the "Punch press stop " button when continuous operation.

emergency stop

(8) Restart after the emergency stop
Press the "emergency stop" button, the slider will

紧急停止

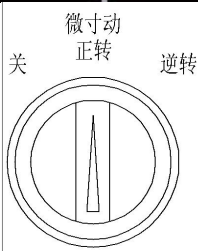


immediately stop, motor stopped too; Start again, make sure for possible danger, rotary "emergency stop" button to reset. Start the motor, inching operation.



(9)"Wrong on/remove" switch (touch screen)

When set to "remove" do not do wrong detection, inching operation can be performed only at this time.



(10) "Micro-inching" toggle switch

Motor rotation, transfer switch to "forward", the motor speed set down to micro inching speed; At this time, the "operation select" switch on "inching", inching operation can be performed; After the switch to switch to the "reverse", motor reversal.

Micro inching operation used for tooling adjustment when there is no material.

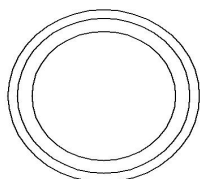
(micro inching operation, the motor may halt due to overload. In order to protect the motor, idling motor will automatically shut down after 5 minutes.)

Manual OFF rotary ON



(11) The motor of "manual rotary switch" stops. When the rotary rod is removed, the switch ON is ON and OFF is OFF. The flywheel can be rotated manually with the rotary rod

Clamping mold release



(12) "Clamping mold release" button, under the condition of manual rotation, press the clutch to pull, cooperate with the rotary rod, clamping mold pin can be clamping mold release of the slider.

safety switch (Instructions about the "emergency stop" button , please refer to the above instructions)

Once the following switch action, Pressing machine will automatically stop, touch screen will show the cause of the outage. After ruled out the cause of the problem, please press the "reset" button, then you can back up and running.

Urgent stop circuit

- 1、 Miscarriage interface (detection circuit voltage of DC12V. Press stop when open circuit (control cabinet can be set to stop when open circuit)).
- 2、 A limit stop interface (when open circuit Press stop).
- 3、 The slider locking oil pressure switch.

- 4、 Safety door switch (before and after)
- 5、 Clutch air pressure switch
- 6、 Wrong on/remove switch (inching operation only when remove)
- 7、 Operated electric control box side / machine side selector switch (inching operation only when machine side)
- 8、 Micro inching off / forward / reverse switch (when forward or reverse, inching operation only)
- 9、 Operation selector switch
- 10、 Mold height adjustment switch
- 11、 Frequency converter
- 12、 Electronic cam controller
- 13、 PLC (programmable controller)
- 14、 Main motor forward/reverse switch
- 15、 Material pressure OFF/ON switch (optional)
- 16、 Upper and lower Clamp (optional)
- 17、 die lifter (optional)
- 18、 The dead point check device (optional)
- 19、 Safety optical barrier (optional)
- 20、 Tonnage detector (optional)

Note: When front security door open, can only be used in the machine side for micro inching and inching;

When back security door open, not for micro inching and inching operation.


***Position (top dead point) stop circuits ***

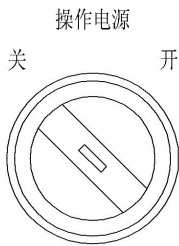
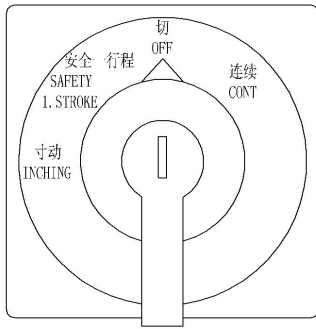
- 1、 Material end stop switch
- 2、 Lubricating oil pressure switch (invalid when the motor stops)
- 3、 Preset counter
- 4、 Lubricating oil Heating oil chiller
- 5、 Color tag detector (optional)
- 6、 Materials for oil oil level switch (optional)

***Other safety devices ***

- 1、 Breaker
- 2、 Each motor thermal overload relay
- 3、 Operating circuit protector

4.2、 Operation before stop the operation

	<p>After the shutdown operation, in order to ensure safety, please operate in the following order.</p>
-------------------------------------------------------------------------------------	--------------------------------------------------------------------------------------------------------



① At the end of the Pressing operation, the "operation choice" switch on "slice".

② Continuous press "motor stop" button on the touch screen more than 1 second, make the main motor stops.

③ Operating a "power" switch on "off";

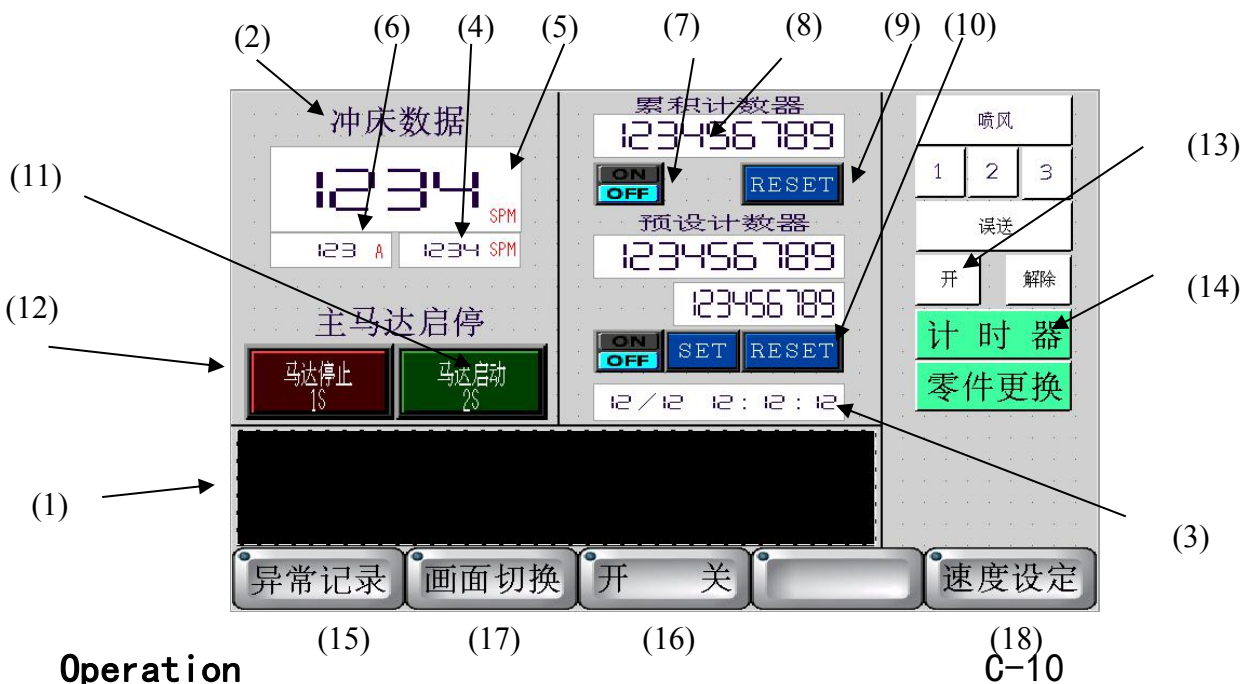
④ Pull out all the keys, kept by the operations manager or keeper place in fixed place.



Touch screen, please be sure to use finger to operate.
If use sharp objects or tools to operate, easy to damage.

4.3、The operation of the touch screen

4-3-1、the picture of running



- (1) Message Window : Show the current state of the Press.
According to display different content, the background color has the following changes:
Red - exception; Yellow - warning; Green - can be normal operation
- (2) Name of the current picture : The screen displays the name of the currently used picture
- (3) Time display : Display the current date and time.
- (4) Speed display Ministry : Displays the current actual operating speed.
Touching speed display unit is switched to "Continuous speed setting" screen;
- (5) Set speed display : Display the setting speed of continuous operation.
- (6) Output current display : display inverter output current.
- (7) Counter switch : Counter "ON/OFF" switch.
- (8) Counter displays : Show the current count value.
- (9) Counter reset button : To reset the counter, clear the counter current value.
- (10) The preset counter setting : Click on the window, can enter the preset counter value.
- (11) The motor start button : Start the main motor. light turns green when Start.
- (12) The motor stop button : Stop the main motor.
- (13) On-off state : Show the switch set effective and lit ON.
- (14) Working time button : Switch to the "working hours".
- (15) Abnormal record button : Switch to the "abnormal record".
- (16) Switch control button : Switch to the "switch Settings" screen.
- (17) The picture switching button : Switch to the "screen switch" screen
- (18) Speed setting

4-3-2、Picture switching screen



Press each button, switch to the corresponding picture.

Home page : display the speed of Pressing machine, counter, mold closing height, information, etc.

Switch : Switch to the picture of switch Settings. Only can be set to name the light switch.

"Motor idling stop" switch is used to set the motor idling time more than the set value would stop. By "+ 10 min" button in the 0 ~ 60 minutes to 10 minutes for the unit changes the set time.

Counter : display the pressing time, exceptions, and the total running time of the Press.

To the timer is reset, continue to press the "reset" key 1 seconds or more.

Continuous speed : Continuous speed setting.

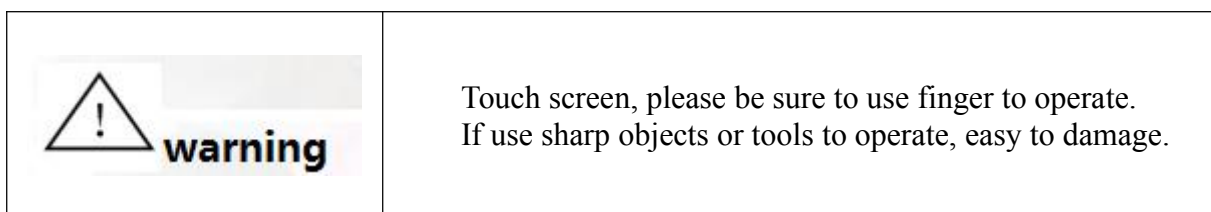
Frequency changer : Show the inverter output frequency, output current, output voltage and input and output signals.

PLC import : Display the PLC input point.

PLC output : Display the output of the PLC state.

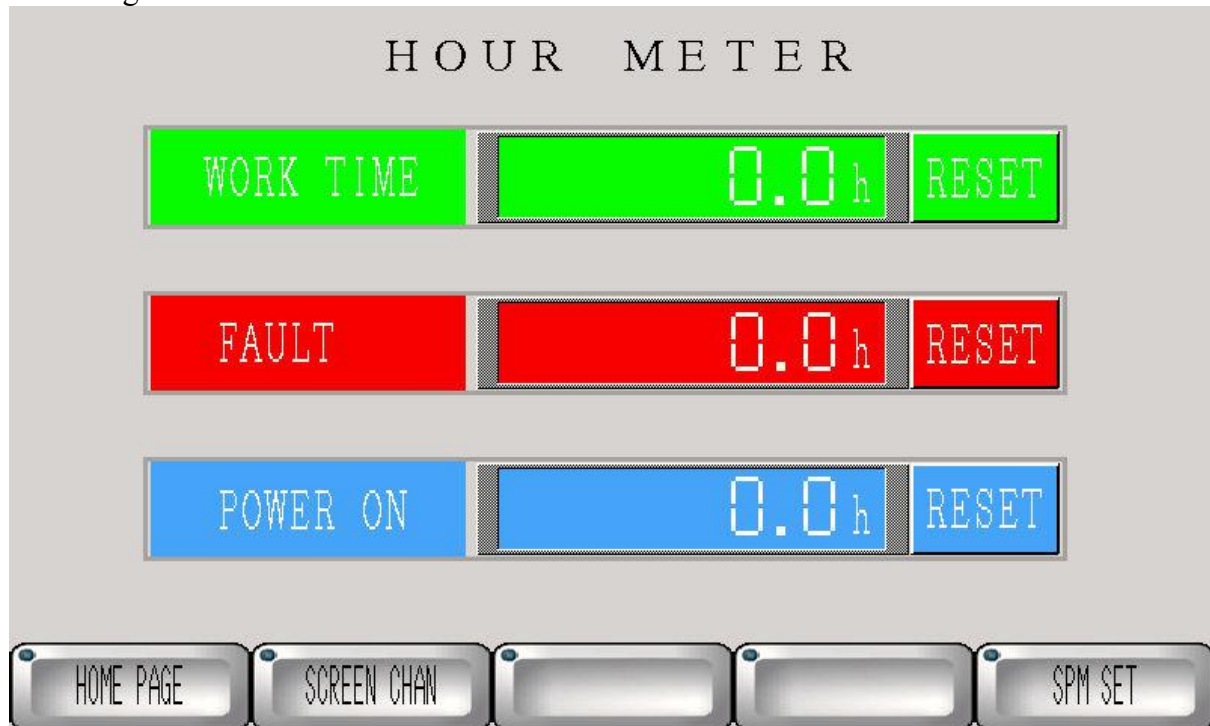
Rapid analysis : Shows the device status.

Exception record : Displays information about the exception happened in the past.



4-3-3、Exception information display

The picture shows Press the working state of the connection parts. When it is abnormal, the red light turns on.



- "Home page" button: Return to the home page.
- "Speed setting" button: Switch to the speed setting.
- "The screen switch" button: Return to the screen to switch the screen.

4-3-4、Abnormal record images





Button: press this button to operate on the line, the next line, previous, next page button



Button: press this button to end the the operation of a line, the next line, previous, next page button



Button: press this button to switch to the on line



Button: press this button to switch to the next line



Button: press this button to switch to the previous page



Button: press this button to switch to the next



Button: press this button to add reset button more than 3 seconds can delete all the police

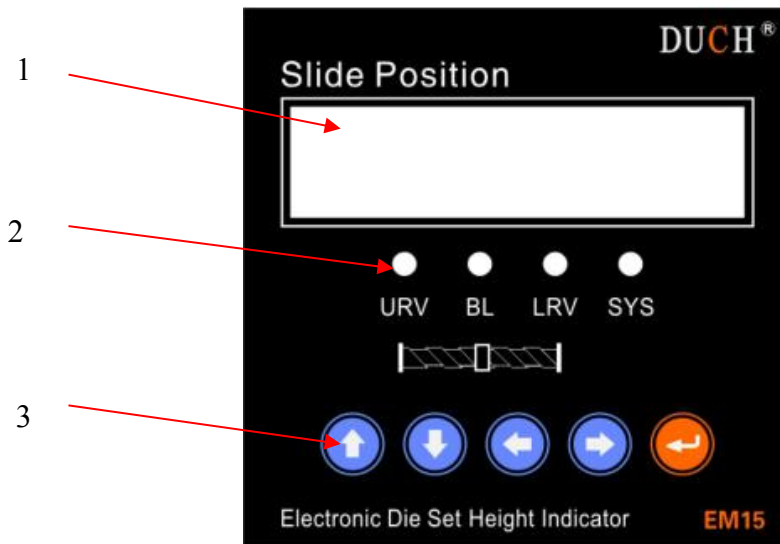
5、 Adjust the job

5-1、 The height adjustment for the mold closing






5-1-1、 The height adjustment for the mold closing

Adjustment of die closing height is displayed by digital display mold height indicator, and controlled by point motion mode. The resolution is 0.01mm, with upper and lower alarm values that can be set (0~65430* tooth pitch ratio mm) scale, over stroke protection, power failure memory and other functions. Manual mode, press "up" or "down" button to adjust; In die height adjustment process, can't switch to the other picture.

When die height adjustment is completed, press the "operation picture" button to return to the run screen, at the same time slider locking device will be locked.







- (1) Display screen 6 LED
 - ① Setting status, display setting value.
 - ② Operating state, showing the current mode high value.
- (2) Indicator light
 - ① URV: upper limit indicator light;
 - ② BL: inside indicator light;
 - ③ LRV. Lower limit indicator light;
 - ④ SYS. System alarm indicator light.
- (3) Set button
See Button Instructions for details:




Function	Button	Instruction
Edit/Display		1. Press it in the system menu state, and the menu will cycle in F01-F06; 2. Press the button in the parameter setting state, the flashing value is +1, cyclic in 0-9;
Edit/Display		1. Press it in the system menu state, and the menu will cycle in F06-F01; 2. Press the button in the parameter setting state, the flashing value is +1, cyclic in 9-0;
Edit/Display		1. Press down in the system menu state to enter the corresponding parameter Settings of F01-F06 and P01; 2. Press the button in the parameter setting state, the flashing bit moves to the left, and the left-right-left cycle occurs;
Edit/Display		1. Press down in the system menu state to enter the corresponding parameter Settings of F01-F06 and P01; 2. Press the button in the parameter setting state, the flashing bit moves to the right, and the right-left-right cycle occurs;
Edit/Display		1. Long press the system menu for 2 seconds to return to normal operation mode; 2. Long press the button for 2 seconds in the parameter setting state (the parameter setting state corresponding to F01-F06) to save the set parameter value; (the parameter setting state corresponding to P01) verify the system password entered;

		Then return to the system menu status.
--	--	----------------------------------------





1、 P01 Menu

Under normal operation state, left, right and enter keys are invalid; At the same time, press  and  to delay 3 seconds, and enter the PO1 system menu. At this time, up, down and enter keys are invalid; Press  or  to enter the system password input state, the initial display of 3 zeros, the rightmost one flashing, use, down, left, right input system password, long press Enter key for 2 seconds, verify the system password. If the password is not correct, return to the system menu P01; If the password is correct, the system menu F01 will be displayed. Input range (0-999).




2、 F01 menu

If the system password is entered correctly, the system menu F01 will be displayed. Press  or  into F01 corresponding limit alarm value is set, upper limit alarm lights flashing, the upper limit of the initial display for the current, most the right side of a digital flash, use, bottom, left and right input new upper limit alarm value, long press  for 2 seconds (long click 4 seconds to return to normal operation status), The system saves the new upper limit alarm value and returns to the F01 system menu. Set range (1-65430 * pitch ratio, but less than 9999.99mm).





3、 F02 menu

Display F01 system menu, press  show F02 menu, press  or  to enter F02 state corresponding to the lower limit alarm value, the lower limit alarm lights flashing, the initial display for the current lower limit value, most the right side of a digital flash, use, bottom, left and right to enter a new lower limit alarm value, press  for 2 seconds (4 seconds to return to normal operating state), The system saves the new lower limit alarm value and returns to the F02 system menu. Set range (0-65430 * pitch ratio, but less than 9999.99mm).

4、 F03 menu





When displaying the system menu of F02, press the F03 menu to display, and press  or  enter the setting state of the molecular value of tooth distance corresponding to F03. The initial display is the current molecular value of tooth distance, and the rightmost digit flashes. Input the new molecular value of tooth distance with upper, lower, left and right buttons, and press  for 2 seconds (long press 4 seconds to return to normal operation). The system saves the new tooth pitch molecular value and returns to the F03 system menu. Set the range (1-255).

5、 F04 menu





When displaying the system menu of F03, press  to display F04 menu, and press  or  enter the setting state of the tooth distance denominator value corresponding to F04. The initial display is the current tooth distance denominator value, and the rightmost digit flashes. Input the new tooth distance denominator value with upper, lower, left and right buttons, and press  for 2 seconds (hold a long

press for 4 seconds to return to the normal operation state). The system saves the new tooth pitch denominator value and returns to the F04 system menu. Setting range (1-65535).



6、 F05 menu

When displaying the F04 system menu, press  to display the F05 menu, press  or  enter the installation direction setting state corresponding to F05, the initial display is the current direction value, the rightmost digit flashes, the upper and lower keys enter the new direction value, press  for 2 seconds (long press 4 seconds to return to the normal operation state), the system saves the new direction value. Return to the F05 system menu. Set the range (0-1).

7、 F06 menu

Display F05 system menu, press  show F06 menu, press  or  to enter F06 current mode high value of the corresponding calibration set state, within the limit of the light flashing, initial shows high value of modules of the current, most the right side of a digital flash, use new calibration, bottom, left and right input module of high value, press  for 2 seconds (4 seconds to return to normal operating state), The system corrects the current module height value to the newly calibrated value and returns to the F06 system menu.
(0-65430 * pitch ratio, but less than 9999.99mm)

5-1-2 Setup process:

1. Under the normal operation state, press  and  at the same time 3 seconds to enter the P01 menu of the system;
2. Press the left or right button to enter the password input interface and enter the password.
3. If the password is correct, open the parameter setting menu of F01-06;
4. Press the left or right button to enter the parameter setting interface corresponding to F01-F06, and enter the value (pay attention to the range of value, and the description is given after the introduction of the previous menu).
5. Note: first set the tooth pitch molecule F03, then set the tooth pitch denominator F04 and direction F05, then conduct height calibration F06, and finally set the upper and lower limits parameters F01 and F02. If the set upper limit alarm value is less than the set lower limit alarm value, then the upper and lower limit alarm relay may both pull, so the set upper limit alarm value must ① manual mode, "manual" light on. For automatic or automatic deviation mode, press "Manual" button to enter manual mode. ② Observe the "current value" and press the "up" or "down" button to adjust. On the occasion of the upward direction adjustment, the first rise to the target value above, and then automatically downward direction adjustment.

Note: Although the height of the die closure can be adjusted manually, it is recommended that the final positioning adjustment should be carried out by automatic adjustment as far as possible.

5-1-3、 Others

- ① When to end in the process of positioning adjustment, please press the "emergency stop"

- button. Later, please be sure to reset closing high.
- ②Die height adjustment circuit with an exception, die height adjustment will not be able to normal end. Please press the "reset" button, please adjust closing high again.
 - ③In the process of the die height adjustment, should avoid to impose too much load on the slider (such as tapping mould, etc.), otherwise may cause the breakage of the die height adjusting mechanism.
 - ④Do not to die height adjustment card mode, or may lead to the breakage of the die height adjusting mechanism.
 - ⑤Pictures showed "die height anomaly information", please continue to press the "reset" button more than 3 seconds.

5-2、 adjustment of electronic CAM angle controller

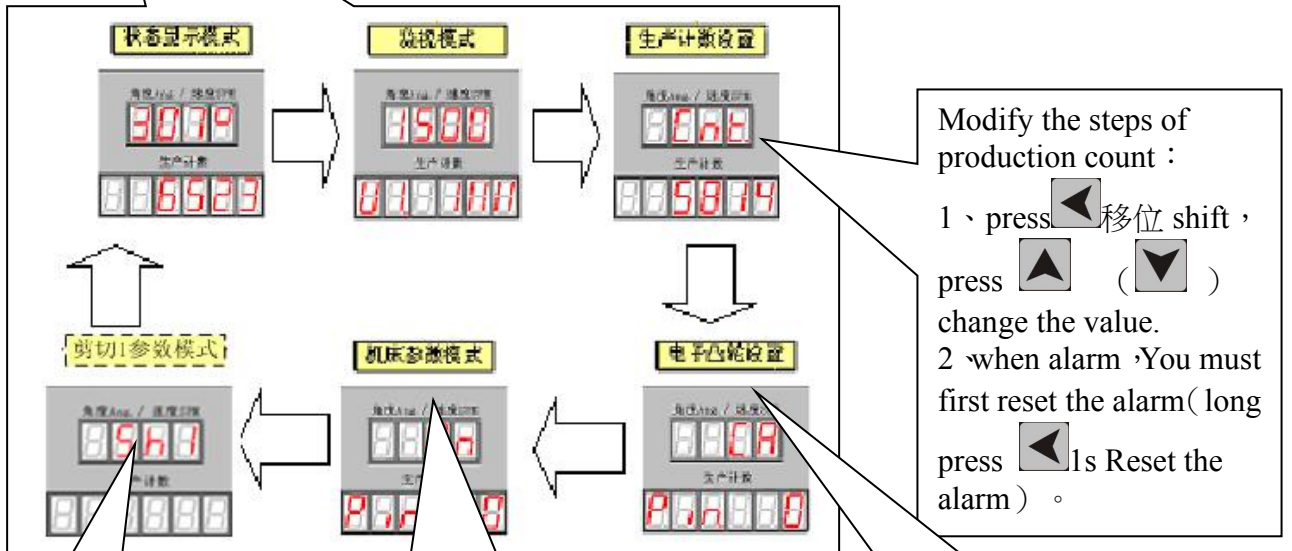
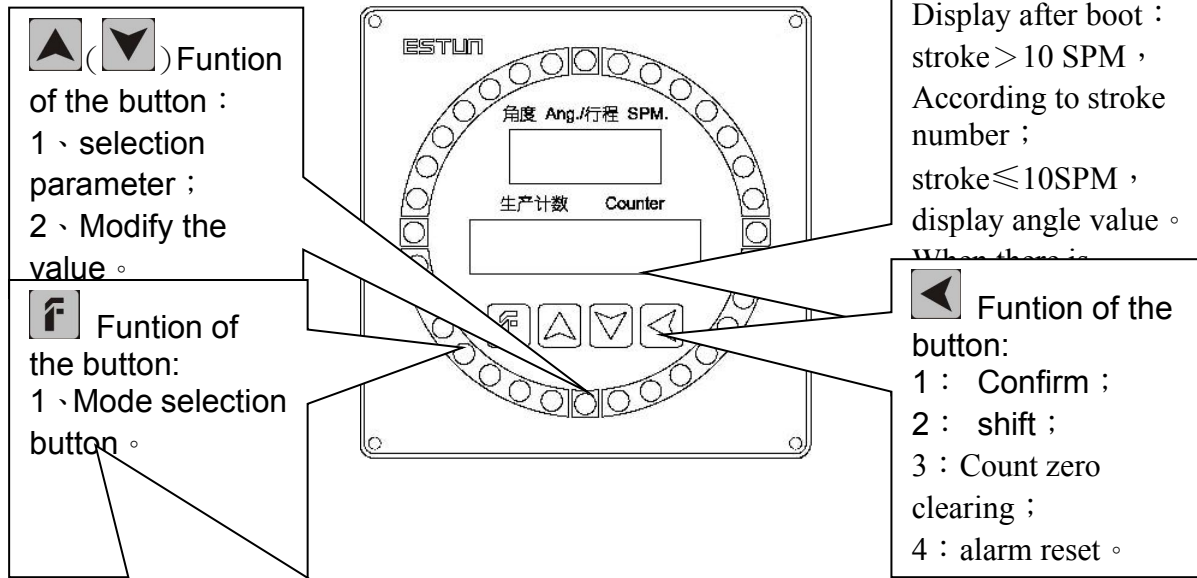
This machine uses electronic CAM Angle controller.

This control is changing with stamping speed for TDC stop position automatic correction, and for the clutch friction Angle changes as a result of the long-term use of the sliding angle correction since the compensation function.

The output of the Angle of CAM controller is open collector. Can be directly as the output signal to the electronic counter, pull up resistors may need to use in some occasions.

When using the prepare output, please contact with the company.

5-2-1、



The shear (cutting) Parameters setting.

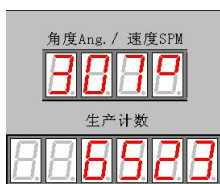
press choose password , then press enter the parameters , Setting parameters of the machine .

press choose password , then press setting of the electronic CAM.

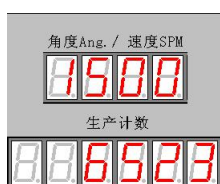
Note : Next to each kind of model for detailed instructions

5-2-2、 Status display mode

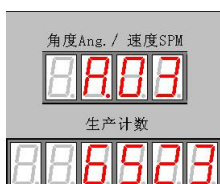
The first line of PAC10 displays the current angle position of the crankshaft when it is power-on, or when SPM is less than or equal to 10 during operation:



When SPM > 10 is running, display SPM:



Note: If the system has an alarm, the alarm error number will be displayed:



Example: Operation method to reset production counter

Normal display status, the digital tube in row 2 shows production count , it can reset the current production count, operation is as follows.

Step	Interface	Operating instructions
1	<p>The image shows the digital display from the previous example, but with red dashed arrows pointing to the '886523' and the word 'flashing' next to it.</p>	<p>Long press the enter key for 3 seconds, production count (the second line digital tube) display flashing reset.</p>

Note: When the slider stops, press the "Count Clearing" button for 1 second to clear it (the system has a port for clearing it).

5-2-3、 Monitoring mode

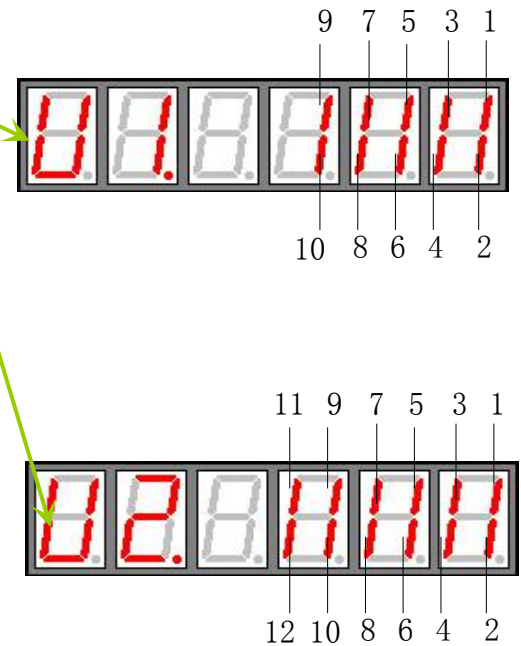
State monitoring mode can be used to monitor input/output level state, I/O level state, braking Angle, etc.

After entering the monitoring mode, the decimal point of the right-most digital tube on

the second line will flicker, indicating that it is currently in the monitoring mode.

The monitor mode displays the following contents:

Monitor code	Monitoring content	Function
U1	Input port level state	Monitor the actual state of the input port
U2	Output port level state	Monitor the actual state of the output port
U3	Actual value of braking Angle (degree)	The actual brake inertia of the brake
U4	Brake SPM	This braking machine running speed
U5	Actual value of Angle 2 (degree)	Display the second Angle value (degree)
U6	Clutch brake times cumulative counter	Displays the total number of brakes
U7	PAC10 version is displayed	Displays the software version of the current system
U8	Shear 1 output counter	Displays the output count of cut 1
U9	Shear 2 output counter	Displays the output count of cut 2
The following production tests (with protection)		
UA	Outlet diagnosis	PAC10 system diagnostics
Ub	Memory FRAM diagnostics	PAC10 system diagnostics
UC	LED to diagnose	PAC10 system diagnostics
Ud	Maximum Braking Angle Setting Value (Degree)	The maximum allowable braking Angle can be calculated automatically according to the PN05 set by the user
UE	Vertex location/stop output Angle	Displays the Angle at which the brake starts
UF	Historical alarm	Store 10 alarm records



Note:

Under the monitoring page of U8 and U9, long press the "OK" button for 5 seconds to reset manually; When the shear (cutting) parameter N3 is modified, the corresponding U8 or U9 automatically clears to zero; When the factory value is restored, U3, U4, U5, U8, U9 and UD are automatically reset.

Warning:

Operation

When diagnosing the UA outlet or the UB memory FRAM, be sure to strictly follow the instructions of the machine tool to operate under the condition that the main motor is stopped and the power of the main motor is turned off to avoid dangerous conditions!

U1/U2 Detailed description of monitoring functions

Monitor code	Digit number	Content	The signal related to the input
U1	1	Angle 2 input	X 1
	2	Run the input	X 2
	3	Start the vertex compensation input	X 3
	4	Production count is zeroed in	X 4
	5	The alarm reset	X 5
	6	Break detection (encoder)/Break detection (rotation)	
	7	A phase (encoder)/power detection Normal input (rotation)	
	8	B phase (encoder)	
	9	C phase (encoder)	
	10	Power detection Normal input (encoder)	
Monitor code	Digit number	Content	The signal related to the input
U2	1	Vertex positioning	Y 1
	2	System ready	Y 2
	3	Electronic Cam 1 output	CA1(Y3)
	4	Electronic Cam 2 output	CA2(Y4)
	5	Electronic Cam 3 output	CA3(Y5)
	6	Electronic Cam 4 output	CA4(Y6)
	7	Electronic Cam 5 output	CA5(Y7)
	8	Electronic Cam 6 output	CA6(Y8)
	9	Electronic Cam 7 output	CA7(Y9)
	10	Electronic CAM 8 output/shear 1 output	CA8/S1(Y10)
	11	Electronic CAM 9 output/shear 2 output	CA9/S2(Y11)
	12	Electronic CAM 10/ production count to reach/shear count to reach output	CA10(Y12)


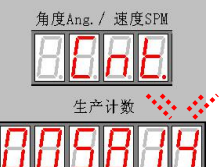
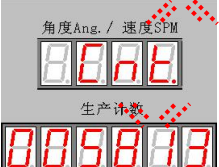
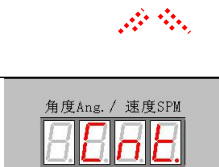
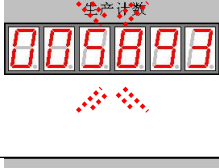
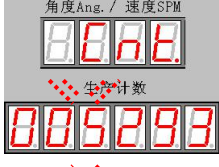
5-2-4、 Production count (optional)


When setting, increasing key / minus key is used to modify the value. Short press the Enter key to curser left. Long press the Enter key to save and exit editing mode. Press the F key does not save the changes and return.

Parameter number	Name and Description	Unit	Setting range	The default value

Cnt.	Preset number of production	piece	0~999,999	0
	0: Production doesn't count; 1: Start counting, but don't output signal of production reach ≥2: Start counting and output signal of production reach			

Example: The following steps are to set production count, the steps of changing preset number of production from 5814 to 293:

Step	Interface	Operating instructions
1		Press F to select production count set model, the second line digital tube is preset number of current production count.
2		Press the enter key, the first bit of preset production count number (the first digital tube from right in row 2) begin to glitter, then enter the model of modifying the first bit of production count preset number.
3		Press minus key once, to change the first bit of production count preset number to 3, and then press enter key one time, the second bit of preset production count number(the second digital tube from right in row 2) begin to glitter, then enter the model of modifying the second bit of production count preset number.
4		Press increasing key / minus key to change the second bit of production count preset number to 9, and then press enter key one time, the third bit of preset production count number(the third digital tube from right in row 2) begin to glitter, then enter the model of modifying the third bit of production count preset number.
5		Press increasing key / minus key to change the third bit of production count preset number to 2, and then press enter key one time, the 4th bit of preset production count number(the 4th digital tube from right in row 2) begin to glitter, then enter the model of modifying the 4th bit of production count preset number.
6		Press increasing key / minus key to change the 4th bit of production count preset number to 0, and then press enter key one time, the 5th bit of preset production count number(the 5th digital tube from right in row 2) begin to glitter, then enter the model of modifying the 5th bit of production count preset number.

7		Long press enter key, first all flashing, loosen the button to stop flashing, data is saved.
---	-----------------------------------------------------------------------------------	----------------------------------------------------------------------------------------------

The above steps are to change preset number of production from 5814 to 293. To modify the parameters again, repeat steps 2 to 7.

In addition, data will not be saved if press F directly to return when production count flashing display.

Note:

1. Production count arrival signal, shear count arrival signal and electronic CAM 10 multiplexed the same output CA10(i.e. Y12);

2. When the cutting (cutting) function of the system is turned off:
 When the preset number of production pieces is set to 0 or 1, the output outlet CA10(Y12) is used as the electronic CAM 10 output;
 When the number of preset production pieces is set ≥ 2 , the output outlet CA10(Y12) is taken as the production count to the output.

3. When using the clipping function, the use of the CA10 port will be described in detail in the clipping mode.

5-2-5、Electronic cam

Electronic CAM parameters is protected by password protection (password is 980). Unexpected change can be avoided. In the following electronic CAM parameters in the table can be confirmed to change the scope of the machine parameters.

Parameter number	The name and function	Unit	Setting range	The default value
CA01	An opening angle of the electronic cam 1	degree	0~359	0
	An closing angle of the electronic cam 1	degree	0~359	0
~	o o o			
	o o o			
CA10	An opening angle of the electronic cam 10	degree	0~359	0
	An closing angle of the electronic cam 10	degree	0~359	0

Note:

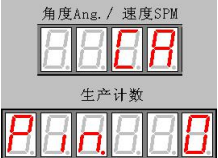
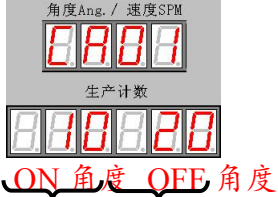
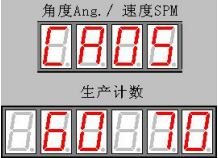



When the output port to use as a general electronic cam :

CA01 ~ CA10 opening/closing Angle is set to 0, CA01 ~ 10 has been closed.

CA01 ~ CA10 are set to open/close Angle theta (theta indicates a 0), CA01 ~ 10 has been open.


CA08 ~ CA10 output port functions have multiple definitions, CA08 ~ CA09 either as general electronic cam output port can also be used as an output cut; CA10 either as general electronic cam outputs can also be used as the count reaches output. Different definitions of the port output function by a pre-set parameters to decide.

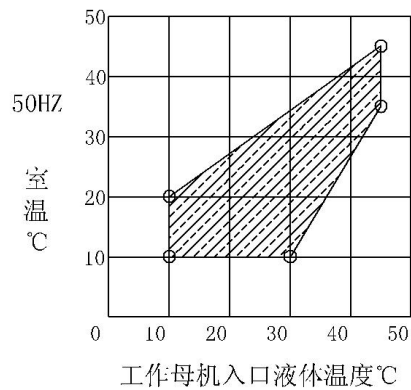
Examples of electronic cam set: ON angle of the electronic CAM CA05 is changed from 60 degrees to 70 degrees, OFF Angle operation from 70 to 80 degrees.

step	Boundary surface	operating instructions
1		Press F to select electronic CAM setting mode, enter the password test. press increase or decrease key to input password (980).
2		Press the confirmation key, enter display mode of the electronic CAM Angle.
3		CA05。 Press increase or decrease keys, select the number of electronic CAM CA05.
4		Press the confirmation key, ON Angle of electronic CAM 05 flicker (Line 2, The former three Nixie tube), enter the modify electronic CAM 05 ON Angle mode.
5		Press increase or decrease keys, change the data of 70. Press the confirmation key, electronic CAM 05 ON Angle came along three digital tube (Line 2, The former three Nixie tube) stop flashing, data is saved. At the same time, the electronic CAM 05 OFF Angle (line 2 after three digital tube), into the modified electronic CAM Angle 05 OFF mode.
6		Apres increase or decrease keys, changet the data of 80. Press the confirmation key, electronic CAM 05 OFF Angle came along three digital tube (Line 2, The former three Nixie tube) stop flashing, data is saved.

The above is the electronic CAM 05 ON Angle change from 60 to 70, OFF Angle operation process of updates from 70 to 80. To modify the parameters again, can repeat steps 3 to 9.

5-3、 Oil temperature adjustment

	<p>The compressor of oil cooler is built-in, so the environmental temperature and oil temperature set point has certain limitations. Please use it in the range as following picture shows, it must be stopped if out of range.</p>
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Set oil heating/cooler temperature

surrounding	Set temperature for preheater	Set temperature for cooler
Room temperature at constant	The temperature when start preheating -10°C	The temperature when start preheating +5°C
Room temperature range 5~10°C	The temperature when start preheating -20°C	The temperature when start preheating +10°C
Room temperature change is more than 10 °C	The expected highest room temperature in the day-10 °C	Same as the expected highest room temperature in the day

Please preheat before work 2 hours.

5.4 Air pressure balance adjustment

Pneumatic balancers is the equipment used to balance the slider and the mold when adjust die height, to smooth the adjustment operation.


Move the adjustment slider switch to "manual" or automatic, inflatable air pressure balancer automatically. Please adjust the pressure according to the balancer mold quality.

There is voltage regulator in the plate of left rear pillar, adjust pressure with the voltage regulator according to the upper mold quality.


There is a lock on the adjustment handle, first loosen the lock, adjust and then tighten.

6. Mold replacement work

6.1 Mold installation

	<p>Install or unload the mold operation is set operation select switch to "inching", press "Press operation" button to inching operation.</p> <p>When it must work in the range of mold area, must press the "emergency stop" button before operation, then operate in the range of mold area.</p>
-----------------------------------------------------------------------------------	----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

- ①Inching operation to stop sliding block in the top dead center.
- ②Adjust die height displayed to greater than the height of the mold apparatus 10mm by slider adjustment. Adjustment method, refer to "Operation section, die height adjustment."
- ③Press "motor stop" button, then press the "emergency stop" button. Make sure the flywheel is stopped.
- ④Mold into the mold area, placed in the installation location.
- ⑤Stop the slider in the bottom dead center with micro inching or inching operation.

	<p>Slider adjustment device does not have the capacity to press the under mold. If press the under mold by adjusting the slider, it will lead to motor fever or the slider for adjusting damage.</p>
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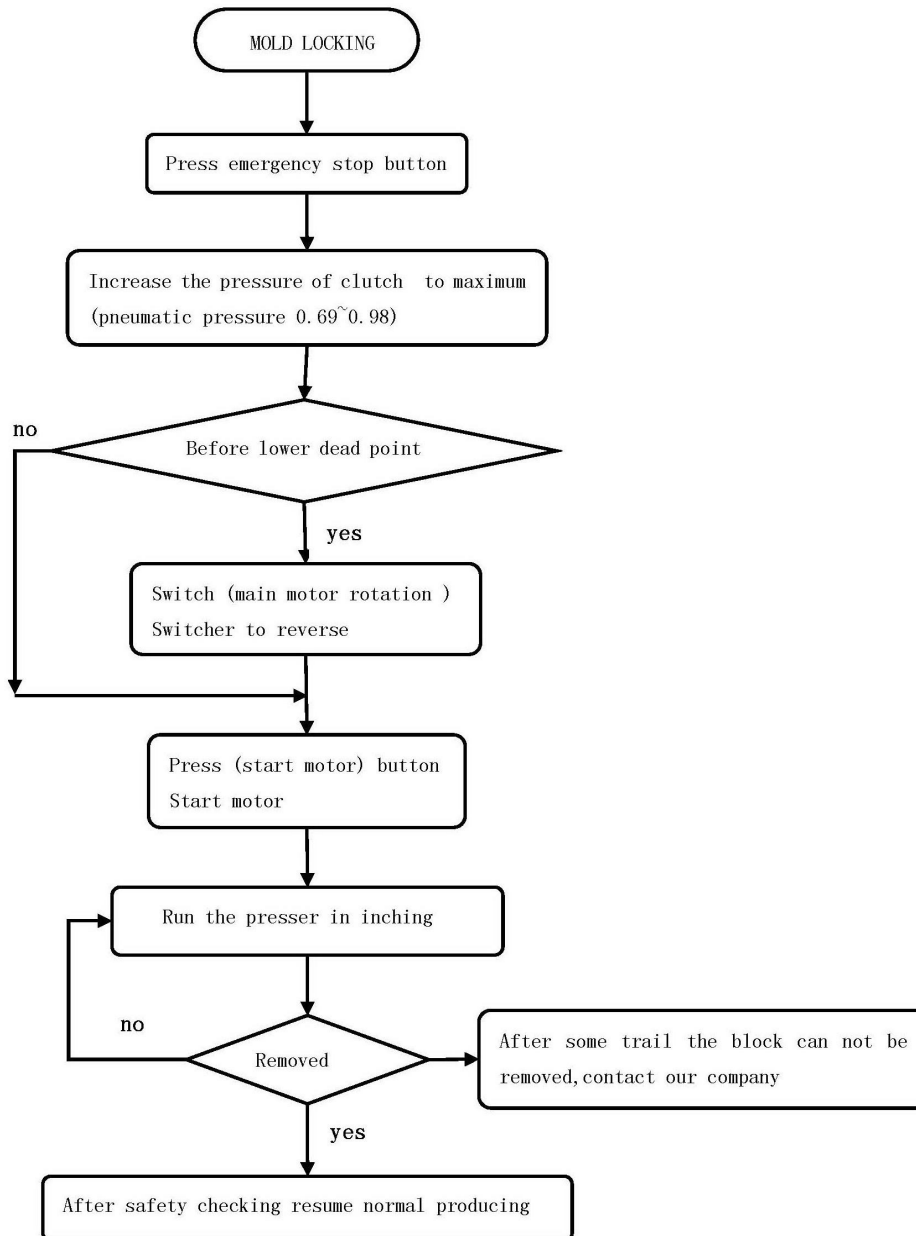
- ⑥For the slider to adjust operation, adjust separation between the underside of slider and the above side of mold to 1 ~ 2 mm.
- ⑦Press the "motor stop" button, and then press the "emergency stop" button. Make sure the flywheel is stopped.
- ⑧Stick the under mold on the pad, upper mold on the slider.
- ⑨With micro inching or inching operation, operate the slider 2 ~ 3 schedule, confirm no abnormal.
- ⑩After the mold work finished, with inching operation to try to play, please move the slider to upper dead center, mold micro adjustments.

6.2 Discharge the mold


- ①Stop the slider in the dead center with inching operation.
- ②Press "the motor stop" button, and then press the "emergency stop" button. Make sure the flywheel is stopped.
- ③Take out the processing materials and finished products in the mold.
- ④Adjust mold height displayed to greater than the height of the mold apparatus 1~2mm by slider adjustment.
- ⑤Inching operation to stop sliding block in the bottom dead center.
- ⑥Press "motor stop" button, and then press the "emergency stop" button. Make sure the flywheel is stopped.
- ⑦Remove bolts fixed mold.
- ⑧Stop the slider in the upper dead center with inching operation
- ⑨Press the "motor stop" button, and then press the "emergency stop" button. Make sure the flywheel is stopped.
- ⑩Pull out the mold from the mold area.

7. Remove the blocked mold

7-1、 Automatic remove the blocked mold



7-2、 Manual remove the blocked mold

 <p>warning</p>	<p>Manual rotation must be operated when the motor stops. Please confirm again before operation.</p>
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(1) 、 Open the flywheel cover;



(2) 、 Inserts of clamping mold release pin (in the data box of electric control box);



(3) 、 Electric control box operation button "manual rotary switch" to rotate ON;



(4) 、 Take the flywheel rotating rod out of the electric control box, insert the flywheel circular hole and rotate the flywheel (rotating in the opposite direction of the normal operation of the flywheel) until the clamping pin hits the clutch block;



- (5) 、 After the flywheel rotover recovers at a certain Angle, pull the clamping die release pin in the flywheel to collide with the block in the clutch;
- (6) 、 When the clamping die release pin is about to hit the clutch block, press the "clamping die release button" to pull the clutch and hit the clutch block; (Two people cooperate)



Repeat operation (5) and (6) until the clamping mold is released.

After the clamping mold is released, pull out two pieces of clamping mold release pin and put them into the specified position together with the flywheel rotating rod.

8、 Other Function

8-1、 Spray wind device

Spray wind device is an optional device for this machine.

Electromagnetic valve ON/OFF time setting, please refer to "5-2, electronic CAM Angle controller adjustment".

Switch to shift the way of spraying wind is in the picture of “control set” on touch screen.



Control mode	Action
Off	Solenoid valve is closed, the air is cut off. Set the switch to "off" when not use the spray wind device.
Interruption	According to the setting of electronic CAM Angle controller, when the Angle of "ON" is suction state, air jet; "OFF" is closed state, turn off the air. Continuous operation, this action again and again.
Continuous	Solenoid valve for the suction state, uninterrupted air jet.

8-2、 Motor reversing device

It can be used when the mold is blocked.

Turn the "main motor forward/reverse" switch to "reverse", motor startup when press the "motor start" button. Loosen the button after reach continuous operation speed.

Turn the "operation select" switch to "inching", the slider to be reversed.

8-3、 Full stop loop

Turn the "full stops ON/OFF" switch to "ON" when the Press continuous operation, Press will stop when an exception occurs, operating power supply will be shut down at the same time.

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 1.2 Check before the beginning of the operationD-1

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 2.2 Sliding block guide rail gap adjustment.....D-6

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1. Check and maintenance

1.1 The items of check and maintenance

- 1) Daily check and maintenance: about the items of daily check and maintenance, please refer to the section of "operating part, Ready to operate, daily check “ and then implement.
- 2) Regular check and maintenance: this part has recorded the items of check and maintenance about the machine how to keep long-term performance in good condition, please follow the instructions and implement.
(Customer must implement this check and maintenance)
 - a. Weekly check: mainly about the check and maintenance of pneumatic circuit and lubrication circuit.
 - b. Monthly check: mainly about the check and maintenance of gas oil pressure machine, send drive part and the electrical equipment.
 - c. Annual check: according to the labor safety and health rules, implement specific check on its own.
- 3) The check of the outside of the guarantee period
The guarantee period of the machine is one year.
In the condition of must dismount, dismount the check assignments and consumption parts、 oil kind of replacement as paid. According to the result of check, if the parts must be replaced, it should be carried out by the customer's operation director, or contact our service department.


Consumption parts list (representative)

No.	Type	Used part	No.	Type	Used part
1	V belt	flywheel	8	pressure gage	Pneumatic, hydraulic circuits
2	Synchronous belt	Feeding connection	9	Loop filter	The two side of the lubricating oil pump
3	o-ring	Clutch, hydraulic parts	10	Pressure regulating valve	Pneumatic, hydraulic circuits
4	brake block	clutch	11	discharge valve	Pneumatic circuit
5	Supporting ring back	Slider locking	12	Coupling	Encoder
6	Ball seat	Guide pillar	13	Indicator light	Operation board
7	Bearing	Crankshaft, motor	14	Relay	Electric circuit
			15	Backup battery	Program control circuit

1.2 Check before starting work


When starting work every day, or every eight hours after operation, daily check must be conducted (see "operation"). Please make the result of check before starting according to "daily check form".


1.3 Weekly check

	<p>The "motor stop" button must be pressed before check, make sure the flywheel has stopped before implementation.</p>
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Check item	Content to confirm	Treatment
1) Oil mass of Pressure lubricator (refer to "Maintain section, the types of oil and oil mass")	The oil level must be in the specified range of oil level gauge of oil cup.	When insufficient, refueling to the scale of upper limit.
2) Lubricating oil circuit (refer to "Maintain section, oil supply system diagram")	No oil leaking in the Press ontology and the surrounding. Tubing connection equipment with no loose. There is no high temperature object which is more than 50 °C around the plastic tubing.	Tighten the piping connection parts. Rule out high temperature causes.
3) Pressure switch of pneumatic circuit	Slowly reduce air pressure using regulator, when the information display shows "clutch air pressure is too low," confirm the pressure gauge pointer is below the normal value. (after confirmation, back pneumatic pressure to the specified range of pressure gauge, then reset the display)	Adjust to the set pressure. (refer to "information section, pressure switch") 0.35MPa
4) Pressure switch of lubricating oil circuit	Slowly reduce oil pressure using the flood valve of the lube oil pump, when the information display shows "oil shortage", confirm the pressure gauge pointer is below the normal value. (after confirmation, back oil pressure to the specified range of pressure gauge, then reset the display)	Adjust to the set pressure. (refer to "information section, lubricating oil pump") 2MPa
5) The pressure switch used by slider locking mechanism	Loosen the pressure adjusting handle loading on the pressure device. First, turn the die height adjustment switch to "manual", make the locking pressure drop to zero. Then the information display will show "slider locking oil pressure is too low". Then press the reset button cannot return to normal display. Then turn the switch to "off", higher the pressure slowly to the set pressure using the adjusting handle of regulator in locked state. Then press the reset button again, the display will return to normal display.	Adjust to the set pressure. (refer to information section, pressure device") 18.5MPa(Best-70 need 20Mpa)

1.4 Monthly check

	<p>When check and maintenance, in addition to make sure the clutch state of ON, OFF, the key of the power supply operation must be pulled out.</p>
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	<p>Please replace the oil for the first time when buying the machine after one month. Later, it can be replaced once a year, in addition to the oil dirty, sediment, mixed in water etc.,</p>
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Check item	Content to confirm	Treatment
1) lubricating oil	The oil is not dirty. (within 1 year)	Replace the lubricating oil.
2) The oil pump suction filter	The mesh of strainer in the oil tank without blocking	Clean strainer or replace mesh.
3) Oil filter (refer to "information section, oil filter")	After pressing the motor start button, the inductor upper oil filter turn "green" color. When removing the filter, there is no iron powder adhered to magnetic rod.	When it turns "Yellow" color, wash the internal filter. Please replace when it turns "red" color. Remove the iron powder.
4) Lubricating oil pressure	After confirm item 1) ~ (3), the pressure gauge pointer within a specified range.	Idle the Press 3 minutes, then confirm again.
5) Hydraulic circuits (refer to "information section, pressure unit")	The slider to adjust the locking mechanism part without oil leaking. The joint of Q.D.C system without oil leaking. Pressurize + 1.5 MPa on the basis of standard locking hydraulic, it will overflow.	Tighten the pipe joint, please exchange when damaged. Please exchange when bad.
6) Pressure meter (refer to "maintenance section, pressure system diagram")	Operate the regulator, make sure the movement of pointer is normal.	Please exchange when bad.
7) The action of the clutch brake (refer to "clutch specification")	The interval within 3.0 mm.	When the interval is too large, please exchange.
8) V belt (refer to "maintenance section, adjustment method of V belt")	Whether the tension is appropriate	When it is too low, please tension again.
9) Felt used to clean material	No dirty, no deformation.	Please clean or replace.
10) The Press ontology	No loose bolt.	Please tighten again.

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11) The wire connection parts	Make sure the main power is off (OFF). Small bolt of terminal without losing.	Please tighten again.
12) Electrical box	Without oil, water, metal as attached.	Please clean up.
13) The insulation resistance of power circuit	More than 2 MΩ	When it is under 2 MΩ, please contact our service department.
14) Limit switch, micro switch	Roller without wastage, deformation.	When it is abrasion, deformation significantly, please replace.
15) Feeding drive and rotating parts	Check if the rotating parts are properly lubricated with grease (grease lubrication interval: once every 6 months)	Inject about 10CC of No. 3 grease with a pressure lower than 1000KPA into the grease nipple. Refer to the grease point label for the location.

1.5 Annual check

	When check and maintenance, in addition to make sure the clutch state of ON, OFF, the key of the power supply operation must also be pulled out.
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Specific to check	According to the labor safety and health rules for specific to check.	Take necessary measures according to the results of check.
Static accuracy check	Implement according to the precision check specifications of mechanical Press (JISB6402).	When can not meet the accuracy requirement, please contact our service department.
Check of the connection part	Bolt for immobilizing or adjusting motor without losing. Bolt and nut of all kinds of cover plate without losing.	Please tighten again.

2. Abnormalities in processing

2.1 The structure of the clutch brake and fault diagnosis

1) Structure (refer to clutch specification)

2) Action principle

When the clutch brake works, it will use the clutch of air pressure disc clutch and the brake of spring pressure on the brake disc combination as one of the institutions.


Compressed air go into the gas chamber by the rotary seal in the end of shaft to make the piston plate work, press the clutch facings to hang up the clutch when release the brake lining.

When discharge the gas, piston plate pressed by spring will be reset to make the clutch release, and hang up the brake again at the same time. It is to say, the structure type of clutch is gas pressure, brake is hang up by spring pressure.

Piston plate movement range is 2 mm, but as clutch facing and brake lining wear and tear, movement range will gradually increase. Big movement range will degrade the performance of clutch brake. When the movement range reach to 3 mm, the brake lining or clutch facing need to be replaced. Then please contact our service department.

Is to protect seal not fixation, shall be maintained by the normal work of the oil lubricator.

3) Troubleshooting

	<p>When check and maintenance, in addition to make sure the clutch state of ON, OFF, the key of the power supply operation must be pulled out.</p>
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If you have the following failure phenomenon appears, please process as following.

- a. Hard to release the clutch or brake.
- b. The clutch or brake empty slide.
- c. The clutch or brake heating.

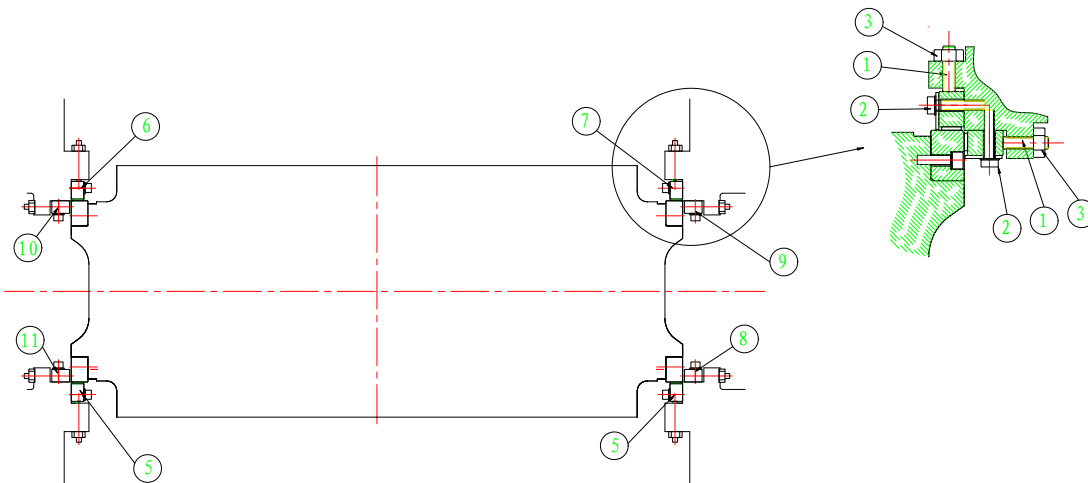
Confirm the items	Application and disposal
The clutch with pressure without falling	Visual confirmation pressure gauge, the use of pressure reducing valve. Check and adjust the amount of air usage of the plant air supply line.
whether Clutch air has leakage	Confirm the outside part of the clutch brake of air leakage, then tighten the inlet to check whether the reduced pressure. Confirmation of leak, please get in touch with our company
Whether the liner wear	Use meter to check the clearance gap between the piston disc brake pads and clutch pads and between. When the gap is more than 3.0mm, please get in touch with the company..
Whether the piston plate movement is smooth	Repeated clutch on-off operation, if discover the piston plate movement is not smooth, please get in touch with our company.
Whether brake disc movement is smooth	After hang clutch with solenoid valve, then determine whether the brake pad and the brake pin work smoothly. If it is not smooth, please

	get in touch with our company.
If there is a oil adhesion liner surface	Visual confirmed from the top or bottom of the clutch brake. When confirm the attachment, use wash liquid to wash them.

2.2 Adjustment of sliding block guide rail gap (Super 60/80)

	<p>Inspection and maintenance, In addition to make sure the clutch ON • OFF state, must also be pulled out the key of the operational power supply.</p>
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The native way of sliding block guide using the eight side of needle roller guide rail, when leave factory prepressing has been properly adjusted for zero clearance status. In normal use conditions, do not need to adjust generally. In case produced a gap, making the slider precision declining, please adjust again as the following method.




method of adjustment

- 1) Screw loose eight sliding block guide rail clamp block adjustment bolt and the retaining bolt.
- 2) Place the cylinder gauge fixed on the bearing plate.
- 3) Below the slider device two scale meter which in touch with the right side and back side of cylinder meter.
- 4) Turn the handwheel manually several times to will scale to zero.
- 5) Using the central adjusting bolt first, then the before and after guide rail clamp block will be adjusted to scale meter scale 0.01 mm.
- 6) Using phase wee adjusting bolt will guide rail clamp block transferred back to the original dial zero.
- 7) Similarly, left-right direction of the guide rail clamp block scale to 0.01 mm.

- 8) Will guide rail back to dial zero.
- 9) This time, and then gently bolting each guide rail clamp block retaining bolt.
- 10) Will the rest of the up and down adjustment bolts hold onto the guide rail clamp block.
- 11) Tighten the fixed bolt and lock nut.
- 12) Confirm the scale of scale to zero.

Please adjust according to the above procedure. Please confirm the bolts slide rail clamp device on the block loose.

2.3 adjustment method of V belt

 <p>warning</p>	<p>When inspection or maintenance, in addition to make sure the clutch ON, OFF state, must also be pulled out the key of the power supply operation.</p>
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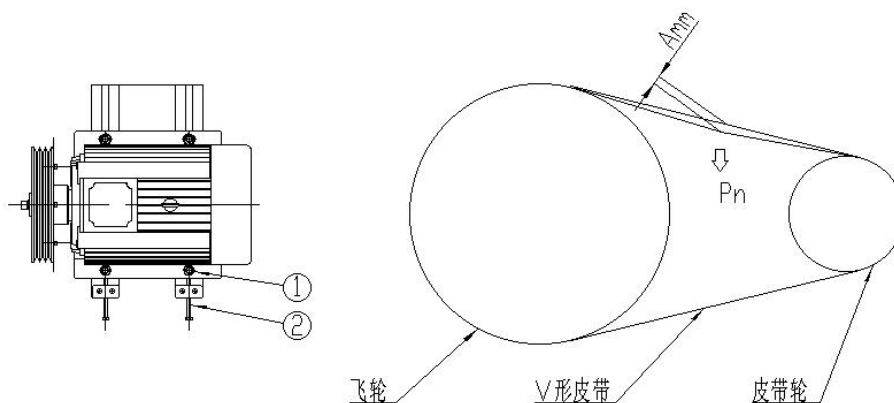
Relax four lock nut of the fixed motor base plate.

Adjust the four tension bolt to tension V belt.


V belt for proper tension, pressure and P in the middle of the V belt, about A (mm) of the elastic is appropriate.

After the adjustment, confirm the parallelism of the belt, bolt lock nut.

Type of machines	Super-40/60/80
Pressure P N (kgf)	147 (15)
Amount of elastic A mm	40



3. The types of used oil and oil mass

	<p>For pressure unit, mechanical oil and spindle oil must not be used . The record table of lubricating oil, contain reality of the oil which the company didn't use .</p>
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Type of machines	Lubricating oil of the ontology	Locking pump
Super-40	60Liter	3Liter
Super-60	85Liter	3Liter
Super-80	140Liter	3Liter

Manufacturers of lubricating oil	Brand lubricating oil	
	The ontology of lubricating oil	Locking pump
Great wall	L-HM68	L-HM32
MOBIL	DTE 26	DTE24
COSMO	COSMO Ulpas 68	Hydro AW32
SHELL	Shell Tellus Oil 68	Tellus Oil 32
ESSO	Telesso 68	Nuto H32 Nuto HP32

5. Oil supply system diagram

