INSTRUCTION

NC Servo feeder NCR serial (200-300)

NCF (200-400)

WARNING

Please read this instruction carefully before operation.
It may cause fatal injury if operating improperly.

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www.decoilerfeeder.com

Attention

The instruction is based on the current information that can be obtained.

The illustration and description of the instructions are based on the specifications of the left to right feed. If it is the right - to - left feed specification, it is symmetrical with this specification.

Standing in front of the operating table to judge the front, the reverse, and the left and right by looking at the state of the front.

CONTENTS

4.3.Trouble shooting

4.4.Pneumatic graphic

5.Electrical diagram

1. Yaskawa electrical diagram
2. Mitsubishi electrical diagram

Preface

Thank you for purchasing our feeder machine.

In this instruction, there are basic notes, operation and maintenance essentials for the safe and effective use of the product. In order to prevent accidents, we suggest you read this instruction carefully and understand fully before installation and operation. It will provide you a complete set of operation and maintenance methods, only the correct operation and maintenance, can make the machine play the highest efficiency

Warning

Be sure to read this instruction before using the feeder, fully understand the content related to operation and maintenance. Do not operate the servo feeder before you read and fully understand the instruction.

The content of safety is illustrated in the safety article. Please read it carefully and fully understand it

please read a few more times until you can use the feeder correctly.

The instructions should be kept around and used carefully.

When transferring the feeder, please be sure to attach this instruction.

Safety

1.1 Safety precautions

Most accidents are caused by careless operation in running, inspection, maintenance and repair. There is also no basic safety precautions, and the foreknowledge of dangerous carelessness will also lead to accidents.

Wrong operation and improper inspection of maintenance will cause severe injury. Please read this instruction carefully.

The warning and reminders of security are clearly stated on the instructions and warning labels. Ignore these warnings and reminding to cause fatal injuries, please pay more attention.

Managers and engineers should read the instruction carefully before they operate or repair the machine.

There are different safety labels and warning signs on the machine, so that the operators can easily understand what matters must be followed.

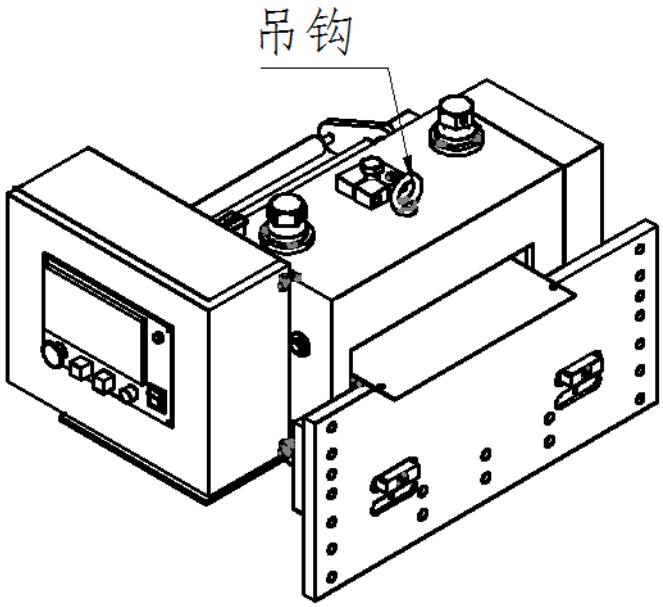
We can not predict the risk of operation and maintenance in any environment.

It’s user’s responsible for failure to carry out operation and maintenance in accordance with the contents of the instruction.

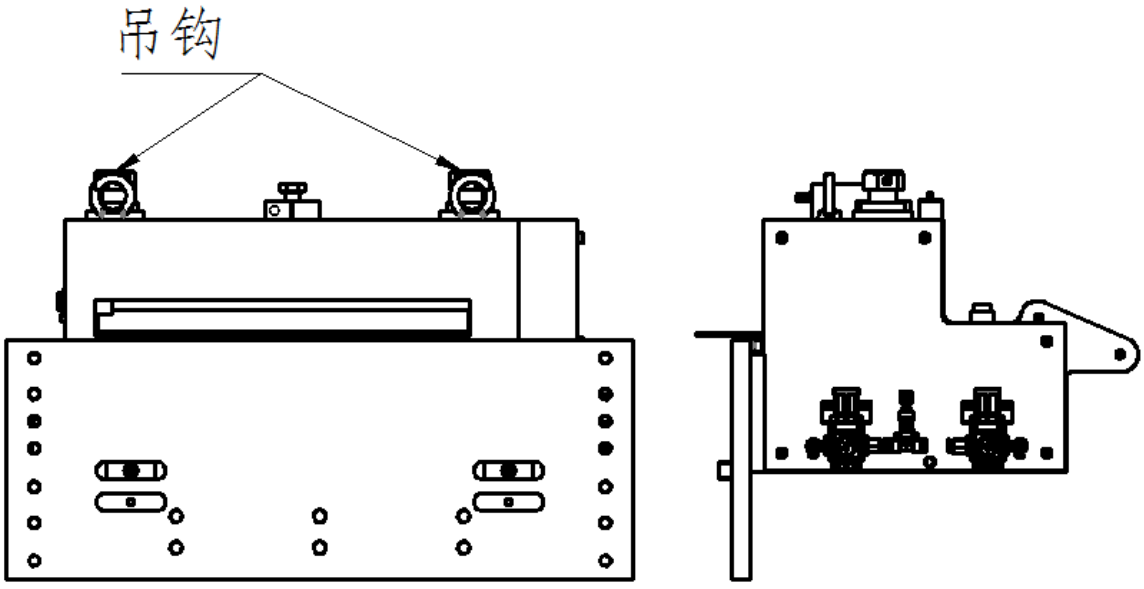
1.2 Handling attention

The lift rope must be strong enough, otherwise the rope can be cut off and the device will fall, that will cause fatal injury.

Eye bolt position: NCR serial NCF serial(200-400)



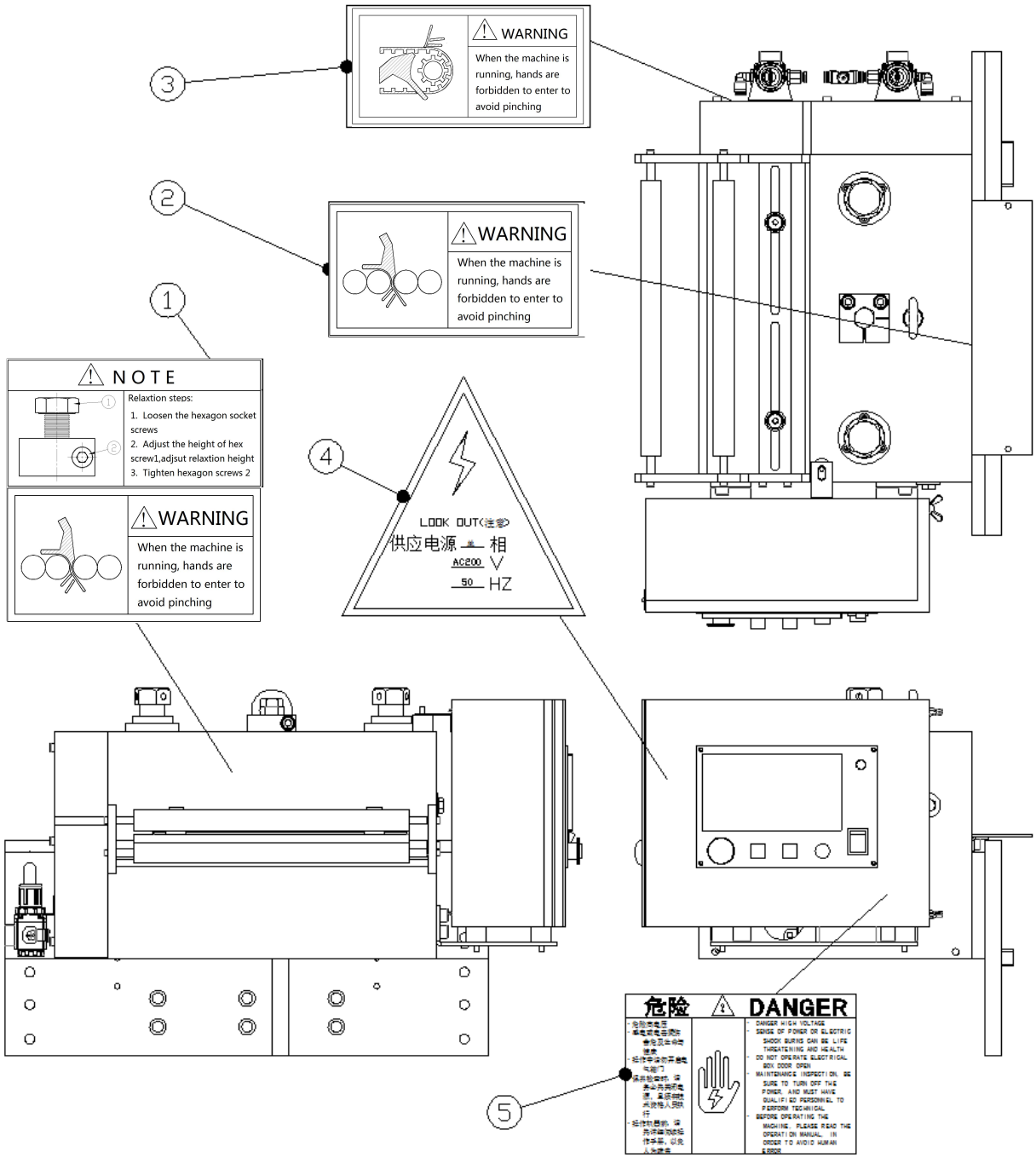
NCF serial（500~600）NCFA serial（500~1300）



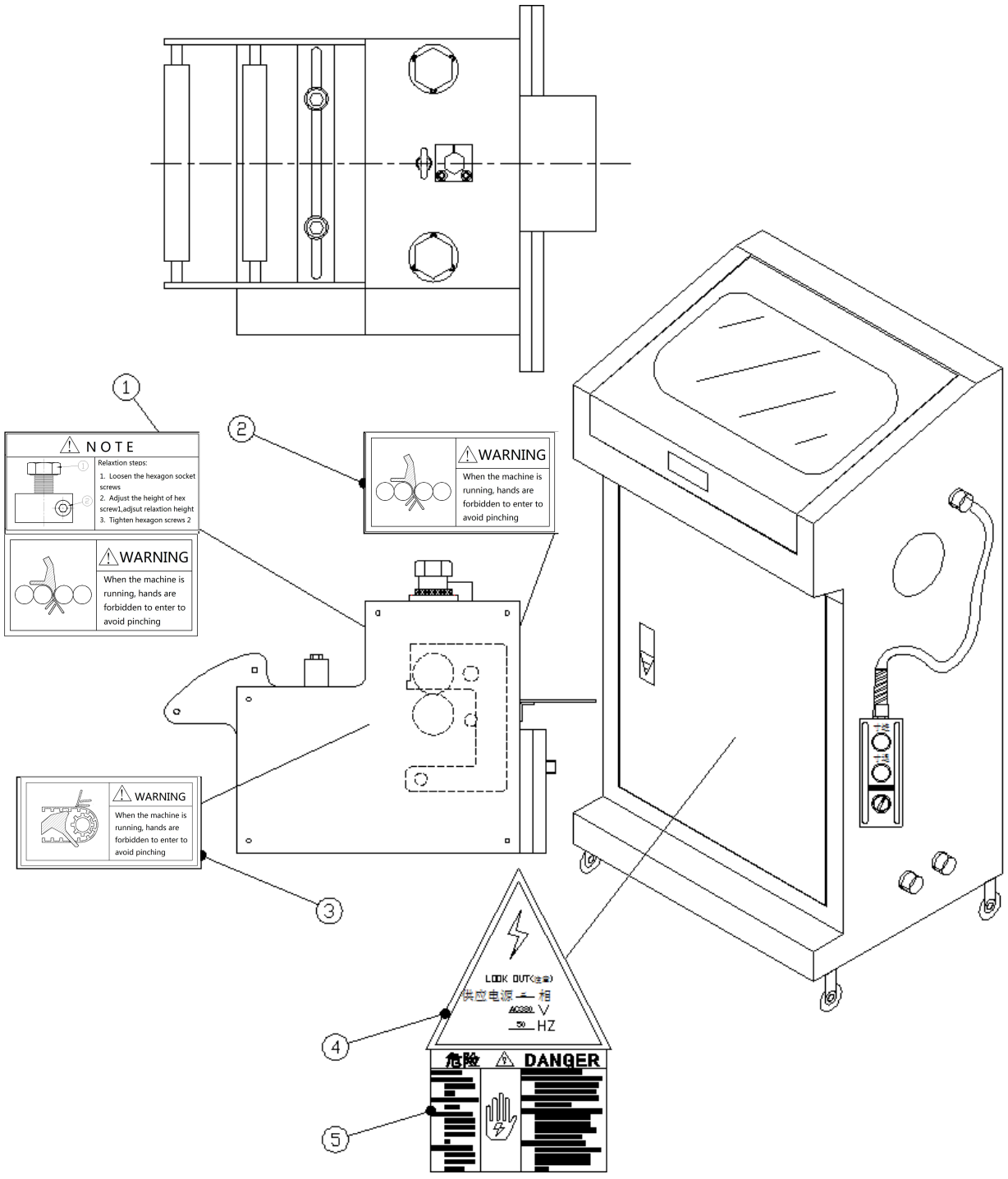
1.3 Warning label

Please make sure that you understand all the warning labels attached to the machine. If dirty, clean it with rag and soapy water, but do not use organic solvents or gasoline.

【NCR feeder】

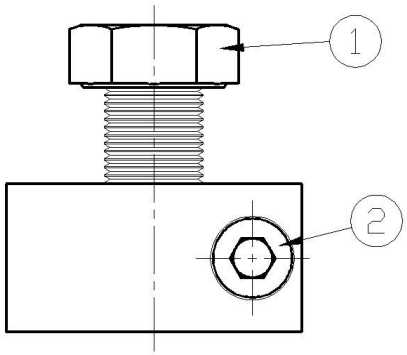


【NCF/NCFA feeder】



【Attention】①

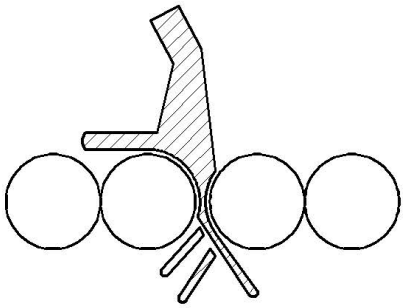
NOTE



Relaxtion steps:

1. Loosen the hexagon socket screws
2. Adjust the height of hex screw1,adjsut relaxtion height
3. Tighten hexagon screws 2

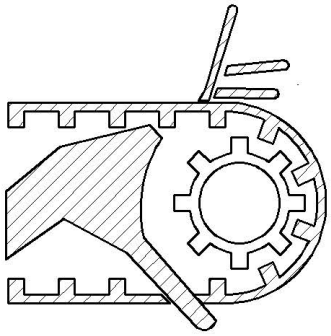
【Warning label】②



WARNING

When the machine is running, hands are forbidden to enter to avoid pinching

【Warning label】③

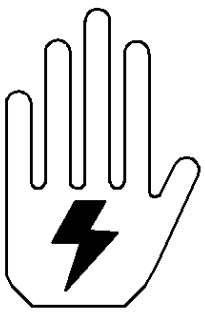


WARNING

When the machine is running, hands are forbidden to enter to avoid pinching

【Dangerous】④

【危險標識】⑤

危险 ⚠ DANGER		
·危险高电压 ·感电或电击烫伤会危及生命与健康 ·操作中请勿开启电气箱门 ·保养检查时，请务必先关闭电源，且须有技术资格人员执行 ·操作机器前，请先详细阅读操作手册，以免人为疏失		· DANGER HIGH VOLTAGE · SENSE OF POWER OR ELECTRIC SHOCK BURNS CAN BE LIFE THREATENING AND HEALTH · DO NOT OPERATE ELECTRICAL BOX DOOR OPEN · MAINTENANCE INSPECTION, BE SURE TO TURN OFF THE POWER, AND MUST HAVE QUALIFIED PERSONNEL TO PERFORM TECHNICAL · BEFORE OPERATING THE MACHINE, PLEASE READ THE OPERATION MANUAL, IN ORDER TO AVOID HUMAN ERROR

1.4.Attention when operation

1.4.1. Attention before operation

1. Prepare work plan, make sure the workers know all the signals, attentions and warning labels.
2. Set up safety fence in accordance with the necessity, forbidden to enter the safety fence. Do not climb or put your body into the fence. Do not put any sundries in the fence
3. Keep the workplaces clean and arranged. Do not place waste or tools on the ground.
4. When oil drop on the ground, it will be easy to slip and very dangerous, should wipe it off immediately.
5. Carry out routine maintenance. Running with problem can lead to major disaster and fatal injury.
6. When connecting the power and opening the air valve, please confirm that there are no worker around the machine.
7. Do not run machine during maintenance time. Don’t run machine with a no-operation sign until the person who put on the sign remove it.
8. Please wear safe clothes to work, it’s dangerous to work with loose clothe, scarf, bracelet, because they can be drawn into machine and cause fatal injury.
9. Please wear protective equipment. It is dangerous to operate without protective equipment. Please wear safety caps, protective glasses, dustproof masks, working gloves and so on, according to the needs of the operation.
10. Please check the safety device. If the safety device is abnormal, please repair it immediately.
11. Make sure there is no tools or person blocking the feeder direction before operation.
12. Please confirm the air pressure is correct 0.49Mpa (5.0kgf/cm2). If it is not correct, please adjust it.

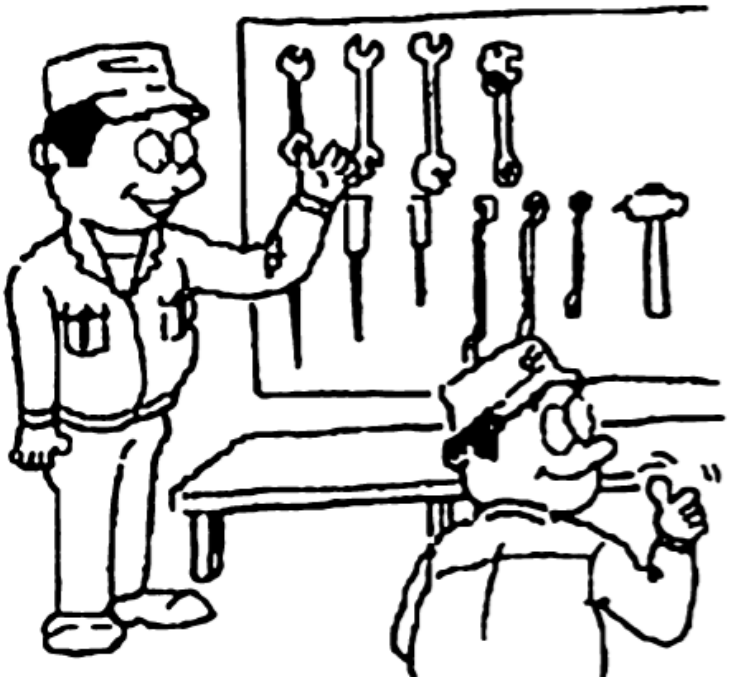
1.4.2. Attention while operation

1. Irrelevant personnel are forbidden to operate.
2. Please do not lean on the machine, do not keep looking around.
3. Do not remove or open the protect cover during operation.
4. Two persons (at the same time) operation is prohibited. Do not use the remote control box to operate while using touch screen to operate at the same time.
5. It is absolutely forbidden to touch the moving parts, moulds and materials of the feeder machine and the punching machine in the operation.
6. In automatic operation, even if the ring buffer of the material is sloshing, do not close to the ring.
7. Do not oil, grease or clean the roller and the movable part during the operation. It is a danger of being drawn into machine.
8. Please stop running immediately and report to director when displaying error code. After repairing, observe a period of time to confirm that there is no abnormal condition.
9. Pay attention to electric shock.

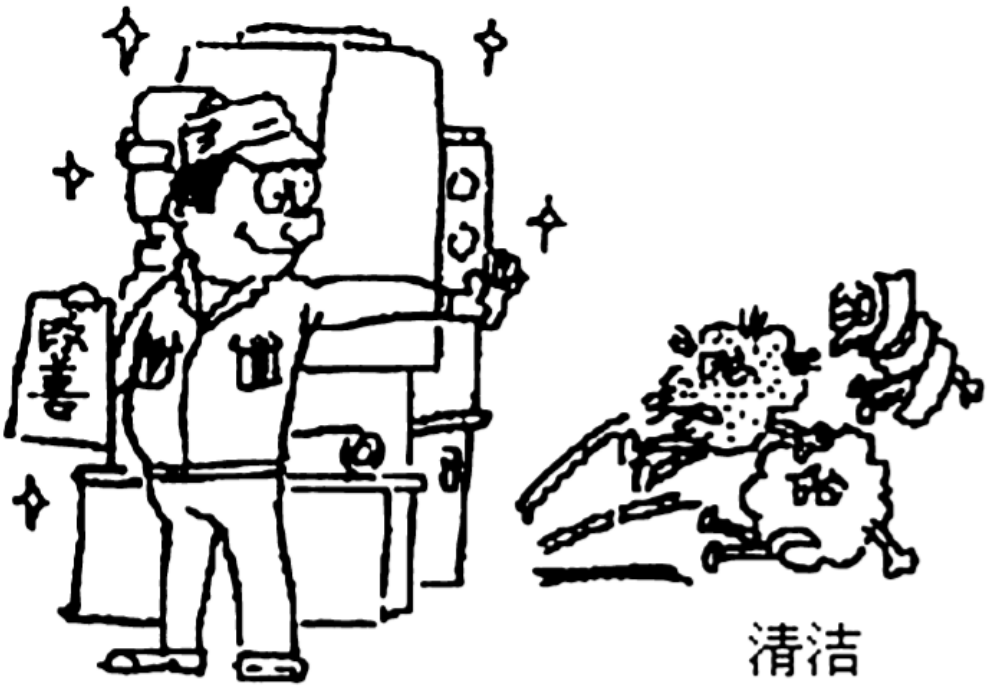
It is possible to trigger an electric shock by using a wet hand and touching the parts of an electrical appliance.

10. Please pay attention to whether there is any abnormal noise (such as crunchy noise due to the lack of lubricating oil, abnormal wear, irregular voice), if there is any abnormal noise, please stop immediately and check it.

1.4.3. Attention after operation



1. After work, please check and clean up and reorganize the tools.
2. Please be careful not to let the water enter the electrical system when cleaning otherwise it will cause trouble. Do not clean it with steam or water.
3. After operation, please turn the power switch to OFF.
4. After work, report to the boss about the problems that occur in the operation so that the next operator or second day operators will be able to work smoothly.



1.5.Attention when maintenance

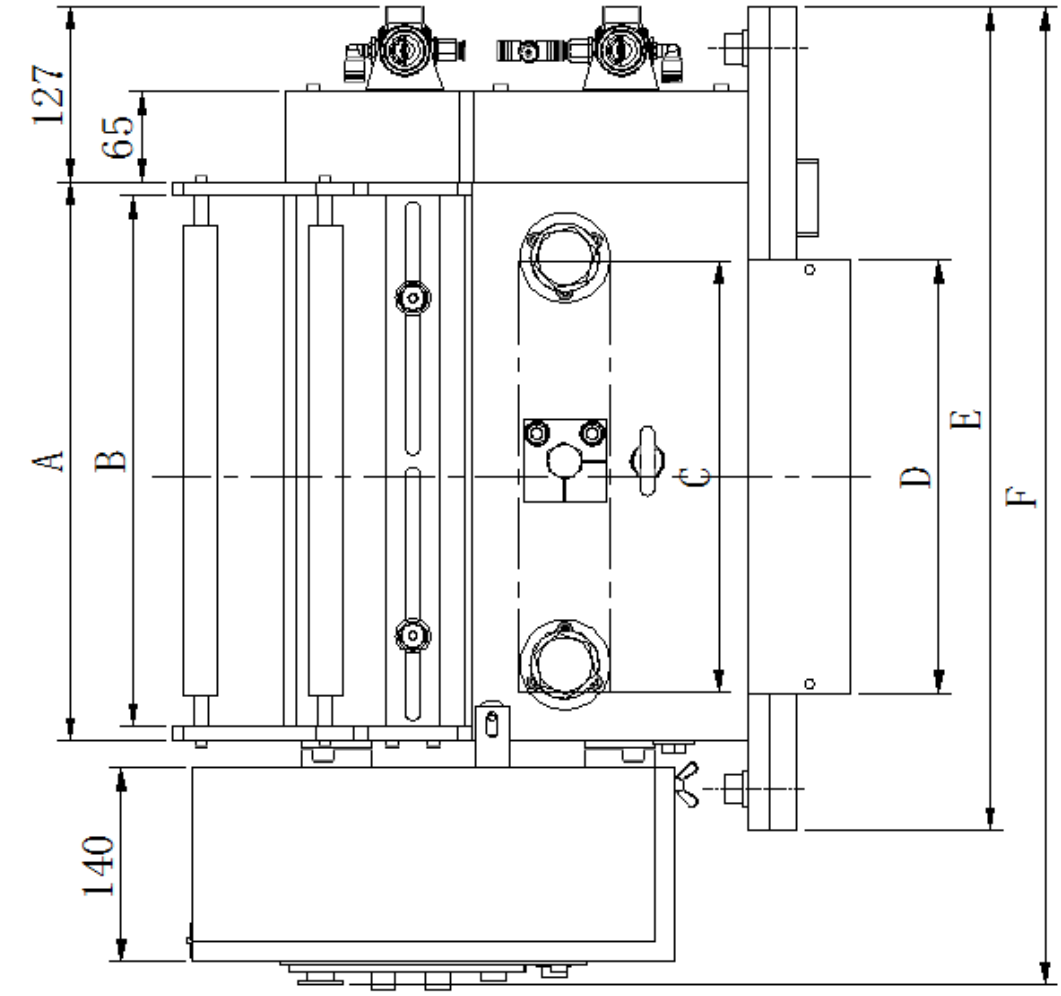
1. Please read the instructions carefully before maintenance. Please wear the necessary protective equipment.
2. Please cut off the power and air, then check and repair. Please make sure that the air pressure in the filter and cylinder is "0" , then repair.
3. In the switch of the operating table and the switch position of the press machine, hang on the warning sign of "check and repair" and "no operation", then repair and maintenance.
4. Please use the right tools, otherwise the machine and parts will be damaged.
5. If the parts of the electrical system are stacked with garbage and other things, it will cause a fire, so it is to be cleared.
6. Do not use the parts that our company has not approved.
7. Please arrange at least two persons, if it need to check during running time, the auxiliary person should be able to stop the machine immediately in a state of emergency.
8. In the running state, it is absolutely forbidden to touch the part of the action. If your body or tools touch to a rotating shaft or roller, which is caught or drawn into, it will cause fatal injury.
9. Please use the grease of a certain viscosity. Don’t mix the different kinds of grease, because the ingredients are different and the performance may be reduced; please use clean grease and not mix the impurities and water.
10. No modification. Please don’t modify the machine and electricity, the modification will not only reduce the security, but also damage the function and reduce the service life.
11. The company is not responsible for the accident and malfunction resulting from the unrecognized modification of the machine.
12. In the case of need to be modified, please consult with the after-sales service department of the company in advance.

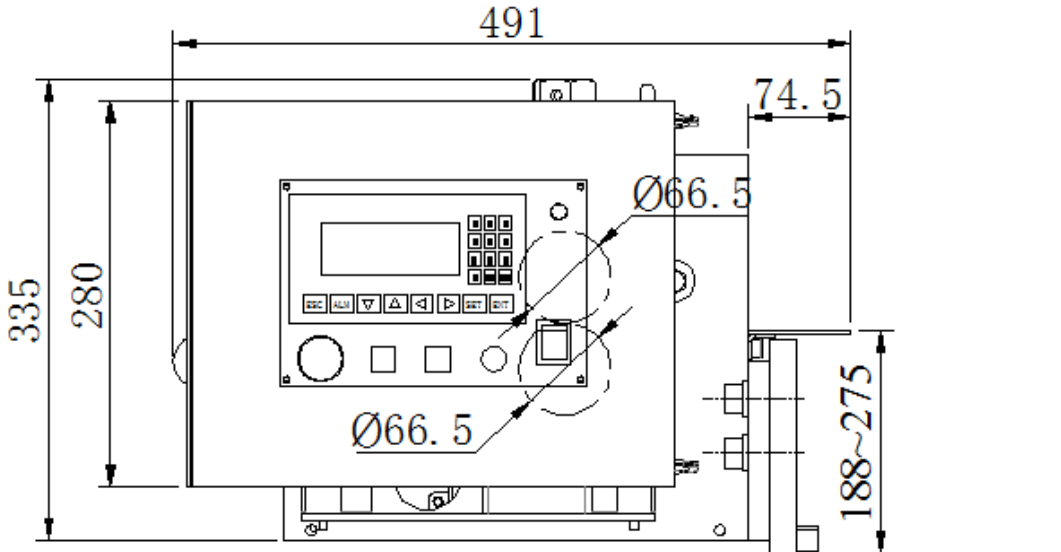
Specification

2.1 NCR serial

Model	NCR-200	NCR-300
Material thickness	0.05~1.6mm/0.1~2.3mm	
Material width	20~200mm	20~300mm
Feed speed	30m/min	
Feed tolerance	±0.1mm（feed length 500mm）	
Feed length	Max.9999.99mm	
Line height	90~170mm /188~275mm（customize）	
Power rate	0.4kW/0.75kW AC servo motor	
Acceleration time	0.2sec	
Roller width	212mm	312mm
Roller diameter	Φ66.5mm	
Press method	Air cylinder + spring	
Release method	Air cylinder	
Limit bar	Keep the material swing	
Outlet board	Stainless steel board support the material（length 75mm）	
Power supply	220V	
Operation voltage	DC24V	
Color	feeder：rice white electric box：sky blue	
Cam limit switch	Two , one for feed, one for release	
Max release time	Max.300spm(length 10mm)	
Optional part	Material testing device、pu roller	

NCR outline drawing



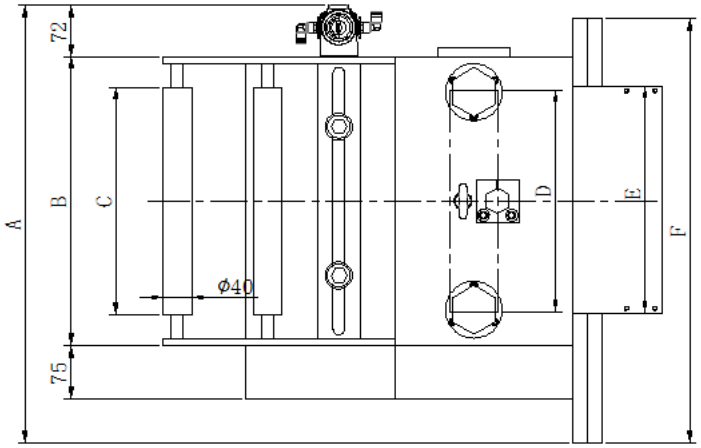


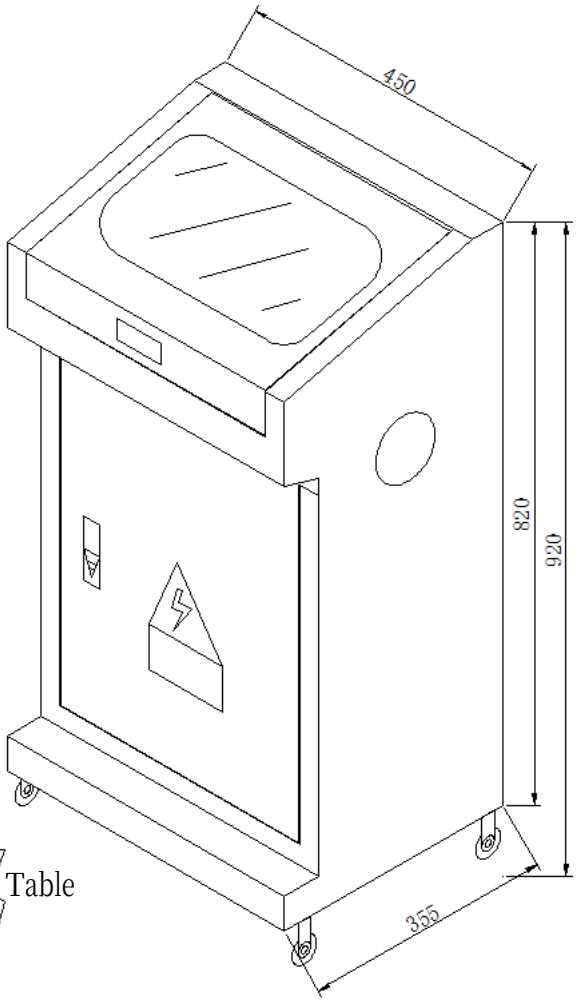
	A	B	C	D	E	F
NCR200	304	284	212	214	496	608
NCR300	404	384	312	314	596	708

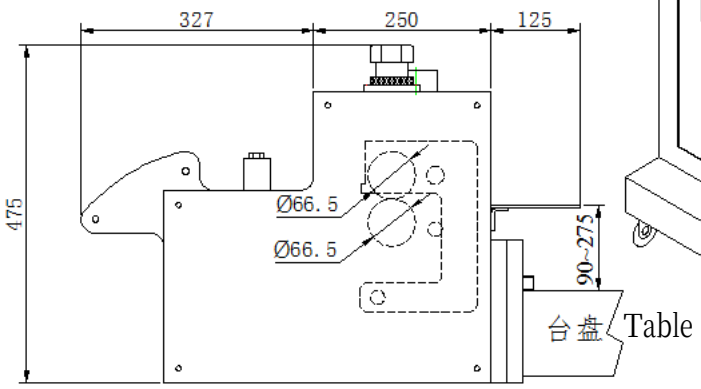
2.2 NCF serial

Model	NCFA-300	NCFA-400	NCFA-500	NCFA-600	NCFA-700	NCFA-800	NCFA-1000
Material thickness	0.2~4.5mm						
Material width	20~300	20~400	20~500	20~600	20~700	20~800	20~1000
Feed speed	30m/min						
Feed tolerance	±0.1mm（feed length 500mm）						
Feed length	Max.9999.99mm						
Line height	150~350mm （customize）						
Power rate	2kW		3kW			4.4 kW	
Acceleration time	0.2Ssec						
Roller width	300mm	400mm	500mm	600mm	700mm	800mm	1000mm
Roller diameter	Φ80mm						
Press method	Air cylinder + spring						
Release method	Air cylinder						
Limit bar	Keep the material swing						
Outlet board	Stainless steel board support the material（length 156 mm）						
Power supply	380V						
Operation voltage	DC24V						
Color	Rice white						
Cam limit switch	Two, one for feed, one for release						
Max release time	Max.180spm(feed length 10mm)						
Optional parts	Material testing device、pu roller						

NCF outline drawing





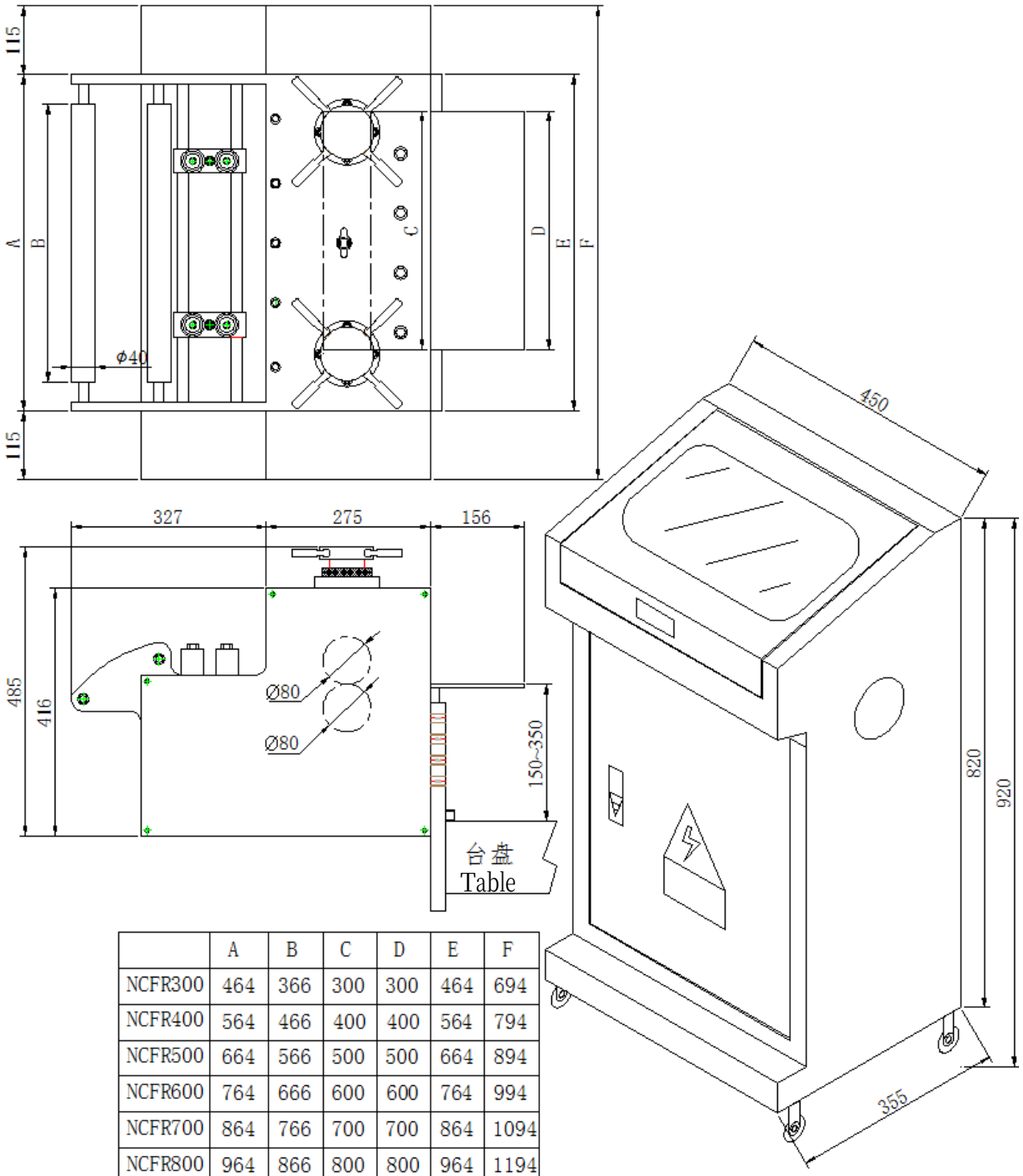


	A	B	C	D	E	F
NCF200	514.5	306	220	212	220	496
NCF300	614.5	406	320	312	320	596
NCF400	714.5	506	420	412	420	696
NCF500	814.5	606	520	512	520	796
NCF600	914.5	706	620	612	620	896

2.3 NCFA serial

Model	NCFA-300	NCFA-400	NCFA-500	NCFA-600	NCFA-700	NCFA-800	NCFA-1000
Material thickness	0.2~4.5mm						
Material width	20~300	20~400	20~500	20~600	20~700	20~800	20~1000
Feed speed	30m/min						
Feed tolerance	±0.1mm（feed length 500mm）						
Feed length	Max.9999.99mm						
Line height	150~350mm （customize）						
Power rate	2kW		3kW			4.4 kW	
Acceleration time	0.2Ssec						
Roller width	300mm	400mm	500mm	600mm	700mm	800mm	1000mm
Roller diameter	Φ80mm						
Press method	Air cylinder + spring						
Release method	Air cylinder						
Limit bar	Keep the material swing						
Outlet board	Stainless steel board support the material（length 156 mm）						
Power supply	380V						
Operation voltage	DC24V						
Color	Rice white						
Cam limit switch	Two, one for feed, one for release						
Max release time	Max.180spm(length 10mm)						
Optional parts	Material testing device、pu roller						

NCFA outline drawing

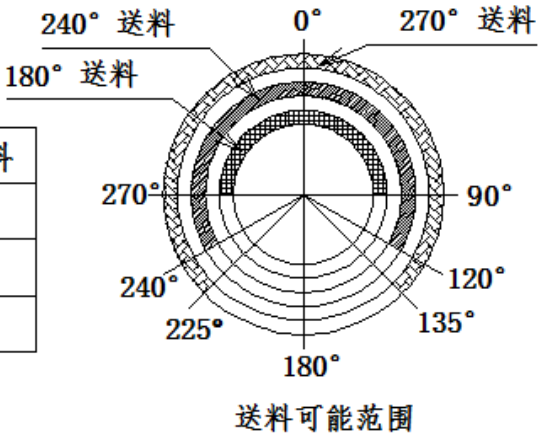


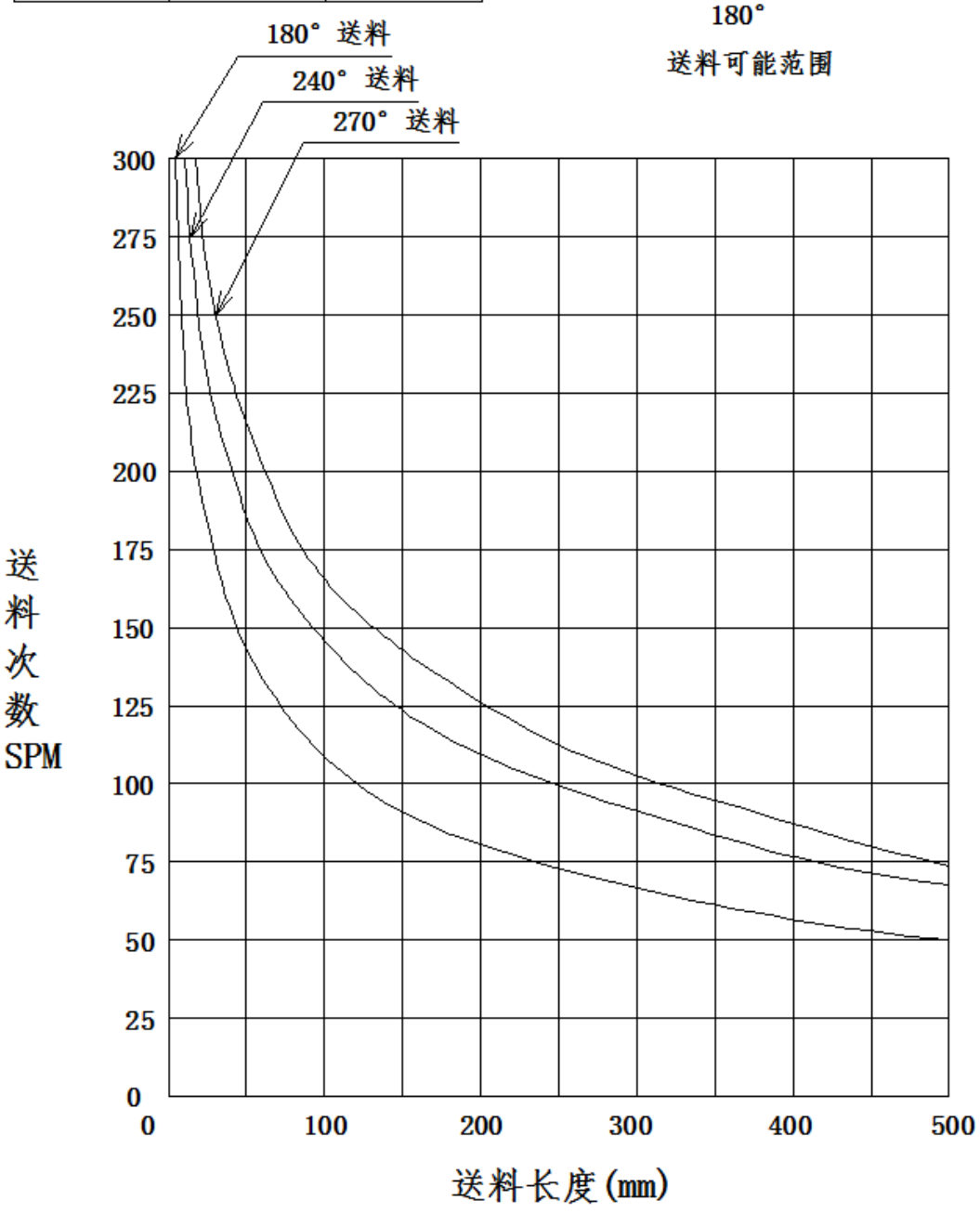
	A	B	C	D	E	F
NCFR300	464	366	300	300	464	694
NCFR400	564	466	400	400	564	794
NCFR500	664	566	500	500	664	894
NCFR600	764	666	600	600	764	994
NCFR700	864	766	700	700	864	1094
NCFR800	964	866	800	800	964	1194
NCFR1000	1064	966	900	900	1064	1294

2.4 Feed curve diagram

【NCR】

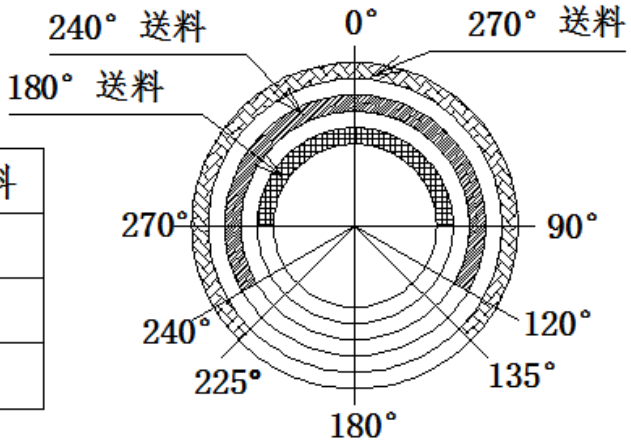
送料角度	开始送料	结束送料
180° 送料	270	90
240° 送料	240	120
270° 送料	225	135



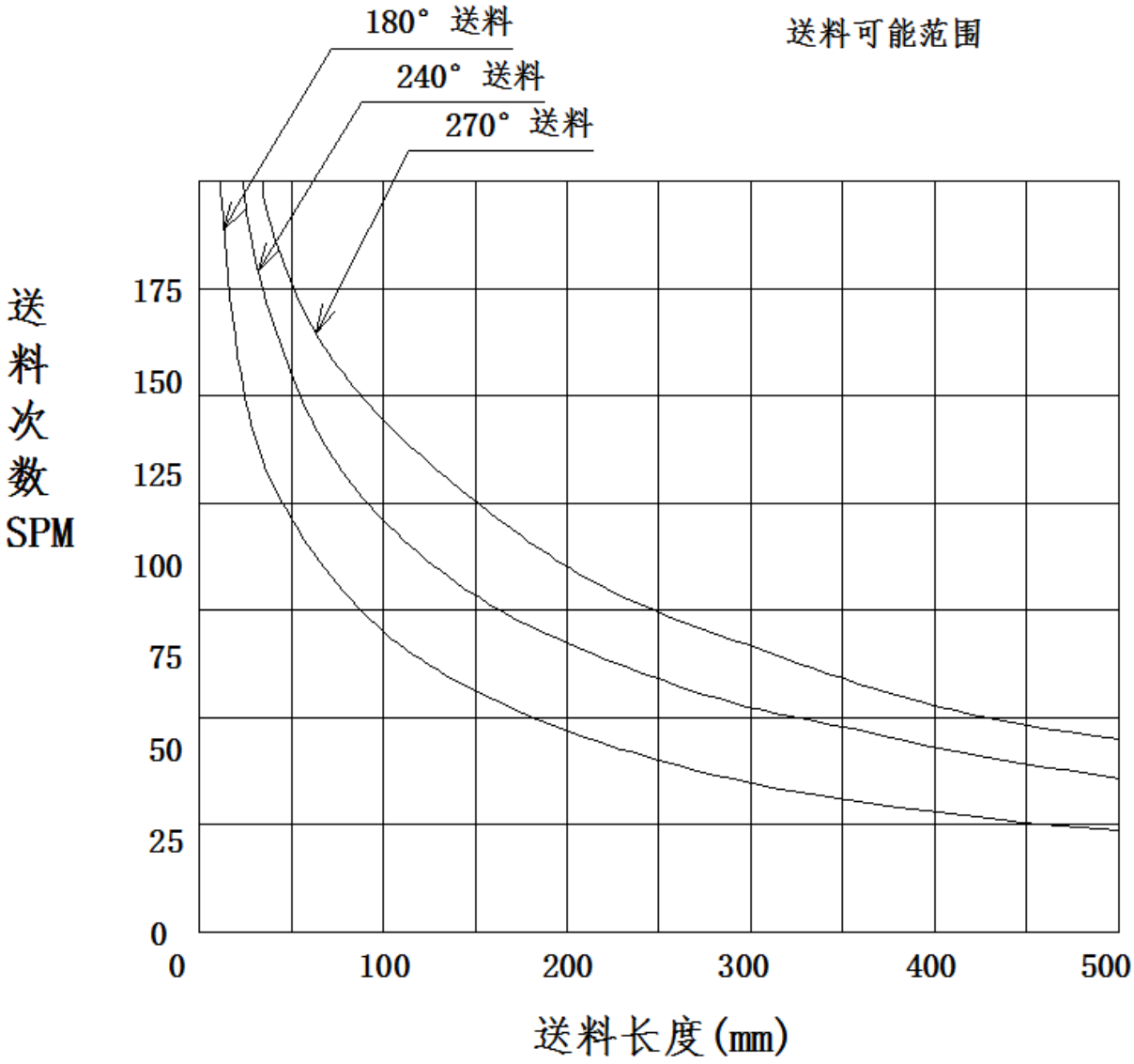


【NCF/NCFA】

送料角度	开始送料	结束送料
180° 送料	270	90
240° 送料	240	120
270° 送料	225	135



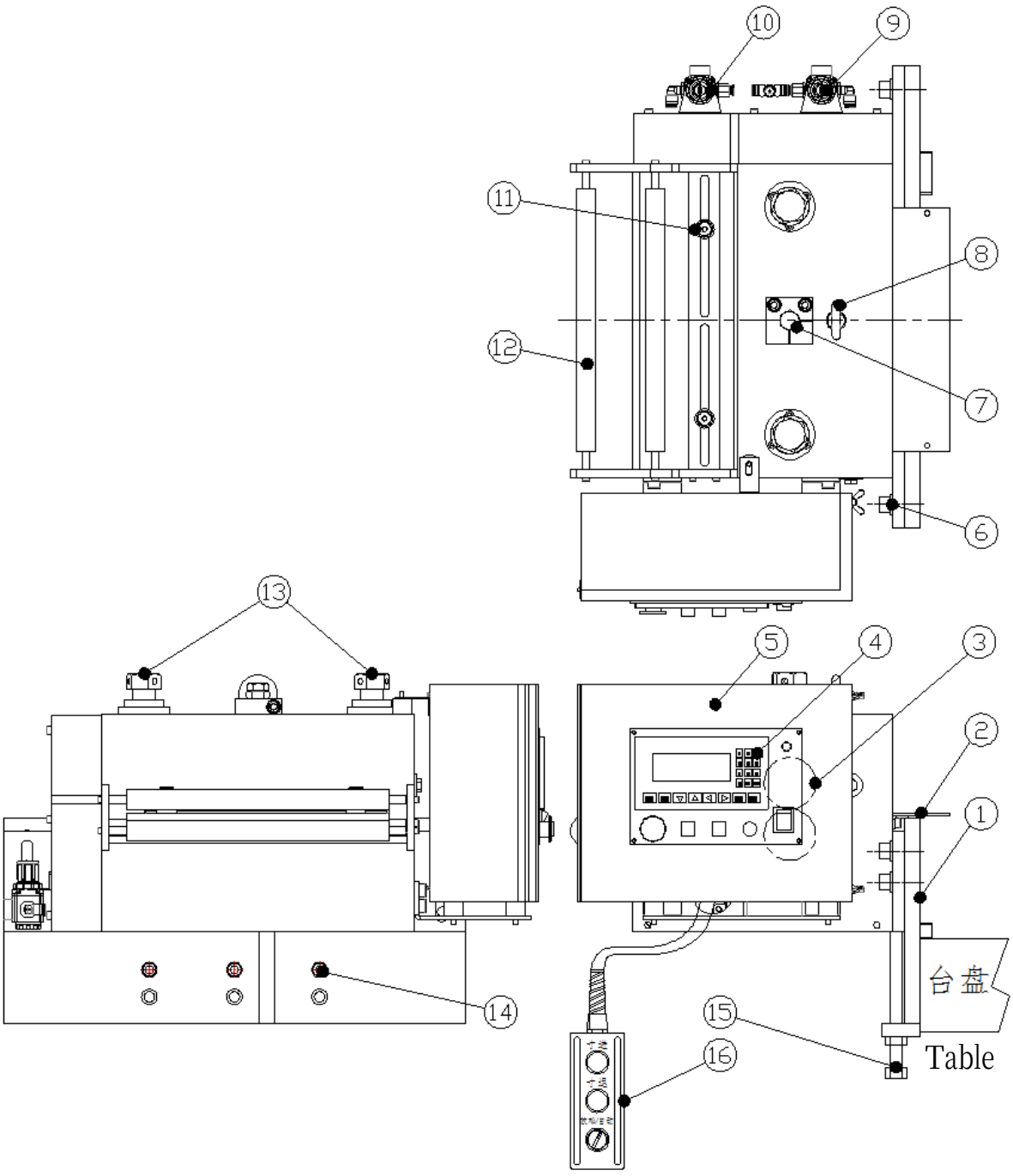
送料可能范围



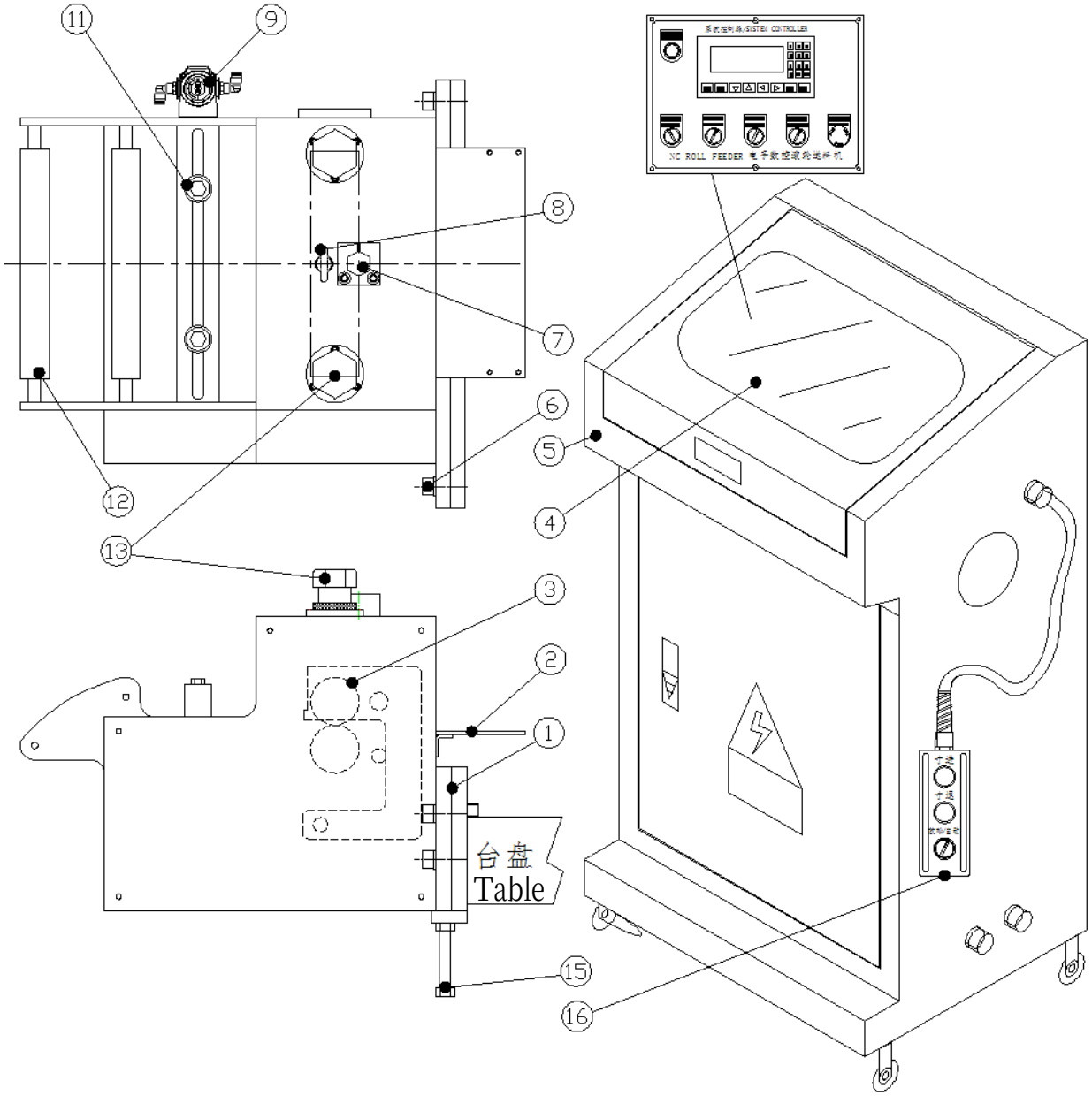
Operation

3.1. Part name and description

3.1.1 NCR drawings



3.1.2 NCF/NCFA drawings

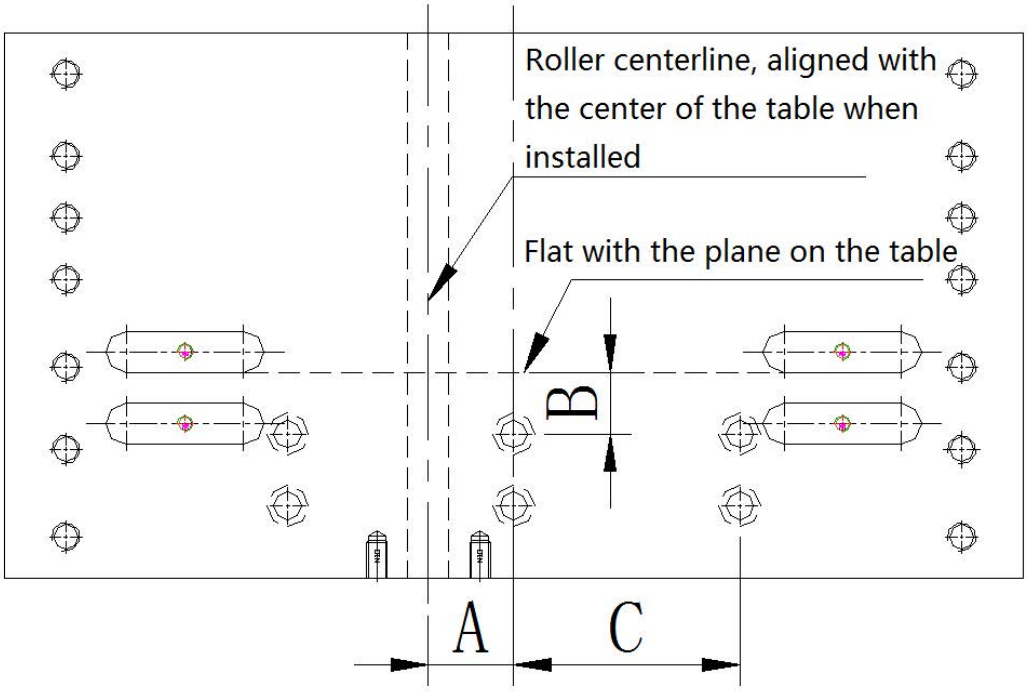


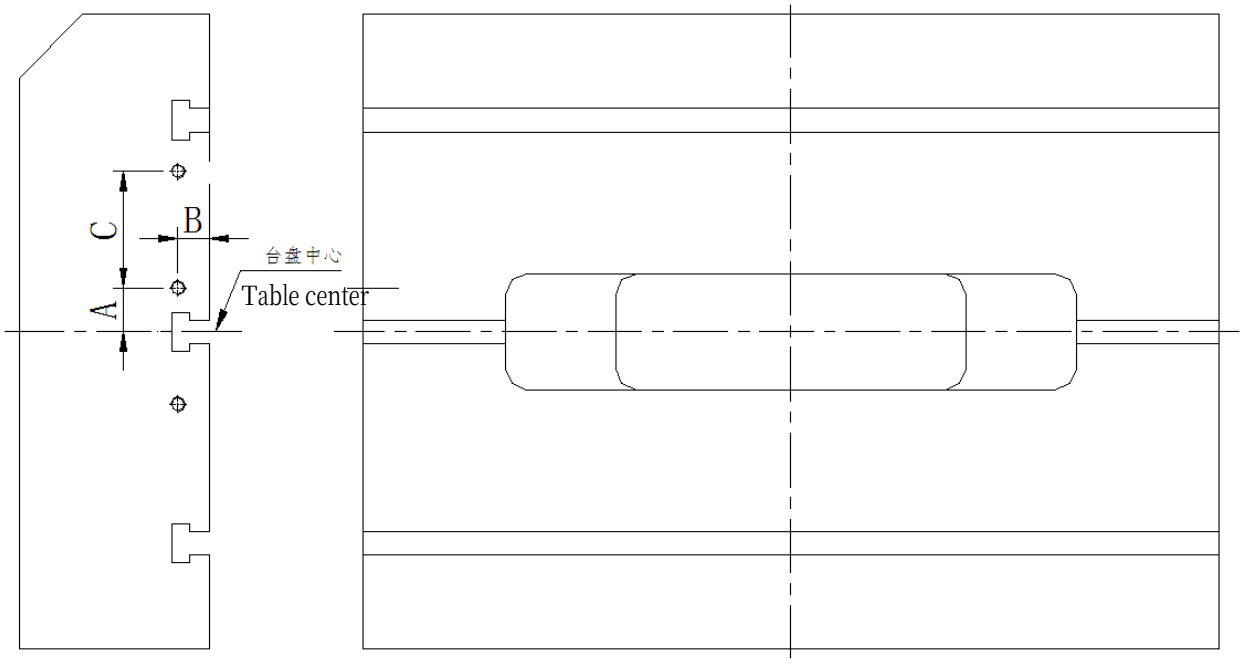
3.1.3. part name and description

No	name	description
1	Install board	Fix the feeder on the press machine
2	Outlet board	Guide the material between the feeder machine and the die
3	Feed roller	Feed the material to die
4	Operation panel	Operate work
5	Electric box	install electric parts
6	Fix bolt	Lock the feeder to press machine
7	adjustment bolt	Adjust the release height and control the opening amount of release
8	Lift eyebolt	To lift the feeder
9	release air pressure adjust valve	Adjust the release pressure
10	press air pressure adjust valve	Adjust the clamping pressure
11	Edge guide wheel	Guide the material to feeder
12	Intake roller	guide material to feeder rollers without deformation
13	Adjust spring	Can adjust the clamping pressure of rollers
14	Fix bolt	Lock the feeder to press machine
15	Height adjust bolt	Adjust the feeder to the proper height with press machine
16	Remote control	Easy to test and adjust the material and die.

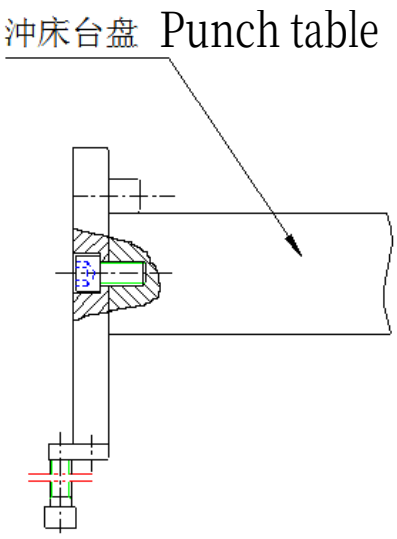
3.2.Installation

1. Fix the install board to press machine.(figure)

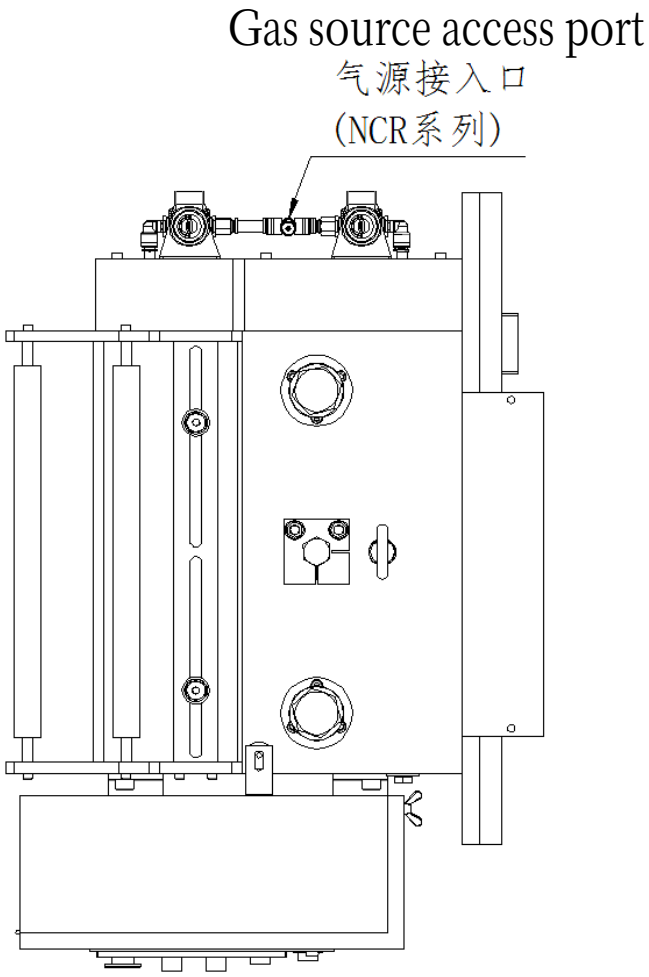


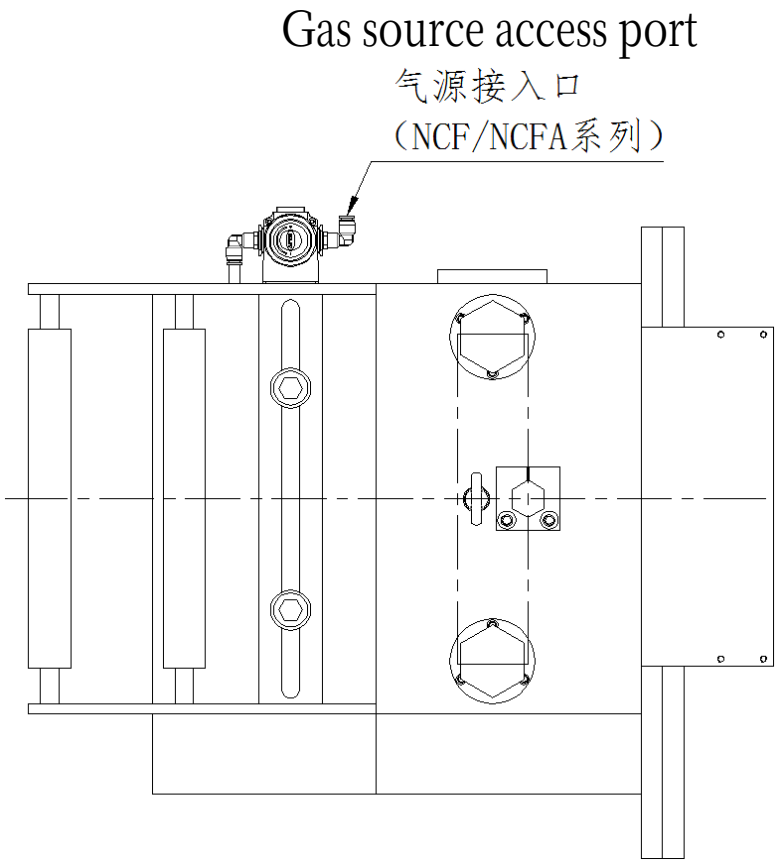


2. lift the feeder and fix the feeder to the install board.



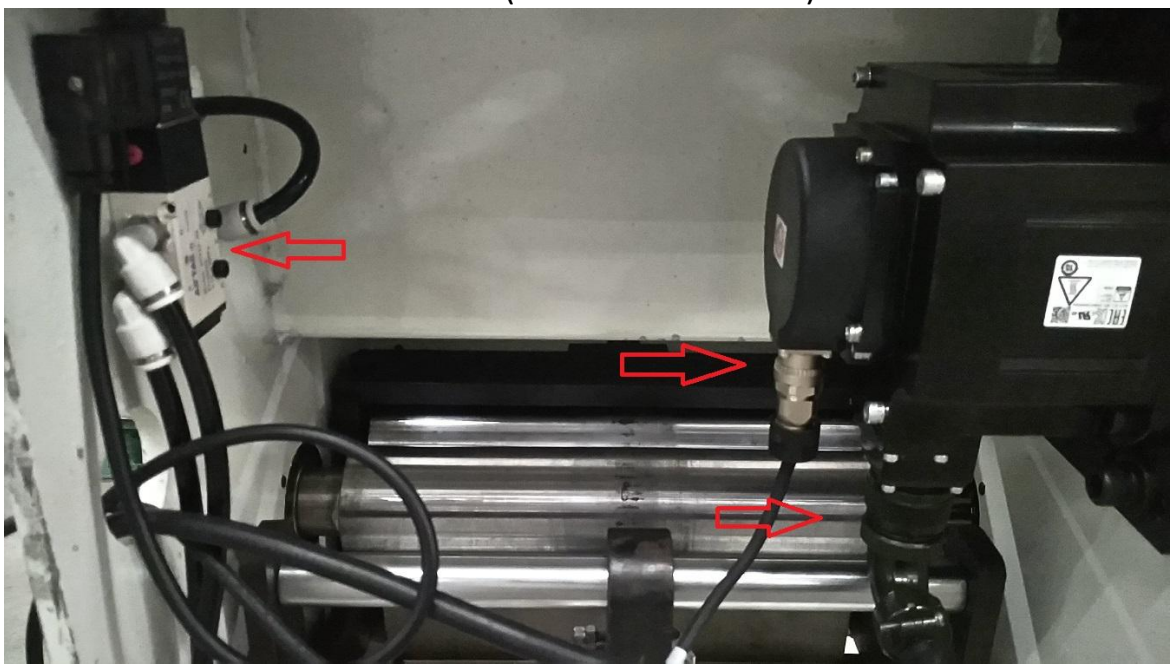
3. Connect air to the feeder.(figure)



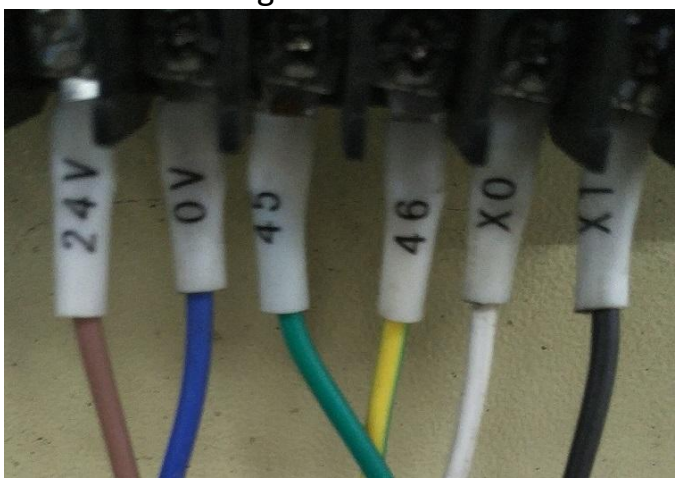


4. control cable

From electric box to the machine(bottom of machine)



5. Connect the signal wire



X1 : release signal

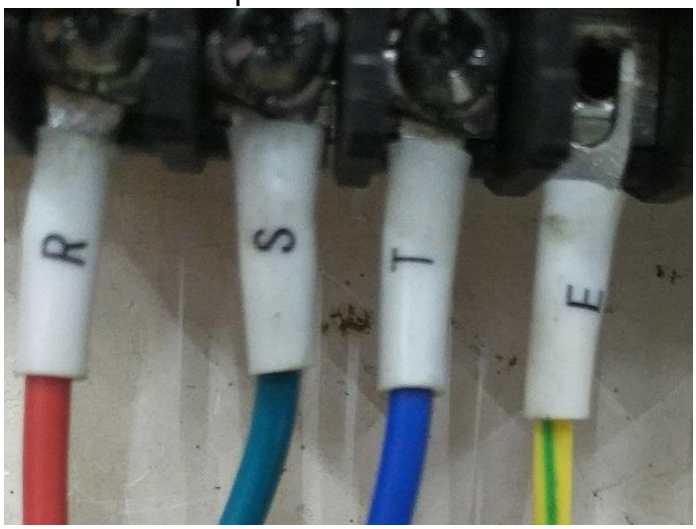
X0 : feed signal

45/46 : emergency stop

0V : public end

24V : 24voltage DC power for control circuit

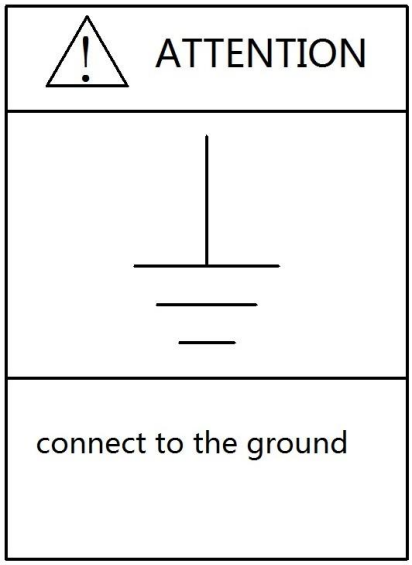
6. Connect the power wire



R S T : 3 phase power wire

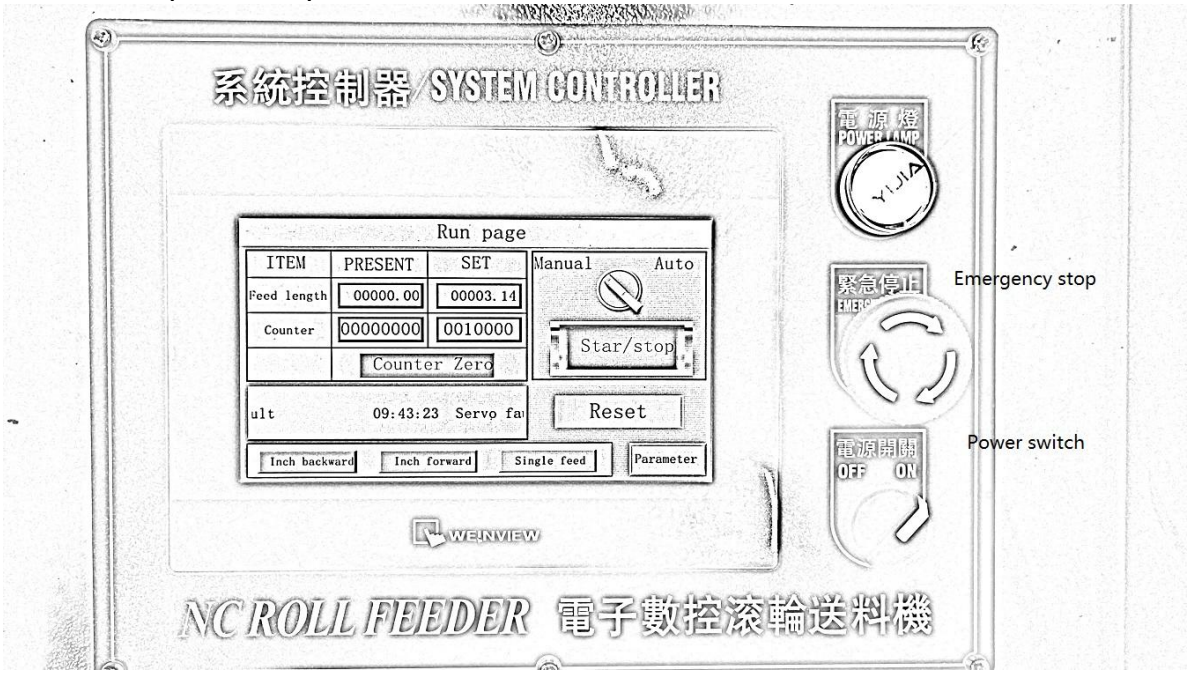
E : ground wire

4. Attention. The machine must do ground connection so as to avoid electric shock, and prevent the electrical control system from being disturbed.



3.3.Operation panel

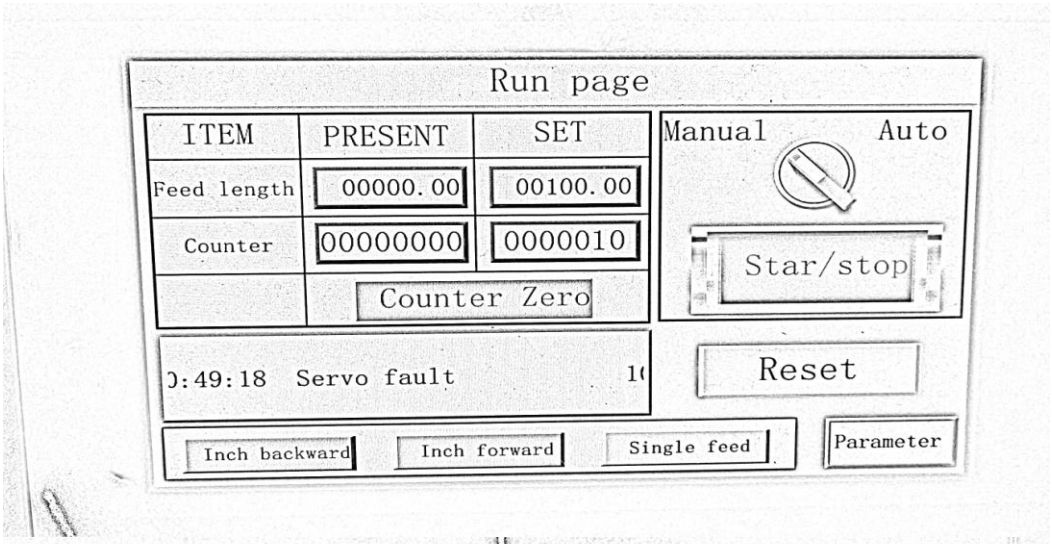
3.3.1NCF operation panel

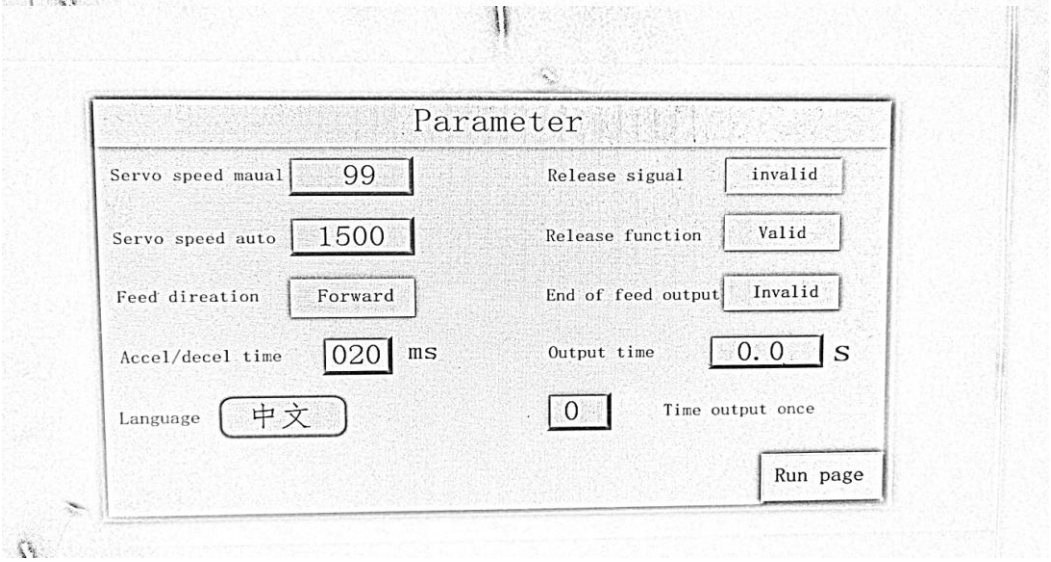


Notice: All parameter are setted before out of factory, customer does not need set. And parameter page is lock, if want set parameter, please input password:222

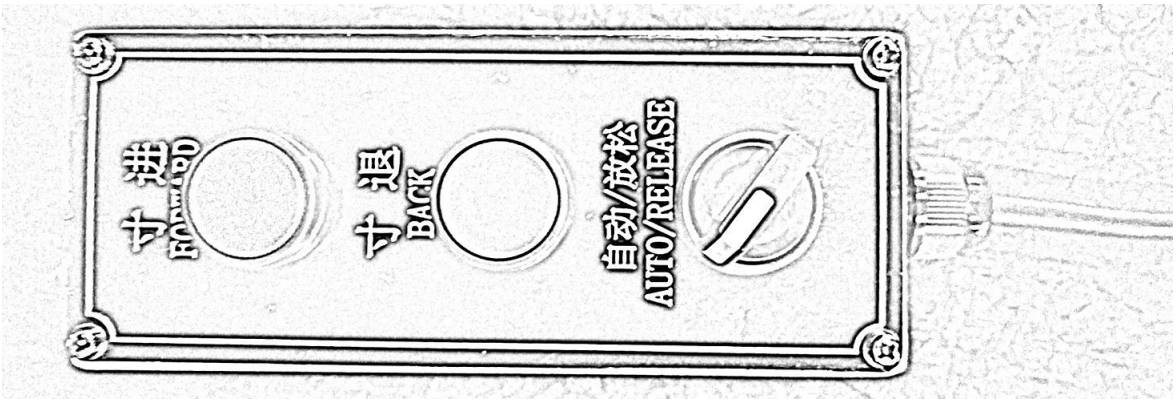
Customer only need to input feed length and counter in run page.

3.3.2 touch screen





3.3.3 remote control



On remote control “forward” is same as inch forward on touch screen and “back” is same as inch backward.

AUTO/RELEASE: turn to release to open the feed roller, the material can pass through the feed roller.

3.4 Operation panel and touch screen instruction

1. power switch—switch the power supply ON/OFF
2. power lamp—The light is turned on when the power switch is ON.
3. emergency stop—the feeder will stop immediately when press it, turn right to reset it.
4. auto/manual—when turn to “manual”, can take the operation of “inch forward”/”inch backward”, and “single feed”(on screen). When turning to "auto", the automatic ”start/stop" button is effective.
6. start/stop—control running and stop in “auto”.
7. inch forward—put the button, the feeder will step forward.
8. inch backward—put the button, the feeder will step backward.
9. Reset—clear the alarm information after eliminate error.

3.5.Start operation

1. Turn the power switch ON. After turning power switch to OFF, please make a pause then turn to ON, quickly repeat ON/OFF operation, will cause the servo motor error and fault.
2. Press machine preparation.
3. Stamping die fixing and adjusting.
4. Set feed length on touch screen; check air pressure, standard pressure is 0.4Mpa.
5. Chooses manual on touch screen and release on remote control, the feed roller is open and the material can be passed through the roller.
6. It is confirmed that the material is passed smoothly from the roller, to the stamping die, turn the switch on remote to “auto”, and the roller will clamp the material.
7. Adjust the edge guide wheel to the width of the material.
8. Press inch forward to check the material go smoothly. Turn to release on remote control for adjusting the length of material on die, then turn to auto to clamp.
9. Run press machine one time.
10. Then press the single feed on touch screen once to make the material move one stroke length.
11. Repeat the 9, 10 steps until the action is smooth.
12. Turn “manual/auto” to “auto”, and turn “start/stop” to “start”.

13. After the action of the press machine for several times, we confirm that the finished product has no problem, and can start the press machine and feeder to work continuously.

3.6.Adjustment

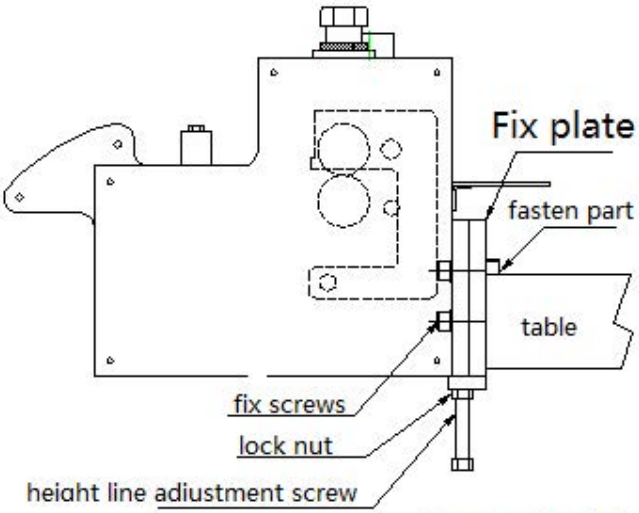
3.7.1 line height adjustment. In order to match the height of the press machine, the feeding line height of the roller feeder must be adjusted.

1. Unscrewing the fix bolts on both sides of the feeder machine from 1 to 2 rings

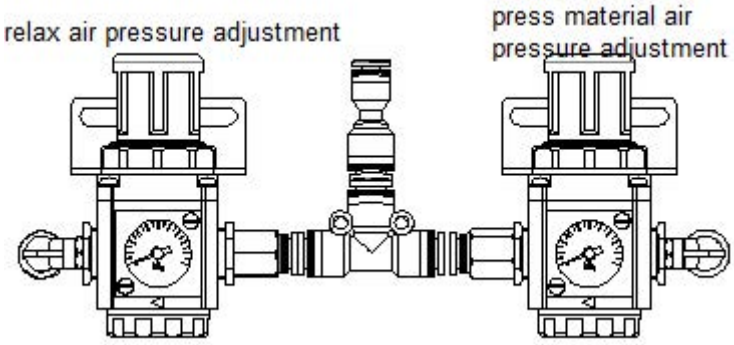
2. Then, loosen the lock nut and adjusted the bolt by the wrench to the required height line

3. The buckle block is installed with position 1 and position 2. If the position 1 height can not reach the requirement, the installation position 2 can be installed.

4. After adjusting, fasten the locking nut and the fix bolt.

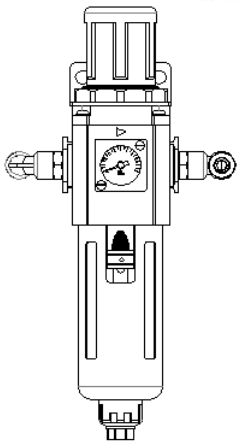


3.7.2 air pressure adjustment. According to the different material, the air pressure should be adjusted properly to the material and the roller without skidding.



1. If the pressure is too high, the material may be circuitous or deformed, and the material will have a rolling mark.

2. If the pressure is too low, the roller will slip so as to cause inaccurate feed.



3.7.3 belt adjustment. If the belt is too tight, will shorten the life; if too loose, is unable to transmission.

1. Open the protective cover (NCR on the back side, NCF/NCFA at the operating side), loosen the motor

board fix bolt.

2. Adjust the tightness of the belt to the right position. The motor side uses the force of 4.9N (0.5kgf) to press the center of the belt, which has the deflection of 2mm. The reverse motor side is pressed by 6.9N (0.7kgf) force to the center of the belt, and the deflection of 2mm is suitable.

3.7.4 edge guide wheel adjustment.

1. Turn the “clam/auto/release” button to release, open the feed roller.

2. Adjust the limit bar wider than the material passed through, by adjusting the screw of the limit bar.

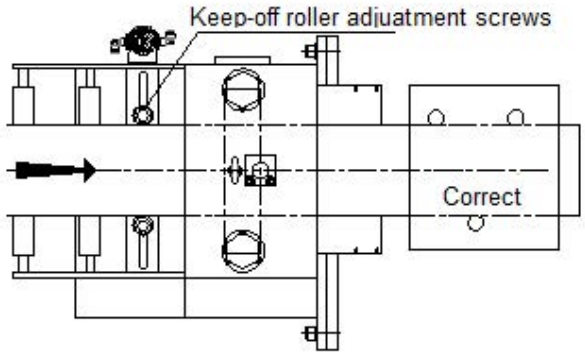
3. Reconfirm the following items before adjustment.

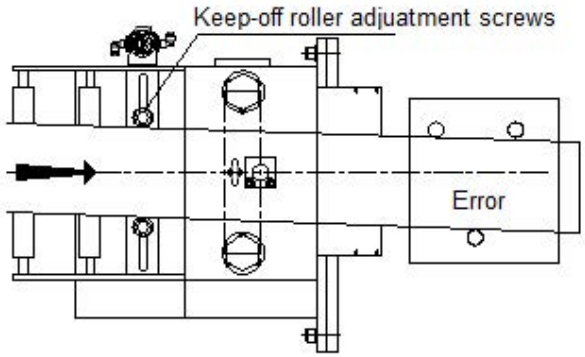
1) Does the material pass through the mold center?

2) Is the material parallel to the feeder?

3) Is there any coercive force on the material?

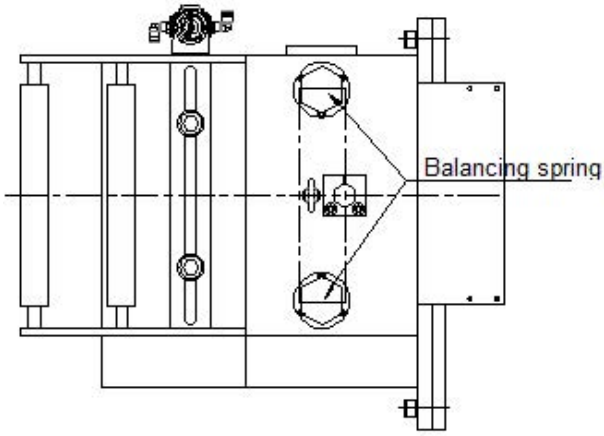
4. After adjusting the width, fasten the edge guide wheel.





3.7.5 feed roller balance adjustment

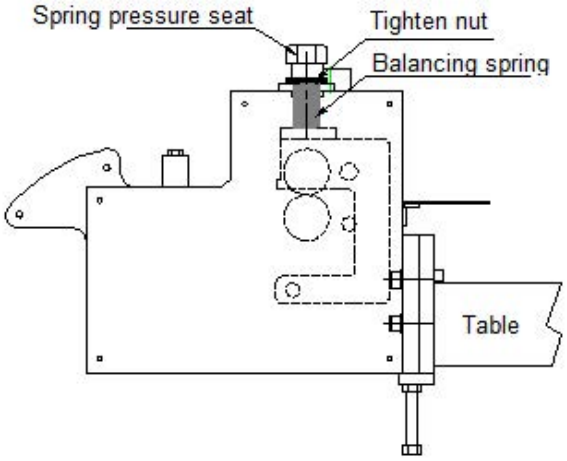
The left and right balancing spring of the roller is set at the same length as the factory setting. If there is a roller mark, lengthen the spring with the indentation side, weaken the additional pressure of the roller.



1. Turn the button to clamp.

2. release the lock nut.

3. Twist the adjustment nut to adjust the spring length With the clockwise twist and the spring pressure



increasing, and the pressure of the spring will decrease with the counterclockwise twist.

4. Fasten the locknut after adjustment.

3.7.6 cam limit switch adjustment

In order to synchronize the feeder and the press machine, we must set the cam limit switch.

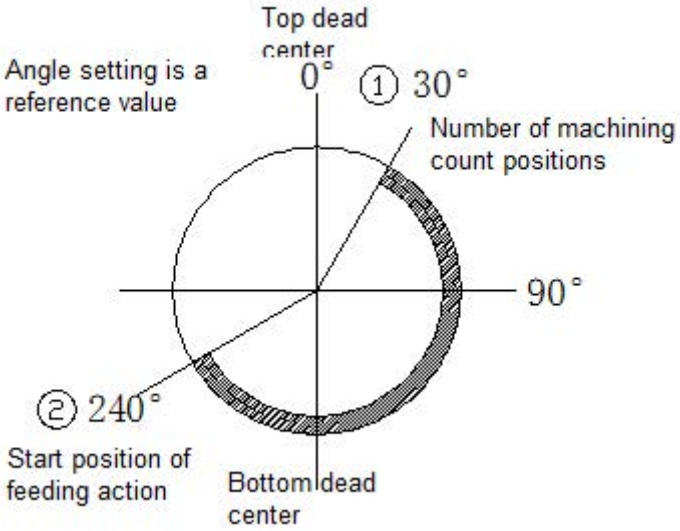
Set the cam limit switch while the press machine step running.

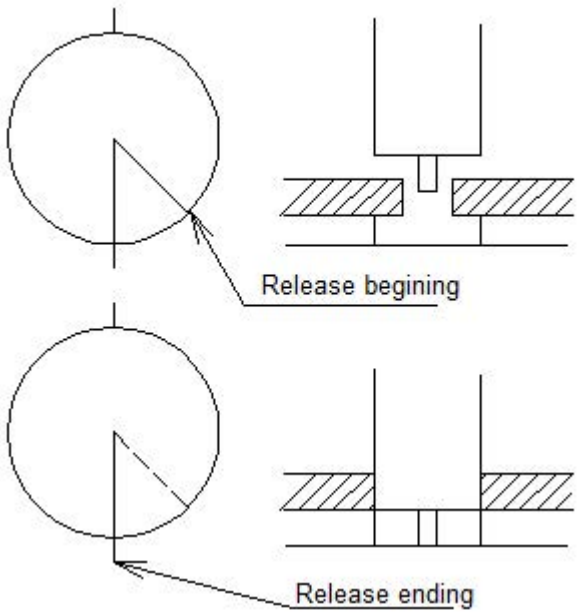
Feeding signal:

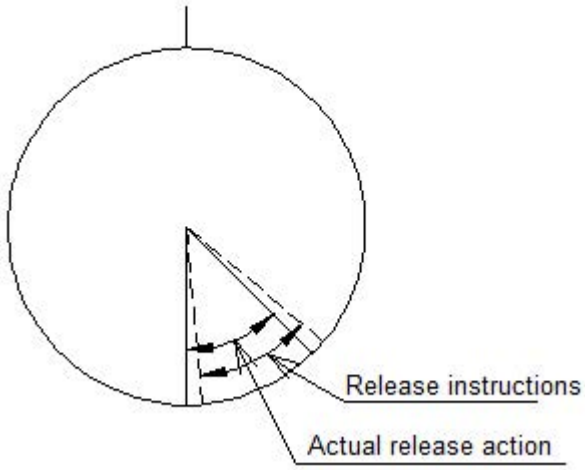
On the reset point ②, the feeding action begins. The start of feeding action shall be set at the place where the upper mold is completely separated from the material after bottom dead centre.

The cam limit switch of feeding signal should be set bigger than 240 degrees to 30 degrees rang. Too narrow, Maybe no feeding action, and may damage the mold. The hydraulic press device is not detected by cams, but still wants to use the limit witch, please consult in advance.

Release signal: If a mold with a guide pin is set, the feeding roller must be opened in the moment that the guide pin is inserted into the guide hole to allow the material to be free and to correct the position and direction.(figure)







Maintenance

4.1 Attention

1. For safe operation, in order to fully display the performance and function of the device, please take routine inspection and maintenance from the beginning

2. Proper inspection and adequate maintenance work not only protect operator, but also prolong the life of the feeder, and give full performance of the feeder for a long time.

3. Please put “check and repair”, “no operation” warning tag on the operation panel of press machine and the feeder, when starting to check the maintenance work, so as to avoid the wrong operation of others. In the maintenance operation, if others run the feeder or press machine will cause fatal injury.

4. Please confirm the safety items again before the inspection and maintenance.

5. Please use the specified grade, clean grease.(grade see the label on the lubricating nipple)

6. When we repair the air system, must release the internal pressure.

7. Do not check and take maintenance when the feeder is running. When adding lubricating grease, please make sure to stop the feeder.

8. Please do not use electric arc welding to carry out maintenance work. Electric arc welding is used for maintenance work, which is likely to cause damage to electrical parts, even cause fire.

4.2.Maintenance chart

ITEM	CONTENT	REMARK
Non-scheduled maintenance	1.clean the feed rollers	Use rags
	2.clean the operation panel	Don’t use gasoline or organic solvent
Daily maintenance （functional test）	1.function of material end test	
	2.emergency stop	
	3.all switches and buttons	
	4.keep the work area clear	
Weekly maintenance	1.lubricate the drive gear	0 grade grease
	2.check cable for cut and wear	
Monthly maintenance	1.lubricate the edge guide wheel and guide rail	
	2. clean the photoelectric switch and fasten the screw	
	3.draining the air filter	
	4.check the condition and tension of belt	
	5.check the bolts and nuts	
Half-year maintenance	1.check the air leaking	
	2.check the electric parts	

4.3.Trouble shooting

Warning: If there is anything abnormal during running, please stop immediately and check. Investigate the causes, adjust and repair according to the necessity, and prevent failures.

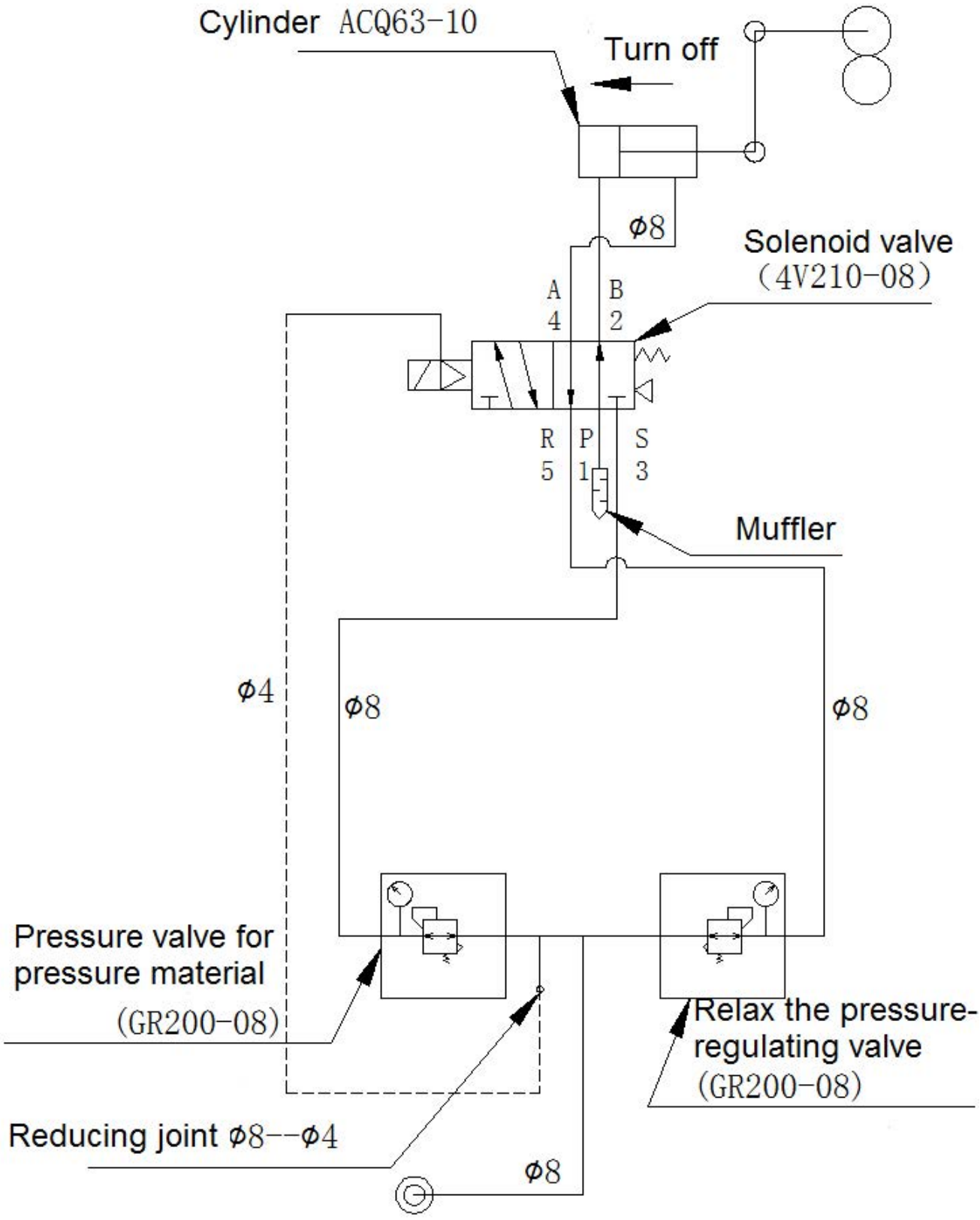
Common fault and troubleshooting

problem	cause	solve
1.cannot release roller	1. electromagnetic valve fault	Replace electromagnetic valve
	2. cylinder pressure is insufficient	Check air pressure, if lower than 2kgf/cm^2, adjust it
	3. Circuit fault	Check the circuit
	4. Mechanical fault	Check mechanical parts stuck or not.
2.cannot feed	1.press machine or the feeder Emergency stop.	Check and eliminate alarm signal
	2.servo fault	Check and repair the servo
	3.circuit fault	Check circuit
3.not accurate	1.material has bur	Deburr material
	2.insufficient pressure of feed roller	No enough pressure, material will slid, adjust the pressure vlve.
	3.the feeder and die are not straight	Align the feeder and die.
	4. feed too much material	Drawing material caused by the bad stripping of the upper die

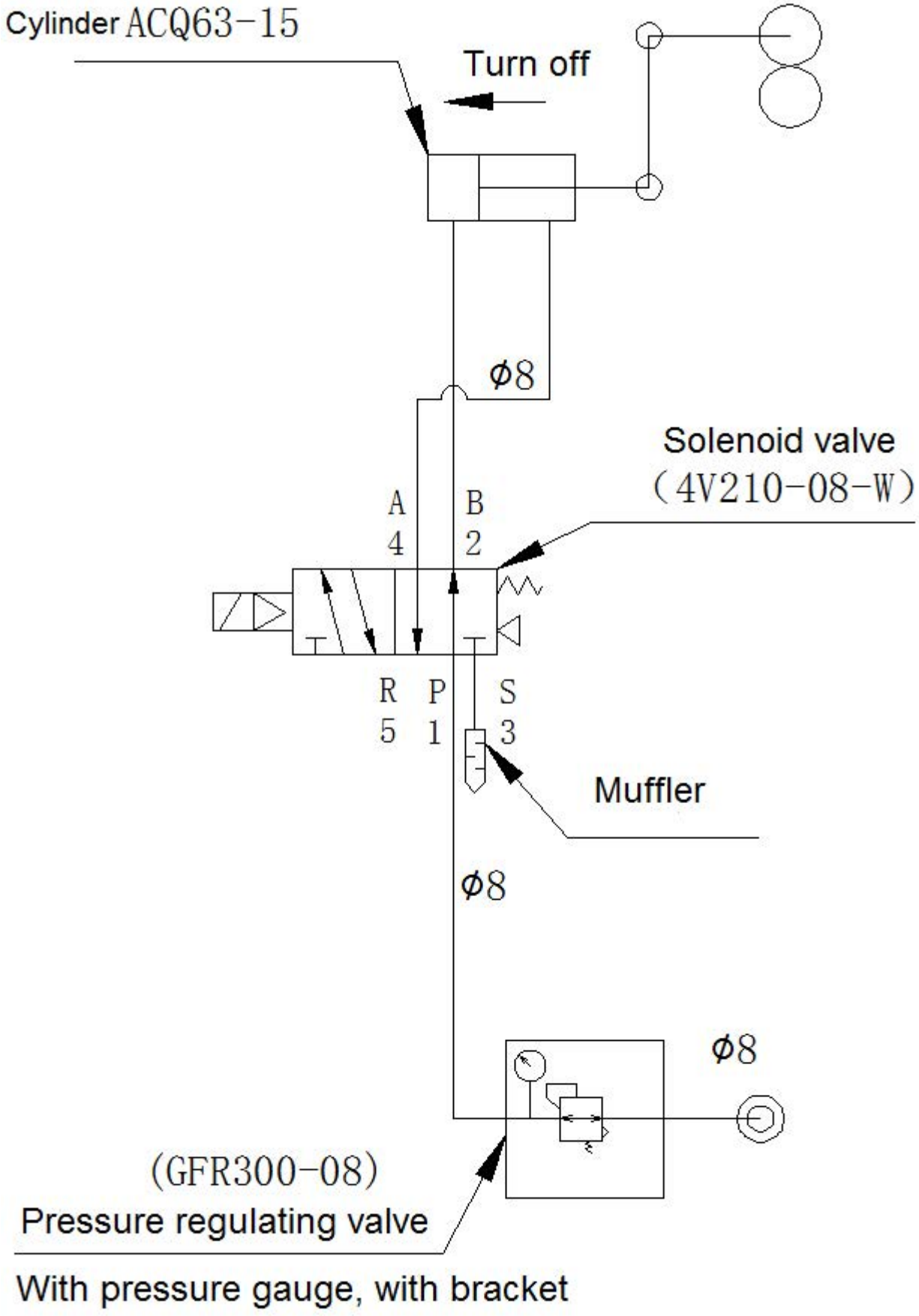
3.not accurate	5.no enough buffer material between decoiler and feeder	Adjust the dicoiler speed.
	6.big transmission gap between feed roller and servo motor	Tighten the belt
	7.material condition	Not standard thickness or width
4.Feed interruption	1.wrong release angle	Adjust the cam limit switch of release angle
	2.wrong feeding angle	Adjust the cam limit switch of feeding angle
5. Unstable feed	1.servo fault	Check and eliminate the fault
6.material S move	1.too much pressure	adjust pressure
	2. limit bar wider than material	Adjust limit bar
	3. upper roller and lower roller are not parallel	Adjust rollers to be parallel
7.electric parts fault	1.the feeder can not start	Check the power supply, or reset the emergency stop switch.
	2. can not start in manual or single time model	Check the model and circuit
	3.can not running in auto model	Check the starting switch and wiring terminal.

4.4 Pneumatic graphic

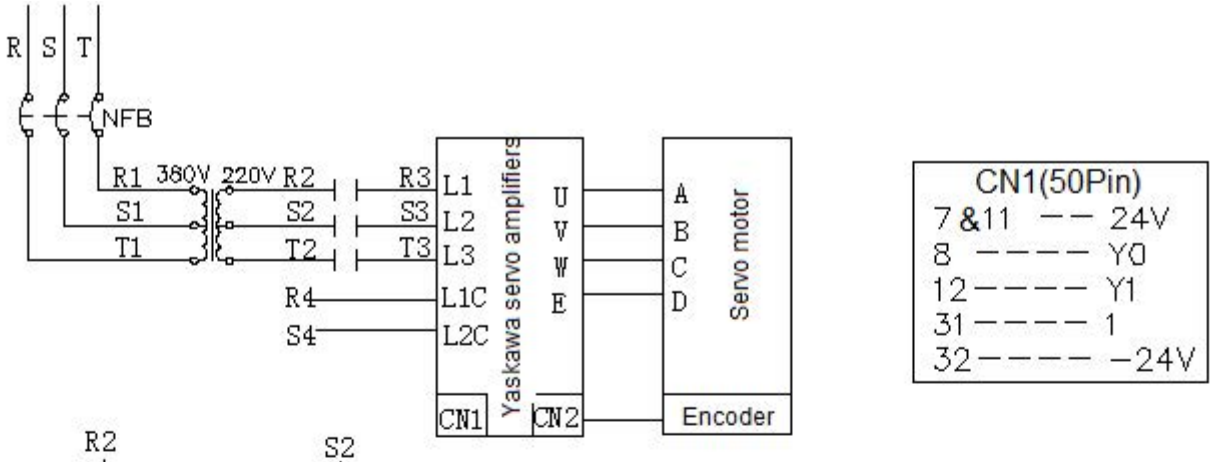
1. NCR

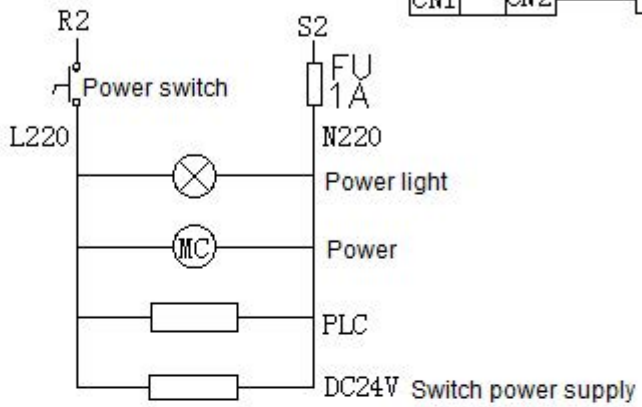


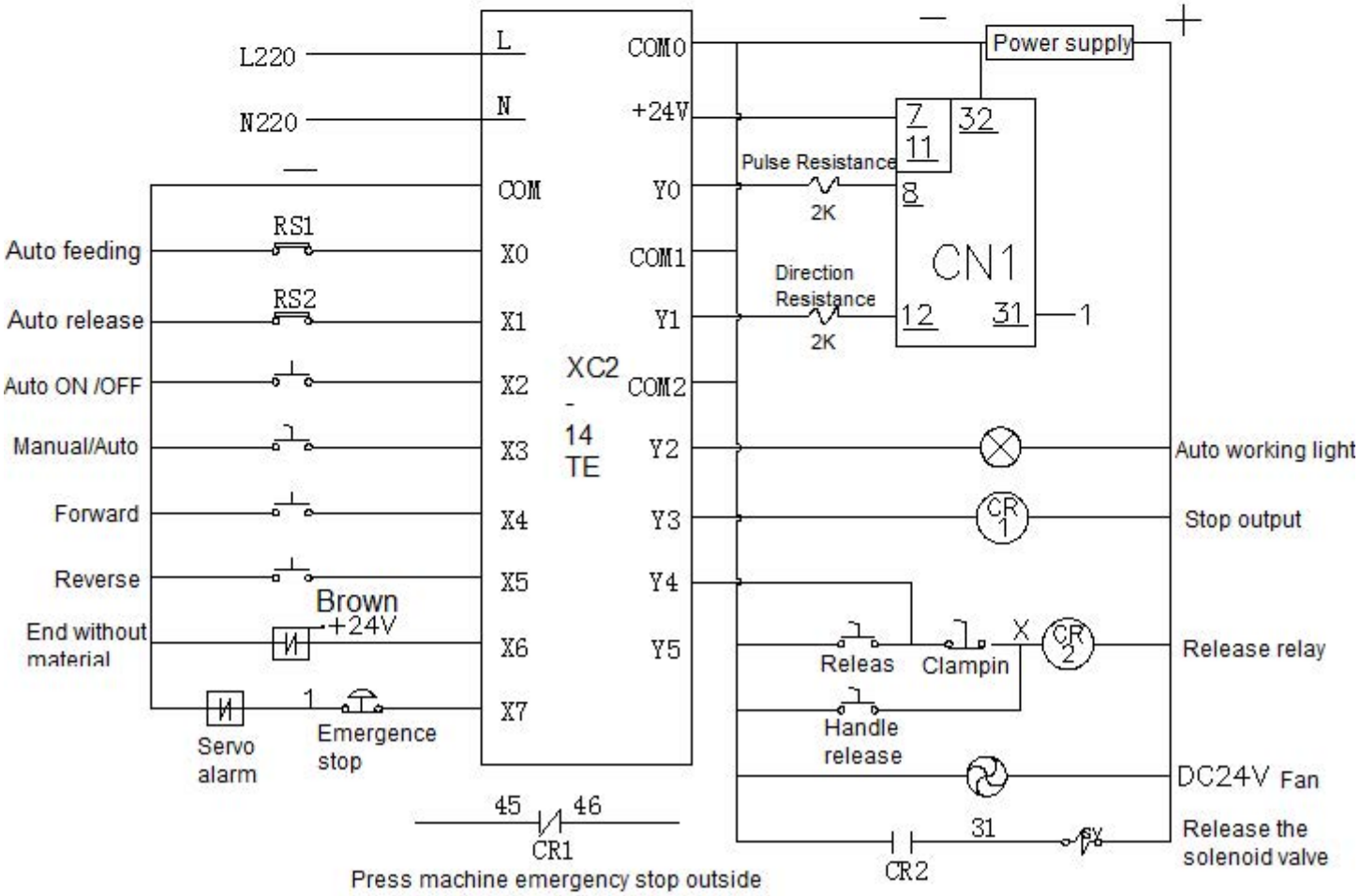
2. NCF/NCFA


Cylinder ACQ63-15
Turn off
ϕ8
Solenoid valve
(4V210-08-W)
A
4
B
2
R
5
P
1
S
3
Muffler
ϕ8
ϕ8
(GFR300-08)
Pressure regulating valve
With pressure gauge, with bracket

1. Yaskawa electrical diagram







2. Mitsubishi electrical diagram