

Thanks for using our products. In order to familiar with the performance of this machine, please read the instruction manual carefully before operation.

I. Brief Introduction

- 1.This is a plant oil producing machine, which can process grain type oil material, such as rapeseeds, cotton seeds, beans, peanuts, sesames and tung nuts ect. and tiny grain of wild plant oil materials.
- 2.Before grinding, the oil materials should be pretreated, for example, cleaned, peeled, broken, crushed, soften and broiled and baked. The quality of pretreatment contributes directly to the performance, longevity, safe production and oil grinding.

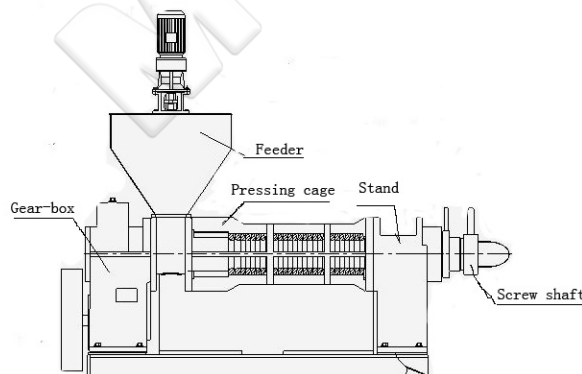
II. Main Technical Parameters

ITEM NUMBER	ITEMS	PARAMETERS
1	Outline dimension	2175×786×1782 mm
2	Weight	1200 Kg
3	Motor power	30Kw /(980r/min)
4	Motor triangular belt wheel (number of solts diameter)	C type 4×∅211
5	Triangular belt wheel (number of solts diameter)	C type 4×∅492
6	Grinding shaft rotational speed	About 33 r/min
7	Feeder triangular belt	C3810
8	Production capacity	16-20 T/24hrs

- 1.The production capacity refers to the selecting, separating and material pressing equipments are complete and process is reasonable. It means the index reached during normal operation and pressed only once.
- 2.If possible, the users can make the motor triangular belt wheel by themselves. The diameter of the wheel can be made according to the following formula: Diameter(mm)=4.6×Grinding shaft rotational speed (r/min)+10.
- 3.It is priority to choose Y type 6-pole three-phase electric motor. Usually the motor power depends on the oil material and pressing process. The type of motor suggested for users is just a reference.

III. Main Structure and Working Principle

This machine is composed of feeder, gearbox, pressing cage, screw shaft and machine stand etc. The detail drawing are seen in appendix iv: Structure Diagram of Main Parts (Fragile Parts)



Work principle: The screw oil miller utilizes the screw shaft that is set-up with different styles of screws and rotates when machine is running to push the material into chamber. Owing to the spiral helical pitch of screws becomes shorter and the spiral depth of screw becomes shallower, in the chamber the volumes between screws and pressing ring inner is smaller, pressure produced from curve saw-tooth of pressing ring inner, which oil is separated out. Oil releases from the gaps between bars and oil slots between pressing rings. Cookie releases from the cookie release state.

IV. Installation

1. This machine should be fastened to the ground with ground bolts M14. Keep the screw shaft 700-800mm high from the ground. In order to adjust the degree of tightness of V-belt, electric motor should be fastened on the guide-way so that the motor can move. The length of V-belt should be longer than 3000mm. (Basic diagram seen in appendix V: Basic diagram of Screw Oil Milling Machine).

2. When installing electrical equipment, the current meter should be installed near the oil miller so as to facilitate the operator to observe the current casually.

V. Application and Maintenance

i. Preparation before Operating New Machine

1. Because of the transport and stock, the new machine should be cleaned before using it. Clean away the rustproof coating, pull the screw shaft out of the press cage, disassemble the top cage, use the sand-cloth to buff the surface of the worms and the inside surface of the pressing ring then reset them. Add N32# machine oil or gear oil into the gearbox till to the oil gauge, also check other lubricated parts and add lubrication oil.

2. Loose the cookie outlet to prevent blocking. Do it as follow: Counterclockwise rotation the adjusting ring, until the cake guide ring touch the cake output ring, then clockwise rotation the adjusting ring for about 4-5 turns.

3. Hand turn the triangle belt wheel so as to make it rotate over 8 turn, check if there is any blocking, meanwhile, check and adjust the tightness of the belt.

4. Start the motor and have the miller running empty for 15 minutes, observe if the empty load current is normal (usually around 15A). Please note if the voice inside the gearbox is normal and if each bearing part is hot.

5. After everything is normal, in order to let material goes more smoothly, and so do oil releasing and cookie forming, the new machine need to mill. Milling is the promise for new oil press machine operating normally.

6. The milling methods: Add evenly 10% water to the dull cookie pieces, then put them to mill again and again. At the beginning, add the pieces into the feeder slowly, meanwhile, observe if the cookie outlet release cookie, and adjust the gap between cake guide ring and cake output ring timely. Because the dull cookie pieces will reduce the water during pressing, so should add the water to it properly. The screw shaft will be blocked because of material blocking, the sudden feeding of material and the too small gap between the cake guide ring and cake output ring. If the screw shaft is blocked,

should stop the machine immediately, clean the chamber then go on milling. At normal situation, the machine after milling can form the cookie successfully and the cookie is tile like. It means the milling is finished.

7. After cleaning the machine, check if each part is abnormal, check if the fastening parts are good and if the oil supply of each lubrication part is sufficient. Start to operate when everything is normal.

ii. Normal running

1. In normal production, use the dull cookie pieces to mill to preheat the machine before pressing (do it as milling), until the surface of pressing cage is hot. Put the pretreated oil materials into feeder then start pressing. The feeding of materials should not be too hard, otherwise the chamber is easy to jam and bear no oil. With the rise of temperature in the chamber, the inserting of materials can be increased progressively.
2. Turn and adjust the screw, slowly reduce the thickness of cookies.
3. After the oil miller is normally running, select the broken cookies that were first milled with rather rich oil and evenly mix them into the oil materials to be broiled, baked and milled again.
4. During normal running, the feed must be even, never too much or little, or it may influence the oil output and longevity of oil miller. The cookie thickness is usually between 1.5-2mm or so. The pressing temperature is 120-135°C, the oil material water content percentage is 1-2.5% or so.
5. Pay attention to the readings of ampere meter. During normal running it is 30A or so. When exceeding, it means the pressure and load are too much; stop the feed right away, wait until the reading of ampere meter falls to normal, then recover feed, if it can not fall at once, stop the machine urgently. Much too low reading means insufficient material supply and pressure, resume to feed the oil material.
6. Pay attention to the cookie release state, when normal, the cookie is tile like and the side near the pressing worm is smooth, while there are a few small creases on the other side. They will become hardened once fallen down. There is no oil stain nor burned odor on the surface. If the water content of the oil material is too much, the cookie will be soft and fragile; otherwise, the cookie will be shapeless, but rather like powder with rather deep color and burned odor.
7. Observe oil outlet. When normally run, the oil outlet position of those plant oil materials containing high ratio of oil will gather around the bar. In the pressing ring near the bar also flows little oil. The oil color is neat. If the water content of the oil material to be pressed is too much or too little, the oil left in the cookie will be increase and the oil outlet will be muddy with the increasing foam.
8. When normally run, note if the temperature the sound at each bearing is normal and add grease on them timely

9. Before stopping the oil miller, first, stop feeding and loosen the cookie outlet, then feed little oil cookie or raw material to kick the well done ones out of the chamber. Then the machine can be stopped. After stop, pull the screw shaft out of the pressing cage, clean away the material that was left in the chamber. Doing this can avoid the well-done material's hardening in the chamber and breaking of screw shaft and explosion of cage, etc.
10. If the machine is out of electric suddenly during running, should pull the screw shaft out of the pressing cage timely and clean the chamber.
11. Note to users: When pressing the high oil content material (such as tea seeds, cypress seeds), since its oil outlet is great, the pressing gaps of the grinding bars should be widened meanwhile, and also can increase the rotation of screw shaft. The working handling the miller should be trained for a certain period before independent operation.

iii. Maintenance

1. Frequently check if each moving part is abnormal, check if the fastening parts are in good station, if the oil supply of each lubrication part is sufficient.
2. With serious abrasion, those fragile parts, like pressing worms, pressing rings, bars, cake guide ring and cake output ring etc., must influence the oil pressing effect, therefore, those parts should be altered timely. There are something need to explain: Do not change too many fragile parts at the same time, otherwise the machine need mill again.
3. Regular repair: rough check once a month, ordinary check twice a year and big check once a year. During repair, the lubrication oil in the gearbox should be changed timely, and add lubrication properly to each lubrication part.
4. Clean the machine regularly. Keep it clean and tidy.

VI. Lubrication System

Lubricating part	Lubricating style and quantity	Lubricating cycle
Gearbox	Machine oil: N32 (till to the oil gauge ,about 9Kg)	Once a year
Feeder bevel gear	Plant oil (proper)	1-2 times each shift
Adjusting bolt oil cup	Plant oil (proper)	1-2 times each shift
Each rolling bearing	Consistent lubricant (2/3 of bearing)	Once a year

Note: 1. When choose the plant oil as lubricant, it should be the same kind plant with oil material

2. Tung oil is not proper as the lubricant

VII. Assemble and Dissemble of Main parts

Note: Before dissemble the miller, the user should read the manual diagram contrasting with the material object. Make sure to assemble the parts follow the original sequence.

i. Assemble and dissemble of screw shaft (see appendix iv: structure diagram of screw shaft).

When dissemble of screw shaft that has pressed already should dissemble the screw shaft when it is hot after it stops running. If the shaft is cool already, should heat the screw parts. The methods of dissemble is: First rotate down the end nut of the shaft, pull out the adjusting bolt, loose the press nut that is left-hand screw thread with spanner. After heat the screws part (temperature should be not higher than 150°C), the screws will be pull down easily. During the process, it is prohibited to beat the worms with iron bar, or the worms will be destroyed.

The screw should be cleaned before assemble them. The original sequence should be followed. Please note the following: two thrust bearings 51311 should be lubricated, and the bigger inner whole of bearing should be put near to adjusting bolt. Keep a considerable gap between thick nut and the other side of bearing 51311 after combining the thick and thin nuts that are on the end of screw shaft, to promise that adjusting bolt can rotate easily, but not shaft move.

ii. Assemble and dissemble of pressing cage (see appendix iv: structure diagram of pressing cage)

- 1、Dissemble of pressing cage: after pull the screw shaft out of the pressing cage, rotate the pressing bolt so that the pressing cage will be loosed. Pull down the four pieces of bolt M14 connecting the top and bottom cage, loose the four bolts that are on two side of bottom cage for several turns and so do the four bolts M12 of base and rack. Meanwhile the top cage can be dissembled, the pressing rings and roll bar can be taken out.
- 2、Disassemble of roll bar parts: Put a mat bade under the roll bar so that the space under bar is empty. Use the hammer to ham down one of the pressing bar, then the others will pull sown automatically.

Assemble of roll bar parts: Clean the internal surface of roll bar and surface of bars. Put the roll bar on level ground, then, put the bars into roll bar orderly, and all the slots should towards to one direction. The last one of the pressing bar's can be hammered into the roll bar. The tightness of bars should depend on the oil material. It can be adjusted by different kinds of thickness iron plates (the length of iron plate is the same with bar). Observe from the side of roll bar after assembling, it is a regular polygon; use hand feel the inner of the roll bar is no protrusion.

- 3、Assemble of pressing rings (see appendix iv: Structure diagram of pressing cage and pressing rings)

The same number pressing ring can be exchangeable using, the side of slot of all pressing rings towards rack side.

- 4、Assemble of pressing cage: After assemble the roll bar parts and pressing rings,

pre-tight the pressing bolt, not too hard. Assemble the top cage, tight the bolt that connects the top and bottom cage, use the spanner to tight the pressing bolt, meanwhile, beat the pressing ring with hammer softly to make the pressing ring close the inner side of pressing cage (the pressing rings can move on during the oil pressing). Then, tight all fastening bolts of top and bottom from middle to two side of pressing cage. Then tight the bolts of top cage, gearbox and rack orderly. Last, tight the four M12 fastening bolts of rack and base. The assembling of pressing cage parts is finished.

iii. Assemble and disassemble of gearbox (see appendix iv: Structure Diagram of Gear-box)

Take the complete disassemble of gearbox for example: pull down the oil seal, take a container to contain the machine oil that release from the gearbox, pull down all the bearing end cover, loose down all the fastening bolts of gearbox body and gearbox cover, open the gearbox cover, take Out the big gear (55 teeth) and bearing, the gearbox major and minor shaft that be beat out of the gearbox with hammer and sleeve.

The order of assemble is opposite with the order of disassemble, after finish assembling, should add machine oil N32 to gearbox. Please note the following: The machine uses the helical gear to drive, so that the bearings in gearbox can bear axial force. Adjust the free gap of bearings after finish assembling. The cover without whole of gearbox major, minor and big cover each has three fastening bolts M8 which need adjust evenly to promise bear even power. Do not tight the fastening bolts too loose or too tight, or it may influence the using longevity of bearing. The proper free gap of bearing is judged by pulling, rotating the even belt wheel of gearbox. After finish adjusting, the fastening bolts should be tight on the cover with nut. Finish rearranging, the bearing moving normal or not, during processing, should judge according the noise and the temperature from the gearbox. If it is abnormal, then timely adjust it.

VIII.Safe production and information

1. Operator of the machine must have known the knowledge of mechanical safety. Electrical parts should be installed by experts.
2. When installing the miller, the belt wheel should be installed near the wall or the place that people do not pass.
3. The exposed running V-belt and the connecting belt must be covered all time to prevent from contacting human body. The device is not provided. The user should self-made.
4. It is prohibited to open the cover of the pressing cage for observation when the machine is operating. The oil is in very high temperature.
5. Operator cannot wear skirt or fat clothes. Longhair operator must tight-n and circle the long hair around head to prevent it from dripping. it is

Prohibited to touch any running part of the machine with anybody part when it is working.
People under alcoholic effect, or not in healthy condition, or under circumstances prone to safety violation are not allowed to operate

6. When adjusting the tension pulley, the machine must be stopped.
7. The operator should not leave away when the machine is running.
8. Hard things, like iron blokes must not enter the clamber. No iron bar should be inserted into the feeder.
9. After the cookie is cool then can pack or stack it, or it will self-fire because of the high temperature.

IX. Appendix

i. Attachment with machine

One nut fastened spanner
One triangle motor belt wheel
One manual for oil milling machine
One certificate

ii. The pretreatment requirement of various oil materials

ITEM VARIETY	SHELL VOLUM (%)	BREAKING		CRUSHINGSHELL		GRINDING MOISTURE (%)	GRINDING TEMPERATURE (°C)
		SHELL VOLUME IN KERNEL (%)	KERNEL VOLUME IN SHELL (%)	CRUSHINGS SHELL RATE (%)	FLOUR DEGREE (%)		
RAPE SEED	< 0.5			> 85	< 5	1.5-2.5	120-130
COTTON SEED	< 0.5	10-20	0.5			2-2.5	120-125
TEA SEED	< 0.5	10-20	0.5			3.5-4	115-120
SHELLED PEATNUTS	< 0.5	< 0.5				1.5-2	125-128
SOYA	< 0.5					1.5-2.5	125-128
TUNG NUT	< 0.5					2-2.5	80-85

iii. Breakdown and the Methods of Removal

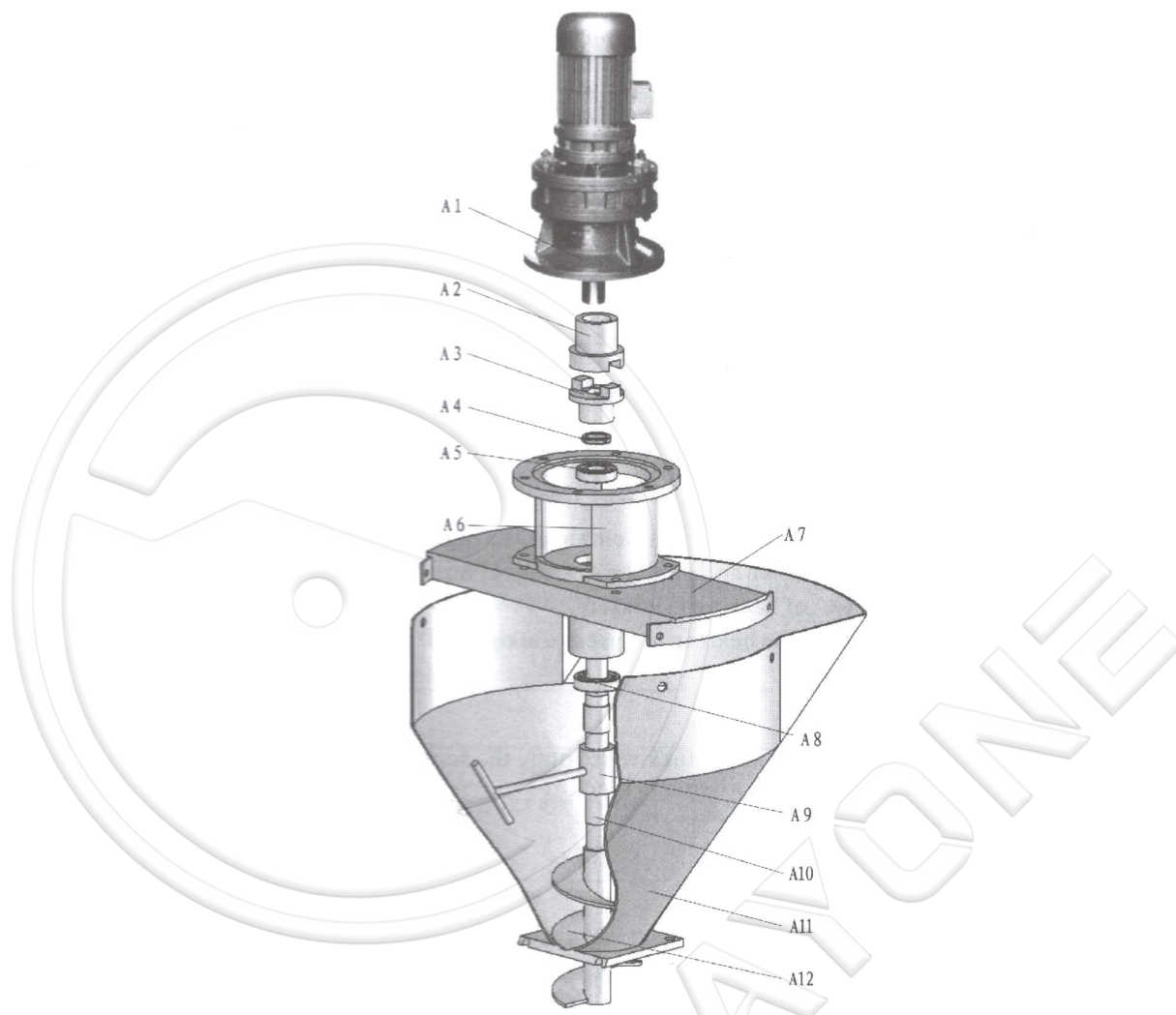
Breakdown	Cause of trouble	Trouble shooting
The oil material cannot be feed	1.The surface of screw is not smooth 2.The water of oil material is too much or too little 3.Raw material has too much capacity of oil 4.The slot of bar and pressing ring is blocked	1.Mill the screws until their surface is smooth 2.Reduce or add water properly to the material 3.Add some dull cookie of the material 4.Use hot water and steel wire to clean them
Sudden stop working	1.The water of oil material or cookie is too little 2.Too much raw material feed in before chamber being heated enough 3.The gap between the cake regulating ring and pressing screw is too small or the pressure in the chamber is too large	1.Add properly water to the material 2.Pre-heated the machine before feeding 3.Clockwise rotate the adjusting bolt to enlarge the gap
No cake output (or not regularly)	1.Screws or pressing rings are worn 2.Screws are new 3.The gap between the cake regulating ring and pressing screw is too small, the pressure in chamber increased 4.Water of oil material is abnormal	1.Change the worn parts 2. Mill the screws until their surface is smooth 3.Clockwise rotate the adjusting bolt to enlarge the gap 4. Add properly water to oil material
Cookie leaking is too much	1.Bars are too loose 2.Oil material is too dry 3.Cookie is too thin, the pressure in chamber is too large 4.The slot of bars and pressing rings is too deep 5.Pressing ring is not pressed tightly 6.Parts have been worn	1.Increase the thickness of adjusting plate 2.Add properly water to oil material 3.Clockwise rotate the adjusting bolt to enlarge the gap 4.Adjust the order of bars and pressing rings 5.Press the pressing ring tightly 6.Change the worn parts

Explosion of pressing cage	1. Too much raw material feeding at the beginning 2. Hard thing, like iron block enter the chamber 3. Do not clean completely the chamber 4. The gap between the cake regulating ring and pressing screw is too small. 5. Cookie that pressed many times (during milling) is too dry	1. Feed the material slowly 2. Take out the oil material 3. Clean the chamber after running each time 4. Clockwise rotate the adjusting bolt to enlarge the gap 5. Reduce the times of pressing or adjust the water
Oil leaks at the part of press nut	1. There are some impurity between the screws 2. Press nut is not pressed enough	1. Pull down the screws, clean them then assemble and tight them
Screw shaft are breakdown	1. The order of assemble of the big inner hole and the small inner hole of bearing is missed 2. The bearing nut press too tight	1. The big inner hole should towards to adjusting bolt 2. Keep some gap between the nut and the bearing
Rack are worn	1. Counterclockwise rotate the screw shaft when it is block	1. It is prohibit to counterclockwise rotate the screw shaft and the big triangle belt wheel
Too much oil in the cookie	1. Parts have been worn 2. Screw, pressing ring are not smooth, feeding is difficult 3. Slots are blocked 4. The temperature in chamber is too low 5. The water of oil material is too much	1. Change the worn parts 2. Mill the screw and pressing rings again 3. Use hot water and steel wire to clean them 4. Use the cookie to mill to increase the temperature 5. Bake and fry the oil material to reduce the water
Oil output rate is too low	1. Oil material is pressed too many times 2. Screw or pressing rings have been worn 3. Cookie is too thin 4. The water of oil material is too much	1. Choose the method of hot-press instead of cool-press to reduce the times of pressing 2. Change the worn parts 3. Adjust properly the thickness of cookie 4. Reduce properly the water of oil material

iv. Structure Diagram of Main Parts (Fragile Parts)

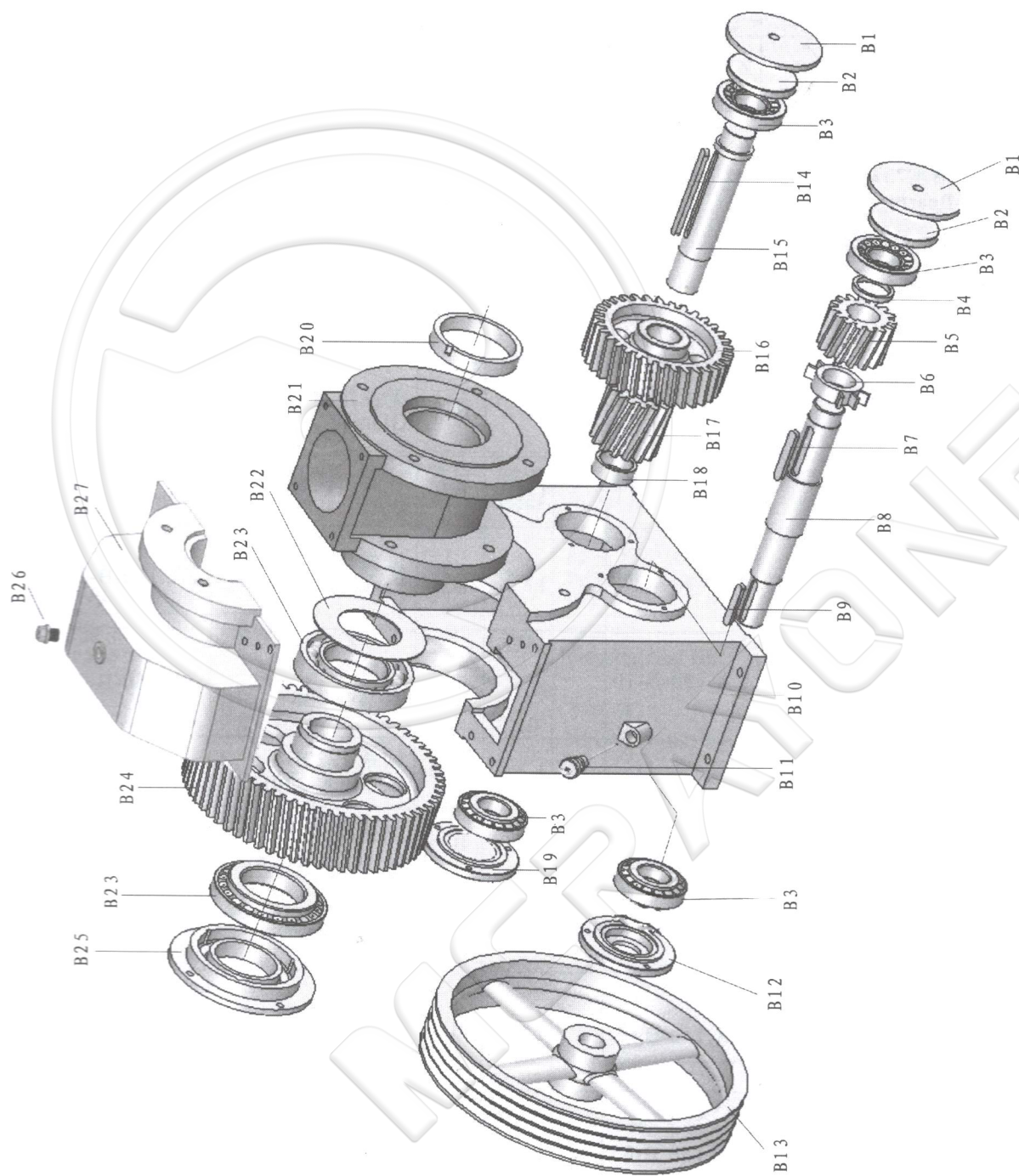
iv. Structure Diagram of Main Parts(Fragile Parts)

(i). Structure Diagram of Feed Hopper



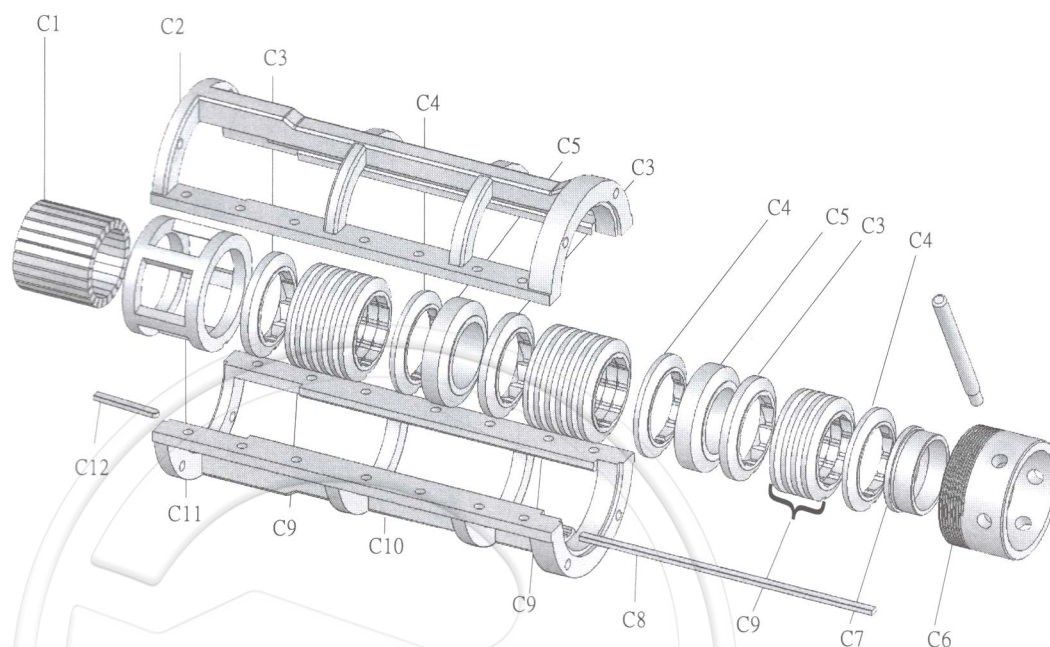
标号 Item	零件名称 Description	零件件号 Part No.	每台数量 Q' ty/set	标号 Item	零件名称 Description	零件件号 Part No.	每台数量 Q' ty/set
A1	减速机 Reducer	/	1	A7	横梁 Cross bar	ZX150-A-08	1
A2	联轴节上 Coupling-up	ZX150-A-01	1	A8	轴承 6207 Bearing 6027	/	1
A3	联轴节下 Coupling-down	ZX150-A-02	1	A9	拨料器 Wiper	ZX150-A-05	1
A4	圆螺母M27 Round nut M27	/	1	A10	进料轴 Feed shaft	ZX150-A-06	1
A5	轴承 6206 Bearing 6206	/	1	A11	料斗 Feeder	ZX150-A-04	1
A6	电机座 Motor Block	ZX150-A-03	1	A12	压料器 Twister	ZX150-A-07	1

(ii). Structure Diagram of Gearbox



标号 Item	零件名称 Description	零件件号 Part No.	每台数量 Q' ty/set	标号 Item	零件名称 Description	零件件号 Part No.	每台数量 Q' ty/set
B1	无孔压盖1 Gland 1	ZX.150-B-13	2	B15	齿轮箱短轴 Gearbox minor axis	ZX.150-B-18	1
B2	轴承挡圈 Bearing check ring	ZX.150-B-19	2	B16	33牙齿轮 Gear 33teeth	ZX.150-B-17	1
B3	轴承7311E Bearing 7311E	/	4	B17	14牙齿轮 Gear 14teeth	ZX.150-B-16	1
B4	隔套2 Spacing collar 2	ZX.150-B-14	1	B18	隔套1 Spacing collar 1	ZX.150-B-14	1
B5	主动齿轮 Active gear	ZX.150-B-15	1	B19	无孔压盖2 Gland 2	ZX.150-B-06	1
B6	甩油轮 Oilgear	ZX.150-B-11	1	B20	衬套 Bush	ZX.150-B-22	1
B7	键16×90 key 16×90	/	1	B21	进料座 Feeding base	ZX.150-B-23	1
B8	齿轮箱长轴 Gearbox major axis	ZX.150-B-10	1	B22	挡料圈 Striker ring	ZX.150-B-23	1
B9	键12×75 key 12×75	/	1	B23	轴承 7220E Bearing 7220E	/	1
B10	箱体 Gearbox body	ZX.150-B-12	1	B24	55牙齿轮 Gear (55 teeth)	ZX.150-B-04	1
B11	油尺 Oil ruler	ZX.150-B-25	1	B25	大压盖 Big gland	ZX.150-B-03	1
B12	有孔压盖 Gland with hole	ZX.150-B-08	1	B26	加油螺塞 Gasoline plug screw	ZX.150-B-01	1
B13	大三角带轮 Big v-belt wheel	ZX.150-B-05	1	B27	箱盖 Gearbox cover	ZX.150-B-02	1
B14	键14×160 key 14×160	/	1				

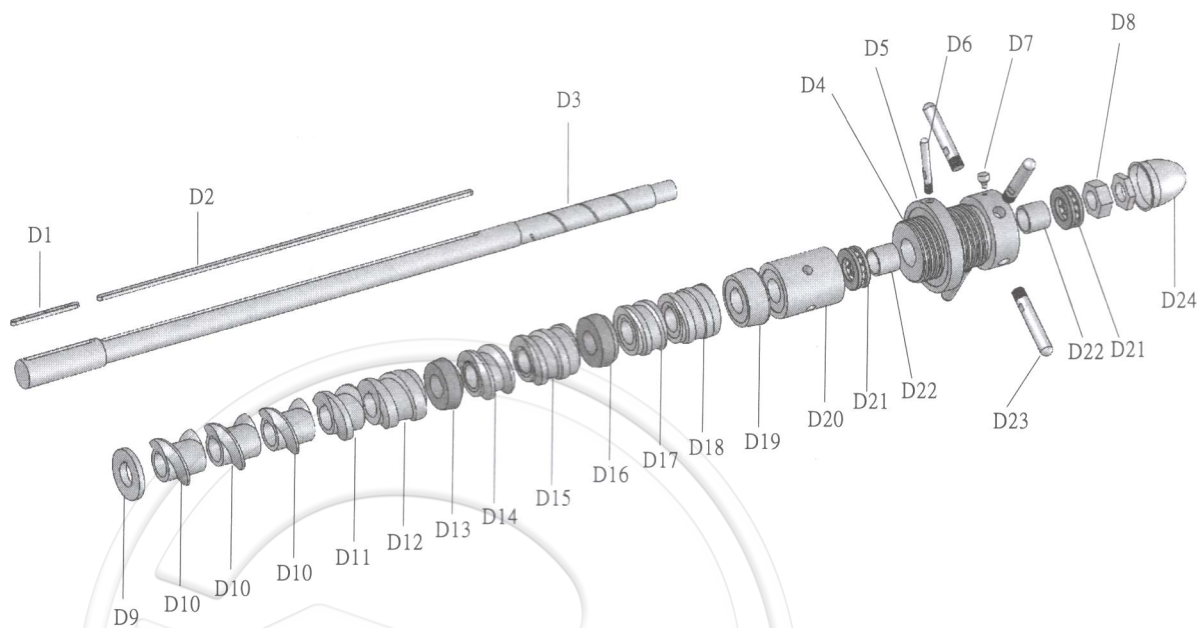
(iii). Structure Diagram of Pressing Cage and Pressing Rings



标号 Item	零件名称 Description	零件件号 Part No.	每台数量 Q' ty per set	标号 Item	零件名称 Description	零件件号 Part No.	每台数量 Q' ty per set
C1	条排 Pressing Bar	ZX.150-C-13	35	C8	榨笼长平键 Pressing cage major key	ZX.150-C-14	1
C2	上榨笼 Top cage	ZX.150-C-03	1	C9	2#圆排 Pressing ring No. 2	ZX.150-C-05	16
C3	1#圆排 Pressing ring No. 1	ZX.150-C-04	3	C10	下榨笼 Bottom cage	ZX.150-C-16	1
C4	3#圆排 Pressing ring No. 3	ZX.150-C-06	3	C11	条排骨圈 Rails group ring	ZX.150-C-02	1
C5	4#圆排 Pressing ring No. 4	ZX.150-C-07	2	C12	榨笼短平键 Pressing cage minor key	ZX.150-C-01	1
C6	压紧螺丝 Pressing bolt	ZX.150-C-09	1				
C7	出饼圈 Cake output ring	ZX.150-C-11	1				

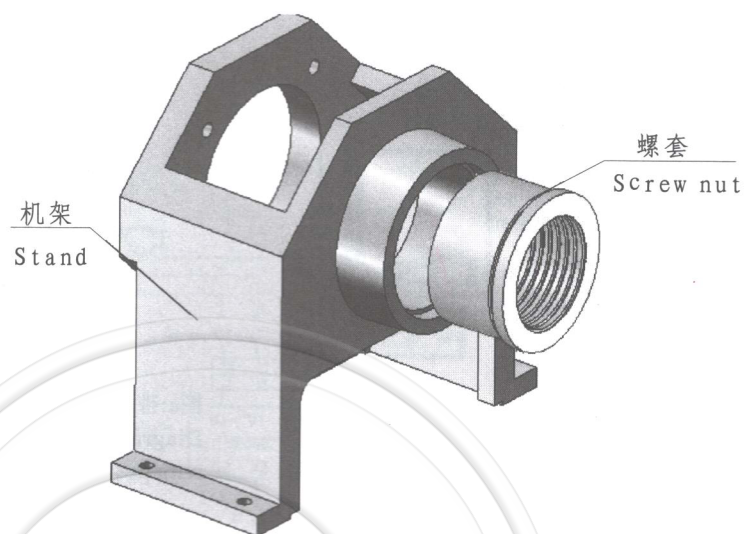
- 1、每付条排35根，另有条排剥铁1根；
- 2、每套圆排24只（号数相同的圆排装配时位置可互换）。其中1#圆排共3只，2#圆排共16只，3#圆排共3只，4#圆排共2只；
- 1、Pressing Bar:35pcs per set (with 1pc of iron spacer block)
- 2、Pressing Ring:24pcs per set (Same No.of pressing ring can be exchangeble using)
No.1 Pressing:3pcs,No.2 Pressing:16pcs,
No.3 Pressing:3pcs,No.4 Pressing:2pcs,

(iv). Structure Diagram of Screw Shaft

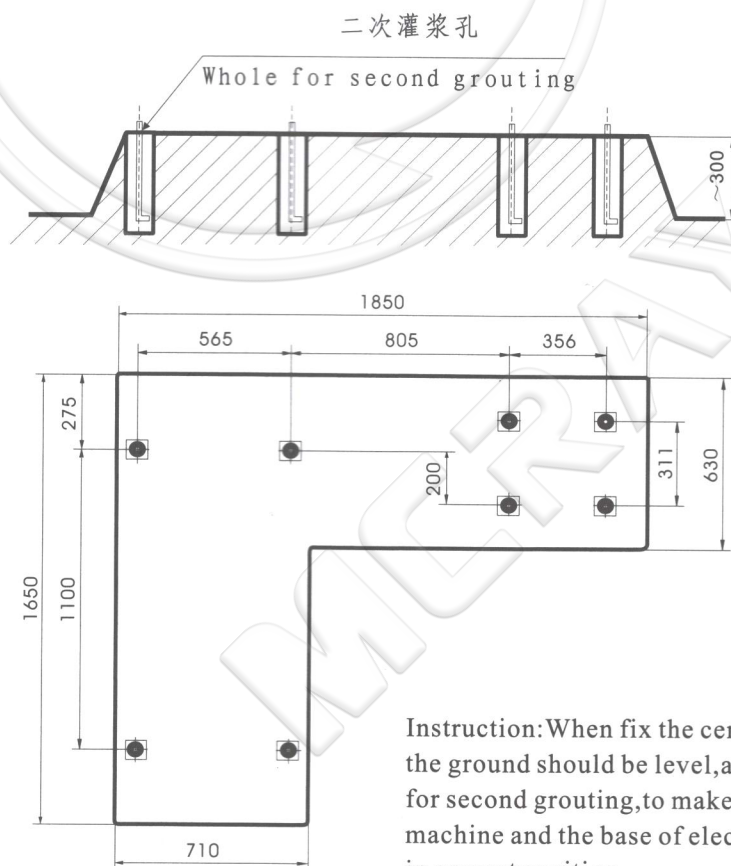


标号 Item	零件名称 Description	零件件号 Part No.	每台数量 Q' ty per set	标号 Item	零件名称 Description	零件件号 Part No.	每台数量 Q' ty per set
D1	短平键 Short flat key	ZX.150-D-02	1	D13	5#榨螺 Worm No.5	ZX.150-D-07	1
D2	长平键 Long flat key	ZX.150-D-23	1	D14	6#榨螺 Worm No.6	ZX.150-D-08	1
D3	螺旋轴 Screw shaft	ZX.150-D-01	1	D15	7#榨螺 Worm No.7	ZX.150-D-09	1
D4	调节螺丝 Adjusting bolt	ZX.150-D-21	1	D16	8#榨螺 Worm No.8	ZX.150-D-10	1
D5	紧定螺母 Tight nut	ZX.150-D-16	1	D17	9#榨螺 Worm No.9	ZX.150-D-11	1
D6	小手柄 Small handle	ZX.150-D-15	1	D18	10#榨螺 Worm No.10	ZX.150-D-12	1
D7	油杯 Oil cup	/	1	D19	出渣头 Cake guide ring	ZX.150-D-13	1
D8	端螺母 End nut	ZX.150-D-19	厚薄各1	D20	锁紧螺丝 Check nut	ZX.150-D-14	1
D9	垫圈 Intermediate collar	ZX.150-D-03	1	D21	轴承 51311 Bearing 51311	/	2
D10	1-3#榨螺 Worm No.1-3	ZX.150-D-04	3	D22	调节螺丝衬套 Adjusting bolt bush	ZX.150-D-22	2
D11	4#A榨螺 Worm No.4A	ZX.150-D-05	1	D23	大手柄 Big handle	ZX.150-D-17	4
D12	4#B榨螺 Worm No.4B	ZX.150-D-06	1	D24	防护罩 Safe cover	ZX.150-D-18	1

(v). Structure Diagram of Machine Stand



v. Basic diagram of Screw Oil Milling Machine

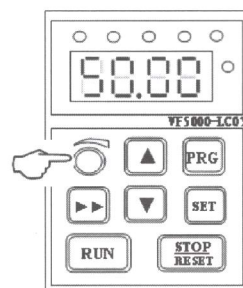
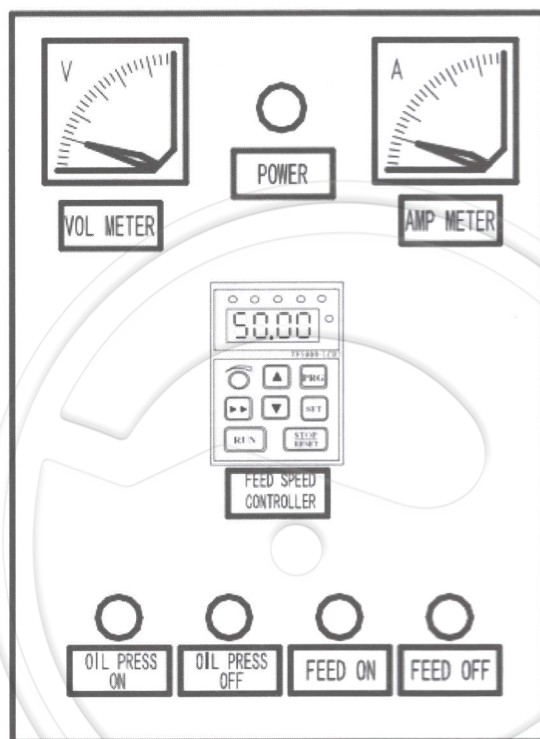


Instruction: When fix the cement ground, the ground should be level, and leave a whole for second grouting, to make sure that oil milling machine and the base of electric motor are fixed in correct position.

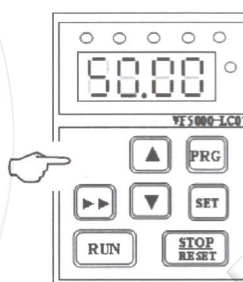
VI. Instruction

vii. Electrical Controls

ZX150 heating function with the body panel as follows



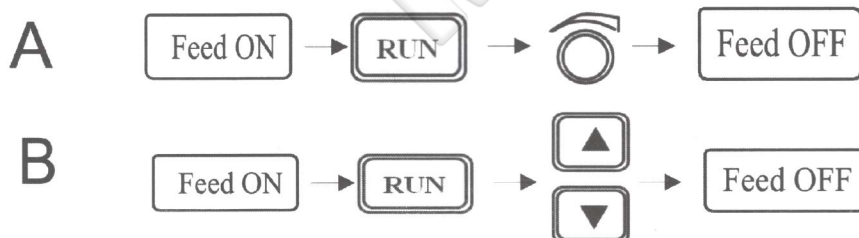
图a:带调位器的变频器面板
Diagram a. The inverter panel with position adjustment



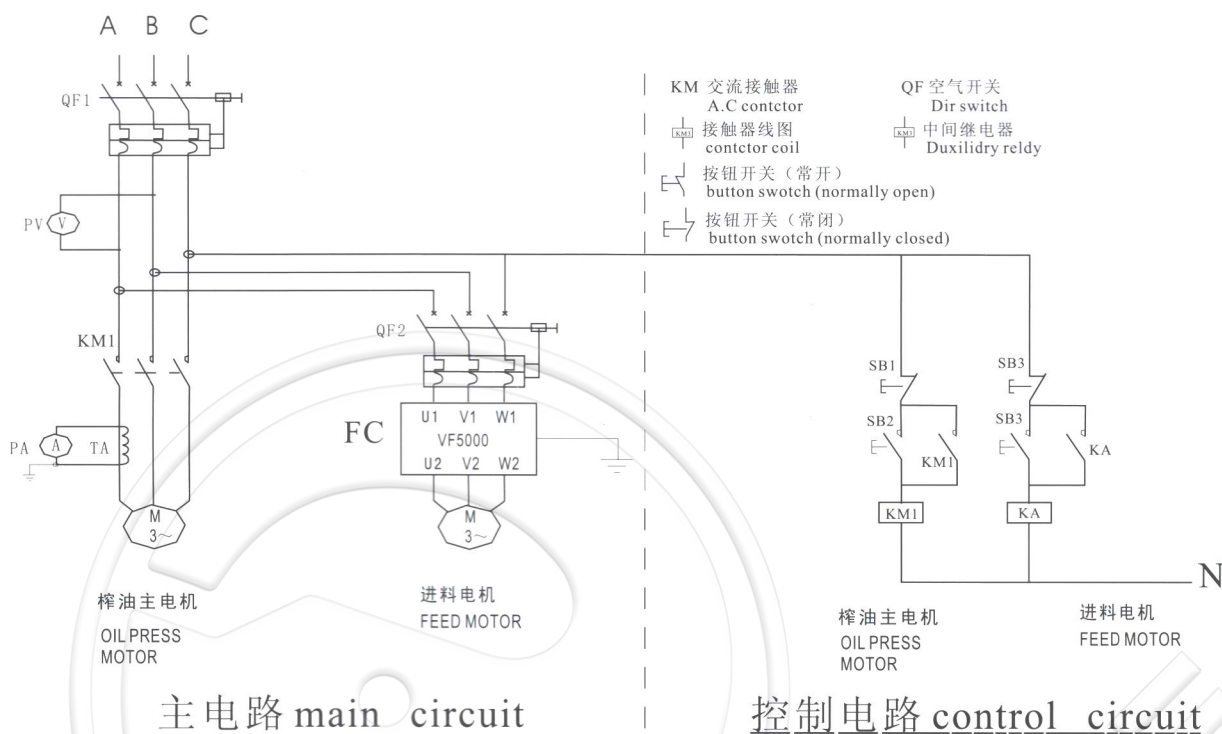
图b:无调位器的变频器面板
Diagram b. The inverter panel without position adjustment

(i) .The adjustment method of feeding motor frequency

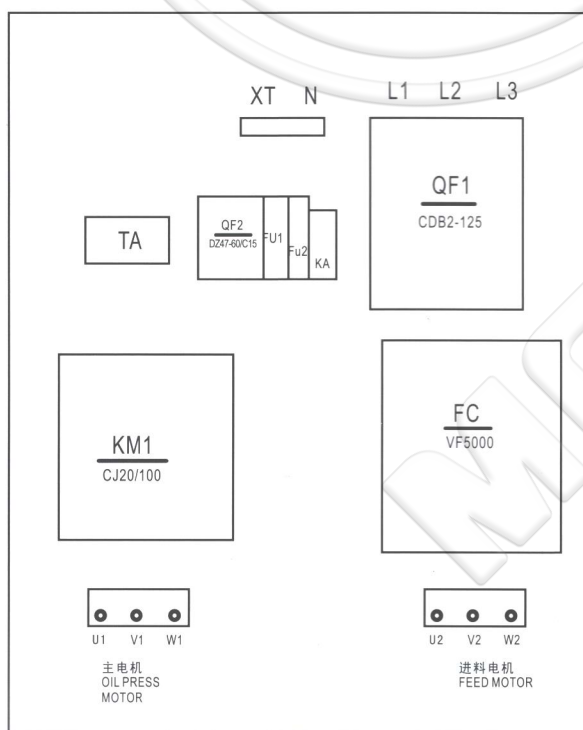
The inverter have two panels,one with the position adjustment(Diagram a)and one without the position adjustment(Diagram b), the adjustment method of the one with the position adjustment as shown in A, the one without the position adjustment as shown in B; (Actually,the inverter J can regulation as B method, but it need to set the inverter, if users need it can see the inverter instruction)



(ii). Electrical Diagram



(iii). The Diagram of the switch box electrical installation and motor wiring



控制箱电气布置图及电机接线图

漏电保护开关任何情况下不可缺，不能用普通空气开关代替

The diagram of the switch box electrical installation and motor wiring

In any case, the leakage protection switch is indispensable, cannot use the ordinary air switch instead of.