

BENCH MILL DRILL MACHINE

Instruction manual



---Model: SX3.5 Series---

Please read this manual thoroughly and follow all directions carefully

IMPORTANT SAFETY INSTRUCTION

READ ALL INSTRUCTIONS AND WARNINGS BEFORE USING THIS TOOL

Operator

COMMON SENSE AND CAUTION ARE FACTORS WHICH CANNOT BE BUILT INTO ANY PRODUCT. THESE FACTORS MUST BE SUPPLIED BY THE OPERATOR. PLEASE REMEMBER:

1. When using electric tools, machines or equipment, basic safety precautions should always be followed to reduce the risk of fire, electric shock, and personal injury.
2. Keep work area clean. Cluttered areas invite injuries.
3. Consider work area conditions. Do not use machines or power tools in damp, wet, or poorly lit locations. Do not expose equipment to rain, keep work area well lit. Do not use tools in the presence of flame gases or liquids.
4. Keep children away, all children should be kept away from the work area.
5. Guard against electric shock. Prevent body contact with grounded surfaces such as pipes, radiators, ranges, and refrigerator enclosures.
6. Stay alert. Never operate if you are tired.
7. Do not operate the product if under the influence of alcohol or drugs. Read warning labels on prescriptions to determine if your judgment or reflexes might be impaired.
8. Do not wear loose clothing or jewelry as they can be caught in moving parts.
9. Wear restrictive hair covering to contain long hair.
10. Use eye and ear protection. Always wear.
11. Keep proper footing and balance at all times.
12. Do not reach over or across running machines.

Before operations

1. Be sure the switch is OFF when not in use and before plugging in.
2. Do not attempt to use inappropriate attachments in an attempt to exceed the tool's capacity. Approved accessories are available from the dealer or machine maker.
3. Check for damaged parts, before using any tool, any part that appears damaged should be carefully checked to determine that it will operate properly and perform its intended function.
4. Check for alignment and binding of all moving parts, broken parts or mounting fixtures and any other condition that may affect proper operation. Any part that is damaged should be properly repaired or replaced by a qualified technician.
5. Do not use the tool if any switch does not turn off and properly

Operation

1. Never force the tool or attachment to do the work of a larger industrial tool. It is designed to do the job better and more safely at the rate for which it was intended.
2. Do not carry the tool by its power cord.
3. Always unplug the cord by the plug. Never yank the cord out of the wall.
4. Always turn off the machine before unplugging.

**IF THERE IS ANY QUESTION ABOUT A CONDITION BEING SAFE OR UNSAFE,
DO NOT OPERATE THE TOOL!**

Grounding Instructions

This machine has a three-prong plug, the third prong is the ground. Plug this cord only into a three-prong receptacle. Do not attempt to defeat the protection the ground wire provides by cutting off the round prong. Cutting off the ground will result in a safety hazard and void the warranty.

DO NOT MODIFY THE PLUG IN ANY WAY. IF YOU HAVE ANY DOUBT, CALL A QUALIFIED ELECTRICIAN.

Specification:

Max. drilling capacity:	28 mm
End mill capacity	25 mm
Max. tapping capacity	12 mm
Face mill capacity	63 mm
Throat	230 mm
Max. distance spindle to table	370 mm/MT3, 340 mm/R8
Spindle taper	Choice of MT#3 or R8
Spindle speed	Low range: 100-1800 rpm \pm 10% High range: 280-5000 rpm \pm 10%
Table effective size	740x180 mm
T-slot size	12 mm
Table longitudinal travel (X)	500 mm
Cross travel (Y)	210 mm
Head stock travel (Z)	250 mm with chuck guard
Power	1000 W
Overall dimension (L*W*H)	950*770*920 mm
Packing size (L*W*H)	1100*920*990 mm
Weight (Net/Gross)	147 / 170 Kg

Unpacking & Preparing for Use

Before unpacking you must check the package carefully, to find whether it is damaged and any may have effect on the machine, please connect with the distributor in advance.

Unpacking carefully, check the species of standard accessories and the quantity to find whether it is as same as the packing list in the package.

Product selection instructions:

The SX3.5 Bench mil drill have different models to choose for you, the standard model we call it name is SX3.5, you can add digital readout display the model name is SX3.5D, you can add a power feeder use on the worktable the model name is SX3.5P, you can add the Z axis auto lift the model name is SX3.5Z.

1, The “D” means with “3 axis display”; use three axis magnetic grating ruler+Digital readout display.

2, The “P” means with “Power feeder” use on the worktable;

3, The “Z” means use a step motor fixed on top of the fuselage make the head stock raise or down by motor, instead Z axis hand wheel. We can call it “Z-axis auto lift”.

Of course, you can also choose to install several optional features at the same time; It can make your milling machine more complete, more convenient and easy to operate.

Please see model selections chart as below:

Model selections chart

Model	D	P	Z
SX3.5			
SX3.5D	✓		
SX3.5P		✓	
SX3.5Z			✓
SX3.5DP	✓	✓	
SX3.5DZ	✓		✓
SX3.5DZP	✓	✓	✓

Model SX3.5 picture



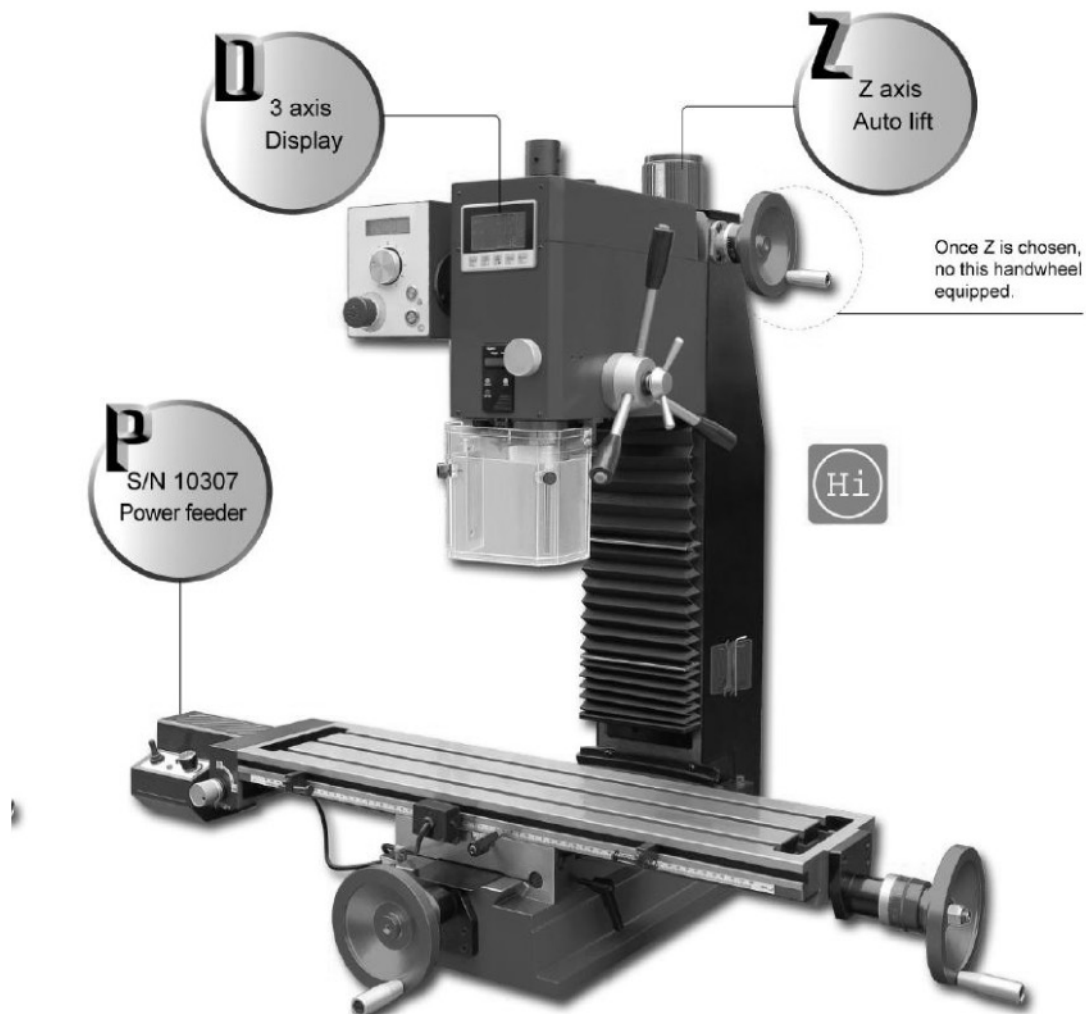
Model SX3.5DZP picture



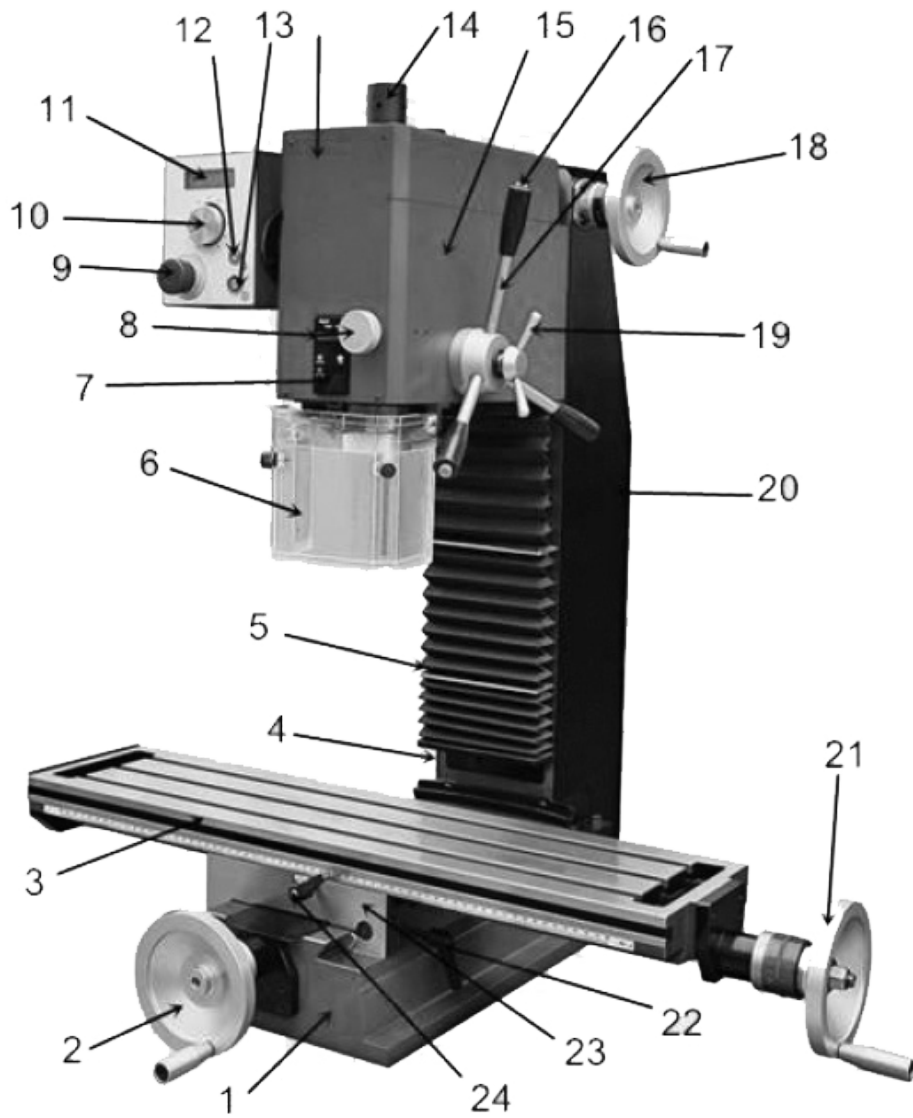
The main features and advantages of this product

- 1, The highest speed arrange 5000 rpm; variable spindle speed;
- 2, Spindle speed digital readout;
- 3, Tapping function;
- 4, Brush less DC motor;
- 5, Chuck guard with safety switch;
- 6, Feeding depth digital readout;
- 7, Fine feeding;
- 8, With two USB sockets, can supply power to lamp or IPAD;
- 9, Large size worktable 740*180mm;
- 10, High grade aluminum hand wheel, anodic oxidation treatment of the whole Aluminium Rod Surface;
- 11, High grade scale ring, Surface anodic oxidation treatment.
- 12, Small tools adsorption zone.

Model SX3.5 DZP SHOWING



PRODUCT FEATURE --- use standard SX3.5 model introduce----



1	Base	2	Y-axis hand wheel
3	Large size worktable	4	Fuselage (with protect cover)
5	Power socket with fuse	6	Protective dust guard assembly
7	Depth display	8	Fine feeding handle
9	Emergency stop switch	10	Knob with potentiometer
11	Spindling speed display	12	Tapping function button
13	Start button	14	Spindle box top cover
15	Spindle box	16	Tapping button (change to F/R)
17	Spindle lifting lever	18	Z-axis handle wheel
19	Fine feeding lock handle	20	Back mask
21	X-axis handle wheel	22	Saddle lock handle
23	Saddle	24	Worktable lock handle

Installation

CAUTION!

DO NOT ATTEMPT TO USE THE MACHINE UNTIL INSTALLTION IS CAMPLETED, AND ALL PRELIMINARY CHECKS HAVE BEEN MADE IN ACCORDANCE WITH THIS MANUAL.

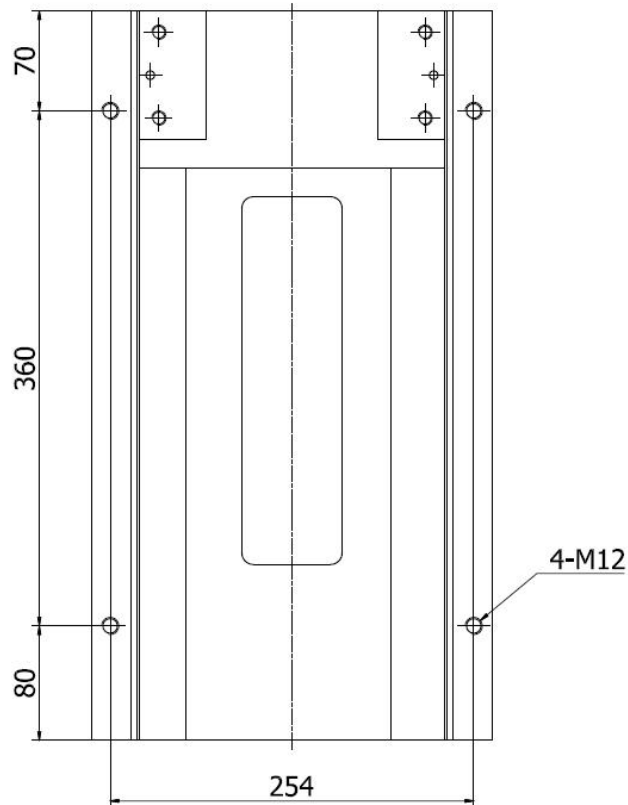
MOUNTING THE MACHINE

The machine should be mounted on a strong, heavy workbench, of sufficient height so that you do not need to bend your back to perform normal operations.

Ensure the location is adequately lit and that you will not be working in your own shadow.

We strongly recommend that the machine bolted firmly to strong workbench using the tapped holes used to secure the feet to the machine. This is to provide added stability and consequently, additional safety.

To do this, first drill four M12 clearance holes in a worktop, at the dimensions shown in the diagram opposite, and with appropriate length M10 bolts, or screws, with flat washers. (not supply, you need prepare these by yourself).



Application

This Bench mill drill machine is for milling or drilling, widely used in different places. Fine exterior, wide range of speed and easy to use.

Designed for industrial usage milling, drilling, reaming, steps and mill plane with metal and other material.

Operation (take standard model X3.5 for instance)

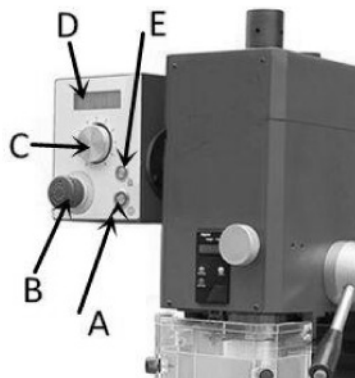
Before starts to use this machine, operator should go through the instructions carefully so as to acquaint with the construction of the machines, the functions of the various controls and also the driving systems.

Let me introduce the operator step to you:

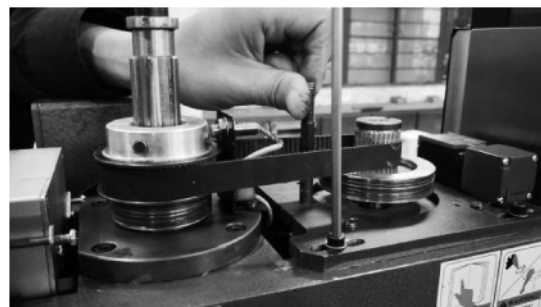
Step 1: Insert the power line into the socket left of the fuselage, then power on;



Step 2: Loosen the emergency stop switch (B), then the spindle speed display (D) will brighten and show "0000", press the start button (A) then clockwise rotation of the speed control knob (C), can make the spindle speed rise to the highest position. Under these circumstances the mill only has forward direction. Under tapping circumstances have forward and reverse direction. Press the tapping function lock button (E), then this button will brighten, then you can press a green button to choose the spindle run to forward or reverse. The green buttons total 3 pcs, they are on the right of the spindle box in the lifting lever. You can see the words of forward or reverse on the right of the display (D), it is easy to show the user the direction of the rotation of the spindle.



Step 3: The mill has two range spindle speeds, the low range is: 100-1800 rpm, and the high range is: 280-5000 rpm. If you need to change the spindle speed from high range to low range or from low range to high range, you need to open the cover (with safety switch) on top of the spindle then change the belt to up or down position. See picture as below:



Step 4: If you want to stop the spindle you can anticlockwise turn the speed control knob (C) to the "0" position, or press the start button (A) the spindle will stop running.

Step 5: When you control the mill and need quickly stop the spindle speed, you can clap the emergency stop switch (B), the mill will stop immediately.

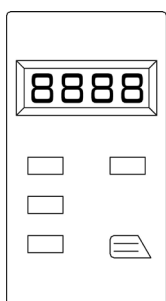
Notice: In general, it is only in an emergency that a snap stop switch is needed to stop the spindle from turning. Do not often use the emergency stop switch (B) stop the machine, it is bad to the main PC Board.

Notice:

After using should turn the power switch to position '0' and press the emergency stop switch (B), then pull out the power plug from socket.

Several characteristic functions

1. Spindle depth display



2. Chuck guard with safety switch



3. Spindle fine feeding (tighten the lock knob "A" then turn the fine feeding knob "B").



4. Small tools adsorption zone



5. With two USB sockets, can supply power

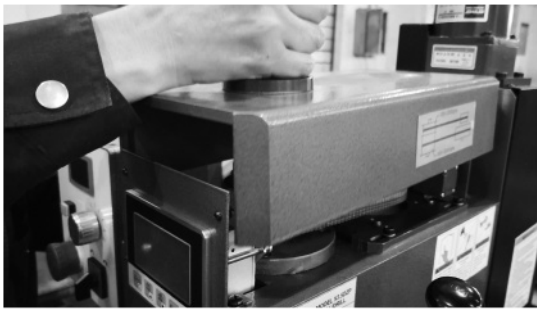


Introduction of High and low Speed shift

1. Loosen and remove the hand screws and gaskets on the top cover of the box;



2. Pull the top cover of the box with the pull rod protector on the top of the hand. Note: do not remove the two screws above the front.



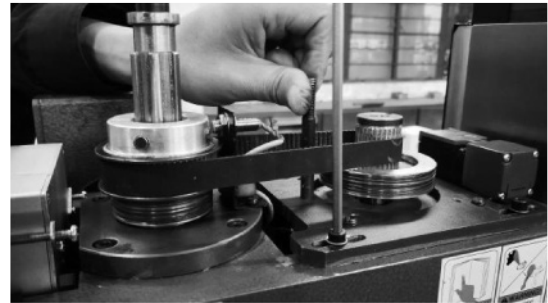
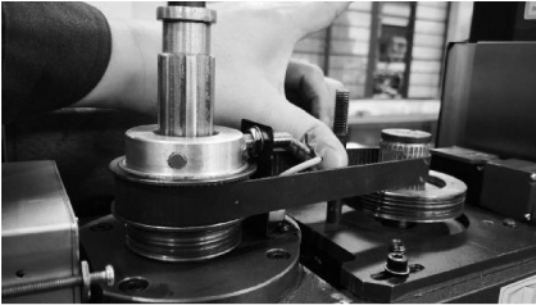
3. Use the inner six angle wrench to unlock the internal six angle screws M5 of the 4 locking motor connecting plates, and pull the motor connecting plate with the hand direction to the main axis, and the belt loosens easily. Usually the factory state is at this high speed position.



4. The synchronous gear belt for low-speed gear is removed from the attachment package and mounted on the upper low-speed gear;



5. Push the long bolt with hand to drive the motor to move to the column side, the belt is tight, then lock 4 inner hexagonal screws to fasten the motor connecting plate;



6. check the looseness of the synchronous belt by hand pressing, after confirming ok, lock the fastening screw of the motor connection plate again, and install the top cover of the box with the gasket and nut to complete the belt replacement.



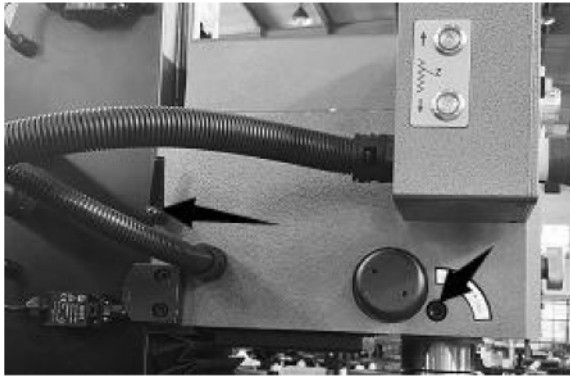
7. change the range from high speed to low speed or from low speed to high speed in the same mode.

Brief introduction of conventional mechanical operation

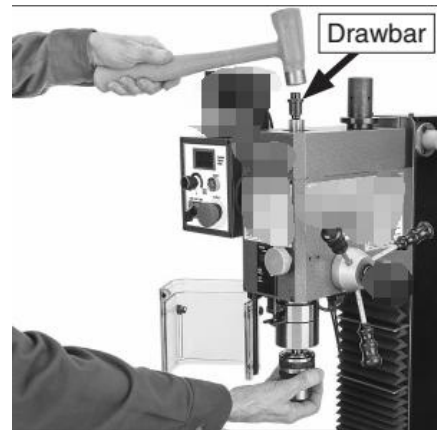
1. The clamping tool and work piece must stop the machine first;
2. Clean the inner hole of the spindle and the conical surface of the tool rod, push the tool rod into the inner hole of the spindle, and put in the pull rod to hang the tool rod;
3. The parts to be processed are placed on the surface of the worktable. After pressing with the pressing plate or use vice clamped, the parts are moved to the desired position vertically and horizontally.



4. Loosen the column lock handle, shake the lift handle and move the spindle box down;
5. Start the machine, select a good rotation speed, turn counterclockwise to turn the lifting handle, and drilling or milling can be done at this time;
6. When milling parts, we must lock the spindle box and spindle, at the same time lock the longitudinal transverse plug iron according to the need, so as not to change the machining size;



7. When replacing the drill chuck or milling chuck, open the top shield loosely on the edge, loosen the screw thread of the pull rod 2-3 teeth, then use a hammer to knock the taper handle away from the main shaft, and finally loosen the handle with the hand to replace the rod.



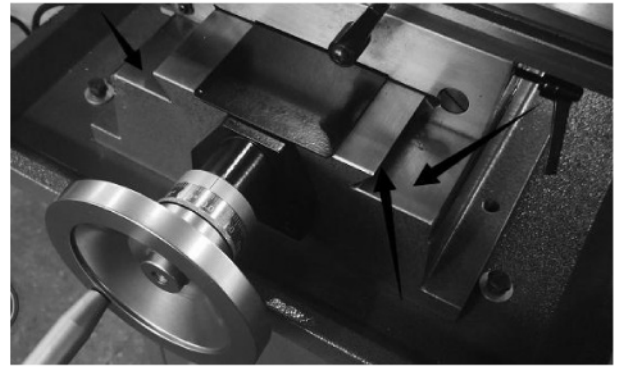
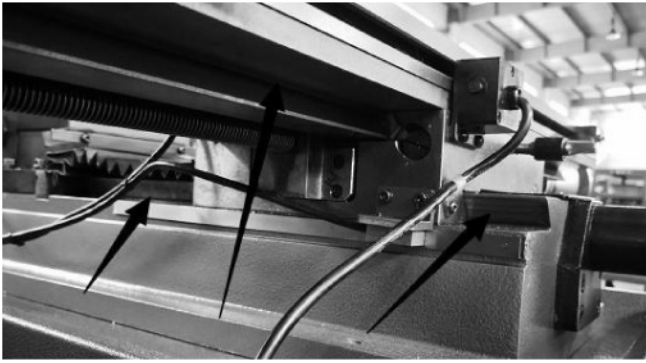
After using

After the completion of the work, the power supply should be cut off, the machine tool and environment should be cleaned well, and mechanical oil should be added to the exposed surface of the machine to prevent the surface of the machine from rusting and affecting the use and beauty of the machine.

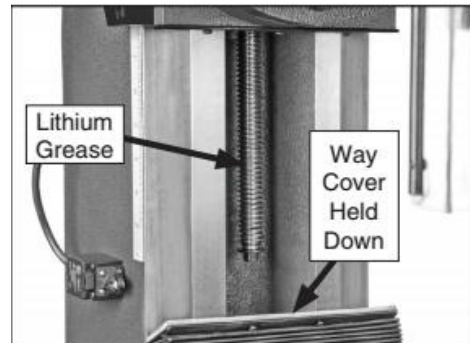
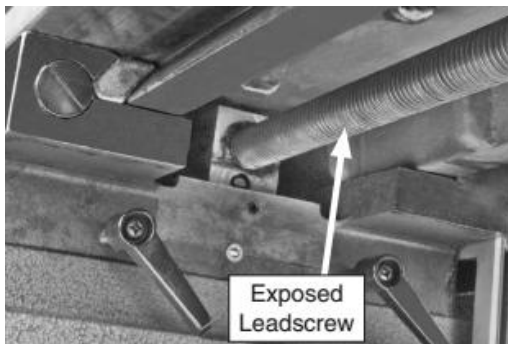
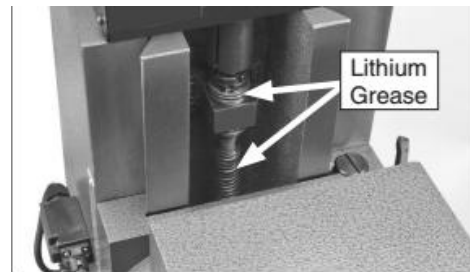
Machine tool lubrication

In order to ensure the long service life of the machine and the effective operation of the machine tool, lubricating oil or lubricating oil is regularly added to each moving joint and joint.

Where lubricating oil is needed is mainly the dovetail surface in three directions of XYZ axis. (Position as indicated by arrow)



The main ones that need to be lubricated are XYZ's three axial thread rods and rod nuts.

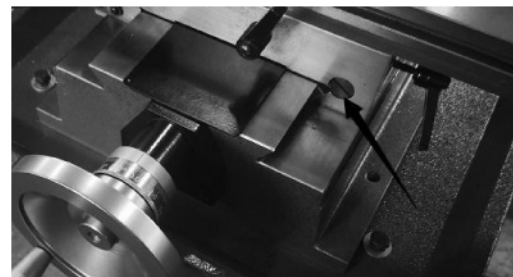


Oblique plug iron adjustment

The mill machine use oblique plug iron (the angle degree is 1:100) between the base and saddle, saddle and work table, head stock and fuselage. Because use the oblique plug iron make the worktable, saddle and head stock move is very smooth and keep the high-accuracy.

After running for a long time, the oblique plug iron of the worktable, the saddle and the spindle box should be adjusted in order to eliminate the gap error, make the machine tool be in a reliable condition for a long time and ensure the accuracy of the machine tool.

It is easy to adjustment the oblique only need use a word screwdriver tighten slightly clockwise the adjust screw as below allow show.



Common trouble problems and their Solutions

Symptom	Possible Cause	Possible Solution
Motor can not start	<ol style="list-style-type: none"> 1. The power supply is not on. 2. Low voltage. 3. Motor open circuit or loose connection. 4. The external input socket is broken. 5. May which switch is bad or connect line loosen; 	<ol style="list-style-type: none"> 1. Turn on the emergency stop button 2. Check that the voltage of the power supply is correct. 3. Check that all the connections of the motor are loosened or disconnected. 4. Check and confirm the input socket is ok. 5. Check switchs and the connect lines is tighten.
Fuse or circuit breaker disconnected	<ol style="list-style-type: none"> 1. wire or plug short circuit 2. circuit board short circuit 3. power supply fuse or circuit breaker incorrect. 	<ol style="list-style-type: none"> 1. Check wires and plugs for damaged or missing insulation and replace them with extension wires. 2. Check the voltage of the power supply is correct 3. Check that all connections of the motor are loose or welded or insulated, and replace the correct fuse or circuit breaker in time
Motor overheating	<ol style="list-style-type: none"> 1. Motor overload 2. Air circulation of motor is restricted 	<ol style="list-style-type: none"> 1. Reduce the load of motor 2. Clean the motor and ensure smooth circulation of air
The hand wheel of a transverse or feed trawl is too loose	<ol style="list-style-type: none"> 1. The adjusting screw is not in place. 2. Hand wheel loosened 3. Wire rod assembly old or not in place 	<ol style="list-style-type: none"> 1. Tighten the adjusting screw and lubricate the bed 2. Tighten the hand wheel knob 3. Tighten all loose knobs on the thread rod assembly.
The machine makes constant noise	<ol style="list-style-type: none"> 1. The gear or bearing is out of order. 2. The motor is out of order. 	<ol style="list-style-type: none"> 1. Replace damaged gear or bearing 2. Replace motor
During operation, the machine stops	<ol style="list-style-type: none"> 1. Drilling and milling too deep 2. The wrong speed or feed speed was used in the drilling and milling operation. 3. Milling cutter damage 4. Motor or motor carbon brush damaged 5. Gear damaged 	<ol style="list-style-type: none"> 1. Reduce drilling depth 2. Choose the right speed 3. Replacement milling cutter 4. Replacement of carbon brush or motor 5. Replacement gear
Finish surface difference	<ol style="list-style-type: none"> 1. Speed or feed speed error 2. Milling cutter broken or wrong selected 	<ol style="list-style-type: none"> 1. Change the milling cutter by adjusting the correct speed or feed speed 2. Change the cutter
Difficult to move the end part on the guide rail	<ol style="list-style-type: none"> 1. Drying of guideway 2. Z shaft hand wheel to tighten 3. Over compacted with debris on guide rail 	<ol style="list-style-type: none"> 1. Lubricating oil 2. Adjusting screw 3. Cleaning guide
T - type nut is difficult to fix	<ol style="list-style-type: none"> 1. T type nut defect or damaged 2. T-groove on the wrong working table 	<ol style="list-style-type: none"> 1. Replacement of type t nut 2. Replacement of table or well-used T slot

Introduction to several functions that you can choose to add

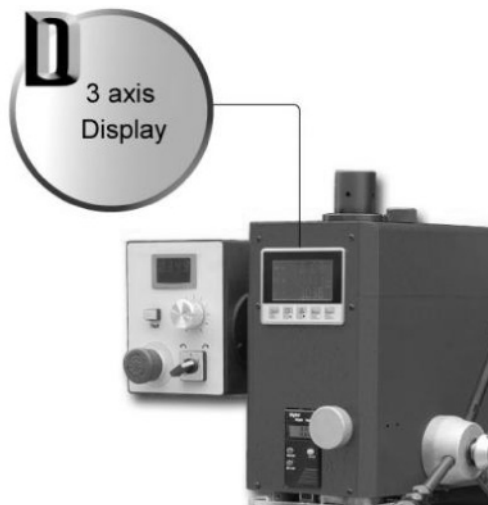
Notice: Pre - purchase determination is to be directly installed by the factory, you can choose one function or more. Then they have different name (see Model selections chart)

Model selections chart

Model	D	P	Z
SX3.5			
SX3.5D	✓		
SX3.5P		✓	
SX3.5Z			✓
SX3.5DP	✓	✓	
SX3.5DZ	✓		✓
SX3.5DZP	✓	✓	✓

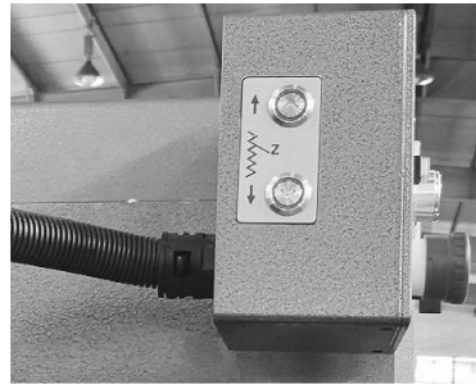
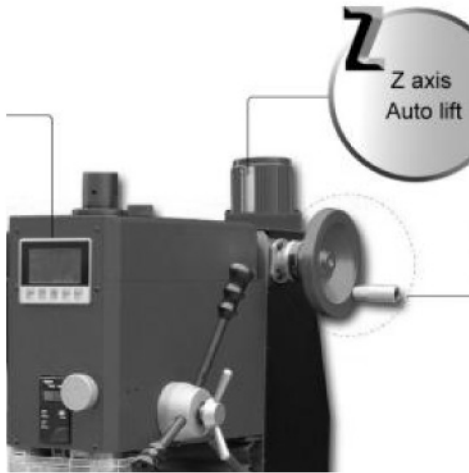
“D” type means with 3-axis Display

This function include a digital readout display (include three reader), use three magnetic scale fixed on the work table, base and the fuselage. When the XYZ axis have move, the reader will send the to transmit a moving distance signal to the digital readout display before the head stock, then the user through the DRO can quickly and clearly know the moving distance about X-axis or Y-axis or Z-axis. No need check the scale on the hand wheel or do some test or record, so it is very useful and interesting function.



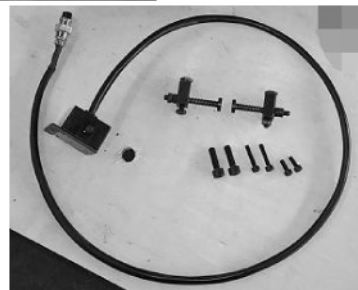
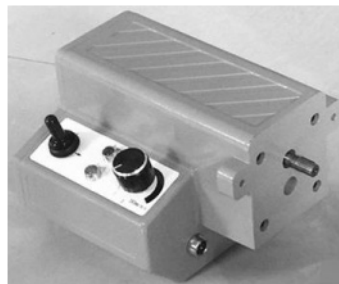
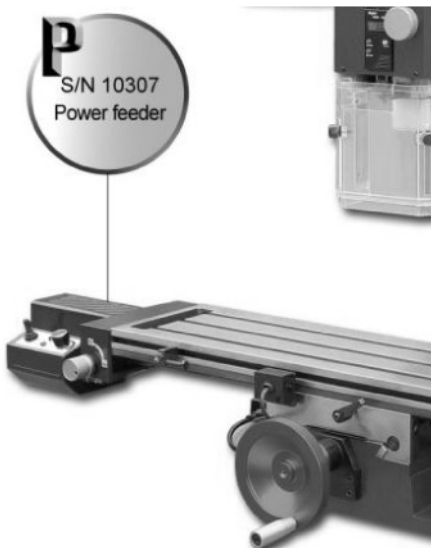
“Z” type means can make the head stock auto lift

Once choose add the “Z” axis auto lift, no Z-axis hand wheel required. Use the step motor can easy make the head stock raise or down. Also the move is quickly than use hand wheel.



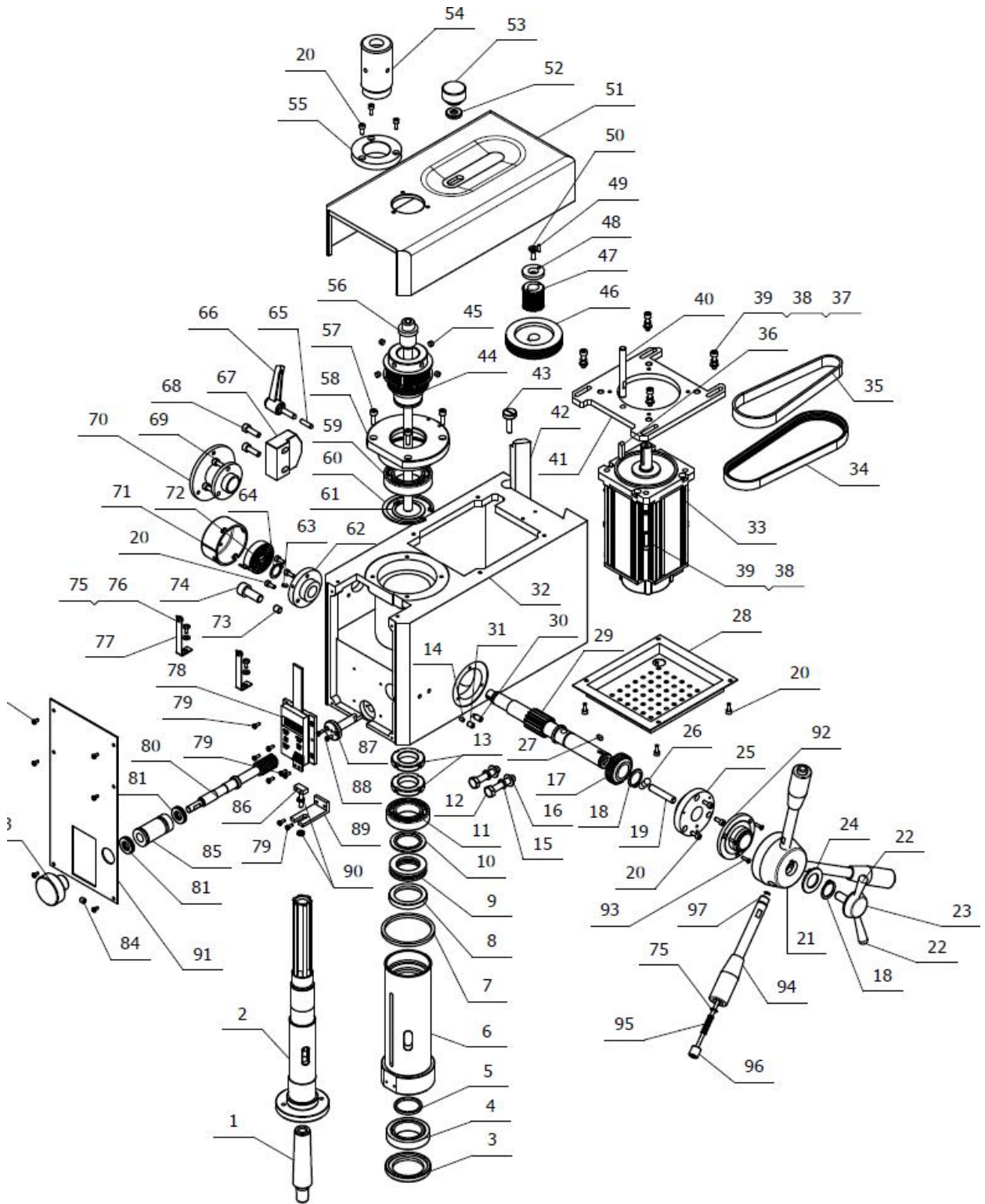
“P” type means add the power feeder on the worktable

Fix the power feeder on the worktable can make the worktable move follow X-axis auto feed, not easy control to the user also can give better surface effect. The power feeder have a clutch can quickly change between handle or automatic.



Parts Drawing -----1A-----

Product configuration: This drawing is for SX3.5 standard model, MT3, 220-240V, Metric



Parts List -----1A----

Product configuration: This parts list is for SX3.5 standard model, MT3, 220-240V, Metric

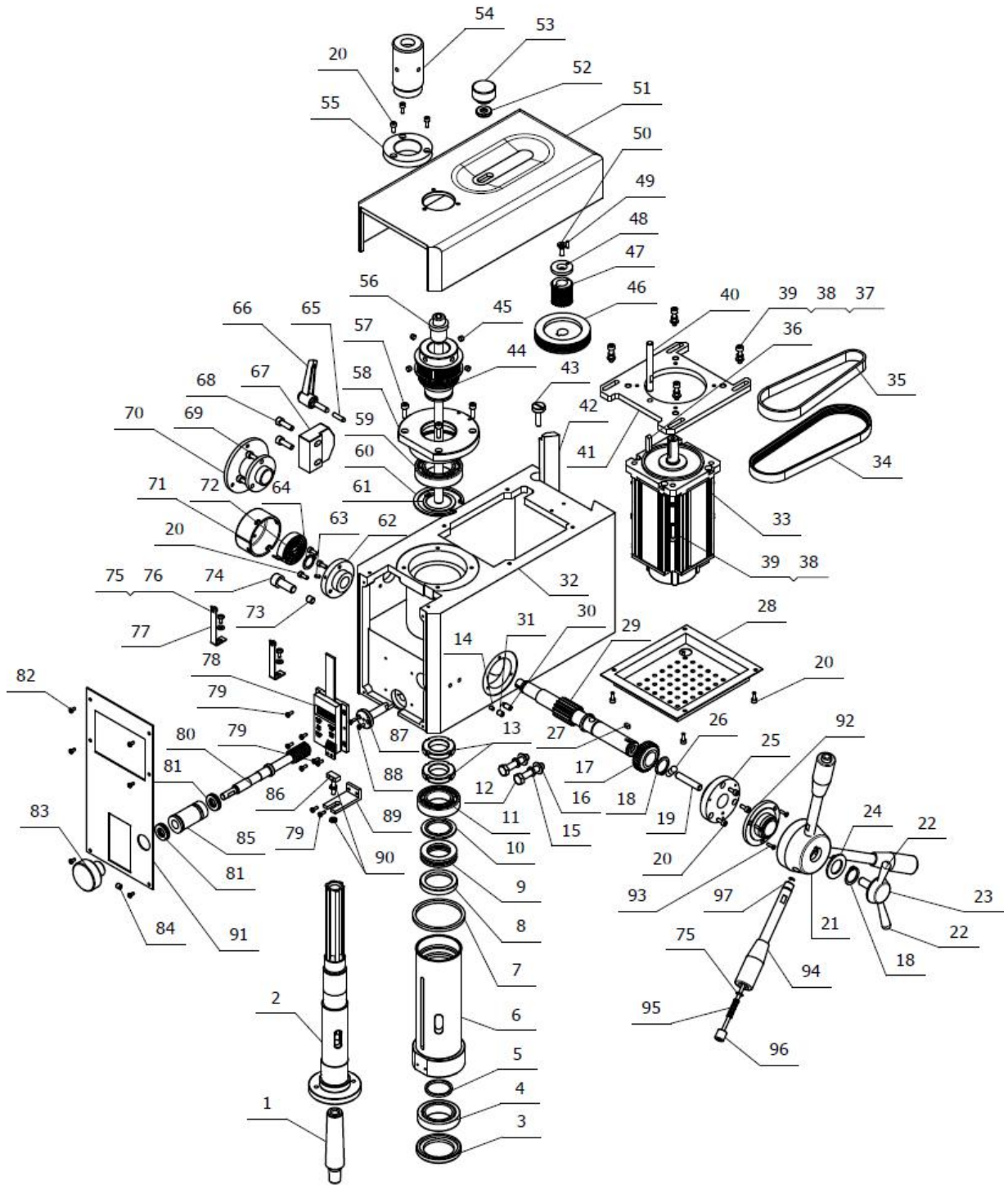
NO.	Drawing No.	Description	Q'ty
1A-1	LX20206	B16 Taper shank	1
1A-2	LX350203	spindle	1
1A-3	LX3C0219	spindle under oil seal I	1
1A-4	GB/T 297-94 - 32907	Taper roller bearing 32907	1
1A-5	LX3C0209	Up washer	1
1A-6	LX350202	Spindle sleeve	1
1A-7	LXN3A0226	Sleeve limit washer	1
1A-8	L'X3C0216	Spindle under oil seal II	1
1A-9	GB 301-84 - 8106	Thrust ball bearing 8106	1
1A-10	LX3C0210	Up washer II	1
1A-11	GB 278-89 - 80106	Deep groove ball bearing 80106	1
1A-12	GB 5781-86 - M8x40	Hexagon headed bolt M8*40	2
1A-13	GB 810-88 - M27x1.5	Slotted round nut M27*1.5	2
1A-14	LX350215	Press cake	1
1A-15	GB 93-87 - M8	Spring washer 8	2
1A-16	GB 97.1-85 - 8	Washer 8	2
1A-17	LXN3A0210	bevel wheel	1
1A-18	GB 894.1 - 20	Check ring 20	2
1A-19	LX350224	Locking small shaft	1
1A-20	GB 70-85 - M4 x 10	Socket head cap screw M4*10	13
1A-21	LXN3B0202	Handle seat	1
1A-22	LX350208	Small handle	2
1A-23	LX350207	Locking lever	1
1A-24	LX350210	Adjust washer	1
1A-25	LXN3B0204	Shaft right support flange	1
1A-26	GB308-89 - 8	Ball 8	3
1A-27	GB1096 4x8	Flat key 4*8	1
1A-28	LSX350202	Down cover	1
1A-29	LX350204	Gear shaft	1
1A-30	GB 79-85 - M6 x 14	Slotted cylindrical end fastening screw M6*14	1
1A-31	GB 77-85 - M6 x 8	Internal hexagonal flat end fastening screw M6*8	1
1A-32	LX350201	Spindle box	1
1A-33	1000W	Brushless motor	1
1A-34	Jx456x13 (5 slot)	poly V-belt J*456*13 (5 slot)	1
1A-35	3M-396-15	Timing belt 3m*396*15	1
1A-36	GB1096-79 5x25	Flat key 5*25	1
1A-37	GB 97.1-85 - 5	Washer 5	4
1A-38	GB 93-87 - M5	Spring washer 5	8

1A-39	GB 70-85 - M5 x 20	Socket head cap screw M5*20	8
1A-40	LX350228	Double end stud	1
1A-41	LX350205	Motor fixed plate	1
1A-42	LX350220	Oblique plug iron	1
1A-43	LX350221	Iron stopper screw	2
1A-44	LX350216	Spindle synchronous belt wheel	1
1A-45	YE023003	Magnet steel Φ6	4
1A-46	LSX350201	Motor synchronous belt wheel	1
1A-47	LX350214	Motor synchronous belt wheel	1
1A-48	LX3C0233	Washer	1
1A-49	GB 119-86 - A 3 x 10	Round pin A3*10	1
1A-50	GB 819-85 - M6x16	Cross recessed countersunk head screw H M6*16	1
1A-51	LX350206	Box top cover	1
1A-52	LX350223	Washer	1
1A-53	LX350227	Handle	1
1A-54	LX3C0265	Dust cover on spindle II	1
1A-55	LX3C0220	Dust cover on spindle I	1
1A-56	LX3C021100	lifting rod	1
1A-57	GB 70-85 - M5 x 16	Socket head cap screw M5*16	4
1A-58	LX350222	Bearing seat	1
1A-59	GB 278-89 - 80107	Deep groove ball bearing 80107	1
1A-60	GB 893.1 - 62	Check ring 62	1
1A-61	GB 894.1 - 35	Check ring 35	1
1A-62	LX3C0252	Shaft tooth left support flange	1
1A-63	GB 879-86 - 3 x 8	Spring round pin 3*8	1
1A-64	GB 894.1 - 16	Check ring 16	1
1A-65	LX351121	Longitudinal stopper locking rod	1
1A-66	LX20218B00	Small handle assembly	1
1A-67	LSX40908	Fixed limit block	1
1A-68	GB 70-85 - M6 x 20	Socket head cap screw M6*20	2
1A-69	GB 70-85 - M5 x 12	Socket head cap screw M5*12	3
1A-70	LXN3A0211	Connect bracket	1
1A-71	LX3C0253	Disc spring housing	1
1A-72	LX30243	Disc spring	1
1A-73	LXN3A0208	Spindle sleeve locking shaft	1
1A-74	GB 70-85 - M10 x 25	Socket head cap screw M10*25	1
1A-75	GB 97.1-85 - 4	Washer 4	5
1A-76	GB 818-85 - M4 x 8	Cross recessed head screw H M4*8	2
1A-77	LX350225	Fixed mount	2
1A-78	GD300-165	Digital display module GD300-165	1
1A-79	GB 818-85 - M3 x 8	Cross recessed head screw H M3*8	8
1A-80	LX350211	worm shaft	1
1A-81	GB 273.2-87 - 7/70 - 12 x 22 x 5	Thrust ball bearing 12*22*5	2

1A-82	GB 818-85 - M3 x 6	Cross recessed head screw H M3*6	6
1A-83	LXN3A0218	Fine feeding hand wheel	1
1A-84	GB 77-85 - M6 x 6	Internal hexagonal flat end fastening screw M6*6	1
1A-85	LX350212	Worm eccentric sleeve	1
1A-86	LX3C0217	Square screw of display ruler	1
1A-87	LX350217	Register pin	1
1A-88	GB 819-85 - M3x10	Cross recessed countersunk head screw H M3*10	2
1A-89	LX350209	Display fixing bracket	1
1A-90	GB 6172-86 - M5	Hex nut M5	2
1A-91	LX350218	Panel	1
1A-92	LSX230201	Conductive ring assembly	1
1A-93	GB 819-85 - M3x12	Cross recessed countersunk head screw H M3*12	3
1A-94	LX3C023600	Operating handle assembly	3
1A-95	GB2089-80 0.8x6x25	Compress spring 0.8*6*25	3
1A-96	LX3C023500	Forward/Reverse joystick assembly	3
1A-97	GB 896 - 3	Check ring 3	3

Parts Drawing -----1B-----

Product configuration: This drawing is for SX3.5D with digital readout display model, MT3, 220-240V, Metric



Parts List -----1B-----

Product configuration: This drawing is for SX3.5D with digital readout display model, MT3, 220-240V, Metric

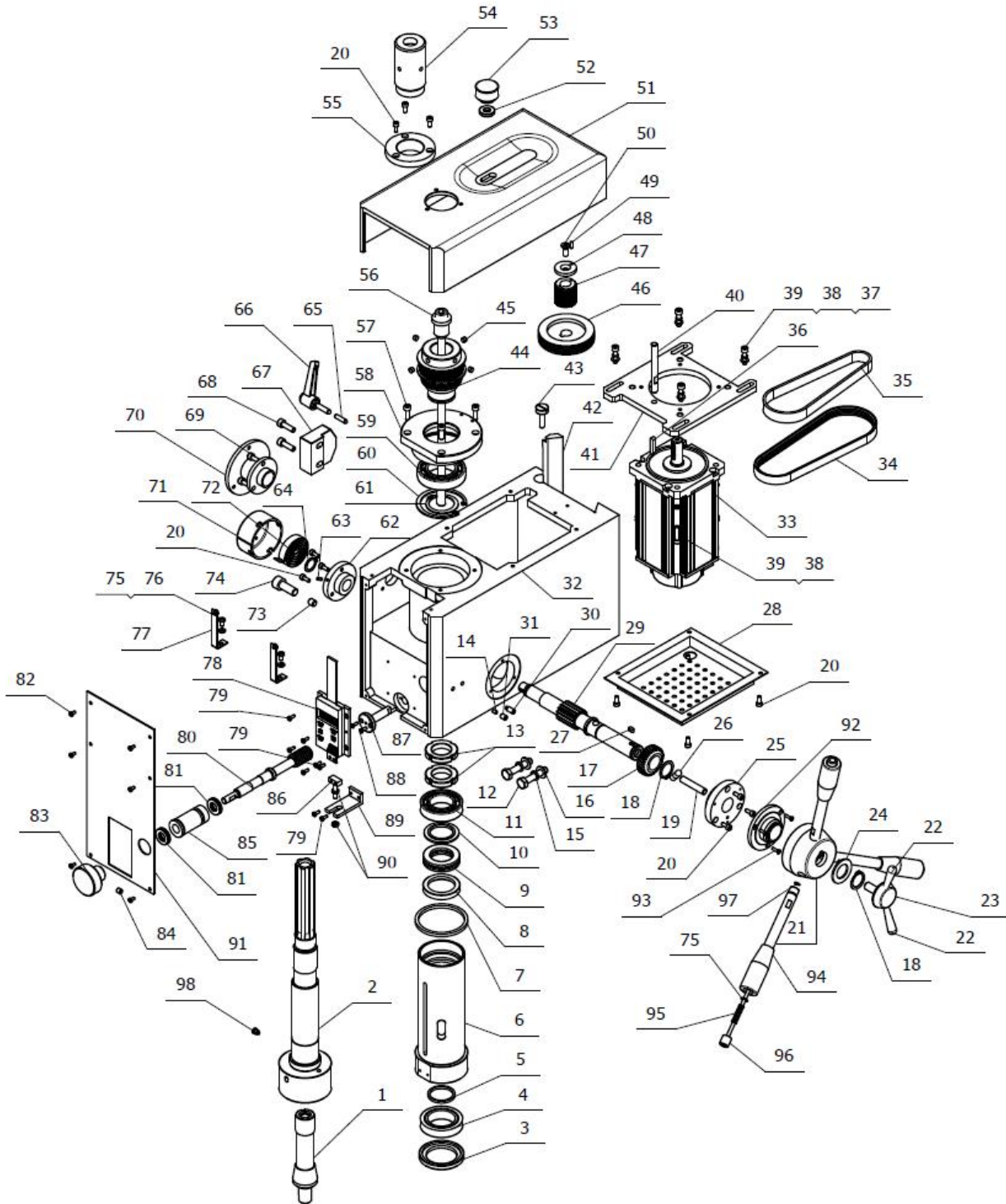
No.	Drawing No.	Description	Q'ty
1B-1	LX20206	B16 Taper shank	1
1B-2	LX350203	spindle	1
1B-3	LX3C0219	spindle under oil seal I	1
1B-4	GB/T 297-94 - 32907	Taper roller bearing 32907	1
1B-5	LX3C0209	Up washer	1
1B-6	LX350202	Spindle sleeve	1
1B-7	LXN3A0226	Sleeve limit washer	1
1B-8	LX3C0216	Spindle under oil seal II	1
1B-9	GB 301-84 - 8106	Thrust ball bearing 8106	1
1B-10	LX3C0210	Up washer II	1
1B-11	GB 278-89 - 80106	Deep groove ball bearing 80106	1
1B-12	GB 5781-86 - M8x40	Hexagon headed bolt M8*40	2
1B-13	GB 810-88 - M27x1.5	Slotted round nut M27*1.5	2
1B-14	LX350215	Press cake	1
1B-15	GB 93-87 - M8	Spring washer 8	2
1B-16	GB 97.1-85 - 8	Washer 8	2
1B-17	LXN3A0210	bevel wheel	1
1B-18	GB 894.1 - 20	Check ring 20	2
1B-19	LX350224	Locking small shaft	1
1B-20	GB 70-85 - M4 x 10	Socket head cap screw M4*10	13
1B-21	LXN3B0202	Handle seat	1
1B-22	LX350208	Small handle	2
1B-23	LX350207	Locking lever	1
1B-24	LX350210	Adjust washer	1
1B-25	XN3B0204	Shaft right support flange	1
1B-26	GB308-89 - 8	Ball 8	3
1B-27	GB1096 4x8	Flat key 4*8	1
1B-28	LSX350202	Down cover	1
1B-29	LX350204	Gear shaft	1
1B-30	GB 79-85 - M6 x 14	Slotted cylindrical end fastening screw M6*14	1
1B-31	GB 77-85 - M6 x 8	Internal hexagonal flat end fastening screw M6*8	1
1B-32	LX350201	Spindle box	1
1B-33	1000W	Brushless motor	1
1B-34	Jx456x13 (5 slot)	poly V-belt J*456*13 (5 slot)	1
1B-35	3M-396-15	Timing belt 3m*396*15	1
1B-36	GB1096-79 5x25	Flat key 5*25	1
1B-37	GB 97.1-85 - 5	Washer 5	4
1B-38	GB 93-87 - M5	Spring washer 5	8

1B-39	GB 70-85 - M5 x 20	Socket head cap screw M5*20	8
1B-40	LX350228	Double end stud	1
1B-41	LX350205	Motor fixed plate	1
1B-42	LX350220	Oblique plug iron	1
1B-43	LX350221	Iron stopper screw	2
1B-44	LX350216	Spindle synchronous belt wheel	1
1B-45	YE023003	Magnet steel Φ6	4
1B-46	LSX350201	Motor synchronous belt wheel	1
1B-47	LX350214	Motor synchronous belt wheel	1
1B-48	LX3C0233	Washer	1
1B-49	GB 119-86 - A 3 x 10	Round pin A3*10	1
1B-50	GB 819-85 - M6x16	Cross recessed countersunk head screw H M6*16	1
1B-51	LX350206	Box top cover	1
1B-52	LX350223	Washer	1
1B-53	LX350227	Handle	1
1B-54	LX3C0265	Dust cover on spindle II	1
1B-55	LX3C0220	Dust cover on spindle I	1
1B-56	LX3C021100	lifting rod	1
1B-57	GB 70-85 - M5 x 16	Socket head cap screw M5*16	4
1B-58	LX350222	Bearing seat	1
1B-59	GB 278-89 - 80107	Deep groove ball bearing 80107	1
1B-60	GB 893.1 - 62	Check ring 62	1
1B-61	GB 894.1 - 35	Check ring 35	1
1B-62	LX3C0252	Shaft tooth left support flange	1
1B-63	GB 879-86 - 3 x 8	Spring round pin 3*8	1
1B-64	GB 894.1 - 16	Check ring 16	1
1B-65	LX351121	Longitudinal stopper locking rod	1
1B-66	LX20218B00	Small handle assembly	1
1B-67	LSX40908	Fixed limit block	1
1B-68	GB 70-85 - M6 x 20	Socket head cap screw M6*20	2
1B-69	GB 70-85 - M5 x 12	Socket head cap screw M5*12	3
1B-70	LXN3A0211	Connect bracket	1
1B-71	LX3C0253	Disc spring housing	1
1B-72	LX30243	Disc spring	1
1B-73	LXN3A0208	Spindle sleeve locking shaft	1
1B-74	GB 70-85 - M10 x 25	Socket head cap screw M10*25	1
1B-75	GB 97.1-85 - 4	Washer 4	5
1B-76	GB 818-85 - M4 x 8	Cross recessed head screw H M4*8	2
1B-77	LX350225	Fixed mount	2
1B-78	GD300-165	Digital display module GD300-165	1
1B-79	GB 818-85 - M3 x 8	Cross recessed head screw H M3*8	8
1B-80	LX350211	worm shaft	1
1B-81	GB 273.2-87 - 7/70 - 12 x 22 x 5	Thrust ball bearing 12*22*5	2

1B-82	GB 818-85 - M3 x 6	Cross recessed head screw H M3*6	6
1B-83	LXN3A0218	Fine feeding hand wheel	1
1B-84	GB 77-85 - M6 x 6	Internal hexagonal flat end fastening screw M6*6	1
1B-85	LX350212	Worm eccentric sleeve	1
1B-86	LX3C0217	Square screw of display ruler	1
1B-87	LX350217	Register pin	1
1B-88	GB 819-85 - M3x10	Cross recessed countersunk head screw H M3*10	2
1B-89	LX350209	Display fixing bracket	1
1B-90	GB 6172-86 - M5	Hex nut M5	2
1B-91	LX350218A	Panel (can fix digital display)	1
1B-92	SX2.30201	Conductive ring assembly	1
1B-93	GB 819-85 - M3x12	Cross recessed countersunk head screw H M3*12	3
1B-94	LX3C023600	Operating handle assembly	3
1B-95	GB2089-80 0.8x6x25	Compress spring 0.8*6*25	3
1B-96	LX3C023500	Forward/Reverse joystick assembly	3
1B-97	GB 896 - 3	Check ring 3	3

Parts Drawing -----1C-----

Product configuration: This drawing is for SX3.5 standard model, R8, 220-240V, Metric



Parts List -----1C-----

Product configuration: This drawing is for SX3.5 standard model, R8, 220-240V, Metric

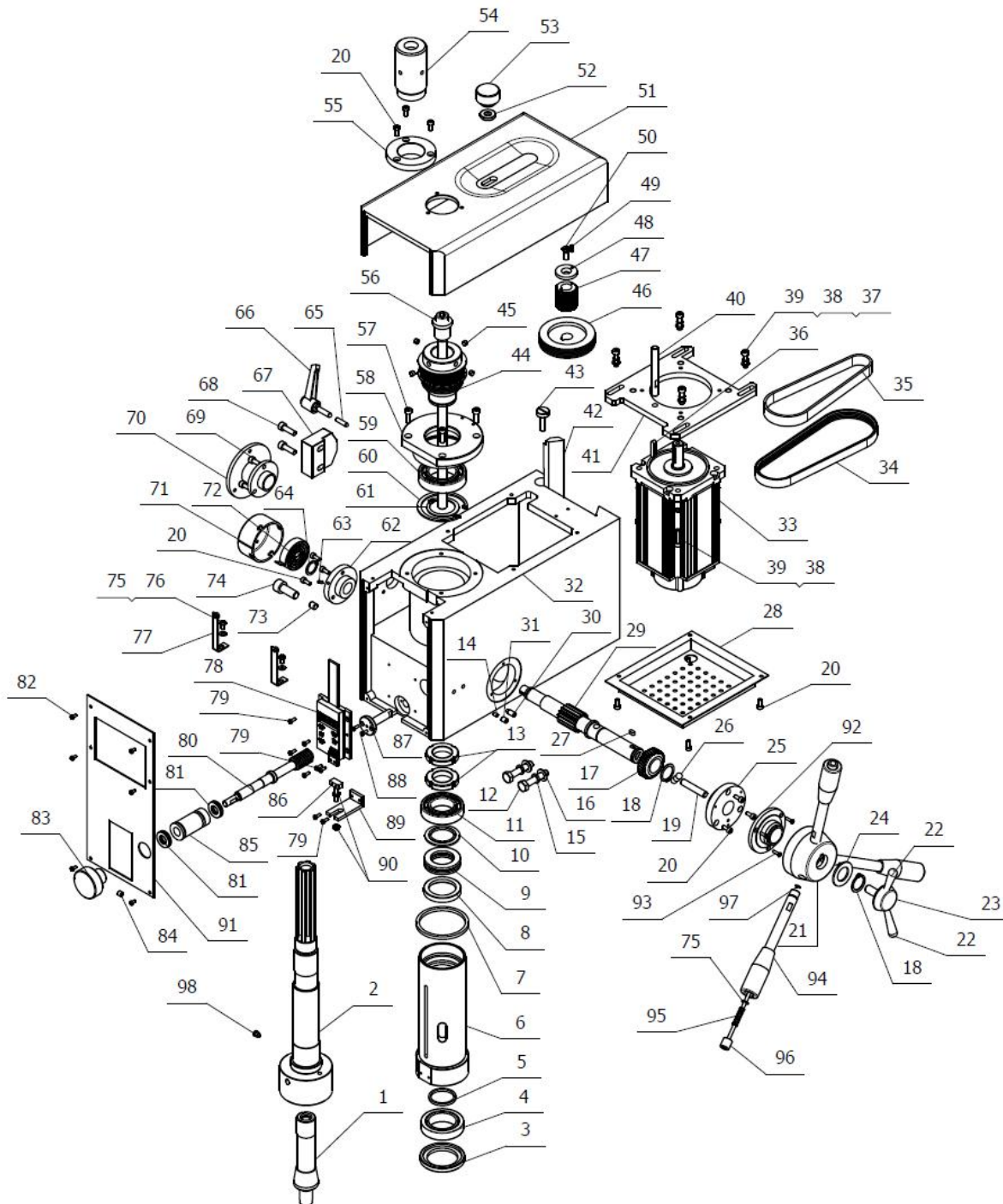
NO.	Drawing No.	Description	Q'ty
1C-1	LX302A04A	JT6 taper shank	1
1C-2	LX3502A01	R8 spindle	1
1C-3	LX3C0219	Spindle under oil seal I	1
1C-4	GB/T 297-94 - 32907	Taper roller bearing 32907	1
1C-5	LX3C0209	Up washer	1
1C-6	LX350202	Spindle sleeve	1
1C-7	LXN3A0226	Sleeve limit washer	1
1C-8	LX3C0216	Spindle under oil seal II	1
1C-9	GB 301-84 - 8106	Thrust ball bearing 8106	1
1C-10	LX3C0210	Up washer II	1
1C-11	GB 278-89 - 80106	Deep groove ball bearing 80106	1
1C-12	GB 5781-86 - M8x40	Hexagon headed bolt M8*40	2
1C-13	GB 810-88 - M27x1.5	Slotted round nut M27*1.5	2
1C-14	LX350215	Press cake	1
1C-15	GB 93-87 - M8	Spring washer 8	2
1C-16	GB 97.1-85 - 8	Washer 8	2
1C-17	LXN3A0210	bevel wheel	1
1C-18	GB 894.1 - 20	Check ring 20	2
1C-19	LX350224	Locking small shaft	1
1C-20	GB 70-85 - M4 x 10	Socket head cap screw M4*10	13
1C-21	LXN3B0202	Handle seat	1
1C-22	LX350208	Small handle	2
1C-23	LX.50207	Locking lever	1
1C-24	LX350210	Adjust washer	1
1C-25	LXN3B0204	Shaft right support flange	1
1C-26	GB308-89 - 8	Ball 8	3
1C-27	GB1096 4x8	Flat key 4*8	1
1C-28	LSX350202	Down cover	1
1C-29	LX350204	Gear shaft	1
1C-30	GB 79-85 - M6 x 14	Slotted cylindrical end fastening screw M6*14	1
1C-31	GB 77-85 - M6 x 8	Internal hexagonal flat end fastening screw M6*8	1
1C-32	LX350201	Spindle box	1
1C-33	1000W	Brushless motor	1
1C-34	Jx456x13 (5 slot)	poly V-belt J*456*13 (5 slot)	1
1C-35	3M-396-15	Timing belt 3m*396*15	1
1C-36	GB1096-79 5x25	Flat key 5*25	1
1C-37	GB 97.1-85 - 5	Washer 5	4

1C-38	GB 93-87 - M5	Spring washer 5	8
1C-39	GB 70-85 - M5 x 20	Socket head cap screw M5*20	8
1C-40	LX350228	Double end stud	1
1C-41	LX350205	Motor fixed plate	1
1C-42	LX350220	Oblique plug iron	1
1C-43	LX350221	Iron stopper screw	2
1C-44	LX350216	Spindle synchronous belt wheel	1
1C-45	YE023003	Magnet steel $\Phi 6$	4
1C-46	LSX350201	Motor synchronous belt wheel	1
1C-47	LX350214	Motor synchronous belt wheel	1
1C-48	LX3C0233	Washer	1
1C-49	GB 119-86 - A 3 x 10	Round pin A3*10	1
1C-50	GB 819-85 - M6x16	Cross recessed countersunk head screw H M6*16	1
1C-51	LX350206	Box top cover	1
1C-52	LX350223	Washer	1
1C-53	LX350227	Handle	1
1C-54	LX3C0265	Dust cover on spindle II	1
1C-55	LX3C0220	Dust cover on spindle I	1
1C-56	LX3502A0200	Lifting rod (R8)	1
1C-57	GB 70-85 - M5 x 16	Socket head cap screw M5*16	4
1C-58	LX350222	Bearing seat	1
1C-59	GB 278-89 - 80107	Deep groove ball bearing 80107	1
1C-60	GB 893.1 - 62	Check ring 62	1
1C-61	GB 894.1 - 35	Check ring 35	1
1C-62	LX3C0252	Shaft tooth left support flange	1
1C-63	GB 879-86 - 3 x 8	Spring round pin 3*8	1
1C-64	GB 894.1 - 16	Check ring 16	1
1C-65	LX351121	Longitudinal stopper locking rod	1
1C-66	LX20218B00	Small handle assembly	1
1C-67	LSX40908	Fixed limit block	1
1C-68	GB 70-85 - M6 x 20	Socket head cap screw M6*20	2
1C-69	GB 70-85 - M5 x 12	Socket head cap screw M5*12	3
1C-70	LXN3A0211	Connect bracket	1
1C-71	LX3C0253	Disc spring housing	1
1C-72	LX30243	Disc spring	1
1C-73	LXN3A0208	Spindle sleeve locking shaft	1
1C-74	GB 70-85 - M10 x 25	Socket head cap screw M10*25	1
1C-75	GB 97.1-85 - 4	Washer 4	5
1C-76	GB 818-85 - M4 x 8	Cross recessed head screw H M4*8	2
1C-77	LX350225	Fixed mount	2
1C-78	GD300-165	Digital display module GD300-165	1
1C-79	GB 818-85 - M3 x 8	Cross recessed head screw H M3*8	8
1C-80	LX350211	worm shaft	1

1C-81	GB 273.2-87 - 7/70 - 12 x 22 x 5	Thrust ball bearing 12*22*5	2
1C-82	GB 818-85 - M3 x 6	Cross recessed head screw H M3*6	6
1C-83	LXN3A0218	Fine feeding hand wheel	1
1C-84	GB 77-85 - M6 x 6	Internal hexagonal flat end fastening screw M6*6	1
1C-85	LX350212	Worm eccentric sleeve	1
1C-86	LX3C0217	Square screw of display ruler	1
1C-87	LX350217	Register pin	1
1C-88	GB 819-85 - M3x10	Cross recessed countersunk head screw H M3*10	2
1C-89	LX350209	Display fixing bracket	1
1C-90	GB 6172-86 - M5	Hex nut M5	2
1C-91	LX350218	Panel	1
1C-92	LSX.30201	Conductive ring assembly	1
1C-93	GB 819-85 - M3x12	Cross recessed countersunk head screw H M3*12	3
1C-94	LX3C023600	Operating handle assembly	3
1C-95	GB2089-80 0.8x6(中径)x25	Compress spring 0.8*6*25	3
1C-96	LX3C023500	Forward/reverse joystick assembly	3
1C-97	GB 896 - 3	Check ring 3	3
1C-98	LX3C02A03	Shoulder cylinder key	1

Parts Drawing -----1D-----

Product configuration: This drawing is for SX3.5D with digital readout display model, R8, 220-240V, Metric



Parts List -----1D----

Product configuration: This drawing is for SX3.5D with digital readout display model, R8, 220-240V, Metric

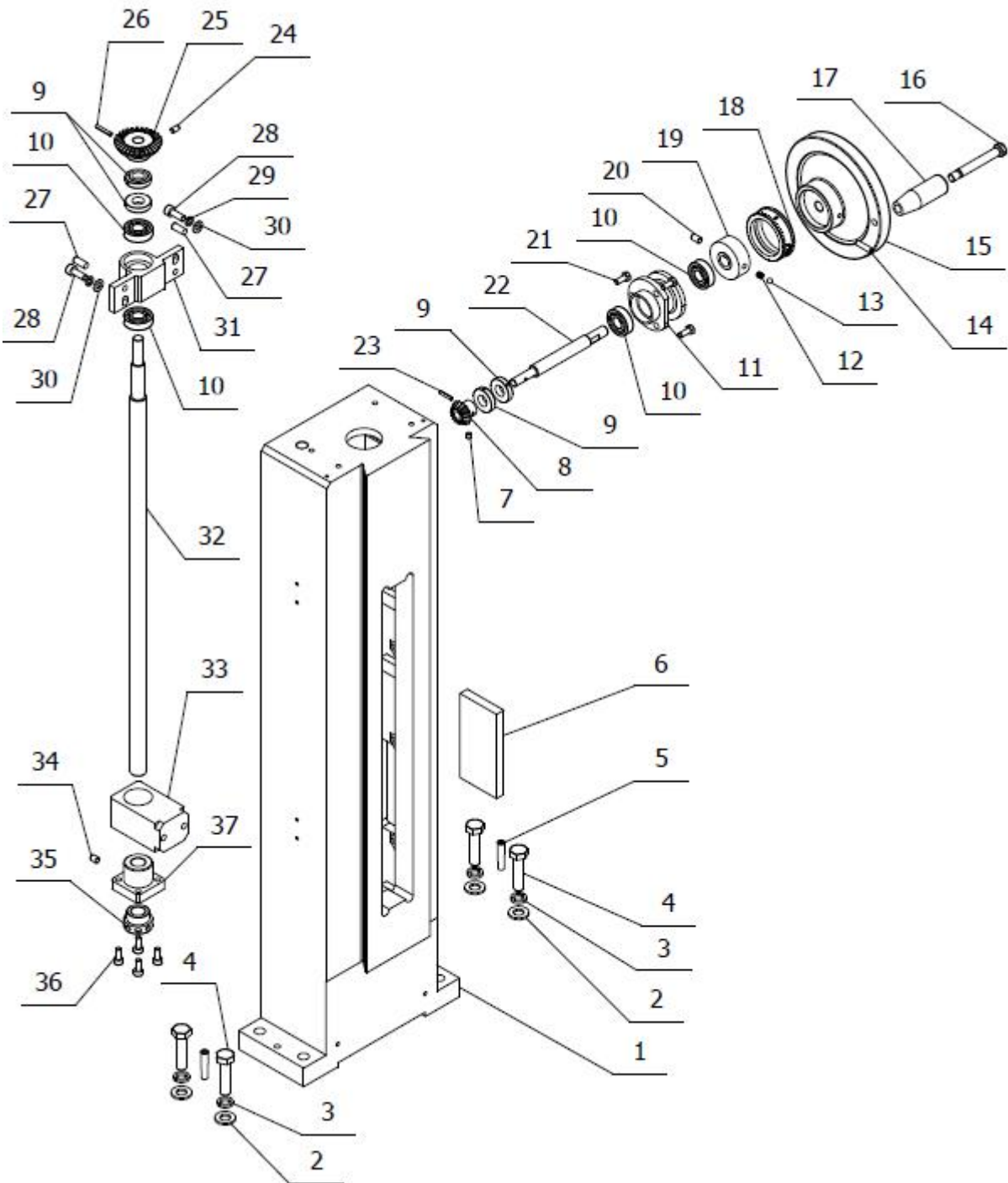
No.	Drawing No.	Description	Q'ty
1D-1	LX302A04A	JT6 taper shank	1
1D-2	LX3502A01	R8 spindle	1
1D-3	LX3C0219	Spindle under oil seal I	1
1D-4	GB/T 297-94 - 32907	Taper roller bearing 32907	1
1D-5	LX3C0209	Up washer	1
1D-6	LX350202	Spindle sleeve	1
1D-7	LXN3A0226	Sleeve limit washer	1
1D-8	LX3C0216	Spindle under oil seal II	1
1D-9	GB 301-84 - 8106	Thrust ball bearing 8106	1
1D-10	LX3C0210	Up washer II	1
1D-11	GB 278-89 - 80106	Deep groove ball bearing 80106	1
1D-12	GB 5781-86 - M8x40	Hexagon headed bolt M8*40	2
1D-13	GB 810-88 - M27x1.5	Slotted round nut M27*1.5	2
1D-14	LX350215	Press cake	1
1D-15	GB 93-87 - M8	Spring washer 8	2
1D-16	GB 97.1-85 - 8	Washer 8	2
1D-17	LXN3A0210	bevel wheel	1
1D-18	GB 894.1 - 20	Check ring 20	2
1D-19	LX350224	Locking small shaft	1
1D-20	GB 70-85 - M4 x 10	Socket head cap screw M4*10	13
1D-21	LXN3B0202	Handle seat	1
1D-22	LX350208	Small handle	2
1D-23	LX350207	Locking lever	1
1D-24	LX350210	Adjust washer	1
1D-25	LXN3B0204	Shaft right support flange	1
1D-26	GB308-89 - 8	Ball 8	3
1D-27	GB1096 4x8	Flat key 4*8	1
1D-28	LSX350202	Down cover	1
1D-29	LX350204	Gear shaft	1
1D-30	GB 79-85 - M6 x 14	Slotted cylindrical end fastening screw M6*14	1
1D-31	GB 77-85 - M6 x 8	Internal hexagonal flat end fastening screw M6*8	1
1D-32	LX350201	Spindle box	1
1D-33	1000W	Brushless motor	1
1D-34	Jx456x13(5 slot)	poly V-belt J*456*13 (5 slot)	1
1D-35	3M-396-15	Timing belt 3m*396*15	1
1D-36	GB1096-79 5x25	Flat key 5*25	1
1D-37	GB 97.1-85 - 5	Washer 5	4

1D-38	GB 93-87 - M5	Spring washer 5	8
1D-39	GB 70-85 - M5 x 20	Socket head cap screw M5*20	8
1D-40	LX350228	Double end stud	1
1D-41	LX350205	Motor fixed plate	1
1D-42	LX350220	Oblique plug iron	1
1D-43	LX350221	Iron stopper screw	2
1D-44	LX350216	Spindle synchronous belt wheel	1
1D-45	YE023003	Magnet steel $\Phi 6$	4
1D-46	LSX350201	Motor synchronous belt wheel	1
1D-47	LX350214	Motor synchronous belt wheel	1
1D-48	LX3C0233	Washer	1
1D-49	GB 119-86 - A 3 x 10	Round pin A3*10	1
1D-50	GB 819-85 - M6x16	Cross recessed countersunk head screw H M6*16	1
1D-51	LX350206	Box top cover	1
1D-52	LX350223	Washer	1
1D-53	LX350227	Handle	1
1D-54	LX3C0265	Dust cover on spindle II	1
1D-55	LX3C0220	Dust cover on spindle I	1
1D-56	LX3502A0200	Lifting rod (R8)	1
1D-57	GB 70-85 - M5 x 16	Socket head cap screw M5*16	4
1D-58	LX350222	Bearing seat	1
1D-59	GB 278-89 - 80107	Deep groove ball bearing 80107	1
1D-60	GB 893.1 - 62	Check ring 62	1
1D-61	GB 894.1 - 35	Check ring 35	1
1D-62	LX3C0252	Shaft tooth left support flange	1
1D-63	GB 879-86 - 3 x 8	Spring round pin 3*8	1
1D-64	GB 894.1 - 16	Check ring 16	1
1D-65	LX351121	Longitudinal stopper locking rod	1
1D-66	LX20218B00	Small handle assembly	1
1D-67	LSX40908	Fixed limit block	1
1D-68	GB 70-85 - M6 x 20	Socket head cap screw M6*20	2
1D-69	GB 70-85 - M5 x 12	Socket head cap screw M5*12	3
1D-70	LXN3A0211	Connect bracket	1
1D-71	LX3C0253	Disc spring housing	1
1D-72	LX30243	Disc spring	1
1D-73	LXN3A0208	Spindle sleeve locking shaft	1
1D-74	GB 70-85 - M10 x 25	Socket head cap screw M10*25	1
1D-75	GB 97.1-85 - 4	Washer 4	5
1D-76	GB 818-85 - M4 x 8	Cross recessed head screw H M4*8	2
1D-77	LX350225	Fixed mount	2
1D-78	GD300-165	Digital display module GD300-165	1
1D-79	GB 818-85 - M3 x 8	Cross recessed head screw H M3*8	8
1D-80	LX350211	worm shaft	1

1D-81	GB 273.2-87 - 7/70 - 12 x 22 x 5	Thrust ball bearing 12*22*5	2
1D-82	GB 818-85 - M3 x 6	Cross recessed head screw H M3*6	6
1D-83	LXN3A0218	Fine feeding hand wheel	1
1D-84	GB 77-85 - M6 x 6	Internal hexagonal flat end fastening screw M6*6	1
1D-85	LX350212	Worm eccentric sleeve	1
1D-86	LX3C0217	Square screw of display ruler	1
1D-87	LX350217	Register pin	1
1D-88	GB 819-85 - M3x10	Cross recessed countersunk head screw H M3*10	2
1D-89	LX350209	Display fixing bracket	1
1D-90	GB 6172-86 - M5	Hex nut M5	2
1D-91	LX350218A	Panel (use for fix display)	1
1D-92	LSX230201	Conductive ring assembly	1
1D-93	GB 819-85 - M3x12	Cross recessed countersunk head screw H M3*12	3
1D-94	LX3C023600	Operating handle assembly	3
1D-95	GB2089-80 0.8x6(中径)x25	Compress spring 0.8*6*25	3
1D-96	LX3C023500	Forward/reverse joystick assembly	3
1D-97	GB 896 - 3	Check ring 3	3
1D-98	LX3C02A03	Shoulder cylinder key	1

Parts Drawing -----2A-----

Product configuration: This drawing is for SX3.5 standard model,
220-240V, Metric



Parts List -----2A----

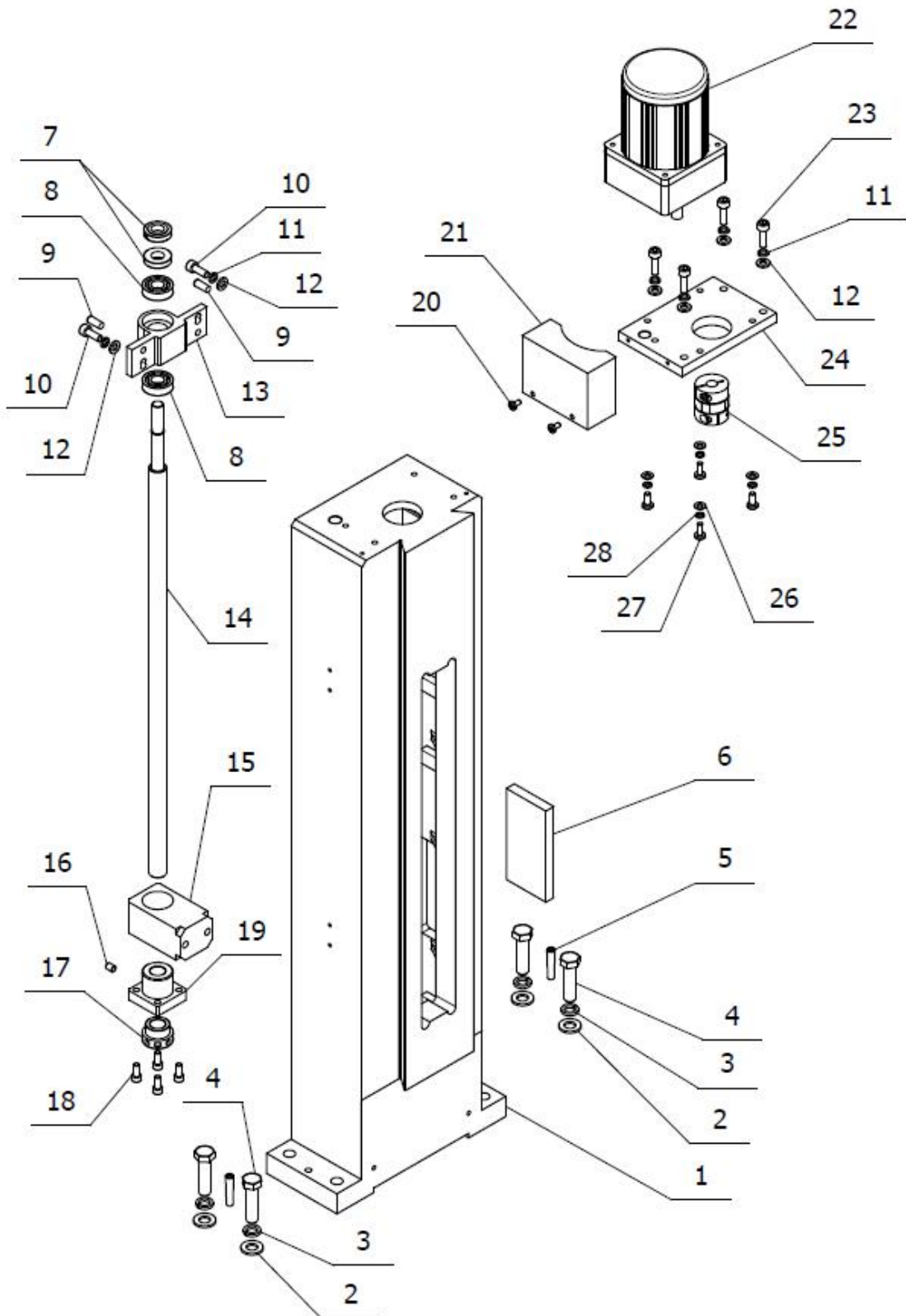
Product configuration: This drawing is for SX3.5 standard model, 220-240V, Metric.

When the parts No. With “*”, it means have inch type or 110V to choose.

No.	Drawing No.	Description	Q'ty
2A-1	LX350901	Fuselage	1
2A-2	GB 97.1-85 - 10	Washer 10	4
2A-3	GB 93-87 - M10	Spring washer 10	4
2A-4	GB 5780-86 - M10x40	Hexagon headed bolt M10*40	4
2A-5	GB 118-86 - 6 x 32	Internal thread taper pin 6*32	2
2A-6	50x100	Magnetic block	1
2A-7	GB78-85 M5*5	Internal hexagonal fixed screw-taper end M5*5	1
2A-8	LXN3A0905	Bevel gear	1
2A-9	LXN3A0912	Locking nut	4
2A-10	GB/T 276-94 - 6001	Deep Groove Ball Bearing 6001	4
2A-11	LX350908	Lifting support seat	1
2A-12	GB2089-80 0.5x4.65x9	Compress spring 0.5*4.65*9	1
2A-13	GB308-85 5	Steel ball 5	1
2A-14	GB 77-85 - M5 x 20	Internal hexagonal fixed screw-flat end M5*20	1
2A-15*	LX350909	Aluminium handwheel	1
2A-16	LX350907	Handle sleeve screw	1
2A-17	LX350906	Handle sleeve	1
2A-18*	LX350911	Scale ring	1
2A-19	LX350912	Shaft sleeve	1
2A-20	GB 78-85 - M6 x 10	Internal hexagonal fixed screw-taper end M6*10	1
2A-21	GB 5781-86 - M5x12	Hexagon headed bolt M5*12	3
2A-22	LX350910	Lifting shaft	1
2A-23	GB 879-86 - 3 x 16	Elastic cylinder pin 3*16	1
2A-24	GB 78-85 - M5 x 8	Internal hexagonal fixed screw-taper end M5*8	1
2A-25	LXN3A0906	Large conical gear	1
2A-26	GB 879-86 - 3 x 20	Elastic cylinder pin 3*20	1
2A-27	GB 118-86 - 6 x 16	Internal thread taper pin 6*16	2
2A-28	GB 70-85 - M6 x 16	Hexagon head screw M6*16	2
2A-29	GB 93-87 - M6	Spring washer M6	2
2A-30	GB 97.1-85 - 6	Washer 6	2
2A-31	LX350913	Leadscrew support	1
2A-32*	LX350902	Lifting leadscrew	1
2A-33*	LX350905	Nut support	1
2A-34	GB 77-85 - M6 x 8	Internal hexagonal fixed screw-flat end M6*8	1
2A-35	LX350904	Metric lifting lock nut	1
2A-36	GB 70-85 - M5 x 12	Hexagon head screw M5*12	4
2A-37	LX350903	Metric lifting leadscrew nut	1

Parts Drawing -----2B-----

Product configuration: This drawing is for SX3.5Z with Z-axis auto lifting model, 220-240V, Metric



Parts List -----2B-----

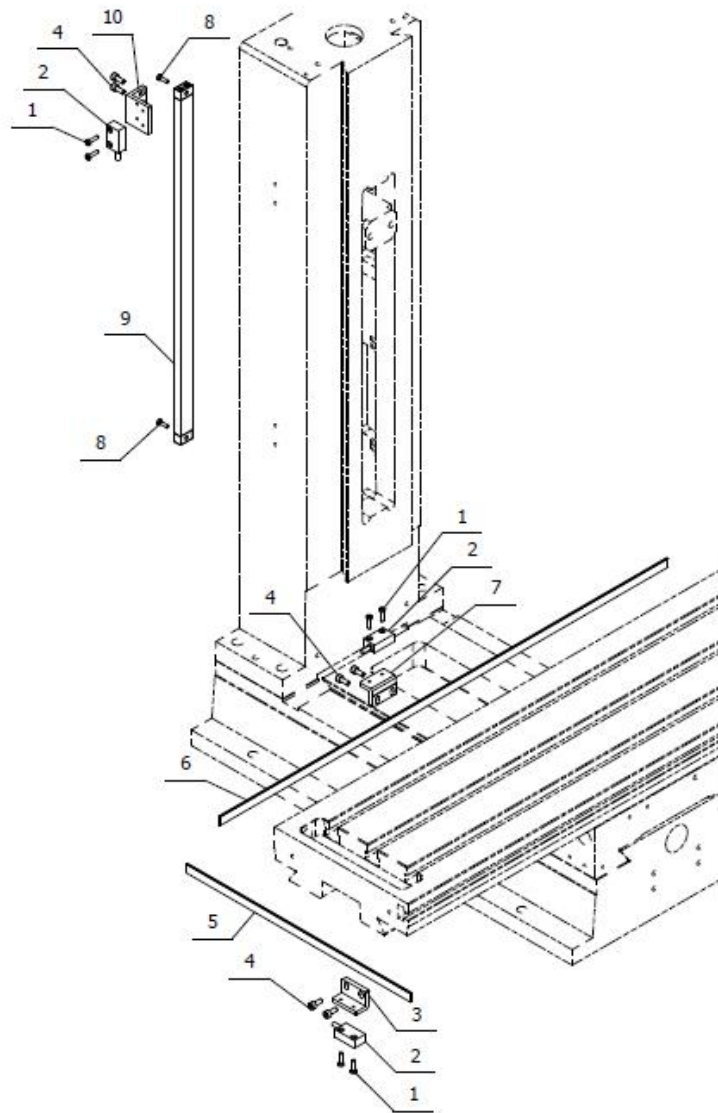
Product configuration: This drawing is for SX3.5Z with Z-axis auto lifting model, 220-240V, Metric

When the parts No. With “*”, it means have inch type or 110V to choose

No.	Drawing No.	Description	Q'ty
2B-1	LX350901	Fuselage	1
2B-2	GB 97.1-85 - 10	Washer 10	4
2B-3	GB 93-87 - M10	Spring washer 10	4
2B-4	GB 5780-86 - M10x40	Hexagon headed bolt M10*40	4
2B-5	GB 118-86 - 6 x 32	Internal thread taper pin 6*32	2
2B-6	50x100	Magnetic block	1
2B-7	LXN3A0912	Locking nut	2
2B-8	GB/T 276-94 - 6001	Deep Groove Ball Bearing 6001	2
2B-9	GB 118-86 - 6 x 16	Taper pin inside screw 6*16	2
2B-10	GB 70-85 - M6 x 16	Hexagon head screw M6*16	2
2B-11	GB 93-87 - M6	Spring washer 6	6
2B-12	GB 97.1-85 - 6	Washer 6	6
2B-13	LX350913	Leadscrew support	1
2B-14*	LX350902	Lifting leadscrew	1
2B-15*	LX350905	Nut support	1
2B-16	GB 77-85 - M6 x 8	Internal hexagonal fastening screw-flat end M6*8	1
2B-17	LX350904	Metric lifting lock nut	1
2B-18	GB 70-85 - M5 x 12	Hexagon head screw M5*12	4
2B-19	LX350903	Metric lifting leadscrew nut	1
2B-20	GB 818-85 - M4 x 8	Cross recessed head screw H M4*8	2
2B-21	LX3509A02	Lifting motor hood	1
2B-22	Induction motor with reducer	Induction-motor with gearbox	1
2B-23	GB 70-85 - M6 x 20	Hexagon head screw M6*20	4
2B-24	LX3509A01	Z motor connection plate	1
2B-25	Φ10-Φ10-Φ30	Clutch	1
2B-26	GB 97.1-85 - 5	Washer 5	4
2B-27	GB 818-85 - M5 x 12	Cross recessed head screw H M5*12	4
2B-28	GB 93-87 - M5	Spring washer 5	4

Parts Drawing -----3A-----

Product configuration: This drawing is for SX3.5D with 3-axis magnetic grid ruler assembly model,

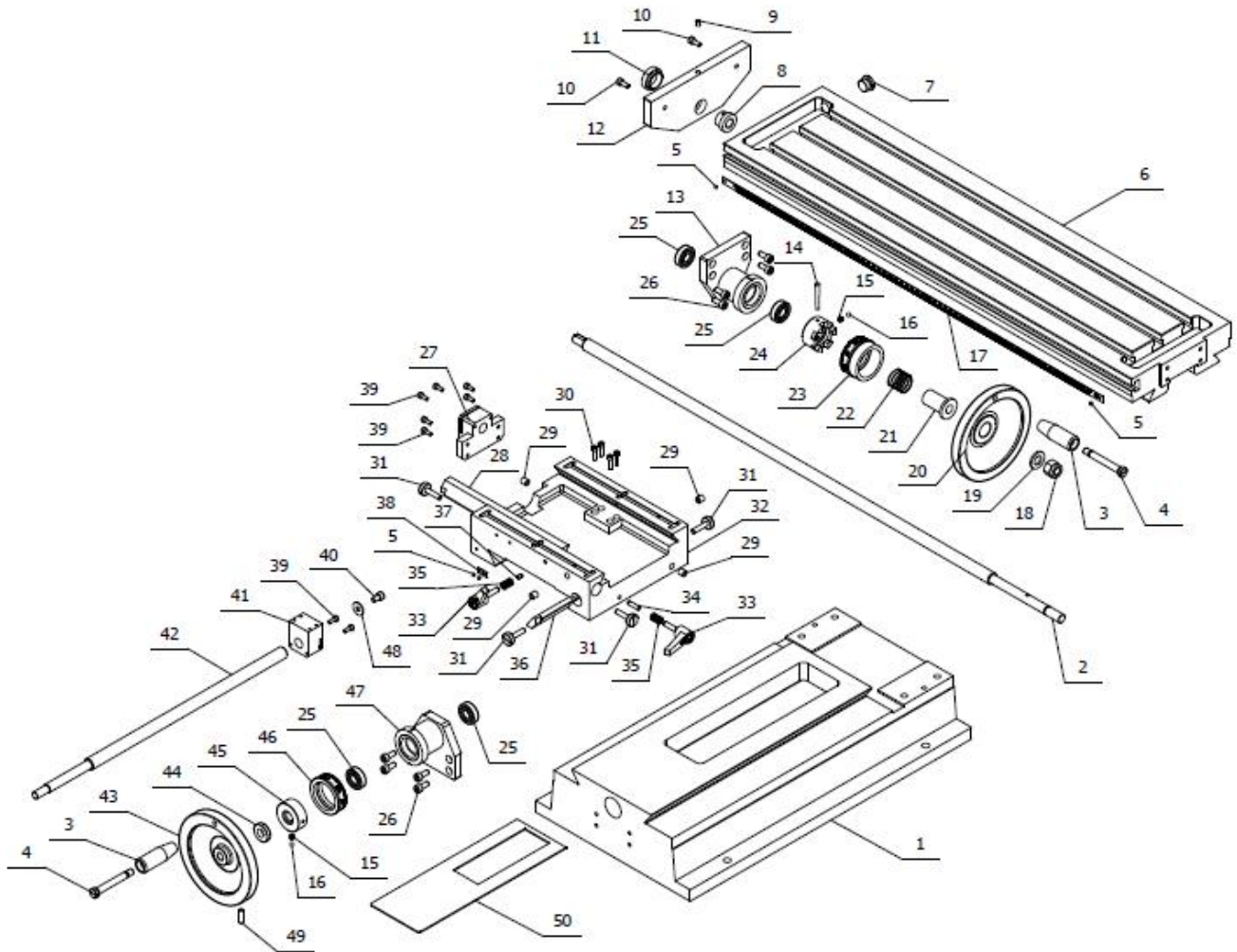


Parts List -----3A-----

NO.	Drawing No.	Description	Q'ty
3A-1	GB 818-85 - M3 x 12	Cross recessed head screw type H M3*12	6
3A-2	MG10V	Digital display head	3
3A-3	LX3510A01	Longitudinal head bracket	1
3A-4	GB 70-85 - M4 x 10	Hexagon head screw M4*10	6
3A-5	LX351001	Longitudinal magnetic ruler	1
3A-6	LX351002	Transverse magnetic ruler	1
3A-7	LX3510A02	Transverse magnetic head bracket	1
3A-8	GB 818-85 - M3 x 10	Cross recessed head screw type H M3*10	2
3A-9	LC2A100A00	X direction magnetic grating ruler assembly	1
3A-10	LX351003	Vertical head bracket	1

Parts Drawing -----4A-----

Product configuration: This drawing is for SX3.5 series all model, Metric



Parts List -----4A-----

Product configuration: This drawing is for SX3.5 series all model, Metric

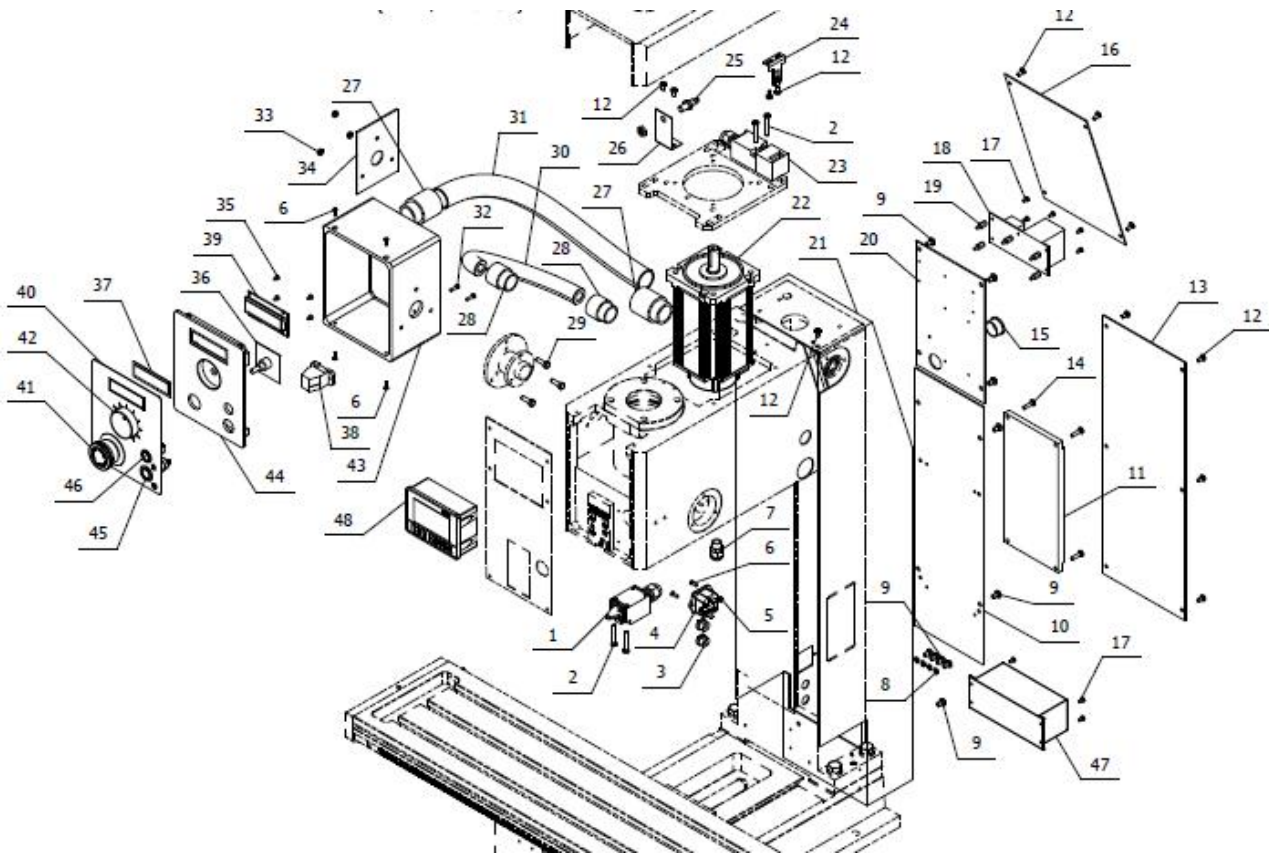
When the parts No. With “*”, it means have inch type to choose

No.	Drawing No.	Description	Q'ty
4A-1	LX351101	Base	1
4A-2	LX351114	X-Axis metric leadscrew	1
4A-3	LX350906	Handle sleeve	2
4A-4	LX350907	Handle sleeve screw	2
4A-5	GB827-86 2x4	Label rivet 2*4	4
4A-6	LX351111	Worktable	1
4A-7	LX31144	End cap	1
4A-8	LX31131	Longitudinal leadscrew support left sleeve	1

4A-9	JB/T7940.4-95 6	Oil cup 6	1
4A-10	GB 70-85 - M5 x 12	Hexagon head screw M5*12	2
4A-11	LX31136	Left bracket cover	1
4A-12	LX351105	Left bracket cover	1
4A-13	LX351112	Bearing seat	2
4A-14	GB 117-86 - A 4 x 40	Round taper pin A4*40	1
4A-15	GB2089-80 0.5x4.65x9	Compress spring 0.5*4.65*9	2
4A-16	GB308-85 5	Steel ball 5	2
4A-17	LXN3A11A06	Graduated scale	1
4A-18	GB 889-86 - M12	Hexagonal locking nut M12	1
4A-19	GB 97.1-85 - 12	Washer 12	1
4A-20	LX351115	Handlewheel	1
4A-21	LX351118	Tight sleeve	1
4A-22	LX351113	Compress spring	1
4A-23	LX351116	Graduated scale	1
4A-24	LX351117	Leadscrew clutch	1
4A-25	GB/T 276-94 - 6001	Deep groove ball bearing 6001	4
4A-26	GB 70-85 - M6 x 14	Hexagon head screw M6*14	8
4A-27	LX351104	X-axis metric leadscrew nut	1
4A-28	LX351120	Crossrange oblique plug iron	1
4A-29	GB1155-89 8	Oil cup 8	4
4A-30	GB 70-85 - M4 x 16	Hexagon head screw M4*16	4
4A-31	LX350221	Wedge screw	4
4A-32	LX351102	Saddle	1
4A-33	LX20218B00	Small handle assembly	2
4A-34	LX351121	Longitudinal wedge locking crown bar	1
4A-35	GB2089-80 1x9.2x14	Compress spring 1*9.2*14	2
4A-36	LX351119	Longitudinal oblique plug iron	1
4A-37	LX351122	Longitudinal wedge locking crown bar	1
4A-38	LC5C0315	Zero sign	1
4A-39	GB 70-85 - M4 x 10	Hexagon head screw M4*10	8
4A-40	GB 70-85 - M6 x 10	Hexagon head screw M6*10	1
4A-41	LX351103	Y-axis metric leadscrew nut	1
4A-42	LX351106	Y-axis metric leadscrew	1
4A-43	LX350909	Aluminium handwheel	1
4A-44	LXN3A0912	Locking nut	1
4A-45	LX351109	Scale ring sleeve	1
4A-46	LX351110	Scale ring	1
4A-47	LX351108	Positioning ring	2
4A-48	GB 96-85 - 6	Washer 6	1
4A-49	GB 77-85 - M5 x 20	Internal hexagonal fastening screw-flat end M5*20	1
4A-50	LX351107	Chip breaker plate	1

Parts Drawing ----5A----

Product configuration: This drawing is for SX3.5 and SX3.5D with digital readout display model, 220-240V, Metric



Parts List ----5A----

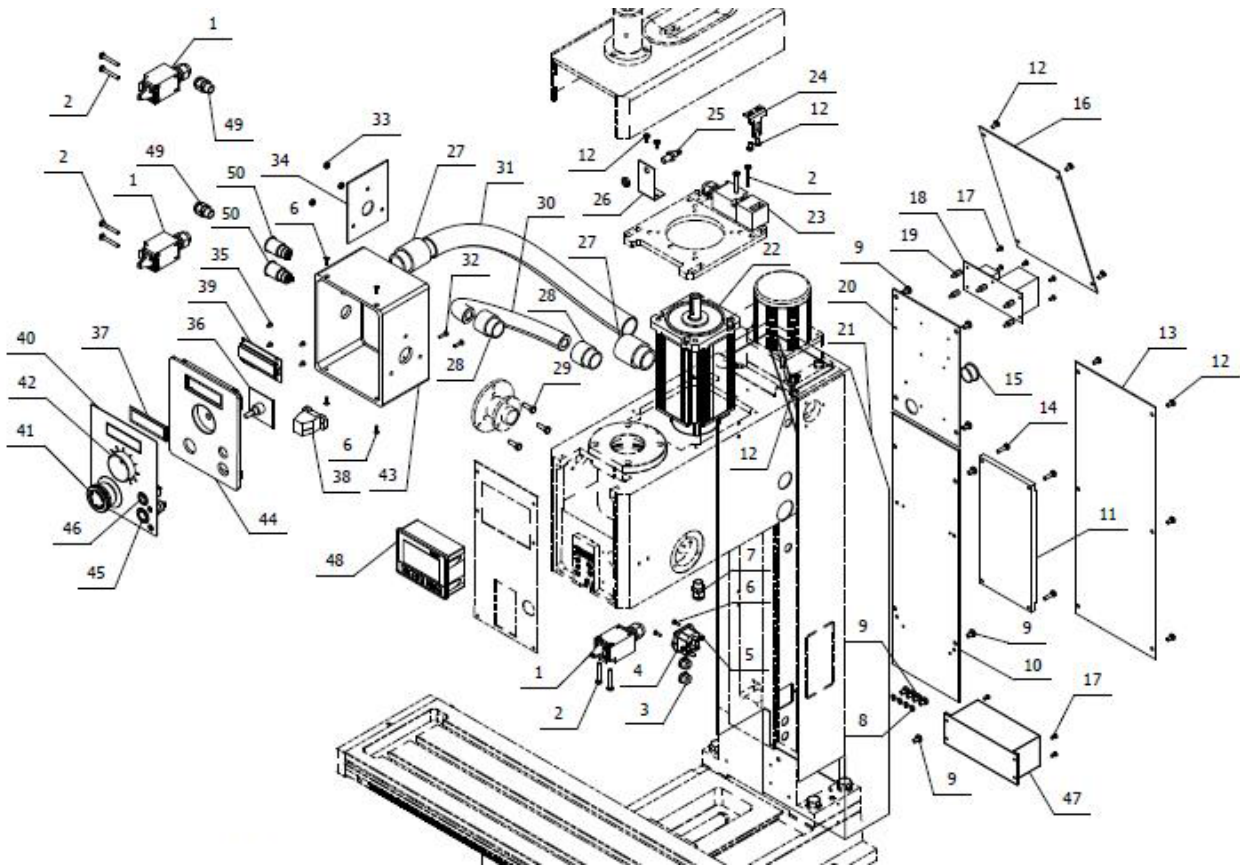
**Product configuration: This drawing is for SX3.5 and SX3.5D with digital readout display model, 220-240V, Metric (In X3.5 model without #48)
When the parts No. With “*”, it means have inch type or 110V to choose**

No.	Drawing No.	Description	Q'ty
5A-1	QKS7 with bar--A	Safety limit switch QKS7	1
5A-2	GB 818-85 - M4 x 30	Cross groove small disc screw type Z M4*30	4
5A-3	6W2	Thread buckle (use to fix display)	2
5A-4	DB-14F	Socket with fuse DB-14F	1
5A-5	GB 6170-86 - M3	Hex. nut M3	2
5A-6	GB 819-85 - M3x10	Cross recessed countersunk head screw H M3*10	6
5A-7	M12	Pull not off M12	1
5A-8	GB 93-87 - M5	Spring washer M5	4

5A-9	GB 818-85 - M5 x 8	Cross recessed head screw type H M5*8	14
5A-10	LX351806	Lower liner	1
5A-11	FC1100BJ/230V	PC Board	1
5A-12	GB 818-85 - M4 x 8	Cross recessed head screw type H M4*8	16
5A-13	LX351805	Lower cover plate	1
5A-14	GB 818-85 - M4 x 16	Cross recessed head screw type H M4*16	4
5A-15	SB-22	Buttoned guard ring SB-22	1
5A-16	LX351804	Upper cover plate	1
5A-17	GB 818-85 - M3 x 6	Cross recessed head screw type H M3*6	9
5A-18	ZD-1	DC power supply board ZD-1	1
5A-19	HTS-310	Hexagonal isolation column HTS-310	5
5A-20	LX351807	Upper liner	1
5A-21	LX351802	Post back cover	1
5A-22	1000W	Brushless motor	1
5A-23	QKS8	safety switch	1
5A-24	QKS8-1	Safety limit switch insert	1
5A-25	M8(use on RSD-27 display together)	probe	1
5A-26	LX351808	Probe bracket	1
5A-27	WQG1-M30B/AD28.5	Quick hose connector	2
5A-28	WQG1-M25B-AD21.2	Quick hose connector	2
5A-29	GB 5781-86 - M5x16	hexagon headed bolt	3
5A-30	WY-PE AD21.2B	Flexible pipe	1
5A-31	WY-PE AD28.5B	Flexible pipe	1
5A-32	GB 818-85 - M3 x 12	Cross recessed head screw type H M3*12	2
5A-33	GB 6170-86 - M4	Hex nut M4	3
5A-34	LX351803	Electric box liner	1
5A-35	GB 845-85 - ST2.9 x 6.5 - C - H	Self tapping screw ST2.9*6.5	4
5A-36	X-4	Knob plate	1
5A-37	LSX351802	back plate	1
5A-38	USB	One male and two mother extension line with fixed seat	1
5A-39	Y-2A	liquid crystal board	1
5A-40	LSX352511	Switch sign	1
5A-41	HY57B	Emergency stop button HY57B	1
5A-42	GX-2	Knob	1
5A-43	LX351801	Electric box	1
5A-44	LSX351801	Electric box cover	1
5A-45	M19	Start stop button M19	1
5A-46	M16	Tapping button M16	1
5A-47	XMT-23150FD-L	filter	1
5A-48	BG10V	BG10V digital display	1

Parts Drawing ----5B----

Product configuration: This drawing is for SX3.5Z and SX3.5D with digital readout display model, 220-240V, Metric



Parts List ----5B----

Product configuration: This drawing is for SX3.5Z and SX3.5D with digital readout display model, 220-240V, Metric

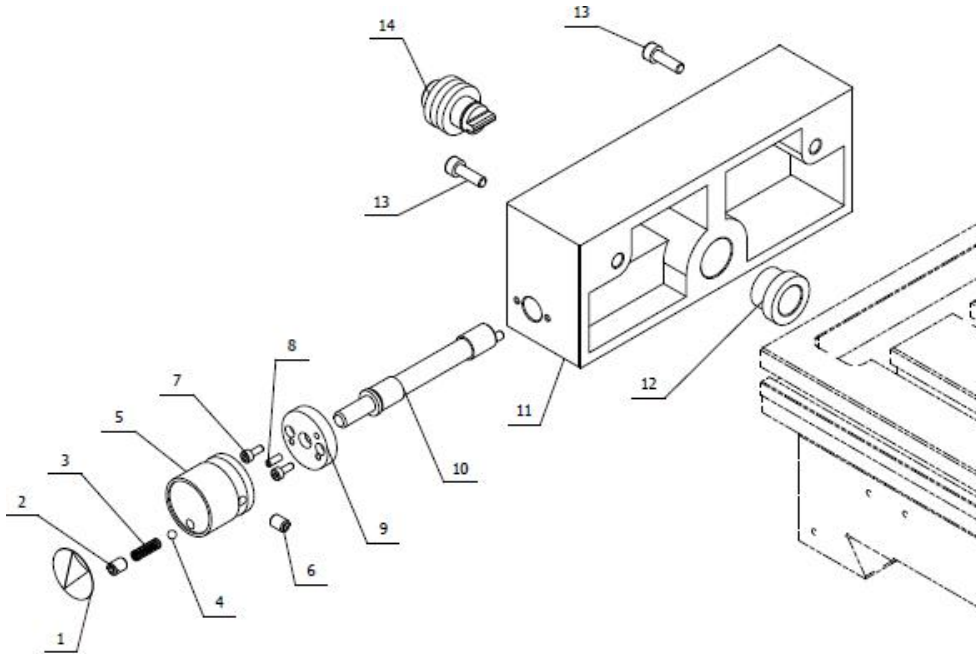
When the parts No. With “*”, it means have inch type or 110V to choose

No.	Drawing No.	Description	Q'ty
5B-1	QKS7 with bar--A	Safety limit switch QKS7	3
5B-2	GB 818-85 - M4 x 30	Cross groove small disc screw type Z M4*30	8
5B-3	6W2	Thread buckle	2
5B-4	DB-14F	Socket with fuse DB-14F	1
5B-5	GB 6170-86 - M3	Hex. nut M3	2
5B-6	GB 819-85 - M3x10	Cross recessed countersunk head screw H M3*10	6
5B-7	Pull not off M12	Pull not off M12	1
5B-8	GB 93-87 - M5	Spring washer M5	4

5B-9	GB 818-85 - M5 x 8	Cross recessed head screw type H M5*8	14
5B-10	LX351806	Lower liner	1
5B-11	FC1100BJ/230V	PC Board	1
5B-12	GB 818-85 - M4 x 8	Cross recessed head screw type H M4*8	16
5B-13	LX351805	Lower cover plate	1
5B-14	GB 818-85 - M4 x 16	Cross recessed head screw type H M4*16	4
5B-15	SB-22	Buttoned guard ring SB-22	1
5B-16	LX351804	Upper cover plate	1
5B-17	GB 818-85 - M3 x 6	Cross recessed head screw type H M3*6	9
5B-18	ZD-1	DC power supply board ZD-1	1
5B-19	HTS-310	Hexagonal isolation column HTS-310	5
5B-20	LX351807	Upper liner	1
5B-21	LX3518B01	Post back cover	1
5B-22	1000W	Brushless motor	1
5B-23	QKS8	Safety switch QKS8	1
5B-24	QKS8-1	Safety limit switch insert QKS8-1	1
5B-25	M8(use on RSD-27 display together)	Probe head M8	1
5B-26	LX351808	Probe head support	1
5B-27	WQG1-M30B/AD28.5	Quick hose connector	2
5B-28	WQG1-M25B-AD21.2	Quick hose connector	2
5B-29	GB 5781-86 - M5x16	Hexagon headed bolt M5*16	3
5B-30	WY-PE AD21.2B	Flexible pipe	1
5B-31	WY-PE AD28.5B	Flexible pipe	1
5B-32	GB 818-85 - M3 x 12	Cross recessed head screw type H M3*12	2
5B-33	GB 6170-86 - M4	Hex nut M4	3
5B-34	LX351803	Electric box liner	1
5B-35	GB 845-85 - ST2.9 x 6.5 - C - H	Self tapping screw ST2.9*6.5	4
5B-36	X-4	Knob plate	1
5B-37	LSX351802	back plate	1
5B-38	USB	One male and two mother extension line with fixed seat	1
5B-39	Y-2A	liquid crystal board	1
5B-40	LSX352511	Switch sign	1
5B-41	HY57B	Emergency stop button HY57B	1
5B-42	GX-2	Knob	1
5B-43	LX3518B02	Electric box	1
5B-44	LSX351801	Electric box cover	1
5B-45	M19	Start stop button M19	1
5B-46	M16	Tapping button M16	1
5B-47	XMT-23150FD-L	filter	1
5B-48	BG10V	BG10V digital display	1
5B-49	M12	Pull not off M12	2
5B-50	19 button	19 button	2

Parts Drawing -----6A-----

Product configuration: This drawing is for SX3.5P with power feeder model,



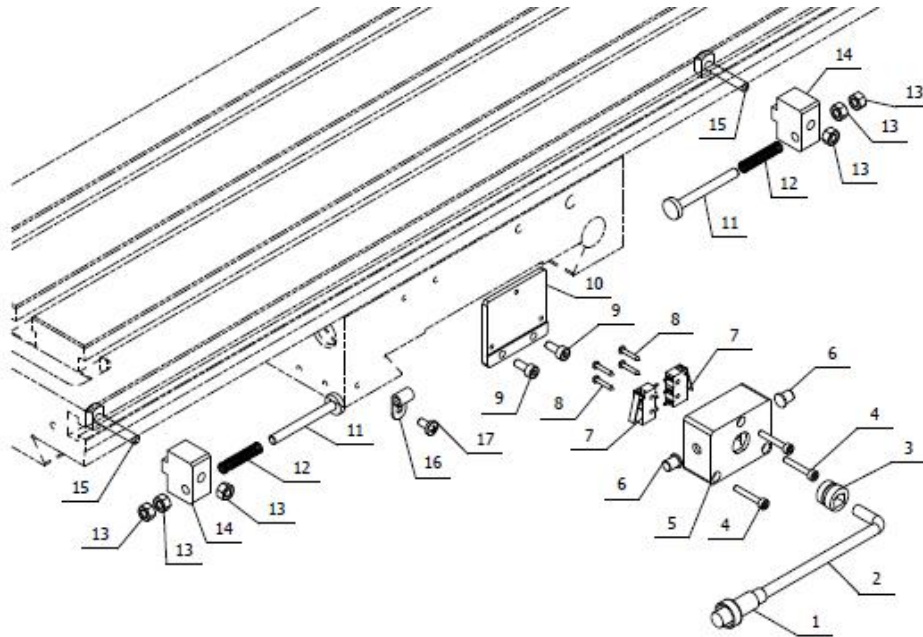
Parts Listing -----6A-----

Product configuration: This drawing is for SX3.5P with power feeder model,

No.	Drawing No.	Description	Q'ty
6A-1	LC4B0719	Shift indicator label	1
6A-2	GB 77-85 - M6 x 8	Internal hexagonal fastening screw-flat end M6*8	1
6A-3	GB2089-80 0.7x4x25	Compress spring 0.7*4*25	1
6A-4	GB308-85 4	Steel ball 4	1
6A-5	LZD30A0206	Handle	1
6A-6	GB 78-85 - M6 x 8	Internal hexagonal fixed screw-taper end M6*8	1
6A-7	GB 70-85 - M3 x 8	Hexagon head screw M3*8	2
6A-8	GB 879-86 - 3 x 8	Spring round pin 3*8	1
6A-9	LZD30A0204	Flange	1
6A-10	LX3520010202	Eccentric shaft	1
6A-11	LX3520010201	Support seat	1
6A-12	LZD30A0205	Shaft sleeve	1
6A-13	GB 70-85 - M5 x 16	Hexagon head screw M5*16	2
6A-14	LZD30B0202	Connector assembly	1

Parts Drawing -----6B-----

Product configuration: This drawing is for SX3.5P with power feeder model,



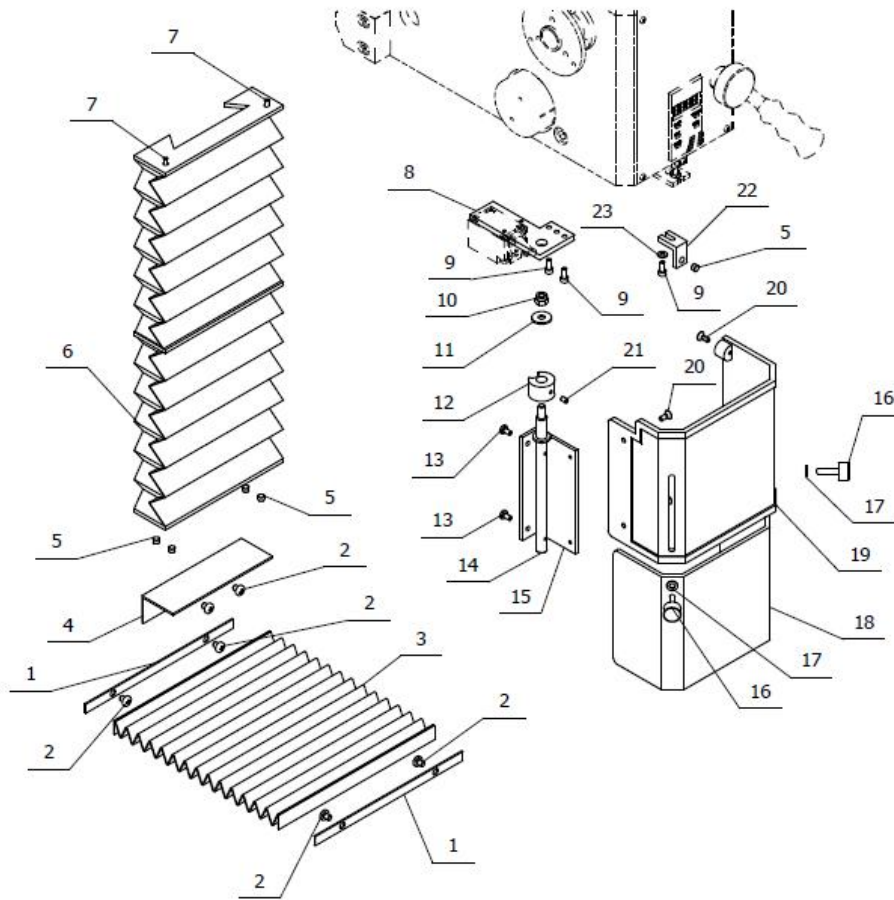
Parts Listing -----6B-----

Product configuration: This drawing is for SX3.5P with power feeder model,

No.	Drawing No.	Description	Q'ty
6B-1	M12-3	Three-core connector head	1
6B-2	H03VV-F	Black cable	1
6B-3	12mm	Thread buckle	1
6B-4	GB 70-85 - M3 x 20	Hexagon head screw M3*20	3
6B-5	LZD30A0304	Micro switch box	1
6B-6	LZD30A0306	Impact nail	2
6B-7	Micro switch	Micro switch	2
6B-8	ST2.2-13	Self tapping screw ST2.2-13	4
6B-9	GB 70-85 - M4 x 10	Hexagon head screw M4*10	2
6B-10	LZD30B0302	Micro switch bottom plate	1
6B-11	LZD30A0303	Pin roll	2
6B-12	GB2089-80 0.5x4.5x28	Compress spring 0.5*4.5*28	2
6B-13	GB 6170-86 - M5	Hex nut M5	6
6B-14	LX320030401	Limit block	2
6B-15	LX3200304A02	T type bolt	2
6B-16	wiring fixing button	wiring fixing button	1
6B-17	GB 818-85 - M4 x 8	Cross recessed head screw type H M4*8	1

Parts Drawing -----7A----

Product configuration: This drawing is for SX3.5 series all model



Parts Listing -----7A----

Product configuration: This drawing is for SX3.5 series all model

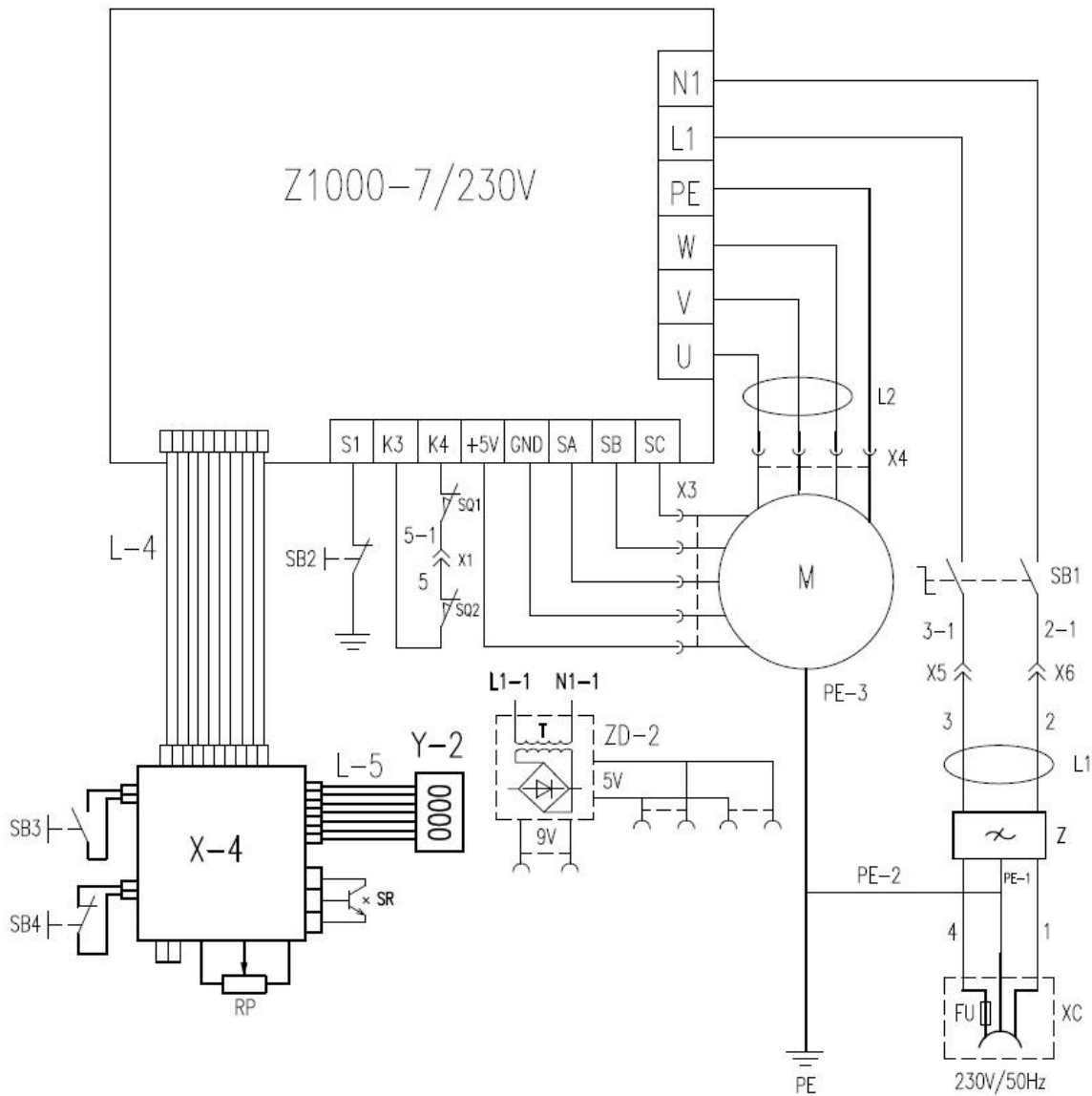
No.	Drawing No.	Description	Q'ty
7A-1	LX20002	Filler strip	2
7A-2	GB 818-85 - M5 x 6	Cross recessed head screw type H M5*6	6
7A-3	LX352301	Dust guard	1
7A-4	LXN3A2303	Column shield baffle	1
7A-5	YE023003	Φ6 magnet steel	5
7A-6	LX352303	Lifting guide rail shield	1
7A-7	GB 818-85 - M4 x 10	Cross recessed head screw type H M4*10	2
7A-8	LX3C23C01	Tie strap	1
7A-9	GB 70-85 - M4 x 10	Hexagon head screw M4*10	3
7A-10	GB 889-86 - M6	Hexagonal locking nut M6	1
7A-11	GB 96-85 - 6	Washer 6	1

7A-12	LX3C23C05	Spacer sleeve	1
7A-13	GB 818-85 - M4 x 8	Cross recessed head screw type H M4*8	2
7A-14	LX3C23C02	Rotation shaft	1
7A-15	LX352304	Support	1
7A-16	GB 835-88 - M5x20	Knurled flat head screw M5*20	2
7A-17	GB 97.1-85 - 5	Washer 5	2
7A-18	LX3C23C0401	Inner shield	1
7A-19	LX3C23C03	Outer shield	1
7A-20	GB 819-85 - M4x10	Cross recessed countersunk head screw H M4*10	3
7A-21	GB 78-85 - M4 x 6	Internal hexagonal fixed screw-taper end M4*6	1
7A-22	LX352302	Link stopper	1
7A-23	GB 97.1-85 - 4	Washer 4	1

Packing List

No.	Name	Description	Q'ty	Remarks
1	Bench Mill	One of the SX3.5 series	1 set	
2	Fuse	110V/20A or 230V/10A	1 pce.	
3	Manual		1 pce.	
4	Double end wrench	S1*S2: 8*10、14*17、17*19	each 1	
5	L hex wrench	S: 3、4、5、6、8	each 1	
6	U wrench assembly	X3C2004	1 pce.	
7	Oil cup		1 pce.	
8	T nut	X22001	4 pcs.	
9	L hex wrench assembly	X3C2003	1 件	
Below parts usually fixed on the machine (According to choice of MT3 or R8)				
10*	B16 drill chuck	J2113/ 1-13mm / B16	1 pce.	MT3 type
11*	MT3 taper shank	X20206	1 pce.	
12*	locking bolt assembly	X3C021100(X3C021101)	1 pce.	
13*	slanting wedge	X3C2002	1 pce.	
14*	JT6 drill chuck	3-16mm / JT6	1 pce.	R8 type
15*	R8 taper shank	X302A04(A)	1 pce.	
16*	locking bolt assembly	X3C021101B (7/16")	1 pce.	

230V Electrical wiring diagram for SX3.5 standard model



Z1000-7/230V: PC Board

FU: Fuse (10A)

Z: Filter

SB1: Emergency stop button

L-5: Flat connecting line

Y-2: Liquid crystal display panel

L1: Magnet ring

SB4: Mill/tapping change button

SR: Velocity probe

SQ2: Limit switch for spindle box cover

M: Brushless motor

X-4: Knob plate

XC: Socket with fuse

SB2: Tapping button

L-4: Ten core connecting wire

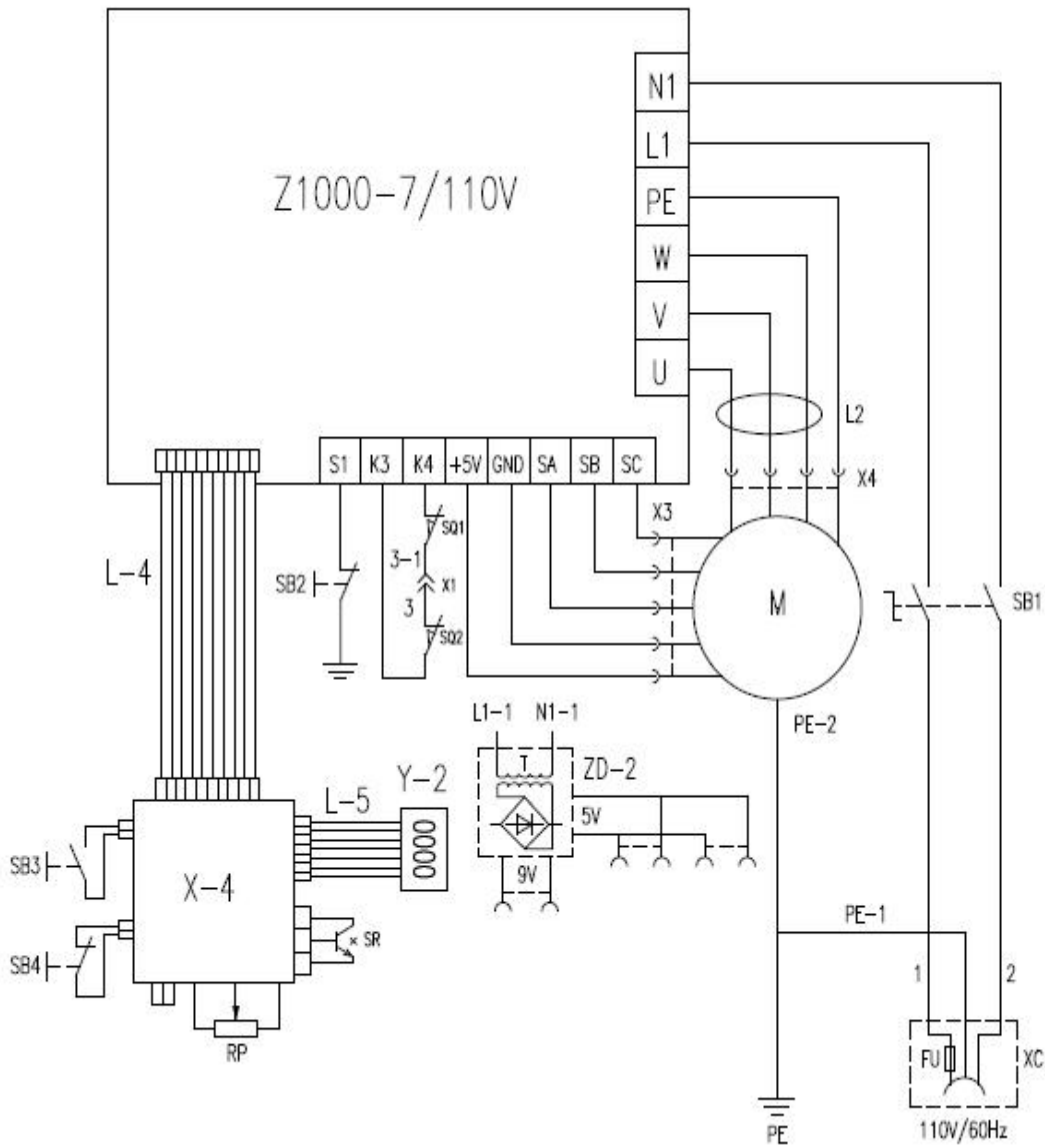
SB3: Start/stop button

L2: Magnet ring

ZD-2: DC power supply board

SQ1: Limit switch for chuck guard

110V Electrical wiring diagram for SX3.5 standard model



Z1000-7/110V: PC Board

FU: Fuse (20A)

SB1: Emergency stop button

L-5: Flat connecting line

Y-2: Liquid crystal display panel

XC: Socket with fuse

SB4: Mill/tapping change button

SR: Velocity probe

SQ2: Limit switch for spindle box cover

M: Brushless motor

X-4: Knob plate

SB2: Tapping button

L-4: Ten core connecting wire

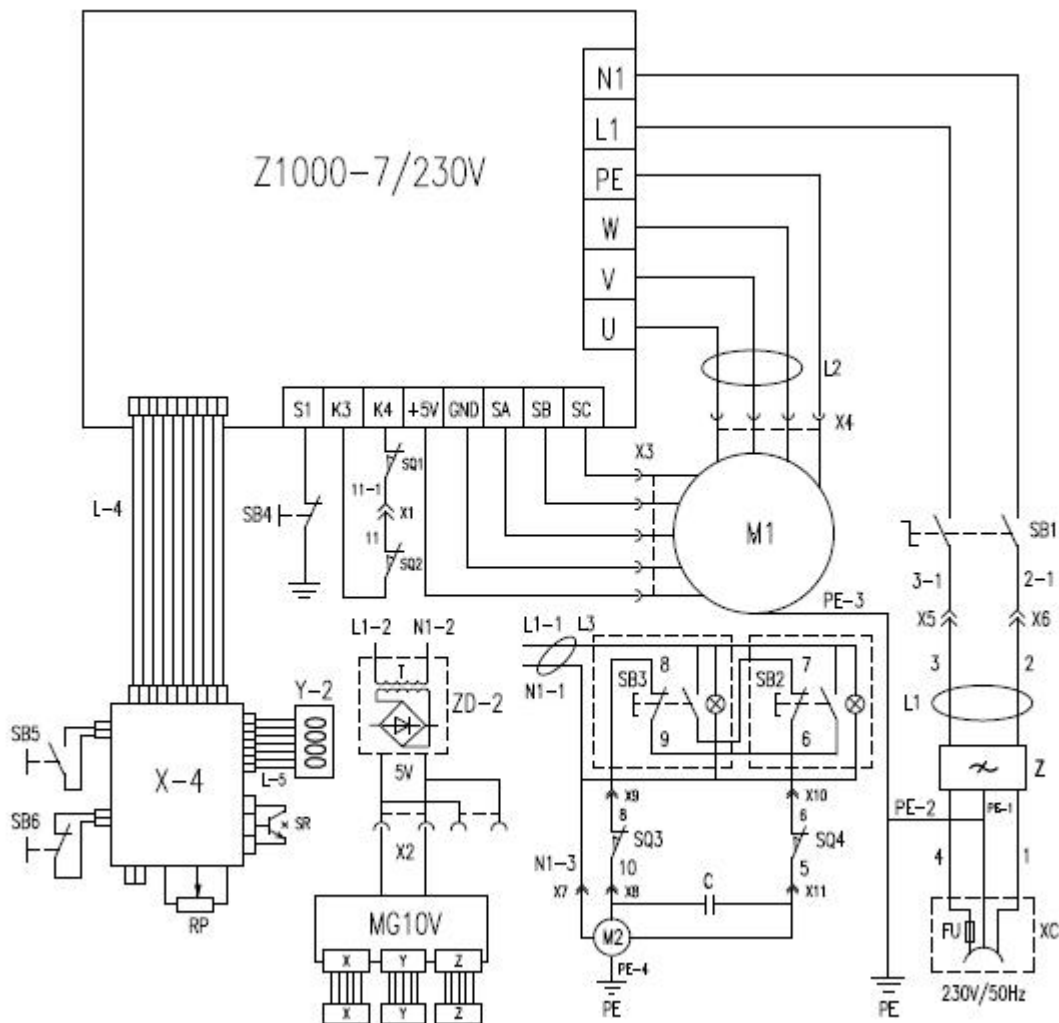
SB3: Start/stop button

L: Magnet ring

ZD-2: DC power supply board

SQ1: Limit switch for chuck guard

230V Electrical wiring diagram for SX3.5DZ with DRO and Z-axis auto lifting model



Z1000-7/230V: PC Board

SQ3: Limit switch for raising up

X-4: Knob plate

SQ4: Limit switch for raising down

SB1: Emergency stop button

SB2: Lifting button

L1: Magnet ring

Y-2: Liquid crystal display panel

SB6: Mill/tapping change button

M2: Lifting motor

SQ2: Limit switch for spindle box cover

MG10V: Digital readout display

ZD-2: DC power supply board

M1: Brushless motor

FU: Fuse (10A)

Z: Filter

XC: Socket with fuse

SB4: Tapping button

SB5: Start/stop button

L2: Magnet ring

SB3: Down button

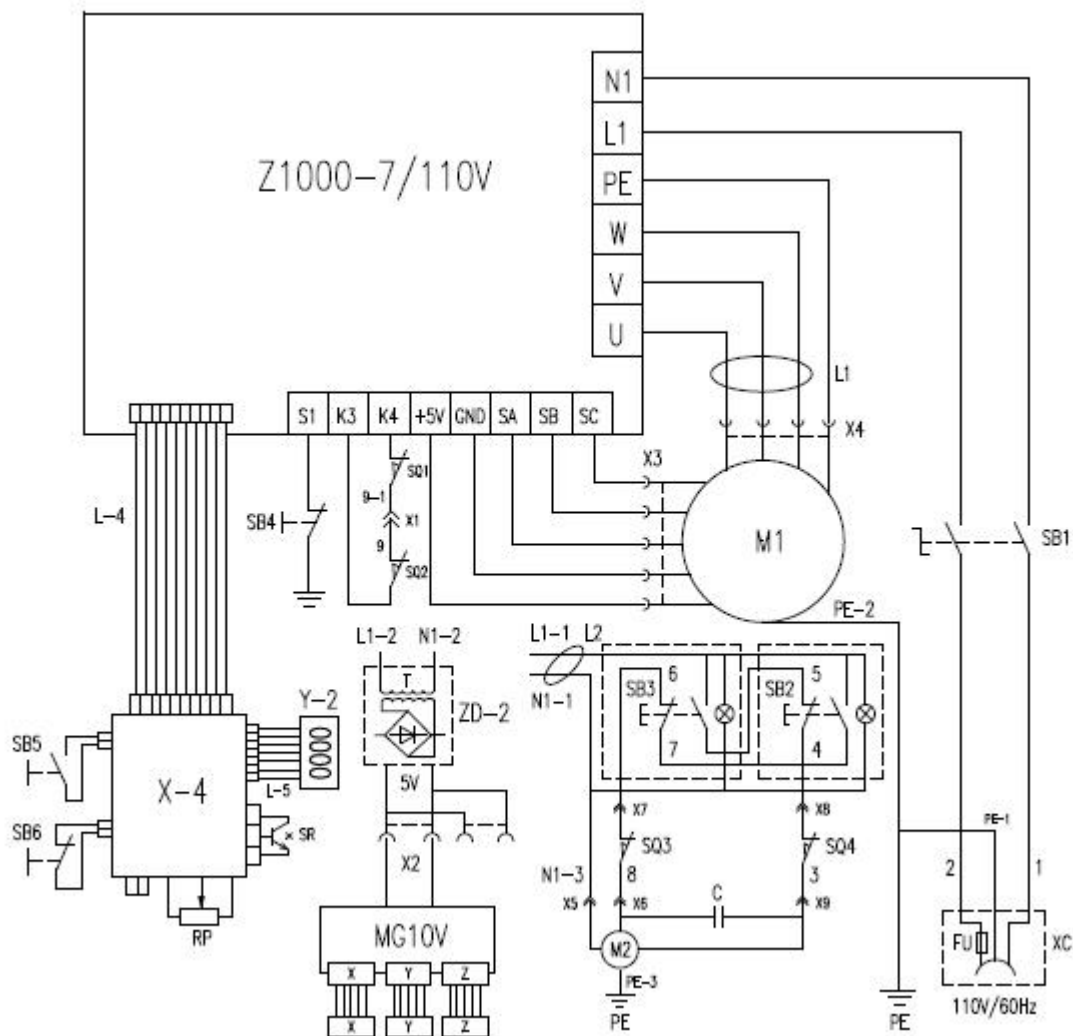
L3: Magnet ring

SQ1: Limit switch for chuck guard

SR: Velocity probe

C: Electric capacity

110V Electrical wiring diagram for SX3.5DZ with DRO and Z-axis auto lifting model



Z1000-7/110V: PC Board

SQ3: Limit switch for raising up

X-4: Knob plate

SQ4: Limit switch for raising down

SB1: Emergency stop button

SB2: Lifting button

L1: Magnet ring

SB3: Down button

SR: Velocity probe

M2: Lifting motor

MG10V: Digital readout display

SQ2: Limit switch for spindle box cover

M1: Brushless motor

FU: Fuse (20A)

SB4: Tapping button

XC: Socket with fuse

Y-2: Liquid crystal display panel

SB5: Start/stop button

L2: Magnet ring

SB6: Mill/tapping change button

ZD-2: DC power supply board

SQ1: Limit switch for chuck guard

C: Electric capacity

-----The end-----

