

Tube Bending Machine

MODEL: JTB-50



Operation Manual

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I . About the Product:

This Tube bending machine is a motor-driven tool set for special purposes, can make adjustments to workpiece holdings either mechanically or hydraulically. By utilizing the metal materials' adaptable distortion, the tool can bend workpieces such as low-carbon and stainless round tubes, square tubes, steel angles, I-shaped steel stripes and round steel bars to achieve your desired shapes. Being indispensable equipment for construction and beautification works today, can be widely used in the field of building construction, decoration industry, furniture building and garden construction.

The equipment features “one-touch” operation on single workpiece and data-program controlled mass processing. Being easy to operate, reasonable in composition, and low power consumption with high work efficiency, the equipment is ideal for bending metal pipes.

II. Specifications:

Items	Technical Parameters		
Max. Size of Processing Materials (mm)	Round Pipe	Max.	Φ51
		Min.	Φ16
	Stainless steel pipe	Max.	Φ38
		Min.	Φ16
	Square pipe	Max.	50x50
		Min.	16x16
Maximum Bending Angle	180°		
Rate of Main shaft Rotation r/min	5		
Thickness(mm)	1-5		
Main Motor Power (kW)	2.2		
Hydraulic Motor for specific purpose (kW)	1.1		
Packing Sizes (L×W×H) cm	145×69×117		
Net Weight	550 kgs		
Gross Weight	620 kgs		

III. User's Guide:

Pre-Use Preparations:

- (1) Read the instructions for the operation of your model carefully before using.
- (2) Check the accessories delivered along with the machine, remove the guard angle irons of the console panel and fix the panel with such angle irons.
- (3) Add lubricant before trial operation. Make sure that lubricant is

infused to the marked parts of gear box and the required level of lubricant is satisfied.

(4) For machine with hydraulic power, ordinary hydraulic oil YA-N46 maybe added into it's hydraulic oil tank and make sure that the amount of the oil reaches the marked level. The first oil infusion may go beyond such marked level.

(5) Turn **AUTO/MANUAL** knob to **MANUAL**, press **Forward spot-turn** button to make sure that main shaft is moving clockwise.

(6) Press **EMG STOP** button in times of mounting or dismounting dies to stop the running shaft. Never mount or dismount a die until the main shaft comes to full stop.

(7) Keep away from the main shaft and dies when machine is working.

(8) Make sure that the machine is disconnected from power before cleaning or checking the machine.

(9) The machine has been well tested for trial before delivery. Please simply secure your machine on a smooth, plain surface.

(10) Cleaning: Make sure that each part of the machine is in normal condition, removing any obstacles nearby to ensure proper operation of the machine.

(11) Wirings can be conducted exclusively by professionals to ensure sound grounding.

(12) Always identify and use the right bending dies in accordance with the specifications of the work-pieces that you desire. Never force your

machine to do work beyond its capacity.

IV. Operation:



(1) Clamp: Work at Manual mode, press on this button to clamp the workpiece.

(2) Loosen: Work at Manual mode, press on this button to loosen the workpiece.

(3) Pump Indicator: when pump start, Light flash.

(4) Pump Start: Press on this button to start pump.

(5) Auto/ Manual: Select Auto mode or Manual mode for bending.

(6) Forward spot-turn: Work at Manual mode, press on this button to forward bending

(7) Reverse Spot-turn: Work at Manual mode, press on this button to counterclockwise bending.

(8) Power: When start main power switch, Light flash.

(9) Stop: Press on this button to cut off power supply.

1. Preparation before bending

- (1) Choose the proper dies for the material you are to work on, and assemble the dies on the machine.
- (2) Adjust limited switch according to dies size, to make sure that the #2 Rear dies can press the workpiece at the proper point.
- (3) Trial operation is advised. Connect the machine with power supply (the power indicator now lights up), activate the oil pump power supply to turn on the hydraulic oil pump.
- (4) Select Manual or Auto mode, start bending.

2. Manual Mode

- (1) Turn the knob to MANUAL.
- (2) Place the workpiece into the die groove and fasten it by #20 Pipe Clamp.
- (3) Press Clamp button to make the sliding block moves to the set point and make sure workpiece be clamped tighten.
- (4) Press Forward spot-turn button to make the reversing valve lever rotary forward so that the hydraulic rod and pressing wheel can squeeze the workpiece to the desired degree of bending.
- (5) Press Reverse Spot-turn button to make the reversing valve lever rotary reversed.
- (6) Press Loosen button to make the sliding block moves backward.
- (7) Take off workpiece.

Note: At manual mode, angle setting function is invalid.

3. Auto Mode

- (1) Turn the knob to AUTO.
- (2) Place the workpiece into the die groove and fasten it by #20 Pipe Clamp.
- (3) Set the proper angle want to bend (0-180°).
- (4) Step on the pedal and the machine will perform fastening, arc bending and repositioning automatically. Make sure that the machine works properly by repeating the steps before bending the workpieces.
- (5) Take off workpiece.

V. Set Counter

PV: Actual bending angle

SV: Required bending angle

- (1) The required angle can be defined by the counter. E.g. if the bending angle is required to be 90°, then the counter should be set up to 90°.
- (2) Press the Forward spot-turn button (or step on the foot-pedal) until the desired angle where it'll stop automatically and the task completed.

The way to set counter:

1. Press “set” for one second, and then setting value SV is flickering.
2. now press < to set multiple, when you adjust the multiple you want, then the digit is flickering.
3. Press ∨ ^ adjust the size of the number.

4. Press “set” for one second again, quit adjust mode. Then setting value SV is stopped flicker. Setting is finished.

Note: 1. if you press “set” for three seconds carelessly into adjusting counter mode; please don’t change the number anyway. Press “set” continuously until SV shows 0000 correctly. Otherwise the counter can’t work normally. Then use the last four steps to set counter.

2. “set” also has the function to back zero.



VI. Lubrication and Maintenance:

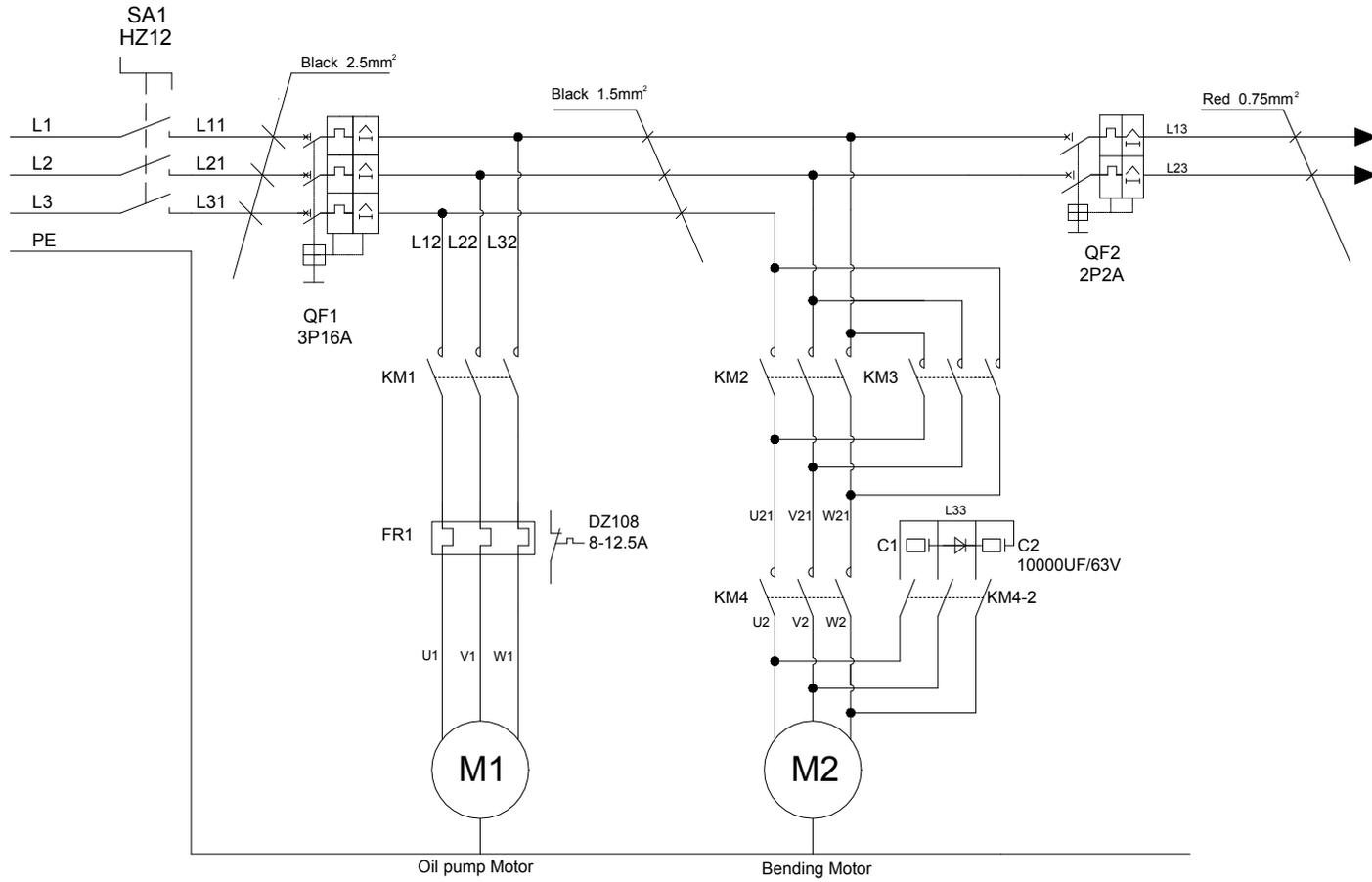
(1) Bearings of all axis must be lubricated with calcium grease on 6-month basis.

- (2) Users are advised to check the condition of the electrical devices on regular basis to ensure the soundness of such devices and ground wires. Turn off the machine in the event of occurrence of any trouble or abnormal sound. Disconnect the machine from the power source, find out the trouble and eliminate it timely.
- (3) Clean the machine after work and apply anti-rust oil onto the unpainted parts of the machine, keep it in good condition.
- (4) A good mastery of the operating sequence will avoid wrong operations.
- (5) Pay close attention to any damage caused to the adjustment disk. Replace it if necessary to avoid personal injuries.
- (6)

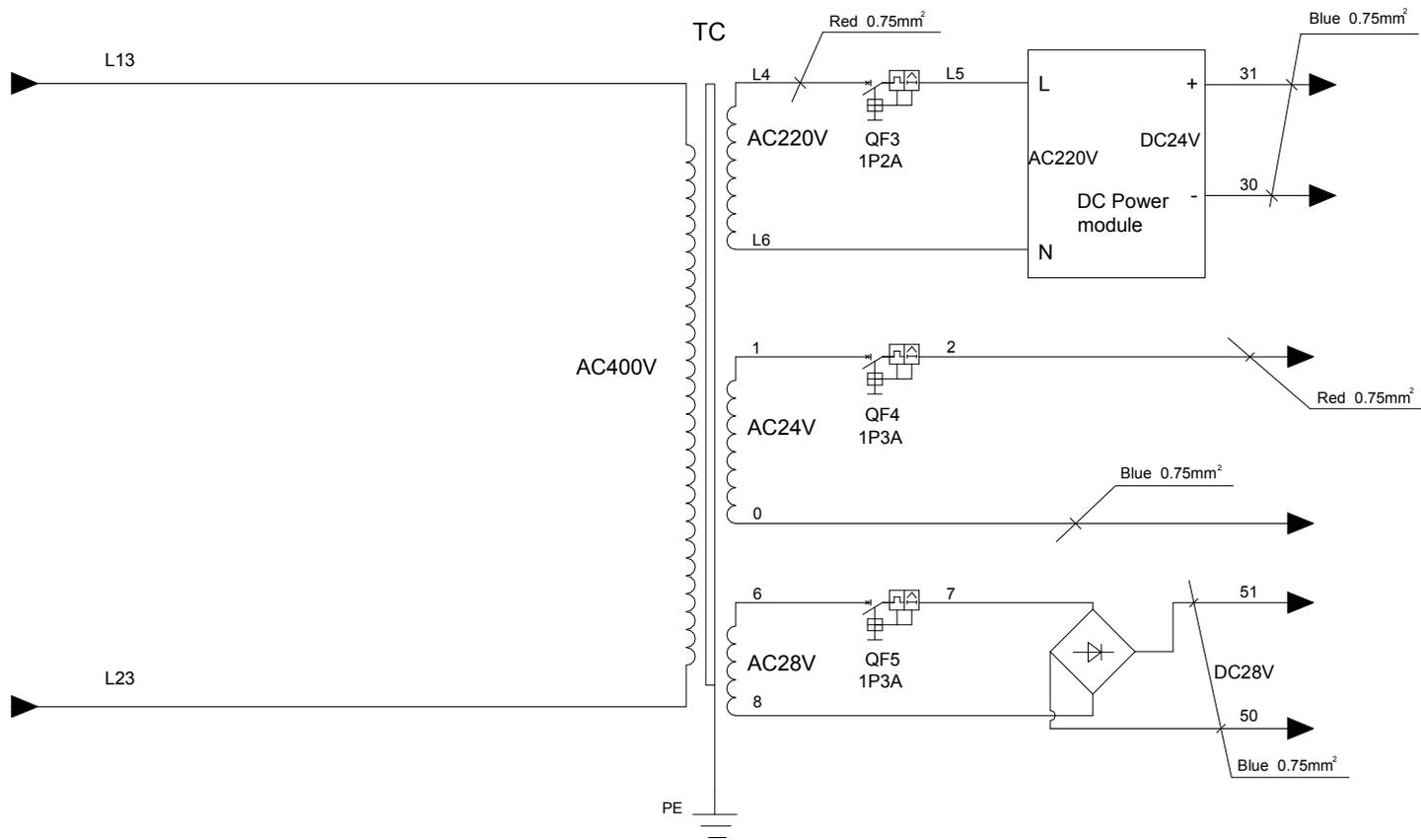
VII. Troubleshooting:

Description of Troubles	Possible Cause	Countermeasures
Sliding block refuse to move	1. Wrong direction of oil pump motor movement. 2. Insufficient amount of oil in oil tank.	1. Change phase sequence direction 2. Add oil to the required level
Excessive volume of noise	1. Blockage of oil inlet pipe 2. Air in oil seal of oil pump	1. Check the pipe 2. Replace oil seal
Poor volume of pressure	Deposition of guiding pressure valve	Re-adjust

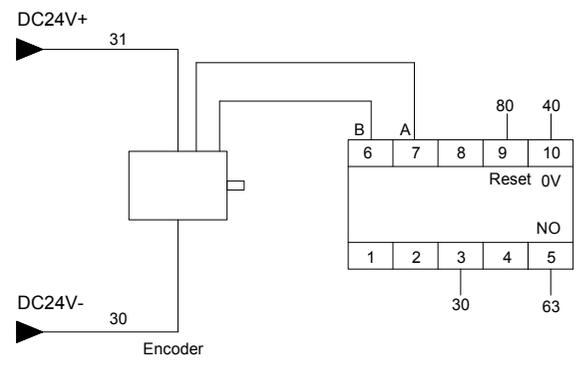
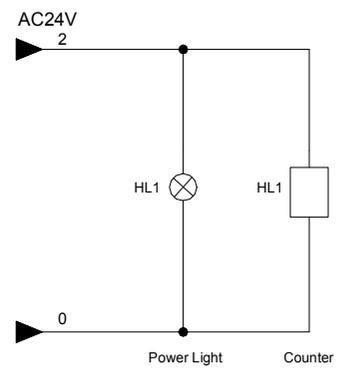
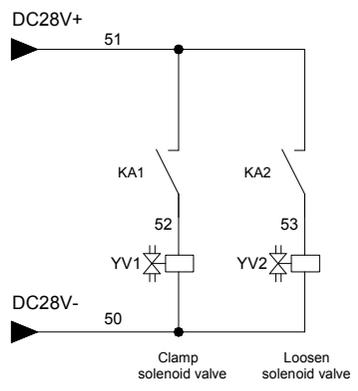
VIII. Elec. Diagram



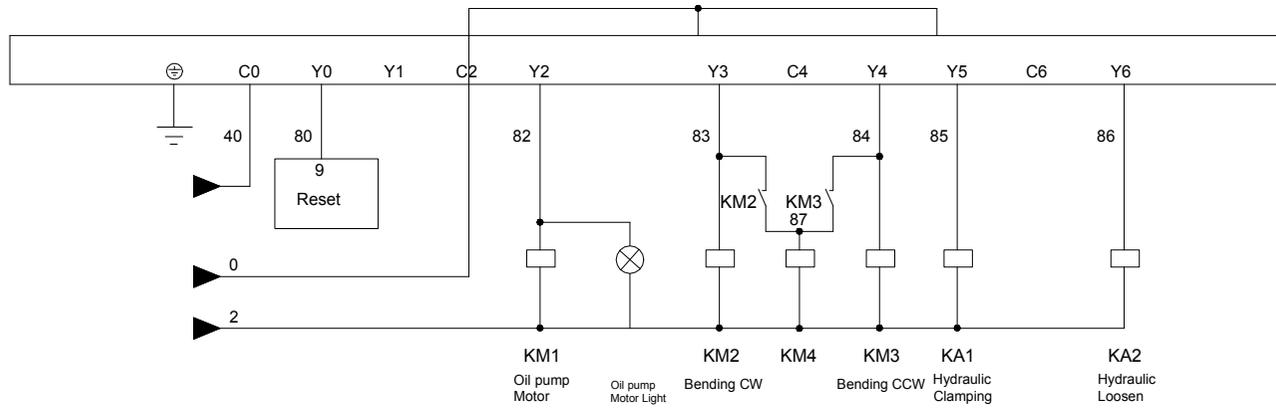
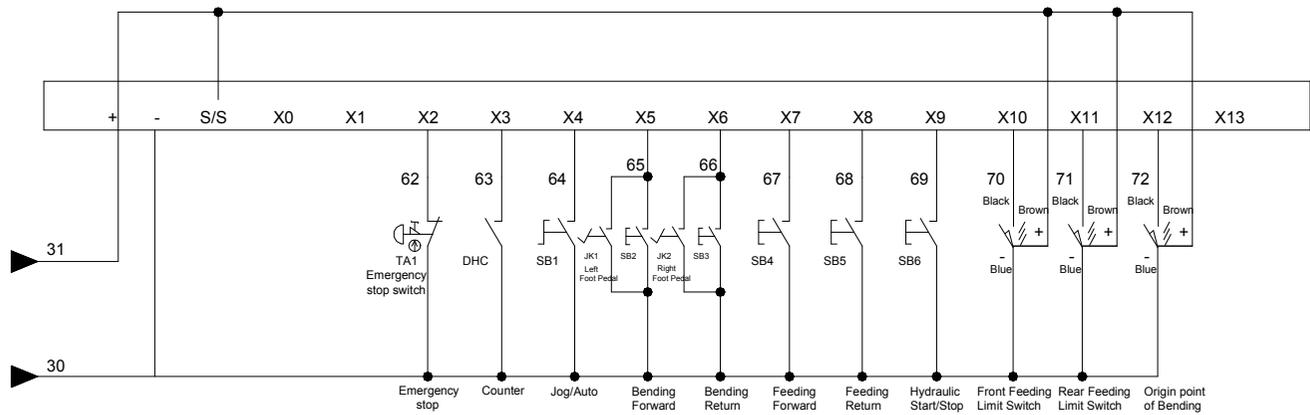
		JTB50-8001	QRAWN
			CHKET
		CIRCUIT DIADRAM	DIAGRAM NO.1



		JTB50-8002	QRAWN
			CHCKET
		CIRCUIT DIADRAM	DIAGRAM NO.2

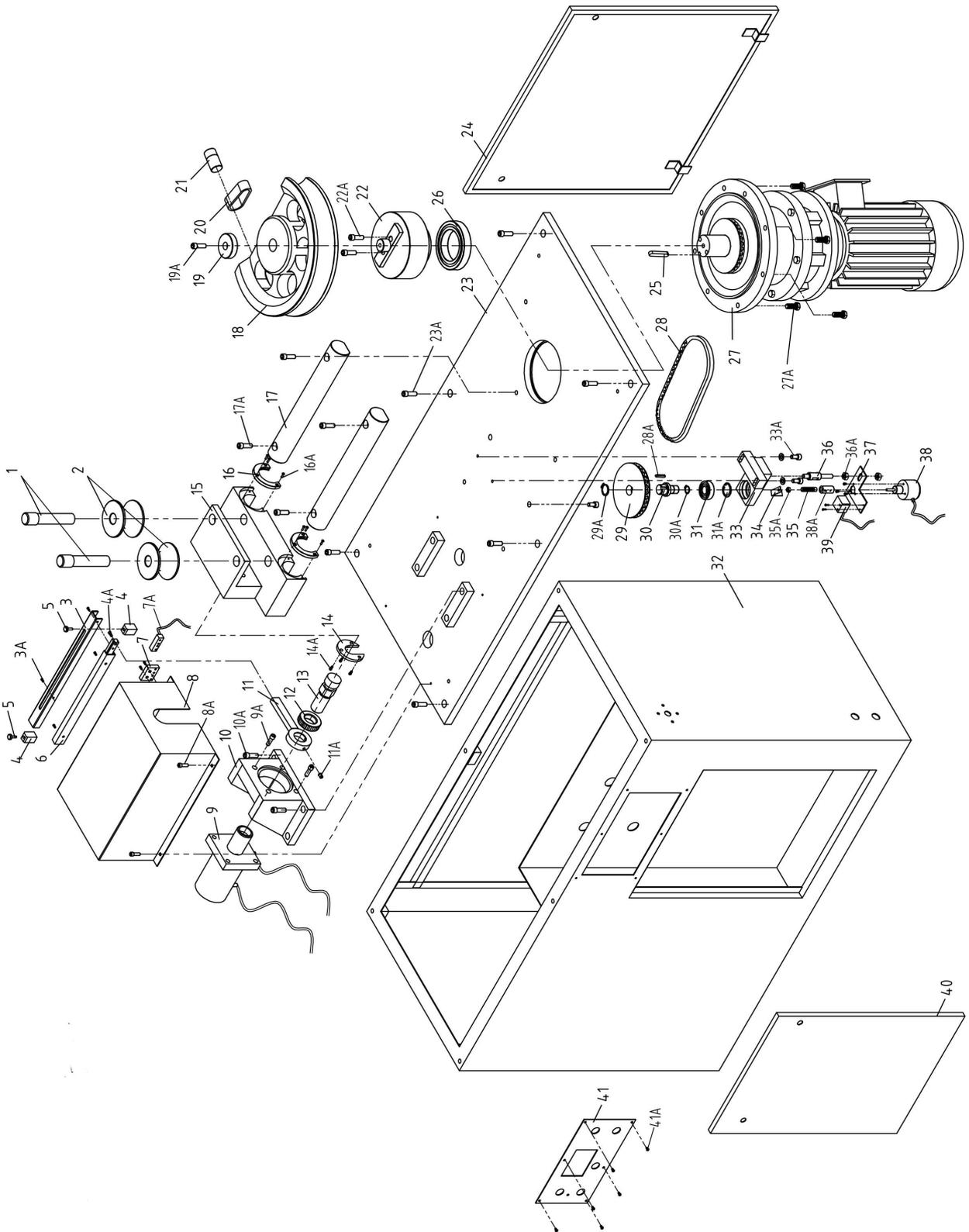


		JTB50-8003	QRAWN
			CHCKET
		CIRCUIT DIADRAM	DIAGRAM NO.3



		JTB50-8004	QRAWN
			CHCKET
		CIRCUIT DIADRAM	DIAGRAM NO.4

IX. Parts drawing and Parts list



Part #	Desc	Q'ty	Part #	Desc	Q'ty
1	Axis Pin	2	23	Worktable	1
2	Rear Dies	2	23A	Screw M10x25	6
3	Limited guide bar	1	24	Rear Door	1
3A	Screw M3x8	6	25	Flat Key 16	1
4	Limited Block	2	26	Bearing 6020	1
4A	Screw M6x15	1	27	Motor	1
5	Stop Screw	2	27A	Bolt M12x40	8
6	Slide Rail	1	28	Belt	1
7	Limited switch Seat	1	28A	Flat Key 6	1
7A	Limited Switch	1	29	Belt Wheel	1
8	Upper Cover	1	29A	Check Ring	1
8A	Screw M8x10	4	30	Shaft	1
9	Hydraulic Cylinder	1	30A	Check Ring 20	1
9A	Screw M12x35	4	31	Bearing 6204	1
10	Fixed Seat for Hydraulic cylinder	1	31A	Check Ring	1
10A	Screw M16x60	4	32	Pedestal	1
11	Connecting Rod	1	33	Fixed Seat for Encoder	1
11A	Set Screw M6x8	2	33A	Screw M8x40	2
12	Locknut	1	34	Pointer	1
13	Ejector Rob	1	35	Fixed Screw	1
14	Pad	1	35A	Nut M6	1
14A	Bolt M6x16	3	36	Connection Screw	1
15	Slide Rest	1	36A	Nut M10	2
16	Dust Cover	2	37	Junction plate	1
16A	Sunk Screw M4x10	6	38	Encoder	1
17	Slideway	2	38A	Coupler	1
17A	Screw M12x40	6	39	Limited Switch	1
18	Bending Die	1	40	Front Door	1
19	Press Cover	1	41	Panel	1
19A	Screw M10x30	1	41A	Screw M6x8	6
20	Pipe Clamp	1			
21	Axis Pin	1			
22	Rotary seat	1			
22A	Screw M8x20	2			

Note: This manual is only for your reference. We reserve the right to improve the machine without notice. Please note the local voltage for operating this electric machine.