Aluminum PVC Window Door End Milling Machine

Instruction Manual

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1. Main purpose and scope of application

The aluminum-plastic door and window end face milling machine is a special equipment used to process the end face of aluminum-plastic door and window profiles. It is suitable for milling profiles with a maximum width of 120mm and a maximum height of 60mm. Different tools can be used to mill out corresponding shapes. Slots and milled pins in one pass.

2. Main specifications and technical parameters

Power supply: 380V 50-60HZ 3P

Motor power: 2.2KW

Milling cutter shaft speed: 2800r/min

Milling cutter shaft diameter: 32mm

Longitudinal stroke of milling cutter shaft: 36mm

Milling cutter diameter: up to 160mm

Milling angle: 90°

Maximum cutting width: 200mm

Working air pressure: 0.5～0.8MPA

Air consumption: 30L/min

3. The main structure

This machine has the characteristics of stable performance, reliable work and convenient operation.

This machine is composed of a disc milling cutter, a cutter bar, an electric motor, a milling pin feed device, a positioning device, a clamping device, a worktable, a body, a pneumatic system, and an electrical system.

3.1 Disc milling cutter

The alloy disc-shaped milling cutter used in this machine should be designed and processed according to the user's requirements, and it is supplied by special order.

3.2 Tool holder

The cutter bar connects the disc milling cutter and the motor output shaft as a whole, and the motor directly drives the disc milling cutter to perform milling through the cutter bar.

3.3 Feeding device

This machine adopts manual feeding and milling, and the column with the joystick fixed on the sliding seat is used for pushing and pulling. The sliding seat drives the motor and the disc milling cutter, and through the linear motion bearing installed on the sliding seat, the milling pin is carried out in the horizontal direction.

3.4 Positioning device

The length of the profile (workpiece) positioning disc ruler can be adjusted and positioned according to the requirements of the milling pin to meet the requirements of the groove cutting depth.

3.5 Clamping device

Two single-acting cylinders are installed on the worktable, which can press the profiles vertically and are stable and reliable.

3.6 Electrical system see schematic diagram

4. Installation and adjustment

4.1 Installation

4.1.1 Environment

The end milling machine for aluminum-plastic doors and windows should be installed on a dry, dust-free, non-corrosive gas and indoor hard cement floor with a temperature of 15-35°.

4.1.2 Grounding

The grounding wire must be required according to the electrical wiring diagram. Its specification is a soft copper wire with a cross-sectional area greater than 2mm2, and the grounding resistance is not greater than 4 ohms.

4.1.3 Air connection

Connect the air source with a pressure of 0.5-0.8MPA to the connector of the air source processor, and check whether there is any air leakage in each air circuit. The working air pressure is 0.4-0.6MPA, and the air consumption is 20L/min.

4.1.4 Power on

The input voltage is 380V, the frequency is 50-60HZ, and the rotation direction of the milling

cutter should be consistent with the direction of the arrow on the protective cover.

4.1.5 Installation of milling cutter

Loosen the screw at the end of the tool holder, install the corresponding shim, install the disc milling cutter, and fasten the screw at the end of the tool holder.

4.2 Debugging

4.2.1 Adjustment of milling height

Loosen the fastening handle of the motor base, and rotate the push-pull handle to move the motor base up and down along the vertical column. Make the milling cutter in the proper position, then tighten the motor tightening handle to work.

4.2.2 Adjustment of milling depth

Loosen the set screw on the positioning ruler, move the positioning plate to the required position according to the depth of the pin-shaped groove to be milled, and then lock the screw on the positioning ruler to meet the requirements.

4.2.3 Air source processor

The air source processor is composed of a filter, a pressure reducing valve and a lubricator. The compressed air output from the air compressor contains a lot of impurities such as moisture, oil and dust, and the processor mainly removes these impurities.

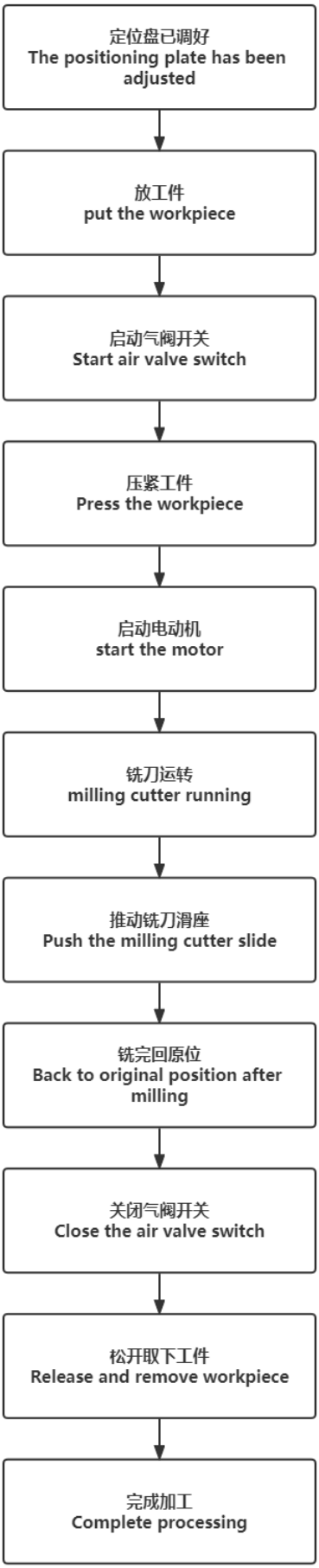
The filter must be drained frequently. There are two types of water draining: automatic draining and manual draining. When manual draining, press the drain valve under the water cup to drain the liquid in the water cup.

The pressure reducing valve is equipped with a self-locking knob. When you want to change the working pressure of the pneumatic system, you can lift the knob and rotate it in the "+" direction to increase the working pressure of the system, and vice versa to reduce the working pressure of the system. When the pointer of the pressure gauge reaches the set pressure (0.5MPA ~ 0.8MPA), the knob can be pressed to the locked position.

The amount of oil mist sprayed by the lubricator is adjustable, and the adjustment position is the throttle valve at the dripping oil, generally 1 - 2 drops/min can meet the lubrication requirements. Sewing machine oil or thinner oil is recommended.

5. Use and operation

Before starting the machine, check whether there is looseness or air leakage at the joints between the fasteners and each system. If there is any abnormality, it should be dealt with. When the positioning ruler has been adjusted, the following operation procedures can be followed.


定位盘已调好
The positioning plate has been adjusted
放工件
put the workpiece
启动气阀开关
Start air valve switch
压紧工件
Press the workpiece
启动电动机
start the motor
铣刀运转
milling cutter running
推动铣刀滑座
Push the milling cutter slide
铣完回原位
Back to original position after milling
关闭气阀开关
Close the air valve switch
松开取下工件
Release and remove workpiece
完成加工
Complete processing

6. Maintenance and maintenance

In order to make the face milling work normally, reliably reduce the damage of the parts, and prolong the service life, the maintenance system of the face milling must be implemented.

6.1 Daily maintenance: maintenance once per shift.

6.1.1 Check the fastening bolts and nuts everywhere and tighten them.

6.1.2 Check the connection of each device, if there is any abnormality, it should be cleared. Lubricate horizontal rails and vertical rails.

6.1.3 Checking the pneumatic system

After connecting the air source, firstly check the pipelines, components and joints of the pneumatic system for air leakage, if there is air leakage, it should be eliminated; secondly, check and adjust the ventilation pressure to the air pressure used; when using the lubricator , check and add lubricating oil to the oil level line.

6.1.4 Check the electrical system

After turning on the power, check the direction of rotation and operation of the motor.

6.1.5 Keep the end milling clean and clear the dirt in the end milling.

6.2 Technical maintenance

Carry out the routine maintenance items, and then add the following work.

6.2.1 The water separation filter element and accumulated water of the air source processor should be drained and cleaned regularly.

6.2.2 Regularly check and replace the knives to keep the knives sharp and intact.

7. Common faults and solution

The occurrence of the fault and its cause should be analyzed on a case-by-case basis. Based on the actual situation and practical experience, the cause should be correctly judged, checked and dealt with. The following table lists common faults and their troubleshooting methods.

Serial number	Fault Characteristics	Occurrence site	Causes	Inspection Method	Solution
1	Motor does not turn	switch	malfunction	Power-on inspection	repair or replace

2	Pressure gauge shows low air pressure	pressure gauge	failure damage	Compared	repair or replace
		Air compressor	Not working properly	stress test	repair or replace
		Pipes and joints	cracked or loose	measure air flow	repair or replace
3	Insufficient pressure on the compression device	Compression cylinder	air leak	Dismantling and checking the cylinder seal	repair or replace
4	Poor profile processing	positioning disc	Improper positioning	Measure puck position	readjust
		Profile indenter	inappropriate location	Visual inspection of indenter position	readjust
		cylinder	Not enough pressure	Check pressure gauge	repair or replace
5	Profile processing skew	Table positioning surface and milling cutter	inappropriate location	Measure relevant dimensions (parallel, vertical)	readjust