



uPoli-2-250 Metallographic Sample Grinding and Polishing Machine

Instruction Manual



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One. Introduction

This model is a single-chip microcomputer controlled grinding and polishing machine, two discs are independently controlled. The shell is formed with ABS material, which is beautiful in appearance, anti-corrosion and durable. Strong large support chassis design ensures the precision rotary balance. The motor is servo motor which has long service life and low noise and powerful motor brings strong power and efficient grinding and polishing experience. The disc is stepless speed control and can change the rotational direction. With compressed Aluminum three-point support structure, it is more solid and stable. With magnetic grinding disc design, it supports for fast disc replacing system. The disc surface is Teflon painted which makes no residue of changing abrasive paper and polishing cloth. Spindle leak-proof design ensures the bearing without damage. Equipped with cooling water pipe and solenoid water valve control, it can adjust rotational direction for wet grinding and automatically open and close the water. With powerful performance, visual display and easy operation, it is the ideal equipment for the metallographic sample preparation.

Two. Main Parameters

Model	uPoli-2-250
Disc Diameter	254mm
Abrasive Paper Diameter	250mm
Disc Speed	Stepless speed 50~1000r/min
Disc Rotational Direction	Clockwise and Counterclockwise
Disc Electromotor	Servo motor, 220V, 1.5kW
Control and Display	7 inch LCD touch screen
Power Supply	220V, 50Hz, 12A
Dimensions	1200×800×360mm
Net Weight	95kg



Three. Installation and Usage

First. Unpacking

1.This machine is fixed on the bottom plate in case of the damage during the transportation. First cut off the iron belt and screw off the bottom edge screws with the cross screwdriver, pull out the case there will be the machine and the bottom plate, and then screw off the M10 bolt under the bottom plate with the spanner. Place the machine on the stable table.

Second. Working Condition

1.The work table should be stable and higher than the drainage. The table size should be larger than 1.2×0.8M and the suggest height is 0.8M.

2.The power cable is about 1 meter long. Power supply should accord with general factory electricity use, 220V, 50Hz.

3.The water supply should be clean and free of impurities, water pressure is between 0.3-0.4MPa.

Third. Installation

1.Installation of the touch screen

The touch screen is stored separately during transportation and needs to be installed before the use of the machine.

- (1) Install the frame and the screen;
- (2) Connect the aviation plug;
- (3) Rotate the touch screen to the appropriate position.



Three. Installation and Usage

2.Installation of the water inlet and outlet pipe, power cable and air pipe

(1)Pay attention to assemble the water inlet filter screen before installing the water inlet pipe. The machine can run normally under 6 bar water pressure. When the machine is not in use, please close the external water source.

(2)Connect one end of the drain pipe to the machine, and the other end to the sewage processor or sewer pipeline. The outlet pipe should prevent pipe blocked if there is bending, and the outlet end should be lower than the end of machine.



The fuse is located between the socket and the switch.

3.Installation of the grinding disc

(1)Remove the cover and the water retaining ring.

(2)Put on the grinding disc, and aim the three pins to the hole of the disc. (The grinding disc has been installed before leaving the factory, and the magnetic disc has been pasted on the grinding disc.)

(3)Attach the abrasive paper or polishing cloth on the metal plate, and then put the plate on the magnetic disc.

(4)Put back the water retaining ring.



Three. Installation and Usage

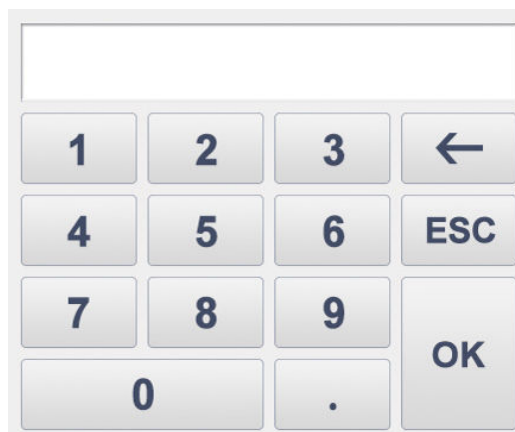
Fourth. Operation Panel




Click Left or Right to set the speed and rotation direction of the left or right discs. The valid state is in dark color.

The bottom control bar controls the start and stop of the left and right discs.

Press the number to input the required speed, or click the four commonly used speed for quickly set, and press "+" and "-" to increase or decrease the speed. Press the number to display the keyboard as follows:



Enter the value, press OK to confirm, the arrow is backspace, ESC is cancel and return.

Press  to control the water discharging on or off.

Three. Installation and Usage

Fifth. Usage Instruction

1. Turn on the power supply and emergency stop button, confirm that the water inlet and outlet are normal, and press the screen to enter the main interface.
2. Make sure that the sandpaper or polishing cloth has been pasted and placed on the grinding disc.
3. Set the required speed and rotation direction on the screen, adjust the water valve to the half open position, and then press start.
4. Grind or polish the sample by hand.
5. After use, close the water valve, and use the highest speed to dry the grinding disc before stop and shutdown.

Four. Maintenance

1. After use, the machine shall be cleaned and maintained in time every day. The sample holder shall be cleaned to avoid affecting the grinding and polishing quality, and the deposited dirt in the bowl and drainage pipe shall be removed to facilitate the smooth drainage.
2. The plastic cover shall be covered in time to prevent sundries from leaking into the disc and affecting the grinding and polishing quality in the future.
3. Remove sundries or garbage on the water inlet filter screen every week to ensure normal water inflow.
4. After use, the water tap can be opened to clean the grinding disc with a brush. In particular, the magnetic disc must be kept clean to prevent magnetic degradation and insufficient suction.

Five. Cautions

- 1.It is forbidden to use damaged fabrics for polishing, so as not to affect the polishing quality and cause accidents.
- 2.It is not allowed to apply too much pressure on the sample during grinding and polishing to avoid damage caused by motor overload.
- 3.When the motor is locked or when the grinding disc is rotating, it suddenly does not rotate due to excessive resistance. At this time, turn off the power switch and restart it after one minute, and then find out the cause of locked rotation. The motor will not rotate due to lack of phase of brushless motor or disconnection of Hall switch.
- 4.Connect one end of the drainage pipe to the equipment and the other end to the sewage processor or sewer pipe. The equipment end must be higher than the water outlet end to prevent backflow, and the drainage pipe shall not be bent to prevent blocking.
- 5.In case of power failure or equipment restart, please restart after 10 seconds after shutdown.
- 6.When grinding, do not turn the water valve to the maximum, just ensure the water volume for normal operation.
- 7.Before each grinding and polishing, wash the sandpaper, polishing cloth and the sample surface to ensure the grinding and polishing quality.
- 8.When the equipment is running, the workpiece accidentally falls into the bowl, the machine needs to be shut down and the workpiece should be taken out in time, so as not to block the drainage outlet, resulting in abnormal noise caused by water entering the bearing and damage of electrical components in case of water.

Six. Packing List

Name	Specification	Qty
Machine Body		1 set
Grinding and Polishing Disc	250mm	2 pc
Magnetic Disc	250mm	2 pc
Metal Disc	250mm	6 pcs
Abrasive Paper	250mm	6 pcs
Polishing Cloth	250mm	2 pcs
Water Inlet Pipe		1 pc
Water Outlet Pipe	Φ32mm	2 pcs
Water Inlet Filter Screen		1 pc
Inner Hexagon Spanner	3mm, 5mm	each 1 pc
Usage Instruction Manual		1 copy

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