



Laboratory Equipment Manufacturer  
www.mrclab.com



## INSTRUCTION MANUAL FOR

# MP-2B

## Metallographic Specimen Grinder/Polisher



**PLEASE READ THIS MANUAL CAREFULLY BEFORE OPERATION**

3, Hagavish st. Israel 58817 Tel: 972 3 5595252, Fax: 972 3 5594529 [mrc@mrclab.com](mailto:mrc@mrclab.com)

MRC.VER.02-11.10

## Important cautions and safety notice

Following safety notices must be followed in case of fire hazard, electric shock and personnel injury

1. Read all the operation regulations
2. Keep the operation rules of electric appliances in mind
3. Follow all the warnings and regulations marked on the product and described in the documents delivered with the product
4. If there is any controversy between operation regulations and safety notice, the safety notice shall prevail, In case that the problems couldn't be solved by yourself, please consult the sale company or competent service departments
5. Pull out power plug before cleaning the machine. Clean the machine with wet cloth other than kerosene or other detergents.
6. Don't place the machine on an unstable table, or it may be damaged in case of falling down.
7. Forbid any subject to be placed on the power source and the polisher.
8. Overload of power socket on the wall may lead to fire hazard or electric shock
9. Never try to disassemble the polisher in case of electric shock .The polisher can't be disassembled except qualified technicians. You may expose yourself in a danger of electric shock or other similar danger to open or remove the cover. Improper reassembly may also result in later electric shock
10. Should the following cases happen, pull out electric plug and consult to professional maintenance personnel.
  - The power cord, plug or cable are damaged or broken
  - The machine fails to run under proper operation
  - The polisher falls down or the shell happens to be damaged.
  - Obvious change is found on the capability.
11. Only permit adjusting the mentioned parts in the manual
12. Keep this manual in file

## I .Applications and features

This grinder polisher is of double discs. It is suitable for pregrinding, grinding and polishing metallographic specimens. Since the machine is speed-adjusted by a transducer, it can run between 50 and 1000rpm , which favors the machine with wide applications. The machine is equipped with cooling system which can cool down the specimen during primary grinding so as to prevent overheating and damage the metallographic structure . Featuring easy operation and reliable performance, it is an indispensable device for the factories, research institutions and college labs to prepare metallographic specimen.

## II .Main Technical Parameters

|                                |               |
|--------------------------------|---------------|
| 1.Working voltage:             | 220V 50HZ     |
| 2.Diameter of grinding disc:   | φ230mm        |
| Rotate Speed:                  | 50-1000rpm    |
| 3. Diameter of polishing disc: | φ203mm        |
| Rotate speed:                  | 50-1000rpm    |
| 4.Diameter of sand paper:      | φ200mm        |
| 5.Motor:                       | YSS7124,550W  |
| 6.Overall dimensions :         | 700×670×320mm |
| 7.Weight:                      | 50kg          |

### **III.How to operate the control panel**

A: Display screen :turn on , the displayer indicates “500”, when running, it indicates the present rotation.

B:STARTUP key: press Startup key ,the motor starts to run .

C:STOP/RESET key :During normal running, press STOP/RESET key . the motor will stop running .

D:UP and DOWN key: Press UP or DOWN key to get required revolution press UP key ,the revolution will rise .Press DOWN key ,the rotation will slow down.

### **IV.Erection**

1. Open the wooden package of the machine
2. Place the machine on a stable platform free of other objects, remove the shock pad at the bottom of the machine, make sure the machine is placed stably and in horizontal position
3. Connect the water inlet and outlet pipe at the rear side of the machine
4. Connect the grounding cable
5. Knock the seating shoes of the polishing disc with a rubber hammer along the axial direction until the grinding disc and polishing disc are unable to move.
6. Plug the power cable onto a socket with a voltage of 220V,turn on power switch and start up the machine as per the above steps. Check whether the machine runs normally
7. After the above check, the machine is ready for operation



## **V. Description of Structure**

1. This polisher is composed of the base and control panel. It is covered with nice and utilitarian glass fiber crust and stainless steel current pieces, appearance beautiful, corrosion prevention and rustless forever
2. The motor is fixed on the base. The shaft is driven by a v-belt, the discs are fitted through the shaft and can rotate by key –drive. The switch is fitted on the machine body, Waterproof abrasive paper is adhered on the discs. The knob on the control panel can control the flow of water pipe that is movable; the wastewater can be discharged through outlet pipe.

Note: Since it is of conical joint between the discs and transmission shaft, during the installation, knock the seating shoes of the polishing disc with a rubber hammer along axial direction until they fit tightly. Otherwise, they will affect the performance of the machine .

## **VI. Method 1: Grinding**

1. Adhere waterproof abrasive paper on the discs.
2. Turn on water switch and regulate the water flow
3. Turn on the power. The displayer indicates “500”, which means that the machine is power-on and ready for operation
4. Press the STARTUP key on the control panel. The machine will automatically speed up to target rotation 500rpm (how to set target rotation, please refer to the instruction manual of transducer)
5. Press UP or DOWN key to setup required rotate speed for grinding process between 50rpm and 1000rpm.
6. Hold tightly the cutting specimen and approach to the abrasive paper lightly. Wait until the specimen and abrasive paper have a good contact without jumpiness, press the specimen and start grinding

7. The force applied should reach the extent that the metallographic structure of the surface will not be burnt due to overheat by friction (about 2kgf)
8. At the end of operation, press STOP/RESET key .The motor will stop running, turn power switch leftward to turn off the power

## **VII. Method 2:Polishing**

1. Place the polishing fabric with contact adhesive on the polishing disc
2. Press the clamping ring onto the outside diameter of polishing disc so as to fix the polishing fabric without contact adhesive.
3. Paint polishing agent onto the fabric
4. Turn on the power .The displayer indicates “500”, which means that the machine is power –on and ready for operation
5. Press the STARTUP key on the control panel .The machine will automatically speed up to target revolution 500rpm (how to set target rotate speed, please refer to eh instruction manual of transducer).
6. Press UP or DOWN key to setup required rotate speed for polishing process between 50rpm and 1000rpm.
7. Hold tightly the specimen already grinded and approach to the polishing disc lightly .At first press the specimen against the center of polishing disc then move outwards while polishing.
8. Should the fabric be too adhesive, dilute the polishing agent
9. Should the textile be worn, replace it in time to prevent the specimen from damage
10. At the end of operation, press STOP/RESET key .The motor will stop running, turn power switch leftward to turn off the power

**When polishing, it is recommended 500-800rpm rotate speed.**

### **VIII.Cautions:**

1. The machine must be well grounded
2. Water inlet and outlet pipe are in good condition and free of leakage
3. At end of each operation, clean up the machine
4. Should abnormal sound be heard, stop running and check it at once.

**CERTIFICATE**  
**for**  
**MODEL MP-2B**  
**GRINDING/POLISHING MACHINE**

SERIAL NO. 096353

**INSPECTION:**

1. The appearance, fitting accuracy are inspected and fulfil the Standard of Q/L WY002-2007 Inspecting Term of Test Material Grinding/Polishing Machine, the electric system accords with the Rating Standard of GB/T12668.2. 2002 Low-voltage Frequency Conversion Electric Driving System and the EMC Standard of GB 12668.3. 2003
2. The operation is ok.
3. The accessories are all ready.

**CONCLUSION**

This Grinding/Polishing Machine is inspected and proved itself to satisfy the technical requirements. It is permitted for delivery.

Packer : XXD Inspector : WY001

Date : 2009. 11



# PACKING LIST

for

## MODEL MP-2B GRINDING/POLISHING MACHINE

| No. | Descriptions                  | Specification | Quantity | Remarks                  |
|-----|-------------------------------|---------------|----------|--------------------------|
| 1   | Grinding/Polishing Machine    |               | 1 set    |                          |
| 2   | Polishing cloth               | φ 250mm       | 2 pcs.   | Velour                   |
| 3   | Metallographic abrasive paper | φ 200mm       | 2 pcs.   | 400#, 600#,<br>1pc. each |
| 4   | Polishing disc                | φ 203mm       | 2 pcs.   |                          |
| 5   | Grinding disc                 | φ 230mm       | 2 pcs.   |                          |
| 6   | Clamping ring                 | φ 203mm       | 2 pcs.   |                          |
| 7   | Inlet water pipe              |               | 1 pc.    |                          |
| 8   | Outlet water pipe             |               | 1 pc.    |                          |
| 9   | Sealing ring                  |               | 4 pcs.   |                          |
| 10  | Instruction manual            |               | 1 share  |                          |
| 11  | Packing list                  |               | 1 share  |                          |
| 12  | Certificate                   |               | 1 share  |                          |

Packer: XXD Inspector: WY001

Date: 2009. 11.