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**MLP-CM60
Specimen Cutting Machine
OPERATION MANUAL**

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Safety precautions 

Please read this manual carefully before you install and use the equipments. Meanwhile follow the notice, especially the recommended content.

- ◆ Please check the voltage input range before using the machine, which is in compliance with the requirements.
- ◆ The operator must be trained and after they are qualified , they can operate this machine.
- ◆ Please determine if the surrounding environment meets the installation requirement
- ◆ Please operate the equipment according to the rules.
- ◆ Do not allow to disassemble the equipment when the trouble happens. You should invite the professional to repair so as to avoid the shock.
- ◆ When cleaning equipment, the operator should unplug the power.
- ◆ Please keep this manual.

1. Foreword

MLP-CM60 Specimen cutting machine is suitable for cutting various metal, non metal material in order to observe the metallographic, petrographic structure. The machine has a cooling device. When using the configured cooling liquid, the heat may be taken away to avoid overheating. It is easy for the user to operate the machine. Therefore the machine is one of the equipments for samples in the factories, scientific research institution and colleges laboratory.

2. Main Technical Indexes

Model	MLP-CM60
Voltage	380V, 50Hz
Spindle Speed (r/min)	2800
Cutting wheels size (mm)	Φ250×1.5×Φ25.4
Max Cutting Capacity (mm)	Φ60
Power (KW)	2.2
Dimension (mm)	830×620×450
Weight (kg)	82

3. Machine Schematic Drawing

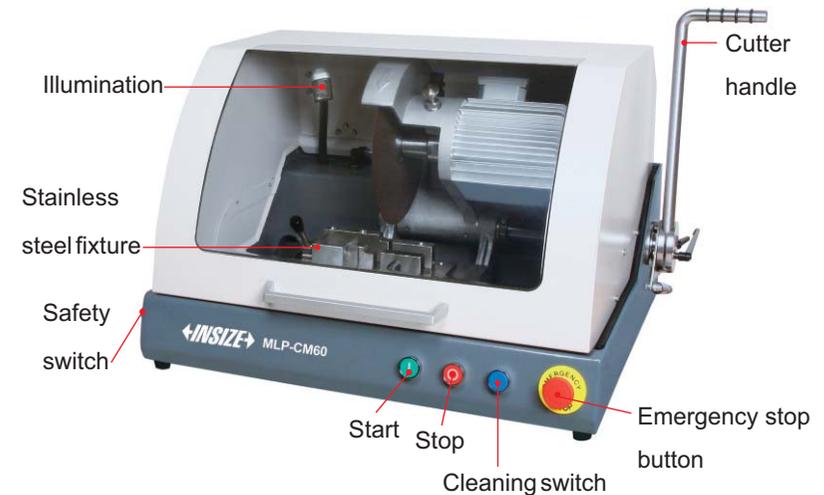


Fig.1

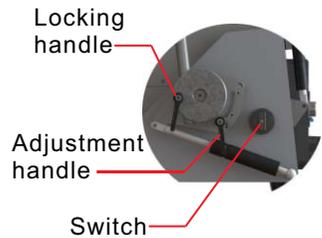
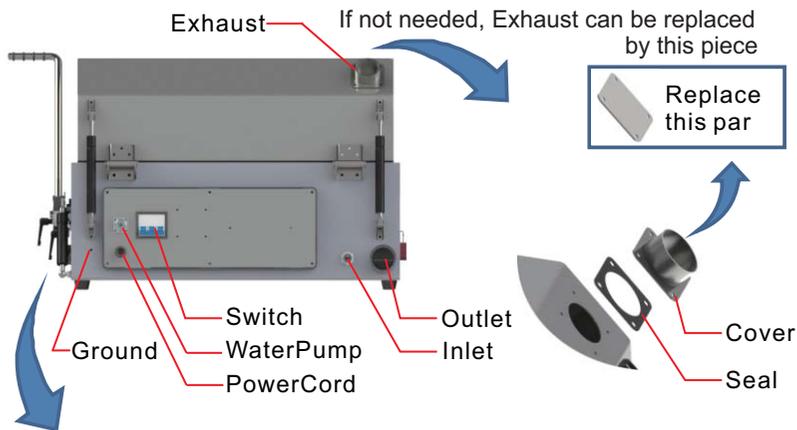


Fig.2

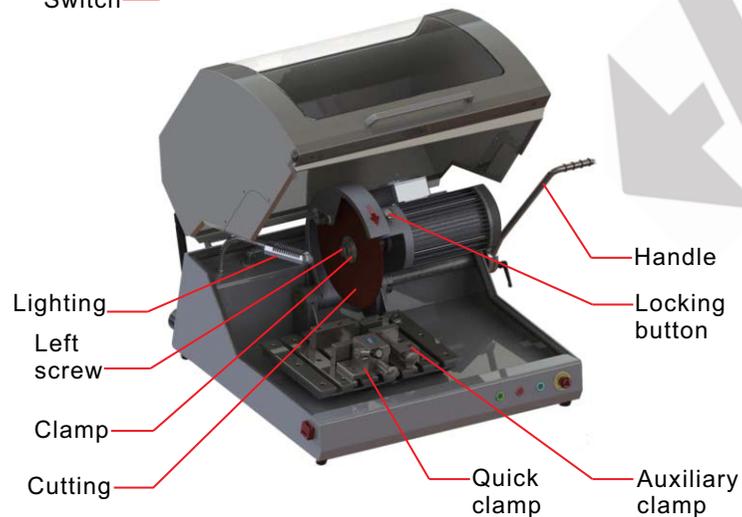


Fig.3



Please read the following terms carefully!

4. Preparation before working

- 4.1 The machine is installed in the stable working table.
- 4.2 The operator first install the inlet pipe and the drainage pipe to ensure that there is no leakage phenomenon. The drainage tube should be lower than the inlet pipe so as to avoid poor drainage. (refer to figure two)
- 4.3 Please check the power line, plug connectors and other electrical components and then connect the power , to start the machine. The spindle steering should be in the same direction marked on the machine.
- 4.4 Loading and unloading cutting blade
 - 1) First open the cover of the machine, adjust the "cutting stroke control handle" to the position shown in figure 4, and then press the locking button with the right hand, rotate the spindle by the left hand so that the locking button fix the spindle. And then open the left-handed nut screw with the wrench supplied and remove the clamp and cutting wheel.
 - 2) Please install the clamps and the cutting wheels into the spindle. Tighten the left-handed nut by the wrench. And then check the cutting wheels. If the momentum is more than 2mm, the operator should examine the cutting wheels.
 - 3) after replacing the 250mm cutting wheel, **please be sure to adjust the "cutting stroke control handle" to the position shown in figure 5.** The "cutting stroke control handle" can only be adjusted to figure 6 to increase the blade consumption when the blade consumption reaches 215mm or when the cutting wheel less than 215mm is replaced.



Fig.4



Fig.5



Fig.6



- 1. Be sure to turn off the "power switch" or press the "emergency stop button" when replacing the cutting wheel.
- 2. Machine damage caused by improper adjustment of "cutting stroke control handle" is not covered by warranty.

4.5 Cutting handle and stroke adjustment

First adjust the relative position of the handle of cutting through the handle locking handle so as to confirm the comfort when cutting. The handle is controlled through the cutting stroke (refer to figure 2)

4.6 Install the workpiece

To hold the sample correctly is an important guarantee for safe

operation. Firstly the operator put the workpiece into the vice jaw when operating. The operator push the handle to touch the workpiece and then lock the workpiece through the handle. Finally please check the workpiece is stable.

5. Operating instructions

5.1 operation keys: (see Figure 1)

- 1) cleaning: self-locking button and cleaning button can separately control the pump. When pressing this button, the light is bright, namely the water pump is in the state of working.
- 2) Starting: the reset button, the starting button. During the normal operation ,this button is lighting.
- 3) Stopping: the reset button, when the cutting process is not finished, press this button and the machine will stop. Without action, this light is bright.
- 4) Emergency stop: Emergency stop button, in case of emergency, please press this button to protect. **(meanwhile, the indicator of this cutting stop button is not in light.)**

5.2 Operating instructions:

- 1) Please complete the preparation before the operation. And the cover the machine and turn on the power switch. The indicator of the controlling panel is in light.
- 2) Please open the ball valve on the water pump, press the starting button and the motor is starting. The operator make the cutting wheel touch the specimen. After cutting, the swing arm handle turn back to the original position. Press the stopping button and the motor will stop running.
- 3) Close the valve on the water pump and press the cleaning switch button and clean up the cutting room.



1. The cutting force should be uniform, do not force too hard, it is recommended to cut each cut 1-2mm, slightly lift the handle.
2. Make sure to open the ball valve on the water pump before cutting the workpiece; Close the ball valve on the pump before cleaning.
3. The coolant must be configured with a coolant with good lubricity (which is given free with the machine once and can be purchased from our company when used up). General tap water should not be used as the coolant.
4. Rock, ceramic, etc must be cut with diamond cutting wheels.

6. Maintenance

- 6.1 The machine must install reliable grounding line
- 6.2 The inlet pipe and outlet pipe must be in good condition but it can't leak.
- 6.3 Do not allow the broken cutting wheels to cut the sample.
- 6.4 Do not permit to use cutting wheel whose velocity is lower than 35m/s.
- 6.5 After operation per time , the operator must clean the machine to

- ensure the machine have longer life.
- 6.6 Replace the cooling fluids periodically to prevent the deterioration.
- 6.7 When you find abnormal sound, you should immediately stop the machine and check.
- 6.8 Regularly fill the lubricating oil.

7. Wiring diagram

