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MLP-MP43/53
MOUNTING PRESSES (ADVANCED TYPE) OPERATION MANUAL

OPERATION MANUAL

Before you install and use this product, please read this manual carefully, and pay special attention to the contents and suggestions and observe the precautions so as to avoid damage to equipment, fire and personal injury!

◆Check the input range of the power supply before using and check if matches to the equipment.

Check if the grounding meets the requirements.

◆The operator must do some safety training before working and after qualifed ,the operator may use this machine

◆We determined whether the environment meet the installation requirements We operate the equipment according to the operating rules

◆The cleaning equipment should unplug the power

◆When trouble ,do not allow to disassemble the equipment, we should ask professional maintenance, to avoid electric shock

◆Please keep the manual good

Foreword

The automatic mounting press can enable those samples that are not suitable in shape or size to meet the subsequent sample preparation steps by mosaic, obtain the required detection plane, also protect the edges or prevent the surface defects caused by the preparation process. In modern metallographic laboratory, the widely used semi-automatic or automatic grinding/polishing machine has the specification requirement to the sample size, in order to meet this requirement, the sample must be inlaid, so the automatic mosaic machine has become one of the necessary equipment in the metallographic laboratory. This machine belongs to automatic metallographic sample mosaic machine, with full automatic sample preparation, inlet and outlet water cooling function. After setting the heating temperature, holding time and other inlay parameters, put in the sample and inlay powder, cover the gland, press the start button, can automatically complete the mosaic work, after the completion of the sample preparation there is a light flicker and beep prompt, no operator on duty next to the machine. Each cavity can press two samples at the same time, and the preparation ability is doubled to ensure the sample preparation efficiency.

Main Technical Indexes

SPECIFICATION

Code	MLP-MP43	MLP-MP53
Station number	1	2
Power	1100W+Heating power*	1200W+Heating power×2
Mounting diameter	Ø30mm(Customizable Ø25, Ø40, Ø50mm)	
System pressure	1~20MPa, Optional increase or decrease 1MPa	
Pressure mode	Automatic electro-hydraulic	
Cooling mode	Automatic water cooling**	
Heating range	90~200°C	
Holding time	0~10min	
Cooling temperature/time	40~90°C/0~10min	
Power supply	AC 220V, 50Hz	
Weight	44kg	77kg
Dimension	530×485×463mm	671×485×463mm

*Heating power of mounting sleeve: 1800W (mounting diameter≤31.8mm), 2400W(mounting diameter≥38.1mm)

** Cooling water pressure should not be higher than 1MPa, must be filtered through 40μm filter

Machine Schematic Drawing

Figure1

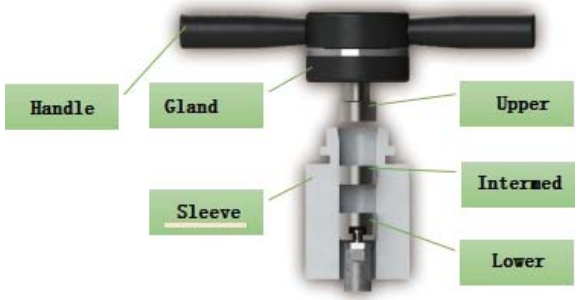
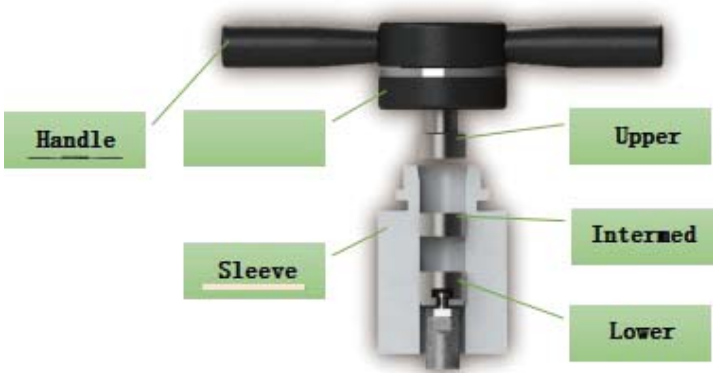
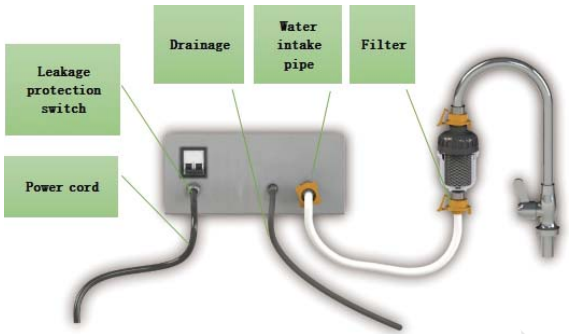


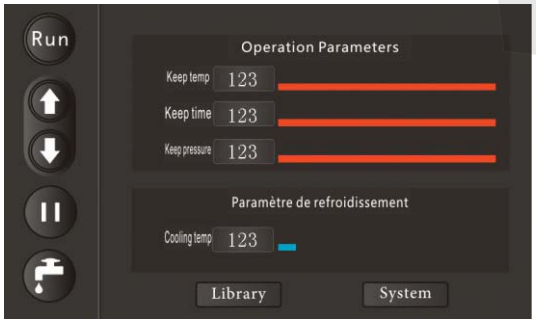
Figure II





keyboards and display instructions

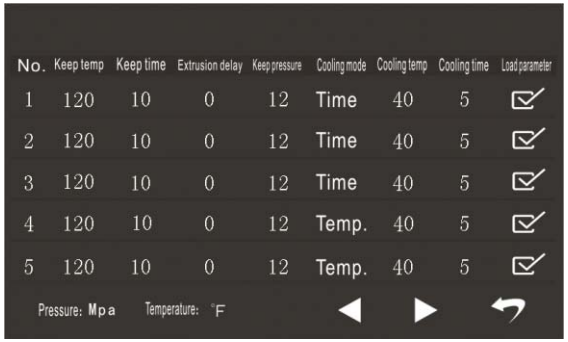
1.Operation parameter display and cooling parameter display interface



	Run/stop button	Run/stop buttonAfter pressing, the equipment runs automatically, press again, the equipment stops running
	Rise button	After pressing, the lower die rises.(valid only when not running)
	Drop button	After pressing, the running action stops
	Stop button	After pressing,the running action stops.
	Cooling button	After pressing, it can be cooled manually.(valid only when not running)

Temperature insulation	After running, the set temperature displayed.
Hold time	After running and reaching the set temperature, the countdown shows the time to keep the constant temperature.
Maintain pressure	The hydraulic pressure that needs to be maintained after operation.
Cooling temperature	After operation,the set temperature that needs to be cooled to reach.
Library Key	Press, enter the library interface, you can set the running parameters and select data.(valid only when not running).
System Setup Key	Press, enter the system settings interface, can be system settings: preheating settings, language selection(You can switch languages), alarm tips, touch key sound.(valid only when not running).

2.Library interface



Serial number	Not modified.
Temperature insulation	Test the temperature required for heating, setting range 90-200℃or 194-392℉
Hold time	After the heating temperature reaches the set temperature, the time of constant temperature holding, setting range 0-10 min.
Delay before extrusion	During the preparation of special materials such as transparent materials, the time required to fully heat before extrusion, set the range of 0-10 min.
Maintain pressure	Set a constant pressure range of 1-20 Mpa or 145-2900 PSI. during sample preparation
Cooling mode (Temp/Time)	Temp. temperature cooling, after the cooling reaches the set cooling temperature, the sample preparation process ends. Time time cooling, after the cooling reaches the set cooling time, the sample preparation process ends.
Cooling temperature	the temperature to be reached for cooling, setting range 35-90℃ or 95-194℉.
Cooling time	Cooling time to be achieved, set range 0-20 min..
Load parameter	After setting the parameters, select the corresponding data.
Pressure	pressure unit of the running interface: after pressing, the Mpa and PSI switch each other.
Temperature	temperature unit of the running interface: after pressing, the ℉ and ℃switch each other.

3.System setup interface

Preheat setting	After pressing the preheating setting button, enter the preheating setting interface, you can set the preheating temperature when not running, set the range of 40-80 .
Language selection	After pressing the language selection button, enter the language selection interface, you can choose 10 languages: Chinese, English, French, German, Spanish, Portuguese, Russian, Korean, Polish, Japanese.
Alarm Tip	After pressing the alarm prompt button, enter the alarm prompt setting interface, you can choose the switch of the alarm prompt after the sample making is finished.
Touch key sound	After pressing the touch key button, enter the touch key sound switch interface, you can set the touch key sound switch.
Remove the lower mold	After opening the gland, press the lower mold to take out the key, the lower mold rise to the upper limit, can take out the lower mold cleaning.

Operating instructions and precautions

1.Connect the inlet and drain pipes according to (Fig .4); connect the power supply, which needs to be protected by suitable air switches.
2.Turn on the power switch.
3.Turn the handle counterclockwise and open the gland.
4.Click on the up button so that the lower die rises to level with the inlay sleeve.
5.Placing specimens to be inlaid.
6.Click the down button to drop the lower die to the lowest point, and then place the appropriate amount of inlay powder into the inlay sleeve.

1.The amount of inlay powder must be higher than the height of the inlay specimen, so as not to leave indentation on the upper and lower die of the inlay die
2. Inlay powder in high temperature and high pressure inlay environment due to melting volume will be reduced, users in the mosaic need to load enough inlay powder.

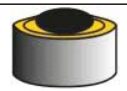
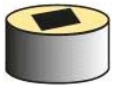
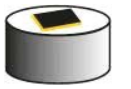
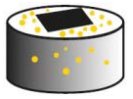
7.Remove the excess powder surrounding the socket, then press the handle down with both hands and rotate the handle clockwise after merging the gland with the socket.
8.Go to the Parameter Settings page, select a set of parameters and tick the box for the corresponding parameters. then exit the page.
9.Placing specimens to be inlaid.
10. Click on the run button, the run button display will be depressed, font color to orange, start sample preparation.

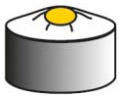
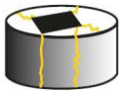
The user can not rotate the gland during the sample making!

10.The sample preparation process is heating, holding pressure and cooling.This process runs automatically without the operator being on duty by the machine.
11.Sample preparation completed, touch screen interface running button display will be raised, color returned to white, the indicator light began to flicker, but also will have 5 seconds buzzer alarm prompt.At this point, the lower die will automatically drop a small distance, turn the handle counterclockwise and make sure the rotation is in place, click the up button, and push out the sample.
12.At the end of the sample preparation process, after each run five times, after taking out the sample, enter the system setting interface, click the button to take out the lower die, push the lower die completely out of the inlay sleeve, and clean up the residue on the upper and lower die.

Attention to the mosaic process:
1. in the mosaic process users at any time to press the stop button to stop this mosaic, the mosaic process artificial stop may cause this mosaic failure.
2. the cooling water temperature must be lower than the cooling temperature set by the user, otherwise the equipment will not reach the cooling temperature and has been in the cooling stage.
3. if the inlay is completed and the temperature overheating does not meet the user's requirements, the user can press the touch screen left and lower side of the manual cooling button to continue cooling the sample.
4. need to clean up the upper and lower molds after each sample making, so that the next better sample making.

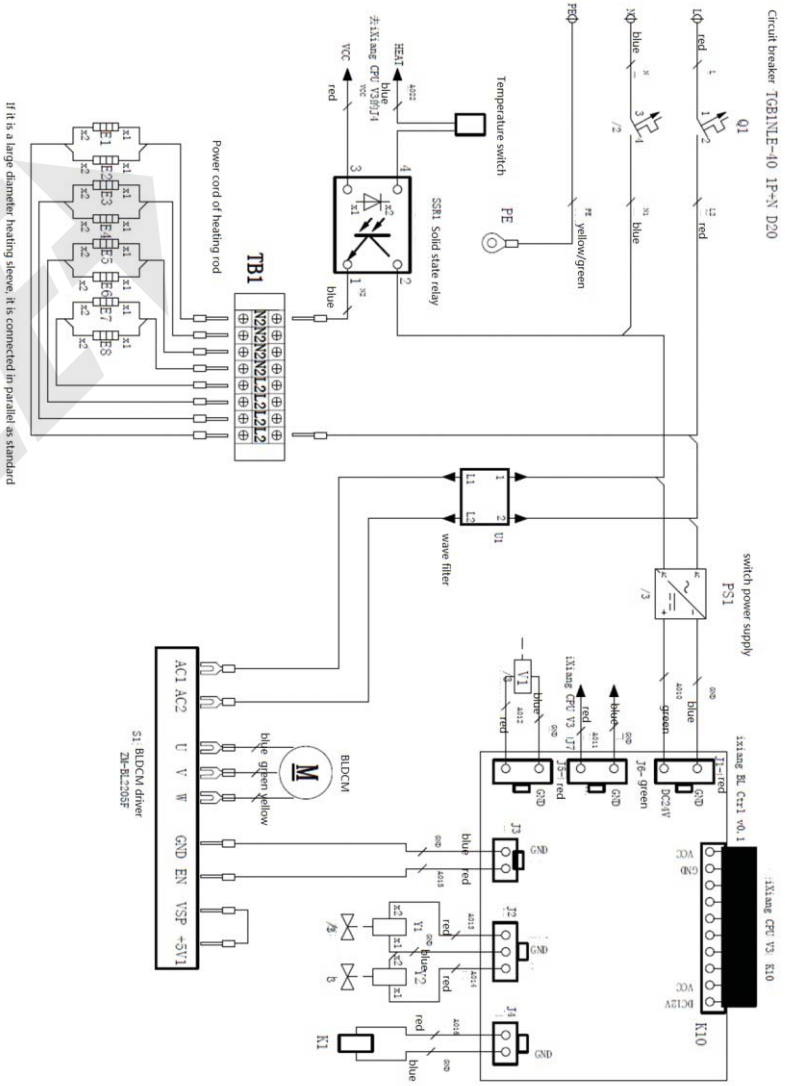
Mosaic exception solution

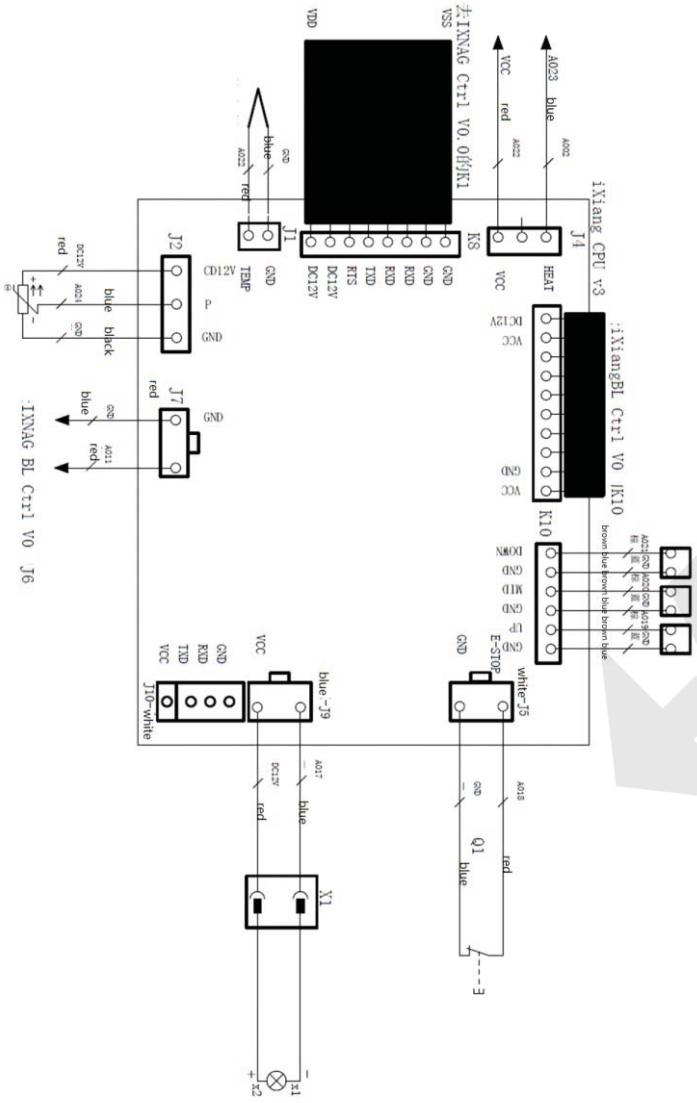
Materials	Issues		Reasons	Solutions
Thermosetting materials	Radiological cracking		The corners of the specimen are too sharp Sample size is too large	Grinding round edges Reduce sample area and ensure minimum 3 mm distance from edge
	Expansion		The cooling time is too short	Increase cooling time Check cooling water supply
	Surface Darkness		Too short heating time	Extension of heating time
	Edge shrinkage of specimen		Too much shrinkage of insert material Excessive heating temperature	Inlay material with bottom shrinkage Lower heating temperature
	Loose, stomatal		The heating temperature is too high Too low pressure	Lower heating temperature Increased pressure

Thermo setting materials	Blasting		The cooling time is too short The heating temperature is too high	Increase cooling time Check cooling water supply Lower heating temperature
	Clear particles visible in the insert		Too little or no pressure	Increased pressure Check pressure cylinder
Thermop materials	Crack		Too short heating time	Extension of heating time Extended cooling time
	With cotton balls		Too short heating time	Extension of heating time Extended cooling time

Appendix wiring diagram

Wiring Diagram




iXiang CPU v3
iXiangBL Ctrl V0 JK10
IXNAG Ctrl V0.0 JK1
IXNAG BL Ctrl V0 J6
VDD
VSS
VCC
red
blue
black
GND
TEMP
CD12V
P
DC12V
TXD
RXD
RTS
HEAT
K10
K5
J1
J2
J4
J7
J10-white
E-STOP
Q1
X1
blue -79
white-75