3D Patternless Edger

The Instructions of PLE-6800

Please read this instruction before using the instrument to avoid damage or personal injury; Please keep this instruction properly for any access.

Shanghai Topview Industrial Co., Ltd

Thank you for your trust and the selection of our products.

This manual is only used as a reference material for the operation, maintenance and repair of Shanghai Topview Industrial products.

Catalog

1. Summary

1.1 Brief introduction

This set of products is used in combination with PLE-6800 3D Patternless edgers and PLE-680 Blocker+Scanner.The host applies 3D intelligent control, graphics editing and processing and other technologies,Can be perfect processing PC, resin, glass and other different materials and different refractive index of the lens;Different edges type can be selected for processing;Can be on the sharp edge, flat edge polishing processing;Accurate processing can also be achieved according to the frame material setting; Powerful graphics editing function, can be convenient and fast for a variety of edge Settings and storage;External multi-channel USB and RS232 interface can facilitate external related equipment and software upgrade, Convenient for maintenance and customer use.

1.2 Equipment type and protection classification

1.2.1 Product grade: Level 2

1.2.2 Electrical impact: Class I (grounded)

1.2.3 Electrical impact protection class: Class B

1.2.4 Waterproof grade: ordinary

1.2.5 Safety environment: not suitable for use in flammable, explosive and dust environment

1.2.6 Operation mode: continuous

2. Security information

2.1 Brief introduction

Safety is everyone's responsibility.The safe use of this equipment mainly depends on the installer, user, operator, and maintainer.Before attempting to install, clean, repair, or adjust this equipment and any associated accessories, Personnel concerned must study and be familiar with this manual. The instructions contained in this manual should be fully understood and followed,To strengthen the safety of users and operators.Therefore, the following safety notices are appropriately placed in the text of this manual,To emphasize security-related information that requires particular emphasis.All users, operators and maintainers must be familiar with and pay special attention to all warnings and reminders contained herein.

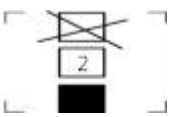
In this manual, the sign indicates the degree or level of the safety warning. Definition is as follows.

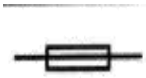
⚠Warning: indicates a potentially dangerous condition; death or serious injury.

⚠ Note: indicates a dangerous condition that, if not avoided, may result in minor or moderate injury or some property damage.

2.2 Safety signs

The International Electrotechnical Commission (IEC) has established a set of symbols for medical and other electronic devices to classify or warn of any potential hazards. The classification and notation are shown below.

	Power switch
	Safety warning
	Date of manufacture
	Manufacturer
	Handle with care
	Safety ground
	Temperature limitation
	Save dry
	Code the second floor

	Waste treatment
	Fuse wire

2.3 Environmental factors

· Do not use the equipment in the presence of flammable, explosive or volatile solvents such as alcohol, benzene or similar chemicals, Such an environment has adverse effects on the instrument; this instrument is only suitable for indoor use.

·This equipment should not be used in too hot hot or dusty environment.The machine should not be exposed to water splashing, dripping, or spray.Do not place containers containing a liquid or gas on top of the device.

· No direct sunlight shall be kept at the proper temperature and humidity.The environmental parameters suitable for storage and use are as follows:

Ambient temperature: 5 to 40 C (41 to 104 F)

Humidity: 35% to 85%

Pressure: 7,00hPa to 1,060 hPa

Environmental temperature for storage and transportation: -30℃ to 70 ℃

Humidity: 10 to 100% (no condensation phenomenon)

2.4 Safety precaution

The equipment is developed and tested in accordance with domestic and international safety standards and regulations,With high stability and safety and effectiveness.To ensure that users use the device correctly and safely, please read this manual carefully.For more information, please contact our customer service department or our authorized representative.

2.4.1 Safety precautions

Warning

• Do not open the lid of the processing grinding wheel when rotating.

• Before processing, always check with the naked eye for the possibility of fragmentation or rupture.

• Do not use the edge mill for purposes other than those intended.

Shanghai Topview Industrial Co., Ltd does not assume any responsibility for any accident or failure caused by improper use.Please visually inspect the appearance of the equipment to ensure normal operation before each use.

1) Do not open and touch the inside of the instrument, otherwise it will cause electric shock or instrument failure.

2) Do not exert too much when pressing the button to avoid damaging the touch screen or button.

3）Ensure that the specified supply voltage is used. If the voltage is too high or too low, the instrument will not be used normally, resulting in the risk of instrument damage or electric shock.

4）If the metal core is exposed in the power line, a new power line should be replaced immediately to avoid electric shock or fire.

5）If the instrument smoke or odor and other abnormal conditions, should immediately turn off the instrument, cut off the power supply. It can be used before professional technical personnel check maintenance and confirm troubleshooting.

6）To prevent a possible temperature increase inside the mill, resulting in equipment failure.**Do not block the cooling fan on the top of the edge mill. Please keep a spacing above 10cm.**

2.4.2 Notes required before use

1）Please confirm that the correct processed lens material is selected to prevent lens breakage and extend the service life of the processed grinding wheel.

2）Please use the modified rod consistent with the machining grinding wheel type correctly to avoid damage to the grinding wheel and affect the machining accuracy.

3）Do not modify the resin and PC coarse grinding wheel.

4）Do not touch the display with other objects other than your fingers.

2.4.3 Notes after use

1）After the machine is used, please clean the grinding powder in time (if using the circulating cooling water, please replace it in time), and then close the processing warehouse door after the cooling water evaporates;

2）Please add lubricating oil at the specified time and re-calibrate the parameters if necessary (such as replacing the grinding wheel and after moving);

3）If the instrument is not used for a long time, the power cord should be removed and cut off the power supply to prevent fire.After use, the power supply should be turned off to cover the dust cover, so as not to affect the service life and processing accuracy of the instrument.

2.4.4 Connection precautions

External equipment used to connect signal input, signal output or other connectors shall meet the relevant safety standards (e. g. IT equipment for medical electrical equipment and IEC60950 for the IEC60601-1 series). If in doubt, please contact the factory technician or your local dealer.

3.Parameter features

3.1 Dimensions: 700mm *580 mm* 750mm

3.2 Net Weight: 51 KG

3.3 Gross Weight:70KG

3.4 Input Voltage: AC220V 50Hz

3.5 Output Voltage：DC5V 4.6A、DC24V 4.6A

3.6 Power Consumption: 1KW

3.7 Display : 10.4-inch color TFT LCD touch screen with angle adjustable

3.8 Maximum number of effectively stored images: 1000pcs

3.9 Maximum Cutting Diameter: 80mm

3.10 Minimum Beveling Size: 26mm

3.11 Minimum Flat Edging Size: 25mm

3.12 Maximum frame center distance: 100mm

3.13 Tip Edge Position: Stepless adjustment (20% - 80%)

3.14 Diameter of Diamond wheels group: 100mm*3

3.15 The host has graphic editable and scalable functions

4.Precautions for use

4.1 Check before use

1) Whether the power supply is switched on.

2) Whether the opening interface can be displayed correctly.

3）Check the processing wheel for fragmentation or rupture.

4.2 Check after use

1) Whether the power supply is turned off state.

2) Whether to complete the cleaning of the processing warehouse and the circulating water replacement.

3）Whether the auxiliary accessories are cleaned and stored properly.

5.Equipment installation and preparation work

5.1 Equipment installation

5.1.1 Remove the equipment from the packing box and remove the bag, desiccant, and transportation positioning.Place on a stable workbench (workbench requirements as shown in Figure 5.1.1).

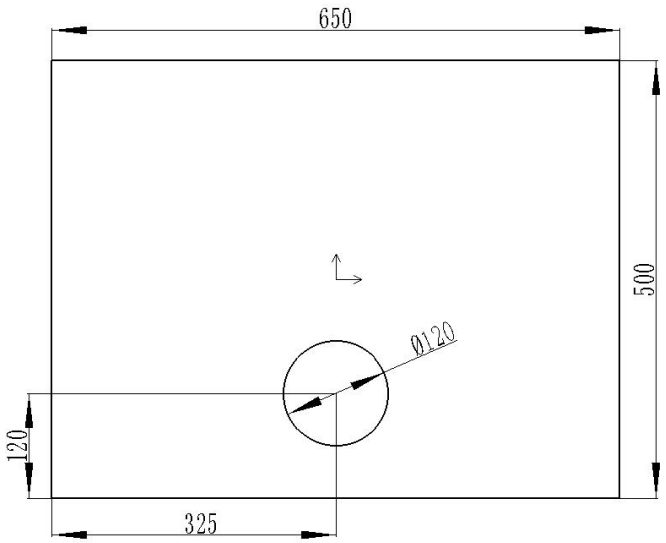


Figure 5.1.1(a)

5.1.2 Please confirm that the local power supply voltage matches the nominal voltage of the equipment. After checking that the power switch of the equipment is off, insert the power cord into the bottom socket of the equipment and the power plug into the AC socket.

5.1.3 Please connect the host with the scanner center locator with a dedicated RS232 interface connector.

5.1.4 Please connect the cooling water system (please connect the water pump to the back socket for the circulating water; match the external water)

5.1.5 For the equipment and personal safety, always use the power supply and replace the fuse according to the label requirements.

5.2 Preparation

5.2.1 Start

1） Check that the power cord is connected to the power connector and the wall socket.

2）Turn on electricity.

Place the power switch on the left side of the equipment in the (|) position,The interface as shown in Figure 5.2.1 (a) appears on the screen.

Figure 5.2.1(a)

After the system initialization, the interface shown in Figure 5.2.1 (b) appears on the screen.

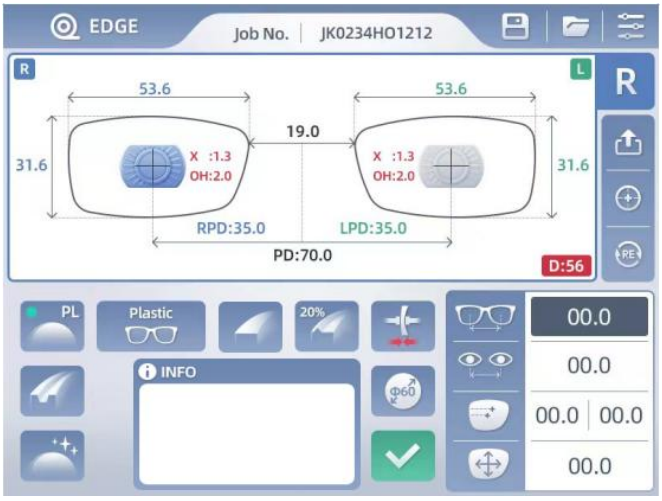


Figure 5.2.1（b）

5.2.2 Shut down

Turn off the power supply after the use ends.Place the left power switch in the (○) position.

6.Function Introduction

6.1 Appearance structure

6.1.1 Front view

Figure 6.1.1

6.1.2 Back view

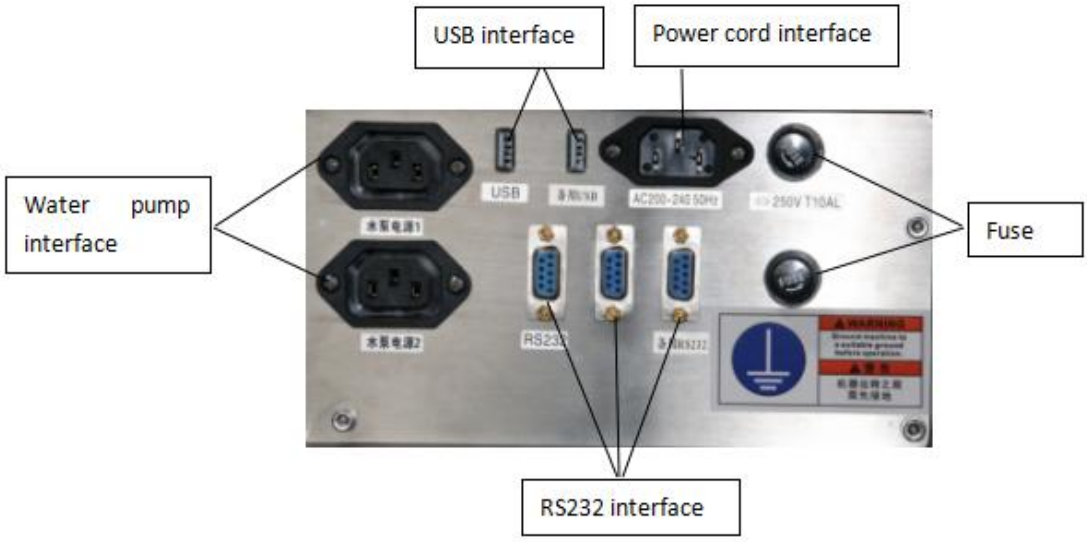


Figure 6.1.2

Tips:

1. The USB interface is used to upgrade the program.
2. The RS232 interface is used to transfer data from the scanned graph.
3. Fuse is used for overload protection during machine short circuit.

6.1.3 Processing warehouse diagram

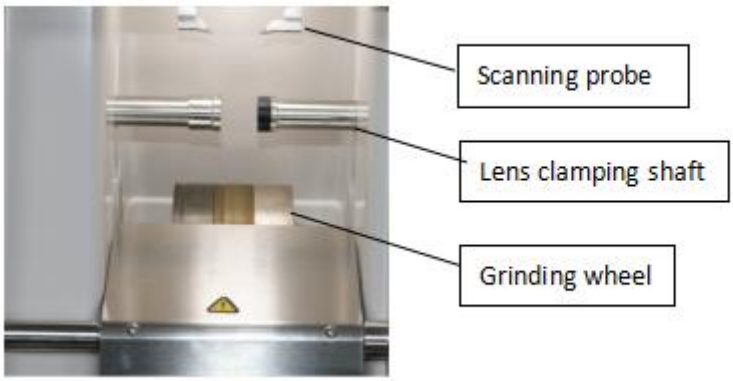


Figure 6.1.3

Tips: the grinding wheel is mainly divided into the following types, among which the difference between four piece type and three piece type edge grinding machine is whether there is no glass coarse grinding wheel.

1）Resin PC lens coarse grinding wheel

2）Fine grinding wheel and sharp edge grinding wheel

3）Glass coarse grinding wheel

4）Lenses polished sand wheel

6.1.4 Control panel diagram

Figure 6. 1. 4

6.2 Display menu

Figure 6.2 is the main interface of the grinding machine, which is used for parameter setting and processing before processing.

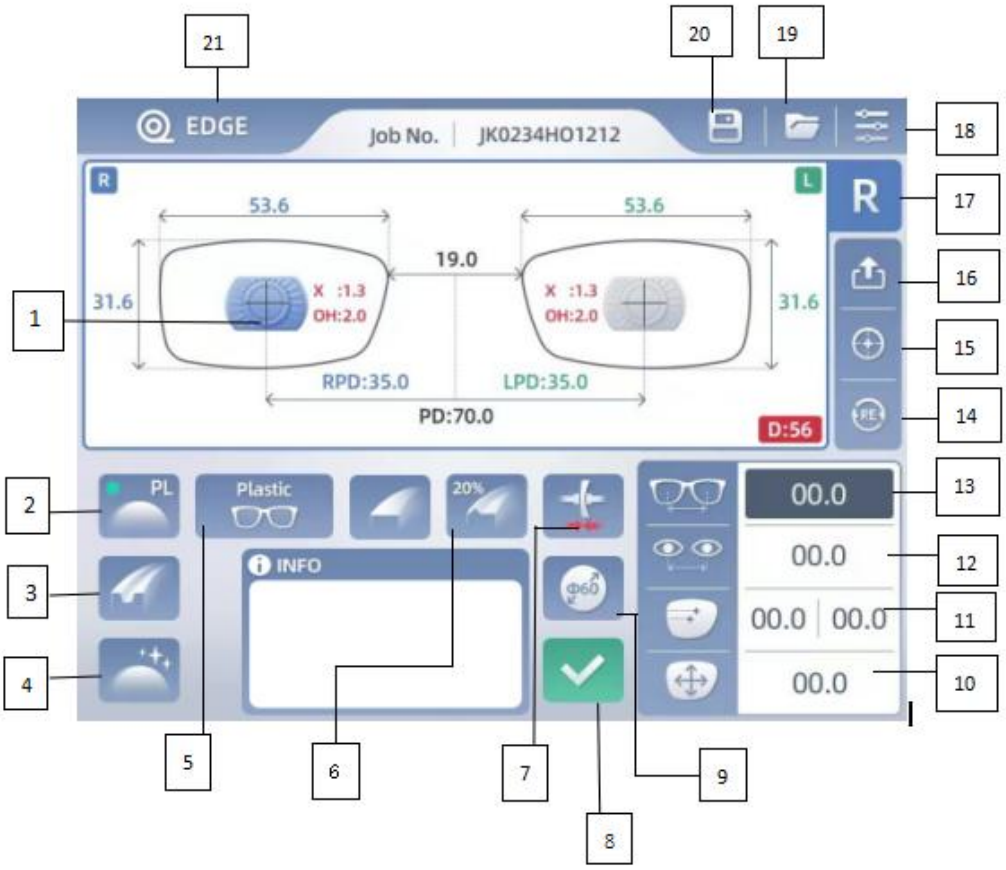


Figure 6.2

1. Display area of the parameters of the spectacle film

The left and right frames appear in actual size, and the red solid outline shows the designated side.

2. Material selection button

Click this button to display the specified lens material. The following table is the sub-menu of lens material:

PL	Resin lens
PC	Polycarbonate lenses
HI	High refractive index lens
GL	Glass lens

3. Edge selection button

Click this button to select the lens edge shape. Select pointed edge for full frame; flat edge for half frame and no frame.

4. Polishing selection button

Click this button to select polish or not polish.

5. Frame material selection button

Click this button to select the metal frame or plastic frame.

6. Point edge position selection button

Click this button, select the appropriate sharp edge position, click "+", "-" to adjust.

7. Lock / open the button

Click this button to clamp the lens for processing or open the mirror shaft to take out the lens.

8. Start button

Click this button to start grinding the glasses piece. After the grinding starts, this button automatically switches to the emergency stop button. Click the emergency stop button to stop the grinding.

9. Lens diameter selection button

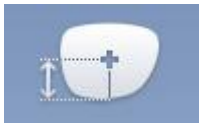
Click this button to adjust the diameter of the lens before grinding.

10. Size correction button

Click this button to adjust the size of the processed eye piece, and the modified parameters of the eyeglasses are displayed in the display area.

11. Pupil height adjustment button

Pupil high score geometric center pupil height and lens edge pupil height, click the pupil high button to switch.Click the corresponding data box on the right to manually input the pupil height value to be set, and synchronously present in the parameter display area of the glasses.



12. Total pupil distance/half pupil distance adjustment button

Click this key to switch between the total pupil distance and the single pupil distance. Click the corresponding data box on the right to manually input the pupil distance value to be set and synchronously display it in the parameter display area of the glasses.

13. Frame center distance/nose bridge distance adjustment button

Click this button to switch between the frame center distance and the nose bridge distance. Click the corresponding data box on the right to manually enter the value of the frame distance or nasal distance to be set, and synchronously display it in the parameter display area of the glasses.

14. Revise button

Click this button to realize the grinding again without the displacement of the suction cup.(Note: the correction value can only be negative)

15. Positioning mode selection button

Click this button to select the geometric center positioning or the optical center positioning. The geometric center positioning is the center of the model and the optical center positioning is the center of the lens.

	Optical center positioning
	Geometry center positioning

16. Data transfer button

Transfer the scanned graphics data to the edge grinder.

17. Left and right lens switch button

Click this button, you can choose to process the left glasses piece or process the right glasses piece.

18. Menu button

Click this button to display the menu interface.

19. The file opens the button

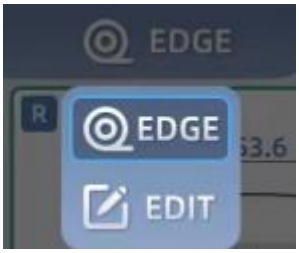
Click this key to open the stored graphics file in the grinding machine.

20. Save button

Click this button to store the current lens shapes and parameters in the display area for later use.

21. Interface selection button

Click this button to select the current display interface.



7.Operation process

7.1 Preparation stage

7.1.1 Data transmission

First, put the liner pattern on the Blocker+Scanner for scanning (see the scanner manual for specific operation steps), and the scanning data is confirmed and transmitted to the grinding machine.(Figure 7.1.1 (a) and (b) are the main interface before and after data transmission respectively)

Figure 7. 1. 1（a）

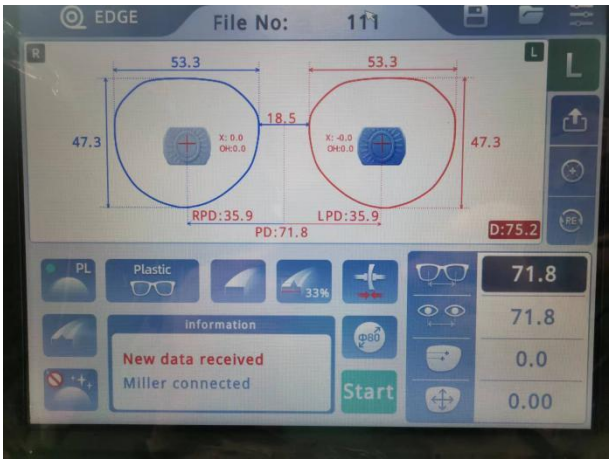
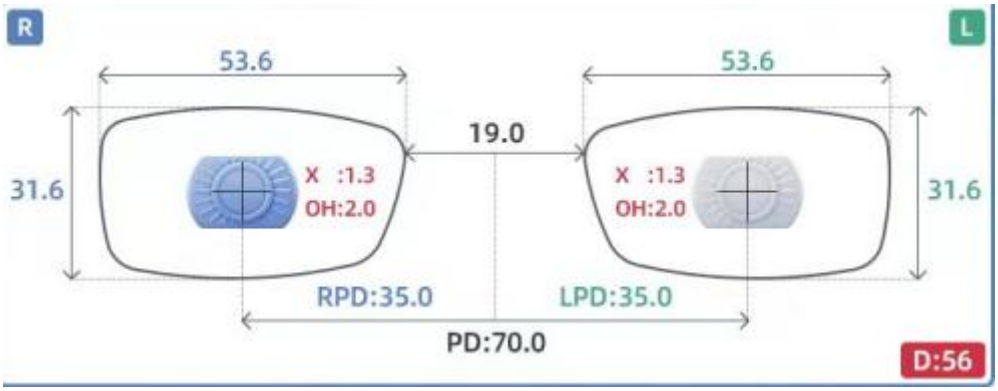


Figure 7. 1. 1（b）

7.1.2 Set up

1）Switch left and right

Before grinding, you can choose to grind the left or right lens by clicking the left and right switch keys. As shown in the figure below, the border is red on the side to be polished.



2）Selection of frame material

Click the frame material selection button to select the frame material to be processed (different materials have different compensation coefficient).

3）Lens material selection

Click the lens material selection button, and the drop-down menu will appear on the screen. Click to select the lens material required to be processed.(Note: repeatedly confirm whether the selected material is correct, misselection may cause damage to the grinding wheel or lens.)

4）Edge selection

Click the edge selection button, the screen will appear the drop-down menu, click to select the desired edge type (some models have no slot function, the button is gray, not optional). If you choose the processed sharp edge lens, click the sharp edge position button and select the different

front and rear positions of the sharp edge (which can be adjusted according to the lens thickness and personal preference).

5）Polishing choice

Click the polishing selection button to select whether to polish the lens.。

6）Diameter selection

Click the lens diameter button, the pull-down menu to select the lens diameter will appear, and select the lens diameter matching with the processed lens data.

7）Frcore / nasal bridge data settings

Click the frame distance button and click the data box on the right to manually enter the appropriate distance value and click the icon to switch the frame center distance to nose bridge. Similarly, click the data box on the right to manually enter the appropriate distance value.(Note: After clicking the data box, the numeric keyboard will appear to input the required data. If the input error is found, click the C key to clear the wrong data and re-input it.)

8）Pupil setting

Click the pupil distance setting button, and the total pupil distance and single pupil distance icon appear on the screen. The appropriate pupil distance value can be entered according to the optometry prescription sheet request。

9）Pupil height setting

Click the pupil high setting button, and the two pupil high setting method icon appear on the screen, namely geometric center pupil high input method and lens edge pupil high input method. Select the appropriate way to enter the pupil height data according to the optometry prescription form requirements.

10）Selection of the lens positioning mode

Positioning mode can choose the optical center positioning mode or geometric center positioning mode.When selecting the optical center positioning mode, the Blocker+Scanner is

located in the optical center of the lens,When selecting the geometric center positioning mode, the Blocker+Scanner should be moderately offset positioning.

7.2 Grinding stage

7.2.1 Machining

Put in the lens and click the lens axis clamp key to clamp the lens, then click the start key to start processing, and simultaneously display the steps in progress in the information bar on the display screen.

After the information bar display processing is completed, click the lens shaft open key (either available on the display screen or on the control panel) to open the lens shaft, and remove the processed lens after the lens shaft is fully opened.Then click the left and right switch buttons and repeat the above operation.

7.2.2 Revise

If the finished eyeglasses are slightly larger than the size of the glasses frame, you need to correct the size. Click the size correction button, enter the appropriate data, put the glasses that need to be repaired and click the revise button.

Note: After the removal of the fixed suction cup or the size correction cannot be made after the position of the fixed suction cup is changed. It is recommended to assemble the polished glasses to the glasses frame and confirm that the size of the fixed suction cup is appropriate.

7.3 Edit

Figure 7.3 shows the editing interface of the edging machine, where you can zoom in and out the size of the figure, rotate the axis, and other operations. Click the interface selection button at the upper left corner of the main screen to switch to the editing interface.

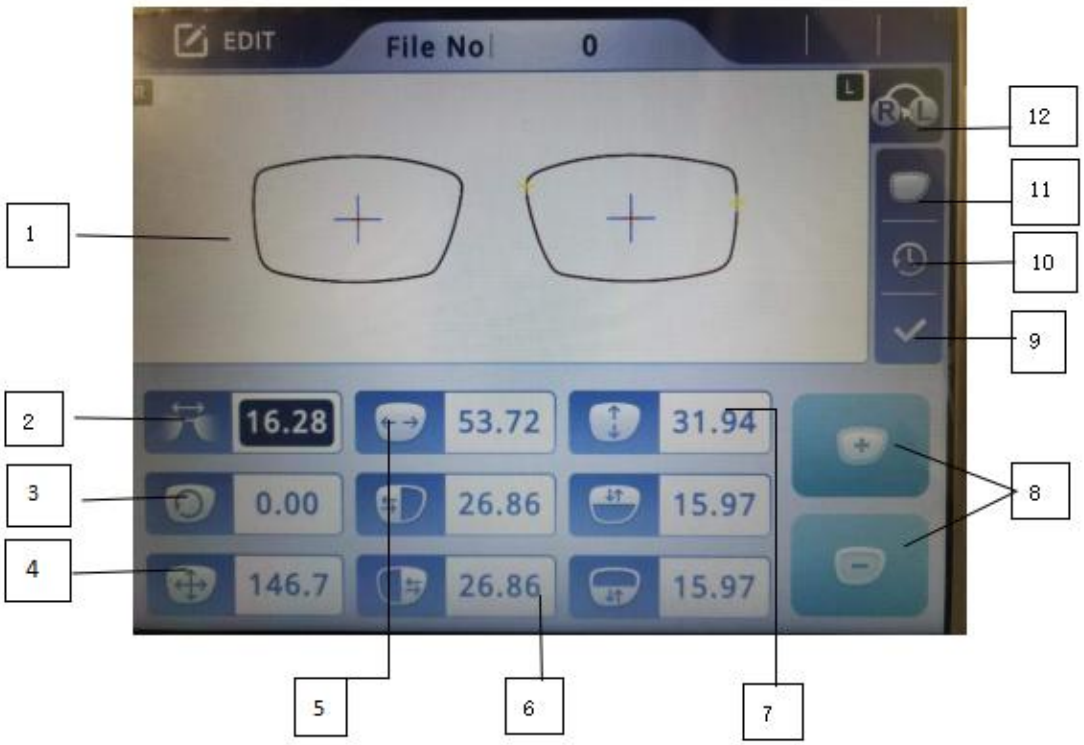


Figure 7.3

1. Graphic display area

The left and right frames appear in actual size, and the red solid outline shows the designated side.

2. Nose bridge distance adjustment button

The data box on the right side of this button shows the size of the nose bridge. After selecting the nose bridge button, click the increase button or reduce the button to adjust the size of the nose bridge, the same below.

3. Axis position adjustment button

Click this button to correct the astigmatism axis of the scanning pattern.

4. Overall zoom button

Click this button to increase or reduce the overall size of the designated side figure.

5. Horizontal retraction button

Click this button to increase or reduce the size level of the specified side drawing, and the vertical direction size remains the same.

6. Local zoom button

Click this button to increase the size or size of the specified side shape.

	Left zoom button
	Right zoom button
	Upper zoom button
	Lower zoom button

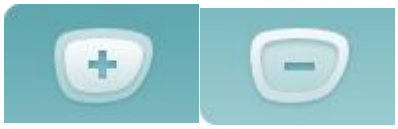
Note: Taking the horizontal and vertical lines of the cross quasi star as the dividing line, the designated side graph is divided into four parts: upper, lower, left and right.

7. Vertical zoom button

Click this button to increase or reduce the vertical dimension of the specified side drawing.

8. Increase/decrease button

After selecting the parameter value to be modified, click the increase/decrease button to adjust the parameter value.



9. Confirm key

Click this button, the currently edited data will be saved, if you want to modify, you need to re-edit.

10. Return to original graphic button

Click this key to cancel all the above steps, restore all parameters to the initial value, and use them with caution.

11. Comparison button

In the process of adjusting the parameters, the solid frame of the original graphics is black, and the solid frame of the parameters is red. Rereflect the changes of the graphics when adjusting different parameters through comparison. Click this button to cancel the comparison display.

12. Left and right side switch button

Click this button to edit the left or right of the drawing.

8.Replacement and maintenance of spare parts

It is recommended to extend the life of the equipment under normal conditions. Check the equipment performance and the complete machine maintenance regularly. If necessary, please contact Shanghai Topview Industrial Co., Ltd or the local authorized

distributor.

8.1 Trim and replace the grinding wheel

8.1.1 Trimming wheel

When the processing grinding wheel appears passivation, the processing time will become longer and the processing accuracy will decrease. Please repair the grinding wheel in time. Please be sure to choose suitable for grinding wheel type (glass coarse grinding wheel 180 #, fine grinding wheel 240 #).

1）Repair preparation

First immerse the oil stone in water for about five minutes, click the menu button, and the display screen displays the interface as shown in Figure 8.1.1 (a);

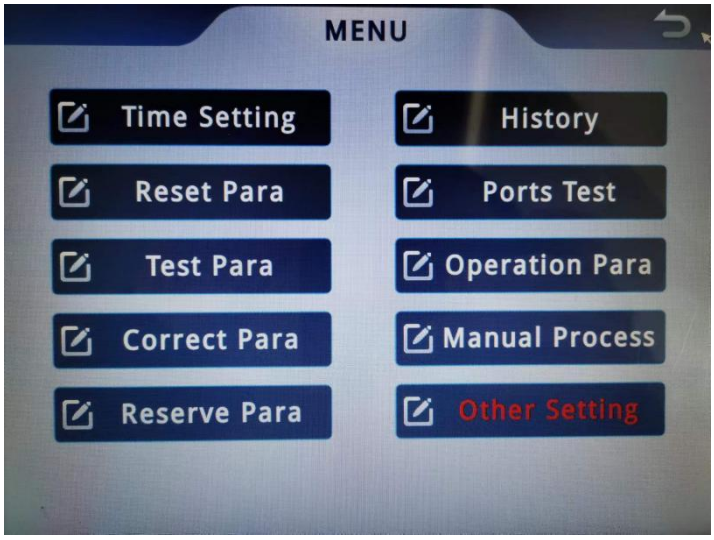


Figure 8. 1. 1（a）

Click and enter the component detection interface, as shown in Figure 8.1.1 (b);

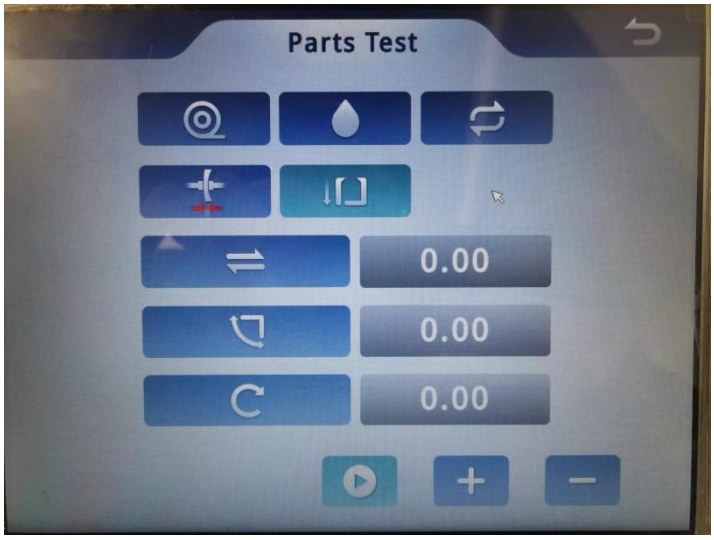


Figure 8.1.1（b）

2）Wheel trim (coarse and fine grinding only for glass lenses)

Press the pump button, the cooling water passes, and the grinding wheel begins to rotate.Hold one end of the soaked oil stone with both hands, and the plane surface acts evenly on the surface of the glass coarse grinding wheel or the surface of the fine grinding wheel (with the edges and corners of the fine grinding groove), gradually increase the pressure and keep contact for five seconds to remove the oil stone.After the cooling water rinoff the grinding slag, repeat the above operation method two to three times. Press the key to cut off the cooling water.

	Start / stop the main mill wheel
	Start / stop the water pump in operation
	system reset
	The lens clamps the movement
	Start the encoder count
	Horizontal movement distance setting
	The swing arm swing angle movement distance is set
	Set the lens rotation angle
	Start button

⚠Matters needing attention：

1） Do not fine-grind the PC / resin lens with a coarse grinding wheel;

2） During cleaning, the grinding wheel is operated when the processing warehouse door is opened, please pay attention to safety;

3 ） Steam and particulate matter produced during dressing are harmful, please wear protective masks, protective goggles and other appliances to prevent inhalation;

4）People with sensitive skin should wear protective gloves to prevent allergies;

5 ）If you contact your eyes, rinse your eyes with running water immediately and go to medical attention.

8.1.2 Replace grinding wheel

The grinding wheel must be replaced every two years or every 5000 lenses (10,000 plastic

lenses and the number of lenses mentioned in this manual is for reference only.Such as continuous processing of hard lens, height number negative lens or improper operation (such as using PC / resin coarse grinding wheel processing glass lens may need to replace the grinding wheel in advance.

This equipment can only be replaced with the accessories provided by Shanghai Topview Industrial Co., LtdIf the customer uses other accessories, they shall be used only after the availability of technical safety is confirmed and confirmed by Shanghai Topview Industrial Co., Ltd or the accessory manufacturer.

8.1.3 Parameter adjustment

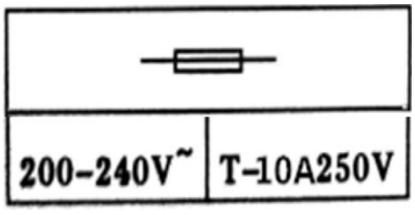
The placement of the grinding wheel will ates the size of the processed lens and requires parameter calibration to enable the machine to work properly.For details, please contact the local authorized dealer or the after-sales department of Shanghai Topview Industrial Co., Ltd

8.2 Replace the fuse

1）When replacing the fuse, the power plug must be unplugged to ensure that the power supply is disconnected to prevent electric shock danger.

2）The replaced fuse must be replaced with the same type and fuse rating, otherwise fire.

3）In case of failure of the instrument, it needs to be disassembled for maintenance, must be familiar with the instrument circuit professional technical personnel to complete, or contact the local dealer or manufacturer to complete, the manufacturer is not responsible for the consequences of disassembly and maintenance.



Warning: Be careful of fire!

Please replace the fuse

according to the indicated value

8.3 Cleaning equipment

8.3.1Turn off the power switch and unplug the power cable before cleaning the equipment.

8.3.2 Pay attention not to force, the curvature scan head force damage will significantly reduce the accuracy and reliability of measurement.

8.3.3 Do not wipe the shell of the instrument with strong volatile substances, thinner, benzene

and other solvents, so as not to damage the appearance of the instrument.

8.3.4 Please wipe the stubborn stains with a soft cloth soaked with soapy water, and then wipe them clean with a dry cloth.

8.4 Project menu setting

⚠**Note: Improper menu setting will cause machine failure and machining accuracy, please operate carefully or ask special personnel to operate.**

8.4.1 Menu Settings

Click the menu button, as shown in Figure 8.1.1 (a). The functions of each option are shown as follows below:

Time setting	Set the time
History query	View the historical processing records
The reset parameters	Calibration of reset parameters
Parts detection	Check that the machine is working properly
Detection parameters	Calibration of detection parameters
Processing parameters	Calibration of processing parameters
Correcting parameters	Calibrate the correction parameters
Manual operation	Check the function of parts
Reserve parameters	Set the residual parameter
Other settings	System Settings

The system setting functions are shown in the following table:

	Interface brightness adjustment
	Button volume switch
	Screen brightness adjustment
	Speed adjustment of the main grinding wheel
Screen calibration	Local screen calibration button

Remote Screen Calibration	Used for screen calibration on the starting connected lens imaging scanning system
Language	For the switching of the interface display languages
Restore the factory parameter settings	Factory parameter settings used for the system parameters

9.Diagnosis and handling of common problems

When the equipment has the following operation abnormality, please follow the table below

	Problems	Reasons and solutions
1	The power supply indicator light is not on	Q1:Fuse damage A1:Change the fuse Q2:non-transformer A2:Plug in the power cord and turn it on
2	No cooling water	Q1: The cooling water water pump plug is not connected A1:Reconnect the plug Q2：The water valve is closed A2:Open the water valve
3	Can't enter the opening interface	Waiting for self-inspection to be completed
3	Slow grinding speed	Trim or replace the grinding wheel
4	The noise is big	Replace the spindle
5	Grinding wheel does not work	Replace the belt
7	The baffle is leaking	Confirm that the baffle is not broken or leaking. If problematic, replace the baffle.
8	Inside the machine	Confirm that there is no processing waste flying inside the mill. If any, please clean the edge mill inside.
9	Water supply and drainage pipe (including the water supply pipe in the grinding machine)	Visual and tactile inspection will confirm that the water and drain are not cracked, aging, or blocked. If there is a problem, please replace it.

10. After-sale service

Shanghai Topview Industrial Co., Ltd is responsible for the safety and reliability of the instrument only under the following circumstances:

1） The relevant electrical equipment complies with the relevant domestic and foreign laws and regulations and standards;

2）Organized and maintained by Shanghai opview Industrial Co., Ltd., etc.;

3） Use, operate and maintain this equipment according to this manual and service manual.

Shanghai Topview Industrial Co., Ltd shall not be liable for the warranty period for the following matters:

1） Unnormal use;

2） Unmaintained or damaged machines;

3） Replace or tear off the original serial number label or manufacturing mark of Shanghai opview Industrial Co., Ltd;

4） Products of the other manufacturers.

10.1 Service information

In order to provide you with convenient and fast after-sales service, please provide the following information accurately:Product name, model number, serial number, purchase date, dealer name, symptom description, required parts, etc

The warranty period of this equipment is one year, and the maintenance period is five years after the suspension.

10.2 Random attachment table

Order Number	Name	Specifications	Quantity	Explain
1	3D Patternless Edger	PLE-6800	1	
2	Power cord	10A/250V	1	
3	instruction manual		1	
4	warranty card		1	
5	Product certificate		1	
6	sucker		6	
7	Suction cup pliers		1	
8	Fuse	10A/250V	2	
9	Water inlet pipe		1	
10	Drain-pipe		1	
11	Water pump		1	
12	water tank		1	
13	Hexagon wrench		1	
14	Cross screwdriver		1	
15	Oilstone		2	
16	Calibration block		1	
17	RS232 data cable		1	
18	Test lens		10	
19	Adhesive sheet		20	
20	filter screen		1	

10.3 Available accessories

Specify the workbench	1

Notice:

Instrument packaging materials, accessories and components, follow local regulations or regulations.

The machine has built-in lithium battery, do not discard the lithium battery to avoid environmental pollution. Contact a professional waste disposal company.