# Full-automatic Edger

# Specification

CE

# Contents

# Installation diagram

1. Red circle is the handpiece screw

One 5mm hexagonal spanner
One 12mm spanner

2.Use the 5mm hexagonal spanner which is included in the accessories box to take off the screw.

(according to the picture 3)

picture 3

picture 4

3.Use the 12mm spanner to take off another screw. (according to the picture 4)

4.Adjust the horizontal position

5.Install water tanks, main machinery, scanners, pumps.

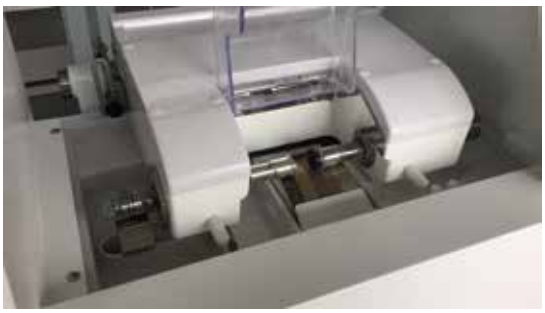
I、Take off the screw at the handpiece

Use the 14mm spanner which is included in the accessories box to take off the screw

（Picture 1）

II、Adjust the horizontal position

1.First, place the machine on the flat table

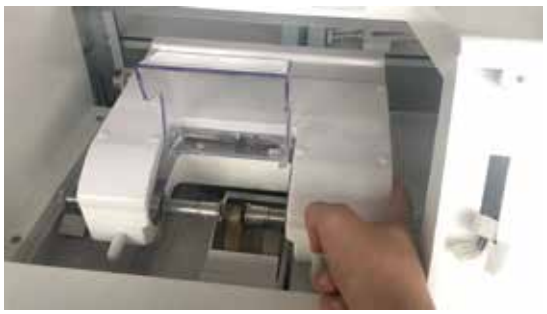


（Picture 2）

2.Push the handpiece gently from left to right to test whether the handpiece would slide back to left side.

3.Similarly, Push the handpiece gently from right to left to test whether the handpiece would slide back to right side. (Picture 4)

（Picture 3）



（Picture 4）

4.If the handpiece goes to left side and doesn't slide back when it was pushed from right to left, it means the left side is in a lower position.

It can be adjusted by the foot (Picture 5) (Higher at Clockwise)

(Picture 5)

# Usage Instruction of Patternless Full-automatic Edger

**figure 1**

1.  are data operation keys
2.  are control operation keys
3.  is the working indicator light of the grinding head
4.  are setting keys

## (I) Switching on the Machine

After the patternless edger is electrified to be switched on, the whole patternless edger is turned into the initialization stage, and at the moment, the menu of the screen shows in the figure 2:


**figure 2**

## (Ⅱ) Basal Menu

This is the basal menu of the patt rnless edger, which consists of a "state frame", a "data frame" and an "eyeglass frame".

**1) The state frame** shows "no data". 2) The data in the data frame are defaults. 3) The eyeglass menu frame is blank which is shown in the figure 4. **The background color of this basal menu is white.**

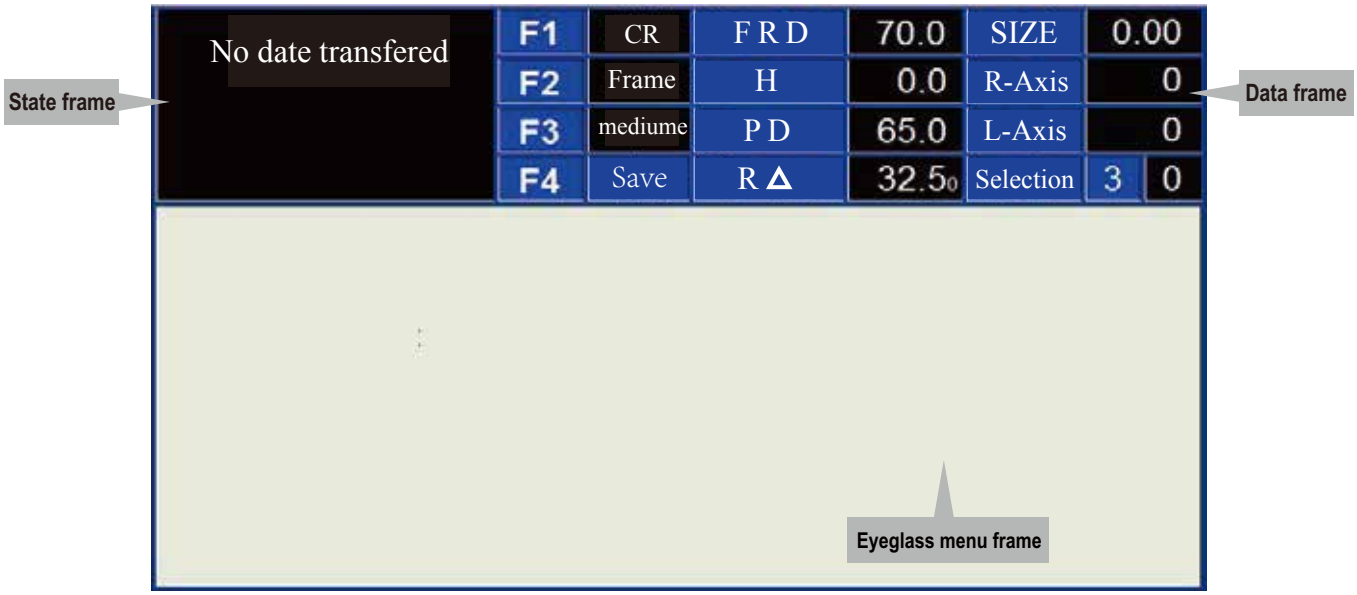



figure 3

## (Ⅲ) Inputting Data

After the scanner sent the data, the **state frame** shows "correct inspection", which means the data are received correctly, and the eyeglass data can be input at the data frame for processing. A group of eyeglasses which are sent by the scanner are drawn in the **eyeglass frame**. **The background color of this menu is blue as the figure 5.**

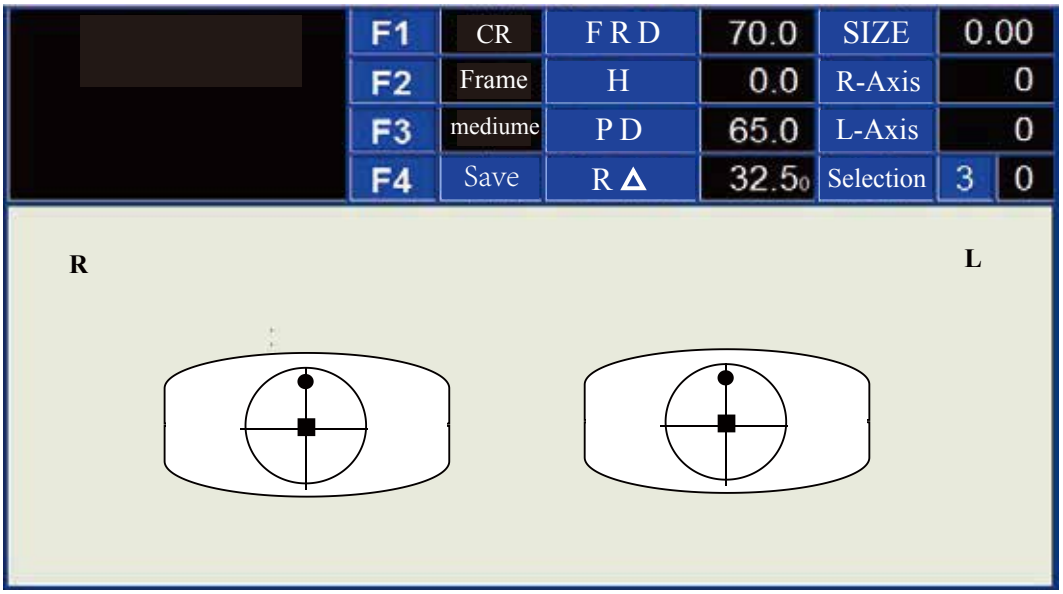



figure 4

# Operation key board

Key ▼ and ▲ are for moving the cursor.  Key ⊕ and ⊖ are for inputting the edging parameters.

**The parameter information are mostly inputted by the optometrist:**

| | |
|---|---|
| **FPD (Frame-distance)** | measurement range : 50~80 ; resolution : 0.1 |
| **H (Pupillary height)** | measurement range : -0.2~5.0 ; resolution : 0.1 |
| **PD (Pupillary distance)** | measurement range : 50~80 ; resolution : 0.1 |
| **RPD (Right Pupillary distance)** | measurement range : 0~+50 ; resolution : 0.1 |
| **SIZE** | measurement range : -3.00mm~+3.00mm ; the resolution power is : 0.5 |
| **R Axis** | measurement range : 0~180 ; the resolution power is : 1.0. |
| **L Axis** | measurement range : 0~180 ; the resolution power is : 1.0. |
| **Selecting** | is for picking up the data of the scanned lens from the memory of the Edger. |

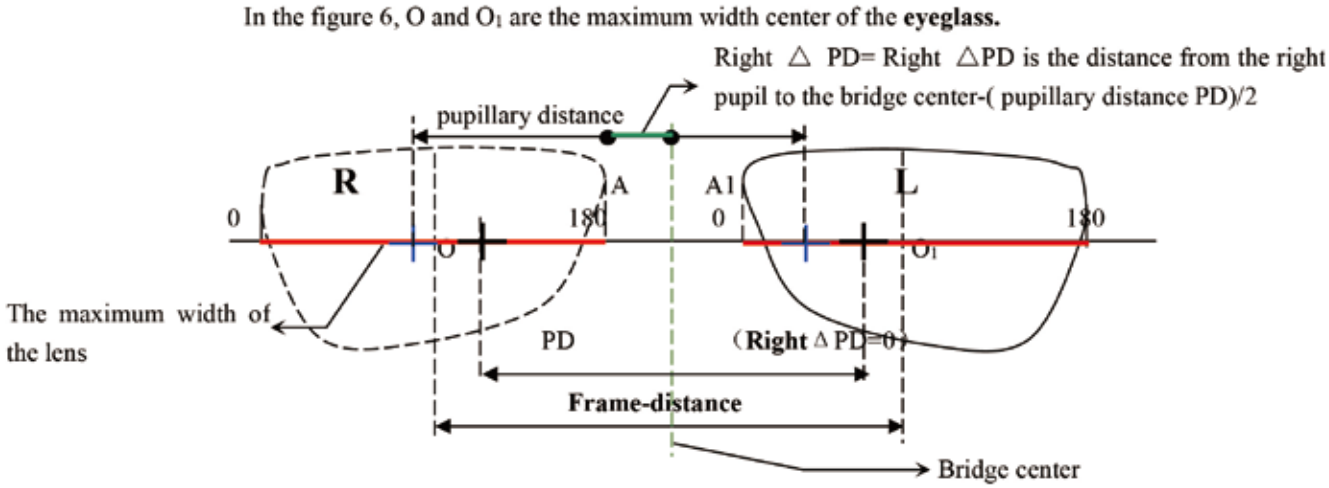



**figure 5**

Key F1 F2 F3 F4 are for the grinding setting.

F1 For setting the lens material among CR , PC and GL.

F2 For setting the grinding manner among F , RL and Mixed.

F3 For setting the grinding pressure1 (low) , pressure2 (medium) , pressure3 (high)

F4 For special Setting :

"general"------ edging general lens.

"special"------ edging small or thin lens.

OK For confirmation , when the setting is complete.

Some of the edging information are illustrated in the sketch in “Lens block”,as following:

- The distance between ■ of the two lenses is the frame-distance FPD.
- The distance between ┼ of the two lenses is the frame-distance FPD.
- The vertical distance between ┼ and ■ in the same piece of lens is the pupil height H

  ┼ is also a mark for the optical center.
- ◯ is the sign for lens sucker ● indicates the placing direction of the sucker.
- Rough diameter φ42 stands for the minimum rough size of the eyeglasses for grinding, which is a round that considers the optical center as the center.

  At the moment, if the selected parameters are not satisfying, the above data inputting process can be repeated, until the dissatisfactory data are modified to be satisfying, and then the data inputting is over.

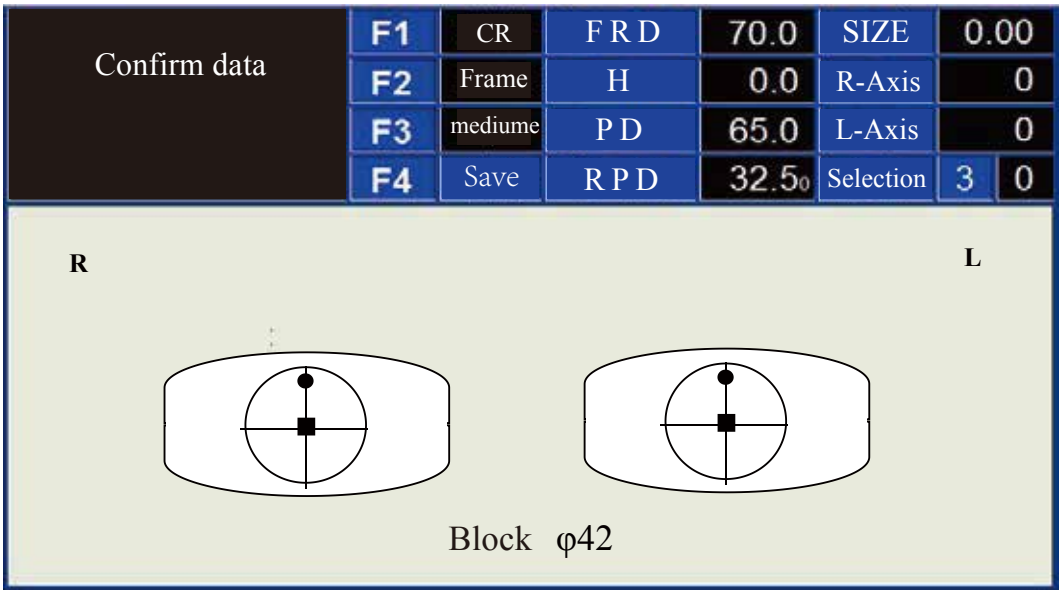



figure 6

## (Ⅳ) Operation of Grinding

### Grinding control keys

| | |
|---|---|
| ← | The key for clamping eyeglass/the key for shifting the grinding head to left |
| → | The key for releasing eyeglass/the key for shifting the grinding head to right |
| L | The start key for processing the left eyeglass |
| R | The start key for processing the right eyeglass |
| FIN | The start key for polishing / the positioning key for measuring the grinding wheel |
| stop | The stopping key/the key for measuring the grinding wheel |

## 1.lens scanning:

### Frame Scanning:

Press “F/RL” button to choose “F”.

Load the frame onto the Tracer.

Press “Clamp” to clip it on.

Press “Start” to scan.

The scanned data is transmitted automatically to the Edger.

### Template Scanning:

Press “F/RL” button to choose “RL”.

Mount the templet on the rack.

Load the rack onto the Tracer.

Press “Clamp” to clip it on.

Press “Start” to scan.

The scanned data is transmitted automatically to the Edger.

( For the detail , see the Tracer Operation Instruction )

## 2.Fill out the “Data form”

For F grinding put the data of FPD , PD , H and Axis into “Data Form”

For RL grinding input the data of PD , H and Axis into “Data Form”

For Mixed Grinding press key F2 till both “F2”and “Frame” in “Data Form” turns red.

then put the data of FPD , PD , H and Axis in “Data Form”.

“Mixed Grinding” is a kind of lens edging , including RL scanning and F grinding.

When complete , press “OK” to confirm.

The minimum blank size tolerant forgrinding is shown in “Lens block” as “Rough Diameter”.

## 3.Len Cutting (or Grinding)

Press “L” to cut the left eye lens.

Press “R” to cut the right eye lens.

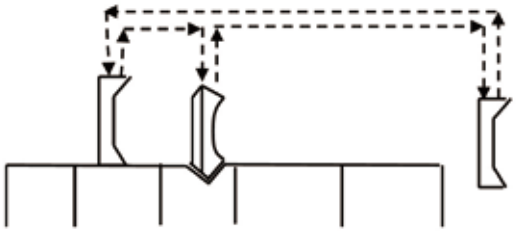
During Cutting ,

1.The “Status block” shows “it’s grinding”

2.When cutting right eye lens , the letter R at the upper left corner of “Lens block”turns bigger , as R

2.When cutting left eye lens , the letter L at the upper right corner of “Lens block”turns bigger , as L

4.The relative position of the sand wheels and the lens is shown in the “ Status block”.



## (V) Grinding Finishing

There are two different ways of ending up the lens cutting.

### Natural Stop

1.When the lens cutting is completed naturally. The edger stops running.

2.The “Status block” shows “grinding finished”.

3.The letter R or L in the “Lens block” remains big.

### Urgentl Stop

1.Press “Stop” button to interrupt the cutting process. The edger stops running.

2.The “Status block” shows “grinding finished”.

3.The letter R or L in the “Lens block” remains big.
To repeat the same lens cutting , press the same R or L to start.

## (VI) Fine Grinding

1.Clamp the lens on.

2.Set the size of the lens (minus only).

3.Press FIN to start Fine Grinding.

## (VII) Sand Wheel Testing and Positioning

1.Switching on the Edger.

2.Clamp the Testing Templet on (shown figure 10 and 11)

figure 10

figure 11

2. Firstly, pressing the stop key and not releasing, and then pressing the FIN key, a sound of "beep" will be heard, the grinding head will lift and move to the upside of the first piece of grinding wheel automatically, which is shown in the figure 12.

Figure 12

3. The standard templet for testing is moved to the proper position at the grinding wheel by pressing the ← key or the → key, then pressing the stop key, the standard templet for testing will be descended to the grinding wheel automatically by the grinding head, and then the grinding head will lift and move to the upside of next piece of grinding wheel automatically, which is shown in the figure 13.

Figure 13

4. After the step 3 is repeated, the standard templet goes to the V-shaped grinding wheel automatically, which is shown in the figure 14, when the standard templet is aligned with the center of the V-shaped grinding wheel, it should press the FIN key firstly, after it confirmed that it's aligned with the center position, pressing the key of stop, and the grinding head moves to next piece of grinding wheel automatically.

Figure 14

5. The step 3 is repeated until the testing work of the fourth and the fifth grinding wheel is finished, the grinding head will return the primary position automatically, and the testing work is finished, which is shown in the figure 15.

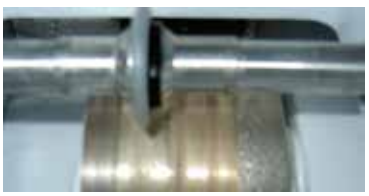


Figure 15

6. After the standard templet for testing is moved to the proper position at the grinding wheel, the standard templet for testing can also be descended by the FIN key, but at this moment, the grinding head can only lift automatically and can't move to next grinding wheel, this operation can provide the grinding wheel position with exactly positioning and is especially fit for positioning the edge grinding wheel.

## (Ⅷ) Lens Selection

The computer in the Edger can memorize the scanned data up to 10 pair of lenses. The 11th coming data replaces the 10th data in the memory.

When the Edger is switched on but not in use , it can recive the new data and displays it in the menue.

When the Edger is in edging process , it can recive the new data , but without displaying it.

When the Edger is in sutting process , it rejects the coming data.

### Lens selection

Lens selection can be done only when the Edger is switched on but not in use.

1.Press ▼ or ▲ to move the cursor to " Selection".

2.Press ⊕ or ⊖ to move the cursor to " Selection".

3.Press OK to confirm.

### Clear the Menory of the lens data

1.Press ▼ or ▲ to move the cursor to " Selection".

2.Press ⊕ or ⊖ to change the number of the lens into " 0 ".

3.Press OK to clear the memory of all the lens data.

### NOT:

***After the data in the memory is cleared , it can not be restored again!***

***The data of the scanned lenses in the memory is kept till the Edger is switched off.***

# (IX) System Setting

Press SET for the system setting, while " System setting" is displayed in " Status block".
On the left side of " Lens block " is the main list with several setting items ( figure 16 )

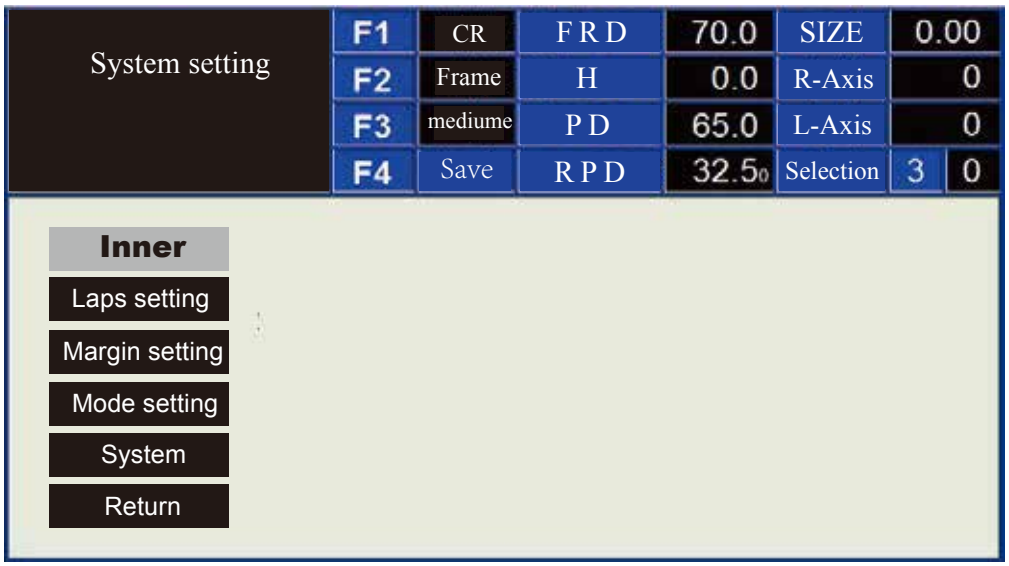



Figure 16

System Setting

1.Press ▼ ▲ keys to move the cursor up and down to the required setting item.

2.By pressing SET a sub-list is opened on the right side.

3.Press ▼ or ▲ to move the cursor to the required sub-item.

4.Press + or − to choose the required parameter.

5.Press SET to confirm the setting and to return to the main list for the next setting item.

6.To finish, move the cursor to "Return" and press SET

The sub items in the sub lists

1. Enter " Inner Setting " (Size Setting) to get its sub list open , as following:

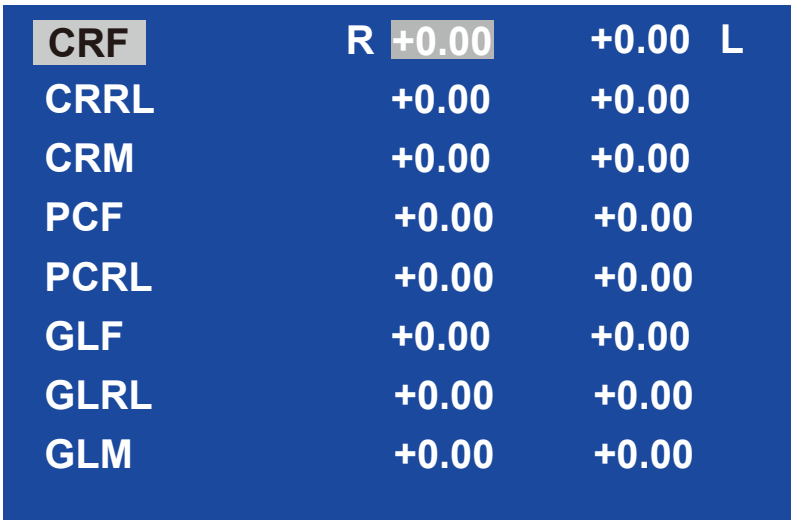



Figure 17

2. Enter “ Laps Setting ” to get its sub list open , as following:

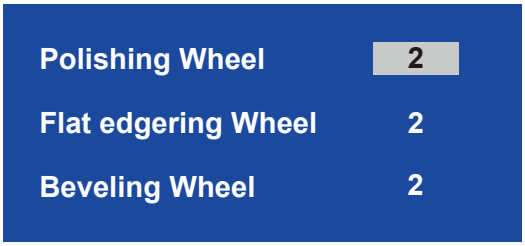



Figure 18

3. Enter “ Margain setting ” to get its sub list open , as following:

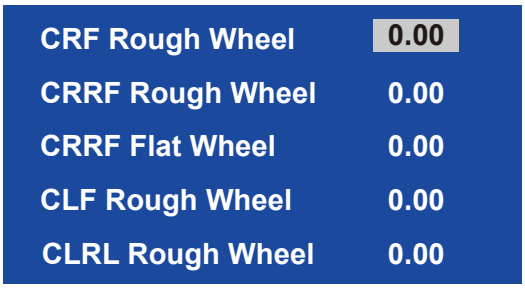



Figure 19

4. Enter “ Mode setting ” to get its sub list open , as following :(Pattern mode is not available).

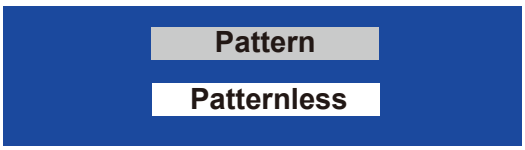



Figure 20

5. Enter “ System ” to get the following sub list for the system adjustment ( as Fig 21)

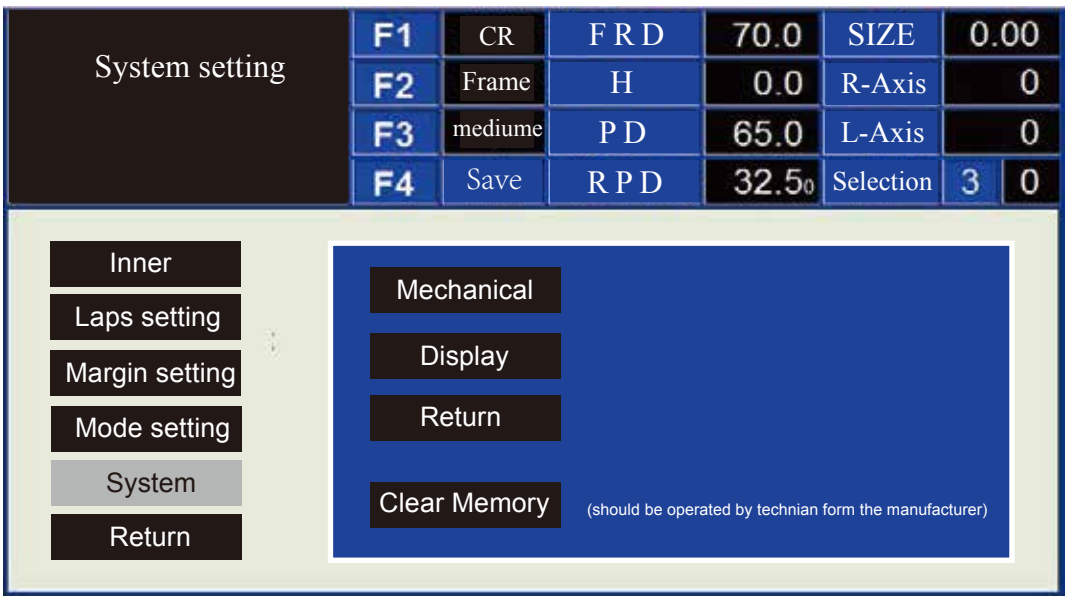



Figure 21

1. Enter “ Mechanical ” to get the following sub list for the size adjustment ( as Fig 22)


Figure 22

2. Enter “ Display ” to get the following sub list for the display adjustment ( as Fig 23)

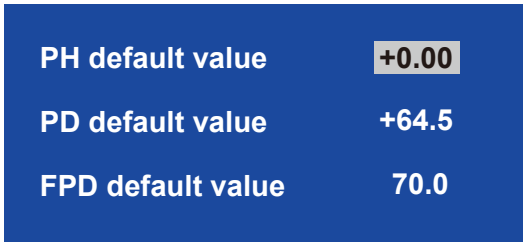



Figure 23

3. “ Return ”---------For returning to the memu of “ system setting ”( as Fig 16)

4. “ Clear memory ”---------For the technician of the manufactory only. The Entry keyword is needed ( as Fig 24)

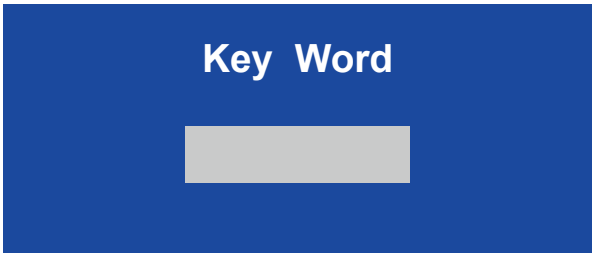



Figure 24

***4. Warning:By chooseing “ RUN” , all the data and adjustment will be eliminated forever! ( as Fig 25)***

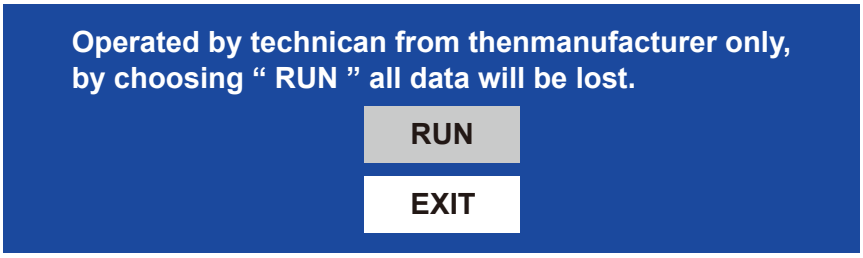



Figure 25

# Appendix (Packing List)

| Serial number | commodity name | unit | quantity |
|---|---|---|---|
| 1. | Main Unit | set | 1 |
| 2. | Scanner | set | 1 |
| 3. | Usage Instruction | copy | 1 |
| 4. | Conformity Certificate | copy | 1 |
| 5. | Guarantee Card | copy | 1 |
| 6. | Accessories | bag | 1 |
| 7. | Water Supply Devices water pump, water tank, downcomer (set) | | 1 |
| 8. | Worktable | set | 1 |

Note:

Accessories:

1. Standard templates (one piece of each kind and totally three pieces)
2. Rubber sucking discs (five of which are big and five are small.)
3. Plastic sucking discs (five of which are big and five are small.)
4. Rubber gaskets (two of which are big and two are small)
5. 30 special adhesive tapes
6. One 12*14 special spanner
7. Eyeglasses for trial grinding (two pieces are made from resin, and two pieces are made from glass.)
8. Two 20A fuses

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