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Description of the lensmeter

1、Description of the lensmeter

This auto lensmeter is used for measuring single vision lenses, bifocal (trifocal) lenses, Progressive Power Lenses (PPL) and Contact Lenses (CL).

It is with touch screen and UV measurement.

The display unit utilizes a full-graphic LCD, displaying measured values of right-eye and left-eye lenses at one time, and graphically showing the alignment condition in the shape of a target.

The menu is simple and clear. Icons are conveniently located on the screen,.

2.Safety Notes

- (1) Be careful when you carry the instrument, strong shock may damage the instrument.
- (2) Make sure to place the instrument in a horizontal and stable place.
- (3) Avoid using the instrument in a place exposed to direct sunlight or near incandescent light.
- (4) Use the instrument in the following environment:
 Temperature: $+5^{\circ}\text{C}$ – $+35^{\circ}\text{C}$
 Humidity: $\leq 80\%$
 Altitude: 2000m
 Pressure: normal room pressure
 Level of protection: IP20
 Power cord specification: 10 A 250 V ~
 Fuse specification: 250V 3A
 Over Current Protection 105%~150%, constant power
 Rated voltage: 110V~240V ~
 Rated output: 5VDC 5A
- (5) Clean the instrument regularly in order to make the measurement work exactly. After using, turn off the power and pack dust cover.
- (6) Be sure that the nose slider on the left of the instrument.
- (7) Do not place the lens on the UV measurement part before pressing PD/UV button.
- (8) If hear abnormal sound from the machine. Maybe something wrong with the instrument.
 Please contact your authorized distributor or manufacturer.

PROTECTION IMPAIRMENT IF USED IN A MANNER NOT SPECIFIED BY THE MANUFACTURER

3.Installation

- (1) Check accessories

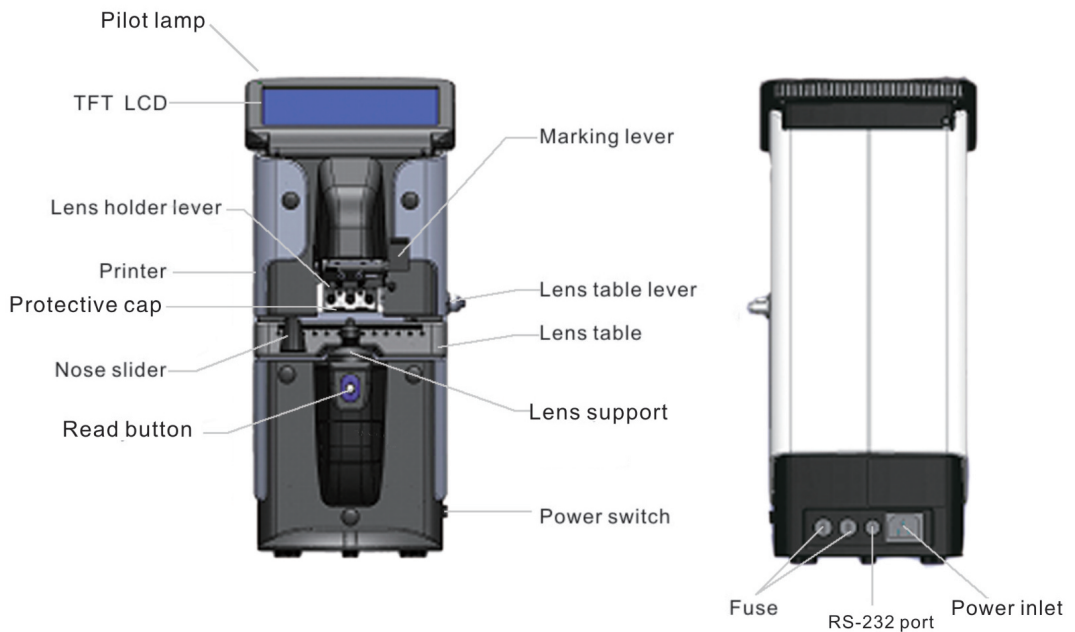
After unpacking the box, be sure to find all accessories.

- (2) Connect power cord

Please connect the power cord to the power inlet in the back of instrument. (Machine must be earthed)

- (3) After turn on power switch, make sure the instrument is in normal condition.

Configuration



- ◆ Pilot lamp: Power ON state
- ◆ Lens holder lever: Used to move the lens holder to fix the lens.
- ◆ Printer: Used to print measured data.
- ◆ Protective cap: Used for anti-dusty, this must be taken away before measuring.
- ◆ Nose slider: Used to measure PD of spectacles. When the nose pads of the spectacles are placed astride, it automatically detects the lens sides and calculates the distance between the right and left 'read' positions as the PD value.
- ◆ Read button: Button for recording data. This makes the measured data on the display fixed so that they will be saved in memory.
- ◆ Marking lever: Used for marking lenses. To do so, push the lever down.
- ◆ Lens table lever: Used to move the lens table back and forth.
- ◆ Lens table: For measuring PD, PH and diameter of lens
- ◆ Lens support: Used to place the lens on the base point for measurement. When measuring contact lenses (CL), this must be replaced with the special one for CL measurement.
- ◆ RS-232 Port :Data transmission

NOTE: The display will automatically turn OFF when certain time passes without any button operation, the auto OFF time limit can be specified in the MENU DISPLAY. To recall the ON state, touch the screen

Measurement Display



Setting Signs

Target: Shows the measuring point while lens is on the nosepiece. The shape of the target changes with sligment.

○: Out of center

+: In the center within 0.5 △

+: Aligned to the center (marking point)

R/L sign: Left and right lens value measured would be showed in left and right zone.

PH values: pupil height

PD values: Show both monocular PD (LPD, RPD) and total PD of spectacles.

Icons: These show the functions of buttons on their sides.

S: Sphere

C: Cylinder

A: Axis

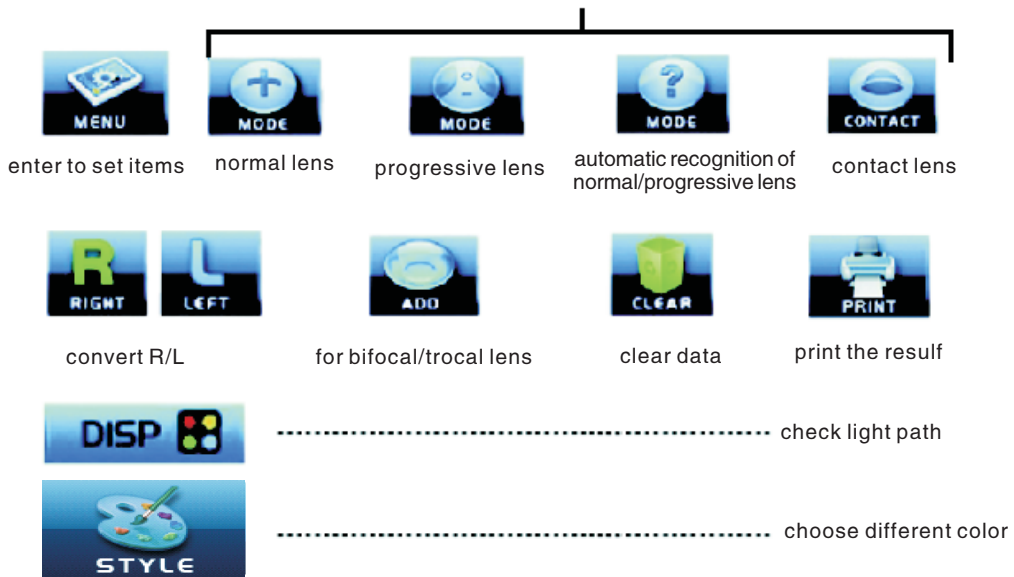
△: Prism

MEASUREMENT DISPLAY

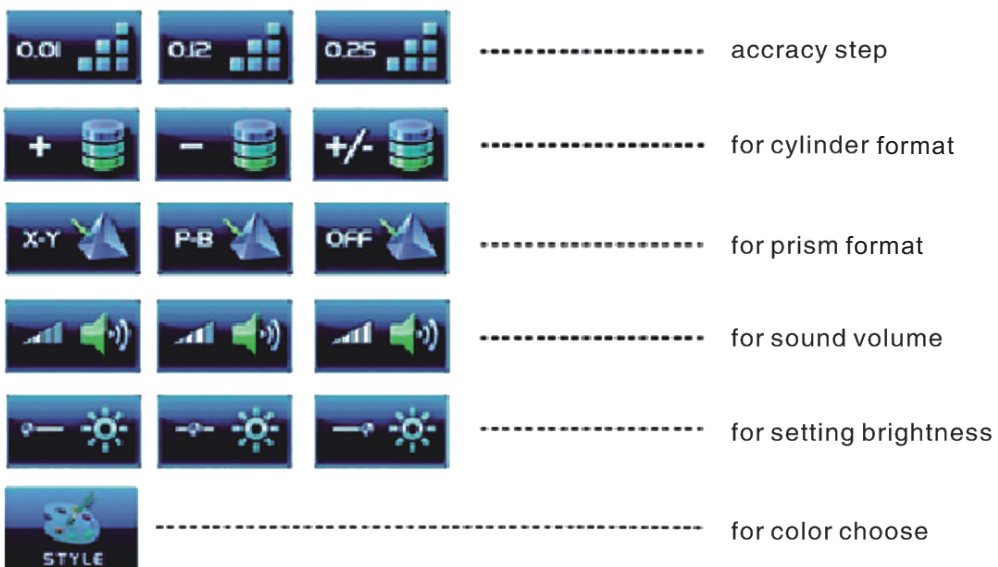
INTRODUCTION OF PARAMETER SETTING KEYS



UV measurement



INTRODUCTION OF FUNCTION KEYS :



MENU DESCRIPTION:

MEASURE SETUP **SYSTEM SETUP**

STEP	☒ 0.01	☒ 0.12	☒ 0.25
CYL	☒ +	☒ -	☒ +/-
PRISM	☒ X-Y	☒ P-B	☒ OFF
CONTACT	☒ OFF	☒ ON	
MEMORY	☒ OFF	☒ +	☒ -
ABBE	☒ 60	☒ 50	☒ 40 ☒ 30

EXIT

MEASURE SETUP **SYSTEM SETUP 1/3**

INTERFACE	☒ STYLE1	☒ STYLE2
SOUND	☒ OFF	☒ LOW ☒ HIGH
BRIGHT	☒ DARK	☒ MIDDLE ☒ BRIGHT
SAVE	☒ OFF	☒ 5 ☒ 30 ☒ 60min
BAUDRATE	☒ 1200	☒ 2400 ☒ 4800 ☒ 9600
LANGUAGE	☒ ENGLISH	

EXIT

MEASURE SETUP **SYSTEM SETUP 2/3**

DATE	2019-10-21
TIME	16:04

EXIT

MEASURE SETUP **SYSTEM SETUP 3/3**

SHOP: SUNSD

CUSTOMER:

EXIT

STEP: Accuracy of sphere and cylinder

CYL: Sign of cylinder

PRISM: Prism format

CONTACT: For contact lens

MEMORY: To focus the optical center with “+” or “-” automatically or off (by manual)

ABBE: Dispersion coefficient

INTERFACE: Set color

SOUND: Set sound

BRIGHT: Set brightness

SAVE: Screen save

BAUDRATE: UART bit transmit rate

LANGUAGE: Choose language

SHOP: Set the user's shop name

CUSTOMER: Set the name of customer

Operation procedures

1.Preparation

- (1). Connect the power cord to power inlet.
- (2). Connect the power cord into the wall outlet.
- (3). Turn on the power.

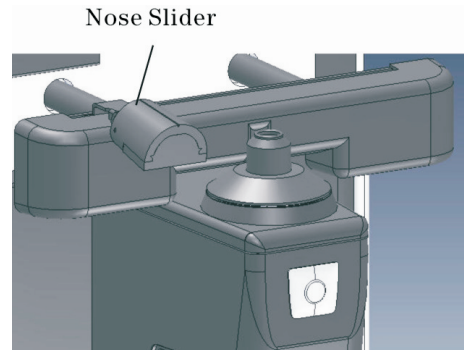


NOTE:

Please take away protective cap on lens support, before power on the unit.
Do not turn on the power with the lens on the lens support.
Otherwise it would show 'INITIAL ERROR' in screen.

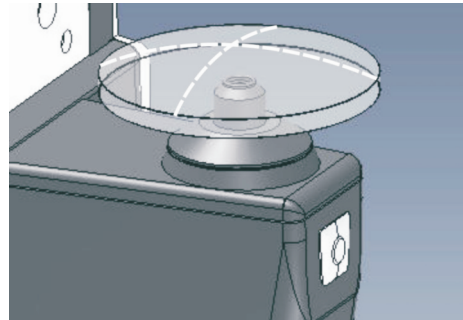
2.Lens settings

- (1). Specify the lens side
 - When no need to measure PD values, check it if the nose slider is upon the left. Press L\R button to specify right-eye or left-eye lens.
Not need to specify right-eye lens or left-eye lens, the screen display "S".
 - When measuring PD, the position of the nose slider will be taken for the R\L judgment and R\L button reoperation will be ignored. It can measure LPD, RPD or the distance between the optical centers.



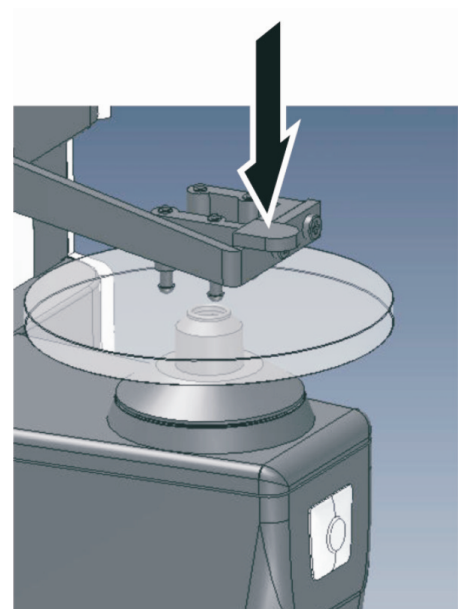
(2). Set the Lens

Place the measuring lens on the lens support with the convex side up.



(3). Fix the Lens

Raise the lens holder to its uppermost position, and then lower it slowly to fix the lens.



3.lens measurement

3.1. Measuring Single Vision Lenses

(1) Bring the target to the center, move the lens to bring the target "O" close to the center of the alignment circle.

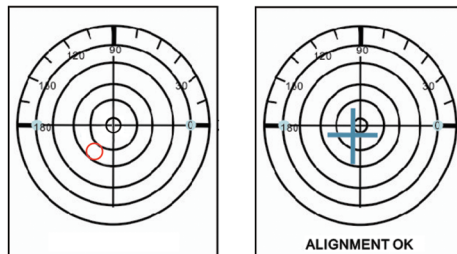
(2) When the target comes within a range of 0.5 Δ from the center, the shape of the target changes to a cross line. Move the lens to align the target, the shape of the target changes to a large cross. There are two measuring ways.

A. Press the read button, the measured data will be fixed.

Pressing +/- alternates the cylinder reading direction.

Pressing clear button, the measurement repeat again.

B. When the "AUTO MEMORY" parameter is set, data will be automatically fixed after the target is centered, just as the read button is pressed, to repeat the measurement, press Clear button first.



3.2. Measuring mounted lenses.

3.2.1 Regular measurement.

(1) Press "L/R" button, bring the target to the center.

Move the lens to the target "O" close to the center of the alignment circle. When the target comes within a range of 0.5 Δ from the center, the shape of the target changes to a cross line, move the lens to align the target "O" to the center cross so that the shape of the target changes from a cross line to a large cross. Press the read button and the measured data will be fixed.

(2) Press L/R button, measure the other lens, repeat the same steps as the first lens.



3.2.2PD measurement

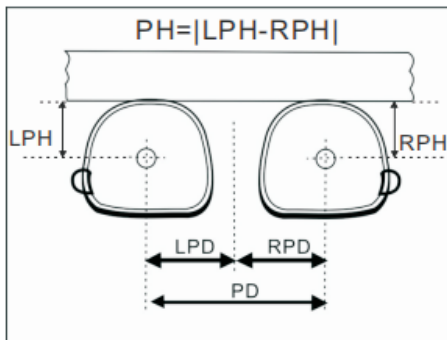
Alternate L/R state of lens by moving nose slider.

- (1) Move the lens table until it touches the bottom of the frame and move nose slider to the center of mounted lenses. Move the lens to bring the target close to the center of the alignment circle when the target comes within a range of 0.5Δ from the center.

The shape of the target changes to a cross line.

Move the lens to align the target to the center cross so that the shape of the target changes from a cross line to a large cross. Press read button, the measured data will be fixed.

- (2) Measuring the other lens, repeat the same steps as the first lens.



NOTE:

PH would come while moving the nose slider

- 3.3. Press print button to get value.

AUTO LENSMETER			
SHOP:			
CUSTOMER:			
DATE:2019/10/21 17:52			
(SINGLE)			
SPH: +2.50			
CYL: 0.00 AXS: 0			
PSM:I 0.36 D 0.35			
ADD: 1.00 Ad2:2.00			

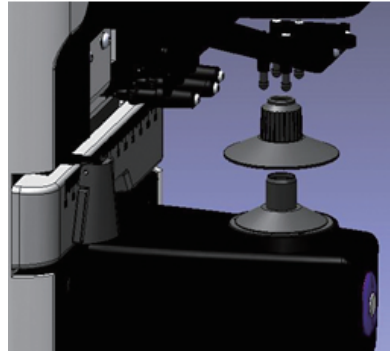
Single vision lenses

AUTO LENSMETER			
SHOP:			
CUSTOMER:			
DATE:2019/10/21		17:54	
(R)		(L)	
SPH:	-2.50		+2.50
CYL:	0.00		0.00
AXS:	0		0
PSM: I	0.40	O	0.36
PSM:D	0.38	U	0.36
ADD:	2.00		2.00
Ad2:	1.00		1.00
RPD:	32.0	LPD:	32.0
PD:64.0			

R/L lenses

3.4. Measuring Contact Lenses (CL)

(1) Change the lens support for the contact lens.



(2) Establish the CL measurement mode as shown.

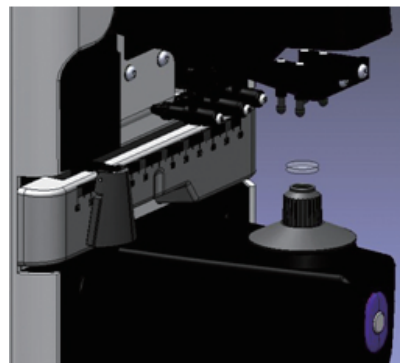


(3) Set the CL

Place the lens on the lens support with the convex side up.

NOTE: Hold the CL with tweezers.

Be careful not to damage the lens, only use tweezers with round tips.



(4) Align the target

(5) Press the read button

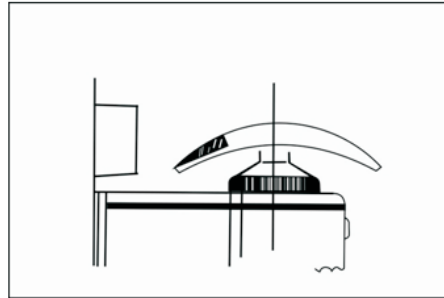
(6) Press the mode button, the mode returns to the normal measurement mode.



NOTE: Measure the contact lens as quickly as possible so that the lens surface does not become dry.

3.5. Measuring bifocals or trifocals

(1) Bring the distance part onto the lens support.



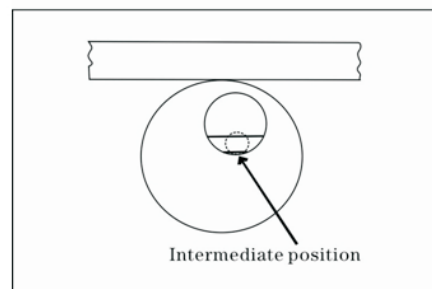
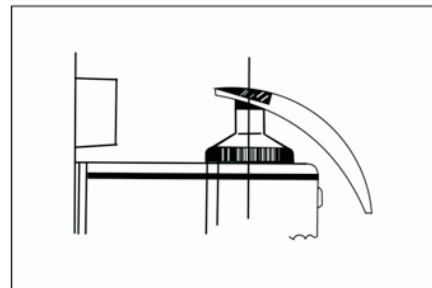
(2) Measuring the distance power.

After the shape of the changes from a circle to across line, press the read button. The measured data for distance will be fixed.



(3) Measuring the addition power (ADD)

Pull the lens toward yourself to bring the near portion onto the lens support. Press ADD button, the ADI appears on the display. When the shape of the target changes from a circle to across line, press the Read button. The measured data for measurement is completed at this point. For trifocals, the measurement is just as the same step.



(4) Bring the near portion onto the lens support.

Press ADD button, the display appears Ad2.

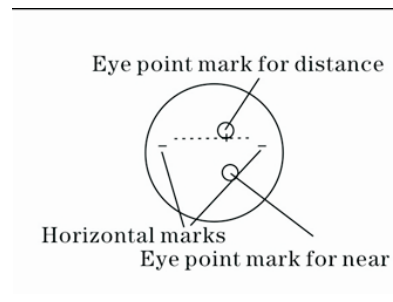
After the shape of the target changing from a circle to a cross line, press read button.

The measured data for near position will be fixed.



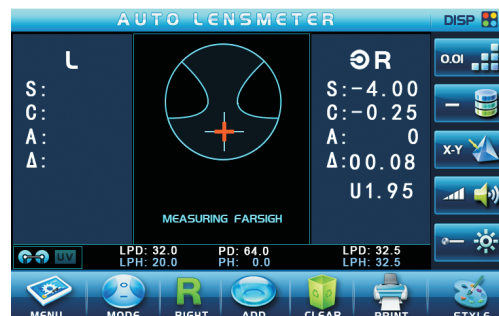
3.6. Measuring Progressive Power lenses (PPL)

Press mode button, the PPL measurement mode will be established.



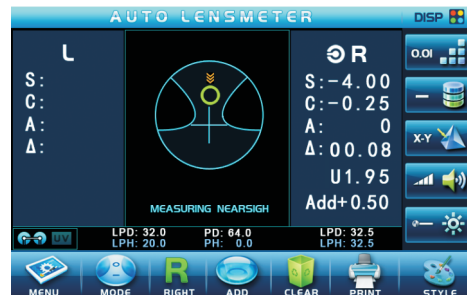
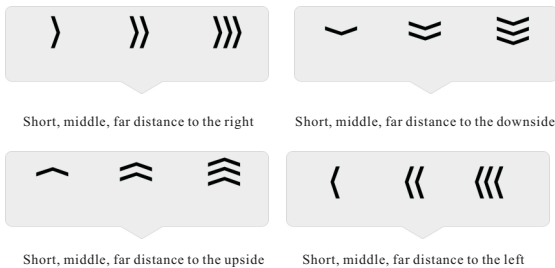
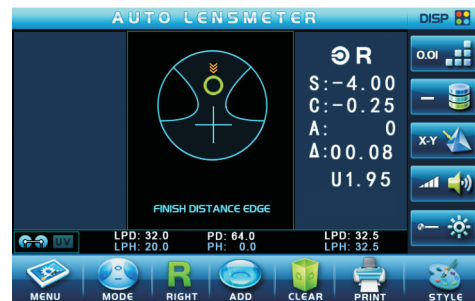
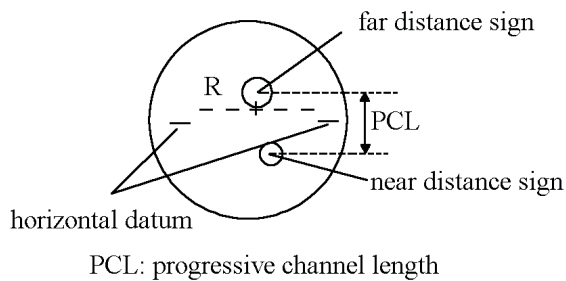
•Measuring Uncut Lenses

Using the manufacture's specific eye point marks, the lens should be placed with its horizontal marks paralleled to the table. The near position is inside. The display appears ADD and measured data. Bring the distance part onto the lens support, then move the lens slowly.



• Measuring mounted lens

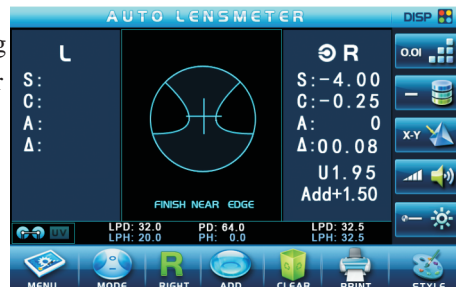
- (1) Bring the target onto the guide line, move the lens sideways to bring the target onto the middle of the guide line. When the target changes to cross(+) or +, press read button, the distance data is fixed.



- (2) Arrow sign appears, it means slow motion lens according to arrow direction, starts to measure progressive region. till the ADD is stable.
- (3) Search for the point that the ADD degree change situation. When ADD degree is in maximum value, press the read button, finish this measuring.

NOTE:

The ADD of some lenses is increasing consequently, sometimes out the range of near portion. If measuring these lens, the biggest ADD is out the range of near portion. Press the read button when the icon appears in the near portion.



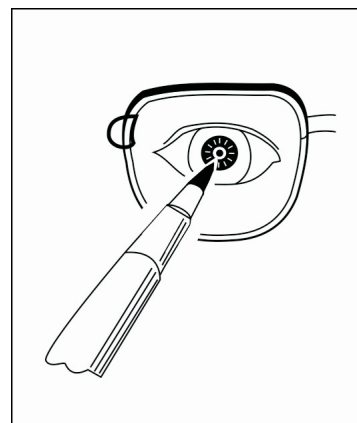
3.7. Measuring Prismatic Lenses

Measuring mounted prismatic lenses

- (1) Mark the pupil center. Instruct the customer to wear the spectacles and look straight, Mark the pupil center on each lenses.

NOTE:

The mark should be smaller than 1mm in diameter, the mark is too big it may interfere with the measurement.



- (2) Specify the lens side, press L/R button to specify right eye lens or left-eye lens.

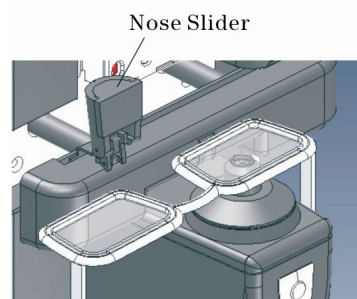
- (3) Choose the prism indication type

Rectangular coordinates Δ : I 5.00

D 0.03

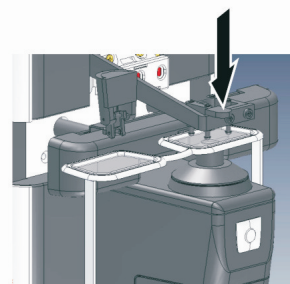
Polar coordinates Δ :1.00

0°



- (4) Set the lens

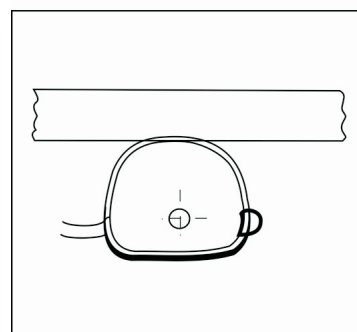
Place the lens on the lens support as shown with the convex side up.



- (5) Fix the lens with the lens holder.

- (6) Bring one of the eye point marks on the center of lens support.

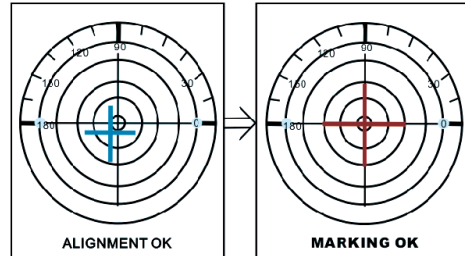
- (7) Press the read button.



3.8. Marking on the Optical Center

This is the method used to mark the lens in order to specify the optical center and the horizontal direction for mounting it to a frame.

- (1) Move the lens more to align the target to the center cross so that the shape of the target changes from a cross line to a large cross.



- (2) Set the axis to the prescribed value while watching the axis value on the display, rotate the lens until the value shows the prescription. If the large cross changes back to a cross line, align again.

- (3) Set the prismatic lens to the prescribed value
Press MENU button and make the prismatic value same as the prescribed prism value. Choose rectangular coordinates, “O” means base out, “I” means base in, “D” means base down and “U” means base up.
Put the measuring lens onto lens table, rotate it gently and make the direction same as the prescribed value.

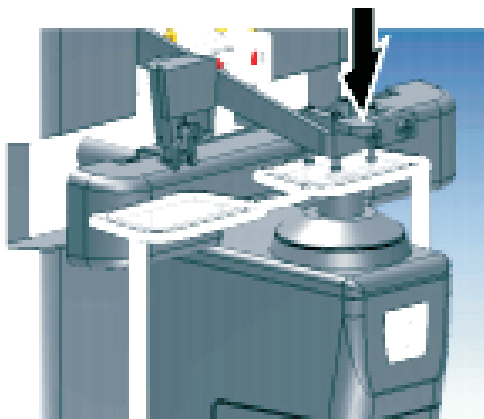
- (4) Mark the lens
Put down the marking lever to mark the lens. Three points in a line parallel to the lens table will be marked. To remove the lens, raise the Lens holder lever until it clicks.

NOTE: Do not touch the markings as the ink is easy to smear.

UV Transmittance Measurement

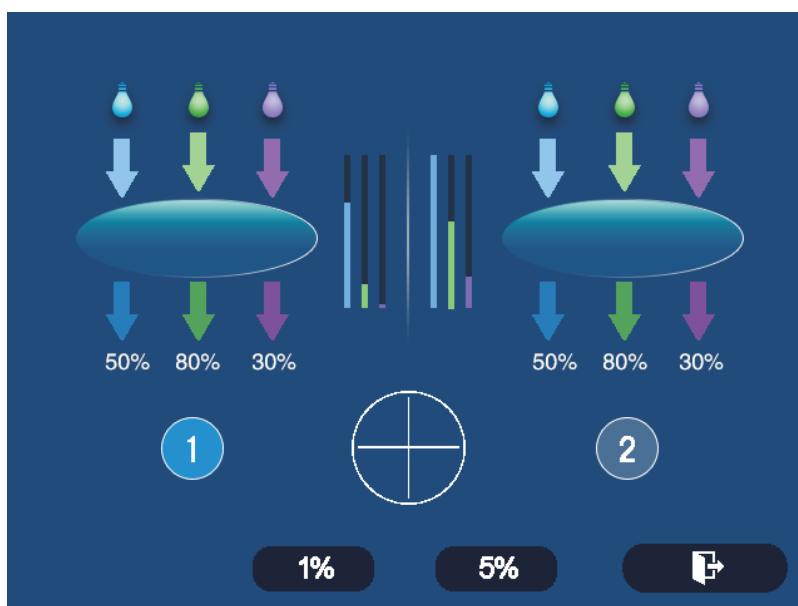
(1)Click UV to enter measurement menu.

(2)Put the lens on the support(the convex surface is up).



(3)Click "1" or "2" to get the value of different lenses.

(4)Click "1%" or "5%" to choose the step of value.



NOTE:

The value of GREEN, UV ,BLUE would be 100% while no lens.

Specifications

Measure scope	
sphere	-25.00~+25.00cm ⁻¹ (0.01/0.12/0.25cm ⁻¹ steps)
cylinder	0.00~±10.00cm ⁻¹ (0.01/0.12/0.25cm ⁻¹ steps)
Axis	0~180(1°step)
Addition	0~±10.0cm ⁻¹ (0.01/0.12/0.25cm ⁻¹ steps)
Prism	0.00~15 (0.01/0.12△/0.25△ steps)
Measurement Mode	
Measuring mode	Lens auto recognition
	108 points measurement system
Pupil distance	40~90mm,0.5mm steps
Cylinder	+, -, +/-
Prism	X-Y, P-B
Measuring speed	0.1second
Lens diameter	∅ 20~108mm
Contact lens	Soft/hard lens
display	7"LCD/TFT
Print	Thermal printer
Power supply	100~240V 50/60HZ 25VA
dimension	222*161*372mm ²
Package	515*320*390mm
Weight	Approx.6KG

Maintenance

1.Replacing Printer Paper

- (1)Open the printer cover and place the paper roll in the paper shot.
- (2)Set aside part the paper on the print cover.
- (3)Close the print cover.

Note: The paper output direction is up.



2.Replacing Fuses

When the instrument does not normally turn on, the fuses may be blown. Replace them with spare fuses provided

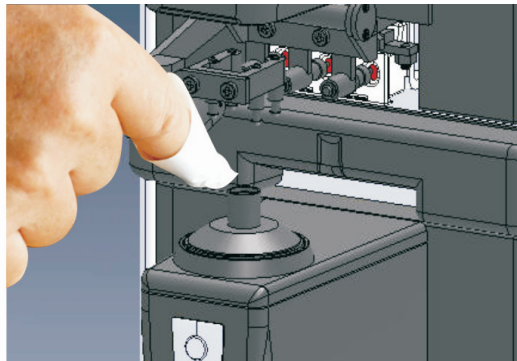
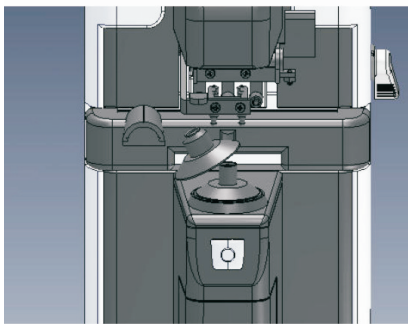
- (1)Turn off the power.
- (2)Disconnect the power cord from the wall outlet.
- (3)Remove the fuse holder. (for position please see page 2.)
- (4)Replace the fuses.
- (5)Set the fuse holder back into position.

3.Cleaning Exterior

- (1)When the exterior parts of the instrument become dirty, wipe with a dry and soft cloth. For stubborn dirt, immerse the cloth in a neutral detergent, wring well and wipe. Finally wipe off with a dry and soft cloth.

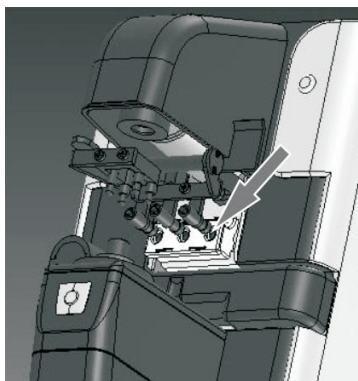
CAUTION: Never use an organic solvent such as paint thinner to clean the instrument as it may ruin the surface of the instrument.

- (2) Cleaning protective glass: It's necessary to regularly clean dust and dirt from the protective glass underneath the lens support. Lift up to remove the lens support and clean the protective glass. blow off any dust on the glass with a blower brush. if it is still dirty, wipe gently with a lens cleaner in paper.



4. Ink Refilling

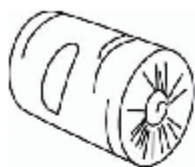
When markings become faint, please refilling the ink box.



NOTE: Do not drop to other spots, if that, please use the cotton swab to dip the liquid(alcohol)to clean.

Accessories

1. Printer paper
2. Spare fuses
3. Dust cover
4. Microfibre cloth
5. Lens support (for contact lens)
6. User's manual
7. Ink (not available in air transport)
8. Power cord



(1)



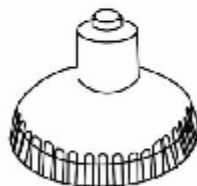
(2)



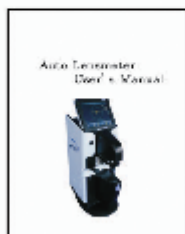
(3)



(4)



(5)



(6)



(7)



(8)



China Care Medical Equipment Co.,Ltd
Address: Room B101, Zhongbang Business Building,
PuXing Road No. 87, Tianhe, Guangzhou,
China web: www.chinacaremedical.com