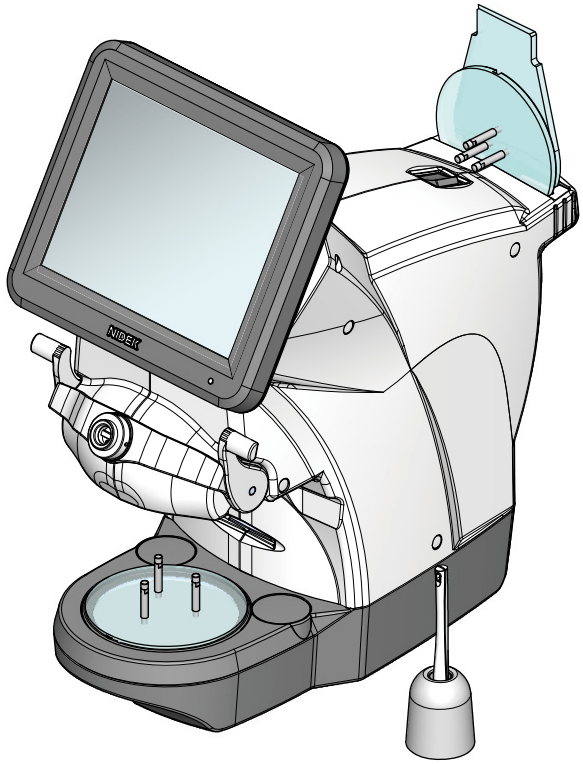
NIDEK

Intelligent blocker

ICE-1

OPERATOR'S MANUAL



Easy Search by Purpose (**page 5**)

Quick Start (**page 15**)

Original instructions

NIDEK CO., LTD.

NIDEK CO., LTD.
(Manufacturer) : 34-14 Maehama, Hiroishi-cho, Gamagori, Aichi 443-0038, JAPAN
Telephone: +81-533-67-6611
URL: https://www.nidek.com/

NIDEK INC.
(United States Agent) : 2040 Corporate Court, San Jose, CA 95131, U.S.A.
Telephone: +1-800-223-9044 (USA Only)
URL: https://usa.nidek.com/

NIDEK S.A.
(EU Authorized Representative) : Ecoparc, rue Benjamin Franklin, 94370 Sucy En Brie, FRANCE

2022-10-28
CE012-P902-A3
Printed in Japan

Before Use

Be sure to read the SOFTWARE LICENSE AGREEMENT (page 2) before using this product.

This operator's manual includes information such as the operating procedure, safety precautions, maintenance, and specifications.

Be sure to read this operator's manual before using this product.

Keep this manual handy for reference.

If you encounter any problems or have questions about this product, please contact Nidek or your authorized distributor.

CE012-P902-A3

IMPORTANT - READ CAREFULLY

THIS AGREEMENT APPLIES TO THE NIDEK SOFTWARE AND ACCOMPANYING DOCUMENTS. PLEASE READ THIS AGREEMENT CAREFULLY AND THOROUGHLY BEFORE USING SOFTWARE.

SOFTWARE LICENSE AGREEMENT

This SOFTWARE LICENSE AGREEMENT (this "Agreement") is an agreement between you, whether person or legal entity, and NIDEK CO., LTD., a Japanese corporation, ("NIDEK") for software (including but not limited to software linked dynamically or statically with other software) supplied by NIDEK or its designee pursuant to this Agreement, whether software alone or embedded software in a NIDEK hardware product, whether on disk or in read only memory, or on other media, or through an authorized website or network, and any accompanying documents or materials (including, but not limited to, operation manuals and electronic documents for such software, and other software for displaying or saving the data acquired from or through other NIDEK hardware product) (collectively, the "Software").

The Software and NIDEK hardware product (collectively, "NIDEK product") may include a third party's software which is linked, whether dynamically or statically, with the Software (the "Third-Party-Software"). The Third-Party-Software shall not be included in the definition of the "Software" in this Agreement. The rights and title of the Third-Party-Software belong to the third party, and the terms of use of the Third-Party-Software are set forth separately from this Agreement. The terms in this Agreement will not apply to the use of the Third-Party-Software except as expressly stipulated herein.

By using or installing the Software, you agree to be bound to the terms and conditions of this Agreement. If you do not agree with this Agreement, please do not use or install the Software and return the Software to the company from which you obtained the Software.

1. GRANT OF LICENSE

1.1. Subject to the terms and conditions set forth in this Agreement, NIDEK grants to you, and you accept, a limited, non-transferable and non-exclusive license to use the Software.

1.2. Unless otherwise agreed in writing by NIDEK or its designee, the license is limited to using the Software on a single computer or a single NIDEK hardware product and if you replace such computer or NIDEK hardware product, you may not use the Software without a new license of the Software.

1.3. Notwithstanding the provision of 1.2, if you connect a single server computer with the Software installed to a plurality of client computers, you may use the Software on such client computers; provided, however, that the upper limit of the number of said client computers will be determined by NIDEK in writing separately and individually from this Agreement.

1.4. Notwithstanding the provision of 1.2, if NIDEK permits you to install the Software on a plurality of computers using one license key of the Software, you may install and use the Software on such computers up to the upper limit of the number determined by NIDEK in writing separately and individually from this Agreement.

1.5. The Software is only to be used for its intended purpose provided in the specifications, operation manual or related documents in accordance with applicable laws and regulations. If the Software is embedded software in a NIDEK hardware product, you will use such Software only as embedded software for the use of such NIDEK hardware product.

1.6. For the license of the Software granted in this Agreement, unless the license is granted by NIDEK or its designee explicitly free of charge, you will pay to NIDEK or its designee the price for the Software, or if the Software is embedded software in a NIDEK hardware product, the price for the NIDEK hardware product in which the Software is embedded.

2. INTELLECTUAL PROPERTY RIGHTS

2.1. NIDEK, or an owner of the Third-Party-Software, retains any and all legal rights, title and interests in and to the Software or the Third-Party-Software. Any and all rights under copyright law, patent law, design law and other intellectual property laws not expressly granted herein are reserved by NIDEK or the owner of the Third-Party-Software. The license granted herein will not be intended as, or construed to be, any assignment of the rights of NIDEK or the owner of the Third-Party-Software. The Software and the Third-Party-Software are protected by copyright and other intellectual property laws and international treaties.

3. LIMITATIONS

3.1. You may not use the Software for any products without a license of the Software.

3.2. Unless otherwise permitted and other than the part specified by NIDEK in operation manuals or any accompanying documents for the Software, you may not analyze, reverse-engineer, decompile, disassemble or otherwise attempt to discover the source code of the Software.

3.3. You may not alter, reproduce, modify, translate, adapt, or divert the Software.

3.4. You may not remove, delete or change the copyright notice or other legends of the Software.

3.5. You may not sell, distribute, rent, license, sublicense, lease, assign or otherwise transfer the Software to third parties, or operate the Software for the benefit of third parties without prior written consent of NIDEK.

3.6. You may not create derivative works or cause or permit others to create derivative works based upon the Software without prior written consent of NIDEK.

3.7. You may not disclose operation manuals for the Software to any third party without prior written consent of NIDEK; provided, however, for the avoidance of doubt, the "third party" in this section will not include doctors, examiners, nurses, employees, patients and other persons who need to know the Software.

3.8. You may not use NIDEK’s trademarks or trade names without prior written consent of NIDEK.

4. CONDITIONS OF USE

4.1. You shall take necessary measures (including but not limited to antivirus software) to prevent failure of NIDEK product due to external factors; provided, however, that in the case where it is otherwise provided in the provisions of operation manuals for NIDEK product or other documents, you shall take such necessary measures to the extent not inconsistent with such provisions.

4.2. If you enter data into NIDEK product or obtain data by the use of NIDEK product, you shall obtain and save backup of such data.

5. EXPORT RESTRICTIONS

5.1. If you export or re-export, directly or indirectly, the Software, you must comply with applicable export laws and regulations of Japan and other countries, and obtain any licenses or approvals required by governmental authorities.

6. UPDATES

6.1. The Software and/or the Third-Party-Software may be, at NIDEK's own discretion, changed, updated or modified from time to time without any prior notice to you. If such changes, updates, and modifications are applied to the Software licensed to you under this Agreement, such changes, updates, and modifications will be deemed a constituent part of the Software, and the terms and conditions of this Agreement will apply to such changes, updates, and modifications.

6.2. NIDEK may, at its own discretion, make amendments to any provisions of this Agreement (the "Amendments"), if NIDEK deems that:

a) such Amendments are appropriate in terms of interests for customers of this Software; or

b) such Amendments are commercially reasonable and not contrary to the objective of this Agreement, even if such Amendments are disadvantageous to you.

Prior to the amendments, NIDEK will notify you of the terms and the effective date of such Amendments on the website or by any other means.

6.3. If you use the Software after the effective date of such Amendments, you shall be deemed to have agreed to such Amendments.

7. TERMINATION

7.1. This Agreement is effective until terminated. If you breach any term or condition of this Agreement, NIDEK may, without giving any prior notice to you, terminate this Agreement with immediate effect. Upon termination of this Agreement due to the breach of this Agreement, NIDEK reserves all the rights to claim damages resulting from such breach.

7.2. If this Agreement is terminated in accordance with the provision of 7.1., you must immediately cease the use of the Software, and delete, destroy and erase all the Software. Any fees paid by you for the license of the Software will not be refund for any reasons.

8. NO WARRANTIES

8.1. NIDEK MAKES NO REPRESENTATIONS OR WARRANTIES OF ANY KIND, EXPRESS OR IMPLIED, CONCERNING THE SOFTWARE AND THE THIRD-PARTY-SOFTWARE, INCLUDING, WITHOUT LIMITATION, WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, NON-INFRINGEMENT OF THIRD PARTY RIGHTS, INCLUDING, WITHOUT LIMITATION, THIRD PARTY INTELLECTUAL PROPERTY RIGHTS, ACCURACY, RELIABILITY OR AVAILABILITY, ABSENCE OF OR RECOVERY FROM ANY INTERRUPTION, ERROR-FREE OPERATION OR CORRECTION OF DEFECTS OR MALFUNCTIONS.

9. LIMITATION OF LIABILITY

9.1. EXCEPT OTHERWISE EXPRESSLY STIPULATED IN THIS AGREEMENT, IN NO EVENT WILL NIDEK BE LIABLE FOR ANY INCIDENTAL, INDIRECT, SPECIAL, PUNITIVE, OR CONSEQUENTIAL DAMAGES, LOSS, CLAIMS OR COSTS WHATSOEVER, INCLUDING, WITHOUT LIMITATION, ANY LOST DATA, PROFITS, REVENUES, BUSINESS OPPORTUNITIES OR INFORMATION, LOSS OF USE OF ANY PRODUCT, PROPERTY OR EQUIPMENT, DOWNTIME COST , COST OF PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES, OR ANY CLAIMS BY A THIRD PARTY, ARISING OUT OF OR RELATED TO THE USE OR INABILITY TO USE THE SOFTWWARE AND/ OR THE THIRD-PARTY-SOFTWARE, CHANGES, UPDATES OR MODIFICATIONS OF THE SOFTWARE AND/OR THE THIRD-PARTY-SOFTWARE, OR MAINTENANCE OR REPAIR SERVICE OF THE SOFTWARE IF ANY (collectively, the "DAMAGES"). THE ABOVE LIMITATIONS WILL APPLY REGARDLESS OF THE FORM OF ACTION, WHETHER IN CONTRACT, TORT, STRICT PRODUCT LIABILITY, OR OTHERWISE, EVEN IF NIDEK IS NOTIFIED OF THE POSSIBILITY OF SUCH DAMAGES.

9.2. THE LIMITATIONS PROVIDED IN THE PROVISION OF 9.1. SHALL NOT APPLY IN THE CASE WHERE THE DAMAGES ARE ATTRIBUTABLE TO NIDEK OR NIDEK IS LIABLE FOR SUCH DAMAGES IN ACCORDANCE WITH THE LAWS. EVEN IN SUCH CASE, NIDEK SHALL NOT BE LIABLE FOR ANY CONSEQUENTIAL, INDIRECT, INCIDENTAL, PUNITIVE OR SPECIAL LOSS OR DAMAGE. NIDEK'S TOTAL AGGREGATE LIABILITY FOR THE DAMAGES SHALL NOT EXCEED AN AMOUNT ACTUALLY PAID BY YOU FOR PURCHASE OF NIDEK PRODUCT; PROVIDED, HOWEVER, THAT THE LIMITATION OF THE AMOUNT SHALL NOT APPLY IN THE CASE WHERE THE APPLICABLE LAW PROHOBITS SUCH LIMITATION OR THE DAMAGES ARISING FROM NIDEK'S GROSS NEGLIGENCE OR WILLFUL MISCONDUCT.

10. GOVERNING LAW AND ARBITRATION

10.1. This Agreement will be governed by and construed in accordance with the laws of Japan.

10.2. All disputes arising between you and NIDEK relating to this Agreement or the interpretation or performance thereof will be finally settled by binding arbitration in Tokyo in accordance with the Commercial Arbitration Rules of The Japan Commercial Arbitration Association. Judgment upon the award rendered by arbitration will be final and may be entered in any court having jurisdiction thereof.

11. SEVERABILITY

11.1. If any provision or any portion of any provision of this Agreement will be held to be invalid or unenforceable, that provision will be severed from this Agreement and such invalidity or unenforceability will not affect the remaining provisions of this Agreement. The remaining provisions of this Agreement will continue in full force and effect.

12. SURVIVAL

12.1. The provisions of 2, 3, 5, 7, 8, 9, 10, 11, 13, 14, 15, 16, 17, 18, 19 and this provision will survive the termination of this Agreement and will be binding after the termination of the Agreement.

13. ASSIGNMENT

13.1. This Agreement or any part of this Agreement may not be assigned or transferred without prior written consent of NIDEK. The permitted assignee or transferee must agree to all the terms and conditions of this Agreement prior to the assignment or transfer.

13.2. This Agreement will be binding upon the permitted assignee or transferee and be enforceable by NIDEK.

14. ENTIRE AGREEMENT

14.1. This Agreement constitutes the entire agreement between you and NIDEK concerning the Software, and supersedes any prior written or oral agreement between you and NIDEK. No modification of this Agreement will be binding unless otherwise agreed in writing.

15. NO WAIVER

15.1. The failure of NIDEK to enforce at any time or for any period the provisions hereof in accordance with its terms will not be construed to be a waiver of such provisions or of the rights thereafter to enforce each and every provision.

16. NO THIRD PARTY RIGHTS

16.1. This Agreement is intended to be solely for the benefit of you and NIDEK and is not intended to confer any benefits upon or create any rights in favor of any person other than you and NIDEK.

17. HEADINGS

17.1. All headings are for convenience only and will not affect the meaning of any provision of this Agreement.

18. LANGUAGE

18.1. The license agreement for the Software may be provided in multiple languages. In such event, unless otherwise agreed in writing, the following shall apply:

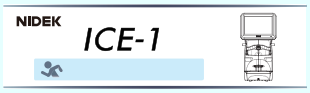
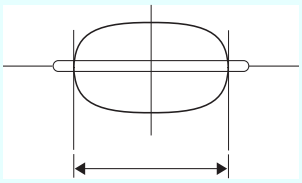
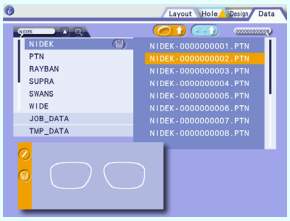
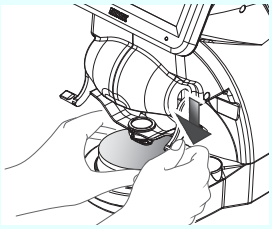
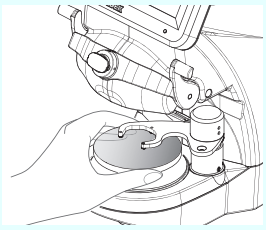
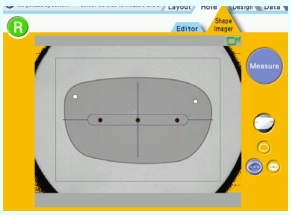
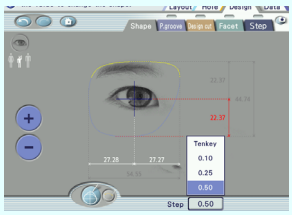
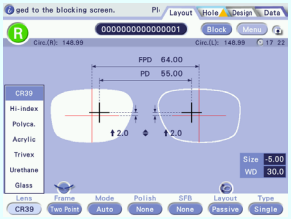
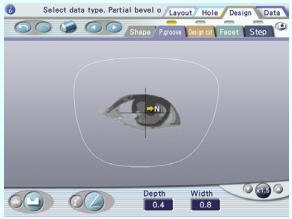
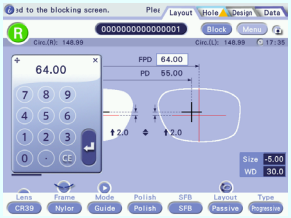
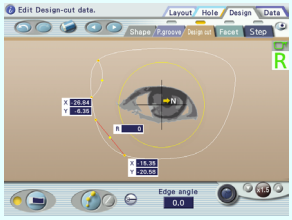
a) If you use the Software in any countries outside Japan, the license agreement for the Software shall be executed and delivered in a text using the English language. The text using the English language shall prevail and control; and

b) If you use the Software in Japan, the license agreement for the Software shall be executed and delivered in a text using Japanese language. The text using the Japanese language shall prevail and control.

19. APPLICATION OF SOFTWARE LICENSE AGREEMENT

19.1. If the terms and conditions of the "Software License Agreement" included in operations manuals for NIDEK product are inconsistent with the terms and conditions of the "Software License Agreement" displayed on NIDEK product, the terms and conditions of the "Software License Agreement" included in operations manuals for NIDEK product prevail.

Easy Search by Purpose

	"Quick Start" (page 15)		"3.8 Hole Editing" (page 101)
	"3.2 Startup and Shutdown" (page 52)		"3.9 WD and EP Settings" (page 110)
	"3.3 Data Loading, Saving, Receiving, and Sending" (page 54)		"3.10 Blocking" (page 113)
	"3.4 Shape Data Management" (page 66)		"3.11 Blocking using Flexible Positioning Adjuster" (page 122)
	"3.5 Shape Measurement with Shape Imager Function" (page 74)		"4.3.1 Shape editing" (page 136)
	"3.6 Entering Processing Conditions" (page 80)		"4.3.2 Partial groove / partial bevel editing" (page 139)
	"3.7 Entering Layout Data" (page 93)		"4.3.3 Design cut editing" (page 141)

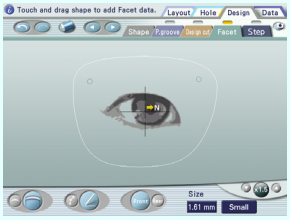
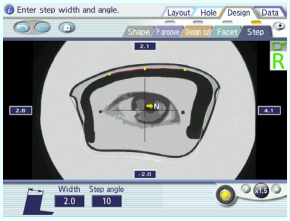
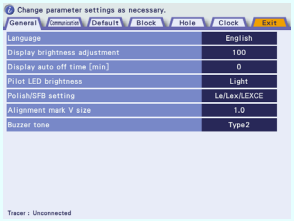
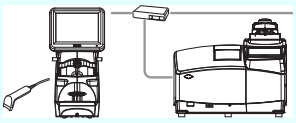
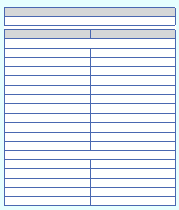
	*"4.3.4 Facet editing" (page 147)*
	*"4.4 Step and partial step editing" (page 150)*
	*"4.5 Initial Screen Customize Function" (page 163)*
	*"5.1 Parameter Setting" (page 165)*
	*"5.2 Connection" (page 172)*
	*"6.1 Troubleshooting" (page 177)* *"6.2 Maintenance" (page 178)*
	*"6.3 Checklist" (page 182)*

Table of Contents

1 SAFETY PRECAUTIONS

1.1 For Safe Use

Before use, read this manual. The operating procedures and cautions for safety must be thoroughly understood prior to use of the instrument. Keep this manual handy for reference.

About ⚠ CAUTION mark

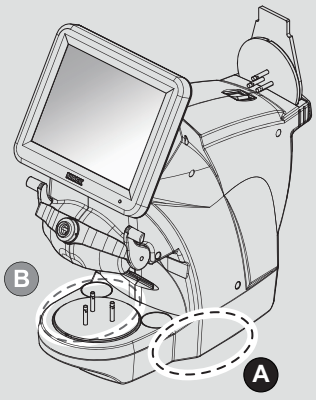
- The ⚠ CAUTION mark indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury or property damage accident. Safety precautions must be strictly followed at all times.

1.2 Usage Precautions

Before use

⚠ CAUTION

- Do not use the instrument for purposes other than those intended. Nidek will assume no responsibility for accidents or malfunctions caused by improper use.
  For the intended purpose of this instrument, see *"♦ Intended use" (page 23)*.
- Do not disassemble, repair, or modify the instrument. If any failure occurs, see *"6.1 Troubleshooting" (page 177)*, then contact Nidek or your authorized distributor.
  Malfunction of the instrument, injury, or electric shock may result.
- When moving the instrument, hold its right and left bottoms as indicated by A and B. Be careful not to get fingers caught between the table and instrument.
  Damage to the instrument, improper measurement due to malfunction or smudge, or injury may result.



- Install the instrument in a level and stable surface that allows comfortable operation. Operate the instrument under the specified use conditions.
  " Environmental conditions (during use)" (page 186)
- Install the instrument in a location not exposed to direct sunlight or intense interior lighting. The accuracy of image scanning may be affected.
- Secure a sufficient space for the operating area depending on the system configuration.

- Maintain a clearance of 10 cm or more from a wall or such so as not block the fan on the rear of the instrument.
  Malfunction may result.
- Do not operate the display or buttons with wet hands.
  Malfunction or electric shock may result.
- When handling the power supply or electrical components, satisfy the conditions described below. Instrument malfunction, electric shock, or fire may result.
  - Be sure to use the supplied power cord. Also do not connect the supplied power cord to any other equipment.
  - Be sure to use a power outlet that meets the specified power supply requirements.
  - Do not use power strips or extension cables for power supply.
  - When connecting the power cord, turn off the power switch and fully insert the power plug into the power outlet.
  - Before connecting cables to the instrument, turn off the power switch and disconnect the power plug from the power outlet; Orient the cables properly and fully insert them into the connectors.
  - Be sure to connect the power plug to a power outlet equipped with a grounding terminal.
  - Install the instrument in a place where the power plug can be easily disconnected from the power outlet without the help of any tool.
  - Do not crush or pinch the power cord with heavy objects.
  - When connecting the LAN cable to the ICE-1, attach the supplied ferrite core to the LAN cable.

During use

⚠ CAUTION

- Be sure to perform a pre-use check before using the instrument each day.
  “3.2.1 Startup” (page 52)
- In the event of smoke or strange odors from the instrument, immediately stop using the instrument. Turn off the power switch and disconnect the power plug from the power outlet. Once it is confirmed that the smoke has stopped, contact Nidek or your authorized distributor.
  Use of the instrument under such abnormal conditions may cause fire or electric shock. In case of fire, use a dry chemical (ABC) extinguisher to extinguish the fire.
- Immediately replace the power cord with a new one if its internal wires are exposed, power is intermittent when the cord is moved, or the cord and/or plug are too hot to touch.
  Electric shock or fire may result.
- Do not disconnect the power cord or cables while the power switch is turned on.
  Instrument malfunction or electric shock may result.
- Never press on the screen with a hard object such as a ball-point pen. Keep magnetic objects away from the LCD screen.
- Select the lens material correctly from the “Lens” pop-up menu for the lens being processed.
  If an improper material is selected, the lens may break or the lifetime of the processing wheels may be reduced substantially.
- Be careful not to get fingers caught when blocking a lens.
  Injury may result.
- Do not perform blocking with no lens placed on the lens table.
- Use the USB flash drive specified by Nidek.

- When connecting or disconnecting the USB flash drive, turn off the instrument and do not touch the terminal area directly by hand. Also, make sure that the terminal area does not contact any metal objects.
  The saved data may be lost or corrupted due to static electricity.
- If data is restored from the USB flash drive, all data saved in the instrument is deleted and replaced with the data in the USB flash drive. Before restoration, be sure to back up all data in the instrument to another USB flash drive.
  Nidek is not responsible for any data loss.

After use

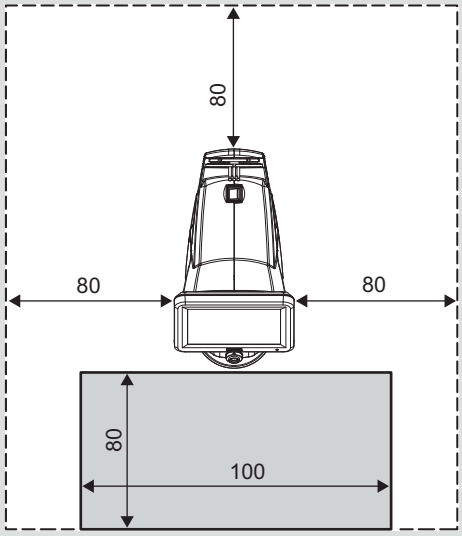
⚠ CAUTION

- After using the instrument, perform an after-use check.
  "3.2.2 Shutdown" (page 53)
- When disconnecting the power plug from the power outlet, confirm that the power switch is turned off. Always hold the power plug, not the cord, when disconnecting it from the power outlet.
  Connecting or disconnecting the power plug in the power status may result in instrument malfunction.
- If the instrument will not be used for an extended period of time, disconnect the power cord from the power outlet and put the dust cover on the instrument.
- Do not store the instrument in an area that is exposed to rain or moisture, or harmful gases or liquids.
- When transporting the instrument, use the specified packaging materials and maintain the following conditions.
  " Environmental conditions (during transport)" (page 186)

Maintenance

⚠ CAUTION

- It is recommended to have periodical inspection on the instrument every two years. Contact Nidek or your authorized distributor.
- There may be a few defective (black dot) or constantly-lit (red, blue, or green) pixels on the display. This does not represent a failure of the display. This is due to manufacture limitations of liquid crystal displays.
- Do not use organic solvents such as paint thinner to clean the exterior of the instrument.
  This could damage the surface of the instrument.
- Occasionally clean the prongs of the power plug and the terminal area of the USB flash drive with a dry cloth.
- When performing maintenance, secure a sufficient work space as shown to the right.
  Work in an insufficient space can cause accidents or injuries.
  A height of 150 cm or more is required above the table on which the instrument is placed for maintenance.
  [Maintenance work area] (unit: cm)



Disposal

⚠ CAUTION

When disposing of packaging materials and other waste, follow the local governing ordinances regarding disposal and recycle. It is recommended to entrust the disposal to a designated industrial waste disposal contractor.

Inappropriate disposal may be subject to punishment or contaminate the environment.

Safety function

For safe use, this instrument is equipped with the following function.

Self-diagnostic function

This instrument is equipped with a self-diagnostic function that monitors the instrument during operation.
If any malfunction occurs, the instrument stops automatically and an error code is displayed on the screen.
Report the error code as well as the symptoms when contacting Nidek or your authorized distributor regarding the malfunction. This will assist in accurate servicing.

"6.1 Troubleshooting" (page 177)

1.3 Labels and Symbols

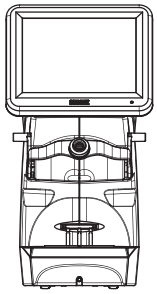
To call attention to users, labels and indications are provided on the instrument.

If labels are peeling off, characters are fading, or otherwise becoming illegible, contact Nidek or your authorized distributor.

	Indicates that the operator is advised to refer to the related instructions in the operator's manual.
	Power off
	Power on
	Alternating current
	Date of manufacture
	Manufacturer
	Separate collection of waste electrical and electronic equipment

NIDEK

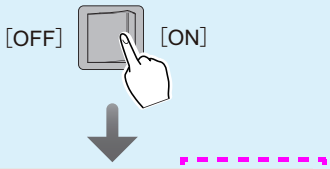
ICE-1



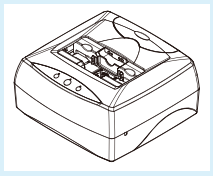
Quick Start

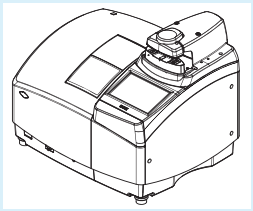
* The following is an operation example in the Mini Lab system.

* The mark indicates that a button or item is tapped.



Loading data





◆Importing data from a tracer

1 Trace a lens.

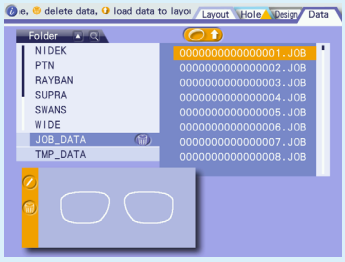
2 Tracer

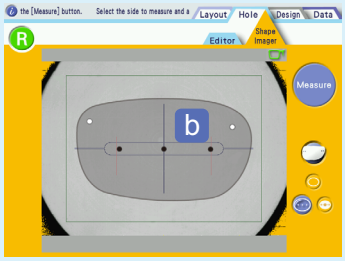
Shape data is imported.

◆Sending data from an edger

1 Trace a lens.

2 Send the data from the edger. The shape data is saved to the ICE-1.





◆Loading shape data

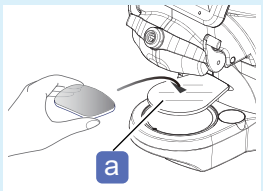
1 Press [Data] on the Layout screen.

2 Select shape data on the Data management screen.

3

The shape data is loaded.

◆Measuring a lens with Shape Imager (example of a demo lens)



1 Place a marked demo lens in the center of the shape measurement table a with its top edge facing in and convex surface facing up.

2 Press [Hole] on the Layout screen, then press Shape Imager.

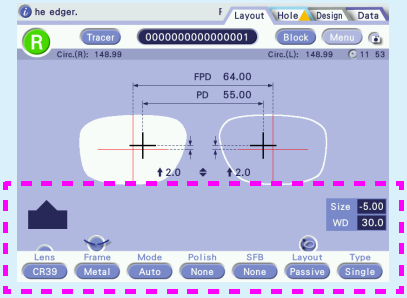
3 Select [Demo lens]. (For a pattern, select [Pattern].) Center the markings on the demo lens while aligning them horizontally within the alignment scale b as precisely as possible.

4 If necessary, select [Measurement mode].

5 Measure Start measurement. When measurement is complete, press the [DBL] field to display the numeric keypad and enter a value.

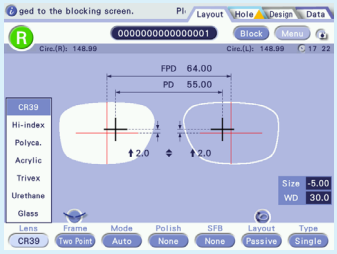
6 OK

Setting processing conditions



When the shape data is loaded on the Layout screen, set the processing conditions.

* The [Tracer] button or other buttons may be omitted on the following screen images.

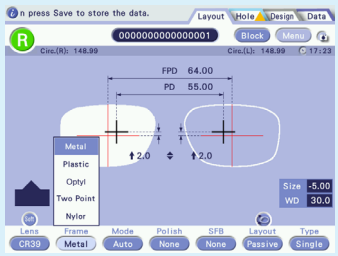


◆Lens material selection

1 [Lens]

2 Select the lens material.

Lens
CR39
Hi-index
Polyca.
Acrylic
Trivex
Urethane
Glass

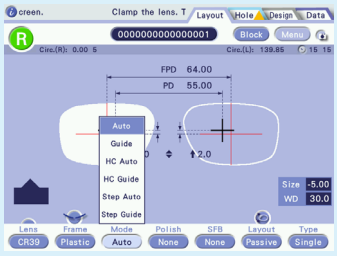


◆Frame type selection

1 [Frame]

2 Select the frame type.

Frame
Metal
Plastic
Optyl
Two Point
Nylor

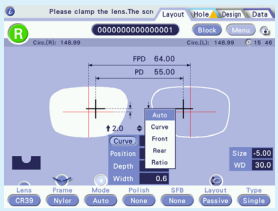


◆Processing mode selection

1 [Mode]

2 Select the processing mode.

Mode
Auto
Guide
HC Auto
HC Guide
Step Auto
Step Guide
Flat



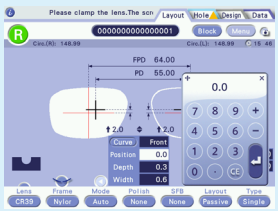
◆Groove curve selection

1 Nylor ,

2 [Curve]

3 Select the curve type.

- Auto
- Curve
- Front
- Rear
- Ratio



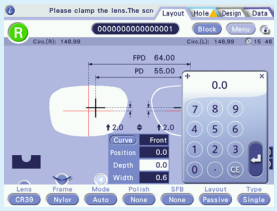
◆Groove position setting

1 Nylor ,

2 [Position]

3 Set the groove position.

- Entering a positive value moves the groove toward the rear surface.
  0.0 to +12.7 mm
- Entering a negative value moves the groove toward the front surface.
  -12.8 to 0.0 mm

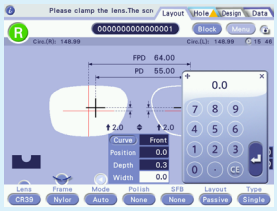


◆Groove depth setting

1 Nylor ,

2 [Depth]

3 Set the groove depth.
Depth: 0.0 to 0.8 mm

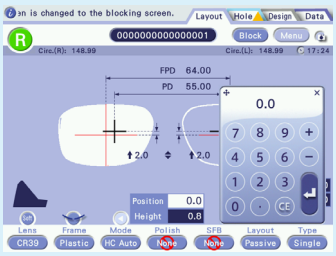


◆Groove width setting

1 Nylor ,

2 [Width]

3 Set the groove width.
Width: 0.6 to 1.2 mm



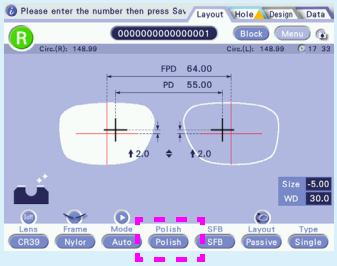
◆High base curve bevel setting

1 Metal / Plastic / Optyl

2 HC Auto / HC Guide

3 ▶

4 Set the bevel position and bevel height.
- Position: 0.0 to 12.7 mm
- Height: 0.1 to 5.0 mm

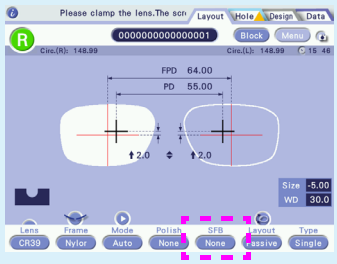


◆Polish setting

1 Polish / None

2 Select whether to perform polishing.

Processing image	
	Polish
	None

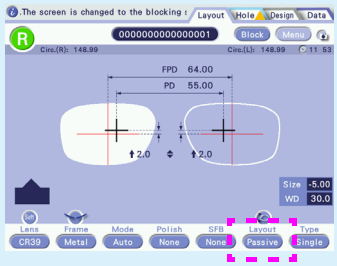


◆Safety bevel setting

1 SFB / None

2 Select whether to perform safety beveling.

Processing image	
	SFB
	None

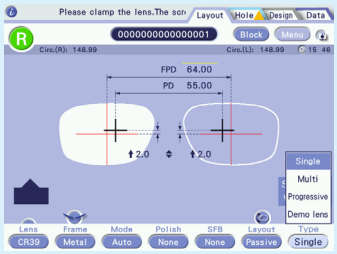


◆Layout mode setting

1 Passive / Active

2 Select the layout mode.

Passive	Blocking at the boxing center
Active	Blocking at the optical center

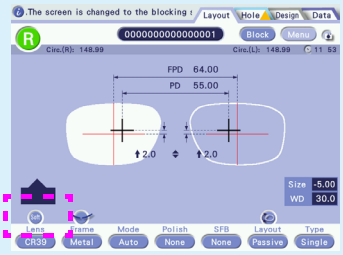


◆Lens type selection

1 [Type]

2 Select the lens type.

Type
Single
Multi
Progressive
Demo lens

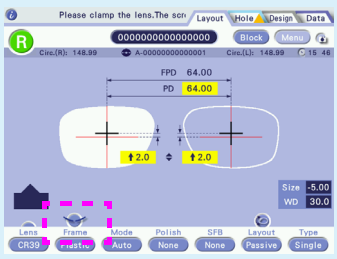


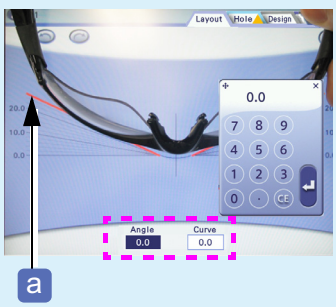
◆Soft processing mode setting

1 Soft / ⌒

2 Select whether to perform soft processing.

Processing image	
Soft	On
⌒	Off





◆Frame warping angle setting

1 

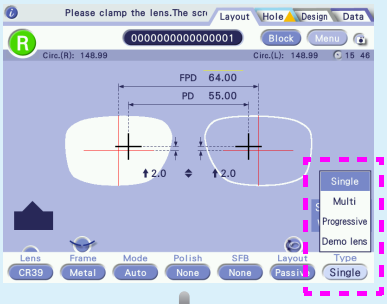
2 [Angle]
Enter a frame warping angle.

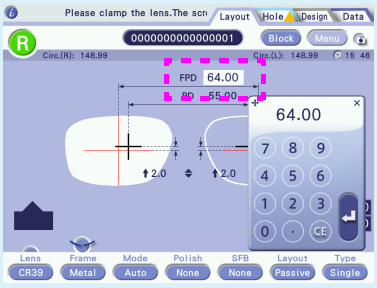
3 Align the frames with the frame warping angle line a to check whether the angle is proper.

4 [Curve]
Enter a curve value.

Entering layout data

After setting the processing conditions, enter the layout data.
The data items to be set are common in [Single], [Multi], and [Progressive].



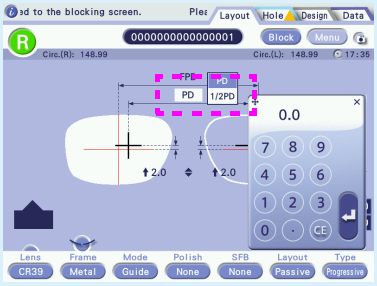


◆Entering layout data (example of a single vision lens)

1 [FPD] / [DBL]

2 Enter the FPD or DBL value.

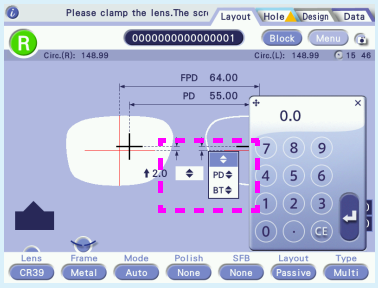
Item	FPD	DBL
Setting range	30.00 to 99.50 mm	0.00 to 99.50 mm



1 [PD] / [1/2PD]

2 Enter the PD or 1/2PD value.

Item	PD	1/2PD
Setting range	30.00 to 99.50 mm	15.00 to 49.75 mm



1 ▲▼/PD ▲▼/BT ▲▼

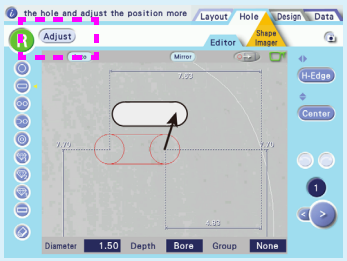
2 Enter the optical center height.

Item	▲▼/PD ▲▼/BT ▲▼
Setting range	-15.0 to +15.0 mm (PD and BT are converted to ▲▼.)

Hole editing

◆Hole selection

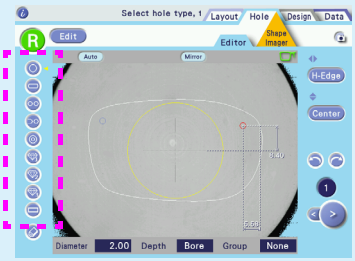
The selected hole is displayed in red. The hole No. is displayed above the buttons.



◆Hole enlargement

Edit

The area around the selected hole is enlarged.



◆Hole addition

1 [Hole type]

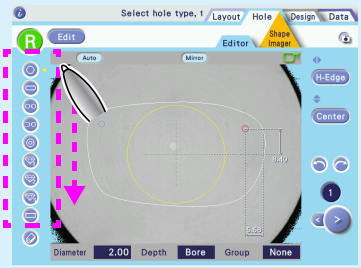
2 Specify the position where a hole is added with the touch pen.

Hole position change

1 

Select the hole to be moved.

2 Specify the position to which the hole is moved with the touch pen. Entering the coordinates can also move the hole.

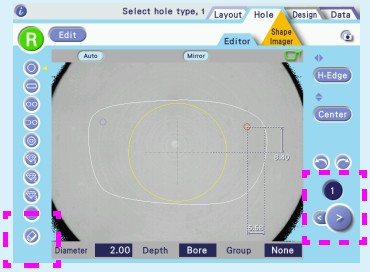


Hole type change

1 

Select the hole for which the type is to be changed.

2 Drag the hole type indication  to the right of the desired hole type button. The type of the selected hole is changed.



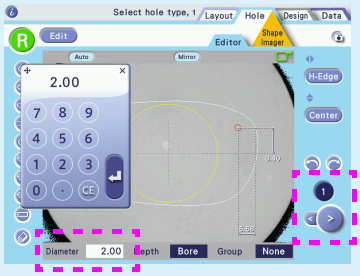
Hole deletion

1 

Select the hole to be deleted.

2 

The selected hole is deleted.



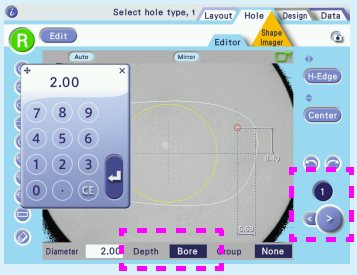
Hole diameter change

1 

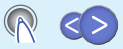
Select the hole for which the diameter is to be changed.

2  [Diameter]

3 Enter a hole diameter value.



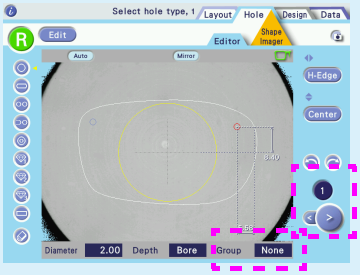
Hole depth change

1 

Select the hole for which the depth is to be changed.

2  [Depth]

3 Enter a hole depth value. For a through hole, enter “0.0”.



Grouping holes

To drill multiple holes at the same hole angle, group the holes.

1  Select the first hole.

2  [Group] Enter the hole number to be grouped.

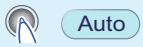
Hole reference position setting

1 

2 Set the vertical and horizontal reference positions.

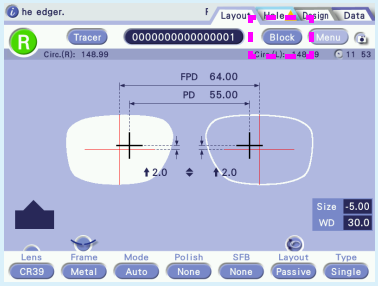
◆◆	Center: Frame center
	B-Edge: Widest point of shape on temporal side or nasal side
	H-Edge: Temporal side or nasal side that is closest to the hole
▲▼	Center: Frame center
	B-Edge: Lowest point on shape

Hole angle setting



* Auto: Drills a hole perpendicularly to the lens front surface (recommended).

* Other than [Auto], [Angle], [X-Y], [X Auto], or [Curve] can be selected.



Block the lens.

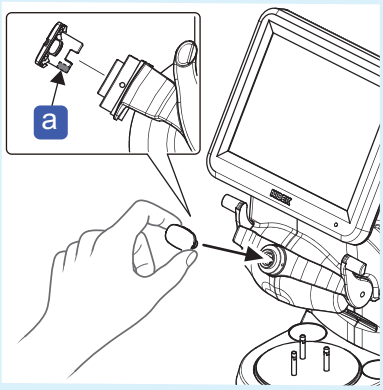
1 Block

When all editing operations are complete, block the lens.

2 Attach the double-coated adhesive pad to the lens cup.

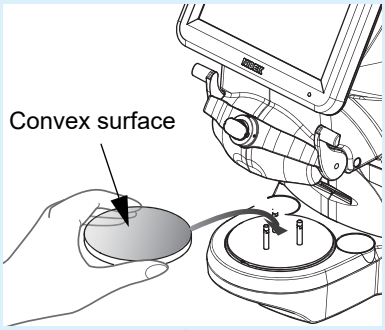
3 Use the green or red lens cup according to the lens side.

- Right lens: Green lens cup
- Left lens: Red lens cup

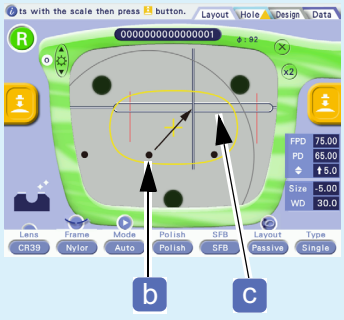


4 Set the lens cup to the cup holder.

Fully insert the lens cup with the top mark a facing down.

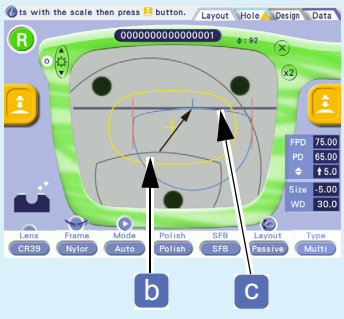


5 Place the lens in the center of the lens table with the convex surface facing up.



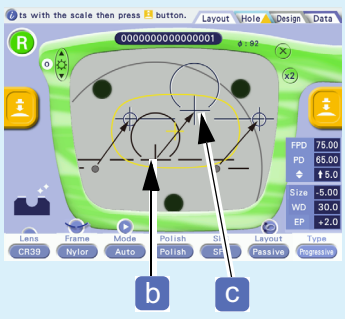
◆Single vision lens blocking

Center the markings b on the lens while aligning them horizontally within the alignment scale c as precisely as possible.



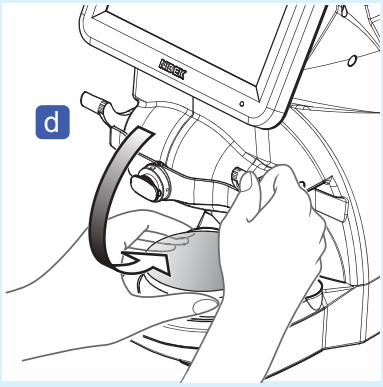
◆Multifocal lens blocking

Align the segment b of the lens to the alignment scale c as precisely as possible.



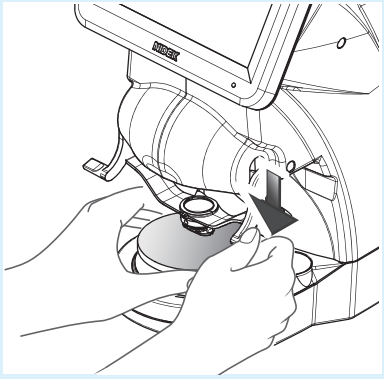
◆Progressive power lens blocking

Align the cross b of the distance eyepoint mark to the cross c of the alignment scale as precisely as possible.

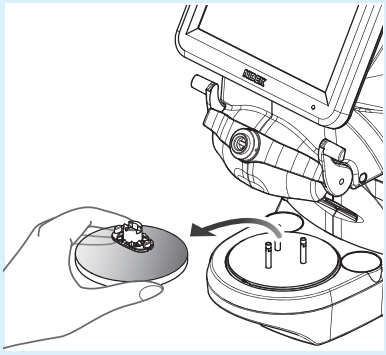


6 Block the lens.

Hold the lens by one hand. Turn the blocking lever d by the other hand in the direction of the arrow as shown to the left until it stops.



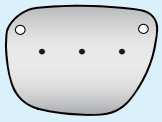
7 Push the blocking lever down so that the lens cup is securely attached.



8 Return the blocking lever to the original position and remove the lens.

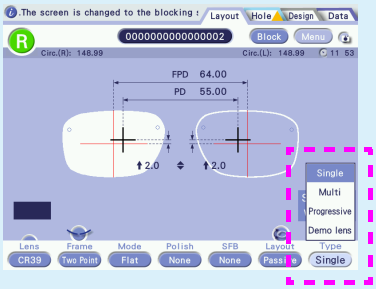
9 If necessary, store the blocked lens in a tray or such provided with the shape data name so that R or L of the lens can be identified.

Demo lens blocking



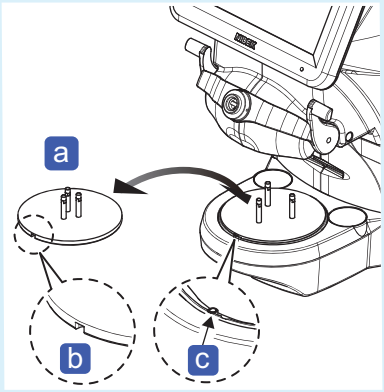
1 Mark a demo lens with the lensmeter.

2 Remove the demo lens from the frame.



3 [Type]

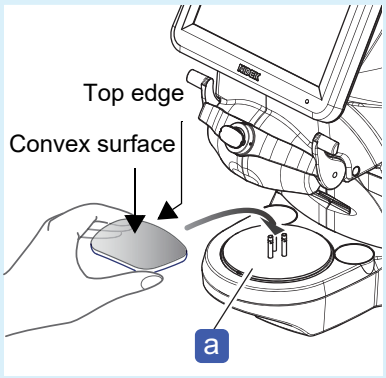
4 Demo lens



When the lens table (standard) is set, replace it with the small diameter lens table (intervals between the pins are narrow) a if necessary.

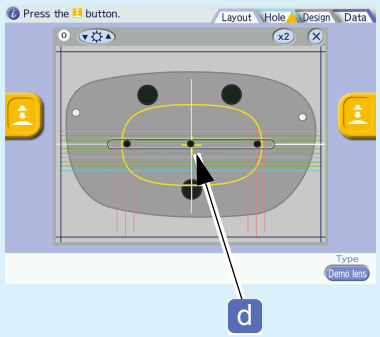
5 Remove the lens table (standard).

6 Attach the small diameter lens table so that the positioning pin c fits into its notch b.

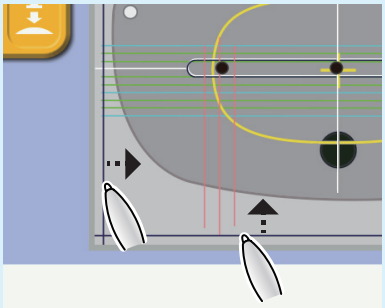


7 Set the lens cup with the double-coated adhesive pad attached to the cup holder.

8 Place the demo lens in the center of the small diameter lens table a with its top edge facing in and convex surface facing up.



9 Center the markings on the demo lens while aligning them horizontally within the alignment scale d as precisely as possible.



10 Center the markings on the demo lens while aligning them horizontally within the alignment scale d as precisely as possible.

11 If necessary, align the horizontal and vertical reference lines. Drag the horizontal or vertical line with the touch pen to align it to the shape outline of the demo lens.

12 Block the lens.

"6 Block the lens." (page 21)

2 BEFORE USE

◆ Intended use

The ICE-1 is an instrument that manually blocks spectacle lenses utilizing a lens cup and allows for shape data or design edits.

◆ Nomenclature

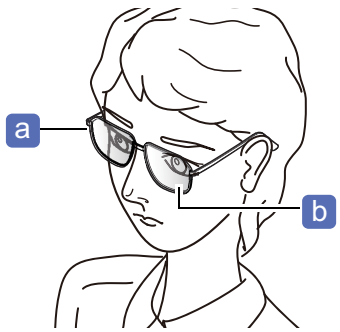
In this manual, often repeated phrases are indicated by symbols.

Mark	Indication	Example
	Tap the button, tab, field, or label.	Block [Layout]
/	[A] or [B]	[Metal] / [Plastic] Passive / Active
	Moves to a different screen.	Blocking screen
	A pop-up menu is displayed.	
	A numeric keypad is displayed.	
	See another section.	*"◆ Intended use" (page 23)*
	See parameter settings.	A-01*" Language" (page 167)* * "A-01" is the number for search, which is described in the parameter list.

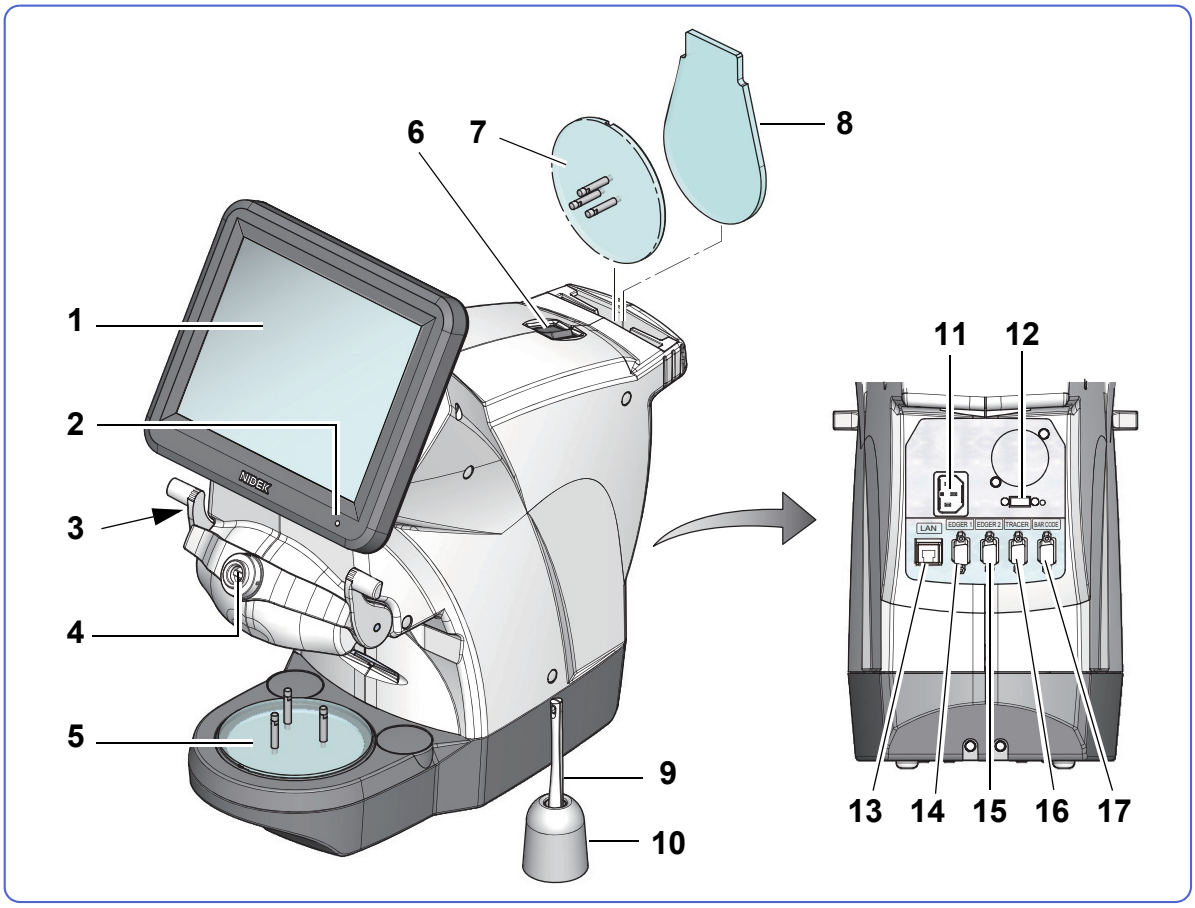
Definition of right (R) and left (L)

The right and left indication of the glasses or lenses in this operator's manual are as viewed by the person wearing the glasses.

In the figure as shown to the right, the right lens (R) a is on the right and the left lens (L) b is on the left as viewed by the person wearing the glasses.



2.1 Instrument Configuration and Functions



1 Display

Color LCD touch screen. The brightness can be adjusted by the parameter.

A-02“ *Display brightness adjustment” (page 167)*

With the display auto off function, the instrument enters standby mode when it is idle.

A-03“ *Display auto off time [min]” (page 167)*

2 Power indicator

The brightness can be adjusted by the parameter.

A-04“ *Pilot LED brightness” (page 167)*

3 Blocking arm

A lens is blocked by manually pushing down this arm.

“3.10 Blocking” (page 113)

4 Cup holder

A lens cup with a double-coated adhesive pad is attached here.

5 Lens table (standard)

Used to hold a standard size lens for blocking.

6 Power switch

7 Small diameter lens table

The intervals between the three pins are narrow. This is used to hold a small size lens for blocking.

8 Shape measurement table

Used to place a demo lens or pattern for shape measurement.

"3.5 Shape Measurement with Shape Imager Function" (page 74)

9 Touch pen

10 Pen stand

11 Power inlet

Used to connect the power cord.

12 USB port

Used to connect the optional USB flash drive.

13 LAN port

Used to connect an Ethernet*1 LAN cable.

14 EDGER 1 connector

Used to connect a lens edger.

15 EDGER 2 connector

Used to connect a second lens edger.

16 TRACER connector

Used to connect a tracer.

17 BAR CODE connector

Used to connect the external barcode scanner (optional).

Note

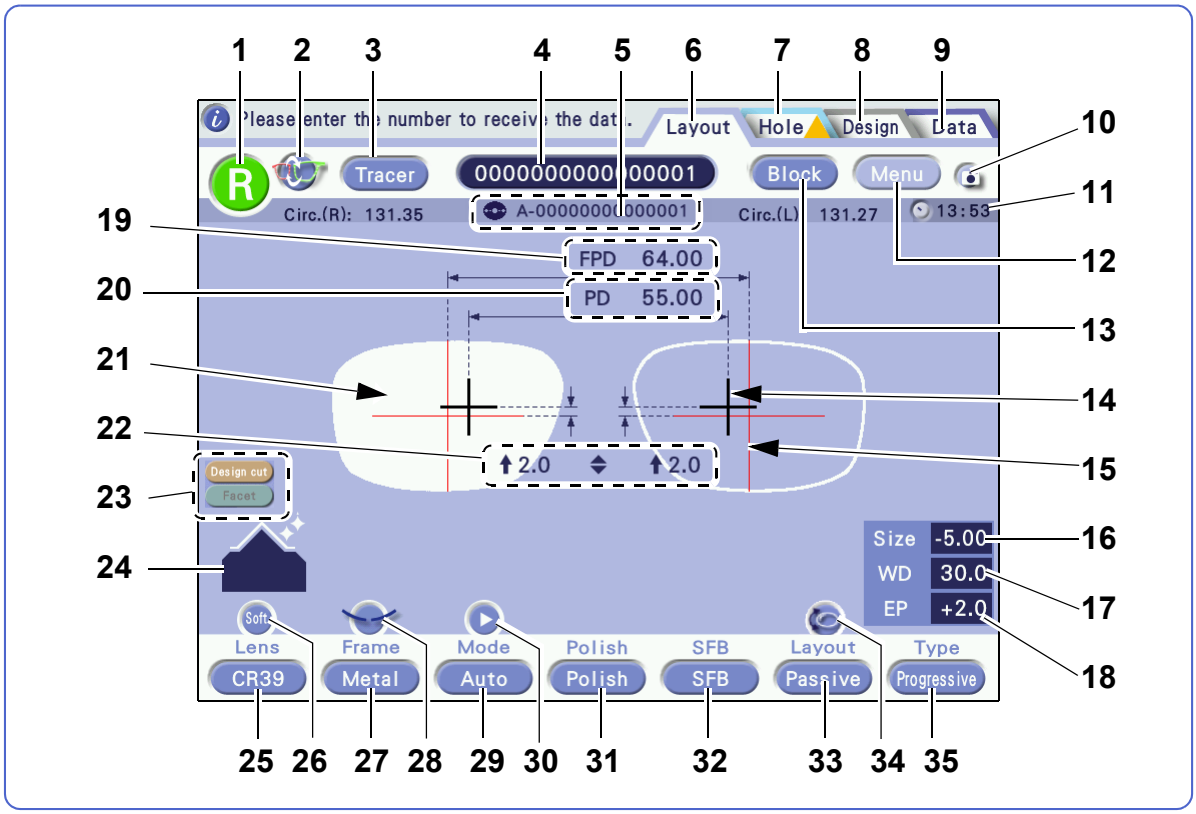
The beep tone can be adjusted by the parameter.

A-07*" Buzzer tone" (page 167)*

*1. Ethernet is the standard for wired LAN. Communication is conducted at 10BASE-T or 100BASE-TX, both of which are compatible with this instrument.

2.2 Screen Configuration and Functions

◆ Layout screen



1 R / L [R] / [L] button

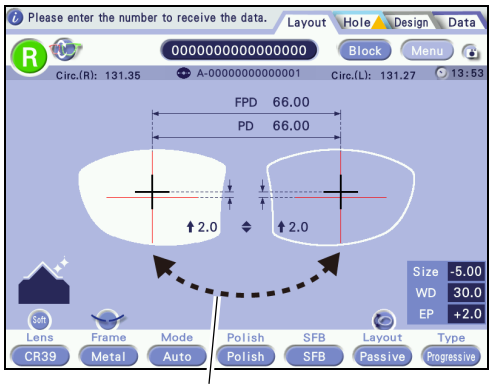
Selects the shape between R (right side) and L (left side).

2 [Shape R/L switching] button

Switches the shape display between R and L.

This button is displayed after measuring a shape or tracing a pattern (demo lens).

This function is used when the measured or traced side of the pattern or demo lens was not the side intended.



Shape switches between R and L.

3 Tracer [Tracer] button

Loads the data measured with a tracer to the Layout screen. This button is displayed when the System parameter is set to [Mini Lab] or [Extended Lab].

4 0000000000000000 **[Keyboard] button**

Displays the keyboard screen and a JOB code.

"3.3.3 Loading shape data using keyboard screen" (page 57)

5 PTN code display

Displays a PTN code.

6 [Layout] tab

Displays the Layout screen.

"3.6 Entering Processing Conditions" (page 80), *"3.7 Entering Layout Data" (page 93)*

7 [Hole] tab

Displays the Hole Editor screen.

"3.8 Hole Editing" (page 101)

8 [Design] tab

Displays the Design screen.

"4.3 Lens Design" (page 136)

9 [Data] tab

Displays the Data management screen.

"3.4 Shape Data Management" (page 66)

10 [Initial screen customize] button

Saves the currently displayed screen settings as the initial settings.

"4.5 Initial Screen Customize Function" (page 163)

11 **[Clock display] button**

Displays the current time.

Pressing enables to set the time by the parameters on the Clock screen.

F-02*" Year, Month, Day, Hour, Minute, Second" (page 171)*

12 Menu **[Menu] button**

Displays the parameter screen.

"5.1 Parameter Setting" (page 165)

13 Block **[Block] button**

Displays the Blocking screen.

"3.10 Blocking" (page 113)

14 Optical center mark

Indicates the optical center of a lens. It is indicated in black in Passive mode and red in Active mode.

15 Frame center mark

Indicates the center of a lens shape.

16 [Size] field

Sets a horizontal shape size. The shape is enlarged or reduced.

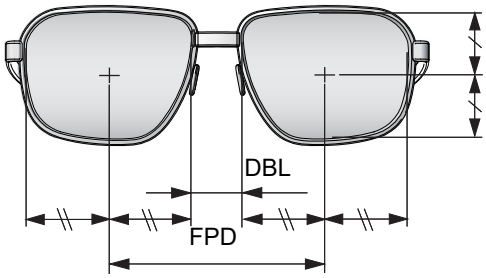
17 [WD] field

Sets the width of the alignment scale on the Blocking screen.

18 [EP] field

Sets the height of the distance eyepoint on the Blocking screen. This is displayed when “Progressive” is selected for the lens type.

19 [FPD]/[DBL] label



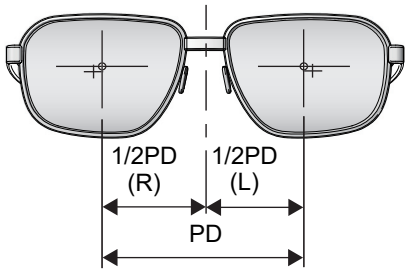
Selects FPD or DBL.

FPD: Sets the frame pupillary distance.

FPD is calculated by the boxing system[*1].

DBL: Sets the distance between the nasal side edges of the right and left shapes.

20 [PD]/[1/2PD] label



Selects PD or 1/2PD.

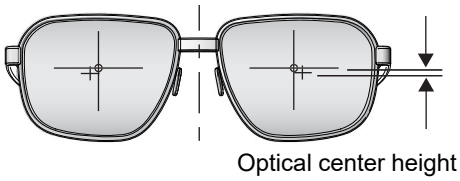
PD: Sets the pupillary distance.

1/2PD: Sets the monocular pupillary distance.

21 Lens shape

The right or left shape for which layout data is being entered is displayed in white.

22 ⬍ [Optical center height] label



Sets the distance from the frame center (boxing center) to the optical center.

Select from among ⬍, PD ⬍, and BT ⬍.

23 Design data indicator

Displayed when design data exists. When the letters are displayed in white, processing according to the design data is possible. When they are displayed in gray, processing is not possible.

24 Processing image

Image display of processing mode, polishing, and safety beveling currently set.

*1. The lens center is calculated as the center of a box drawn around the lens shape using its maximum height and width.

25 CR39 [Lens] button

Selects the lens material (CR39, Hi-index*1, Polyca., Acrylic, Trivex, Urethane, or Glass).

26 Soft / Soft processing mode button

Toggles the soft processing between on Soft and off .

27 Metal [Frame] button

Select the frame type (Metal, Plastic, Optyl*2, Two Point, or Nylor).

To select [Optyl], the software of a lens edger needs to be compatible.

28 [Frame data] button

Displays the frame data screen.

"3.6.11 Frame warping angle setting" (page 89)

29 Auto [Mode] button

Selects the processing mode depending on the frame type.

30 / [Pop-up menu] button

When the frame type is set to [Metal], [Plastic], or [Optyl] and the processing mode is set to [HC Auto] or [HC Guide], the [Position] and [Height] fields are displayed.

When the frame type is set to [Nylor] and the processing mode is set to [Auto] or [Guide], the [Curve], [Position], [Depth], and [Width] fields are displayed. When the processing mode is set to [Flat], those fields are not displayed.

31 Polish / None [Polish] button

Selects whether to perform polishing.

The selectable options differ depending on the connected lens edger. They are set by the "Polish/SFB setting" parameter.

A-05*" Polish/SFB setting" (page 167)*

32 SFB / None [SFB] button

Selects whether to perform safety beveling.

The selectable options differ depending on the connected lens edger. They are set by the "Polish/SFB setting" parameter.

A-05*" Polish/SFB setting" (page 167)*

33 Passive / Active [Layout] button

Selects the layout mode (Passive or Active).

34 [Shape rotation] button

Displays the shape rotation screen. The button appears only when lens shapes are displayed.

"3.6.12 Rotating lens shapes" (page 91)

*1. Hi-index lens: Plastic lens with a refractive index of 1.60 or higher

*2. Optyl frame: Frame made of epoxy resin

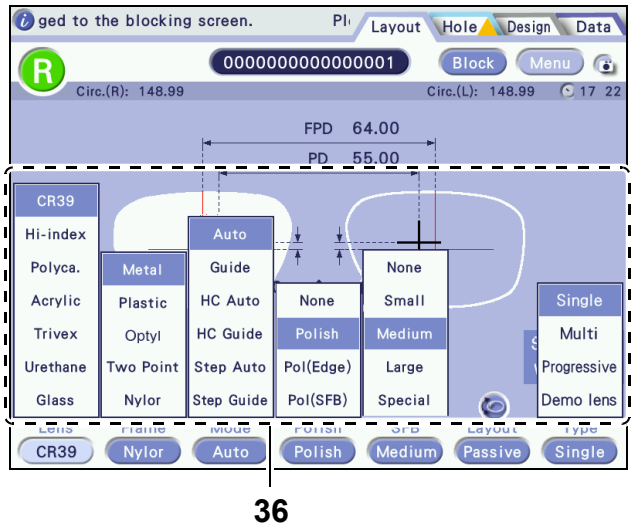
35 Single [Type] button

Selects the lens type (Single, Multi, Progressive, or Demo lens).

Pop-up menu

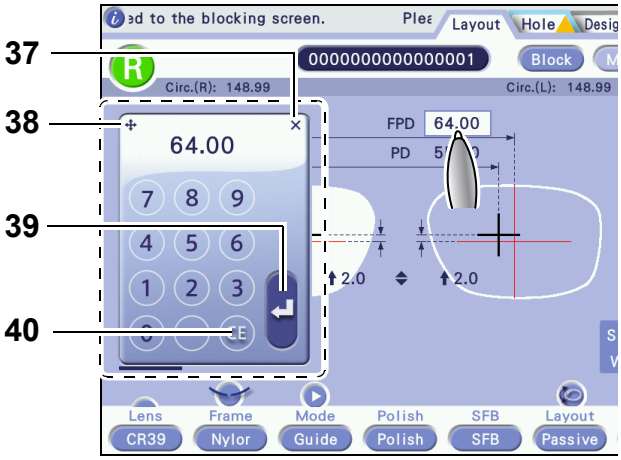
36 Pop-up menu

Pressing CR39 or such buttons displays a pop-up menu. Press the desired item to select.



Numeric keypad

Pressing [FPD] or [PD] displays the numeric keypad. Entering a value and pressing ↵ confirm the value and close the numeric keypad.



37 [Numeric keypad close] button

Closes the numeric keypad.

38 [Numeric keypad drag] handle

Dragging this handle moves the numeric keypad.

39 ↵ [Enter] button

Confirms the entered value and closes the numeric keypad.

40 CE [CE] button

Deletes the number most recently entered.

◆ Keyboard screen (Blocker Lex / Mini Lab system)

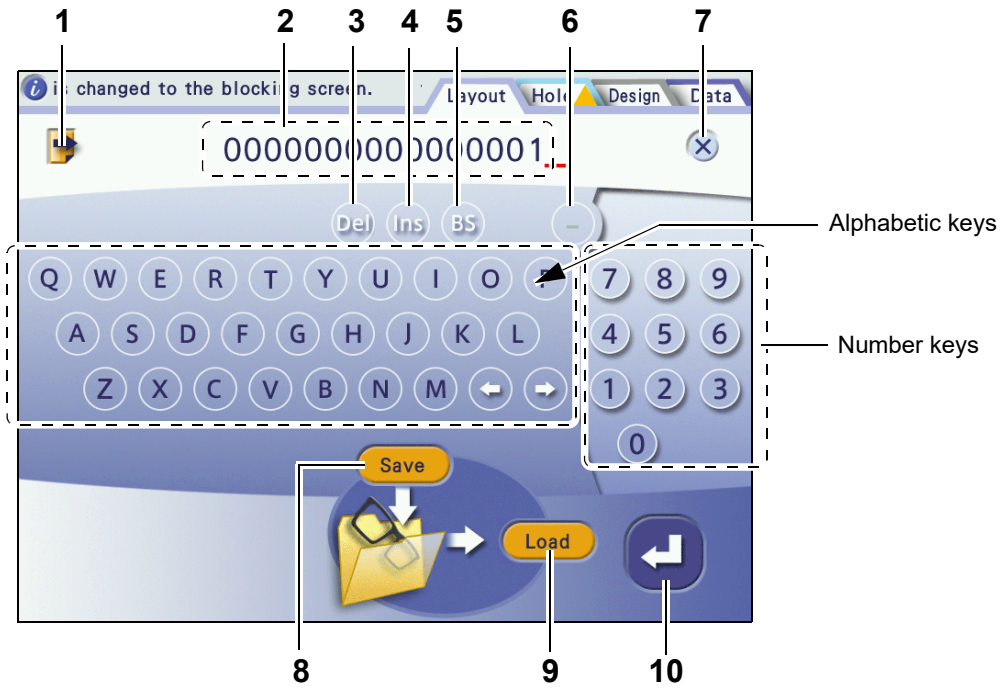
When the Blocker Lex or Mini Lab system is selected, the keyboard screen as shown below is displayed.

Pressing 0000000000000000 on the Layout screen or Blocking screen displays this screen.

It is used for loading and saving shape data.

"3.3.3 Loading shape data using keyboard screen" (page 57)

"3.3.4 Saving shape data to internal memory" (page 59)



1 [Brand list] button

Displays the brand list. With a brand selected, pressing again displays the shape data list for the brand.

2 JOB/PTN code field

Displays a JOB or PTN data code.

3 Del [Delete] button

Deletes one character above the cursor.

4 Ins [Insert] button

Toggles between overwriting or inserting a character at the cursor position. While in insert mode, the button is red and cursor appears as a triangle (▲).

5 BS [Back Space] button

Deletes one character to the left of the cursor.

6 **[Hyphen input] button**

7 **[Close] button**

Discards the entered JOB or PTN code and returns to the Layout screen or Blocking screen.

8 Save **[Save] button**

The currently displayed data is saved to the internal memory. When no shape is displayed on the Layout screen, this button is not displayed.

9 Load **[Load] button**

Loads JOB or PTN data from the internal memory.

10 **[Enter] button**

Confirms the entered JOB or PTN code and returns to the Layout screen or Blocking screen. This button does not save or load data.

◆ Keyboard screen (Extended Lab system)

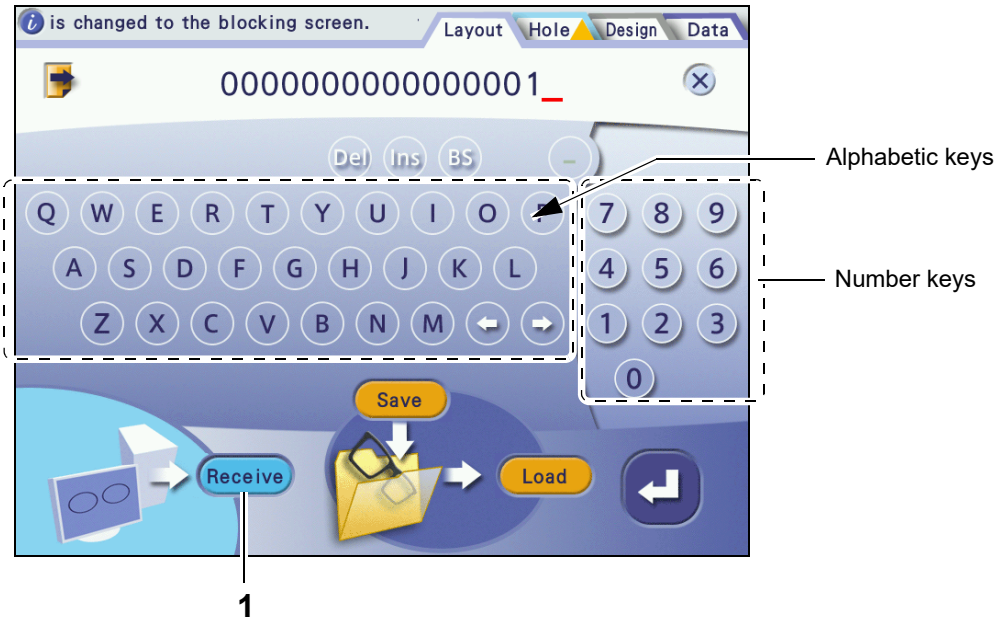
When the Extended Lab system is selected, the keyboard screen as shown below is displayed.

Pressing 0000000000000000 on the Layout screen or Blocking screen displays this screen.

It is used for loading, saving, and receiving shape data.

"3.3.7 Receiving shape data from server computer" (page 63)

"3.3.4 Saving shape data to internal memory" (page 59)



1 Receive **[Receive] button**

Receives JOB data from the server computer.

❖ The other buttons are the same as those on the keyboard screen (Blocker Lex / Mini Lab system).

"♦ Keyboard screen (Blocker Lex / Mini Lab system)" (page 31)

◆ Keyboard screen (Blocker VCA system)

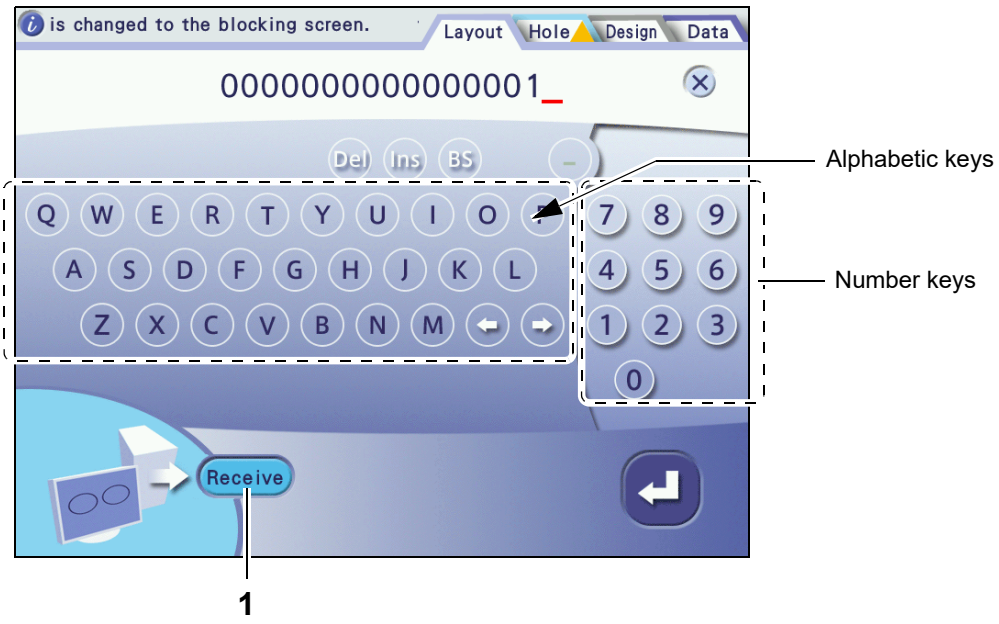
When the Blocker VCA system is selected, the keyboard screen as shown below is displayed.

Pressing 0000000000000000 on the Layout screen or Blocking screen displays this screen.

It is used for receiving shape data.

"3.3.7 Receiving shape data from server computer" (page 63)

"3.3.4 Saving shape data to internal memory" (page 59)



1 Receive [Receive] button

Receives JOB data from the server computer.

❖ This screen does not have the [Save] or [Load] button. The other buttons are the same as those on the keyboard screen (Blocker Lex / Mini Lab system).

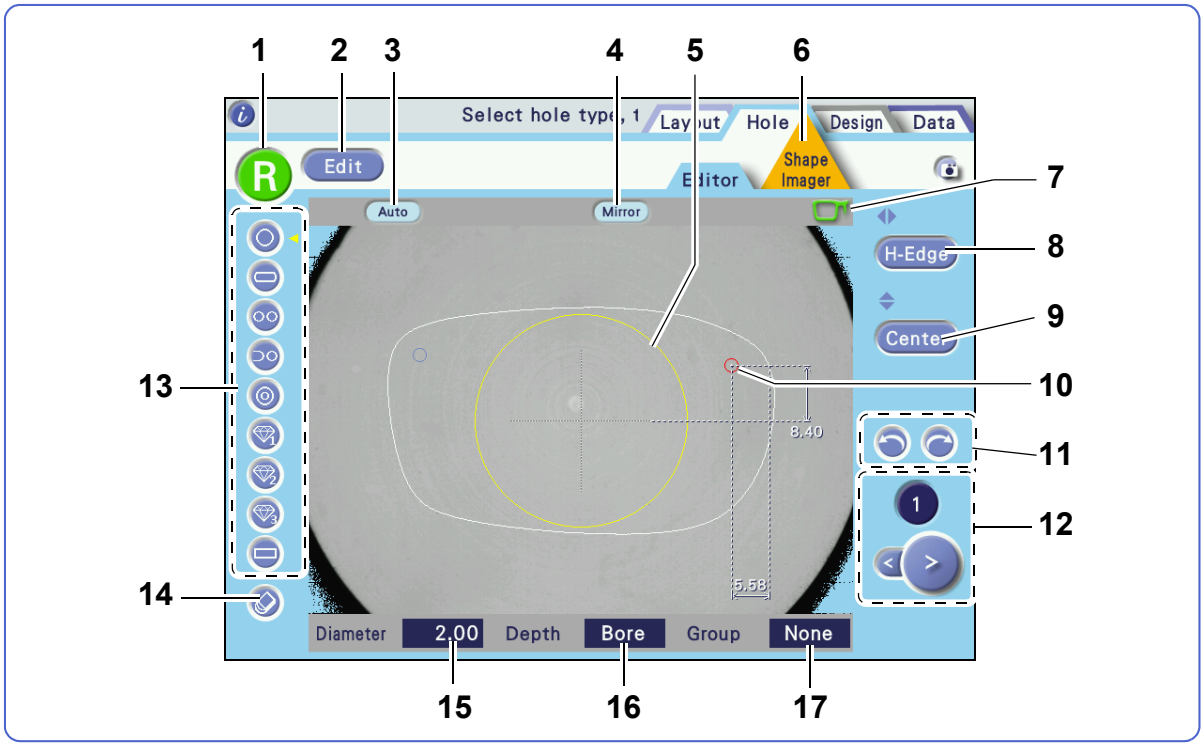
"♦ Keyboard screen (Blocker Lex / Mini Lab system)" (page 31)

◆ Hole Editor screen

Pressing the [Hole] tab on the Layout screen displays this screen.

It is used for editing holes.

"3.8 Hole Editing" (page 101)



1 R / L **[R] / [L] button**

Selects the shape between R (right side) and L (left side).

2 Edit / Adjust **[Edit] / [Adjust] button**

- Edit: Displays the whole shape allowing for addition, deletion, or adjustment of hole data.
- Adjust: Enlarges the area around the selected hole to facilitate precise addition, deletion, or adjustment of hole data.

3 Auto **[Hole angle] button**

Selects the hole angle from among [Auto], [Angle], [X-Y], [X Auto], and [Curve].

4 Mirror **[Mirror] button**

The selected hole is automatically mirrored and created on the opposite shape.

5 **Restriction radius**

Holes cannot be set inside this yellow circle.

6 Shape Imager **[Shape Imager] tab**

Displays the Shape Imager screen.

"3.8 Hole Editing" (page 101)

7  **R/L frame mark**

Indicates the nasal side of the currently displayed shape.

8 

[Horizontal coordinate] button

Selects the horizontal reference position of the hole from among [Center], [B-Edge], and [H-Edge].

9 

[Vertical coordinate] button

Selects the vertical reference position of the hole from [Center] or [B-Edge].

10 **Hole position indication**

Indicates the hole position and type. The selected hole is displayed in red.

11  **[Undo] button,**  **[Redo] button**

 : Undoes up to five editing operations.

 : Redoes up to five editing operations.

12  **[Hole select] buttons**

Selects a hole. The number of the selected hole is indicated above the buttons.

 : Selects the next hole.

 : Selects the previous hole.

13 **Hole add buttons**

Selects the hole type and adds one.

14  **[Hole delete] button**

Deletes the currently selected hole. If there is any mirrored hole, it is also deleted.

15 **[Diameter] field**

Specifies the hole diameter with the numeric keypad. For jewel holes 1 to 3, no values are displayed.

16 **[Depth] field**

Specifies the hole depth with the numeric keypad. For a through hole, enter “0.0”.

For jewel holes 1 to 3, no values are displayed.

17 **[Group] field**

Groups multiple holes.

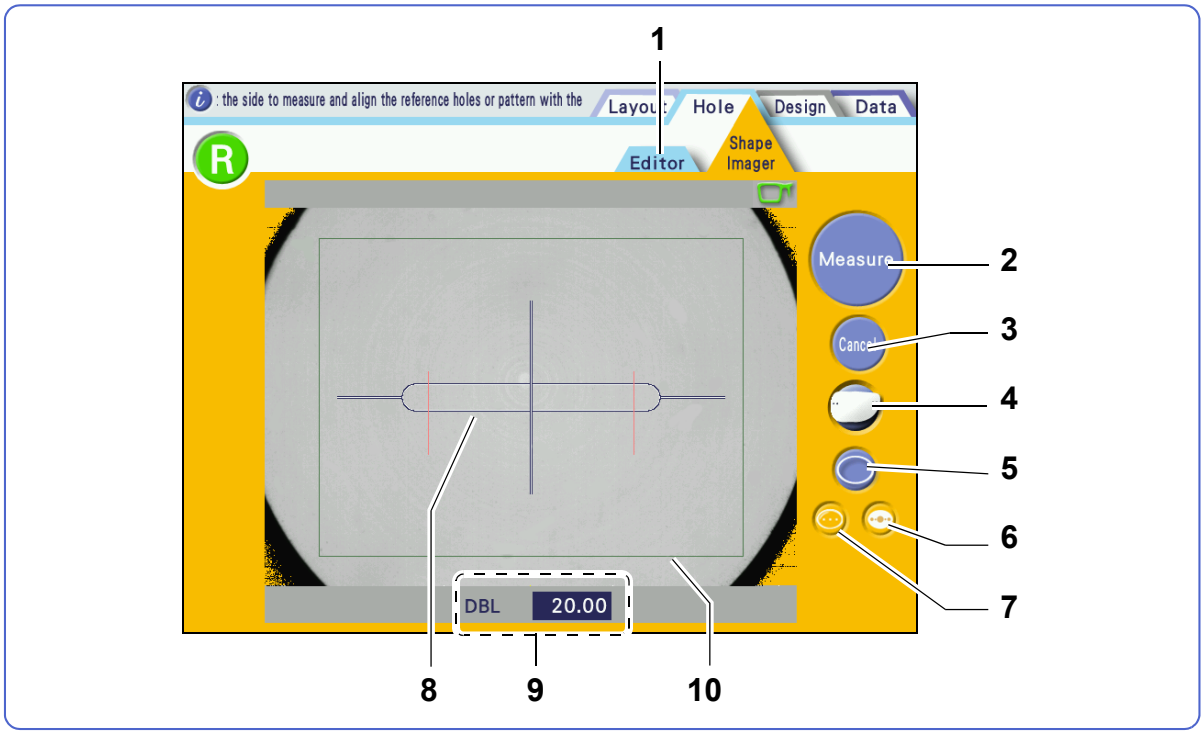
◆ Shape Imager screen

Pressing 

on the Hole Editor screen displays this screen.

It is used for measuring (scanning) the shape or hole position of a pattern or demo lens.

"3.5 Shape Measurement with Shape Imager Function" (page 74)



1 [Editor] tab

Displays the Hole Editor screen.

"3.8 Hole Editing" (page 101)

2  [Measure] /  [OK] button

Measures the shape or hole position of a demo lens or pattern. Pressing  after measurement confirms the measurement results.

3  [Cancel] button

Pressing  after shape measurement clears the measurement results and enables remeasurement.

4  /  /  [Measurement mode] button

Selects the measurement mode from among  (hole),  (design cut), and  (step).

The measurement modes of  (design cut) and  (step) are disabled by default.

5 **[Manual alignment] button**

Measures a demo lens in manual alignment mode.

6 **[Pattern] button**

Measures a pattern.

7 **[Demo lens] button**

Measures a marked lens.

8 **Alignment scale**

Marking or center line on a demo lens or pattern holes are aligned to this scale.

9 **[DBL] field**

Enters the DBL value after measurement.

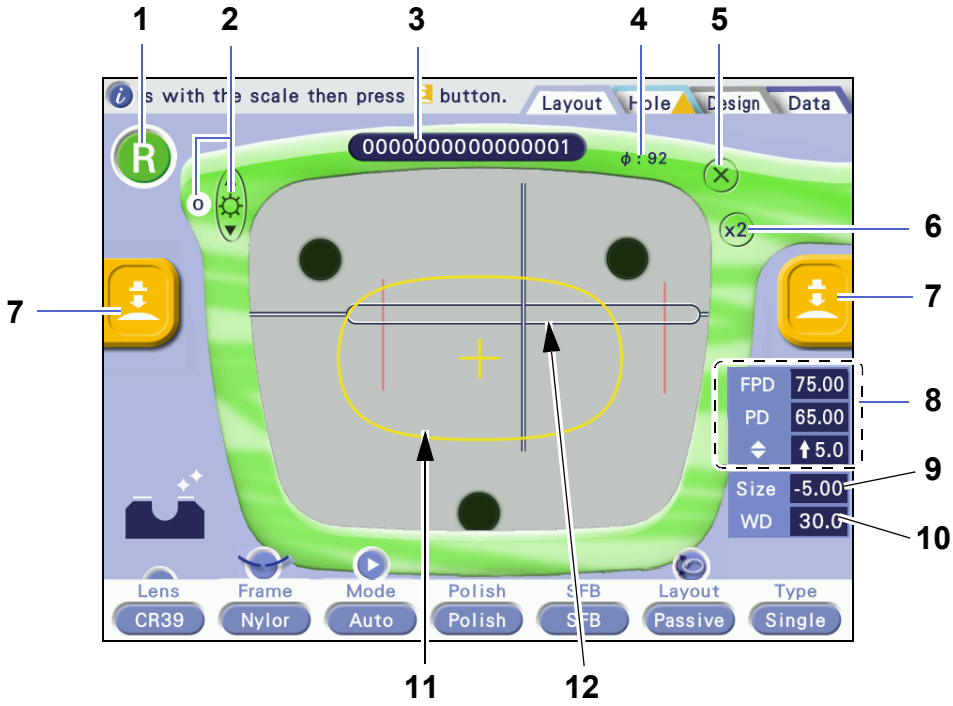
10 **Layout area mark**

The lens to be measured is aligned within this rectangle.

◆ Blocking screen

Pressing Block on the Layout screen displays this screen.

- Single vision lens



1 R / L **[R] / [L] button**

Selects the shape between R (right side) and L (left side).

2 **[Brightness] button**

Sets the camera image brightness in the range from -2 (dark) to +1 (bright) or OFF.

3 0000000000000000 **[Keyboard] button**

Displays the keyboard screen. A JOB code is indicated.

4 **Minimum lens diameter indication**

Indicates the minimum lens diameter required for processing.

5 **[Layout screen display] button**

Displays the Layout screen.

6 x1 / x2 **[Magnification] button**

Selects the magnification of the camera image. The magnification is toggled between x1 and x2.

7 / **Blocking mark**

Displayed when blocking is possible.

8 [Layout data] field

Indicates the data entered on the Layout screen. Values can be changed with the numeric keypad.

9 [Size] field

Sets a horizontal shape size. The shape is enlarged or reduced.

10 [WD] field

Sets the width of the alignment scale on the Blocking screen.

"3.9.1 Setting WD and height for single vision lens" (page 110)

11 Cup mark

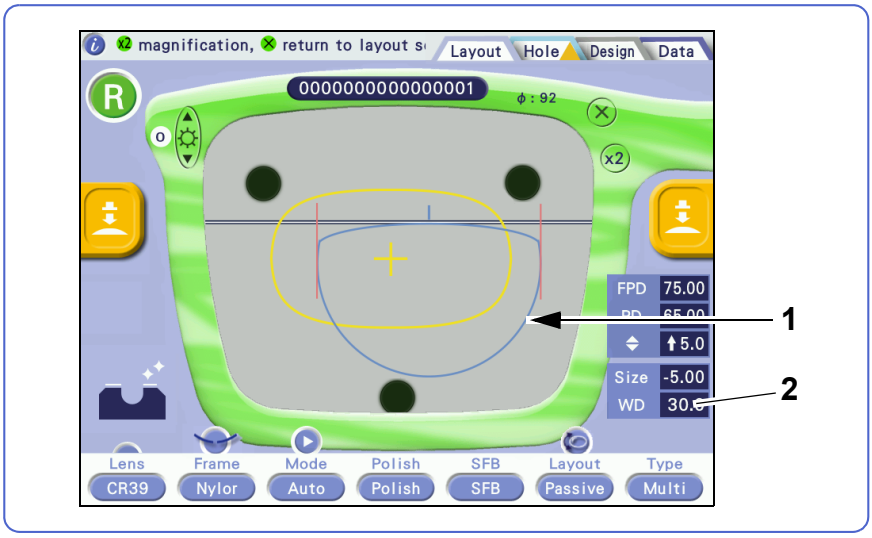
Displays the outline of the lens cup to be blocked. It can be set to [Half eye], [Pliable], [Pliable/Mini], or [Pliable/Nano] by the parameter.

D-02*" Cup mode" (page 169)*

12 Alignment scale

Marking on a lens is aligned to this scale. Align the optical center of the lens to the scale center.

- Multifocal lens

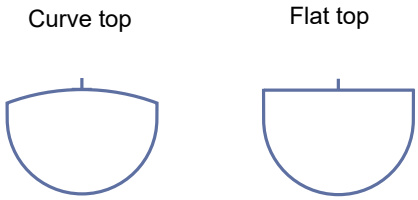


1 Segment mark

Displays the segment position.

The segment type can be set to [Curve top] [Flat top] by the parameter.

D-05*" Minimum grinding H size" (page 170)*

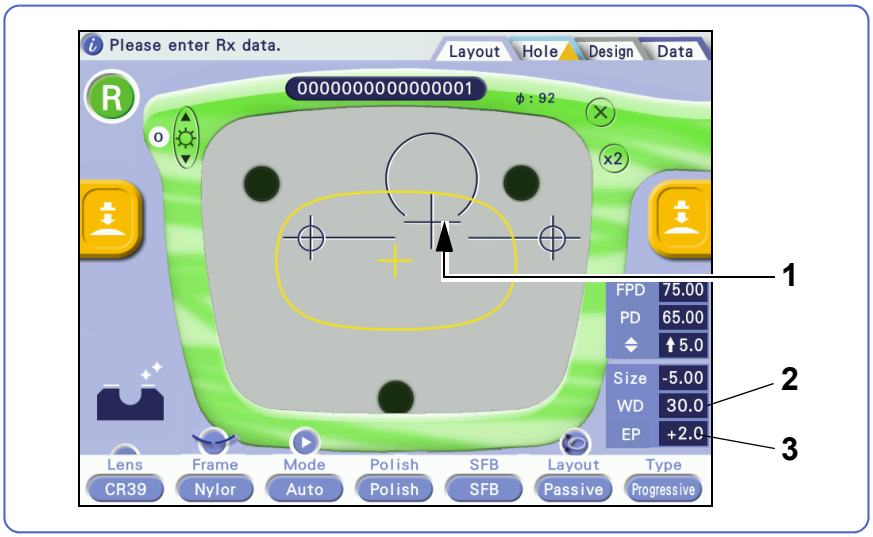


2 [WD] field

Sets the width (WD) of the segment mark.

"3.9.2 Setting WD for multifocal lens" (page 111)

- Progressive power lens



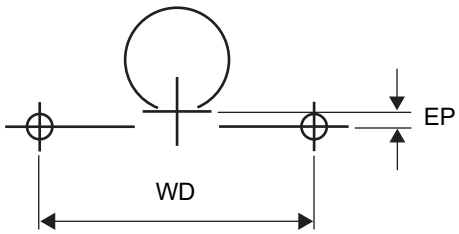
1 Distance eyepoint mark

Indicates the eye point position.

2 [WD] field

Sets the distance (WD) between hidden markings. The value can be changed with the numeric keypad.

"3.9.3 Setting WD and EP for progressive power lens" (page 111)



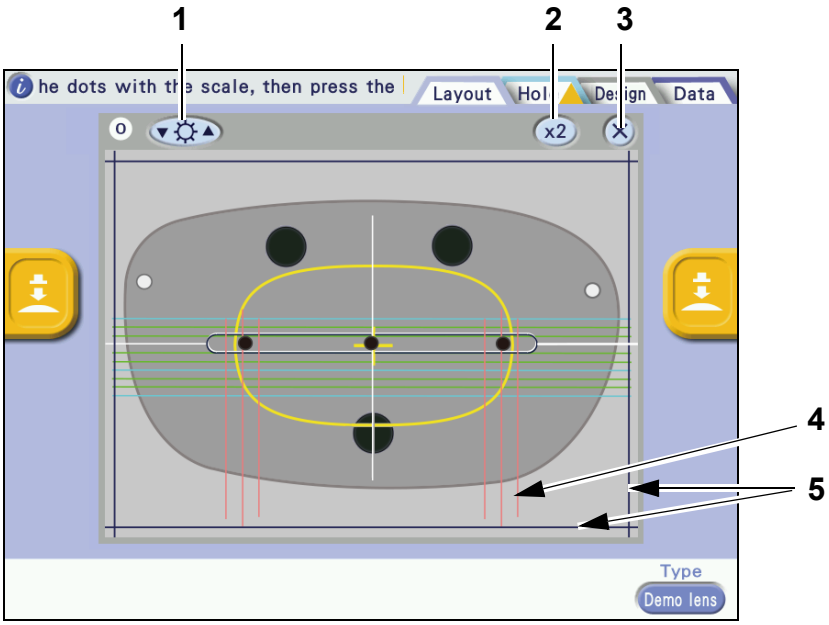
3 [EP] field

Sets the height of the distance eyepoint (EP). The value can be changed with the numeric keypad.

◆ Blocking screen (Demo lens)

Pressing Demo lens for [Type] on the Layout screen displays this screen.

"3.10.4 Demo lens blocking" (page 120)



1 **[Brightness] button**

Sets the camera image brightness in the range from -2 (dark) to +1 (bright) or OFF.

2 x1 / x2 **[Magnification] button**

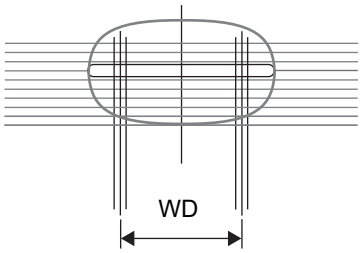
Selects the magnification of the camera image. The magnification is toggled between x1 and x2.

3 **[Layout screen display] button**

Displays the Layout screen.

4 **WD mark**

The width of the marking changes depending on the WD value entered on the Layout screen.



5 **Horizontal/vertical reference lines**

By dragging the horizontal or vertical line with the touch pen, it can be aligned to the demo lens outline.

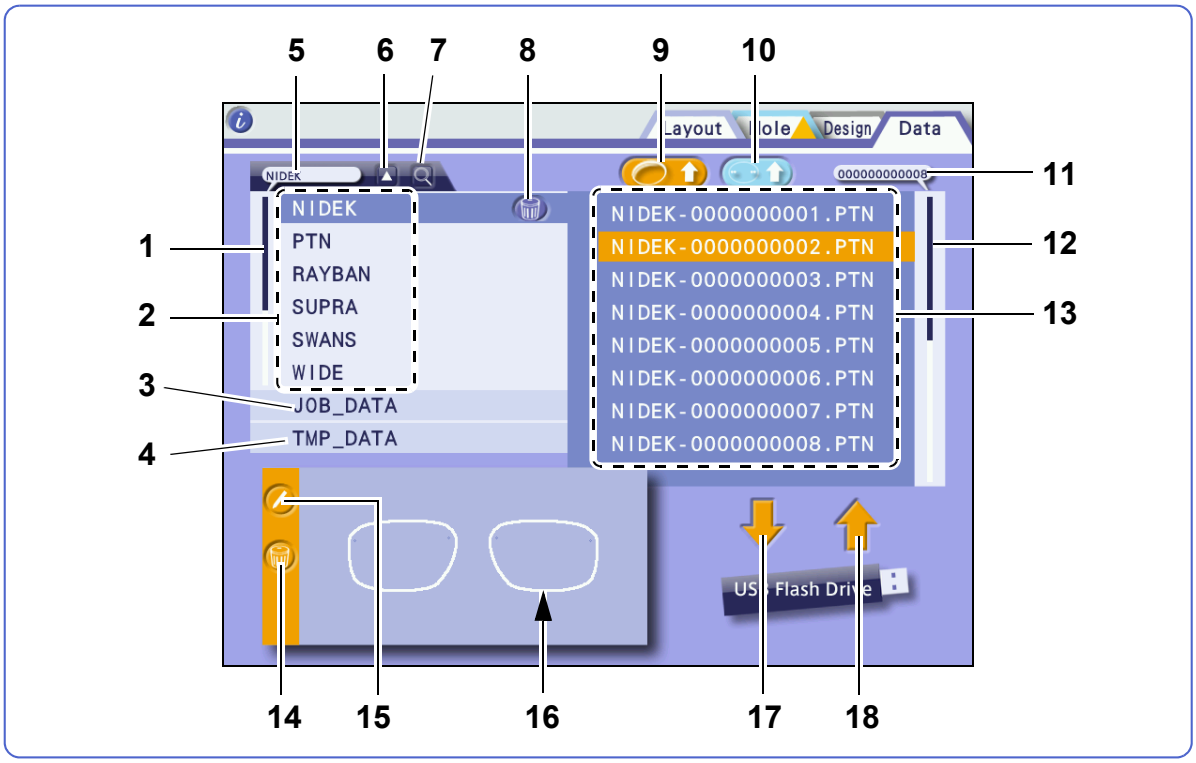
◆ Data management screen

Pressing the [Data] tab on the Layout screen displays this screen.

This screen is available for the Blocker Lex, Mini Lab, and Extended Lab systems.

"3.4 Shape Data Management" (page 66)

"3.3.2 Loading shape data from Data management screen" (page 55)



1 [Scroll bar] (for brand list)

Tapping the white area with the touch pen scrolls the list up or down by one page. Selecting a folder at the slider location opens the pop-up display for that folder.

2 Brand folder

A brand name is registered with a maximum of 12 alphanumeric characters containing at least one alphabet letter and no hyphen.

Ex.— NIDEK

3 JOB_DATA folder

The folder position is fixed and cannot be deleted.

4 TMP_DATA folder

The folder position is fixed and cannot be deleted.

5 Pop-up display (for brand name)

Displays the folder name selected with the slider operation.

6 [Ascent/descent] button

Sorts the folders in the ascending order and descending order.

7  **[Folder search] button**

Searches for a folder name entered on the keyboard screen. If the corresponding folder does not exist, a beep sounds.

8  **[Folder delete] button**

Deletes the selected folder and all data in the folder. However, the JOB_DATA folder, TMP_DATA folder, and their data cannot be deleted.

9  **[Data load] button**

Loads the selected shape data to the Layout screen.

10  **[Hole import] button**

Imports hole information of the selected data to the shape displayed on the Layout screen.

11 Pop-up display (for shape data name)

Displays the data name selected with the slider operation.

12 [Scroll bar] (for shape data list)

Tapping the white area with the touch pen scrolls the list up or down by one page.

13 Shape data list

Lists shape data names.

14  **[Data delete] button**

Deletes the selected data.

15  **[Data name change] button**

Selects the data and changes its name on the keyboard screen.

16 Selected shape image display

17 [Backup to USB] button (displayed only when a USB flash drive is connected)

Saves all data except for the TMP data to the USB flash drive.

18 [Restore from USB] button (displayed only when a USB flash drive is connected)

Displays “Restore data list” of the backup data saved in the USB flash drive.

3 OPERATING PROCEDURES

Contents described in this chapter

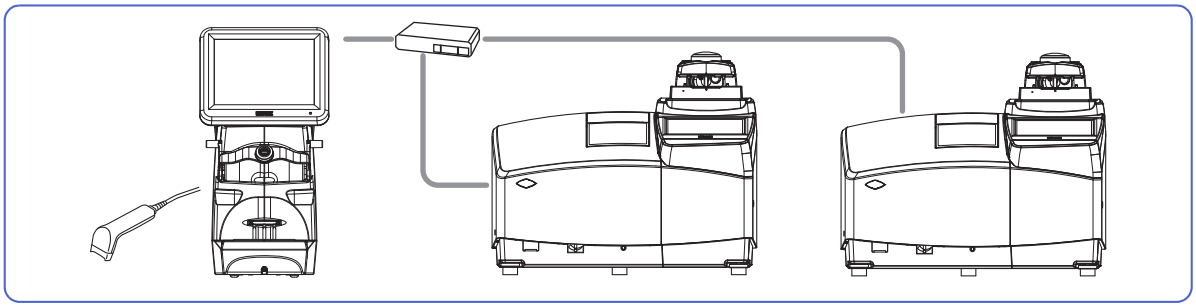
- For design and step edits, see Chapter 4.
- Operations for loading, saving, receiving, and sending data differ depending on the system. Systems compatible with the described operations are listed as shown below.

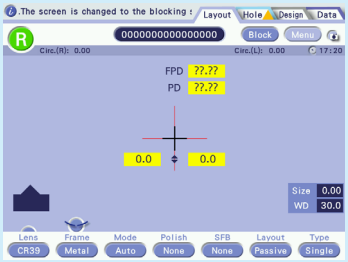
System	Blocker Lex, Mini Lab, Extended Lab, Blocker VCA

3.1 Operation Flow

Operation flows in the Blocker Lex, Mini Lab, Extended Lab, and Blocker VCA systems are described here.

3.1.1 Blocker Lex system

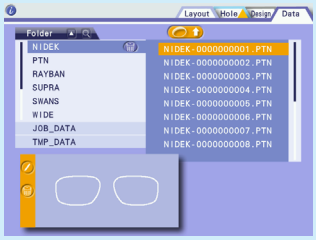




"3.2 Startup and Shutdown" (page 52)

[Data]

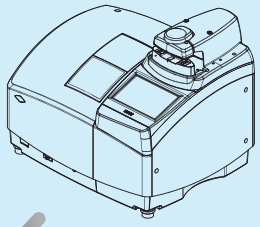
Shape imager



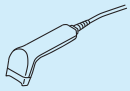
"3.3 Data Loading, Saving, Receiving, and Sending" (page 54)

"3.5 Shape Measurement with Shape Imager Function" (page 74)

Tracing with a lens edger

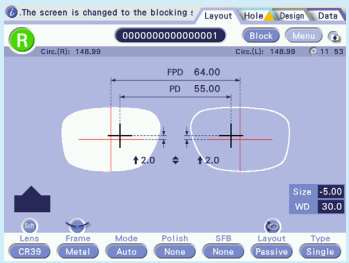


Barcode scanner



"3.3.8 Entering shape data name with barcode scanner" (page 64)

OK

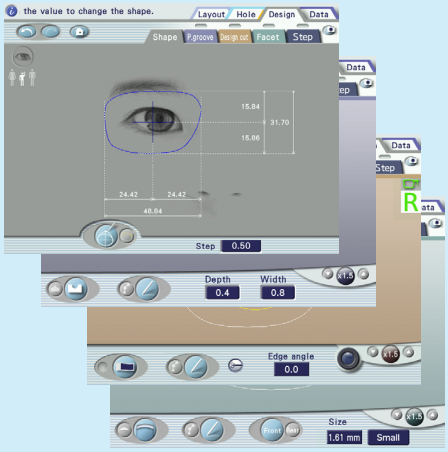


- *"3.6 Entering Processing Conditions" (page 80)*
- *"3.7 Entering Layout Data" (page 93)*

[Hole]

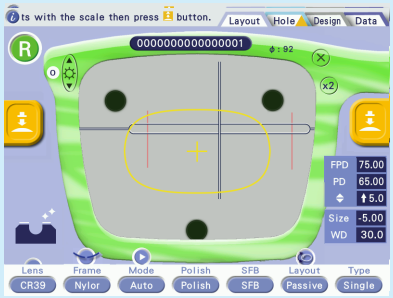
“3.8 Hole Editing” (page 101)

[Design]



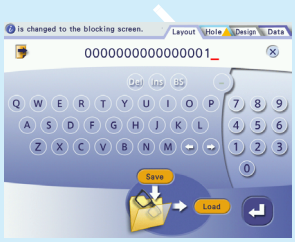
- *“4.3.1 Shape editing” (page 136)*
- *“4.3.2 Partial groove / partial bevel editing” (page 139)*
- *“4.3.3 Design cut editing” (page 141)*
- *“4.3.4 Facet editing” (page 147)*
- *“4.4.1 Step editing” (page 153)*
- *“4.4.2 Partial step editing” (page 156)*

Block

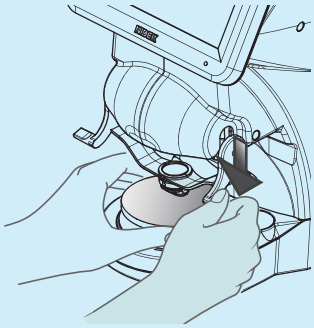


“3.10 Blocking” (page 113)

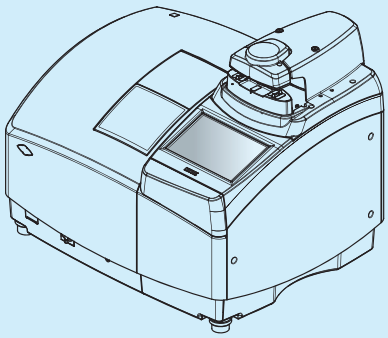
0000000000000000



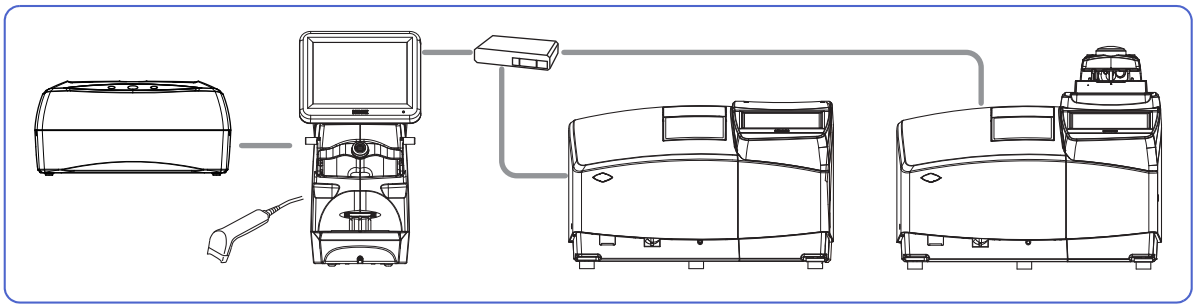
Processing according to data read by a bar-code scanner or received from a lens edger

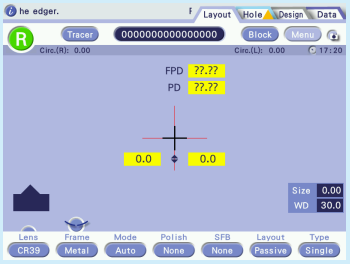


“3.10 Blocking” (page 113)



3.1.2 Mini Lab system

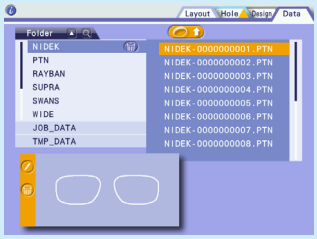




"3.2.1 Startup" (page 52)

[Data]

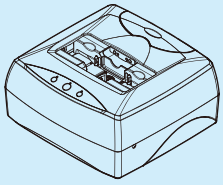
Shape imager



"3.3 Data Loading, Saving, Receiving, and Sending" (page 54)

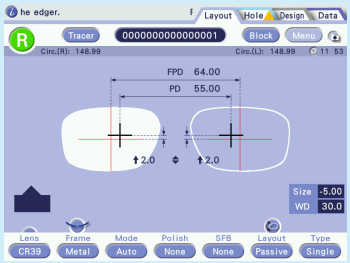
"3.5 Shape Measurement with Shape Imager Function" (page 74)

- Tracing with a lens edger
- Tracing with a tracer



Tracer When using a tracer

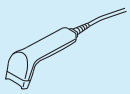
OK



- *"3.6 Entering Processing Conditions" (page 80)*

"3.7 Entering Layout Data" (page 93)

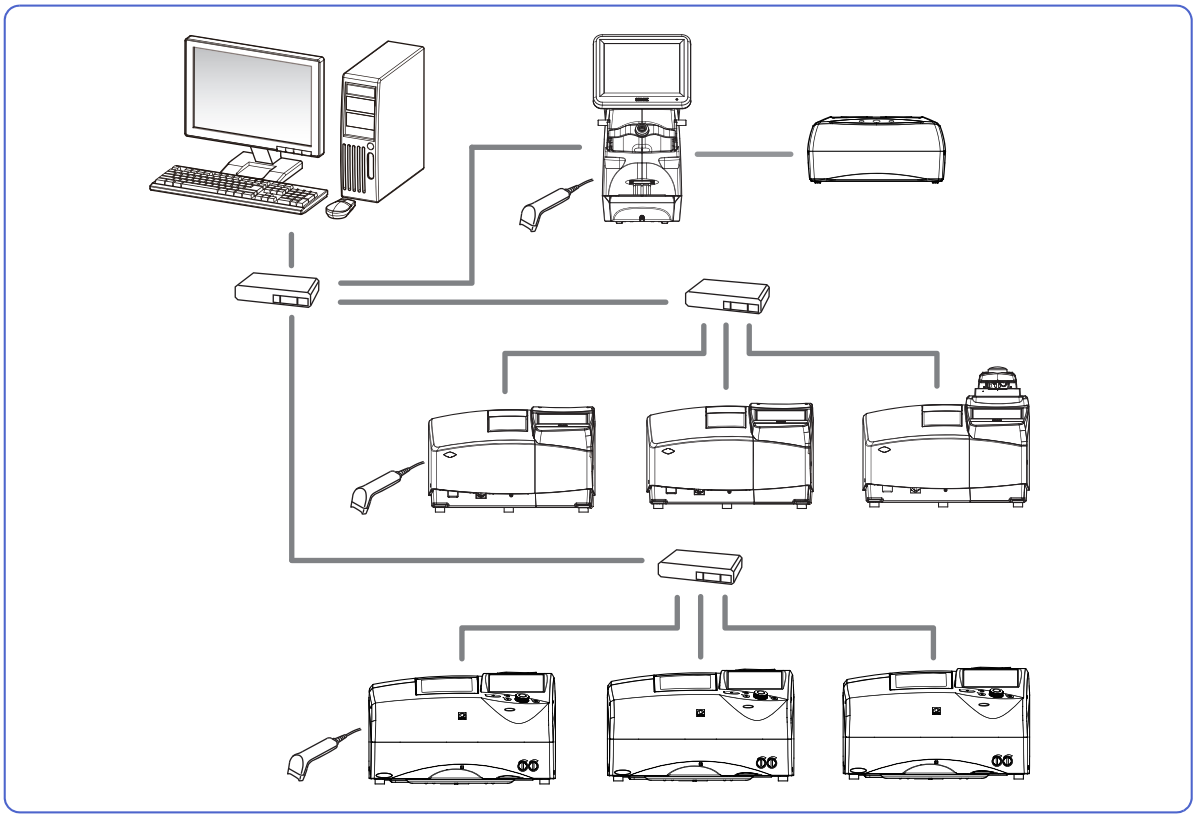
Barcode scanner

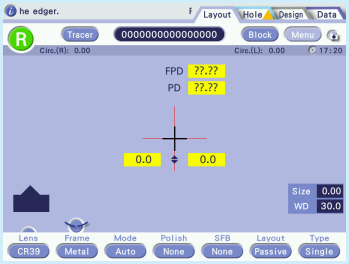


"3.3.8 Entering shape data name with barcode scanner" (page 64)

❖ The subsequent operations are the same as *"3.1.1 Blocker Lex system" (page 46)*.

3.1.3 Extended Lab system

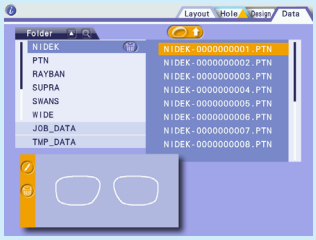




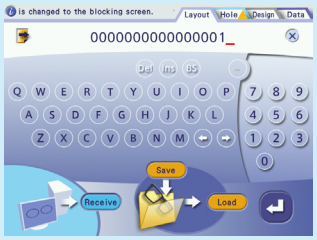
"3.2.1 Startup" (page 52)

[Data]

0000000000000000

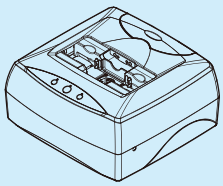


"3.3.2 Loading shape data from Data management screen" (page 55)



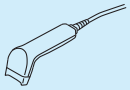
"3.3.3 Loading shape data using keyboard screen" (page 57)

- Tracing with a lens edger
- Tracing with a tracer



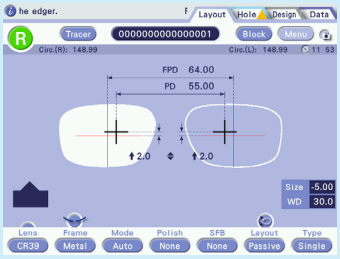
Tracer When using a tracer

Barcode scanner



"3.3.8 Entering shape data name with barcode scanner" (page 64)

Receive

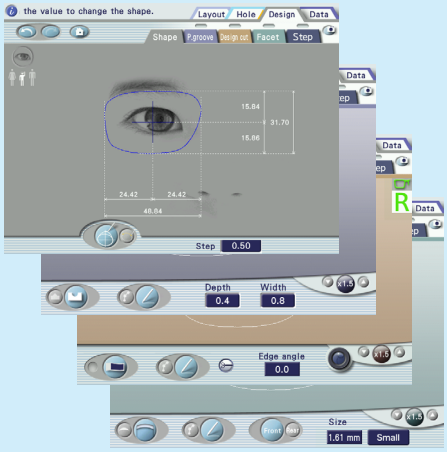


- *"3.6 Entering Processing Conditions" (page 80)*
- *"3.7 Entering Layout Data" (page 93)*

[Hole]

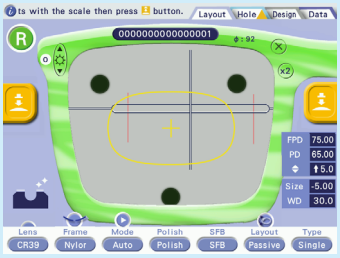
"3.8 Hole Editing" (page 101)

[Design]



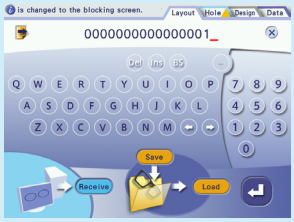
- *"4.3.1 Shape editing" (page 136)*
- *"4.3.2 Partial groove / partial bevel editing" (page 139)*
- *"4.3.3 Design cut editing" (page 141)*
- *"4.3.4 Facet editing" (page 147)*
- *"4.4.1 Step editing" (page 153)*
- *"4.4.2 Partial step editing" (page 156)*

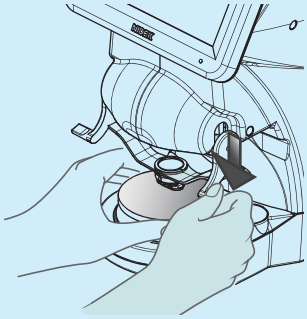
Block



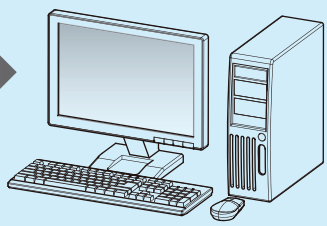
"3.10 Blocking" (page 113)

0000000000000000

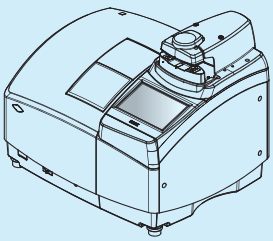




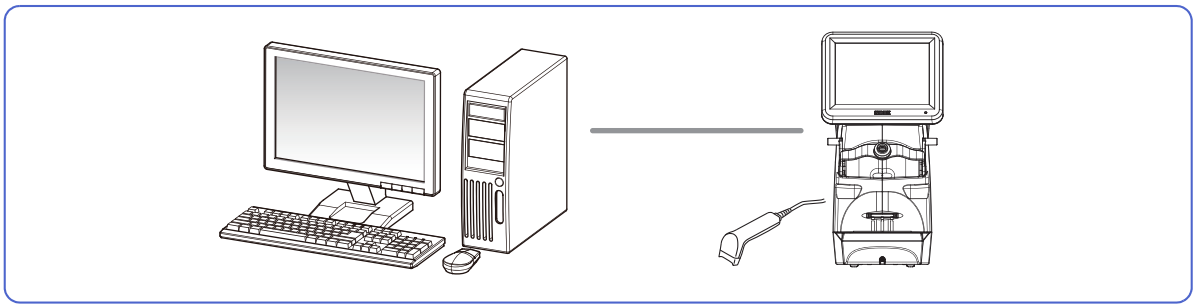
Blocking a lens and automatically sending JOB data to the server computer

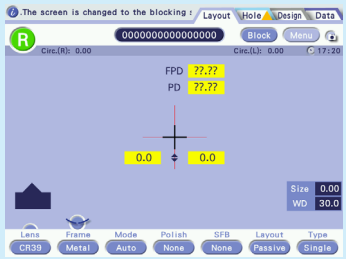


Processing according to data read by a barcode scanner or received from a lens edger



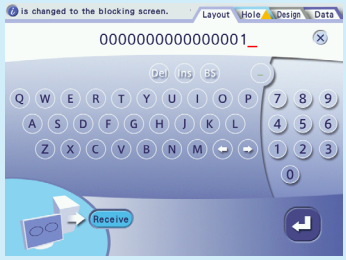
3.1.4 Blocker VCA system



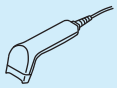


"3.2.1 Startup" (page 52)

0000000000000000



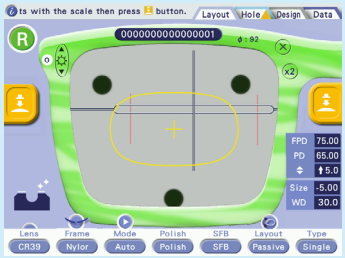
"3.3.3 Loading shape data using keyboard screen" (page 57)



Loading data with a barcode scanner

Receive

Block



"3.10 Blocking" (page 113)

❖ The subsequent operations are the same as *"3.1.3 Extended Lab system" (page 49)*.

3.2 Startup and Shutdown

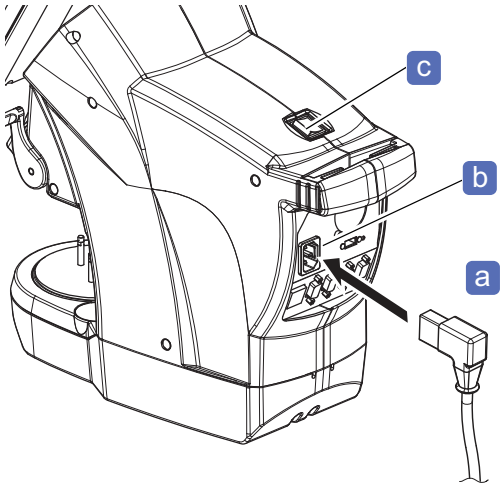
Contents described in this section

3.2.1 Startup

⚠ CAUTION

- Perform the pre-use check using *"♦ Pre-use checklist" (page 182)* every time. It is recommended to fill out the checklist.
  Failure to do so may result in instrument malfunction or improper measurement.
- If any abnormality or error message appears at instrument startup, see *"6.1 Troubleshooting" (page 177)*. If the abnormality is not resolved, contact Nidek or your authorized distributor.

1 Connect the power cord a to a power inlet b.



2 Confirm that the power switch c is turned off (○), then connect the power cord to the power outlet.

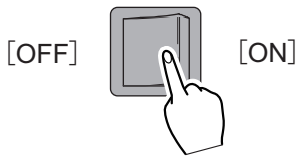
3 Turn on (|) the power switches of the instruments connected to the ICE-1.

4 Check the items listed below "Before turning on power" in the pre-use checklist.

"♦ Pre-use checklist" (page 182)

5 Turn on (|) the power switch of the ICE-1.

→Startup screen



6 Check the items listed below "After turning on power" in the pre-use checklist.

- Initialization starts.
- Confirm that no error message appears.

→Layout screen

3.2.2 Shutdown

⚠ CAUTION

Perform the after-use check using the after-use checklist every time. It is recommended to fill out the checklist.
Failure to do so may result in injury or instrument malfunction.

"♦ After-use checklist" (page 183)

1 Turn off (◯) the power switch.

After turning off power, wait for at least 10 seconds before turning on power again. The instrument may not operate properly.

2 Clean the instrument.

When the instrument cover, display, or lens table is soiled, wipe it with a soft cloth soaked in a neutral detergent diluted with water.

"6.2.4 Cleaning" (page 181)

3 Perform the after-use check using the after-use checklist.

"♦ After-use checklist" (page 183)

3.3 Data Loading, Saving, Receiving, and Sending

Contents described in this section

3.3.1 JOB, PTN, and TMP data

◆ Brand (folder) and shape data

Data	Data name	Data details / storage capacity
JOB	Alphanumeric characters not including hyphen (-) (up to 16 characters) e.g., 0000000000000001	• Trace data, processing conditions, and layout information are included, with which blocking is possible. However, WD data is not included. • Data storage capacity A maximum of 500 shape data items can be stored. * The maximum number of data items depends on each JOB data size.
PTN	Alphanumeric characters including brand name and hyphen (-) (up to 16 characters) e.g., NIDEK-0000000001	• Trace data, FPD, size, Passive/Active, lens material, lens type, frame type, polishing data, and safety beveling data are included. However, PD, optical center height, EP, and WD data are not included. • Data storage capacity A maximum of 500 brand folders with up to 500 data items per folder can be saved. * The maximum number of data items depends on each PTN data size.
TMP	When blocking is performed while the JOB/PTN code field indicates 0, a data file is automatically created, for which a number is assigned from date and time.	• Trace data, processing conditions, and layout information are included, with which blocking is possible. However, WD data is not included. • Data storage capacity A maximum of 30 data items can be stored. If the number of data items exceeds 30, the oldest data is overwritten by new data. • In the Extended Lab system, data is saved to the server computer, not to the TMP folder.

◆ Shape data name

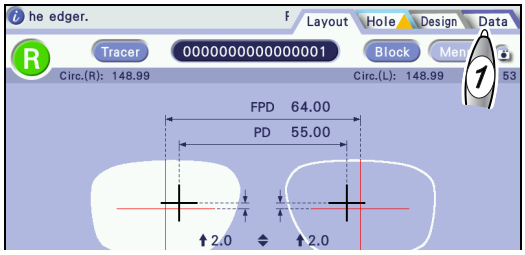
Data	Data name
JOB	• Alphanumeric characters not including hyphen (-) (up to 16 characters). If the number of entered characters is less than 16, leading zeros are automatically added to the number part. For example, if “1234” is entered, it is saved as “0000000000001234”.
PTN	• Alphanumeric characters including brand name and hyphen (-) (up to 16 characters). If the number of entered characters is less than 16, leading zeros are automatically added to the number part. For example, if “NIDEK-1234” is entered, it is saved as “NIDEK-0000001234”. • “NIDEK” is the brand name. When the folder with the specified brand name does not exist, the folder is automatically created and shape data is saved there.
TMP	When blocking is performed while the JOB/PTN code field indicates 0, a data file is automatically created in the TMP folder, for which a number is assigned from date and time. This is used when a data name cannot be remembered.

3.3.2 Loading shape data from Data management screen

System	Blocker Lex, Mini Lab, Extended Lab

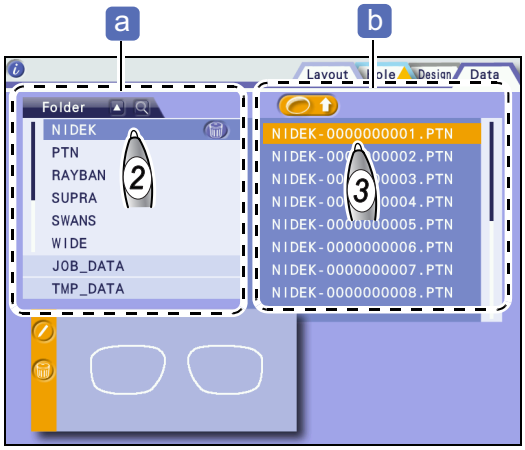
1 [Data]

→Data management screen



2 Select a brand name from the brand list a.

3 Select shape data from the shape data list b.



4

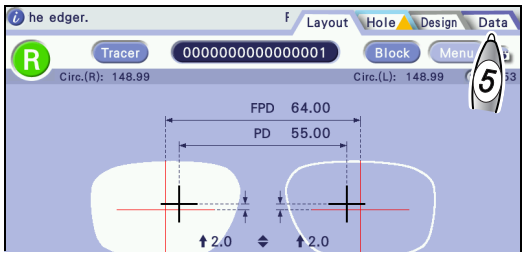
→Layout screen

The shape data is loaded.

- When loading hole information

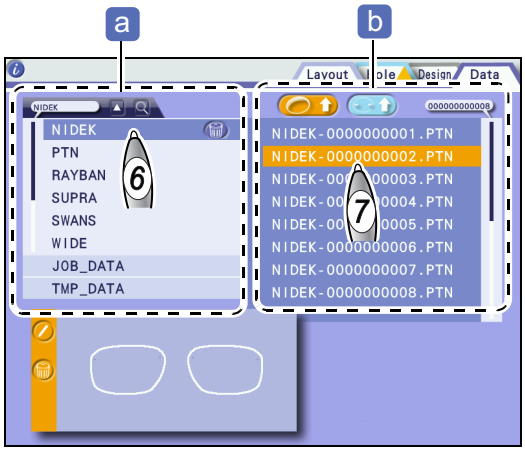
5 [Data]

→Data management screen



6 Select a brand name from the brand list a.

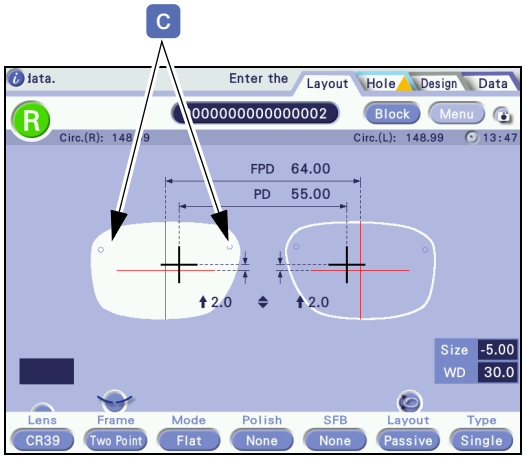
7 Select shape data including the desired hole information from the shape data list b.



8

→Layout screen

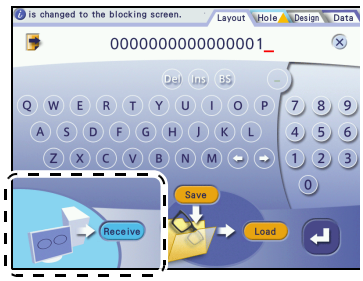
Only the hole information c is loaded and added to the shape data loaded in Step 4.



3.3.3 Loading shape data using keyboard screen

System	Blocker Lex, Mini Lab, Extended Lab

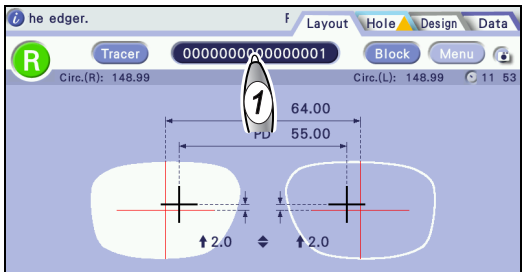
Only the keyboard screen of Extended Lab has the area surrounded by dotted line as shown to the right. The procedure for loading shape data is the same as that of the Blocker Lex and Mini Lab systems.



1 0000000000000000

➔Keyboard screen

❖ Pressing 0000000000000000 on the Blocking screen can also display the keyboard screen.



2 Enter a brand name and shape data name with the keyboard.

- When using a barcode scanner

"3.3.8 Entering shape data name with barcode scanner" (page 64)

3 Load

➔Layout screen

The shape data is loaded.

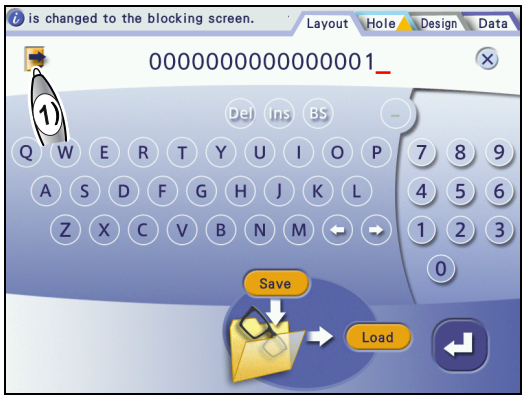
◆ Searching the list for shape data

1 Search the brand list for the desired brand name.

1)

➔Brand list

Brand names are displayed in ascending order.



2) Search the brand list a for the desired brand name.

If the brand name is not found on the displayed page, press ◀ ▶ to switch the page.

3) [Brand name]

When the brand name is selected, the brand name and a hyphen are entered in the JOB/PTN code field, and the brand list closes.

Ex.— NIDEK-

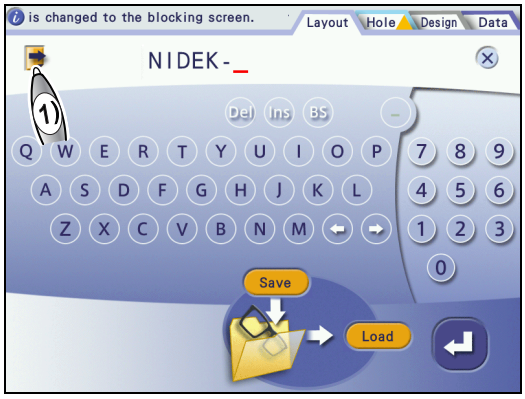
❖ To reselect the brand or shape data, press BS to delete the entry then press ▶ again.

2 Search the shape data list for the desired shape data.

1) ▶

→Shape data list

Shape data names are displayed in ascending order.

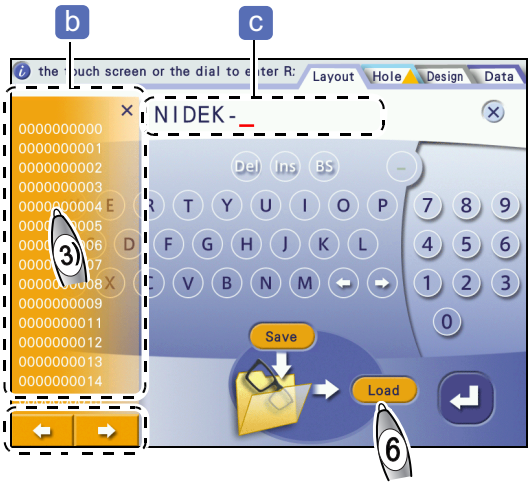


2) Search the shape data list b for the desired shape data.

If the shape data name is not found on the displayed page, press ◀ ▶ to switch the page.

3) [Shape data name]

When the shape data is selected, its name is added after the hyphen following the brand name c.



3 Load

→Layout screen

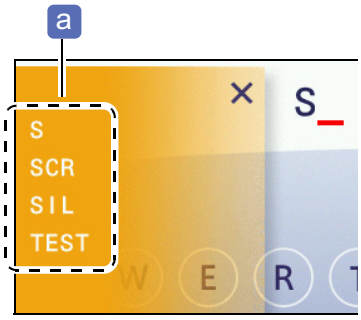
The shape data is loaded.

Note

Searching by refining brand names or shape data names

To search efficiently or with a partially remembered name, entering a character before pressing displays only the brand names or shape data names including that character.

For example, entering “S” lists all brand names including “S” a as shown to the right. If there is no corresponding data, “No data” is displayed.

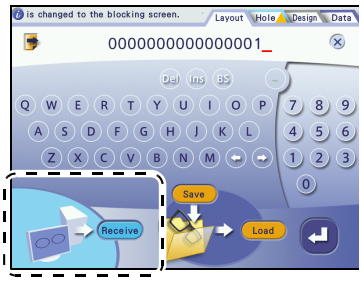


3.3.4 Saving shape data to internal memory

System	Blocker Lex, Mini Lab, Extended Lab

- A brand name and shape data are saved (registered) as a set. It is not possible to save only a brand name.
- Only the keyboard screen of Extended Lab has the area surrounded by dotted line as shown to the right. The procedure for saving shape data is the same as those of the Blocker Lex and Mini Lab systems.
- If the free space of the internal memory is insufficient, data cannot be saved. Delete unnecessary data as much as possible. Also, as the volume of saved data increases, it takes longer to save or load data.

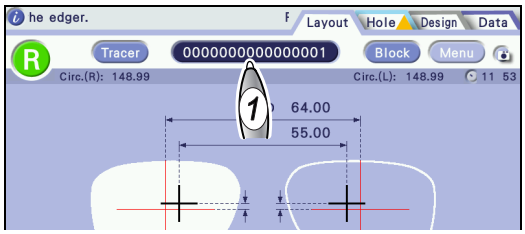
“3.4.1 Deleting brand folder or shape data” (page 66)



1 0000000000000000

→Keyboard screen

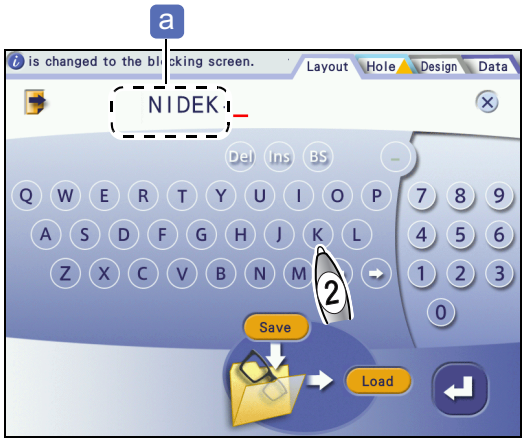
❖ Pressing 0000000000000000 on the Blocking screen can also display the keyboard screen.



2 Enter a brand name.

Specify a brand name a with a maximum of 12 alphanumeric characters including at least one alphabet letter and no hyphen.

- Enter a brand name directly on the keyboard screen.
- Search the brand list for the desired brand name.



3 Enter a shape data name.

Specify a shape data name b with 16 alphanumeric characters including a brand name and hyphen. If the number of entered characters is less than 16, leading zeros are automatically added to the number part.

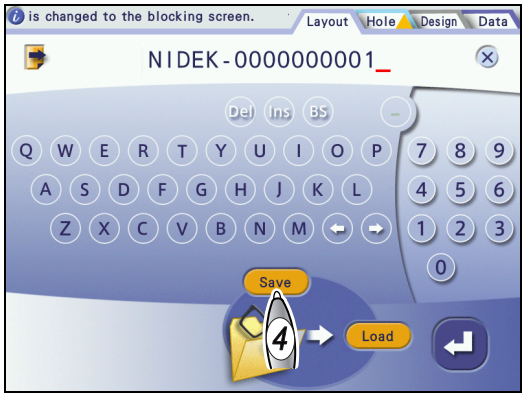
For example, if “NIDEK-1234” is entered, it is saved as “NIDEK-0000001234”.

Entry example	Shape data name
A-1234	A-00000000001234
NIDEK-1	NIDEK-0000000001

4 Save

The brand folder and shape data are saved.

- When the folder with the specified brand name exists, the shape data is saved there.
- When the folder with the specified brand name does not exist, the folder is automatically created and shape data is saved there.



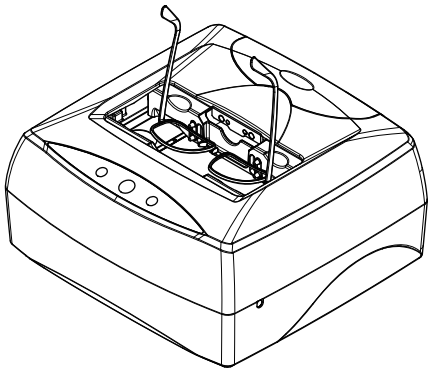
3.3.5 Loading shape data from LT-980

System	Mini Lab, Extended Lab

This section describes the procedure for loading shape data from the LT-980 (tracer) connected to the ICE-1.

1 Trace frames or a pattern with the LT-980.

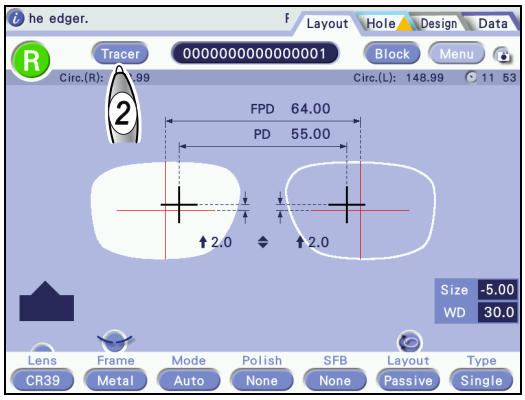
❖ For the operating procedure, refer to the operator's manual for the LT-980.



2 Tracer

→ Layout screen

The shape data is loaded.



3 Edit the shape data.

"3.6 Entering Processing Conditions" (page 80)

"3.7 Entering Layout Data" (page 93)

4 Save the shape data as necessary.

"3.3.4 Saving shape data to internal memory" (page 59)

3.3.6 Loading shape data from tracer equipped with lens edger

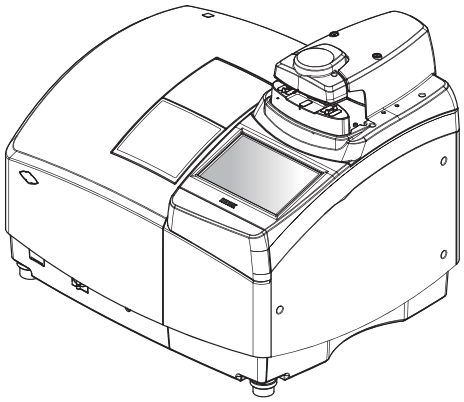
System	Blocker Lex

This section describes the procedure for loading shape data from a tracer equipped with a lens edger connected to the ICE-1.

1 Trace frames or a pattern with a tracer equipped with a lens edger.

When tracing is complete, the shape data is automatically sent to the ICE-1 and loaded to the Layout screen.

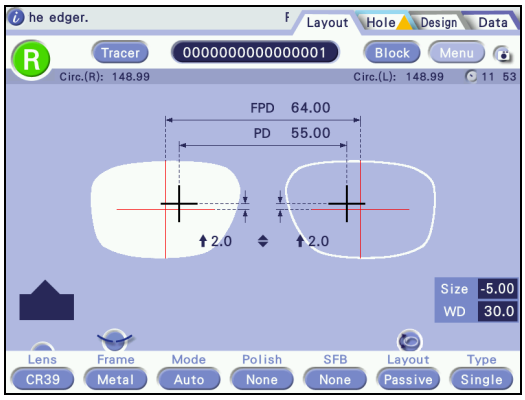
❖ For the operating procedure, refer to the operator's manual for the lens edger.



2 Edit the shape data.

"3.6 Entering Processing Conditions" (page 80)

"3.7 Entering Layout Data" (page 93)



3 Save the shape data as necessary.

"3.3.4 Saving shape data to internal memory" (page 59)

3.3.7 Receiving shape data from server computer

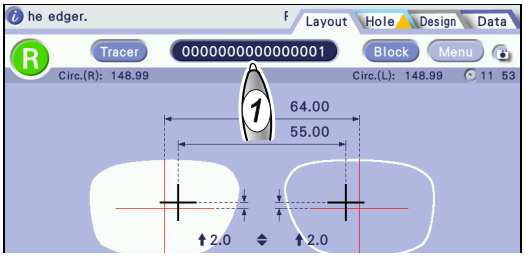
System	Extended Lab, Blocker VCA

This section describes the procedure for receiving shape data from the server computer connected to the ICE-1. The keyboard screen of Extended Lab is used in this explanation.

1 0000000000000000

→ Blocking screen

❖ Pressing 0000000000000000 on the Blocking screen can also display the keyboard screen.



2 Enter a shape data name.

- When using the keyboard

  "3.3.3 Loading shape data using keyboard screen" (page 57)

- When using the barcode scanner

  "3.3.8 Entering shape data name with barcode scanner" (page 64)

3 Receive

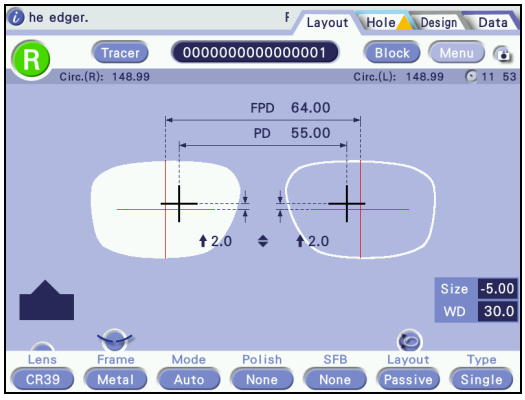
→ Layout screen

The shape data is loaded.

4 Edit the shape data.

"3.6 Entering Processing Conditions" (page 80)

"3.7 Entering Layout Data" (page 93)



❖ In the Extended Lab system, blocking a lens automatically sends shape data to the server computer.

Note

- Processing conditions that differ between the right and left lenses cannot be set in the same JOB data. The processing conditions of the latter blocking are saved to the server computer.
- Repeated blocking of the same side lens, right or left, cannot be conducted.

3.3.8 Entering shape data name with barcode scanner

System	Blocker Lex, Mini Lab

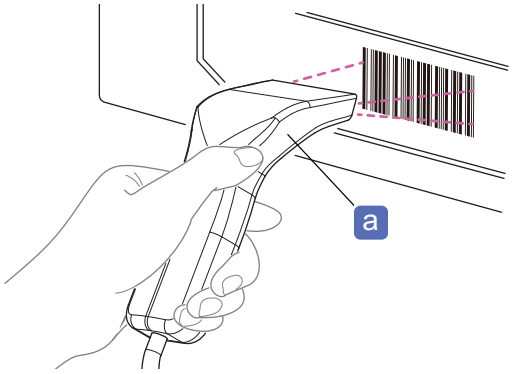
This section describes the procedure for entering shape data name with the barcode scanner (optional) connected to the ICE-1.

1 Display the Layout screen and read the barcode with the barcode scanner.

Hold the barcode scanner a close to the barcode. When reading is complete, a beep sounds.

→Keyboard screen

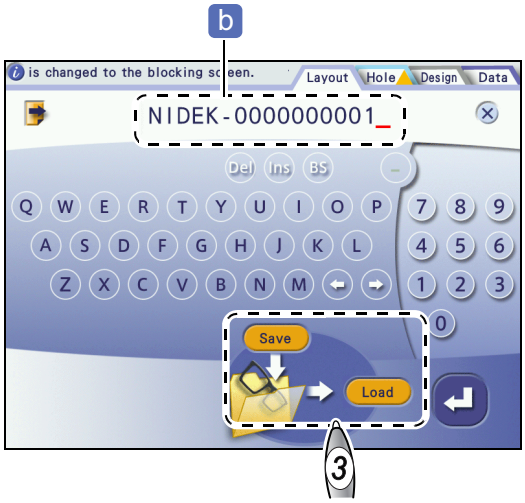
❖ Barcodes can be read with the barcode scanner with the keyboard screen displayed.



2 The shape data name is displayed in the JOB/PTN code field b.

3 Load or save the shape data.

- To load it, press Load.
  The shape data is loaded to the Layout screen.
- To save it, press Save.
  The shape data is saved to the internal memory.



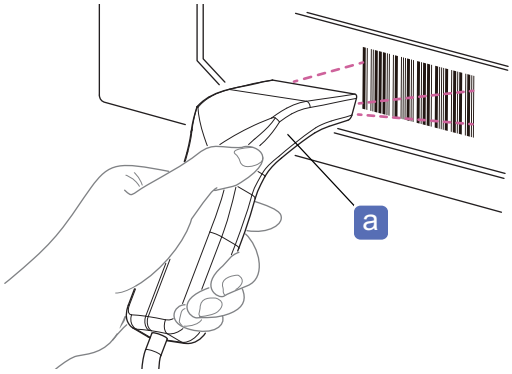
3.3.9 Receiving shape data with barcode scanner

System	Extended Lab, Blocker VCA

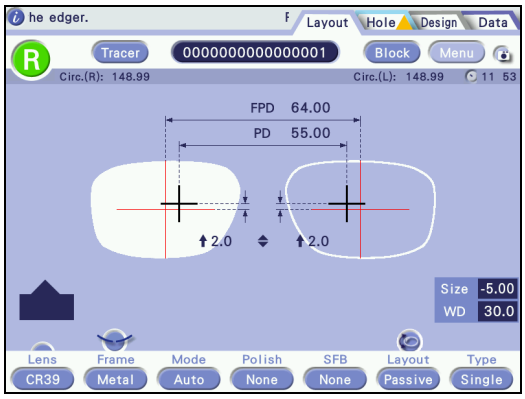
This section describes the procedure for receiving shape data with the barcode scanner (optional) connected to the ICE-1.

1 Display the Layout screen and read the barcode with the barcode scanner.

Hold the barcode scanner a close to the barcode. When reading is complete, a beep sounds.



2 The shape data is loaded.



3.4 Shape Data Management

Contents described in this section

3.4.1 Deleting brand folder or shape data

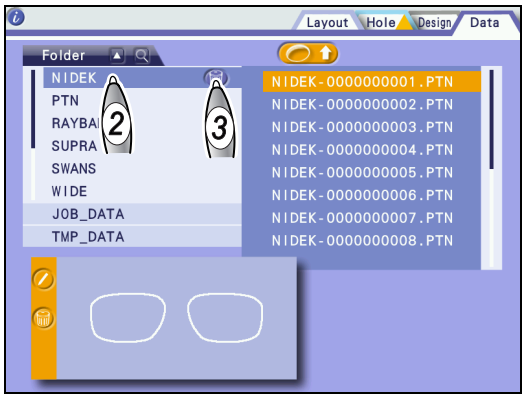
- Once a brand folder or shape data is deleted, it cannot be restored.
- The JOB_DATA and TMP_DATA folders cannot be deleted.
- If the free space of the internal memory is insufficient, data cannot be saved. Delete unnecessary data as much as possible. Also, as the volume of saved data increases, it takes longer to save or load data.

◆ Deleting brand folder

1 [Data]

→Data management screen

2 Select the brand name to be deleted from the brand list.



3

The delete confirmation message appears.

- Delete: Yes
- Cancel: No

The delete confirmation message appears again.

- Delete: Yes

  The brand folder and all shape data are deleted.
- Cancel: No

◆ Deleting shape data

1 [Data]

➔Data management screen

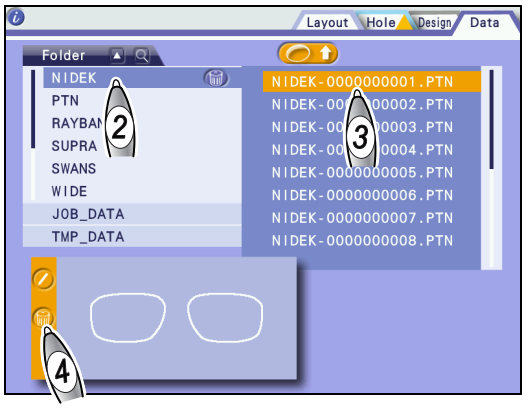
2 Select the brand folder containing the shape data to be deleted from the brand list.

3 Select the shape data to be deleted.

4

The delete confirmation message appears.

- Delete: Yes
- Cancel: No



3.4.2 Changing shape data name

- It is not possible to change a brand name. Also, data cannot be renamed from PTN (JOB) to JOB (PTN).
- A brand name and shape data are saved as a set. It is not possible to save only a brand name.
- If shape data is given a different brand name, the data is transferred to the folder with the specified brand name.
- If the corresponding brand name folder does not exist when new shape data is to be saved, the brand is automatically created and registered.

1 [Data]

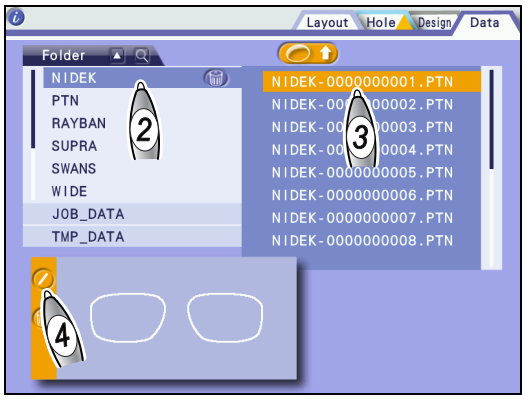
➔Data management screen

2 Select the brand folder containing the shape data to be renamed from the brand list.

3 Select the shape data to be renamed.

4

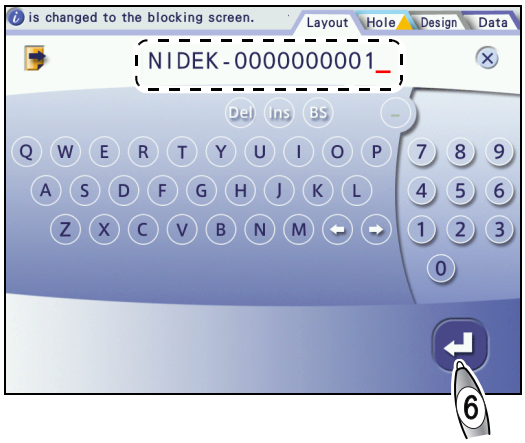
➔Keyboard screen



5 Enter a new shape data name.

6

The new shape data name is confirmed. The Data management screen is displayed again.

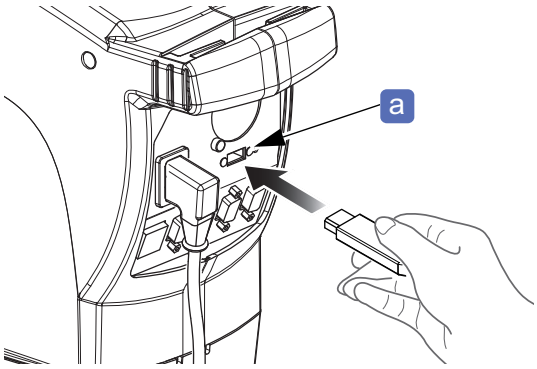


3.4.3 Backing up data to USB flash drive

⚠ CAUTION

- Use the USB flash drive specified by Nidek.
- When connecting or disconnecting the USB flash drive, turn off the instrument and do not touch the terminal area directly by hand. Also, make sure that the terminal area does not contact any metal objects.
- Confirm that the USB flash drive is not write-protected. Orient the USB flash drive properly and fully insert it into the USB port.
- Do not disconnect the USB flash drive during data backup.
  Nidek is not responsible for any loss or damage to data due to negligence of backup.
- All data saved in the internal memory other than TMP data is backed up. Backup of individually selected data is not possible.

1 With the instrument turned off, check the orientation of the USB flash drive and insert it into the USB port a.



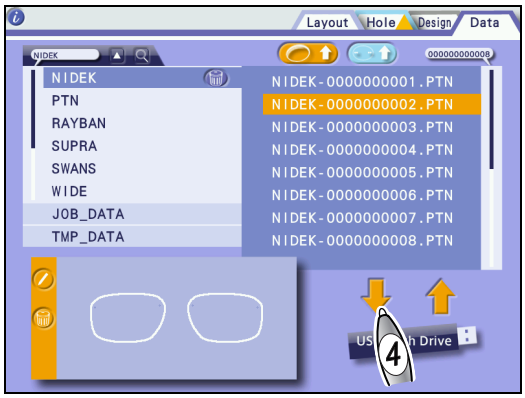
2 Turn on the power switch.

3 [Data]

→Data management screen

4 [Backup to USB]

→ Confirmation message



- Back up: Yes

  All data saved in the internal memory other than TMP data is backed up.

  Each data is saved to BAK > serial number > date_time > brand folder.

- Cancel: No

5 When backup is complete, turn off the power switch of the instrument.

6 Disconnect the USB flash drive.

3.4.4 Restoring data from USB flash drive

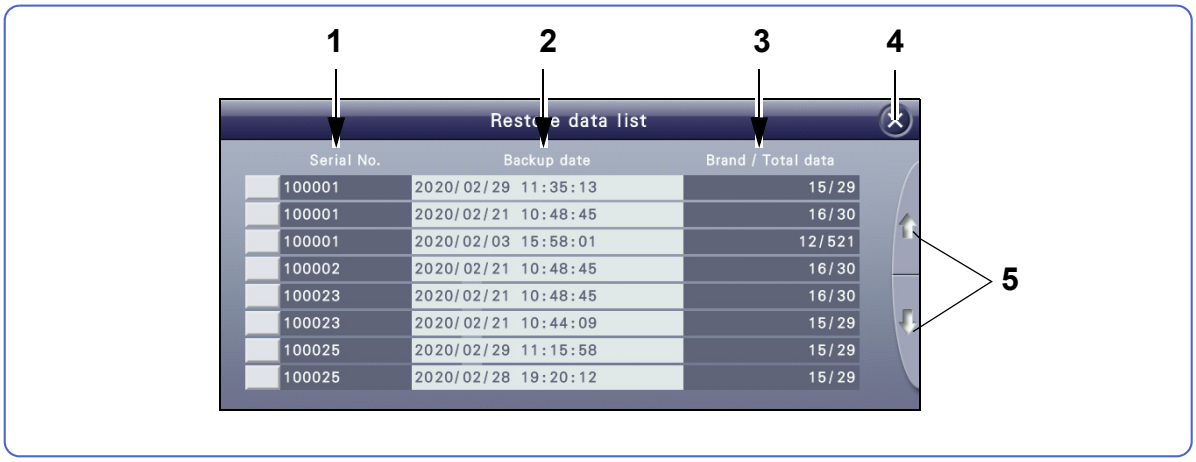
⚠ CAUTION

- When connecting or disconnecting the USB flash drive, turn off the instrument and do not touch the terminal area directly by hand. Also, make sure that the terminal area does not contact any metal objects.
- If data is restored from the USB flash drive, all data saved in the instrument is deleted and replaced with the data in the USB flash drive. Before restoration, be sure to back up all data in the instrument to another USB flash drive.

  Nidek is not responsible for any data loss.
- Only data backed up from this instrument can be restored. Data from other instruments or data changed by the operator may cause a malfunction. Never restore such data.

● Restore data list (when the USB flash drive is connected)

Pressing the [Restore from USB] button on the Data management screen and [Yes] displays this list.



1 Serial No. field

Displays the serial numbers of the instruments whose data is backed up in ascending order. However, if the serial number of the currently used instrument exists, it is displayed at the top.

2 Backup date (descending order)

3 Brand / Total data

Displays the number of brands and shape data items.

4 [Close] button

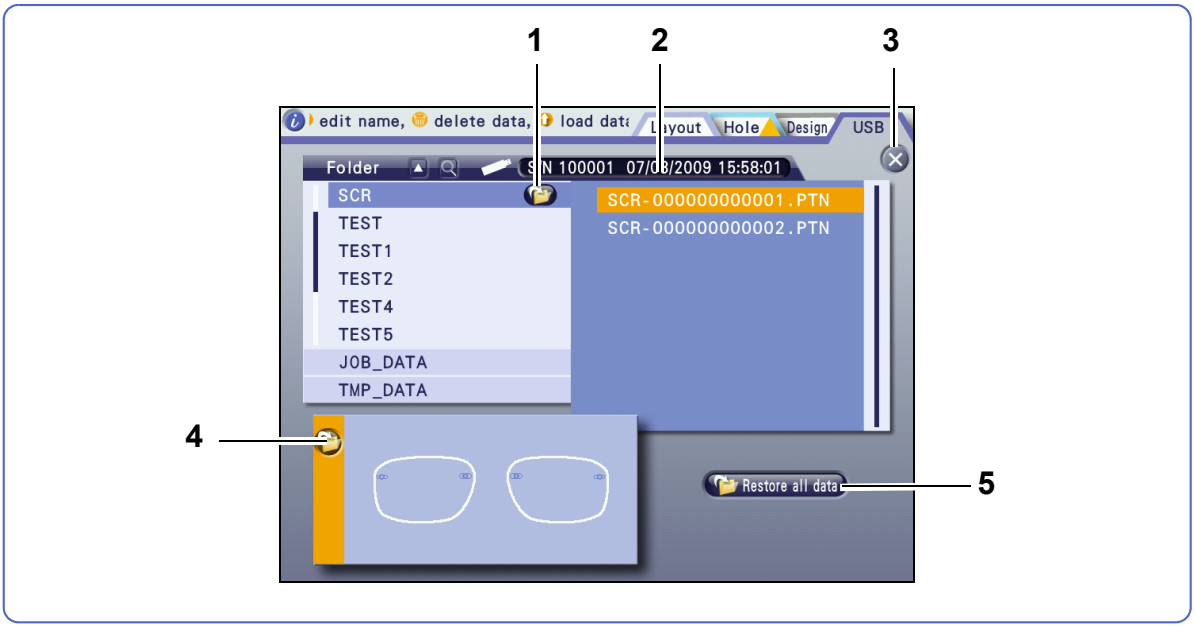
Displays the Data management screen.

5 [Scroll] buttons

Displayed when the number of data items exceeds eight.

◆ Data restore screen

Selecting data from “Restore data list” displays this screen (when the USB flash drive is connected).



1 [Folder restore] button

Displays the message confirming whether to restore the selected folder data in the USB flash drive. Pressing [Yes] starts restoration.

2 Serial No. and backup date indication

Indicates the serial number, and backup date and time.

3 [Close] button

Returns to the Data management screen.

4 [Data restore] button

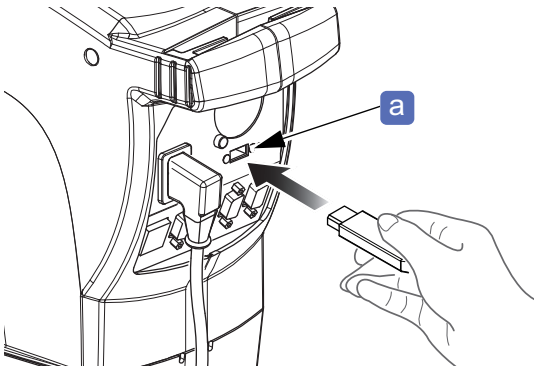
Displays the message confirming whether to restore the selected shape data in the USB flash drive. Pressing [Yes] starts restoration.

5 [Restore all data] button

Replaces all data saved in the internal memory with the data in the USB flash drive.

◆ Restoring data from USB flash drive

1 With the instrument turned off, check the orientation of the USB flash drive and insert it into the USB port a.



2 Turn on the power switch.

3 [Data]

→Data management screen

4 [Restore from USB]

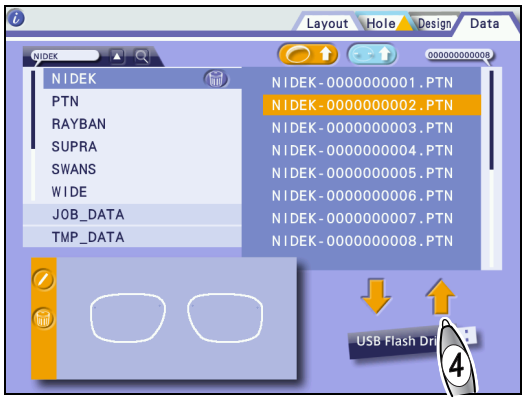
→ Restore confirmation message

- Restore: Yes

  → Restore data list

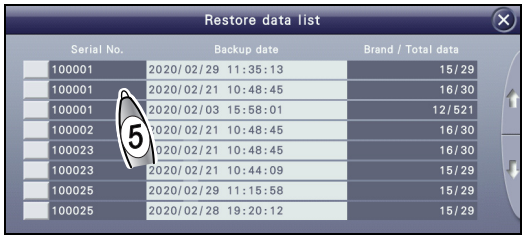
- Cancel: No

  Cancels restoration.



5 Select the data to be restored.

→Data restore screen



6 Perform any of the following.

- When restoring shape data

  1) Select the data to be restored.

  2)

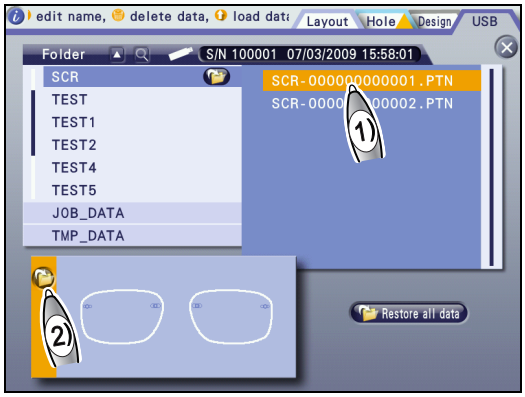
  → Restore confirmation message

  - Restore: Yes

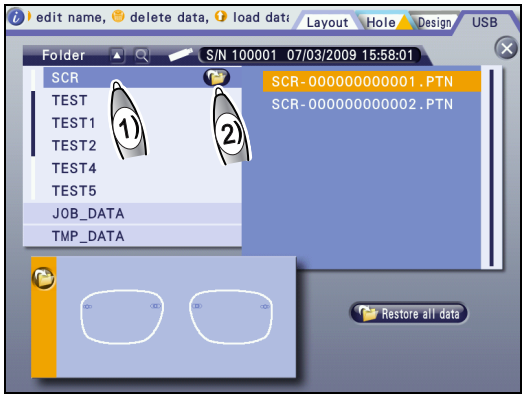
    The data is restored to the internal memory.

  - Cancel: No

    Cancels restoration.



- When restoring a folder



1) Select the folder to be restored.

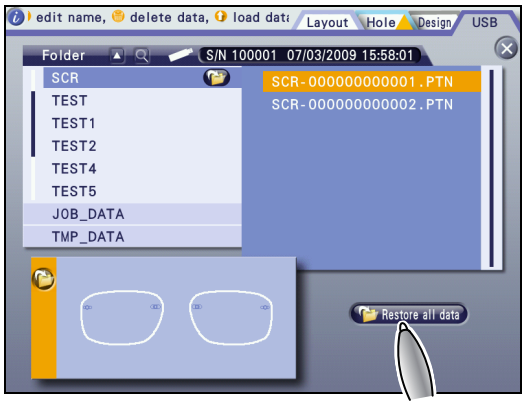
2) 

→Restore confirmation message

- Restore: Yes
  The folder is restored to the internal memory.

  Cancel: No
  Cancels restoration.

- When replacing all data



 [Restore all data]

→ Replace confirmation message

- Replace: Yes

  → Replace confirmation message

  Cancel: No
  Cancels replacement.

- Replace: Yes
  All shape data is replaced in the internal memory.

  Cancel: No
  Cancels replacement.

7 When backup is complete, turn off the power switch of the instrument.

8 Disconnect the USB flash drive.

3.5 Shape Measurement with Shape Imager Function

Contents described in this section
"3.5.1 Demo lens (with markings) measurement" (page 74) *"♦ Preparation for measurement" (page 74), "♦ Demo lens measurement" (page 75)*
"3.5.2 Pattern measurement" (page 77)
"3.5.3 Manual alignment mode measurement" (page 78)
"3.5.4 Handling of shading cover" (page 79)

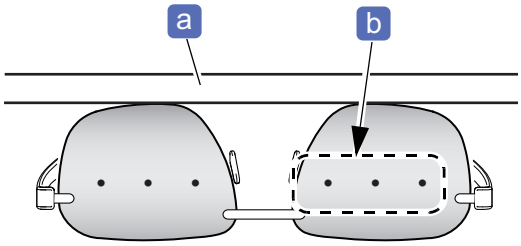
- The procedure for setting the shape measurement table is displayed as an animation. You can select the animation for the standard one or that for the optional one at the time of installation (or you can select not to display the animation). Ask our service personnel.
- Before scanning, clean the surface and edge of the demo lens, and the shape measurement table using a soft, dry cloth. If there is any dust, scanning may not be performed correctly.
- Images may not be scanned correctly for the following lenses:
  - Lens with safety-beveled and polished edge or lens with straight edge
  - High base curve lens, colored lens, or dual-tone colored lens
  - Lens with a hole whose outline is unclear, or lens with holes whose separation is too small
- Do not place a demo lens or pattern on the shape measurement table before displaying the Shape Imager screen. Accurate measurement may not be performed.

3.5.1 Demo lens (with markings) measurement

◆ Preparation for measurement

1 Clean the surface and edge of the demo lens, the reflection protective plate, and the shape measurement table with a soft, dry cloth.

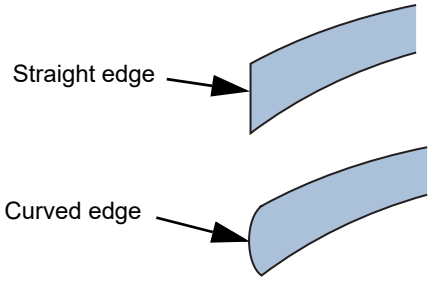
2 Mark b the demo lens with a lensmeter a to indicate its horizontal reference line.



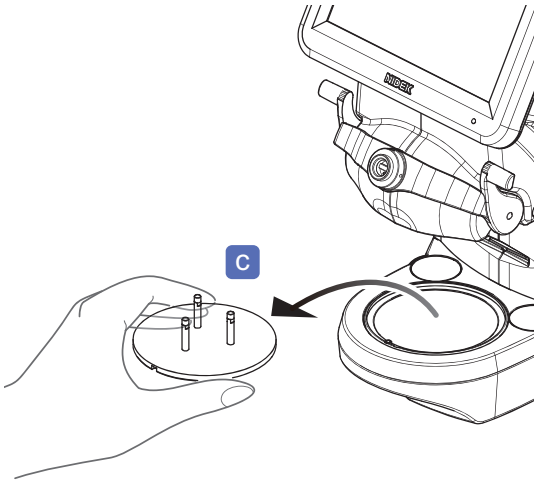
3 When marking is complete, remove the lens from the frame.

4 For a demo lens with safety-beveled and polished edge or with straight edge, it is recommended to safety bevel its front edge by approximately 0.5 mm.

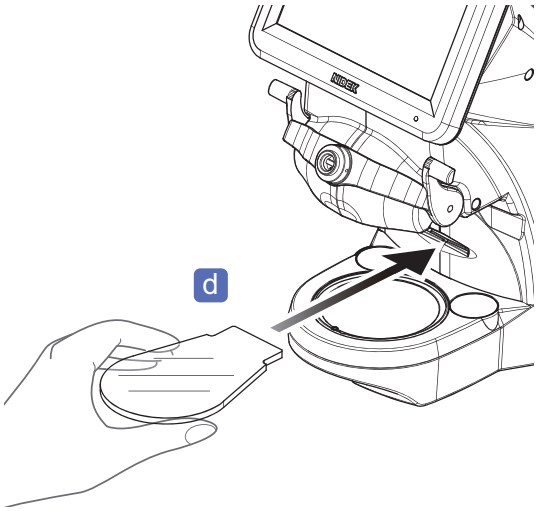
Otherwise, scanning may not be performed correctly.



5 Remove the lens table c.



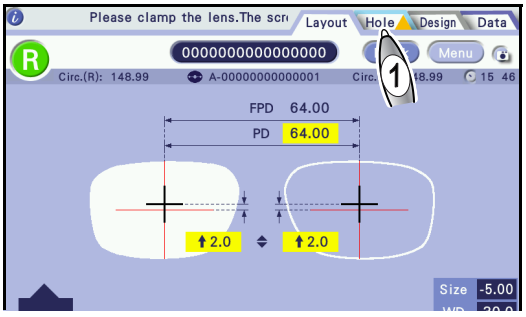
6 Insert the shape measurement table d into the attachment slot in the orientation as shown to the right.



◆ Demo lens measurement

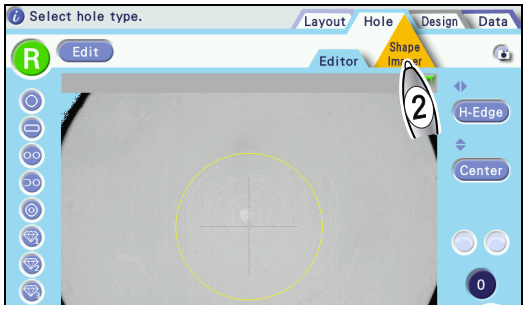
1 [Hole]

→Hole Editor screen

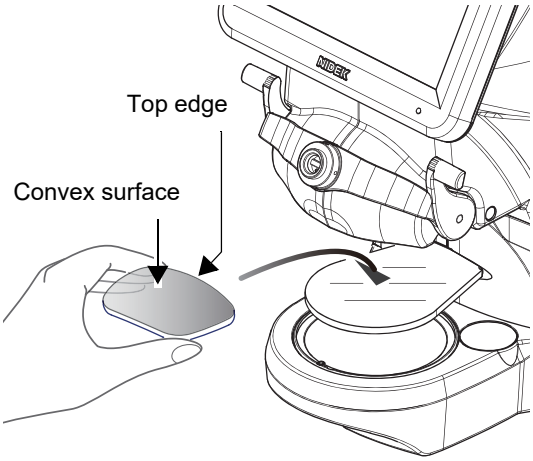


2 Shape Imager

→Shape Imager screen



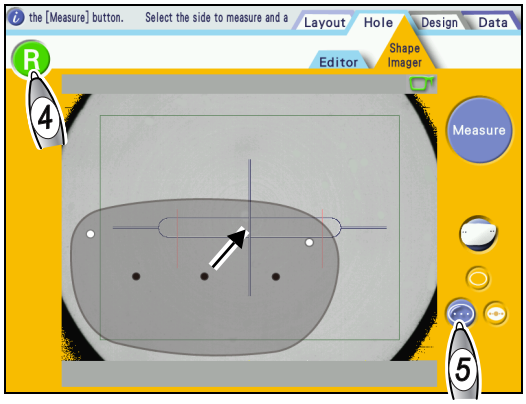
3 Place the demo lens in the center of the shape measurement table with its top edge facing in and convex surface facing up.



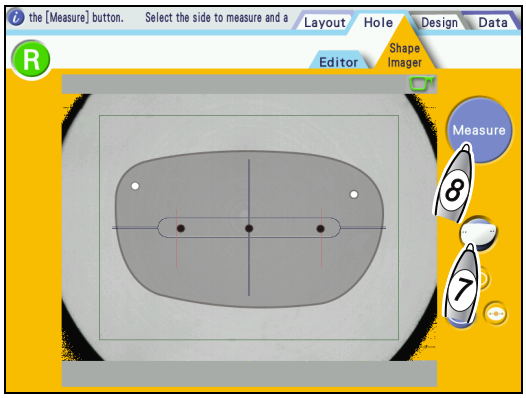
4 Select [L] or [R] according to the lens to be measured.

5

6 Center the markings on the demo lens while aligning them horizontally within the alignment scale as precisely as possible.



7 Select from among [Hole measurement mode], [Design cut mode], and [Step measurement mode] according to the demo lens shape.



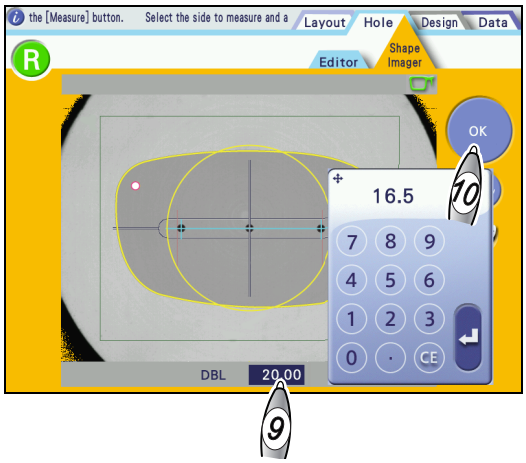
	Hole measurement mode (standard)
	Design cut measurement mode (disabled by default) *"4.3.3 Design cut editing" (page 141)*
	Step measurement mode (disabled by default) *"4.4.1 Step editing" (page 153)* *"4.4.2 Partial step editing" (page 156)*

8 Measure

"Wait while measuring." is displayed in the information bar. Wait for some time without touching the instrument.

When measurement is complete, the detected outline is displayed by a white solid line and hole is displayed by a pink dashed line on the screen.

9 When measurement is complete, press the [DBL] field to display the numeric keypad and enter a value.



10 OK

➔ Hole Editor screen

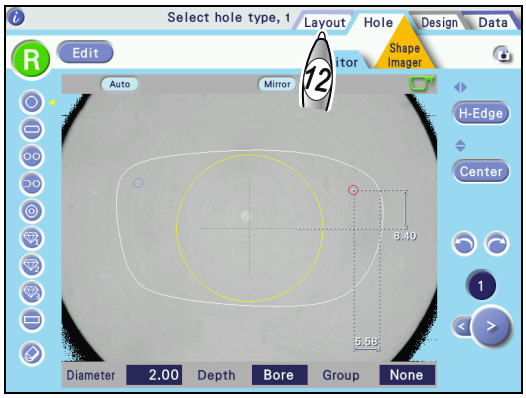
If the outline cannot be scanned properly or markings cannot be detected, press Cancel and restart the operation from Step 6.

11 Add any hole that could not be measured or delete any hole that is unnecessary.

❖ For hole editing, see *"3.8 Hole Editing" (page 101)*.

12 When hole editing is complete, press [Layout] to confirm the edited data.

➔ Layout screen



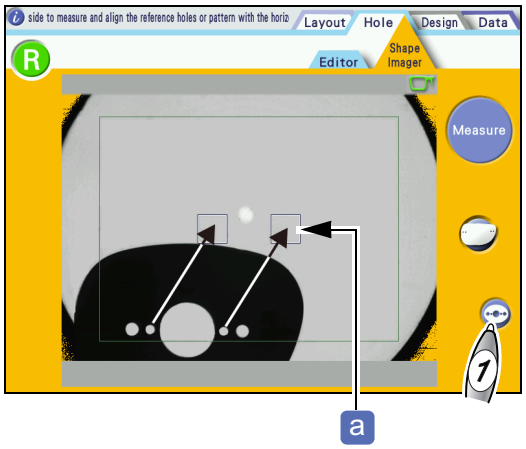
3.5.2 Pattern measurement

- If the pattern sizes for metal, plastic, or optyl frames do not fit, use a tracer.
- Completely remove any burrs from the pattern.

❖ Pattern measurement uses the same procedure as *"♦ Demo lens measurement" (page 75)* with the following replacing Steps 5 and 6.

1

2 Align the pattern holes so that each is centered in its corresponding square scale for pattern a and they are horizontal as precisely as possible.



3.5.3 Manual alignment mode measurement

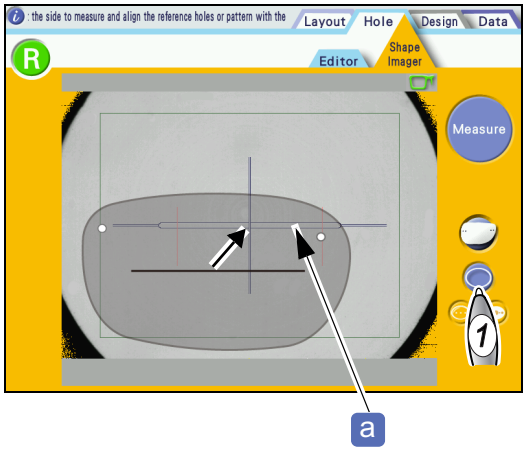
Manual alignment mode is used for measuring a demo lens that cannot be marked. As the tilt of the center line is not automatically corrected, perform alignment as precisely as possible.

❖ Manual alignment mode measurement uses the same procedure as *"♦ Demo lens measurement" (page 75)* with the following replacing Steps 5 and 6.

1 Draw a horizontal center line on a demo lens with a water-based pen or such.

2 

3 Align the center line on the demo lens to the center of the alignment scale a.



4 Adjust the center line to be horizontal within the alignment scale.

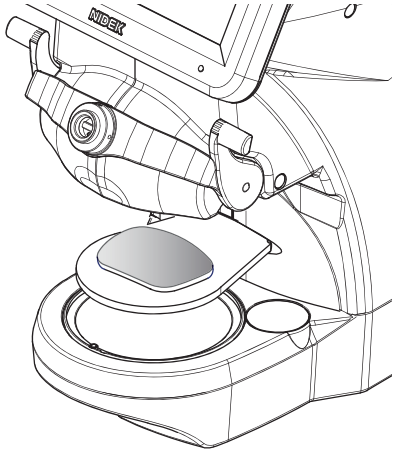
As the tilt of the center line is not automatically corrected, perform alignment as precisely as possible.

3.5.4 Handling of shading cover

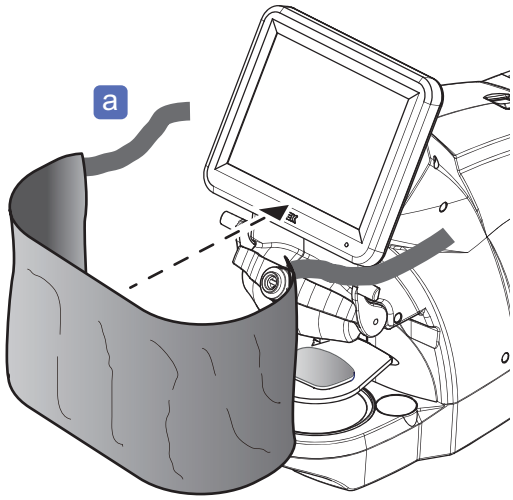
Install the instrument in a location not exposed to direct sunlight or intense interior lighting. The accuracy of image scanning may be affected. Especially, when measuring sunglass lenses, use the shading cover.

1 Place a demo lens or pattern to be measured on the shape measurement table as precisely as possible.

"3.5 Shape Measurement with Shape Imager Function" (page 74)



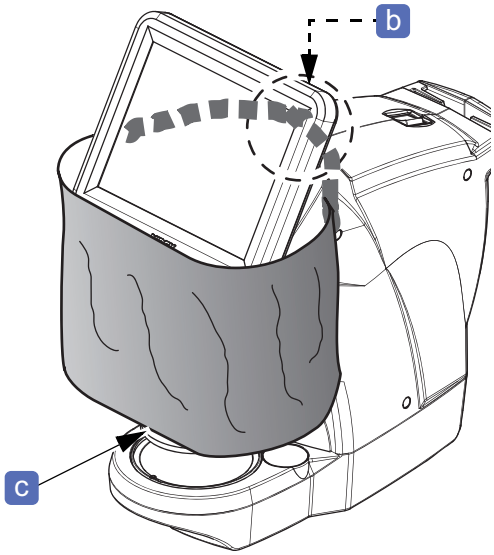
2 With the shading cover center aligned with the bottom center of the display, wrap the straps a around the display.



3 Fasten the straps with the Velcro tabs b.

4 Arrange the bottom edge of the shading cover so that the lens is not exposed to any exterior light.

Even if there is a gap c of approximately 1 cm between the shape measurement table and the bottom edge of the shading cover, the measurement accuracy is hardly affected.



3.6 Entering Processing Conditions

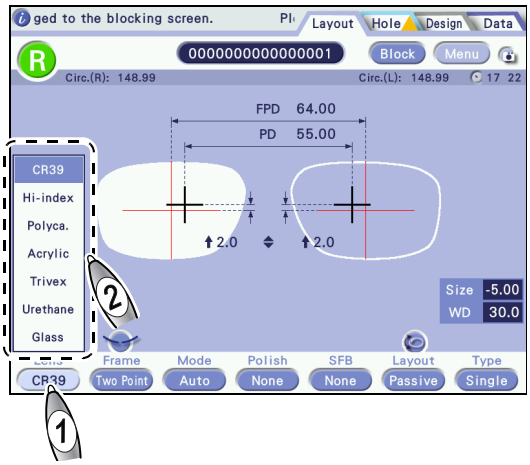
Contents described in this section

Load shape data to the Layout screen before entering the processing conditions.

3.6.1 Lens material selection

1  [Lens]

2 Select the lens material.



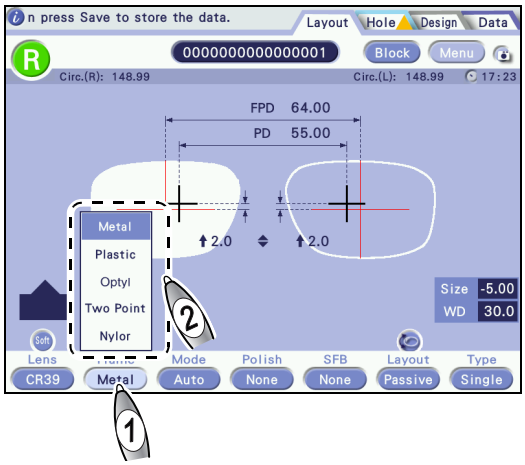
Lens
CR39 (general plastic)
Hi-index (plastic lens with a refractive index of 1.60 or greater)
Polyca. (polycarbonate)
Acrylic
Trivex
Urethane (polyurethane)
Glass

- Select the lens material correctly.
  Otherwise, the lens cannot be processed properly. The wheel lifetime is also reduced.
- To process plastic lenses that are prone to burrs or chips, select [Hi-index].
- To process a lens material that is susceptible to heat such as Trivex lenses, select [Trivex].

3.6.2 Frame type selection

1 [Frame]

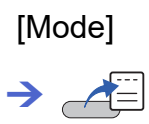
2 Select the frame type.



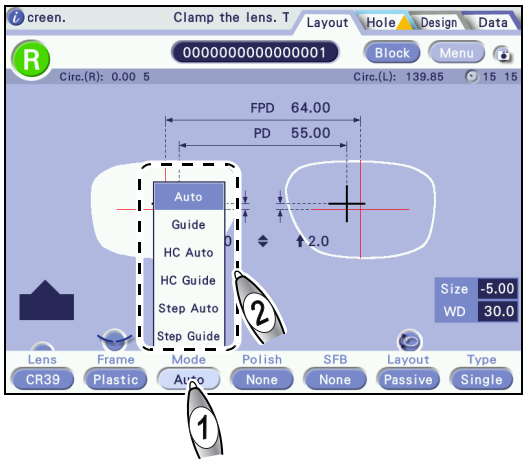
Frame
Metal
Plastic (celluloid frame)
Optyl (epoxy frame)
Two Point
Nylor

3.6.3 Processing mode selection

1 [Mode]



2 Select the processing mode.



- Details on processing mode

Mode	Details
Auto	The bevel/groove position and curve are automatically calculated by computer.
Guide	The bevel/groove position and curve are manually entered.
HC Auto	The bevel position and curve are automatically calculated by computer for high base curve lenses.
HC Guide	The bevel position and curve are manually entered for high base curve lenses.
Step Auto	The step beveling position and curve are automatically calculated by computer.
Step Guide	The step beveling position and curve are manually entered.
Flat	Beveling or grooving is not performed.

- Selecting processing mode

The table below shows the processing mode available for each Frame and Mode combination.

Frame	Mode	Processing mode
Metal / Plastic / Optyl	Auto	Auto beveling
	Guide	Guide beveling
	HC Auto	High base curve auto beveling
	HC Guide	High base curve guide beveling
	Step Auto	Step auto beveling
	Step Guide	Step guide beveling
Two Point/Nylor	Flat	Flat edging * Selecting [Two Point] automatically corrects FPD. However, when [Nylor] is selected, FPD is not corrected.
Nylor	Auto	Auto grooving
	Guide	Guide grooving

3.6.4 High base curve beveling selection

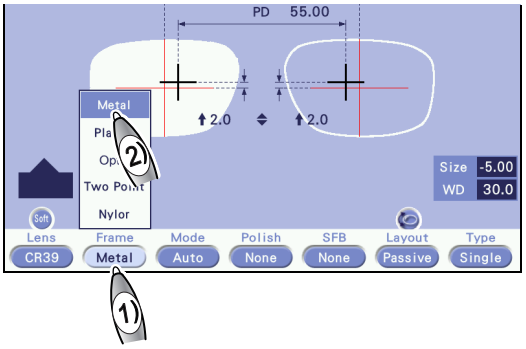
- Select the frame type from among [Metal], [Plastic], and [Optyl].
- The layout mode is automatically set to [Passive].
- Safety beveling is automatically set to [None].
- Depending on the lens edger, [HC Auto] or [HC Guide] may not be set.

1 Select the frame type.

1) [Frame]

→

2) Metal / Plastic / Optyl

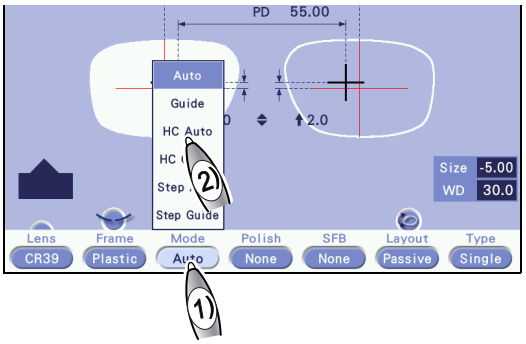


2 Select the high base curve processing mode.

1) [Mode]

→

2) HC Auto / HC Guide



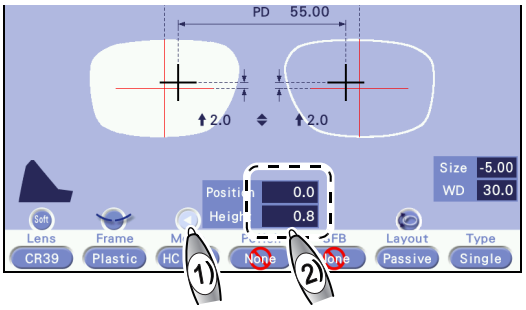
3 Set the bevel position and bevel height.

1)

→

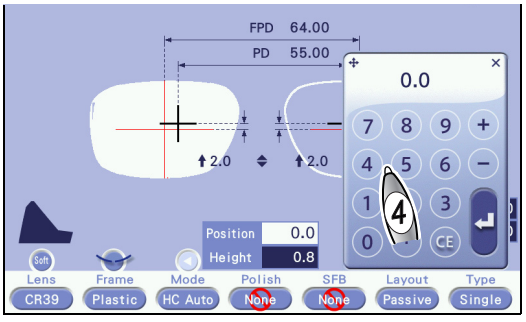
2) [Position] / [Height]

→



4 Enter each value and press .

Item	Setting range
Position	0.0 to 12.7 mm
Height	0.1 to 5.0 mm



5

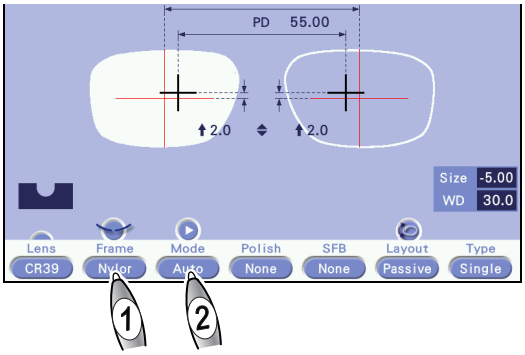
The pop-up menu closes.

3.6.5 Grooving setting

- Grooving can be set only when the connected lens edger has the grooving function. Before grooving a lens, check the simulation screen of the lens edger to make sure that the groove settings are correct.
- When the lens material is set to [Glass], grooving cannot be selected.

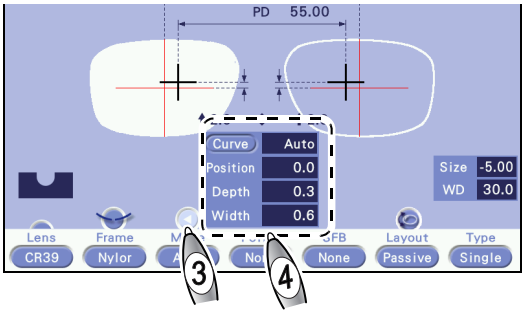
1 Nylor

2 Auto / Guide



3 →

4 Set the groove curve, position, depth, and width.

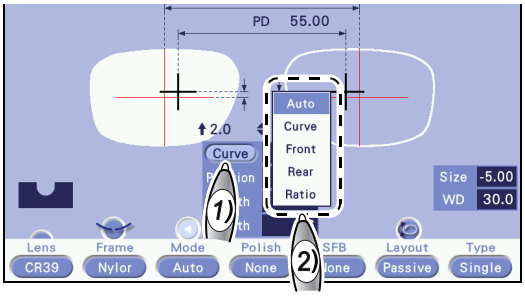


● Curve setting

The curve can be set only when the processing mode is set to [Auto].

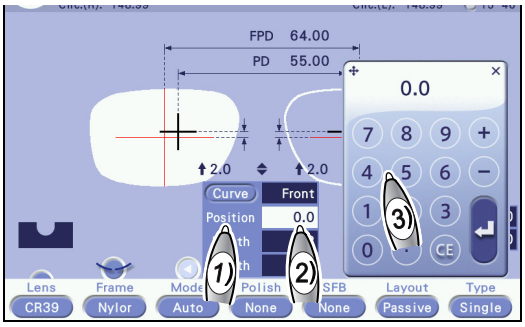
1) Curve →

2) Select the curve type.



Curve	Details
Auto	Computer-calculated curve
Curve	Pressing [Curve] displays the numeric keypad. Manually enter the desired curve value.
Front	Front-based curve
Rear	Rear-based curve
Ratio	Select the groove position on the edge by the ratio. Pressing [Ratio] displays the pop-up menu. Select the ratio from among 3:7, 4:6, 5:5, 6:4, and 7:3.

- Groove position setting

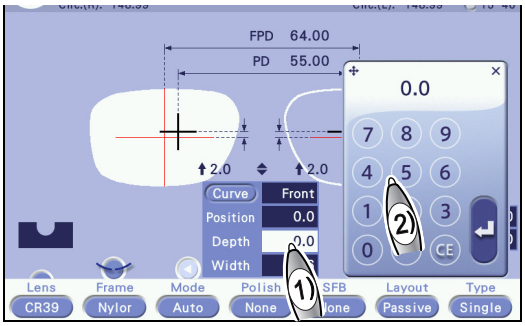


1)  [Position]

2) Enter a value and press  .

Item	Setting range	Details
Negative value	-12.8 to 0.0 mm	The groove moves toward the front surface.
Positive value	0.0 to +12.7 mm	The groove moves toward the front surface.

- Groove depth setting



1)  [Depth]

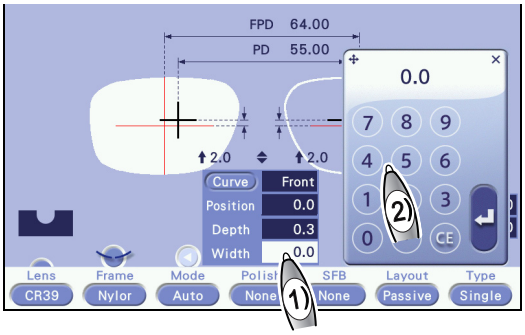
2) Enter a value and press  .

The default of groove depth can be set by the parameter.

 C-03*" Groove depth" (page 169)*

Item	Setting range
Depth	0.0 to 0.8 mm
Increment	0.1 mm

- Width setting



1)  [Width]

2) Enter a value and press  .

The default of groove width can be set by the parameter.

 C-04*" Groove width" (page 169)*

Item	Setting range
Width	0.6 to 1.2 mm
Increment	0.1 mm

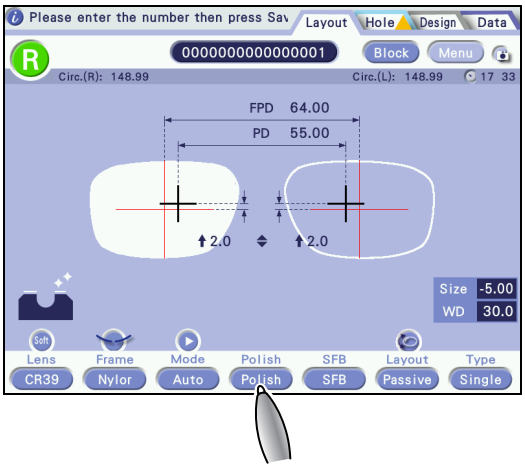
3.6.6 Polishing setting

When the lens material is set to [Glass], polishing is set to [None].

- When the “Polish/SFB setting” parameter is set to [Le/Lex/LEXCE]

Polish / None

Polish	Processing image
Polish	
None	



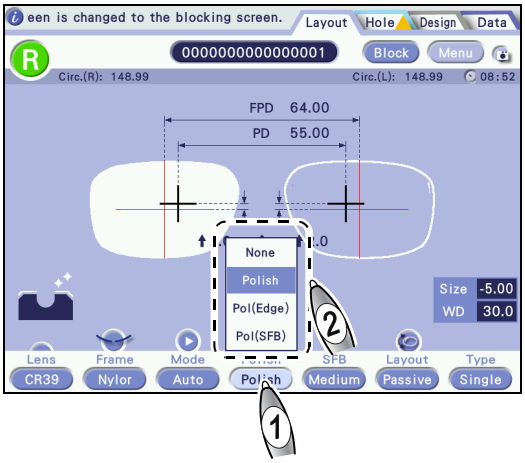
- When the “Polish/SFB setting” parameter is set to [Se/Me]

1 [Polish]

→

2 Select the desired item.

Polish	Processing image
Polish	
None	
Pol(Edge)	
Pol(SFB)	



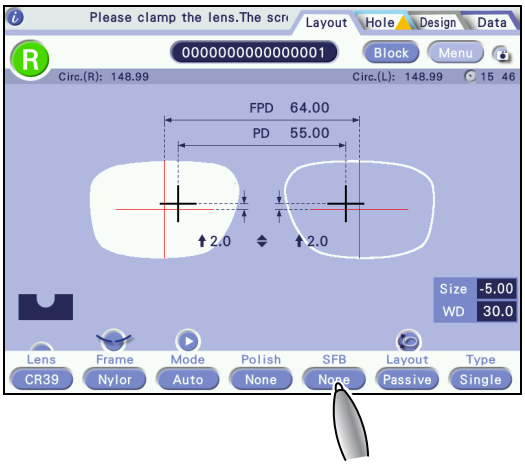
3.6.7 Safety beveling setting

- When the lens material is set to [Glass], [Special] cannot be selected.
- In high base curve mode, safety beveling is set to [None].

● When the “Polish/SFB setting” parameter is set to [Le/Lex/LEXCE]

SFB / None

SFB	Processing image
SFB	
None	



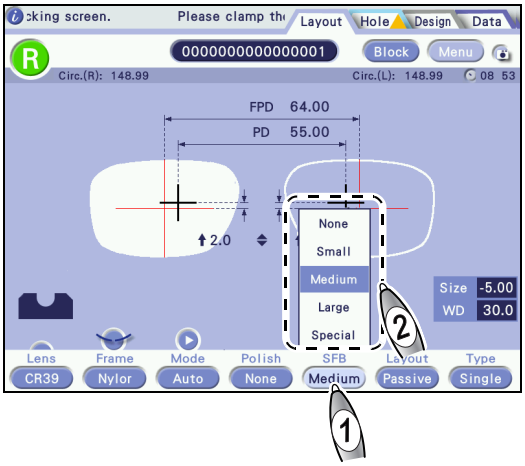
● When the “Polish/SFB setting” parameter is set to [Se/Me]

1 [SFB]

→

2 Select the desired item.

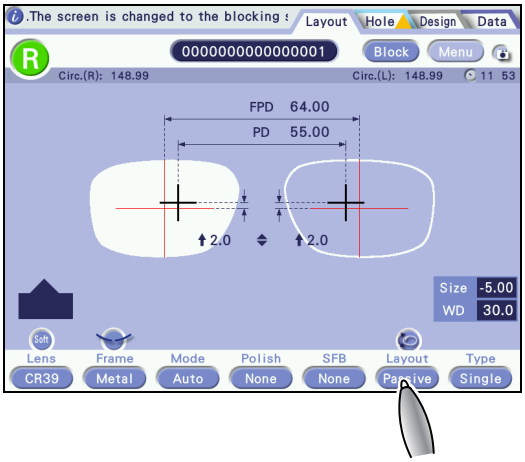
SFB	Processing image
Small, Medium, Large, Special	
None	



3.6.8 Layout mode setting

- Select the layout mode between [Passive] for blocking at the boxing center and [Active] for blocking at the optical center.
- The layout mode for multifocal lenses is fixed to [Passive]. A lens is blocked at the position specified by the parameter with reference to the segment position.

Passive / Active



Passive*a	Blocks a lens at the boxing center*b.
Active	Blocks a lens at the optical center.

*a. When [Multi], [HC Auto], [HC Guide], [Step Auto], or [Step Guide] is selected, the layout mode is automatically set to [Passive].

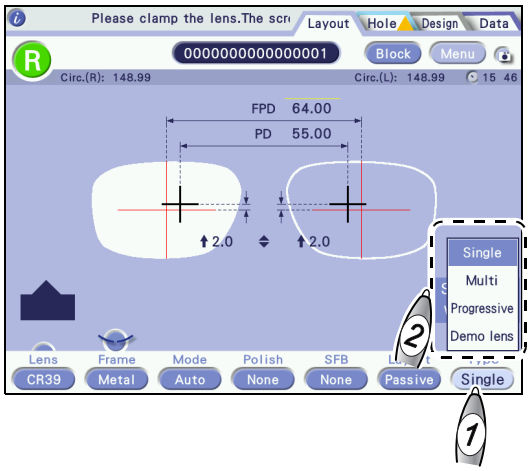
*b. The center of a box drawn around the lens shape using its maximum height and width

3.6.9 Lens type selection

1 [Type]

→

2 Select the lens type.



Type
Single
Multi
Progressive (progressive power)
Demo lens*a

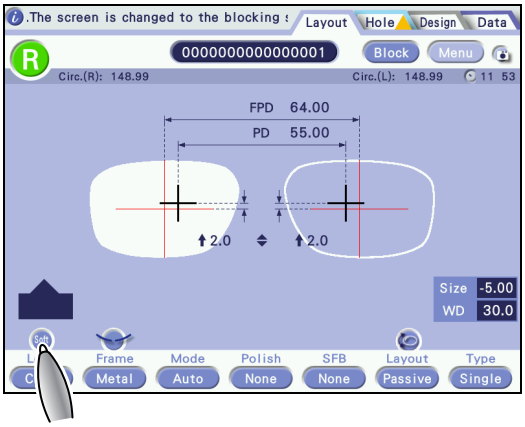
*a. Selecting [Demo lens] displays the screen for blocking a demo lens.

3.6.10 Soft processing mode setting

For a slippery lens (due to a coating or such) or a glass lens with possibility of breaking, select Soft.

Soft /

Soft processing	Button
On	Soft
Off	



Note

- To set soft processing mode, the lens edger and its software need to be compatible.
- Soft processing is not available depending on the lens material. For details, refer to the operator's manual for the connected lens edger.

3.6.11 Frame warping angle setting

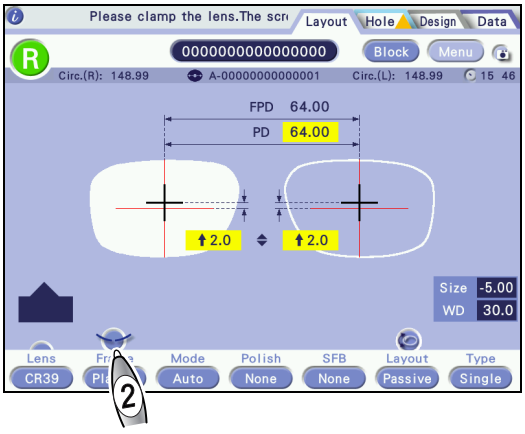
After single-eye tracing (including high base curve frame tracing), shape measurement, or pattern (demo lens) tracing, the frame warping angle and frame curve value can be changed.

- Frame warping angle: The number of degrees the frames warp when viewed from above and below
- Frame curve: Frame curve value provided with frames or that measured with a tracer
- For two-point or nylor frames, the frame warping angle or frame curve value may not be reflected in lens processing depending on the software of the connected lens edger.

1 Load the shape measurement, pattern (demo lens) trace, or single frame trace data to the Layout screen.

2

→Frame data edit screen

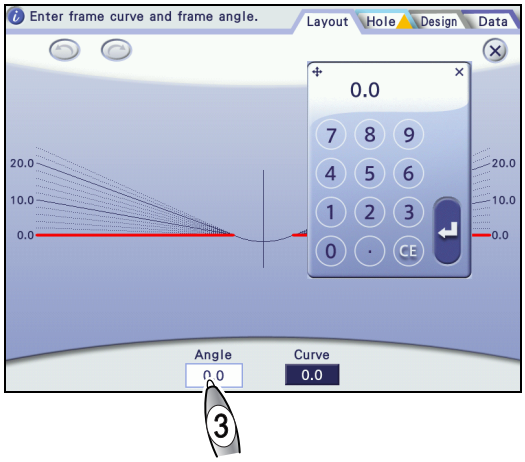


3 [Angle]

→

Enter the frame warping angle and press .

The frame warping angle line is indicated in red.



4 Align the frames a with the frame warping angle line b to check whether the angle is proper.

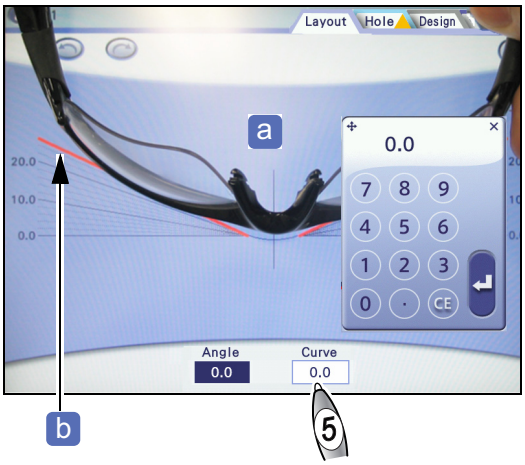
5 [Curve]

→

Enter the frame curve value and press .

6

The screen returns to the Layout screen.



Note

[Undo] and [Redo] functions

- : Undoes up to five editing operations.
- : Redoes up to five editing operations.

3.6.12 Rotating lens shapes

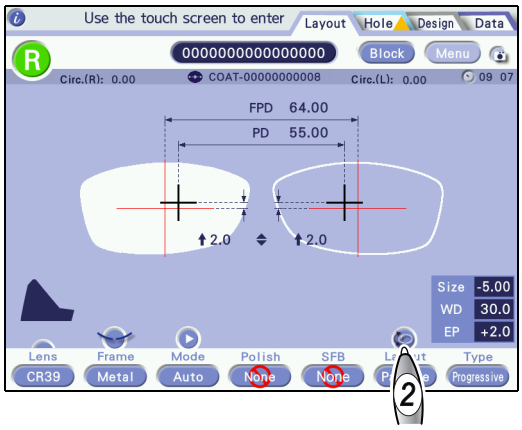
Lens shapes can be rotated.

If the axis of a pliable cup blocked to a demo lens is shifted, it can be corrected by rotating the lens shapes of the trace data.

1 Load lens shapes to the Layout screen.

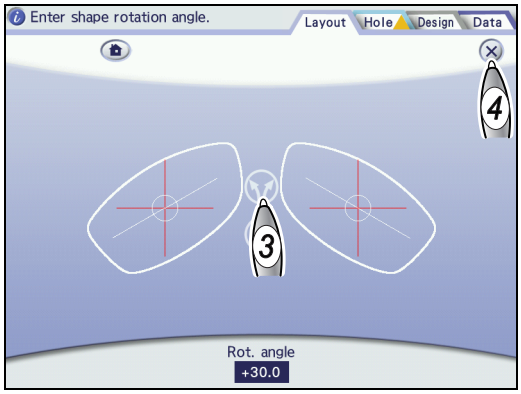
2 Press  .

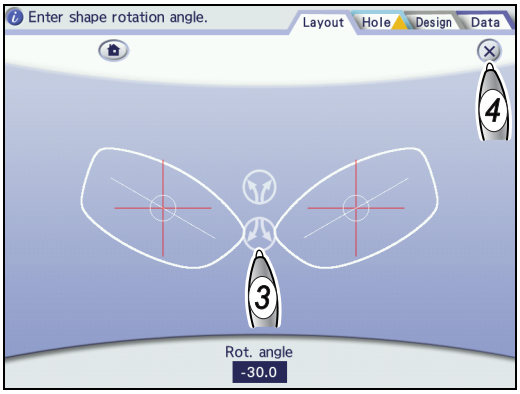
The shape rotation screen is displayed.



3 Press  or  to rotate the shapes by the desired angle.

Each press of the button rotates the shapes 1° in the direction of the arrows indicated on the button.





A rotation angle can also be entered with the numeric keypad that is displayed by pressing the Rot. angle field.

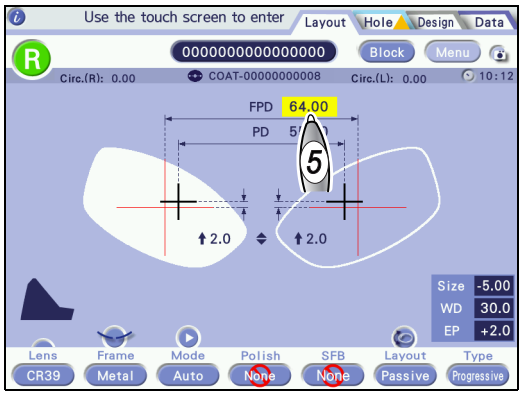
The entry range is -30.0° to +30.0°.

4 Press  to return to the Layout screen.

Note

- Pressing  clears the edited data and displays the original shape data.

5 Enter FPD (or DBL).



Note

- After shapes are rotated, FPD (or DBL) becomes unconfirmed. Be sure to reenter it.
- Hole position, step processing, design processing, and frame warping angle are not changed accordingly for the shape rotation. Change them as necessary.

3.7 Entering Layout Data

Contents described in this section

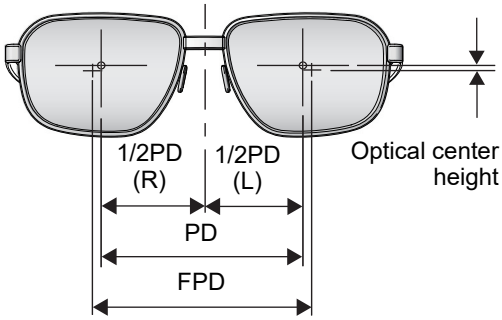
When shape data is loaded to the Layout screen, unconfirmed data values are displayed with a yellow background. Change or confirm them.

3.7.1 Single vision lens layout

For the layout of a single vision lens, enter FPD (DBL), PD (1/2PD) and optical center height.

The default of optical center height can be set by the parameter.

C-01*" Optical center height" (page 169)*

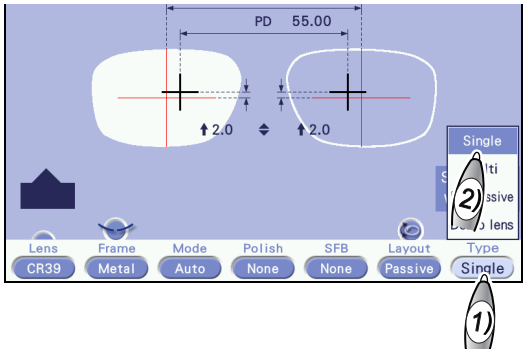


1 Select [Single] for the lens type.

1) [Type]

→

2) Single



2 Set the other processing conditions.

"3.6 Entering Processing Conditions"

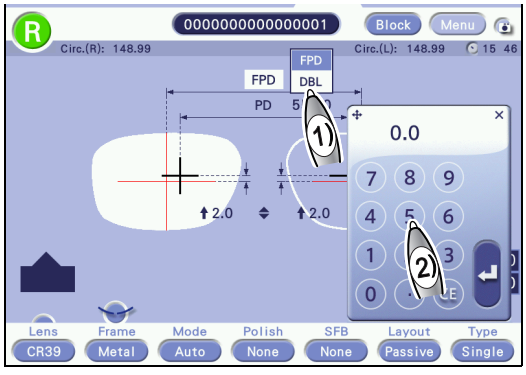
3 Set FPD or DBL.

- When setting FPD

1) [FPD]

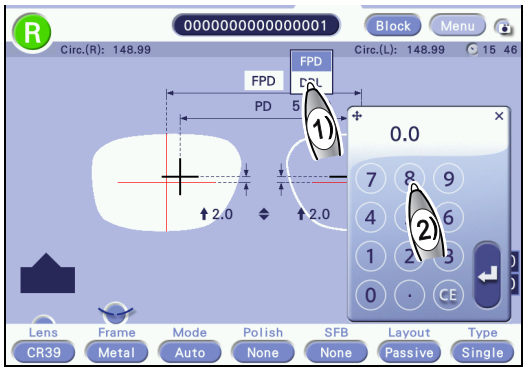
→

2) Enter the FPD value and press .



FPD	
Setting range	30.00 to 99.50 mm
Increment	0.01 mm

● When setting DBL

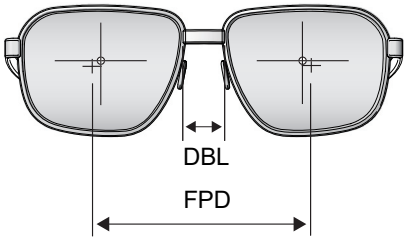


1) [DBL]

➔

2) Enter the DBL value and press .

DBL	
Setting range	0.00 to 99.50 mm – Shape width
Increment	0.01 mm

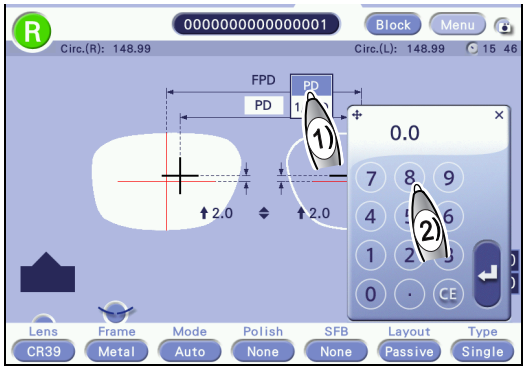


❖ For the DBL entry, take note of the following point.

The DBL value should be regarded as a reference value.
When DBL is entered, as the lens width and frame warping angle become larger, the accuracy of PD will be increasingly off. This deviation is caused by conversion from DBL to FPD. Thus, take DBL as a reference value and it is recommended to enter FPD that does not cause such a deviation.
When measuring DBL with a vernier caliper or such, use the following calculation formula to determine and enter FPD.

DBL + shape width × cos (frame warping angle) = FPD

4 Set PD or 1/2PD.



● When setting PD

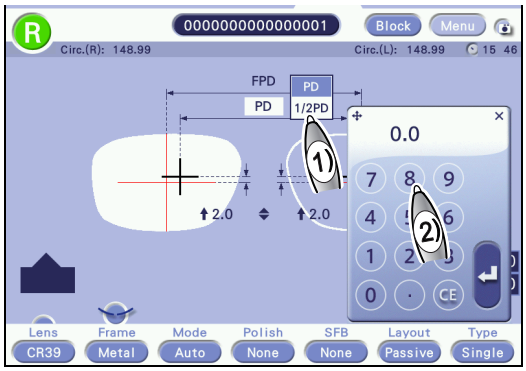
1) [PD]

➔

2) Enter the PD value and press .

PD	
Setting range	30.00 to 99.50 mm
Increment	0.01 mm

- When setting 1/2PD



1) [1/2PD]

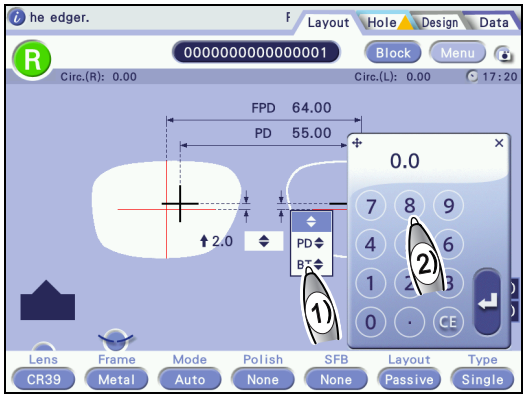
→

2) Enter the 1/2PD value and press .

1/2PD	
Setting range	15.00 to 49.75 mm
Increment	0.01 mm

If no value is entered for the opposite shape, the same value is automatically copied.

5 Select a method to enter the optical center height.



1) ↕ /PD ↕ /BT ↕

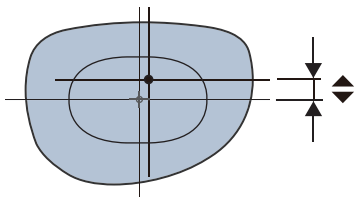
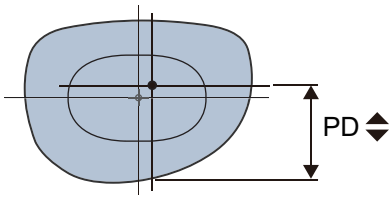
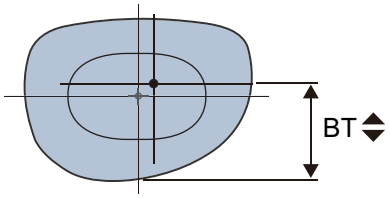
→

Enter the optical center height individually for the right and left shapes.

2) Enter a value and press .

↕ PD ↕ /BT ↕ (converted to ↕)	
Setting range	-15.0 to +15.0 mm
Increment	0.1 mm

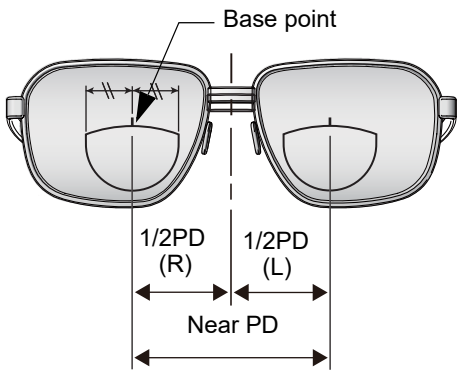
If no value is entered for the opposite shape, the same value is automatically copied.

↕	Enter the vertical distance from the frame center to the optical center. Entering a positive value moves the optical center upward, and entering a negative value moves it downward.	
PD ↕	Enter the vertical distance from the optical center to the point on the lens shape directly below it.	
BT ↕	Enter the vertical distance from the optical center to the lowest point on the lens shape.	

3.7.2 Multifocal lens layout

For the layout of a multifocal lens, enter FPD (DBL), near PD (1/2PD) and optical center height according to the prescription.

- When [Multi] is selected for the lens type. the layout mode is automatically set to [Passive].
- In the blocking of multifocal lenses, the lens position is adjusted based on the base point (top line center) of the segment shape.

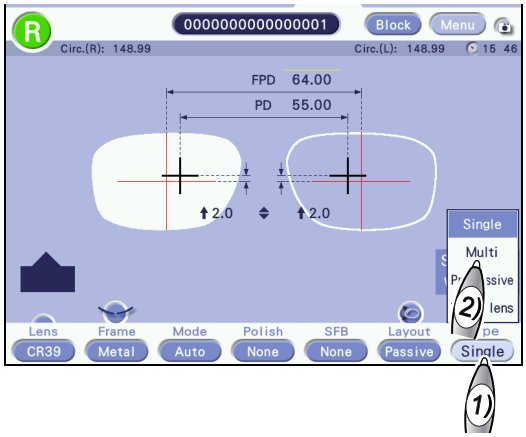


1 Select [Multi] for the lens type.

1) [Type]

→

2) Multi

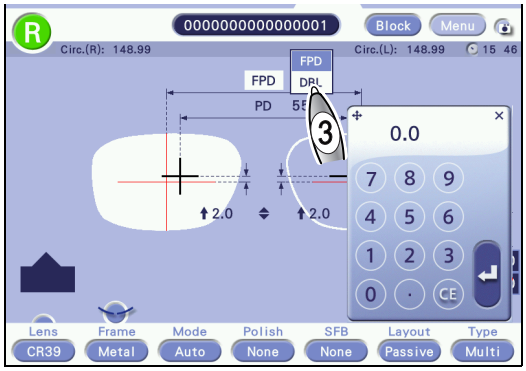


2 Set the other processing conditions.

"3.6 Entering Processing Conditions"

3 Set FPD or DBL.

"3.7.1 Single vision lens layout"



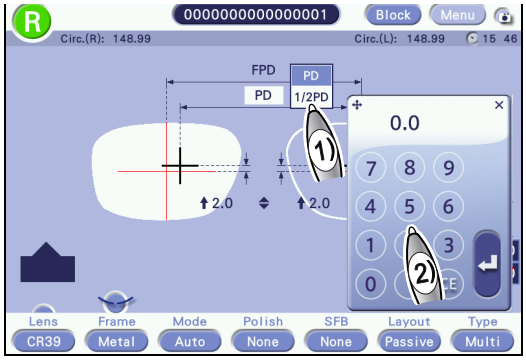
4 Set PD or 1/2PD.

1) [PD] / [1/2PD]

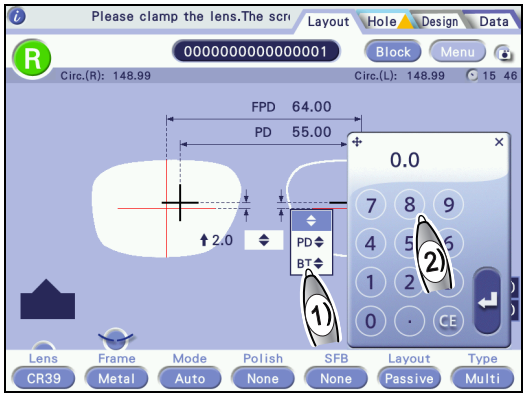
→

2) Enter the prescribed near PD value (PD for segment) and press ↵.

If 1/2PD for the opposite shape is not entered, the same value is automatically copied.



5 Select a method to enter the optical center height.



1) ▲▼/PD ▲▼/BT ▲▼

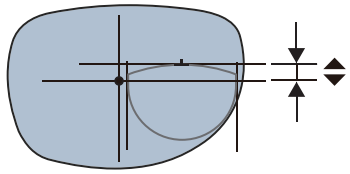
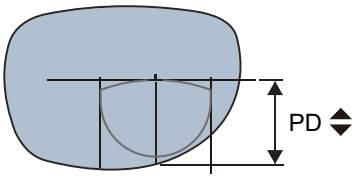
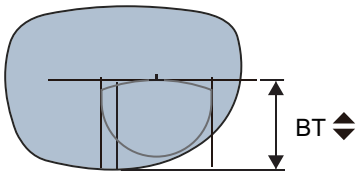
→

Enter the optical center height individually for the right and left shapes.

2) Enter a value and press ↵.

▲▼ PD ▲▼/BT ▲▼ (converted to ▲▼)	
Setting range	-15.0 to +15.0 mm
Increment	0.1 mm

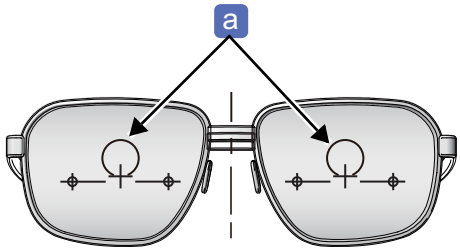
If no value is entered for the opposite shape, the same value is automatically copied.

▲▼	Enter the vertical distance from the frame center to the top line center of segment. Entering a positive value moves the segment upward, and entering a negative value moves it downward.	
PD ▲▼	Enter the vertical distance from the top line center of segment to the point on the lens shape directly below it.	
BT ▲▼	Enter the vertical distance from the top line center of segment to the lowest point on the lens shape.	

3.7.3 Progressive power lens layout

For the layout of a progressive power lens, enter FPD, PD, optical center height, and EP according to the prescription.

Block a lens by adjusting the lens position based on the distance eyepoint mark a printed on the lens.

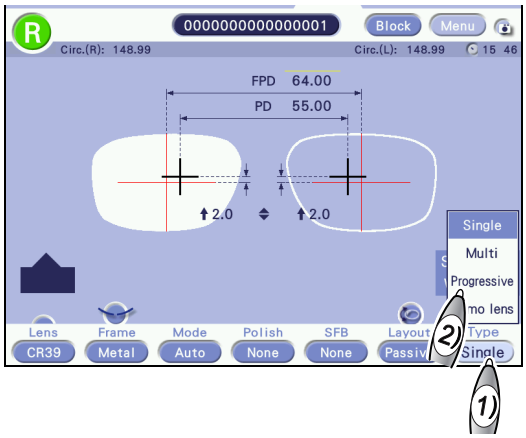


1 Select [Progressive] for the lens type.

1) [Type]

→

2) Progressive

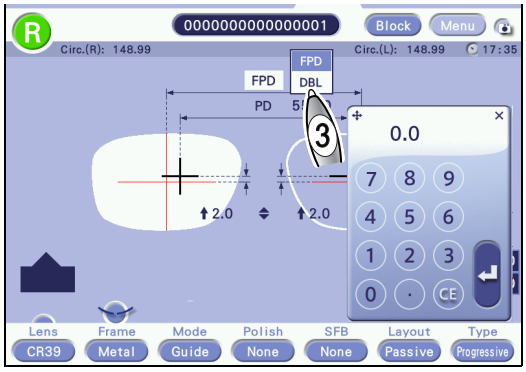


2 Set the other processing conditions.

"3.6 Entering Processing Conditions"

3 Set FPD or DBL.

"3.7.1 Single vision lens layout"



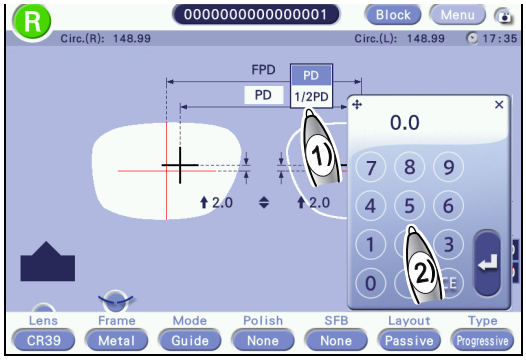
4 Set PD or 1/2PD.

1) [PD] / [1/2PD]

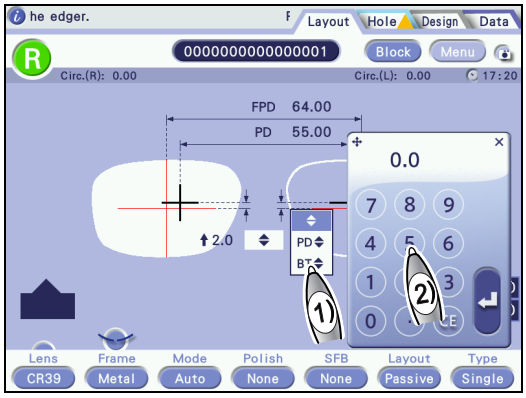
→

2) Enter the prescribed PD value and press ↵.

If 1/2PD for the opposite shape is not entered, the same value is automatically copied.



5 Select a method to enter the optical center height.



1) ⇕/PD ⇕/BT ⇕

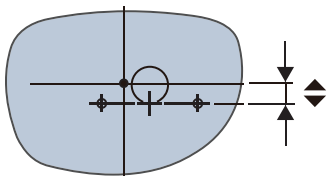
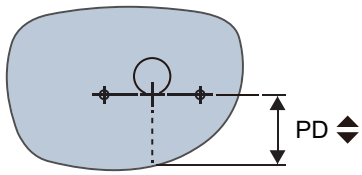
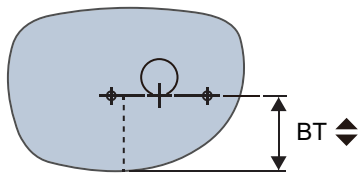
→

Enter the optical center height individually for the right and left shapes.

2) Enter a value and press ↵.

⇕ PD ⇕/BT ⇕ (converted to ⇕)	
Setting range	-15.0 to +15.0 mm
Increment	0.1 mm

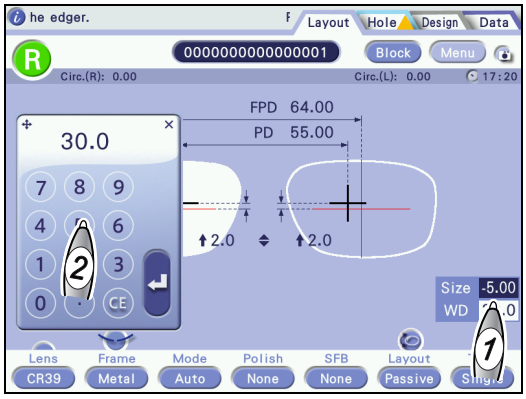
If no value is entered for the opposite shape, the same value is automatically copied.

⇕	Enter the vertical distance from the frame center to the distance eyepoint. Entering a positive value moves the distance eyepoint upward and entering a negative value moves it downward.	
PD ⇕	Enter the vertical distance from the distance eyepoint to the point on the lens shape directly below it.	
BT ⇕	Enter the vertical distance from the distance eyepoint to the lowest point on the lens shape.	

3.7.4 Shape size adjustment

Adjust the shape size as necessary. A shape of pattern or data is enlarged or reduced with this function and the data can be used as different size data.

1 [Size]



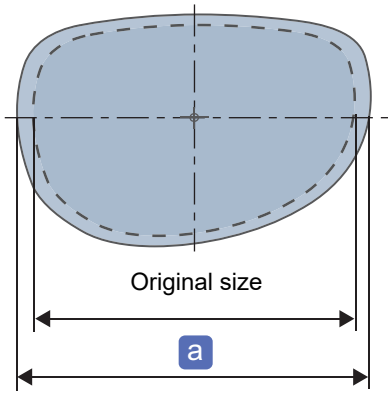
2 Enter a value and press .

Entering a positive value enlarges a shape, and entering a negative value reduces it.

Size	
Setting range	-9.95 to +9.95 mm
Increment	0.01 mm

Ex.— Entry of +5.00 mm

The shape is enlarged by 5 mm a laterally with reference to the optical center. It is also enlarged vertically with a similar form maintained.



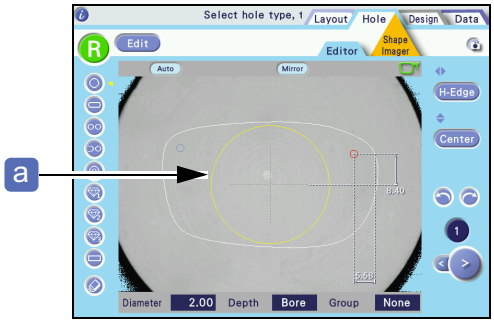
3.8 Hole Editing

Contents described in this section

- All frame types can be drilled.
- When the lens material is set to [Glass], drilling is not possible.
- When the layout mode is set to [Active], blocking is not possible if drilling data exists. Change the mode to [Passive] or delete the drilling data.
- After adding holes, be careful not to move the lens. Holes may not be edited accurately.
- Holes cannot be set inside the restriction radius that is indicated by a yellow circle a .

  The default of restriction radius can be set by the parameter.

  E-04*" Restriction radius" (page 171)*



3.8.1 Hole editing

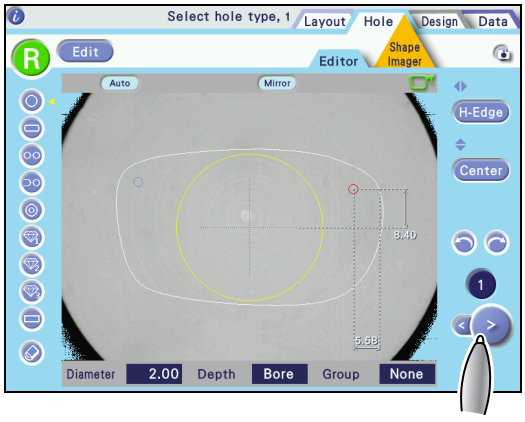
Press [Hole] to display the Hole Editor screen.

◆ Hole selection

: Selects the next hole.

: Selects the previous hole.

The selected hole is displayed in red. The number of the selected hole is indicated above the buttons.

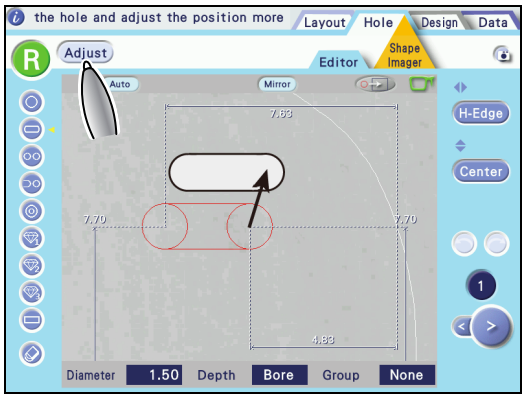


Hole enlargement

Edit

The area around the selected hole is enlarged. Pressing the button again displays the whole shape.

It is also possible to place a demo lens on the shape display and align the hole position with the display enlarged.



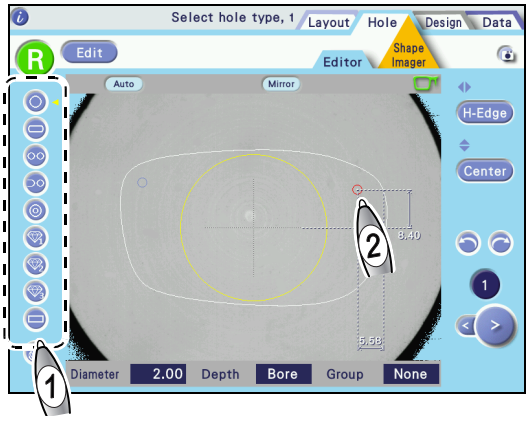
Hole addition

1 [Hole add]

Select the hole type.

2 Specify the hole position with the touch pen.

A maximum of 64 holes can be specified for both eyes.



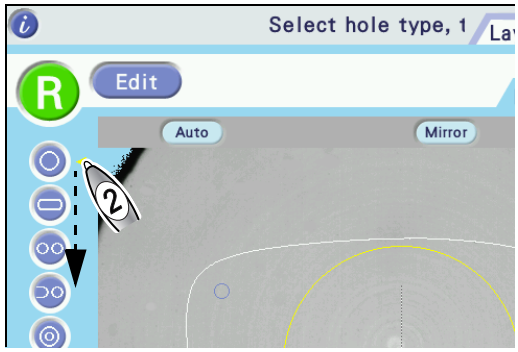
Hole type change

1 Select the hole for which the hole type is to be changed.

2 Drag the hole type indication to the right of the desired hole type button.

The type of the selected hole is changed.

"3.8.5 Hole type setting" (page 108)



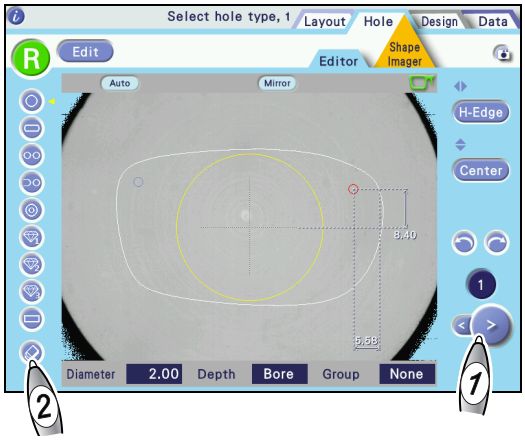
Hole deletion

1 [Hole No. display]

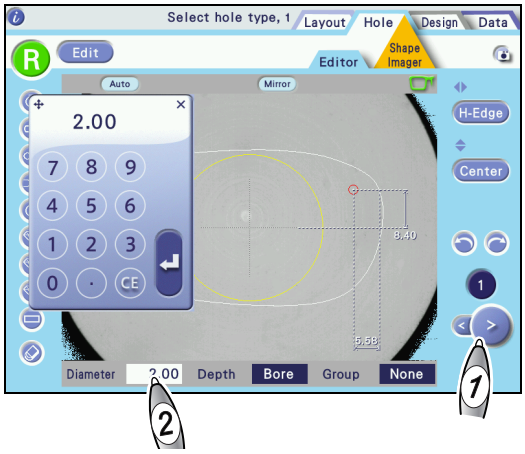
The selected hole is displayed in red.

2

The selected hole is deleted.



◆ Hole diameter change



1 

The selected hole is displayed in red.

2 [Diameter]

→ 

3 Enter a value and press .

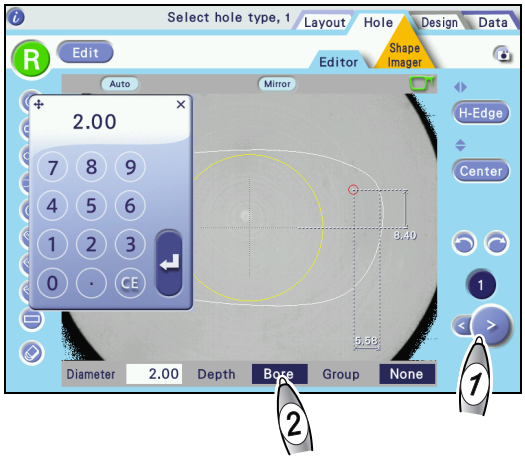
For jewel holes 1 to 3, no values are displayed.

The default of drill bit diameter can be set by the parameter.

E-02*“ Drill bit diameter” (page 171)*

Drill bit diameter	
Setting range	0.50 to 5.00 mm
Increment	0.01 mm

◆ Hole depth change



1 [Hole No. display]

The selected hole is displayed in red.

2 [Depth]

→ 

3 Enter a value and press .

For a through hole, enter “0.0”. For jewel holes 1 to 3, no values are displayed.

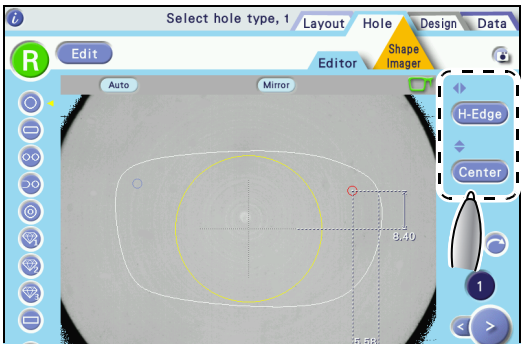
The default of flute length can be set by the parameter.

E-04*“ Flute length” (page 171)*

Flute length	
Setting range	1.0 to 10.0 mm
Increment	0.1 mm

3.8.2 Hole position adjustment

◆ Hole reference position setting



[Horizontal coordinate ◆▶] or [Vertical coordinate ▲▼]

There are six types of coordinate setting methods according to the selection of the horizontal ◆▶ and vertical ▲▼ reference positions. The method can be selected for each hole.

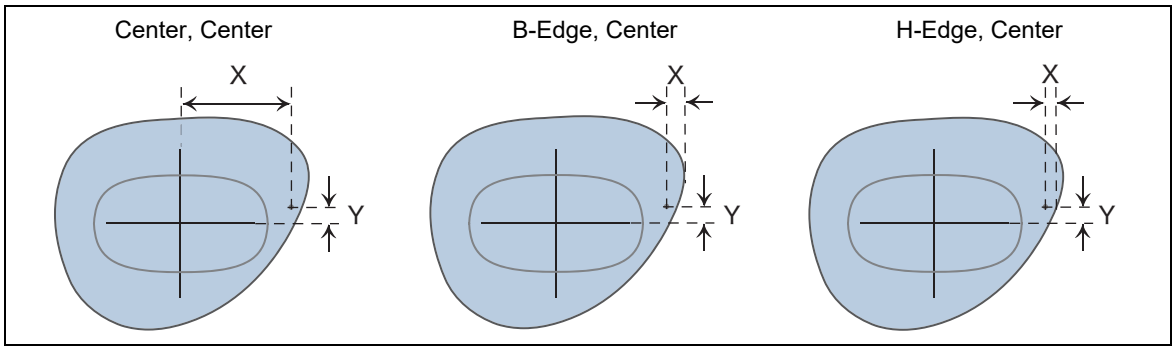
- Horizontal ◆▶ reference position

Center	Frame center
B-Edge	The widest point of the lens shape on the temporal side or nasal side
H-Edge	The temporal side or nasal side that is closest to the hole

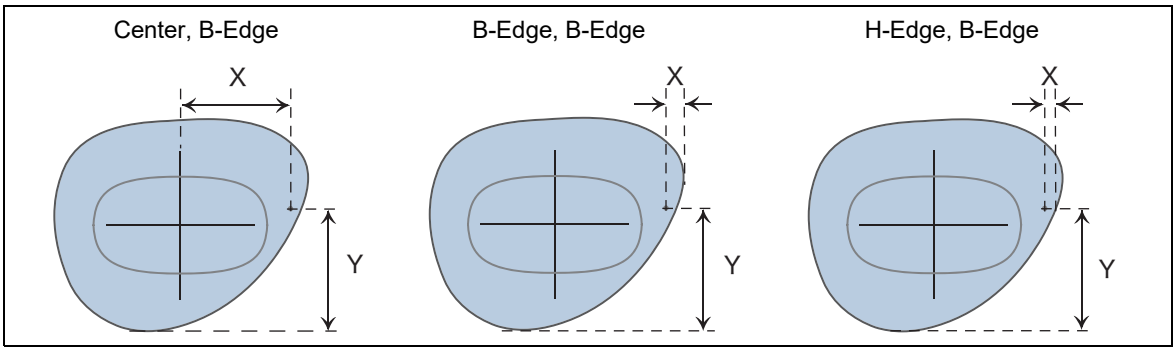
- Vertical ▲▼ reference position

Center	Frame center
B-Edge	The lowest point on the lens shape

- When the vertical reference position is set to [Center] ▲▼



- When the vertical reference position is set to [B-Edge] ▲▼



◆ Hole position change

The following two methods are available to change a hole position.

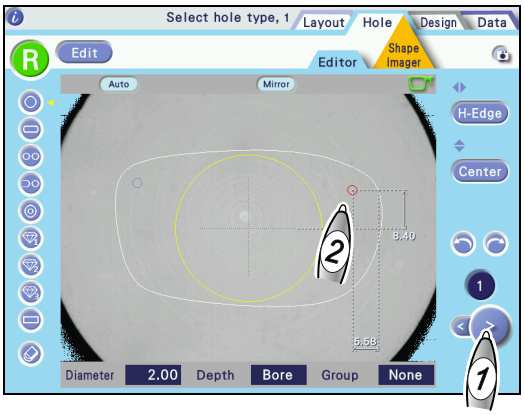
- Entry of hole position coordinates

1 [Horizontal coordinate] or [Vertical coordinate]

→ 

2 Enter a value and press ↵.

- Changing with the touch pen



1

The selected hole is displayed in red.

2 Touching the desired position on the displayed shape moves the selected hole to the touched position.

3.8.3 Hole angle setting

1 Auto

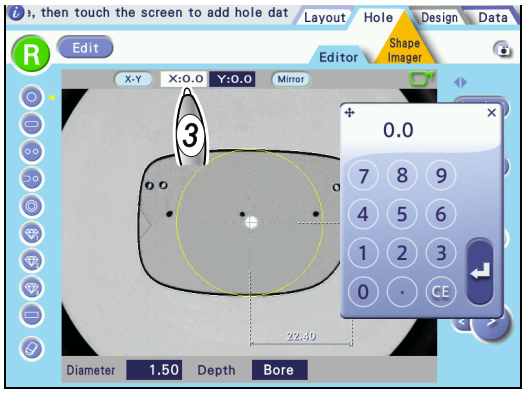
2 Select the hole angle type.

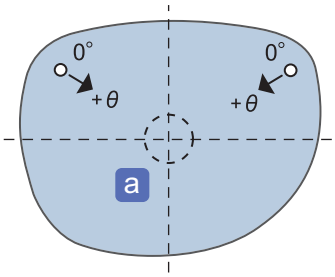
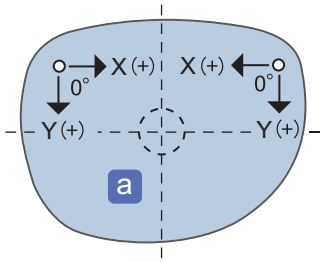
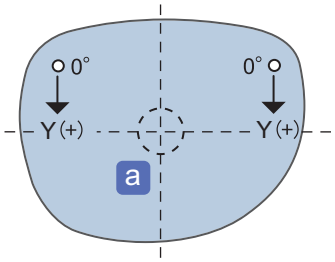
Pressing the button switches the setting.

For paired, notched, and counterbored holes, select from among [Auto], [Angle], and [Curve].

Auto	Drills a hole perpendicularly to the lens front surface (recommended).
Angle	Specifies the tilt toward the chuck axis.
X-Y	Specifies the tilts of the X axis (horizontal directions) and Y axis (vertical directions).
X Auto	Specifies the tilt of the Y axis (vertical directions).
Curve	Drills a hole perpendicularly according to the entered curve value.

3 For the settings other than [Auto], a numeric field is displayed to the right of the [Hole angle] button. Press the numeric field to display the numeric keypad and change the value.



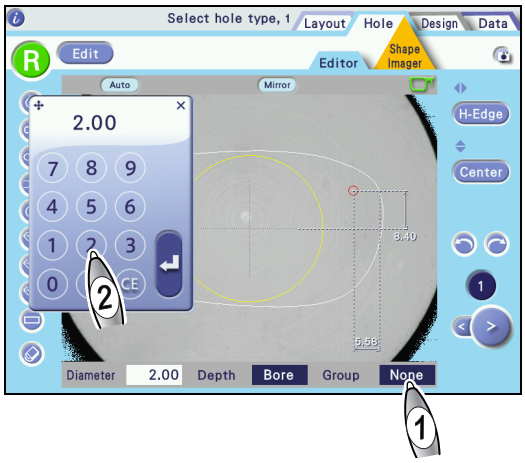
Auto	Drills a hole perpendicularly to the lens front surface.
Angle	Specifies the tilt of the hole axis. • With 0°, it becomes parallel to the chuck axis a . • Entering a positive value tilts the hole axis toward the chuck axis. 
X-Y	Specifies the tilts of the X axis and Y axis. • X axis: With the setting of “X: 0.0”, it becomes parallel to the chuck axis a . Entering a positive value tilts the hole axis toward the chuck axis. • Y axis: With the setting of “Y: 0.0”, it becomes parallel to the chuck axis. Entering a positive value tilts the hole axis toward the chuck axis. 
X Auto	Specifies the tilt of the Y axis. • X axis: It is perpendicular to the lens front. • Y axis: With the setting of “Y: 0.0”, it becomes parallel to the chuck axis a . Entering a positive value tilts the hole axis toward the chuck axis. 
Curve	Drills a hole perpendicularly according to the entered curve value.

3.8.4 Grouping and mirror function

◆ Grouping

To drill multiple parallel holes (at the same hole angle), group them.

- Up to two holes can be grouped.
- Paired, notched, or counterbored holes are automatically set as a group.



1 [Group]

➔

2 Enter the hole numbers to be grouped and press ↵.

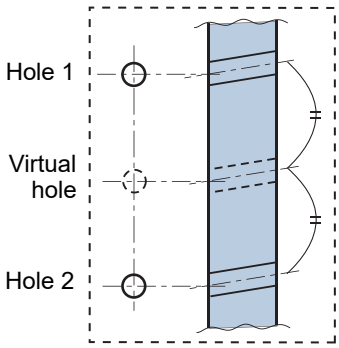
❖ The grouped holes are drilled parallel to each other.

The grouped holes are drilled parallel to the (virtual) middle hole.

Note that, when grouped holes are on both right and left lenses, the holes for each lens are grouped separately.

For the tilt angle of grouped holes, only [Auto], [Angle], or [Curve] can be selected.

Grouped holes



Axes of holes 1 and 2 are parallel to that of the (virtual) middle hole.

◆ Mirror function

Mirror

Pressing the button turns on and off the mirror function.

When it is turned on, the selected hole is automatically mirrored and created on the opposite shape.

Light blue button: On

Gray button: Off

Note

If the hole created with the mirror function is deleted or moved, the change is applied to the hole on the opposite shape.

3.8.5 Hole type setting

◆ Hole type and setting details

Hole type	Setting details
Simple hole	Hole position, hole diameter, hole depth
Slotted hole	Start and end points, hole diameter (width), hole depth
Paired holes	Start and end points, hole diameter, hole depth
Notched hole	Start and end points, hole diameter (width), hole depth
Counterbored hole	Hole position, diameter and depth of counterbore
Jewel hole 1	Hole position. Hole diameter and hole depth are set on the edger.
Jewel hole 2	Hole position. Hole diameter and hole depth are set on the edger.
Jewel hole 3	Hole position. Hole diameter and hole depth are set on the edger.
Rectangular hole	Start and end points, hole diameter (width), hole depth

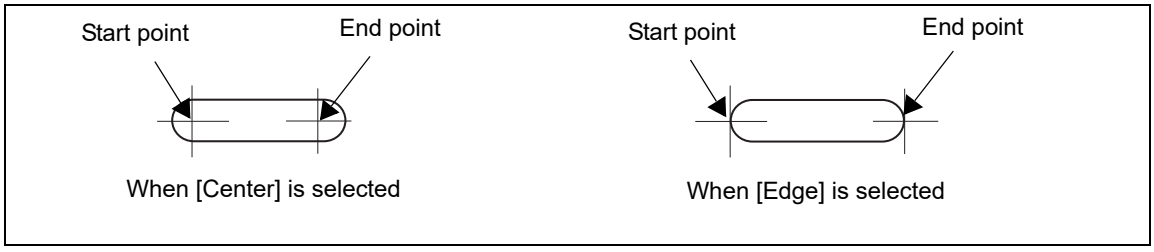
◆ Hole position and size setting

- Simple hole: The position tapped with the touch pen is the reference point. Press each dimension and enter the desired values with the displayed numeric keypad to adjust the hole position. Enter the hole diameter and depth with the numeric keypad.

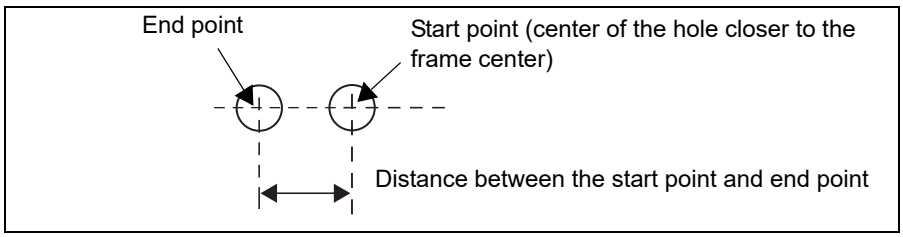
- Slotted hole: The position tapped with the touch pen is the start point. The end point is the position where any point opposite to the start point within the hole is dragged and released.
  - Press each dimension and enter the desired values with the displayed numeric keypad to adjust the start and end points.
  - Enter the hole diameter (width) and depth with the numeric keypad.

  The positions of the start and end points can be set to [Center] or [Edge] by the “Slot coordinate mode” parameter.

  E-01“ *Slot coordinate mode” (page 171)*



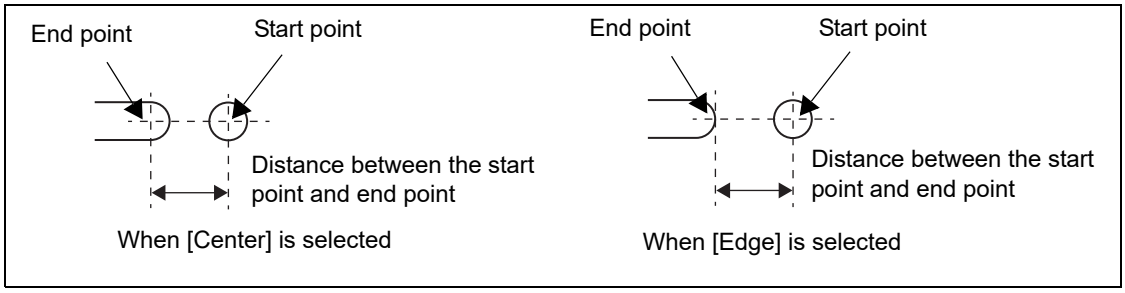
- Paired holes: The position tapped with the touch pen and closer to the frame center (optical center) is the start point. Press each dimension and enter the desired values with the displayed numeric keypad to adjust the start and end points. Enter the hole diameter and depth with the numeric keypad.



- Notched holes: The position tapped with the touch pen and closer to the frame center (optical center) is the start point. Pressing each coordinate and entering the desired values with the displayed numeric keypad to specify the start and end points automatically opens the notch to the lens edge.
  - Press each dimension and enter the desired values with the displayed numeric keypad to adjust the start and end points.
  - Enter the hole diameter and depth with the numeric keypad.

  The positions of the start and end points can be set to [Center] or [Edge] by the “Slot coordinate mode” parameter.

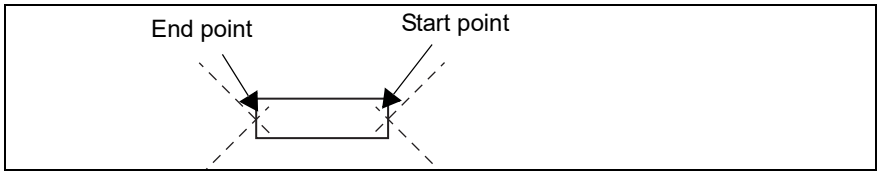
  E-01 *“ Slot coordinate mode” (page 171)*



- Counterbored hole: The position tapped with the touch pen is the reference point. Press each dimension and enter the desired values with the displayed numeric keypad to adjust the hole position. Enter the hole diameter and depth with the numeric keypad.

- Jewel holes 1 to 3: The position tapped with the touch pen is the reference point. Press each dimension and enter the desired values with the displayed numeric keypad to adjust the hole position. The hole diameter and depth are set in the edger.

- Rectangular hole: The position tapped with the touch pen is the start point. The end point is the position where any point opposite to the start point within the hole is dragged and released.
  - Press each dimension and enter the desired values with the displayed numeric keypad to adjust the start and end points.
  - Enter the hole diameter (width) and depth with the numeric keypad.



3.9 WD and EP Settings

Contents described in this section

3.9.1 Setting WD and height for single vision lens

The following is the procedure for setting the width and height of the alignment scale for single vision lenses. The WD marks are displayed on the Layout screen and Blocking screen. They can be set in the same manner on the Blocking screen.

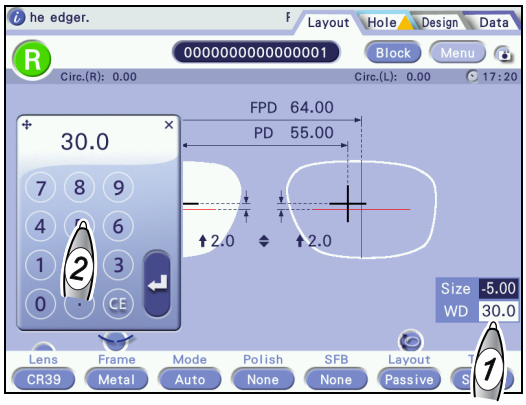
◆ Setting WD (width) for single vision lens

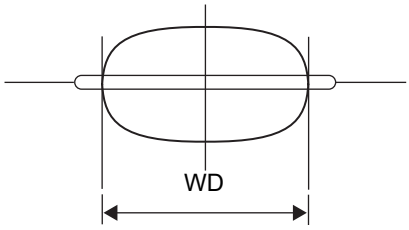
1 [WD]

→

2 Enter the WD value and press .

WD	
Setting range	15.0 to 45.0 mm
Increment	0.1 mm





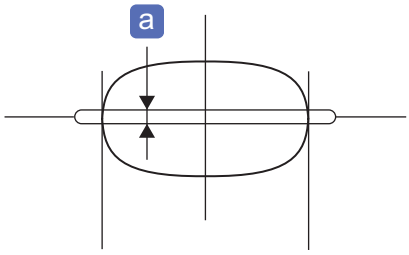
◆ Setting height for single vision lens

1 The height is set by the parameter.

A-06*" Alignment mark V size" (page 167)*

2 Select the height a of the alignment scale.

Height	
Setting range	0.0, 1.0, 2.0 mm
When 0.0 mm is selected, the alignment scale becomes a straight line.	



3.9.2 Setting WD for multifocal lens

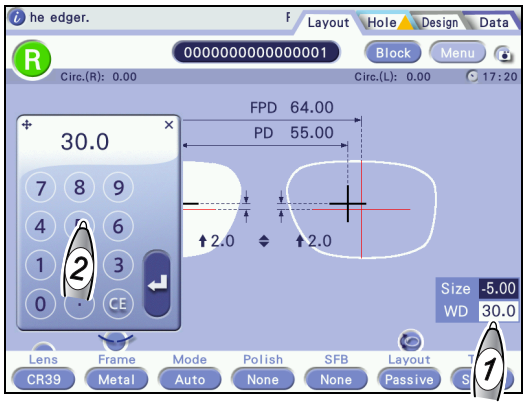
The following is the procedure for setting WD for multifocal lenses. The WD marks are displayed on the Shape Imager screen and Blocking screen. It can be set in the same manner on the Blocking screen.

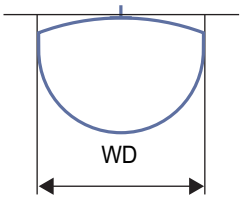
1 [WD]

→

2 Enter the WD value and press .

WD	
Setting range	15.0 to 45.0 mm
Increment	0.1 mm





3.9.3 Setting WD and EP for progressive power lens

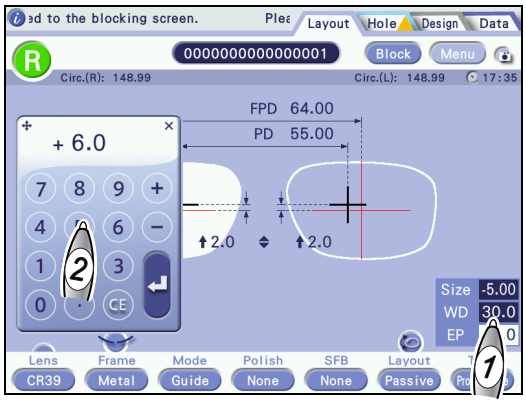
The following is the procedure for setting WD and EP for progressive power lenses. The WD and EP marks are displayed on the Shape Imager screen and Blocking screen. They can be set in the same manner on the Blocking screen.

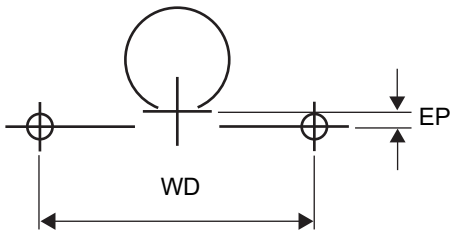
1 [WD]

→

2 Enter the WD value and press .

WD	
Setting range	15.0 to 45.0 mm
Increment	0.1 mm



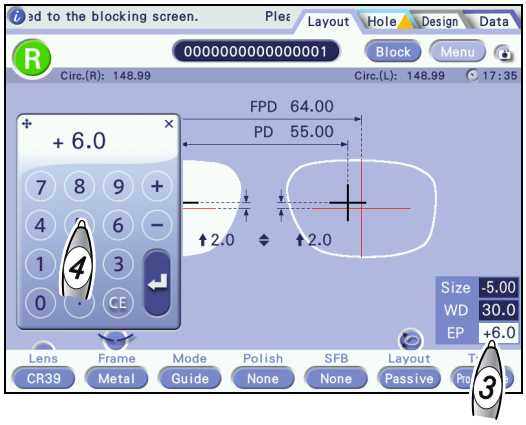


3 [EP]

→

4 Enter the EP value and press .

EP	
Setting range	-6.0 to +6.0 mm
Increment	0.1 mm



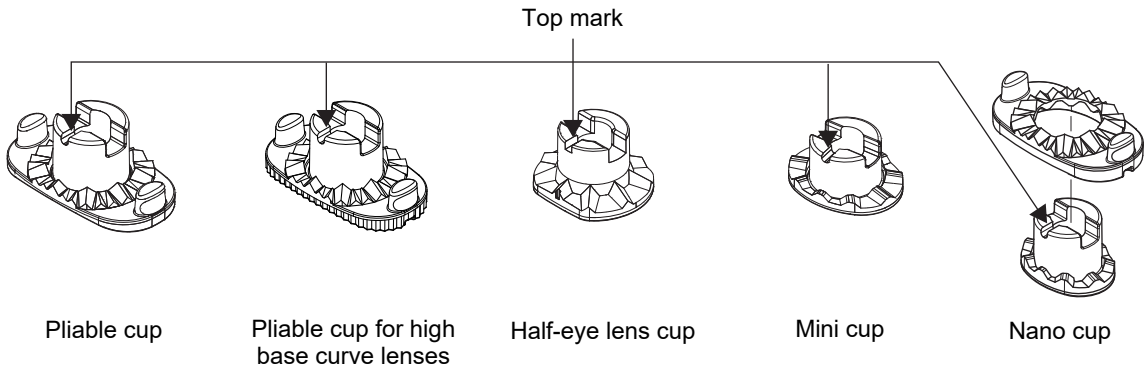
3.10 Blocking

Contents described in this section

3.10.1 Preparation for blocking

◆ Lens cups

● Available lens cups

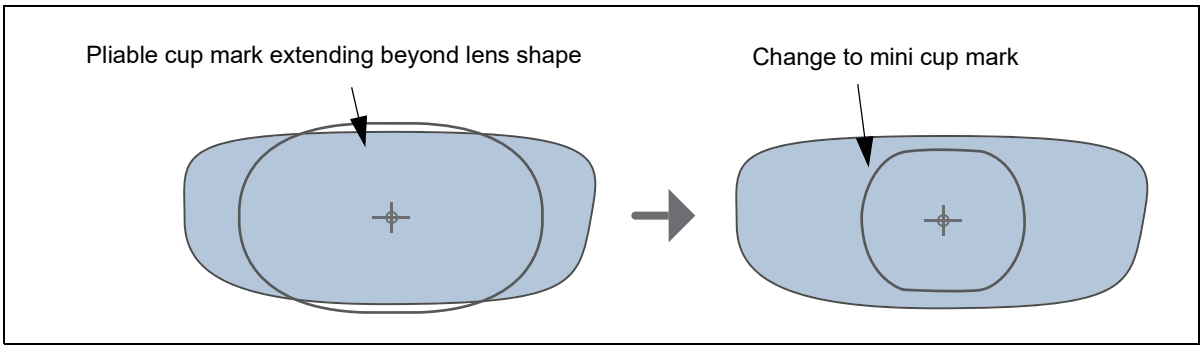


● When displayed cup mark reduces in size

When the "Cup mode" parameter is set to [Pliable/Mini] or [Pliable/Nano], the cup mark shape on the Blocking screen may change from that of pliable cup to that for small diameter lenses. In this case, block the lens with a lens cup for small diameter lenses.

D-02*" Cup mode" (page 169)*

- If the pliable cup is continued to be used, the lens adapter or lens clamp may contact the processing wheels.
- A cup mark display is a guide. Processing may not be possible with the displayed lens cup depending on the layout or such. Even if the displayed cup mark is a mini cup, do not block the lens if it contacts the shape outline.

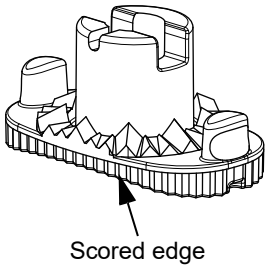


- Blocking with pliable cup for high base curve lenses

Be sure to use the pliable cup for high base curve lenses when processing a lens that has a front surface with a base curve of 6 or greater.

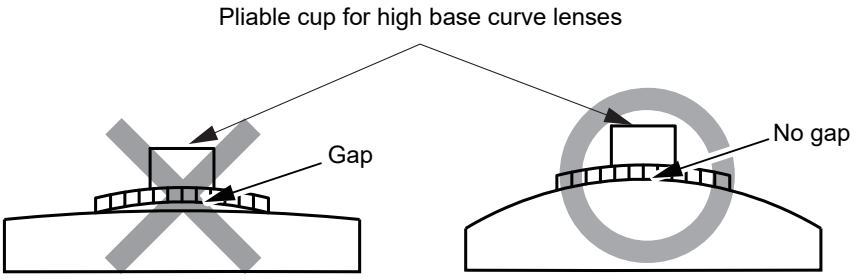
Using the standard pliable cup may cause axis shift or cracks on a coated surface.

The scored edge of the pliable cup for high base curve lenses allows it to be distinguished from the standard pliable cup.



Do not use the pliable cup for high base curve lenses when processing a lens that has a front surface with a base curve of less than 6. Doing so may cause a gap between the cup and lens resulting in the following malfunctions:

The cup becomes detached. / Axis shift occurs. / Roughing cannot be performed properly. / Cracks may occur on a coated surface.



Lens that has front surface with base curve of less than 6

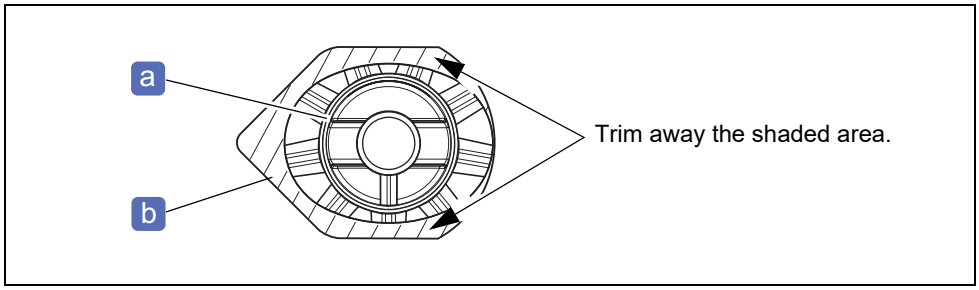
Lens that has front surface with base curve of 6 or greater

3.10.2 Handling of double-coated adhesive pad

◆ Handling of double-coated adhesive pad for mini cup

Attach the double-coated adhesive pad for half-eye lens cup b to the mini cup a.

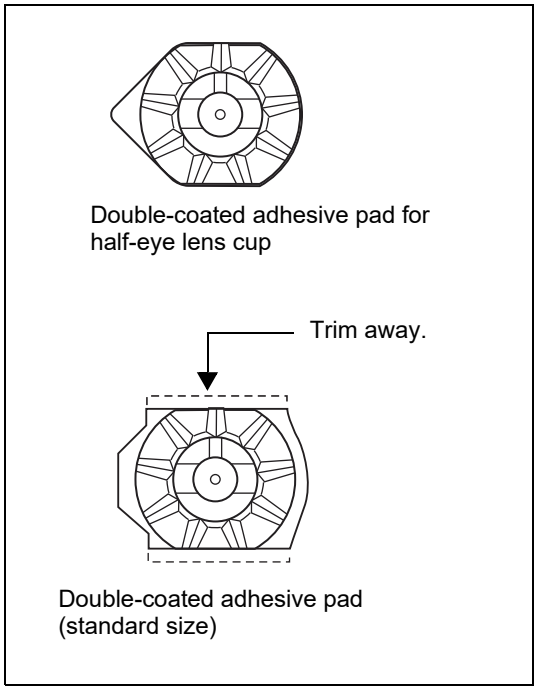
Trim away any excess parts of the double-coated adhesive pad for half-eye lens along the edge of the mini cup.



◆ Double-coated adhesive pad for half-eye lens cup

When using the half-eye lens cup, use the double-coated adhesive pad for half-eye lens cup.

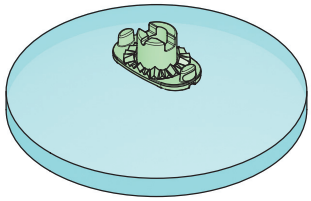
When using the double-coated adhesive pad (standard size), trim away the top and bottom parts extending from the lens cup edges.



3.10.3 Blocking

Before blocking a lens, perform tracing or load the trace data, then enter processing conditions and layout data.

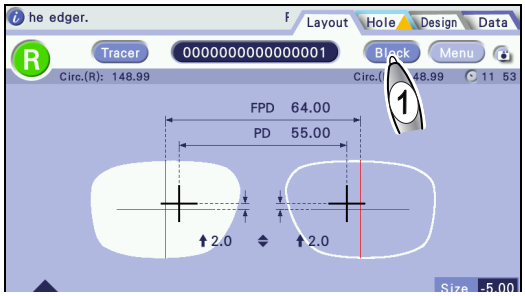
For design edit, see *"4 DESIGN EDIT" (page 127)*.



- The procedure for replacing the lens table is displayed as an animation. You can select the animation for the standard one or that for the optional one at the time of installation (or you can select not to display the animation). Ask our service personnel.
- The lens cup comes in two colors: green and red. Use a green cup for a right lens and a red cup for a left lens. Using the cup with the same color as that of the R or L button helps the operator to distinguish the right and left lenses and process them properly.
- Select a lens with a sufficient diameter.
- Blocking is not possible if any numeric field is displayed in yellow. Enter a value.

1 Block

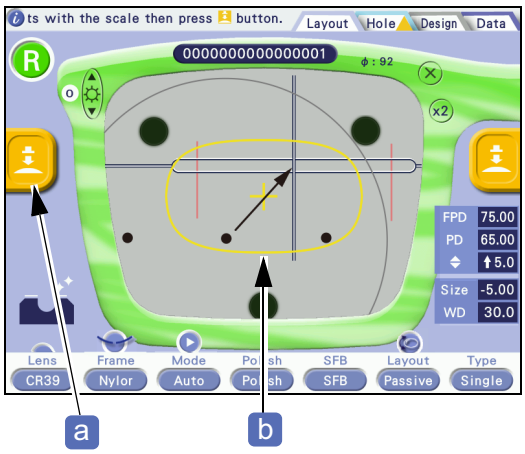
→ Blocking screen



2 Check the blocking mark a and the cup mark shape b.

The blocking mark is displayed when blocking is possible.

	Blocking is possible.
	Blocking is not possible.



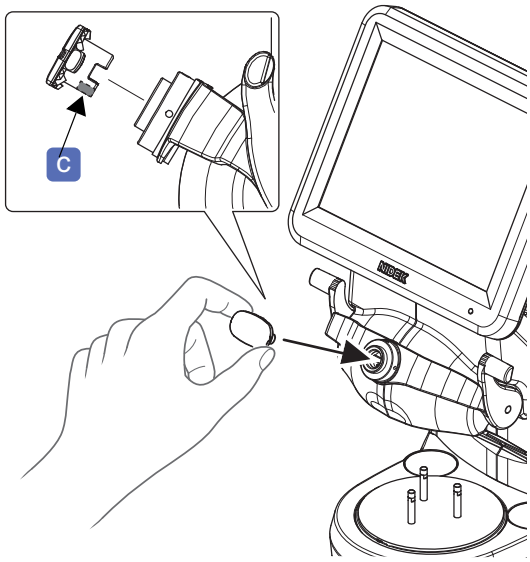
3 Select a lens cup suitable for the cup mark shape and attach the double-coated adhesive pad to the cup.

4 Use the cup with the same color as that of the R or L button.

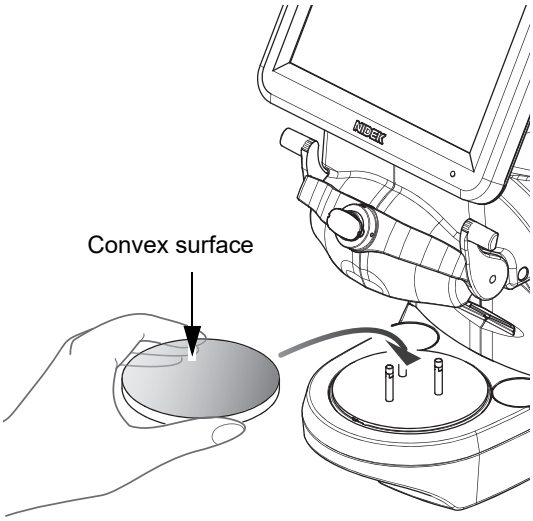
Right (R) lens	Green lens cup
Left (L) lens	Red lens cup

5 Set the lens cup to the cup holder.

Fully insert the cup with the top mark C facing down.



6 Place the lens in the center of the lens table with the convex surface facing up.

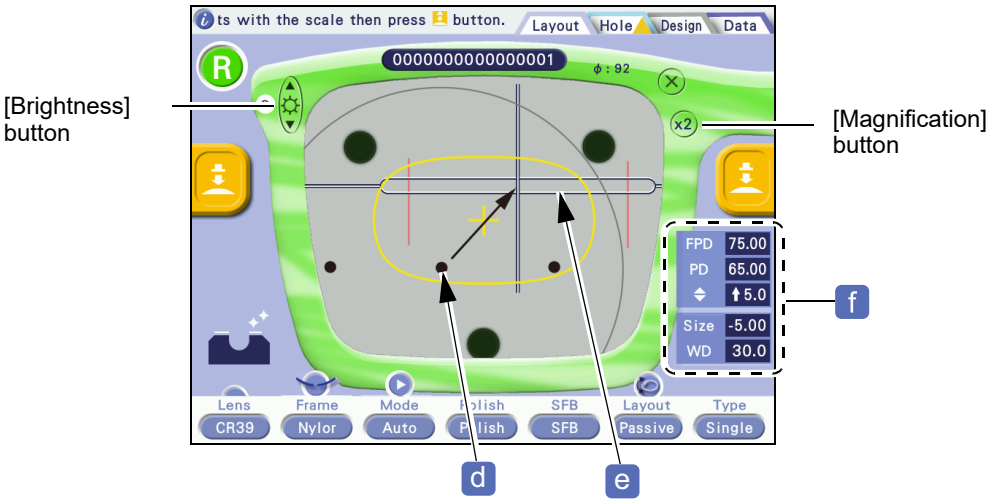


7 While checking the Blocking screen, align the markings on the lens to the alignment scale.

- If the markings are difficult to see because of the dark color lenses or partially shining part, adjust the image brightness with the .
- If necessary, change the magnification of the image display by pressing x1 or x2 to check whether the outer diameter of the lens is sufficient for the entered layout conditions. If the shape extends beyond the lens outline, replace the lens with a larger diameter lens. When the lens size is insufficient for processing for frame changing, change the layout data so that the shape fits within the lens outline.

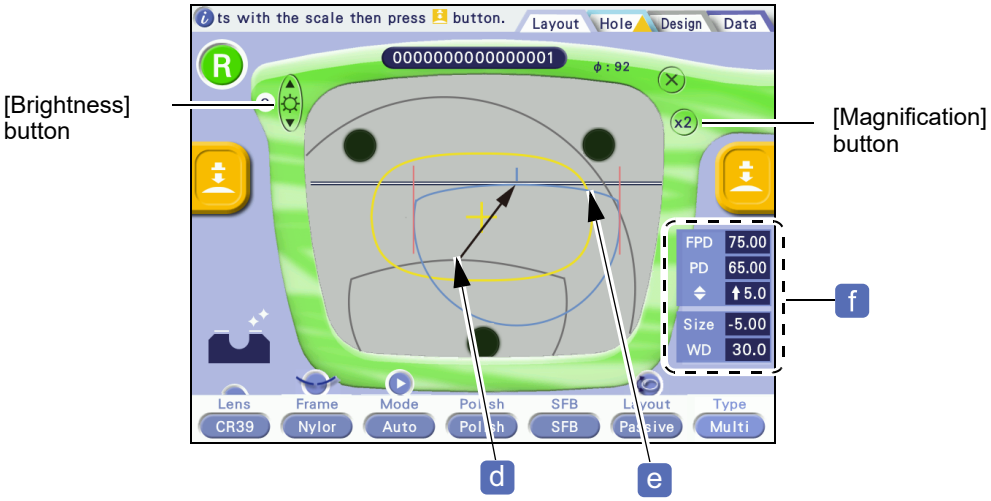
◆ Single vision lens alignment

Center the markings d on the lens while aligning them horizontally within the alignment scale e as precisely as possible. If necessary, change the settings f such as [FPD].



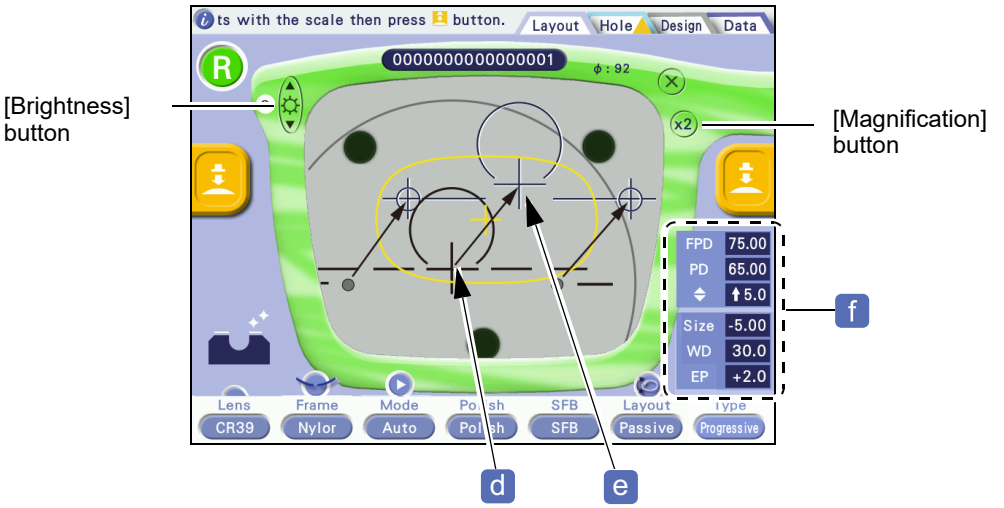
◆ Multifocal lens alignment

Align the segment d of the lens to the alignment scale e as precisely as possible. If necessary, change the settings f such as [FPD].



◆ Progressive power lens alignment

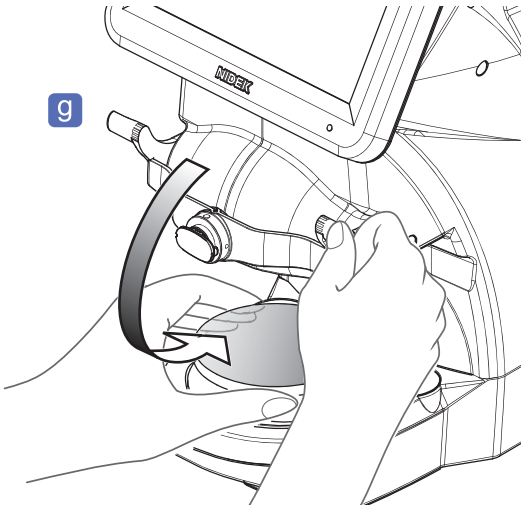
Align the cross d of the distance eyepoint mark to the cross e of the alignment scale as precisely as possible. If necessary, change the settings f such as [FPD].



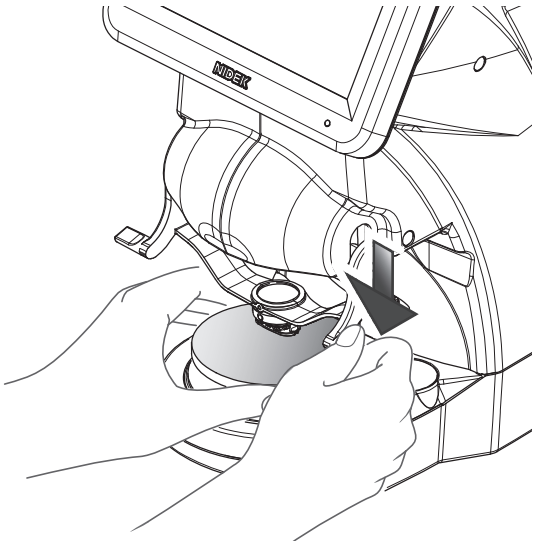
8 Block the lens.

1) Hold the lens by one hand.

2) Turn the blocking lever g by the other hand in the direction of the arrow as shown to the right until it stops.



3) Push the blocking lever down so that the lens cup is securely attached.



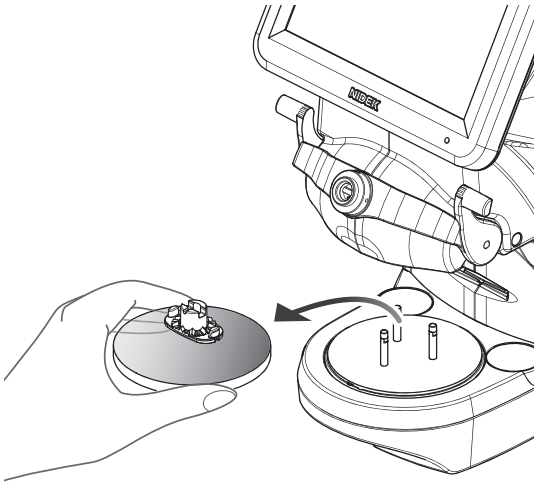
⚠ CAUTION

Be careful not to get fingers caught when pushing down the blocking lever. Also, do not push down the blocking lever excessively.

9 Return the blocking lever to the original position and remove the lens.

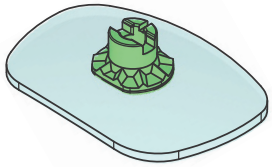
10 Store the blocked lens in a tray or such on which the shape data name is provided.

Store it so that right or left of the lens can be identified.



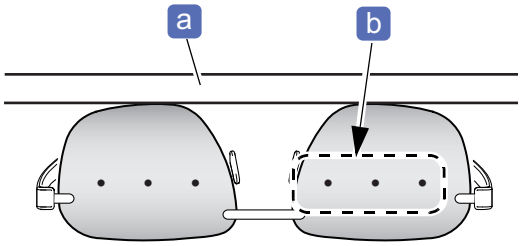
3.10.4 Demo lens blocking

If the demo lens cannot be held on the lens table (standard), use the small diameter lens table (with narrow intervals between the pins).



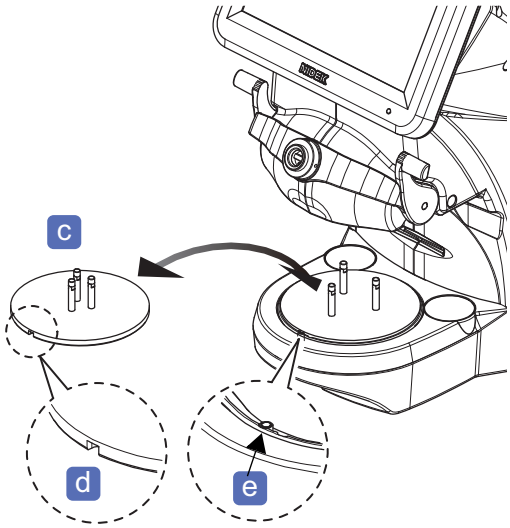
1 Mark b the demo lens with a lensmeter a to indicate its horizontal reference line.

2 When marking is complete, remove the lens from the frame.



3 When the lens table (standard) is set, replace it with the small diameter lens table.

1) Remove the lens table (standard).
2) Attach the small diameter lens table c so that the positioning pin e fits into its notch d.



4 Select [Demo lens] for the lens type.

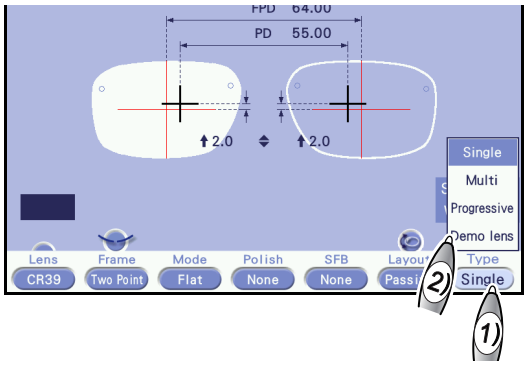
It can be selected on the Blocking screen as well.

1) [Type]

→

2) Demo lens

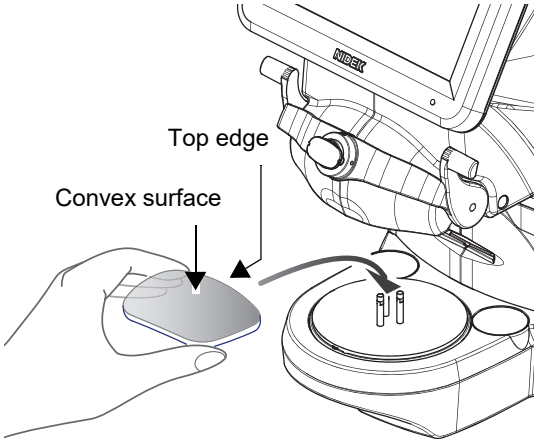
→Demo lens blocking screen



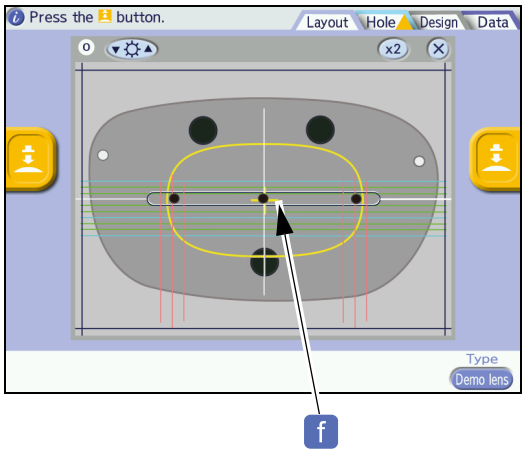
5 Set the lens cup with the double-coated adhesive pad attached to the cup holder.

Refer to Steps 3 to 5 of *"3.10.3 Blocking" (page 116)*.

6 Place the demo lens in the center of the small diameter lens table with its top edge facing in and convex surface facing up.



7 Center the markings on the demo lens while aligning them horizontally within the alignment scale f as precisely as possible.

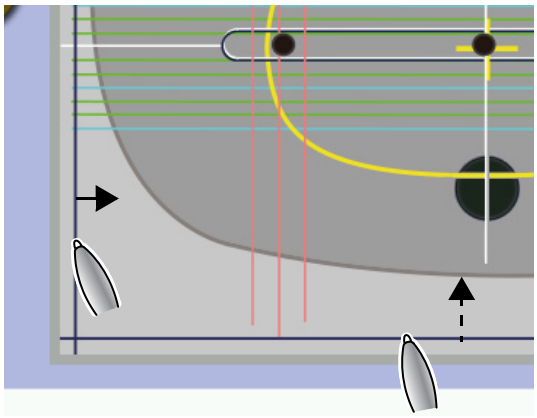


8 If necessary, align the horizontal and vertical reference lines.

Drag the horizontal or vertical line with the touch pen to align it to the shape outline of the demo lens.

9 Block the lens.

Use Steps 8 to 10 of *"3.10.3 Blocking" (page 116)* to block the lens.



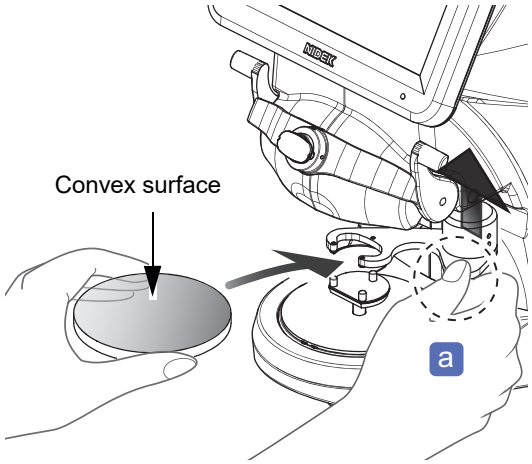
3.11 Blocking using Flexible Positioning Adjuster

The flexible positioning adjuster (optional) is installed by our service personnel.

3.11.1 Standard lens blocking

1 Perform Steps 1 to 5 of *"3.10.3 Blocking" (page 116)*.

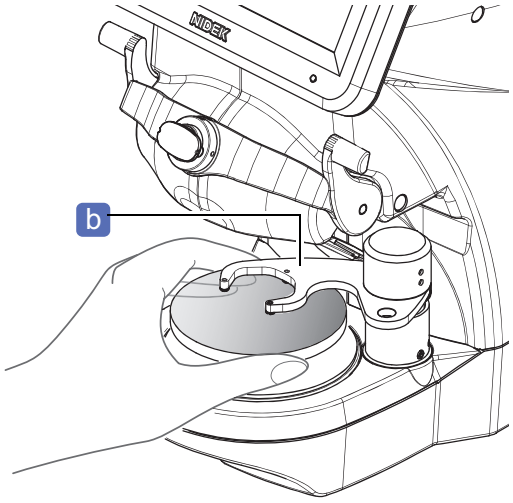
2 Raise the lever a of the flexible positioning adjuster by hand. Place the lens in the center of the lens table with the convex surface facing up.



3 Release the lever to secure the lens with the lens holder b.

4 While checking the Blocking screen, align the markings on the lens to the alignment scale.

"♦ Single vision lens alignment" (page 118)
"♦ Multifocal lens alignment" (page 118)
"♦ Progressive power lens alignment" (page 119)

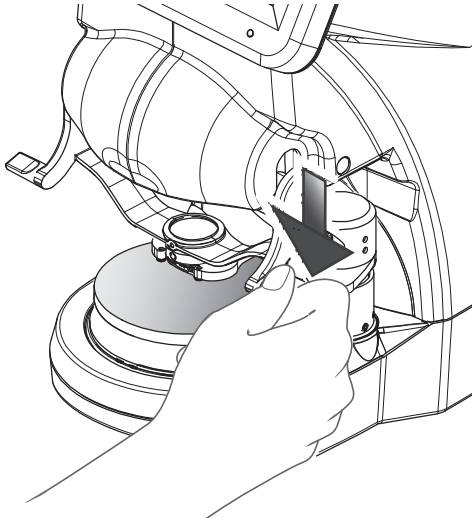


5 Block the lens.

1) Turn the blocking lever toward the operator until it stops.
2) Push the blocking lever down so that the lens cup is securely attached.

⚠ CAUTION

Be careful not to get fingers caught when pushing down the blocking lever. Also, do not push down the blocking lever excessively.



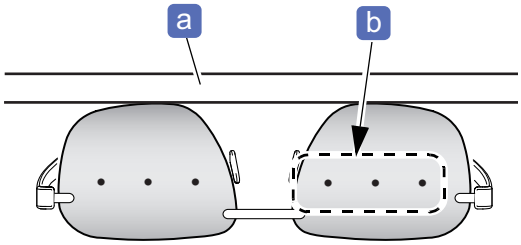
6 Raise the lever of the flexible positioning adjuster by hand to remove the lens.

3.11.2 Blocking with small diameter lens support

If a demo lens or such is too small to be held on the lens table for the flexible positioning adjuster, use the small diameter lens support.

A lens with a steeply curved rear surface may not be held properly with the three pins of the small diameter lens support. In this case, hold the lens firmly by hand so that it does not move when blocked.

1 Mark b the demo lens with a lensmeter a to indicate its horizontal reference line.



2 When marking is complete, remove the demo lens from the frame.

3 Select [Demo lens] for the lens type.

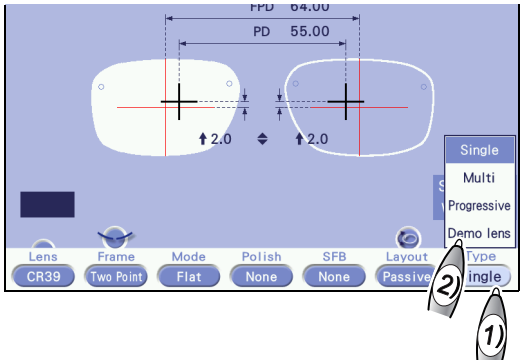
It can be selected on the Blocking screen as well.

1) [Type]

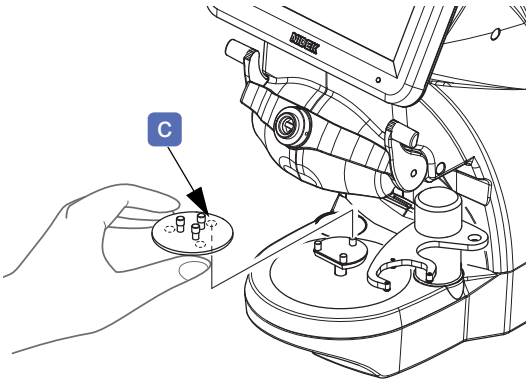
→

2) Demo lens

→ Demo lens blocking screen



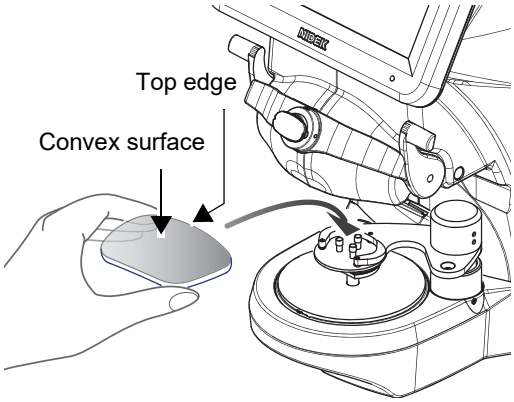
4 Place the small diameter lens support while aligning the three holes c on its undersurface with the three pins of the lens table for the flexible positioning adjuster.



5 Set the lens cup with the double-coated adhesive pad attached to the cup holder.

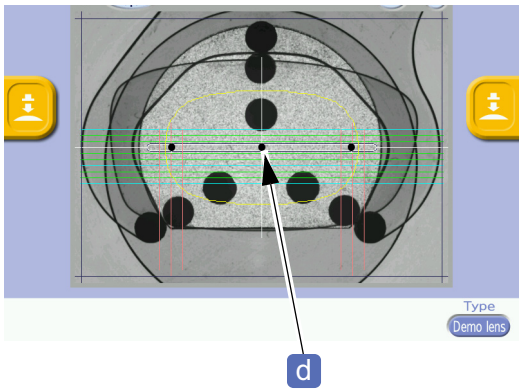
See Steps 3 to 5 of *"3.10.3 Blocking" (page 116)*.

6 Raise the lever of the flexible positioning adjuster by hand to turn it, then slowly lower the lever to place the lens holder on the small diameter lens support.



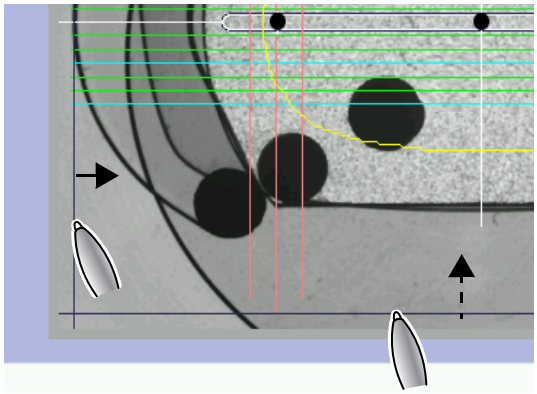
7 Place the demo lens in the center of the small diameter lens support with its top edge facing in and convex surface facing up.

8 Center the markings on the demo lens while aligning them horizontally within the alignment scale d as precisely as possible.



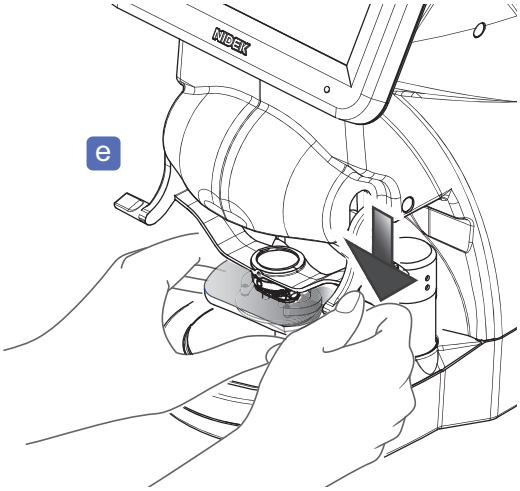
9 If necessary, align the horizontal and vertical reference lines.

Drag the horizontal or vertical line with the touch pen to align it to the shape outline of the demo lens.



10 Block the lens.

1) Hold the demo lens by one hand.
2) Turn the blocking lever e toward the operator until it stops.
3) Push the blocking lever down so that the lens cup is securely attached.

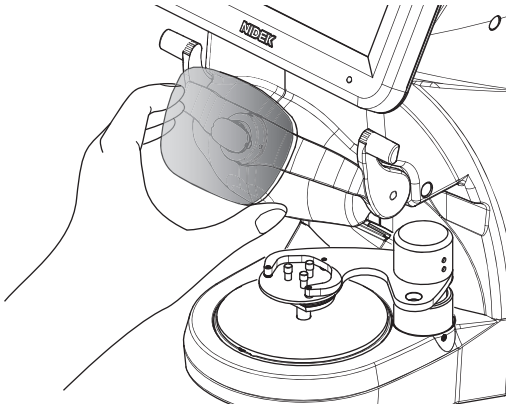


⚠ CAUTION

Be careful not to get fingers caught when pushing down the blocking lever. Also, do not push down the blocking lever excessively.

11 Release the hand from the demo lens once.

Otherwise, the blocking lever cannot be raised resulting in the demo lens being unable to be removed later.



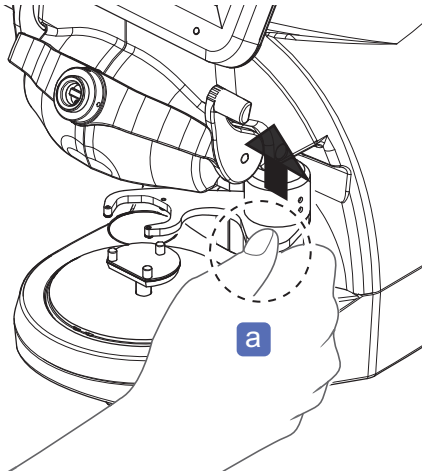
12 With the demo lens attached, slowly return the blocking lever to the original position while supporting the lens by hand.

13 Remove the blocked demo lens from the cup holder.

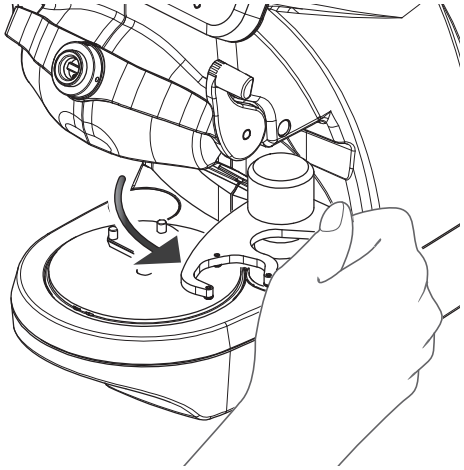
◆ Replacing with shape measurement table

The following is the procedure for replacing the lens table for the flexible positioning adjuster with the shape measurement table.

1 Raise the lever a of the flexible positioning adjuster by hand.

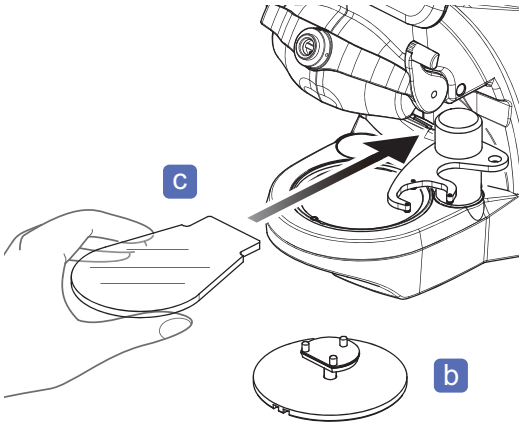


2 Turn the lever of the flexible positioning adjuster outward (approximately 60°) by hand until it stops.



3 Remove the lens table b for the flexible positioning adjuster.

4 Insert the shape measurement table c into the attachment slot in the orientation as shown to the right.

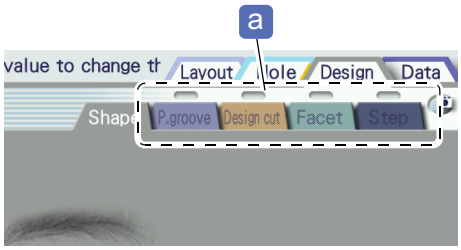


4 DESIGN EDIT

Contents described in this chapter

The design edit functions are disabled by default.

- The design edit functions other than the shape edit function are disabled a by default. If it is necessary to use them, contact Nidek or your authorized distributor.
- This manual describes the procedures for when the design edit functions are available.

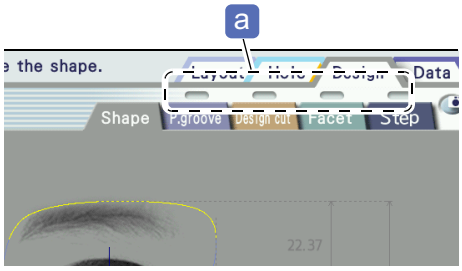


4.1 Design Processing

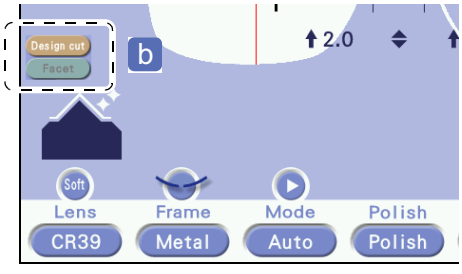
Note

Design data indicators

- Indicators a showing existence of design data (yellow indicates the presence of design data while gray indicates the absence) are displayed above the design screen change tabs on the Partial grooving / Partial beveling screen, Design cut screen, Facet screen, and Step Editor screen.



- When design data exists, indicators b are also displayed to the left of the Layout screen and Blocking screen. When the letters are displayed in white, processing is performed according to the data. When the letters are displayed in gray, processing is not performed although design data exists. Check whether the processing conditions are set properly.



Note

Functions to make the design edit screens easier to see

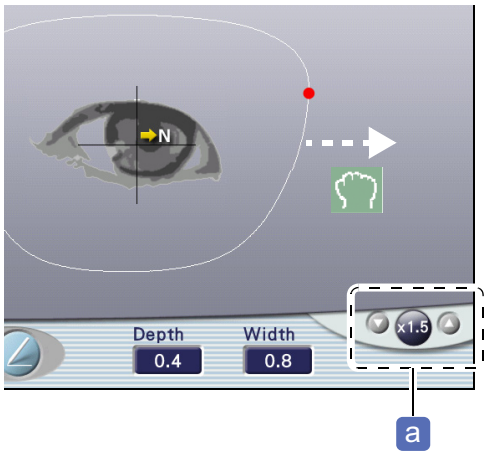
- Switching the display magnification
  On the Partial grooving / Partial beveling screen and the Facet screen, pressing ▲ or ▼ to the right or left of the magnification indication a switches the display magnification as follows:

  ▲ : [×1.0] → [×1.5] → [×2.0] → [×4.0]

  ▼ : [×4.0] → [×2.0] → [×1.5] → [×1.0]

  On the Design cut screen and Step Editor screen, [×8.0] is displayed in addition to the above.
- Moving the shape display
  When any magnification other than [×1.0] is selected, the shape can be moved by dragging the cursor.

  While being dragged, the cursor changes from to .



● Buttons that are common or partially common on the design edit screens

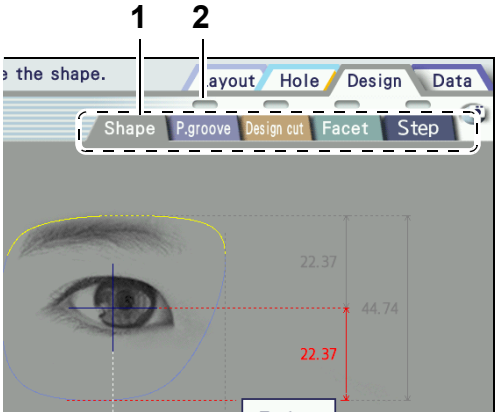
Button	Button name	Function
	[Undo]	Undoes up to five editing operations.
	[Redo]	Redoes up to five editing operations.
	[Initialize]	Clears the edited data and displays the original shape data.
	[Delete]	Deletes the selected data.
	[Edit data select]	Selects the previous data.
		Selects the next data.

1 [Design screen change] tabs

Switch the screen among the Shape Editor screen, Partial grooving / Partial beveling screen, Design cut screen, Facet screen, and Step Editor screen.

2 Design indicators

When any data of partial grooving, partial beveling, design cut, facet, or step beveling exists, the corresponding indicator turns yellow.

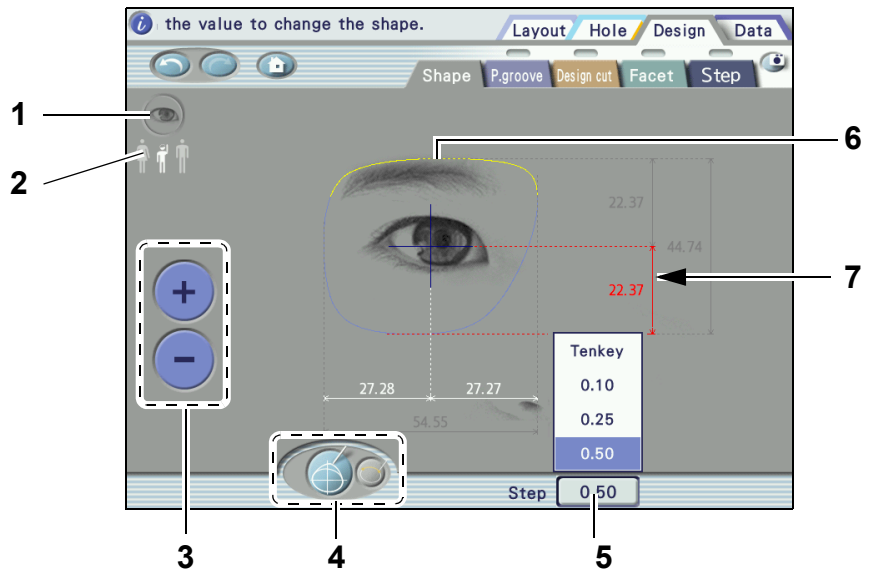


4.2 Design Screen and Function

Contents described in this section

◆ Shape Editor screen

Pressing [Design] then [Shape] displays this screen.



1 [Eye image] button

Toggles display of the eye image.

2 [Human form] button

Selects the eye image from among woman, child, and man.

3 / button

Increases or decreases the selected dimension of the shape.

4 / [Outline change] / [Fix area] button

Switches between outline change mode and fix area mode.

Outline change mode	Changes the shape by changing dimensions or dragging the shape outline.
Fix area mode	Specifies the area not to be changed by dragging. Pressing off clears the fixed area.

5 [Step] field

Selects the increment to be changed with + or − from among 0.10, 0.25, and 0.50 mm.

When [Tenkey] is selected, values are entered with the numeric keypad.

6 Shape

- Gray line: Shape before change
- Yellow line: Fixed area specified in fix area mode
- Blue line: Shape after change

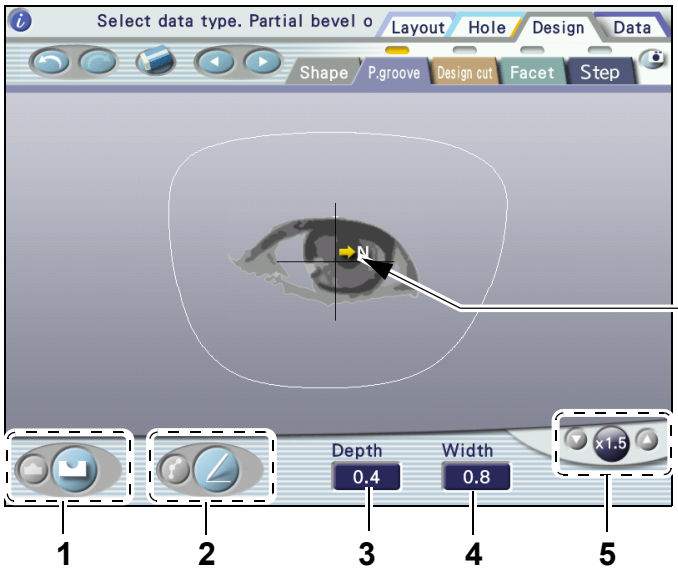
7 Dimension indication

Indicates the dimension of each part of the shape.

Dimensions can be changed with the numeric keypad or + / − . However, dimensions displayed in gray cannot be changed.

◆ Partial grooving / Partial beveling screen

Pressing [Design] then [P.groove] displays this screen.



1 [Partial grooving/beveling] button

Switches between partial grooving mode and partial beveling mode.

Partial grooving mode	Edits partial grooving data. Also, the selected partial beveling data is changed to partial grooving data.
Partial beveling mode	Edits partial beveling data. Also, the selected partial grooving data is changed to partial beveling data.

2 [Add/edit] button

Switches between add mode and edit mode.

Add mode	Adds design data.
Edit mode	Edits the added design data.

3 [Depth] field

Sets the groove depth.

4 [Width] field

Sets the groove width.

5 [Magnification] buttons

Pressing or to the right or left of the magnification indication switches the display magnification.

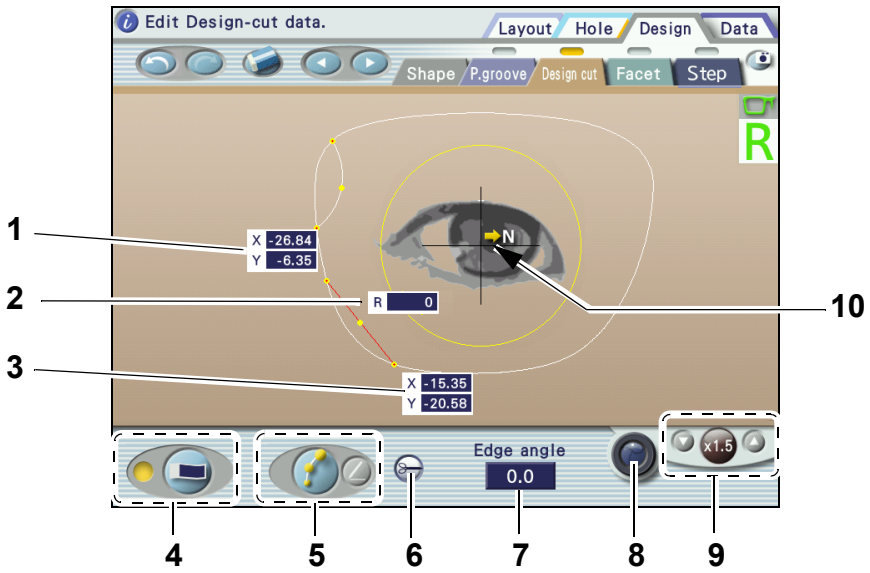
When any magnification other than [×1.0] is selected, the shape can be moved by dragging .

6 Nasal side mark

The arrow indicates the nasal side.

◆ Design cut screen

Pressing [Design] then [Design cut] displays this screen.



1 Start point coordinates field

Displays the coordinates of the start point in the selected design cut data. The coordinates can be changed with the numeric keypad.

2 Curve field

Displays the curve value of the selected design cut data. The value can be changed with the numeric keypad.

When 0% is set, the start and end points are connected with a straight line.

3 End point coordinates field

Displays the coordinates of the end point in the selected design cut data. The coordinates can be changed with the numeric keypad.

4  [Field on/off] button

Shows or hides the start and end point coordinates and curve fields.

5 [Add/edit] button

Switches between add mode and edit mode.

 Add mode	Adds design data.
 Edit mode	Edits the added design data.

6  [Data split] button

Splits design cut data into two data items.

7 [Edge angle] field

Displays the edge angle of the data being edited. The angle can be changed in the range of 0 to 30º with the numeric keypad.

8 [Camera display toggle] button

Toggles display of the camera image as a background.

9 [Magnification] buttons

Pressing or to the right or left of the magnification indication switches the display magnification.

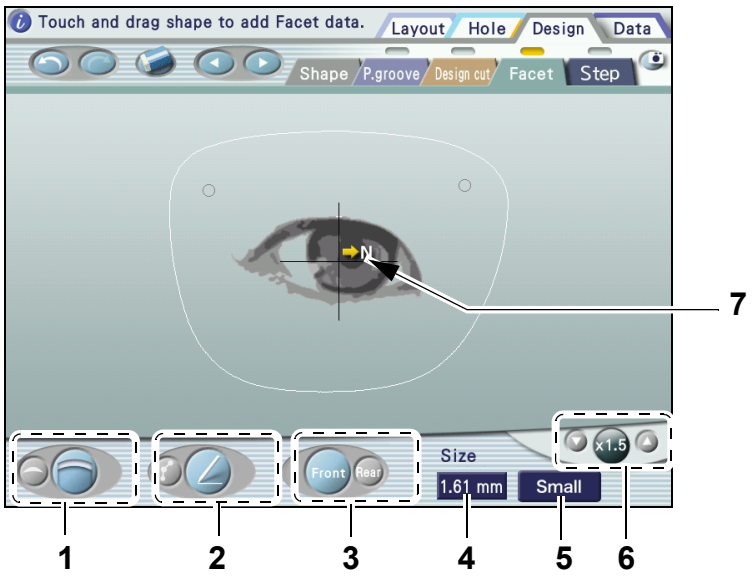
When any magnification other than [×1.0] is selected, the shape can be moved by dragging .

10 Nasal side mark

The arrow indicates the nasal side.

◆ Facet screen

Pressing [Design] then [Facet] displays this screen.



1 [Facet shape] button

Selects the shape of both edges to be faceted.

	Faceting is wider around the center of the selected area.
	Faceting is almost the same width throughout the selected area.

2 [Add/edit] button

Switches between add mode and edit mode.

Add mode	Adds design data.
Edit mode	Edits the added design data.

3 [Front]/[Rear] button

Select whether facet data is entered for the front or rear.

Front	Enters facet data for the front.
Rear	Enters facet data for the rear.

4 [Size] field

Specifies the maximum facet amount in the selected data. It can be changed with the numeric keypad.

5 [Safety bevel amount] button

Selects the safety bevel amount of the part not to be faceted from among [Small], [Medium], and [Large].

6 [Magnification] buttons

Pressing  or  to the right or left of the magnification indication switches the display magnification.

When any magnification other than [×1.0] is selected, the shape can be moved by dragging  .

7 Nasal side mark

The arrow indicates the nasal side.

4.3 Lens Design

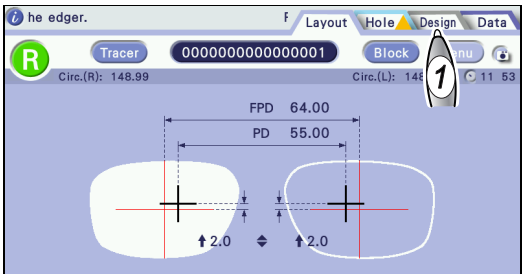
Contents described in this section

4.3.1 Shape editing

- When a fixed area is specified, the shape outline can be changed at only one section. Attempting to change another section automatically resets it to the initial form.
- When a fixed area is specified, the changeable dimensions are displayed in white and unchangeable ones are displayed in gray. Even for the dimensions displayed in white, some may not be changed if the area to be changed is too small.
- Depending on whether a fixed area is specified or not, similar changes to the same shape may have different results.

1 [Design]

→Design screen



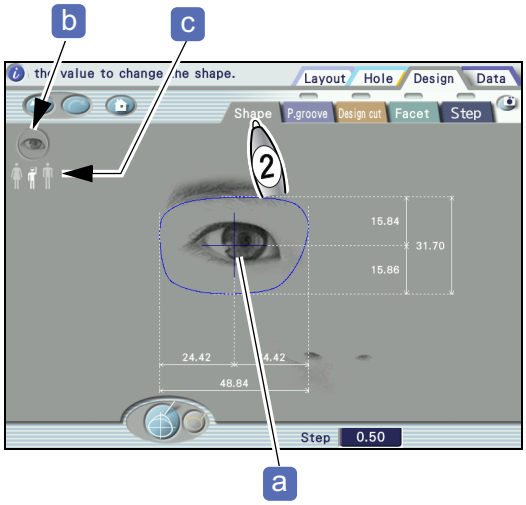
2 [Shape]

→Shape Editor screen

3 Set the eye image a as necessary.

1) Pressing the eye image button b toggles display of the eye image.

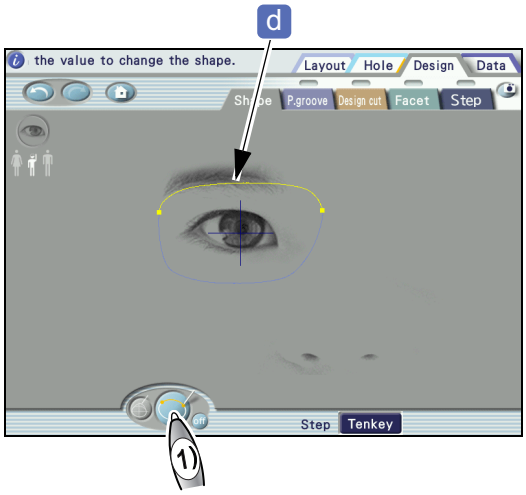
2) Select the eye image by pressing the woman, child, or man c on  .



4 Specify a fixed area (area that is not to be changed in the shape).

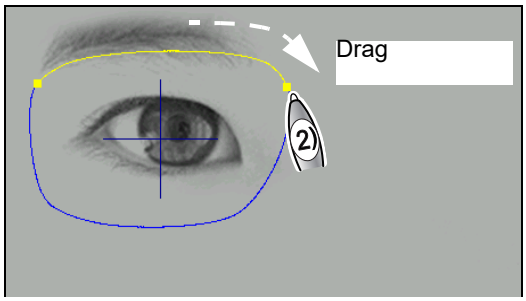
1) Activate mode.

The fixed area d is displayed in yellow.



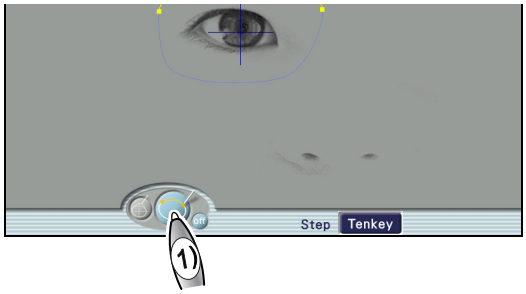
2) Drag the handles (yellow squares) at the ends of the yellow line to change the fixed area.

Pressing off clears the fixed area.



5 Change the shape.

The shape can be changed using the touch pen, numeric keypad, or the + and − buttons.



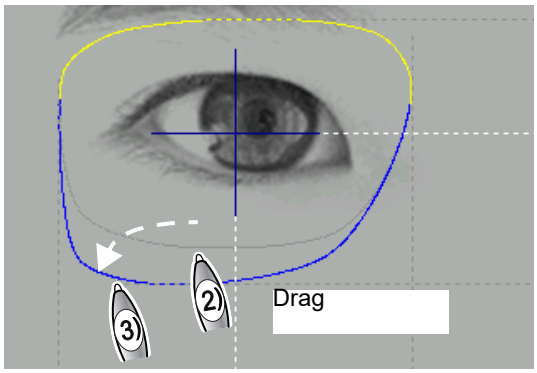
- When using the touch pen

1) Activate mode.

2) Touch the shape outline (blue line) to be changed with the touch pen.

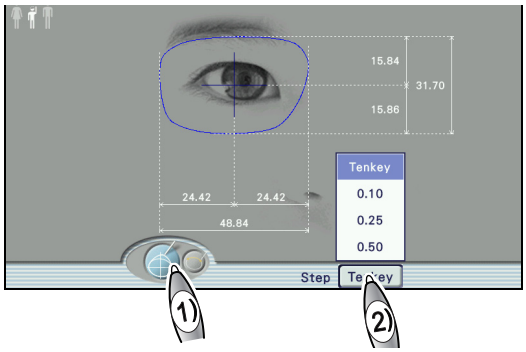
3) Drag the blue line to create the desired shape. The line turns from blue to red.

4) Lifting the touch pen from the screen confirms the shape change and the red line turns blue.



Gray line	Shape before change
Yellow line	Fixed area specified in fix area mode
Red line	Shape line being dragged
Blue line	Confirmed shape after change

● When using the numeric keypad



1) Activate mode.

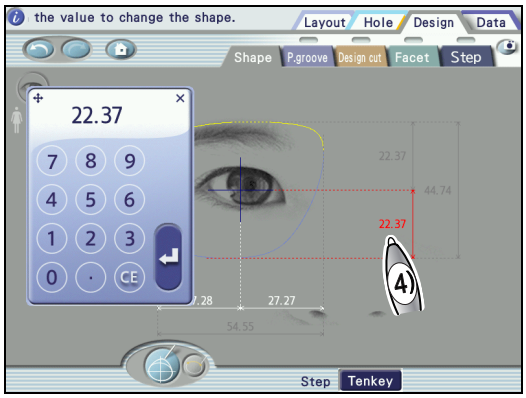
2) [Step]

→

3) Tenkey

4) Select the dimension to be changed with the touch pen. The selected dimension and dimension lines turn red.

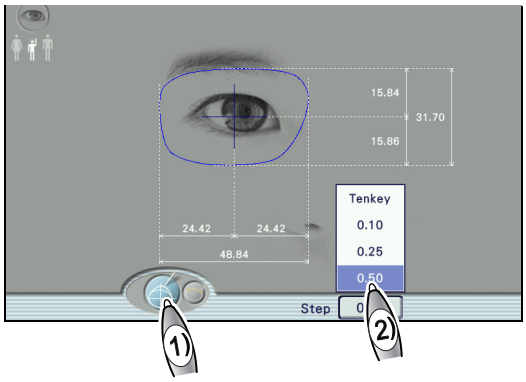
→



5) Enter a value with the numeric keypad.

6) Press to confirm the entry. The shape is changed.

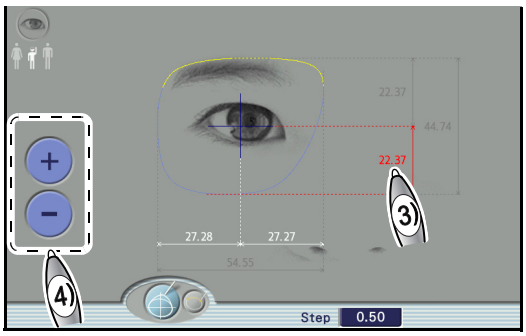
● When using + and −



1) Activate mode.

2) As necessary, press the [Step] field and select the increment from among [0.10], [0.25], and [0.50] on the pop-up menu.

3) Select the dimension to be changed with the touch pen. The selected dimension and dimension lines turn red.



+ and − are displayed.

4) Press + or − to change the value as desired. The shape is changed.

6 [Layout]

→Layout screen

Exiting from the Shape Editor screen to another screen confirms shape change, which cannot be canceled. To restore it, load the shape data again.

4.3.2 Partial groove / partial bevel editing

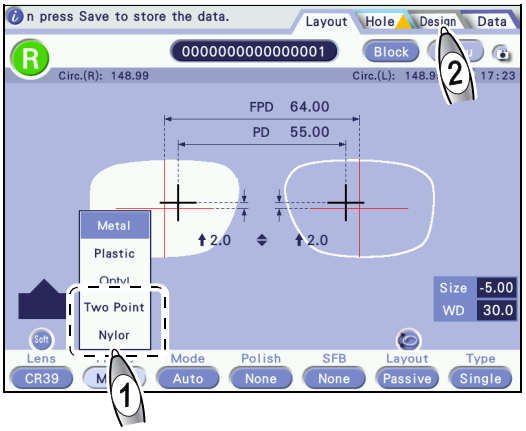
- Multiple partial grooving data with different groove depths and widths can be specified. However, all groove positions and curves are for auto grooving or guide grooving.
- Partial grooving and partial beveling data is entered for the R (right) shape. The data is mirrored to the L (left) shape. Entering data differently between the right and left lenses is not allowed.
- For the area for which partial beveling is specified, safety beveling, special safety beveling, polishing, and facet are unavailable. For glass lenses, partial beveling and partial grooving are unavailable.

1 Select the frame type.

1) [Frame]

→

2) [Two Point] / [Nylor]

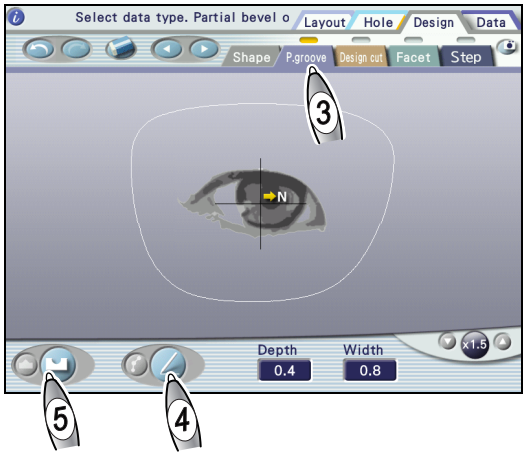


2 [Design]

→Design screen

3 [P.groove]

→Partial grooving / Partial beveling screen



4 Activate mode.

5 /

: Edits partial grooving data.

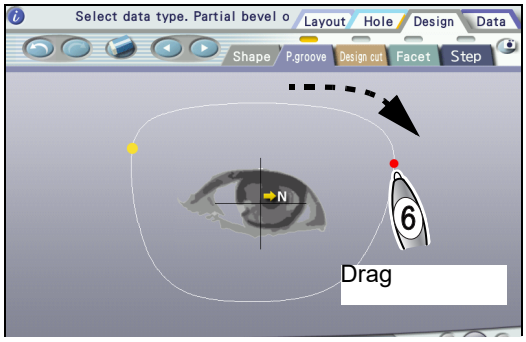
: Edits partial beveling data.

6 Add partial grooving or beveling data.

1) Touch the start position of the area to be partially grooved or beveled with the touch pen. The handle (yellow point) is displayed at the drag start position.

2) Drag the handle to the end position of the area with the touch pen. The handle (red point) is displayed at the drag end position.

3) When the touch pen is lifted, the specified area is displayed as a red line.

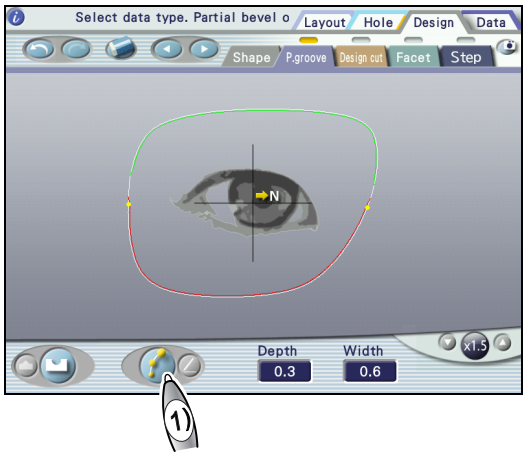


7 If necessary, repeat Steps 4 to 6 to add data.

8 If necessary, edit the entered data.

1) Activate  mode.

2) Select the entered data with  or  . Edit the data by changing the settings or dragging the handles at both ends of the data.



- Groove depth change

   [Depth]

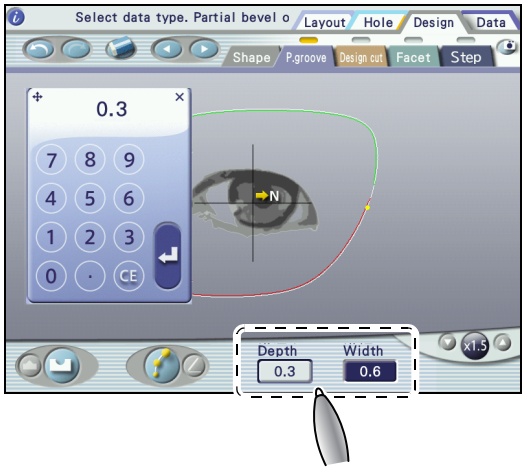
  Setting range: 0.0 to 0.8 mm

- Groove width change

   [Width]

  Setting range: 0.6 to 1.2 mm



Note

Data connection

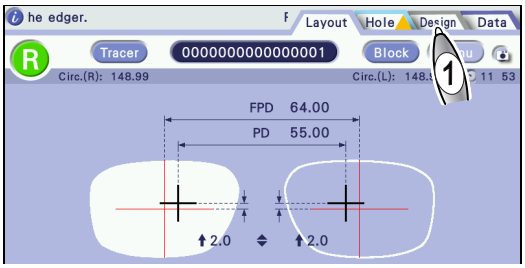
Partial grooving data may be connected to another partial grooving data, or similarly, partial beveling data to another partial beveling data, by dragging the data handles. This is not possible for three or more data items.

4.3.3 Design cut editing

- Design cut data is entered for the R (right) shape. The data is mirrored to the L (left) shape. Entering data differently between the right and left lenses is not allowed.
- Design cut cannot be performed within the area circled in yellow. Also, design cut is unavailable for glass lenses.
- Small design cut (approximately 2 mm or less) may not be performed as entered.

1 [Design]

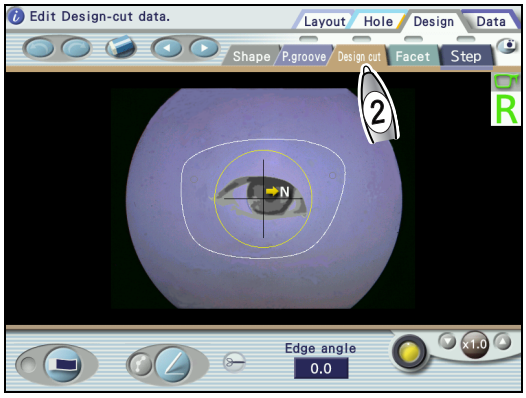
→Design screen



2 [Design cut]

→Design cut screen

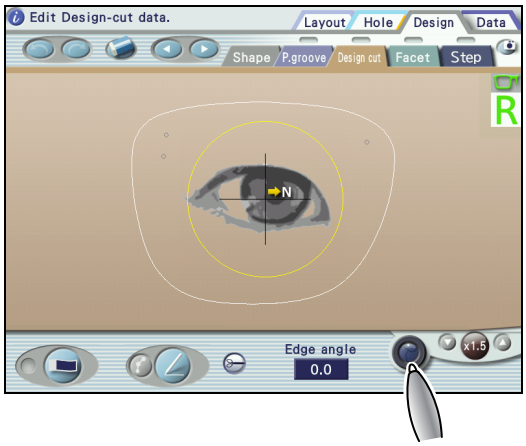
3 Change the background image or shape display magnification as necessary.



- Switching the background image

The background can be selected between the camera image (as shown below) and design image (as shown to the right).

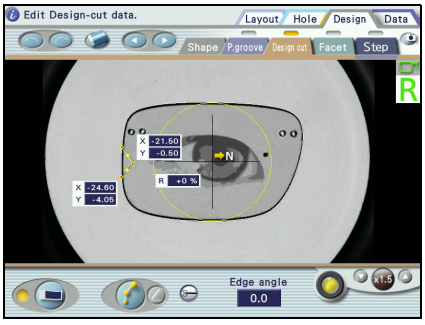
Pressing switches the background between the camera image and design image.



Note

Camera image

Selecting the camera image enables to edit design cut data on the actual lens image.



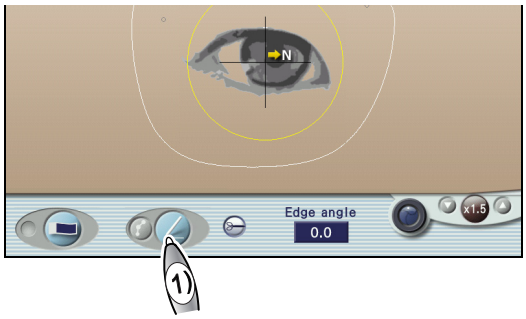
4 Enter design cut data.

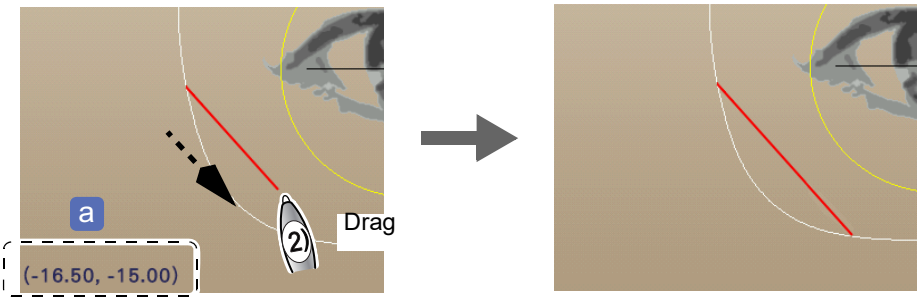
1) Activate  mode.

2) Drag from the start point to the end point of design cut data with the touch pen.

3) Repeat Step 2 to add necessary data.

   While dragging, the XY coordinates a of the end point are indicated in the lower left.





Both points of design cut data must be connected with the lens edge or another data point. All connected data will have the same edge angle.

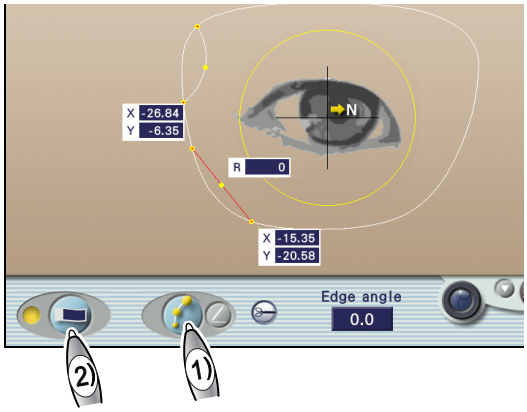
5 Activate edit mode.

1) Activate  mode.

   In edit mode, three handles (yellow points) are displayed for each data. The color of the handles at both ends indicates the connection conditions:

Red	Connected to the shape edge.
Green	Connected to another data.

2) If necessary, press  to display the start and end point coordinates and curve value.

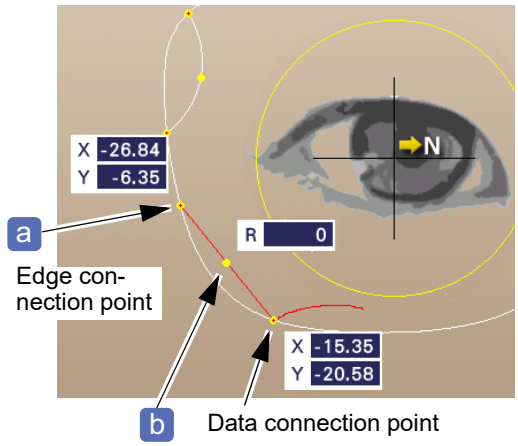


6 Edit the entered design cut data.

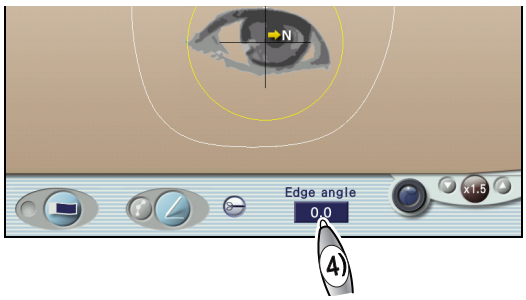
It can be edited using the touch pen or numeric keypad.

- Be sure to connect the handles at both ends of data to the lens edge or another data point. Otherwise, it is not possible to exit edit mode.
- Once connected, data points cannot be disconnected. When data is mistakenly connected, press  to return to the previous state or delete either data.

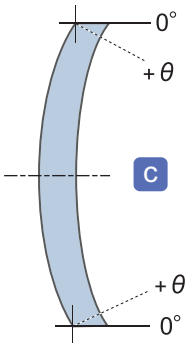
- When using the touch pen



1) Select the data to be edited with the touch pen.
   The selected data is displayed as a red line.
2) Drag the handle at the start point a or that at the end point to move them.
   When the handle is moved close to the lens edge, or the start or end point of another data, they are connected automatically.
   Connection to another data takes priority over edge connection.
3) Drag the middle handle b to create the desired curve.
4) [Edge angle]
   → 
   Enter the edge angle.
   Setting range: 0 to 30°

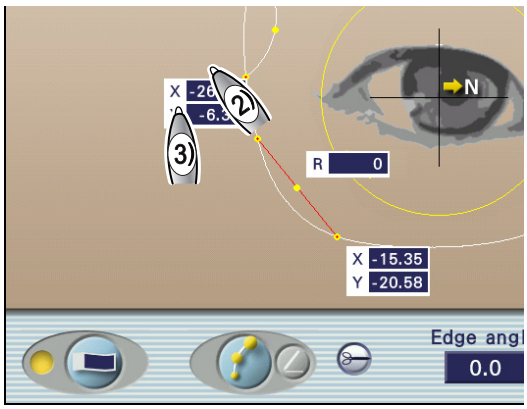


With 0°, the edge becomes parallel to the chuck axis c. Entering a positive value tilts the edge in the direction of the chuck axis.



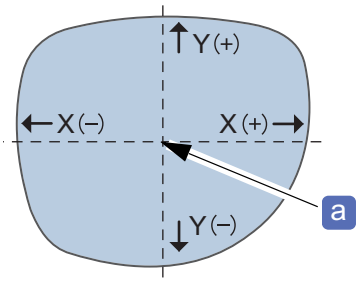
5) Repeat Steps 1) to 4) to edit all data.

- When using the numeric keypad



1) Select the data to be edited with the touch pen.
   The selected data is displayed as a red line. The start and end point coordinates and curve value are displayed.
2) X coordinate field of start point
   → 
   Enter the X coordinate of the start point.

The XY coordinates are indicated with positive and negative values taking the frame center a as the origin (unit: mm).



3) Y coordinate field of start point

→

Enter the Y coordinate of the start point.

4) X coordinate field of end point

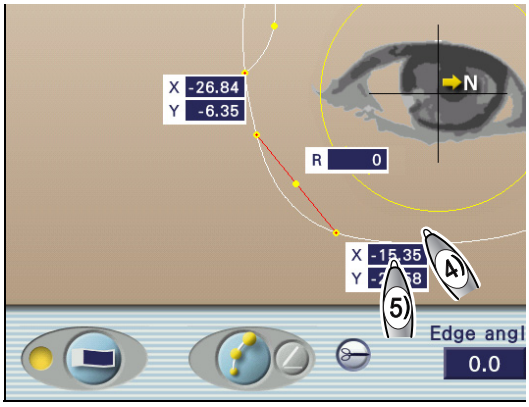
→

Enter the X coordinate of the end point.

5) Y coordinate field of end point

→

Enter the Y coordinate of the end point.

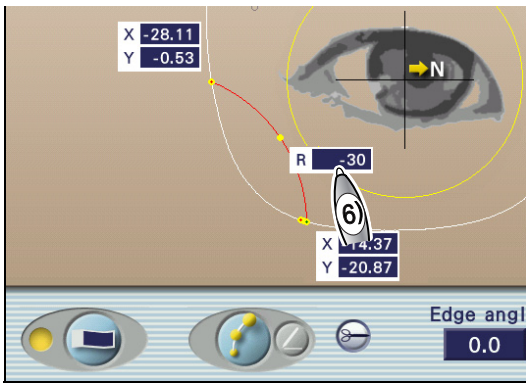


6) Curve (R) field

→

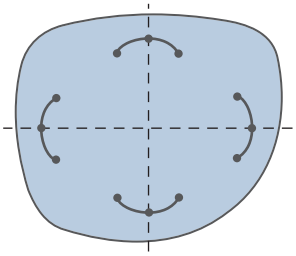
Enter the curve value.

Setting range: -99 to +99%

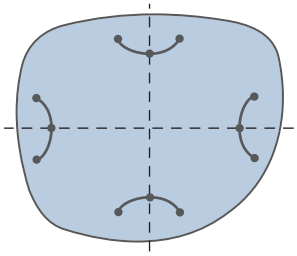


The curve value of 0% indicates a straight line. As the value increases, the line becomes more curved. When +99% or -99% is entered, it becomes a semicircle. Entering a positive value curves the data line away from the center. Entering a negative value curves the data line toward the center.

R: +50%



R: -50%

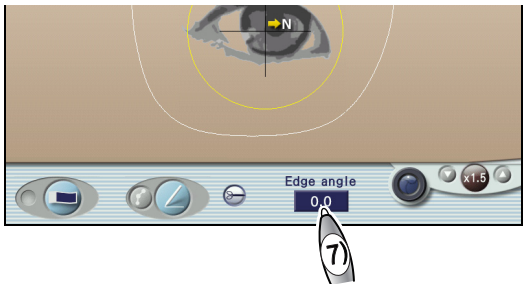


7) [Edge angle] field

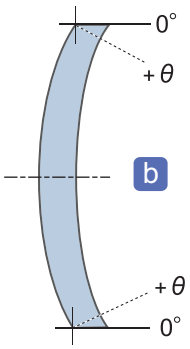
→

Enter the edge angle.

Setting range: 0 to 30°



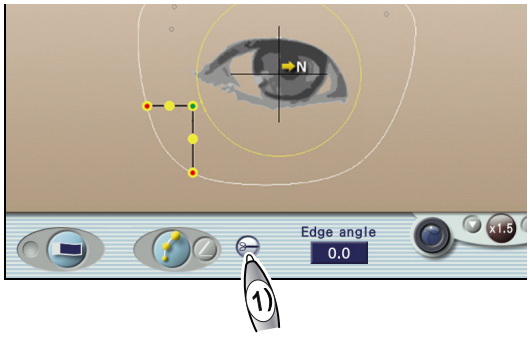
With 0°, the edge becomes parallel to the chuck axis b. Entering a positive value tilts the edge in the direction of the chuck axis.



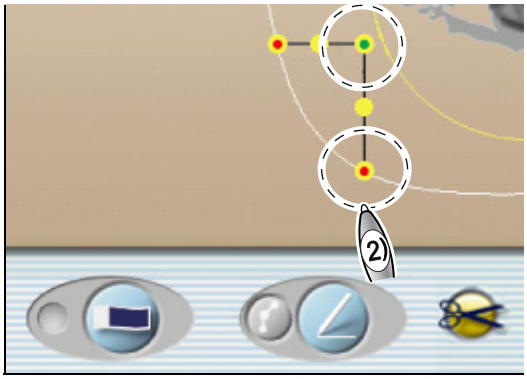
8) Repeat Steps 1) to 7) to edit all data.

7 If necessary, split the design cut data entered in Step 4 into two data items for fine adjustment.

1)

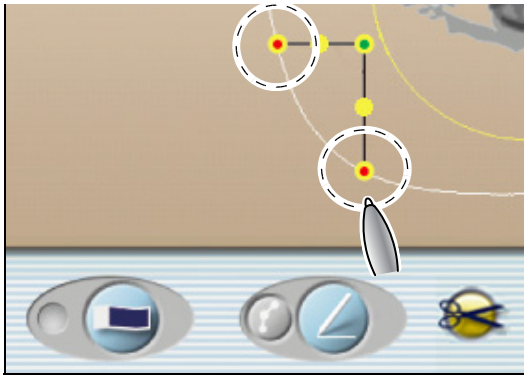


2) Select a point of design cut data to be split.



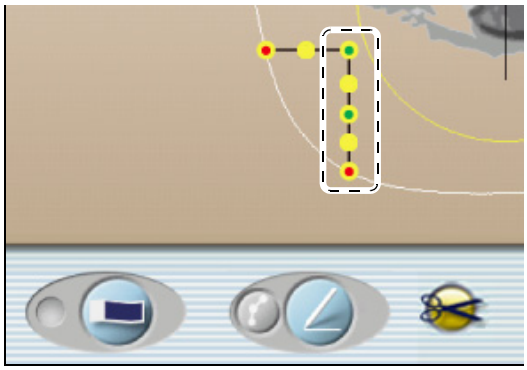
- When the start point or end point is selected

  Select the start point or end point (displayed in red).



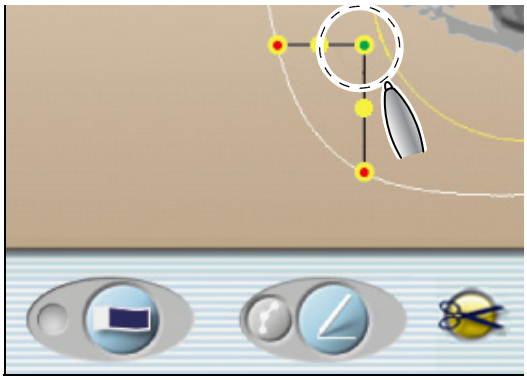
As shown to the right, design cut data is split into two data items at the selected point. Select the split data for adjustment.

For editing, see Steps 5 and 6.



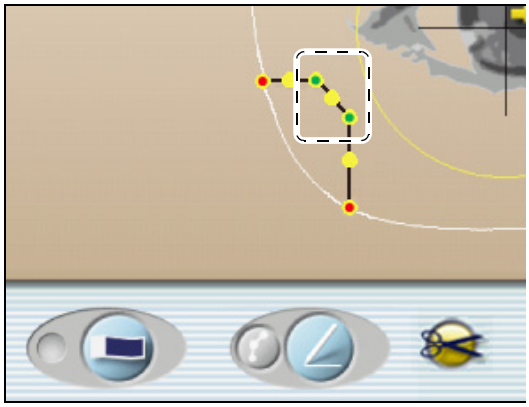
- When an intermediary point is selected

  Select the intermediary point.



Design cut data is split into two data items at the selected intermediary point. Select the split data for adjustment.

For editing, see Steps 5 and 6.



8 Finish editing.

If the start or end point of data is not connected anywhere, an error message appears. Data with problem is selected. Edit the data properly.

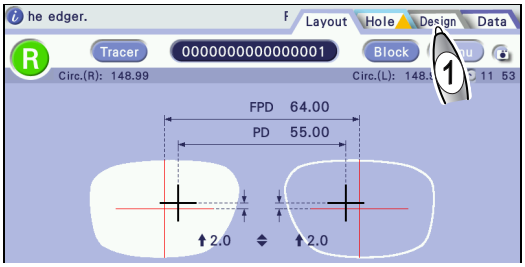
4.3.4 Facet editing

The facet function allows the front and rear lens edges to be faceted at any width, range, and position.

- The facet function is available only when the frame type is set to [Two Point] and the lens material is set to [CR39] or [Hi-index].
- To facet a lens, a line indicating the facet area is drawn on the right shape. The data is mirrored to the left shape. Entering data differently between the right and left lenses is not allowed.
- Be sure to check the facet conditions on the facet guide screen when processing lenses with an edger.
  As the lens shape has not been measured in the ICE-1, the displayed data such as facet width is not calculated correctly.

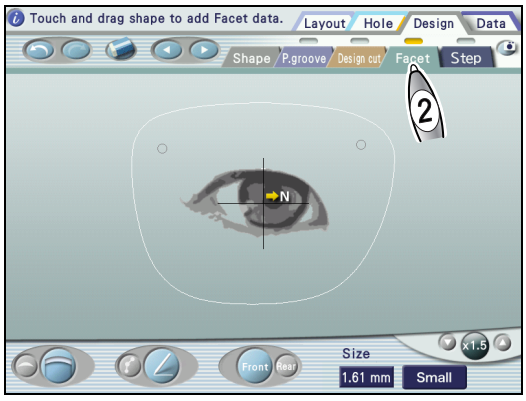
1 [Design]

→Design screen



2 [Facet]

→Facet screen



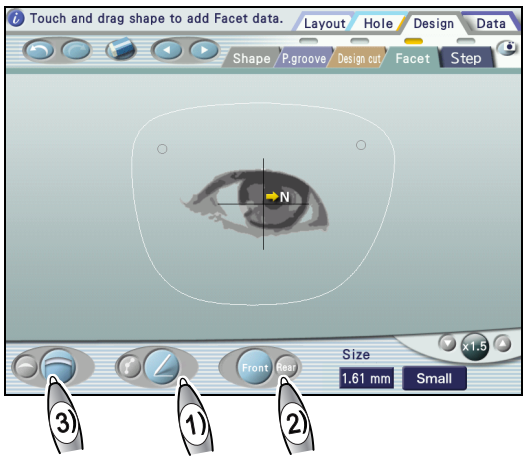
3 Enter facet data in add mode.

1) Activate mode.

2) Front / Rear

Select whether facet data is entered for the front or rear.

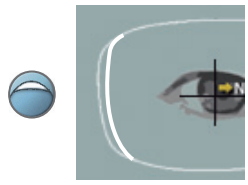
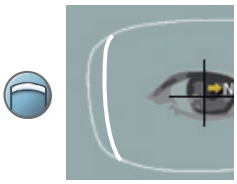
Switching between Front and Rear flips the shape to be viewed from the selected side.



Front	Enters facet data for the front.
Rear	Enters facet data for the rear.

3) /

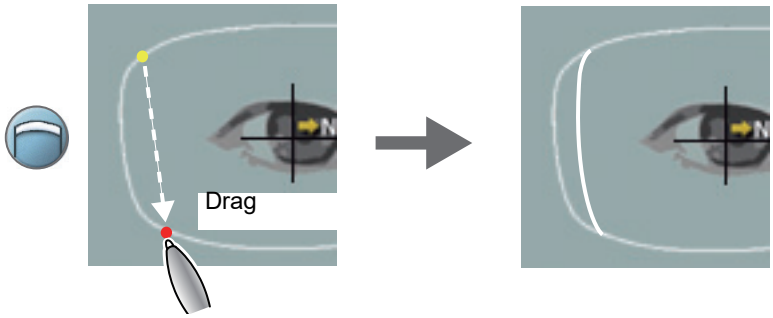
Select the facet shape.

	Faceting is wider around the center of the selected area.
	Faceting is almost the same width throughout the selected area.

4) Touch the end of the area to be faceted on the shape outline with the touch pen. The yellow handle is displayed.

5) Drag the handle to the other end of the area to be faceted. The red handle is displayed at the drag end position.

6) When the touch pen is lifted, the specified facet area is displayed as a line. The data is displayed as a light blue line for the front edge and as a violet line for the rear edge.

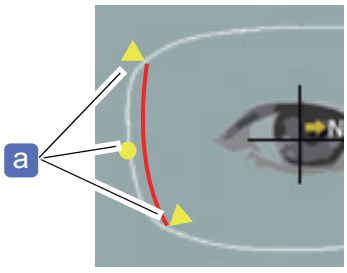


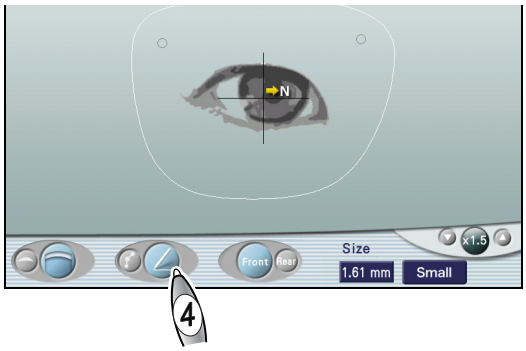
7) If necessary, repeat Steps 2) to 6) to add facet data.

Up to 10 data items can be added for each of the front and rear edges.

4 Activate mode.

In edit mode, the selected line is displayed in red. Handles a for editing are displayed at both ends of the line. For data, a handle is also displayed in the middle.





5 If necessary, edit the data entered in Step 3.

1) Select the entered data with or . Edit the data by changing the settings or dragging the handles at both ends of the data.

2) Press or to change the facet shape.

3) Drag either of the handles (yellow triangle) at the ends to move the start or end point of the data.
When the middle handle is yellow, its position is changed according to the movement of the end handle.

4) When the facet shape is , the middle handle can be moved by dragging.
Dragging and lifting the touch pen at the desired position moves the middle handle there, and it turns blue. This is the position where the faceted width of the selected data is maximum.
When the middle handle is blue, its position is not changed even if the end handle is moved.

Drag

5) To change the facet amount, select the data, press the [Size] field to display the numeric key-pad, and enter the desired value. The set value is the maximum facet amount of the selected data.
The actual maximum facet amount may be less than the entered value after lens shape measurement due to the influence of the lens edge thickness or curve.

6 If necessary, change the setting of the safety bevel amount of the part not to be faceted.

1) [Safety bevel amount]

2) [Small]/[Medium]/[Large]

7 If necessary, repeat Steps 3 to 6 to edit all data.

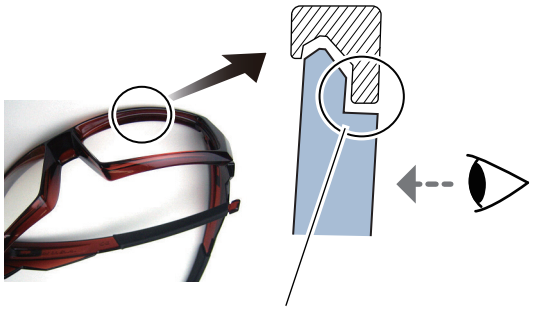
8 Finish editing facet data.

4.4 Step and partial step editing

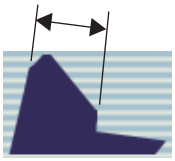
Contents described in this section
"4.4.1 Step editing" (page 153) *"♦ Demo lens preparation" (page 156), "♦ Demo lens measurement" (page 157)*
"4.4.2 Partial step editing" (page 156)
"4.4.3 Checking and editing partial step data" (page 160)

Step beveling and partial step beveling improve safety by cutting a step on the rear surface of lenses for high base curve frames such as sport sunglasses to prevent the lens from detaching toward the eye side.

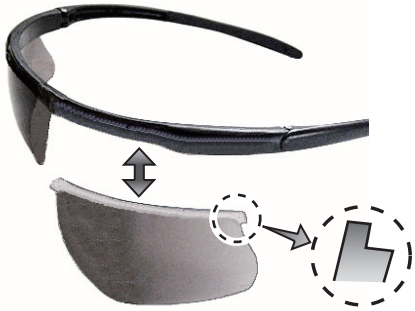
Step



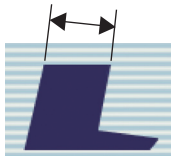
Side view of step beveling



Partial step



Side view of partial step beveling

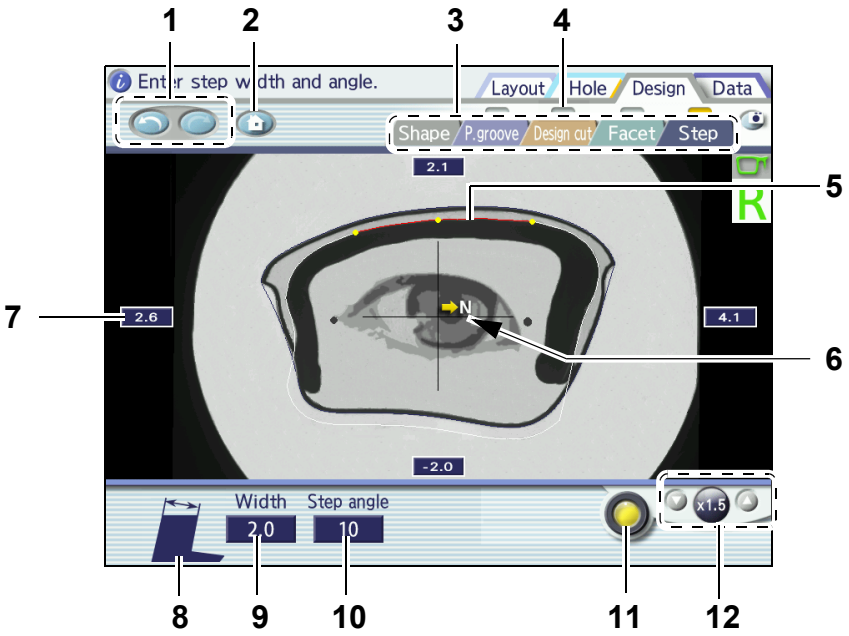


- Pressing the [Step] icon toggles between step beveling and partial step beveling.
- Depending on the edger, step beveling and polishing may be unavailable.
- Depending on the edger, partial step beveling may be unavailable.

◆ Step Editor screen

Pressing [Design] then [Step] displays this screen.

The following is the screen for partial step beveling.



1 [Undo] button, [Redo] button

: Undoes up to five editing operations.

: Redoes up to five editing operations.

2 [Initialize] button

Clears the edited data and displays the original shape data.

3 [Design screen change] tabs

Switch the screen among the Shape Editor screen, Partial grooving / Partial beveling screen, Design cut screen, Facet screen, and Step Editor screen.

4 Design indicators

When any data of partial grooving, partial beveling, design cut, facet, or step beveling exists, the corresponding indicator turns yellow.

5 Step change indication

The handles at both ends are dragged to set the area in which the step height is changed. The middle handle is dragged to set the step height.

6 Nasal side mark

The arrow indicates the nasal side.

7 [Step height] fields (four positions)

Sets the step height for the area to be step beveled. Enter a value with the numeric keypad.

These fields are displayed only when the magnification is set to ×1 or ×1.5.

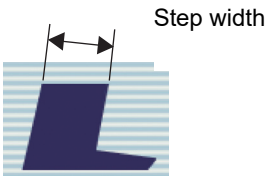
Step height

8 [Step] icon

Toggles between step beveling and partial step beveling.

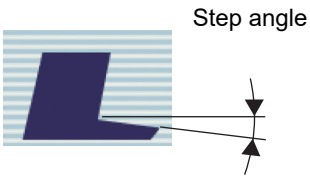
9 [Width] field

Sets the lens edge width for the area to be step beveled. Enter a value with the numeric keypad.



10 [Step angle] field

Sets the lens edge angle for the area to be step beveled. Enter a value with the numeric keypad.



11 [Camera display toggle] button

Toggles display of the camera image as a background.

12 [Magnification] buttons

Pressing  or  to the right or left of the magnification indication switches the display magnification.

When any magnification other than [×1.0] is selected, the shape can be moved by dragging  .

4.4.1 Step editing

- [Glass] cannot be selected and safety beveling is unavailable.
- Select the frame type from among [Metal], [Plastic], and [Optyl].
- The layout mode is automatically set to [Passive].
- Depending on the edger, step beveling and polishing may be unavailable.

1 Select the lens material and lens type on the Layout screen.

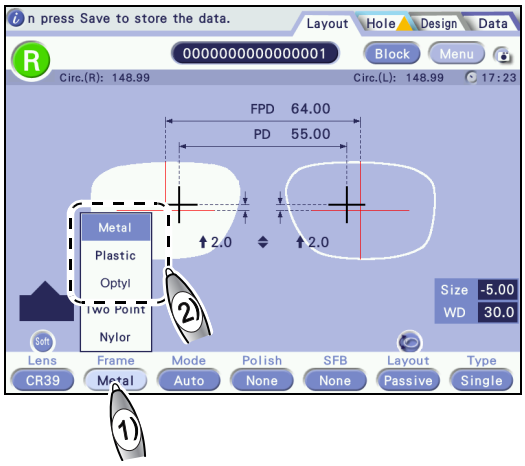
"3.6 Entering Processing Conditions" (page 80)

2 Select the frame type.

1) [Frame]

→

2) Metal / Plastic / Optyl



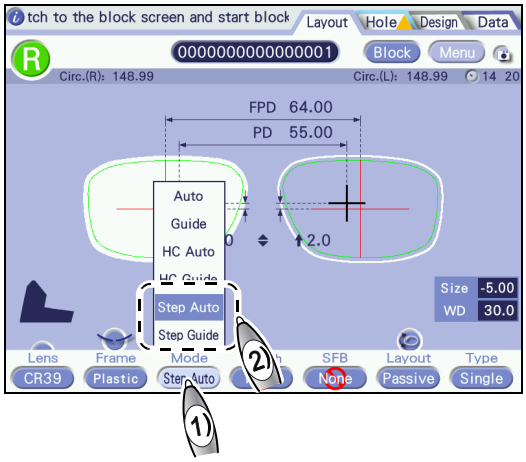
3 Select the processing mode.

1) [Mode]

→

2) Step Auto / Step Guide

A green line is displayed inside the shape outline.



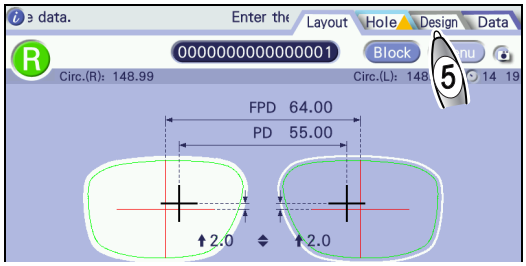
4 Enter the layout data as necessary.

"3.7 Entering Layout Data" (page 93)

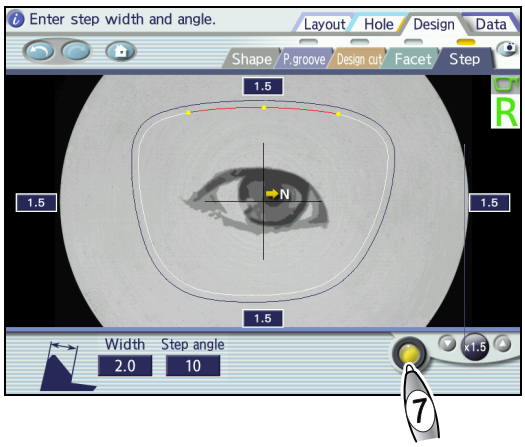
5 [Design]

6 [Step]

→ Step Editor screen



7 If necessary, press to change the background image.



8 Edit the step data.

- Editing the step height

Step height

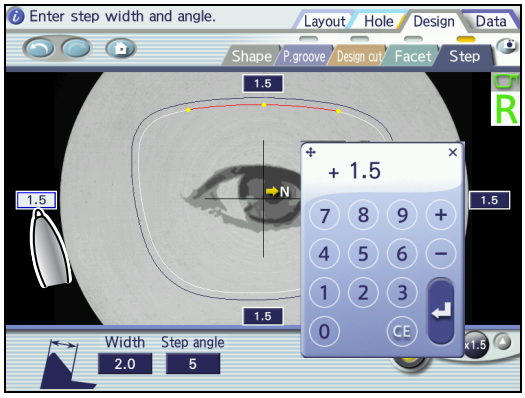
[Step height] fields (four positions)

→

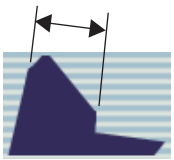
Enter a value with the numeric keypad.

- Setting range: -2.0 to +5.5 mm

These fields are displayed only when the magnification is set to ×1 or ×1.5.



- Editing the step width



Step width

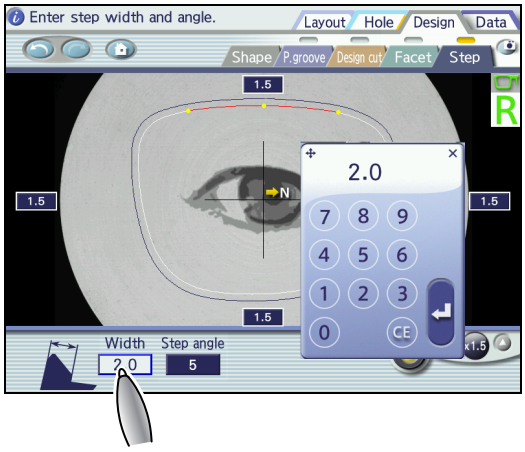
[Width]

→

Enter a value with the numeric keypad.

- Setting range: 0.5 to 5.0 mm

Measure the thickness of the demo lens edge and enter that or a smaller value.



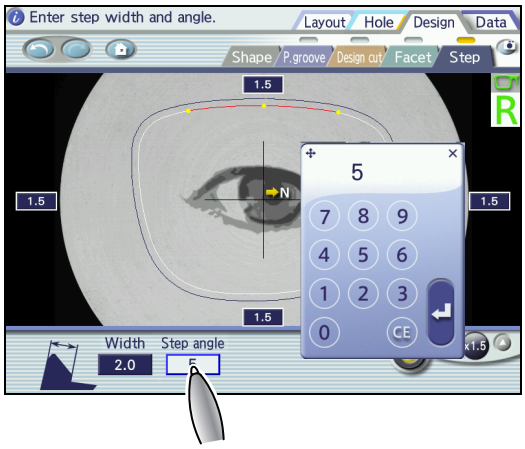
- Editing the step angle

[Step angle]

→ 

Enter a value with the numeric keypad.

- Setting range: 5 to 15°



9 Block the lens with the pliable cup for high base curve lenses.

"3.10 Blocking" (page 113)

4.4.2 Partial step editing

- Block a lens with the front surface curve nearly the same as that of a demo lens. A lens with a different front curve cannot be mounted in a frame even if it is processed.
- If the special clay (optional) adheres to the nose pad, it may not come off. In this case, remove and clean the nose pad.
- Instead of the special clay, a line may be drawn on the demo lens along the frame shape with a pen. However, detection sensitivity is lowered.
- Depending on the edger, partial step beveling may be unavailable.

◆ Demo lens preparation

Measure a demo lens to create step data. Prepare the following.

Part name	Part number
Spatula (optional)	44630-M111
Special clay (optional)	44630-M113
Shading cover	CEP12-M201

1 Remove the lens from the frame and clean it.

If the frame or demo lens is not clean, accurate measurement may not be performed.

2 Mount the demo lens in the frame and mark it with a lensmeter.

"3.5.1 Demo lens (with markings) measurement" (page 74)

3 Roll out the special clay (optional) a into a stick shape and attach it to the rear surface of the demo lens along the frame shape.

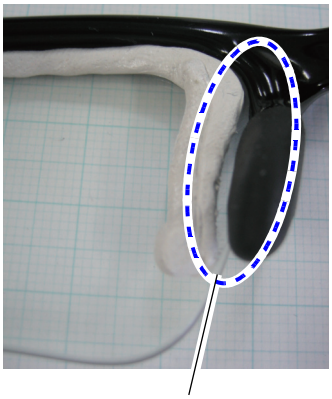
Step beveling is only performed along the area between the special clay-attached location and edge.

Make the space between the frame and clay as small as possible so that it does not affect the processing accuracy. Make sure that the clay does not contact the frame. If any part of the clay contacts the frame, push the clay away using the spatula (optional).

4 Leave a space between the lens edge and the special clay for step beveling.

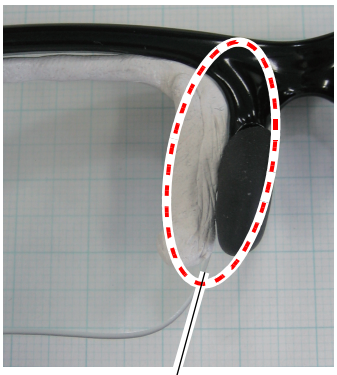
- Make sure that neither end of the clay extends beyond the demo lens. The extension is mistakenly detected as part of the lens shape.
- Attach the clay away from the nose pad so that the nose pad and step beveled lens do not interfere with each other.

○



Space between the clay and nose pad is even.

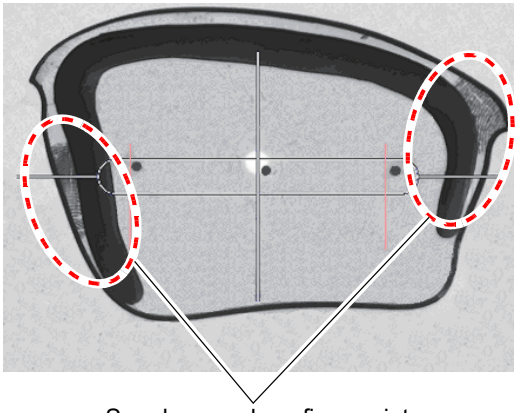
×



There is no space between the clay and nose pad.

5 Remove the demo lens from the frame.

- Smudges such as fingerprints affect the detection, therefore wipe any off.
- If the clay shape has changed when the demo lens is removed from the frame due to its adhesion to the frame, correct the clay shape with the spatula.



Smudges such as fingerprints

◆ Demo lens measurement

1 Display the Shape Imager screen and set the shape measurement table.

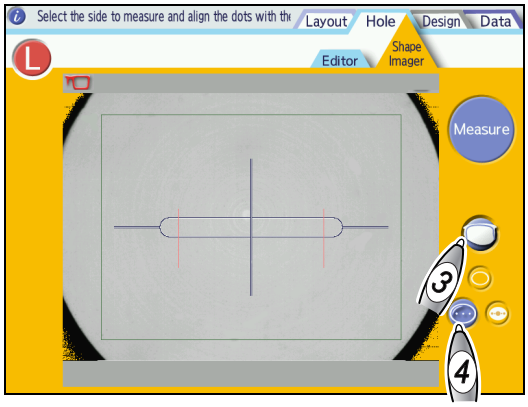
"3.5.1 Demo lens (with markings) measurement" (page 74)

2 Place the shading cover on the ICE-1.

"3.5.4 Handling of shading cover" (page 79)

Install the instrument in a location not exposed to direct sunlight or intense interior lighting. The accuracy of image scanning may be affected. Especially, when measuring sunglass lenses, use the shading cover.

3 Press the [Measurement mode] button to activate Step measurement mode .



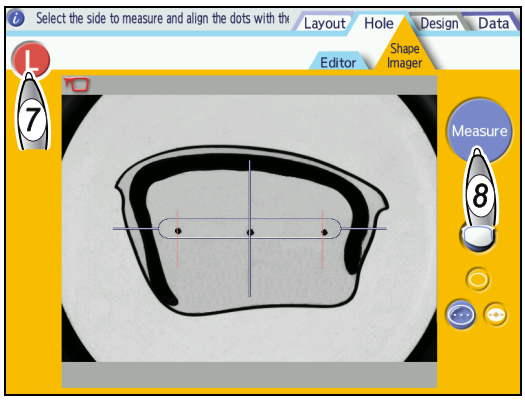
4

5 Place the demo lens on the shape measurement table with the front surface facing up.

"3.5 Shape Measurement with Shape Imager Function" (page 74)

6 Center the markings on the demo lens while aligning them horizontally within the alignment scale as precisely as possible.

As the tilt is automatically corrected, the markings are not necessary to be exactly horizontal.



7 R / L

8 Measure

"Wait while measuring." appears. Wait for some time without touching the instrument.

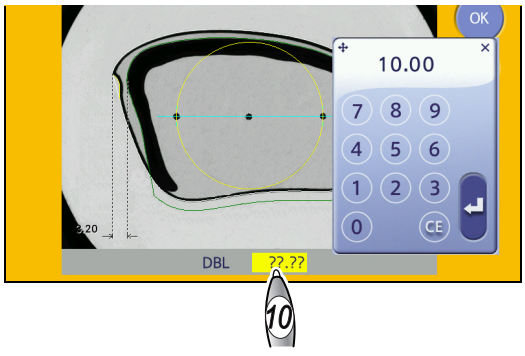
9 When the measurement is complete, the detected outline is displayed in white and the clay outline is displayed in green.

If "Measurement completed. Failed to detect the step data." appears, press Cancel. Clean the shape measurement table and demo lens, then restart the operation from Step 6.

10 [DBL]

→

Enter the DBL value.



- Measuring DBL with a vernier caliper

1) Measure the distance between the inner points on the right and left frames with a vernier caliper.

Location to be measured with vernier caliper

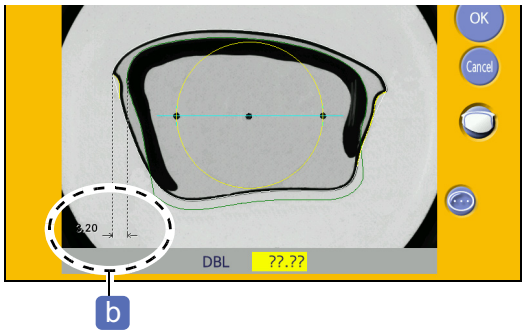
2) Calculate the DBL value by the following formula.

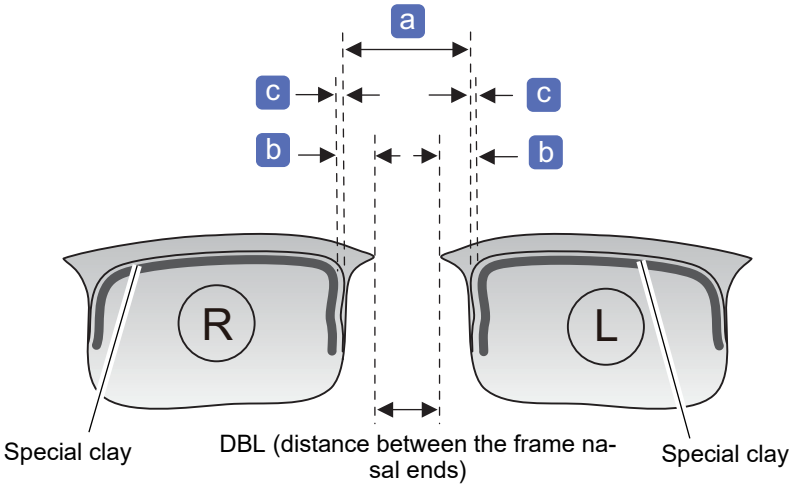
DBL = a - 2 × (b - c)

a : Dimension measured in Step 1)

b : Dimension indicated on the screen

c : Space between the frame and clay

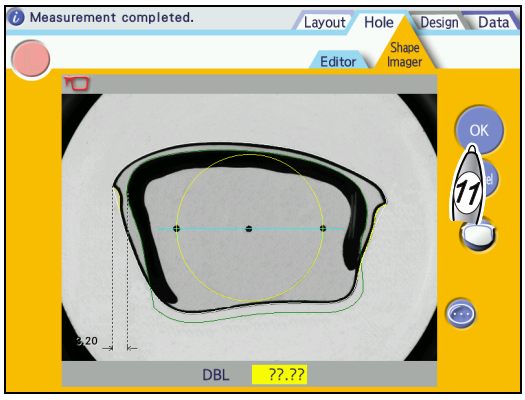




11 OK

→Hole Editor screen

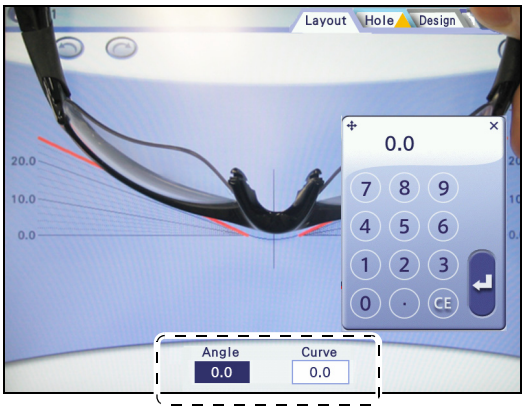
Pressing OK confirms the loaded shape result.



12 Enter the frame warping angle and curve.

"3.6.11 Frame warping angle setting" (page 89)

13 Remove the shading cover and complete measurement.



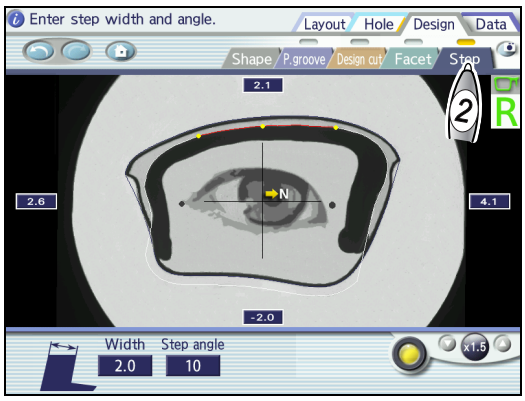
4.4.3 Checking and editing partial step data

Step data is checked on the Step Editor screen. If any discrepancy occurs between the step data detected during shape measurement and the border of the special clay, edit step data.

1 [Design]

2 [Step]

→Step Editor screen



3 If necessary, press to display the camera image for the background as shown to the right.

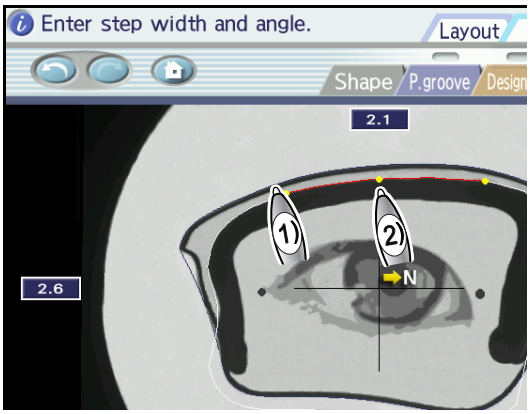
A still image of the measured shape is displayed immediately after shape measurement.

4 Edit the step data.

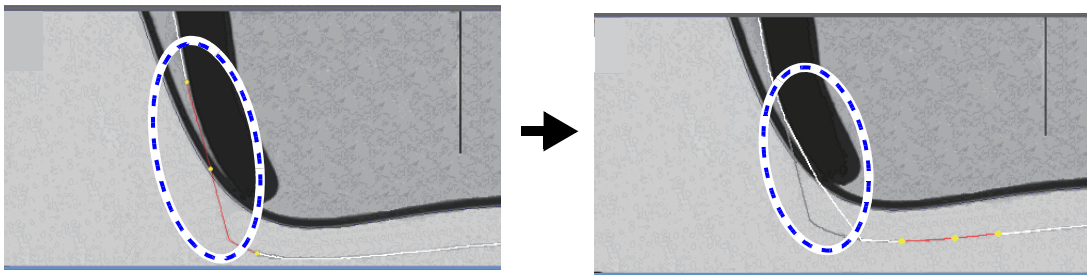
- Editing the step height

Step height

1) Drag the handles (yellow points) at both ends to specify the step change area.
2) Drag the middle handle to specify the step height.



Step data can be corrected more precisely by breaking the correction into a number of smaller steps.



● Changing the step height with the numeric keypad

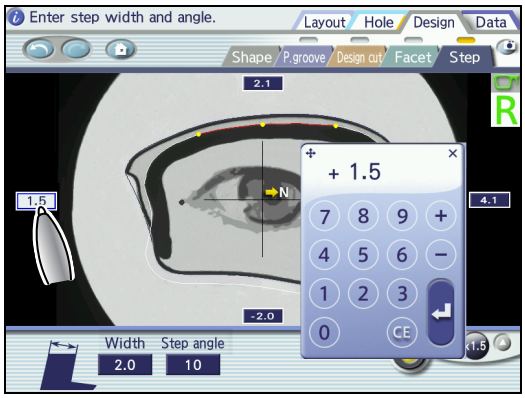
[Step height] fields (four positions)

→

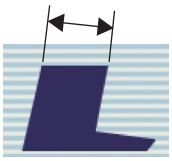
Enter a value with the numeric keypad.

- Setting range: -2.0 to +5.5 mm

These fields are displayed only when the magnification is set to ×1 or ×1.5.



● Editing the step width



Step width

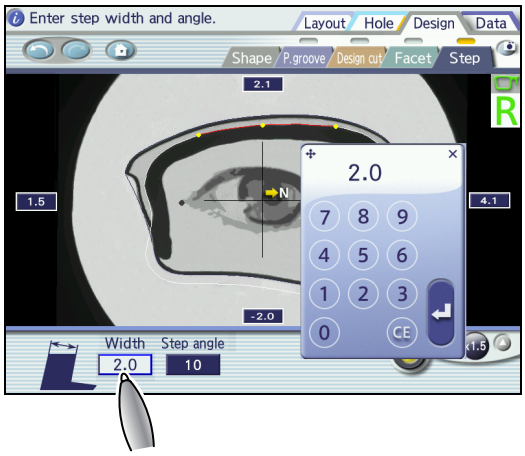
[Width]

→

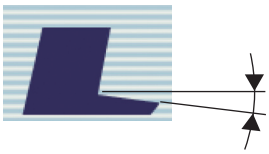
Enter a value with the numeric keypad.

- Setting range: 0.5 to 5.0 mm

Measure the thickness of the demo lens edge and enter that or a smaller value.



● Editing the step angle



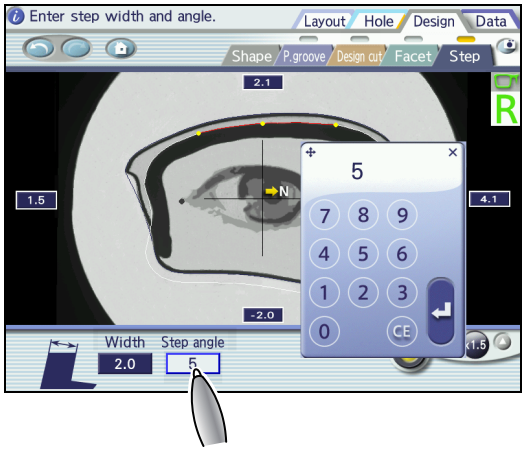
Step angle

[Step angle]

→

Enter a value with the numeric keypad.

- Setting range: 5 to 15°



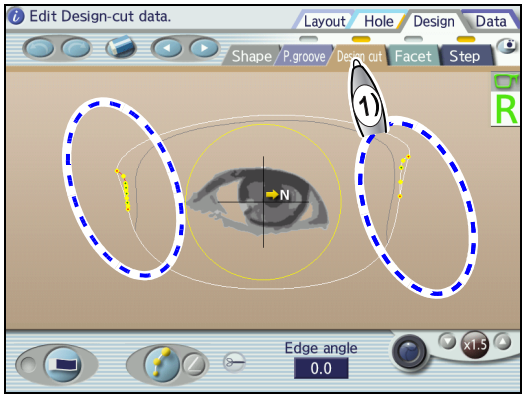
5 If necessary, correct the design cut data.

1) [Design cut]

➔Design cut screen

2) If any discrepancy occurs between the design cut data detected during shape measurement and the border of the demo lens, correct the data.

“4.3.3 Design cut editing” (page 141)



4.5 Initial Screen Customize Function

The initial screen customize function specifies and saves the items that the customer normally uses so that they are initially displayed on each screen.

- The default of the optical center height can be set by the “Optical center height” parameter.

  C-01“ *Optical center height” (page 169)*

- The default of nylor processing mode (flat edging or grooving) can be set by the “Default groove setting” parameter. When the “Default groove setting” parameter is set to [Off], [Flat] is automatically selected.

  C-02“ *Default groove setting” (page 169)*

- Step settings are not saved. When [Step Auto] is selected, processing mode is saved as [HC Auto]. When [Step Guide] is selected, processing mode is saved as [HC Guide].

◆ Items to be saved

Items listed below are saved. (Numerics are not saved.)

Screen	Item/Button
Layout screen	• R/L • FPD/DBL • PD / 1/2PD • Optical center height (⬍ /BT ⬍ /PD ⬍) • Layout mode (Active/Passive) • Lens material (CR39/Hi-index/Polyca./Acrylic/Trivex/Urethane/Glass) • Processing mode (Auto/Guide/HC Auto/HC Guide) • Lens type (Single/Multi/Progressive) • Frame type (Metal/Plastic/Optyl/Two Point/Nylor) • Polish setting • SFB setting • WD (Single, Multi, Progressive) • EP (Progressive) • Soft processing mode
Hole Editor screen	• Horizontal reference position • Vertical reference position
Shape Editor screen	• Increment (0.01 / 0.25 / 0.50 / Tenkey) • Eye image (woman, child, and man) ON/OFF
Partial grooving / Partial beveling screen	• Partial grooving or partial beveling
Design cut screen	• Camera image ON/OFF • Edge angle
Facet screen	• Facet shape • Facet width
Step Editor screen	• Step angle • Camera image ON/OFF

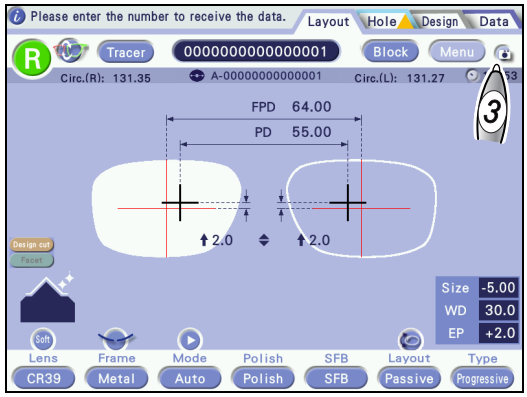
◆ Saving the initial screen

1 Display the screen for which the initial settings are to be saved.

2 Set each item as desired.

3 

Save the settings on the screen.



5 SETTING AND CONNECTION

Contents described in this chapter

5.1 Parameter Setting

Contents described in this section

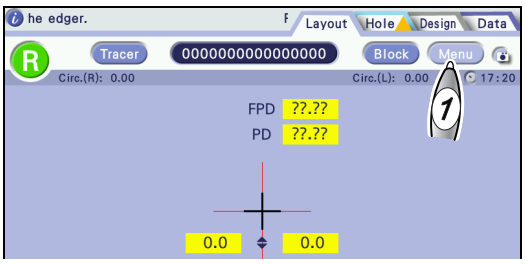
5.1.1 Operation on Menu screen

The Menu screen is used for parameter settings and adjustments.

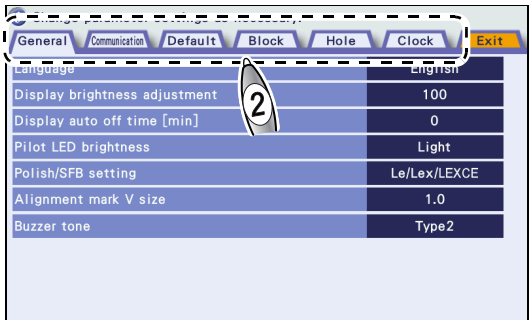
1 Displays the Layout screen.

Menu

→Menu screen

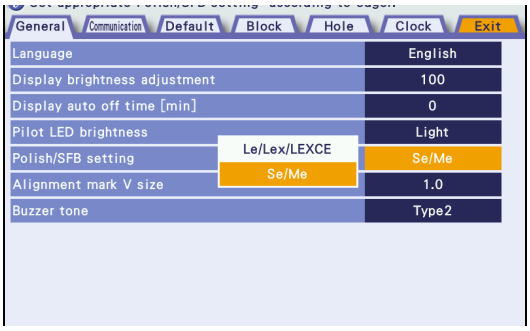


2 Select the screen on which parameters are to be changed from among [General], [Communication], [Default], [Block], [Hole], and [Clock].

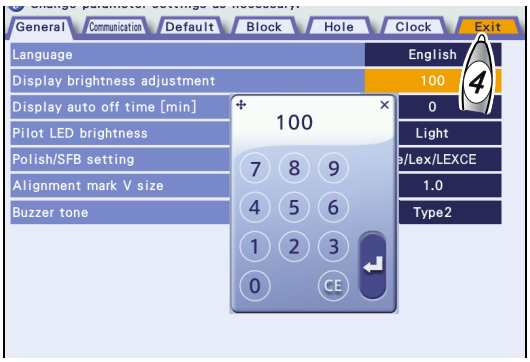


3 Change the parameters.

1) Press the desired parameter field.
   A pop-up menu or numeric keypad is displayed.
2) Change the setting.
   - Select the desired setting from the pop-up menu.



   - Enter a value with the numeric keypad and press  .



4  [Exit]

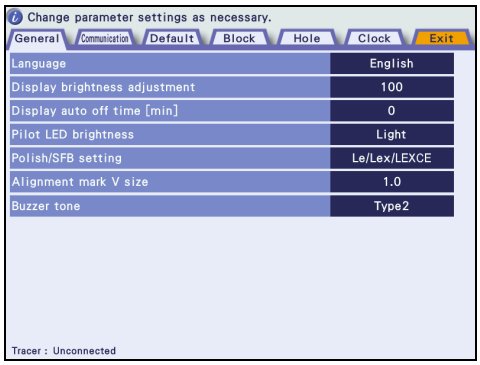
➔Layout screen

5.1.2 Setting parameters

- The **underlined setting options in bold** indicate the factory settings.
- Unless otherwise specified, the numerical unit is mm.

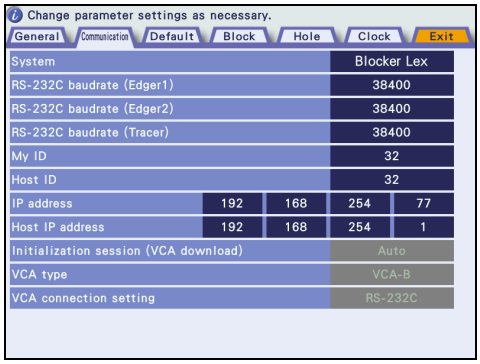
◆ General

General



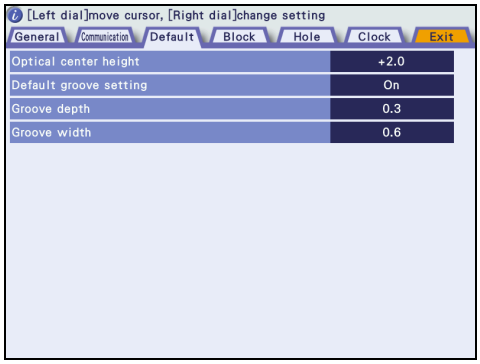
No.	Item	Setting options
A-01	Language	**English** / Other
		Selects the language displayed on the screen.
A-02	Display brightness adjustment	**100** Setting range: 0 (dark) to 100 (bright)
		Sets the display brightness.
A-03	Display auto off time [min]	**0** Setting range: 0 to 60 (min)
		Sets the length of idle time for the instrument to go into standby mode. When set to “0”, the instrument does not go into standby mode.
A-04	Pilot LED brightness	Off/Dark/ **Light**
		Selects the brightness of the power indicator. * Even when [Off] is selected, the power indicator illuminates when the instrument is turned on.
A-05	Polish/SFB setting	**Le/Lex/LEXCE**, Se/Me
		Selects the lens edger to perform polishing and safety beveling.
A-06	Alignment mark V size	0.0 / **1.0** / 2.0
		Selects the height of the alignment scale (to which markings are aligned). When “0.0” is selected, the alignment scale becomes a straight line.
A-07	Buzzer tone	Mute / Type1 / **Type2** / Type3
		Selects the buzzer tone. When [Mute] is selected, the buzzer does not sound.

◆ Communication

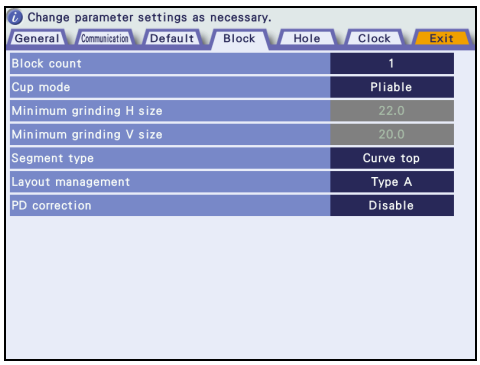
Communication


No.	Item	Setting options
B-01	System	**Blocker Lex** / Mini Lab / Extended Lab / Blocker VCA Selects the system configuration in which the ICE-1 is used.
B-02	RS-232C baudrate (Edger1)	**38400** / 9600 Selects the communication speed (baud rate) for the EDGER 1 connector.
B-03	RS-232C baudrate (Edger2)	**38400** / 9600 Selects the communication speed (baud rate) for the EDGER 2 connector.
B-04	RS-232C baudrate (Tracer)	**38400** / 9600 Selects the communication speed (baud rate) for the TRACER connector.
B-05	My ID	**32** Setting range: 1 to 65535 Sets the ID No. of the ICE-1 in network connection.
B-06	Host ID	**32** Setting range: 1 to 65535 Sets the ID No. of the host instrument that is the server in a network.
B-07	IP address	**192.168.254.1** Setting range: 0.0.0.0 to 255.255.255.255 Sets the IP address of the ICE-1.
B-08	Host IP address	**192.168.254.2** Setting range: 0.0.0.0 to 255.255.255.255 Sets the IP address of the host instrument.
B-09	Initialization session (VCA download)	Preset / **Auto** Selects the initialization session. This parameter is available when the system setting is Blocker VCA. Communication with the VCA server is possible accordingly for the selected initialization session.
B-10	VCA type	**VCA-B** / VCA-C Selects the VCA type. This parameter is available when the system setting is Blocker VCA.
B-11	VCA connection setting	**RS-232C** / Ethernet Select the method to connect the VCA server. This parameter is available when the system setting is Blocker VCA.

◆ Default

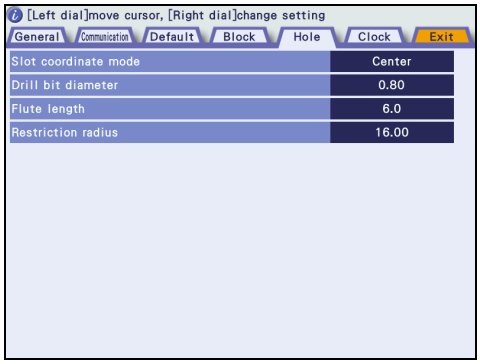
Default		
		
No.	Item	Setting options
C-01	Optical center height	**+2.0** Setting range: -5.0 to +5.0 (0.1 increments) Sets the default of the optical center height.
C-02	Default groove setting	**On** / Off Selects whether to groove lenses for nylor frames.
C-03	Groove depth	**0.3** Setting range: 0.0 to 0.8 (0.1 increments) Sets the default groove depth.
C-04	Groove width	**0.6** Setting range: 0.6 to 1.2 (0.1 increments) Sets the default groove width.

◆ Block

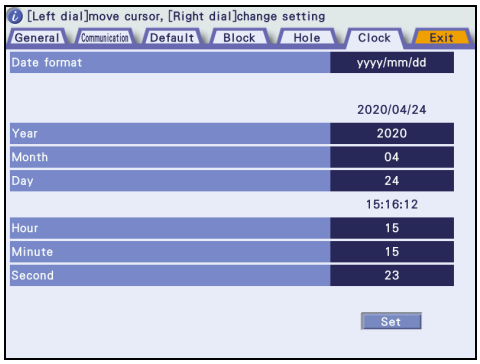
Block		
		
No.	Item	Setting options
D-01	Block count	**0** Display range: 0 to 999999999 Displays the number of blocked lenses. Pressing and holding the number field resets the number to “0”. If the number of blocked lenses exceeds 999999999, the number is automatically reset to “0”.
D-02	Cup mode	Half eye, **Pliable**, Pliable/Mini, Pliable/Nano Selects the type of lens cup to be used.

D-03	Minimum grinding H size	**22.0** Setting range: 15.0 to 30.0 (0.1 increments) Sets the minimum lens width that can be processed by a lens edger when a half-eye lens cup is used.
D-04	Minimum grinding V size	**20.0** Setting range: 15.0 to 30.0 (0.1 increments) Sets the minimum lens height that can be processed by a lens edger when a half-eye lens cup is used.
D-05	Segment type	**Curve top** / Flat top / Received (VCA) Selects the segment type displayed on the Blocking screen (Multi) between [Curve top] and [Flat top]. When [Received (VCA)] is selected, the segment type switches between [Curve top] and [Flat top] according to the direction from the server in the Blocker VCA system.
D-06	Layout management	**Type A** / Type B Type A • Frame warping angle can be entered up to 25.5°. • Whether to perform the PD correction can be selected. Type B • Frame warping angle can be entered up to 45.0°. • DBL becomes closer to the true value. • The PD correction is performed. When this parameter is set to [Type B], the parameters of all the connected instruments must be set to [Type B]. If [Type B] is unavailable, select [Type A]. If the settings are incorrect, the PD when the lenses are set in frames may not satisfy the specifications.
D-07	PD correction	**Disable** / Enable Selects whether to perform the PD correction. This parameter is enabled only when the “Layout management” parameter is set to [Type A]. When the “System” parameter is set to [Blocker VCA] and the “VCA type” parameter is set to [VCA-B], the PD correction is not performed even when [Enable] is selected. When this parameter is set to [Enable], the PD correction is performed during blocking. Therefore, the PD correction parameter in the connected edger must be set to [Disable]. If the settings are incorrect, the PD when the lenses are set in frames may not satisfy the specifications.

◆ Hole

Hole		
		
No.	**Item**	**Setting options**
E-01	Slot coordinate mode	**Center** / Edge Selects the reference point for entering the coordinates of slotted holes between hole center and hole edge.
E-02	Drill bit diameter	**0.80** Setting range: 0.50 to 5.00 (0.01 increments) Sets the parameter according to the drill bit diameter of the lens edger.
E-03	Flute length	**6.0** Setting range: 1.0 to 10.0 (0.1 increments) Sets the parameter according to the drill flute length of the lens edger.
E-04	Restriction radius	**16.00** Setting range: 10.00 to 20.00 (0.01 increments) Sets the area where holes cannot be set by the radius from the boxing center.

◆ Clock

Clock		
		
No.	**Item**	**Setting options**
F-01	Date format	**yyyy/mm/dd**, dd/mm/yyyy, mm/dd/yyyy Selects the date display format. (yyyy/mm/dd: year/month/day), (dd/mm/yyyy: day/month/year), (mm/dd/yyyy: month/day/year)
F-02	Year, Month, Day, Hour, Minute, Second	yyyy/mm/dd hh:mm:ss Sets the date and time. They are entered with the numeric keypad and confirmed when [Set] is pressed.

5.2 Connection

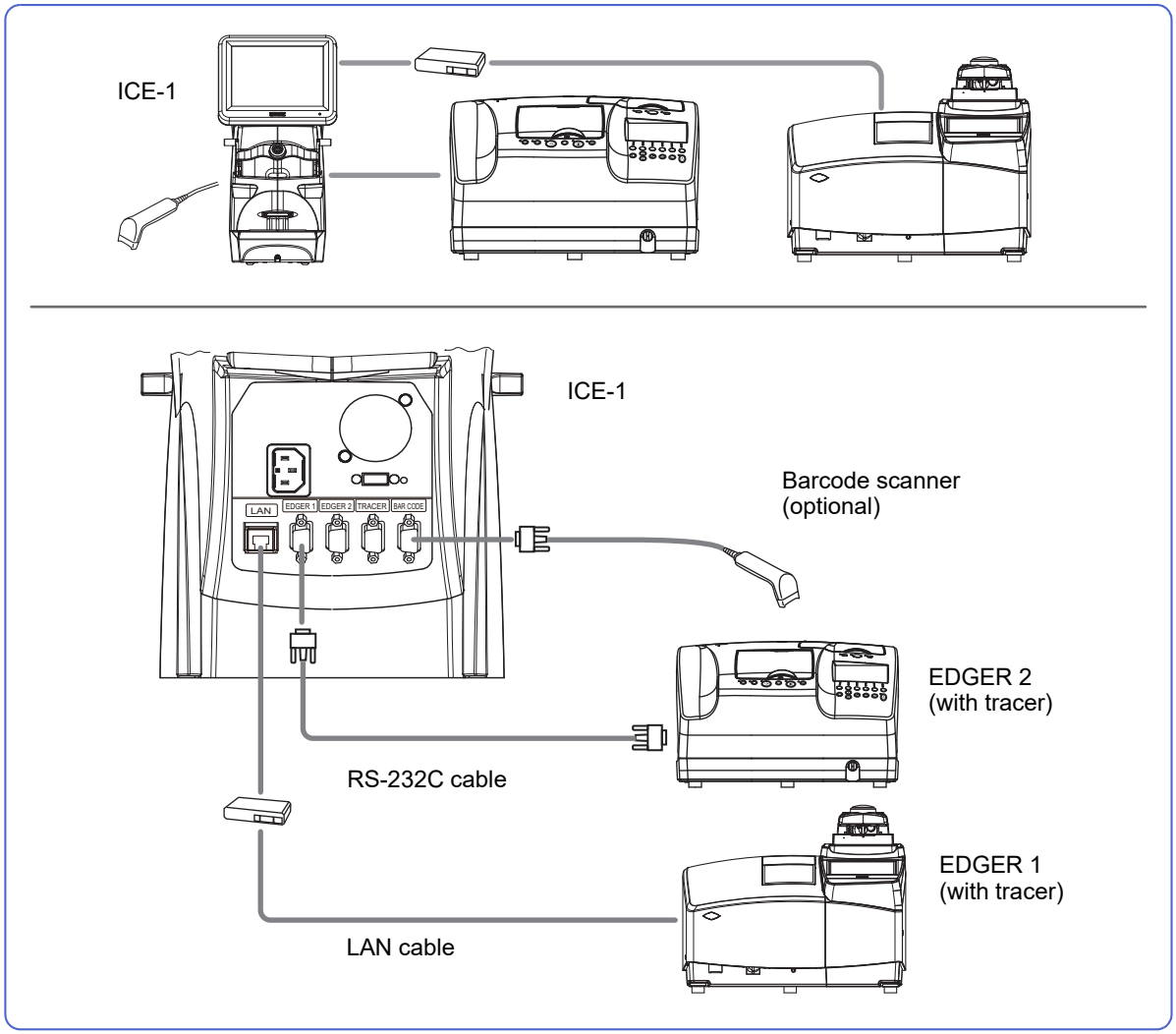
⚠ CAUTION

Before connecting instruments, confirm that all instruments are turned off. When handling the power supply or electrical components, satisfy the conditions described below.

“ Before use” (page 11)

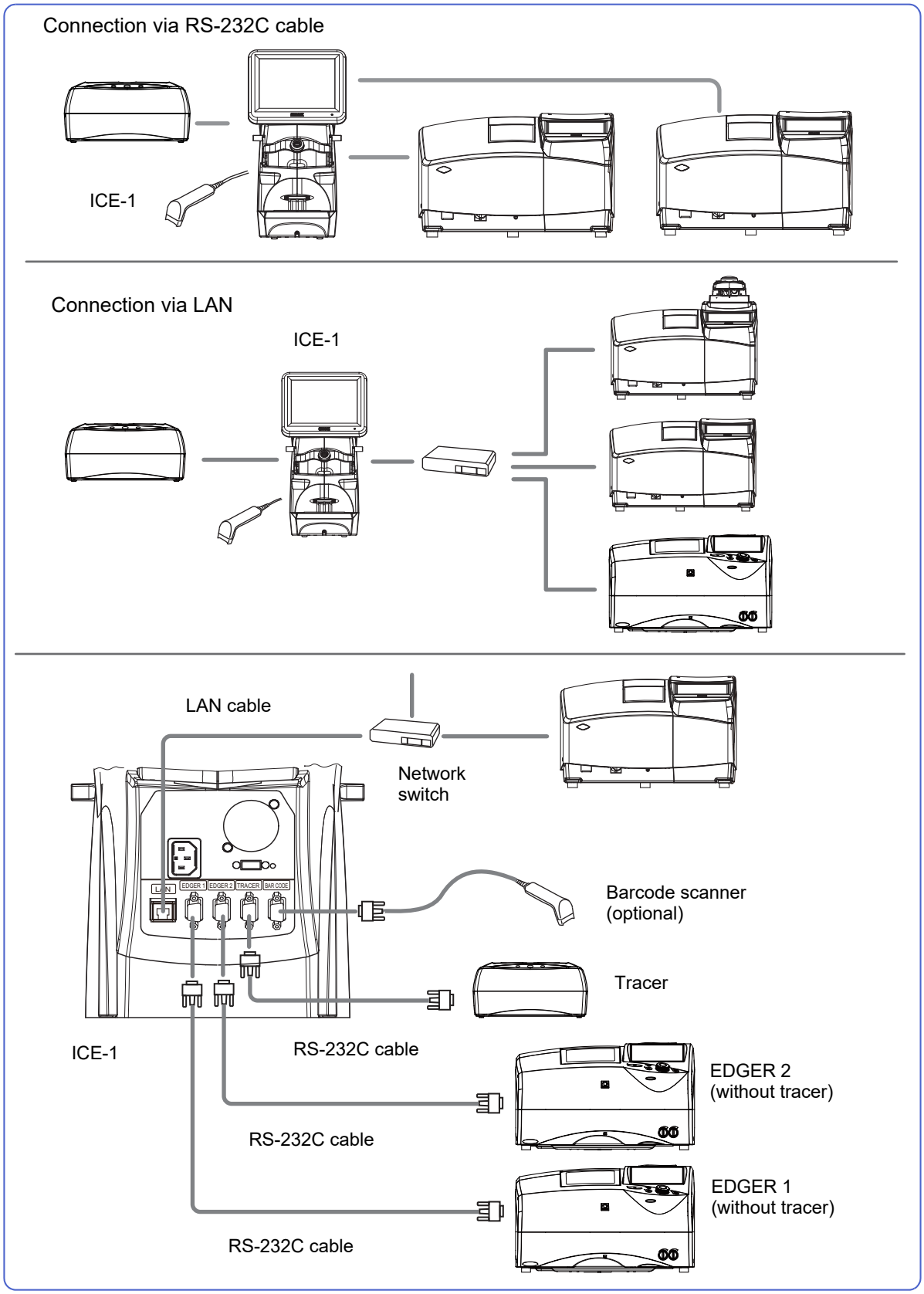
5.2.1 Blocker Lex system connection

The following is an example of the smallest system in which the ICE-1 is connected to lens edgers on a one-to-one or a one-to-two basis via RS-232C cables (optional) or LAN.



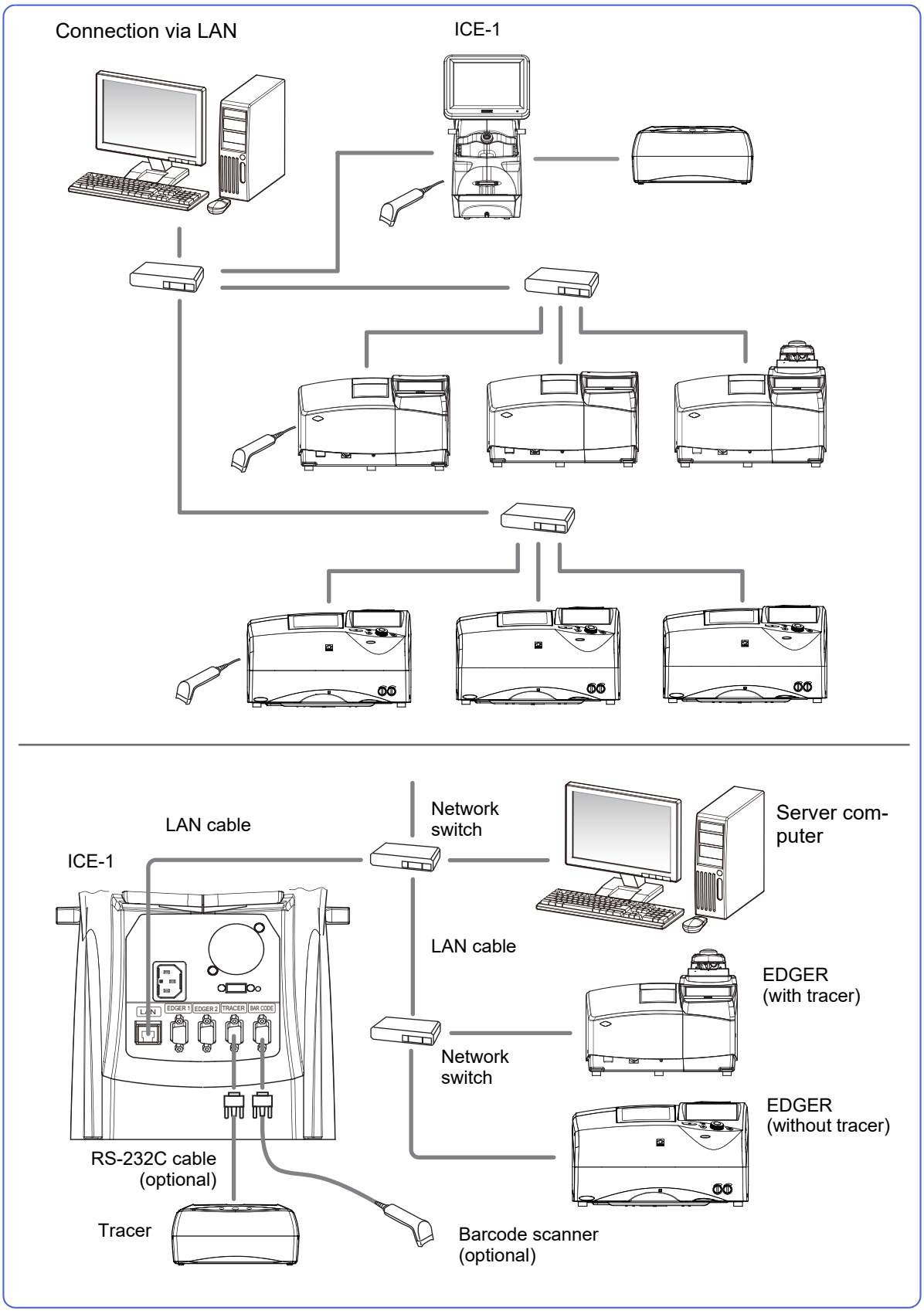
5.2.2 Mini Lab system connection

The following is an example of a small- or medium-scale system in which the ICE-1 is a data server. Other instruments are connected via RS-232C cables (optional) or LAN.



5.2.3 Extended Lab system connection

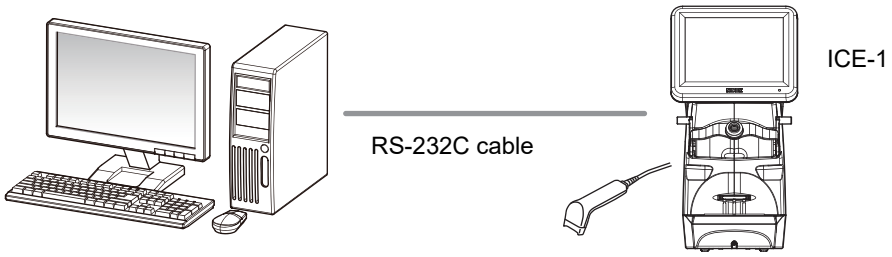
The following is an example of a large-scale system in which the ICE-1 and other instruments are connected to a server computer via LAN.



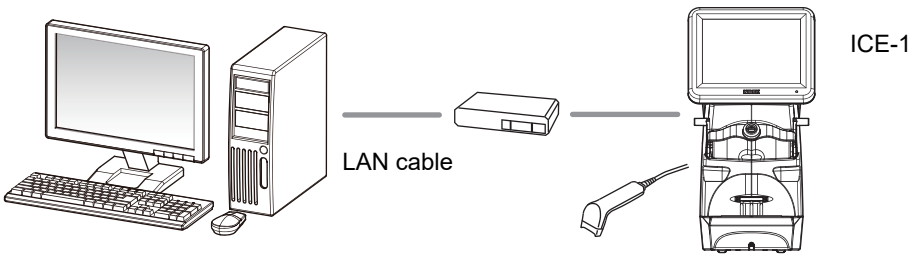
5.2.4 Blocker VCA system connection

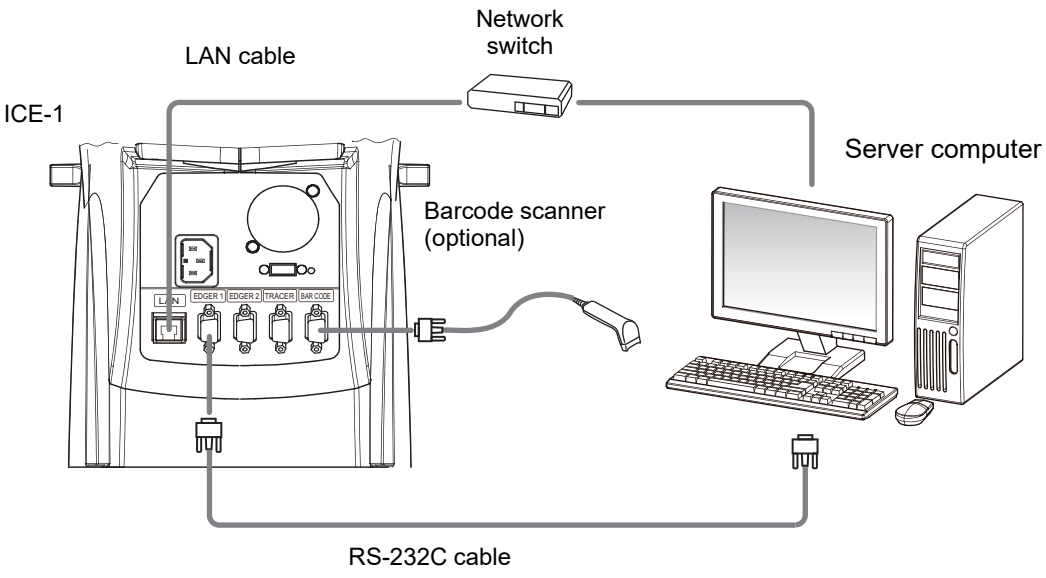
The following is an example of a system in which the ICE-1 is connected to a sever computer via an RS-232C cable (optional) or LAN.

Connection via RS-232C cable



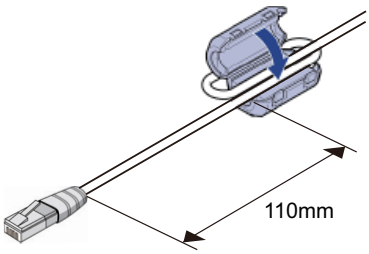
Connection via LAN





Note

- When connecting the barcode scanner (optional), contact Nidek or your authorized distributor.
- When connecting a LAN cable, attach the supplied ferrite core as shown to the right.



5.2.5 ICE-1 connection settings

Set the ICE-1 according to the system in which the ICE-1 is connected.

Parameter	Blocker Lex	Mini Lab	
		Edger connector	LAN port
My ID	ID No. of the ICE-1: 32	ID No. of the ICE-1: 32	
Host ID	ID No. of the ICE-1: 32	ID No. of the ICE-1: 32	
RS-232C baud rate	38400	38400	–
MAC address	–	–	Never change the factory setting.
IP address	–	–	Set the parameter differently for each instrument.
Host IP address	–	–	–
Subnet mask *	–	–	Set the parameter differently for each instrument.
Default gateway *	–	–	–
Host port No. *	–	–	–

Parameter	Extended Lab	Blocker VCA *	
		Edger connector	LAN port
My ID	ID No. of the ICE-1 (Any number except for the server No.)	–	–
Host ID	ID No. of the server computer	–	–
RS-232C baud rate	–	38400	–
MAC address	Never change the factory setting.	–	Never change the factory setting.
IP address	Set the parameter differently for each instrument.	–	Set the parameter differently for each instrument.
Host IP address	Set the parameter differently for each instrument. (IP address of the server computer)	–	Set the parameter differently for each instrument. (IP address of the server computer)
Subnet mask *	Set the parameter differently for each instrument.	–	Set the parameter differently for each instrument.
Default gateway *	Set the parameter differently for each instrument.	–	Set the parameter differently for each instrument.
Host port No. *	55555	–	Set the parameter differently for each instrument. (Port No. of the server software)

* mark: When it is necessary to change the parameters marked with * (asterisk), consult Nidek or your authorized distributor.

The settings of the instruments connected to the ICE-1 are described in the installation manual for each instrument. Contact Nidek or your authorized distributor.

6 MAINTENANCE

6.1 Troubleshooting

◆ Checking the symptoms

If the instrument does not function properly, check the following table before contacting Nidek or your authorized distributor.

Symptom	Remedy
The instrument is not started even though the power switch is turned on.	• Check whether the power cord is properly connected. • Check whether proper voltage is applied to the power outlet by connecting another instrument.
Communication cannot be performed.	• Check whether RS-232C cables or LAN cables are properly connected. • Check whether the connected instruments are turned on and their power cords are properly connected.
The lens cup cannot be inserted into the cup holder of the blocker smoothly or is easily detached.	• Adjust the plunger of the cup holder. *"6.2.3 Cup holder adjustment" (page 180)*
A message is displayed and the instrument has stopped.	• Perform the remedy according to the message. If the message is displayed again, contact Nidek or your authorized distributor.
An error code is displayed and the instrument has stopped.	• An abnormality occurs in the instrument. Turn off and on the instrument. If the error code is displayed again, turn off the instrument, then contact Nidek or your authorized distributor.

❖ If the symptom is not corrected by the above actions, contact Nidek or your authorized distributor.

◆ Error code

Error code	Error details	Remedy
4001	Error in connection with the camera unit	Turn off and on the instrument. If the error code is displayed again, turn off the instrument, then contact Nidek or your authorized distributor.

6.2 Maintenance

6.2.1 Periodical inspection

It is recommended that a periodical inspection be conducted every two years so that the instrument can be used in a proper condition for a long period of time. To ask for a periodical inspection, contact Nidek or your authorized distributor.

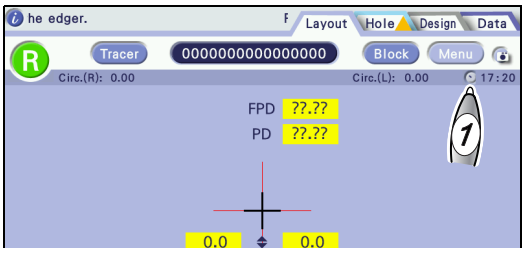
⚠ CAUTION

The periodical inspection of the instrument and replacement of the parts in the table below are performed by personnel authorized by Nidek. Do not attempt to replace the parts, or repair or disassemble the instrument.
Instrument malfunction or injury may result.

Periodic maintenance item	Maintenance cycle	Maintenance / Replacement details
ICE-1 main body	10 years	
Blocking arm	Blocking of 124,000 times or more	Replace it if it is worn, deteriorated, or damaged.
Flexible positioning adjuster (optional)	Blocking of 124,000 times or more	Replace it if it is worn, deteriorated, or damaged.
Switching power supply	5 years	
Lens table pin (for standard lens and small diameter lens)	2 years	Replace it if it is worn, deteriorated, or damaged.

6.2.2 Date and time setting

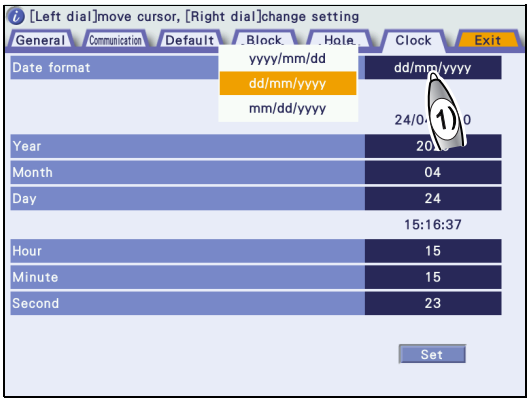
1 Displays the Clock screen.



➔Clock screen

Pressing Menu then [Clock] can also display the Clock screen.

2 Select the item to be changed.

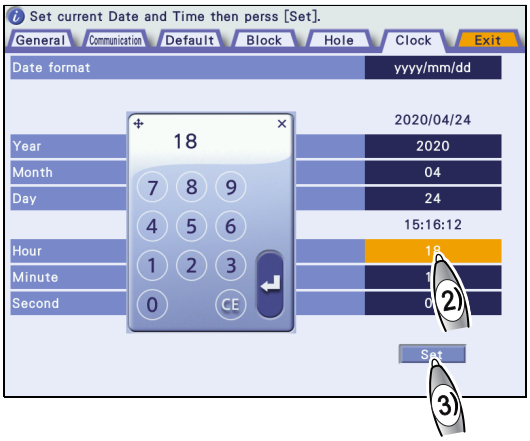


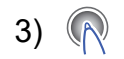
1)  [Date format]

- yyyy/mm/dd: year/month/day
- dd/mm/yyyy: day/month/year
- mm/dd/yyyy: month/day/year

2)  Year, Month, Day, Hour, Minute, Second

Enter a value.



3)  [Set]

Settings are confirmed.

3  [Exit]

➔Layout screen

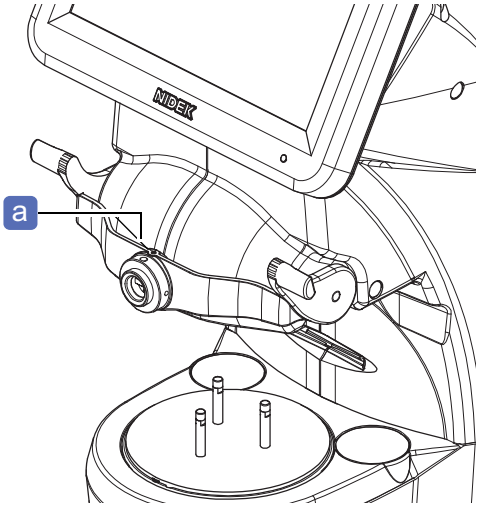
6

6.2.3 Cup holder adjustment

This section describes the adjustment procedure for when a lens cup cannot be inserted into the cup holder smoothly or it is easily detached.

If the lens cup is worn and cannot be held, replace it with a new one without adjusting the cup holder.

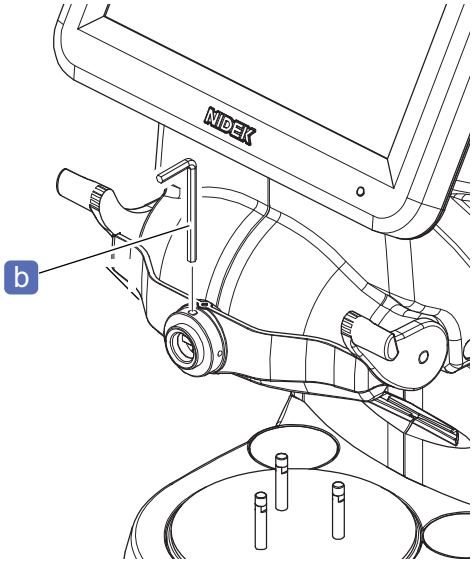
1 Lower the blocking lever so that the plunger a can be seen.



2 Turn the plunger with a hexagonal wrench b for adjustment.

- Turning the wrench clockwise fastens the plunger.
- Turning the wrench counterclockwise loosens the plunger.

Perform adjustment so that the lens cup can be held securely and attached or detached smoothly.



6.2.4 Cleaning

⚠ CAUTION

- Never use an overly wet sponge or cloth.
  Water seeping into the instrument may result in electric shock or malfunction.
- Never use an organic solvent such as paint thinner.
  The surface of the instrument may be damaged.

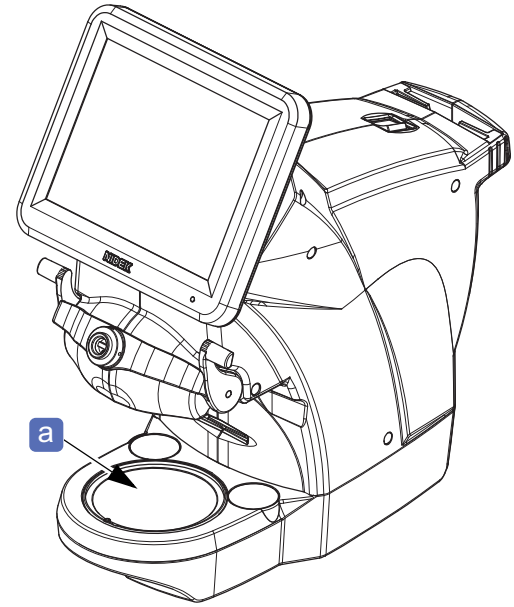
◆ Cover and display

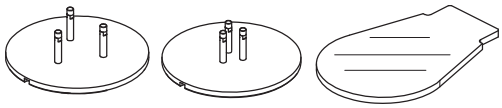
When the cover or display of the instrument is soiled, wipe it with a soft cloth. For persistent stains, soak the cloth in a neutral detergent diluted with water, wring well, and wipe. Then wipe them off with a soft, dry cloth.

◆ Lens table and reflection protective plate

Smudges on the lens table or reflection protective plate a directly affect the measurement performance of the instrument. Keep them free from fingerprints or dust.

If they are soiled, clean them with a soft, dry cloth.





Lens tables

6.3 Checklist

◆ Pre-use checklist

ICE-1 pre-use checklist

Item	Check (date and by whom)
Before turning on the instrument	
The power cord is connected to the power inlet and outlet securely.	
The cables of the connected instruments are connected securely.	
The connected instruments are turned on.	
The standard accessories such as lens tables, touch pen, pen stand, and operator's manual are all available.	
The instrument cover and display are clean.	
The lens table and reflection protective plate are clean.	
The blocking lever turns smoothly.	
A lens cup can be inserted into the cup holder smoothly and attached securely.	
The lens table is attached properly.	
After turning on the instrument	
No error message appears.	
After initialization, the screen is displayed normally.	
The parameters are set properly.	
The instrument or cables have no abnormality such as strange odors.	

◆ After-use checklist

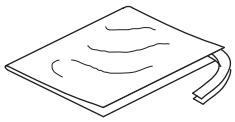
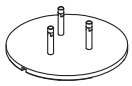
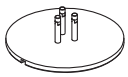
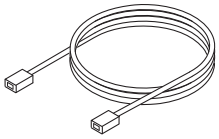
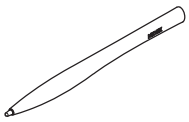
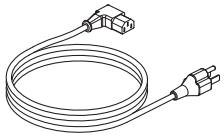
ICE-1 after-use checklist

Item	Check (date and by whom)
The instrument or cables have no abnormality such as strange odors.	
The power switch of the instrument is turned off.	
The connected instruments are turned off.	
The standard accessories such as lens tables, touch pen, and pen stand are all available.	
The instrument cover and display are cleaned.	
The lens table and reflection protective plate are cleaned.	
Necessary types and quantities of consumables such as a lens cup and double-coated adhesive pad are prepared.	
When the instrument will not be used for an extended period of time	
The power plug of the instrument is disconnected.	
The power plugs of the connected instruments are disconnected.	
The instrument is covered with a plastic sheet or such to avoid dust.	
The standard accessories such as cables, lens tables, touch pen, pen stand, and operator's manual are all stored.	

7 SPECIFICATIONS

Item		Details
Display		8.4-inch SVGA color liquid crystal display (touch screen)
Layout range	FPD	30.00 to 99.50 mm
	PD	30.00 to 99.50 mm
	Optical center height	±15.0 mm
Blocking	Accuracy	• Position: ±0.5 mm • Axis angle: ±0.5°
	Maximum lens diameter	A radius of 55.0 mm or less from the blocking center When the lens table (standard) is used
	Minimum lens diameter	A radius of 12.0 mm or more from the blocking center When the small diameter lens table is used
	Maximum lens thickness	Up to 8.0 mm from the lens-held surface When the pliable cups, lens table (standard), and small diameter lens table are used
	Maximum lens curve	A minus lens that has a rear surface with a base curve of 8.0 does not interfere with the lens table when blocked. When the lens table (standard) is used
Shape Imager	Demo lens and pattern outline measurement	• Measurement range: 65.5 (H) × 49.0 (V) mm ±1.5 mm • Circumference measurement accuracy: 141.37 ±0.15 mm (when the ø45 mm jig is measured) • Measuring time: 20 seconds or less (when the ø45 mm jig is measured)
	Data creation support function	Hole shape measurement, design cut shape measurement, partial step shape measurement
Hole Editor	Hole position setting	0.01 mm increments
	Hole diameter setting	ø0.50 to10.00 mm (0.01 mm increments)
Other functions		Shape data management, shape editing, initial screen customizing, camera brightness adjustment, auto off
Available lens cups		Pliable cup, pliable cup for high base curve lenses, half-eye lens cup, mini cup, nano cup

Communication function		
External communication	• RS-232C: 4 ports • Ethernet: 1 port • USB: 1 port	
External communication	EDGER 1	RC-232C: For connection with a first lens edger or the server computer
	EDGER 2	RC-232C: For connection with a second lens edger
	TRACER	RC-232C: For connection with a tracer
	BAR CODE	RC-232C: For connection with a barcode scanner
	Ethernet	10/100BASE-T: 1 port
Dimensions and mass		
Dimensions	225 (W) × 439 (H) × 411 (D) mm ±5% (for each dimension)	
Mass	7.5 kg or less	
Power supply		
Voltage	100 to 240 V AC * The voltage fluctuation does not exceed ±10% of the nominal voltage.	
Frequency	50/60 Hz	
Power consumption	Max. 60 VA	
Environmental conditions (during use)		
Installation location	Interior, no harmful dust or smoke, free from vibration, no exposure to direct sunlight or intense interior lighting	
Temperature	5 to 40°C (41 to 104ºF)	
Humidity	5 to 31°C (41 to 87.8ºF): 30 to 80% 31 to 40ºC (87.8 to 104ºF): The minimum acceptable relative humidity is 30%. The maximum acceptable relative humidity is 80% for temperatures up to 31ºC (87.8ºF), which decreases linearly to 50% at 40ºC (104ºF).	
Altitude	Up to 2,000 m	
Overvoltage	Category II (IEC60664-1)	
Pollution degree	2 (IEC60664-1)	
Environmental conditions (during transport)		
Temperature	-10 to 60°C (14 to 140ºF)	
Humidity	20 to 80% (non-condensing) *The conditions during transport apply to the packed instrument.	
Environmental conditions (during storage)		
Temperature	-10 to 60°C (14 to 140ºF)	
Humidity	20 to 80% (non-condensing) *The conditions during storage apply to the unpacked instrument.	

Standard accessories					
Part name	Quantity	Appearance	Part name	Quantity	Appearance
Shape measurement table	1		Shading cover	1	
Lens table (standard)	1		Ferrite core	1	
Small diameter lens table	1		LAN cable	1	
Touch pen	1		Power cord	1	
Pen stand	1		Operator’s manual	1	
Cap	2		Installation manual	1	

Optional accessories
External barcode scanner, USB flash drive, WECO cup holder, flexible positioning adjuster R/L, spatula, special clay, RS-232C cable

8 INDEX

S

T

U

V

W