

delta2™



User Manual

CONTENTS

I. INTRODUCTION	7
II. FIRST STEPS WITH DELTA 2	11
1. Descriptive diagrams	13
2. Instructions for use	15
a. Turn on the product	15
b. Turn off the product	15
c. Using the touch screen and keypads	15
d. Work screens	17
III. CARRY OUT AN OPTICAL TRACING	19
1. The tracing environment	21
a. Menu screen	21
b. Jobs and working modes	22
2. Shape management and storage	24
a. Menu screen	24
b. Job list	25
c. Creating a job	26
d. Working in current job mode (job A)	27
3. Optical tracing	27
4. Enter the curve and frame base	31
5. Case of a mechanical tracing	32
a. Connection with a PHI tracer	32
b. Connection with a Tess tracer	33
IV. CENTER AND BLOCK A LENS	35
1. Centering environment	37
a. Description of the centering blocking system	37
b. Menu screen	41
c. Calling up a shape	43
2. Centering a lens for a high-base frame	44
3. Centering a single vision lens	44
4. Centering a progressive lens	46
a. Centering a progressive lens using re-marked micro-engravings	47
b. Centering a lens using manufacturer markings	48
5. Centering bifocal / trifocal lenses	50
6. Centering an executive lens	51
7. Centering a mid-distance lens	53
a. Centering a lens using re-marked micro-engravings	54
b. Centering a lens using manufacturer markings	55
8. Blocking a lens	57
a. Prepare blocking	57
b. Blocking	59
V. MODIFYING THE LENS SHAPE	63
1. Menu screen	65
2. Modifying a shape	66
a. Enlarging, reducing or rotating a shape	66
b. Free-form modification	68

c. Retouching a shape	69
3. Archiving/saving a shape	70

VI. PREPARING A DRILLED JOB 71

1. Menu screen	73
2. Configuring a drilling point	75
a. Creating a drilling point	75
b. Delete one drilling point	75
c. Dimensioning a drilling point	76
d. Adjusting the position of a drilling point	77
3. Drilling models	79
a. Importing a model	79
b. Saving a model	80

VII. EDGING A LENS 81

1. Edger working environment	83
a. Menu screen	83
b. Calling up a shape	85
c. Lens set-up and feeling	85
2. Perform a Beveling	86
a. Automatic beveling	87
b. Legend screen for customized bevels	87
c. Customized beveling	88
d. Modifying the bevel curve	89
e. Modifying the bevel curve at a particular point	90
f. Displacing the bevel curve	91
3. Grooving	91
a. Automatic grooving	92
b. Customized groove legend screen	93
c. Customized grooving	94
d. Modifying the groove curve	95
e. Modifying a point in the groove curve	96
f. Displacement of the groove curve	96
4. Flat-edge finishing	97
5. Perform a drilling job	97
a. Automatic drilling	98
b. Legend screen for customized drilling	99
c. Customized drilling	101
6. Polishing	102
7. Chamfering	102
8. Perform a Retouching	103

VIII. SET THE EDGING SYSTEM 105

1. Configure the tracer-centerer-blocker and the edger	107
a. Time, date and language	107
b. Screensaver	108
c. Connections	109
2. Customize the tracer and the centering device	110
a. Working modes and display precision	110
b. Decentration mode	111
c. Action bar	112
d. Brightness	113
3. Adjusting the precision of the edger	114
a. Adjusting the diameter of the finished lenses	114
b. Adjusting the position of the bevel and groove	115

c. Adjusting the diameter of drill-holes	115
d. Adjusting the chamfer	116
e. Adjusting the groove	117
4. Restoring the factory settings	117

IX. MAINTENANCE & SERVICING 119

1. Perform the autotest of the tracer	121
2. Performing the edger autotest	123
3. Checking and calibrating the tracer	124
a. Calibrating the touch screen	124
b. Control and calibrate the centering device	125
c. Control and calibrate the blocker	126
d. Check the optical system	127
4. Testing and calibrating the edger	128
a. Control the calibration of the monofeeler	128
b. Calibrating the touch screen	129
5. Statistics and technical history of the tracer	129
a. Tracer-centerer-blocker statistics	129
b. Technical history and errors	132
6. Statistics and technical history of the edger	133
a. Edger cycles	133
b. Technical history and errors	134
7. Make a backup of the jobs and display configuration	135
8. Changing or cleaning the blocking tube	137
9. Changing or cleaning the edger tools	139
a. Changing or cleaning the drill bit	139
b. Changing the grooving or chamfering wheel	140
10. Maintain and clean the tracer-centerer-blocker	142
a. Precautions required	142
b. Clean the reflectors and the lens	142
c. Clean the tube	142
11. Maintaining and cleaning the edger	142
a. Precautions required	142
b. Clean the GCD module	143
c. Dismantle and clean the door	143
d. Dress the wheels	144

TECHNICAL DATA 147

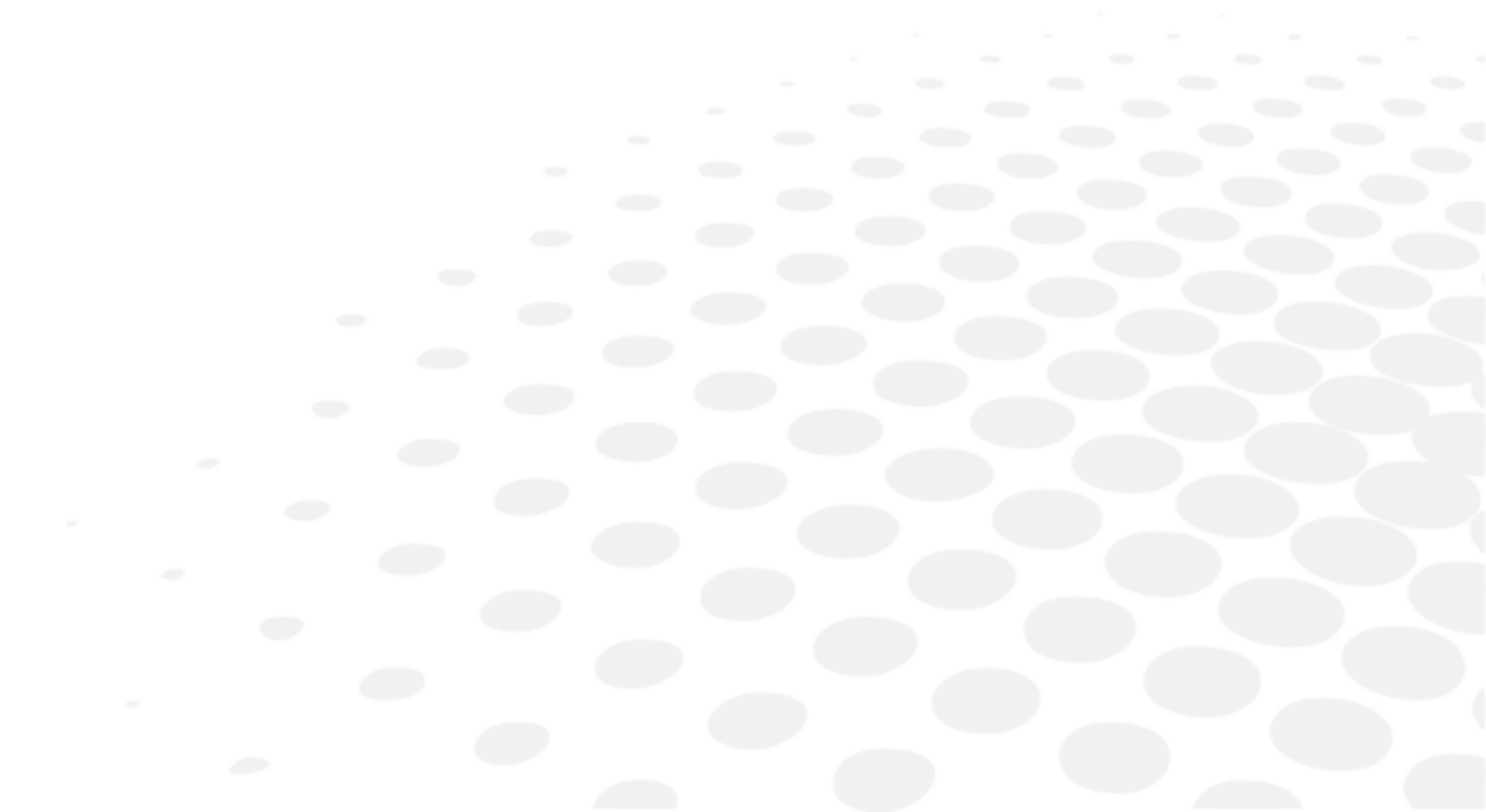
1. Environment	148
2. General features	148
3. "Tracer centering device blocker" Function	148
4. "Edger" function	149

GENERAL INFORMATION 151

1. Symbols	152
2. Modifications	152
3. Declaration of conformity	152
4. Copyright	152
5. Materials and products	152
6. Safety instructions:	153
7. Electromagnetic waves	153

GLOSSARY 155

I. INTRODUCTION



The screens and features vary according to the product used:

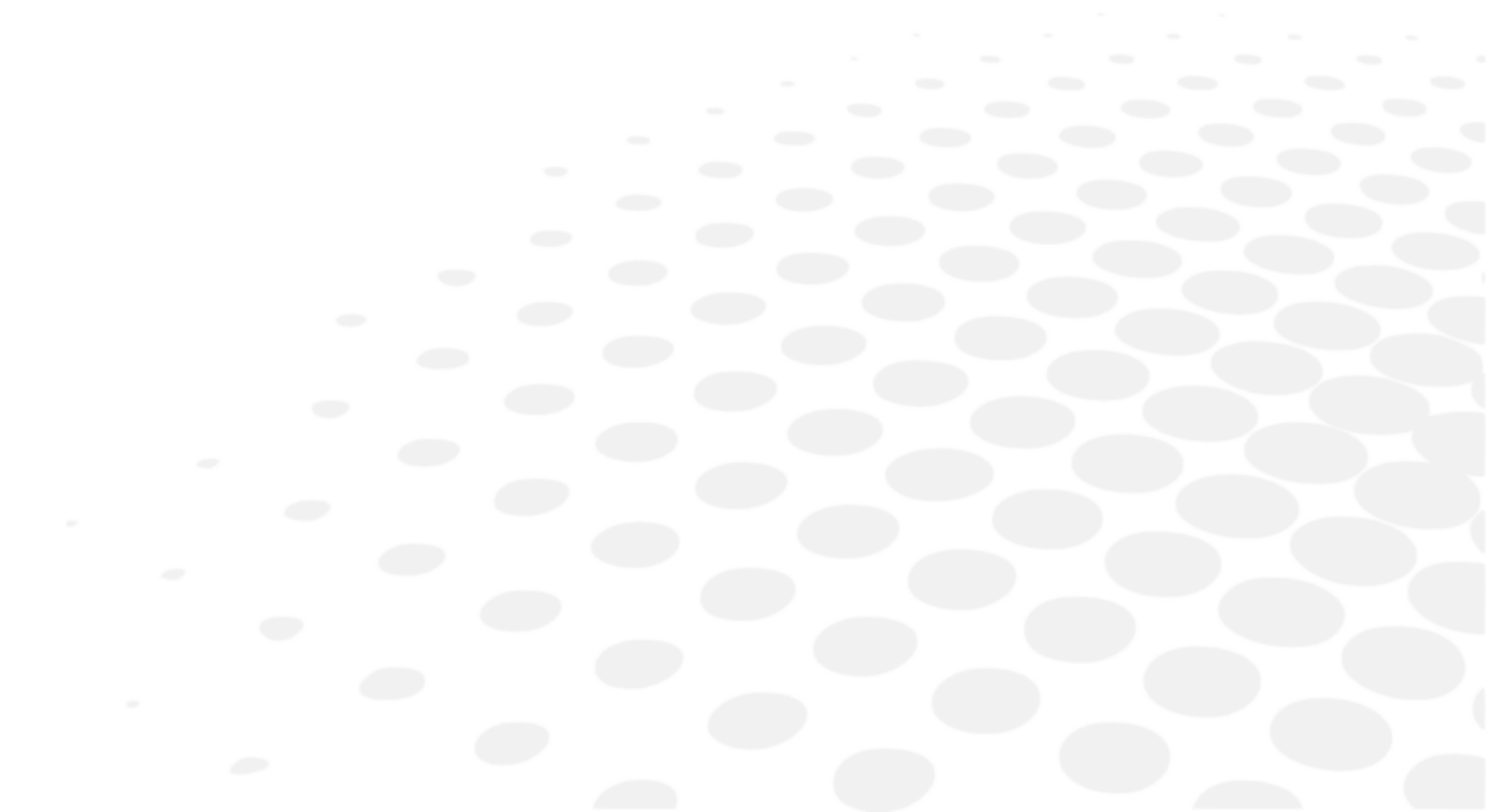
- Delta 2 Classic
- Delta 2
- Delta 2 Drill

This handbook documents the use of the Delta 2 Drill edger.

You have memory version: V1.2.0.

- Correction of the procedure of optical tracing.
- Addition of the procedure for changing the blocking tube.
- Addition of the maintenance chapter concerning the edger.

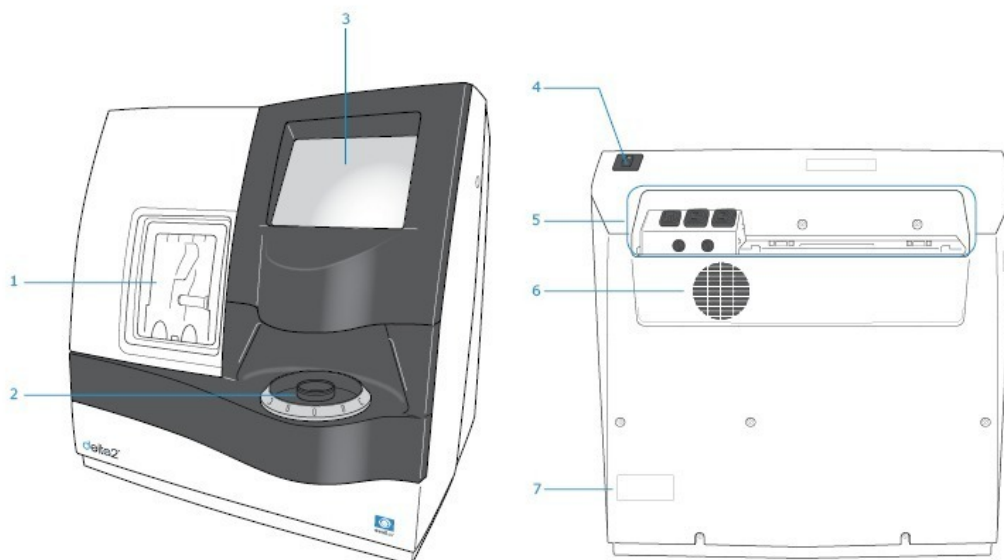
II. FIRST STEPS WITH DELTA 2



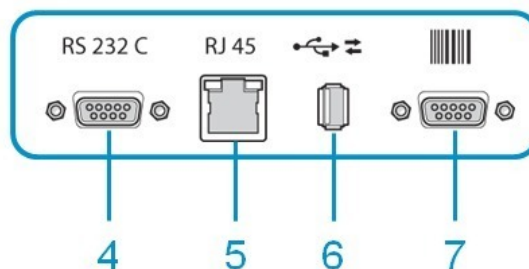
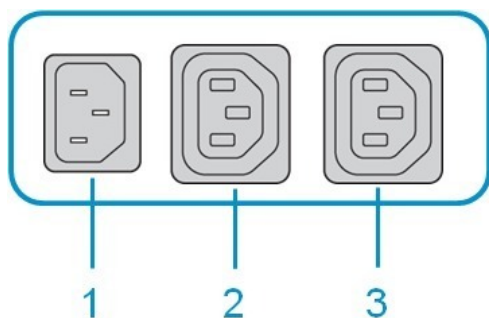
This chapter contains all the information relating to the product's first use.

- Product description (p. 13)
- Using the device (p. 15)

1. Descriptive diagrams



1. Trough
2. Centering blocking environment
3. Screen
4. Main switch
5. Connectors
6. Fan
7. Manufacturer plate



1. Power socket
2. Solenoid valve socket
3. Pump socket (tank + pump) / Solenoid valve socket (town)
4. Serial port

- 5. *Ethernet port*
- 6. *USB port*
- 7. *Barcode reader port*

Accessories

Transport wedges to be kept

Use accessories

- Reflector
- Tube small diameter Ø 42 mm
- Tube large diameter Ø 53 mm
- Calibration table
- 22 mm posiblock holder
- 18 x 14 mm posiblock holder
- 22 mm stop
- 18 x 14 mm stop
- Unblocking clamp
- Ø 1.0 mm drill bit (mounted on the module) (option)
- Ø 0.8 mm drill bit (option)
- Ø 25 mm grooving wheel (mounted on the module)
- Chamfering wheel (mounted on the module)
- White felt tip marker

Servicing accessories

- Orange dressing stone for glass roughing wheel
- White dressing stone for finishing wheel
- Square dressing stone for polishing wheel
- Open-ended spanners for tool changeover (quantity 2)

Options

- Trimaterial edger for chamfering glass lenses
- Barcode reader
- Roll of barcode labels
- Open or closed circuit spraying kit

Connection accessories


- Power cable
- RJ45 cable for the tracer-edger connection
- Wastewater evacuation pipe with attachment ring

2. Instructions for use





In this section, you will find all the information concerning the following:

- The turning on (p.15) and off (p.15) of the product
- The use of the touch screen and the keyboards (p.15),
- The description of the main work screen (p.17).

a. Turn on the product

- 1 Press on the main switch located on the top of the product to power it up.
 - > The tracer-centerer-blocker part is initialized.
 - > A beep indicates that the initialisation was successful.
- 2 Then, the edger part is initialised.
 - > A beep indicates that the initialisation was successful.
- 3 On the screen, press on the  icon to finish the initialisation phase.
 - > A beep indicates that the initialisation was successful.
the initial work screen is displayed.
 - > The initial work screen is displayed.

b. Turn off the product

- 1 Before switching off the edger:
 - check that there is no lens in the trough
 - check that the lens clamp shafts are loosened and that the trough door is open
 - go at the work screen.
- 2 Press on  or , then on .
- > A confirmation message is displayed on each screen.
- 3 Select  to confirm.
 - > The product shuts down.



Extended period of non-use

For a prolonged period of non-use (a few days), it is preferable to power down the product using the main switch.

c. Using the touch screen and keypads

Using the touch screen

It is possible to navigate between the tracer-centerer-blocker screen or the edger screen in two different ways:

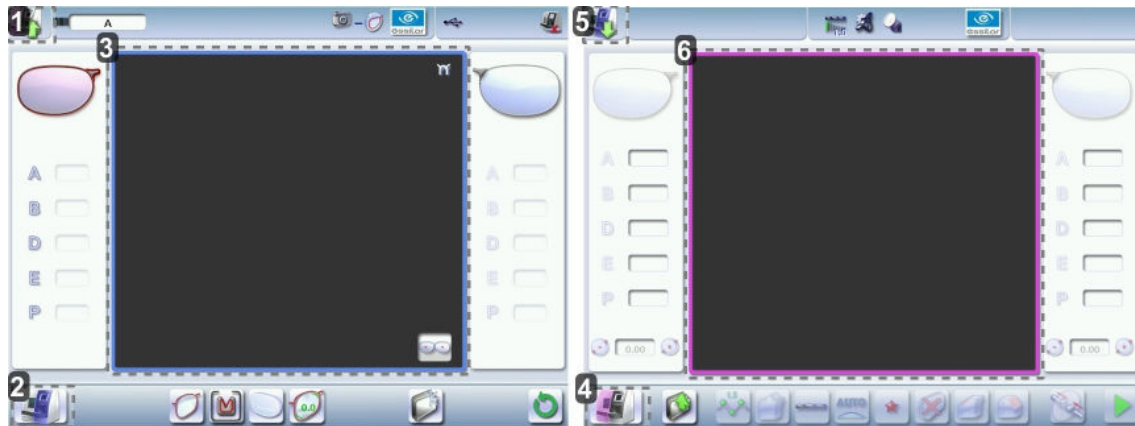
Either:

1. by using the icons in the top left of the screen,
2. by pressing lightly with your finger on the top or to the bottom of the screen.



The screen you work on and identifiable by a colour:

- blue, when it's the tracer-centerer-blocker,
- purple, when it's the edger.



1. Icon for accessing the edger's work screen
2. Tracer-centerer-blocker icon
3. Work screen for the tracer-centerer-blocker, identifiable by its blue colour
4. Edger icon
5. Icon for accessing the tracer-centerer-blocker work screen
6. Work screen for the tracer-centerer-blocker, identifiable by its purple colour

If the response area does not correspond to the position of the key, you need to calibrate the touch screen. For further information, refer to the section Maintenance and servicing > Check and calibrate > Calibrate the touch screen (p.124).



- Never press hard on the screen as this could break it.
- Never press on the screen with sharp objects such as pens, scissors, clamps, etc.
- Screen breakage is not covered by the guarantee.





On each screen, press the icon-buttons to access the desired menus and functions.

Using the keypads

When you need to enter or modify data, two types of keypads are automatically displayed, according to the information to be entered.

- The numeric keypad is displayed for entering values.



-  Reset the fields
-  Go back
-  Confirm
-  Cancel and go back to the work screen
- The alphanumeric keyboard is displayed for storing, calling and searching for jobs.

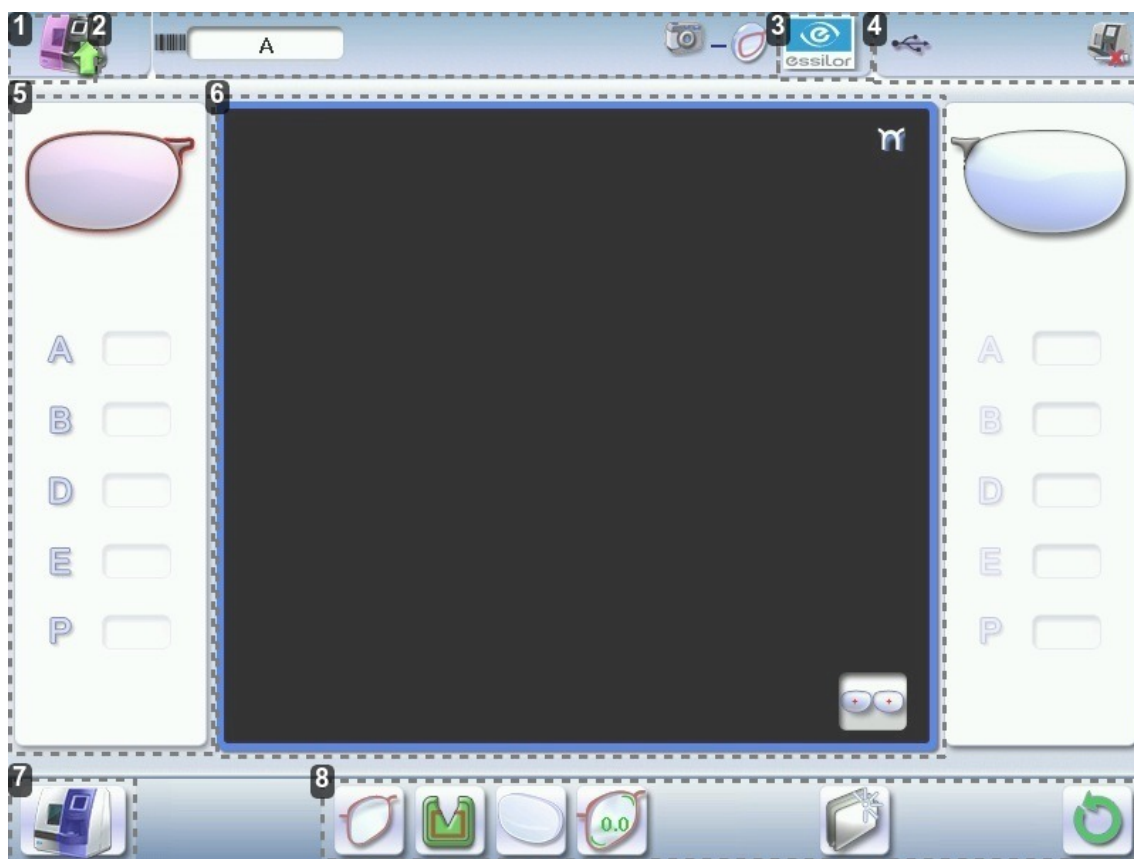


- # Job^(p.156) ID^(p.156)
- Job reference (alphanumeric characters)

d. Work screens

Work screen (tracer-centerer-blocker)

Main work screen for the tracer-centerer-blocker screen



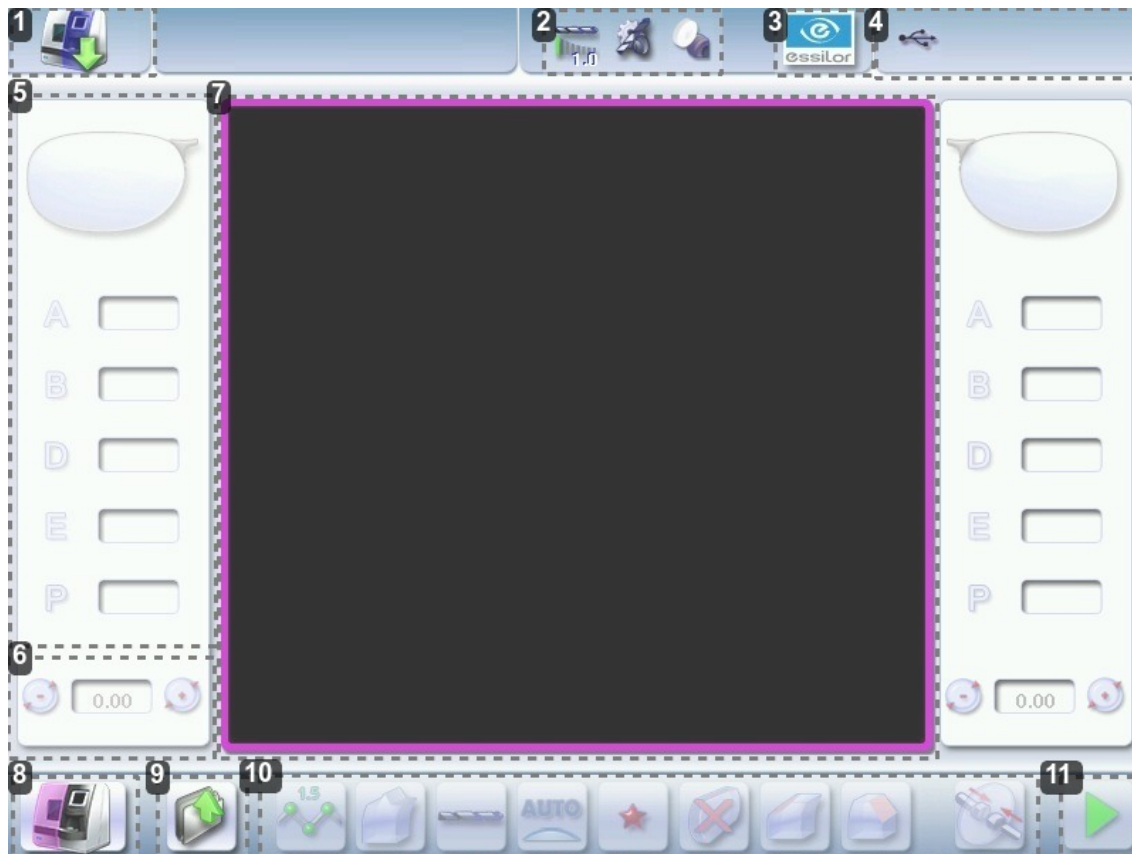
1. Icon for accessing the edger's work screen
2. Job information
3. Settings
4. Devices connected
5. Active eye and information on the shape
6. Work area
7. Tracer-centerer-blocker icon
8. Actions available on the present screen



For more information, consult the section performing an optical tracing > tracing environment > captioned screen. (p.21)

Edging screen (edger)

Main menus of the edging screen:

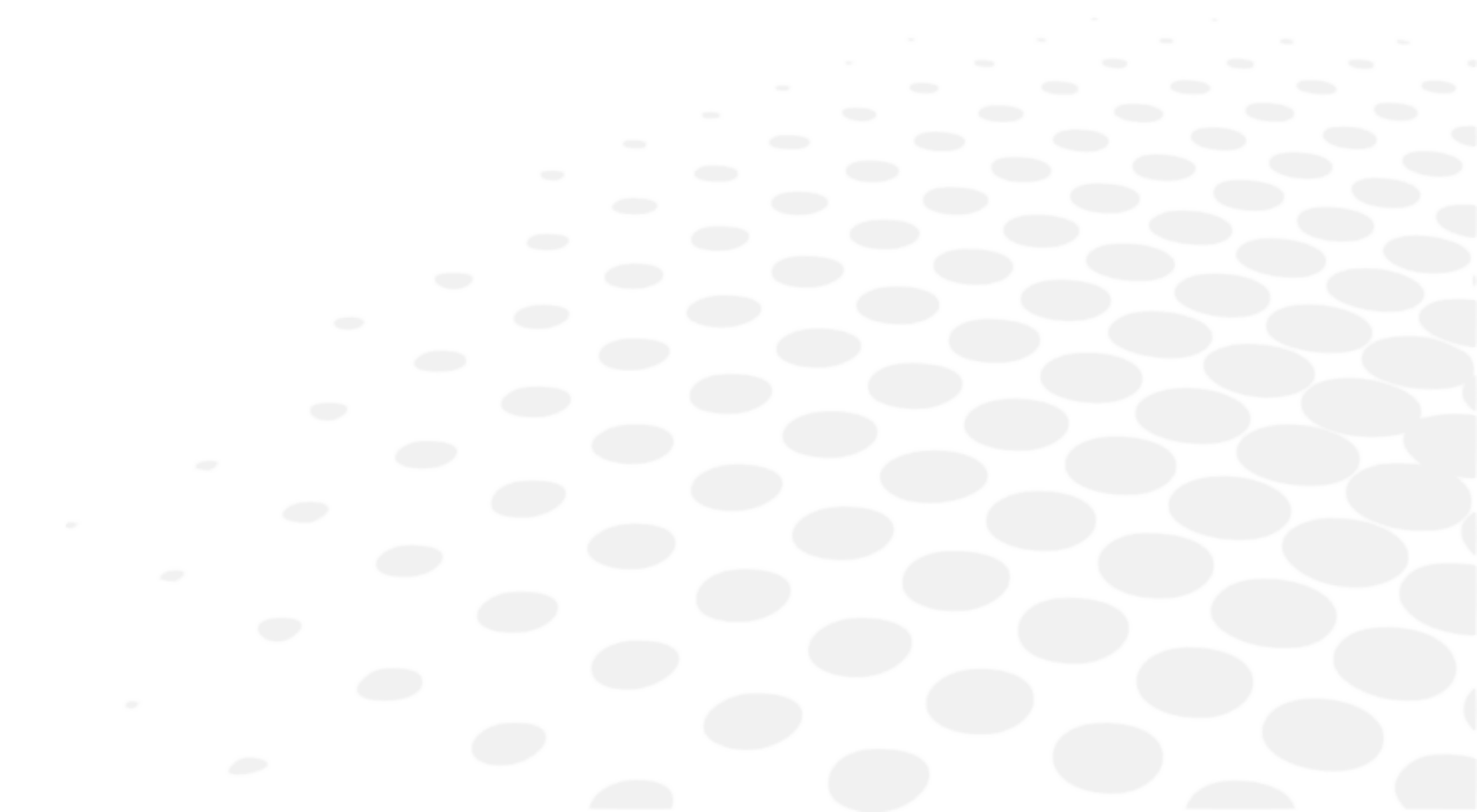


1. Icon for accessing the tracer-centerer-blocker work screen
2. Tool wear indicators
3. Settings
4. Devices connected
5. Active eye and information on the shape
6. Size increase / reduction
7. Work area
8. Edger icon
9. Job call
10. Actions available on the present screen
11. Start the edging cycle



For more information, refer to the section Edging a lens > Edger environment > Menu screen (p.83).

III. CARRY OUT AN OPTICAL TRACING



This chapter describes the procedures relating to the optical tracing of patterns, demo lenses and recut lenses:

- description of the tracing environment (p.21)
- manage and store shapes, (p.24)
- trace a pattern, a demo or a recut lens (p.27).

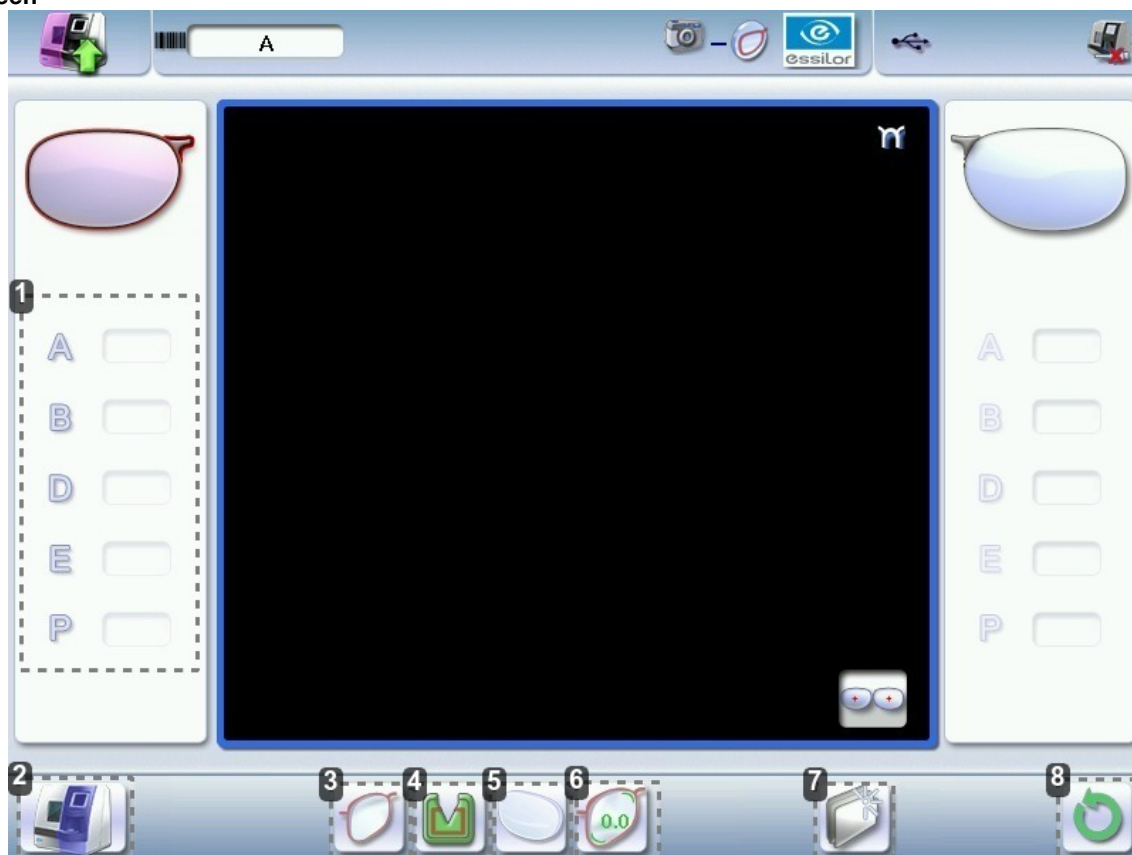
1. The tracing environment

This section describes the tracing screen and explains how to manage the jobs:

- description of the tracing screen (p.21)
- jobs and work modes (p.22)

a. Menu screen





Menu screen







1. Dimensions display

- A: A-dimension
- B: B-dimension
- D: D-dimension
- E: Larger radius from the Boxing center
- P: Perimeter






2. Function buttons

-  Machine shutdown
-  Optical tracing
-  Centering
-  Shape management



3. Type of tracing

-  Right-eye monocular tracing
-  Left-eye monocular tracing
-  Single monocular tracing of the right eye (blocking and possible edging of the right eye only)
-  Single monocular tracing of the left eye (blocking and possible edging of the left eye only)

4. Frame type




-  Metal frame
-  Plastic frame
-  Optyl frame, for particularly flexible frames
-  Grooved frame
-  Drilled frame

5. Tracing mode

-  Demo lens/Recut lens
-  Pattern

6. Setting the size increase applied to the shape

To reduce any play between the demo lens and the frame, it is possible to use this menu to set the size increase to be applied to the shape depending on the play noted.

-  No play between the demo lens and the frame
-  Slight play between the demo lens and the frame
-  Significant play between the demo lens and the frame.

To set the size increase, consult the section [Tracer-centerer-blocker configuration > Customize > Work modes and display precision](#) (p.110).

7. New Job

For more information on jobs [\(p.156\)](#), consult the section [Perform a trace > Management and storage of shapes > Create a job](#) (p.27).

8. Tracing cycle initialization

b. Jobs and working modes

Jobs

A job consists in all the actions to be carried out to produce a pair of glasses. It can be managed in two ways:

- Saving: allocate an ID [\(p.156\)](#) and a reference to the job to save it and re-use it later.
 - Automatic job archiving
 - Mandatory in the tracing - tracing work mode
- Without saving: working in current mode (job identification by the letter A) makes it possible to process a job quickly without memorizing it (the job processing cycle must be finished before starting a new one).

Working modes

There are 2 Work modes to manage your jobs:

- the tracing-centering mode
- the tracing-tracing mode

The selected work mode is shown in the information bar, to the left of the Essilor logo. You can change it in the tracer settings.

Working in the tracing - centering mode



At the end of a tracing, the tracer-centerer-blocker displays the centering screen automatically then the edging preparation screen.

You can process a job completely before proceeding with the following:

1. tracing or retrieving a job from the database
2. changing the shape and drilling position if necessary
3. centering
4. lens blocking
5. edging preparation



To activate this working mode, select the following parameters in the configuration screen: (p.110)



Working in tracing-tracing mode



At the end of a tracing, the tracer-centerer-blocker displays the tracing screen.

- You can perform several tracing operations in succession.
- The tracings are saved under the job number that you have assigned to them.
- Shape modification, centering, blocking and edging preparation are processed later.
- All jobs must be saved.
- After a job call the centering screen appears automatically, followed by the edging preparation screen.
- You can access the centering screen at any moment to centre the lens that corresponds to the active shape:
 - > Select  then .

To activate this working mode, select the following parameters in the configuration screen: (p.110)



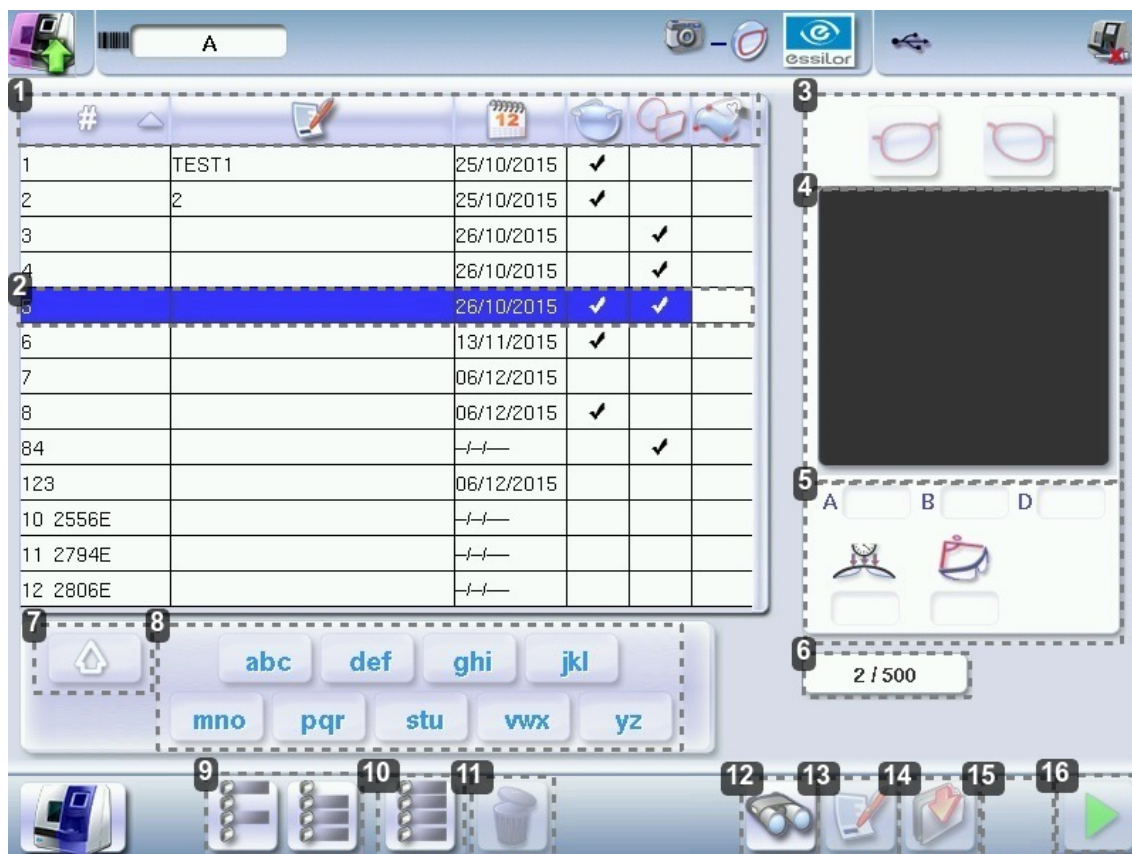
2. Shape management and storage

This section explains how to manage the job list to store your shapes.







- Description of the shape storage screen (p.24)
- Job list (p.25)
- Create a job (p.26)
- Work on current job mode (job A) (p.27)

a. Menu screen

From the tracing screen or the centering screen, press on the menu  then  to access the shape storage screen.



1. Sort the jobs

-  ID
-  Reference
-  Date
- Types of jobs:
 -  Drilled
 -  Asymmetric tracings
 -  Creative shapes

2. Selected job

3. Select the eye to be displayed in the preview

4. Shape preview

5. Information concerning the lens shape and frame

- A, B and D dimensions

- Frame base
- Curve angle
- Material of the frame / pattern / demo lens or recut lens

6. Job identifiers



7. Back to the default display

8. Display all jobs starting with the selected letter



To display the all jobs starting with the selected letter:

- Press once if it is in the first position on the button,
- Press twice in succession if it is in the second position,
- Press three times in succession if it is in the third position.


Example:

- Press 3 times on the  button to display all jobs starting with the letter R.
 > The R goes into upper case: .
 > The jobs starting with the letter R are displayed.


9. Select several jobs

- Press  to select several non-consecutive jobs in the list.
 Example: Press on the button then select jobs #1, #5, #7.
 > Only jobs #1, #5 and #7 are selected.
- Press  to select a group of consecutive jobs in the list, then select the first and the last of the group.
 Example: Press on the button then select jobs #1 and #10.
 > All jobs from #1 to #10 are selected.

10. Select all jobs

Press  to select all jobs for the search in progress.

11. Delete the selected job(s)

Press  to delete the selected job(s). A confirmation message is displayed.

12. Search for a job by ID or by reference

13. Rename the selected job

14. Duplicate the selected job

15. Export the selected jobs

to the Essibox or a PMS.

16. Call the selected shape to the work area

b. Job list

The job list enables you to save jobs on a daily basis. It has a 500-job storage capacity.

c. Creating a job

There are two ways to create a job.

- Scan the barcode corresponding to the desired ID using the barcode reader (optional): the job is saved in the job list.
- To create a job, use the alphanumeric keypad and follow the procedure below.

1 From the tracing screen, press  in the action bar to create a new job.


> The alphanumeric keypad is displayed.



For more information on entry and use of the keyboard, consult the section [First steps > Using the tracer-centerer-blocker > Using the touchscreen and keyboards \(p.15\)](#).

2 Press  to enter the new job ID [\(p.156\)](#).

The ID is automatically allotted by the tracer-centerer-blocker (first free location in the selected list). You can modify it: the ID can consist of alphanumeric characters.

3 Press  to enter the reference of the new job.

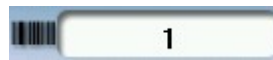


The reference may consist of alphanumeric characters. It can contain the information of your choice:


- customer's name
- frame brand or reference
- manufacturer, etc.

4 Press on  to confirm.

> The tracing screen is displayed, the allocated ID and the job list symbol appear in the information bar.



5 The tracer-centerer-blocker is ready for tracing. For further information, refer to the section concerning your job type.

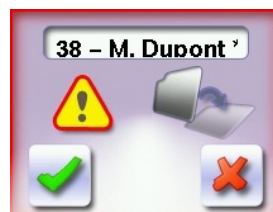
> The  symbol is displayed at the bottom right of the job ID while the job is being modified. It disappears once the job has been saved.





If you don't want to save the job, you can work in current job mode. For more information, refer to the section [Working in current job mode \(job A\) \(p.27\)](#).

Successive tracings and saving.

If you start a new tracing while a job is still active on the tracing screen, a message is displayed:



-  Replacement of the active shape: the tracing you have just started replaces the former one under the current ID.
-  Creation of a new job: the alphanumeric keypad is displayed, you can create a new job for the tracing you have just started (new ID). The two jobs are thus saved.

To cancel, press  again.

d. Working in current job mode (job A)

As soon as the tracer-centerer-blocker is initialized, you can work in current job mode: the letter A is displayed by default in the information bar. The job is not saved.

- If you want to save job A, see the [job creation procedure](#) (p.26).
- If you want to go back to job A after working on a saved job:
 - scan the barcode A using the barcode reader (option) or
 - use the numeric keypad and follow the procedure below.

1 From the tracing screen, press  in the action bar to create a new job.

> The alphanumeric keypad is displayed.



For more information on entry and use of the keyboard, consult the section [First steps > Using the tracer-centerer-blocker > Using the touchscreen and keyboards](#) (p.15).

2 Press  to select the ID (p.156) field.

3 Press  to delete the ID.

4 Press on  to confirm.

> The letter A  is displayed in the information bar.

5 The tracer is ready for tracing.

For further information, refer to the section concerning your type of job.

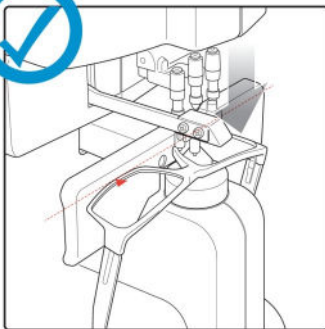
3. Optical tracing

Preparing optical tracing of demo or recut lens

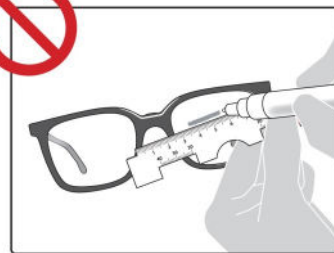
This type of tracing makes it possible to retrieve the existing shape and drilling data of a lens.



In the case of a presentation case, in order not to cause an centering position error, make sure to use a clear lens of any commercial identification (brand, logo etc).



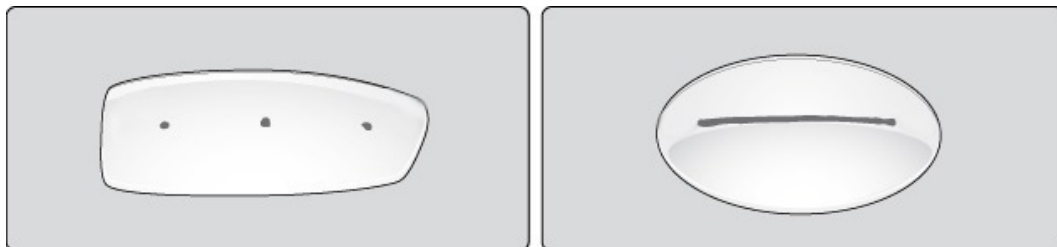
The use of fociometer marking points guarantees the feature's horizontality.



A free-hand marking does not to guarantee the proper horizontality of the feature.








✓ **Prerequisite:** for the tracer to correctly detect the horizontality of the lens, the lens must be clean and marked using a white felt tip marker with:

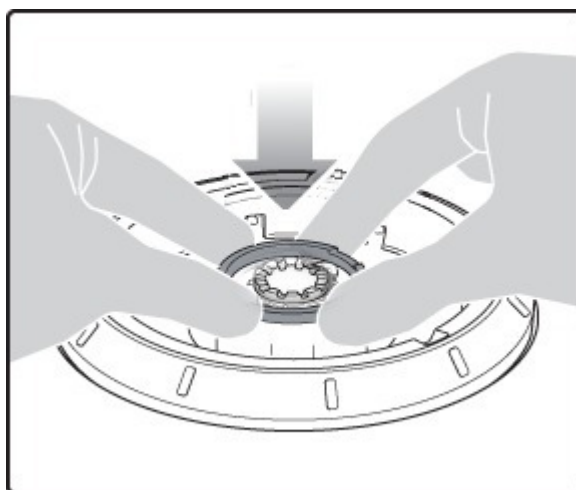
- either three focimeter dots
- or a horizontal line which must not touch the edges of the lens (a space of at least 5 mm is required)



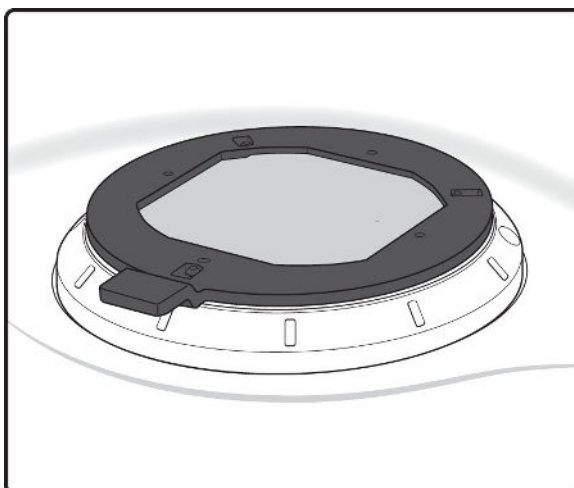
Avoid using red markers


Tracing

- 1 Press  to select optical tracing .
- 2 Press  to indicate the eye to trace.
- 3 Press  to select a type of frame.
- 4 Press  to select the pattern or press  to select the demo or recut lens.
- 5 Press  to select the type of play between the demo lens and the frame.
- 6 Lower the tube.



- 7 Position the reflector.



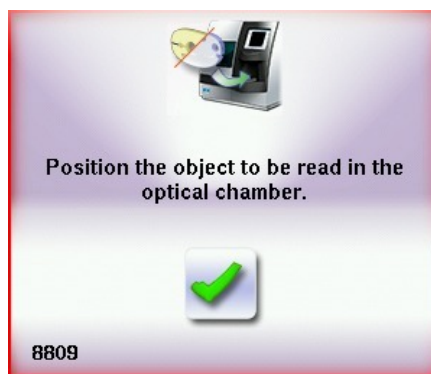
8 Press on  to start the tracing cycle.

> The following message appears:

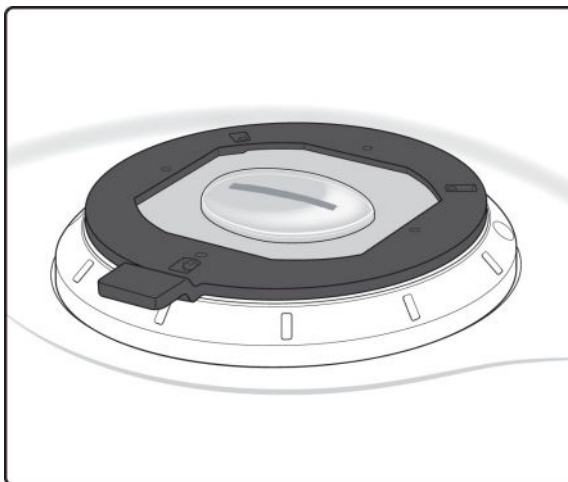


9 Press on  to confirm.

> The following message is displayed:



10 Position the lens.



11 Press  to confirm.

12 Enter the D-dimension value, then press  to confirm.



Take care systematically to measure the D-dimension of your frame to confirm the value entered by the manufacturer on the arms of the frame.



Tracing - tracing mode

In tracing - tracing mode, the result of the tracing is displayed in the work area of the tracing screen. For more information on work modes, refer to the section [Tracing > Tracing environment > Jobs and work modes](#) (p.22).

Before Centering

Once tracing has been carried out, you can:

- enter the curve angle and the frame base, for optimal centering precision Refer to the section [Centering a lens > Centering a lens for a high-base frame](#) (p.44).
- add drilling to the shape. For more information, refer to the section [Preparing a drilled job](#) (p.71).

4. Enter the curve and frame base

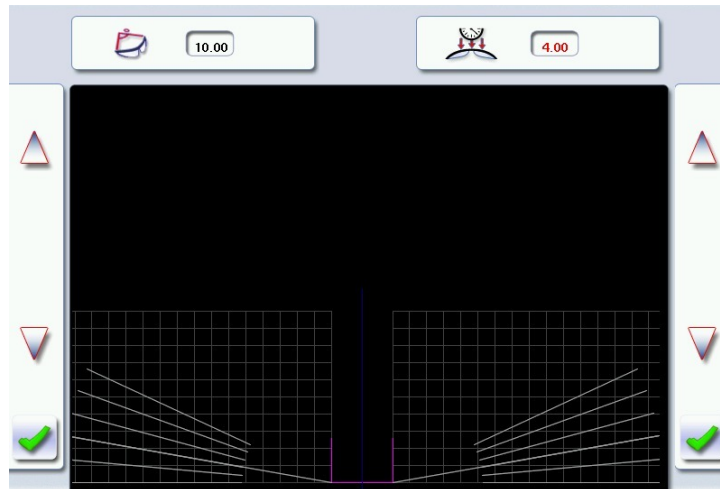
During monocular tracing, the curve angle and the frame base cannot be measured. To optimize centering precision, it is recommended to enter these values after tracing a pattern, a recut lens or a demo lens.


✓ **Prerequisite:** before entering the curve angle and the frame base, it's necessary to perform the optical tracing of the pattern, a demo lens or a recut lens (p.27).

Entering the curve angle and frame base values

1 Press the  button.

> The following screen is displayed:

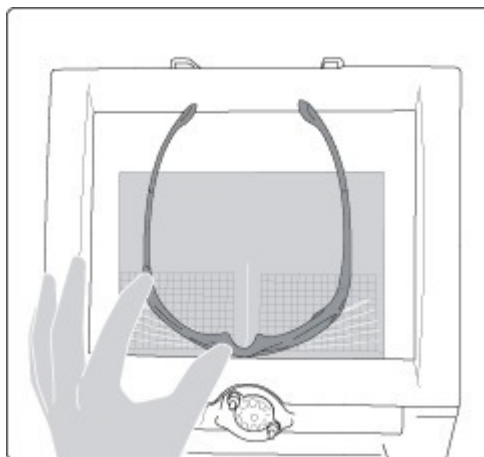


2 Select the curve angle value  to modify it.

> The value is displayed in red.

3 Place the frame on the screen:

- the vertical blue line at the centre of the frame
- the bridge of the frame superimposed on the base line.



4 Use the  and  buttons to align the light blue lines with the nasal and temporal ends of the circles.





You can also press for a few seconds on the value and change it using the digital keyboard.

> The curve angle value is changed.

5 Select the of frame base value  to modify it.

> The value is displayed in red.

6 Use the  and  buttons to modify the frame base value.

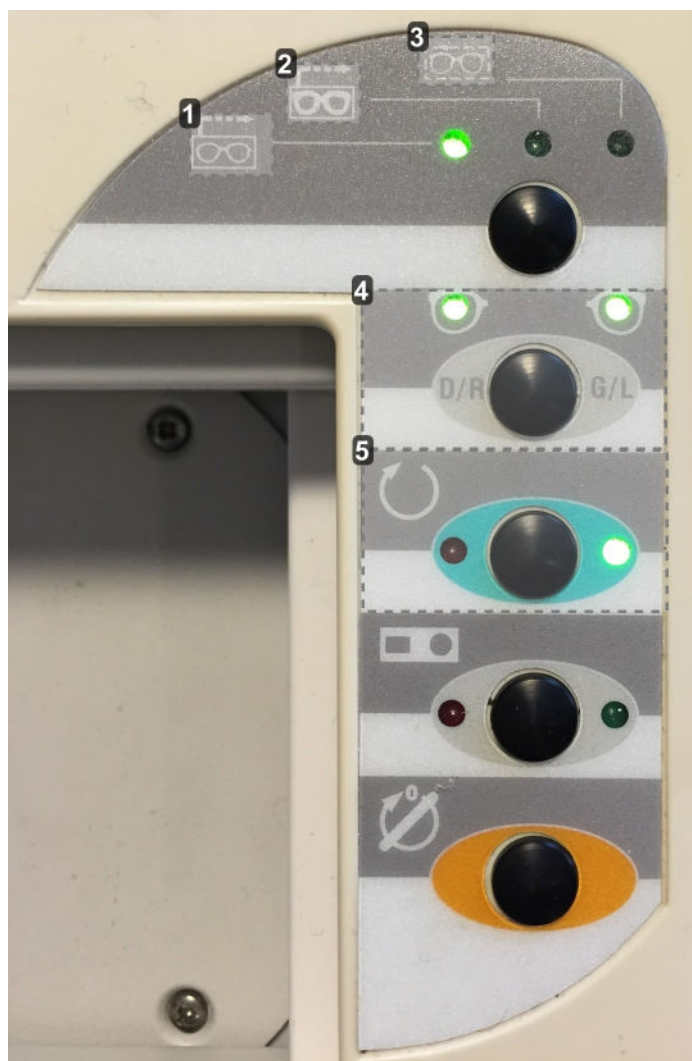


You can also press for a few seconds on the value and change it using the digital keyboard.

7 Press on  to confirm.

5. Case of a mechanical tracing

a. Connection with a PHI tracer



1. Metal frame - acquisition of the groove profile
2. Plastic frame
3. Local tracing (not used here)
4. Selection right eye/left eye
5. Cycle start-up button


- 1 Perform tracing according to the type of selected frame.
- 2 Click on the cycle start-up button.
 - > A beep rings out.
 - > The form appears directly on the work screen of the product.





The form arrives directly on the Delta 2 work screen, therefore it's not possible to recall a previous shape..

b. Connection with a Tess tracer


Current job

- 1 Turn on the Tess tracer.
- 2 Perform a current tracing job on the Tess tracer.
- 3 On the machine's work screen, in edger mode, press for a long time on the icon of the Tess tracer. 
 - > The following message appears:

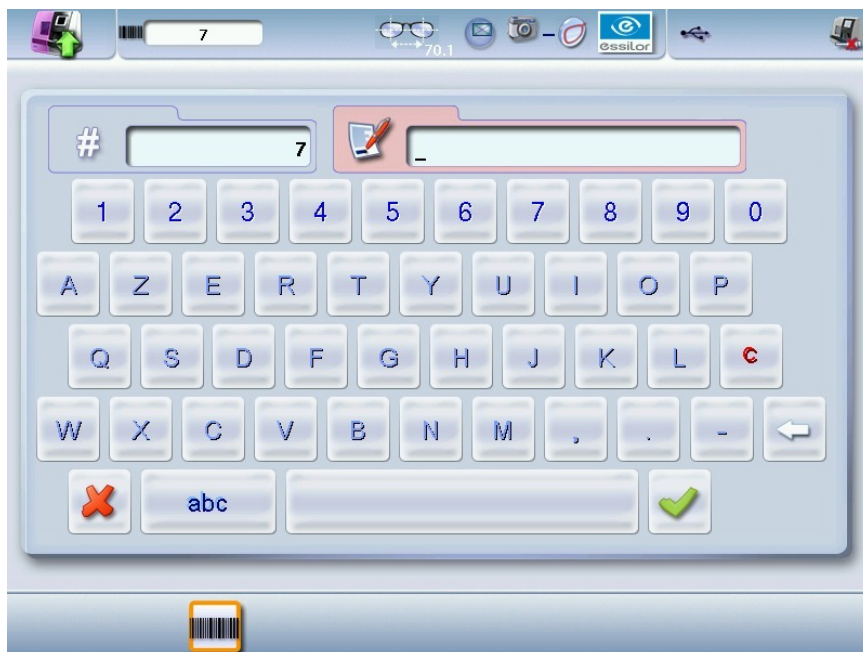



- press on  to override the current job,
- press on  to cancel and return to the menu

Numbered job

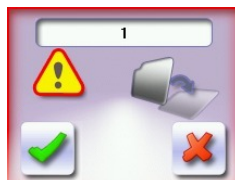
- 1 Turn on the Tess tracer.
- 2 Perform a current tracing job on the Tess tracer.
- 3 On the machine's work screen, in edger mode, press for a long time on the icon of the Tess tracer. 



> The following page appears:



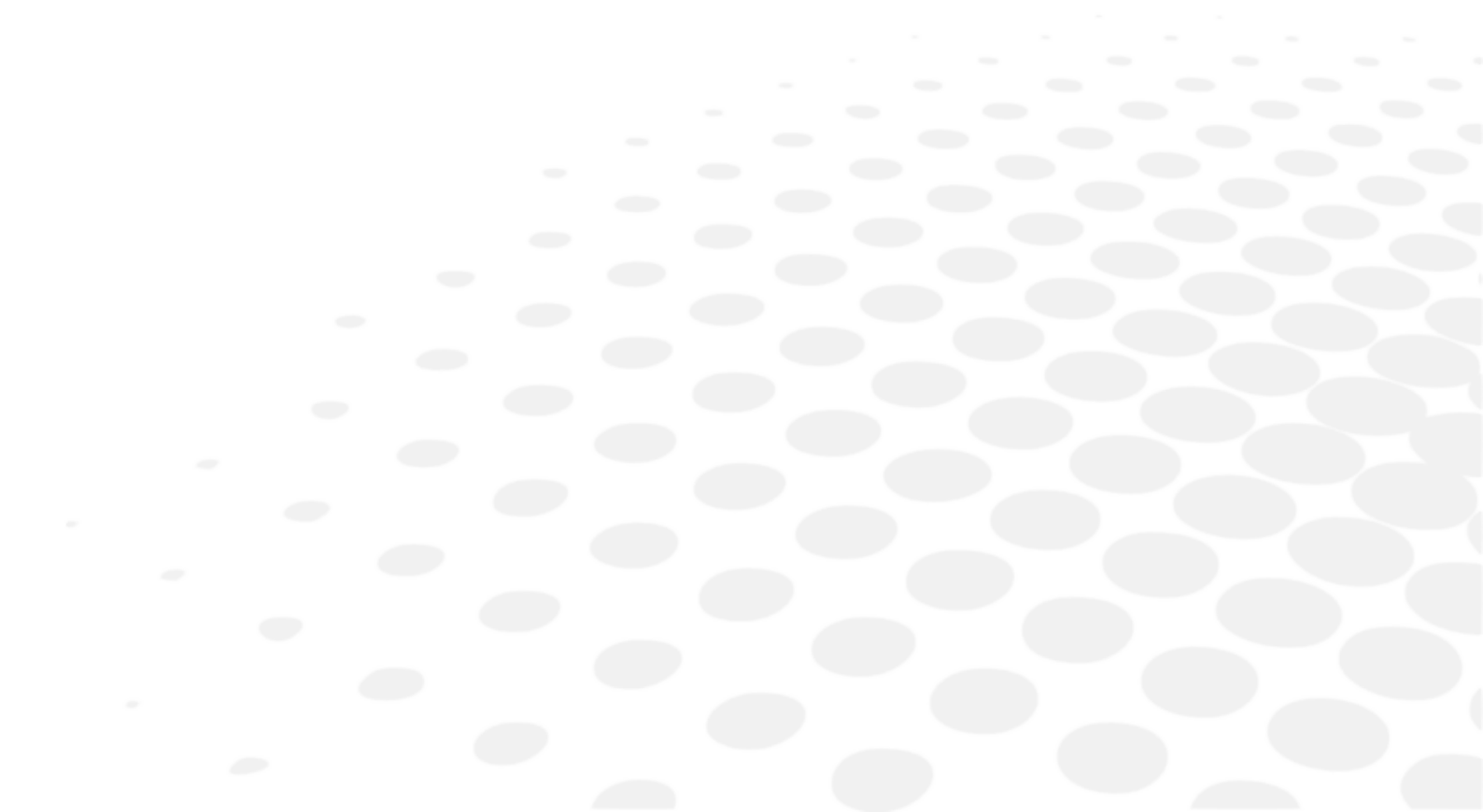
- 4 Complete the job number and press on .

> The following window is displayed:



- press on  to end the current job,
- press on  to cancel and obtain a new job number.

IV. CENTER AND BLOCK A LENS



This chapter describes the lens centering procedures according to the type of lens.

- Description of the centering environment (p.37)
- Centering a single vision lens (p.44)
- Centering a progressive lens (p.46)
- Centering a bifocal lens (p.50)
- Centering an executive lens (p.51)
- Centering a mid-distance lens (p.53)
- Centering a lens for a high-base frame (p.44)


This chapter also describes the lens blocking (p.57) procedure.

1. Centering environment

This section describes the centering screen and the various centering modes available:

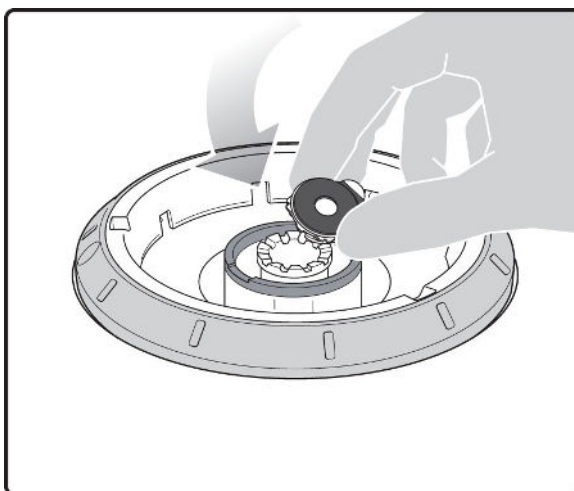
- Description (p.37)
- Menu screen (p.41)
- Job call (p.43)

a. Description of the centering blocking system

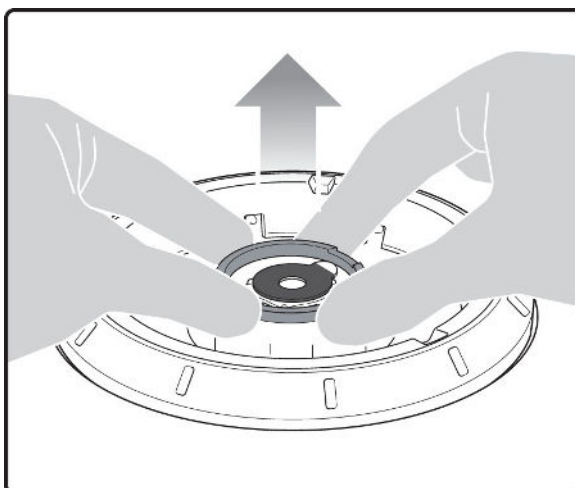
Pre-requisite: before carrying out the centering of the lens, supply a posiblock and a pad Essilor. 

Centering

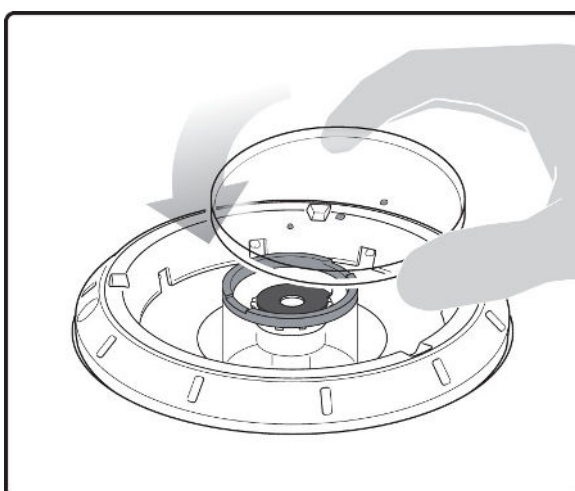
- 1 Lower the tube manually.
- 2 Insert the posiblock and its pad in the centering device.



- 3 Raise manually the tube back into centering position.

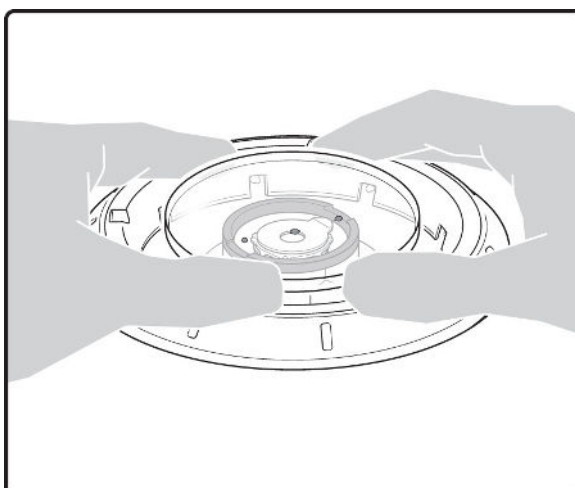


- 4 Position the lens on the tube.



As opposed to the other machines, the lens must be placed with convex side on the tube.

- 5 Center the lens



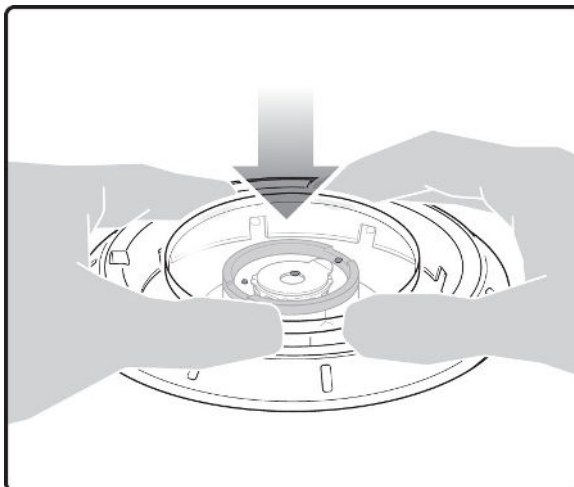
To center the lens, align the markup of the lens with the target according to the lens type used (bifocal, progressive etc...).



Centering is manual.

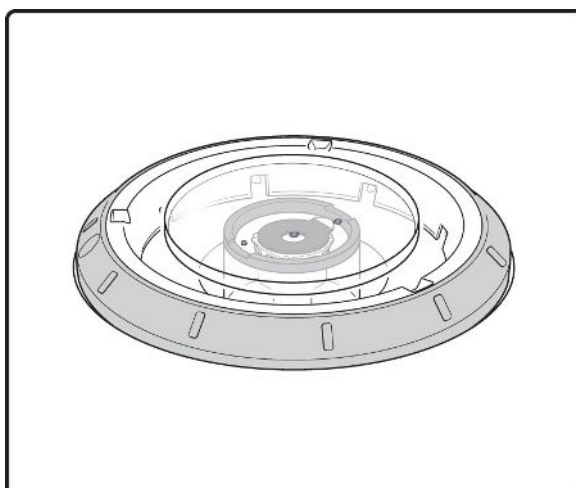
Block the lens

- 1 Hold the lens with both hands and, put pressure down on the lens.

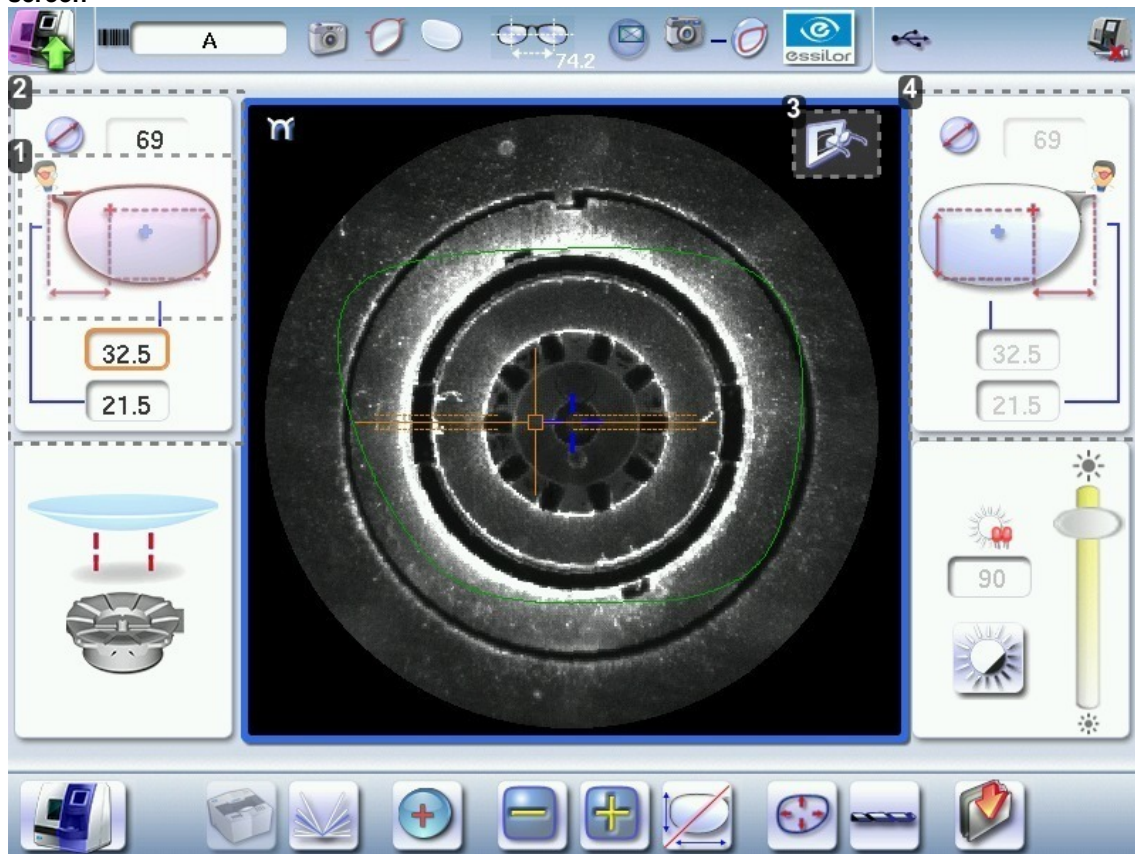


Blocking is manual.

- > The tube drops and the posiblock is fixed on the lens.



Centering screen

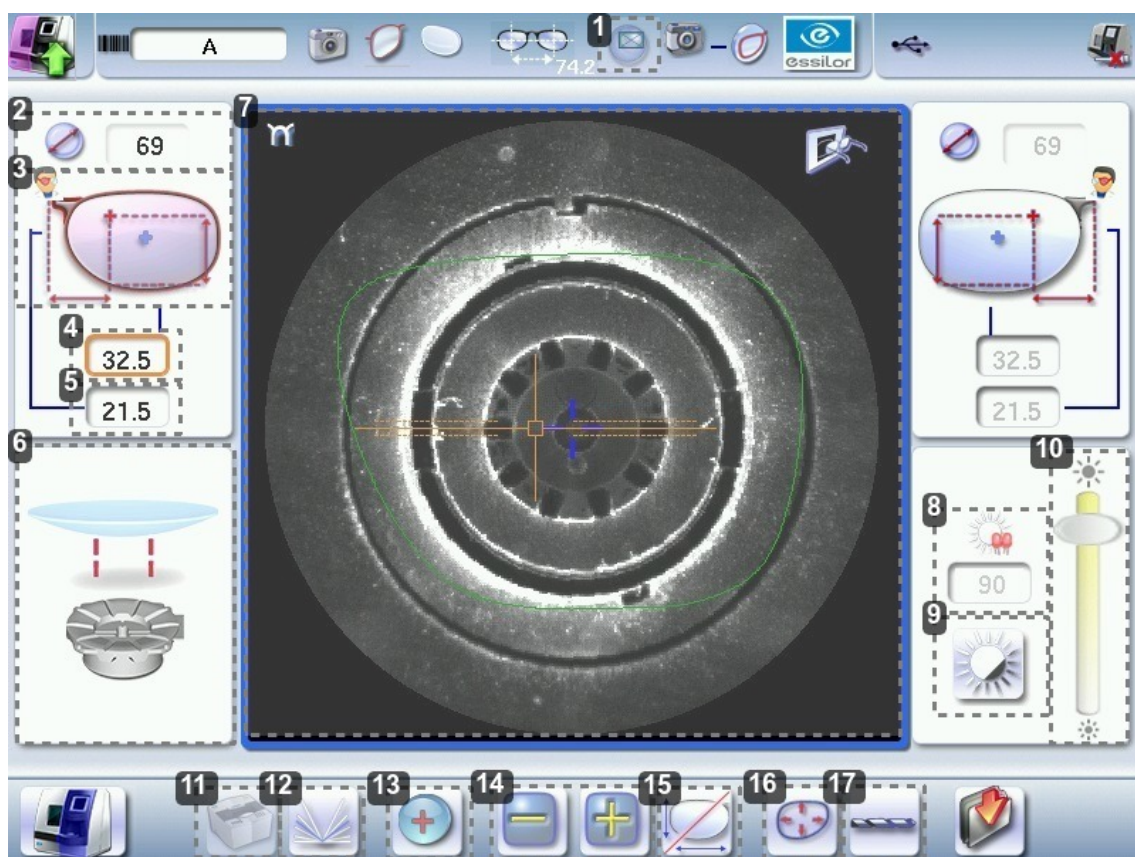


1. Active eye and type of display of PD and pupillary height
2. Information on the right eye
3. Visual cue of the frame positioned facing the screen
4. Information on the left eye





It is possible to start independently with the right eye or the left eye. On the other hand, the change of the eye must be carried out manually.

b. Menu screen



1. Blocking mode

-  Blocking in the boxing (p.156) center
-  Blocking in the optical center

For further information, refer to the section Lens Centering > Blocking a lens > Preparing blocking (p.57).

2. Minimal diameter of the lens to be used

3. Active eye and type of display of PD and pupillary height

Four modes available:

- Boxing mode
- Datum mode
- ΔY mode
- $\Delta X + \Delta Y$ mode






For more information on the type of display, consult the section Digital system configuration > Customize the tracer-centerer-blocker > Decentration mode. (p.111)

4. Half PD

5. Pupillary height

6. Posiblock display to be used depending on the job.

7. Work area

-  Nasal side indicator
-  (green) or  (cyan): Lens shape
-  (orange): Centering target according to the type of lens
-  (blue): Boxing center of the shape

8. Contrast Adjustment

9. *Black and white inversion*

10. *Adjusting luminosity*

Improves the traceability of the marks on the lenses, in particular for tinted lenses.

11. *Job call on a tracer*

Two possible choices:



: if the product is connected to a Tess tracer



: if the product is not connected to a Tess tracer

12. *Entering the curve angle and frame base*

13. *Lens type selection*

-  Single vision lens^(p.157)
-  Progressive lens^(p.156)
-  Bifocal lens^(p.157)
-  Executive lens^(p.156)
-  Mid-distance lens^(p.156)

14. *Value modification*

To reduce or increase the previously selected value.

15. *Toggle between the PD and pupillary height*

16. *Shape modification*

Provides access to the shape modification screen. For more information, consult the following chapter *Modifying the lens shape* (p.63).

17. *Drilling preparation (option)*

Provides access to the drilling screen. For more information, consult the chapter *Preparing a drilled job* (p.71).

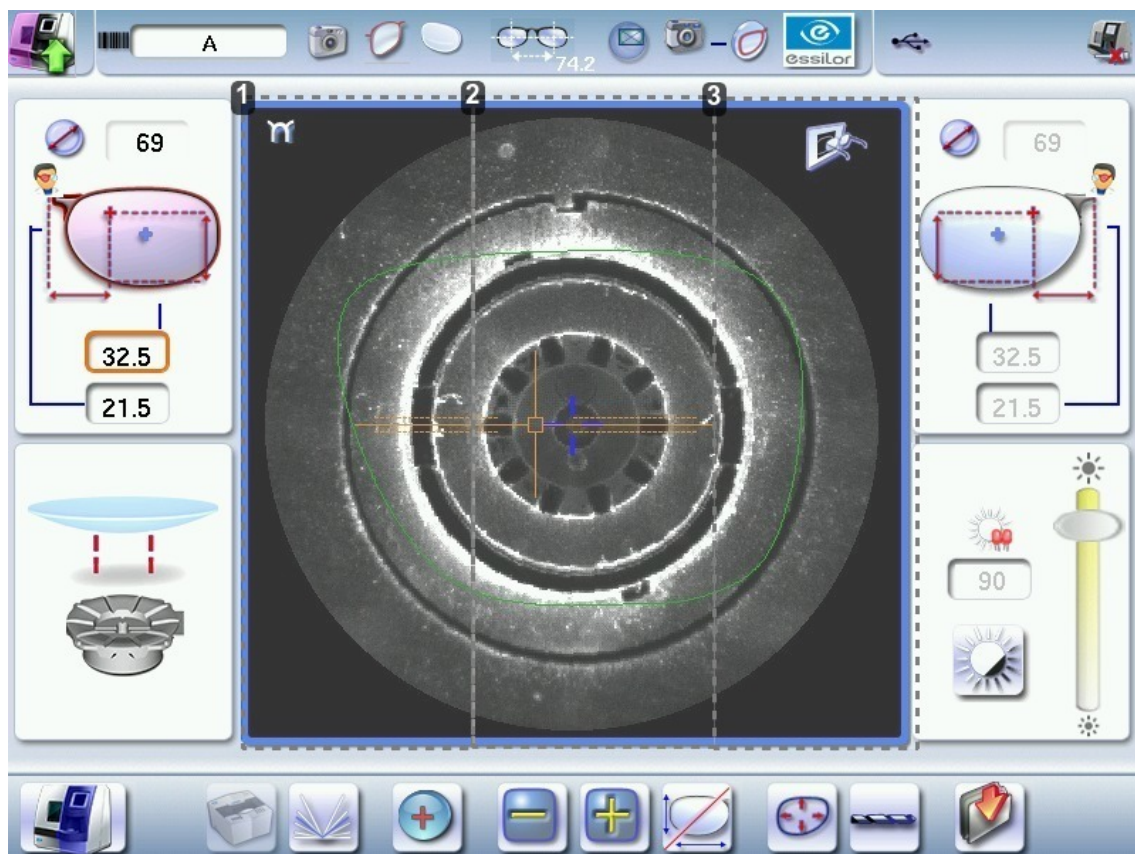


Zoom mode

The zoom is carried out directly by touching the screen on the desired area. There are three zoom modes:

- central
- temporal
- nasal

To activate the display on the 1:1 scale by default, consult the section *Tracer-centerer-blocker configuration > Customize > Work modes and display precision* (p.110).





1. Zoom on the temporal area
2. Zoom on the central zone
3. Zoom on the nasal area

c. Calling up a shape



In the job list

There are two ways of calling a shape in the job list:



- Calling a shape via a barcode:
 - > scan the barcode using the barcode reader (optional).
- Call a shape by selecting it in the job list:
 - > From the tracing screen or the centering screen, press on the menu  then  to access the shape storage screen.
 - > You can then look for a job by ID, reference, date, job type (drilled, asymmetric tracings, creative shapes). For more information, consult the section Perform a trace > Management and storage of shapes>Legend screen (p.24).

On the tracer (if the connection to the tracer is activated)

There are 3 ways to call a traced job on a tracer and to carry out a job^(p.156):

- Calling the current shape:
 - > Press  to display the shape being processed on the tracer.
- Job called saved on the tracer:
 - Press for a few seconds to  open the numeric keypad.
 - > You can then call a shape by the ID^(p.156) which was allotted to it.
- Calling a shape via a barcode:
 - > scan the barcode using the barcode reader (optional).

> A warning message is displayed.

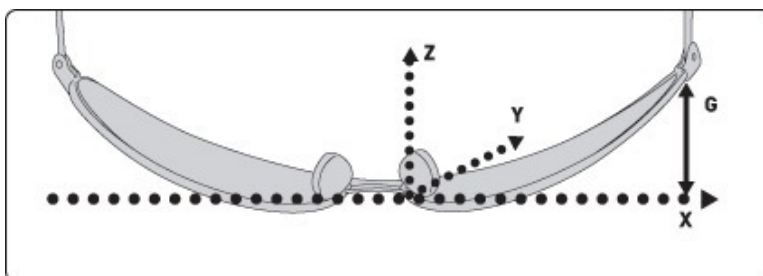
- Press  to replace the job displayed by the job called.
- Press  to cancel: the job is not sent to the tracer-centerer-blocker.

> The shape is displayed in the centering screen.

2. Centering a lens for a high-base frame


3D compensation

The PD and pupillary height measurements as well as the lens centering are done in two dimensions. But the frame is processed in three dimensions:



3D compensation takes into account all frame characteristics (x, y, z, curve, pantoscopic tilt, etc.) to ensure that the center of the wearer's pupil is at the optical center of the lens. For an optimal job, the on-screen positioning of the centering indicators always takes account of 3D compensation.

3. Centering a single vision lens

 Prerequisite: before carrying out lens centering, a shape must be displayed on the centering screen.

If necessary, we recommend that you first:


- modify or retouch the traced shape (p.63)
- prepare the drilling points (p.71) to be created (option)
- place the stickers recommended by the manufacturer on hydrophobic lenses. (p.57)



Concerning the use of the stickers, be careful to change the centering tube with a larger diameter one to optimise the effectiveness of the sticker.

This section describes the procedures for centering a single vision lens:

For centering using three focimeter dots

 Prerequisite: the lens must be marked using a focimeter.

The three focimeter dots must be:

- aligned,
- at the same distance from the central dot,
- 0.5 to 1.5 mm in diameter.
- of white colour



At the time of the release of the lens on the centering tube, be sure to align the three focimeter dots with the notches designed for this purpose in order not to alter the marking.



In the case of a demonstration lens or a recut lens, make sure that the marking feature is perfectly horizontal to avoid any axis deviation during centering.

For more information, consult the section performing an optical tracing > Optical tracing > Prepare the optical tracing of a demo lens or of recut lens. (p.27)



If need be, re-mark the points with a white colour gouache paint.

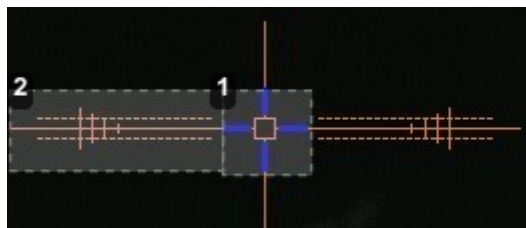
To center in re-marked micro-engravings mode

✓ Pre-requisite: micro-engravings must be re-marked with a white felt tip pen. The diameter of the dots must be between 0.5 and 1.5 mm.




We advise you to use the white felt tip marker supplied with the tracer-centerer-blocker to mark the lens.

Description of the centering target

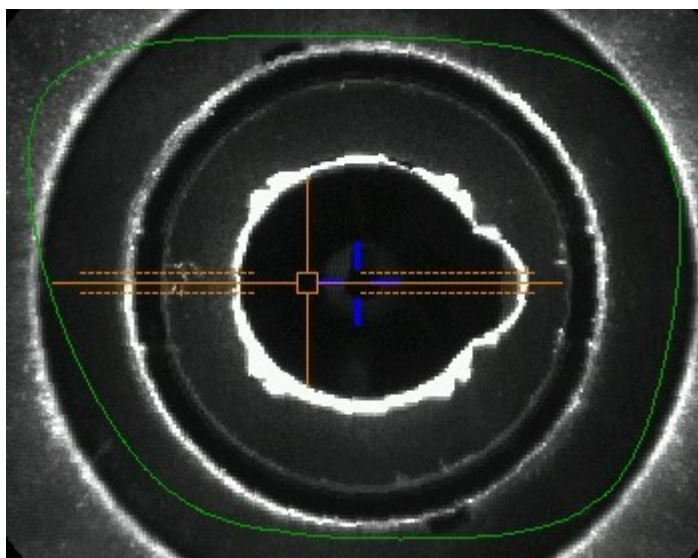


1. Optical center of the lens (orange cross) and boxing center of the shape (blue cross)
2. Centering marks

Centering the lens

1 Press  to select the type of single vision lens.

> The centering target is displayed:



2 Enter the half PD and pupillary height.

> The target moves.


3 Lower the tube.

4 Insert the posiblock and its pad in the centering device.

5 Raise the tube back into centering position.

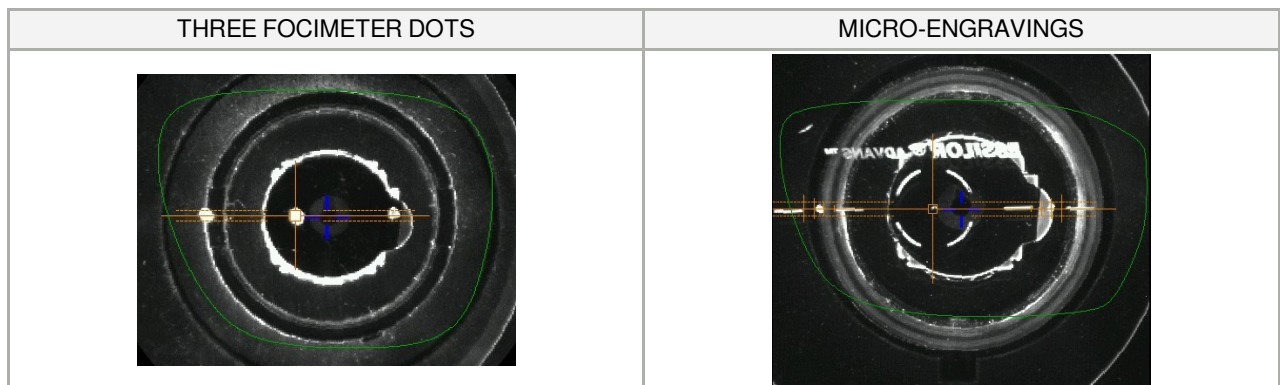
6 Position the lens on the tube, with the convex side on the tube.

7 **In three focimeter dots mode:** move the lens slowly until the three focimeter dots are perfectly aligned on the target.

- place the central point in the square ,
- place the two external points between the two dotted lines, as close as possible to the central line.


In micro-engraving mode: move the lens slowly until the micro-engravings are perfectly aligned on the target.

- > The lens is centered and ready to be blocked.



To block the lens, refer to the section [Centering a lens > Blocking a lens](#) (p.57).

4. Centering a progressive lens

 **Prerequisite:** before carrying out lens centering, a shape must be displayed on the centering screen.

If necessary, we recommend that you first:

- modify or retouch the traced shape (p.63)
- prepare the drilling points (p.71) to be created (option)
- place the stickers recommended by the manufacturer on hydrophobic lenses. (p.57)

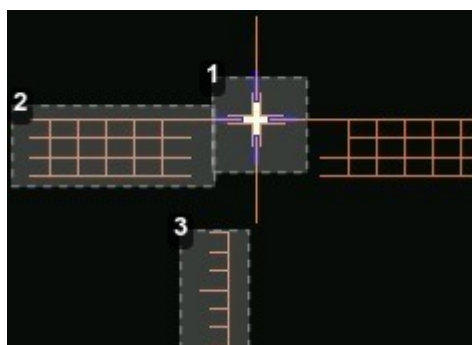


Concerning the use of the stickers, be careful to change the centering tube with a larger diameter one to optimise the effectiveness of the sticker.

This section describes the procedures for the centering of a progressive lens:

- using re-marked micro-engravings mode (p.47)
- using manufacturer markings mode (p.48)

Description of the centering target



1. Centering cross (orange cross) and boxing center of the shape (blue cross)
2. Centering graduated marks
The horizontal lines are 2mm apart so you can measure the PRP distance.
3. Near vision mark

a. Centering a progressive lens using re-marked micro-engravings

✓ Prerequisite:

- Remove all the original markings,
- Re-mark the micro-engravings with the marker; the diameter of points must be between 0.5 and 1.5 mm.



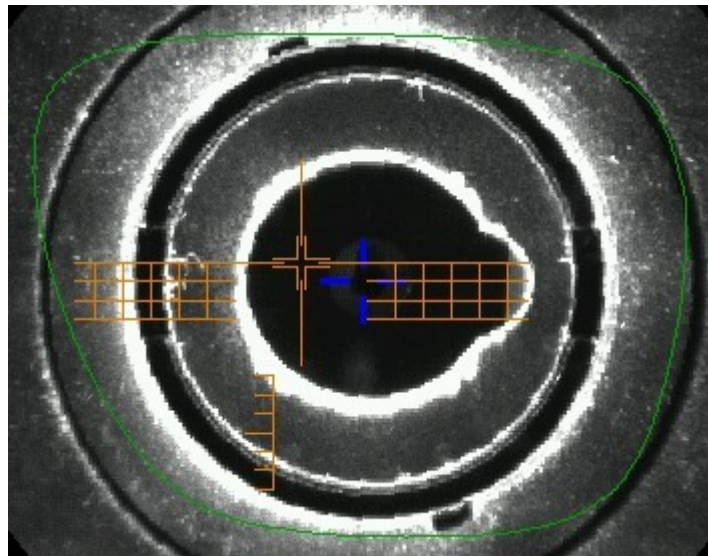
We advise you to use the white felt tip marker supplied with the centerer-blocker to mark the lens.



Centering the lens

1 Press  to select the type of progressive lens.

> The centering target is displayed:



2 Enter the half PD and pupillary height.

> The target moves.

3 Lower the tube.

4 Insert the posiblock and its pad in the centering device.

5 Raise the tube back into centering position.

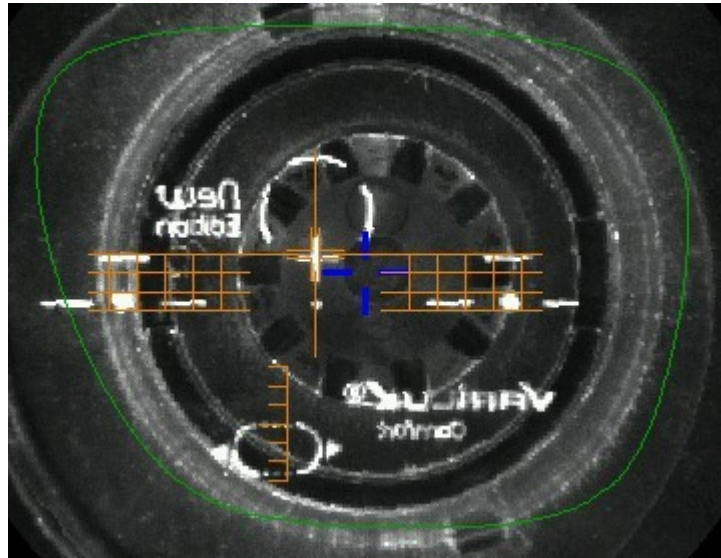
6 Position the lens on the tube, with the convex side on the tube.

7 Move the lens slowly until the micro-engravings are:

- Symmetrical in relation to the graduations,
- Aligned on the line corresponding to the PRP of the lens.



The PRP value of Essilor progressive lenses is 4mm. This may vary depending on the manufacturer of the lenses.



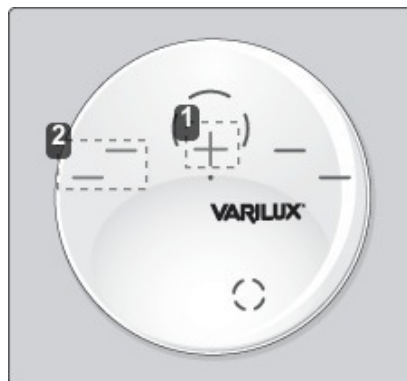
> The lens is centered and ready to be blocked.

To block the lens, refer to the section [Centering a lens > Blocking a lens](#) (p.57).

b. Centering a lens using manufacturer markings


✓ Prerequisite:

- The markings must be clear
- The lens must at least have the following markings:

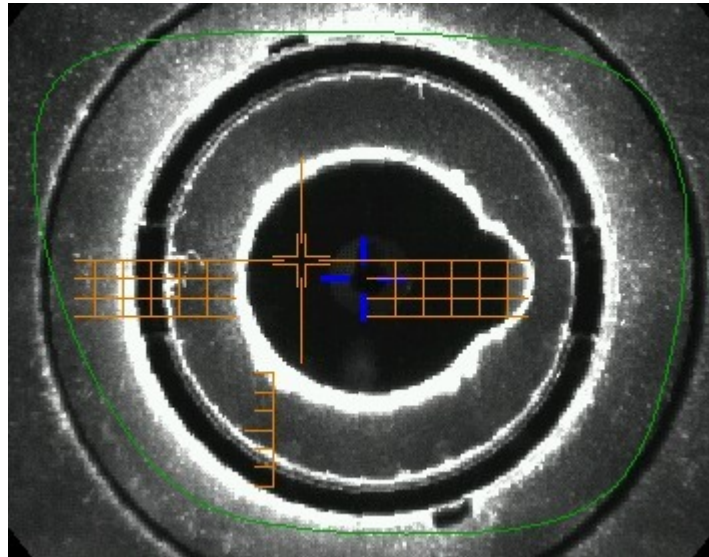


1. Far vision mark
2. Centering marks

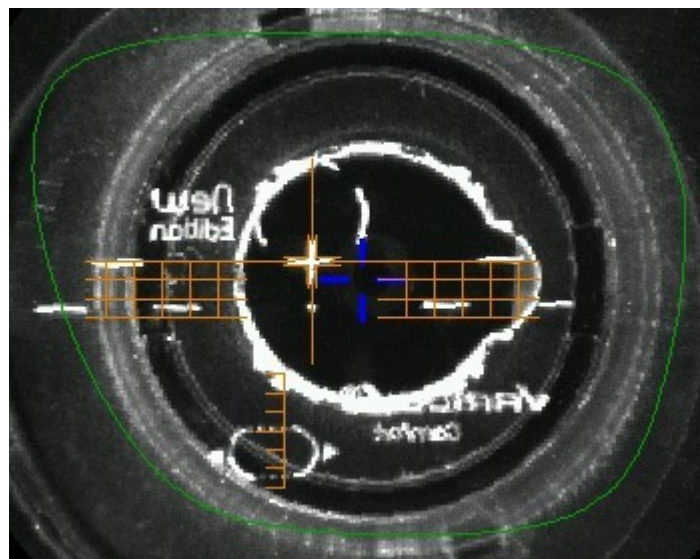
Centering the lens

- 1 Press  to select the type of progressive lens.

> The centering target is displayed:



- 2 Enter the half PD and pupillary height.
> The target moves.
- 3 Lower the tube.
- 4 Insert the posiblock and its pad in the centering device.
- 5 Raise the tube back into centering position.
- 6 Position the lens on the tube, with the convex side on the tube.
- 7 Slowly move the lens until manufacturer markings are:
 - Perfectly centered in the centering cross,
 - Parallel to the horizontal lines.



> The lens is centered and ready to be blocked.

To block the lens, refer to the section [Centering a lens > Blocking a lens](#) (p.57).

5. Centering bifocal / trifocal lenses

✓ Prerequisite: before carrying out lens centering, a shape must be displayed on the centering screen.

If necessary, we recommend that you first:

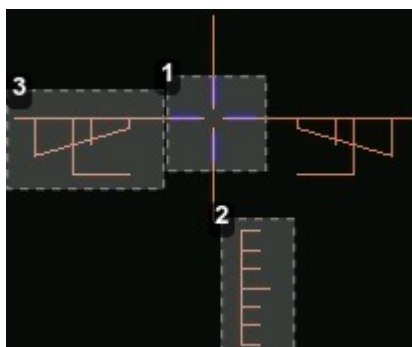
- modify or retouch the traced shape (p.63)
- prepare the drilling points (p.71) to be created (option)
- place the stickers recommended by the manufacturer on hydrophobic lenses. (p.57)



Concerning the use of the stickers, be careful to change the centering tube with a larger diameter one to optimise the effectiveness of the sticker.


This section describes the centering procedure for a bifocal or trifocal lens with a straight, curved or round segment.

Description of the centering target

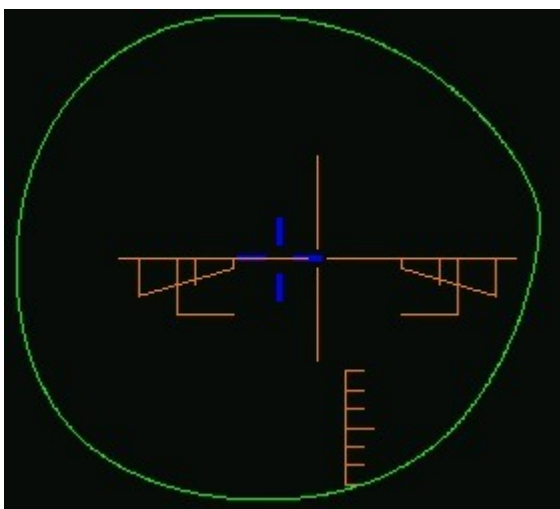


1. Centering cross (orange cross) and the boxing center of the shape (blue cross)
2. Near vision mark
3. Centering marks

Centering the lens

1 Press  to select the type of bifocal lens.

> The centering target is displayed:



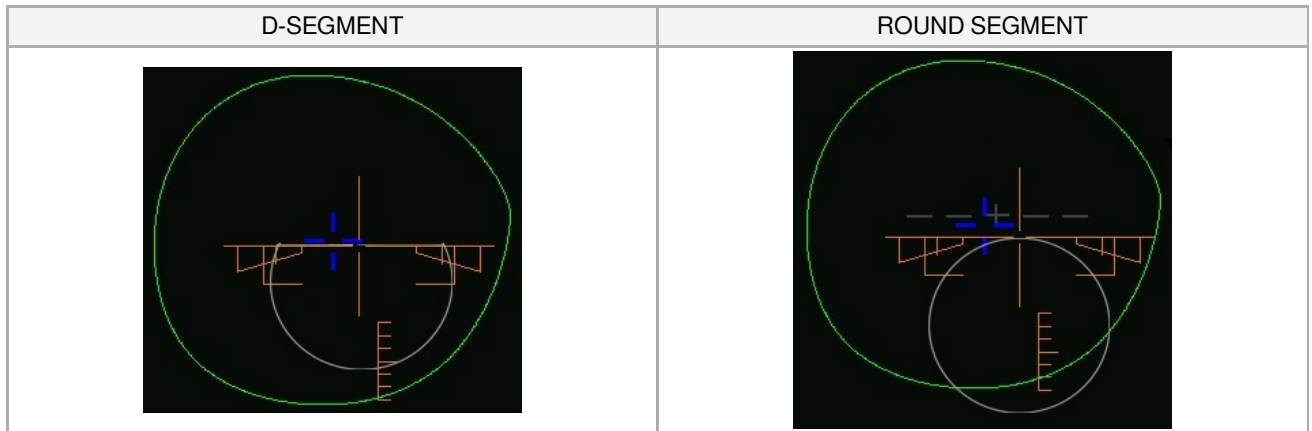
2 Enter the half PD for near vision and the frame height.

> The target moves.

3 Lower the tube.

4 Insert the posiblock and its pad in the centering device.

- 5 Raise the tube back into centering position.
- 6 Position the lens on the tube, with the convex side on the tube.
- 7 Move the lens slowly until the top of the segment is in the center of the target.



If your bifocal segment (round or right) is not visible or if you wish to improve its visibility on the screen, you must re-mark it using a white felt tip marker, while following the contour of the segment.

> The lens is centered and ready to be blocked.

To block the lens, refer to the section [Centering a lens > Blocking a lens](#) (p.57).

6. Centering an executive lens

✓ Prerequisite: before carrying out lens centering, a shape must be displayed on the centering screen.

If necessary, we recommend that you first:

- modify or retouch the traced shape (p.63)
- prepare the drilling points (p.71) to be created (option)
- place the stickers recommended by the manufacturer on hydrophobic lenses. (p.57)



Concerning the use of the stickers, be careful to change the centering tube with a larger diameter one to optimise the effectiveness of the sticker.

This section describes the procedure for centering an executive lens.

✓ Prerequisite: the lens must be marked using a focimeter.

The three focimeter dots must be:

- aligned,
- at the same distance from the central dot,
- 0.5 to 1.5 mm in diameter.
- of white colour



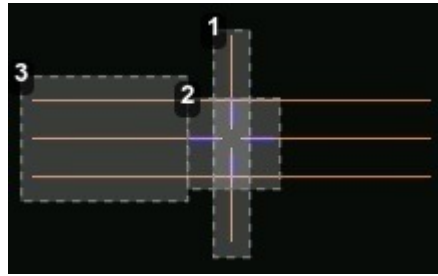
At the time of the release of the lens on the centering tube, be sure to align the three focimeter dots with the notches designed for this purpose in order not to alter the marking.



In the case of a demonstration lens or a recut lens, make sure that the marking feature is perfectly horizontal to avoid any axis deviation during centering.


For more information, consult the section [performing an optical tracing > Optical tracing > Prepare the optical tracing of a demo lens or of recut lens.](#) (p.27)

Description of the centering target

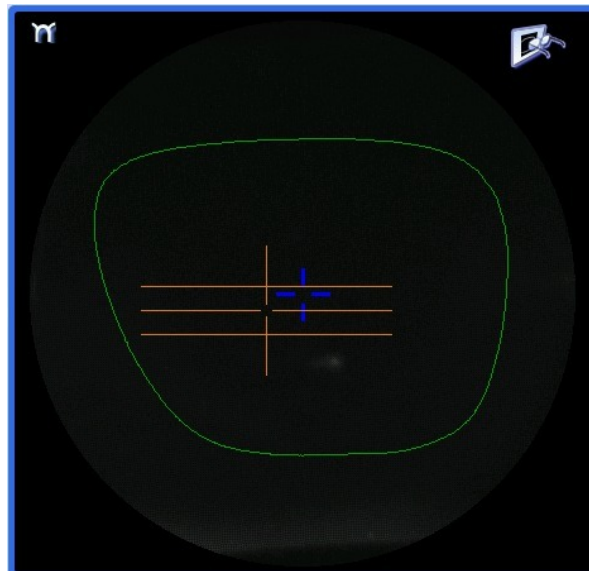


1. Centering mark
2. Boxing center of the shape (blue cross)
3. Centering mark

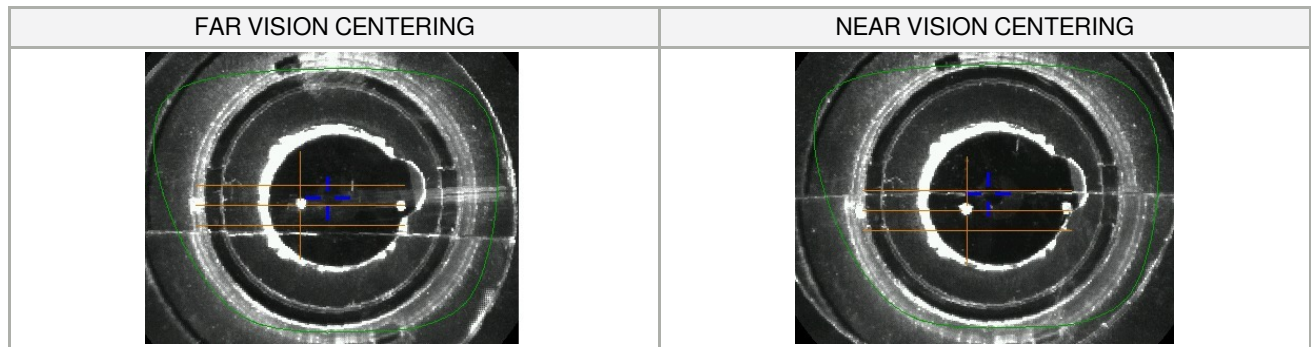
Centering the lens

- 1 Press  to select the type of executive lens.

> The centering target is displayed:



- 2 Enter the half PD (for near vision or far vision) and the frame height.
> The target moves.
- 3 Lower the tube.
- 4 Insert the posiblock and its pad in the centering device.
- 5 Raise the tube back into centering position.
- 6 Position the lens on the tube, with the convex side on the tube.
- 7 Move the lens slowly until it is perfectly centered:
 - Line up the transition segment between near vision and far vision with the horizontal mark in the center
 - Position the central focimeter dot on the vertical axis of the target



> The lens is centered and ready to be blocked.

To block the lens, refer to the section [Centering a lens > Blocking a lens](#) (p.57).

7. Centering a mid-distance lens

✓ Prerequisite: before carrying out lens centering, a shape must be displayed on the centering screen.

If necessary, we recommend that you first:

- modify or retouch the traced shape (p.63)
- prepare the drilling points (p.71) to be created (option)
- place the stickers recommended by the manufacturer on hydrophobic lenses. (p.57)

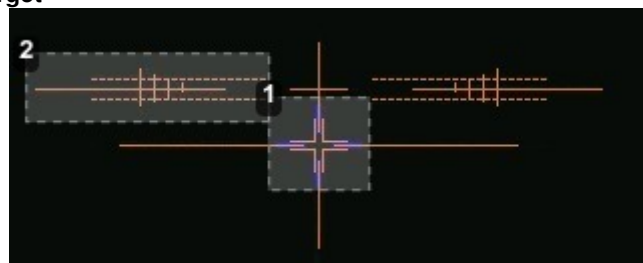


Concerning the use of the stickers, be careful to change the centering tube with a larger diameter one to optimise the effectiveness of the sticker.

This section describes the procedures for the centering of a mid-distance lens:

- using re-marked micro-engravings mode (p.54)
- using manufacturer markings mode (p.55)

Description of the centering target



1. Centering cross (orange cross) and boxing center of the shape (blue cross)
2. Centering graduated marks

The horizontal line is situated at 6mm enabling you to measure the PRP distance.

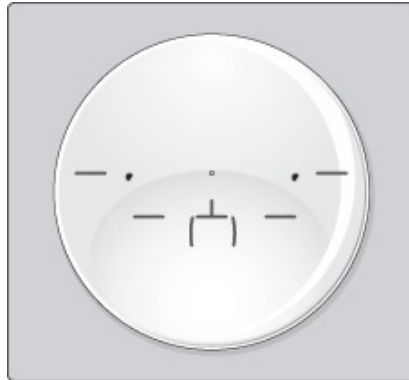
a. Centering a lens using re-marked micro-engravings

✓ Prerequisite:


- remove all the original markings,
- re-mark the micro-engravings with the marker; the diameter of points must be between 0.5 and 1.5 mm.



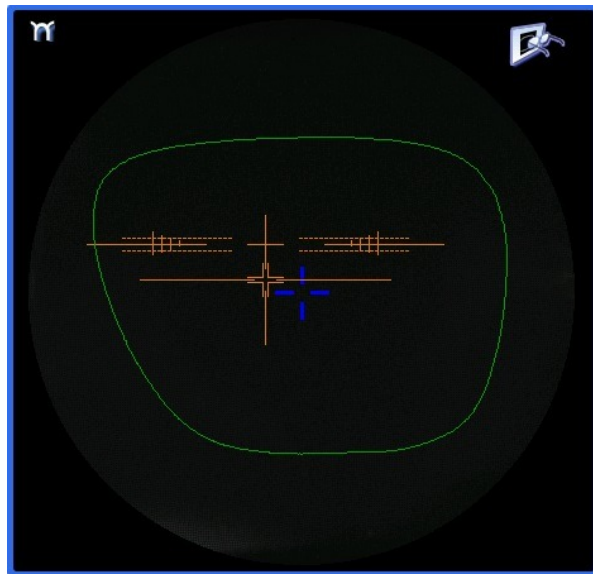
We advise you to use the white felt tip marker supplied with the tracer-centerer-blocker to mark the lens.



Centering the lens

- 1 Press  to select the type of mid-distance lens.

> The centering target is displayed:

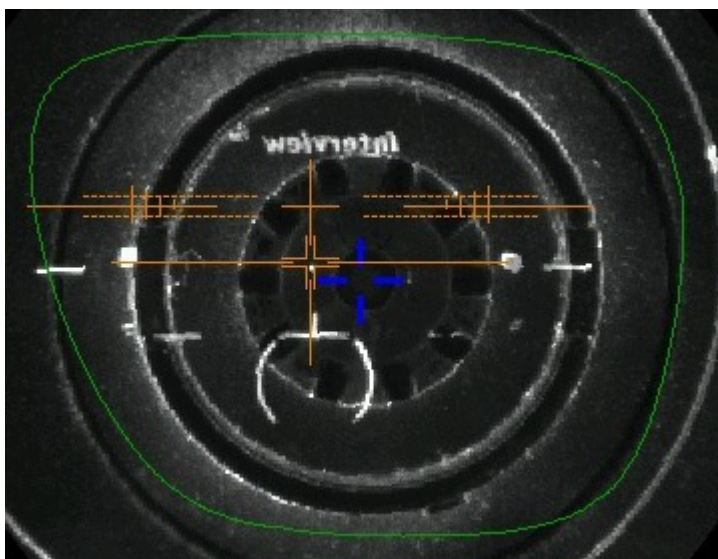


- 2 Enter the half PD and the frame height.
> The target moves.
- 3 Lower the tube.
- 4 Insert the posiblock and its pad in the centering device.
- 5 Raise the tube back into centering position.
- 6 Position the lens on the tube, with the convex side on the tube.
- 7 Move the lens slowly until the micro-engravings are:

- symmetrical in relation to the graduations,
- aligned on the line corresponding to the PRP of the lens.



The PRP value of Essilor mid-distance lenses is 6 mm. This may vary depending on the manufacturer of the lenses.



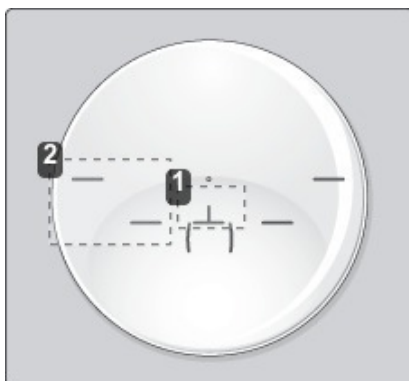
> The lens is centered and ready to be blocked.

To block the lens, refer to the section [Centering a lens](#) > [Blocking a lens](#) (p.57).

b. Centering a lens using manufacturer markings


✓ Prerequisite

- The markings must be clear
- The lens must at least have the following markings:

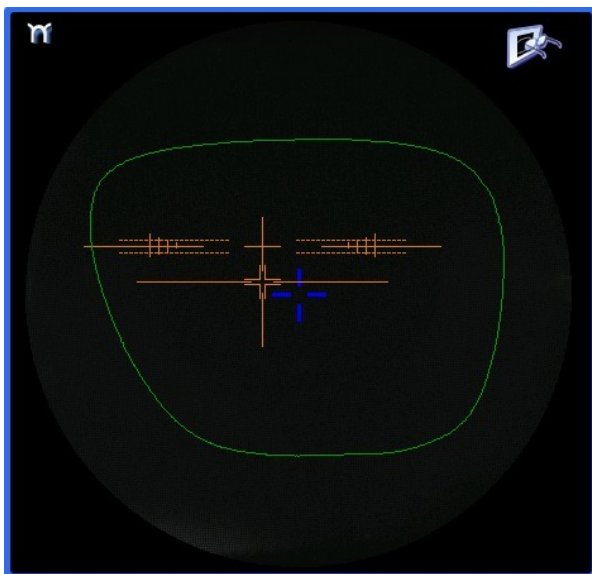


1. Centering cross
2. Centering marks

Centering the lens

1 Press  to select the type of mid-distance lens.

> The centering target is displayed:



2 Enter the half PD and the frame height.

> The target moves.

3 Lower the tube.

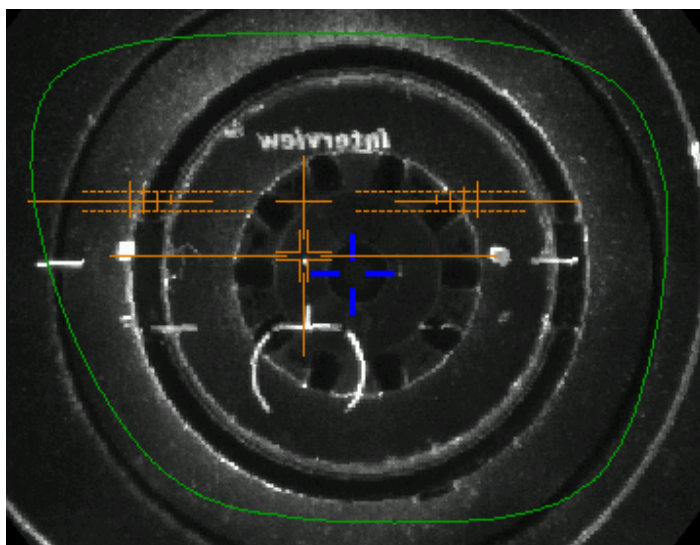
4 Insert the posiblock and its pad in the centering device.

5 Raise the tube back into centering position.

6 Position the lens on the tube, with the convex side on the tube.

7 Slowly move the lens until manufacturer markings are:

- Perfectly centered in the centering cross,
- Parallel to the horizontal lines.



> The lens is centered and ready to be blocked.

To block the lens, refer to the section [Centering a lens > Blocking a lens](#) (p.57).

8. Blocking a lens

This section describes the procedures for lens blocking depending on the selected option:

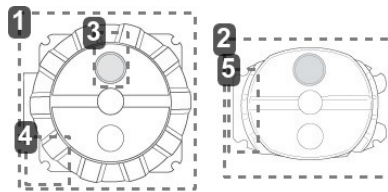
- blocking preparation (p.57)
- blocking (p.59)

a. Prepare blocking

Several accessories are available to perform blocking:

- posiblocks and pads
- tubes

Posiblocks and pads



1. 22 mm posiblock
2. 18x14 mm posiblock
3. Magnet
4. Fin
5. Tab

The posiblocks and their corresponding pads are supplied with the edger.



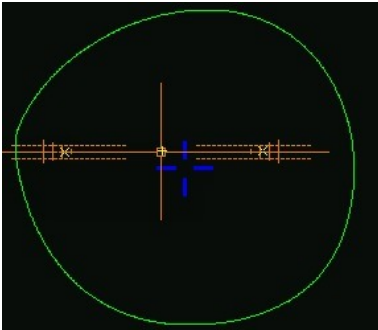
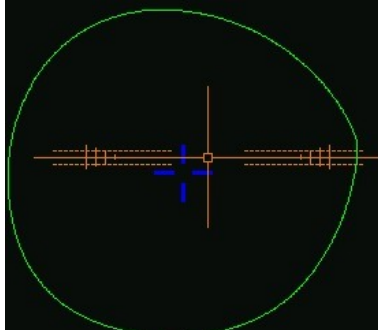
- Always use Essilor pads: they are specially designed to ensure the performance of your machine for quality jobs.
- The pads are non re-usable.
- Do not stick pads on posiblocks in advance as they may loose some of their holding power.
- The posiblock must never be placed on the rear (inner) surface of the lens.

Blocking in Boxing center or in optical center



Depending on your working practice, you can choose to block the lenses:

- in the boxing center of the shape (recommended),
- in the optical center.

In the event of blocking in the optical center, the posiblock position on the shape may be off center.

BLOCKING IN BOXING CENTER (BLUE CROSS)	BLOCKING IN THE OPTICAL CENTER (TEST CARD)
	

The selected blocking mode is displayed in the information bar:

-  blocking in the boxing center
-  blocking in the optical center

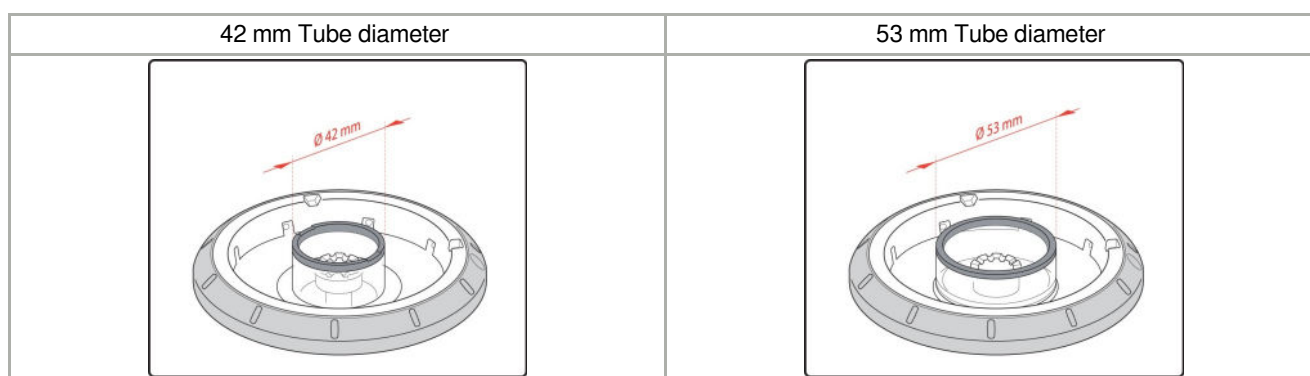
By default, the tracer-centerer-blocker blocks the lenses in the boxing center.

To choose a different blocking mode, consult the section [Tracer-centerer-blocker configuration > Customize > Work modes and display precision \(p.110\)](#).

Tubes


There are two diameters of tube:

- the smallest tube has a diameter of 42 mm. It is the standard tube mounted by default on the machine
- the large tube has a diameter of 53 mm. It is an optional accessory and will be used only in certain typical cases, stickers for example. It is mounted instead of the small tube, by a simple system of bayonet assembly.

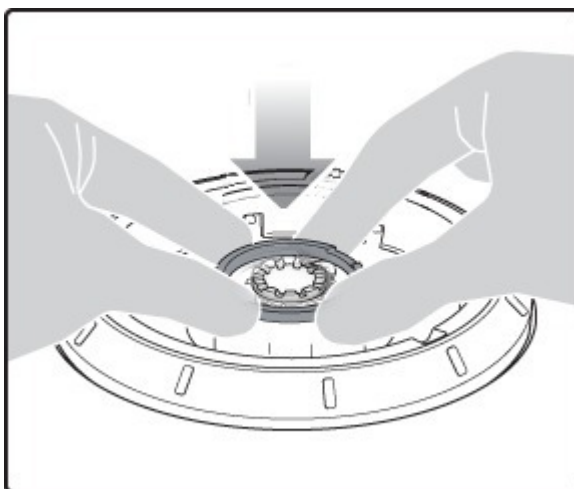


b. Blocking

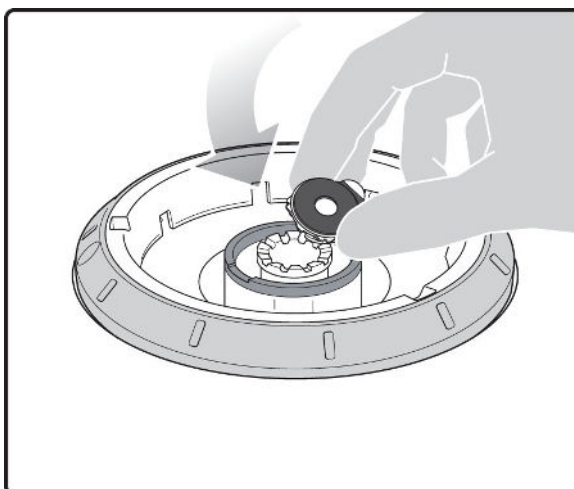
✓ Prerequisite

- The lens must be centered.
- Take the posiblock adapted to the shape, indicated at the bottom right of the screen:  or .

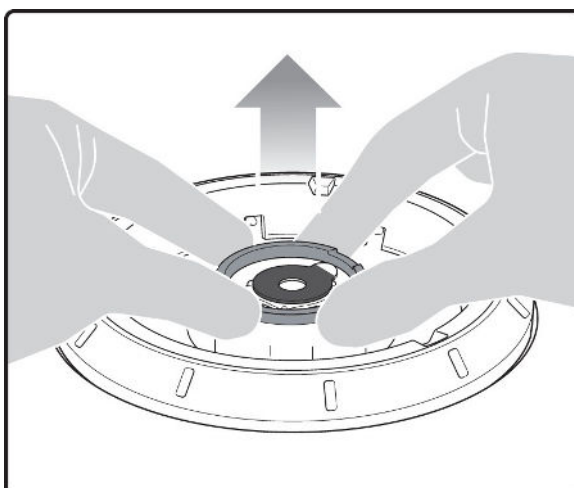
- 1 Place the posiblock on the pad and press firmly, with the self-adhesive face upwards and tabs towards the left.
- 2 Remove the film from the self-adhesive face.
- 3 Lower the tube.



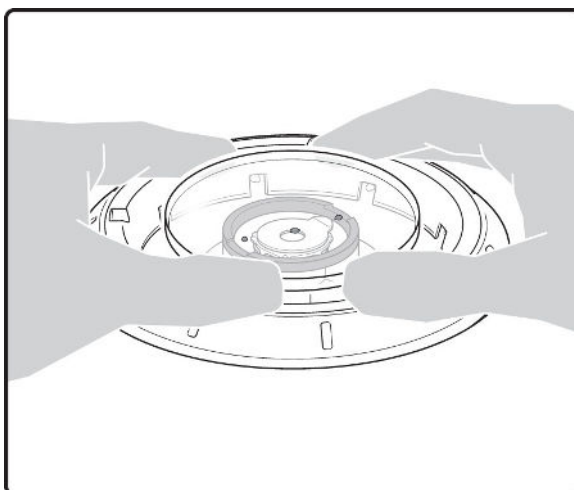
- 4 Position the posiblock within the boundary of the tube designed for this purpose.



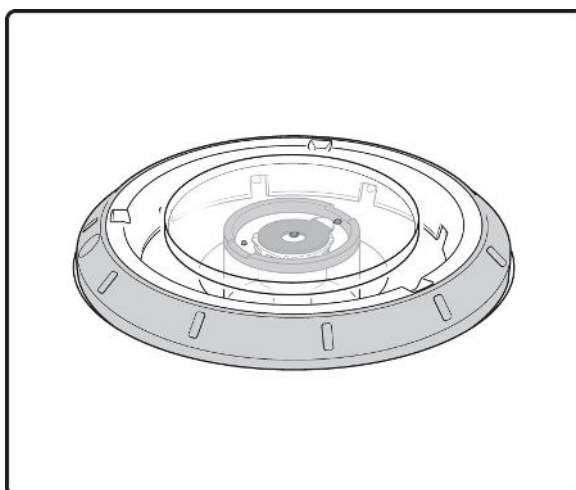
- 5 Raise the tube back into centering position.



- 6 After centering the lens, apply pressure with two hands on the tube in order to lower it.



- > The posiblock adheres to the surface of the lens.



- > The lens is blocked.



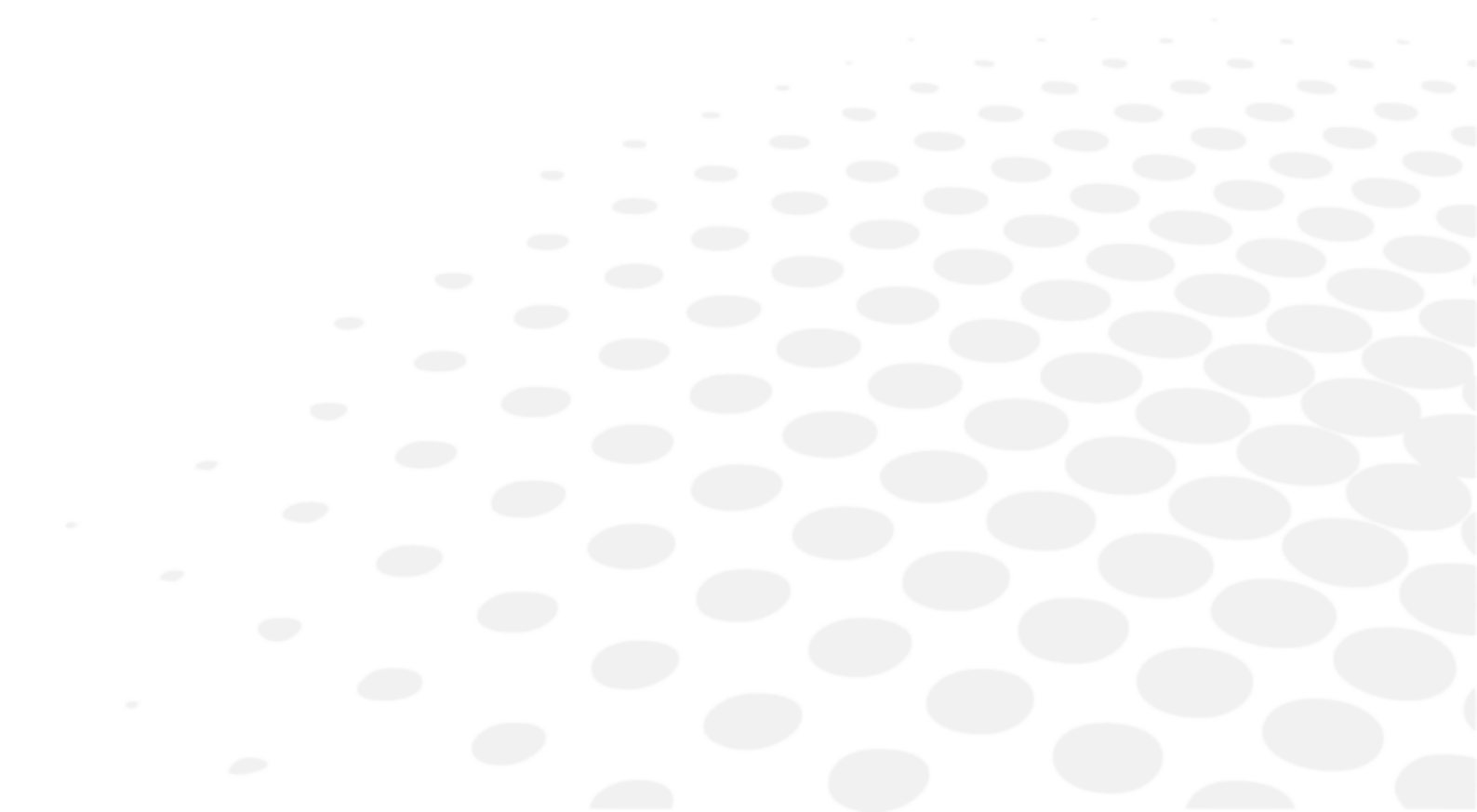
For a hydrophobic lens, be careful to use the large diameter tube and the stickers designed for this purpose.

- 7 Center and block the second lens.

- > The edging preparation screen is displayed automatically.

- 8 Center and block the second lens.
 - > The edging preparation screen is displayed automatically.

V. MODIFYING THE LENS SHAPE



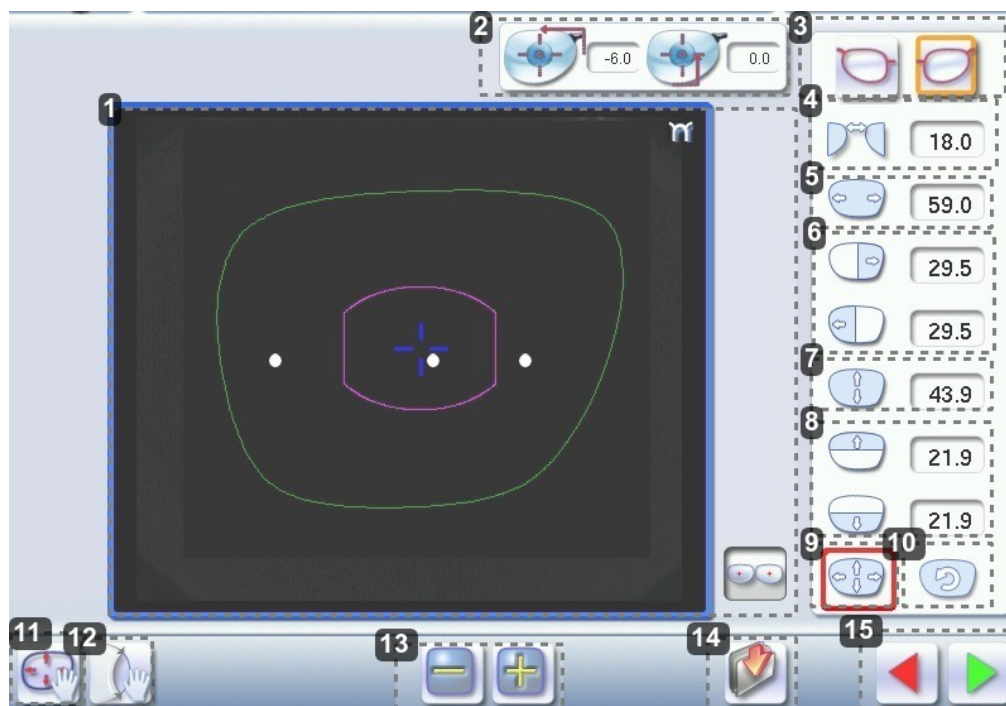
This chapter describes the lens shape modification procedures:

- Description of the shape modification screen (p.65)
- Modifying the lens shape (p.66)
- Archiving shapes (p.70)

1. Menu screen








From the centering screen, press  to access the shape modification screen.

The following screen is displayed:



1. Work area

Colours which may appear on screen:

-  (green) Current shape (from the shape traced) and associated drilling points
-  (cyan) Current shape (obtained by symmetry with the shape traced) and associated drilling points
-  (light red) Shape before modification
-  (grey) Part of the shape not selected for the current modification
-  (yellow) Limit of the drilling zone
-  (red) Non-machinable shape
-  (blue) Reference drilling points



Binocular view

2. Half PD and pupillary height

3. Active eye

The selected eye has an orange frame around it.

4. D-dimension modification

5. A-dimension modification

6. Modification of half A-dimensions (temporal / nasal)

7. B-dimension modification

8. Modification of half B-dimensions (upper / lower)




9. Modification of the overall size of the shape

Scaling in relation to boxing center

10. Shape rotation around the boxing center

11. Free-form modification

12. Shape retouch



-  Retouch to create a straight line.
-  Retouch to create a curve.
-  Retouch to create an angle.

13. Modify the selected value

The modification is carried out in 0.5 mm or 1 mm steps depending on the precision setting (p.110).

14. Create a new job based on the job displayed

15. Back to the centering screen

- Press  to save the changes and go back to the centering screen.
- Press  to return to the centering screen without saving the changes.

2. Modifying a shape

The shape modification screen gives you access to several functions:

- simple modifications (p.66): D-dimension, boxing dimensions, modification of size and rotation of the shape
- free modification (p.68), within the constraints pertaining to lens edging
- shape retouch (p.69) in the event of possible tracing defects

Shape modifications and retouches are only applied if all the dimensions and half-dimensions limits are included.

If a portion of the shape is not included within the machinable limits, it is displayed in red.



Both lenses are modified simultaneously.

a. Enlarging, reducing or rotating a shape



The side panel on the right of the screen enables you to:

- modify each dimension or half-dimension separately
- modify the size of a shape as a whole
- rotate a shape around the boxing center


Modifying each dimension or half-dimension separately

1 Select the icon showing the part of the shape you wish to decrease or increase.

> A red rectangle is displayed around the icon .

2 Use the  or  buttons to decrease or increase the corresponding value and view the modification in real time.

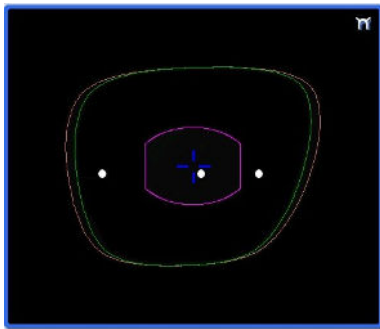


You can also press for a few seconds on the corresponding value to display the numeric keypad: enter a new value and press  to confirm.

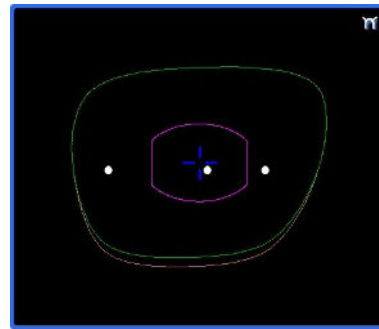
> The shape is modified.

> The original shape is displayed in light red.






Example of a reduced A-dimension:



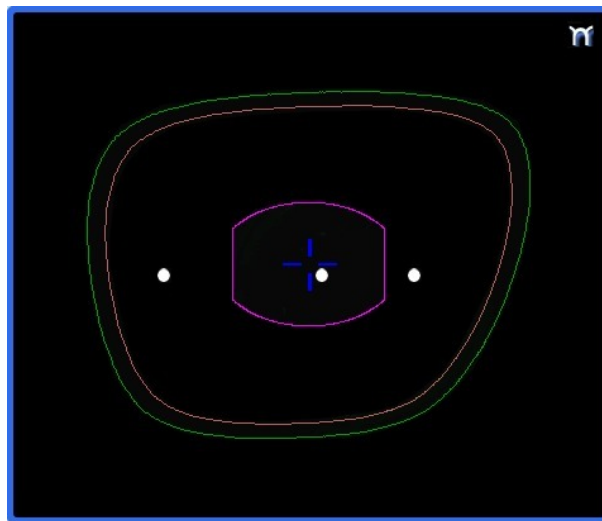
Example of a reduced half B-dimension:






Modify the total size of the shape

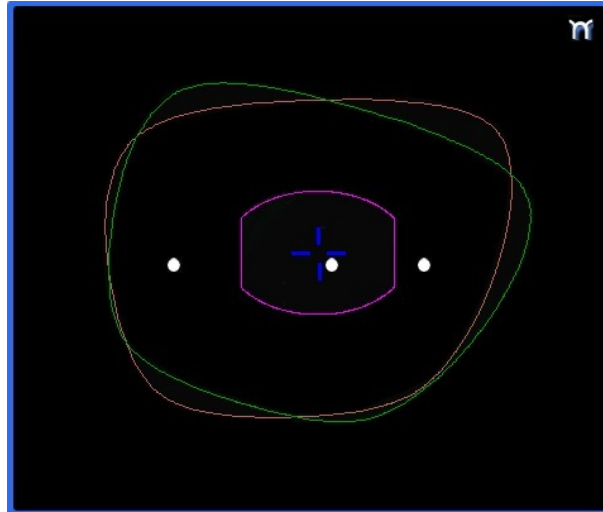
- 1 Press  to select modification by scaling.
 - > A red rectangle is displayed around the icon.
- 2 Use the  or  buttons to decrease or increase the shape and view the modification in real time.
 -  You can also press for a few seconds on the corresponding value to display the numeric keypad: enter a new value and press  to confirm.
 - > The shape is modified.
 - > The original shape is displayed in light red.

Example of a total enlargement of the shape:






Rotating a shape around the boxing center

- 1 Press  to select modification by rotation.
 - > A red rectangle is displayed around the icon.
- 2 Use the  or  buttons to rotate the shape clockwise or anti-clockwise by 1° and view the modification in real time.
 - > The shape swivels: the rotation is applied.
 - > The original shape is displayed in light red.



Cancelling a modification



- Press  once to cancel the last modification made to the shape.
- Press  twice consecutively to return to the original shape.

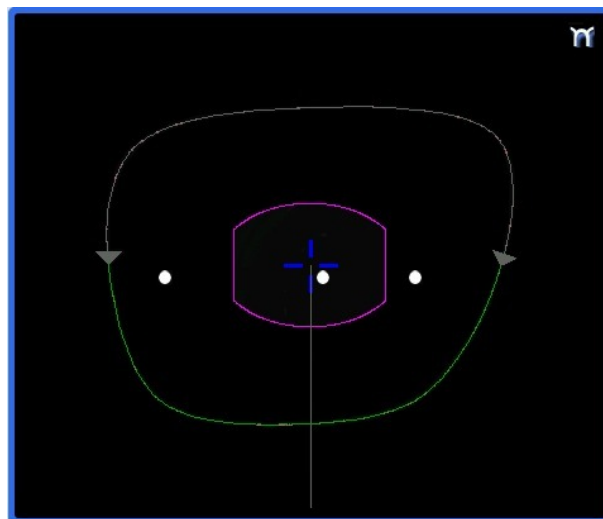
Once the shape is modified, press  to save and go back to the centering screen.





b. Free-form modification

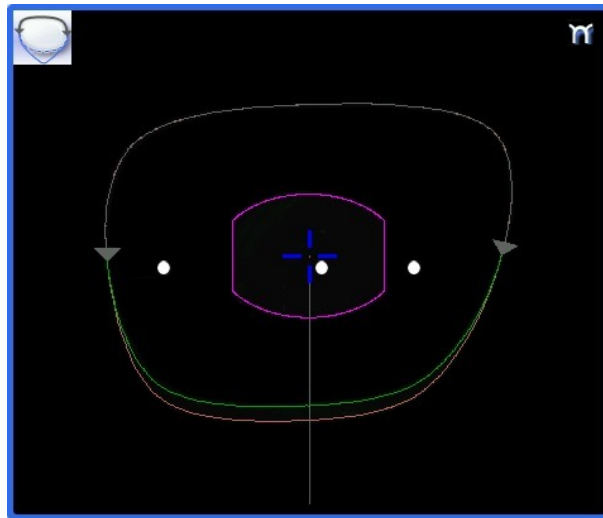
This function enables you to freely modify the shape of the lens.

1 Select  > .



- > The selection area is defined by two cursors  and .
- > The area not affected by the modification is displayed in grey.




- 2 Drag the cursors  and  to delimit the selection area.
- 3 Move the line starting at the boxing center to orient the modification.
- 4 Use the buttons  or  to reduce or enlarge the shape.
 - > The shape is modified.
 - > The original shape is displayed in light red.








Cancelling a modification

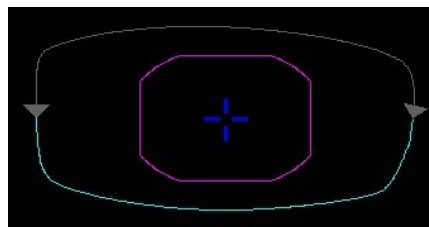
- Press  once to cancel the last modification made to the shape.
- Press  twice consecutively to return to the original shape.

Once the shape is modified, press  to save and go back to the centering screen.

c. Retouching a shape

This function enables you to retouch the shape of the lens.




- 1 Select .
 - > The selection area is delimited by two cursors  and .
 - > The area not affected by the modification is displayed in grey.
- 2 Drag the cursors  and  to delimit the selection area.

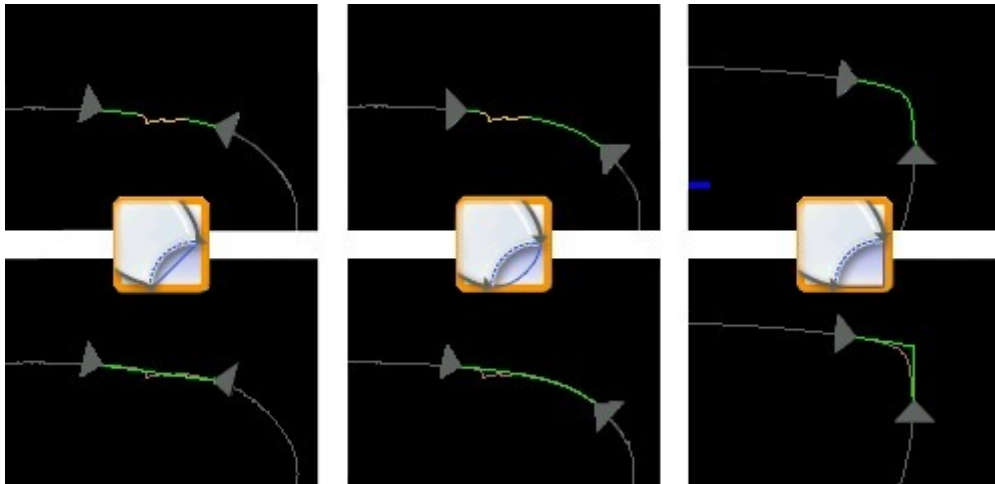


- 3 Select the type of retouch.






The types of retouch available vary according to the size of the selected area.

-  Retouch to create a straight line.
 -  Retouch to create a curve.
 -  Retouch to create an angle.
- > The selected area is retouched.
 - > The original shape is displayed in light red.




Cancelling a modification


- Press  once to cancel the last modification made to the shape.
- Press  twice consecutively to return to the original shape.

Once the shape is modified, press  to save and go back to the centering screen.

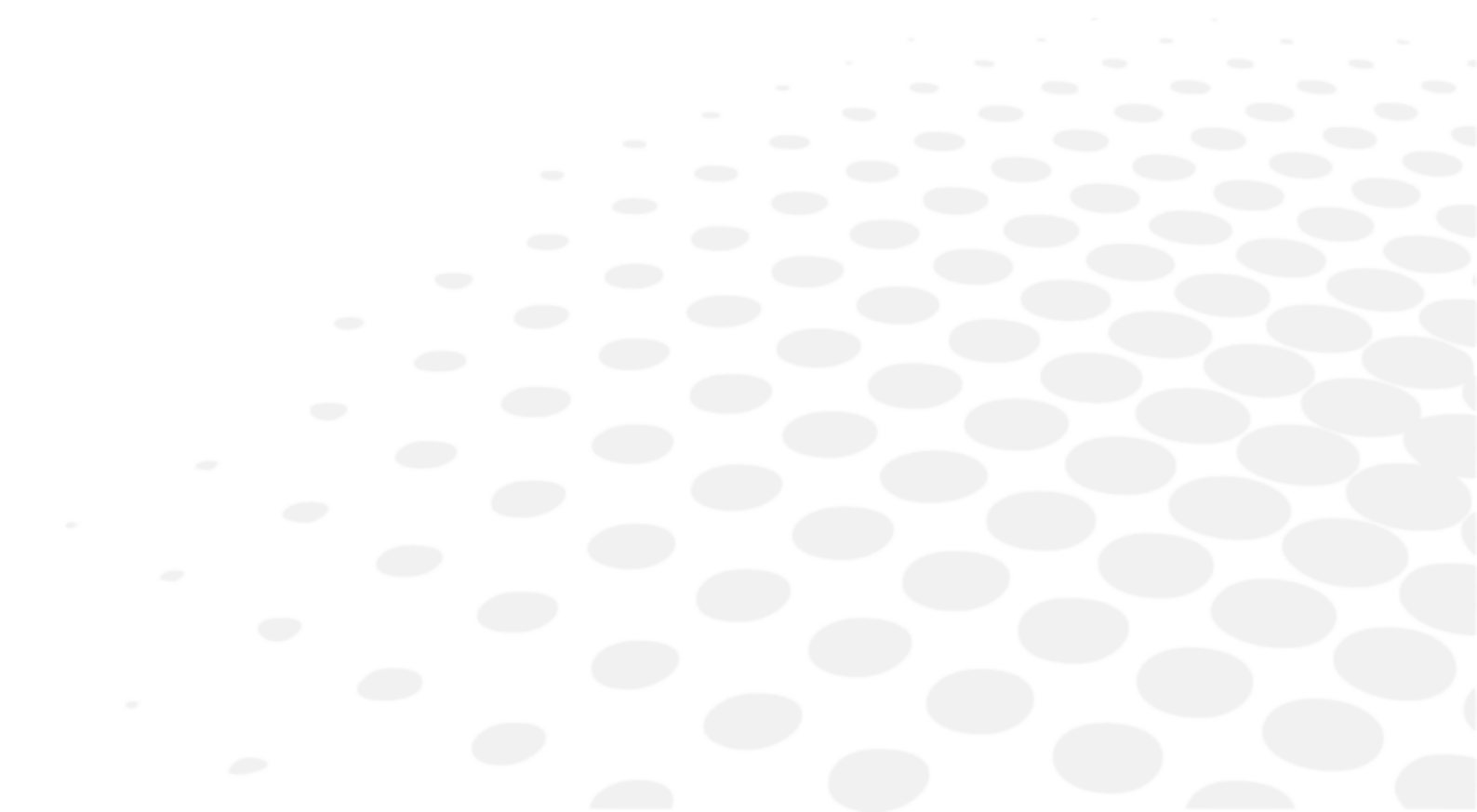
3. Archiving/saving a shape

This function enables you to save a modified shape to a new job with a new ID while keeping the original job.

- 1 Press .
 - > The job-creation alphanumeric keypad is displayed.
 - > A new ID is allocated (first free slot in the selected list).

You can also give it a different ID.
- 2 Enter a reference for the shape to be saved.
- 3 Press on  to confirm.
 - > The shape is archived in a new job with a new ID and is displayed in the shape modification screen.

VI. PREPARING A DRILLED JOB



This chapter describes the procedure for the positioning of drilling points (drill-holes, slots, notches) on a lens.

- Description of the drilling screen (p.73)
- Configuring drilling settings (p.75)
- Drilling models (p.79)

Once the drilling parameters have been set, you can go on to the centering of the lens.

✓ Prerequisite: you must already have carried out lens tracing.



Pre-existent drillings

If you trace a demo lens or a pattern and if drill-holes are detected, then the drilling screen is automatically displayed once the tracing is carried out.



Glass lenses

The drilling function is not available for glass lenses.

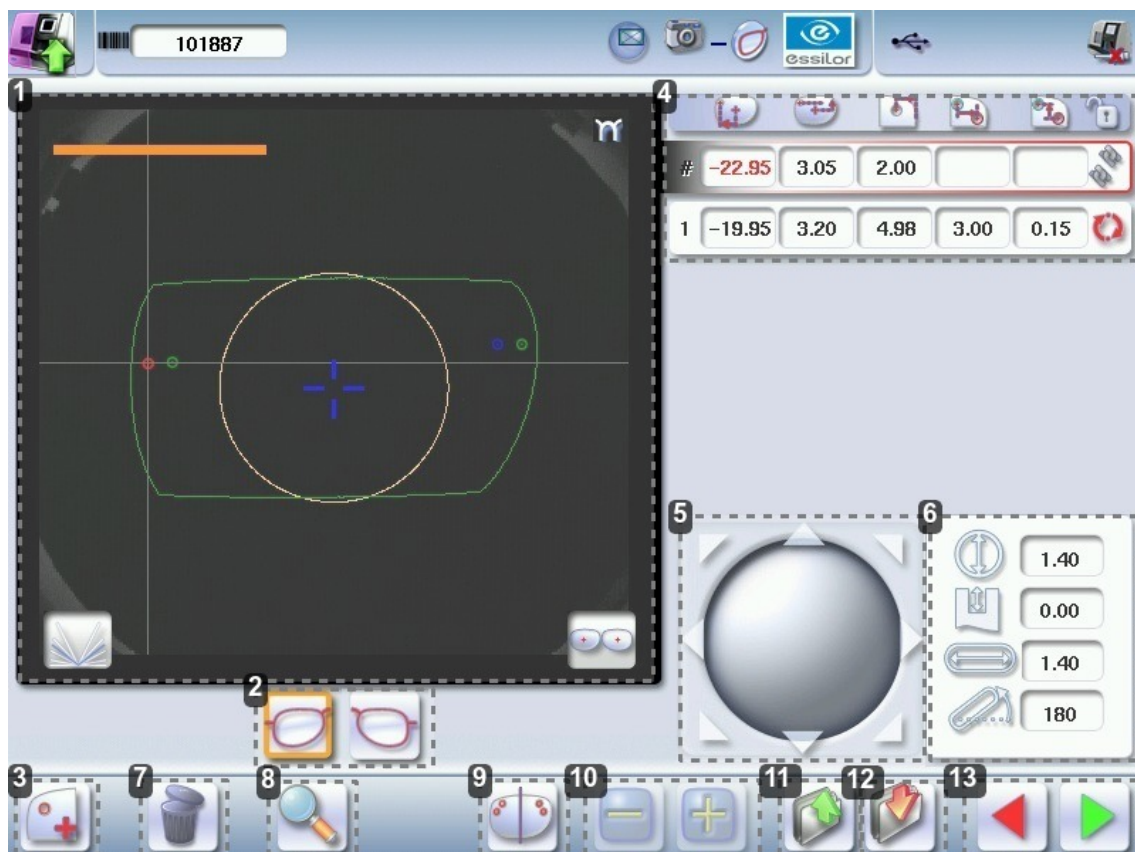
1. Menu screen

The drilling screen is accessible:

- from the centering screen,
- from the edging preparation screen.



Press  to prepare a drilled job.





The following screen is displayed:



1. Work area

Colours which may appear on screen:

-  (green) Current shape (from the shape traced) and associated drilling points
-  (cyan) Current shape (obtained by symmetry with the shape traced) and associated drilling points

-  (yellow) Limit of the no-drill area
-  (orange) Nasal or temporal side indicator
-  (red) Selected drilling point
-  (blue) Reference drilling point (by default, the first one created on each side – nasal and temporal)
- A drilling point with a colour infill indicates non-through drilling



Curve angle






Binocular view


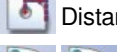

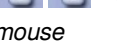
2. Active eye

The selected eye has an orange frame around it.

3. Type of drilling

-  Drill-hole
-  Slot
-  Notch





4. Drilling coordinates

-  X and Y coordinates in relation to the boxing (p.156) center of the shape.
-  Distance between the center of the drill-hole entrance point and the edge of the lens.
-  X and Y coordinates in relation to the reference drilling point.
-  Freezing of the distance between the drilling point and the edge of the lens.



5. Virtual mouse

Slide the stylus in this area to move the selected drilling points.

6. Drilling point dimensioning

-  Diameter in mm
 - default value: 1.40mm
-  Drilling depth in mm in the case of non-through drilling
 - default value: 0 (through-drilling)
-  Length of slot or notch in mm
 - default value of slot: 3.40mm
-  Angle of slot or notch in °
 - default value for right eye: 0° on nasal side, 180° on temporal side
 - default value for left eye: 180° on nasal side, 0° on temporal side

7. Delete one or all drilling points

-  Delete one drilling point
-  Delete all drilling points

8. Zoom



9. Symmetrically transfer the drilling points from the nasal to the temporal side or vice versa

10. Modify the selected value

11. Import a drilling model from the shape management screen

12. Archive the shape and create a new job based on the job displayed

13. Back to the centering screen

- Press  to save the changes and return to the centering screen.
- Press  to return to the centering screen without saving the changes.

2. Configuring a drilling point

This section describes the procedures for the creation and positioning of a drilling point:

- create a drilling point (p.75)
- delete a drilling point (p.75)
- set the size of a drilling point (p.76)
- adjust the position of a drilling point (p.77)




The positions of the various drilling points must be set before the centering of the lens.

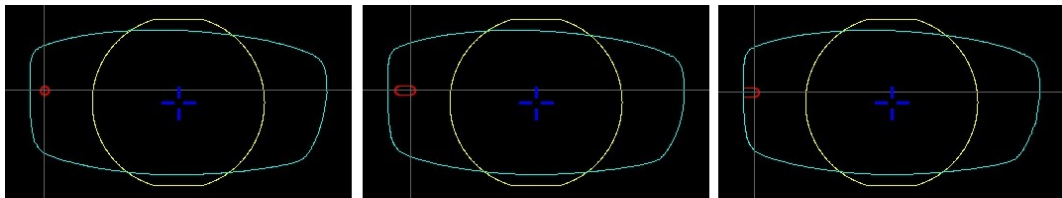


Both lenses are set simultaneously.

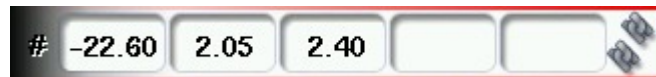
a. Creating a drilling point


- 1 Press  to create a new drilling point.
- 2 Select the type of drilling (drill-hole, slot or notch).
- 3 Press on the shape at the spot where you want to position the drilling point.

> The drilling point created is displayed in red in the shape:



> The drilling coordinates are displayed on the right of the work screen;



Press  to copy the drilling points from the nasal area to the temporal area and vice-versa.

On the tracer-centerer-blocker, you can configure up to 6 drilling points per side (nasal and temporal) of a shape.

b. Delete one drilling point



- 1 Select the drilling point to be deleted.





If you want to delete all drilling points from the shape, select any of them.

> The drilling point is displayed in red.

- 2 Press .

> Two buttons are displayed:  .





- 3 Press:




-  to delete the selected drilling point, or
-  to delete all drilling points from the shape.


> The selected drilling point or all drilling points are deleted from the shape.

c. Dimensioning a drilling point

You can define a setting for each existing drilling point.

- 1 Press on the drill-hole, slot or notch to select it.
 - > The drilling point is displayed in red in the shape.
- 2 Press a few seconds on the setting to be modified:
 -  Diameter
 -  Depth (for non-through holes)
 -  Length of slot or notch
 -  Angle of slot or notch
 - > The numeric keypad is displayed.


 You can also use the  or  buttons to decrease or increase the selected value.



- 3 Enter the new value of the parameter and press  to confirm.
 - > The drilling point has been modified.

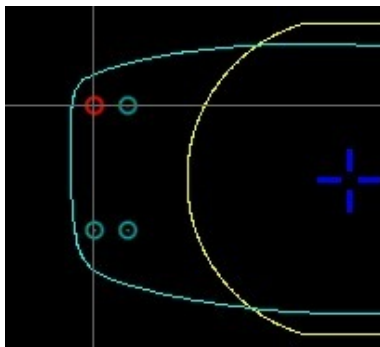


Grouping the drilling points


If you need to modify several drilling points simultaneously, you can group them together provided they are on the same side of the shape (nasal side / temporal side).

By default, the  symbol is displayed: each drilling point can be modified individually.

- Press .
 - >  is displayed. All future modifications will be applied to all drilling points in the same way:
 - only the reference drilling point is modifiable,
 - the coordinates of the other drilling points are greyed out.





#	-22.95	6.68	1.85			
1	-19.95	6.68	4.85	3.00	0.00	
2	-22.95	-4.52	1.61	0.00	-11.20	
3	-19.95	-4.52	4.61	3.00	-11.20	

- To un-group the drilling points, press  again.

d. Adjusting the position of a drilling point




You have three options for adjusting the position of a drilling point on a shape:

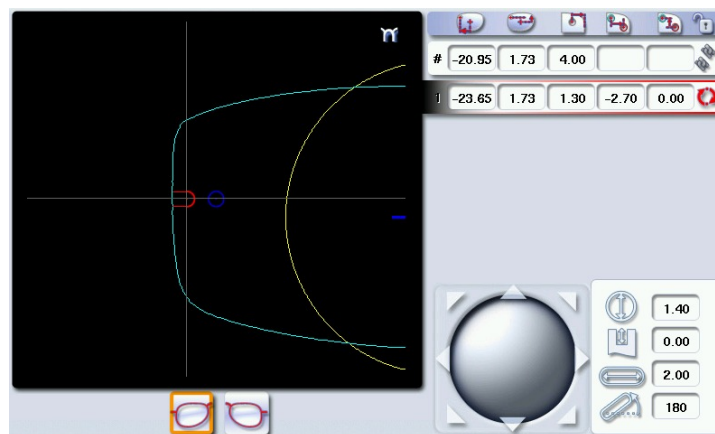
- use the virtual mouse,
- use the  or  buttons to decrease or increase the selected value,
- enter the exact coordinates of the drilling point directly.






The drilling coordinates are those of its entrance drill-hole.



- For a drill-hole, it is the center.
- For a slot and a notch, the entrance point is always on the side which is furthest away from the edge of the lens:




For greater precision, when you use the virtual mouse or the  and  buttons, press  to zoom in on the selected drilling point: the displacement step is 0.01mm (0.1mm for normal display).



- 1 Press on the drill-hole, slot or notch to select it.
 - > The drilling point is displayed in red.
- 2 Press a few seconds on the value corresponding to the coordinates to be modified:
 -  X coordinates
 -  Y coordinates
 -  Distance in relation to the edge of the lens.
 -  X coordinates in relation to the reference drilling point
 -  Y coordinates in relation to the reference drilling point

 Lock  the distance in relation to the edge of the lens to adjust only the Y position of the drilling point.

> The numeric keypad is displayed.


- 3 Enter the new value and press  to confirm.

> The drilling coordinates have been modified.




Grouping the drilling points

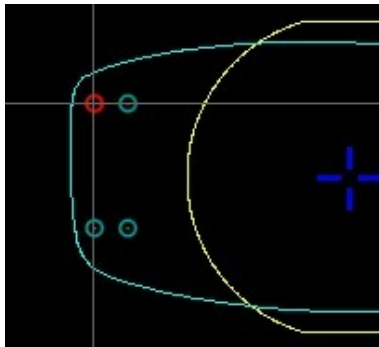
If you need to modify several drilling points simultaneously, you can group them together provided they are on the same side of the shape (nasal side / temporal side).

By default, the  symbol is displayed: each drilling point can be modified individually.


- Press .

>  is displayed. All future modifications will be applied to all drilling points in the same way:

- only the reference drilling point is modifiable,
- the coordinates of the other drilling points are greyed out.




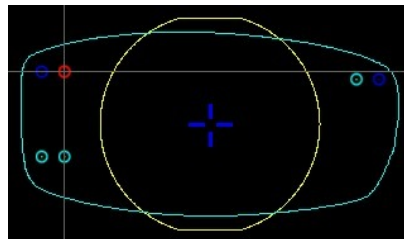
#	-22.95	6.68	1.85			
1	-19.95	6.68	4.85	3.00	0.00	
2	-22.95	-4.52	1.61	0.00	-11.20	
3	-19.95	-4.52	4.61	3.00	-11.20	

- To un-group the drilling points, press  again.





Reference drilling point

The first drilling point you create on a shape automatically becomes the 'reference drilling point' in relation to which the others are positioned:



- Each side (nasal and temporal) has its reference drilling point, identified by its dark blue colour .





- It is identified by the symbol # on the left of its coordinates.

#	-22.36	7.00	2.38			
1	-19.36	7.00	5.38	3.00	0.00	
2	-22.36	-4.20	2.25	0.00	-11.20	
3	-19.36	-4.20	5.25	3.00	-11.20	

You can position each drilling point in relation to the reference drilling point by modifying the values in the columns:

-  X coordinates in relation to the reference drilling point
-  Y coordinates in relation to the reference drilling point

To select another drilling point as the reference drilling point:

- 1 Select the drilling point you want to use as the reference drilling point
- 2 Press  to the right of its coordinates.
 - > The selected drilling point is displayed at the top of the list:
 - the # symbol is displayed on the left of its coordinates
 - the drilling point is displayed in dark blue  in the work area
 - > The coordinates of the other drilling points are also updated.

3. Drilling models

A drilling model consists of all the drilling points configured and positioned on a shape. You can retrieve a model in order to re-use it. This section describes the following:



- import a model on a shape (p.79)
- save a model (p.80).

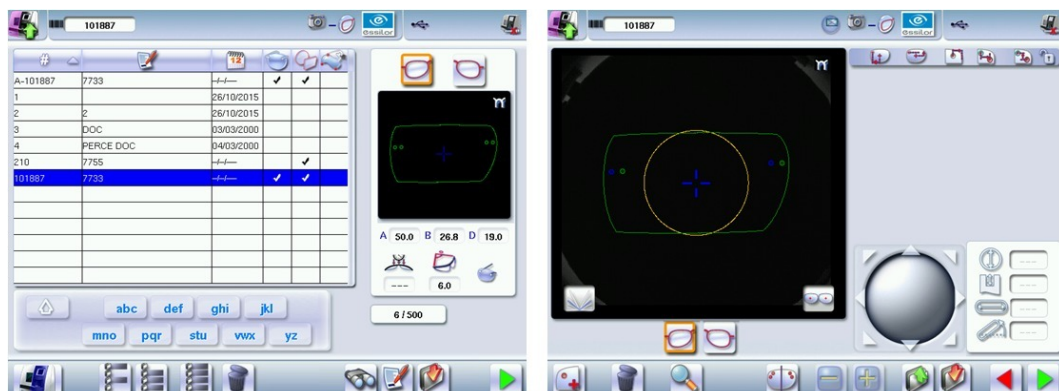
a. Importing a model



This function enables you to re-use the drilling points of a job in the shape management screen in the current job.

Importing a drilling model enables you to retrieve:

- the drilling settings (diameter, depth, length, angle)
- the height of the drilling points in relation to the center of the shape (Y coordinates)
- the distance between the reference drilling point and the edge of the lens

- 1 From the drilling positioning screen, press  to access the list of drilled jobs saved in the shape management screen.
- 2 Select the desired list.
 - > The drilled jobs in the selected list are displayed.
- 3 Select the desired job as a drilling model.
 - > The model is displayed in the preview.
- 4 Press  to confirm import of the model.
 - > The drilling screen is displayed:



- > The drilling points are positioned keeping:
 - the settings of each drilling point in the model
 - the Y coordinates of each drilling point in relation to the boxing center of the model shape
 - the distance between the reference drilling point and the edge of the lens
- > Two values are displayed under the work area
 -  18.00 the D-dimension (in mm) you have entered for the tracing
 -  23.29 the difference (in mm) between the two reference drilling points on the nasal side (right lens and left lens)




Once the model has been imported, you can move the drilling points if you wish. For more information, consult the section [Preparing a drilling job > configuring a drilling point \(p.75\)](#).

b. Saving a model

This function makes it possible to memorize a shape and its drilling points in a new job with a new ID whilst saving the original job. Saving a model enables you to save in a new job:

- the traced shape
- the value of the D-dimension
- the drilling point settings
- the drilling point heights in relation to the boxing center of the shape (Y coordinates)
- the distance from reference drilling points with regard to the edge of the lens (other drilling points, in relation to the reference drilling point)

1 Press  to save the job and its drilling points.


- > The job-creation alphanumeric keypad is displayed.
- > A new ID is allocated (first free slot in the selected list).

You can also give it a different ID.

2 Enter a reference for your model.

3 Press on  to confirm.

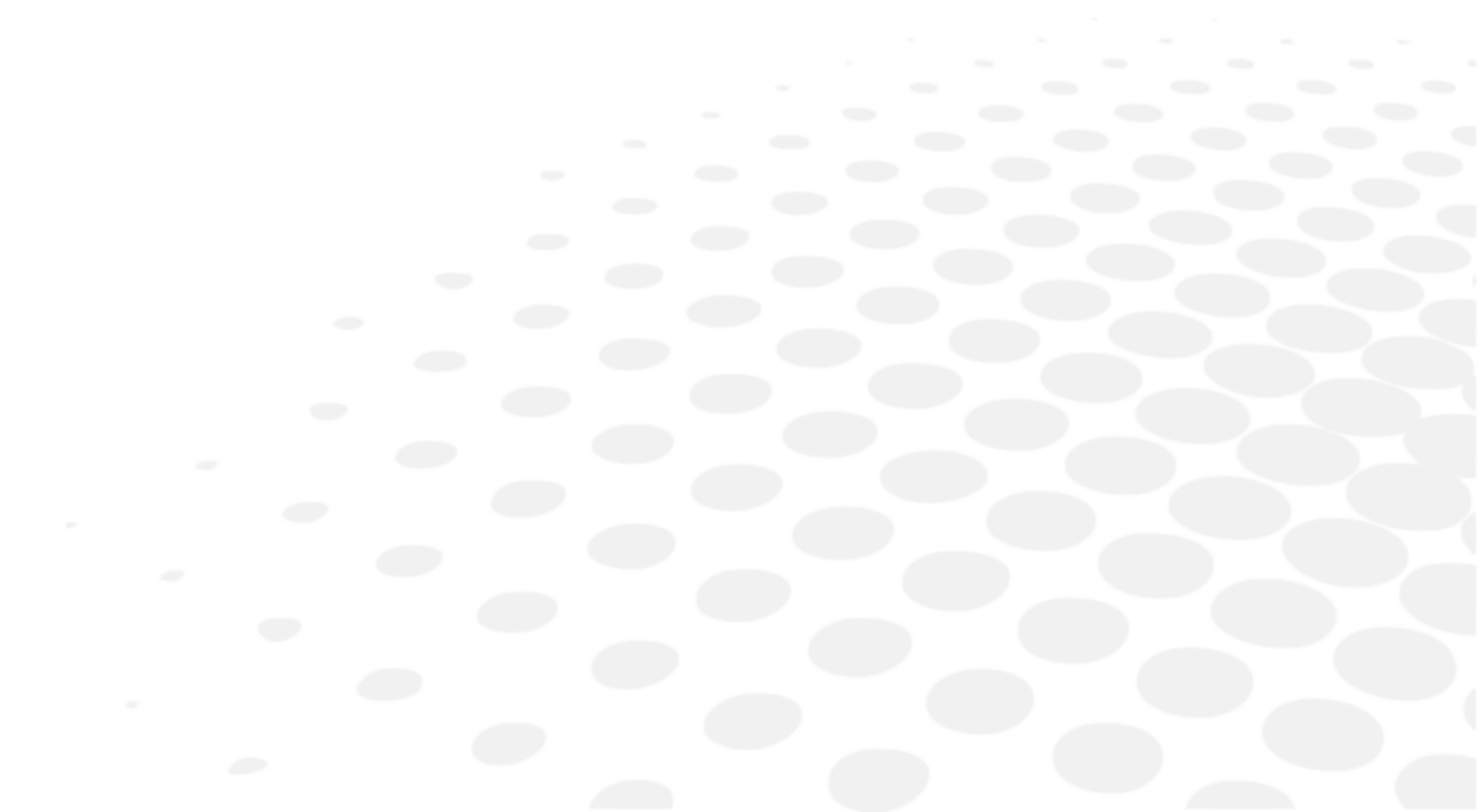
- > The model is saved in a new job.
- > The new job with the new ID is displayed on the drilling screen.

4 Press  to return to the centering screen.



You can go back to the previous job via the shape management screen if it has an ID.

VII. EDGING A LENS



This chapter describes the procedures for edging all types of lens:

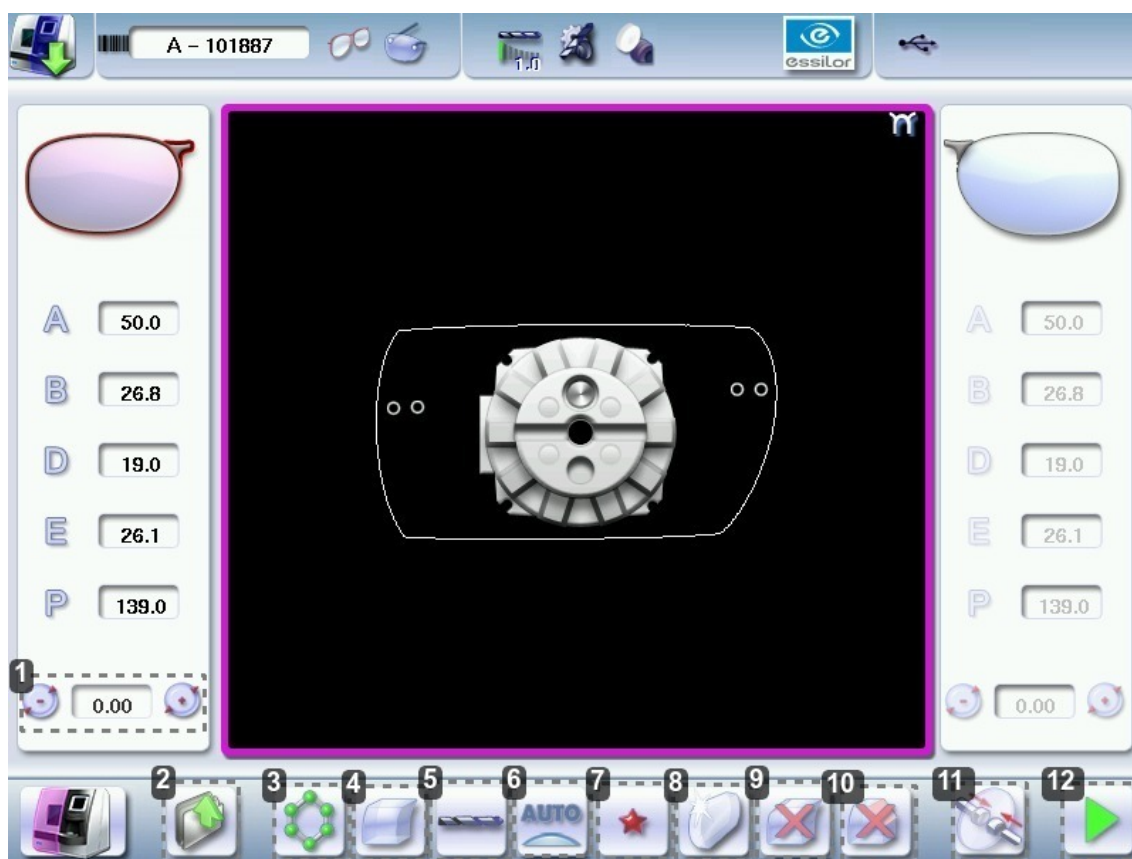
- Beveling (p.86)
- Grooving (p.91)
- Flat-edge finishing (p.97)
- Drilled job (p.97)
- Polishing (p.102)
- Chamfering (p.102)
- Retouching (p.103)

1. Edger working environment

This section describes:

- The edger work screen (p.83)
- Shape call-up procedure (p.85)
- Putting the lens in place (p.85)





a. Menu screen




1. Size reduction / increase (mm)

2. Job call button from the tracer

3. Lens material

-  Plastic lens - index 1.5 (p.157)
-  Polycarbonate lens
-  Medium or high index plastic lens - index > 1.5
-  Trivex lens™



-  Glass lens
-  Tribrid lens™

The configuration of the edging cycles depends on the type of material. An incorrect choice may result in material damage.

4. Type of finish

-  Bevel
-  Groove
-  Flat-edge

5. Drilling

-  Drilling enabled
-  Drilling disabled

6. Edging mode

-  Automatic mode

The finish parameters are automatically calculated according to the information acquired when tracing the frame and feeling the lens.

-  Customized mode

The finish settings can be fully customized.

7. Type of cycle



-  Standard cycle

For all types of material.




-  2-star cycle

For all types of materials. This cycle offers a more sophisticated edging mode than the standard cycle, dedicated to thin lenses or hydrophobic lenses.




8. Polishing

-  Polished lens
-  Non-polished lens

9. Front surface chamfering

-  Small chamfer
-  Large chamfer
-  No chamfering

10. Rear surface chamfering

-  Small chamfer
-  Large chamfer
-  No chamfering

11. Manual lens clamping

Press and hold to close the lens clamp shafts manually.

12. Start the edging cycle

The door closing and lens clamping are automatic.



Always browse from left to right: depending on your selection, certain menus will be available while others will not.






Your habits taken into account


The edger memorises your working habits: as time goes by, the buttons of the functions you use most often will be displayed by default.

b. Calling up a shape

There are 3 ways of calling up the shape you want to edge:

- Calling the current shape:
 - > Press  to display the shape being processed on the tracer.
- Calling the number of a shape saved on the tracer:
 - > Press  for a few seconds to open the numeric keypad.
 - > You can then call a shape via the ID allocated to it.
- Job call via a barcode:
 - > Scan the barcode using the barcode reader (optional).


> Press  to continue and display the job on the edger. The modifications underway are then ignored.

> Press  to prevent the display of the job and finish the modifications underway on the tracer.



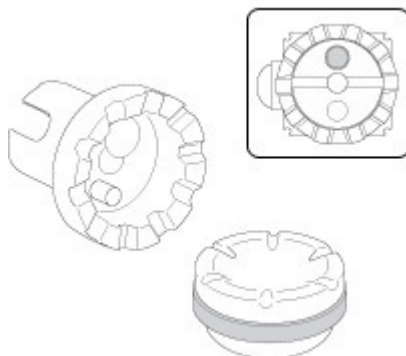
A reminder of the type of posiblock required is displayed on the shape. It is crucial to use the proper accessory to edge the lens. Otherwise, an error message is displayed at the start of the cycle.

c. Lens set-up and feeling

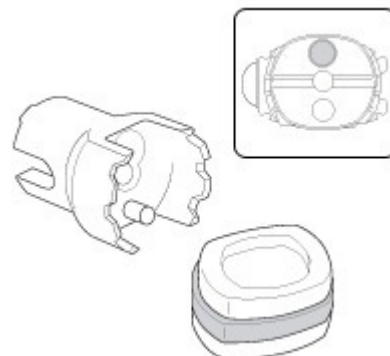
 Prerequisite: the lens must be centered and blocked before placing it in the edger.

- 1 Check that the posiblock holder and the stop correspond to the posiblock used. Otherwise, you will need to remove them from the lens clamp shafts and replace them with the tools matching the diameter of the posiblock.

- For a 22 mm posiblock



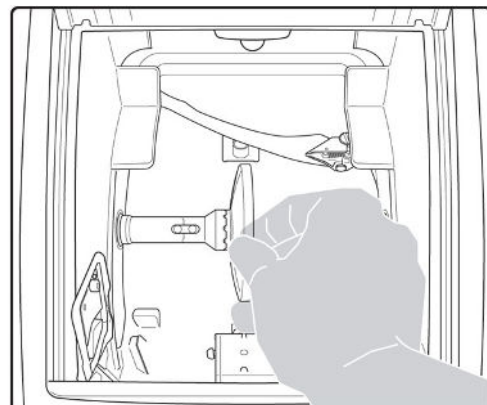
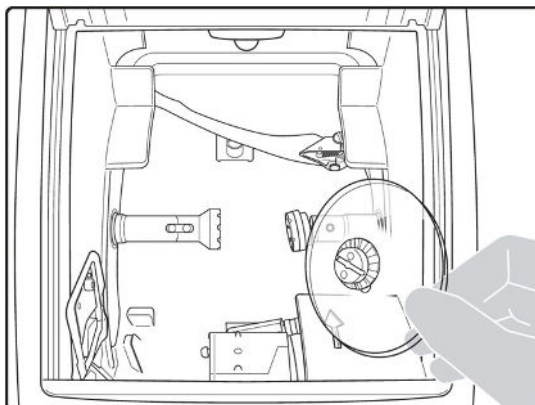
- For an 18 × 14 mm posiblock




- 2 Place the lens in the posiblock holder.



Place the metal peg of the posiblock upwards and the positioner downwards: a magnet is used to hold the lens in position on the axis.





You can clamp the lens manually by pressing . Manual lens clamping is particularly suited to hydrophobic lenses, thick lenses and high-camber lenses, as it ensures that the lens won't come off the pad before clamping.

3 Close the door.

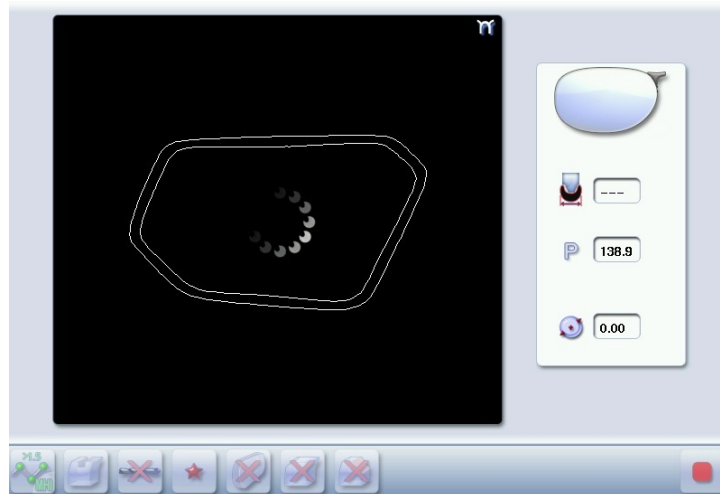
4 Press .

- > The tightening of the lens starts consecutively.
- > A verification of the size of the accessories is performed then the feeling cycle starts.





To interrupt the feeling cycle at any time, press .

- > The feeling of the lens is carried out first on the rear surface (concave face of the lens) and then on the front surface (convex face of the lens).
- > As the lens is felt, its shape appears on screen. The double tracing represents the profile of the front surface of the shape (inner shape) and its rear surface (outer shape).



2. Perform a Beveling

This section describes the procedures for creation of a bevel:



-  In automatic mode (p.87), you do not have to configure anything. All the data is automatically retrieved from the tracer. The lens edging starts automatically after the feeling cycle.
-  In customized mode (p.87), you can opt for front/rear surface tracking, a distributed bevel, lens curve tracking or frame rim tracking. You can also do the following:
 - a general modification of the bevel curve (p.89)
 - a modification at a point of the bevel curve (p.90)
 - a displacement of the bevel curve (p.91)
- You can consult the description of the customized bevel screen (p.87).

a. Automatic beveling

- 1 Call up the desired shape located on the tracer.
 - > The shape is displayed on the edger work screen.
 - > After the tracing of a rimmed frame:
 - The bevel finish is selected by default.
 - The automatic mode is selected by default.
- 2 Select lens material.
- 3 Select the type of cycle.
- 4 Choose whether or not to polish and/or chamfer your lens.



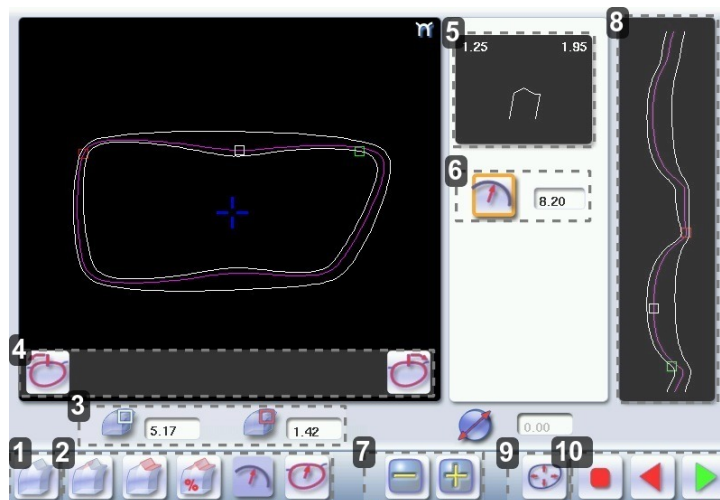
For more information, consult the section Edging a lens > Perform a polishing (p.102) and Edging a lens > Perform a chamfering (p.102).

- 5 Close the door.
- 6 Press .
 - > The tightening then the feeling of the lens start consecutively.
 - > The edging cycle starts.
 - > When the edging cycle is finished, the retouch screen is displayed.
- 7 Press  to release the lens.
- 8 If necessary, retouch the lens.



Otherwise, start edging the second lens. Select the lens directly on the screen, on the left or right of the work area.



 - > The edging screen for the second lens is displayed. All finishes chosen and the modifications made are kept.

b. Legend screen for customized bevels





1. Automatic bevel
2. Customized bevels

-  Front surface tracking: the crest of the bevel is positioned at a constant distance from the front surface.
-  Rear surface tracking: the crest of the bevel is positioned at a constant distance from the rear surface.

-  Distributed bevel: the position of the crest of the bevel is proportional to the thickness of the lens, with respect to the front surface.
-  Tracking lens base: the camber of bevel can be configured

3. Lens thickness

-  Maximum lens thickness - represented by the white square along the shape.
-  Minimum lens thickness - represented by the red square along the shape.

4. Cursor movement

The cursor is represented by the green square along the shape. To move it, select it directly or use the  and  buttons.

5. Zoom window

Represents the bevel profile and indicates the distance between the bevel crest and the front and rear surfaces of the lens at the cursor position.

6. Bevel distribution value

Distribution value modifiable for:

- front/rear surface tracking
- a distributed bevel
- lens curve tracking




7. Modify the selected value

Reduce or increase the distribution value.




8. Bevel trajectory

Flat representation of the lens making it possible to assess the distances between the bevel crest and the front & rear surfaces of the lens.

9. Trajectory modification





-  General modification of the bevel curve
-  Modification of the bevel curve at a particular point
-  Displacement of the bevel curve



10. Navigation

-  Stop the cycle
-  Back to the main edging screen
-  Start the edging cycle

c. Customized beveling






The use of the customized bevel depends on 2 parameters: the frame and the lens. Before starting your job, identify the major constraint.

BEVEL	FRAME	LENS	ADVANTAGES
	Classic	Lens for which the front surface base is approximately equal to the frame base.	Makes it possible to do an aesthetically pleasing job. The lens material does not protrude beyond the front of the frame.
	Classic	Lenticular lens ^(p.156) , Executive lens ^(p.156)	Makes it possible to do a job with specific lenses.
	Classic	Thin lens	Makes it possible to balance out the bevel when thin lenses are used.
	Solid flat base	Thin lens for which the base is approximately equal to the meniscus of the groove.	Compliance with original shape. Job using a specific frame.

- 1 Call the desired shape located on the tracer.
 - > The shape is displayed on the edger work screen.
 - > After the tracing of a rimmed frame:
 - The bevel finish is selected by default.
 - The automatic mode is selected by default.
- 2 Select lens material.
- 3 Change the edging mode. Press  to select customized mode .
- 4 Select the type of cycle.
- 5 Choose whether or not to polish and/or chamfer your lens.









For more information, consult the section Edging a lens > Perform a polishing (p.102) and Edging a lens > Perform a chamfering (p.102).

- 6 Close the door.
- 7 Press .
 - > The tightening then the feeling of the lens start consecutively.
 - > The customized bevel finish screen is displayed.
- 8 Select the type of customized bevel you want to do.
- 9 Press  and  to adjust the distribution value if required.
- 10 Press .
 - > The edging cycle starts.
 - > When the edging cycle is finished, the retouch screen is displayed.
- 11 Press  to release the lens.
- 12 If necessary, retouch the lens.
Otherwise, start edging the second lens. Select the lens directly on the screen, on the left or right of the work area.
 - > The edging screen for the second lens is displayed. All finishes chosen and the modifications made are kept.

d. Modifying the bevel curve

Once you have configured the desired type of customized bevel, you can complete your customization by moving the bevel curve towards the front or rear surface of the lens so it takes on its shape.

- 1 Press  from the customized bevel finish screen.
 - > You will access the trajectory modification screen.
- 2 Press  to select the general modification of the bevel curve.
- 3 Use the buttons  and  to move the bevel curve:
 - Press  to move the curve towards the front surface of the lens.
 - Press  to move the curve towards the rear surface of the lens.



The curve cannot be moved more than the minimum distance between the front and rear surfaces observed on the bevel before the modification.

- > The position of the bevel as well as the distances between the crest of the bevel and the front and rear surfaces of the lens are displayed in the zoom window at the position of the cursor.

4 Close the door.

5 Press .

- > The edging cycle starts.
- > When the edging cycle is finished, the retouch screen is displayed.

6 Press  to release the lens.


7 If necessary, retouch the lens.

Otherwise, start edging the second lens. Select the lens directly on the screen, on the left or right of the work area.


- > The edging screen for the second lens is displayed. All finishes chosen and the modifications made are kept.

e. Modifying the bevel curve at a particular point



Once you have configured the desired type of customized bevel, you can complete your customization by partially moving the bevel curve towards the front or rear surface of the lens so it takes on its shape.



1 Press  from the customized bevel finish screen.

- > You will access the trajectory modification screen.

2 Press  to select modification of the bevel curve at a particular point.

3 Using the cursor, select the point on the curve that you want to move or click directly on the position of the shape you want to modify.

4 Use the buttons  and  to move the point on the selected curve.

- Press  to move it towards the front surface of the lens.
- Press  to move it towards the rear surface of the lens.




The curve cannot be moved more than the minimum distance between the front and rear surfaces observed on the bevel before the modification.

- > The position of the bevel as well as the distances between the crest of the bevel and the front and rear surfaces of the lens are displayed in the zoom window at the position of the cursor.

5 Close the door.

6 Press .











Press  to go back to the customized bevel finish screen.

- > For the second lens, the customized bevel icon is pre-selected and the trajectory modification icon is displayed.



f. Displacing the bevel curve

The displacement of the bevel curve makes it possible to move the bevel without modifying its curve.

- 1 Press  from the customized bevel finish screen.
 - > You will access the trajectory modification screen.
- 2 Press  to select the displacement of the bevel curve.
- 3 Use the  and  buttons to displace the bevel curve:
 - Press  to displace it towards the front surface of the lens.
 - Press  to displace it towards the rear surface of the lens.
 - > The position of the bevel as well as the distances between the crest of the bevel and the front and rear surfaces of the lens are displayed in the zoom window at the position of the cursor.
- 4 Close the door.
- 5 Press .
 - > The edging cycle starts.
 - > When the edging cycle is finished, the retouch screen is displayed.
- 6 Press  to release the lens.
- 7 If necessary, retouch the lens.
Otherwise, start edging the second lens. Select the lens directly on the screen, on the left or right of the work area.
 - > The edging screen for the second lens is displayed. All finishes chosen and the modifications made are kept.

3. Grooving

This section describes the procedures for the creation of a groove:

-  In automatic mode (p.92), you do not have to configure anything. All the data is automatically retrieved from the tracer. The lens edging starts automatically after the feeling cycle.
-  In customized mode (p.94), you can perform a front/rear surface tracking, a distributed groove or a lens curve tracking. You can also do the following:
 - a general modification of the groove curve (p.95)
 - a modification at a point of the groove curve (p.96)
 - a displacement of the groove curve (p.96)
- You can consult the description of the customized groove screen (p.93).



- In certain cases, the lens base or thickness makes grooving impossible.
- > An error message is displayed.
 - > The white central line becomes red on the entire contour of the lens.



a. Automatic grooving

- 1 Call up the desired shape located on the tracer.
 - > The shape is displayed on the edger work screen.
 - > After tracing a pattern, demo lens or re-cut lens, without any drilling settings:
 - the groove finish is selected by default.
 - the automatic mode is selected by default.



If you wish to make a groove of which the depth and the width are lower than 0.60 mm: Directly define the groove in the screen.



- 2 Press  and  to regulate the depth and the width of the groove




	Depth (mm)	Width (mm)
By default	0.60	0.60
Minimum	0.20	0.60
Maximum	1.20	1.20

- 3 Select lens material.
- 4 Select the type of cycle.
- 5 Choose whether or not to polish and/or chamfer your lens.



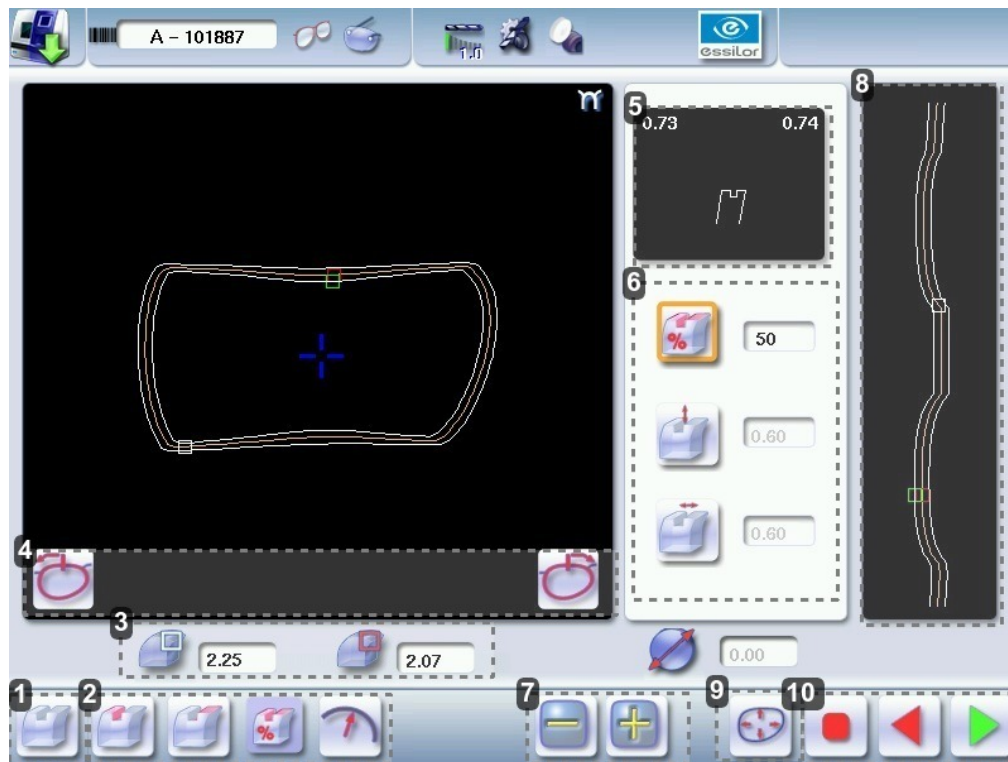
For more information, consult the section Edging a lens > Perform a polishing (p.102) and Edging a lens > Perform a chamfering (p.102).

- 6 Close the door.
- 7 Press .
 - > The tightening then the feeling of the lens start consecutively.
 - > The edging cycle starts.
 - > When the edging cycle is finished, the retouch screen is displayed.

- 8 Press  to release the lens.





- 9 If necessary, retouch the lens.
Otherwise, start edging the second lens. Select the lens directly on the screen, on the left or right of the work area.
 - > The edging screen for the second lens is displayed. All finishes chosen and the modifications made are kept.

b. Customized groove legend screen





1. Automatic groove



2. Customized grooves

-  Front surface tracking: the middle of the groove is positioned at a constant distance from the front surface.
-  Rear surface tracking: the middle of the groove is positioned at a constant distance from the rear surface.
-  Distributed groove: the middle of the groove is positioned in proportion to the thickness of the lens, with respect to the front surface.
-  Lens curve tracking: the camber of the groove is adjustable.

3. Lens thickness

-  Maximum lens thickness - represented by the white square along the shape
-  Minimum lens thickness - represented by the red square along the shape




4. Cursor movement

The cursor is represented by the green square along the shape. To move it, select it directly or use the  and  buttons.

5. Zoom window

Distance between the edges of the groove and the front & rear surfaces of the lens at the position of the cursor.

6. Groove settings




-  Distribution value - according to the type of customized groove selected
-  Groove depth (in mm)
-  Groove width (in mm)

7. Modify the selected setting




8. Groove trajectory

Flat representation of the lens making it possible to measure the distances between the groove and the front & rear surfaces of the lens.

9. Modify the trajectory





-  General modification of the groove curve
-  Modification of a point in the groove curve
-  Displacement of the groove curve

10. Navigation

-  Stop the cycle
-  Back to the main edging screen
-  Start the edging cycle

c. Customized grooving

The use of the customized groove depends on 2 parameters: the frame and the lens. Before starting your job, identify the major constraint.

GROOVE	FRAME	LENS	ADVANTAGES
	Standard groove	Lens for which the front surface base is approximately equal to the frame base.	Makes it possible to do an aesthetically pleasing job. The lens material does not protrude beyond the front of the frame.
	Standard groove	Lens for which the rear surface base is not as high as the front surface base.	Minimises the risks of the nylon thread coming out.
	Standard groove	Thin lens	Makes it possible to balance out the groove when thin lenses are used.
	Flat base High base	Thin lens for which the base is approximately equal to the frame base.	In the event of pattern tracing (base = 0), makes it possible to retrieve the frame base.

- 1 Call the desired shape located on the tracer.
 - > The shape is displayed on the edger work screen.
 - > After tracing a pattern, demo lens or recut lens, without any drilling settings:
 - the groove finish is selected by default.
 - the automatic mode is selected by default.

- 2 Select lens material.

- 3 Change the edging mode. Press  to select customized mode .

- 4 Select the type of cycle.

- 5 Choose whether or not to polish and/or chamfer your lens.





For more information, consult the section Edging a lens > Perform a polishing (p. 102) and Edging a lens > Perform a chamfering (p. 102).

- 6 Close the door.

- 7 Press .

- > The tightening then the feeling of the lens start consecutively.
- > The customized groove finish screen is displayed.

- 8 Select the type of customized groove you want to do.

- 9 Select the values you want to modify and press  and  to adjust them if necessary

10 Press .

- > The edging cycle starts.
- > When the edging cycle is finished, the retouch screen is displayed.

11 Press  to release the lens.

12 If necessary, retouch the lens.

Otherwise, start edging the second lens. Select the lens directly on the screen, on the left or right of the work area.


- > The edging screen for the second lens is displayed. All finishes chosen and the modifications made are kept.

d. Modifying the groove curve



Once you have configured the desired type of customized groove, you can complete your customization by moving the groove curve towards the front or rear surface of the lens so it takes on its shape.

1 Press  from the customized groove finish screen.

- > You will access the trajectory modification screen.

2 Press  to select the general modification of the groove curve.

3 Use the buttons  and  to move the groove curve.

- Press  to move the curve towards the front surface of the lens.
- Press  to move the curve towards the rear surface of the lens.



The curve cannot be moved more than the minimum distance between the front and rear surfaces observed on the groove before the modification.

- > The position of the groove as well as the distances between the center of the groove and the front & rear surfaces of the lens are displayed in the zoom window.

4 Close the door.

5 Press .

- > The edging cycle starts.
- > When the edging cycle is finished, the retouch screen is displayed.

6 Press  to release the lens.

7 If necessary, retouch the lens.

Otherwise, start edging the second lens. Select the lens directly on the screen, on the left or right of the work area.

- > The edging screen for the second lens is displayed. All finishes chosen and the modifications made are kept.

e. Modifying a point in the groove curve



Once you have configured the desired type of customized groove, you can complete your customization by moving the groove curve towards the front or rear surface of the lens so it takes on its shape.



1 Press  from the customized groove finish screen.

> You will access the trajectory modification screen.

2 Press  to select modification of a point in the groove curve.

3 Using the cursor, select the point on the curve that you want to move or click directly on the screen.

4 Use the buttons  and  to move the point on the selected curve.

- Press  to move it towards the front surface of the lens.
- Press  to move it towards the rear surface of the lens.




The curve cannot be moved more than the minimum distance between the front and rear surfaces observed on the groove before the modification.

> The position of the groove as well as the distances between the center of the groove and the front & rear surfaces of the lens are displayed in the zoom window.

5 Close the door.

6 Press .



Press  to go back to the customized bevel finish screen.


> For the second lens, the customized groove icon is pre-selected and the trajectory modification icon is displayed.

f. Displacement of the groove curve



The displacement of the groove curve enables you to move the groove without modifying its curve or perimeter.

1 Press  from the customized groove finish screen.

> You will access the trajectory modification screen.

2 Press  to select the displacement of the curve.

3 Use the  and  buttons to displace the curve.

- Press  to displace it towards the front surface of the lens.
- Press  to displace it towards the rear surface of the lens.

> The position of the groove as well as the distances between the center of the groove and the front & rear surfaces of the lens are displayed in the zoom window.

4 Close the door.

5 Press .

> The edging cycle starts.

> When the edging cycle is finished, the retouch screen is displayed.


6 Press  to release the lens.

7 If necessary, retouch the lens.

Otherwise, start edging the second lens. Select the lens directly on the screen, on the left or right of the work area.

- > The edging screen for the second lens is displayed. All finishes chosen and the modifications made are kept.

4. Flat-edge finishing

For a flat-edge finish, only automatic mode  is accessible.

- 1 Call the desired shape located on the tracer.

- > The shape is displayed on the edger work screen.

- 2 Select lens material.

- 3 Press  to select the flat-edge finish.

- 4 Select the type of cycle.

- 5 Choose whether or not to polish and/or chamfer your lens.



For more information, consult the section Edging a lens > Perform a polishing (p.102) and Edging a lens > Perform a chamfering (p.102).

- 6 Close the door.

- 7 Press .

- > The tightening then the feeling of the lens start consecutively.
- > The edging cycle starts.
- > When the edging cycle is finished, the retouch screen is displayed.


- 8 Press  to release the lens.

- 9 If necessary, retouch the lens.



Otherwise, start edging the second lens. Select the lens directly on the screen, on the left or right of the work area.

- > The edging screen for the second lens is displayed. All finishes chosen and the modifications made are kept.

5. Perform a drilling job

 Prerequisite: the edger's drilling function is only accessible if the tracer sends a shape with drilling settings. For more information, consult the chapter *Preparing a drilled job* in the tracer manual.

You can do the drilling in automatic mode or in customized mode:

-  In automatic mode (p.98), you do not have anything to configure. The drilling angle consists of the average value calculated at right angles with the front surface of the lens for each drilling point. The lens edging starts automatically after the feeling cycle.
-  In customized mode (p.101), you can do the following:
 - Drilling at right angles with the front or rear surface: you can modify the diameter but not the drilling angle which is automatically calculated by the edger based on the lens curve.
 - Customized drilling: you can modify the diameter and angle for each drilling point.
- You can consult the description of the customized drilling screen (p.99).

Two different diameter drill bits are available: a 1 mm bit and a 0.8 mm bit. If the diameter of the drilling point is smaller than that of the installed drill bit, an error message is displayed. Change the drill bit or modify the diameter of the drilling points.

a. Automatic drilling

- 1 Call the desired shape located on the tracer.
 - > The shape is displayed on the edger work screen.
 - > After the tracing of a shape with drilling settings:
 - The drilling function is selected by default.
 - The automatic mode is selected by default.

2 Select lens material.

3 Select the type of finish.

4 Select the type of cycle.

5 Choose whether or not to polish and/or chamfer your lens.



For more information, consult the section Edging a lens > Perform a polishing (p.102) and Edging a lens > Perform a chamfering (p.102).

6 Close the door.

7 Press .

- > The tightening then the feeling of the lens start consecutively.
- > The edging cycle starts.
- > When the edging cycle is finished, the retouch screen is displayed.

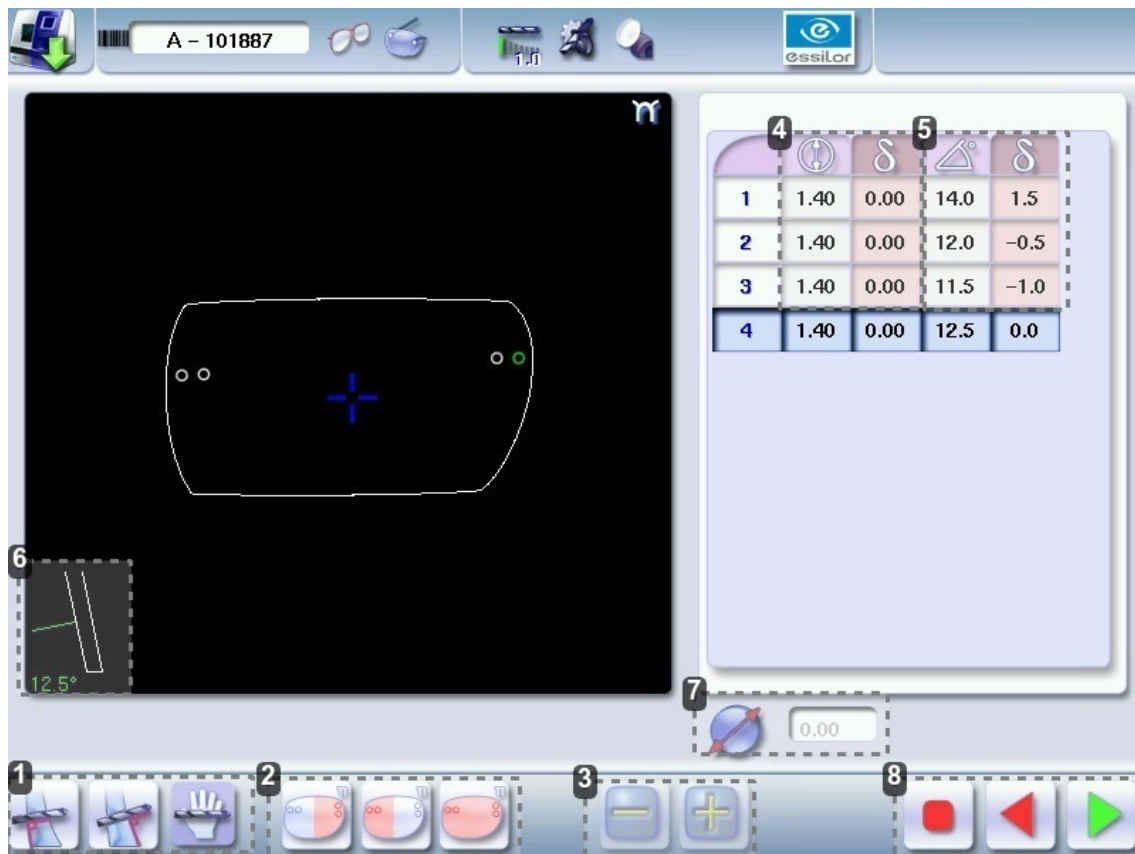
8 Press  to release the lens.

9 If necessary, retouch the lens.




Otherwise, start edging the second lens. Select the lens directly on the screen, on the left or right of the work area.

- > The edging screen for the second lens is displayed. All finishes chosen and the modifications made are kept.




b. Legend screen for customized drilling



1. Type of drilling



-  Perpendicular to the front surface
-  Perpendicular to the rear surface
-  Customized

2. Select the drilling points



-  Nasal side
-  Temporal side
-  All drilling points

3. Modify the selected value

4. Modify the diameter

-  diameter (mm)
-  difference between the initial value and the modified value

5. Modify the drilling angle


-  drilling angle (degrees)
-  difference between the initial value and the modified value



6. Cross-sectional view

Cross-sectional view of the lens after the feeling cycle, showing the angle of the drill bit at the selected drilling point.

7. Reminder of size reduction / increase applied to lens diameter

8. Navigation

-  Stop the cycle

-  Return to the main edging screen without saving your changes
-  Starting the cycle

c. Customized drilling

- 1 Call the desired shape located on the tracer.
 - > The shape is displayed on the edger work screen.
 - > After the tracing of a shape with drilling settings:
 - The drilling function is selected by default.
 - The automatic mode is selected by default.

2 Select lens material.

3 Change the edging mode. Press  to select customized mode .

4 Select the type of cycle.

5 Choose whether or not to polish and/or chamfer your lens.



For more information, consult the section Edging a lens > Perform a polishing (p.102) and Edging a lens > Perform a chamfering (p.102).

6 Close the door.

7 Press .

- > The feeling cycle starts.
- > The customized drilling screen is displayed.

8 Select the type of drilling you want to do.


9 If necessary, select the drilling point(s) you want to modify.

10 If necessary, modify the diameter and/or angle of the selected drilling point.

- > The difference between the initial value and the modified one is displayed in the delta column.

11 Press .

- > The edging cycle starts.
- > When the edging cycle is finished, the retouch screen is displayed.

12 Press  to release the lens.















13 If necessary, retouch the lens.

Otherwise, start edging the second lens. Select the lens directly on the screen, on the left or right of the work area.

- > The edging screen for the second lens is displayed. All finishes chosen and the modifications made are kept.

6. Polishing

Press the  button to activate/deactivate polishing.

LENS MATERIAL	AVAILABLE OPTIONS
	 
	  The polishing option is pre-selected and is strongly recommended by the manufacturer to prevent small cracks.
	  Make sure you select the correct type of material for MHI (> 1.5) or Tribrid lenses and never polish a lens of this type without water. Otherwise, the polishing wheel could suffer irreversible damage.
	  The polishing option is pre-selected.
	


















7. Chamfering

The chamfer, also called counter-bevel, removes the sharp edge of the lens.









- Standard value of a small chamfer: 0.20 mm
- Standard value of a large chamfer: 0.40 mm

Before you select a type of chamfer, make sure it is compatible with the lens characteristics:








- Lens material

LENS MATERIAL	AVAILABLE OPTIONS
	     
	      The quality of the chamfer depends on the spraying. Make sure there is a constant flow of water until the end of the chamfering operation.
	  The chamfering wheel supplied cannot be used on glass lenses. For further information, contact your technical department.



- Thickness at the edge of the lens

LENS THICKNESS	AVAILABLE OPTIONS
> 1.2 mm	   
between 1 and 1.2 mm	 
< 1 mm	 

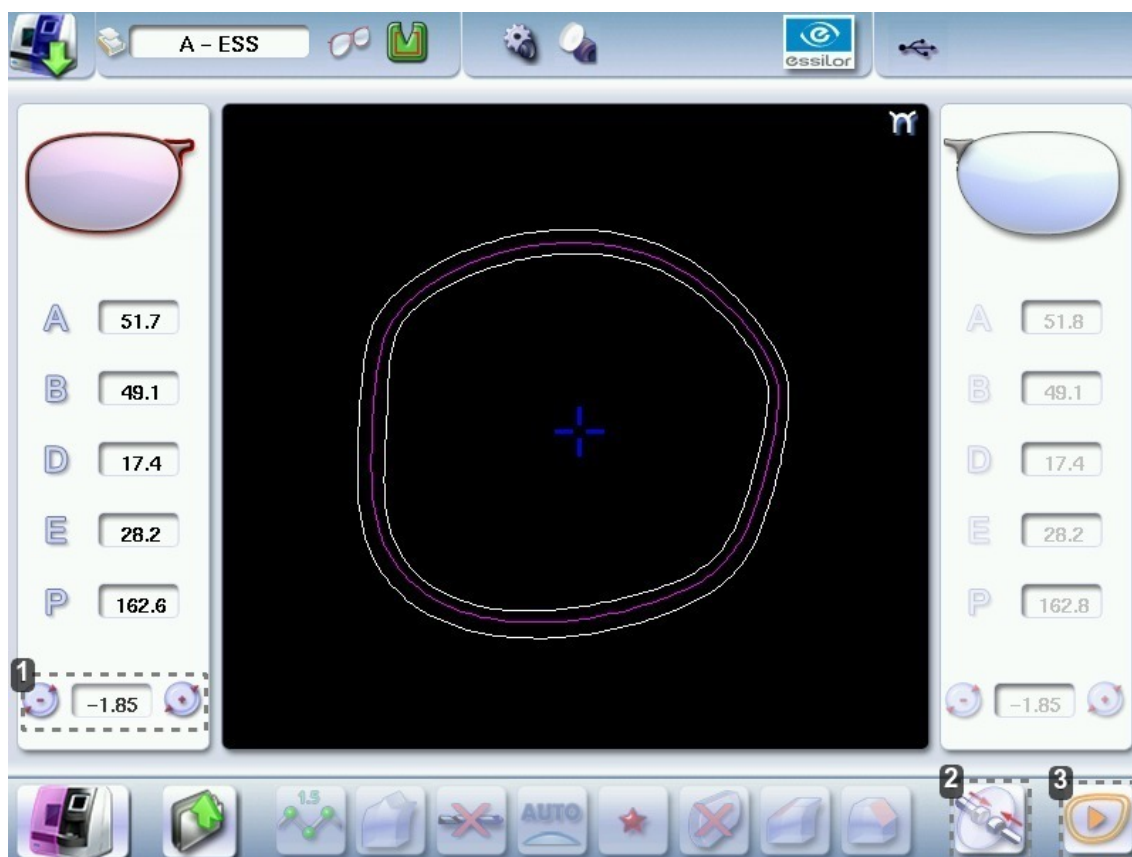
- Distance between the edge of the groove and the edge of the lens

DISTANCE	AVAILABLE OPTIONS
> 0.8 mm	  
between 0.5 and 0.8 mm	 
< 0.5 mm	 

The chamfers available also depend on the lens shape and the posiblock used when blocking.

Press on the buttons  and  to configure a small chamfer, a large chamfer or no chamfer on the front and rear surfaces of the lens.

8. Perform a Retouching




- Diameter modification
- Manual lens clamping
- Retouch launch






Differences with the edging screen

The edging screen is different to the retouch screen through:

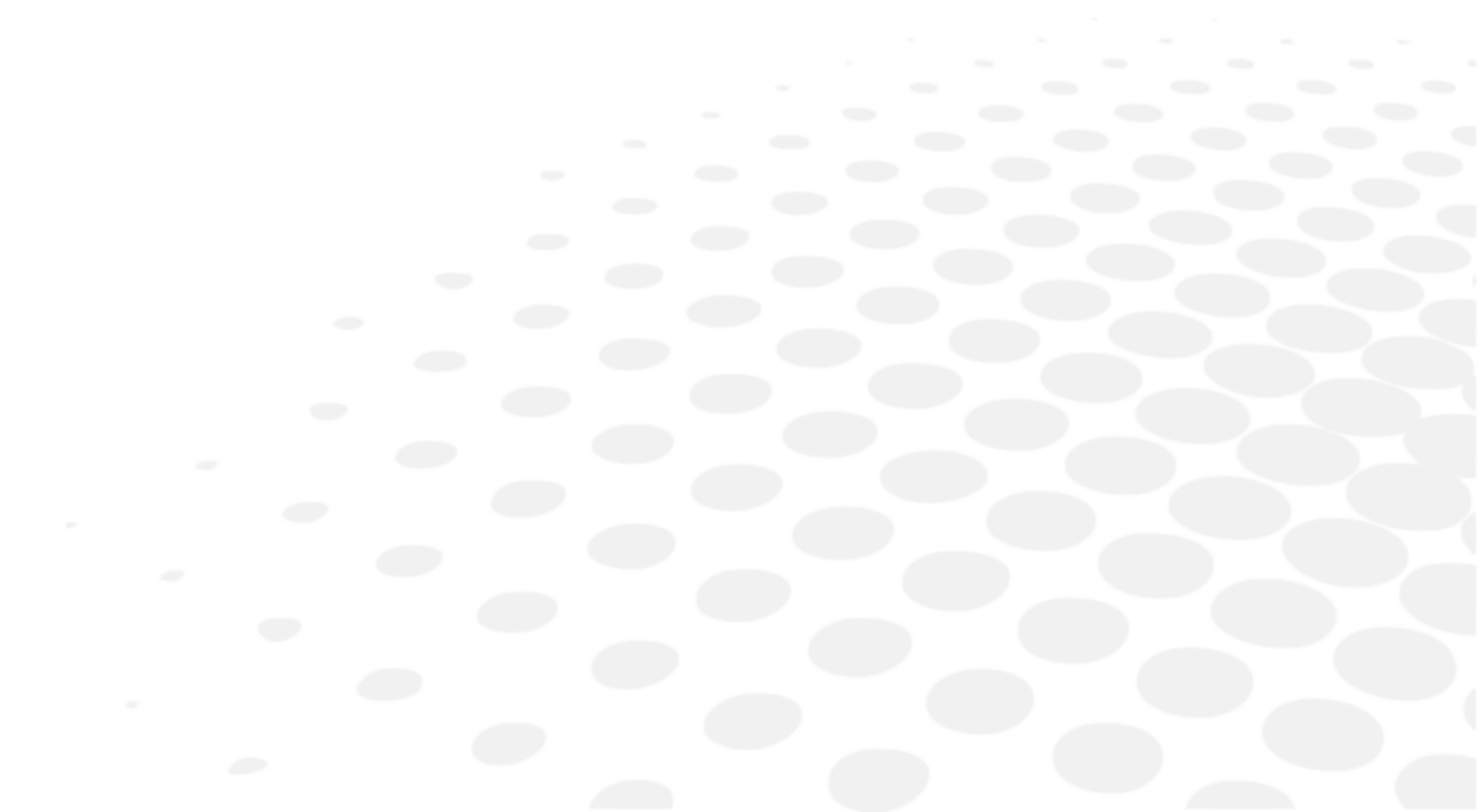
- the presence of the posiblock
- no frame thickness
- the edging start-up button 

When the first-lens edging cycle is finished:

- Press  to release the lens.

- 2 Proceed to lens assembly and check that edging was correctly configured.
 - > Depending on your job:
 - If your job is perfect, proceed with the machining of your second lens.
 - > All of the selected finishing options and modifications made are kept.
 - If the lens requires adjustment, do a retouch on the edged lens to obtain optimal results.
- 3 Indicate the size reduction to be applied to the lens you want to retouch.
 - > The chosen finish and the modifications made during the edging cycle are automatically selected.
- 4 Insert the lens in the posiblock holder.
 To close the clamp shafts manually, press and hold .
- 5 Close the door.
- 6 Press .
 - > For a customized finish, the customized finish screen is displayed.
 - > In all the other cases, the automatic tightening of the lens and the retouch start consecutively.
- 7 Select the second lens to be edged directly on screen, on the left or right of the work area.
 - > The edging screen for the second lens is displayed.
 - > All finishes chosen and the modifications made are kept. The retouch done on the first lens is automatically saved for the edging of the second lens.

VIII. SET THE EDGING SYSTEM



This chapter shows you how to set the tracer-centerer-blocker and the edger according to your use. You can:





- configure the tracer-centerer-blocker and the edger (p.107) (hour, date, language, logins, saver of screen),
- customize the tracer-centerer-blocker (p.110),
- adjust the precision of the edger (p.114),
- restoring the factory settings (p.117)

1. Configure the tracer-centerer-blocker and the edger

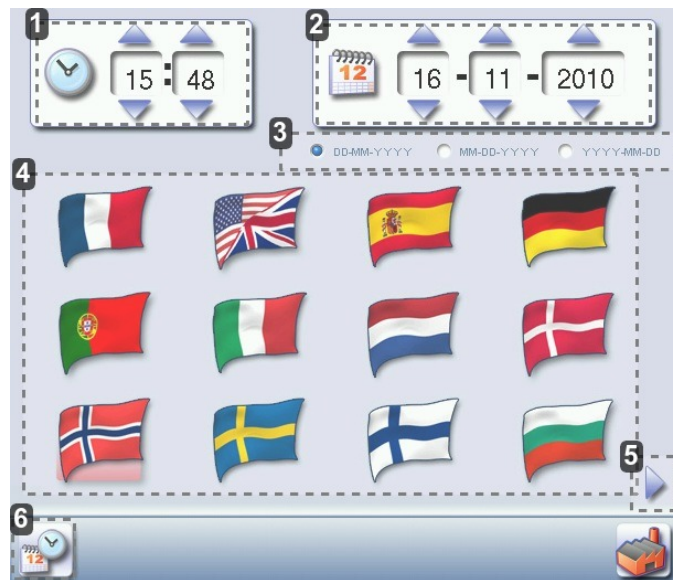
This section describes the procedures to:

- set the time, date and language (p.107)
- access the connections and the network (p.109)
- configure a screensaver (p.108).

a. Time, date and language

To reach this menu from your working screen, select  >  >  > .

The following screen is displayed:



1. Time

Use the  and  arrows to set the time.

2. Date

Use the  and  arrows to set the date.


3. Type of date display

Select the type of display out of the available formats.


4. Language

Select the flag corresponding to your language.



5. Languages continued

Press  to display the following languages.

6. Confirm





Press  to save the new configuration.

Once the setting has been completed:

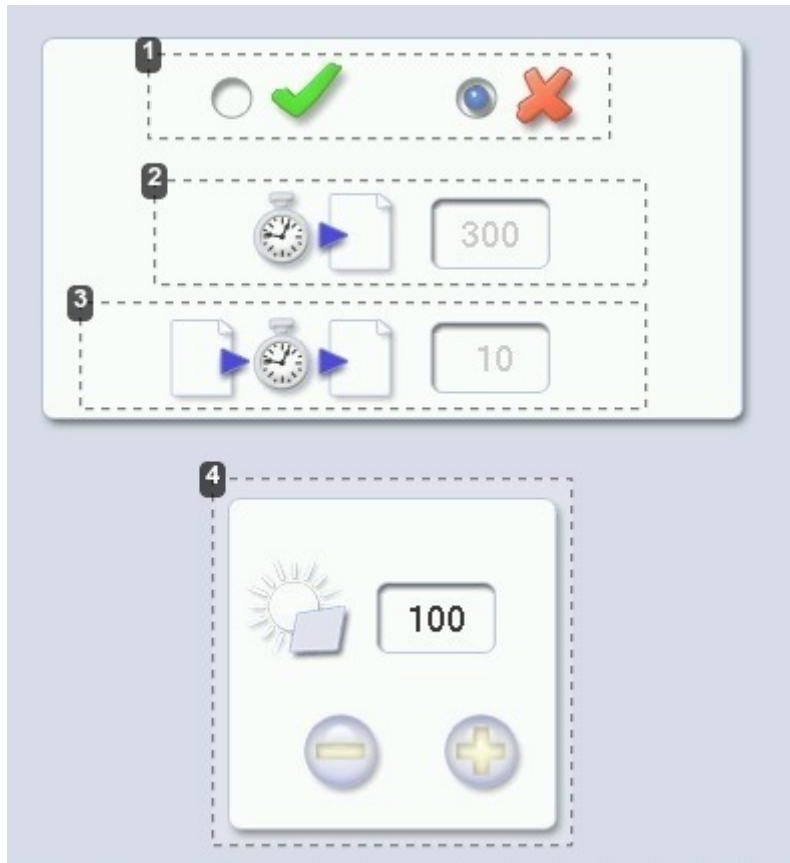
1. Press  to save.
2. Press  to return to the work screen.



b. Screensaver

This menu enables you to configure a screensaver.

To reach this menu from your working screen, select  >  >  > .

The following screen is displayed:







1. *Screensaver display*
Activate  or deactivate  the screensaver.
2. *Triggering*
Set the waiting time before the display of the screensaver (in seconds).
3. *Transition*
Set the transition time between each image (in seconds).
4. To be defined

Once the modification is made, press  to return to the work screen.

c. Connections

The connections to the tracer and the edger are configured from the tracer-centerer-blocker.

To reach this menu from the working screen of your tracer-centerer-blocker, select  >  >  > .

The following screen is displayed:



1. *Connexion status via remote maintenance*
2. *Identity of the registered customers*
3. *Selection of the detection mode for devices connected to the tracer-centerer-blocker*
 - In automatic mode, all the products detected are connected to the tracer-centerer-blocker.
 - In manual mode, check ☒ the products you want to connect to the tracer-centerer-blocker.
4. *List of devices connected to the tracer-centerer-blocker*
5. *Checking for updates*
6. *Reinitialization of communication ports*
7. *Next page / Previous page*
8. *Ethernet port (RJ-45)*

Press on this button to activate or deactivate the Ethernet port.
9. *Addressing mode*
 - Static: mandatory if the machines are connected to one another
 - DHCP: the addressing settings of the optician's network have been recovered
10. *Ethernet network settings*
 - IP address: preset before leaving the factory
 - Subnet mask: preset before leaving the factory
 - Network gateway: never fill out
 - MAC address: preset before leaving the factory -unchangeable
11. *Serial port (RS232C)*

Press on this button to activate or deactivate:

 - the serial port
 - the Phi tracer
12. *Network series settings*

They must be set up according to the connected software.

 - Transmission speed
 - Length of frame
 - Parity
 - Stop bit
 - Flow control
13. *Internet connexion verification*

14. Reset to factory settings

Once the modification is made, press  to return to the work screen.

2. Customize the tracer and the centering device





This section will enable you to customize the tracer according to your requirements:

- Customising the working modes and display precision (p.110)
- Choosing a decentration mode (p.111)
- Customising the action bar (p.112)
- Adjusting the brightness (p.113)

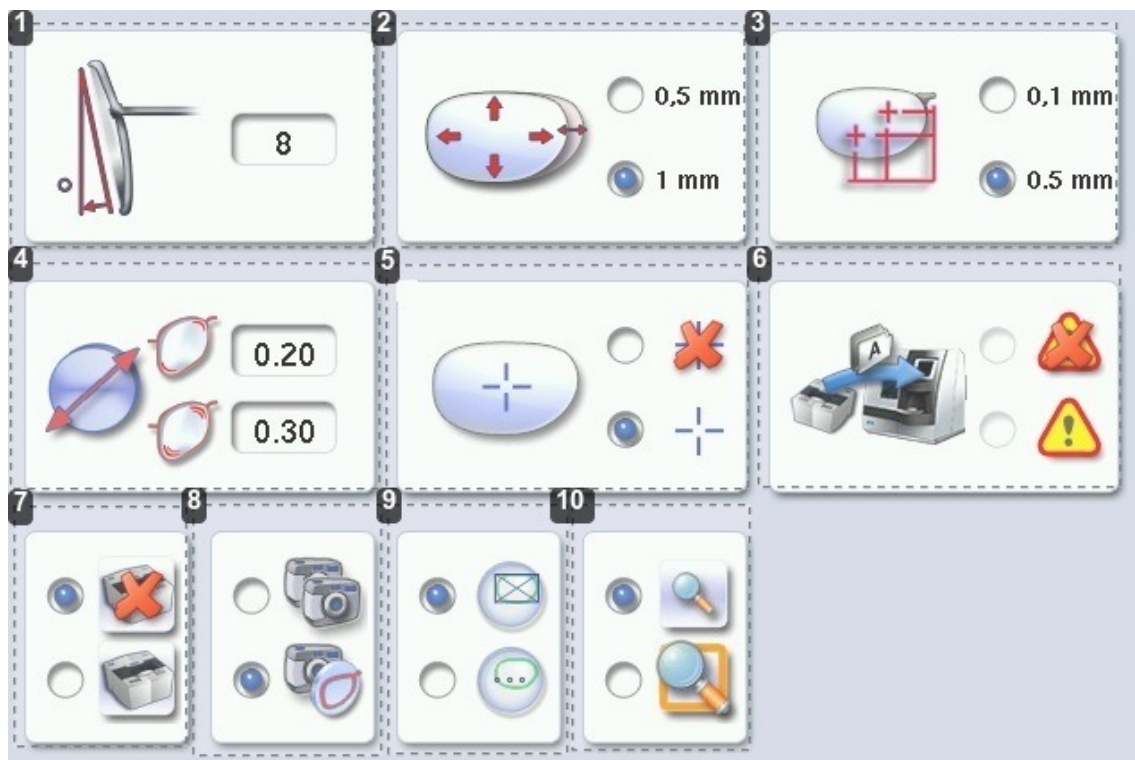
a. Working modes and display precision

This menu is used to customize the tracer-centerer-blocker to suit your work preferences:


- the working mode
- the measurement accuracy display,
- the centering page zoom,
- the blocking mode in the boxing center or optical center.

To reach this menu since your working screen, select  >  >  > .

The following screen is displayed:



1. Pantoscopic tilt

1. Press on the tilt value to modify it.
> The numeric keypad is displayed.
2. Enter the angle (between -5° and +25°).
3. Press on  to confirm.



2. Shape modification

Select the desired step for the shape modification.

3. PD and pupillary height

Select the desired step for input of the PD and pupillary height.

4. Pattern slack to be read

-  Weak slack
-  Major slack (from 0 to 1 mm)

5. Boxing cross

-  Activated
-  Deactivated

6. Warning message on import of a current Tess job (if the Tess connection is activated)



-  Activated
-  Deactivated

7. Activation or deactivation of Tess tracer connection

Connection deactivated by default



8. Working mode

Select the default working mode:



-  tracing - tracing
-  Tracing - centering

9. Lens blocking

Select the lens blocking mode:

-  in the boxing center
-  in the optical center





10. Zoom

-  The work area is scale 1:1 by default in the centering screen.
-  The work area is in zoom mode by default in the centering screen.

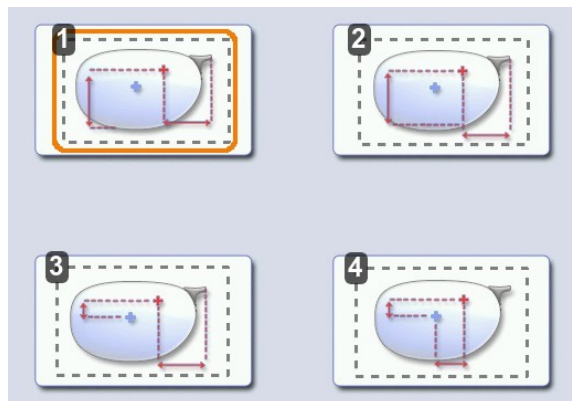
Once the modification is made, press  to return to the work screen.

b. Decentration mode

This menu enables you to select a default input mode for decentration data.

To reach this menu from your working screen, select  >  >  > .

The following screen is displayed:



1. Boxing mode ($\frac{1}{2}$ PD + Boxing Height)

The wearer's pupillary height is calculated in relation to the lowest point on the frame.

2. Datum mode ($\frac{1}{2} PD + \text{Datum Height}$)

The wearer's pupillary height is calculated in relation to the point of intersection with the frame.

3. ΔY mode ($\frac{1}{2} PD + \Delta Y$)

ΔY : this value corresponds to the difference in height between the boxing center of the shape and the pupillary center of the wearer.

4. $\Delta X + \Delta Y$ mode

ΔX : this value corresponds to the horizontal difference between the boxing center of the shape and the pupillary center of the wearer.





ΔY : this value corresponds to the difference in height between the boxing center of the shape and the pupillary center of the wearer.

Once the modification is made, press  to return to the work screen.

c. Action bar

This menu enables you to customize the action bar according to your requirements. You can:





- enable default options so that they are displayed first in the job options
- disable options you do not require so they are no longer displayed in the job options.

To reach the customization menu of the action bar from your working screen, select  >  >  > .

The following screen is displayed:







1. Type of tracing



-  Right eye monocular
-  Left eye monocular
-  Monocular right eye only
-  Monocular left eye only

2. Frame type






-  Metal frame

-  Plastic frame
-  Optyl frame, for particularly flexible frames
-  Grooved frame
-  Drilled frame

3. Tracing mode




-  Demo lens / Recut lens
-  Pattern


4. Type of lens

-  Single vision lens
-  Progressive lens
-  Bifocal lens
-  Executive lens
-  Mid-distance lens

Customizing the action bar





Press an option button several times to change its status in the tracing or centering screen:

-  Option enabled: the option can be selected in the action bar drop-down menus.
-  Option disabled: the option is no longer displayed in the action bar.
-  Option circled in orange: the option is displayed and selected by default in the action bar.

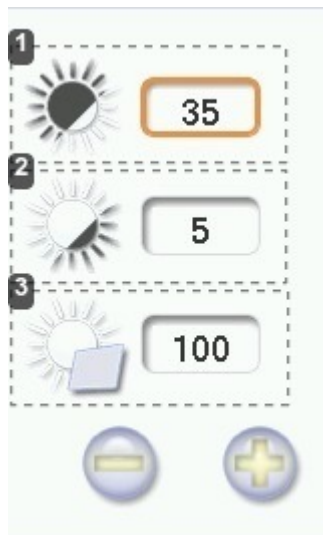
Once the modification is made, press  to return to the work screen.

d. Brightness



You can adjust the default brightness of the work area and/or the touch screen to improve your view of the lens to be centered.


To reach the luminosity customization menu from your working screen, select  >  >  > .

The following settings are displayed:



1. LED band luminosity adjustment
2. Lens lighting luminosity setting
3. Screen brightness

Press  or  to decrease or increase brightness.

Once the modification is made, press  to return to the work screen.






3. Adjusting the precision of the edger

This menu enables you to adjust the precision of the edger. You can adjust:

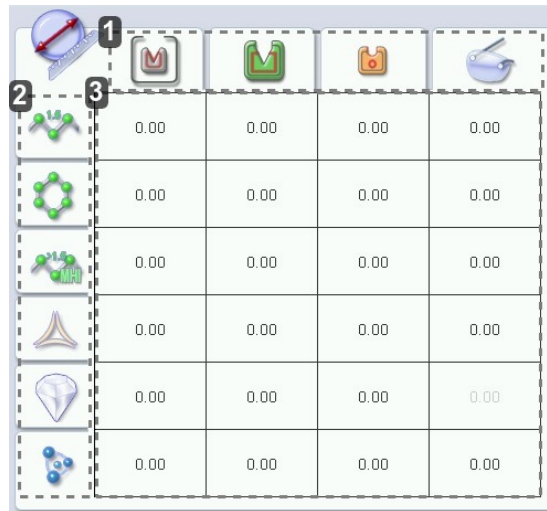
- the diameter of the finished lenses (p.114)
- the position of the bevel and groove (p.115)
- the diameter of drill holes (p.115)
- the chamfer (p.116)
- the depth and width of the groove (p.117)

























a. Adjusting the diameter of the finished lenses

If lenses of a particular material always seem too small or too big after edging, you can adjust their diameter according to the type of frame.

To access this menu from the work screen of your edger, select  >  >  >  > .

The following screen is displayed:



			
0.00	0.00	0.00	0.00
			
0.00	0.00	0.00	0.00
			
0.00	0.00	0.00	0.00
			
0.00	0.00	0.00	0.00
			
0.00	0.00	0.00	0.00
			
0.00	0.00	0.00	0.00

1. Frame types


- Metal
- Plastic
- Optyl
- Drilled / Grooved / Flat

2. Lens materials

- Plastic
- Polycarbonate
- MHI
- Trivex™
- Glass
- Tribid™

3. Adjust the lens diameter





1. Press the value to be modified.
> The numeric keypad is displayed.
2. Enter the new value.
 - Negative value: the diameter will be smaller

- Positive value: the diameter will be larger
3. Press on  to confirm.

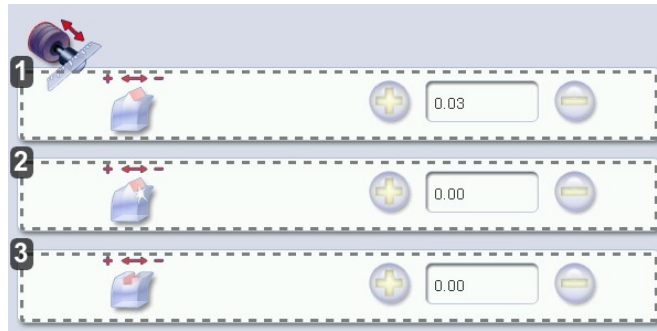
Once the modification is made, press  to return to the work screen.

b. Adjusting the position of the bevel and groove



After edging a lens, if the position of the bevel or groove always seems too close to the front or rear surface, you can adjust it.

To access this menu from the work screen of your edger, select  >  >  > .



The following screen is displayed:





1. Default bevel position

- Press  to move the bevel towards the front surface of the lens.
- Press  to move the bevel towards the rear surface of the lens.

2. Default polished bevel position

- Press  to move the polished bevel towards the front surface of the lens.
- Press  to move the polished bevel towards the rear surface of the lens.





3. Default groove position

- Press  to move the groove towards the front surface of the lens.
- Press  to move the groove towards the rear surface of the lens.

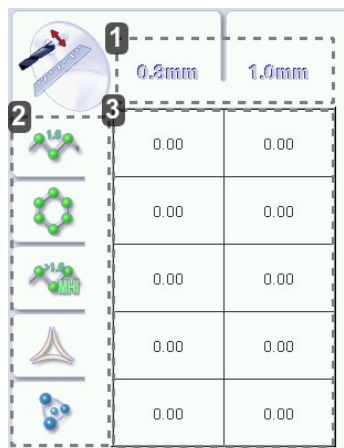
Once the modification is made, press  to return to the work screen.

c. Adjusting the diameter of drill-holes

After drilling a lens, if the diameter of the holes always seems too small or too big, you can adjust it according to the diameter of the drill bit used and the lens material.

To access this menu from the work screen of your edger, select  >  >  > .

The following screen is displayed:




1. Drill bit diameters

0.8 mm or 1.0 mm.

2. Lens materials

- Plastic
- Polycarbonate
- MHI
- Trivex™
- Tribrid™





3. Increasing or reducing the default drill-hole diameter

1. Press the value to be modified.
> The numeric keypad is displayed.
2. Enter the new value.
 - Negative value: the hole will be smaller
 - Positive value: the hole will be larger
3. Press on  to confirm.

Once the modification is made, press  to return to the work screen.

d. Adjusting the chamfer

After edging a lens, if a chamfer always seems too small or too big, you can adjust its size according to the lens material.

To access this menu from the work screen of your edger, select  >  >  > .

The following screen is displayed:




1. Chamfer


- Small, front surface
- Large, front surface
- Small, rear surface
- Large, rear surface

2. Lens materials

- Plastic
- Polycarbonate
- MHI
- Trivex™
- Tribrid™
- Glass





3. Increasing or reducing the default chamfer

1. Press the value to be modified.
> The numeric keypad is displayed.
2. Enter the new value.
 - Negative value: the chamfer will be smaller
 - Positive value: the chamfer will be larger
3. Press on  to confirm.

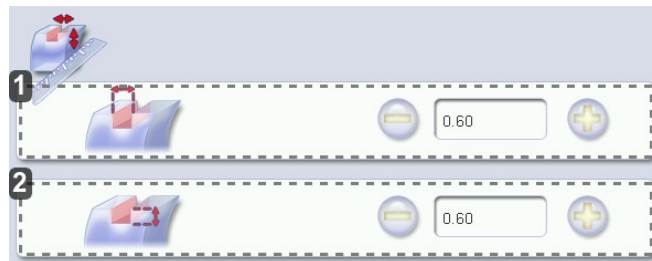
Once the modification is made, press  to return to the work screen.

e. Adjusting the groove



After edging a lens, if the width or depth of the groove always seem too close too small or too big, you can adjust them.

To access this menu from the work screen of your edger, select  >  >  > .



The following screen is displayed:



1. Adjusting the default groove width

- Press  to reduce the width of the groove.
- Press  to increase the width of the groove.

2. Adjusting the default groove depth



- Press  to reduce the depth of the groove.
- Press  to increase the depth of the groove.

Once the modification is made, press  to return to the work screen.

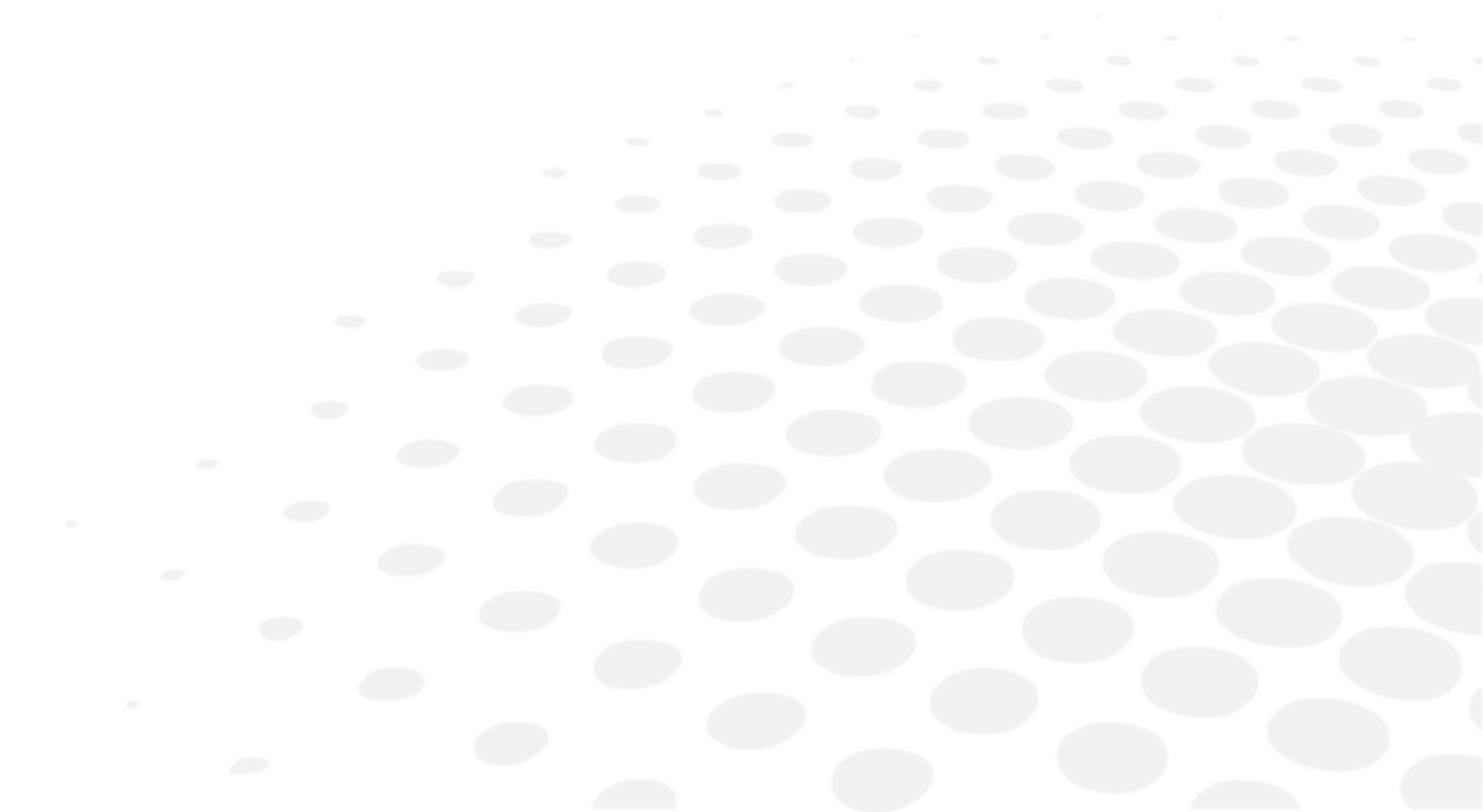
4. Restoring the factory settings

At the bottom right of certain tracer configuration screens, the  button can be used to restore the factory settings of the page.



- Press  to cancel and go back to the settings screen.
- Press  to confirm reinitialization.

IX. MAINTENANCE & SERVICING



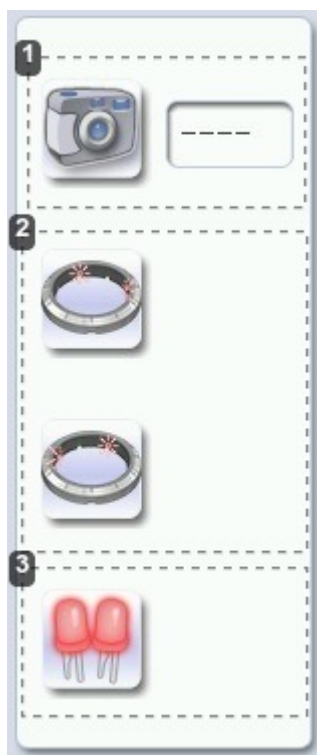
This chapter describes the maintenance procedures which you can perform on the tracer without the intervention of a technician.

- Perform the diagnoses, (p.121)
- Check and calibrate the tracer (p.124)
- Test and calibrate the edger (p.128)
- Consult the statistics and the technical history of the tracer, (p.129)
- Consult the statistics and the technical history of the edger, (p.133)
- Back up jobs and display configuration (p.135)
- Change or clean the blocking tube (p.137)
- Change or clean the edger tools (p.139)
- Maintain and clean the tracer-centerer-blocker (p.142)
- Maintain and clean the edger (p.142)

1. Perform the autotest of the tracer

This menu allows you to perform a self-diagnosis of the functions of the tracer.

Select  >  >  from the work screen.





1. Test camera
2. LED band tests
3. Principal LED test

There exist two types of diagnosis:



- diagnoses carried out with reflectors: test camera and principal LED
- diagnoses carried out without reflectors: LED band test

1. Select the diagnosis to be performed.

2. Press  to start the test cycle.

To interrupt the cycle at any time, press .

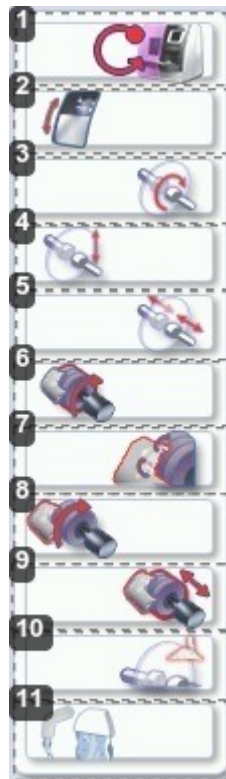
> The result is displayed on the right of the icon of the performed diagnosis:

-  The equipment is operational.
-  A malfunction has been detected, a description is displayed in the message box on the right.


2. Performing the edger autotest


This menu is used to carry out a self-diagnosis of the functions of the edger.

To test the proper performance of the edger, select  >  >  >  on your working screen.



1. *Edger autotests*
2. *Locking of the door*
3. *Initialisation and rotation of lens shafts*
4. *Reproducer: lens shaft raising and lowering*
5. *Closing of lens shafts*
6. *Wheel rotation*
7. *GCD module rotation*
8. *Movement of the GCD module*
9. *Transfer initialization*
10. *Monoprobe test*
11. *Watering test*
 - trough spraying
 - door spraying

1. Select the autotest to be carried out.
2. Close the door.
3. Press  to start the test cycle.

To interrupt the cycle at any time, press .

> The result is displayed on the right of the icon of the autotest carried out:

-  The equipment is operational.
-  A malfunction has been detected, a description is displayed in the message box on the right.

3. Checking and calibrating the tracer

This section describes the procedures to be followed if you note any inconsistencies with the job which may be due to blocking.

This section shows how to:

- Calibrate the touch screen (p. 124)
- Check and calibrate centering (p. 126)
- Check the optical system (p. 127)

a. Calibrating the touch screen







Calibrate the touch screen if your operations have become difficult due to lack of precision.



Touch screen malfunction


You can directly access the calibration screen without using the settings menu. To do this, press on the centering screen for 5 seconds.

Calibrating the touch screen

- 1 Select  >  >  on the working screen.
 - > A confirmation message is displayed:
 - Press  to start calibration.
 - Press  to cancel and return to the menu
- 2 Point precisely on each cross as they are displayed, holding the stylus perpendicular to the screen so as not to alter the calibration.
 - > The settings menu is displayed automatically once the calibration is finished.
- 3 Press  to return to the work screen.


b. Control and calibrate the centering device

Calibration

- 1 Select  >  >  >  on the working screen.


> The following screen will appear:



- 2 Select , then press  to launch calibration.

> A message is displayed:




- 3 Lower the centering tube and position the reflectors, then press  to confirm.

> The first measurement is started.

> The following message appears:



- 4 Position the calibration gauge (grid of points), then press  to confirm.

> The second measurement is started.

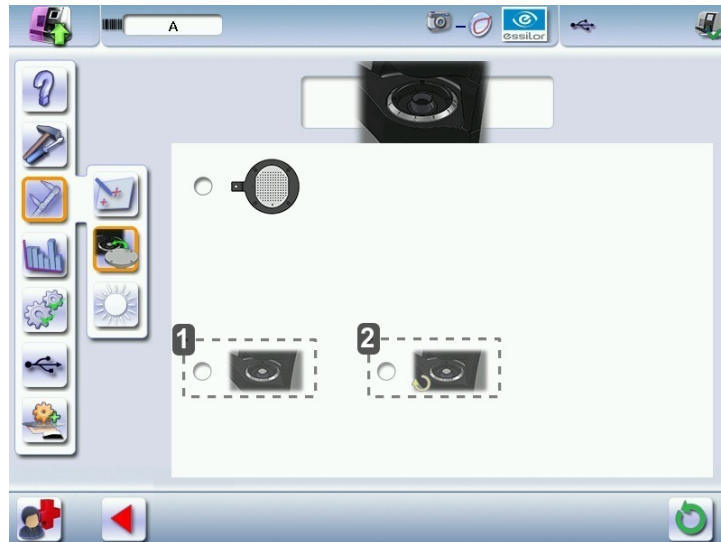
> Once it's carried out, the result is displayed on the right of the icon:

✓ Correct result.

✗ A malfunction was detected, a message appears indicating that a calibration technician is necessary: contact your technical department.

5 Press  to return to the work screen.

c. Control and calibrate the blocker




1. Calibration
2. Calibration check

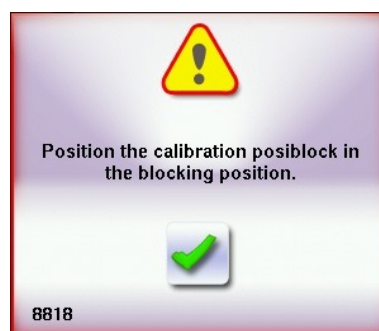
Calibration

1 Select  >  >  on the working screen.

2 Take off the reflectors.

3 Select the "calibration" function. 

> A Pop-up is displayed:




4 Position the posiblock and click on. ✓

> Once it's finished, the following screen is displayed:




5 Press  to return to the work screen.

Calibration check

- 1 Take off the reflectors.
 - 2 Select the "controls calibration" function. 
- > A Pop-up is displayed:



- 3 Position the posiblock and click on. 
- > Once it's finished, the following screen is displayed:



- 4 Press  to return to the work screen.

d. Check the optical system



1. Light panel luminosity adjustment
2. Camera contrast adjustment
3. Screen brightness adjustment

4. Testing and calibrating the edger

If you notice deviations in the job, or encounter difficulties while using the touch screen, You can:

- an inspection of the calibration of the position of the feeler in the trough, (p.128)
- calibrate the touch screen (p.129).

If the edger detects a variation, an adjustment is carried out during the cycle.

a. Control the calibration of the monofeeler

If the beveling or chamfering are misaligned, the edger may need to be recalibrated.

You can perform a calibration inspection of the position of the monofeeler in the trough.



At the time of the cycle of calibration of the feeler, the edger takes into account the wear of the feelers since the last calibration and adjusts it to mitigate any possible variation.





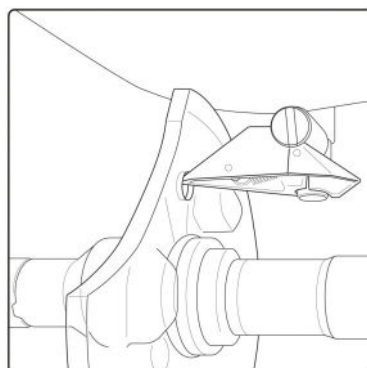
Have the plastic calibration gauge to hand.


Press on  >  >  >  to reach the menu of calibration.



The following screen is displayed:



- 1 Place the calibration gauge in the posiblock holder.
- 2 Press  to tighten the clamps.
- 3 Press  to start the calibration cycle.
 - > The gauge is positioned at the level of the feeler, the feeler moves.
 - > Does a message appears "is the point of the feeler positioned correctly in the drill-hole of the plastic pattern?"
- 4 Check that the point of the feeler is positioned correctly.



5 Press  if the feeler position is correct.

Press  to loosen the clamps and remove the plastic pattern, then  to return to the work screen.
> The calibration cycle is complete.

6 Press  if the feeler position is not correct.

> A message is displayed indicating that calibration by a technician is required: contact your technical department.

b. Calibrating the touch screen

Calibrate the touch screen if your operations have become difficult due to lack of precision.





Touch screen malfunction

You can directly access the calibration screen without using the settings menu. To do this, press on the edging screen for 5 seconds.

Calibrating the touch screen

1 Select  >  >  from the work screen.

> A confirmation message is displayed:

- Press  to start calibration.
- Press  to cancel and return to the menu

2 Point precisely on each cross as they are displayed, holding the stylus perpendicular to the screen so as not to alter the calibration.

> The settings menu is displayed automatically once the calibration is finished.





3 Press  to return to the work screen.

5. Statistics and technical history of the tracer

This menu enables you to visualize the number of cycles carried out by the tracer-centerer-blocker. It also gives you access to the technical history.

- Tracer-centerer-blocker statistics (p.129)
- Technical history and errors (p.132)

a. Tracer-centerer-blocker statistics

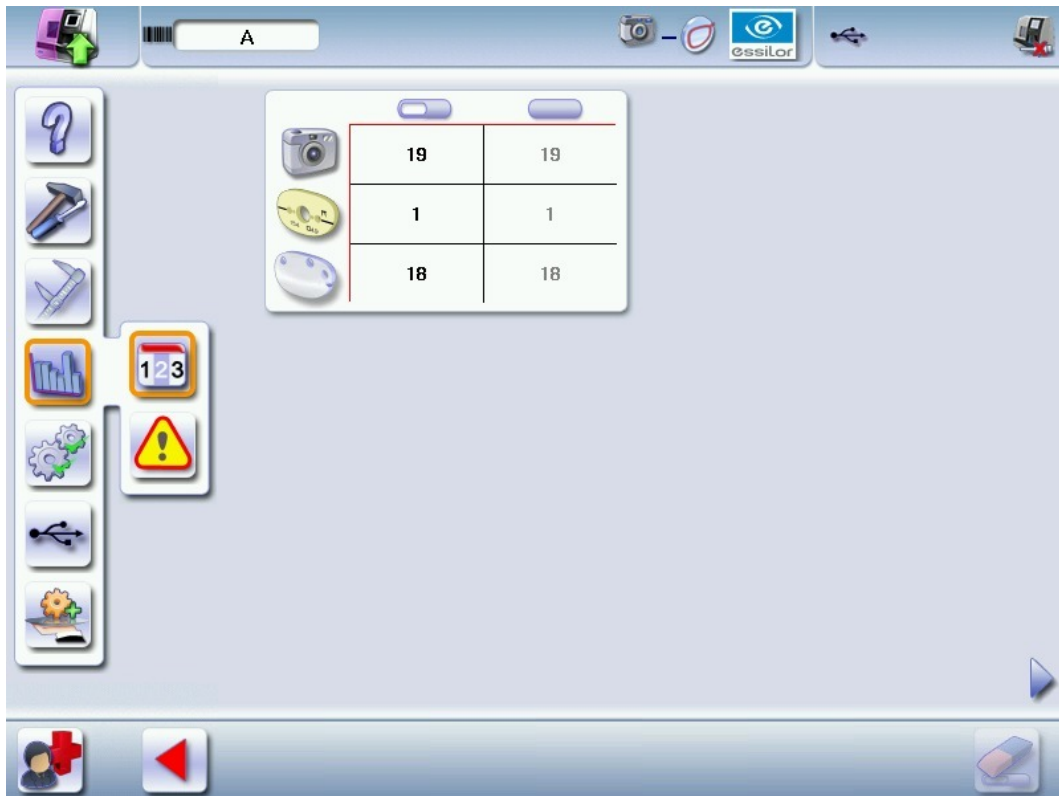
From the work screen, select  >  >  >  to visualize the number of cycles performed by the tracer-centerer-blocker.

There are three states of statistics:

- statistics of the edger alone
- statistics if the Tess tracer is connected
- statistics if the Tess tracer is connected but not turned on

Statistics of the edger alone






When only the edger is connected, the following screen is displayed:



Statistics if the Tess tracer is connected

When the product is connected with a Tess tracer, the following screen is displayed:

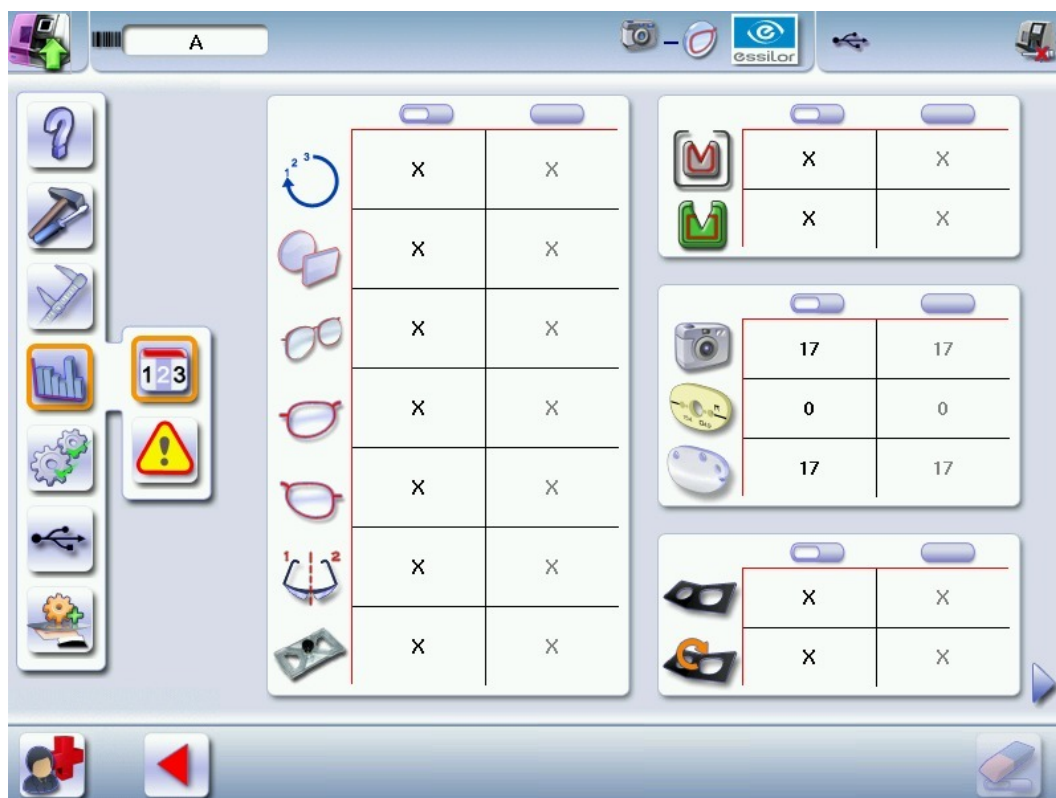


1. **Partial counter**
Number of actions performed since the last reset to zero.
2. **Total counter**
Total number of actions performed.
3. **Tracings performed with a tracer connected to the tracer-centerer-blocker**
 -  Total number of tracings
 -  Asymmetric binocular tracing (p.156)
 -  Symmetric binocular tracing (p.157)
 -  Right-eye monocular tracing
 -  Left-eye monocular tracing

- ## 11. Reset

2. Press to reset it to zero.

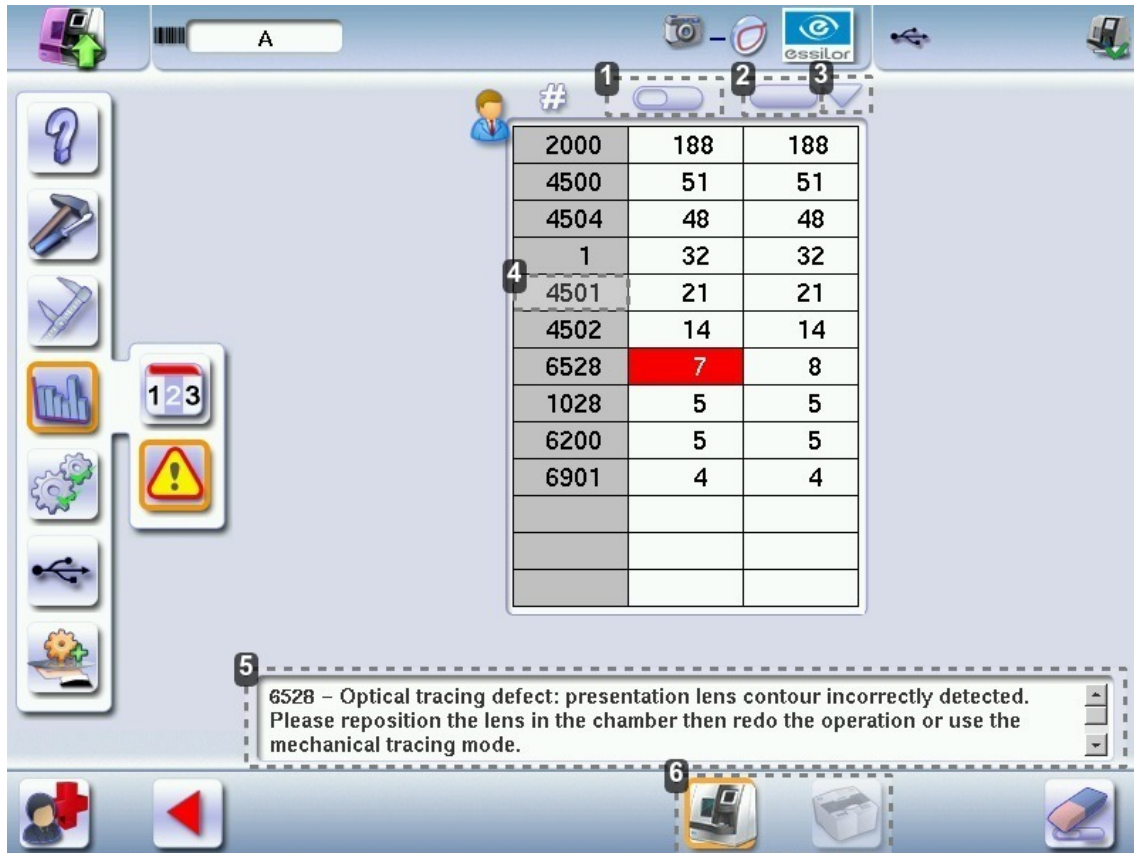
In the case of a Tess tracer that's connected but not turned on, the values are overridden by "X", like below.



b. Technical history and errors

From the work screen, select  >  >  >  to access the list of the error messages.

When the product is connected with a Tess tracer, the icon of the tracer is selected in orange and the following screen is displayed:



1. Partial counter

Number of error messages displayed since the last reset to zero.

You can sort the error codes generated by the machine by frequency of appearance.

Sort on the partial counters by pressing .

2. Total counter

You can sort the error codes generated by the machine by frequency of appearance.

Sort on the total counters by pressing .

3. Sorting

Pressing twice on the previously selected icon ( or ) or on  allows you to define the sorting direction (ascending, descending).


4. Error message codes

Classed by display frequency.

5. Description of selected error

Use the scroll box on the right of the message box to scroll through the text.

6. Transition from the tracer statistics to the edger statistics

Press  to return to the work screen.

6. Statistics and technical history of the edger

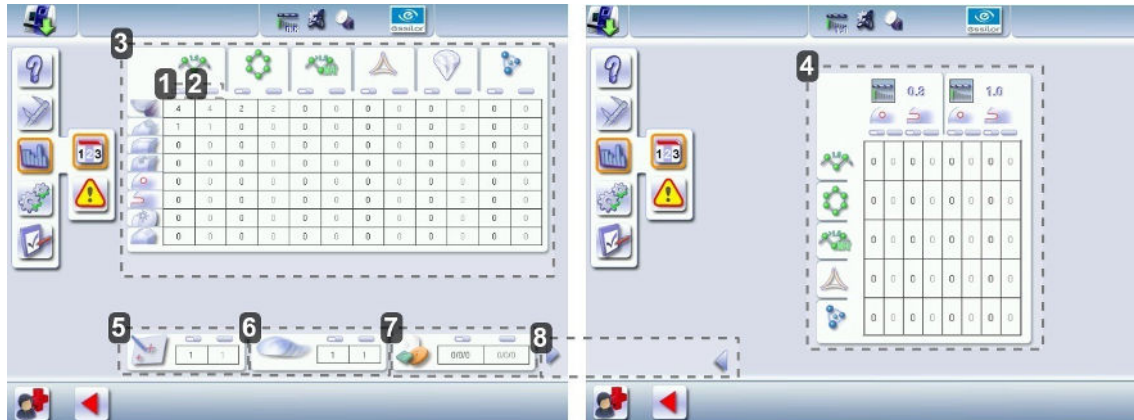
This menu enables you to visualize the number of cycles carried out by the edger. It also gives you access to the technical history.

- Edger cycles (p.133)
- Technical history and errors (p.134)

a. Edger cycles

From the work screen, select  >  >  >  to visualize the number of cycles performed by the edger.

The following screen is displayed:



1. Partial counter

The replacement of a worn tool with a new one resets the partial counter(s) to zero.

2. Total counter

3. Edging operations

Number of edging, drilling and finishing operations performed depending on the lens material:

- Roughing
- Bevels
- Flat-edge finish
- Grooves
- Drill-holes/slots
- Notches
- Polishing
- Chamfers

4. Drilling

Number of drilling operations performed for each lens material, according to the drill bit used.

5. Touch screen calibrations


6. Number of lenses cut

7. Dressing cycles

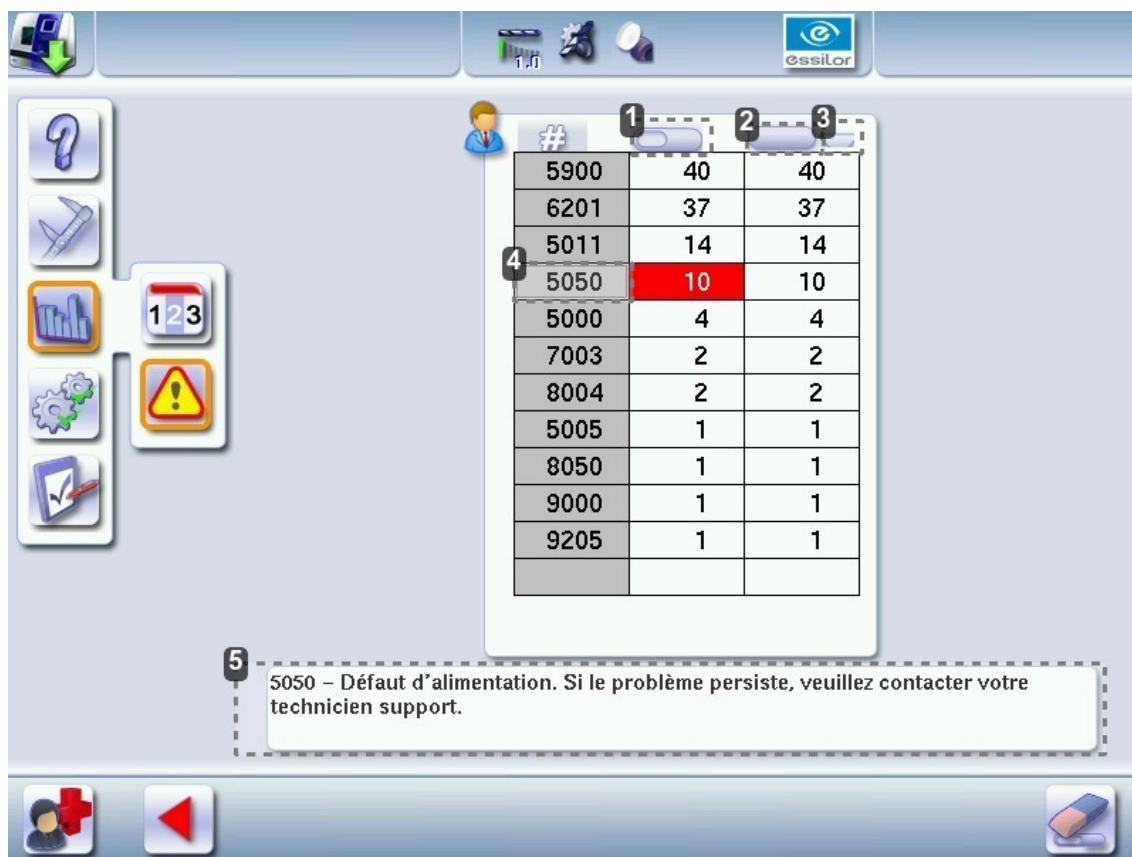
Glass roughing wheel / Finishing wheel / Polishing wheel

8. Next page / Previous page

b. Technical history and errors

From the work screen, select  >  >  >  to access the list of the error messages.

The following screen is displayed:



1. Partial counter

Number of error messages displayed since the last reset to zero.

You can sort the error codes generated by the machine by frequency of appearance.

To sort the partial counters press , press  again to define the sort direction (ascending, descending).

2. Total counter

You can sort the error codes generated by the machine by frequency of appearance.

To sort the total counters press , press  again to define the sort direction (ascending, descending).

3. Sorting


Button used to define the direction of sorting (ascending, descending).

4. Error message codes

Classed by display frequency.




5. Description of selected error

Use the scroll box on the right of the message box to scroll through the text.

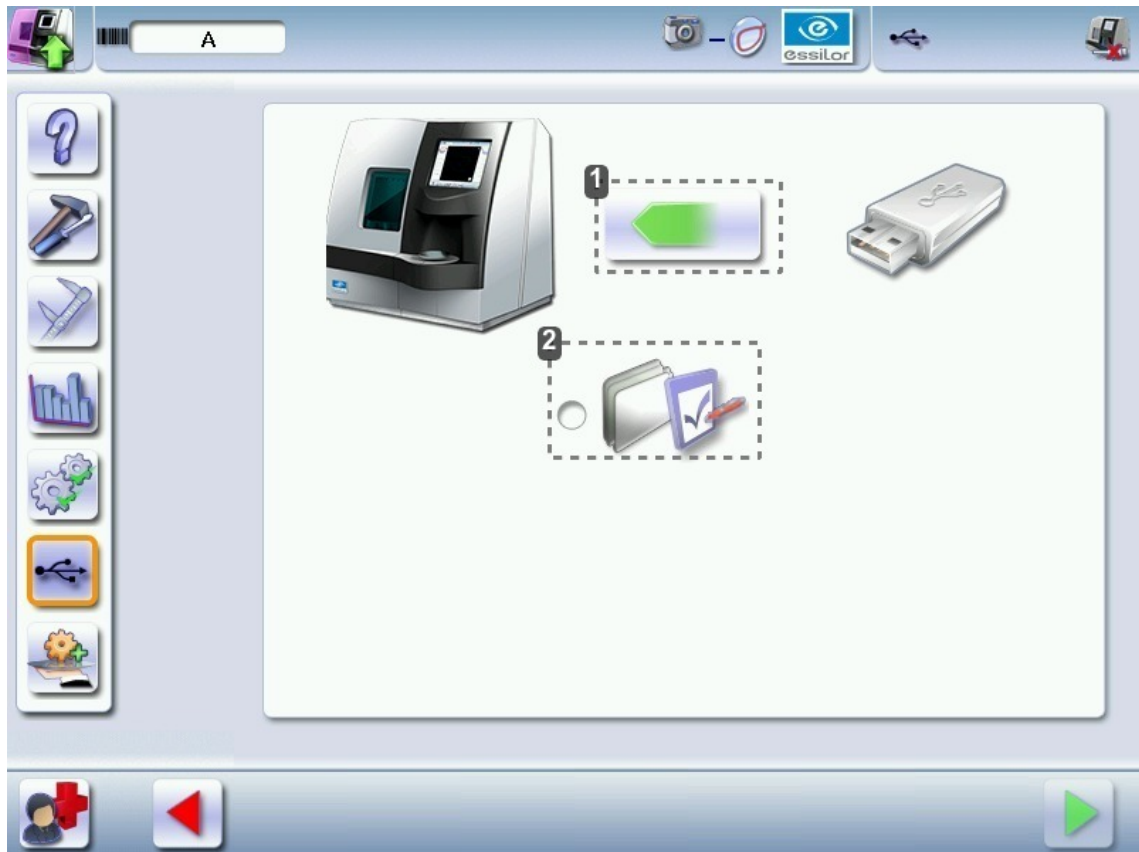
Press  to return to the work screen.

7. Make a backup of the jobs and display configuration

1 Connect the backup USB key to the tracer-centerer-blocker.

2 From the work screen, select  >  > .



> The following screen is displayed:




1. Data import/export

2. Customise the display

3 Press  to select the action to perform.

-  : perform a backup
-  : import a backup.

4 Click ☐ to backup the customized tracer display: ☒.

5 Press  to start the operation.

> Once the backup is performed, a file is created on the backup key:






Number of product "M16XXX" - Serial number of the product "" - Optician - Date "" - Hour "XXhXXmXXs".



It is advisable to backup your jobs regularly.

Import on the tracer-centerer-blocker

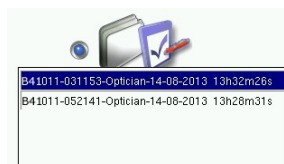
- a previously created backup
- jobs and the setting of another Delta 2 tracer-centerer-blocker.


- 1 Connect the backup USB key to the tracer.
- 2 From your work screen, select  >  >  .
 > The backup screen is displayed.
- 3 Press  to import the data present on the backup key.
- 4 Click on ☐ to import a display customization: 



If several backups are present on the key, make sure to choose carefully what you want to restore: the data present on your tracer will be erased and overridden by the data of the backup that you selected.

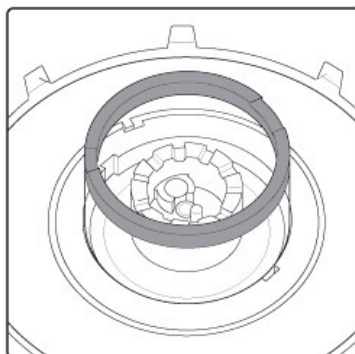
Check the product serial number and the date and time of backup.



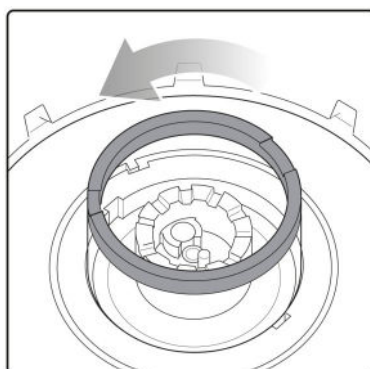
- 5 Press  to start the operation.
 > A message is displayed asking you to remove the USB key.
- 6 Remove the USB key.
 > The product restarts with the selected configuration.

8. Changing or cleaning the blocking tube

- 1 Put the blocking tube in the high position.

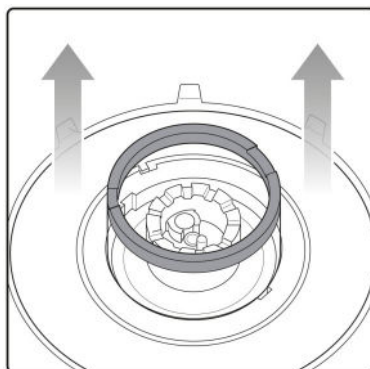


- 2 Pivot the tube in the opposite direction of the hands of a watch to its limit (approximately 20°).

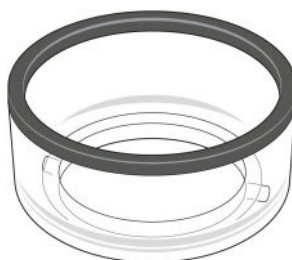


You must make the tube pivot before trying to remove it from its support in order not to damage the system.

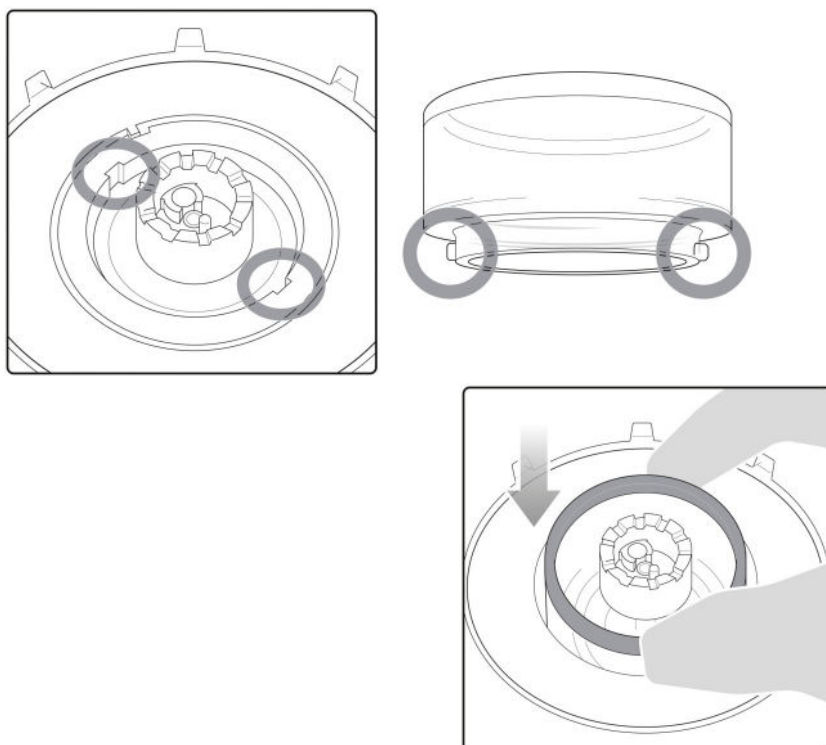
- 3 Raise the tube to remove it from its support.



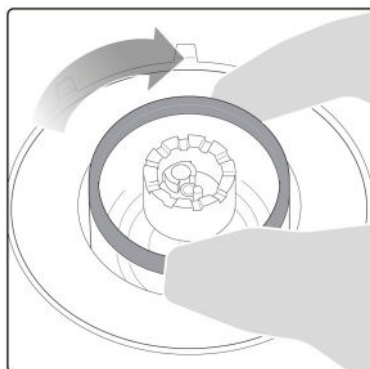
- 4 Use the 53 mm diameter blocking tube.



- 5 Insert the tube in its housing while being careful to align the barbs with the notches of the support tube.



- 6 Pivot the tube in the direction of the hands of a watch to its limit (approximately 20°).



Precautions for cleaning




In order not to damage the LED band surrounding the centering chamber, clean the tube using a dry rag without rubbing it.




Never pour liquid on these parts.

9. Changing or cleaning the edger tools


This menu enables you to perform several operations on the tools of the edger:

-  Drill bit: clean or replace with a different diameter or new bit
-  Chamfering wheel: replace with a new wheel
-  Grooving wheel: replace with a new wheel

Wear indicators

An indicator in the information bar makes it possible to know the level of wear of the drill bit:  wear of the drill bit at 1.0 mm or 0.8 mm

The colour of the indicator informs you of the level of wear of the tool:

- Green for a new tool
- Flashing red  for a tool which needs replacing: press on the indicator for direct access to the tool-change menu.



- Always use the tools recommended by Essilor.
- Never use the edger if one of the tools is missing. Never remove a used or broken tool if you cannot replace it.
- All tools coming into contact with the module must be clean and dry in order to prevent water from seeping into the mechanisms.
- The use of broken tools may cause lens breakage or errors with respect to lens shape or drill-hole diameter: change the tools as soon as they are worn (check the indicators and statistics of your digital system).
- Incorrect positioning of the tools may cause breakage or errors with respect to lens shape or drill-hole diameter: insert the tools fully.

a. Changing or cleaning the drill bit

The wear indicator informs you of the need to change the 0.8 mm drill bit after 250 holes and the 1.0 mm bit after 500 holes.




Have the following to hand:

- Open-ended spanner
- The drill bit to be replaced

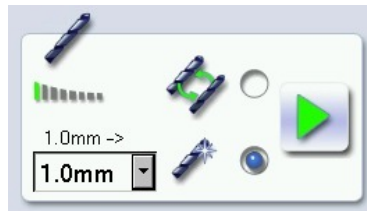
From the working screen of your edger, select  >  >  >  to change or clean the drill bit.





You can access the tool-change menu by pressing  on the work screen.

- 1 Select the diameter of the drill bit to install (0.8 mm or 1.0 mm).

For cleaning, select the diameter of the drill bit in place.




- 2 Select the type of operation:

-  Installing a new drill bit: at the end of the procedure, the wear statistics will be reset to zero.
-  Replace the drill bit with a different diameter bit or clean the bit in place: the wear statistics will not be reset.

- 3 Press .

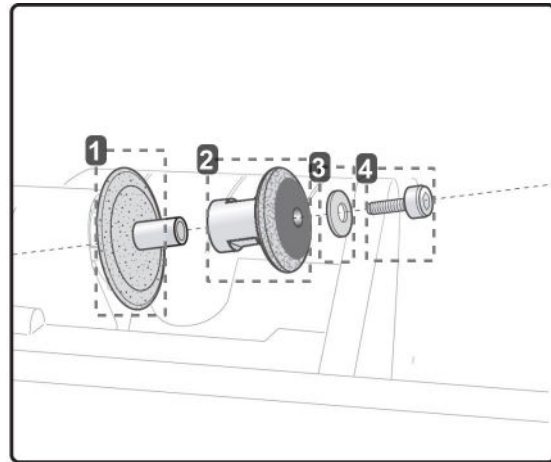
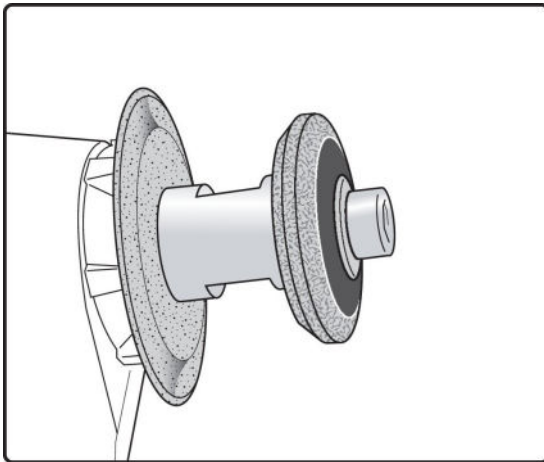
> The GMD module moves to facilitate the operation.

- 4 Place the open-end wrench between the two grooving and chamfering wheels.

- 5 Loosen the chuck by hand while turning it towards you.
- 6 Remove the drill bit and replace it with the necessary one, by putting it to the stop at the back of the chuck.
- 7 Tighten the chuck by hand.
- 8 Remove the keys and press .
- 9 Turn the edger off then on again.
 - > The edger resets itself and the module repositions itself.
 - > The wear statistics of the replaced tool are reset to zero.

b. Changing the grooving or chamfering wheel



Wheel shaft



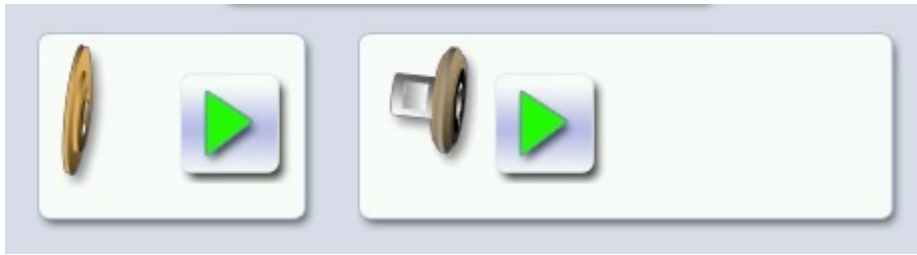
1. *Grooving wheel*
The boss is turned towards the right.
2. *Chamfering wheel*
It is equipped with a positioner to prevent incorrect insertion.
Trimaterial chamfering wheel (option)
May be ordered, for chamfering glass lenses.
3. *Washer*
4. *Nut*


We recommend that you change the grooving and chamfering wheels every 5,000 grooves or chamfers.

 Have the following to hand:

-  Allen key
-  Open-ended spanner
- Wheel(s) to be replaced:
 - Grooving wheel
 - Chamfering wheel

From the work screen of the edger, select  >  >  to change the grooving or chamfering wheel.





You can access the tool-change menu by pressing  on the work screen.





Changing both wheels at the same time

The menu is designed to replace only one wheel at a time. If you are replacing both wheels at the same time, simulate a replacement of the second wheel so that the wear statistics are also reset.

To do this, press the button  corresponding with the second wheel, then  to validate, without touching the wheel shaft.

Replacing the grooving or chamfering wheel

- 1 Press the button  corresponding with the wheel to be replaced:

-  Grooving wheel
-  Chamfering wheel

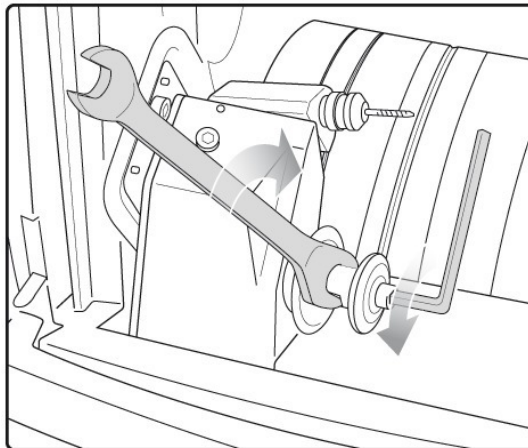
> The GMD module moves to facilitate the operation.



Take care when loosening the nut on the wheel shaft, you could be injured by the drill bit.

Before loosening the nut, you are strongly recommended to take the drill bit out of the chuck. For instructions on how to proceed, consult section: Maintenance and servicing > Changing the tools on the edger > Changing or cleaning the drill bit (p.139).

- 2 Place the open-ended spanner behind the chamfering wheel to hold the spindle and insert the Allen key in the screw.



- 3 Carefully remove the screw and washer without letting them fall into the trough.

- 4 Remove the chamfering wheel.


> You can access the grooving wheel.

- 5 Replace the desired wheel. Reposition the second wheel.

- Grooving wheel: the boss is turned towards the right.
- Chamfering wheel: is provided with a positioner, which ensures that it is inserted the right way.

- 6 Put the screw back in and tighten it as much as possible.

- 7 If you took the drill bit out of the chuck, put it back.

8 Remove the keys and press .

> The module goes back into its initial position.

The wear statistics of the replaced tool are reset to zero.

10. Maintain and clean the tracer-centerer-blocker

This section describes the tracer-centerer-blocker maintenance and cleaning procedures:

- Precautions required (p.142)
- Clean the reflectors and the lens (p.142)
- Clean the tube (p.142)

a. Precautions required



To avoid any incidents, unplug the device before all cleaning operation.

- Clean the cover of the tracer-centerer-blocker regularly: use a neutral detergent (e.g.: dishwashing liquid) diluted with water on a soft cloth.



- Never clean the apparatus with chemical products (e.g.: petrols, thinners, solvents).

b. Clean the reflectors and the lens

Dirty or striped reflectors or a lens can cause tracing defects. Be careful and clean them using a soft and dry rag regularly.



Never pour liquid on these parts.

c. Clean the tube

In order not to damage the LED band surrounding the centering chamber, clean the tube using a dry rag without rubbing it.



Never pour liquid on these parts.

11. Maintaining and cleaning the edger

This section describes the procedures for servicing and cleaning the digital system:

- Precautions required (p.142)
- Clean the GCD module (p.143)
- Clean the door (p.143)
- Dress the wheels (p.144)

a. Precautions required



To avoid any incidents, unplug the device before all cleaning operation.

- Clean the edger covers regularly: use a neutral detergent (e.g. washing-up liquid) diluted with water on a soft cloth.
- Clean the touch screen with a dry rag: it should never come into contact with liquid (e.g. water, alcohol, window cleaner).
- Service the water recovery and filtration systems regularly.



- Never clean the machine with chemical products (e.g.: petrol, thinners, solvents).
- Never clean the machine elements (module, etc.) with a wet rag.
- No additive should be added to the water in the edger tank. Do not add pyridine.

b. Clean the GCD module


From the working screen of the edger, select  >  >  >  to reach the cleaning menu.

The following screen is displayed:




1. Cleaning the module and trough

Close the door.

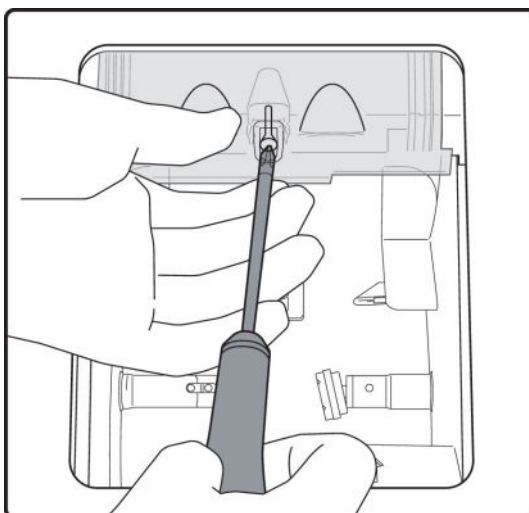
Press  to start the cleaning cycle.

> The cleaning is done automatically.

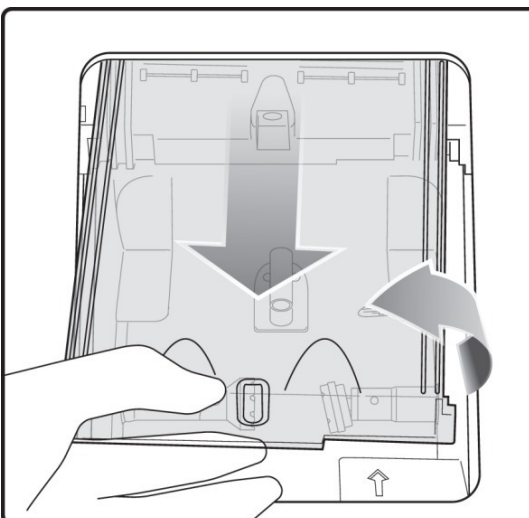
c. Dismantle and clean the door

 Have a Phillips screwdriver to hand.

- 1 Unscrew the screw using the Phillips screwdriver whilst holding the window in place.



- 2 Slide the door then pull it towards you to put it down.



> The door has been dismantled.

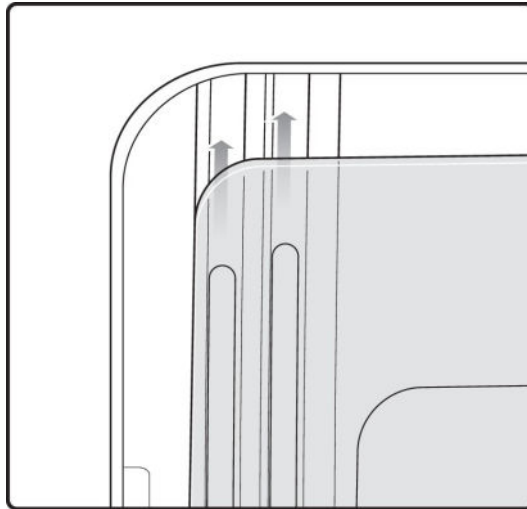
3 Wash the door with water without rubbing.

To put the door back, proceed in the opposite way.



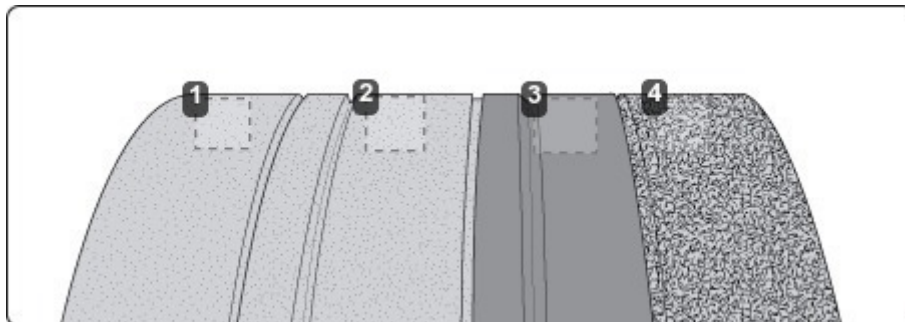
Precautions

Make sure to correctly position the door in the door slides.



d. Dress the wheels

For example with a 4-wheel train.



1. Glass roughing wheel

2. Finishing wheel


3. Polishing wheel

4. Plastic roughing wheel

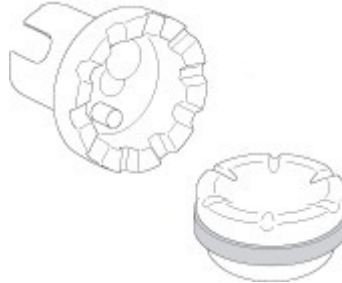
This wheel cannot be dressed

From the edger's work screen, select  >  >  >  to access the dressing menu.






You can access the dressing menu by pressing  on the work screen.

- 1 Make sure that the 22 mm accessories (posiblock holder and stop) are installed on the lens clamp shafts.





- 2 Select the appropriate dressing cycle:




-  Glass roughing wheel
-  Finishing wheel
-  Polishing wheel



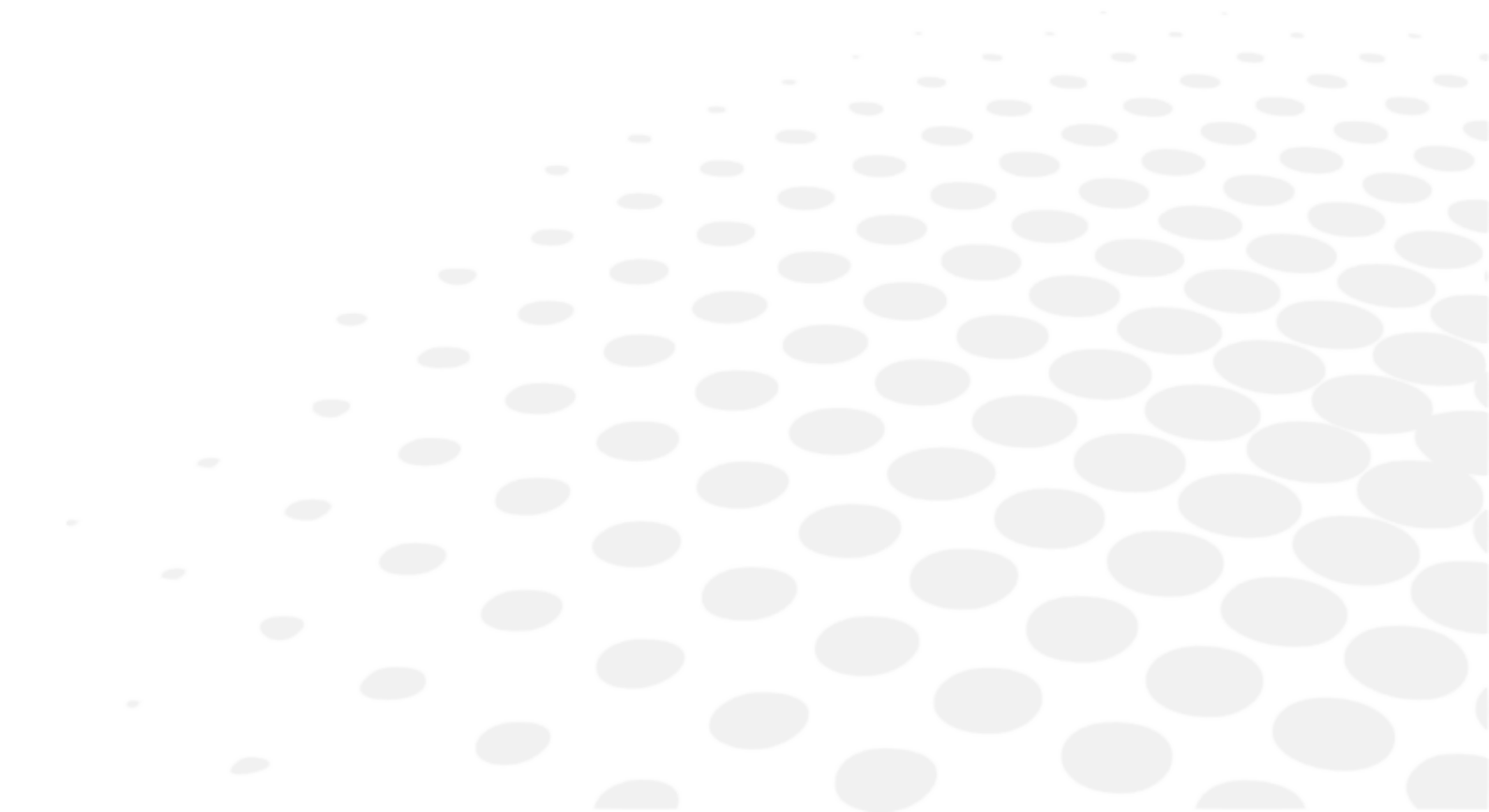
Never dress the polishing wheel twice in a row to avoid possible damage.

> For each wheel, there is a specific dressing stone, whose icon is displayed on the screen:

- Orange dressing stone  for the glass roughing wheel
- White dressing stone  for the finishing wheel
- Square dressing stone  for the polishing wheel

- 3 Insert the dressing stone for the selected cycle between the lens clamp shafts, with the hollow side against the posiblock holder.
- 4 Press  to close the clamps.
- 5 Close the door.
- 6 Press  to start the dressing cycle.
- 7 Once the cycle is finished, press  to open the clamps and remove the dressing stone.
- 8 If the dressing stone shows a residual ring, remove it in order not to disrupt subsequent dressing operations.

TECHNICAL DATA



- Environment (p. 148)
- General features (p. 148)
- "Tracer centering device blocker" function (p. 148)
- "Edger" function (p. 149)

Environment

To install your digital machine and to profit from its utmost precision, it is necessary that you have a stable work surface, isolated from shocks and oscillations, perfectly horizontal and at a proper height (approximately 70 cm).

The temperature and the humidity of the room where you use your machine must be within the following ranges of values:

Operation:

- temperature between +10 °C and +40 °C
- Humidity: between 30% and 75%

Storage:

- temperature between -5 °C and 50 °C
- Humidity: between 25% and 95%

Altitude: < 2,000 m

Level of pollution: 2

Avoid sudden changes in temperature and humidity and install your system:

- in an area not directly exposed to sunlight
- away from all heat sources
- away from all strong magnetic fields
- away from all chemical products, corrosive vapours and liquids

Take care not to block the vents and to leave enough space above the device. Do not place any object on the device. Avoid exposing the device to vibrations or shocks.



The back of your machine must be at least 20 cm away from a wall.

General features

Networking possibility:

- PC
- Essibox

RS232C, RJ45 and RS485 ports

Integrated auto-maintenance functions (self-calibration, autotests)

Dimensions : L 550, D 500, H 580 mm

Size of colour touch screen: 8.4 inches

Weight: 57 kg

Power supply: 220-240V – 50/60 Hz or 100-120V – 50/60 Hz

Power consumption: 1350 W – 10 A for 230 V and 15 A for 115 V

"Tracer centering device blocker" Function

Centering-blocking mode: boxing center (by default); optical center

Automatic initialization

Optical tracing:

- tracing of tinted lenses
- automatic tracing pattern, demo lens, recut lens in 2 dimensions
- pre-positioning of drill-holes and their settings on a demo lens or a recut lens
- recut lens: equivalent sphere [- 1D; +1D]



The lenses with an infra-red filter cannot be read.

Manual centering:

- single vision lenses: using focimeter dots or re-marked micro-engravings
- progressive lenses: using re-marked micro-engravings or manufacturer markings
- bifocal and trifocal lenses
- executive lenses

- mid-distance lenses: using re-marked micro-engravings or manufacturer markings

Centering help:

- single vision lenses: partial or total detection of focimeter dots

Specific centering target for each type of lens: single vision, bifocal/trifocal, progressive, executive, mid-distance

2-track optical video system: without parallax

Factor of enlargement: x 1.31 or x 1.97

Input of job distances:

- PD: 1/2 PD, ΔX
- boxing height, Datum height, ΔY
- modification by steps of 0.1 mm or 0.5 mm

Pantoscopic tilt: from -5° to +25°

Shape modification:

- scaling, A-dimension, B-dimension, 1/2 A-dimension, 1/2 B-dimension, D-dimension, one point modification, rotation
- retouch
- modification by steps of 1 mm or 0.5 mm

Display of Precal dimensions

Toolbar customization

"Edger" function

Grinding in Boxing center mode (passive) or optical center

Automatic initialization

Tool wear indicators

Types of finish:

- Bevel:
 - Automatic bevel
 - Customised bevel: tracking of the base unit of the frame, circle tracking, distributed bevel (%), front surface tracking, rear surface tracking, partial and total adjustment
 - Distribution value: modification step of 0.1 mm or 5% (distributed bevel)
- Flat-edge
- Grooving:
 - Automatic groove
 - Customised groove: base tracking, distributed groove (%), front surface tracking, rear surface tracking, partial and total adjustment
 - Adjustable groove width and depth
 - Groove depth between 0.20 and 1.20 mm; modification step: 0.05 mm
 - Groove width between 0.55 and 1.20 mm; modification step: 0.05 mm
 - Distribution value: modification step of 0.1 mm or 5% (distributed groove)
- Chamfering:
 - Chamfer adjustable on front surface and rear surfaces
 - Thin chamfering by default: 0.20 mm
 - Thick chamfering by default: 0.40 mm
- Drilling:
 - Automatic adjustment of drilling angle according to lens curve up to 15°; modification step: 0.5°
 - Hole diameter: 0.8 to 3 mm; modification step: 0.05 mm
 - Types of drilling: through-hole, non-through hole, straight or tilted notch, slot and spot-facing
 - Maximum number of drilling points per lens: 20 (with a restriction of 10 max per side)
 - No-drill area: diameter of 27 mm from the boxing center

3-D preview of the bevel and groove before the start of the cycle

Self-learning of work habits

Edging pressure varies according to the material to be edged

Automatic wheel cleaning cycle

Lens edging capacity:

- Max. diameter: 105 mm (90 mm with a decentration of 15 mm)
- Min. B-dimension : 17 mm for flat edge, 18.5 mm for bevel

3 or 4 wheel versions (depending on the material): glass lens, plastic, polycarbonate, medium or high index and Trivex lensesTMlenses; polishing

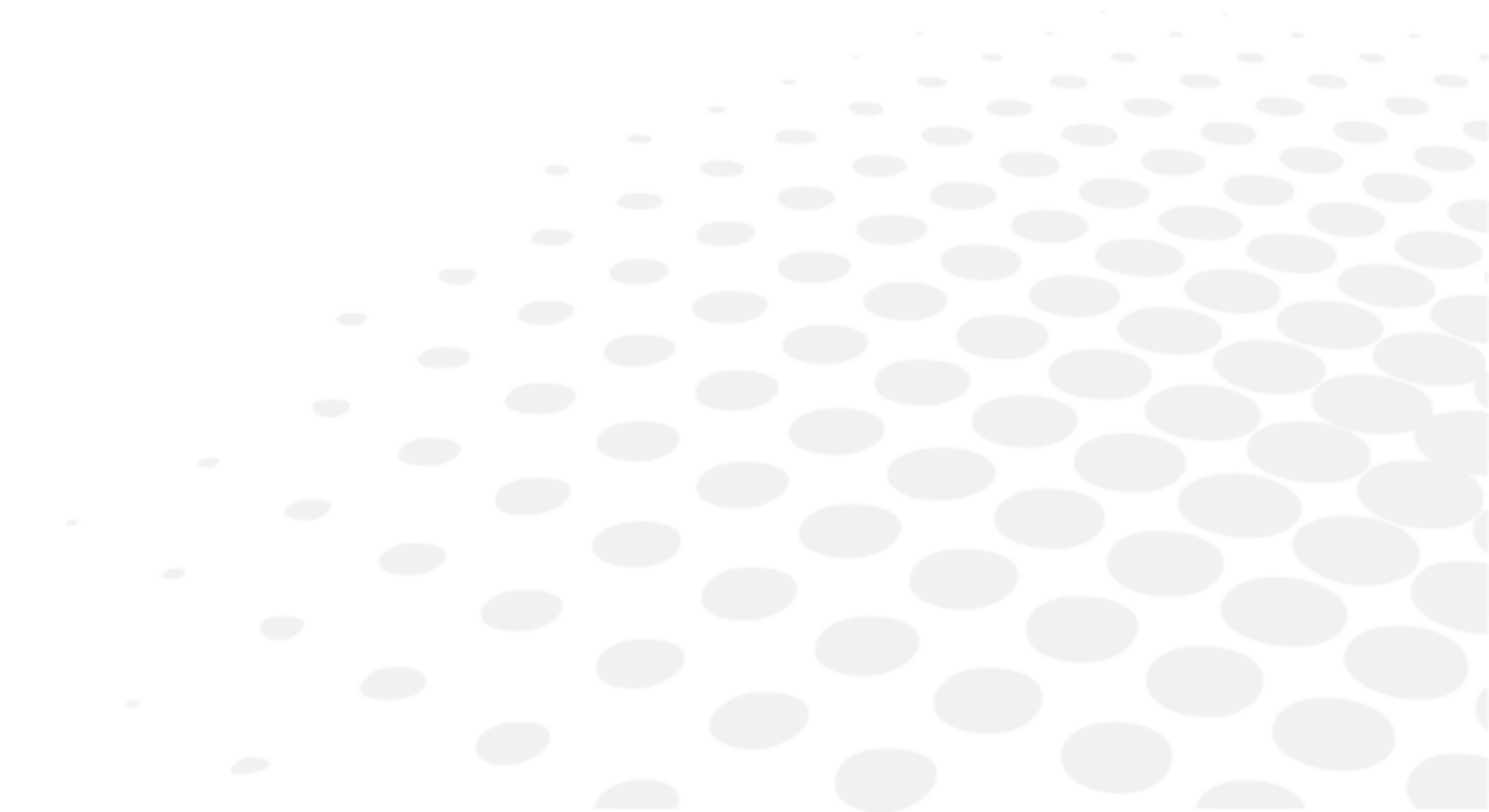
Average water consumption:

- CR39, mineral: 10 litres/minute.
- Polycarbonate, Trivex™ and MHI: 8 litres/minute.

Measured noise level on edging, at a distance of 0.5 m from the machine:







- Plastic lens = 71 dB
- Glass lens = 71 dB
- Polycarbonate lens = 71 dB
- Trivex lens™ = 72 dB
- MHI lens = 71 dB







GENERAL INFORMATION



- Description of the symbols (p.152)
- Modifications (p.152)
- Compliance (p.152)
- Copyright (p.152)
- Materials and products (p.152)
- Security (p.153)
- Electromagnetic waves (p.153)

Symbols

SYMBOLS PRESENT ON THE DIGITAL SYSTEM	
O	Off (power)
I	On (power)
	D.C. current
	asynchronous motor speed
	Caution: risk of electric shock
	Caution: danger, refer to the user manual
	Manufacturer
	Year of manufacture

SYMBOLS PRESENT IN THE DOCUMENT	
	Danger: risk of injury
	Caution: risk of damage for the machine or the lens
	Note: additional information
	Tip: practical advice for use
	Glossary: indicates a word defined in the glossary
	See also: indicates the page number to consult for further information

Modifications

The information contained in this document is non-contractual and provided as a guide. It is subject to change without prior notice. Errors or omissions may occur in this type of document, although the greatest care has been taken to ensure the accuracy of the information provided. Essilor cannot be held responsible for any malfunction or loss of data resulting from such errors or omissions.

Declaration of conformity

Complies with marking: **CE**

Complies with ISO 16284 standards, IEC 61010-1 and IEC 61326-1 and with directives 200/42/CE, 2014/30/UE, 2014/35/UE.

This equipment complies with the limits imposed by Part 15 of the FCC rule. Its use meets the following conditions: (1) this device must not cause interference and (2) must accept interference from external sources, notably that liable to cause malfunctions.

In accordance with the requirements of FCC rules, any modification made to this equipment which is not expressly approved by ESSILOR INTERNATIONAL would nullify the user's right to use this device.

This equipment has been tested and is deemed compliant with the limits imposed for Class-B digital devices according to Part 15 of the FCC rule. Those limits are set so as to ensure reasonable protection against interference in a residential environment. This equipment generates, uses and may emit radiofrequency energy liable to interfere with radio communications if the device is not installed and used in strict compliance with manufacturer instructions. However, nothing guarantees the absence of interference under particular conditions. If this equipment is the source of interference with radio or television reception (this can be confirmed by switching off the device then turning it back on), the user may be able to eliminate this interference through one or more of the following measures:

- Swivel or move the affected receiver or its receiving antenna;
- Move the device away from the affected receiver;
- Connect the device to a different circuit to that powering the affected receiver;
- Request help from the retailer or a qualified radio / television technician.

Copyright

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Materials and products

All edgers obtain a final shape on a lens, by removing material. This process generates dust, which depends on the lens and the materials used.

The materials used for coating the Essilor wheel and consumed during its use are not toxic or allergenic. Nevertheless, users must check that the ground materials are not toxic.

The edger significantly limits dust emissions due to its integrated devices: operation in a closed machine and edging in a wet environment.

Do not place this machine in a dusty environment, in a room where the temperature is too high or too low, or in a wet place.

Safety instructions:

All mechanical or electronic adjustments and electrical maintenance must be carried out by an after-sales technician approved by Essilor.

The use and operation of any accessory or cable other than those recommended in this manual could create a risk for the operators using the product.

Keep the power cables as well as the cables of the solenoid valves and pump away from all heat sources, sharp edges and greasy substances.

Check the power cable periodically; if damaged, have it replaced by an approved repairer.

Do not use your machine for operations other than those envisaged in this document. Otherwise, the protection ensured by the device may be compromised.

Never try to modify or dismantle this product yourself. Apart from the risk of damaging the instrument, there is a risk of personal injury.

Your machine must be maintained carefully, in accordance with the instructions detailed in this document.

Your machine is electrical equipment, which complies with safety standards. In the event of malfunction, repair operations must be performed by qualified personnel approved by Essilor. Otherwise, the user's safety would be at risk.

During extended periods of non-use and before the servicing and/or replacement of certain accessories, you must disconnect your system from the electricity supply.

The equipment must be connected to an electricity supply with earth connection. The earth connection must comply with public standards and be checked by a technician. Avoid extending leads or adapters, which do not guarantee a reliable connection.

Never pull the cables to disconnect them from the power socket.

Before connecting your machine to the electricity supply, ensure that the switch is in the "off position: 0 or OFF".

If the switch does not control "Off 0/On I", you should not use your machine any more. Defective switches must be replaced by an approved repairer.

Your machine is a professional tool, its use is restricted to specialized and responsible operators. It must not be used by anyone other than those operators.

This machine is not suitable for nor intended to operate in an environment classified as being under risk of explosion. Do not use this system in the presence of inflammable liquids or gases.

Make sure that the equipment is connected to a mains supply in compliance with standard NFC 15-100. In addition, make sure that the socket type is 3-pin 10/16 A (earthed) and protected by a high sensitivity differential circuit-breaker, maximum 30 mA and that the wall outlet is easy to access.

You are strongly advised to wear gloves to protect your hands when emptying the tank to clean it.

Electromagnetic waves

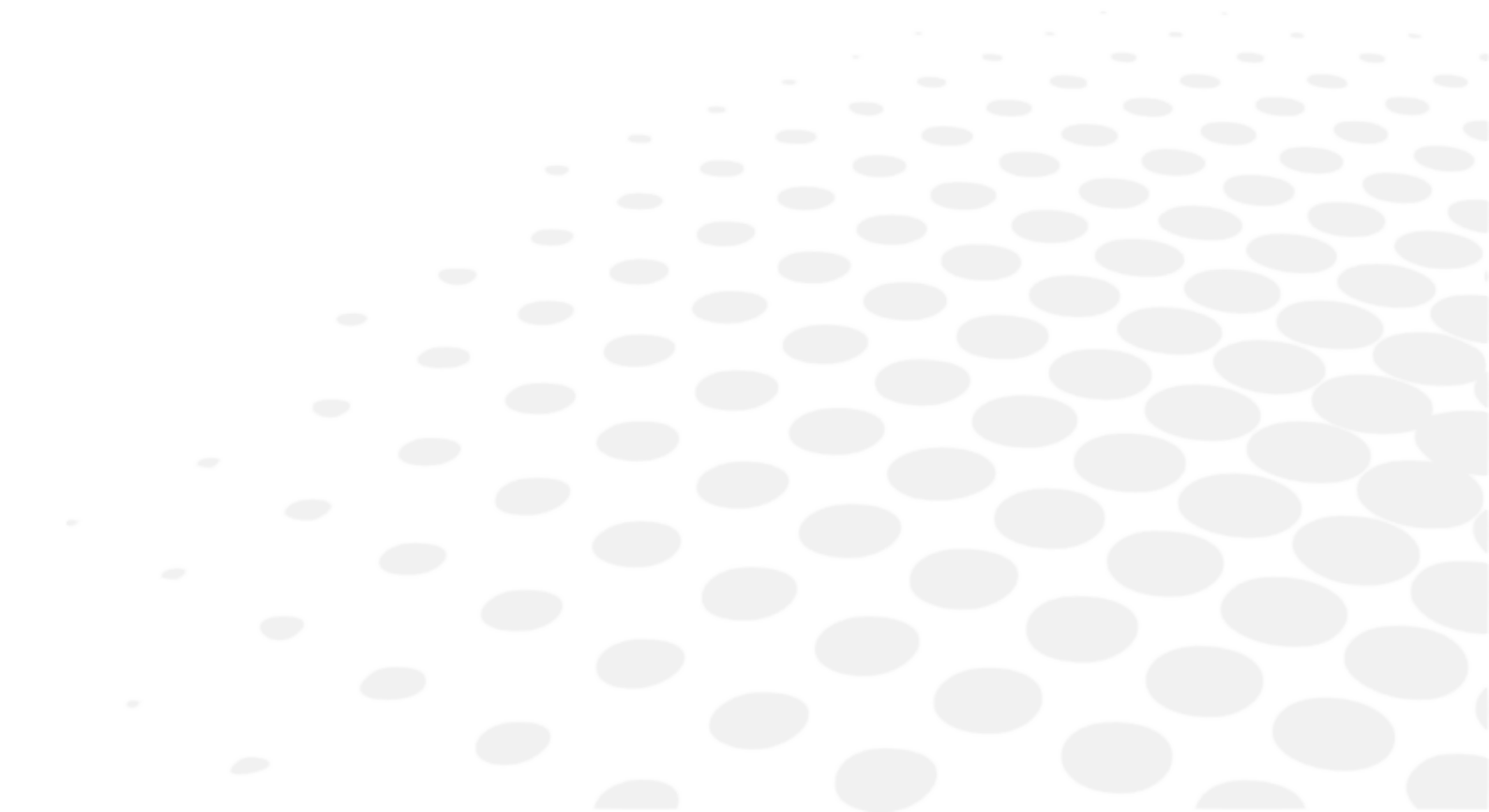
Electromagnetic waves emitted by television sets or radios, mobile phones, radio transmitters, etc. are liable to cause malfunctions in the instrument. This instrument is also liable to interfere with television sets or radios, mobile phones, radio transmitters, etc. Avoid installing or positioning devices which may create interference near the instrument. Likewise, never place the instrument on or near this type of device. This could generate malfunctions or faults in the instrument.

Interference and micro-outages

The products have been designed to withstand interference and operate despite its presence and the possibility of micro-outages on the network.

However, if these malfunctions are too serious and abnormal, the machine cannot be guaranteed to operate normally.

GLOSSARY



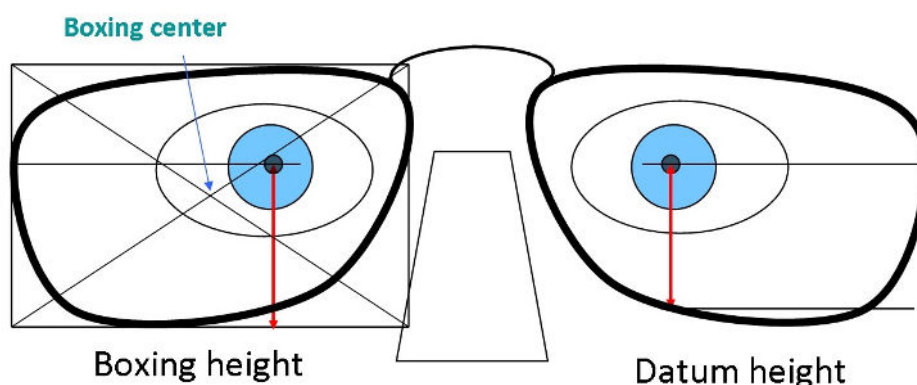
ASYMMETRIC BINOCULAR TRACING

The two circles of frame are read as if they have different shapes; the perimeters and the shapes are preserved.

BOXING DIMENSIONS

The boxing system is a standard method to indicate the dimensions of frame contours (or gauges). This operation consists in fitting the frame into a rectangle whose dimensions are indicated.

- Boxing center: geometric center of the rectangle
- Boxing axis: horizontal axis of the frame passing through the boxing center
- A-dimension: length of the rectangle
- B-dimension: height of the rectangle
- D-dimension: nominal nose (DBL)
- E-dimension: greatest radius from the boxing center
- Boxing height: calculated from the tangent line at the bottom of the frame



EXECUTIVE LENS

Type of bifocal lens with two full fields: one which corrects far vision defects and one which corrects near vision defects. They are available in two models:

- separation line present on the front surface of the lens
- separation line present on the rear surface of the lens
- Example of lenses of this type: Telex lensesTM

ID

The (ID) identifier of job is composed of alphanumeric characters in the list of jobs and of numbers in the list of the collections. It is unique.

JOB

All the actions to be carried out on the tracer, centerer-blocker and edger in order to produce a pair of glasses. It is possible to memorize it in the shape management screen under an identifier (ID).

LENTICULAR LENS

Type of lens equipped with a small curved optical zone on front or back surface and whose edge is gradually flattened. The correction is in the central part.

MID-DISTANCE LENS

Type of lens intended for near vision but with a greater depth of field (e.g. Interview lensesTM).

PROGRESSIVE LENS

Type of lens whose power varies gradually between the far vision for the upper part of the lens and the near vision for the lower part, without optical rupture or unaesthetic line.

REFRACTIVE INDEX

Characterizes the refractive power of a transparent optical material.

The indices vary according to the materials used for the lenses:

- Plastic lens: 1.5
- Polycarbonate lens: 1.59
- Medium or High Index lens: > 1.5
- Trivex™ lens: 1.5 to 1.6
- Tribrid™ lens: 1.6
- Glass lens: 1.5 to 1.9

SINGLE VISION LENS

Type of single vision lens correcting amétropies. The power of the lens is the same over all its surface.

SYMMETRIC BINOCULAR TRACING

The shape of the right circle of frame is applied symmetrically to the left circle; the traced perimeters are preserved.

TRIFOCAUX BIFOCAL LENSES/

Type of lens with distinct correction areas:

- the upper part of the lens is used for far vision.
- the lower part of the lens is used for the near vision.



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