NEKSIA
ESSILOR EDGER

User Manual

CONTENTS

INTRODUCTION

To help you get the most out of the functions available on your edger, please refer to the documentation in:

- the Introduction Guide,
- the user manual, (accessible via QR Code from the Introduction Guide).

The screens and features vary according to the edger used:

- Neksia 400,
- Neksia 500, 550,
- Neksia 600, 650.

This manual documents the use of the Neksia 650 edger.

I. First steps
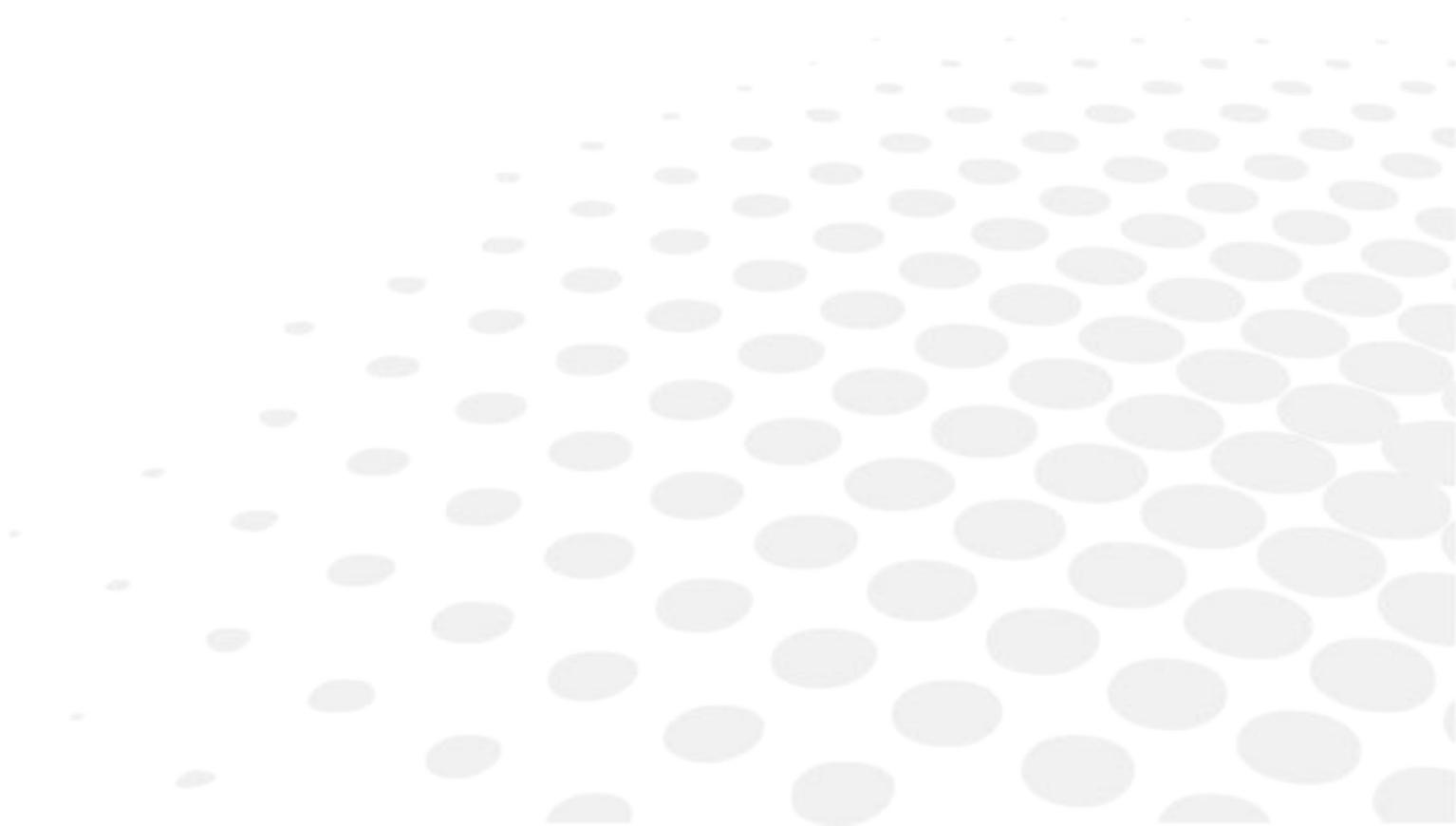
This chapter contains all the information you will need to start using the edger:

- Description of the edger *(☞ p.8)*
- Using the device *(☞ p.9)*

1. DESCRIPTIVE DIAGRAMS

This section consists of the list and descriptions of accessories for the edger.
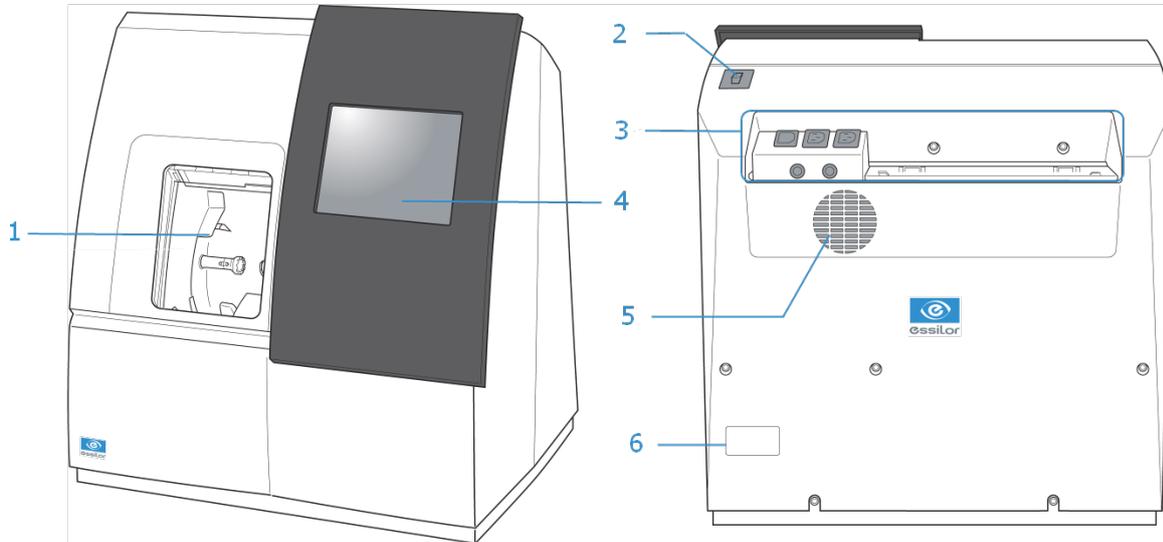
1. *Trough*

2. *Main switch*

3. *Connectors*

4. *Screen*

5. *fan*

6. *Manufacturer plate*

Connectors
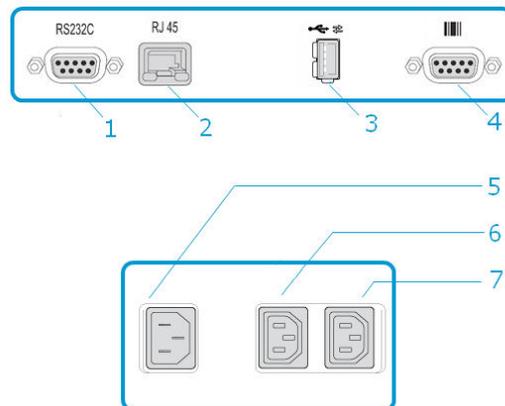
1. *Serial port*

2. *Ethernet port*

3. *USB port*

4. *Barcode reader port*

5. *Power socket*

6. *Solenoid valve socket*

7. *Pump socket (tank + pump) / Solenoid valve socket (town)*

Accessories

Transport wedges to be kept

Use accessories

- 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)
- Packet of 20 22 Ø posiblocks
- Packet of 20 18/14 Ø posiblocks
- USB key
- Stylus

Maintenance accessories

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

Options

- Trimaterial wheel
- 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. USING THE EDGER

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

- Turning the edger on *(☞ p.10)* and off *(☞ p.10)*
- The use of the touch screen and the keyboards *(☞ p.10)*,
- The description of the edger's work screen *(☞ p.12)*.

a. Turning on the edger

1 To switch on the edger, press the main switch located on the top of the machine.

> The edger will initialise.

2 On the edger screen, press the icon ▶ to complete the initialization phase.

> A beep indicates that the initialization was successful.

  The edger is ready for use when the initial screen is displayed.

b. Switching off the edger

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
- select the edging screen

2 Select ⬚ then ⏻.

> A confirmation message is displayed on each screen.

3 Press ✔ to confirm.

> The edger will switch off.

Extended period of non-use

For a prolonged period of non-use (a few days), it is preferable to turn off the edger using the main switch.

c. Using the touch screen and keypads

Using the touch screen

Use the stylus delivered with the tracer-centerer-blocker on the touch screen.

You can also touch the screen with your finger.

- If the reaction 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.63)*

- 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 ID
- Job reference (alphanumeric characters)

d. Edging screen

Main menus of the edging screen:
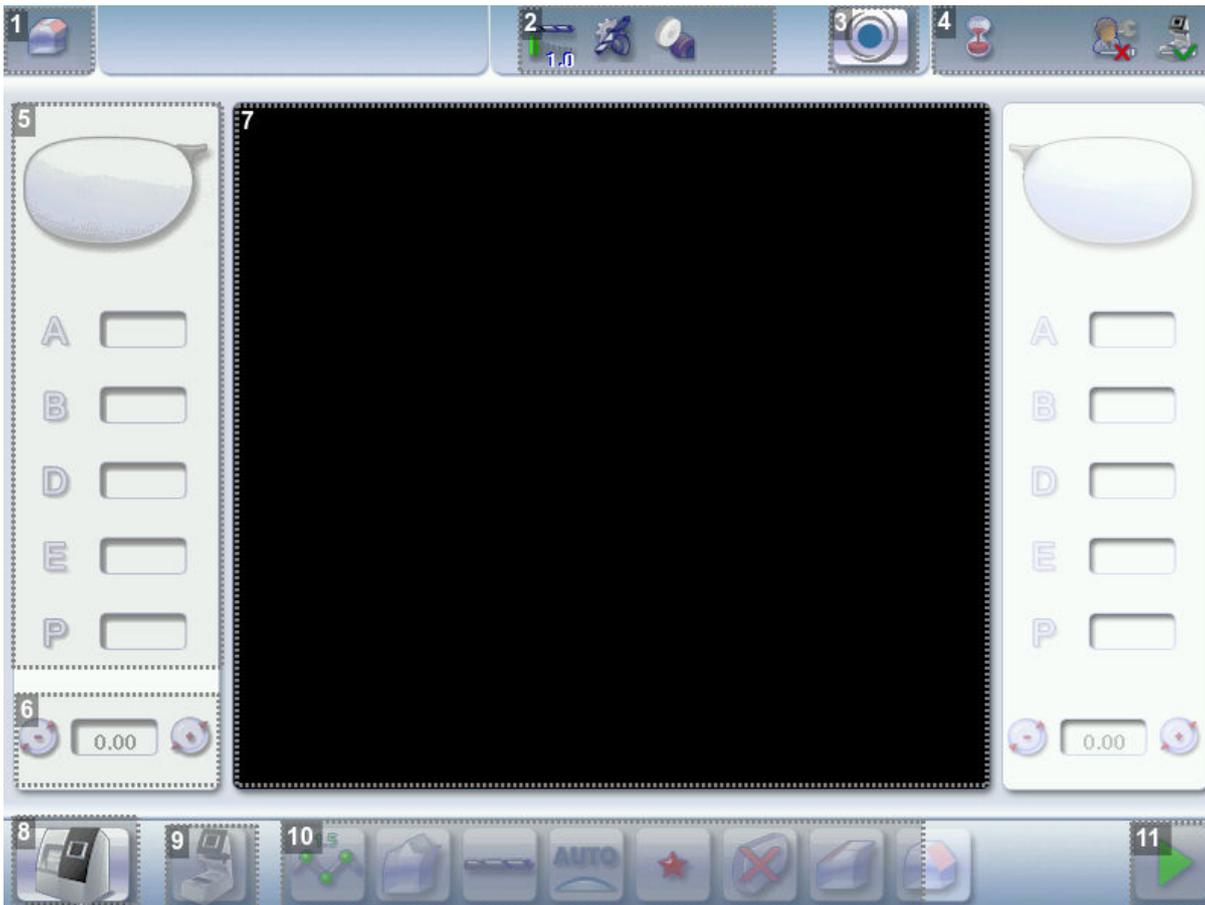
1. *Work screen indicator*

2. *Tool wear indicators*

3. *Settings*

4. *Connected devices*

5. *Active eye and information on the shape*

6. *Size increase / reduction*

7. *Work area*

8. *Machine shutdown.*

9. *Job call*

10. *Actions available for the current screen*

11. *Start the edging cycle*

Detailed functions

For more information, consult the section Edging a lens > Edger environment > Menu screen *(☞ p.14)*.

II. Edging a lens
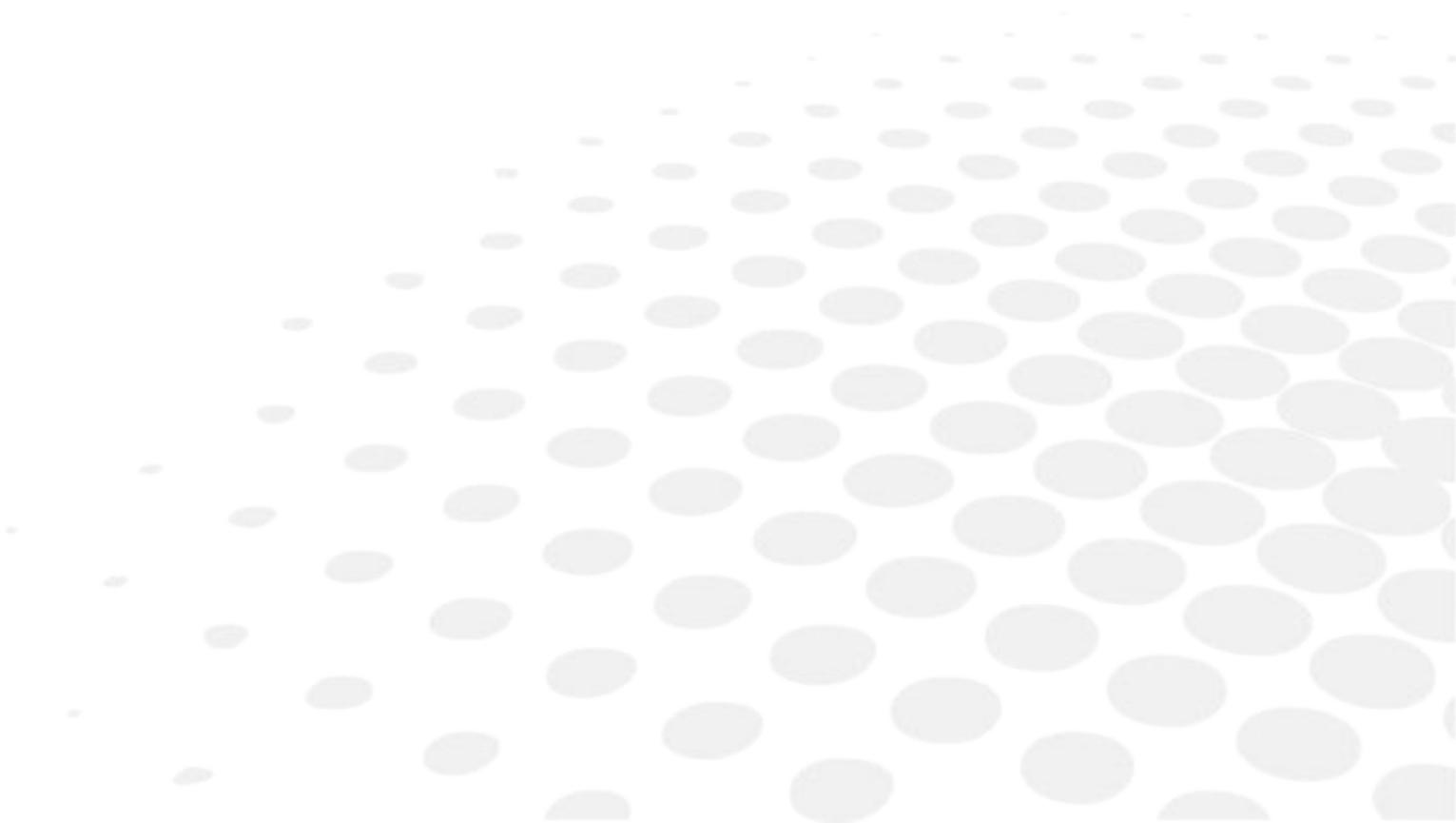
This chapter describes the procedures for edging all types of lens:

- Perform a Beveling *(☞ p.19)*
- High-base beveling *(☞ p.26)*
- Grooving *(☞ p.31)*
- Produce a Flat-edge finish *(☞ p.39)*
- Perform a Drilled job *(☞ p.40)*
- Perform a Polishing *(☞ p.44)*
- Perform a Chamfering *(☞ p.44)*
- Perform a Retouching *(☞ p.46)*

1. EDGER WORKING ENVIRONMENT

This section describes:

- The edger work screen *(☞ p.14)*
- Shape call-up procedure *(☞ p.16)*
- Putting the lens in place *(☞ p.17)*

a. Legend screen
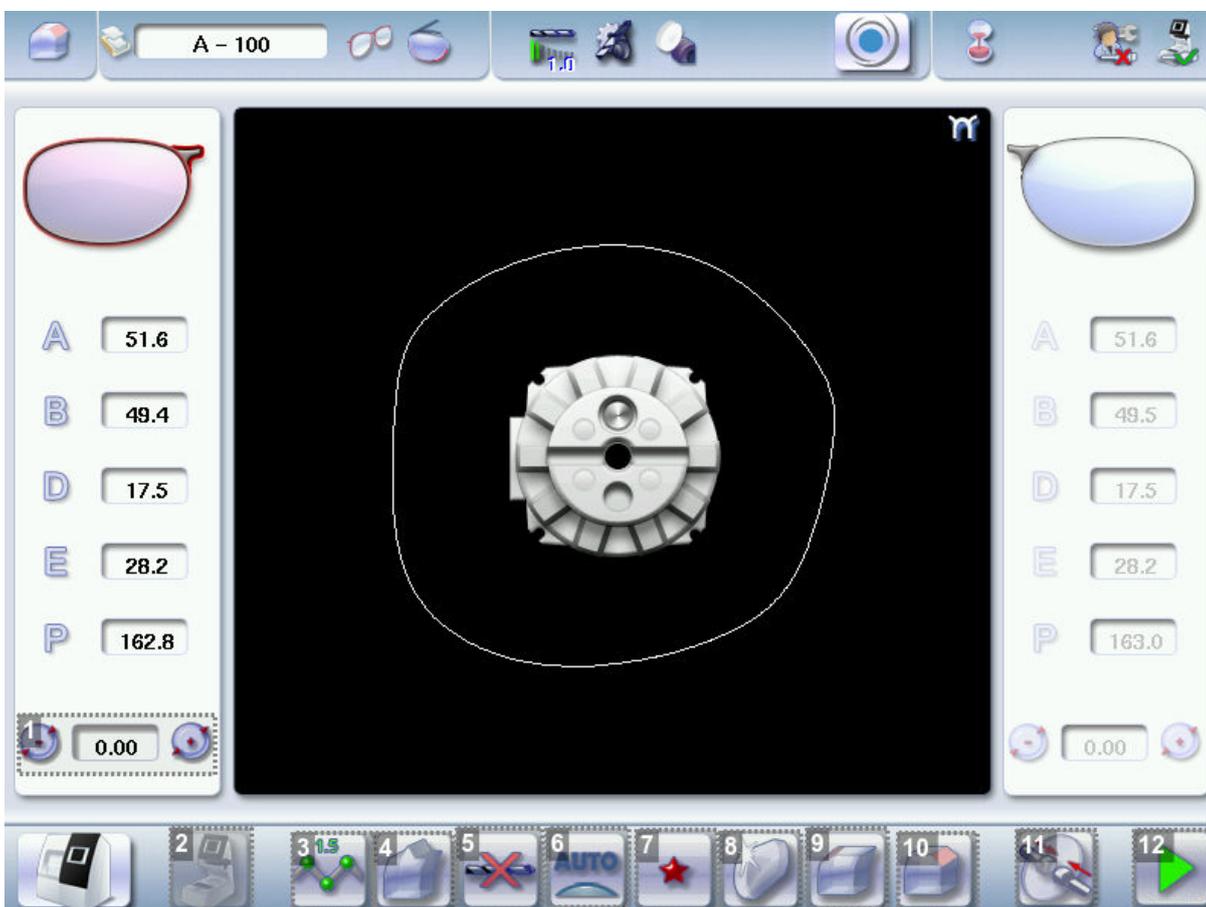
1. *Size reduction / increase (mm)*

2. *Job call button from the tracer*

3. *Lens material*

- Plastic lens -index 1.5📖

- 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

   High-base bevel

- Groove

- Flat-edge

5. *Drilling*

- Drilling enabled

- Drilling disabled

6. *Edging mode*

- Automatic mode

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

- Customized mode

   The finishing parameters 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 up the current job:

  > Press to display the shape being processed on the tracer.

- Calling up the number of a shape saved on the tracer:

  > Press for a few seconds to open the numeric keypad.

  > You can then call up a shape via the ID allocated to it.
- Job call via a barcode:
  > Scan the barcode using the barcode reader (optional).

Always block your two lenses before proceeding with the edging. If a job in the course of modification on the tracer (display of the symbol 💾 beside the reference) is called up on the edger, a warning message is displayed.

> 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
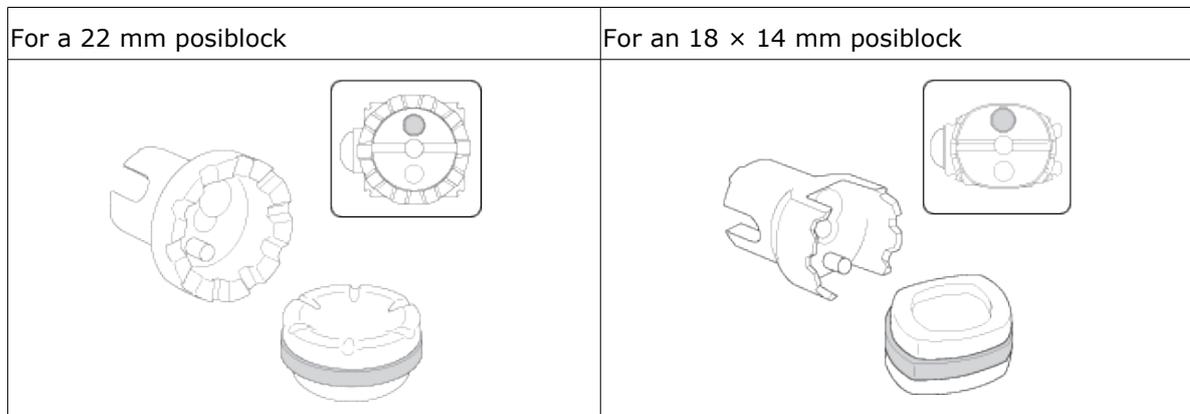
2 Place the lens in the posiblock holder.

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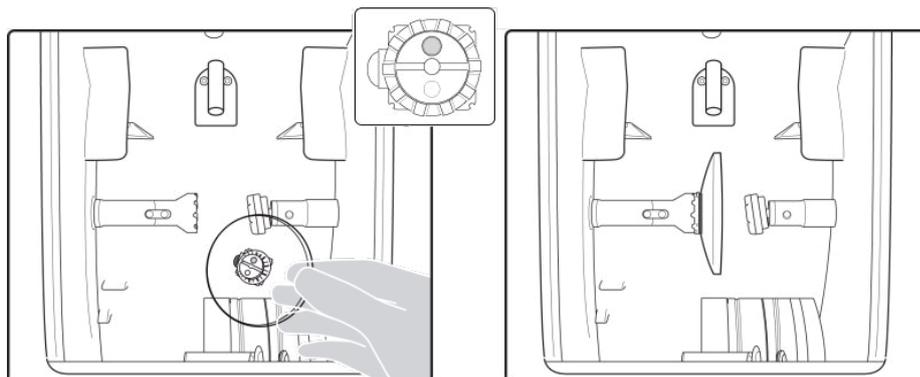
You can clamp the lens manually by pressing . Manual lens clamping is particularly suited to hydrophobic lenses, thick lenses and high-camber lenses, as it ensures that the lens won't come off the pad before clamping.

Make sure you move your hand well away before you start the edging cycle.

3 Press .

> The door closes then the lens clamping operation starts.

> The size of the posiblock holder is checked then the feeling cycle starts.

To interrupt the feeling cycle at any time, press .

> 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).
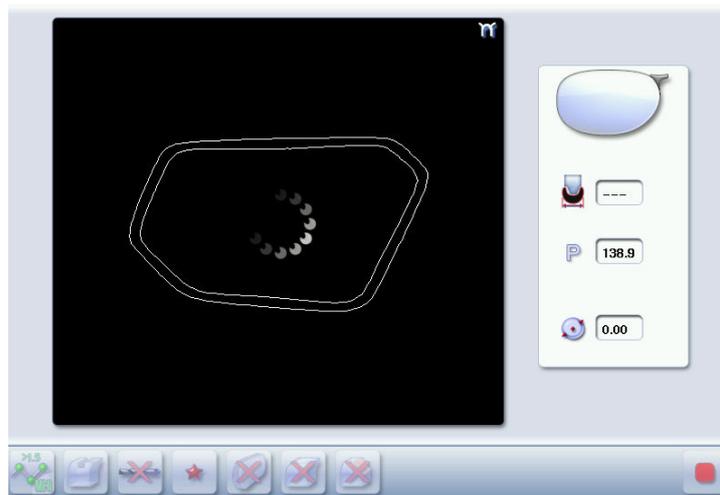
> In the case of edging mode selection:

- automatic, you do not have to configure anything, all the data is automatically recovered from the tracer. The lens edging starts automatically after the feeling cycle.
- customized, the finish parameters can be fully customized.

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

2. PERFORM A BEVELING

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

- **AUTO** In automatic mode *(☞ p.19)*, 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.20)*, 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.23)*
  - a modification at a point of the bevel curve *(☞ p.24)*
  - a displacement of the bevel curve *(☞ p.25)*
- You can consult the description of the customized bevel screen *(☞ p.20)*.

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 polishing *(☞ p.44)* and Edging a lens > Perform chamfering *(☞ p.44)*.

5 Press ▶.

> The door closes, the lens is clamped, then the feeling operation starts.

> 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.

b. Legend screen for customized bevels
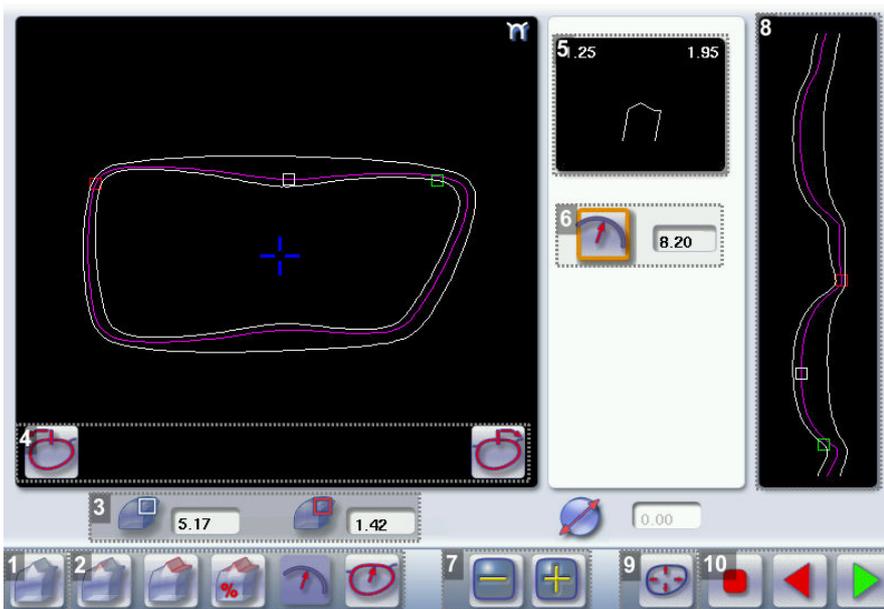
1. *Automatic bevel*

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.

- Frame rim tracking: the bevel tracks the groove precisely, according to the data obtained on frame tracing.

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▢, Executive lens▢	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.
	Particular groove (groove with meniscus▢)	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 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 Change the edging mode. Press **AUTO** 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 polishing *(☞ p.44)* and Edging a lens > Perform chamfering *(☞ p.44)*.

6 Press ▶.

> The door closes, the lens is clamped and then felt.

> The customized bevel finishing screen is displayed.

7 Select the type of customized bevel you want to do.

⚠️ To avoid reproducing defects when tracking a frame rim, check that the frame groove is in perfect condition and that the hinges are properly closed. All groove imperfections will be reproduced.

8 Press ⊟ and ⊞ to adjust the distribution value if required.

9 Press ▶.

> The edging cycle starts.

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

10 Press [icon] to release the lens.

11 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 [icon] from the customized bevel finish screen.

> You will access the trajectory modification screen.

2 Press [icon] 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 Press the "cycle start" button (front surface) or ![green play button].

> The edging cycle starts.

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

5 Press ![icon] to release the lens.

**6** 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 ![icon] from the customized bevel finish screen.

> You will access the trajectory modification screen.

2 Press ![icon] 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 ![minus button] and ![plus button] to move the point on the selected curve.

- Press ![minus button] to move it towards the front surface of the lens.
- Press ![plus button] 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 Press the "cycle start" button (front surface) or [>] .

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 [icon] from the customized bevel finish screen.

> You will access the trajectory modification screen.

2 Press [icon] 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 Press the "cycle start" button (front surface) or [>] .

> The edging cycle starts.

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

5 Press [icon] to release the lens.

6 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. HIGH-BASE BEVELING

This section describes the procedures for the creation of a high-base bevel:

- Description of the high-base bevel screen, *(☞ p.27)*
- Perform a high-base bevel in "front surface tracking" mode *(☞ p.28)*

The use of the high-base bevel depends on two parameters: the frame and the lens.

- Concerning the lens, the main constraint is the thickness of the nasal and temporal edges.
- Concerning the frame, the crucial elements are the bridge and shape of the groove. The hinge is an additional factor in the case of a metal frame, the arms for a plastic frame.

⚠ For this job, the lens base must always match the frame base perfectly. Too great a difference between the two could be detrimental to the quality of your job.

Cross-sectional view of a high-base bevel
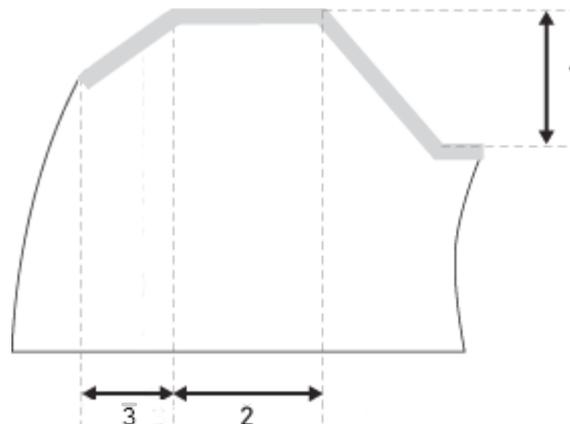
1 : Shelf bevel value

2: Width of the flat side of the bevel

3. Front surface tracking value

a. Legend screen
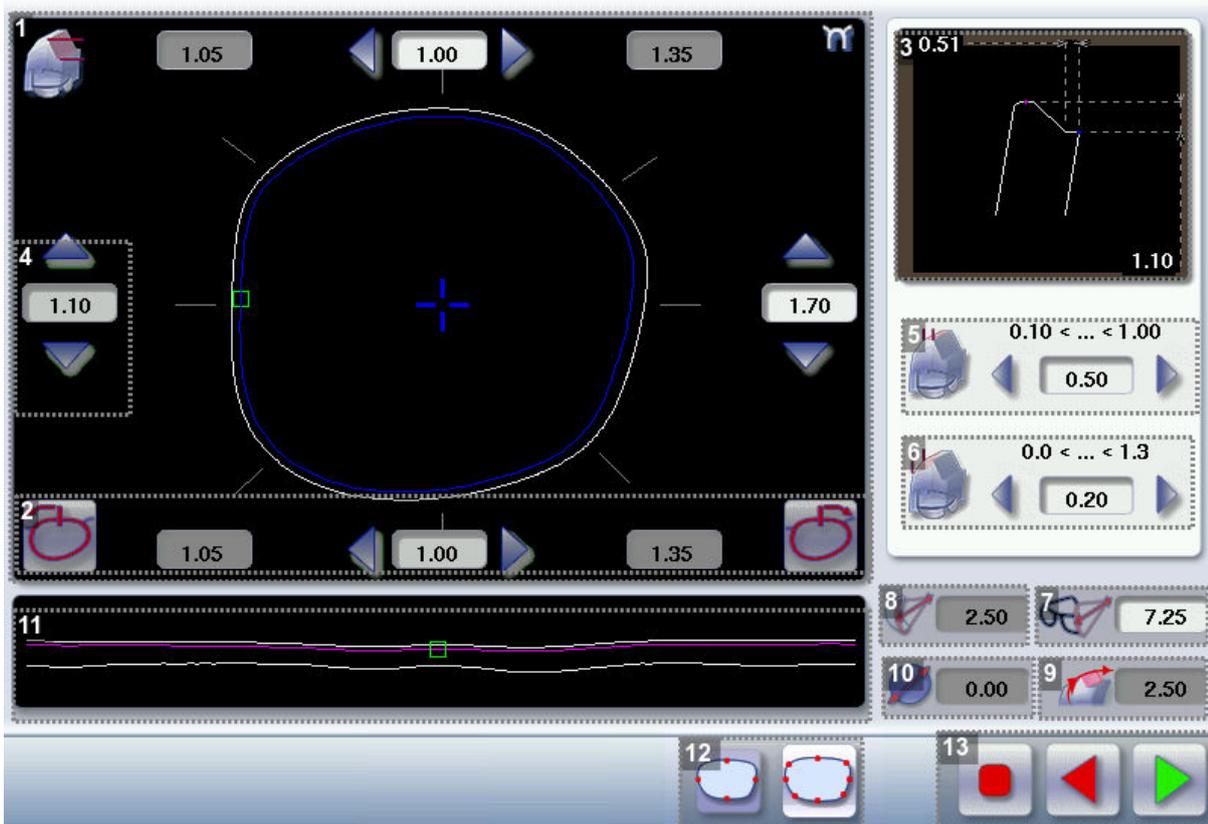
1. *Work area*

Image of the shape to be edged:

☐ Frame shape at bottom of groove

🟦 Bevel trajectory on rear surface

🟧 Bevel trajectory on rear surface if the lens used is too thin to achieve the desired finish.

2. *Cursor movement*

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

 and buttons.

3. *Zoom window*

Represents the bevel profile at the position of the cursor.

4. *Shelf bevel value (8 or 4 values)*

- ◦ Nasal (the value must be between 0.25 and 2.5 mm)
- ◦ *Mid-nasal (the value must be between 0.25 and 2.5 mm)*
- ◦ Upper (the value must be between 0.25 and 2.5 mm)
- ◦ *Mid-upper (the value must be between 0.25 with 2.5 mm)*
- ◦ Temporal (the value must be between 0.25 and 2.5 mm)
- ◦ *Mid-temporal (the value must be between 0.25 and 2.5 mm)*
- ◦ Lower (the value must be between 0.25 and 2.5 mm)
- ◦ *Mid-lower (the value must be between 0.25 and 2.5 mm)*

5. *Width of the flat side of the bevel*

The value of the flat side of the bevel must be between 0.1 mm and 1 mm.

6. *Front surface tracking value*

The front surface tracking value must be between 0 mm and 1.3 mm. This value is definable only in the "front surface tracking" screen.

7. *Frame base*

8. *Lens base*

9. *Bevel Base_Range of values of the lens base necessary for the frame*

If the lens base used is out of range: the range values are shown in red.

10. *Reminder of size reduction/increase applied to lens diameter*

11. *Window showing the bevel trajectory on the lens section*

 Centre of the flat side of the bevel

 Front surface/rear surface of lens

12. *Number of shelf bevel values*

Transition from 4 to 8 shelf bevel values.

Transition from 8 to 4 shelf bevel values.

13. *Navigation*

- Stop the cycle

- Back to the main edging screen

- Start the edging cycle

b. High-base 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 high-base frame:

- The high-base finish is selected by default.
- The customized mode is selected by default.

 In high-base finish, you cannot polish your bevel. However, the high-curve wheel has been designed to provide an equivalent finish on polycarbonate lenses.

2 Select lens material.

You cannot do a high-base bevel on glass lenses.

3 Select the type of cycle.

4 Choose to create or not to create a small or a large chamfer on the rear surface of the lens.

For more information, consult the section Edging a lens > Perform polishing *(☞ p.44)* and Edging a lens > Perform chamfering *(☞ p.44)*.

5 Press ▶.

> The door closes, the lens is clamped and then felt.

> The high-base bevel finish screen is displayed by default.
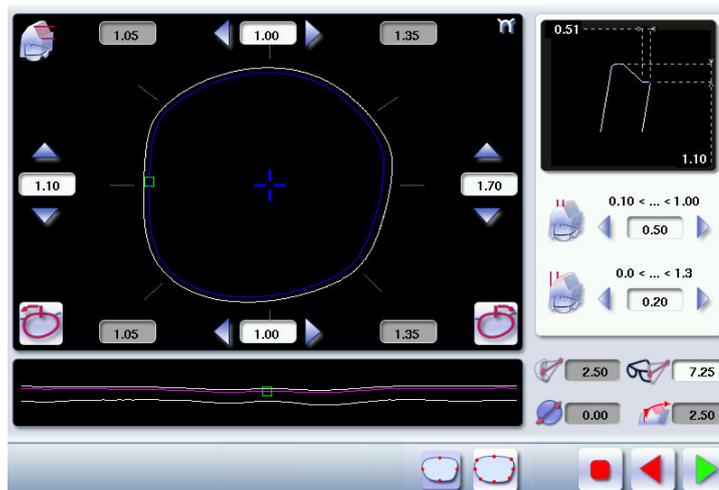
By default, the edger shows the values corresponding to the frame material (metal or plastic). Check and modify these values according to the thickness of your lens and your frame.

6 Press the buttons ◀ and ▶ on the right of your screen to modify the width of the flat side of the bevel.
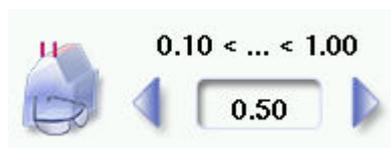
> The result can be viewed in the zoom window.

7 Press the ▲ ▼ and ◀ ▶ buttons to modify the shelf bevel value at each point of the shape in each area:

- Temporal
- Mid-temporal
- Upper
- Mid-upper
- Nasal
- Mid-nasal
- Lower
- Mid-lower
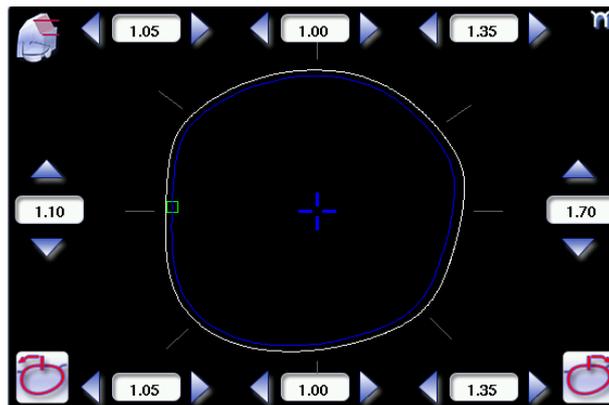
Move the cursor along the shape to see the bevel profile in the zoom window.

> The edger calculates the shelf bevel value to be applied between each of the four points in each area.

> The bevel trajectory on the rear surface is modified in the work screen. The result can be viewed in the zoom window.

8 Press the ◀ and ▶ buttons on the right of your screen to modify the front surface tracking value.

> The result can be viewed in the zoom window and in the window showing the bevel trajectory on the lens section.

9 Press ▶.

> The edging cycle starts.

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

10 Press to release the lens.

11 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. GROOVING

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

- In automatic mode *(☞ p.31)*, 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.34)*, 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.36)*
  - ◦ a modification at a point of the groove curve *(☞ p.37)*
  - ◦ a displacement of the groove curve *(☞ p.38)*
- You can consult the description of the customized groove screen *(☞ p.33)*.

 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 produce a groove the depth and the width of which are less 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 polishing *(☞ p.44)* and Edging a lens > Perform chamfering *(☞ p.44)*.

6 Press ▶.

> The door closes, the lens is clamped and then felt.

> 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. 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. Customised grooving

The use of the customized groove depends on two 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 front surface 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 up 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 **AUTO** 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 polishing *(☞ p.44)* and Edging a lens > Perform chamfering *(☞ p.44)*.

6 Press the "cycle start" button (front surface) or ▶.

> The door closes, the lens is clamped and then felt.

> The customized groove finish screen is displayed.

7 Select the type of customized groove you want to do.

8 Select the values you want to modify and press ➖ and ➕ to adjust them if necessary

9 Press ▶.

> The edging cycle starts.

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

10 Press 🔧 to release the lens.

11 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 Press the "cycle start" button (front surface) or .

> The edging cycle starts.

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

5 Press to release the lens.

6 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 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 Press the "cycle start" button (front surface) or ▶.

> The edging cycle starts.

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

5 Press 🔧 to release the lens.

6 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. PRODUCE A FLAT-EDGE FINISH

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

1 Call up 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 polishing *(☞ p.44)* and Edging a lens > Perform chamfering *(☞ p.44)*.

6 Press the "cycle start" button (front surface) or .

> The door closes, the lens is clamped and then felt.

> 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.

6. PERFORM A DRILLED 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:

- **AUTO** In automatic mode *(☞ p.40)*, 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.42)*, 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.41)*.

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 up 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 polishing *(☞ p.44)* and Edging a lens > Perform chamfering *(☞ p.44)*.

6 Press the "cycle start" button (front surface) or ▶.

> > The door closes, the lens is clamped and then felt.

> > 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 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 up 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 AUTO 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 polishing *(☞ p.44)* and Edging a lens > Perform chamfering *(☞ p.44)*.

6 Press the "cycle start" button (front surface) or .

> The feeling cycle starts.

> The customized drilling screen is displayed.

7 Select the type of drilling you want to do.

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

9 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.

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.

7. Perform a Polishing

Press the [icon] button to activate/deactivate polishing.

Lens material	Available options
[icon 1.5]	[icon] [icon]
[icon hexagon]	[icon] [icon] The polishing option is pre-selected and is strongly recommended by the manufacturer to prevent small cracks.
[icon >1.5 MHI]	[icon] [icon] 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.
[icon]	[icon] [icon] The polishing option is pre-selected.
[icon diamond]	[icon]

8. 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
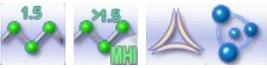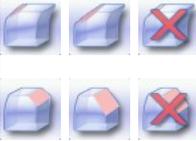
Lens material	Available options
	The quality of the chamfer depends on the spraying. Make sure there is a constant flow of water until the end of the chamfering operation.
	The chamfering wheel supplied cannot be used on glass lenses. For further information, contact your technical department.

- 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.

9. Perform a Retouching
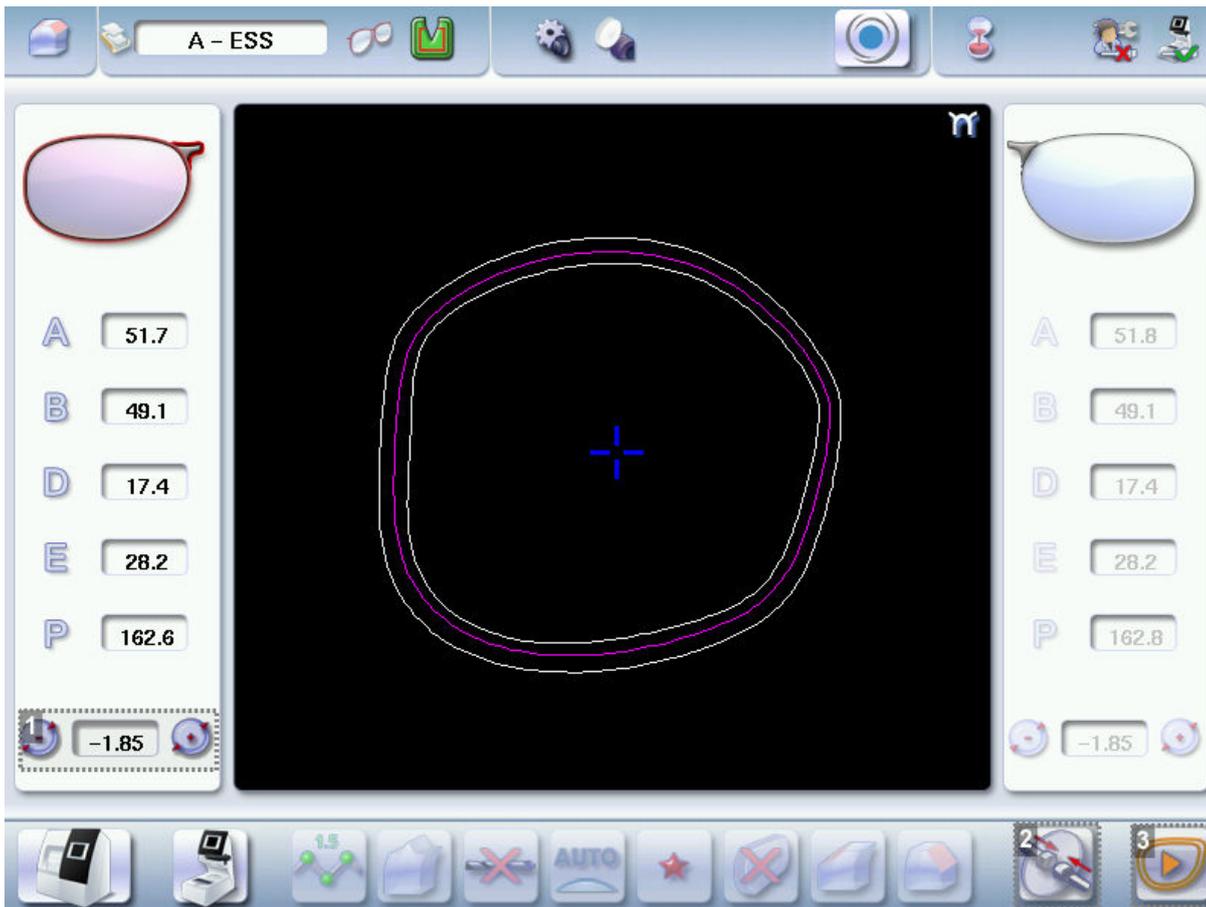
1. *Diameter modification*

2. *Manual lens clamping*

3. *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 ▶
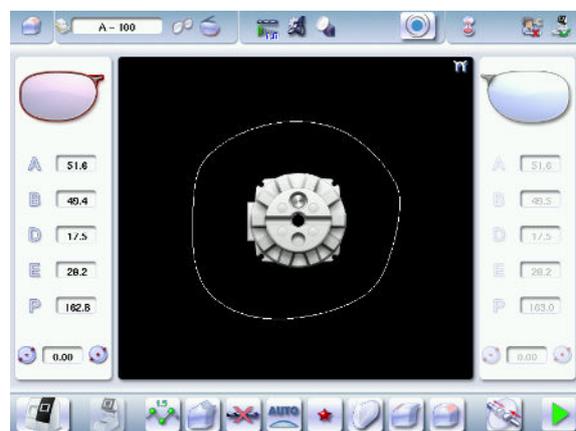
When the first-lens edging cycle is finished:

1 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 edging 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 Press the "cycle start" button (front surface) or .

> For a customized finish, the customized finish screen is displayed.

> In all other cases, the door closes, the lens is clamped automatically, then the retouching starts.

6 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.

III. CONFIGURING THE EDGER
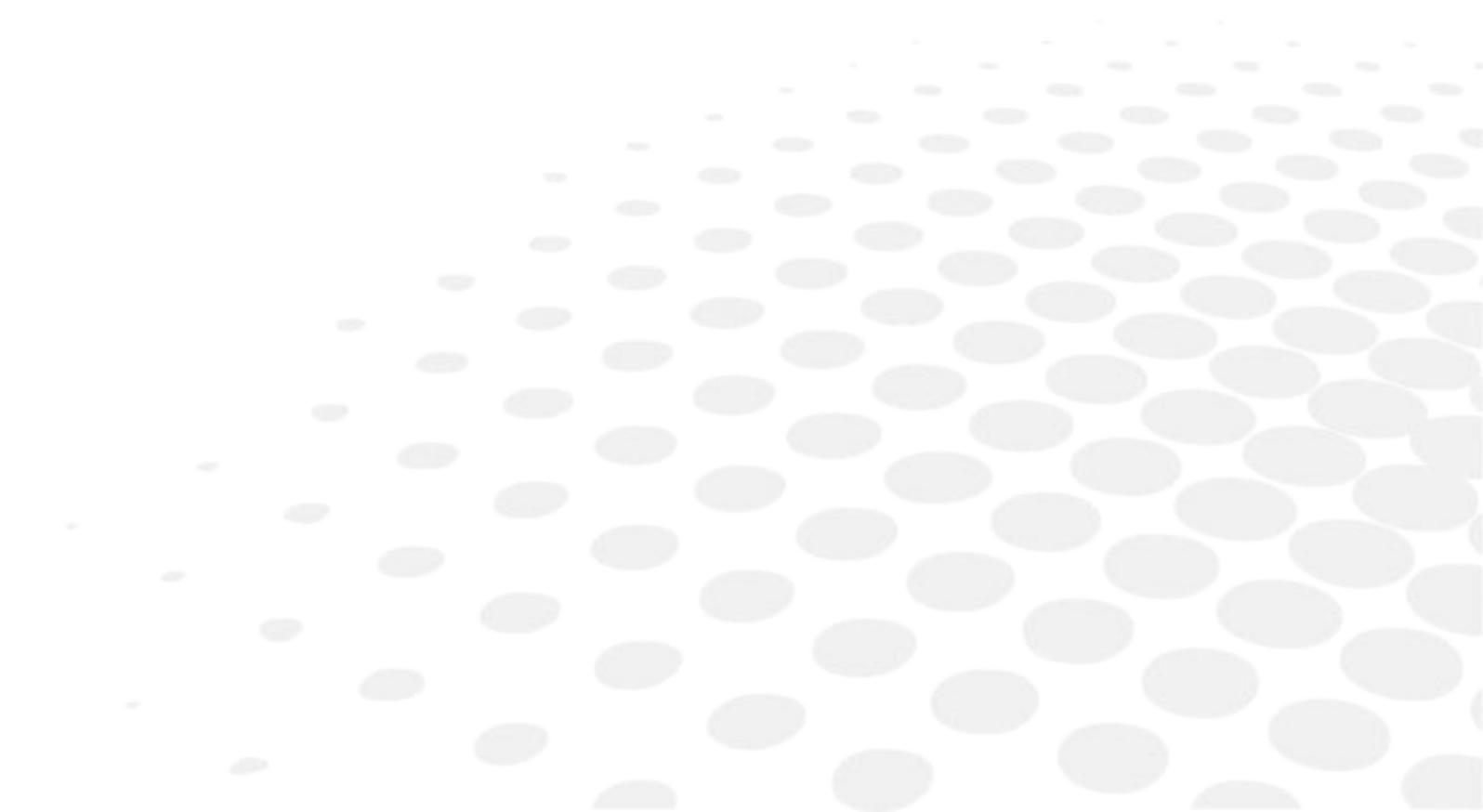
This chapter allows you to set up the edger according to your use. You can:

- configuring the edger *(☞ p.50)* (time, date, language, connections, screen-saver)
- adjust the precision of the edger *(☞ p.52)*,
- restoring the factory settings *(☞ p.57)*

1. CONFIGURE THE EDGER

This section describes the procedures to:

- set the time, date and language *(☞ p.50)*
- access the connections and the network *(☞ p.51)*
- configure a screensaver and the brightness of the screen *(☞ p.51)*.

a. Time, date and language

To access this menu from your work 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. *Other languages*

Press ▶ to display the other languages.

6. *Confirm*

Press ⏱ to save the time.

Once adjustments have been completed: press ◀ to go back to the work screen.

b. Connections

Connections are configured from the tracer (see the instructions for use of the tracer). The screen which you access from the edger is only available for consultation purposes.

c. Screensaver and screen brightness

This menu is used to configure a screensaver and the brightness of the work area.

To access this menu from your work screen, select ◉ > 🔨 > 🖐 .

The following screen is displayed:
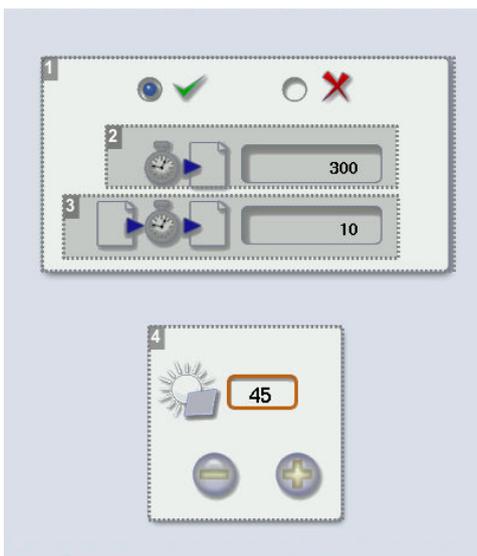
1. *Screensaver display*

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. *Adjusting the default brightness of the screen*

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

2. 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.52)*
- the position of the bevel and groove *(☞ p.53)*
- the position of high-base bevel *(☞ p.54)*
- the diameter of drill holes *(☞ p.55)*
- the chamfer *(☞ p.56)*
- the depth and width of the groove *(☞ p.57)*

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 that menu from your edger work screen, select ◉ > ☑ > ✎ .

The following screen is displayed:

1. *Frame types*

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

2. *Lens materials*

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

3. *Adjust the lens diameter*

a. Press the value to be modified.
> The numeric keypad is displayed.
b. Enter the new value.
- ◦ Negative value: the diameter will be smaller
- ◦ Positive value: the diameter will be larger

c. Press ✔ 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 that menu from your edger work screen, select ◉ > ☑ > ⛭ .

The following screen is displayed:
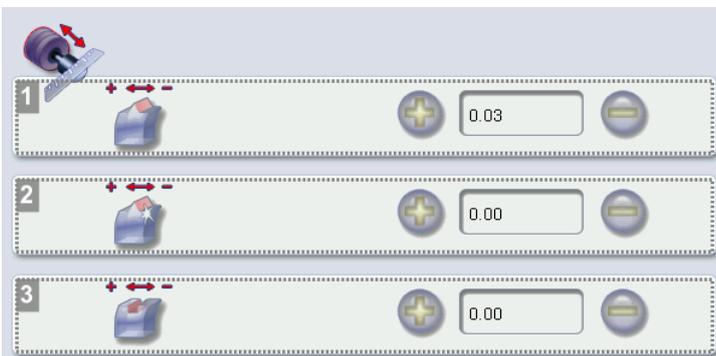
1. *Default bevel position*

- ◦ 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. Adjust the position of high-base bevel

After lens edging, if the position of high-base bevels seems consistently too far ahead or too far behind, you can adjust it.

To access that menu from your edger work screen, select > > .

The following screen is displayed:

1. *High-base bevel*

2. *Increase or reduce the front surface tracking value*

    a. Press the value to be modified.
      > The numeric keypad is displayed.
    b. Enter the new value.
      - Negative value: the front surface tracking value will be smaller
      - Positive value: the front surface tracking value will be larger
    c. Press to confirm.

3. *Increase or reduce the flat side of the bevel*

    a. Press the value to be modified.

       > The numeric keypad is displayed.

    b. Enter the new value.

       ◦   Negative value: the flat side of the bevel will be smaller.

       ◦   Positive value: the flat side of the bevel will be larger.

    c. Press   to confirm.

4. *Step bevel is not accessible if the high-base tool is in place*

---

d. 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 that menu from your edger work screen, select   >   >   .

The following screen is displayed:
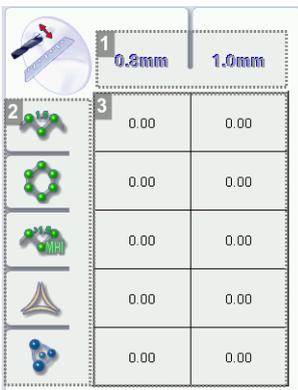
1. *Drill bit diameters*

    0.8 mm or 1.0 mm.

2. *Lens materials*

    ◦   Plastic

    ◦   Polycarbonate

    ◦   MHI

    ◦   Trivex™

    ◦   Tribrid™

3. *Increasing or reducing the default drill-hole diameter*

    a. Press the value to be modified.

       > The numeric keypad is displayed.

    b. Enter the new value.

       ◦   Negative value: the hole will be smaller

       ◦   Positive value: the hole will be larger

    c. Press   to confirm.

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

e. 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 that menu from your edger work screen, select ⊙ > ☑ > ⬚ .

The following screen is displayed:

	Small, front surface	Large, front surface	Small, rear surface	Large, rear surface
Plastic	0.00	0.00	0.00	0.00
Polycarbonate	0.00	0.00	0.00	0.00
MHI	0.00	0.00	0.00	0.00
Trivex	0.00	0.00	0.00	0.00
Tribrid	0.00	0.00	0.00	0.00
Glass	0.00	0.00	0.00	0.00
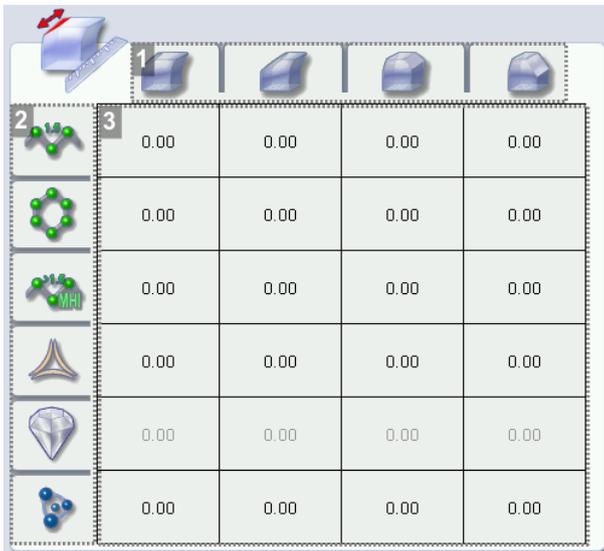
1. *Chamfer*

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

2. *Lens materials*

- ◦ Plastic
- ◦ Polycarbonate
- ◦ MHI
- ◦ Trivex^{TM}
- ◦ Tribrid^{TM}
- ◦ Glass

3. *Increasing or reducing the default chamfer*

- a. Press the value to be modified.
  > The numeric keypad is displayed.
- b. Enter the new value.
  - ◦ Negative value: the chamfer will be smaller
  - ◦ Positive value: the chamfer will be larger
- c. Press ✔ to confirm.

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

f. 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 your edger work screen, select > > .

The following screen is displayed:
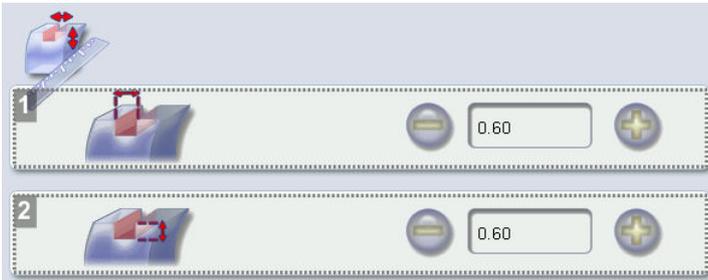
1. *Adjusting the default groove width*

- ◦ 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.

3. RESTORING THE FACTORY SETTINGS

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

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

IV. MAINTENANCE AND SERVICING
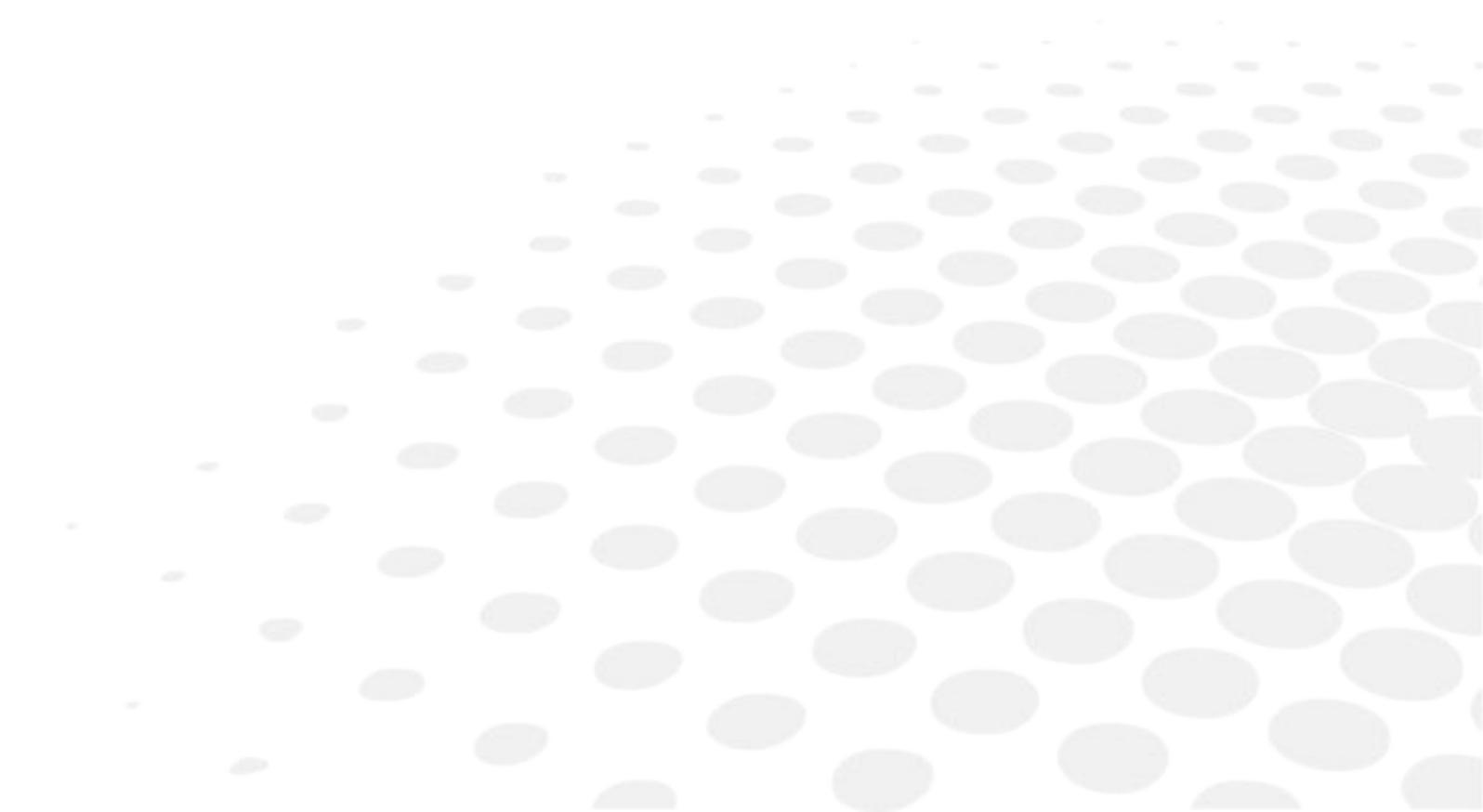
This chapter describes the maintenance procedures you can carry out on the edger without the aid of a technician.

- Carrying out edger autotests *(☞ p.60)*
- Checks and calibration *(☞ p.61)*
- Viewing the statistics and technical history log *(☞ p.63)* (jobs and actions carried out)
- Changing the edger tools *(☞ p.66)*
- Servicing and cleaning the digital system *(☞ p.70)*

1. CARRYING OUT THE AUTOTESTS

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 ⦿ > ⚙ > ⚙ from your work screen.
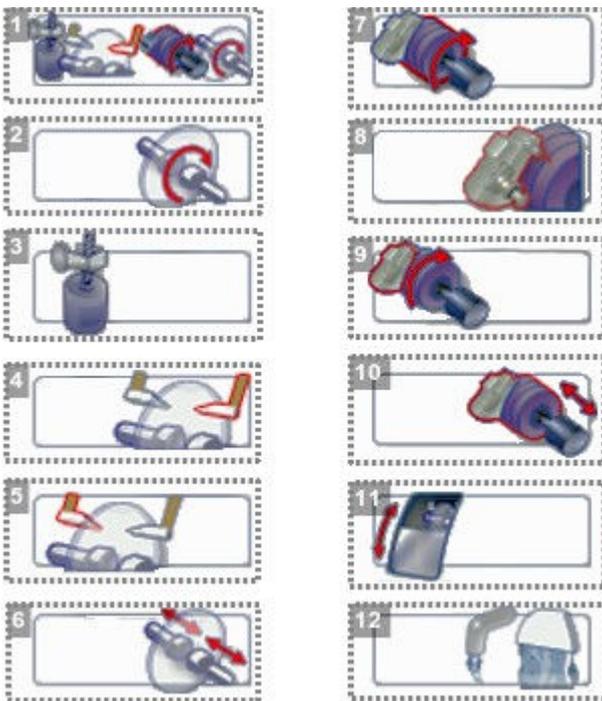
1. *Edger autotests*

2. *Initialisation and rotation of lens shafts*

3. *Reproducer: lens shaft raising and lowering*

4. *Right feeler movement*

5. *Left feeler movement*

6. *Closing of lens shafts*

7. *Wheel rotation*

8. *GCD module rotation*

9. *Movement of the GCD module*

10. *Transfer initialization*

11. *Door*

12. *Water test*
- ◦ trough spraying
- ◦ door spraying

1. Select the autotest to be carried out.

2. Press [icon] to start the test cycle.

   To interrupt the cycle at any time, press [icon].

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

   - ◦ [icon] The equipment is operational.

   - ◦ [icon] A malfunction has been detected, a description is displayed in the message box on the right.

2. CHECKS AND CALIBRATION

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

You can:

- • check the calibration on the position of the feelers in the trough *(☞ p.61)*
- • calibrate the touch screen *(☞ p.63)*.

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

[icon] Have the plastic calibration gauge to hand.

a. Calibrating the feelers

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

You can calibrate the position of the feelers in the trough.

[icon] During the feeler calibration cycle, the edger factors in the wear on the feelers since the last calibration and makes an adjustment to offset any difference.

[icon] Have the plastic calibration gauge to hand.

Press [icon] > [icon] > [icon] to access the calibration menu.

The following screen is displayed:

1 Place the calibration gauge in the posiblock holder.

2 Press ![icon] to tighten the clamps.

3 Press ![icon] to start the calibration cycle.

> The gauge positions itself on the same level as the feeler.

> A message is displayed: "Are the feelers aligned in the plastic pattern hole?"

4 Check that the feelers are correctly aligned.
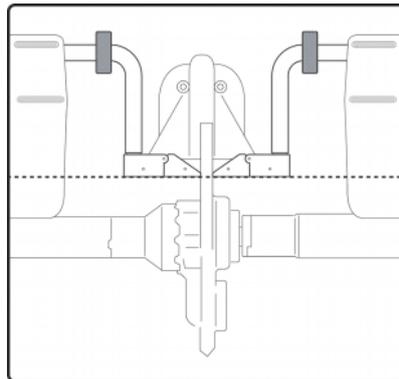
5 Press ![icon] if the feelers are correctly aligned.

Press ![icon] to loosen the clamps and remove the plastic pattern, then ![icon] to return to the work screen.

> The calibration cycle is complete.

6 Press ![icon] if the feelers are not aligned.

> 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.

3. STATISTICS AND TECHNICAL HISTORY

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.64)*
  • Technical history log and errors *(☞ p.65)*

a. Edger cycles

From the work screen, select ⬤ > 📊 > 123 to view the number of cycles carried out by the edger.

The following screen is displayed:
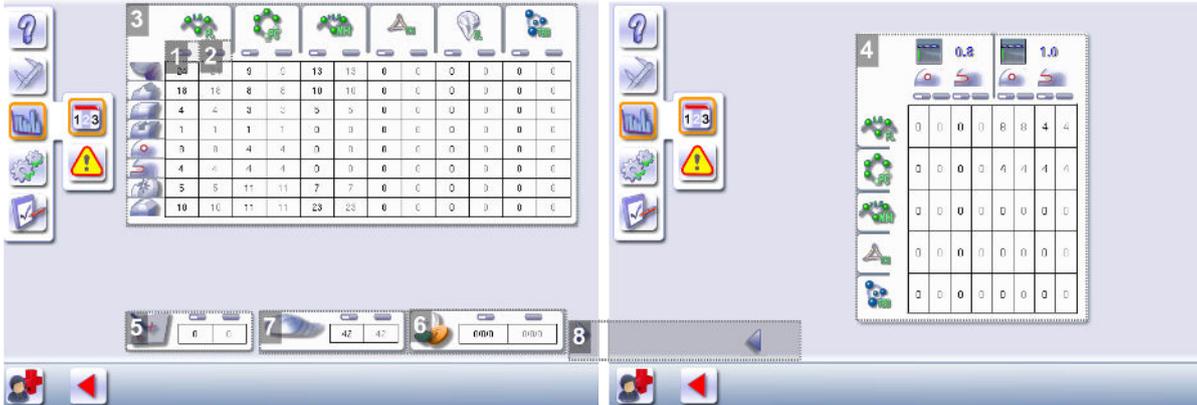
1. *Partial counter*

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. *Dressing cycles*

Glass roughing wheel/Finishing wheel/Polishing wheel

7. *Number of lenses cut*

8. *Next page/Previous page*

b. Technical history log and errors

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

The following screen is displayed:
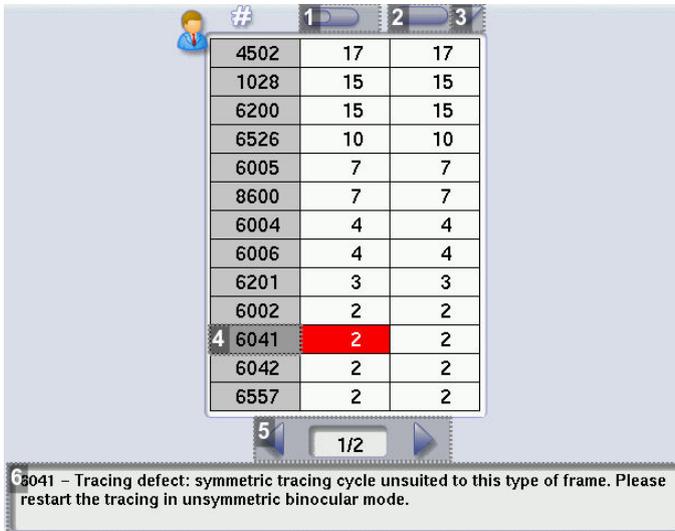
1. *Partial counter*

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. *Error message pages*

6. *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.

4. CHANGE OR CLEAN 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
- Drill bit changeover tool
- The drill bit to be replaced

From the work 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 drill bit diameter to install (0.8 mm or 1.0 mm).

For cleaning, select the drill bit diameter in place.
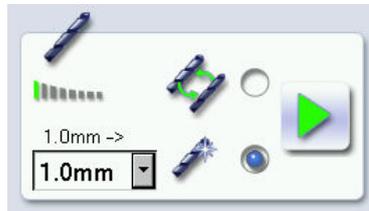
2 Select the type of operation:

- 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 tool for changing the drill bit in the chuck notch.

5 Place the open-end spanner between the two grooving and chamfering wheels.

**6** Loosen the drill bit by moving the tool towards you.
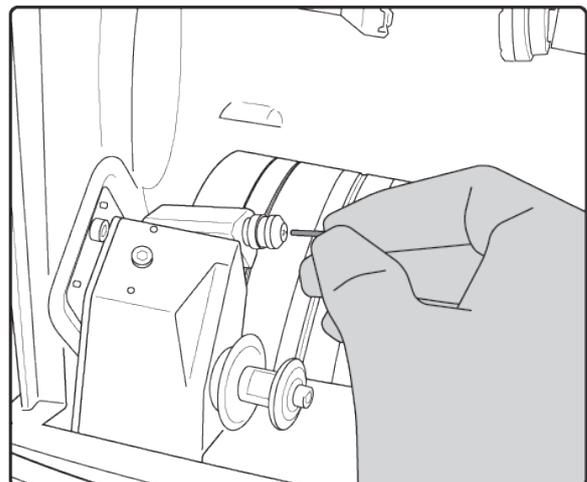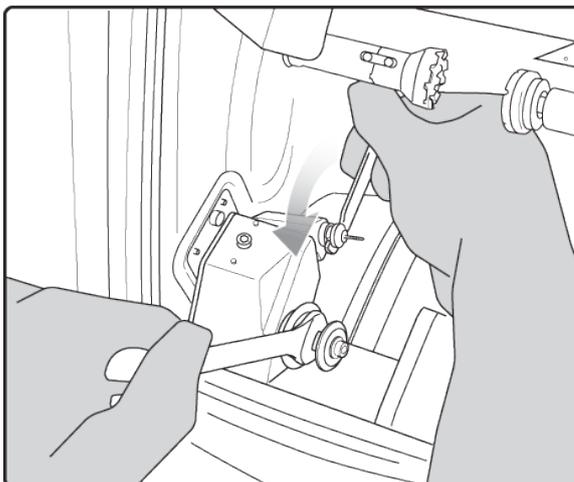
7 Remove the drill bit and replace it with the necessary one, by putting it to the stop at the back of the chuck.

**8** Tighten the chuck using the tool and open-end wrench.

9 Remove the keys and press .

10 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
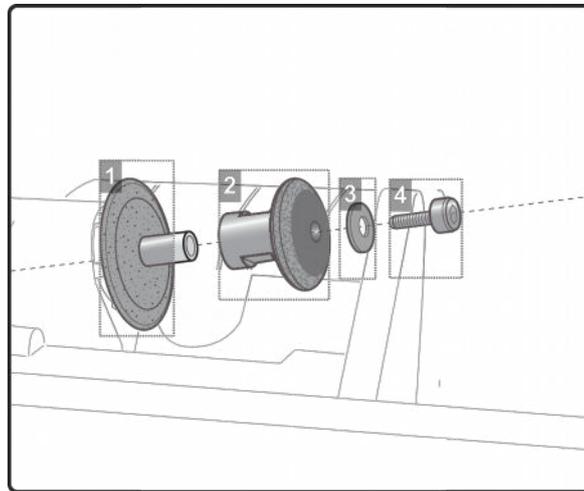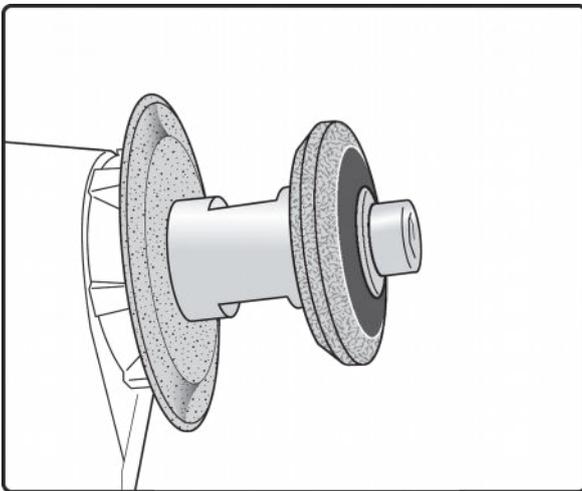
1. *Grooving wheel*

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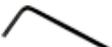
- ⎯ Allen key
- Open-ended spanner
- Wheel(s) to be replaced:
  ◦ Grooving wheel
  ◦ Chamfering wheel

From the work screen of the edger, select ⊚ > ⚙ > 🔧 to change the grooving or chamfering wheel.
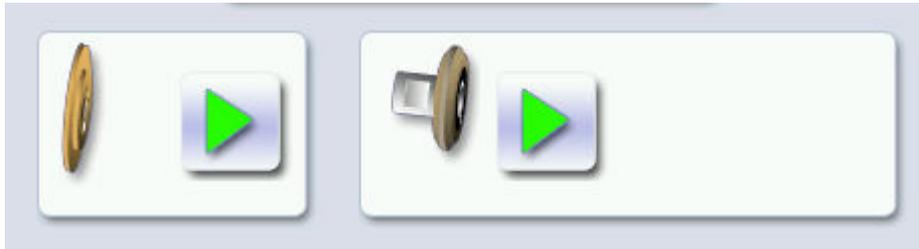
You can access the tool-change menu by pressing 🔧 on the work screen.

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.66)*.

2 Place the open-ended spanner behind the chamfering wheel to hold the spindle and insert the Allen key in the screw.
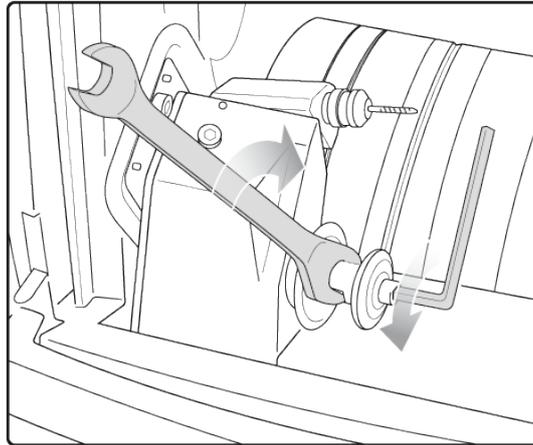
3 Carefully remove the screw and washer without letting them fall into the trough.

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.

5. MAINTAINING AND CLEANING THE EDGER

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

- Precautions required *(☞ p.71)*
- Cleaning the door and GCD module *(☞ p.71)*
- Dress the wheels *(☞ p.73)*

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 window and the GCD module

From the work screen of the edger , select 〔◉〕 > 〔⚙〕 > 〔💧〕 to access the cleaning menu.

The following screen is displayed:

1. *Cleaning the window*

   press 〔💧〕 to start the cleaning cycle.

   > The module moves into position.

   > The door opens.

   b. Take the window off to clean it.

2. *Cleaning the module and trough*

   Press 〔💧〕 to start the cleaning cycle.

   > The door closes.

   > The cleaning is done automatically.

Use a Phillips screwdriver to hand.

Remove and clean the window

1 Press

> > The module moves into position.

> > The door opens.
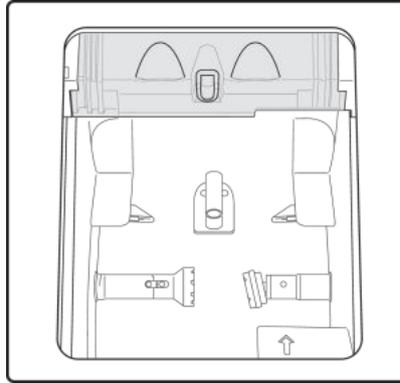
2 Unscrew the screw with a phillips screwdriver while holding the window.
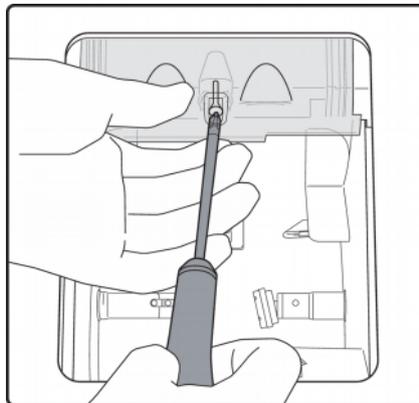
3 Drag the window and then pull it towards you to put it down.
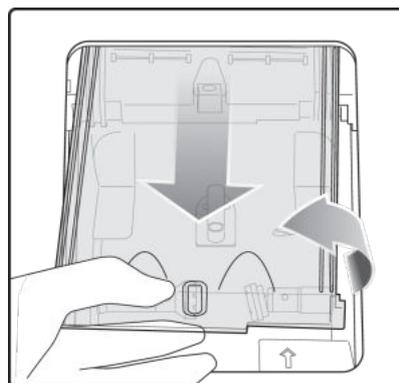
> > The window is now removed.

`4` Clean the window with water without rubbing.

To re-install the window, perform the procedure in reverse. To tighten it:

- First, shake it lightly with your hand until the window no longer moves in the door and then,
- Then tighten by turning the additional screws 3/4 of way around (or even up to one full turn).

⚠️ **Precautions**

Be sure to position the window correctly in the door slides.
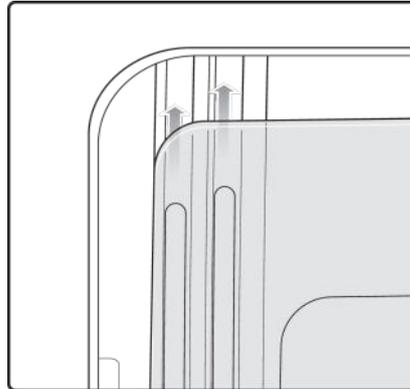

c. Dress the wheels

4-wheel train
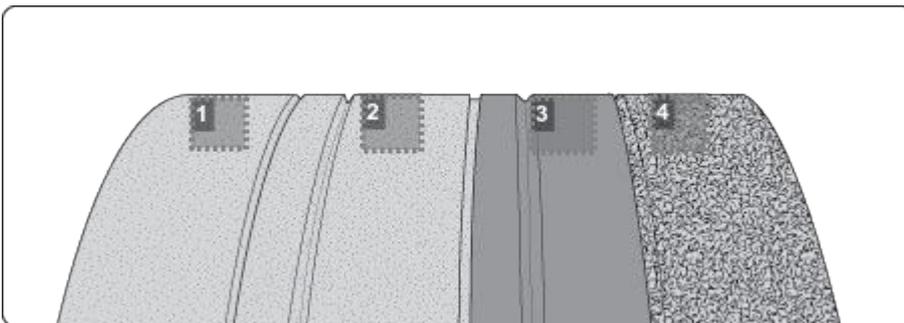
1. *Glass roughing wheel*

2. *Finishing wheel*

3. *Polishing wheel*

4. *Plastic roughing wheel*

  This wheel cannot be dressed

3-wheel train
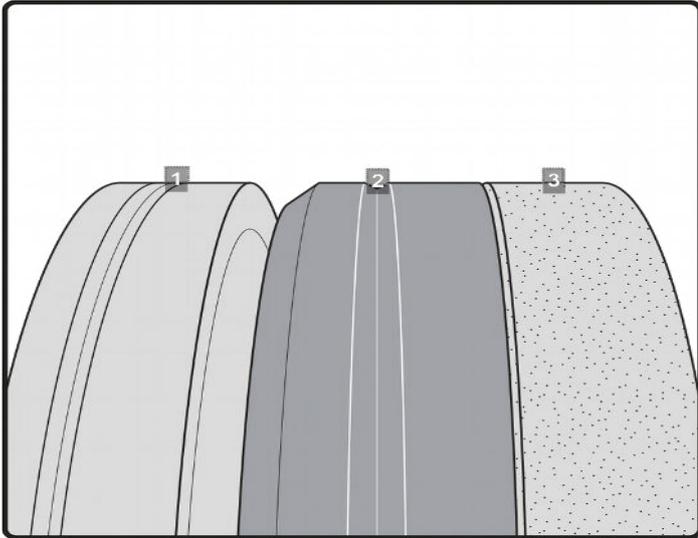
1. *Polishing wheel*

2. *Finishing wheel*

3. *Plastic roughing wheel*

This wheel cannot be dressed

From the work screen of the edger, select ⊙ > ⚙ > 🔧 to access the wheel 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.
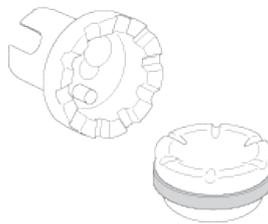
`2` Select the appropriate dressing cycle:

- 🔧 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 Press to start the dressing cycle.

6 Once the cycle is finished, press to open the clamps and remove the dressing stone.

7 If the dressing stone shows a residual ring, remove it in order not to disrupt subsequent dressing operations.

TECHNICAL DATA
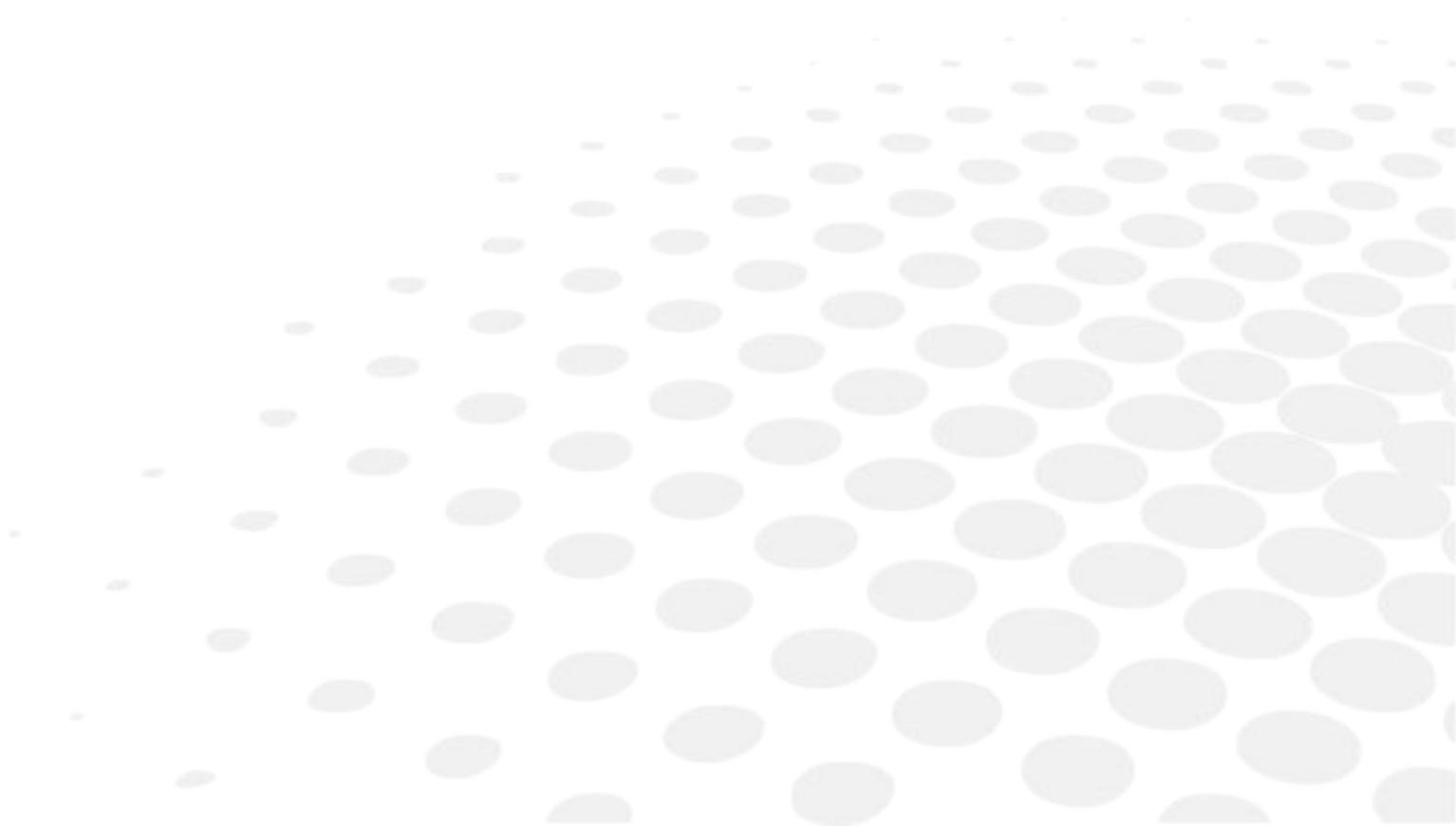
- Edger *(☞ p.78)*
- Environment *(☞ p.79)*

1. EDGER

Edger in boxing mode (passive)

Automatic initialization

Tool wear indicators

Simultaneous feeling of the front and rear surfaces of the lens

Types of finish:

- Bevel:
  - Automatic bevel
  - Customized bevel: frame rim tracking, distributed bevel (%), front surface tracking, rear surface tracking, partial and global adjustment, displacement
  - Distribution value: modification step of 0.1 mm or 5% (distributed bevel)
- High-base bevel
  - Shelf bevel value: 0.25 to 2.5 mm; modification step: 0.05 mm
  - Flat side of the bevel value: 0.1 to 2 mm; modification step: 0.1 mm
  - Positioning value of the flat side of the bevel compared to the front surface of the lens: from 0 to 1.3 mm.
- Flat-edge
- Grooving:
  - Automatic groove
  - Customized groove: distributed groove (%), front surface tracking, rear surface tracking, partial and global adjustment, displacement
  - 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
  - Small chamfering by default: 0.20 mm
  - Large 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
  - no-drill area: diameter of 29 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 lenses™, Tribrid lenses™lenses; polishing

Networking possibility:

- tracers-centerers-blockers
- edgers
- PC
- Essibox

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

Size of colour touch screen: 8.4 inches

Dimensions: L 560, D 420, H 620 mm

Weight: 54.7 kg

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

Power consumption: 1350 W – 10A for 220-240V and 15A for 100-120V

Average water consumption:

- CR39, glass, Trivex™, Tribrid™ and MHI: 4 litres/minute.
- Polycarbonate: 5 litres/minute.

Measured noise level on edging, at a distance of 0.5 m from the machine: maximum 83 dB.

Due to constant improvements, these specifications may be modified without prior notice.

2. Environment

Your machine should preferably be installed on a perfectly flat and stable work surface of suitable height (about 70 cm), free from shocks and vibrations, to benefit from the high accuracy of your edger. Your edger can be placed to the right or left of the tracer. However, leave enough space between the two devices for the opening of the side covers. The tracer may be installed up to 5 m away from the edger (a 5 m cable is supplied with the edger). Longer cables are also available on an optional basis.

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 (23 F) and 50 C (122 F)
- Humidity: between 25% and 95%

Altitude: < 2,000 m

Degree 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 vapors 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 INFORMATION
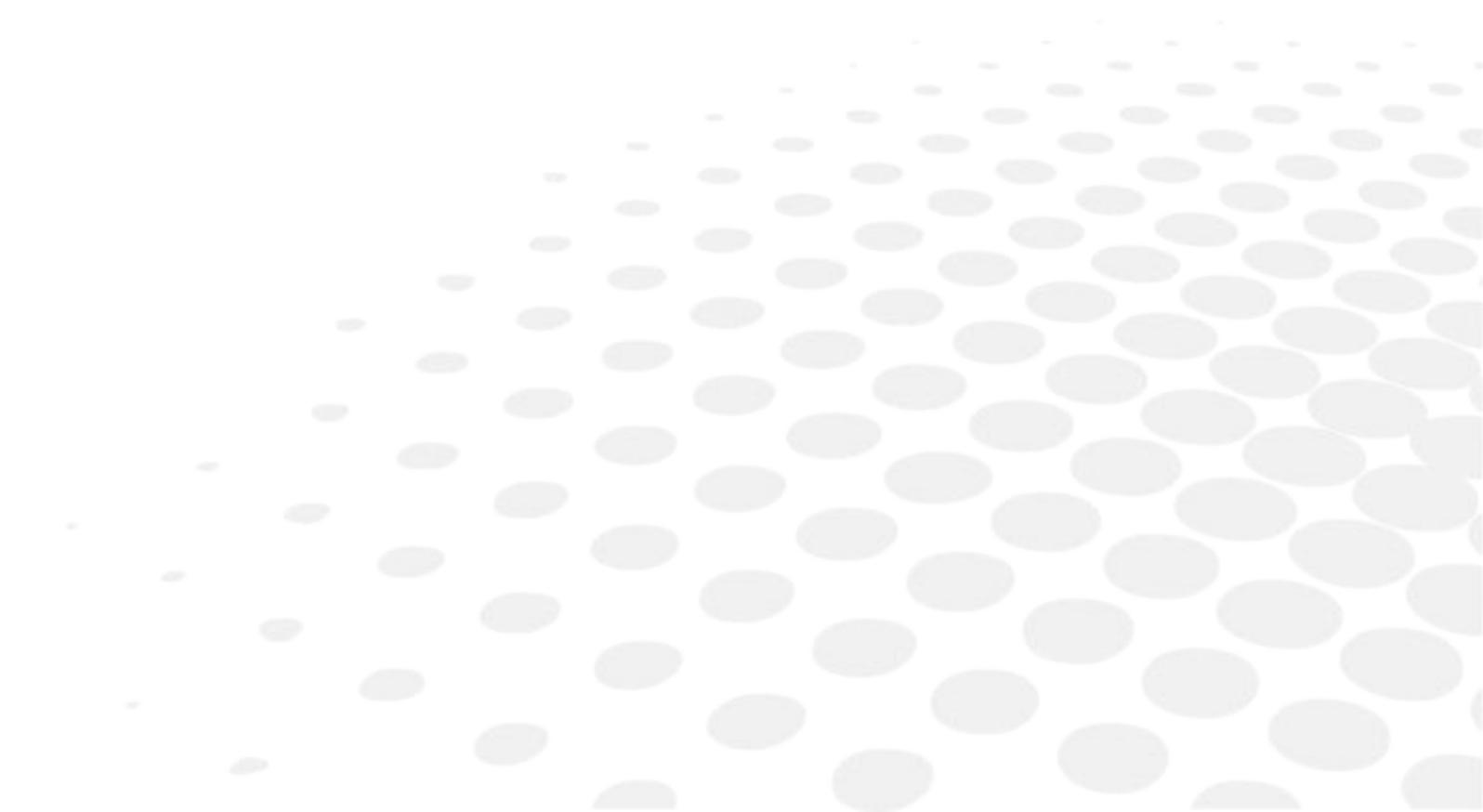
- Description of the symbols *(☞ p.82)*
- Modifications *(☞ p.82)*
- Compliance *(☞ p.83)*
- Copyright *(☞ p.83)*
- Materials and products *(☞ p.83)*
- Security *(☞ p.84)*
- Electromagnetic waves *(☞ p.85)*

1. Symbols

Symbols present on the digital system	
O	Off (power)
I	On (power)
▬▬ ▪ ▪ ▬	D.C. current speed
⎍⎍	asynchronous motor speed
⚡	Caution: risk of electric shock
⚠	Caution: danger, refer to the user manual

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: indicate the number of the page to be consulted for further information

2. 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. The manufacturer cannot be held responsible for any malfunction or loss of data resulting from such errors or omissions.

3. Declaration of conformity

Complies with marking: **CE**

Eurasian conformity: **EAC**

Complies with ISO 16284 standards, IEC 61010-1 and IEC 61326-1 and with directives 2006/42/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 of 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.

4. Copyright

Copyright © 2018 Essilor - Original manual

5. 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 limits the amount of dust significantly due to its integrated devices: operation in an enclosed 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.

6. SAFETY INSTRUCTIONS:

All mechanical or electronic adjustments and electrical maintenance must be carried out by a customer service technician approved by Essilor.

The use of an accessory or a cable other than those recommended in this manual can be dangerous for users.

Keep the power cables and the solenoid valve/pump cables away from sources of heat, sharp objects and grease.

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

Do not use your system in any way other than described in this document. Otherwise, the protection provided by the device could be compromised.

Never try to modify or dismantle this product yourself. In addition to the fact that you are likely to damage the instrument, you can also injure yourself.

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

It is an electrical appliance compliant with the applicable safety standards. In the event of malfunction, repairs must be carried out by qualified personnel approved by Essilor. Otherwise, user safety is likely to be compromised.

In the event of a long period of non-use and before maintenance and/or replacement of certain accessories, you must unplug your edger from the mains.

The equipment must be plugged into an earthed power supply. The earthing must comply with public standards and be checked by a technician. Avoid using extension cables or adaptors which could create a poor contact.

Never pull on the cables to unplug them from the power socket.

Before plugging your edger into the mains, check that the switch is set to OFF or 0.

If the switch no longer operates ON/OFF (0/I) you must stop using your edger. Defective switches must be replaced by an approved repairer.

Your system is a professional tool which must only be used by specialized, responsible operators. It must not be used by anyone apart from these operators.

This machine is neither adapted nor intended to operate in an environment where there is a risk of explosion. Do not use this system in the presence of liquids or flammable gases.

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

It is strongly advised to wear gloves to protect your hands when you empty the tank to clean it.

7. 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
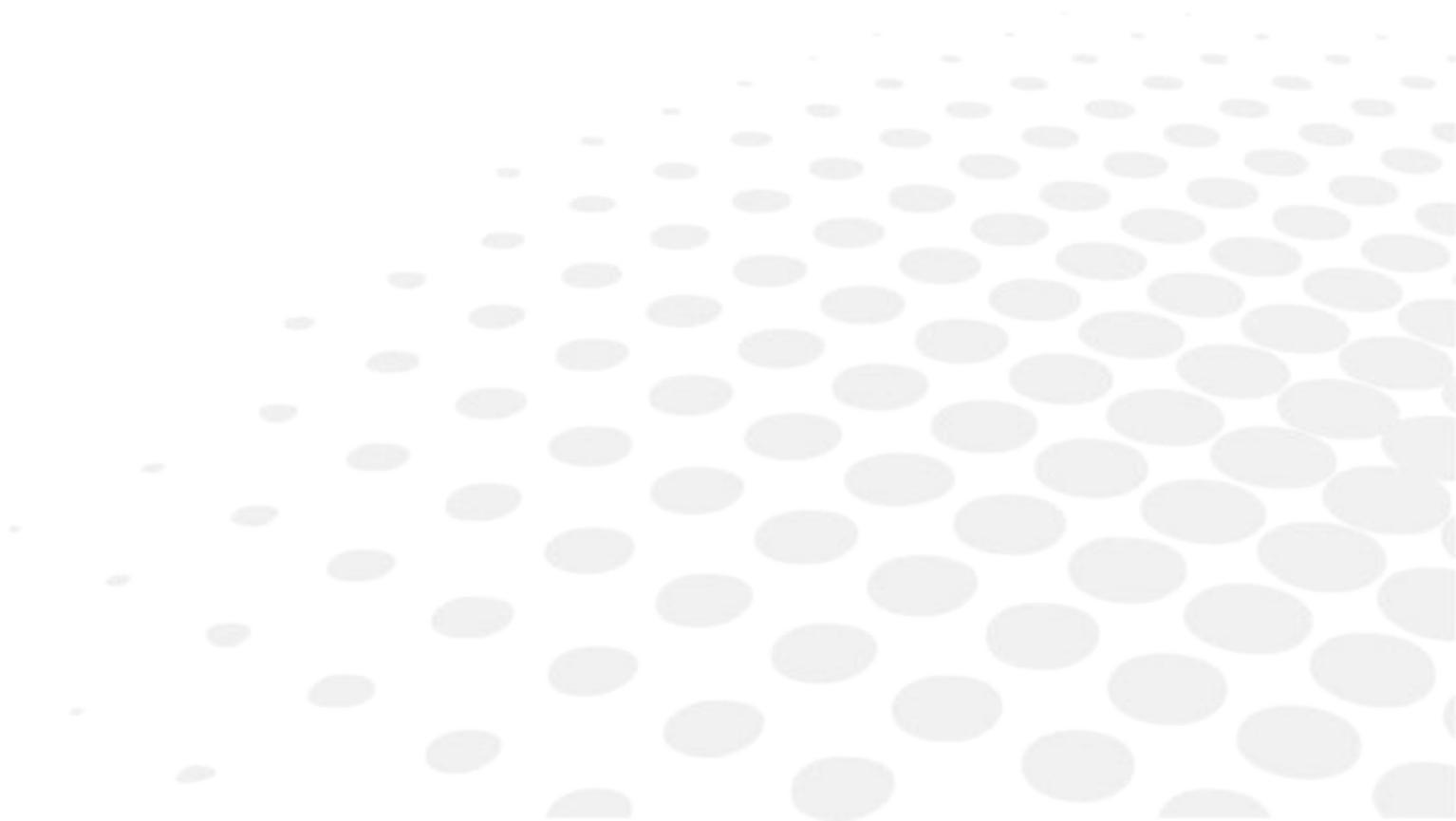
Executive lens

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 lenses™

Groove with meniscus

The curve of the rim of the frame is considerable.

ID

The job identifier, or ID, consists of alphanumeric characters. 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.

Refractive index

Characterizes the refractive power of a transparent optical material.

The indexes 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

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