



CL-1 – User Manual

Contact Lens Calculator · Vertex Distance Compensation

Stile Ottica SA – stileottica.ch/app

Overview

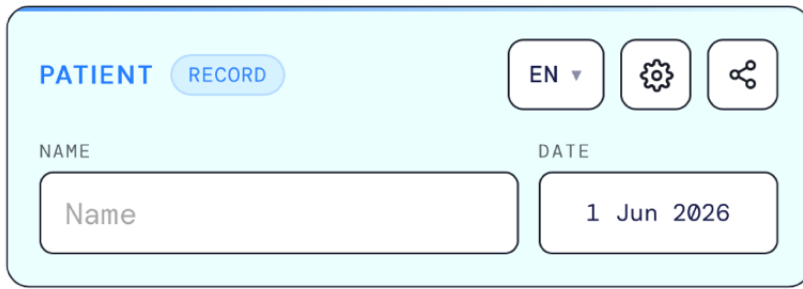
CL-1 is a professional tool for opticians and eye-care practitioners. It converts spectacle refraction data into contact lens parameters, automatically applying vertex distance compensation, and computes both toric and spherical equivalent prescriptions in real time.

Interface Layout

The app is organized as a vertical sequence of cards, each covering a specific step of the workflow:

1. **Patient** – name, date, language, settings
2. **Glasses** – spectacle refraction input (SPH, CYL, Axis) + vertex distance δ
3. **CL** – compensated toric contact lens results
4. **Spherical CL** – spherical equivalent results
5. **CL to order** – free-entry fields for the final order values

Patient Card



The Patient Card UI is a light blue rounded rectangle. At the top left, it contains the text 'PATIENT' in blue and a blue pill-shaped button labeled 'RECORD'. To the right of these are three icons: a language selector showing 'EN' with a downward arrow, a gear icon for settings, and a share icon. Below the top row are two input fields. The first is labeled 'NAME' and contains the placeholder text 'Name'. The second is labeled 'DATE' and contains the text '1 Jun 2026'.

At the top of the screen, the Patient card holds the record metadata and the main controls.

Name and **Date** fields identify the patient record. The date defaults to today and can be changed by tapping the field.

Language selector (top-left, shows the current language code, e.g. **EN**) opens a language picker. Available languages: Italian, German, French, English, Spanish, Portuguese, Japanese, Korean, Chinese. The choice is saved and applied instantly to the entire interface.

Settings (gear icon, top-right) opens the Settings panel – see the [Settings](#) section below.

Share (share icon, top-right) captures the current screen as an image and opens the system share sheet, so you can send the record via AirDrop, Messages, Mail, or save it to Photos.

Glasses Card

GLASSES REFRACTION T.A.B.O.

● RIGHT EYE (R)

SPH: CYL: AXIS:

● LEFT EYE (L)

SPH: CYL: AXIS:

δ mm ⇌ CYL + / -

Enter the spectacle refraction in **T.A.B.O. notation**.

FIELD	DESCRIPTION
SPH	Sphere power in dioptres (e.g. <input style="background-color: #e0f7fa; border: 1px solid #ccc;" type="text" value="-3.50"/>)
CYL	Cylinder power in dioptres (e.g. <input style="background-color: #e0f7fa; border: 1px solid #ccc;" type="text" value="-1.25"/>)
Axis	Cylinder axis in degrees, 0-180
δ (Vertex distance)	Distance in mm from the back surface of the spectacle lens to the corneal apex. Default: <input style="background-color: #e0f7fa; border: 1px solid #ccc;" type="text" value="14.0"/> mm . Adjust per patient/frame.

Fields are colour-coded: Right eye in blue, Left eye in pink, Axis in amber.

⇌ **CYL + / -** transposes the prescription for both eyes simultaneously:

$$SPH' = SPH + CYL \quad CYL' = -CYL \quad Axis' = Axis \pm 90^\circ$$

Useful when converting between positive and negative cylinder notation.

CL Card (Toric Contact Lens)

CL RESULTS	
RIGHT (R)	LEFT (L)
SPH 0.00	SPH 0.00
CYL -	CYL -
AXIS -	AXIS -

Displays the compensated toric contact lens prescription, updated automatically as you type.

The vertex distance compensation formula is:

$$D_{cl} = \frac{1}{\frac{1}{D_{spec}} - \frac{\delta}{1000}}$$

CYL is derived from the difference between the compensated total power and the compensated sphere. The axis is taken directly from the spectacle refraction axis.

If CYL is zero, the CYL and Axis fields show .

Precision toggle (top-right of the card header):

- – full floating-point precision
- – values rounded to the nearest quarter dioptre (clinical standard)

The card is collapsible: tap the header to show or hide the results.

Spherical CL Card



Shows the **spherical equivalent** of the compensated prescription for each eye:

$$SE = \text{SPH} + \frac{\text{CYL}^2}{2}$$

Used when prescribing spherical (non-toric) contact lenses as an approximation.

Precision toggle: same 0.01D / 0.25D switch as the CL card.

The card is collapsible.

CL to Order Card

The screenshot shows a light blue card titled "CL TO ORDER" with a sub-header "INSERT VALUES" and a triangle icon. It contains two columns for "RIGHT (R)" and "LEFT (L)". Each column has three rows: "SPH", "CYL", and "AXIS". The Right (R) eye values are SPH: +0.00, CYL: - (blue minus), and AXIS: - (orange minus). The Left (L) eye values are SPH: +0.00, CYL: - (pink minus), and AXIS: - (orange minus).

A free-entry section for recording the actual lenses selected for the order, which may differ from the calculated values (e.g. due to available stock parameters).

Enter SPH, CYL, and Axis for Right (R) and Left (L) eyes. The badge in the header reads **Insert values** until data is entered.

The card is collapsible.

Reset

The **Reset all values** button at the bottom of the main content area clears all input fields and results, resets δ to **14.0 mm**, and sets the date to today.

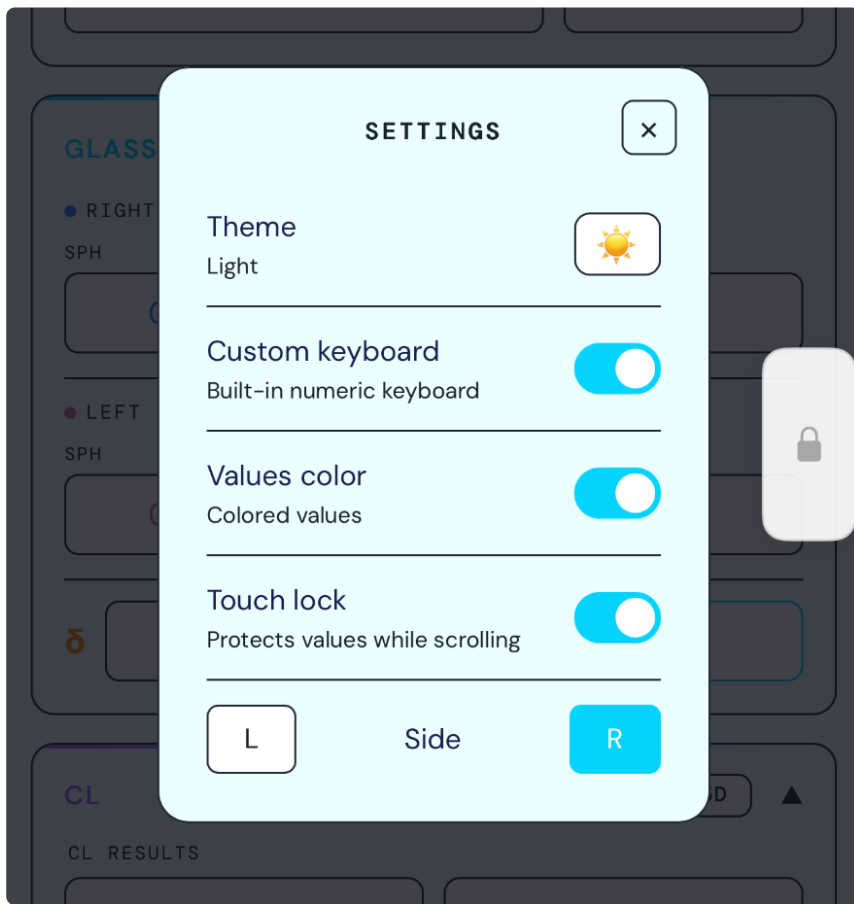
Technical Notes

Displayed at the bottom of the page:

- Values are rounded to the nearest quarter dioptre (0.25D) with a significant change threshold of 0.12D.
- Toric CL compensation: $D_{cl} = \frac{1}{1/D_{spec} - \delta/1000}$. CYL from compensated total power. Axis = refraction axis (stabilization not applied in this version).
- Spherical equivalent: $SSE = \text{SPH}\{\text{cl}\} + \frac{\text{CYL}\{\text{cl}\}}{2}$.
- The compensated values at 0.25D are indicative. The determination of the final value remains the responsibility of the professional.

Settings

Open via the **gear icon** in the Patient card header. Tap outside the panel or tap X to close.



Theme

Toggles between **Light** and **Dark** mode. The current mode is shown below the label. The setting is saved automatically.

Custom Keyboard

Enables the built-in numeric keyboard – a purpose-built keypad optimised for entering optical values (SPH, CYL, Axis). When active, tapping any numeric input field opens this keyboard instead of the system keyboard. A persistent bar at the bottom of the screen shows the custom keyboard toggle status and provides quick access to all input fields.

The image shows a mobile application interface for entering patient and glasses data. At the top, there's a 'PATIENT' section with a 'RECORD' button, language selection ('EN'), settings, and share icons. Below are input fields for 'NAME' (containing 'Name') and 'DATE' (containing '1 Jun 2026').

The 'GLASSES' section is active, showing 'REFRACTION T.A.B.O.'. It has two eye selection options: 'RIGHT EYE (R)' (selected) and 'LEFT EYE (L)'. For the right eye, there are three input fields: 'SPH' (0.00), 'CYL' (0.00), and 'AXIS' (0). For the left eye, there are three input fields: 'SPH' (0.00), 'CYL' (0.00), and 'AXIS' (0). Below these is a field for 'δ' (14.0 mm) and a toggle for 'CYL + / -'.

A custom numeric keyboard is overlaid at the bottom, titled 'SPH R'. It features a grid of buttons: a triangle up, a triangle down, a plus-minus sign, and a back arrow. The main grid contains numbers 7, 8, 9, 4, 5, 6, 1, 2, 3, a decimal point, and 0. On the right side, there are three buttons for fractional values: .75, .50, and .25.

Values Color

Toggles coloured vs. monochrome display of the calculated result values. Options cycle through **Colored values**, **Black values**, and **White values** depending on the current theme.

Touch Lock

Enables a floating **lock pill** on the side of the screen. When activated (by tapping the pill), it prevents accidental changes to input values while scrolling – touches to all form fields are blocked. Tap the pill again to deactivate.

Side: choose **L** (left) or **R** (right) for the pill position.

Even with Touch Lock active, the following controls remain accessible:

- **0.01D / 0.25D** precision switches
- **Share** button

The Touch Lock feature is available on iOS only.

ⓘ Info Modal

The small ⓘ **button** at the very bottom of the page opens the info modal, which shows the current app version and two links:

- stileottica.ch/app – opens the app's web page in Safari
- support@stileottica.ch – opens a pre-addressed email in Mail

Tap anywhere outside the modal to close it.

Tips

- **Vertex distance** has the most impact on high prescriptions (above ± 4.00 , D). For low prescriptions, the compensation is minimal.
 - Use the **0.25D precision** toggle for results you intend to order – most contact lens ranges are available in 0.25D steps.
 - Use **0.01D precision** to inspect the exact compensated value before rounding.
 - The \Leftrightarrow **CYL + / -** button is handy when the refraction chart uses positive cylinder notation and the CL manufacturer requires negative cylinder.
 - The **Share** function captures the whole screen including the patient name and date, making it easy to attach the record to a patient file.
 - All settings (language, theme, keyboard, touch lock) are saved automatically and restored on the next launch.
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