



VISION-R 800



High-resolution  
smart phoropter







The Vision-R® 800 smart phoropter integrates high-resolution optical modules and advanced control algorithms to perform refractions from traditional 0.25 D down to 0.01 D resolution in both sphere and cylinder.

By measuring dioptric vision sensitivity, the Vision-R® 800 enables precise use of the patient's perceptual threshold for precise final adjustments. It allows several types of refraction procedures: manual refraction using gold-standard tests, automated routines via embedded Smart Programs and customized sequences.

The continuous power variation offers a smooth patient experience with no break in vision. Real-life inspired images, in addition to gold-standard vision charts, change the way the patient discovers their new prescription.



## 1. Empower your refraction practice

### Precision & Efficiency

Thanks to the exclusive optical modules and Smart Programs, you can measure your patient's dioptric sensitivity and to effectively personalize the refraction outcomes to 0.01 D.

### An extensive range of visual tests

You can expand your capabilities with a comprehensive suite of embedded visual tests (e.g. Binocular Vision, Charts, etc.), enabling you to deliver a tailored refraction process — all from one refraction system. To efficiently streamline your workflow and enhance your daily practice and habits, you can develop your own programs using the tests library.

### A comprehensive range of visual acuity charts

- Logarithmic, Decimal, Snellen types
- Letters, Numbers, Tumbling E, Landolt C, HOTV
- The Auckland Optotypes
- Wide range of customization: Crowding effects, Pointers, Low or Reverted contrasts, Duochrome filter
- Record the visual acuity directly from the Vision-R® 800 console



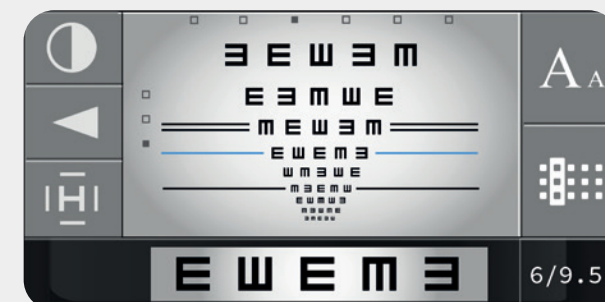
Pointers



Crowding effects



The Auckland Optotypes



Tumbling E

### A wide range of binocular vision testing

- Binocular perceptual equalization: prismatic, polarized, red/green, letters
- MKH complete testing sequence: cyclophoria, Stereo Acuity Test D10 by Stollenwerk up to 4.8", horizontal and vertical anizeikonia
- Binocular vision and accommodation: Von Graefe dissociated phorias, associated phorias, Maddox, Convergence Amplitudes, NRA / PRA, LAG, Fusion



Visual acuity records



Stereo Acuity Test D10 by Stollenwerk



Associated phorias



A powerful optical module

The exclusive optical module provides a seamless refraction experience thanks to continuous power variations: variable step size from 0.25 D up to 0.01 D in sphere and cylinder with 1° axis. Silent instantaneous power changer with no vision interruption leads to patient comfort.

Digital Infinite Refraction™ technology synchronously compensates and makes necessary adjustments in sphere, cylinder and axis to refract in 3 dimensions. Final results can be reached more directly than with traditional methods.



Comfort thanks to ergonomic controls

Refract intuitively thanks to the minimalistic physical phoropter controls. Equipped with a 10.4" wide touchscreen and keyboard, the system allows you to run complete refraction sequences while focusing on the patient. The user interface is designed to gain efficiency when performing manual examinations.



2. Deliver high-resolution examinations

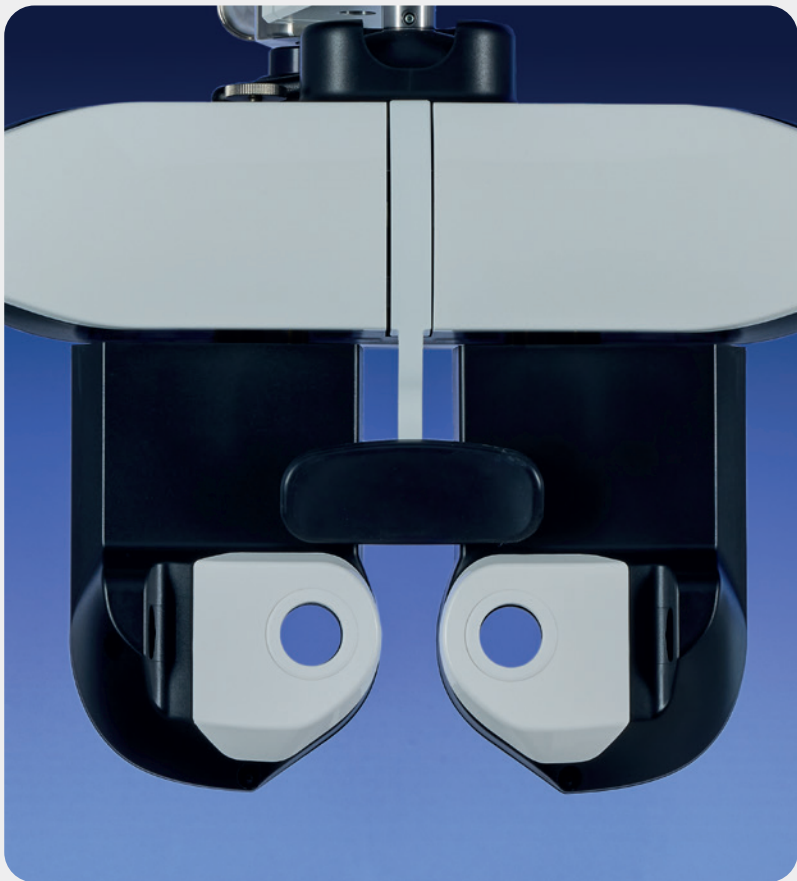
From standard to high-resolution increments

Choose your preferred refraction step size: 0.01 D with Precise Programs or 0.05 D to 0.25 D and more manually.

Digital vertex distance measurement

Integrated bilateral vertex distance measurement allows automatic compensation of the correction and ensures precise patient positioning, contributing to a personalized and accurate refraction examination.

The vertex distance control with bilateral cameras ensures precision throughout the examination. Automatic compensation to the reference vertex and screen distance calculates the true prescription. Multiple customizable export formats are available for ophthalmic spectacle lenses (e.g., 12 mm) or contact lenses (0 mm), using manufacturers' reference back vertex distances. Data can be exported in 0.01 D or 0.25 D resolution, with or without compensation for chart system distance proximity.



Precision at the heart of the vision care journey

Most patients have greater sensitivity than the traditional 0.25 D increments during the refraction examination<sup>1</sup>.



Essilor AVA™

Deliver a unique and enhanced patient experience with a full journey leading to high-precision subjective refraction to 0.01 D.

How?  
A precise refraction up to 0.01 D based on the Digital Infinite Refraction™ technology, integrated into premium Essilor® spectacle lens designs.

81% of patients experienced a high level of precision with the Essilor® AVA™ vision exam and wearing Essilor® AVA™ spectacle lenses<sup>2</sup>.

Prescribe Vision Performance (PVP™)

With PVP™ (Prescribe Vision Performance), the Vision-R® 800 enables measurement of personal dioptric sensitivity\* during the examination. This individual parameter is used to perform fine adjustments, which can be perceived by the patient.

When performing final subjective adjustments, the PVP™ image can be displayed to guide the patient's perception towards comfort and performance.

This visual target, developed by vision scientists, contains several cues in addition to high-contrast visual acuity: textures, line orientations, diverse spatial frequencies, and colors, in a real-life inspired scene.



PVP™ user interface



PVP™ visual target

<sup>\*</sup>Sensitivity to high-resolution increments during the eye examination was demonstrated in internal and independent studies:  
1 - EssilorLuxottica - Data on file 2016. Based on a Study conducted by Essilor - N=146 patients between 18yo and 65yo - Singapore.  
2 - Jia T, Tilia D, Papas E, Stapleton F, Zhen Y, Conrad F, et al. Comparison of vision performance of spectacles prescribed to 0.05D versus 0.25D steps. Clinical and Experimental Optometry. 2023 Apr 20;1-9.

<sup>\*</sup>Calculation of the patient sensitivity thanks to Vectorial refraction and psychophysics.  
1 - Claim of vision superiority only with AVA™ lenses - Study: AVA™ in-Life Concept Use Test - Independent third party - France - 2021 - N=105.  
2 - Essilor International - Data on file 2020 - Based on the study Essilor AVA™ clinical evaluation of patients' experience by a 3<sup>rd</sup> independent party, including N=116, performed in the US.



### 3. Enhance your refraction capacity

In addition to manual refraction operation, the Vision-R® 800 phoropter offers multiple algorithm-based Smart Programs.

The Fast & Secure programs are designed and clinically tested to provide a refraction time under 3 minutes for eligible patients, yielding similar outcomes as a gold standard manual refraction<sup>1</sup>. More time can be allocated to extra examinations and screening of vision needs.

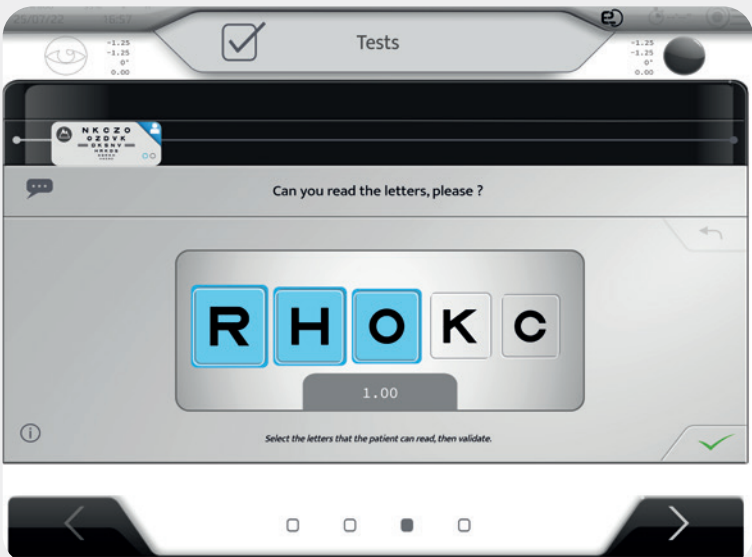
#### Fast & Secure built-in programs

- Semi-auto refraction: universal program for digital phoropter usage
- Smart Addition: 3-step near addition determination
- Smart Check: quick refraction without fogging
- Smart Complete: quick refraction with fogging



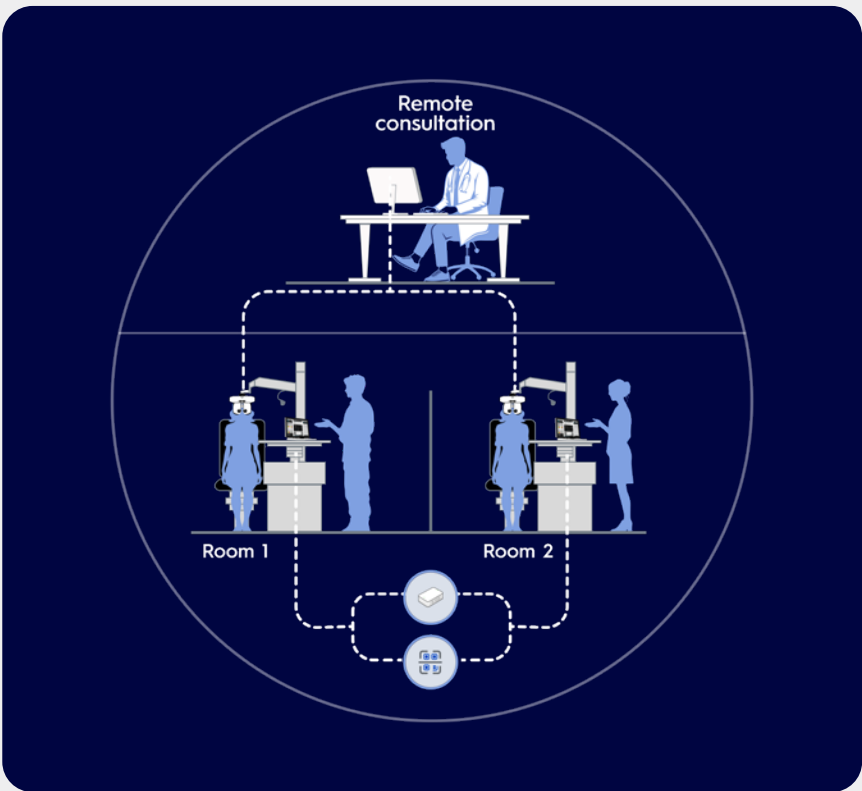
### Easy Refraction Mode™\*

Whether you are looking for a fully-guided refraction experience or to implement a cross-functional workflow in your practice, the Easy Refraction Mode™ can help you to raise the refraction capacity. The Easy Refraction Mode™ is clinically designed to ease the prescription process by performing a complete refraction sequence including visual acuities and the patient's subjective preference.



It includes:

- a dynamic refraction program automatically adapting the testing sequence to the patient's answers
- a full-screen interface with clear instructions to follow
- a concise refraction report with key information
- an export feature to other Vision-R® 800 phoropters or Vision-S™ 700 refraction station, via LAN or QR code, supporting a multi-room patient journey



#### A fully-connected refraction system

You can create workflows with the Vision-R® 800 and other products from the range that will help you gain refraction capacity:

- On-site multi-room journey where a preliminary refraction examination session can be shared to all other rooms in the practice through LAN, compatible EHRs, QR code.
- Remote consultation is possible by taking control of all phoropter functions from a distant practice through compatible platforms\*.

The Vision-R® 800 shares all input data and measurements performed (recorded refractions, visual acuities, binocular vision tests) in one single export. Daily examination data can be stored locally in temporary memory to be reused if needed.

### 4. Make your patients see the difference

Your patient enjoys a smooth view and uninterrupted vision throughout the examination. Thanks to the Digital Infinite Refraction™ technology, power changes happen without any break in vision.

Occluders can be personalized, ranging from masks to fogging lens of any power, allowing to manage a customized binocular refraction approach.

#### Final comparison step

At the end of the refractive exam, the comparison feature allows to demonstrate to the patient the effect of their new correction on real-life inspired scenes and visual charts. Switch between the new refraction and the previous correction with a single click for a smooth comparison. Explain the benefits of the new correction to your patient, before prescribing.



\*Remote refractive care is only available with a compatible platform and where permitted by local regulations.

# Technical specifications

## Centering

Interpupillary distance

49.0 to 80.0 mm at far distance (in 0.50 mm steps)

55.0 to 83.0 mm at near distance (in 0.50 mm steps)

Convergence

Automatic, in relation to the near vision chart location and patient's interpupillary distance

Vertex distance

From 4.0 to 30.0 mm in 0.5 mm steps, monocular, measured by cameras

## Measuring Range

Sphere

From -20.00 D to +20.00 D

Cylinder

Up to 8.00 D

Increments step size

· "Standard" mode: 0.25 D increments, adjustable to 0.05, 0.10, 0.25, 0.50, 1.00 and 2.00 D

· "Smart" mode: 0.01 D increments

Axis

0° to 180° in 1° increments, with adjustable steps to 5°, 10°, 20°, 45° and 90°

Prism

0Δ to 20Δ in 0.1Δ increments, with adjustable steps to 0.5, 1, 2, 3 and 6Δ

## Auxiliary Lenses

Occluders

Dark

Pin hole

Yes

Retinoscopic lenses

+1.50 D, +2.00 D (powered by optical modules)

Fog lenses

+1.50 D, +2.00 D and personalized (powered by optical modules)

Jackson cross cylinders

±0.25 D, ±0.50 D (powered by optical modules)

Fixed cross cylinders

±0.50 D (powered by optical modules)

Prisms

3Δ base up, 3Δ base down, 6Δ base up, 10Δ base in

(powered by varying prisms / diasporameters)

Maddox rods

Red, horizontal and vertical

Red/green filters

Red on the right eye, green on the left eye

Polarized filter

Linear

## Dimensions and Weight

Head of the phoropter

Width: 11.6 in at top - 8.6 in at bottom / height = 8.7 in

Depth: 3.3 in at top - 2.6 in at bottom

Total weight: 7.7 lbs

Console (keyboard + screen)

Keyboard: 11x9 in

Screen display: 10.4"

Total weight: 6.6 lbs

Power supply

Length: 6.4 in

Width: 7.6 in

Depth: 2.3 in

Total weight: 2.2 lbs



Vision-R 800-Brochure-US-V1-August2025

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Vision-R® 800 is a EU Class I medical device intended for Optometry. Manufacturer: Essilor International. For professional use only, read attentively the instructions for use. As improvements are made, these specifications are not contractually binding and may be modified without prior notice.

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NETWORK



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