

OFFER YOUR PATIENTS
THE BEST OF THEIR VISION



VISION-R™ 800

REINVENTING REFRACTION





WITH
VISION-R™ 800
ENTER A NEW ERA OF REFRACTION...

—
For many years, subjective refraction techniques have not changed that much. They always consisted of presenting lenses in different powers, in an organized manner, in front of the patient's eyes and recording the patient's answers. It usually resulted in a prescription that was just an estimate of what was required.

With VISION-R 800, you enter in a new era of refraction: The phoropter's continuous power changes make refraction more precise and easier to perform, resulting in more accurate prescriptions for patients... and helping them discover the full potential of their vision!

AN EXCLUSIVE OPTICAL MODULE PRODUCING INSTANTANEOUS AND CONTINUOUS POWER CHANGES

VISION-R™ 800 CONTAINS A
BREAKTHROUGH TECHNOLOGY:

—
A patented automated optical module
powered by digitally-controlled motors

—
Providing simultaneous and
instantaneous changes of sphere,
cylinder and axis

—
A sphere range from -20.00 D
to $+20.00$ D in 0.01 D increments

—
A cylinder range up to 8.00 D
in 0.01 D increments

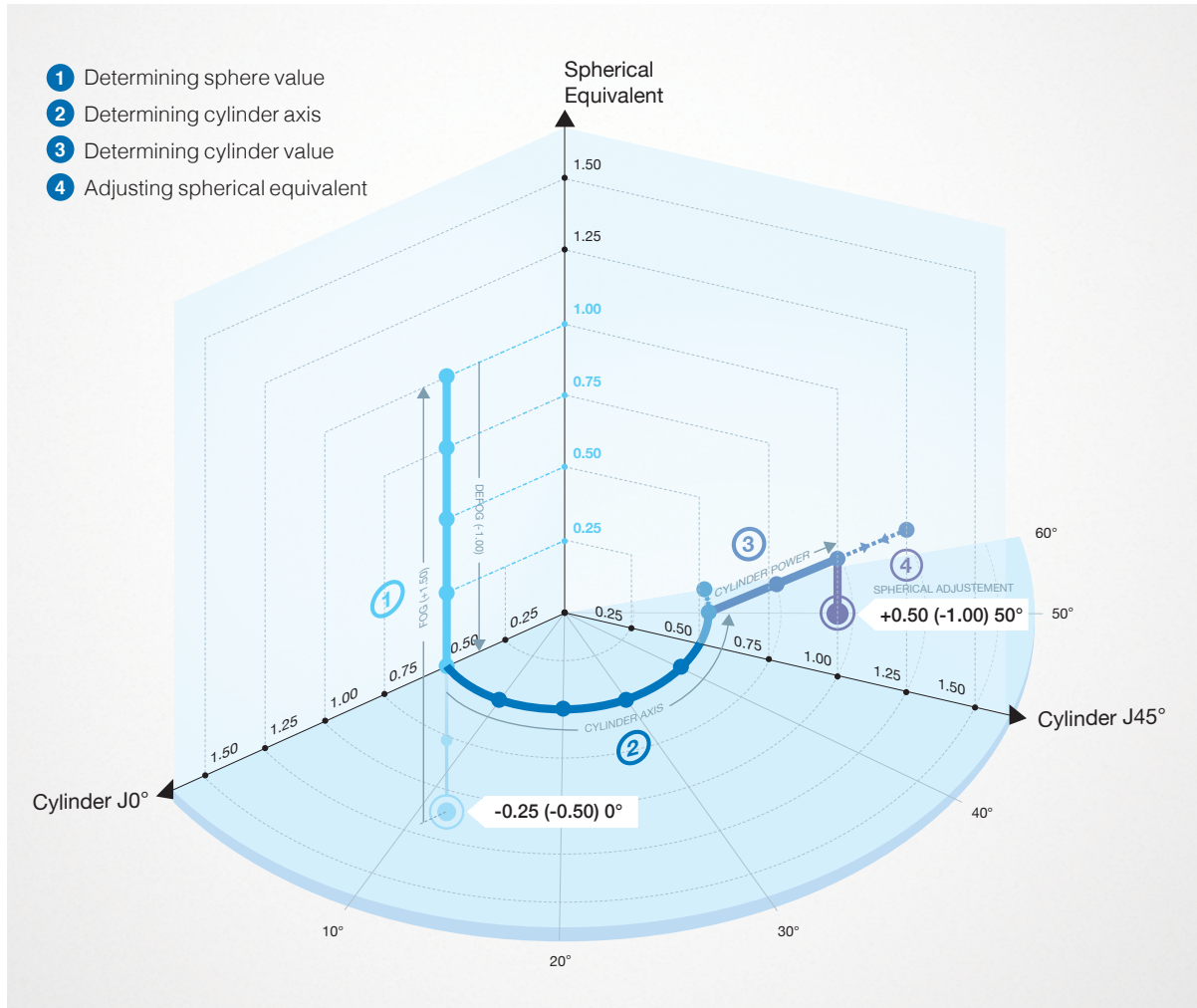
—
An axis range from 0° to 180°
in 1° steps

—
ALL CHANGES IN A
CONTINUOUS AND
SMOOTH WAY



DIGITAL INFINITE REFRACTION™: A MORE DIRECT ACCESS TO THE FINAL REFRACTION

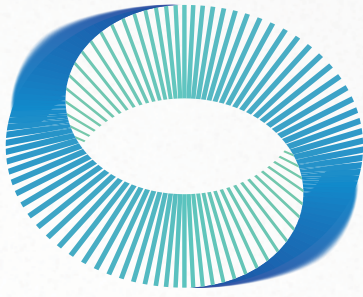
Thanks to the continuous and simultaneous variations of sphere power, cylinder axis and cylinder power, VISION-R™ 800 phoropter enables reaching the final refraction much more quickly and directly than with traditional refraction methods.



TRADITIONAL REFRACTION

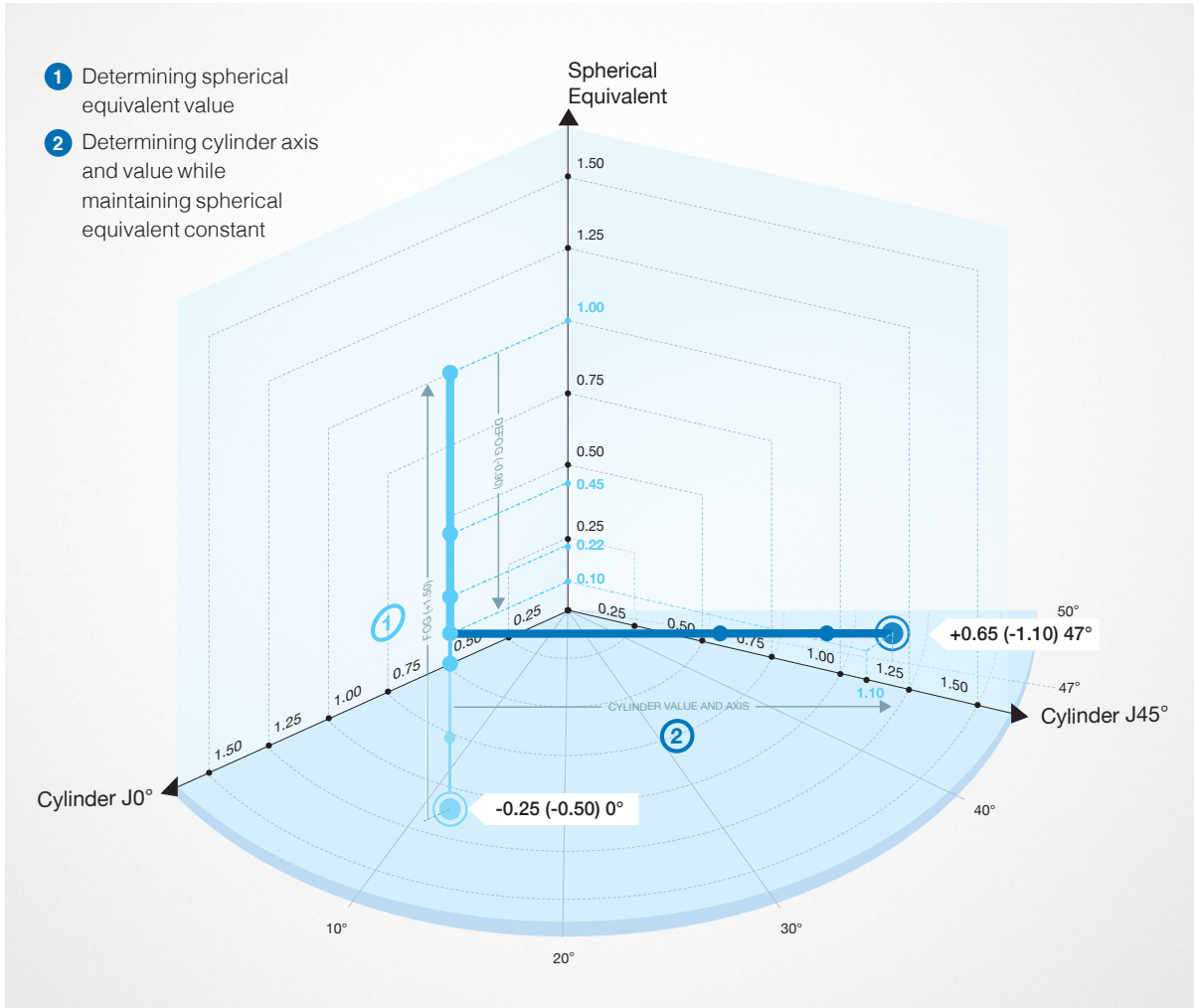
In the traditional refraction process, practitioners successively look for sphere power, cylinder axis and cylinder power individually... despite the fact that these three components are inter-related. As a consequence, sphere has to be readjusted after the determination of the cylinder.

With the VISION-R 800 optical module, all refraction components can vary simultaneously. For instance, the sphere is automatically adjusted for each change in cylinder power so as to maintain a constant spherical equivalent throughout the refraction procedure.



DIGITAL ∞ REFRACTION

- 1 Determining spherical equivalent value
- 2 Determining cylinder axis and value while maintaining spherical equivalent constant



DIGITAL INFINITE REFRACTION

Although refraction is traditionally described in terms of the sphere power, cylinder axis and cylinder power, it can also be described in a so-called “Dioptric Space” by three components: the spherical equivalent, the cylinder value at 0° and the cylinder value at 45°, all three being expressed in consistent dioptric units (see figures).

In this Dioptric Space, the traditional refraction process looks like a discontinued search in different directions to reach the final refraction. With the new optical module, the Digital Infinite Refraction™ procedure consists of a more direct route to the final refraction thanks to a simultaneous variation of all components... Refraction is therefore much quicker!



1

A MORE ACCURATE PHOROPTER...

UP TO 0.05 D PRESCRIPTION ACCURACY: VISION-R™ 800 phoropter controls power at 0.01 D and allows the practitioner to prescribe at 0.05 D steps to ensure a better prescription for the patient.

CONTINUOUS POWER VARIATIONS: VISION-R 800 phoropter sphere and cylinder values can vary continuously by 0.01 D increments, while most phoropters work in steps of 0.25 D.

INSTANTANEOUS ACCESS TO ANY REFRACTION VALUE: with VISION-R 800 phoropter, sphere, cylinder and axis can all vary at the same time... and instantaneously!

MEASUREMENT OF VERTEX DISTANCE WITH CAMERAS: Refraction value depends on the vertex distance. The back cameras of the VISION-R 800 phoropter measure it accurately allowing it to control the exact refraction value.



DID YOU KNOW ?

95% of human eyes are sensitive to variations less than 0.125 D for at least one type of tests during the eye exam.

Refraction does not vary significantly in human eyes : When measured in the same conditions, refraction does not change significantly in a few days (median value of variation range is 0.13 D for the sphere and 0.07 D for the cylinder).

...FOR A MORE PRECISE REFRACTION

THE BENEFITS OF A PRECISE REFRACTION

Precise prescriptions have never been available to patients because refraction and lens surfacing technologies did not enable it... up to now! Today, [Digital Infinite Refraction™ technology](#) makes it possible to determine prescriptions to an accuracy of 0.05 D. It is now possible to leverage the full potential of the digital surfacing technology used for lens manufacturing.

This is a very significant benefit for patients! When an exact refraction is performed, most patients can see the difference between a traditional 0.25 D refraction and a precise 0.01 D refraction. Experience it for yourself and you will see!

Whatever the lens steps selected (0.05 D or 0.25 D), using a precise refraction procedure brings an additional benefit. In the [traditional refraction procedure](#), values are rounded to 0.25 D at each stage and inaccuracies cumulate. In the precise [Digital Infinite Refraction procedure](#), all the refraction is conducted with 0.01 D increments and the final value is rounded to the nearest 0.05 D or 0.25 D, providing a more reliable result.

This means you can be sure your patients receive a more [precise refraction](#), either the [very accurate prescription](#) at 0.05 D or the [most appropriate refraction](#) at 0.25 D!

2



AN EASIER PROCEDURE FOR THE PRACTITIONER...

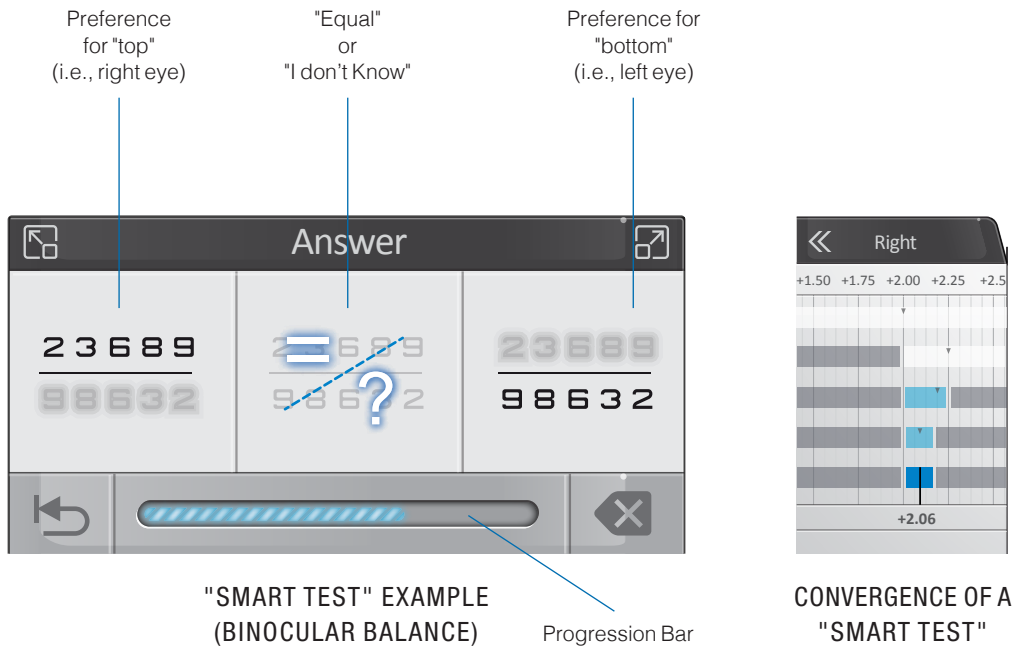
QUICKER REFRACTION PROCESS: the ease of use of VISION-R™ 800 phoropter and the shorter duration of the tests reduce the refraction time and result in faster refractions.

ASSISTED REFRACTION PROGRAMS HELP THE PRACTITIONER: a series of semi-automated "Smart Tests" are available in VISION-R 800 phoropter in order to assist the practitioner with performing the refraction. They are very user-friendly making refraction an easy process.

CONTROL OF PATIENT'S POSITION: cameras allow the practitioner to see the patient's eyes and thus to check the patient's position behind the phoropter.

ELECTRONIC MEASUREMENT of the near-vision chart location ensures it is placed accurately, helping to check refraction at the patient's exact reading distance.

...FOR A FULLY RELIABLE PRESCRIPTION



ASSISTANCE FROM AUTOMATED "SMART PROGRAMS" FOR REFRACTION

"Smart Refraction Programs" are composed of a series of automated "Smart Tests": Special algorithms have been developed by Essilor researchers to help look for sphere, cylinder and axis components, as well as binocular balance, in both an accurate and easy way.

All the patient's answers are taken into account: The final refraction value is no longer based on the patient's last answers. A statistical calculation is made based on all the patient's answers during each test. A sensitivity range is determined for each refraction component and the best value is then selected.

Practitioner just needs to enter the patient's answers! Smart Programs are very friendly and easy to use. Refraction becomes much less dependent on the practitioner's experience.

However, the practitioner can also define his/her own refraction procedure or perform refraction the way he/she usually does it...but with better accuracy!

3

A MORE COMFORTABLE EXPERIENCE FOR THE PATIENT...

A MORE NATURAL VISION: Thanks to the continuous power variation, patients do not see any breaks in vision and enjoy a very smooth refraction experience.

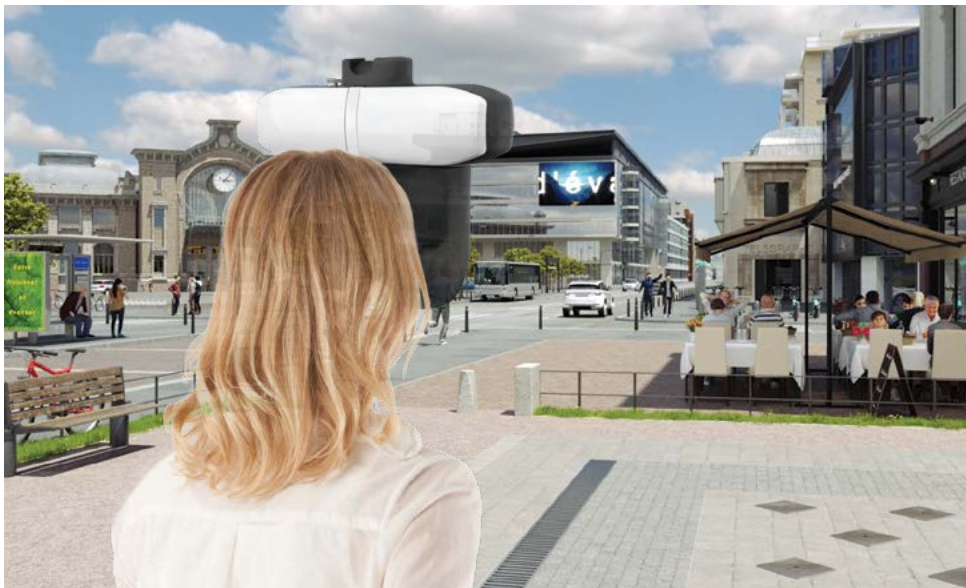
A WIDER FIELD OF VISION: Thanks to the thinness of the VISION-R™ 800 phoropter – made possible because there is no superposition of lenses – patients’ field of vision is significantly wider than with a traditional phoropter.

ANSWERS ARE EASIER TO GIVE: All along the refraction procedure, variation steps are adjusted to patient sensitivity making differences easier to perceive and, as a consequence, responses are easier to give. Patients no longer hesitate and do not feel lost in answering. Even “I don’t know” answers are taken into account!

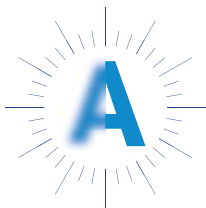
NO FATIGUE EXPERIENCED: Thanks to a quicker sequence of tests resulting in a shorter duration of examination, patients do not get tired and give more precise answers.

AN EFFICIENT FINAL COMPARISON: VISION-R 800 phoropter offers the possibility to very easily compare different prescriptions not only on visual acuity charts but also with immersive images of real-life situations with details that are adjusted to the patient’s own visual acuity level! A fascinating experience for patients!

...FOR COMPLETE CONFIDENCE



WHATEVER YOUR NEEDS AS A PRACTITIONER, VISION-R™ 800 PHOROPTER HAS THE ANSWER FOR YOU!



YOU WANT TO PROVIDE YOUR PATIENTS WITH THE BEST OF THEIR VISION?

VISION-R 800 phoropter now makes it possible to reach a refraction accuracy of 0.05 D and to provide your patients with [more accurate prescriptions](#). In doing this, you can differentiate your practice as a “Best Vision Provider”!



YOU WANT TO ENSURE THAT REFRACTION IS ACCURATE WHOEVER THE PRACTITIONER IS?

VISION-R 800 “Smart Programs” make [the refraction procedure easier and less dependent on the practitioner’s experience](#). For example, if there are several refractionists in the practice, you can ensure that, for common cases, an accurate refraction is offered to the patient no matter who performs it. “Smart Programs” are so easy to use that you can even delegate refraction procedures.



YOU WANT TO SAVE SOME OF THE TIME YOU DEVOTE TO REFRACTION?

VISION-R 800 “Smart Programs” [make refraction much faster than traditional procedures and help you save precious time](#). This extra time can be used to focus on other tasks – like complex cases or binocular vision examinations – or to see more patients and manage your practice more efficiently!



PHOROPTER HEAD



CONSOLE



CHART SCREEN: CS POLA 600 L OR C
(linear or circular polarization)

PHOROPTER SPECIFICATIONS

CENTERING

Pupillary Distance	48.0 to 80.0 mm at distance; 44.0 to 76.0 mm at near; in 0.1 mm steps. Binocular and monocular adjustments
Convergence	Automatic, in relation to the near-vision chart location and patient's inter-pupillary distance
Vertex Distance	From 8.0 to 30.0 mm in 0.1 mm steps, monocular, measured by cameras

MEASURING RANGE

Sphere	From -20.00 D to +20.00 D
Cylinder	Up to 8.00 D For both sphere and cylinder – In "Standard" mode: 0.05 D increments with adjustable steps – In "Smart" mode: 0.01 D increments, rounded to 0.05 D or 0.25 D.
Axis	0° to 180° in 1° increments, with adjustable steps
Prisms	0 to 20 Δ in 0.1 Δ increments, with adjustable steps

AUXILIARY LENSES

Occluders	Dark and translucent
Pinhole	Yes
Retinoscopy lenses	+1.50 D, +2.00 D (powered by optical module)
Fog Lenses	+1.50 D, +2.00 D and manual (powered by optical module)
Jackson Cross Cylinders	+/- 0.25 D, +/- 0.50 D (powered by optical module)
Fixed Cross Cylinders	+/- 0.50 D (powered by optical modules)
Prisms	3 Δ Base Up / 3 Δ Base Down, 6 Δ Base Out, 10 Δ Base In (powered by varying prisms / diasporameters)
Maddox rods	Red, horizontal and vertical
Red/green filters	Red on right eye; Green on left eye
Polarized filter	Both linear and circular

CONNECTIVITY

	Data import from most lensmeters and auto-refractometers Data export to most practice management software
Printer	Optional

POWER SUPPLY

	AC 100 to 240V (50 / 60 Hz)
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DIMENSION AND WEIGHT

Phoropter head	Width: 11.6 in at top – 8.6 in at bottom Height: 8.7 in X Depth: 3.3 in at top – 2.6 in at bottom Total Weight: 7.7 lb
Console (keyboard + display)	Keyboard: 11 x 9 in Visual Display: 10.4" Total Weight: 6.6 lb
Power supply	L 6.4 X W 4.9 X D 2.3 in Weight: 2.2 lb

CE CONFORMITY MARKINGS

	Yes
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