

OFFER YOUR PATIENTS
THE BEST OF THEIR VISION



VISION-R™ 800

REINVENTING REFRACTION



WITH VISION-R™ 800

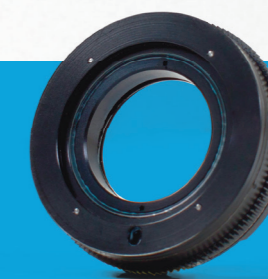
ENTER A NEW ERA OF REFRACTION...

For many years, subjective refraction techniques have not changed that much: they always consisted in presenting lenses of different powers, in an organized manner, in front of the patient's eyes and recording the patients' 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 0.01D increments.

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

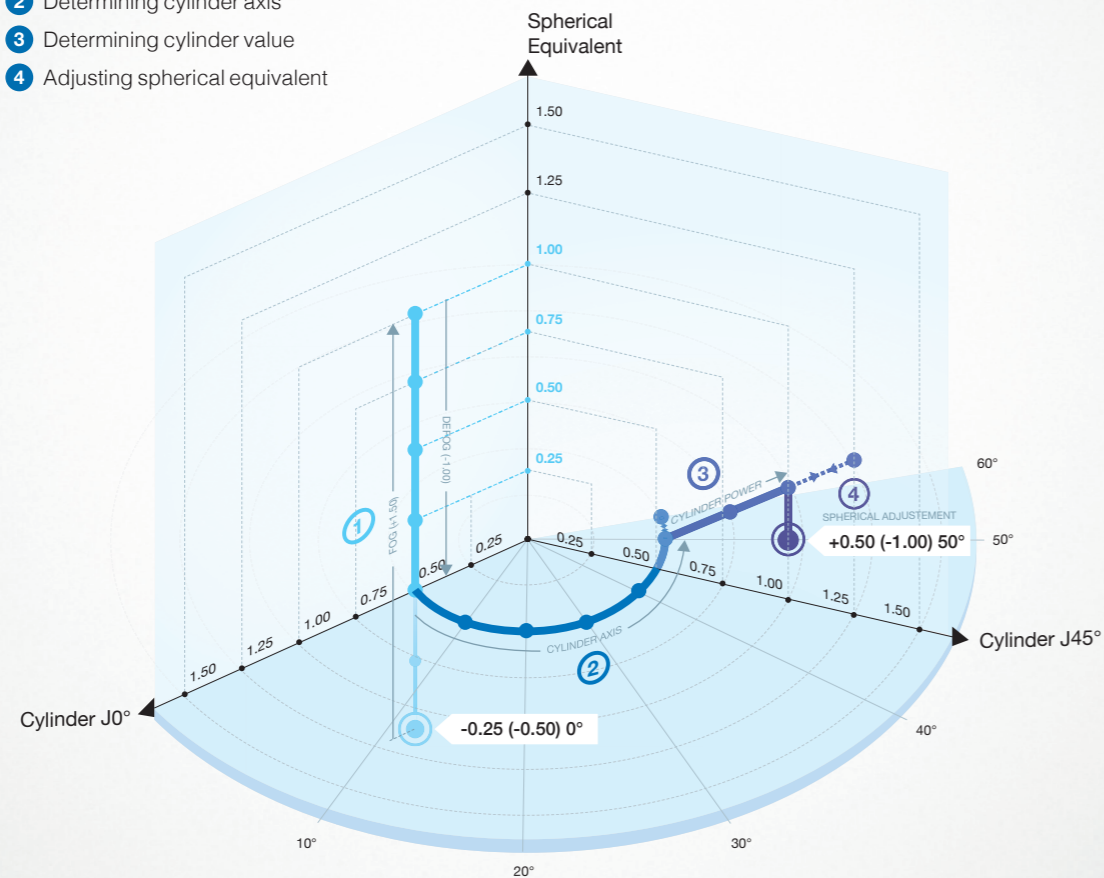
An axis range from 0° to 180°
in 1° steps.

ALL CHANGES IN A CONTINUOUS
AND SMOOTH WAY!

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

TRADITIONAL REFRACTION

- 1 Determining sphere value
- 2 Determining cylinder axis
- 3 Determining cylinder value
- 4 Adjusting spherical equivalent



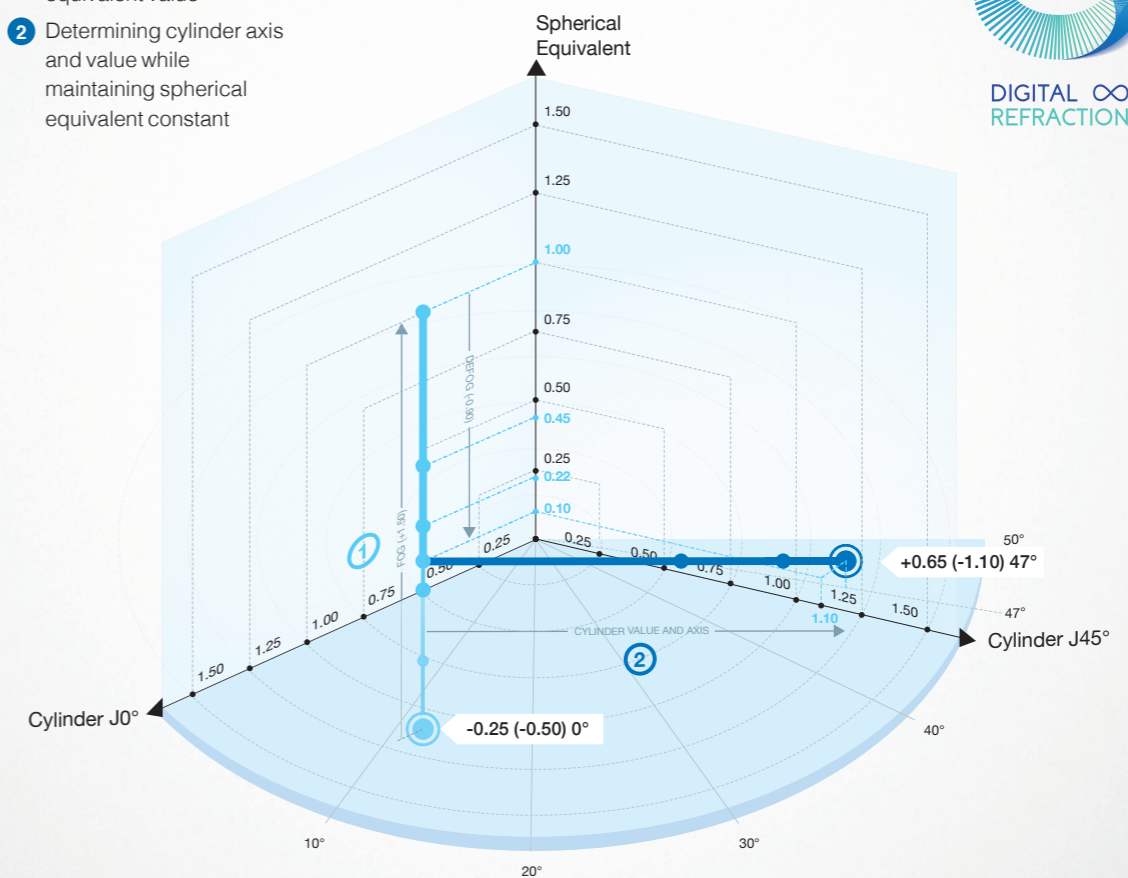
In the traditional refraction process, practitioners successively look for sphere power, cylinder axis and cylinder power individually... despite the fact that these three components are inter-related. As a consequence, sphere has to be readjusted after the determination of the cylinder.

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.

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 quicker and more directly than with traditional refraction methods.

DIGITAL INFINITE REFRACTION™

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



Although refraction is traditionally described in terms of sphere power, cylinder axis and cylinder power, it can also be described in a so-called "Dioptric Space" by three components: the spherical equivalent (sphere + cylinder/2), the cylinder value at 0° (J0°) and the cylinder value at 45° (J45°), 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 and more accurate!



1

A MORE ACCURATE PHOROPTER...

PRESCRIPTION ACCURACY OF 0.01 D: VISION-R 800™ phoropter controls power very accurately and allows the practitioner to prescribe the patients' exact refraction.

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, VISION-R™ 800 phoropter back cameras measure it with an accuracy of 0.01 mm allowing it to control.



DID YOU KNOW ?

95% of human eyes are sensitive to variations less than 0.125 D for at least one type of test 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

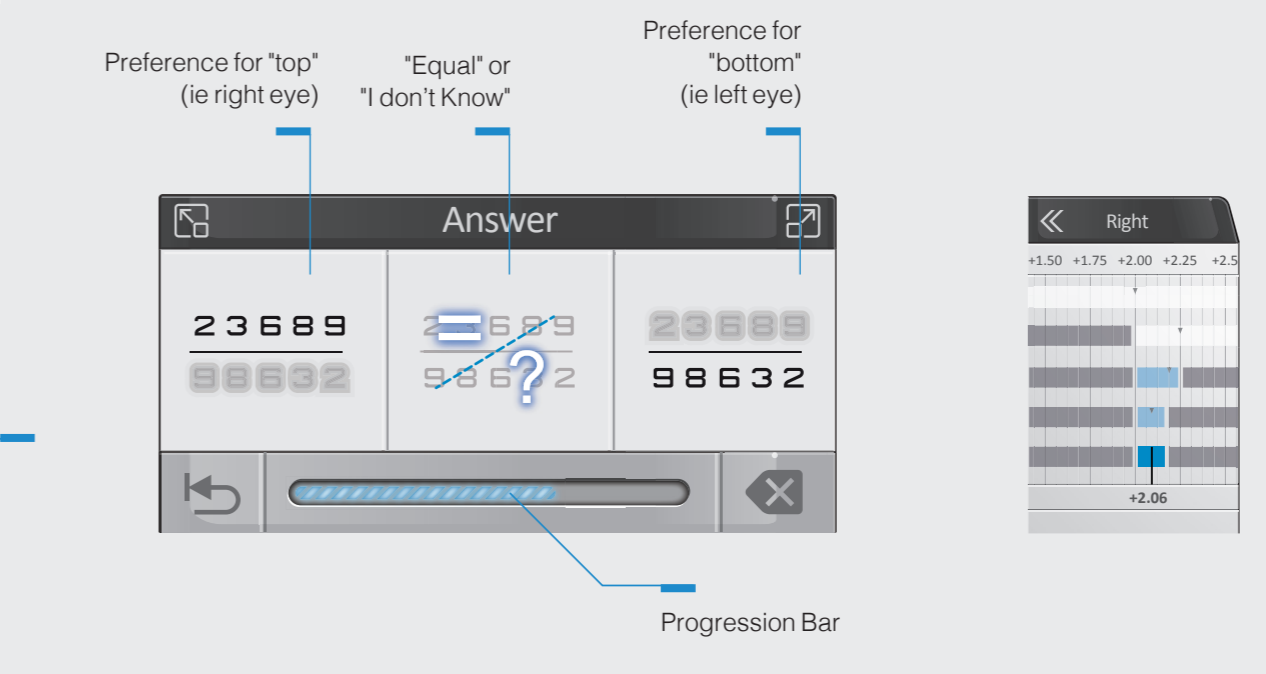
THE BENEFITS OF A PRECISE REFRACTION

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 0.01 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.

Whatever the lenses steps selected (0.01 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 0.25 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 0.01 D or the most appropriate refraction at 0.25 D!



"SMART TEST" EXAMPLE (BINOCULAR BALANCE)

CONVERGENCE OF A "SMART TEST"

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 reduces the refraction time and results in faster refractions.

ASSISTED REFRACTION PROGRAMS TO HELP THE PRACTITIONER: a series of semi-automated "Smart Tests" are available in VISION-R™ 800 phoropter in order to assist the practitioner when 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 Programs" composed of a series of automated "Smart Tests": special algorithms have been developed by Essilor researchers to help seek for sphere, cylinder and axis components, as well as binocular balance, in a both accurate and easy way. These "Smart Programs" assist the practitioner during the exam allowing to better focus on the patient.

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: the practitioner displays the various tests, records the patient's answers and follows the algorithm progression which automatically ends when the value is found. 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.



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, variations 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, the patient does not get tired and gives 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 the patients.

...FOR COMPLETE CONFIDENCE

VISION-R™ 800. A CONNECTED DEVICE!

Benefiting from the "Essibox.com™ Inside" module, the Vision-R™ 800 phoropter is natively integrated into the Essibox.com™ connectivity offer. Thanks to this, a wide range of digital services becomes available and allows maximum use of the phoropter's power.

Essibox.com is Essilor Instruments' connectivity offer that allows the Vision-R™ 800 phoropter to be connected to a large number of devices via a specially developed Cloud service.

Depending on the level of service subscribed, you will be able to:

- import data from other devices such as lensmeters, auto-refractometers or aberrometers (objective refraction) from different manufacturers,
- export refraction data as well as patient-specific data to a printer or a restitution interface and present the results to the patient,
- interconnect with existing computer systems such as management systems and the patient's electronic medical record,

- make the patient's journey easier thanks to its easy and quick identification,
- provide a simple and educational way to present the patient's visual health check-up and the recommendations for personalized visual correction solutions,
- strengthen the relationship of trust between patient and practitioner,
- remotely update the Vision-R™ 800 phoropter software to take advantage of the latest technological developments and remote assistance,
- transmit data for statistical analysis purposes.

In order to comply with the principle of "data protection by default from the design stage" provided for in the General Data Protection Regulations of 27 April 2016, Essibox.com™ implements pseudonymization and encryption technologies for personal data.

WHATEVER YOUR NEEDS. VISION-R™ 800 PHOROPTER HAS THE ANSWER FOR YOU!

TO PROVIDE YOUR PATIENTS WITH THE BEST OF THEIR VISION

VISION-R™ 800 phoropter now makes it possible to reach refraction accuracy of 0.01 D and to provide your patients with more accurate prescriptions. In doing this, you can differentiate your practice as a "Best Vision Provider".

TO ENSURE THAT REFRACTION IS ACCURATE

VISION-R™ 800 "Smart Programs" make the refraction procedure easier and less dependent on the practitioner's experience. "Smart Programs" are so easy to use that you can even delegate refraction procedures.

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.



PHOROPTER HEAD



CONSOLE



CHART SCREEN: CS POLA 600 L OR C
(Linear or Circular polarization)

PHOROPTER SPECIFICATIONS

CENTERING

Pupillary Distance

50.0 to 80.0 mm (at distance) in 0.1 mm steps.
Binocular and monocular adjustments.

Convergence

Automatic, in relation to 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: 0.25 D increments, adjustable to 0.05 | 0.10 | 0.25 | 0.50 | 1.00 and 2.00 D.

- In "Smart" mode: 0.01 D increments.

Axis

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

Prisms

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

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 Up, 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 softwares.

Printer

Optional.

POWER SUPPLY

AC 100 to 240V (50 / 60 Hz).

DIMENSION AND WEIGHT

Phoropter head

Width= 29.6 cm at top - 21.9 cm at bottom / Height= 22.2 cm.
Depth= 8.4 cm at top - 6.5 cm at bottom / Total Weight= 3.5 kg.

Console (keyboard + display)

Keyboard: 28 x 22 cm - Visual Display: 10.4" / Total Weight= 3.0 kg.

Power supply

L= 16.3 cm / W= 12.5 cm / D= 5.8 cm / Weight= 1.0 kg.

CE CONFORMITY MARKINGS

Yes.



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