Eye Refract

A.I powered binocular physiological refraction

VISIONIX

INNOVATION TO UNLOCK YOUR POTENTIAL


VISIONIX

Eye Refract: the reforged refraction process

Eye Refract, manufactured by Visionix, is the only Artificial Intelligence powered device that offers physiological refraction for determining the most comfortable prescription for your patients.
Eye Refract has reforged the refraction process, allowing eye care professionals to optimise time spent with their patients. Eye Refract utilises a unique and innovative technology which performs an automatic binocular refraction powered by artificial intelligence.

A much simpler refraction

STANDARD REFRACTION

Step 1: Objective refraction

ARK based objective refraction comes with limitations:

- monocular measurement,
- no accommodation control
- restricted field

Step 2: Subjective refraction

- Stressful for the patient
- Time consuming
- Operator and patient dependant

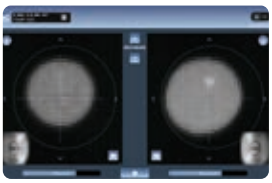
EYE REFRACT REFRACTION

Physiological refraction

Wavefront based refraction offers:

- binocularity during the entire process
- physiological reaction monitoring
- openfield condition
- accommodation control system
- auto-adjusting lenses

Physiological spontaneous reaction



Binocular aberrometric measurement

Translated into lenses

Final prescription

The operator finds the most comfortable prescription through a few additional comparative questions.

10 Average processing time: 10 minutes

4 Average processing time: 4 minutes

The reforged refraction process

Eye Refract, manufactured by Visionix, is the only Artificial Intelligence powered device that offers physiological refraction to determine the most comfortable prescription for your patients.

PHYSIOLOGICAL REFRACTION

The only device with live measurements and automatic lenses rotation.

Physiological refraction is an adaptive process that takes the patient's physiological reaction into account until a stable measurement is reached. Powered by Visionix Wavefront technology, measurements are performed simultaneously on both eyes.

QUICK PRO ALGORITHM

Following the physiological refraction process, the Eye Refract Quick Pro algorithm enables the system to find the most comfortable prescription as quickly as an experienced optometrist.

The Eye Refract algorithm was designed by:

- Analyzing thousands of subjective refractions cases
- Comparing results from the Eye Refract with standard subjective refractions
- Involving professors in optometry and experienced optometrists

Easily Manage the Refraction Process Remotely

TELE-REFRACTION

Eye Refract can be operated remotely so you can easily perform the refraction and have a live discussion with your patients. Our solution is available with Nexus human grading. Patients data can be synchronized with other Visionix devices such as VX 650 in connexion with Nexus.

nexus ENABLED

Nexus is our digital health solution platform specifically designed to connect eye care professionals and expand the reach of ophthalmologists.

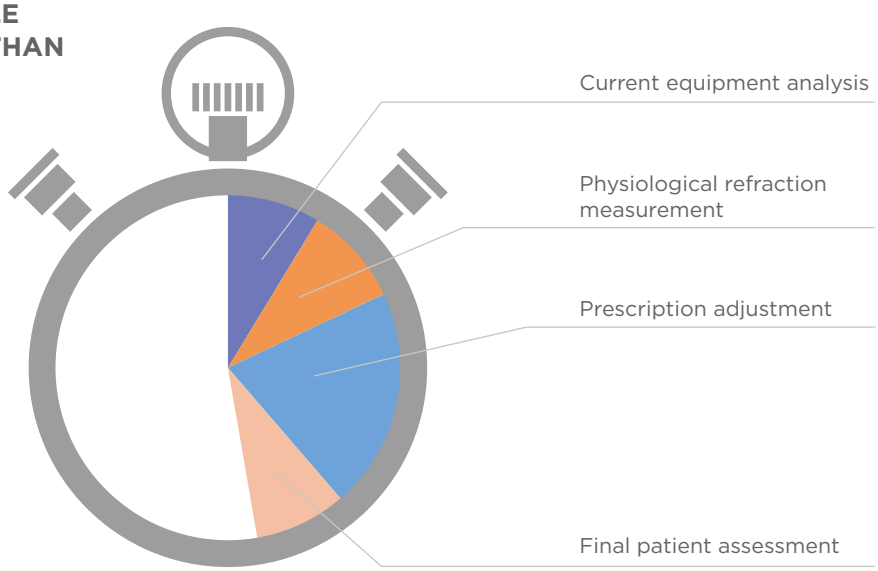
SOCIAL DISTANCING

The tablet driven refraction allows the operator to maintain enough distance from the patient, ensuring comfort and safety.

Speed up your process

Cut your examination time without sacrificing accurate results*.

THE MOST COMFORTABLE PRESCRIPTION IN LESS THAN 4 MINUTES



ALL-IN-ONE DEVICE

The Eye Refract solution combines a lensmeter, a binocular wavefront ARK and a phoropter all in one device. Patients no longer need to move from one device to another. Patients are more comfortable and you save time setting up and disinfecting devices.

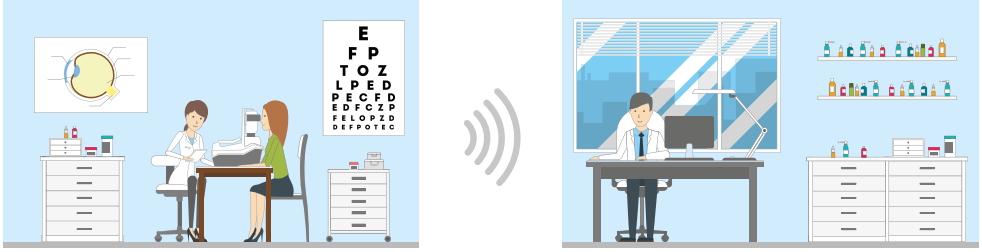
How would you use the time you save?

* Comparison Between Aberrometry-Based Binocular Refraction and Subjective Refraction Gonzalo Carracedo 1,2, Carlos Carpena-Torres 1 , Maria Serramito 1 , Laura Batres-Valderas 1

Delegate refraction data collection with confidence

Artificial Intelligence embedded in the Eye Refract solution guides any staff member through the refraction process- even one with limited training. Quick Pro steps ensure any operator delivers consistent results. Results are based on the patient's physiological reactions, which require no operator interpretation, making them easily repeatable.
The final prescription data is sent to the eye care professional for confirmation and sign off.

FULL DELEGATION

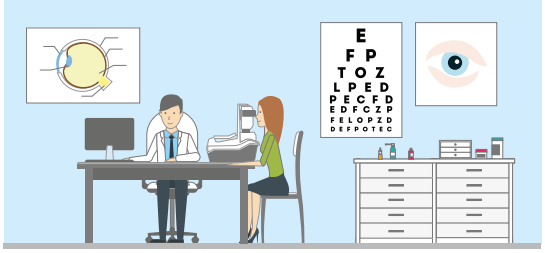


Eye care professional reviews the refraction data collected by the technician using Eye Refract from another room or location.

HALF DELEGATION

The technician conducts the refraction process on the Eye Refract solution, allowing doctor to perform additional tests if necessary.

COMPLETE MANAGEMENT



Complete management of the eye exam by a single eye care professional results in time savings and efficiency.

Improve the patient experience

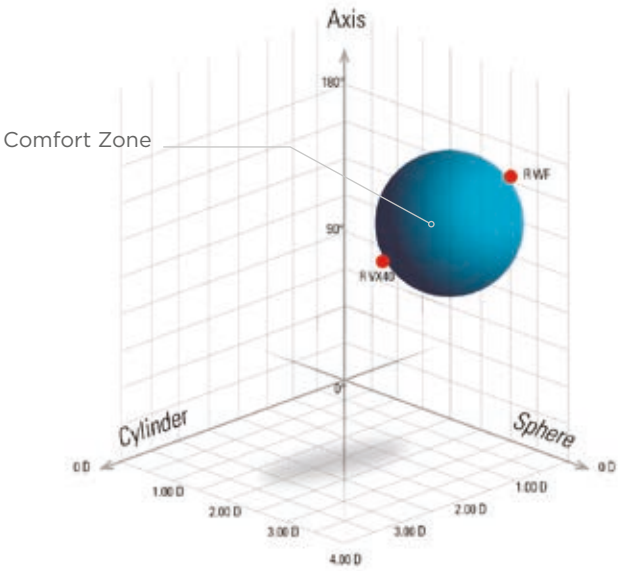
The only device automatically providing patients with a smooth transition from blurry vision to clear vision in seconds. The prescription is quickly determined, minimizing minimizing uncertain results and relieving patient stress.
Once the physiological refraction is found, Eye Refract automatically determines the most comfortable prescription.
Additionally, social distancing is possible with the tablet driven device, avoiding proximity between patients and operators.

EXPERIENCE A NATURAL MEASUREMENT

By measuring both eyes simultaneously, Visionix Eye Refract integrates the way patients use their eyes innately. The lenses automatically adjust to the patient's visual reaction, ensuring the physiological refraction is reached very quickly.

ELIMINATE STRESS

Eye Refract does the work of multiple devices, eliminating patient stress of moving to different instruments and having to answer multiple questions.



REACH THE COMFORT ZONE

Based on the results of physiological refraction, the patient's most comfortable prescription is determined using a few fine-tuning questions.

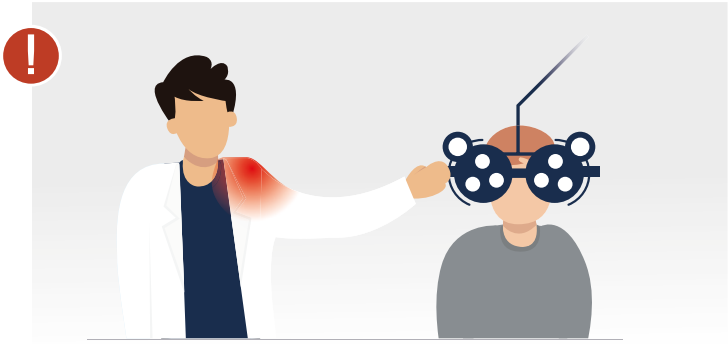
A more efficient experience for you

Compared to conventional instruments or trial frames, Eye Refract is more comfortable for the operator, giving more confidence and less stress.

COMFORTABLE FOR THE PROFESSIONAL

The ergonomic, intuitive and responsive user interface allows eye care professionals to smoothly perform refractions.

- Powered by artificial intelligence: the easy to use, includes instructions at each step, automatic lens adjustment and alert messages in case of illogical answers
- Take back control at any point to make adjustments using a wide range of complementary tests



ERGONOMIC REFRACTION SOLUTION

Manual phoropters force eye care professionals to adopt unnatural postures to manipulate the device. The repetition can cause painful strain to the neck and shoulders.

TRANSITION TO DIGITAL REFRACTION

Switching to digital refraction can reduce the strain on the neck and shoulders; and eliminates the need to reach forward and above the midline while changing lenses

Configuration vx 25

EYE REFRACT	
Ref.	30230000-00
Output	• RS-232 / USB2.0 / VGA / LAN • Embedded bluetooth / Wifi
Hardware	Tablet ..... Android Chinrest ..... Electrical Near Vision Target ..... 250-700mm, Mini tablet 7“ Head ..... Autofocus, autocentering
Range	Sph ..... -30.00D to +27.25D Sph step ..... 0.125 / 0.25D Cyl ..... -8.00 to +8.00D Cyl step ..... 0.25 / 0.50 / 1D Optical axis ..... 0 to 180° Axis step ..... 1° / 5° / 10° / 45° Prisms ..... 0 to 20D Prims steps ..... 0.25D Kerato 6mm-9mm (37.5D-56D)
Communication	Wi Fi
	Shack Hartmann Camera Each of the 1050 points = one measure
Table VX 40-ER VX 25-ER	8160-0025-01

VX 40	
Ref.	3014-0000-00
Measurable range	Number of analyzed points: .... Up to 1350 Sphere power: ..... -15 ~ +10D (step 0.01, 0.06, 0.125, 0.25D) Cylinder power: ..... 0 ~ 10D (step 0.01, 0.06, 0.125, 0.25D) Cylinder axis: ..... 0 ~ 180° (step 1°) Addition power: ..... 0 ~ 33.5D (step 0.01, 0.06, 0.125, 0.25D) Prism power: ..... 0 ~ 310 Δ (step 0.01 Δ) PD measurement: ..... Mono / Bino Cylinder: ..... -, +
General	Printer ..... Internal Screen ..... LCD/16M colours, 7’’ Light source ..... LED - 730nm Working conditions ..... 10 to 40°C Data output ..... RS-232, Bluetooth
Console	8160-8025-00

VX 25	
Ref.	8225-0000-00
Measurable range	• Screen type ..... LCD 1920x1200 pixels • Size ..... 7“ LCD (color) High resolution Monitor • Maximum contrast ..... 1000/1 • Luminance ..... 250 cd/m² • Reading distance ..... 5 meters • Visual acuity range ..... 0.1 to 2.0 - 20/500 to 20/10 • VX 25 power supply ..... 100-240V CA - 50/60Hz - 1.3A • Screen power supply ..... 12V DC • Consumption ..... Max 60W • Protection against electrics shocks ..... Class 1 • IP Classification ..... IPXO • Size ..... 315mm (length) x 660mm (height) x 320mm (width) • Weight ..... 28kg • Connections with phoroptors ..... RS232-C or IR or wifi • Sound output ..... Sound output jack 3.5mm

SPACE SAVING CONFIGURATION WITH VISIONIX VX 25

This screen has been designed for optimal results in the pre-screening area thanks to its ergonomic design, streamlined style, and the large number of tests included.
The VX 25 includes the same functions as the VX 22, but within a smaller footprint.

Projection distance: 0.8 meters.
Footprint 1m^2

Working distance: 0.8 meters

Configuration vx 22

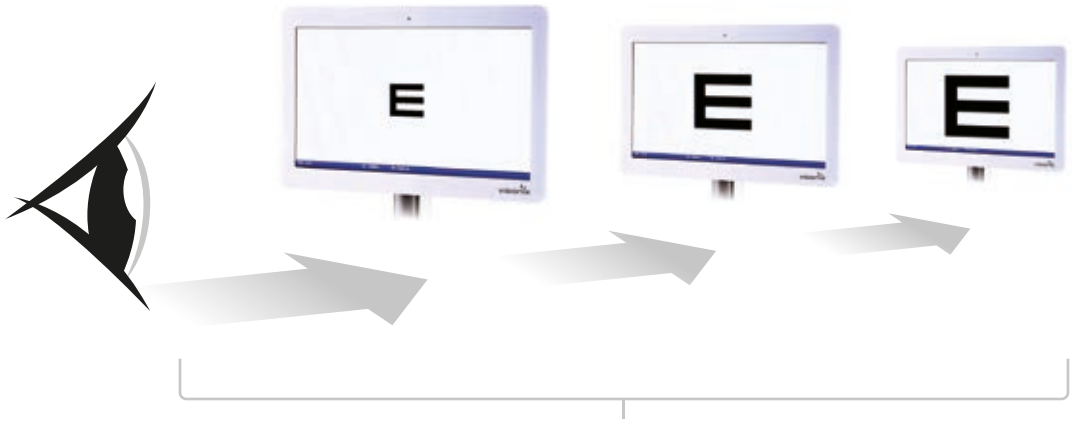
EYE REFRACT	
Ref.	30230000-00
Output	• RS-232 / USB2.0 / VGA / LAN • Embedded bluetooth / Wifi
Hardware	Tablet ..... Android Chinrest..... Electrical Near Vision Target..... 250-700mm, Mini tablet 7“ Head..... Autofocus, autocentering
Range	Sph..... -30.00D to +27.25D Sph step..... 0.125 / 0.25D Cyl..... -8.00 to +8.00D Cyl step..... 0.25 / 0.50 / 1D Optical axis..... 0 to 180° Axis step..... 1° / 5° / 10° / 45° Prisms..... 0 to 20D Prims steps..... 0.25D Kerato..... 6mm-9mm (37.5D-56D)
Communication	Wi Fi
	Shack Hartmann Camera Each of the 1050 points = one measure
Table VX 40-ER VX 25-ER	8160-0025-01

VX 40	
Ref.	3014-0000-00
Measurable range	Number of analyzed points:.... Up to 1350 Sphere power:..... -15 ~ +10D (step 0.01, 0.06, 0.125, 0.25D) Cylinder power:..... 0 ~ 10D (step 0.01, 0.06, 0.125, 0.25D) Cylinder axis:..... 0 ~ 180° (step 1°) Addition power:..... 0 ~ 33.5D (step 0.01, 0.06, 0.125, 0.25D) Prism power:..... 0 ~ 310 Δ (step 0.01 Δ) PD measurement:..... Mono / Bino Cylinder:..... -, +
General	Printer..... Internal Screen..... LCD/16M colours, 7’’ Light source ..... LED - 730nm Working conditions..... 10 to 40°C Data output..... RS-232, Bluetooth
Console	• 8160-8025-00

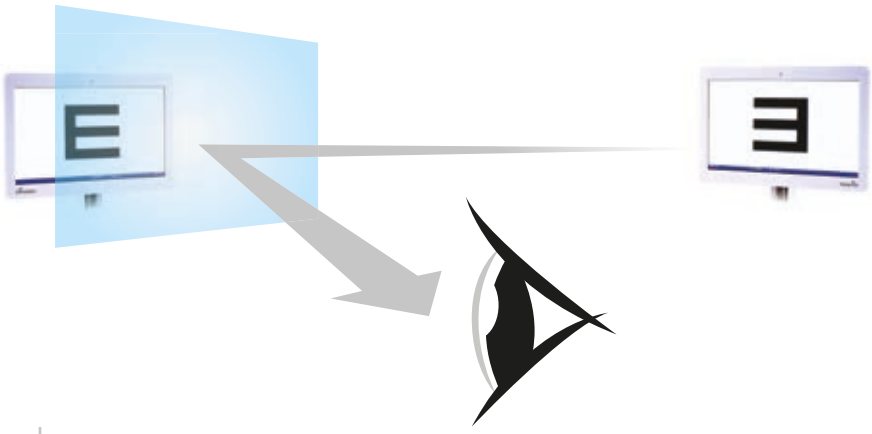
VX 22 Linear polarisation LP	
Ref.	8225-0000-00
Measurable range	• Screen size ..... 23.6 inch • Resolution..... 1920x1080 • Luminance ..... 250 Cd/m2 • Reading distance ..... 2 to 8 meters (78 to 315 inch) • Visual acuity..... 0,1 to 2,0 • Power supply..... 100-240V CA - 50/60Hz - 1.3A • Built-in speaker • Interface ..... RS-232, IR, 4 Usb, VGA, Hdmi, Lan • Built-in LED for external fixation point • Possible media support for advertising purposes : ASF, WMV, WMA, OGG, MOV, RM, RA, RAM, MP4, MPEG, AVI, VOB, MPG
Stands and Mounts	• 7191013 Floor stand (Optional) • 7610022 Table stand (Optional) • 8230-5041-07 VESA wall mount (included)
Accessories	• Batteries for remote control dongle • USB stick • Radio remote control • Power supply cable and transformer • Matching tests for child tests • Red / green frame • Circular polarised frame

STANDARD SPACE CONFIGURATION WITH VISIONIX VX 22 LP CHART DISPLAY

This device features a linear polarisation to test binocular and stereoscopic vision, allowing a perfect dissociation of the right eye and left eye.
This streamlines testing, allowing for quick examination of bi-ocular, binocular, and stereoscopic vision in one process.



Projection distance 2 to 8 meters.



Features mirror mode

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This document is not contractual. ©kosept - ©Photos: E.Bienvenu - ind10 - 03/22 - The Eye Refract is a computerized phoropter that can be used by eye care professionals to determine patients' required refractive correction.
The machine produces an initial wavefront estimate of the patient's refraction, and enables the practitioner to complete the prescription through a traditional subjective test. . Features and specifications are subject to change without prior notice.