NIDEK

Open-field Refraction System

PHANTOM™

THE ART OF EYE CARE

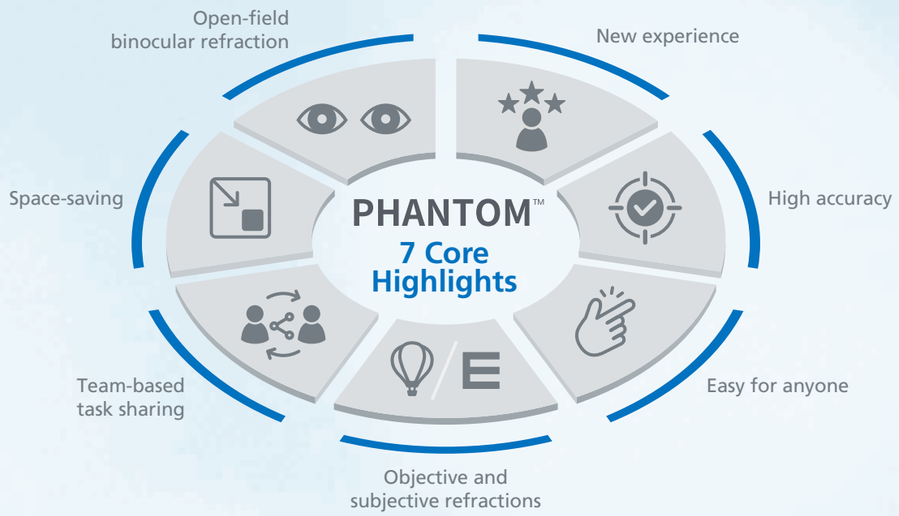
No lenses, just **PHANTOM**™

— increase accuracy, simplify workflow, and boost your business.

PHANTOM™ is a true open-field binocular refraction system that performs both objective and subjective refractions with no lenses in front of the eyes, enabling natural viewing conditions.
With a new, unique approach to refraction, PHANTOM™ offers a fresh, enhanced experience for patients and eye care professionals.

In an era of constant change, refraction must evolve as well.
PHANTOM™ meets the demands for time efficiency, team-based task sharing, and automation.

Natural. Accurate. Streamlined workflow. Refraction redefined.

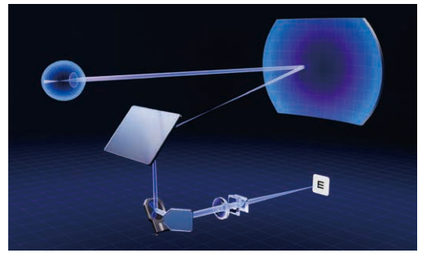


True open-field binocular refraction

PHANTOM™ revolutionizes refraction—no lenses in front of the eyes. This open-field binocular refraction system provides a comfortable and highly accurate examination under natural viewing conditions.

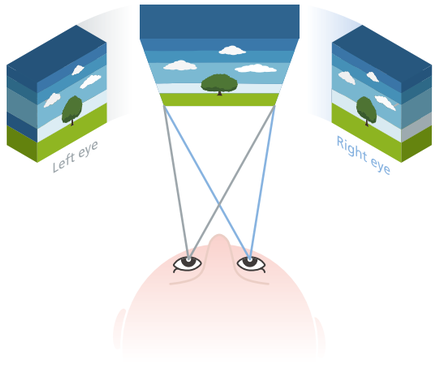
PHANTOM™ technology

- Refraction can be performed without lenses in front of the eyes, at a specified testing distance, without moving physical charts.
- Refractive errors are corrected by virtual lenses simulating the same optical properties as real lenses.
- Virtual optical power is created by adjusting the internal lenses and mirrors, delivering the required dioptric values and testing distances.



Recreate daily-living viewing conditions

- In everyday life, we naturally combine what each eye sees into a single image through binocular vision.
- PHANTOM™ presents charts independently to each eye, which are perceived by the patient as one unified view.
- With no large structures in front of the eyes and examinations performed with both eyes open, PHANTOM™ delivers a viewing experience close to natural, everyday vision.



Natural vision, real precision

- Objective refraction:
  With open-field testing, the system minimizes instrument myopia, accommodative instability, and pupil size fluctuations—delivering highly accurate results in a visual setting that closely resembles everyday life.
- Subjective refraction:
  Testing under binocular viewing conditions ensures well-balanced measurements between both eyes, producing values that closely match the final prescription.

A WOW experience with floating charts

The image appears to float in space, allowing patients to undergo testing while maintaining a natural forward gaze.

Simple refraction

To optimize the testing flow, simply input the subject's responses, and the PHANTOM™ algorithm automatically adjusts sphere, cylinder, and axis—enabling seamless subjective refraction.

Easy for anyone, intuitive to use

- The system features a touch screen interface for quick learning and simple operation.
- The intuitive, streamlined interface reduces training time and effort.
- On-screen guidance ensures smooth examination, even for staff with limited experience.

Flexible operation

To address different user preferences, you can choose from the following three options: the control box, your tablet or computer.

Quick and efficient examination — under 4.5 minutes*

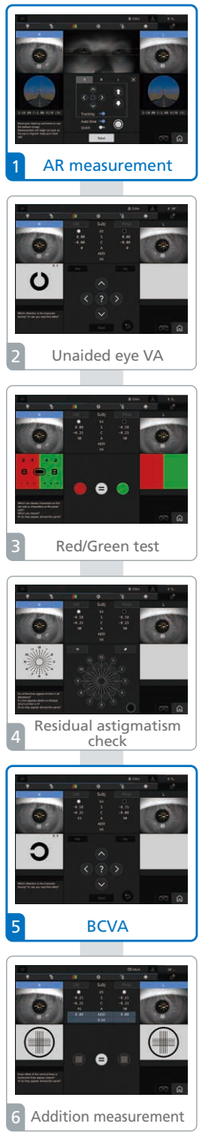
- Optimized algorithms enable quick and easy examinations.
- High measurement accuracy reduces the need for extensive final checks.
- Shorter overall testing times allow greater patient throughput.

*in-house data

Open-field binocular refraction

Objective and subjective refractions

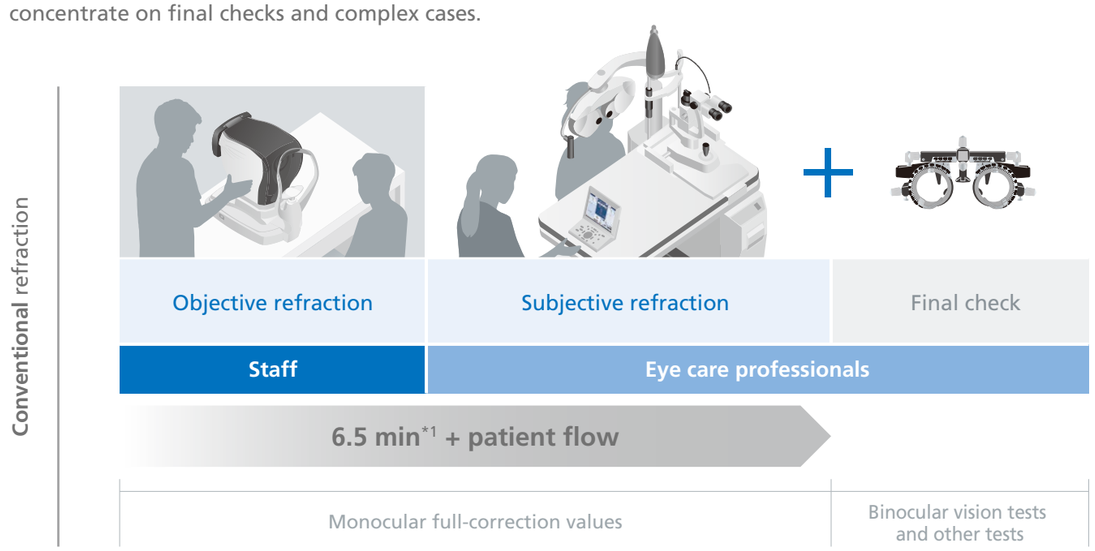
AR measurement is performed automatically.
A quick test can be performed using only AR measurement and BCVA.



Boost your business

Team-based task sharing

High-accuracy, simple refraction enables task sharing across the team, allowing eye care professionals to concentrate on final checks and complex cases.



*1 in-house data
*2 in-house data including near vision test

Why it matters:

› Task sharing to reduce bottlenecks in the workflow and increase throughput
› Improved clinical efficiency and quality of care

Boost your business

Enhanced store branding

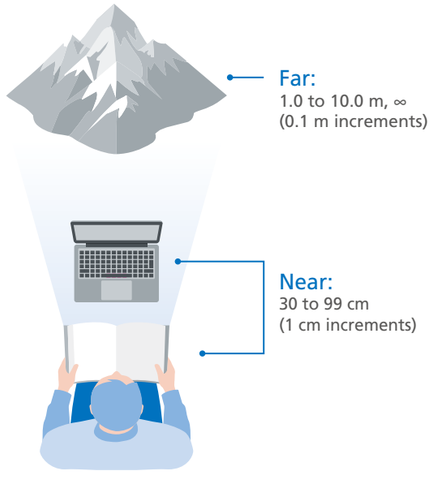
PHANTOM™ redefines a refraction experience—turning a routine test into an experience patients remember. It elevates how vision is measured and the perception of your store, creating a modern, premium impression at the outset.

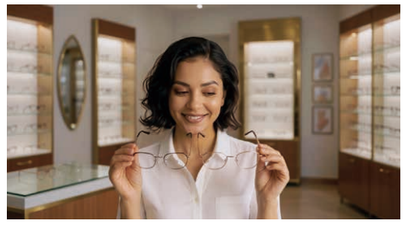
Why it matters:

› Higher patient satisfaction
› Clear differentiation that patients talk about
› A modern, technology-forward image that strengthens your brand

Patient-tailored testing distances

Distance can be set quickly and easily from the home screen, allowing each patient to be tested at their preferred viewing distance without moving the device or measuring distance manually.





Why it matters:

› Easy to recommend the ideal prescription
› Appropriate glasses tailored to the patient's intended use

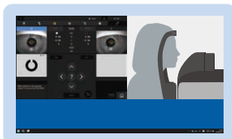
Advanced capabilities

Manual mode for professionals

Like a conventional refractor, the operator can change patient prescriptions manually and freely select from a variety of charts.
Manual mode can be used for final check / refinement after simple refraction.
Additionally, phoria can be measured objectively, streamlining ocular alignment screening.

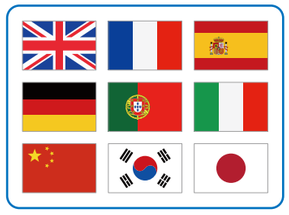
PHANTOM™ patient-driven test*1

Patients can complete the open-field binocular refraction—from objective to subjective. It improves efficiency, while open-field binocular conditions and a dedicated PHANTOM™ algorithm ensure high accuracy.



Operation from a different location*2

The eye care professional provides the final check / refinement from a different location after subjective refraction with PHANTOM™.



Multilingual voice guidance

+ three languages of your choice*3

Which are clearer, characters on...
¿Cuáles son más nítidos...

*1 The patient proceeds with the subjective refraction and determines the full correction by using PHANTOM™. Staff perform the final check / refinement.
*2 Operation from a different location can be performed by remote operation of the computer. NIDEK does not include or provide the functions or software necessary for remote communications.
*3 Not all languages can be added. For the details, please contact your authorized distributor.

NIDEK solutions

Combining PHANTOM™ with NIDEK products enables more efficient time and staff allocation, creating a smooth overall workflow with easy data integration.

Patient throughput

- FAST lane (PHANTOM™): 1 ▸ 3a
- FAST lane (FARS*): 1 ▸ 2 ▸ 3b
- Conventional lane: 1 ▸ 2 (▸ 4) ▸ 5 ▸ 6

1 Glasses data measurement

2 Objective measurement

3 FAST lane

Routine cases can be handled efficiently, enabling high-throughput examinations.

By performing the final check here using trial frames or PHANTOM™, FAST lane patients can complete their examinations within this area.

3a PHANTOM™

PHANTOM™ enables efficient examination from objective to subjective refraction in a short time.

3b FARS*

The patient proceeds with the subjective refraction and determines the full correction.

*Product/model name: Fully Assisted Refraction System FARS

4 Additional examination room

More time can be spent on value-added examinations.

5 Standard room

Examinations are conducted with sufficient time using existing NIDEK refractor and chart.

6 Consultation room

Eye care professionals can focus on delivering thorough patient consultations.

*Product/model name: Fully Assisted Refraction System FARS

PHANTOM™ specifications

Objective refraction	
Sphere	-17.00 to +15.00 D (VD = 12 mm) (0.01/0.12/0.25 D increments)
Cylinder	0 to ±6.00 D (VD = 12 mm) (0.01/0.12/0.25 D increments)
Axis	0 to 180° (1°/5° increments)
Minimum measurable pupil diameter	ø2 mm
Pupillary distance measurement range	48 to 80 mm (1 mm increments) (value at infinity ∞)
Pupil size measurement range	2.0 to 10.0 mm (0.1 mm increments)
Auto tracking	Fully-automated 3D tracking (X-Y-Z direction)
Auto shot	Available
Subjective refraction	
Sphere	-17.00 to +15.00 D (0.25 D increments)*1
Cylinder	0 to ±5.00 D (0.25 D increments)*1
Axis	0 to 180° (1°/5° increments)
ADD*2	0 to 9.00 D (0.25 D increments)
Auxiliary lenses	
Cross cylinder lens	±0.25, ±0.50 D
Fixed cross cylinder lens	±0.50 D (fixed with the Axis set at 90°)
Ocular alignment screening	0 to 20Δ (1Δ increments)
Vertex distance	0, 12.00, 13.75 mm
Chart type	Landolt ring, Tumbling E, letter, Japanese hiragana
Refraction distance	
Range for near vision (increments)	Metric units: 30 to 99 cm (1 cm increments) Imperial units: 12 to 38 inches (1 inch increments)
Range for distance vision (increments)	Metric units: 1.0 to 10.0 m, ∞ (0.1 m increments) Imperial units: 3.3 to 32.8 feet, ∞ (0.1 foot increments)
Voice guidance*3	English, French, Spanish, German, Portuguese, Italian, Chinese, Korean, Japanese, three additional languages*4
Interface	USB: 4 ports LAN: 2 ports
Power supply	100 to 240 V AC, 50/60 Hz
Power consumption	180 VA
Dimensions/mass	574 (W) x 782 (D) x 564 (H) mm / 67 kg 22.6 (W) x 30.8 (D) x 22.2 (H) in / 148 lb
Standard accessories	Power cord, dust cover, binocular model eye, cleaning cloth, subjective refraction check screen, anti-reflection sheet
Optional accessories	Control box, monitor arm, printer, Joystick Controller, Memory Box

*1 The measurement range varies depending on the combination of sphere and cylinder values.
*2 The sum of the spherical equivalent value and the addition value must not exceed +16.00 D.
*3 Available for the patient-driven test
The patient proceeds with the subjective refraction and determines the full correction by using PHANTOM™. Staff perform the final check/refinement.
*4 Not all languages can be added. For the details, please contact your authorized distributor.

Recommended system requirements for using a tablet or computer	
Operating system	Windows 10 (32-bit/64-bit) or Windows 11 (64-bit)
Screen size	10 inches or larger
Number of pixels	1,024 x 768 pixels or higher
Interface	Wireless LAN USB type C

Product/model name: Open-field Refraction System PHANTOM
Brochure and listed features of the device are intended for non-US practitioners.
The availability of products differs from country to country depending on the status of approval.
Specifications may vary depending on circumstances in each country.
Specifications and design are subject to change without notice.

All LCD images are simulated.

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