NIDEK

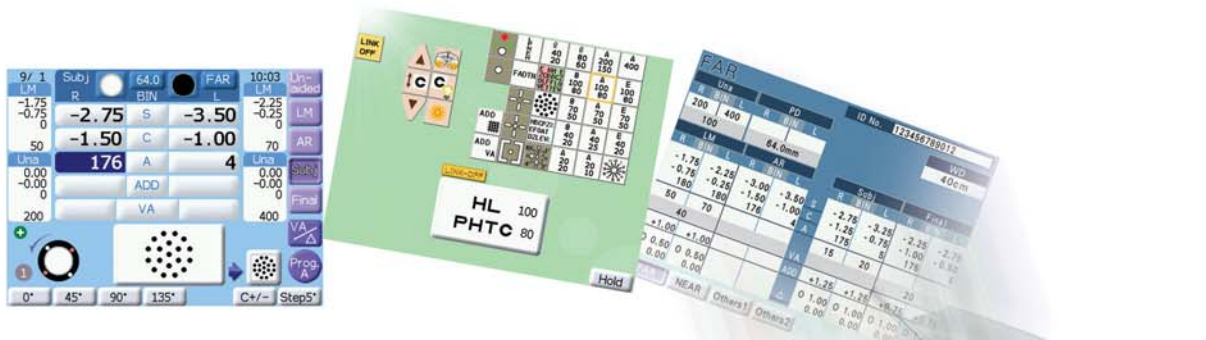Intelligent Refractor
RT-3100

THE ART OF EYE CARE

Reliability and Technology

Sophisticated design and comfortable examination at the same time

The RT-3100 empowers you to perform operations seamlessly and accurately. The Eye Care card system, printer and quick software upgrades strongly support the examination process. In addition to these functions, connection to EMR (Electric Medical Record) and comparison between auto refractometer and lensmeter data can be performed with the single touch of a button.
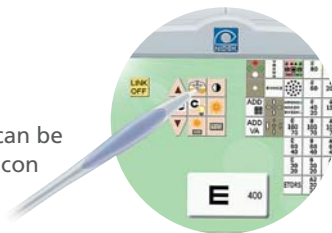
Operator-oriented Control Box

■ High-performance color LCD touch screen

The color LCD touch screen can display a great deal of information, including near vision charts, and vision / refraction diagrams.

■ Easy on-off LED lamp

LED lamp for VA chart and near point can be easily turned on / off, by touching the icon on screen.

■ Jog dial with S / C / A mode key

The jog dial on the control box provides smooth operation. The S / C / A mode key on the center of dial allows the operator to quickly change sphere, cylinder and axis powers using only one hand.

■ Cross cylinder test

Cross cylinder test is effective for determining the astigmatism correction. Axis adjustment is accomplished with the touch of a button. Spherical power is adjusted automatically to maintain spherical equivalent.

Built-In High Speed Line Printer

The RT-3100's control box includes a built-in, high-speed printer. It automatically prints out the measured results, and the data is simply laid out so that operator can easily explain to patients. Replacing the paper is totally effortless and takes only a few seconds.

Easy Software Upgrades

Quick and easy future upgrades can be performed with CompactFlash* card.

*CompactFlash is a trade mark of SanDisk Corporation.

Printout examples

Ergonomically-Designed Refractor Head

■ Comfortable Examination

The RT-3100 has a sophisticated, ergonomic design. Furthermore, visual field of 40 degrees provides a spacially open and comfortable examination for patients.
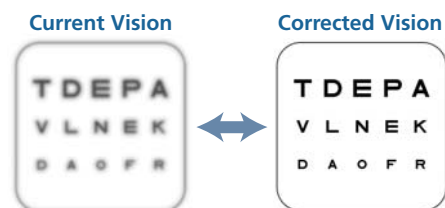
■ Smooth, quick, silent lens selection

The control box makes it smoother, quicker, and more accurate to refine sphere, cylinder, axis, and prism lenses compared to examinations with the manual refractor.

With the press of a button, internal lenses can be changed quickly, so that the patient can actually see and compare their vision with the new correction to either unaided, or their current glasses prescription*.

*It requires data transfer from a NIDEK auto lensmeter or manual entry.
  Please contact us for further information.

Current Vision

T D E P A
V L N E K
D A O F R

Corrected Vision

T D E P A
V L N E K
D A O F R

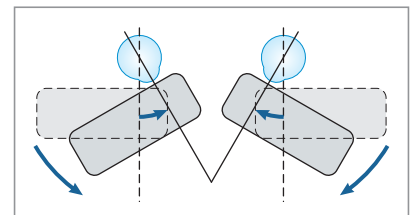Patient's vision can be compared instantly!

■ Power convergence and power PD

During near point tests, power convergence and power PD are adjusted automatically.

■ R / L independent PD adjustment for improved precision

Right and left PD can be adjusted independently for more accurate and reliable measurements, preventing axis shift.

■ Clear, white LED illumination

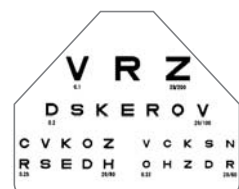Bright and energy efficient white LED illuminates the near chart for near point examination.

■ Easy maintenance

Effortless maintenance is made possible by antifogging protective glasses, and detachable forehead rest / face shields.

■ High quality near point card

Washable, plastic near point card is attached to the RT-3100's main body.

V R Z
D S K E R O V
C V K O Z   V C K S N
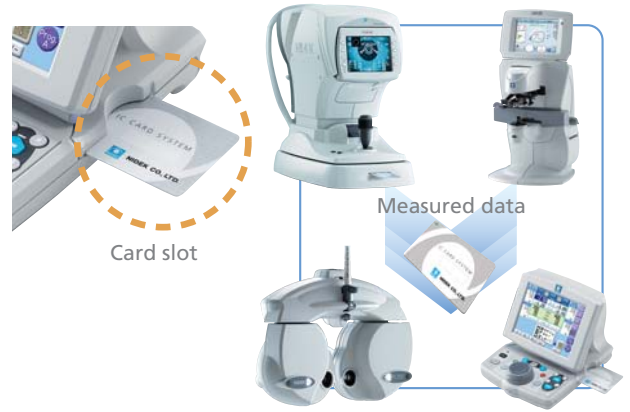R S E D H   O H Z D R

Working Distance: 40 cm (16-inch)

Eye Care Card System*

The RT-3100 control box has a card slot for the Eye Care card system, which provides seamless and wireless data transfer from Auto Ref / Keratometor (ARK), Auto Refractometer (AR), and Lensmeter (LM).
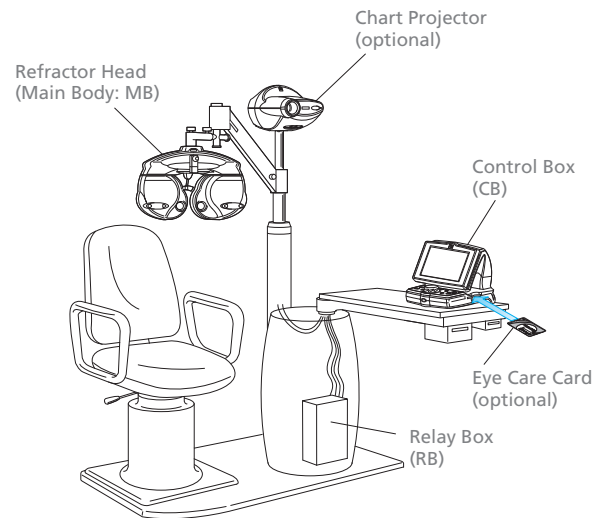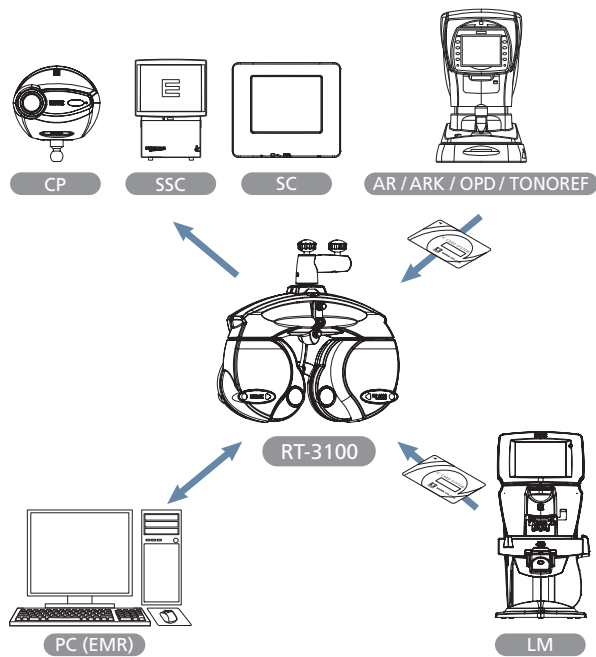ARK / AR / LM measurement data can be transferred to the RT-3100 using the Eye Care card*.
*The card is optional.

Measured data

Card slot

EMR (Electric Medical Record)

The RT-3100 is compatible with EMR (Electric Medical Record) to manage patient data. It reduces transcription errors and improves efficiency.
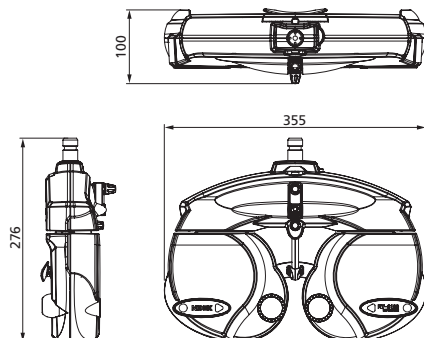
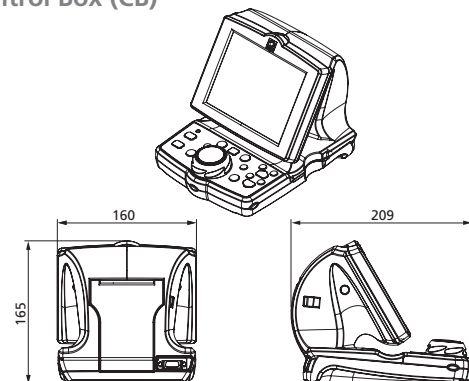## Various interface functions with external equipment

CP | SSC | SC | AR / ARK / OPD / TONOREF

RT-3100

PC (EMR) | LM

Chart Projector (optional)

Refractor Head (Main Body: MB)

Control Box (CB)

Eye Care Card (optional)

Relay Box (RB)

*These configurations are just examples.
 Please contact us for further information.

Dimensions (mm)

Refractor Head (Main Body: MB)

100

355

276

Control Box (CB)

160

209

165

RT-3100 Specifications

Measurable range	
Sphere	-19.00 to 16.75 D (0.25 D / 0.5 D to 3.0 D increments)
Cylinder	0.00 to ±6.00 D (0.25 D / 1 D increments)
Axis	0 to 180˚ (1˚ / 5˚ increments)
PD	48 to 80 mm (far mode)
	50 to 74 mm (near working distance of 35 cm)
	54 to 80 mm (far PD possible for 100% convergence)
Prism	0 to 20Δ (0.1 / 0.5 / 2Δ increments)
Auxiliary lens	
Cross cylinder lens	±0.25 D
Occluder	Available
Pinhole plate	ø2 mm
Red / Green filter	Right eye: red, Left eye: green
Polarizing filters	Right eye: 135˚ / Left eye: 45˚, Right eye: 45˚ / Left eye: 135˚
Fixed cross cylinder lens	±0.50 D
Spherical lenses for retinoscope	+1.5 D / +2.0 D
Red maddox rod	Right eye: horizontal, Left eye: vertical
Dissociation prism	Right eye: 6ΔBU / Left eye: 10ΔBI, Right eye: 3ΔBD / Left eye: 3ΔBU
Visual field	40˚ (VD = 12 mm), 39˚ (VD = 13.75 mm)
Refraction distance for near vision	350 to 700 mm (50 mm increments)
Forehead rest adjustment	14 ±2 mm
Vertex distance marking	12, 13.75, 16, 18, 20 mm
Level adjustment	±2.5˚
Display	5.7-inch color
Printer	High speed line printer
Interface	RS-232C
Power supply	AC 100 to 240 V (±10%), 50 / 60 Hz
Power consumption	80 VA
Dimensions / Mass	
Refractor head	355 (W) x 100 (D) x 276 (H) mm / 3.5 kg
	14.0 (W) x 3.9 (D) x 10.9 (H)" / 7.7 lbs.
Control box	160 (W) x 209 (D) x 165 (H) mm / 1.7 kg
	6.3 (W) x 8.2 (D) x 6.5 (H)" / 3.7 lbs.
Relay box	194 (W) x 227 (D) x 61 (H) mm / 2.0 kg
	7.6 (W) x 8.9 (D) x 2.4 (H)" / 4.4 lbs.
Standard accessories	Near point card, Near point rod, Forehead rest, Face shield, Stylus pen, Dust cover, Communication cable, Printer paper, Power cord
Optional accessories	Eye Care card (IC card)

Product / Model name: Refractor RT-3100

All LCD images are simulated.

Caution: U.S. Federal Law restricts this device to sale, distribution, and use by or on the order of a physician or other licensed eye care practitioner.

Specifications and design are subject to change without notice.

Specifications may vary depending on circumstances in each country.

Eye & Health Care
NIDEK CO., LTD.

VEGETABLE
OIL INK