



Smart Refractor RT-3100



The Art of Eye Care



The image shows a white NIDEK RT-3100 Auto Refractor. It is a compact, handheld device with a large lens on the front and a control panel on the side. The NIDEK logo is visible on the front and side. The device is shown from a three-quarter view, highlighting its ergonomic design and various adjustment knobs.

The New Auto Refractor RT-3100 Compact & Fast Examination

Easy Program of Refraction Sequences

The RT-3100 represents the ease of auto examinations with accurate operation and consistent results each time with every operator.

The built-in Eye Care card system, printer and simple software updates, support the complete examination practice. In addition to these functions, connection to EMR (Electric Medical Record) and comparison between auto lensmeter / auto refractometer data can be performed with the touch of a button.





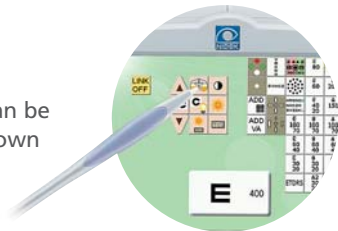
Control Box with Touch Panel for Easy Operation

■ 5.7-inch Color LCD

Enhanced informative color LCD touch panel can display a great deal of information.

■ Switching Charts and LED

VA charts and near point lamp (LED) can be selected easily by pressing the icons shown on the touch panel.



■ Advanced Dial with S/C/A Mode Keys

The dial on the control panel provides easy operation. S/C/A mode keys in the center of the dial allows the operator to quickly refine sphere, cylinder and axis powers using only one hand.



■ Smart and Reliable Examinations

Easy operation does not only reduce the physical burden of operators, but also lightens the pressure of examinations for patients.

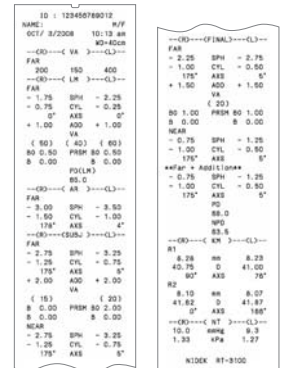
■ Cross Cylinder Examination

Cross cylinder examination is effective for astigmatism examinations. Adjusting the axis can be set automatically by pressing the cross cylinder button. Spherical equivalent is also adjusted automatically.



Built-In High Speed Line Printer with Automatic Paper Cutting

The RT-3100 control box includes a built-in high-speed printer to automatically print out the thermal tape. The data display of the measurement is easy to read. Measurement data is simply laid out and is useful for explanation to patients. Replacing a new roll paper is easy and exchanging time takes only a few seconds. The automatic cutter leaves a small section of paper uncut to prevent the paper from falling, which is user-friendly.



Software Update with CompactFlash* Card

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 for Comfortable Examinations

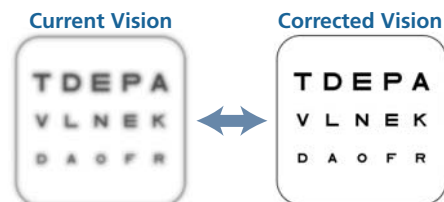
■ Compact Design & Wide Visual Field (40°)

The RT-3100's compact and ergonomic design covers the patient's face partially, offering very comfortable examinations. A wide visual field of 40° also provides a natural view environment for the patient, enabling more realistic and accurate refractions.

■ Smooth, Quiet Lens Selection for Faster Examinations

The RT-3100 keypad makes refining sphere, cylinder and prism lenses smoother and faster than examinations performed manually by the operator. By exchanging the internal lenses quickly, the patients' current vision of unaided or current glasses prescription* and corrected vision can be compared.

*Requires data transfer from a NIDEK auto lensmeter.
Please contact us for further information.



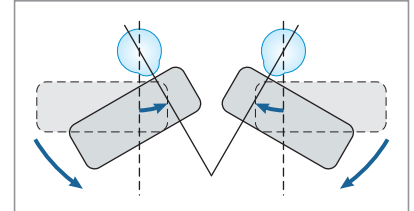
Patient's vision can be compared instantly!

■ 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.



■ Built-In Clear and Safe Illumination (White LED)

Bright, heat-free and energy efficient white LED for near chart illumination provides a clear and safe examination environment.

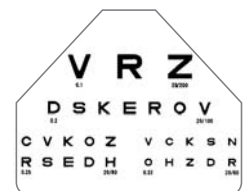


■ Easy-to-Clean: Detachable Forehead Rest, Face Shields, and Protective Glasses with Antifouling Coating

Easy-to-clean parts allow easy maintenance and clean examinations.

■ High Quality Near Point Card

A plastic Near Point Card with selected near point charts is attached to the RT-3100's main body, which can be washed with water to be kept clean.



Working Distance: 40 cm (16 inch)



Eye Care Card System*

The RT-3100 control box incorporates the card slot for Eye Care card system, which provides quick and easy wireless data transfer from auto refractometers and auto lensmeters. With use of EyeCa-RW2, AR/ARK/LM measurement data can be transferred to the RT-3100 through a IC card.

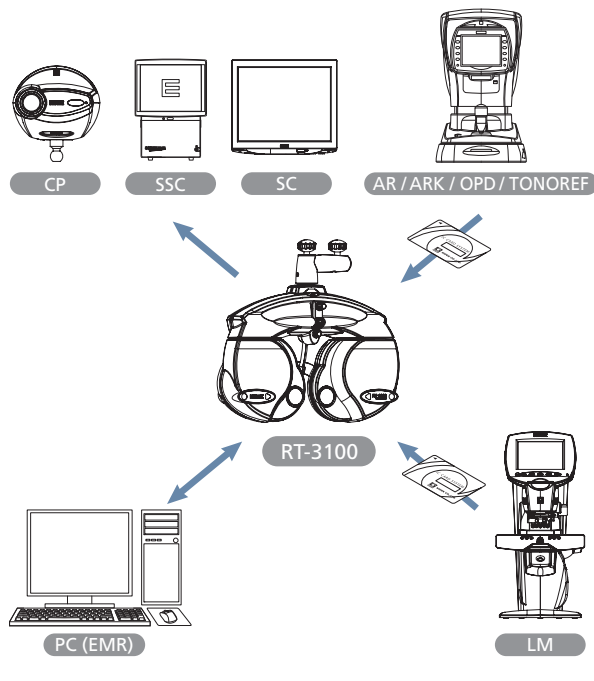
*The card is optional.



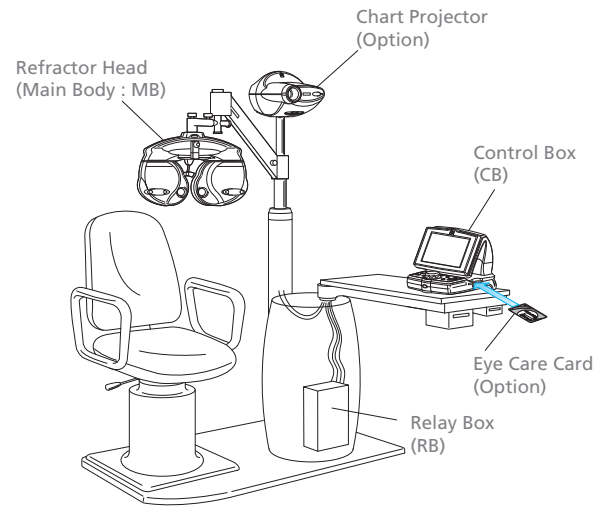
EMR (Electric Medical Record) Compatible

The RT-3100 is compatible with EMR (Electric Medical Record) available for managing patient data increasing efficiency. Errors occurred by written data will lessen with this evolutionary productivity.

Various interface functions with external equipment



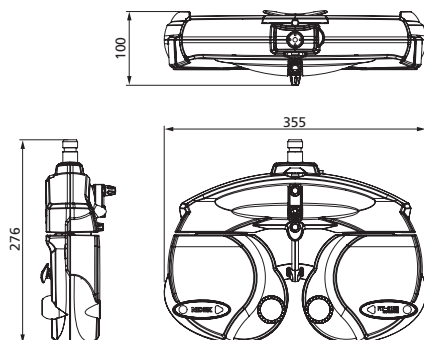
The RT-3100 can be connected with ophthalmic units currently in common use.



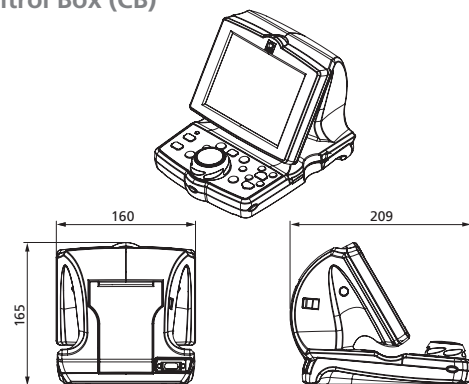
*These configurations are just examples. Please contact us for further information.

Dimensions (mm)

Refractor Head (Main Body : MB)



Control Box (CB)



RT-3100 Specifications

Measurable range	
Measurable power	-19.00 to 16.75 D (0.25 D / 0.5 D to 3.0 D increments)
Cylindrical power	0.00 to ± 6.00 D (0.25 D / 1 D increments)
Cylindrical axis	0 to 180° (1° / 5° increments)
Pupillary distance	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 20 Δ (0.1 / 0.5 / 2 Δ increments)
Auxiliary lens	
Cross cylinder lens	± 0.25 D
Occluder	
Pinhole plate	$\varnothing 2$ 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: 6 Δ BU / Left eye: 10 Δ BI, Right eye: 3 Δ BD / Left eye: 3 Δ BU
Visual field	40° (VD = 12 mm), 39° (VD = 13.75 mm)
Refraction distance for near vision	350 to 700 mm (Selectable in increments of 50 mm)
Forehead rest adjustment range	14 \pm 2 mm
Vertex distance marking	12, 13.75, 16, 18, 20 mm
Level adjustment	$\pm 2.5^\circ$
Display	Dot-matrix screen, 5.7-inch color LCD with touch panel
Printer	Built-in
Interface	Built-in
Power supply	AC 100 to 240 V ($\pm 10\%$), 50 / 60 Hz
Power consumption	80 VA
Dimensions / Weight	
Refractor head	370 (W) x 100 (D) x 290 (H) mm (Excluding bracket) / 3.5 kg 14.6 (W) x 3.9 (D) x 11.4 (H) " (Excluding bracket) / 7.7 lbs.
Control box	180 (W) x 190 (D) x 220 (H) mm / 1.7 kg 7.1 (W) x 7.5 (D) x 8.7 (H) " / 3.7 lbs.
Relay box	194 (W) x 227 (D) x 61 (H) mm / 2.5 kg 7.6 (W) x 8.9 (D) x 2.4 (H) " / 5.5 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)

All LCD images are simulated.

Specifications and design are subject to change without notice.



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