



*Versatile Functionality*

# RT-5100

SMART REFRACTOR



# Smart Refractor RT-5100

## *Patient-Friendly*

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- **Smart, Ergonomic Design for Patient Comfort**

- **Wide Visual Field (40°)**

- **R/L-Independent PD Adjustment for Improved Precision**

Right and left PD can be adjusted respectively for more accurate and reliable measurements.

- **Smooth, Quiet Lens Selection for Faster Examination**

The speed of lens changeover is 50% faster than our conventional refractor, greatly saving examination time.

- **Built-in Clear and Safe Illumination (White LED)**

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



## *Easy Maintenance & Upgrades*

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- **Easy-to-Clean : Detachable Forehead Rest, Face Shield, and Protective Glasses with Dirt-Resistant Coating**

Easy-to-clean parts provide easy maintenance.

- **Quick & Easy Future Upgrades with CompactFlash\* Card**

\*CompactFlash is a trademark of SanDisk Corporation.



## User-Friendly

### ■ Unique Operator "Assist" Function for Easier Operation

### ■ Forehead Position Detector (Blue LED) for Reliable Measurement

### ■ Advanced Dial Control with Built-in S/C/A Switch Button

The dial controller on the control box provides operation with great ease. Built-in S/C/A switch button on top of the dial allows the operator to quickly change sphere, cylinder and axis powers with one hand, offering smart and reliable examination.

### ■ Large Color TFT LCD Touch Panel

### ■ *Final Fit* Function for the Best Prescription

The RT-5100 incorporates NIDEK's Final Fit (adjusted power calculation program) to help find the best and the most comfortable prescription for each patient.

### ■ World's First - Reversible Display

### ■ High Speed Line Printer



EyeCare card slot

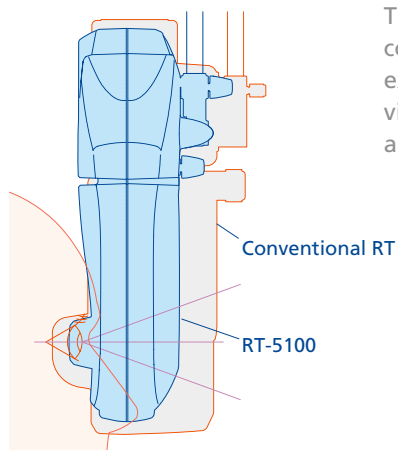
### EyeCare Card System\*

The RT-5100 control box incorporates the card slot for EyeCare Card system, which provides quick and easy wireless data transfer from auto refractometers and lensmeters.

\*The card is optional.

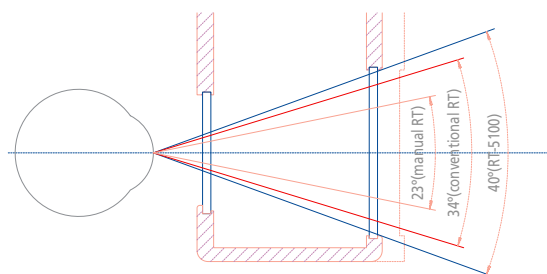
# Smart Refractor RT-5100

## ■ Ergonomic Design & Wide Visual Field (40°)



Width comparison

The RT-5100's compact and ergonomic design does not cover the patient's entire face, offering comfortable examination. Wide visual field of 40° also provides a natural view environment for the patient, enabling more realistic and accurate measurements.



Visual field comparison

## ■ Operator "Assist" Function (Operation & Question Guidance)

The NIDEK RT-5100's unique "Assist" function offers operation & question guidance to help operators with examination proceedings. With the RT-5100, anyone can provide smooth optometry examinations. Extended help and question guide displays also provide better operability.

The question guide display is programmable, and shown in different colors for better readability.



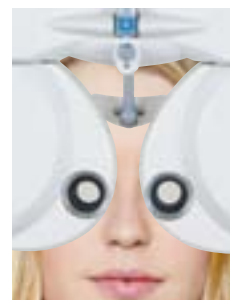
Question guide display

## ■ Smart Forehead Position Detector (Blue LED) for Reliable Measurement

The RT-5100 incorporates a forehead position detector. The clear and easy-to-recognize blue LED on the main body goes out when the patient's forehead is set in the right position for measurement, allowing operators to proceed under the optimum conditions.



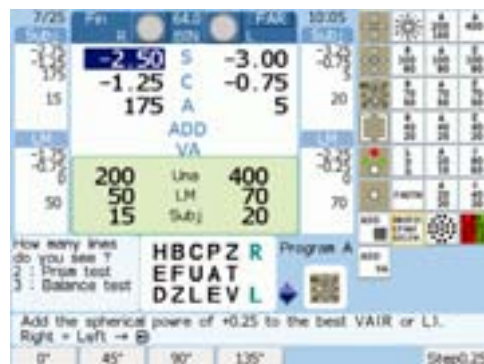
When in the right position,  
the blue LED goes OUT



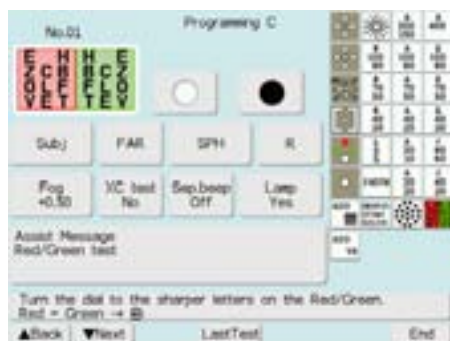
## ■ 8.4-inch Color LCD Touch Panel

Enhanced informative color LCD touch panel can display a great deal of information including near vision charts and program / operation messages. With the help of the operation guide, anyone can easily, smoothly and accurately select the appropriate chart using chart marks on the touch panel.

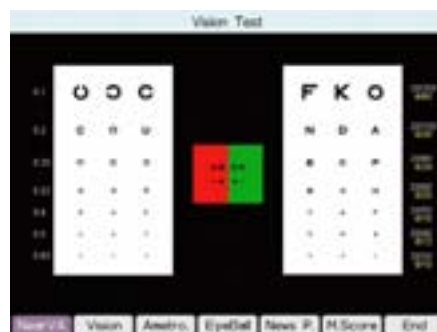
The RT-5100 offers an enhanced number of programmable optometry items, and shows the list of contents for easy programming.



Measurement screen



Optometry programming



Near vision chart

ACTUAL SCREEN SIZE

## ■ Convenient Tilttable / Reversible Display



The RT-5100's tiltable LCD offers easy operation in both sitting and standing positions. Also, the operator can turn over the screen to the patient's side and use the display as a simple near vision chart for visibility check. When the screen is reversed, the displayed contents will automatically be switched upside down.

# Ophthalmic Workstation COS-5100

## ■ Ophthalmic Workstation

Highly advanced and space saving NIDEK COS-5100 - the ophthalmic workstation incorporating a refractor, auto ref/keratometer, slit lamp, space saving chart, lensmeter, etc. - is also available. Various system configurations are available to fit each customer's needs.



Vertical movement of the motorized main table can be controlled with the limit switch (downward movement of the table stops when the table touches the patient) for higher patient safety.

System configuration :

RT-5100 Smart Refractor  
TONOREF RKT-7700 Auto Ref/Kerato/Tonometer  
LM-1200 Lensmeter  
SSC-350CG Space Saving Chart  
ST-5100 (Motorized Main Table & Side Table)

Above configuration is just an example. Please contact NIDEK for further information.

## ■ RT-5100S

RT-5100 with stand is also available. Compact stand for control box incorporates a printer that provides easy loading.



Stand



	RT-5100S / U		COS-5100		
	Item	Product code #	Item	Product code #	
MAIN BODY CONTROL BOX	RT-5100S (including stand)	• 120V : 34085-0520 • 230V : 34085-0530	RT-5100	• 120V : 34085-0A20 • 230V : 34085-0A30	
	RT-5100U	• 120V : 34085-0U20 • 230V : 34085-0U30			
TABLE / STAND	Stand (RT-5100S) (including printer & relay box)	Included in RT-5100S	ST-5100 (Motorized main table & side table including printer & relay box)	• 120V : 36301-0R20 • 220/230V : 36301-0R40	
Connectable Equipment				Product code #	
AR/ARK	• AR-600/600A/610/630A/660A/800/820/860 (Tray 1) • ARK-700/700A/710A/730A/760A/900 (Tray 1) • AR-330A/310A, ARK-530A/510A, RKT-7700 (Tray 2) • ARK-9000/10000(OPD) (Tray 3)				
SL	SL-1800 (Tray 4)				
LM	LM-770/820/820A/970/990A/1000(P)/1200				
CHART	CP-690, SSC-330/350/350CG				

[illegible]

Technical drawings of two medical carts, showing dimensions in millimeters.

**RT-5100S Dimensions:**

- Top width: 240 mm
- Top panel width: 220 mm
- Top panel height: 138 mm
- Main body height: 632 mm
- Base width: 315 mm
- Adjustable arm width: 210 mm

**COS-5100 Dimensions:**

- Top width: 1582 mm
- Top panel width: 1025 mm
- Top panel height: 700 mm
- Main body height: 1432 mm
- Base width: 1080 mm
- Adjustable arm width: 400 mm
- Base height: 550 mm
- Base width: 330 mm
- Adjustable arm height: 305 ~ 615 mm
- Base height: 680 ~ 860 mm (Main Table)
- Base height: 780 mm (Side Table: Fixed)

# RT-5100 Specifications

## RT-5100 Refractor

<b>Measuring Range</b>	
Sphere	-29.00 to +26.75 D (0.12 / 0.25 / 1 / 2 / 3 D increments)
Cylinder	0 to $\pm 8.75$ D (0.25 / 1 / 2 / 3 D increments)
Axis	0 to 180° (1 / 5 / 15° increments)
PD	48 to 80 mm (In distance mode 0.5 / 1 mm increments) 50 to 74 mm (For near working distance set at 35 cm, 0.5 / 1 mm increments) 54 to 80 mm (Far PD at which both batteries can converge)
Rotary Prism	0 to 20 $\Delta$ (0.1 / 0.5 / 2 $\Delta$ increments)
<b>Auxiliary Lenses</b>	
Cross Cylinder Lens	$\pm 0.25$ D, $\pm 0.5$ D, $\pm 0.25$ D Auto-cross
Occluder	
Pinhole Plate	$\phi$ 2 mm
Red Maddox Rod	Right eye: horizontal, left eye: vertical
Red / Green Filter	Right eye: red, left eye: green
Polarizing Filters	Right eye: 135 / 45°, left eye: 45 / 135°
PD Check Lens	
Fixed Cross Cylinder Lens	$\pm 0.50$ D (Fixed with the Axis set at 90°)
Lenses for Retinoscope	+1.5 / +2.0 D
Dissociation Prism	Right eye: 6 $\Delta$ BU, left eye: 10 $\Delta$ BI
<b>Refraction Distance for Near Vision</b>	350 to 700 mm (50 mm increments)
<b>Visual Field</b>	40° (VD = 12 mm) 39° (VD = 13.75 mm)
<b>Forehead Rest Adjustment</b>	14 $\pm$ 2 mm
<b>VD Scale</b>	12, 14 (partially 13.75), 16, 18, 20 mm
<b>Horizontal Level Adjustment</b>	$\pm 2.5^\circ$
<b>Printer</b>	High speed line printer
<b>Display</b>	8.4-inch color LCD
<b>Interface</b>	RS-232C
<b>Power Supply</b>	AC 100 / 120 / 230 V 50 / 60 Hz
<b>Power Consumption</b>	120 VA
<b>Dimensions &amp; Weight</b>	
Main body	405 (W) x 102 (D) x 276 / 325 with bracket (H) mm / 3.5 kg 15.94 (W) x 4.0 (D) x 10.86 / 12.8 with bracket (H) " / 7.7 lbs.
Control box	220 (W) x 206 (D) x 200 (H) mm / 1.9 kg 8.66 (W) x 8.1 (D) x 7.87 (H) " / 4.2 lbs.
Relay box	194 (W) x 227 (D) x 72 (H) mm / 4.0 kg 7.63 (W) x 8.93 (D) x 2.83 (H) " / 8.8 lbs.
Printer	102 (W) x 86 (D) x 121 (H) mm / 0.3 kg 4.0 (W) x 3.38 (D) x 4.76 (H) " / 0.66 lbs.

## COS-5100 Table (ST-5100)

<b>RT Arm</b>	Electromagnetic lock
<b>Up-and-down of RT Arm</b>	Stroke 310 mm
<b>Back-and-forth of RT Arm</b>	Stroke to patient side 230 mm
<b>Dimensions &amp; Weight</b>	
Mororized Main Table	Table top: 1025 (W) x 500 (D) x 680 - 860 (H) mm (stroke 180 mm) 40.35 (W) x 19.7 (D) x 26.77 - 33.86 (H) " (stroke 7.1 ")
Side Table (Fixed)	Table top: 1080 (W) x 723 (D) x 760 (H) mm 42.52 (W) x 28.46 (D) x 29.9 (H) "
Overall	1080 (W) x 1542 (D) x 1360 - 1850 (H) mm / 160 kg 42.52 (W) x 60.7 (D) x 61.2 - 72.83 (H) " / 352.7 lbs.
<b>Power Supply</b>	AC 100 / 120 / 220 / 230 V $\pm 10\%$ , 50 / 60 Hz
<b>Power Consumption</b>	600 VA (max. including RT and other optometry equipment)

\*Specifications and design are subject to change without notice for improvement.



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