RT-5100

SMART REFRACTOR

NIDEK

Eye & Health Care

Smart Refractor
RT-5100

Patient-Friendly

- **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

- **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**

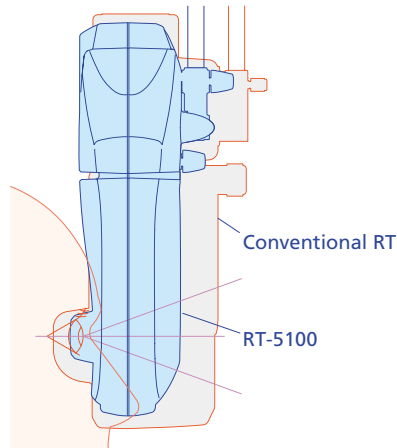■ **High Speed Line Printer**

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.
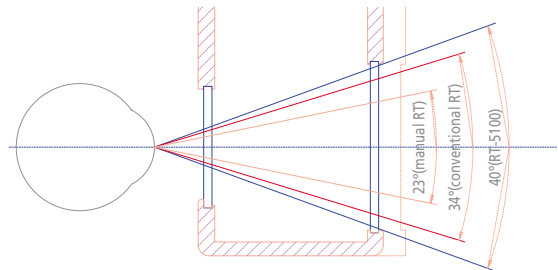
*The card is optional.

■ Ergonomic Design & Wide Visual Field (40°)

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.

Conventional RT

RT-5100

Width comparison

23°(manual RT)

34°(conventional RT)

40°(RT-5100)

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.

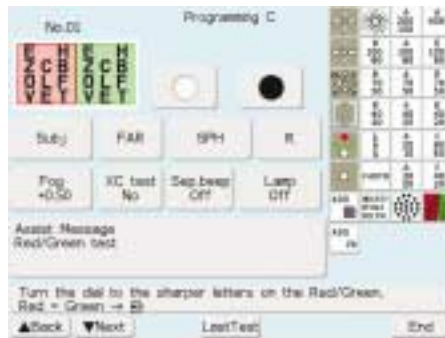When in the right position, the blue LED goes OUT

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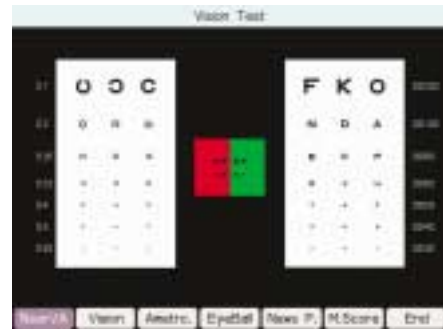
The RT-5100 offers an enhanced number of programmable optometry items, and shows the list of contents for easy programming.
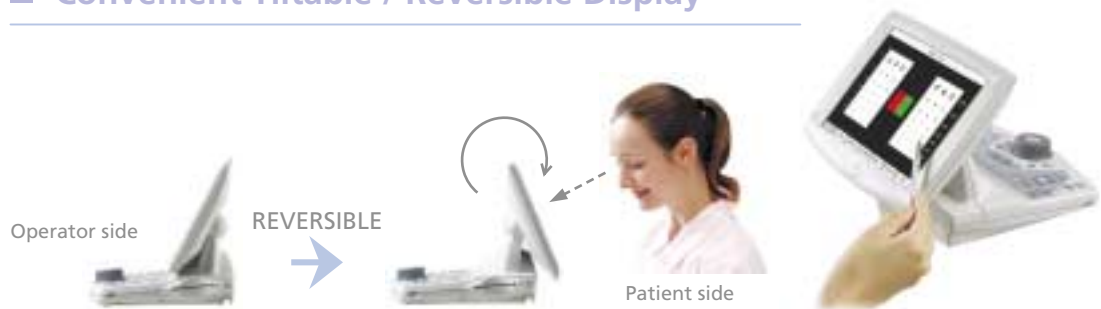
Measurement screen

Optometry programming

Near vision chart

ACTUAL SCREEN SIZE

■ Convenient Tiltable / Reversible Display

Operator side

REVERSIBLE

Patient side

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

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.
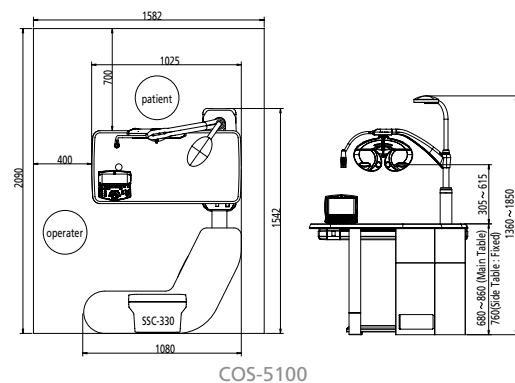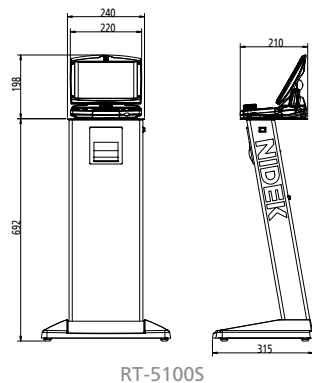
Stand

System Configurations

	RT-5100S / U		COS-5100	
	Item	Product code #	Item	Product code #
MAIN BODY CONTROL BOX	RT-5100S (including stand)	▪120V : 34085-0S20 ▪230V : 34085-0S30	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		

Optional Accessories

	RT-5100S/U	COS-5100	Product code #
TRAY		▪Tray 1 (for AR/ARK) OT18TR-1 ▪Tray 2 (for AR/ARK,RKT) OT18TR-2 ▪Tray 3 (for OPD) OT18TR-4 ▪Tray 4 (for SL) OT18TR-3	36330-0A00 36330-0B00 36330-0D00 36330-0C00
MEMORY BOX	MEM-100 : 1 Auto Refractometer is capable of communication with 7 other RT (6 when a lensmeter is connected).		34080-06B0
IC CARD UNIT	RW unit for AR/LM : EyeCa-RW (Excluding AR with built-in IC card) IC Card : Eye Care Card (5pcs/set)		34080-05J0 34056-1000
CHART PROJECTOR OPTIONS	▪Floor stand : CP3B-4 ▪Screen stand : CP3OP-3 ▪Screen angle fixing set : CP6OP-2 ▪Table stand : CP7B-1 ▪Red/Green glasses : CP3SP-3 ▪Cable for data input <5M> : CP3OP-1 ▪Wall bracket : CP3B-3U		33384-0620 33413 33152 33419-1000 33393 33411 33388
SPACE SAVING CHART OPTIONS	▪Remote controller for SSC-330 : SSC3RC-1 ▪Remote controller for SSC-350 : SSC3RC-2 ▪Remote controller for SSC-350CG : SSC3RC-3 ▪Stand : SSC3ST-1 ▪Red/Green glasses : CP3SP-3 ▪Cable for data input <5M> : CP3OP-1		▪33328-0040 (Type UK) ▪33328-0060 (Type T) ▪33328-0080 (Type U) 33329-0060 (Type T) 33330-0060 (Type T) 33333-0000 33393 33411

INTERFACE CABLES	▪Cable 1 <5M> : OPIF-6 ⑧RT-5100
	⇕
	⑧ AR-630A/610/630A/660A/860/820/800
	   ARK-730A/710A/700A/700/900/9000/10000
	   LM-1200/1000(P)/990A/820A/820/770
	   RKT-7700
	   Memory box MEM-100
	
	▪Cable 2 <5M> : OPIF-14 ⑧RT-5100
	⇕
	⑧ AR-330A/310A
	   ARK-530A/510A
			35699-EA01
			
			35374-EA01

OTHER	Chair : CH-100B		35777-00A0

Dimensions (mm)

RT-5100S

COS-5100

RT-5100 Specifications

RT-5100 Refractor

Measuring Range	
Sphere	-29.00 to +26.75 D (0.12 / 0.25 / 1 / 2 / 3 D increments)
Cylinder	0 to ±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△ (0.1 / 0.5 / 2△ increments)
Auxiliary Lenses	
Cross Cylinder Lens	±0.25 D, ±0.5 D, ±0.25 D Auto-cross
Occluder	
Pinhole Plate	⌀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	±0.50 D (Fixed with the Axis set at 90°)
Lenses for Retinoscope	+1.5 / +2.0 D
Dissociation Prism	Right eye: 6△BU, left eye: 10△BI
Refraction Distance for Near Vision	350 to 700 mm (50 mm increments)
Visual Field	40° (VD = 12 mm)
	39° (VD = 13.75 mm)
Forehead Rest Adjustment	14 ±2 mm
VD Scale	12, 14 (partially 13.75), 16, 18, 20 mm
Horizontal Level Adjustment	±2.5°
Printer	High speed line printer
Display	8.4-inch color LCD
Interface	RS-232C
Power Supply	AC 100/ 120 / 230 V
	50 / 60 Hz
Power Consumption	120 VA
Dimensions & Weight	
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)

RT Arm	Electromagnetic lock
Up-and-down of RT Arm	Stroke 310 mm
Back-and-forth of RT Arm	Stroke to patient side 230 mm
Dimensions & Weight	
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.
Power Supply	AC 100 / 120 / 220 / 230 V ±10%, 50 / 60 Hz
Power Consumption	600 VA (max. including RT and other optometry equipment)

NIDEK CO., LTD.

VISIONARY PERFORMANCE

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

Printed on environment-friendly recycled paper.