

## Quality in vision care

# DR-900

## Digital Refractor



## About Us

### Rex + Max = Rexxam

Rexxam, which means 'the king of the kings', is a respected and reliable brand.

Rexxam is a Japanese company with a celebrated 60 year history. With over 3,000 employees worldwide, Rexxam manufacture a wide range of products for various industries; from factory automation, automobiles and air conditioning systems, to beer and ski boots.

Since 1986, Rexxam has manufactured various high quality products for leading brands in the eye care industry, including SHIN-NIPPON. Rexxam had developed and manufactured products for SHIN-NIPPON since 1993 and in 2014 the company took over the SHIN-NIPPON brand.

We will be bringing high quality ophthalmic equipment to a global market. By combining precision engineering with industry leading innovation and experience in mass production, Rexxam produce unique products to support eye care specialists across the world.

Quality in vision care, we are Rexxam.



1960  
Foundation of Rexxam

1986  
Rexxam started the development and manufacturing of ophthalmic devices as an OEM supplier

1993  
Rexxam became the main OEM partner for SHIN-NIPPON  
**SHIN-NIPPON**

2014  
Rexxam acquired the SHIN-NIPPON brand  
**SHIN-NIPPON by Rexxam**

2018  
The manufacturer brand Rexxam was inaugurated  
**Rexxam**

**Rexxam**

Quality in vision care

Proudly  Made in Japan

### Message from Engineer

Rexxam DR-900 Digital Refractor has a combination of multiple sets of lenses & filters built in the main refractor head.

Our engineering team develops hardware & software that delivers speedy lens transition. Mechanical movement is swift & quiet.

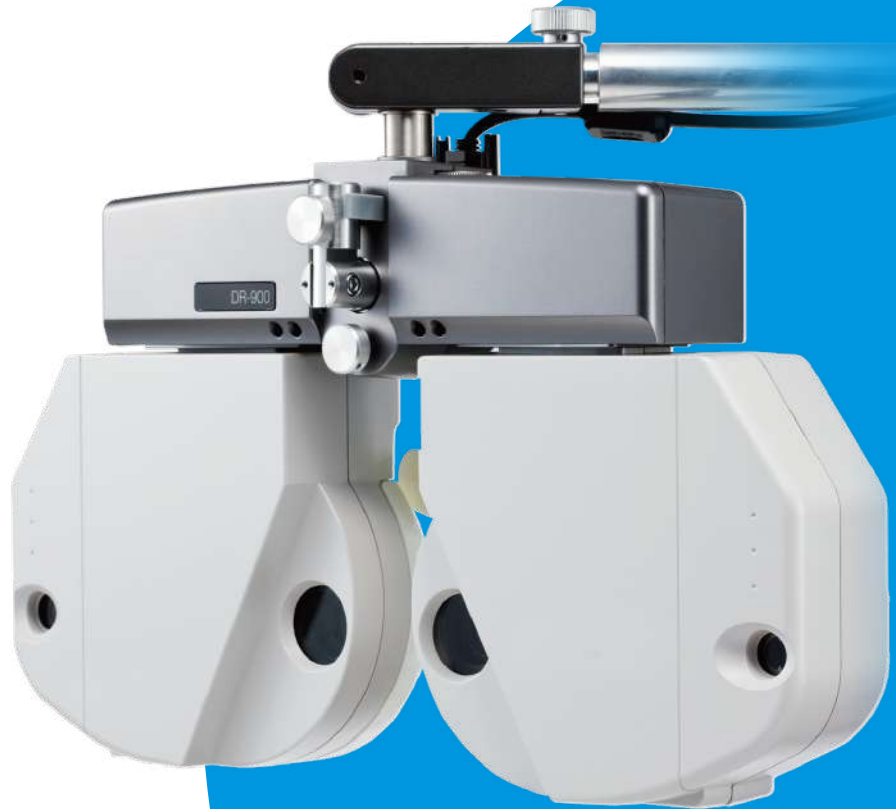
With much studies from different international refraction practices, DR-900 smart intuitive user-friendly interface enhances the practitioner's experience, resulting in patient's satisfaction.

We hope that you enjoy a smooth and comfortable subjective refraction with our DR-900.

Y.K.  
Research & Development Dept.  
May-2017

# Subjective refraction with the DR-900

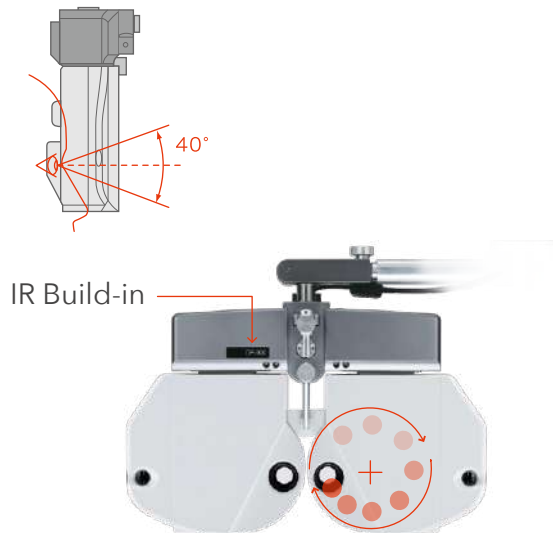
Rexxam Refraction System - high quality and precision optics meet stringent standards in eye refraction. Its good mechanical design (Sequential-Control Lens Rotating Units) delivers swift and quiet mechanical transition. The smart-compact refractor head & 10.4 inch full colour touchscreen controller will surely help to maximise the practitioner's refraction test experience.



- High speed silent head
- Wide field of view
- Built-in IR connection to chart screen
- Detachable Face shields
- Dimmable near vision LED illumination
- 10.4 inch full colour touch screen controller
- 21-step subjective Eye Exam routine
  - Auto-cross cylinder
  - Spatial Frequency Contrast Sensitivity test
  - Linear and circular polarization Auxiliary lenses

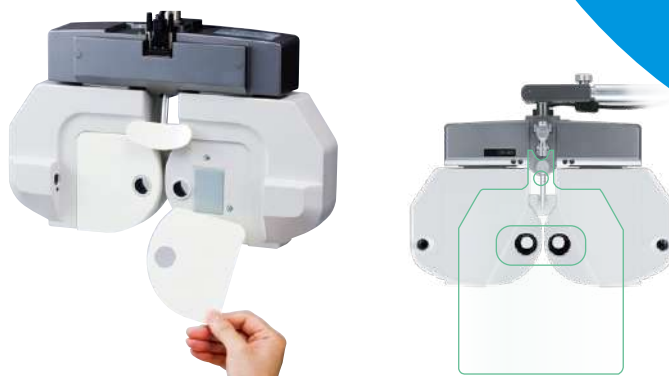
## Speedy & Quiet Refractor Head

Thanks to our high precision optical mechanism that delivers speedy, smooth and quiet motion ensuring accurate and comfortable examination. Our compact refractor head has a 40° field of view coverage. Built-in IR enables communication with Chart Screen or Projector. The DR-900 offers a minimum Spherical step-size of 0.12 Dioptre.



## Safe and Clean Refraction

Soft and light materials are used on the head-rest and face-shields. These parts are easily detachable to disinfect or to clean. A Breath Shield is available as an option to enhance safe distancing measures when practitioner needs to manually adjust the refractor head.



## Near vision chart / dimming LED



Test for Near Vision for presbyopia and balance test are possible by means of attaching the Near Vision Chart to the DR-900. The incorporated double LED illumination on the refractor head is dimmable from 25%, 50%, 75% and 100% to suit various refraction room light conditions.

## Auto-convergence / Auto near PD

The DR-900 refractor head will automatically converge to the appropriate Near PD angle when the desired reading distance (30, 40, 50, 60 & 70 cm) is selected.





## Simple and easy operation

The DR-900 dedicated 10.4 inch full colour touchscreen offers a clear overview of examination data, selection of test chart and various test methods. The controller keyboard with jog dial and buttons enables the practitioner to perform a refraction test by simply touching on the LCD screen, Jog dial or buttons.

10.4 Inch  
large LCD  
colour  
display

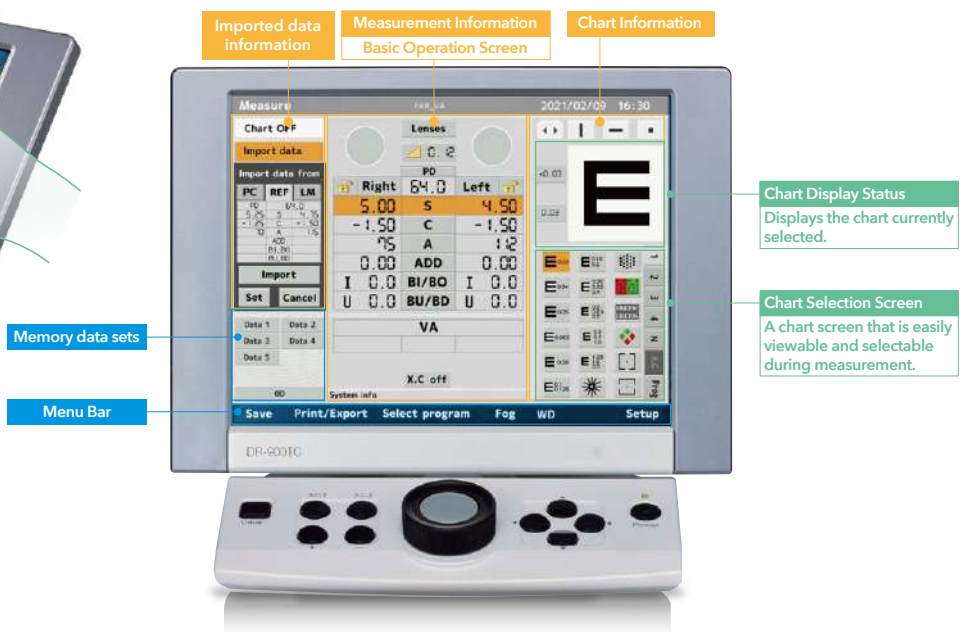
Easy and  
intuitive  
operation

Touch screen,  
Jog dial  
& button  
operation



## Multi display interface design

The multi display interface design divides clearly the chart information, measurement information and import / memory areas, making operating the DR-900 intuitive and improving the workflow and examination time.



### Jog Dial Auto Input Cross Cylinders

The DR-900 has Jackson Cross Cylinder power of ( $\pm 0.25D$ ) & ( $\pm 0.50D$ ) as well as Auto-Cross Cylinder ( $\pm 0.25D$ ).

The Jog dial has a 2-in-1 function that enables the practitioner to toggle the X-CYL function (XC1 or XC2) whilst the Enter Key allows the practitioner the choice to [Select], [Adjust] or [Enter] function. Cylinder/Axis is automatically changed according to patient's visual preference. Spherical Equivalent is automatically compensated whenever 0.50D Cylinder is changed during JCC test.



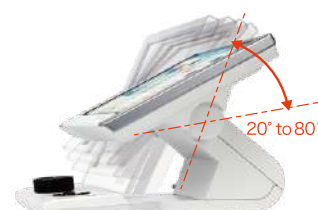
### Built-in printer with auto-cut function

The built-in thermal printer is conveniently located behind the controller, with auto-cut function.



### Convenient tilting display

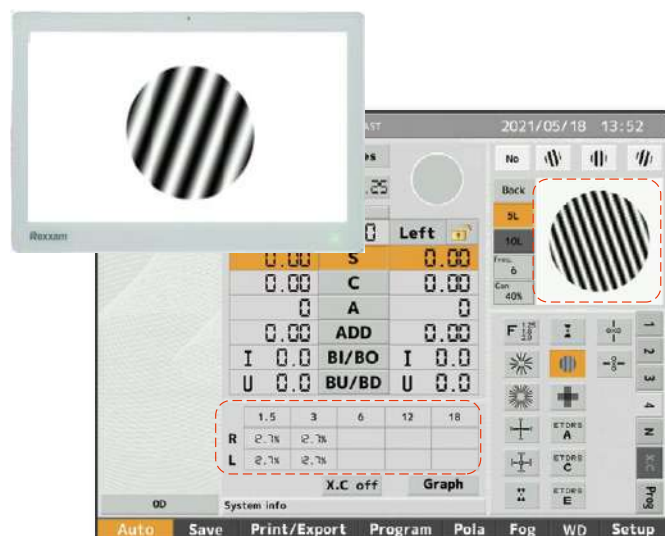
The touchscreen flexible tilt display ( $20^\circ \sim 80^\circ$ ) enables the user to operate in either sitting or standing positions.



## Spatial Frequency Contrast Sensitivity Test

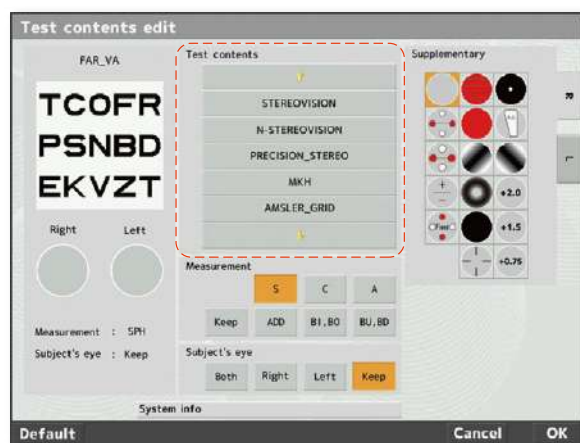
The DR-900 offers the Spatial Frequency Contrast sensitivity test, which can be binocularly and monocularly examined. 10 contrast levels are available at 5 levels of cycles per degree. The test results are shown in a graph and can be exported and printed.

\*only available in combination with Rexam LCD-1000/1000P.



## Binocular examinations

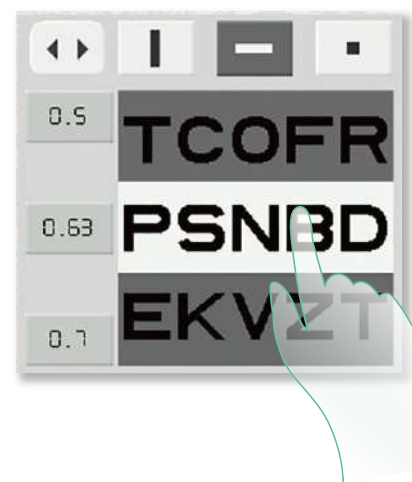
A full set of pre-defined tests are available to perform any kind of binocular examinations, such as phoria, convergence, accommodation, etc.



## Chart Masking and Randomization

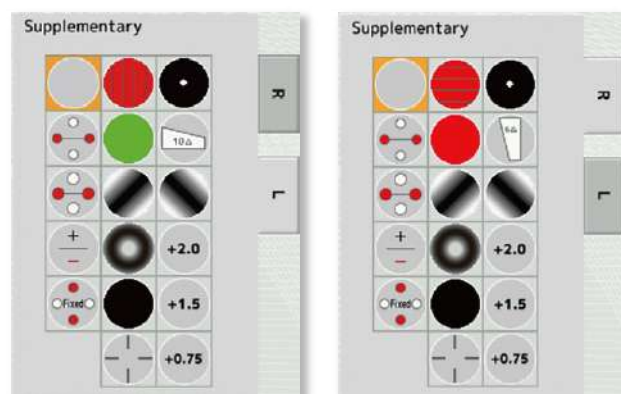
You can mask all available optotype charts (horizontal, vertical & single letter). The mask will stay even when the user is scrolling through different Visual Acuity charts. The optotype chart can be randomly changed with a simple push of the touch screen.

\*only available in combination with Rexam LCD-1000/1000P



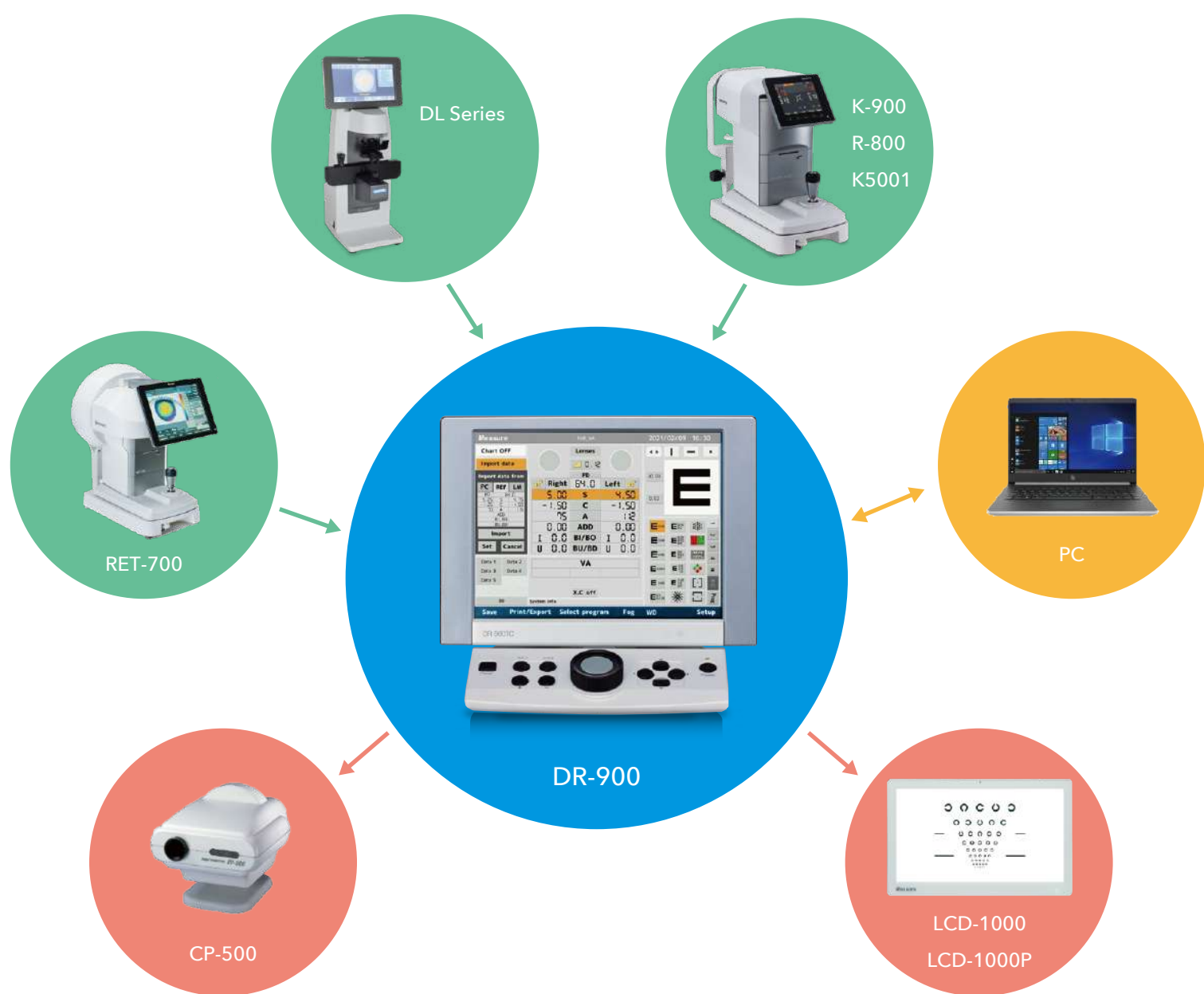
## Versatile set of Auxiliary lenses & filters

The DR-900 Digital Refractor - set of supplementary accessories including linear or circular polarisation filters, red or green filters, Maddox\_H and Maddox\_V filters to compliment subjective examination.



# DR-900 Compatibility & Connectivity

The DR-900 Digital Refractor System can communicate with various Rexxam products including Auto-Refractometers, Digital Lensmeters and Ref-Topographer, where data can be exported to the DR-900 automatically or manually. By one touch on the [Set] button on the DR-900 touchscreen panel, objective data is instantly sent to the refractor head. The save function enables the practitioner to test or show patient's current or new prescription for confirmation. DR-900 can also communicate with Rexxam LCD Chart or Chart Projector via the LCD touchscreen control function.

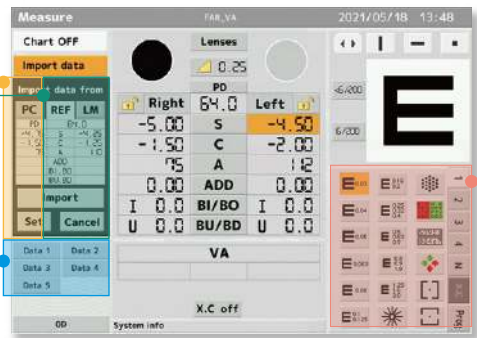


**Import data**

Data from PC, Refractometer and Lensmeter can be imported or manually entered.

**Memory function**

Up to 5 data sets can be memorised and compared with each other. With just one push of the button "OD", selected data can be compared with unaided vision.



**Full integration**

Rexxam's chart screen LCD-1000 series as well as Rexxam's chart projector CP-500 are seamlessly integrated into the DR-900 controllers user interface.

Chart selection and layout can be customised and saved to 3 different users profiles.



Spherical	Range	-28.75D ~ +27.25D
	Step	0.12 / 0.25 / 0.50 / 1.00D
Cylinder	Range	0D ~ ±6.00D
	Step	0.25 / 0.50D
Axis	Range	0 ~ 180°
	Step	1° / 5° / 15°
PD	Range	48.0 ~ 80.0 mm
	Step	0.5 / 1.0 mm
Prism	Range	0 ~ 20 Δ
	Step	0.1 / 0.5 / 1.0 Δ
Prism Axis	Range	0 ~ 360°
	Step	1° / 5°
Vertex Distance	12, 13.75, 16, 18mm	
Auto Convergence	Near point distances: 30 / 40 / 50 / 60 / 70 cm	
Cross Cylinders	Auto Cross Cylinder ( ±0.25D )	
	Jackson Cross Cylinders ( ±0.25D & ±0.50D )	
Auxiliary Lenses	P.D	
	Occluder	
	Foraminous board ( Φ1.0mm )	
	Polarization filter ( 45° / 135° )	
	Red Maddox ( right eye : horizon, left eye : vertical )	
	R/G filter ( right eye : red filter, left eye : green filter )	
	Dispersing prism ( right eye : 6ΔBU, Left 10ΔBI )	
	Lens for retinoscope ( +0.75D / +1.50D / +2.00D )	
	Circularly polarized filter	
Printer	Thermal line printer with automatic cutter.	
Monitor	10.4 inch LCD touch monitor	
Size	Head	385 ~ 417mm(W) × 112mm(D) × 308mm(H) approx. 5.3kg
	Controller	272mm(W) × 272mm(D) × 204mm(H) approx. 2.5kg
	Relay box	326mm(W) × 119mm(D) × 83mm(H) approx. 2.4kg
Power	Power Voltage	AC 100 - 240 V , 50/60Hz
	Power Consumption	90 VA

## Included Items

- RS-232C communication cable × 2
- Printer roll paper
- Spare fuse
- Near point chart / holder / bar
- Dust cover

Design and specifications are subject to change without prior notice.

### Manufacturer



Quality in vision care

### Rexxam Co.,Ltd. Kagawa factory

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