

**Righton**

# Auto Refractometer Series Speedy-1/Speedy-K



## Specifications

### Speedy-1

Measurement range	S+C: -18D to +23D, C: -12D to +12D, AXIS: 1-180
Increments	Auto/0.25D/0.12D selectable Axis: 1°
Automatic system	Automatic data select & finish; automatic printing; automatic patient detection
Minimum pupil diameter	2.5 mm
Measurement time	0.01 sec
Continuous measurement	0.2 sec. (display time)
Quick mode	0.12 sec. (display time)
Measurement mode	Full automatic/Manual/Continuous selectable
Number of printings (with normal eyes)	Auto: 5 times per eye Manual: last 8 times per eye Continuous: last 8 times per eye
Fixation chart	Improved X'mas Tree picture target; High/Low selectable intensity
Alignment	Mire ring (18 dots) square target; outside alignment mark
PD measurement	Up to 80 mm (in 1 mm increments)
VD selection	0.0 and one of 12.0, 13.5, 13.75, 15.0, 16.0 mm
Printer	Line printer (paper width 58 mm)
Monitor	5.5-inch black and white
IOL	Automatic
Interface	Infrared wireless/RS-232C selectable
Keys	Function key x 4; SET key x 1
Tabletop to eyepoint distance	380 mm
Data storage	300 persons
Dimensions (W x L x H)	254 x 480 x 473 mm (10 x 18.90 x 18.62 in.)
Weight	17 kg (37.5 lbs.)
Regulations approved	CE, GM, MDD

### Speedy-K

Refractometry	
Measurement range	S+C: -18D to +23D, C: -12D or +12D, Axis: 1-180
Increments	Auto/0.25D/0.12D selectable Axis: 1°
Minimum pupil diameter	2.5mm
Vertex distance	0 and 12, 13.5, 13.75, 15, or 16mm selectable
PD measurement	Up to 83mm (in 1mm increments)
Fixation chart	Improved X'mas tree; high/low selectable intensity
Keratometry	
Measurement range	Radius curvature: 5 to 11mm (in 0.01mm increments) 67.5D to 30.62D Corneal astigmatism: 0 to 12D (in 0.12D increments) Axis: 1° to 180° (in 1° increments)
Measurement area	Center: ø3.2mm (R8mm) Peripheral: 25° ø6.8mm (R8mm)
Features Common to Refract and Kerato	
Measurement modes	AUTO/Manual/Continuous/Quick R-K Mode RK/RKP/R/K/KP
Measurement time	Auto RK Mode (Ref x 5 + Kerato x 1 = 1.15 sec.) RK: 0.35 sec. per indication, RKP: 0.45 sec. per indication R: 0.01 sec. per reading (0.2 sec. per indication) K: 0.033 sec. per reading (0.15 sec. per indication)
General	
Eyeball diagram printing	Standard
Data memory	100 patients (for Refract and Kerato)
Dimensions	254 (W) x 480 (L) x 473 (H) mm (10 x 18.90 x 18.62 in.)
Weight	Approx. 17 kg (37.5 lbs.)
Regulations	CE, GM, MDD

## Local Languages

Fifteen different languages can be selected for display on the monitor.

EG (ENGLISH), DN (DANISH), DU (DUTCH), FR (FRENCH), GR (GERMAN), HN (HUNGARIAN), IN (INDONESIAN), IT (ITALIAN), NR (NORWEGIAN), PL (POLISH), PR (PORTUGUESE), PR (SPANISH), SW (SWEDISH), TR (TURKISH), JP (JAPANESE)

Specifications and equipment are subject to change without any notice or obligation on the part of the manufacturer. August 2003.

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## Message Imprint

Your office name can be imprinted on data sheets. (Speedy-K)

No. 00015  
7. 9. '03 3:32PM  
Name:  
VD: 12.0 PD: 62.0 CHART: H  
[R] SPH CYL AX  
\* - 5.50 - 1.25 187 9

[L] SPH CYL AX  
\* - 5.25 - 1.75 8 10

No. 00015  
7. 9. '03 3:32PM  
Name:  
VD: 12.0 PD: 62.0 CHART: H  
-REF-  
[R] SPH CYL AX  
\* - 5.50 - 1.25 187 9  
[L] SPH CYL AX  
\* - 5.25 - 1.75 8 10

-KER-  
[R] R1 R2 AX1 AX2  
\* 7.67 7.40 187 77  
mm D DEG  
R1 7.67 42.87 187  
R2 7.40 45.62 77  
AV 7.63 44.25  
CYL - 2.75 187  
[L] R1 R2 AX1 AX2  
\* 7.62 7.45 8 98  
mm D DEG  
R1 7.62 43.12 8  
R2 7.45 45.25 98  
AV 7.63 44.25  
CYL - 2.12 8

-KER(PERI)-  
[R] mm D  
H 7.88 43.00  
V 7.42 45.50  
(25°)  
T 7.92 42.62  
N 8.04 42.00  
S 7.48 45.25  
I 7.38 45.75  
E(H) >= 0.481  
E(V) >= 0.000  
E(AV) >= 0.333

[L] mm D  
H 7.62 43.12  
V 7.45 45.25  
(25°)  
T 7.81 43.25  
N 8.04 42.00  
S 7.57 44.62  
I 7.38 45.75  
E(H) >= 0.423  
E(V) >= 0.196  
E(AV) >= 0.360

RIGHTON SPEEDY-K



# Righton—Still the World's Fastest and Most Accurate Auto Refractometer and Auto Refract-Keratometer

## Speedy-1

Fully Automatic Reading Time of only 10.2 sec. to Display

- Automatic measurement without pressing any buttons
- World's fastest reading time of 0.01 sec.
- Automatic data select & finish system—a world first\*
- Automatic printing of measured data
- Wireless data transfer to Righton Remote Vision auto optesters after data printing

\*As of June 1998



## Compact Size, but Large Monitor

Even operators with short arms can operate the chin rest knob easily, while observing the patient's condition. The monitor size is still 5.5 inches as in the previous model.



## Customization is possible for professional use.

- |       |                              |       |  |
|-------|------------------------------|-------|--|
| RETRO | Medical Retro Mode switch    | QUICK | Quick Mode for children and other patients |
|       | Fixation intensity switch    | SET   | Mode change and selection                  |
|       | VD change for contact lenses | PRINT | Print switch for manual use                |

## Accurate Readings

Fast readings mean accurate readings, because there is less chance of eye accommodation. Righton's unique technology combines the chopper and image rotator into one function to increase speed and accuracy.

## Medical Retro Illumination Mode

When readings are unstable, the operator can check to see if there are any opacities in the eye using the Retro Illumination mode. By doing so, reading reliability is increased. Also, image quality in the Retro mode has been improved.



## Quick Mode

Once the Quick mode is selected, the Speedy-1 goes into Continuous mode, shortening fogging and making the measurements of children or patients with nystagmus much easier.

## Wireless data transfer up to 4 Remote Vision units



Reading data is wirelessly transferred to up to four Remote Vision units. RS-232C cable or external data receiver can also be used.



Mire Ring

The mire ring can also be used to check whether or not the patient has astigmatism; the ring becomes distorted if the patient has a strong cylindrical power.

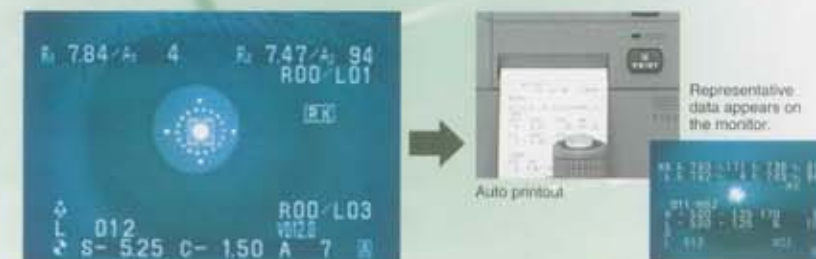
## 300-Patient Memory

The instrument can store data for 300 patients (600 eyes).

## Speedy-K

Lighting fast 0.35 second per each Ref-Kerato

- Automatic printing of both the Keratometry and Refraction data
- Simultaneous and automatic wireless transfer to a Remote Vision
- With a speedy 0.35-second measuring time for each reading, you receive the most accurate data without having to press any keys.
- Even when taking a Peripheral Kerato reading, it completes a set of Refract, Kerato-Center and Kerato-Peripheral readings in only 0.45 second per reading.
- Quick Mode, Retro Function, and Fixation Intensity Change all ensure more accurate readings.



Speedy readings

## Simultaneous Measurement.....

You can measure Refract and Kerato data continuously and automatically in an amazing 0.35 second per reading. If you want, you can even do it in an individual manual reading.

## .....Peripheral Data

Furthermore, the Tangential method measures four peripheral points in the 25° direction concurrently, dramatically saving time. Refract, Kerato-Center, and Peripheral data are all taken simultaneously, in 0.45 second per reading.

## 100-Patient Memory

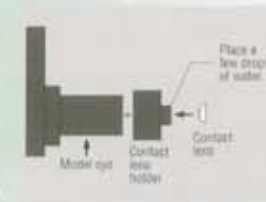
Refract and Kerato data for 100 patients can be stored in the instrument's memory.

## Wider Reading Range

For Keratometry, Speedy-K boasts a corneal radius curvature range of 5-11mm and a corneal astigmatism range up to 12D. For refractometry, its spherical range is from -18D to +23D, while its cylindrical range is a wide up to 12D.

## Contact Lens Measurement

Speedy-K also permits measurement of contact lens curvatures by using a dedicated contact lens holder.



## Video Jack

For monitoring on a separate monitor, a video jack is also provided.



## 2.5 mm Pupil Diameter plus Light Intensity Control

The minimum pupil diameter is 2.5 mm. Moreover, the light intensity of the fixation chart can be reduced for patients whose eyes are overly sensitive to light. In addition, the improved X'mas Tree target is easy to see even for children. The periphery of the target is slightly blurred so that the patient can focus easily on the center of the target.

