



# Topcon Refraction Products Family



YOUR VISION.  
OUR FOCUS.



TOPCON

CV-5000PFH

Patient ID PD 65.5 TOPCON TAROU

|       | R     | L    |
|-------|-------|------|
| SBI   |       |      |
| S     | -3.60 | 5.25 |
| C     | -1.00 | 0.50 |
| A     | 80    | 85   |
| ACD   | +2.40 |      |
| OBJ   |       | 0.25 |
| S     | -3.75 | 5.25 |
| C     | -1.00 | 0.50 |
| A     | 80    | 85   |
| ACD   |       |      |
| VR AL |       |      |
| SB    | 0.1   | 0.2  |
| REF   |       |      |
| α     |       |      |
| Fat   |       |      |
| Glare |       |      |
| SB    |       |      |

The Topcon Refraction family of products includes everything you need to outfit your practice with the most advanced technology. You can choose from an extensive lineup of industry recognized auto refractometers, topographers and wavefront analyzers, with seven models to choose from. All Topcon refraction products incorporate the patented Rotary Prism™ technology for proven accuracy and precision. Topcon refraction products are Bluetooth® compatible and can connect seamlessly to the Topcon CV-5000S Automated Refraction System.



YOUR VISION. OUR FOCUS.







### **Quality:**

With more than 85 years of experience in manufacturing optical equipment, Topcon refraction products provide uncompromised quality and excellence.

### **Durability:**

High quality materials, precision craftsmanship and custom-made optics confer a long and trouble-free life to Topcon refraction products.

### **Proven Reliability:**

All Topcon auto refractors feature the exclusive Rotary Prism technology for proven accuracy and reliable & repeatable results.

### **Ease of Use:**

Topcon refraction products were designed with the doctors' and patients' needs in mind. All feature an ergonomic design and simple, intuitive operation through use of the color touchscreen. This equates to quick and accurate readings with minimal staff training required.

### **Connectivity:**

Integrated data transfer between pretest and computerized refraction with export to Electronic Medical Records.

The Standard  
Auto Kerato-  
Refractometer

6-in-1 Multi-Functionality  
with Subjective and  
Glare Visual Acuities



## KR-800

Auto Kerato-Refractometer

- » Patented Rotary Prism Technology Ensures Accurate, Repeatable Measurements
- » Manual Alignment with Automated Measurements
- » 8.5-inch LCD Color Touch Panel
- » Compact and Modern Design
- » Interfaces with EMR/EHR

## KR-800S

Auto Kerato-Refractometer

- » Auto Kerato-Refractometer with Subjective and Glare Testing
- » Patented Rotary Prism Technology Ensures Accurate, Repeatable Measurements
- » Simple to Use
- » 8.5-inch LCD Color Touch Panel
- » Compact and Modern Design
- » Subjective Visual Acuity at Far and Near Distance
- » Glare and Contrast Sensitivity Testing to Assess Patient Visual Function
- » Interfaces with EMR/EHR

## Enhanced Auto Kerato-Refractometer with Corneal Mapping



### KR-800PA

Auto Kerato-Refractometer

- » Infrared Placido Disk for Corneal Color Mapping
- » Patented Rotary Prism Technology Ensures Accurate, Repeatable Measurements
- » Semi-automatic Alignment with Automated Measurements
- » 8.5-inch LCD Color Touch Panel
- » Compact and Modern Design
- » Interfaces with EMR/EHR

## Fully Automated Kerato-Refractometer



### KR-1

Auto Kerato-Refractometer

- » Patented Rotary Prism Technology Ensures Accurate, Repeatable Measurements
- » Manual Alignment with Automated Measurements
- » 360° Rotating Touch Panel
- » Compact and Modern Design
- » Interfaces with EMR/EHR
- » Flexible Layout and Space-Saving Design

Evaluate the Visual  
Performance of  
the Human Eye

Accurate, Full Examination  
of the Anterior Corneal  
Surface



## KR-1W

Wavefront Analyzer

- » Invisible Light Topographic Measurement Increases Patient Comfort
- » Fully Automated Alignment and Measurement
- » Comprehensive Reports
- » Photopic and Mesopic Measurements
- » Assess and Document the Effect of Tear Film Breakup
- » Over Refraction with Patient's Existing Glasses or Contact Lenses
- » Interfaces with EMR/EHR

## CA-800

Corneal Analyzer/Topographer

- » Onboard PC for Complete Standalone Operation
- » Automatic "Best Image Capture"
- » Tear Film Breakup Time
- » Image and Video Capture of Fluorescein Staining
- » Meibomian Gland Imaging
- » Complete Analysis of the Cornea
- » Dynamic and Static Pupillometry
- » Interfaces with EMR/EHR



Ideal for Choosing the  
Right Premium IOL  
for Each Individual Eye

4-in-1 Advanced  
Pre-Testing Station



## ALADDIN

Optical Biometry & Topography System

- » Axial length
- » Keratometry
- » Topography
- » Anterior Chamber Depth
- » Pupillometry
- » White to white
- » Central Corneal Thickness<sup>1</sup>
- » Lens Thickness<sup>1</sup>

## TRK-2P<sup>2</sup>

Auto Kerato-Refracto-Tonometer

- » Autorefractor, Keratometer, Tonometer and Pachymeter are available in one machine
- » Fully Automated Alignment and Measurement
- » Patented Rotary Prism Technology Ensures Accurate, Repeatable Measurements
- » 360° Rotating Touch Panel
- » Comfortable Design for Patients
- » Softer Air Puff for Tonometry
- » Interfaces with EMR/EHR
- » Flexible Layout and Space-Saving Design

1. ALADDIN LT only

2. Not available for sale in the US

Compact and  
Ergonomic Design

Computerized  
Phoropter



## CL-300

Computerized Lensmeter

- » Easy and Fast Operation
- » Auto-Mono and Multi Focal Detection
- » Green Measurement Light Beam
- » UV Transmittance Measurement
- » LCD Touch Panel
- » Compact, Slim Body
- » Fast and Easy Loading of Printer Paper
- » Interfaces with EMR/EHR

## CV-5000S

Computerized Phoropter

- » Proven Quality in a Modern Compact Design
- » Complete Paperless 21-Point Refraction Output to EMR/EHR
- » Color-Coded Simultaneous Cross Cylinder
- » Five Programmable Courses
- » Built in Patient Education Module
- » Available with M&S Technologies Actuity Charts

## Flexible and Space Saving Layout\*

The adjustable control panel allows the operator to position him or herself anywhere around a patient since the control panel can be faced in a number of directions. The unique features will contribute to a space saving and flexible layout in your examination room.

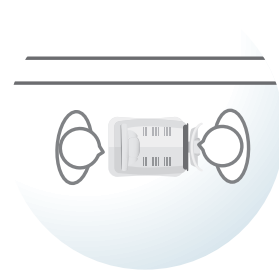
\*KR-1, RM-1 and TRK-2P only



» Side Position



» Behind Position

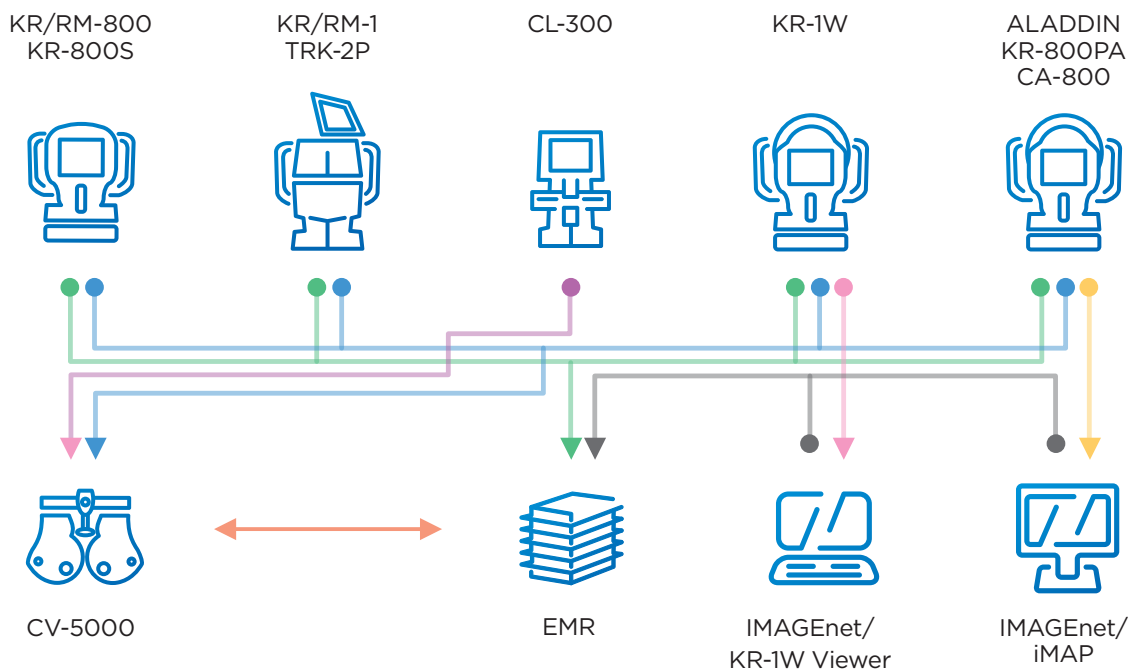


» Front Position

## System Chart

- REF/KRT data out
- Rx data out
- REF/KRT/Rx data out for EMR
- Report out to EMR
- R/K/Rx/CV OUT for EMR\*
- Corneal Map (KR-800PA/CA-800)
- Biometry & IOL Calculation (ALADDIN)
- Wavefront Data

\*Bi-directional IN/OUT for some EMRs



## Comparison Chart



| Feature                         | KR-800 | KR-800S | KR-800PA |
|---------------------------------|--------|---------|----------|
| Rotary Prism Autorefraction     | X      | X       | X        |
| Keratometry                     | X      | X       | X        |
| Corneal Mapping                 |        |         | X        |
| Corneal Topography              |        |         |          |
| Auto Measure                    | X      | X       | X        |
| Auto R/L                        |        |         |          |
| Full Auto Align and Measurement |        |         |          |
| Control Lever                   | X      | X       | X        |
| 360° Rotating Touch Panel       |        |         |          |
| Non-contact Tonometry           |        |         |          |
| Pachymetry                      |        |         |          |
| Wavefront                       |        |         |          |
| Optical Biometry                |        |         |          |
| IOL Calculation                 |        |         |          |
| Corneal Aberrometry             |        |         |          |
| Ocular Aberrometry              |        |         |          |
| Pupillometry                    |        |         |          |
| Meibography                     |        |         |          |
| Tear Film Assessment            |        |         |          |
| Subjective Testing              |        | X       |          |
| Far & Near VA                   |        | X       |          |
| Glare VA                        |        | X       |          |
| Contrast VA                     |        | X       |          |
| Viewer Software Available       |        |         | X        |
| EMR Connectivity                | X      | X       | X        |
| DICOM                           |        |         | X        |



| KR-1 | KR-1W | CA-800 | ALADDIN | TRK-2P* |
|------|-------|--------|---------|---------|
| X    | X     |        |         | X       |
| X    | X     | X      | X       | X       |
|      |       |        |         |         |
|      | X     | X      | X       |         |
| X    | X     | X      | X       | X       |
| X    | X     |        |         | X       |
| X    | X     |        |         | X       |
|      | X     | X      | X       |         |
| X    |       |        |         | X       |
|      |       |        |         | X       |
|      |       |        |         | X       |
|      | X     |        |         |         |
|      |       |        | X       |         |
|      |       |        | X       |         |
|      | X     | X      | X       |         |
|      | X     |        |         |         |
|      | X     | X      | X       |         |
|      |       | X      |         |         |
|      | X     | X      |         |         |
|      |       |        |         |         |
|      |       |        |         |         |
|      |       |        |         |         |
|      |       |        |         |         |
|      | X     | X      |         |         |
| X    | X     | X      | X       | X       |
|      |       | X      | X       |         |



# Specification



|                                       |                                     | RM-800  | KR-800   | KR-800S  | KR-800PA   |
|---------------------------------------|-------------------------------------|---|--|--|--|
| Refractive Power Measurement          | Spherical refractive power          | -25D to +22D<br>(0.12D/0.25D steps)                   | -25D to +22D<br>(0.12D/0.25D steps)                  | -25 to +22D<br>(0.12D/0.25D steps)                   | -25 to +22D<br>(0.12D/0.25D steps)                   |
|                                       | Cylindrical refractive power        | 0D to +/- 10D<br>(0.12D/0.25D steps)                  | 0D to +/- 10D<br>(0.12D/0.25D steps)                 | 0D to +/- 10D<br>(0.12D/0.25D steps)                 | 0D to +/- 10D<br>(0.12D/0.25D steps)                 |
|                                       | Astigmatic axial angle              | 0° to 180° (1°/5° steps)                              | 0° to 180° (1°/5° steps)                             | 0° to 180° (1°/5° steps)                             | 0° to 180° (1°/5° steps)                             |
|                                       | Minimal measurable pupil diameter   | 2.0mm   | 2.0mm  | 2.0mm  | 2.0mm  |
| Corneal Curvature Measurement         | Corneal curvature radius            | -   | 5.00 to 10.00mm<br>(0.01mm step)                     | 5.00 to 10.00mm<br>(0.01mm step)                     | 5.00 to 10.00mm<br>(0.01mm step)                     |
|                                       | Corneal refractive power            | -   | 67.50D to 33.75D<br>(0.12D/0.25D steps)              | 67.50D to 33.75D<br>(0.12D/0.25D steps)              | 67.50D to 33.75D<br>(0.12D/0.25D steps)              |
|                                       | Refraction index                    | -   |  |  |  |
|                                       | Corneal astigmatic refractive power | -   | 0D to +/- 10D<br>(0.12D/0.25D steps)                 | 0D to +/- 10D<br>(0.12D/0.25D steps)                 | 0D to +/- 10D<br>(0.12D/0.25D steps)                 |
|                                       | Corneal astigmatic axial angle      | -   | 0° to 180° (1°/5° steps)                             | 0° to 180° (1°/5° steps)                             | 0° to 180° (1°/5° steps)                             |
| Corneal Mapping/ Topography           | Corneal Mapping                     | -   | -  | -  | X  |
|                                       | Topography                          |   |  |  |  |
|                                       | Measurable Cornea Map range         | -   | -  | -  | 1.5mm-9.2mm<br>(when cornea curvature r=8mm)         |
|                                       | Number of Placido Rings             | -   | -  | -  | 10   |
|                                       | Number of measured points           | -   | -  | -  | 3960   |
|                                       | Placido Shape                       | -   | -  | -  | Flat   |
| Subjective Measurement Mode           | Sphere range                        | -   | -  | -18 to +18D (0.25D steps)                            | -  |
|                                       | Cylinder range                      | -   | -  | 0D to 8D (0.25D steps)                               | -  |
|                                       | Axis Range                          | -   | -  | 0° to 180° (1°/5° steps)                             | -  |
|                                       | Far/Near Visual Acuity              | -   | -  | X  | -  |
|                                       | Glare Visual Acuity                 | -   | -  | X  | -  |
|                                       | Contrast Visual Acuity              | -   | -  | X  | -  |
|                                       | Spherical Equivalent Visual Acuity  | -   | -  | X  | -  |
| Aberrometry                           | Aberration Measurement Method       | -   | -  | -  | -  |
|                                       | Zernike polynomial order            | -   | -  | -  | -  |
|                                       | Measurement Range                   | -   | -  | -  | -  |
| Biometry                              | Interferometer                      |   |  | -  |  |
|                                       | Axial Length                        |   |  | -  |  |
|                                       | Anterior Chamber Depth              |   |  | -  |  |
|                                       | Lens Thickness                      |   |  | -  |  |
| Additional Features                   | Pupillometry                        | -   | -  | -  | -  |
|                                       | White to White                      |   |  | -  |  |
|                                       | Fluorescein                         |   |  | -  |  |
|                                       | Meibomian                           | -   | -  | -  | -  |
|                                       | Tear Film Analysis                  | -   | -  | -  | -  |
| IOP Measurement                       | Measurement Range                   | -   | -  | -  | -  |
| Central Corneal Thickness Measurement | Measurement Range                   | -   | -  | -  | -  |
| Other                                 | PD Measurement Range                | 20mm to 85mm<br>(0.5mm step)                          | 20mm to 85mm<br>(0.5mm step)                         | 20mm to 85mm<br>(0.5mm step)                         | 20mm to 85mm<br>(0.5mm step)                         |
|                                       | Data terminal                       | -USB (import) /<br>RS-232C (Export)<br>/ LAN (Export) | USB (import) /<br>RS-232C (Export)<br>/ LAN (Export) | USB (import) /<br>RS-232C (Export)<br>/ LAN (Export) | USB (import) /<br>RS-232C (Export)<br>/ LAN (Export) |
|                                       | Dimensions                          | 317-341mm (W)<br>521-538mm (D)<br>447-477mm (H)       | 317-341mm (W)<br>521-538mm (D)<br>447-477mm (H)      | 317-341mm (W)<br>521-538mm (D)<br>447-477mm (H)      | 321-340mm(W)<br>523-539mm(D)<br>490-520mm(H)         |
|                                       | Weight                              | 15 kg   | 15 kg  | 16 kg  | 19 kg  |
|                                       | Power Supply                        | 110-240V AC,<br>50-60hz, 30-70VA                      | 110-240V AC,<br>50-60hz, 30-70VA                     | 110-240V AC,<br>50-60hz, 70VA                        | 110-240V AC,<br>50-60hz, 55-90VA                     |



| KR-1   | KR-1W  | CA-800   | ALADDIN  | TRK-2P*  |
|--|--|--|--|--|
| -25D to +22D<br>(0.12D/0.25D steps)                  | -25 to +22D<br>(0.01D/0.12D/0.25D steps)             | -  | -  | -25D to +22D<br>(0.12D/0.25D steps)                  |
| 0D to +/- 10D<br>(0.12D/0.25D steps)                 | 0D to +/- 10D<br>(0.01D/0.12D/0.25D steps)           | -  | -  | 0D to +/- 10D<br>(0.12D/0.25D steps)                 |
| 0° to 180° (1°/5° steps)                             | 0° to 180° (1°/5° steps)                             | -  | -  | 0° to 180° (1°/5° steps)                             |
| 2.0mm  | 2.0mm  | -  | -  | 2.0mm  |
| 5.00 to 10.00mm<br>(0.01mm step)                     | 5.00 to 10.00mm<br>(0.01mm step)                     | 5 mm to 12mm (0.01mm step)                           | 5 mm to 12mm (0.01mm step)                           | 5.00 to 10.00mm<br>(0.01mm step)                     |
| 67.50D to 33.75D<br>(0.12D/0.25D steps)              | 67.50D to 33.75D<br>(0.12D/0.25D steps)              | 67.50D to 28D (0.01D step)                           | 67.50D to 28D (0.01D step)                           | 67.50D to 33.75D<br>(0.12D/0.25D steps)              |
|  |  |  |  |  |
| 0D to +/- 10D<br>(0.12D/0.25D steps)                 | 0D to +/- 10D<br>(0.12D/0.25D steps)                 | 1D to 120D (0.01D step)                              | 1D to 120D (0.01D step)                              | 0D to +/- 10D<br>(0.12D/0.25D steps)                 |
| 0° to 180° (1°/5° steps)                             | 0° to 180° (1°/5° steps)                             | 0° to 180° (1°/5° steps)                             | 0° to 180° (1°/5° steps)                             | 0° to 180° (1°/5° steps)                             |
| -  | -  | -  | -  | -  |
|  | X  | X  | X  |  |
| -  | 1.5mm-9.2mm<br>(when cornea curvature r=8mm)         | Up to 9.8mm<br>(when cornea curvature r=8mm)         | Up to 9.8mm<br>(when cornea curvature r=8mm)         | -  |
| -  | 19   | 24   | 24   | -  |
| -  | 6840   | 6200<br>(over 100,000 analyzed points)               | 6200<br>(over 100,000 analyzed points)               | -  |
| -  | Saucer-shaped  | Cone-shaped  | Cone-shaped  | -  |
| -  | -  | -  | -  | -  |
| -  | -  | -  | -  | -  |
| -  | -  | -  | -  | -  |
| -  | -  | -  | -  | -  |
| -  | -  | -  | -  | -  |
| -  | -  | -  | -  | -  |
| -  | -  | -  | -  | -  |
| -  | -  | -  | -  | -  |
| -  | -  | -  | -  | -  |
| -  | Hartmann-Shack<br>Wavefront Sensor                   | Placido Corneal Topography                           | Placido Corneal Topography                           | -  |
| -  | 10th order max.                                      | Up to 35th polynomial (graph)                        | Up to 35th polynomial (graph)                        | -  |
| -  | 8mm  | 2.5mm to 7.0mm                                       | 2.5mm to 7.0mm                                       | -  |
|  | -  | -  | Super luminescent diode 850nm                        | -  |
|  | -  | -  | 15mm to 38mm (0.01mm step)                           | -  |
|  | -  | -  | 1.5mm to 6.5mm (0.01mm step)                         | -  |
|  | -  | -  | 0.5mm to 6.5mm (0.01mm step)                         | -  |
| -  | Photopic and Scotopic                                | Dynamic, Photopic, Mesopic,<br>Scotopic              | Dynamic, Photopic, Mesopic,<br>Scotopic              | -  |
|  | -  | 8.00mm to 14.00mm<br>(0.01mm step)                   | 8.00mm to 14.00mm<br>(0.01mm step)                   | -  |
|  | -  | Photo and Video                                      | -  | -  |
| -  | -  | Photo (IR Camera)                                    | -  | -  |
| -  | Aberration over Time                                 | Tear Film Breakup Time                               | -  | -  |
| -  | -  | -  | -  | 1 to 60mmHg (1mmHg step)                             |
| -  | -  | -  | 0.300mm to 0.800mm                                   | 0.400mm to 0.750mm<br>(0.001mm step)                 |
| 20mm to 85mm<br>(0.5mm step)                         | 20mm to 85mm<br>(0.5mm step)                         | -  | -  | 20mm to 85mm (0.5mm step)                            |
| USB (import) /<br>RS-232C (Export)<br>/ LAN (Export) | USB (import) /<br>RS-232C (Export)<br>/ LAN (Export) | USB (Export/Printer) /<br>LAN (Export/Printer/DICOM) | USB (Export/Printer) /<br>LAN (Export/Printer/DICOM) | USB (import) /<br>RS-232C (Export) /<br>LAN (Export) |
| 286-326mm (W)<br>445-526mm (D)<br>466-615mm (H)      | 304mm (W)<br>521mm (D)<br>474-504mm (H)              | 320mm (W)<br>490mm (D)<br>470mm (H)                  | 320mm (W)<br>490mm (D)<br>470mm (H)                  | 293-396mm (W)<br>505-601mm (D)<br>470-682mm (H)      |
| 15 kg  | 23 kg  | 15 kg  | 18 kg  | 22 kg  |
| 110-240V AC,<br>50-60hz, 75VA                        | 110-240V AC,<br>50-60hz, 160VA                       | 110-240V AC,<br>50-60hz, <100VA                      | 110-240V AC,<br>50-60hz, <100VA                      | 110-240V AC,<br>50-60hz, 100VA                       |

\* Not available for sale in the US



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