

# Chronos\*

Optimize workflow and grow your practice  
with guided binocular refraction.



**It is time**  
to reinvent  
refraction.

 **TOPCON** Healthcare

SEEING EYE HEALTH DIFFERENTLY

I need to optimize  
workflow and  
increase patient  
convenience.

**With Chronos, Now You Can.**  
It is time to reinvent refraction.



**Chronos offers RTC**  
(Remote Tablet  
Control) for social  
distance protocol.\*\*

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# Increase patient convenience, optimize workflow and grow your practice - without compromise.

Chronos offers binocular autorefractometry, keratometry measurements and visual acuity with subjective testing. Chronos is a single space-saving instrument that optimizes your workflow.



## DELEGATE

- SightPilot™ is a guided refraction system that simplifies the exam and facilitates delegation.



## GROW

- Chronos offers the versatility critical for growing your practice.



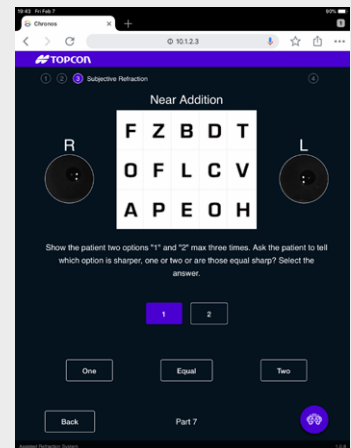
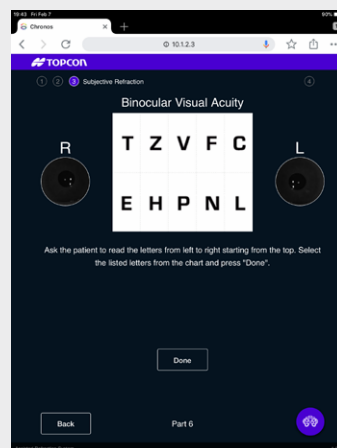
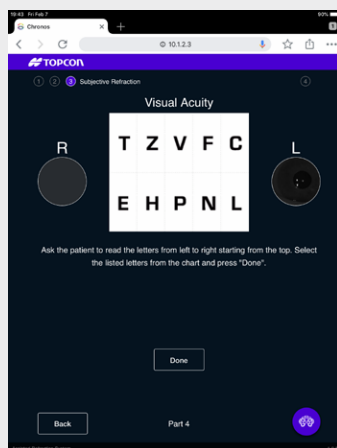
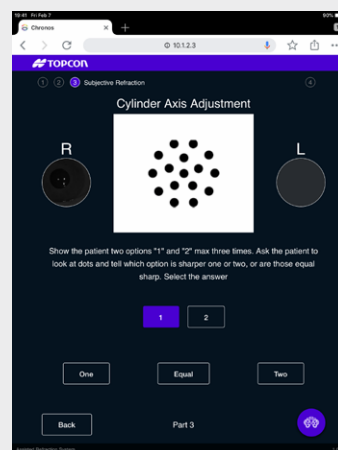
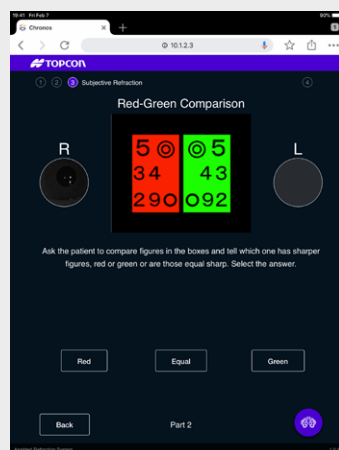
## SAVE SPACE

- Chronos combines binocular autorefractometry and keratometry measurements with binocular subjective testing and visual acuity in a single instrument that occupies minimum space.
- Chronos reduces the number of conventional refraction lanes and additional refractometers needed.



# SightPilot™ is optimized for understanding and efficient workflow, facilitating delegation when required.

- SightPilot™ simplifies the user interface to provide a step-by-step guide through the refraction process.
- At each step, the operator is given instructions to proceed with the refraction, based on the patient's response.



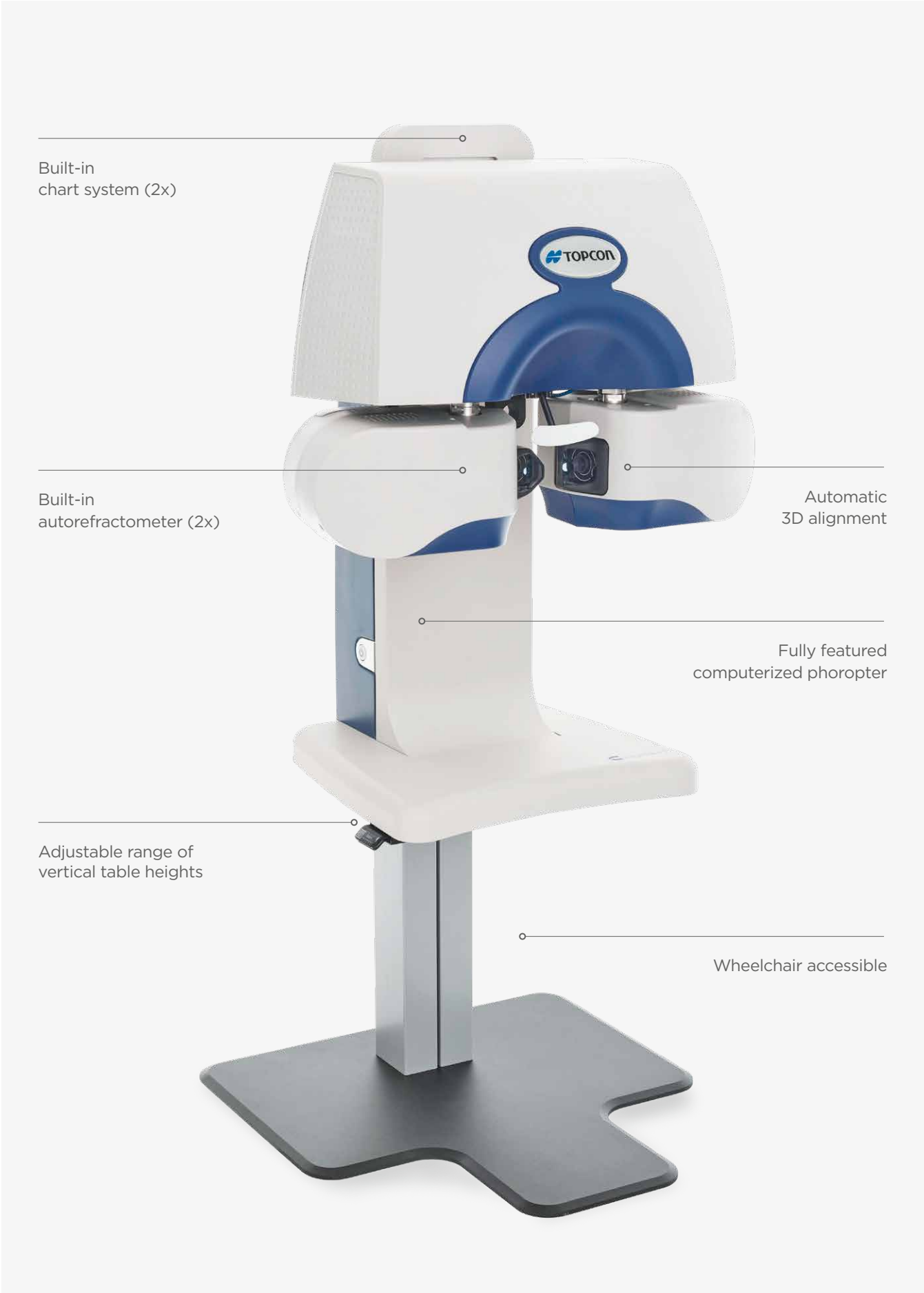
Chronos combines binocular autorefractometry and keratometry measurements with binocular subjective testing and visual acuity in a single instrument that occupies a minimal amount of space and optimizes workflow.



**Accommodate patients**

The table offers vertical positioning for Chronos at different heights.

# Chronos Specifications



Built-in chart system (2x)

Built-in autorefractometer (2x)

Automatic 3D alignment

Fully featured computerized phoropter

Adjustable range of vertical table heights

Wheelchair accessible

## SPECIFICATIONS & PERFORMANCE

FEATURE	SPECIFICATION	
<b>Objective measurement</b>		
<b>Refraction measurement range</b>	Spherical refractive power	-25D – +22D <sup>1</sup>
	Cylindrical refractive power	0D – -10D <sup>1</sup>
	Cylinder axial angle	1° – 180°
<b>Corneal curvature measurement range</b>	Corneal curvature radius	5.00mm – 10.00mm
	Corneal refractive power	67.50D – 33.75D (Conversion value when the corneal refractive ratio is 1.3375)
<b>Minimum measurement unit</b>	Spherical/cylindrical refractive power	0.12D
	Cylinder axial angle	1°
	Corneal curvature radius	0.01mm
	Corneal refractive power	0.12D
<b>Display of measured value</b>	Displayed on the screen of the operation controller	
<b>Minimum measurable pupil diameter</b>	φ2.0mm	
<b>PD measurement range</b>	50mm – 80mm	
<b>Minimum PD measurement unit</b>	0.5mm	
<b>Subjective measurement</b>		
<b>Refraction measurement range</b>	Spherical power/ADD/ Cylindrical power These must meet all the conditions mentioned at the right <sup>4</sup>	-18.00D ≤ Equivalent spherical power ≤ +18.00D <sup>2</sup> -8.00D ≤ Cylindrical power ≤ 0.00D <sup>3</sup>
	Cylinder axial angle	1° – 180°
	Horizontal prism (One eye movable range)	±15.0 Δ <sup>5</sup>
	Vertical prism (One eye movable range)	±2.5 Δ
	<b>Minimum measurement unit</b>	Spherical/ADD refractive power
	Cylindrical refractive power	0.25D
	Cylinder axial angle	1°
	Prism refractive power	0.1 Δ
<b>Test distance</b>	Far-/Near-point test distance can be set between 25cm and 6.096m	
<b>Visual acuity measurement range<sup>6</sup></b>	0.05 – 1.6 decimal	
<b>Charts</b>	Visual acuity charts, spherical power correction charts, astigmatism correction charts and binocular function charts	
<b>Background luminance</b>	155±15cd/m <sup>2</sup>	
<b>Display of measured value</b>	Displayed on the screen of the operation controller	
<b>Record of measured value</b>	Printing by thermal printer/external printer, data output	
<b>Measuring head movement</b>	Right-and-left direction	Inside -9.0mm to Outside +12.5mm
	Up-and-down direction	Down 15mm to Up 15mm
	Back-and-forth direction	Forward: 20mm - Backward: 20mm
<b>Measuring head rotary angle</b>	Convergence 17.5° to Divergence 8.5° (Eyeball torsion axis center)	
<b>Power supply</b>	AC100 – 240V 50-60Hz	
<b>Power consumption</b>	160VA	
<b>Dimensions and weight (main unit)</b>	525mm (H) × 722mm (W) × 278mm (D), 31.2kg	

\*Not available in all countries. Please check with your local distributor for availability in your country.

- The dioptric powers are indicated with reference wavelength λe = 546.07 nm
- The conversion value with "VD=12mm" is described here.
- The conversion value with the pupil power (VD=3mm) is described here.
- The value described here is the maximum value. The measurement range is smaller according to the test distance setting for executing a test or the setting conditions of VD during measurement.

- The value described here is the maximum value. The measurable range is smaller according to the combination of the patient's PD and the test distance.
- 0.1 – 1.6 complies with ISO 10938. ETDRS chart using Landolt Ring (visual acuity 0.25 – 1.6) complies with ANSI Z80.21.

### IMPORTANT

Subject to change in design and/or specifications without advanced notice. In order to obtain the best results with this instrument, please be sure to review all user instructions prior to operation. Medical device MDD Class Im. Manufacturer: Topcon Corporation.



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