Auto Kerato-Refractometer
Subjective Refractometer

KR-800S

TOPCON

6 in 1 Auto Kerato-Refractometer

KR-800S

Auto Kerato-Refractometer with objective and subjective testing

The KR-800S is unique because it features not only objective autorefraction and keratometry but it also performs subjective far and near testing as well as 3 function tests. These 6-in-1 Functions assure quick and accurate results and will enhance your test workflow.

- Objective Test
- Subjective VA Test
- Glare Test
- Grid Test
- Contrast Test
- Premium IOL VA simulation

Premium IOL Visual Acuity simulation

Premium IOL VA simulation

Compare toric to non toric correction

This software function allows the patient to visualize the potential post-surgical difference between a spherical and toric IOL. Simply push a single button to switch “Sphere, Cylinder, and Axis” to “Spherical Equivalent”. The patient may then view a comparison of their with and without cylinder correction. This feature is also useful for contact lens patients considering a toric lens versus a spherical equivalent to correct low astigmatism.

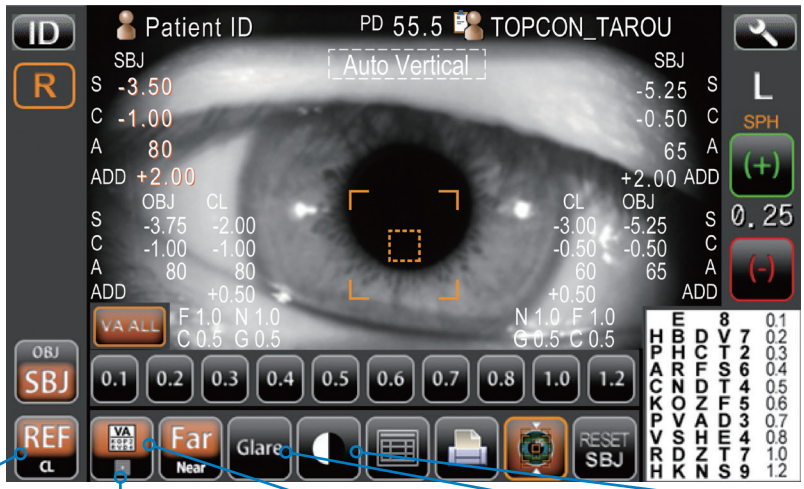
This allows the patient to visualize the potential post-surgical differences between a standard and a premium IOL such as a toric IOL or multifocal IOL

More than just an Auto Kerato-Refractometer

All measured data can be observed from the wide 8.5 inch colour touch screen panel, allowing the user to quickly see each data point and explain the results to the patient. Moreover, Topcon's ability to engineer a weight reduction of approximately 23%, as compared to older Topcon autorefractors, as well as the new Auto-Vertical mode have contributed to a smooth control of the unit during the measuring process. The KR-800S is more than a simple Auto Kerato-Refractometer, it will perfectly match your needs.

Objective and Subjective data

Both right and left eye information appear on a single 8.5inch wide colour touch screen with all the obtained data together, which makes it extremely easy to compare: **Objective (SCA), Subjective (SCA & ADD & VA), CL (SCA & ADD & VA), Glare/Grid/Contrast VA.** Utilizing this single display of all the data, the operator can easily understand the current refraction SCA of both eyes, whether the patient has presbyopia, as compared to the current SCA prescription. Moreover, the KR-800S can perform several function tests such as glare/grid/contrast without the need to prepare any other special devices.

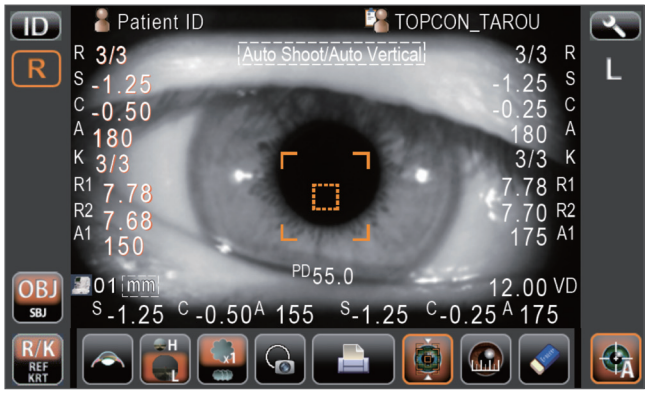


Objective Test | Grid Test | Subjective VA Test | Glare Test | Contrast Test

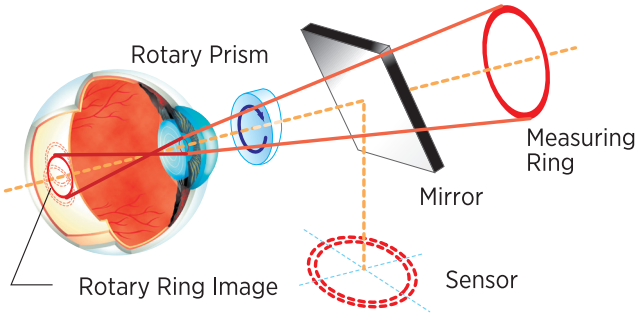
6 in 1 Auto Kerato-Refractometer

Objective test

The unique Rotary Prism™ Technology, exclusive to Topcon, allows for an unparalleled precision and reliability. Quick measurement becomes available by decentering and rotating the measurement ring projected on the retina rapidly. Moreover, it decreases the influence of an uneven reflection on the eye or a cataract eye.



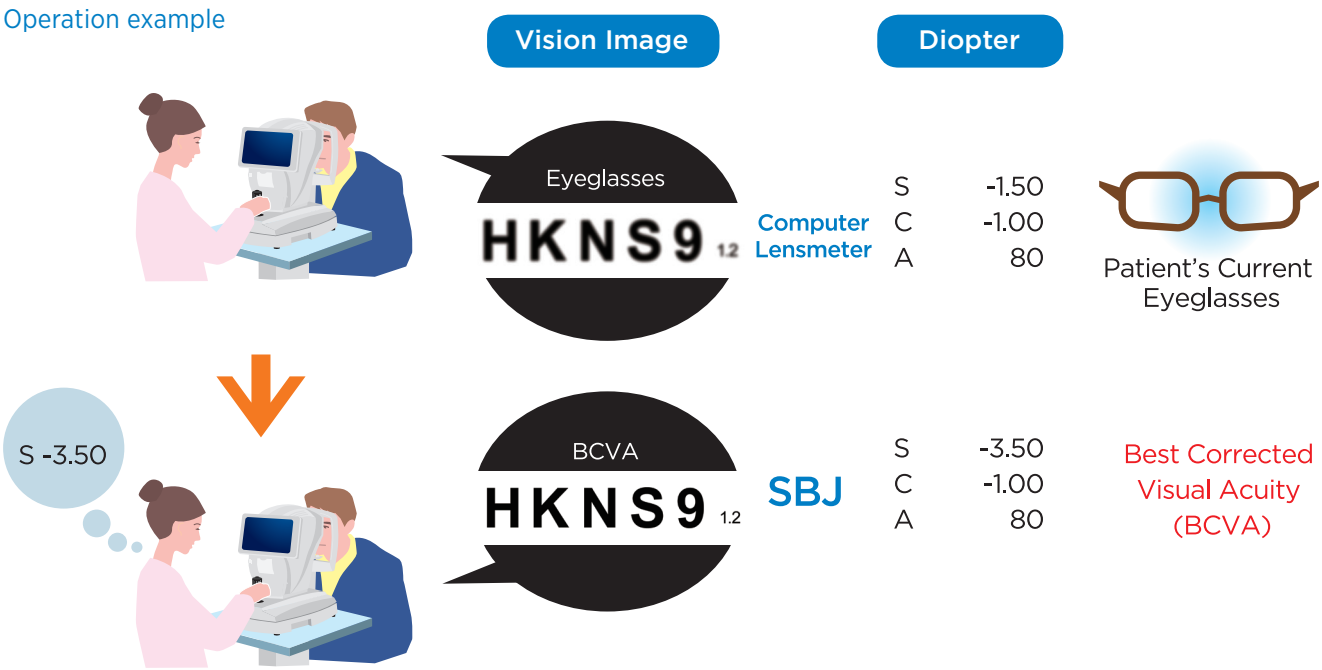
Rotary Prism Measuring System



Subjective VA test*

The test results of all objective and subjective measurements can be shown on the monitor. Therefore, it is very easy to compare the VA difference between the objective and subjective tests. If a computerized lensmeter is connected, it can also test and show the patient's VA result with their current eyeglasses. Since it is easy to compare VA with the patient's current eyeglasses and the BCVA result, if necessary, new eyeglasses can be introduced.

Operation example



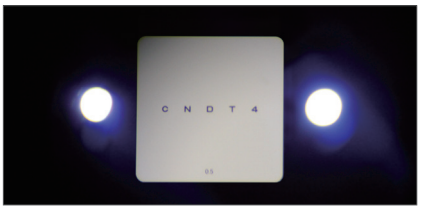
*Cylinder power and axis cannot be changed for the subjective test. Instead, refractometer data will be used.

*For a precise prescription of eyeglasses, we recommend that you perform the binocular test.

Glare test

The test is simple, standardized and provides a consistent and reliable way to evaluate vision changes in the presence of bright lights.

*The glare test can only be performed with the subjective far distance test.



Glare vision

Normal vision

Contrast test

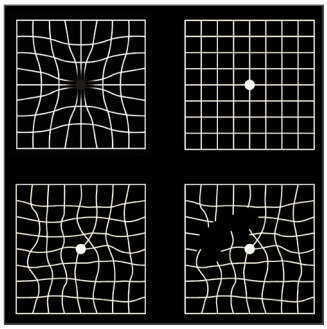
The contrast test is an ideal test to check the patient's quality of vision. The contrast of the chart can be changed across a range of percentages.

* The contrast test can only be performed with the subjective far distance test.

* Only the contrast of the background changes.

Grid test

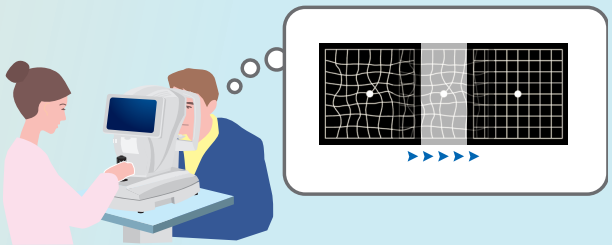
The grid test can be performed for conditions affecting the macula. Patients with macular disease may see wavy or missing lines. The test can be helpful in detecting early signs of an abnormality in the eye. New grid test function shows the grid for no longer than 0.25 seconds to prevent the natural "completion phenomenon" filling in the grid.



What is Completion phenomenon?

The human brain is able to restore "crooked" lines back to straight lines in just over 0.25 seconds, losing the actual result.

*The grid test can only be performed with the subjective far distance test.



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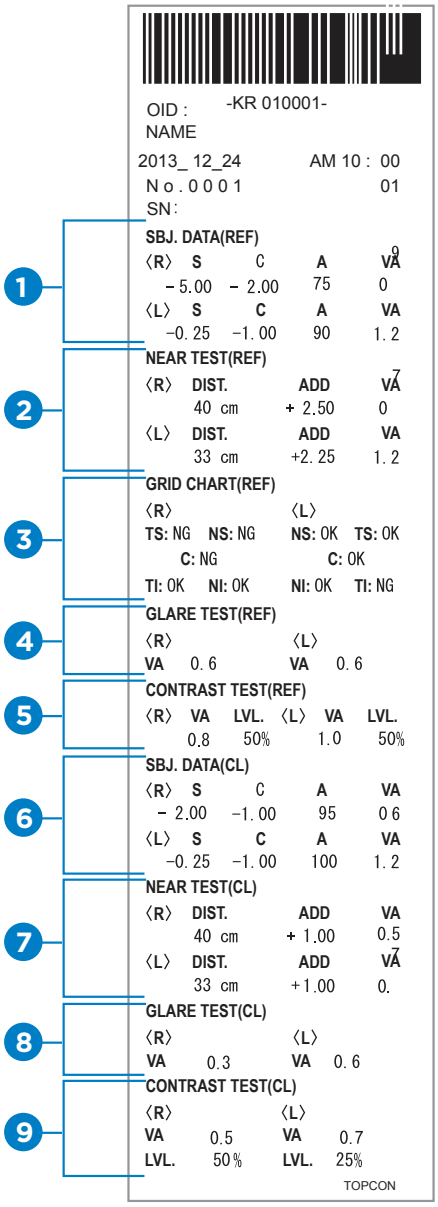
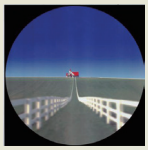


Sample

Printout sample

1. Subjective refraction Far VA value
2. Subjective refraction Near VA value
3. Grid test result
4. Glare test result
5. Contrast test result
6. Far VA for lensmeter
7. Near VA for lensmeter
8. Glare test VA for lensmeter
9. Contrast test VA for lensmeter

KR-800S Chart selection

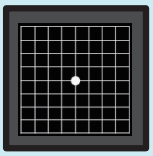


Objective chart

Subjective chart

E 8	HBDV7	PHCT2	PVAD3	VSHE4
0.1	0.2	0.3	0.4	0.5
6/60	6/30	6/20	6/15	6/12

RDZT7	ARFS6	CNDT4	KOZF5	HKNS9
0.6	0.7	0.8	1.0	1.2
6/10	6/8.6	6/7.5	6/6	6/5



Grid chart

Topcon's Cataract workstation

Cataract surgery quality control

Visual Acuity (VA) is the most common clinical measure following cataract surgery. It is how we describe and measure the success of surgery. Measurement of VA must be standardized and systematic. Topcon's KR-800S Auto Kerato-Refractometer with subjective VA check will do exactly that. With the KR-800S the VA can be subjectively tested pre- and post-operative cataract surgery. With the unique features of the KR-800S, such as "glare" test and "contrast" test, you can even evaluate the progression of cataract and identify the cataract that is causing the impaired quality of vision without a significant reduction in high contrast VA.

VA Simulation Premium IOL

KR-800S offers a Spherical Equivalent mode which can simulate the benefit of a premium (toric) IOL.

Cataract workstation

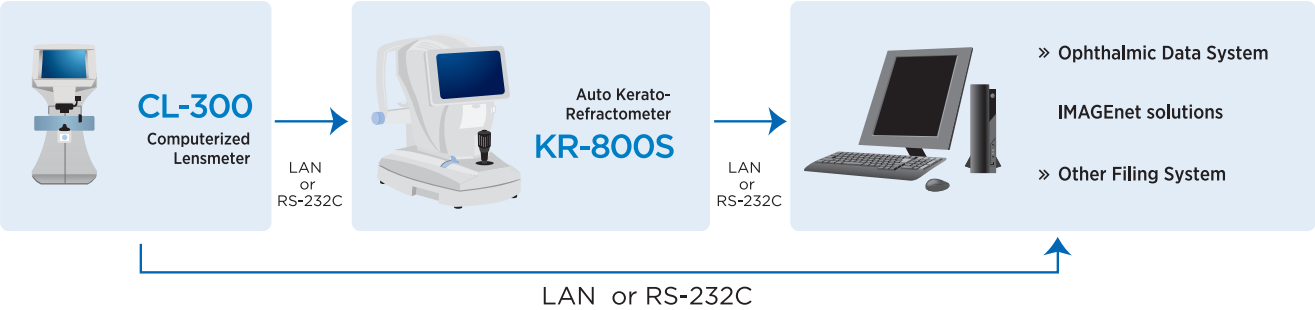
The KR-800S completes the screening workflow of cataract surgery. All the necessary cataract pre-operative information can be obtained by combining the KR-800S and ALADDIN, while the KR-800S assists you in Visual Acuity evaluation and determining the success of the cataract surgery. ALADDIN and KR-800S - the perfect combination for your cataract practice.

Specifications

Refractive power measurement	
Spherical refractive power	-25D to +22D (0.12D/0.25D steps)*
Cylindrical refractive power	0D to ±10D (0.12D/0.25D steps)*
Astigmatic axial angle	0°to 180° (in 1°or 5°steps)
Minimal measurable pupil diameter	Ø 2 mm
Corneal curvature measurement	
Corneal curvature radius	5.00 to 10.00mm (0.01mm step)
Corneal refractive power	67.50D to 33.75D (0.12D/0.25D steps) (where, corneal refractive power =1.3375)
Corneal astigmatic refractive power	0D to ±10D (0.12D/0.25 D steps)
Corneal astigmatic axial angle	0°to 180° (1°/ 5°steps)
Range of subjective refractive check	
pherical refractive power:	Spherical refractive power: -18D to +18D (0.25D steps)
Test chart:	Eyesight test chart of 0.1 to 1.2 or 20/200 to 20/15, Grid display
Chart display:	Overall, Horizontal series, Contrast change
Test items:	Far-sightedness, Near-sightedness, Glare test
PD measurement range	20mm to 85mm (0.5mm step)
Data transport terminal	USB (Import) /RS-232C (Import/Export) / LAN (Export)
Dimensions	317-341mm (W) × 521-538mm (D) × 447-477 mm (H)
Weight	15 kg
Power supply	100-240V AC, 50-60Hz, 70VA

*-25D ≤ spherical refractive power + cylindrical refractive power or spherical refractive power + cylindrical refractive power ≤ +22D

System chart



Contact Topcon subsidiaries or dealers for system configurations.

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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.

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