

**Huvitz** Re:define, Re+create

Auto Ref-Keratometer

# HRK-8100A



Innovative  
Auto Ref-Keratometer  
Solutions

A close-up photograph of the Huvitz HRK-8100A Auto Ref-Keratometer. The device is white with a black, ribbed circular component. The Huvitz logo and product name are printed on the side.

**HUVITZ**  
AUTO REF / KERATOMETER

# WAVEFRONT TECHNOLOGY

## HRK-8100A



Unlike many conventional diagnostic devices, HRK-8100A is based on Hartmann-Shack wavefront sensor, which analyzes many focal spots of a light wavefront. It has the ability to measure not just the basic refraction error of a customer, but to obtain a spatially resolved wavefront map. The new HRK-8100A utilizes a unique wavefront analysis algorithm and surpasses conventional and simple refraction offering added values with high order aberration data output for customized lenses and observation of patients before and after refractive surgery. Experience the whole new wavefront Auto Ref-Keratometer functions.

Huvitz, HRK-8100A!

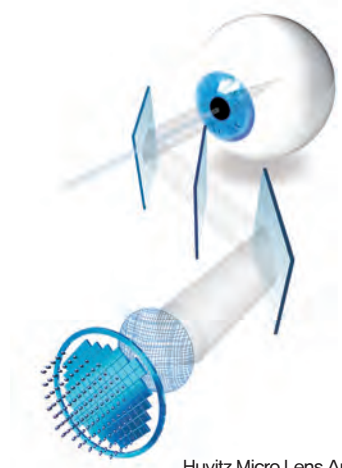
# Personalized vision correction with HRK-8100A

## Applied to Wavefront Technology

The micro Lens Array that “Huvitz” developed independently comprise of hundreds of small lens that provides a lot of Data Points than can diagnose the refraction error precisely.

## MICRO LENS ARRAY

Huvitz’ own developed Micro Lens Array creates a number of separated focal spots, of which the pattern provides valuable information of the customer’s ocular system. The precise measurement and analysis technology of data with ocular characteristics,



Huvitz Micro Lens Array

## Varied kind Aberration measurement

Besides the conventional data such as Spherical, Cylinder and Axis, the high order aberration data is displayed in a graphical Zernike map for better understanding of patient’s eyes enabling superior clinical decision making.

## Actualization of High Order Aberration map

High order aberration data such as Coma, Trefoil, Spherical Aberration, Secondary Astigmatism, and Tetrafoil, which was only available in wavefront aberrometers, now is available in Huvitz HRK-8100A! Clinical usage of this data is now available to you.

## Before & After Cataract surgery tracking observation

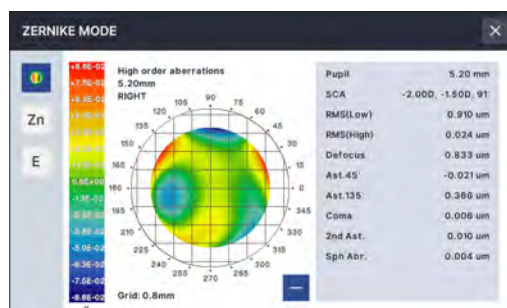
High-order aberration information can be obtained that could not be measured by subjective refraction. The new auto ref-keratometer can measure the high-order spherical aberration that often occurs after surgery.

## Customized Lens Manufacturing

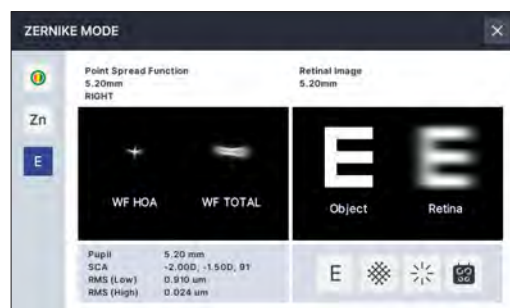
High order aberration and Zernike map data output function allow premium custom spectacle or contact lens manufacturers to improves vision accuracy and power.

## PSF & IMAGE SIMULATION

Point Spread Function (PSF) and chart simulation of retinal display can make patients understood in a much better way of their clinical status of eyes and customized lens benefits.



ABERRATION MAP



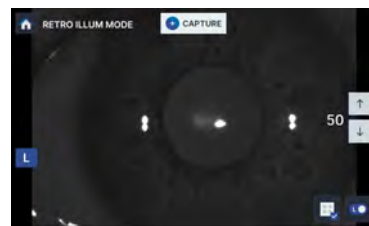
PSF & IMAGE SIMULATION



Tracing the personalized crystalline lens status allows optimal Cataract surgery analysis.

### Optimized Optical System IOL, RET-ILLUM MODE

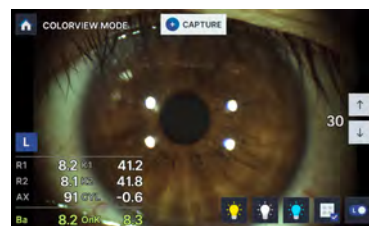
Applied the separate measurement method for intraocular lens or Cataract measurement, Our product HRK-8100A is available to observe the condition of eye health such as the cataract patient with lenticular opacity or cornea injury caused by wearing contact lenses.



Optimized Optical System IOL, RET-ILLUM MODE

### COLOR VIEW MODE

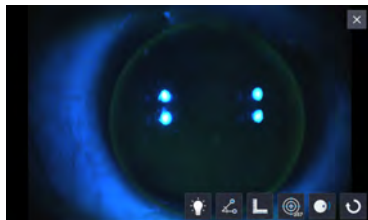
The Full Color CCD camera and white LED light source in the auto ref-keratometer enable you assess the contact lens fitting status which was previously only possible with slit lamps.



COLOR VIEW MODE

### Iris, Pupillometry measurement

The image capture function can measure the Iris and pupil diameter from 2mm to 14mm.



ASSISTANCE GUIDE

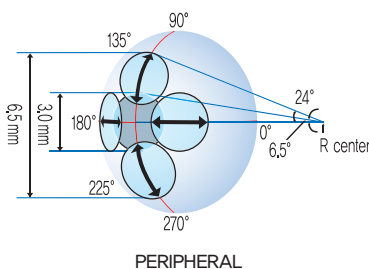
### Fitting for Contact Lens with the ASSISTANCE GUIDE

The World's First contact lens fitting function in an Auto Ref-Keratometer enables you to see fluorescein liquid with blue illumination. The HRK-8100A also analyzes and simulates the lens fitting status with automatic calculation and recommendation.



### Elevated reliability in terms of KERATOMETER function

Mire ring and LED sources enable highly reliable keratometry data of the corneal base curve to be obtained.



### Peripheral Keratometry Measurement

Conducting the keratometry measurement continuously at 90 degrees using the up-down left-right side from the cornea center, the curvature value and Eccentricity at each point can be determined giving the precise contact lens prescription.



# A convenient optometry environment with excellent performance and user-centered design

## Touch & Tilting Color Display Screen

High brightness and contrast VGA 7" wide color TFT LCD screen provides with high resolution video images. Smooth and free tilting function also offers you a comfortable and clear view at any angle.

## Intuitive Interface for Easy to use

A consistent Icon with a toned-down color reduces the eye's fatigue, User can intuitively use the regular menu listed on the bottom

## Output at External Monitor and Utilize the Network Connectivity

Full HD video output through the HDMI port provides a differentiated explanation base for clinical consulting with your patients. HRK-8100A supports network connectivity with Huvitz Digital Refraction System enabling easy and fast refraction in networking.

## Auto Tracking

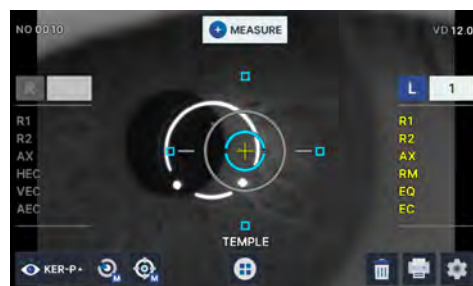
The cutting-edge auto sensor and 3 dimensional movement mechanism enable you to track down a measuring focus of an eye automatically and complete the measurement perfectly even with an inexperienced user.



Output at External Monitor

## Auto Chin Rest

Just by pressing the Up & Down buttons, users can set the height of the measuring point comfortably and quickly.



AUTO TRACKING GUIDE

## Quiet & Speedy Auto Cutting Printer

Automatic paper cutting and one touch paper roll change functions are new advantages of the HRK-8100A.



Auto Cutting Printer

## Effective virtual vision acuity comparison function

The internal chart provides a vision comparison function of current vision and corrected vision.



# HRK-8100A

## Auto Ref-Keratometer

### Specification

#### Measurement Mode

Continuous Keratometry & Refractometry (K/R Mode)

Refractometry (REF Mode), Keratometry (KER Mode)

Keratometry Peripheral (KER-P Mode)

Base Curve of Contact Lens (CLBC Mode)

#### Refractometry

Vertex Distance (VD)	0.0, 12, 13.5, 15.0
SPH	-30.00 ~ +25.00D (In case of VD = 12 mm) (0.01/0.12/0.25D Unit)
CYL	0.00 ~ ±12.00D (0.01/0.12/0.25D Unit)
Axis (AX)	0 ~ 180° (1° Unit)
Cylinder Form	-, +, MIX
Pupil Distance (PD)	10 ~ 85mm
Minimum pupil diameter	Ø2.0mm

#### Keratometry

Radius of Curvature	5.0 ~ 13.0mm (0.01mm Unit)
Corneal Power	25.96 ~ 67.50D (In case that the corneal equivalent refractive power is 1.3375, 0.05/0.12/0.25D Unit)
Corneal Astigmatism	0.0 ~ -15.00D (Increments: 0.05/0.12/0.25D)
Axis	0 ~ 180° (1° Unit)
Corneal diameter	2.0 ~ 14.0mm (0.1mm Unit)

#### Auto travel distance

Up & Down	30mm (± 3mm)
Right & Left	10mm (± 2mm)
Back & Forth	10mm (± 2mm)

#### Automatic tracking scope

Up & Down	10mm (± 2mm)
Right & Left	10mm (± 2mm)
Back & Forth	10mm (± 2mm)

#### Chin rest travel distance

Up & Down	60mm (± 3mm)
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#### Data Storage

Measured value of ten(10) times amount for each left/right eye

#### Hardware specification

Built-in printer	Line printer of heat printing type / Auto cutting
Power saving function	As stopping to measure for about 3/5/10 minutes, the main power is shut. It returns as pushing buttons.
Monitor	7.0" TFT LCD with touch screen
Electrical Power	AC100 ~ 240 V, 50/60 Hz
Current	1.0-0.8 A

\* Specification and design are subject to change without notice.