

Intelligence in your vision!

Huvitz is always striving to reflect all your questions and demands through state-of-the-art refraction system.
Finally we introduce HRK-9000A reinforced with subjective VA test and curvilinear design.
A brand new auto ref/keratometer, this is another challenge Huvitz will overcome.

Huvitz Auto Ref/Keratometer HRK-9000A

with Wavefront Technology

Specification

Measurement Mode	
K/R Mode	Continuous Keratometry & Refractometry
REF Mode	Refractometry
KER Mode	Keratometry
KER P Mode	Peripheral Keratometry
Color View Mode	Color View & Contact Lens Fitting Assistance (White & Blue LED Light)
Meibography Mode	Special Mode for Observing Meibomian Gland
TFBUT Mode	Special Mode for Measuring TFBUT (Tear Film Break-Up Time)

Refractometry	
Vertex Distance(VD)	0.0, 12.0, 13.5, 13.75, 15.0
Sphere(SPH)	-30.00~+25.00 (VD=12mm) (increments : 0.01, 0.12, 0.25D)
Cylinder(CYL)	0.00~±12.00D (increments 0.01, 0.12, 0.25D)
Cylinder Form	-, +, ± (Mixed)
Pupil Distance	10~85mm
Minimum Pupil Diameter	⌈ 2.0mm

Keratometry	
Radius of Curvature	5.0~13.0mm (increments : 0.01mm)
Corneal Power	25.96~67.50D (increments : 0.05, 0.12, 0.25D) (When corneal equivalent refractive index is 1.3375)
Corneal Astigmatism	0.00~ -15.00D (increments : 0.05, 0.12, 0.25D)
Axis	0~180 (increments : 1°)
Pupil, Iris Diameter	2.0~14.0mm (increments : 0.1mm)
Memory of Data	10 measurements for each eye

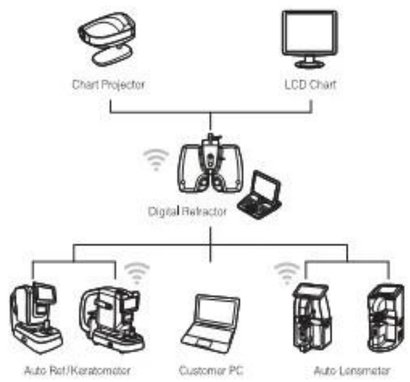
VA Test - Subjective Refractive Test	
VA Measurement	<0.1/0.1/0.25/0.32/0.4/0.5/0.63/0.8/1.0/1.25> <20/200 / 20/200 / 20/80 / 20/60 / 20/50 / 20/40 / 20/30 / 20/25 / 20/20 / 20/16>
Sphere(SPH)	-22D to +22D (increment 0.25D)
Cylinder(CYL)	0 to ±10D (Max. increment 0.25D)
Cyl Axis	0 to 180 (increment 1/5°)

Movement Range	
Up-Down	±15mm
Left-Right	±5mm, ±2mm
Forward-Backward	±5mm, ±2mm

Others	
Display	7 inch Wide Color TFT LCD, Touch panel with Tilting function
Interface	RS-232 x 1, USB(for Service) x 1, Wi-Fi (for Data communication)
Wi-Fi	Band : 2.4GHz, IEE802.11b/g Security : WPA2-PSK
Internal Printer	Thermal line printer with Auto cutting function
Power Saving	Automatic switch-off (5min)
Power Supply	100-240VAC, 1.0-0.6A, 50/60Hz
Dimension /Weight	262(W) X 518(D) X 441(H)mm, 19kg

Designs and details can be changed without prior notice for the purposes of improvement.

System Networking



Huvitz

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Huvitz Re:define. Re+create

Tomorrow with Huvitz

What is achieved is not a future, but a history.
Striving future achievement and future satisfaction will always motivate Huvitz to redefine and recreate our history.

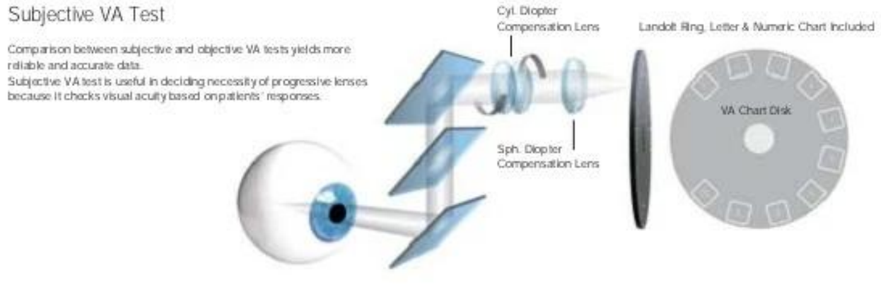
Huvitz Auto Ref/Keratometer HRK-9000A with Wavefront Technology

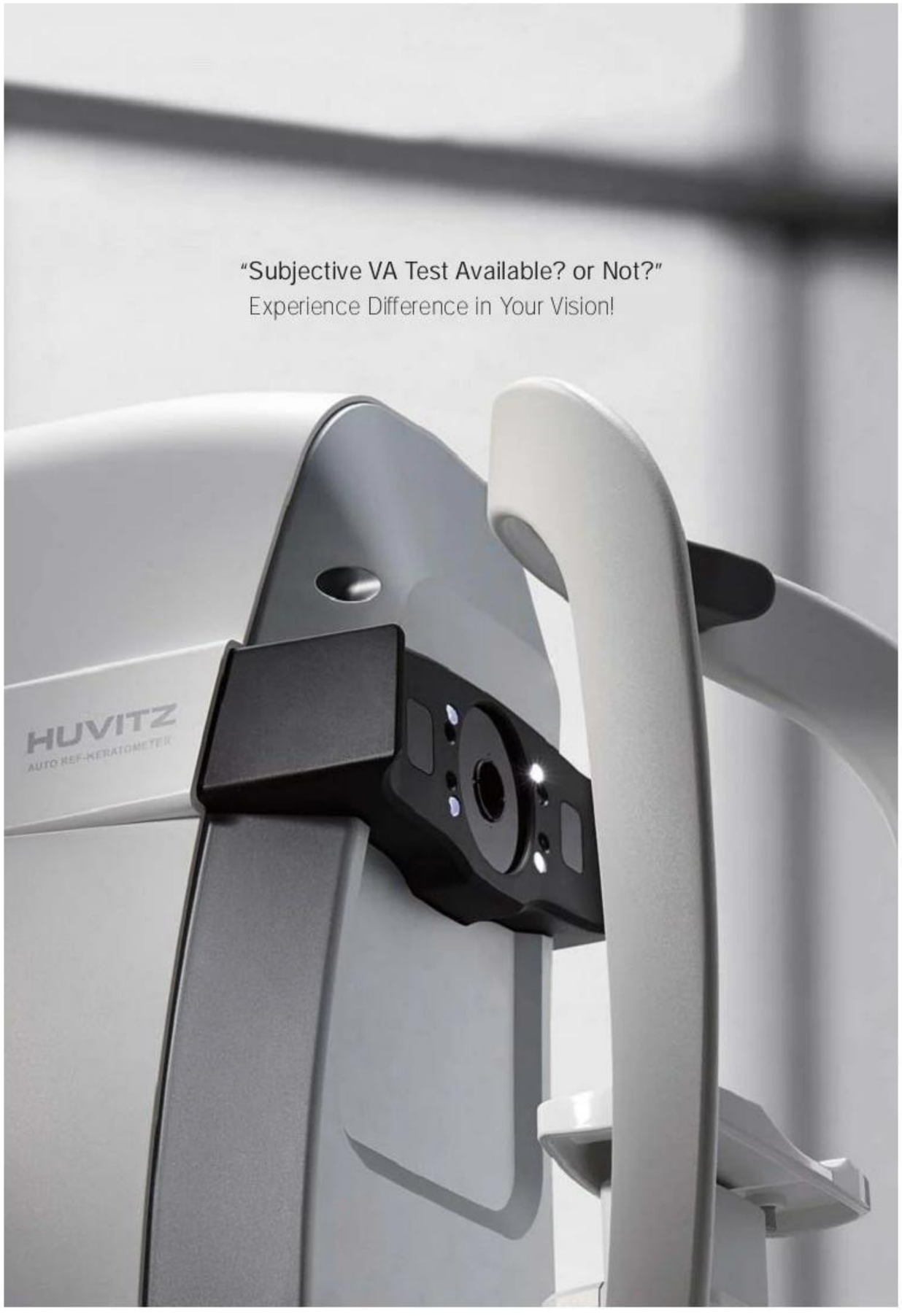


Combining Everything into One

[All New] HRK-9000A Auto Ref/Keratometer

Unceasing efforts for higher accuracy lead to objective refraction followed by standardized subjective refraction with HRK-9000A and in the end, unprecedented accurate results wait for you.
HRK-9000A speaks no compensation, but perfectionism in refraction composed of glare test, superior contrast sensitivity and TFBUT/Meibography which are introduced for the first time in the world.
A beautiful curvilinear design speaks emotional stability in you.
With HRK-9000A, take satisfaction which you have ever enjoyed before.





Subjective VA Test - Glare Mode



TFBUT Measurement

Subjective VA Test

Comparison between subjective and objective VA tests yields more reliable and accurate data.
Subjective VA test is useful in deciding necessity of progressive lenses because it checks visual acuity based on patients' responses.

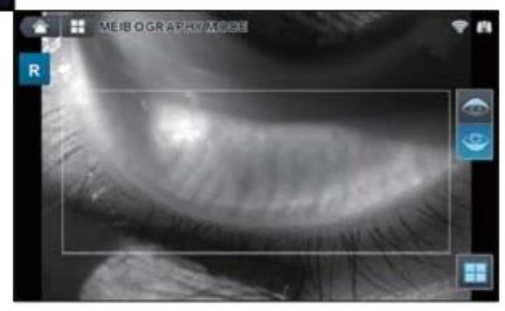
Contrast Sensitivity and Glare Test

Highly reliable night visual acuity is examinable with low contrast sensitivity test and glare test which perfectly reproduces halo effect.
Progress after refractive or cataract surgery can be monitored effectively.

TFBUT Measurement and Meibography

Conditions of tear film and dry eye can be collected by TFBUT(Tears Film Break-Up Time) are readable for thorough understanding of visual acuity.
Degeneration of meibomian gland can be also monitored with enough light source and image enhancement function.

Meibography Measurement



Wavefront Technology

Huvitz' wavefront analysis algorithm goes beyond general refraction to conclude highly accurate and reliable cornea refractive power and index.
Wavefront technology measures the wavefront of light reflected from the retina and the refractive power with various sensors divided by sectors and analyzes them with extreme precision.

Micro Lens Array

Huvitz' own developed Micro Lens Array creates a number of separated focal spots, of which the pattern provides valuable information of patients' ocular systems.

More Accurate Data

Accuracy of KER data is improved by setting optimal zone diameter on measuring spot and also REF data by standardization of quantity of light of fogging chart and fogging lens position along with complete block of accommodation.

Color View Mode

Full color CCD camera and white LED light source in auto ref/keratometer enable you to see eyes and contact lens fitting status which was previously only possible with slit lamps.



Wavefront Technology / Micro Lens Array

Peripheral Keratometry Measurement

Continuous measurement on periphery of cornea at 90˚ both vertically and horizontally from center of cornea produces curvature and eccentricity values of all points and allows best fitting of contact lenses.

IOL Mode

Extra measurement mode is available for IOL power or visual acuity after cataract surgery.

Iris and Pupil Diameter Measurement

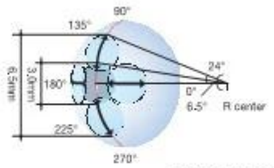
Image capturing function supports highly accurate exam by measurement of iris and pupil diameter with diameter from 2mm to 14mm.

Contact Lens Fitting Assistance Guide

The world's first contact lens fitting function in an auto ref/keratometer enables you to see fluorescein liquid with blue illumination.

Efficient Contact Lens Prescription

Image capture and contrast regulation are possible. HRK-9000A gives you the best On-K fitting guide based on the base curve and KER value.



Peripheral Keratometry Measurement



Contact Lens Fitting Assistance Guide



Auto Tracking Guide

Auto Cutting Printer

Touch and Tilting 7" Color Display

Wide color TFT LCD supports high-resolution images and real-time image processing to realize afterimage-less image quality.
Moreover, swiveling and tilting touch display is readable from any direction for smooth communication between examiners and examinees.

Auto Tracking

Cutting edge auto sensor and 3 dimensional movement mechanism allow you to track down a measuring focus of an eye automatically and complete measurement perfectly even with inexperienced users.

Auto Cutting Printer

Embedded printer allows to print 10 measurement data within 3 seconds without noise at all.
Replacement of paper roll is in one-touch action.

Wireless Communication

Wireless Communication via Wi-Fi allows perfect data transmission with HDR-9000 and HLM-9000 regardless of working environment.
Classic communication via RS-232 cable is available for data transmission with previous models.

