Innovative
Ophthalmology
Solutions

Auto Ref/Keratometer, Non-contact Tono/Pachymeter

Huvitz 4in1 HTR-1A

Huvitz Re:define, Re+create

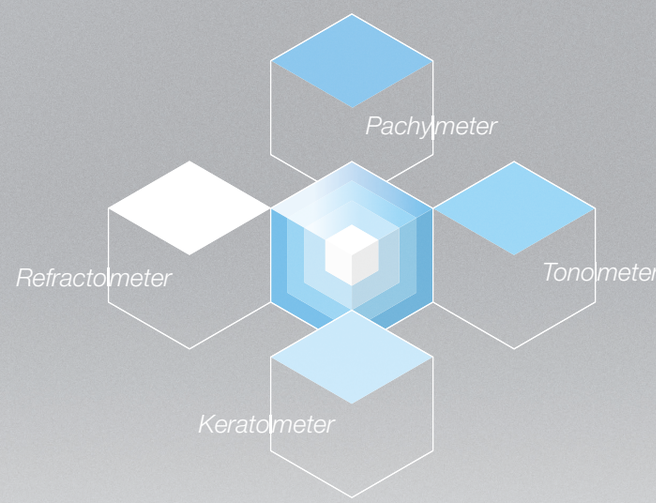
Efficient Multitasking
by Huvitz 4 in 1 HTR-1A

Huvitz HTR-1A is optimized for eye health care in order to
accurate measurement & diagnosis.
4 types of diagnostic device are completed with 4 in 1 System in Compact Design.
Also, Full Auto Tracking & Shooting functions provide user convenience.
Huvitz HTR-1A is now ready to surprise users by strong multitasking.

4 in 1 System

The 1 device includes 4 functions;
Full Auto Ref/Keratometer, Non-contact Tono/Pachymeter.
Essential data for Customized Lens prescription such as Cornea Thickness,
Intraocular Pressure and Refractive Power is accurately measured and acquired.

Auto Refractometer
Auto Keratometer
Non-contact Tonometer
Non-contact Pachymeter



4 in 1 Platform; Huvitz HTR-1A

Compact Design

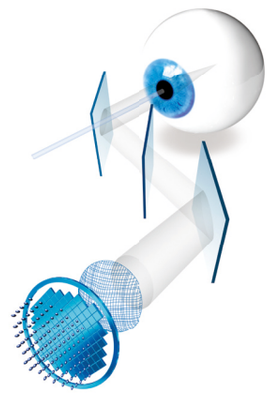
By compact design and size, HTR-1A is possible to save users' space.
4 measurements from 1 device, patients don't need to move their places and it can save their time as well.

Full Auto Tracking & Shooting

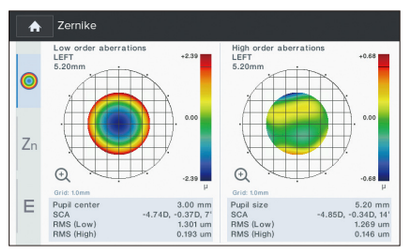
HTR-1A supports Full Auto Tracking & Shooting.
By clicking one button it automatically follows measuring pupil points and calculates accurate data.

Kerato/Refracto

Monitoring Pre & Post Refractive Surgery, Customized Lens Prescription; Cutting Edge Optometry Technology



Wavefront Technology / Micro Lens Array Concept



Low High Order Aberration Zernike Map

Wavefront Technology for High Order

By Huvitz's own Wavefront analyzing algorithm & Micro Lens Array provide accurate and reliable Refractometry data.
User can monitor pre & post refractive surgery (Spherical Aberration) and analyze high order data in order to customized lens prescription.

KER/REF Measurement

High reliability of Kerato Data from Cornea Curvature can be acquired by minimizing measurement error using high-intensity Mire Ring & Two focus LED light sources.
Also, REF Data is provided with high accuracy by minimizing intervention of accommodative power.

Iris & Pupil Measurement

By image capturing function, user can measure Iris & Pupil distance up to 14 mm.
Also, minimum pupil measurement is supported up to 2 mm.

Zernike Map for Customized Lens

Zernike Map & Graph can be displayed in 2D & 3D so that users can easily understand Spherical, Cylinder, Axis and High order aberration data.

Evaluating Analyzed Refractive Data,
It's Possible for Quick & Accurate Diagnosis and Prescription.

Contact Lens Fitting & Auto Recognition Function; Increasing Accuracy and User Convenience

Color View Mode

Users can utilize the color view mode for contact lens fitting and prescription.

Contact Lens Fitting Assistance

The guide automatically recognizes fitting condition by image processing with fluorescence & cobalt blue filter.

Auto Calculation for Lens Base Curve Radius

It's possible to capture & adjust contrast images while monitoring.
In case of RGP lens, this function automatically calculates and shows Lens Base Curve data.
Also, users can evaluate Steepness & Flatness after fitting hard lens.

Retro illumination Mode

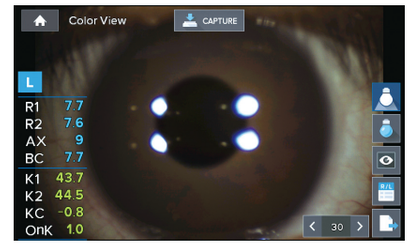
Users can check the eye lens opacity or corneal damage.
SPH, CYL and AXIS measurement data can be acquired in order to utilize for eyeglass and contact lens prescriptions.

TFBUT & Meibography

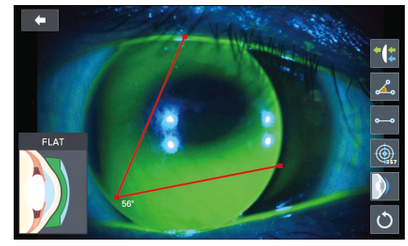
TFBUT (Tear Film Break-Up Time) function can be utilized with tear film and dry eye diagnosis.
Since Huvitz Meibography function has adopted Image Enhancement technology, users can check patients' conditions conveniently.

Peripheral Cornea Measurement

It is useful for accurate contact lens fitting prescription as this function continuously measures cornea curvature up/down/left/right side from cornea's center.

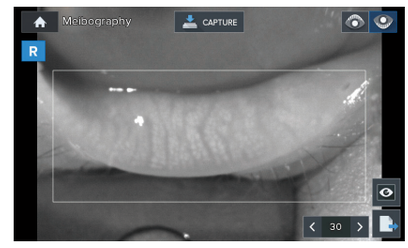


Color View Mode

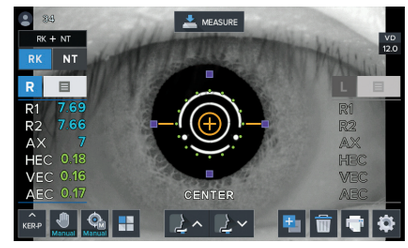


Contact Lens Fitting Assistance Guide

TFBUT(Tear film break up time)



Meibography Measurement

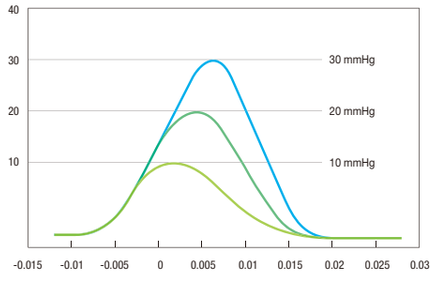


Peripheral Keratometry Measurement

Tono/Pachy

Smart Puffing Control with Auto-Adjustment & IOP with Cornea Thickness Compensation; Easy to measure Customized IOP

Pressure Curve Variation by SPC 30 Intraocular Pressure



CCT Measurement / IOP Compensation

Smart Puffing Control

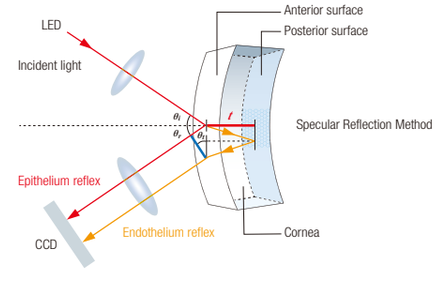
Users can measure customized IOP by auto adjusting intensity of Air Puffing per Patients' pressure.

Compensted IOP

Users can acquire calibrated IOP value by inputting patients' corneal thickness.

CCT (Central Cornea Thickness)

Adopting Specular Reflection Method HTR-1A is able to measure Corneal Thickness with high accuracy.



CCT (Central Cornea Thickness) Measurement Concept

Convenience / Connectivity

1

2

3

1,2) Touch & Tilting Color Display 3) Joystick & Auto Cutting Printer

User-Centric Environment ; Multi-function, Easy Instructions, Instant Connectable Network

User Friendly Interface

Icon-based intuitive & user friendly interface is convenient for any users to operate.

Flexible Joystick for easy Adjustment

With the flexible joystick & continuous direction guide, users can adjust position accurately & easily.

High Speed & Low Noise Auto Cutting Printer

10 times of measurement can be printed within 2~3 seconds.
Auto paper cutting function and one-touch paper change provide user convenience.

Tiltable 7'' Touch Color Display

Adopting Wide Color LCD IPS Panel, HTR-1A provides high resolution image.
With touch & 85° Tilting display, it's easy to monitor and share information with clients.

Upgraded Network Connectivity

By RS-232C/Ethernet support, users can export or import measurement data with previous devices and external PCs.
(EMR compatible) Wireless data connection with HDR-9000 and HLM-9000 is available by WiFi.

HTR-1A Auto Ref/Keratometer Non-contact Tono/Pachymeter

Specifications

Refractive power measurement	Distance between vertex of cornea (VD)	0.0, 12.0, 13.75, 15.0		
	Spherical prescription (SPH)	-30.00 ~ +25.00 D (VD = 12 mm) (0.01/0.12/0.25 D unit)		
	Astigmatism prescription (CYL)	0.00 ~ ±12.00D (0.01/0.12/0.25 D unit)		
	Astigmatism axis angle (AX)	0 ~ 180° (1° unit)		
	Astigmatism indication	-, +, MIX		
	Pupil distance (PD)	10 ~ 85 mm		
	Minimum pupil diameter that can be measured	Ø2.0 mm		
	The accuracy specifications are based on the results of eye model testing preformed in accordance with ISO10342.			
Cornea curvature radius measurement	Corneal curvature radius	5.0 ~ 13.0 mm (0.01 mm unit)		
	Cornea refractive power	25.96D~67.50D (cornea equivalence's refractive index: 1.3375) indication unit: 0.05/0.12/0.25D unit		
	Cornea astigmatism prescription	0.0 ~ -15.00 D (Increments: 0.05/0.12/0.25 D)		
	Cornea astigmatism axis angle	0 ~ 180° (1°/ 5° unit)		
	Cornea diameter measurement	2.0 ~ 14.0 mm (0.1 mm unit)		
	Keratometry is in accordance with TypeB, ISO 103432014.			
IOP measurement	IOP range	1 ~ 60 mmHg SPC 30 / SPC 60, 30 / 60		
	Measurement increment	1 mmHg (Average : 0.1 mmHg)		
	Accuracy	±5.0 mmHg		
Corneal thickness measurement	CCT measurement range	300 ~ 800 μm		
	Measurement increment	1 μm		
	Accuracy	±10.0 μm (in case of The calibration Model eye)		
Wireless I/F	Protocol	IEEE802.11b 2.4GHz WiFi		
	Security mode	WPA2-PSK		
	IP configuration	DHCP mode		
Auto travel distance	Up and down	83 mm (±3 mm) : Total	RK Mode	40 mm (±5mm)
			NT Mode	40 mm (±5mm)
	Left and right	90 mm (±2 mm)		
	Front and back	40 mm (±2 mm)		
Automatic tracking scope	Up and down	± 5 mm		
	Left and right	± 5 mm		
	Front and back	± 5 mm		
Chin rest travel distance	Up and down	65 mm (±3 mm)		
Data memory	10 session worth of measurement values for each of the eyes on the left and right			
Interface	RS-232C			
	USB	Internal Software Update from PC (Engineer Only)		
	Ethernet			
	WiFi			
	Ext. VIDEO			
Hardware specs	Built-in printer	Thermoelectric line printer/Auto Cutting		
	power-saving function	Key power is blocked when the measurement is stopped up the set time. Recovered when pressing on the button or when the screen is touched.		
	Monitor	85° Tiltable 7" Color LCD IPS Panel (800*480) Resistive Touch panel		
	Dimensions	301(W) x 535(D) x 506(H) mm		
	Weight	23.8 Kg		
	Power supply	AC100-240, 50/60Hz, 0.6-0.9A, 144VA(Max.)		

* Specification and design are subject to change without notice.

Huvitz

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TRXXCL-20-00002