

The **Wavelight** SIGHTMAP Diagnostic Device measures each patient's unique optical system, including individual optical and geometric parameters – wavefront, corneal tomography and biometry in a single device.²

Provides data for **wavelight plus** Ray-Tracing Guided treatments and various diagnostic functions:

- Sequential examination incorporating wavefront, tomography and axial length to prepare wavelight plus Ray-Tracing Guided treatments
- Fast screening report to detect
 corneal pathologies
- Optical properties and refraction examination
 platform for refractive pre- and post-op screening
- Belin / Ambrosio enhanced ectasia
- Displays topometric / keratoconus staging
- Holladay report / Holladay EKR detail report
- Corneal optical densitometry

Combines three measurement principles in one device:

- Wavefront Hartmann-Shack measurement
 - A light beam is sent into the eye and is reflected at the retina. Visual errors in the eye change the structure of the reflected light waves, creating an individual wavefront map
 - Autorefractor, autofogging, and centration
- Biometry measurement
 - · Determines the axial length of the eye
 - Interferometry-based biometry technique

- · Corneal tomography measurement
 - A rotating camera takes up to 138,000 measuring points in real-time³
 - Using the rotating Scheimpflug principle, data from the anterior eye segment can be obtained
 - Anterior cornea, posterior corneal elevation, complete corneal pachymetry and anterior chamber properties are simultaneously captured, analyzed and displayed
 - Shadows from nose and eye lid are minimized⁴

Understanding the **wavelight plus** Ray-Tracing Guided procedure:

- To calculate a wavelight plus ablation profile, an individualized 3D eye model is created based on all measurement data
- The Ray-Tracing Guided algorithm performs iterative alterations of the anterior corneal surface within the eye model to optimize the individual ablation plan
- The treatment profile is transferred to the Wavelight laser systems
- The Wavelight SIGHTMAP Diagnostic Device is seamlessly integrated into the WAVENET Computer Network

All-in-One Technology	Derived Data
Hartmann-Shack wavefront sensor	Ocular wavefront
Scheimpflug imaging	Crystalline lens position (ACD)
	Topography of anterior corneal surface
	Topography of posterior corneal surface
	Corneal thickness map & CCT
Partial coherence interferometry	Axial length of the eye



SPECIFICATIONS¹

Optical head	Laser class 1
Wavelength	880 nm
Pulse duration	400 ms
Maximum value of laser power	0.84 mW
Camera	Digital CCD camera
Light source	Blue LEDs (475 nm, UV-free)
Scoping range	3 to 38 mm (0.12 to 1.50 inches) / 9 to 99 D
Accuracy	± 0.2 D
Reproducibility	± 0.2 D
Working distance	55 mm (2.17 inches)
Axial length reproducibility	14 to 40 mm / ± 30µm
Dimensions (WxDxH)	275 x 320 to 400 x 500 to 535 mm. (10.8 x 12.6 to 15.7 x 19.7 to 21.1 in)
Weight	16 kg (35.27 pounds)
Cooling	Ambient air
Operating mode	Permanent operation
Software version	Patient data management software version DIS 1.5 and higher / Examination software version 1.21 and higher
Power supply (primary side)	
Mains	100 - 240 V AC 1-phase, 16 A, 50 / 60 Hz
Power consumption	Max. 85 VA
Fuses	Integrated overcurrent circuit breaker
Mandatory power supply	Hitron HEMG49-S240210-7
Power supply (secondary side)	
Power output voltage	24 V DC, 2.1 A
Power consumption	Max. 37.4 W
Operating conditions	
Temperature (recommended)	+ 10°C (+ 50°F) to + 35°C (+ 95°F) above dew point
Humidity (recommended)	30% to 75% at + 25°C (+ 77°F)
Air pressure (Barometric)	700 hPa to 1060 hPa

REFERENCES: 1. User Manual WaveLight SIGHTMAP. 2. Bueeler-and-Mrochen-patent-US20080033408A1 3. Rachele R. Penna. Placido disk-based topography versus high-resolution rotating Scheimpflug camera for corneal power measurements in keratoconic and post-LASIK eyes: reliability and agreement. Int J Ophthalmol, Vol. 10, No. 3, Mar.18, 2017. 4. F. Cavas-Martinez. Corneal topography in keratoconus: state of the art. Cavas-Martínez et al. Eye and Vision (2016) 3:5 DOI 10.1186/s40662-016-0036-8.

Please refer to relevant user manual for list of indications, contraindications and warnings.

