Brand value

Voptica opens a new era in vision testing by introducing an instrument to assist in guiding prescriptions of the most advanced current and future optical solutions and surgeries.

Voptica is an innovative medical device company located in Murcia, Spain and was founded in 2010 as a spin-off from one of the world leading R&D groups in biomedical optics, the Laboratory of Optical Sciences of the University of Murcia. *Professor Pablo Artal* is the head of this group and co-founder of Voptica.

The Visual Adaptive Optics simulator (VAO) is a unique diagnostic device, offering a complete solution. A new technology that incorporates the most cutting-edge adaptive optics (AO) based on liquid crystal. It provides an objective characterization of the eye and a real vision experience that allows your patient to test different optical solutions before surgery.

Technical Specifications

VOPTICA

Aberrometer specifications	
Aberrometer principle	Hartmann-Shack
Pupil sizes	3 - 8 mm
Zernike order	2nd – 8th order
# of micro lenses in maximum pupil	315
Range defocus	± 9 D
Range astigmatism (negative cylinder convention)	9 D
Range higher order aberrations (4.5 mm)	± 1 µm

Laser specifications	
Wavelength	780 nm
Maximum laser energy at the corneal plane	60 µW/cm²

Adaptive optics	
Phase modulation	LCoS
Wavelength range	VIS
Number of pixels	1920 x 1080
Pixel size LCoS	8 x 8 µm
Linearity of modulation	2 π @ 532 nm
Artificial modulation pupil	4.5 mm
Modulator input: Standard wavefront map	Zernike polynomials
Modulation input: Custom wavefront map	Upload as csv-file

Test stimulus	
Stimulus screen	SVGA micro OLED
Colors	> 16.7 million colors
Grey levels	256
Field of view	2.3° x 1.7° vision angle

General specifications	
Dimensions (L x W x H)	0.89 x 0.36 x 0.56 m
Weight	25 kg
Power input	230 VAC (50 Hz)
Nominal power	200 W
Connectivity	2 USB, Ethernet

MP-TR_003

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CE 0476
ISO 13485
kiwa

# Visual Adaptive Optics simulator

CE 0476

Seeing is believing

VOPTICA
SMART VISUAL OPTICS

Full control over the test and the optics.

> Objective wavefront aberrometry.

> AO* subjective correction refinement (refraction + HOA**).

> Simulation that provides a real experience of different optical profiles.

A TRUE-TO-LIFE EXPERIENCE

ADAPTIVE OPTICS

VISION TESTING

HS WAVEFRONT SENSOR

POINT-BY-POINT-ENGINEERED OPTICAL ELEMENTS
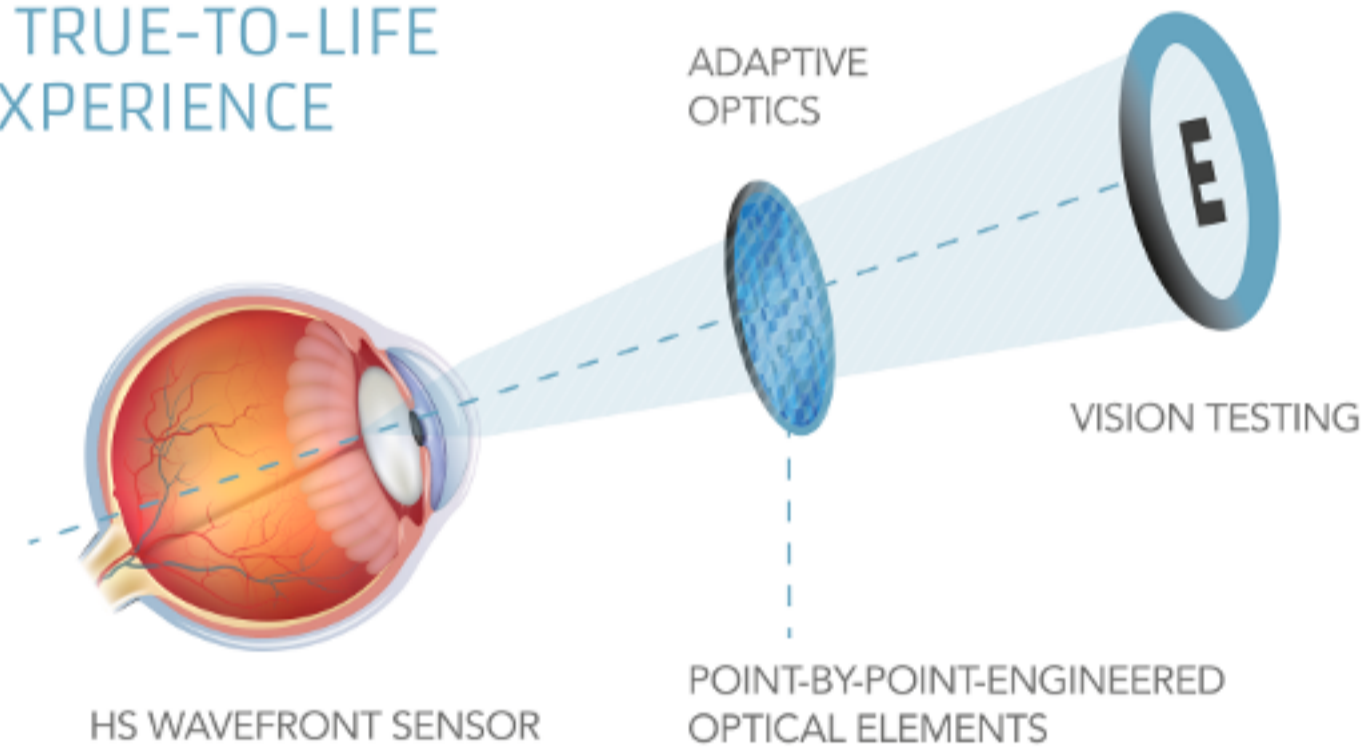
The gateaway to personalize VISION

> Fast evaluation and reduction of overall testing time.

> Simulation able to reproduce every optical profile.

> Compact, easily integrated with practice.

> Outstanding diagnosis.

> Exportable data base.

> Streamlined and efficient software.

> User friendly interface.

> Full-HD touch screen.

> PDF summary results ready to save, print and send.
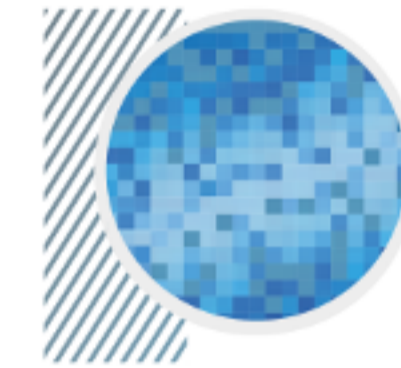
*Adaptive Optics. **High Order Aberrations.

Wavefront aberrometer

"Reliable wavefront sensor"
Aberrometry with VAO provides a complete and accurate objective characterization of the eye's optics based on Hartmann-Shack technology. It measures refraction and high order aberrations of the whole eye.
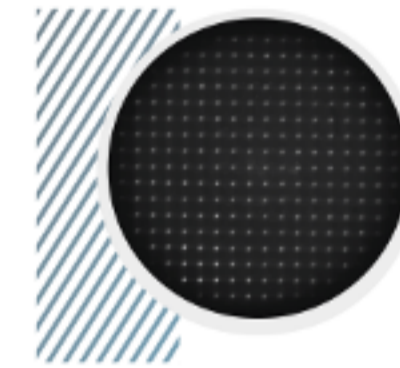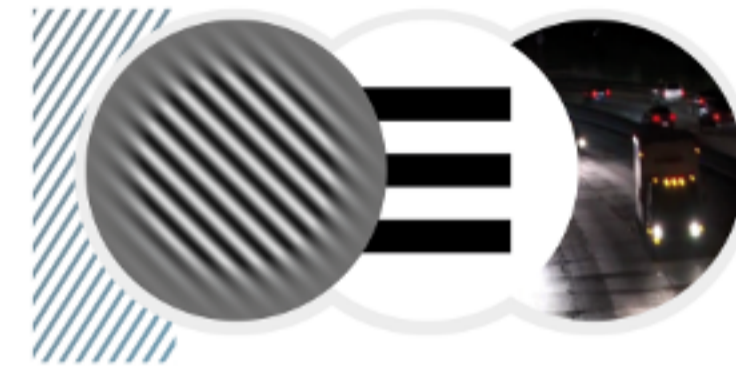

AO-Guided refinement

"The most sophisticated and complete subjective refraction including HOA"
Adaptive optics enables a subjective assessment of the refraction with unprecedented precision. It allows you to correct and induce high order aberrations. Subjective refinement is possible using a variety of real vision tests projected on an OLED micro-display.
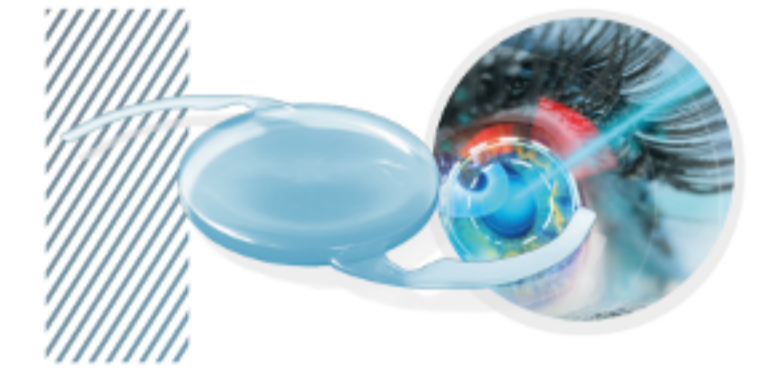

Easy and Intuitive Software

>> Standard vision tests in easy and guided protocols

Fast assessment protocol

Complete and rapid visual assessment in a single protocol

1. Objective measurement.
2. Subjective refraction (possibility of HOA) / Far and near visual acuities (high and low contrast) / Addition / Depth of focus curve / PDF summary results.

Depth of Focus protocol

Customization of spherical aberration for extended Depth of Focus

1. The specific amount of spherical aberration and defocus can be customized to optimize the patient's quality of vision at all distances for refractive surgery personalization with our depth of focus protocol.

2. A printable PDF provides a comparison among the different combinations of spherical aberration and defocus at different distances.

> Contributes to increase patient satisfaction and confidence in their choice of treatment.

> Provides you with the most accurate information to choose the best solution for your patients.

Vision testing

"Different Optotypes at the touch of a finger"
A variety of vision tests e.g. contrast sensitivity, tumbling E, Sloan letters, night driving videos, can be displayed at any possible distance (far, intermediate, near, etc.) with full control of the patient's optics.
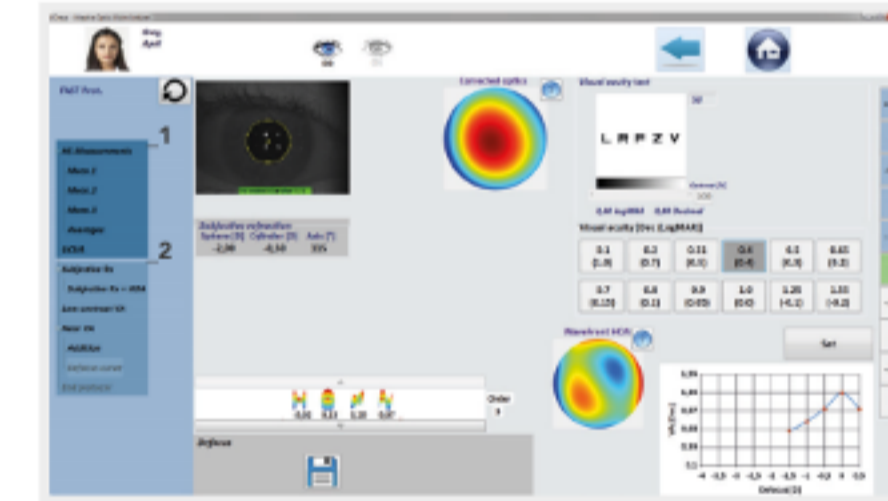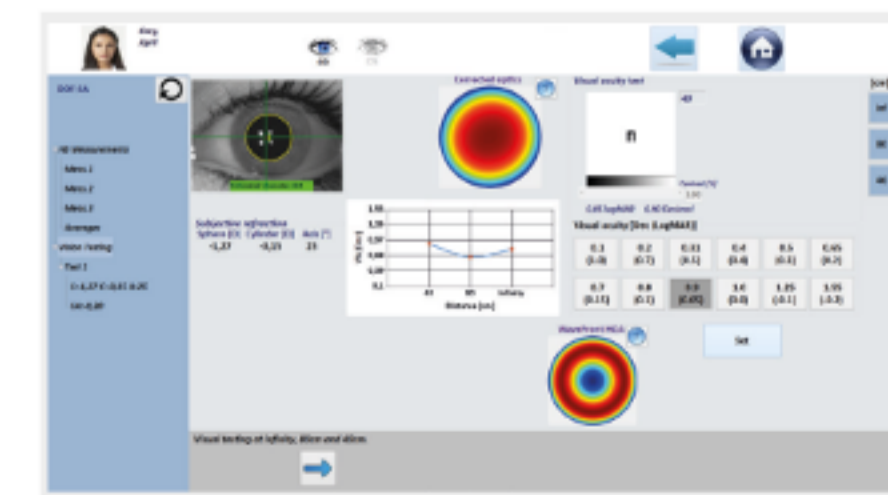

Simulation for real vision experience

"Advanced optical solutions testing"
Real vision simulation means customization of any premium optical solution. The Visual Adaptive Optics simulator offers the possibility of measuring visual acuity, CSF, etc., under a variety of controlled conditions such as multifocal IOLs, induced spherical aberration, high order aberration correction, among others. The patient can experience the optimal solution before surgery.

Simulation of different optical profiles

1. Comparison of different optical profiles from basic monofocal to premium IOLs at different distances using a variety of vision tests e.g. night driving videos.

2. The patient can experience a real visual comparison of how they will see with the different optical solutions.

Vision records to facilitate postoperative follow-up

1. Data from refraction, high order aberrations, visual acuities, CSF, etc., are saved and will always be available in Vision Records.

2. Objective high order aberrations, such as coma, trefoil, spherical aberration, are given at different pupil diameters.