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 Ariza is the head of this group and co-founder of Voptica.

The Visual Adaptive Optics simulator (VAC) 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

- **Alcrometric specifications**
  - Alcrometric principle: Hartmann-Shack
  - Pupil size: 2.4 mm
  - Barlow order: 2nd, 3rd, 5th order
  - # of micro lenses in maximum pupil: 315
  - Range distance: ± 1 D
  - Range astigmatism (negative cylinder convention): ± 1 D
  - Range higher order aberrations (λ/5): ± 1 μm

- **Optical specifications**
  - Wavelength: 780 nm
  - Modulation at the corneal plane: 40 nm/μm

- **Electronic specifications**
  - Phase modulation: 1.9 kHz
  - Wavelength range: 1950 ± 100 nm
  - Number of pixels: 600 x 614
  - Max intensity at 400 ± 10 μm: 6 ± 0.4 mW
  - Linearity of modulation: ± 1.35%
  - Artificial pupil: 4.5 mm
  - Modulation input: Standard wavefront map: Zernike polynomials
  - Modulation input: Custom wavefront map: Up to 25 cm

- **Image qualities**
  - Stimulus screen: 3WAC micro OLED
  - Colors: > 16.7 million colors
  - Grey levels: 256
  - Field of view: 2.3° x 1.7° vision angle

- **Electrical specifications**
  - Dimensions (L x W x H): 0.89 x 0.36 x 0.56 m
  - Weight: 35 kg
  - Power input: 230 VAC (50 Hz)
  - Nominal power: 300 W
  - Connectivity: 2 USB, Ethernet

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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.

Wavefront aberrometry
“Reliable wavefront sensor”
Aberrometry with VAOx provides a complete and accurate objective characterization of the eye’s optical 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 refinement 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.

Vision testing
“Different Optotypes at the touch of a figure”
A variety of vision tests e.g. contrast sensitivity, testing E, Maker’s letters, night driving videos, can be displayed at any possible distance (intermediate, near, etc.) with full control of the patient’s optics.

A TRUE-TO-LIFE EXPERIENCE

Easy and Intuitive Software

Fast assessment protocol
Complete and rapid visual assessment in a single protocol
- Objective measurements.
- Subjective refraction/spatial of HOA.
- Air 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
- 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.
- A printable PDF provides a comparator among the different combinations of spherical aberration and defocus at different distances.

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, CSV, etc., under a variety of controlled conditions as well as multifocal IOLs, induced spherical aberration, high order aberration correction, among others. The patient can experience the optimal solution before surgery.

The gateway 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.

- Adaptive Optics.
- High-Order Aberrations.

Fast assessment protocol
- Standard vision tests in easy and guided protocol.

- Streamlined and efficient software.
- User friendly interface.
- Full HD touch screen.
- PDF summary results ready to save, print and send.