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 Arias 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 characterisation of the eye and a real vision experience that allows your patient to test different optical solutions before surgery.

Technical Specifications

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aberrometer principle</td>
<td>Hartmann-Schack</td>
</tr>
<tr>
<td>Pupil size</td>
<td>3.00 mm</td>
</tr>
<tr>
<td>Zernike order</td>
<td>2nd - 5th order</td>
</tr>
<tr>
<td># of rays leaves in maximum pupil</td>
<td>315</td>
</tr>
<tr>
<td>Range defocus</td>
<td>± 7.0 diopters</td>
</tr>
<tr>
<td>Range astigmatism (negative cylinder convention)</td>
<td>± 6.5 diopters</td>
</tr>
<tr>
<td>Range higher order aberrations (±3 mm)</td>
<td>± 1.5 diopters</td>
</tr>
<tr>
<td>Wavelength</td>
<td>790 nm</td>
</tr>
<tr>
<td>Maximum beam energy at the central plane</td>
<td>40 mW/cm²</td>
</tr>
<tr>
<td>Phase modulation</td>
<td>±0.5°</td>
</tr>
<tr>
<td>Wavefront range</td>
<td>±5°</td>
</tr>
<tr>
<td>Number of pixels</td>
<td>1920 x 1080</td>
</tr>
<tr>
<td>Pixel size [μm]</td>
<td>8 x 8 μm</td>
</tr>
<tr>
<td>Linearity of modulation</td>
<td>2 x 10 - 3.3° mm</td>
</tr>
<tr>
<td>Artificial pupil</td>
<td>4.5 mm</td>
</tr>
<tr>
<td>Modulator input: Standard wavefront map</td>
<td>Zernike polynomials</td>
</tr>
<tr>
<td>Modulator input: Custom wavefront map</td>
<td>Upgradable as on file</td>
</tr>
<tr>
<td>Test stimulus</td>
<td>HD micro-display</td>
</tr>
<tr>
<td>Colors</td>
<td>16.7 million colors</td>
</tr>
<tr>
<td>Grey levels</td>
<td>256</td>
</tr>
<tr>
<td>Field of view</td>
<td>30° x 21° vision angle</td>
</tr>
</tbody>
</table>

Other specifications

- Dimensions (x, x, x H): 889 x 536 x 564 mm
- Weight: 25 kg
- Power Input: 230 VAC 70 Hz
- Nominal power: 280 W
- Connectivity: 2 USB, Ethernet

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Seeing is believing

Visual Adaptive Optics simulator
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

Wavefront aberrometer
“Reliable wavefront sensor”
Aberrometry with WACO 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 refinement including HOA”
Adaptive optics enables a subjective assessment of the retinal image with unaided vision. 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 finger”
A variety of vision tests (e.g. contrast sensitivity, tumbling E, Skian letters, night driving videos, can be displayed at any possible distance (e.g. 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 solutions. 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.

Easy and Intuitive Software

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) / Adder / 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 to achieve 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 in increase patient satisfaction and confidence in their choice of treatment.
- Provides you with the most accurate information to chose the best solution for your patients.

HS WAVEFRONT SENSOR
POINT-TO-POINT ENGINEERED OPTICAL ELEMENTS

VISION TESTING

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.

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

Standard vision tests in easy and guided protocols.

Simulation of different optical profiles
1. Comparison of different optical profiles from basic monofocal to premium IOls or 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.

*Adaptive Optics. **High-Order Aberrations.