ANTARES
Detection & Analysis of the Dry Eye
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2. Chin Rest Module
3. Head Rest
4. Calibration Tool
5. Chin Rest Cup
6. Knob Adjuster
7. Patient’s Handle
8. Device Blocking Knob
9. Instrument with Placido’s Disk
10. Joystick with Capturing Trigger
11. Slide Guide Guards
12. Power Supply Cable
13. Power Supplier
14. PC Monitor (Optional)
15. USB connection cable (device to computer)
16. Power Supply Unit 24V
17. Firewire connection cable
18. Shaped Tabletop (optional)
19. Electrical Table Height Adjuster (Optional)
ANTARES

KEY PRODUCT FEATURES

CORNEAL TOPOGRAPHY MODULE

- Assisted manual acquisition
- Advanced ring editing system
- Available maps:
  1. Sagittal curvature map
  2. Tangential curvature map
  3. Altimetry
  4. Refractive power
  5. Gaussian curvature map

PUPILLOMETRY MODULE

- Pupillometry with scotopic light to determine pupil maximum extension and optic zone diameters for treatment settings.
- Pupillometry with mesopic light (4 lux)
- Pupillometry with photopic light (50 lux)
- Dynamic pupillometry, starting with over 400 lux and switching off the light source so that the pupil can dilate to its maximum extension
- Evaluation of pupil decentralization from the corneal vertex and calculation of the pupil centre during dilation.
- Apply the measurements to the calculation of the corneal wavefront and visualize the pupil in different conditions on the topographic map.

VIDEOKERATOSCOPY MODULE

- Tear film examination with white light
- Tear film examination with fluorescein
- Break-up time measurement.
- Examination of tear layers.
- Examination of rigid LAC clearance with fluorescein
ANTARES | KEY PRODUCT FEATURES

HIGH PRECISION ACQUISITION

DATA AND ANALYSIS

- Pupillography
- Fluorescein Imaging
- Lipid layer pattern imaging
- Advanced Analysis of the Tear Film
- Contact Lenses Application Module
- Tear meniscus height imaging and measurement
- Meibomian glands analysis, imaging & screening
- Keratoconous screening and detection
- High-resolution color video camera
- Advanced ring editing system
- 24 rings Placido’s disk
- Videokeratoscope
ANTARES examinations provides an accurate measurement of pupil diameter in scotopic, mesopic and photopic conditions. When combined with the corneal map they can be used for refractive surgery planning and follow up. All biometric measurements of the anterior chamber are calculated using 25 sections from the cornea.

CORNEAL MEASUREMENTS

ANTARES topography function provides information about the curvature, elevation and refractive power of the cornea. It also provides many parameters to aid in the diagnosis and monitoring of the corneal surface.

ANTARES provides a multi topography report from the images captured from the built-in digital video camera. This device includes an editing software which allows you to edit edge position for proper reconstruction on particularly distorted surfaces.
ANTARES works perfectly with the advanced PHOENIX software. This program enables comfortable working, by connecting all of your diagnostic instruments with a powerful patient database, giving you an extraordinarily effective work station.
ANTARES provides information on pachymetry, elevation curvature, and dioptic power of both corneal surfaces.

The software elaborates display pages and summaries to focus on different aspects of a patient’s diagnosis.

1. 4-map summary
2. Single-map display page
3. Keratoconus summary
4. Advanced altimetry & Zernike’s altimetric examination
5. Corneal wavefront examination including:
   - Editable pupil corneal wavefront examination summary with map of the most common aberrations
   - A visual quality summary with PSF, Spot Diagram, MTF and sight simulation for the wavefront examined
   - Autofit to find the best contact lens based on corneal altimetry, on a database with over 50,000 lenses and possibility to customize a lens on the cornea by keying in description parameters and simulating the lens placing it in different locations or tilting it to simulate the blinking effect.
   - Instruments for follow-up monitoring such as:
     1. 2- or 3-element differential maps
     2. Comparison of up to 4 different maps

SYNTHETIC CORNEAL DESCRIPTIONS:

1. Sim-K to simulate fixed ophthalmoscope measurements (for the anterior surface)
2. Main corneal meridians in 3 mm, 5 mm and 7 mm areas
3. The flattest and steepest hemimeridians in 3 mm, 5 mm and 7 mm areas
4. Peripheral degrees
5. Pupil decentralization, pupillary radius and size of the corneal diameter
6. Keratorefractive indices calculated in the pupil area to evaluate patient’s visual quality
7. Keratoconus screening index for diagnosis and follow-up
KERATOCONUS SCREENING

Keratoconous screening provides the clinician with important information about the patients cornea. This can help prevent complications associated with ectasia before corneal surgery is undertaken.

Klyce / Maeda Indices
Rabinowitz Values

CONTACT LENSES APPLICATION MODULE

A contact lens fitting module is available which simulates the fit of rigid lenses based on an internal database of many lens manufacturers.

Lens Module
Anterior Segment
**PUPILLOGRAPHY**

ANTARES has built-in pupillography measurement software. The measurement of the pupil in scotopic (0.04 lux), mesopic (4 lux), photopic (50 lux) conditions and in dynamic mode. Knowing the center and the diameter of the pupil, is essential for many clinical procedures which seek to optimize vision quality.

**MEIBOGRAPHY**

Meibomian glands can be viewed under infrared light once the image is captured, you can use the software to aid in the analysis of the condition of the glands.

**ADVANCED ANALYSIS OF THE TEAR FILM**

Placido disk technology allows for the advanced analysis of the tear film, such as NI-BUT (Non Invasive Break-up Time).
### Measurements

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operation Distance</td>
<td>7.4 mm from corneal vertex</td>
</tr>
<tr>
<td>Number of Rings</td>
<td>24</td>
</tr>
<tr>
<td>Number of Measuring Points</td>
<td>6144 (24x256)</td>
</tr>
<tr>
<td>Number of Points Analysed</td>
<td>Over 100000</td>
</tr>
<tr>
<td>Diameter of the corneal area covered</td>
<td>0.4 to over 9.6 mm of Diameter</td>
</tr>
<tr>
<td>Dioptric Measuring Arc</td>
<td>1 to 100 D</td>
</tr>
<tr>
<td>Size (HxWxD) mm</td>
<td>505x315x251 mm</td>
</tr>
<tr>
<td>Weight</td>
<td>6.2 kg</td>
</tr>
</tbody>
</table>

### Applicable Lighting

- Placido’s LED lighting: White LED
- Fluorescein LED lighting: Blue LED 460 nm
- Pupillometry: LED lighting IR LED 875 nm

### Notes

- **Accuracy and repeatability error**: Class “A” as per ISO 19980:2005 (E)
- **Power supply**: 24V DC external power supply unit
- **Input power supply unit**: 90-264 V AC: 47/63 Hz, Max 0.9 A, OUTPUT: 24 V DC: 2 A
- **Power frequency**: (50/60Hz) magnetic field IEC 61000-4-8
- **Power cable**: Four-core cable conductors
- **Computer connection**: USB3 Type A cable
1. Head Rest
2. Optical Lens
3. Instrument
4. Fixation Point
5. Chin Rest
6. Chin Rest Hand Held
7. Joystick
8. Guide Guards
9. Personal Computer
10. Two Device Table Top (Optional)
11. Electrical Stand (Optional)
12. Table Up / Down Control
13. Table Storage Drawer
The Cobra + is a non-mydatic fundus camera that compromises all the functions required for a rapid screening of the status of the retina. This ergonomic design provides a clear and detailed image of the ocular fundus with a field of vision of up to 50°.

Cobra+ has 9 internal fixation points that allows to capture panoramic images of the peripheral areas. Cobra+ also can record simultaneously colour and infrared images through a CCD high resolution sensor.

Cobra+ uses a manual acquisition and electronically guided joystick to ensure precise focus control and repeatability measurements for multiple fixation points.
The Cobra Series uses an advance software platform called “Phoenix” which allows the patients data to be saved for future review and analysis.

Multiple wave-length images can be displayed on one screen such as: MGD analysis, choroidal, vascular, nerve fiber, infrared and red-free images.

USB 3.0 connection between the device and the PC enables a fast, easy transfer of the images, and saved in the Phoenix patient management software.
Multiple wave-length images can be displayed on one screen: the original image, infrared image, red-free image; as well the choroidal, vascular and nerve fiber images.

The COBRA+ can capture multiple images up to 50° field of view) which can be combined together in order to create a panoramic image of the peripheral retina.

The AVR tool measures the ratio between the branch arteriolar-venous diameter. A low ratio between the dimension of the vessels, may be predictive of cardiovascular problems in adult patients.

The measurement of the Cup to Disk ratio is easily achieved using the built-in measurement tools that are available in the Phoenix software platform for the detection of glaucomatous disease.

COBRA+ retinal fundus images can be combined with the multi focal ERG test, performed with the RETIMAX device. This new module provides a precise indication of the functionality of every analyzed retinal area (useful for follow-up of Macular Degeneration and degenerative hereditary retinal diseases.

Multiple wave-length images can be displayed on one screen: the original image, infrared image, red-free image; as well the choroidal, vascular and nerve fiber images.
## Product Specifications

### COBRA PLUS

### Measurements

<table>
<thead>
<tr>
<th>Item</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Image Resolution</td>
<td>2448 x 2051 (5M Pixel)</td>
</tr>
<tr>
<td>Working Distance</td>
<td>20mm</td>
</tr>
<tr>
<td>Dimension</td>
<td>420mm (w) x 315mm (l) x 255mm (h)</td>
</tr>
<tr>
<td>Shelf Size</td>
<td>380mm (w) x 500mm (l)</td>
</tr>
<tr>
<td>Weight</td>
<td>6kg</td>
</tr>
<tr>
<td>Base Movement</td>
<td>105mm (w) x 110mm (l) x 30mm (h)</td>
</tr>
<tr>
<td>Field of View</td>
<td>50 x 45</td>
</tr>
<tr>
<td>Frequency Range</td>
<td>80MHz - 800MHz</td>
</tr>
<tr>
<td>Power Supply</td>
<td>External power source 24 VCC In: 100-240 Vac - 50/60Hz - 0.9-05A - Out: 24Vdc - 40W</td>
</tr>
<tr>
<td>Dimension</td>
<td>420mm (w) x 315mm (l) x 255mm (h)</td>
</tr>
<tr>
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</tr>
<tr>
<td>Field of View</td>
<td>50 x 45</td>
</tr>
<tr>
<td>Isolation Transformer</td>
<td>230V / 230V</td>
</tr>
<tr>
<td>Motor Driven Telescopic Column</td>
<td>SCHUMO AG, Model TES2 23 / TA0113 X20 400238Z</td>
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<tr>
<td>Field of View</td>
<td>50 x 45</td>
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### Light Source

<table>
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<tr>
<th>Item</th>
<th>Specification</th>
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<tbody>
<tr>
<td>Auxiliary IR</td>
<td>LED @850nm</td>
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<tr>
<td>White Flash</td>
<td>LED @450-650nm</td>
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### Notes

<table>
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<tr>
<th>Item</th>
<th>Specification</th>
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</thead>
<tbody>
<tr>
<td>Operating Environment</td>
<td>Temperature -10 C ~ +35 C</td>
</tr>
<tr>
<td>Humidity</td>
<td>30% ~ 90% RH</td>
</tr>
<tr>
<td>Atmospheric pressure range</td>
<td>800 hPa ~ 1060 hPa</td>
</tr>
<tr>
<td>Storage and Environment</td>
<td>Temperature -10 C ~ +35 C</td>
</tr>
<tr>
<td>Condition</td>
<td>Humidity 30% ~ 90% RH</td>
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<tr>
<td>Atmospheric pressure range</td>
<td>800 hPa ~ 1060 hPa</td>
</tr>
<tr>
<td>Shipping Condition</td>
<td>Temperature -40 C ~ +70 C</td>
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<tr>
<td>Humidity</td>
<td>10% ~ 95%</td>
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<tr>
<td>Atmospheric pressure range</td>
<td>700 hPa ~ 1060 hPa</td>
</tr>
<tr>
<td>Vibration</td>
<td>10Hz @ 500Hz, 0.5g</td>
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</tbody>
</table>

### Product Type

<table>
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<tr>
<th>Item</th>
<th>Specification</th>
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<tr>
<td>Frequency Range</td>
<td>80MHz - 800MHz</td>
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### Additional Accessories

<table>
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<th>Item</th>
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<tbody>
<tr>
<td>Isolation Transformer</td>
<td>230V / 230V</td>
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<tr>
<td>Motor Driven Telescopic Column</td>
<td>SCHUMO AG, Model TES2 23 / TA0113 X20 400238Z</td>
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