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ARES

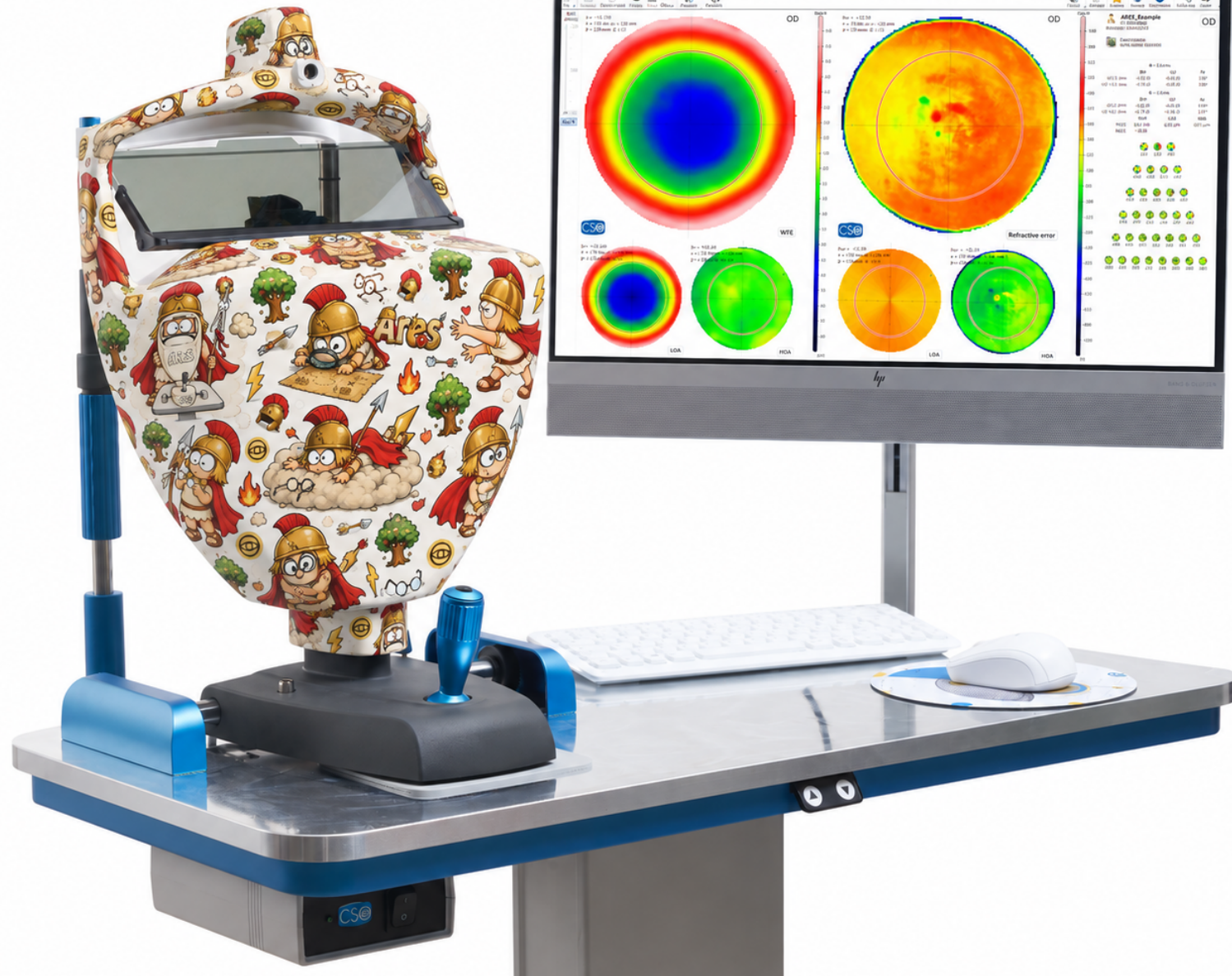
OCULAR ABERROMETER
BIOMETER
KERATOMETER



OSIRIS

OCULAR ABERRROMETER BIOMETER KERATOMETER

ARES is the open-field aberrometer, biometer and keratometer developed by CSO to support the assessment and management of myopia progression in pediatric patients and young adults.





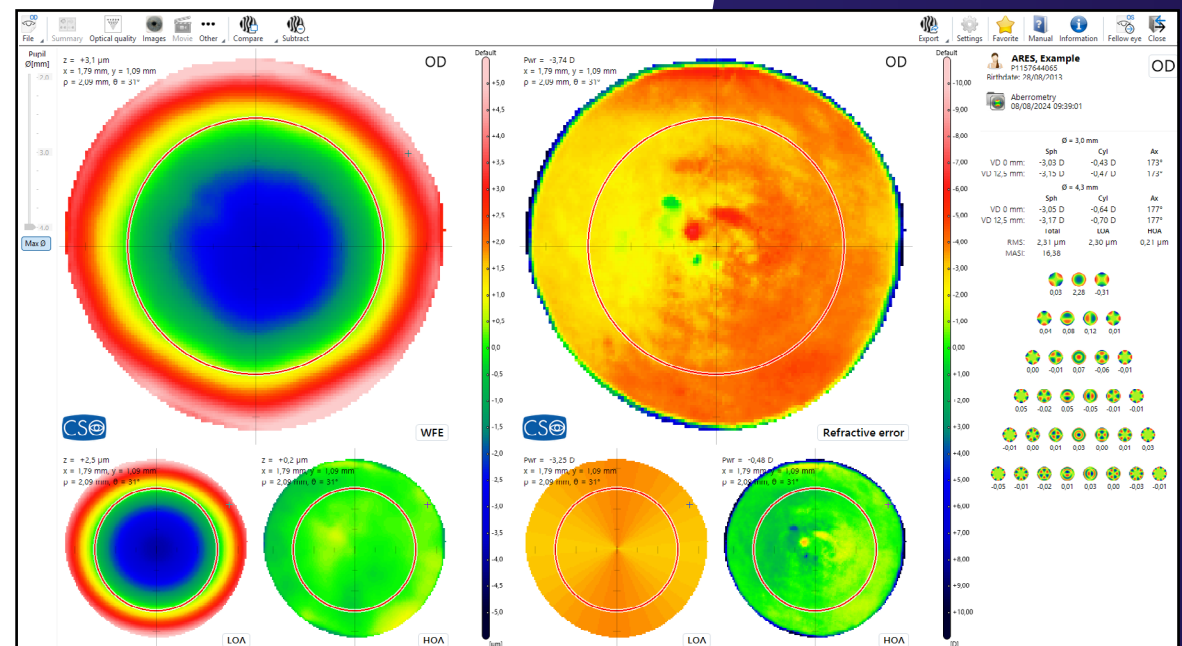
Its hardware has been specifically optimized for pediatric use, enabling accurate open-field measurements of:

- Central and peripheral refraction
- Ocular aberrations
- Axial length
- Corneal curvature

ARES also provides advanced tools for the assessment of accommodation, visual contrast and overall ocular optical quality.

OCULAR ABERROMETRY

The Ares pyramidal sensor, allows the device for measuring aberrations with a resolution higher than 45.000 points (at the maximum pupil diameter), with a wide dynamic range. It is also able to measure the ocular wavefront in real time with a frame rate of up to 33 images per second: this makes possible to measure and view changes in power and aberrations while the patient is accommodating.



OPEN FIELD MEASUREMENT

ARES features a wide viewing window through which the patient can fixate on a target projected by the device. Alternatively, the clinician may use an external eye chart or any real object capable of attracting the attention of a pediatric patient.



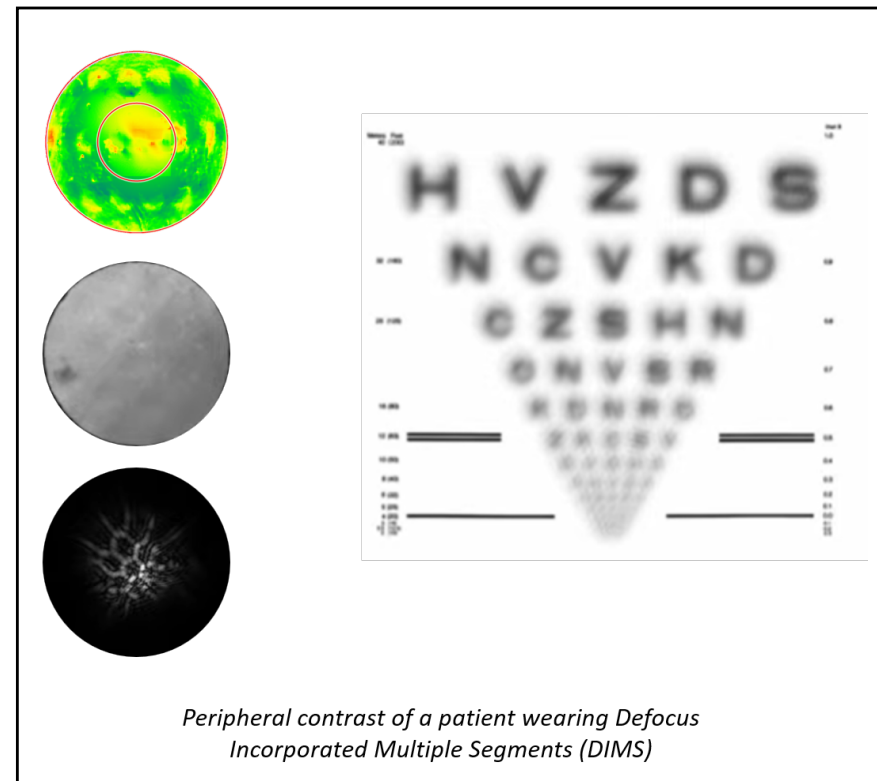
Measurements are performed with both eyes open while the patient fixates on a real target. This preserves natural viewing conditions throughout the examination.

Reduced influence on accommodation:

The open-field configuration minimizes instrument-induced proximal accommodation, reducing the risk of so-called instrument myopia.

Preservation of the accommodation–convergence relationship

The natural relationship between accommodation and convergence is maintained during the measurement, providing results that are more representative of the patient's everyday visual conditions.



Central and peripheral refraction and aberrometry

ARES enables peripheral measurements at eccentricities of up to 30° under natural viewing conditions. This provides valuable information about the peripheral refractive profile, which is particularly relevant when assessing and managing myopia progression.

Measurements under different visual conditions

The optical and biometric characteristics of the eye can also be evaluated while the patient is wearing a visual correction or other vision-related devices, allowing their effects to be objectively assessed.



OCULAR BIOMETRY

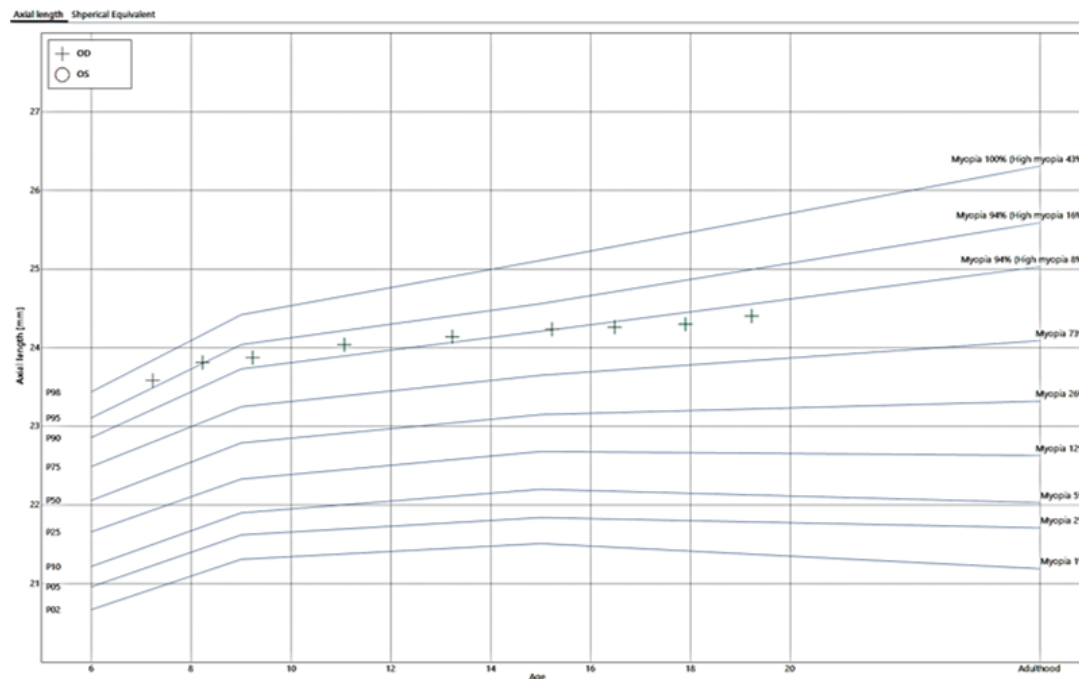
The integrated optical biometer measures the eye's axial length, one of the most important parameters for monitoring myopia progression.

Axial length measurements can be compared with age- and population-specific pediatric normative databases. This analysis helps the clinician to:

- Evaluate ocular growth in relation to expected values
- Identify potentially abnormal growth patterns at an early stage

- Assess the risk of further myopia progression
- Monitor changes over time
- Evaluate the effectiveness of the selected treatment
- Personalize the patient's myopia-management strategy

Longitudinal monitoring provides an objective overview of ocular development and supports evidence-based clinical decision-making.



KERATOMETRY

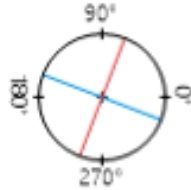
Anterior corneal curvature is measured simultaneously with axial length, completing the morphological assessment required for monitoring myopia progression.

Corneal curvature data also support contact lens specialists in selecting the most appropriate contact lens for each patient's individual management strategy.

- K readings

R_{FLAT} : 7,54 mm @ 159°
 R_{STEEP} : 7,43 mm @ 69°
 R_{AVG} : 7,49 mm
Cyl: -0,65 DK Ax 160°

$$n_0 = 1, n_1 = 1,3375$$



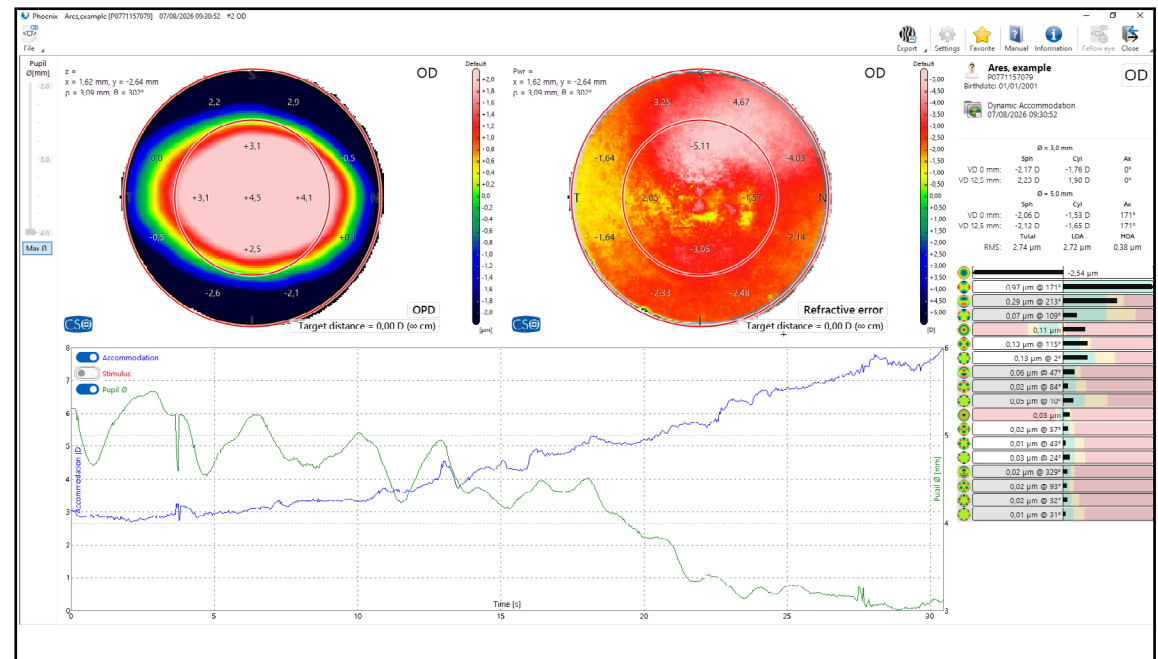
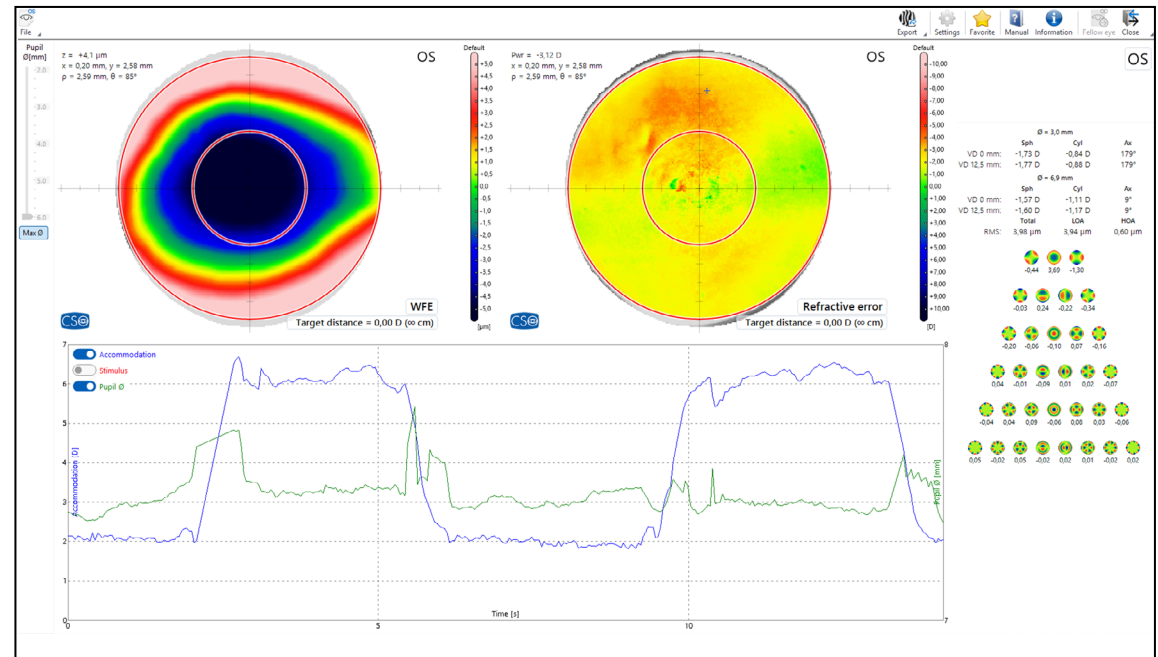
DYNAMIC ABERROMETRY

The Dynamic Aberrometry examination records ocular wavefront data continuously over a longer period than a standard aberrometry measurement.

The examination can be performed using a dedicated accessory that presents a near visual target in front of the patient at an adjustable distance ranging from 30 to 60 cm.

This makes it possible to analyze changes in refraction and ocular aberrations during accommodation at different viewing distances.

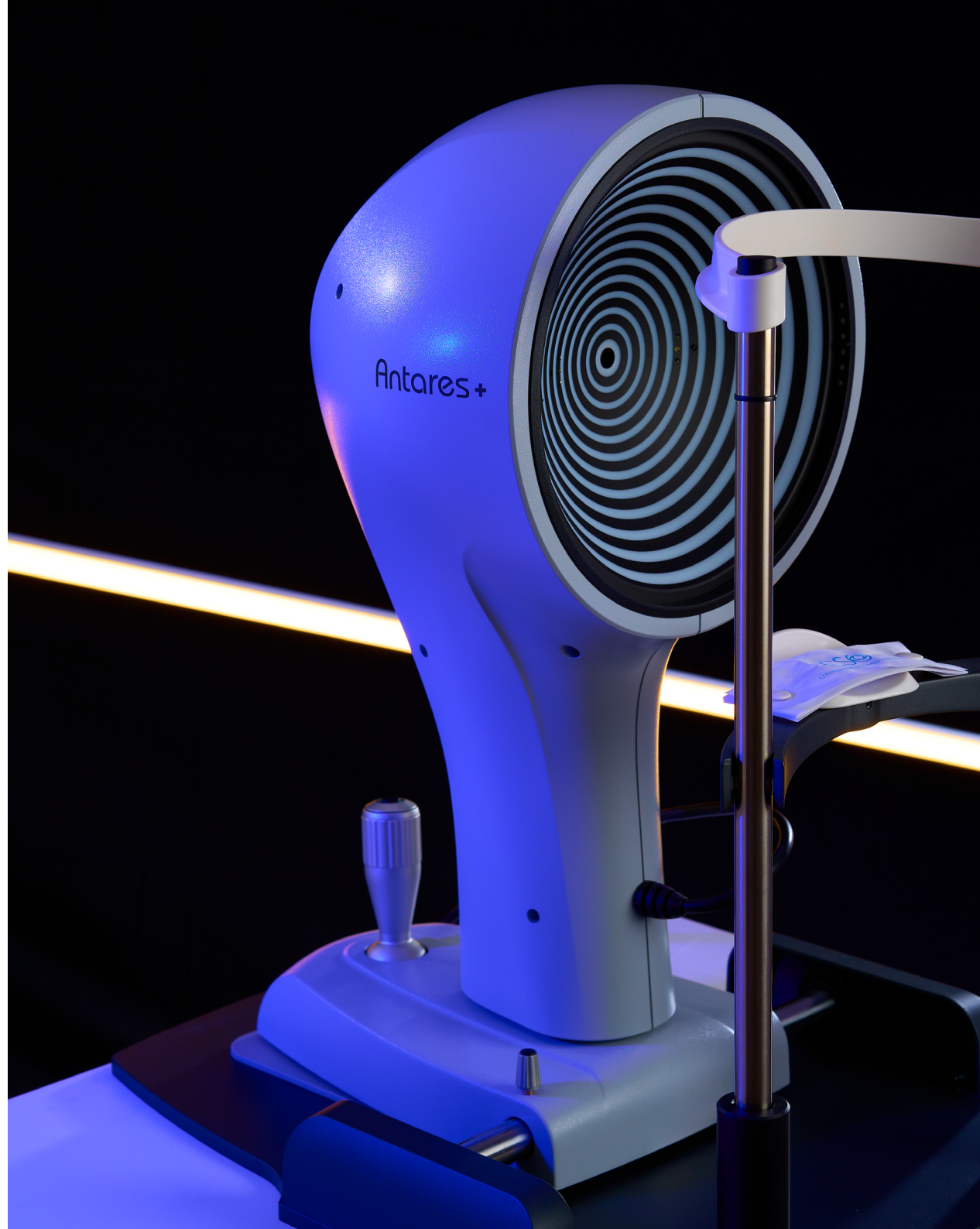
Because the measurement is performed under open-field conditions, the natural relationship between accommodation and convergence is maintained at every testing distance.

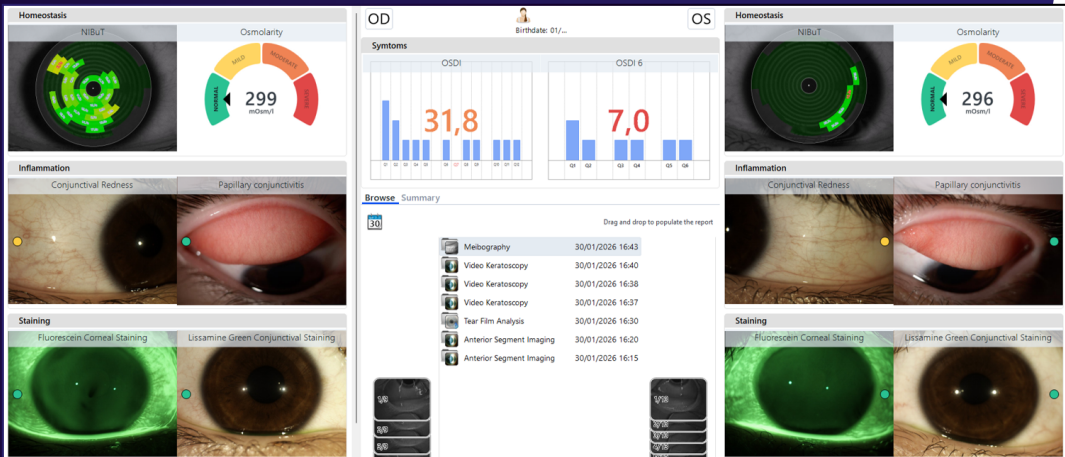


PHOENIX APPLICATION SOFTWARE

Phoenix application software allows for Ares management and for the integration of all CSO devices into a single platform for a shared storage of patients and exams. Phoenix facilitates the analysis, comparison, and follow-up of patients' clinical conditions.

Ares in combination with Antares+ corneal topographer enables



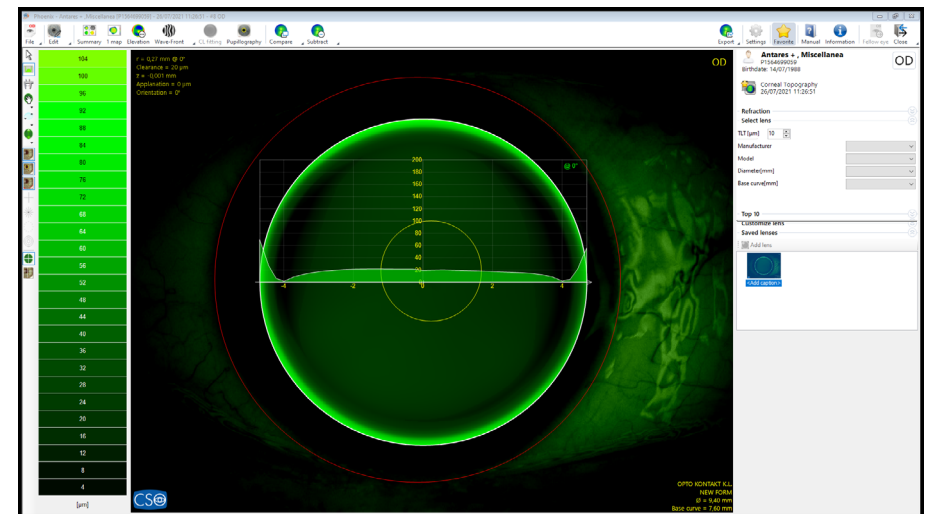


Dry eye assessment

Evaluation and classification of dry eye disease in accordance with the DEWS III criteria through a comprehensive range of tear-film examinations.

Specialty contact lens fitting

Support for specialty contact lens fitting through detailed information about corneal morphology and the integrated RGP — Rigid Gas Permeable — contact lens simulator.



TECHNICAL DATA

Data transfer	USB 3.0
Power supply	external power source 24 VCC, In: 100-240Vac - 50/60Hz - 0.9-05A - Out: 24Vdc - 40W
Power net cable	with plug C14
Dimensions (HxDxW)	515 x 315 x 255mm
Weight:	6.5Kg
Chin rest movement	70mm ± 1mm
Minimum height of the chin cup from table	24cm
Base movement (xyz)	105 x 110 x 30mm
Working distance	74mm

LIGHT SOURCES

Placido disk	LED @450-650nm (white light)
Pupillography and Meibography	LED @940nm
Auxiliary White	LED @450-650nm (white light)
Fluorescein stimulation	LED @470nm

TOPOGRAPHY

Placido disk rings	24
Measured points	6144
Topographic coverage	10mm (on a 43D sphere)
Measurement accuracy	Compatibility with standard Class A according to the UNI EN ISO 19980

DICOM

DICOM Version 3 ; IHE integration profile: Unified Eye Care Workflow (Eye Care Image, Broad Worklist Query, Patient Based Worklist Query, Encapsulated PDF Option for Evidence Documents, Imaging Procedure Status Update (DICOM), Procedure Status Tracking (DICOM MPPS) Option

ACCESSORIES

Light diffuser filter for auxiliary illumination with magnetic lock (not included in the standard configuration)

For information regarding the minimum requirements for PC and operating systems, please consult your authorized dealer.





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