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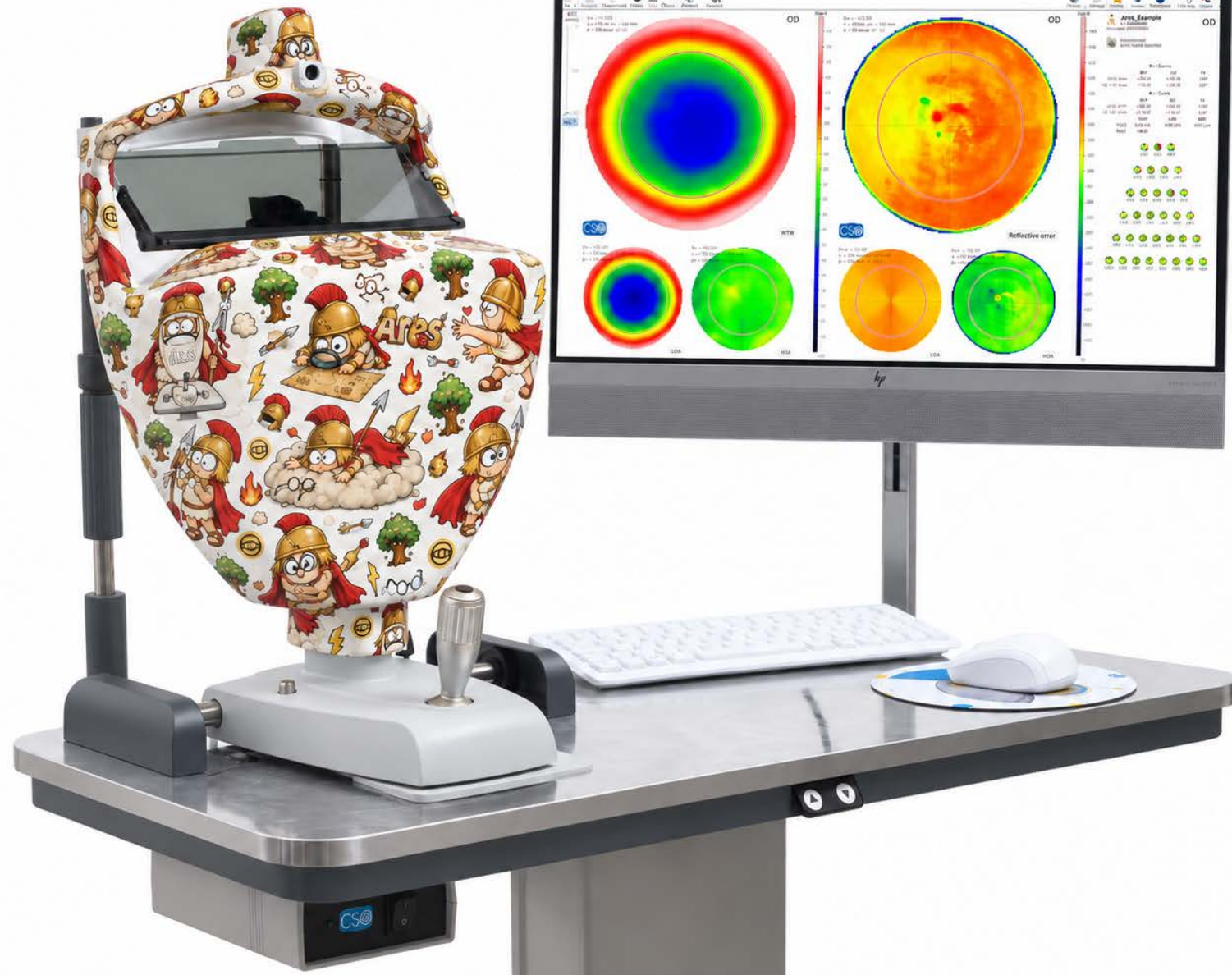
ARES

OCULAR ABERROMETER
BIOMETER
KERATOMETER

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ARES OCULAR ABERROMETER BIOMETER KERATOMETER

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





PYRAMIDAL SENSOR

The pyramidal sensor allows the device to measure ocular aberrations with a resolution of more than 55,000 points at the maximum pupil diameter, with a wide dynamic range.

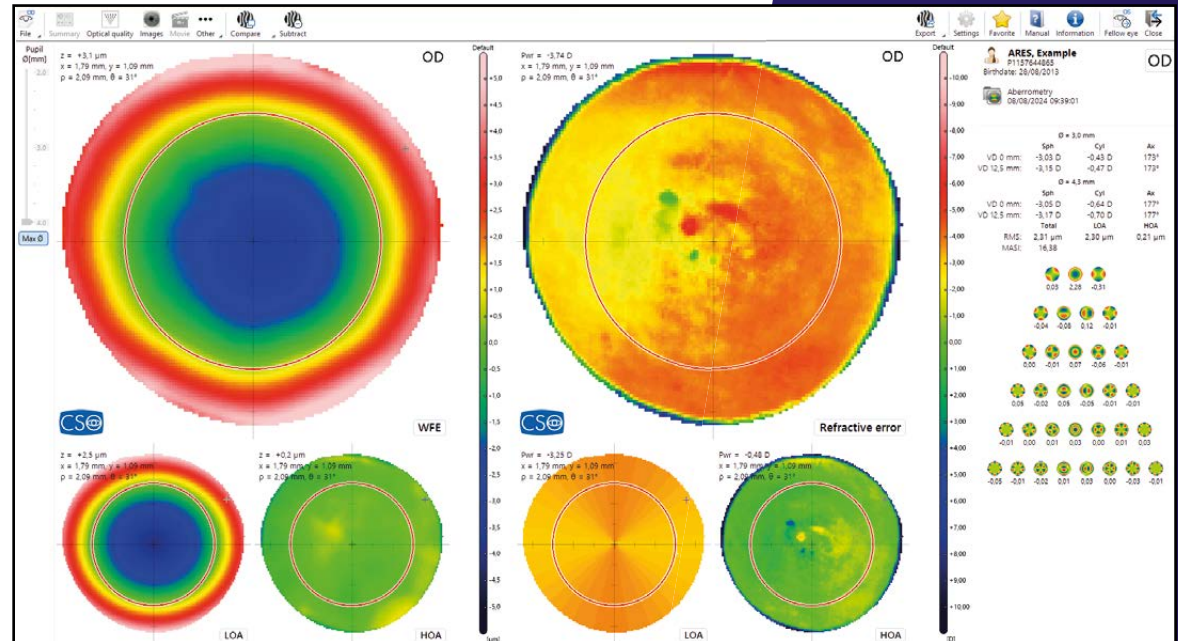
It can also measure the ocular wavefront in real time at a frame rate of up to 33 images per second. This makes it possible to measure and visualize changes in refraction and ocular aberrations while the patient is accommodating.

PEDIATRIC USE

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.



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 can use an external eye chart or any real object capable of attracting the attention of a pediatric patient.

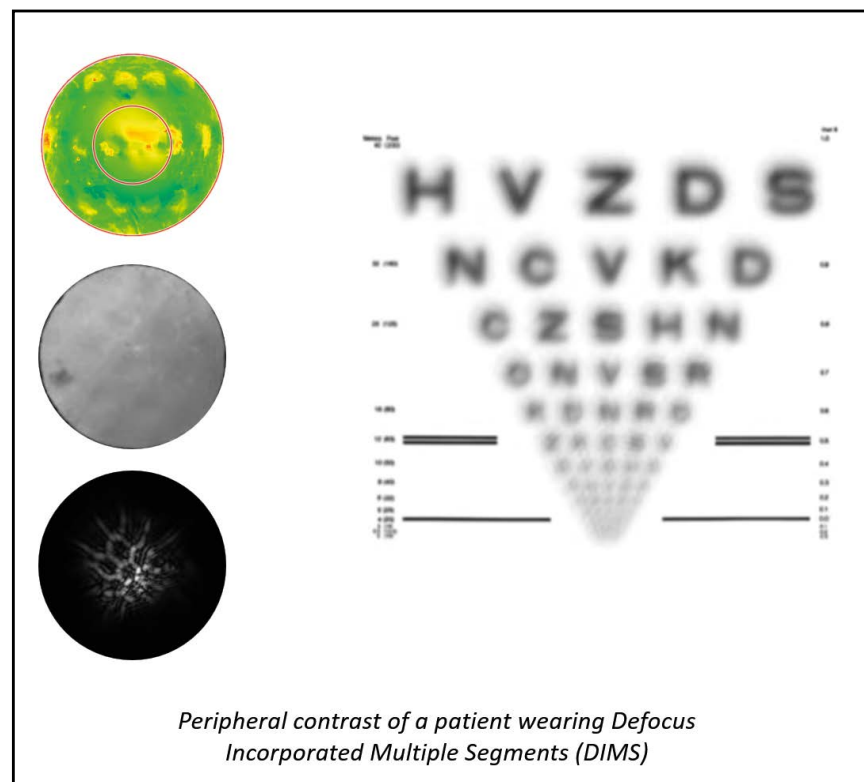
Measurements are performed with both eyes open while the patient fixates on a real target. This preserves natural viewing conditions throughout the examination.

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 for the assessment and management of 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

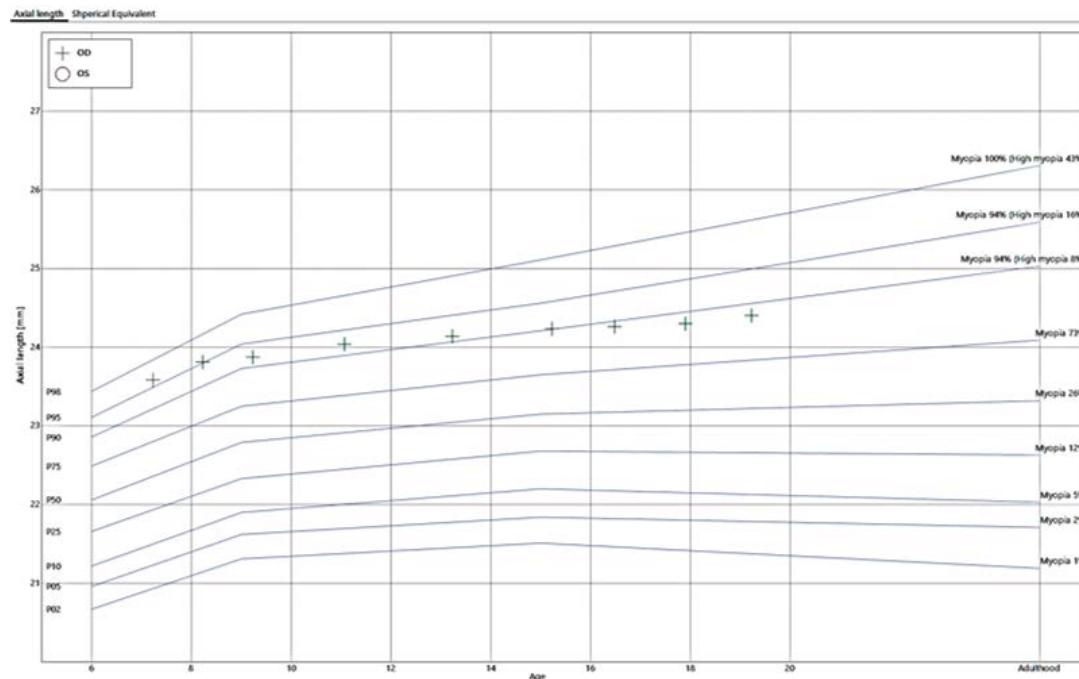
The integrated optical biometer measures the eye's axial length, one of the most important parameters for monitoring myopia progression.

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.

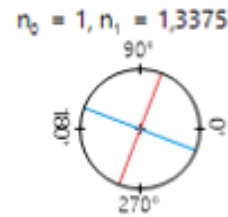


KERATOMETRY

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

- K readings

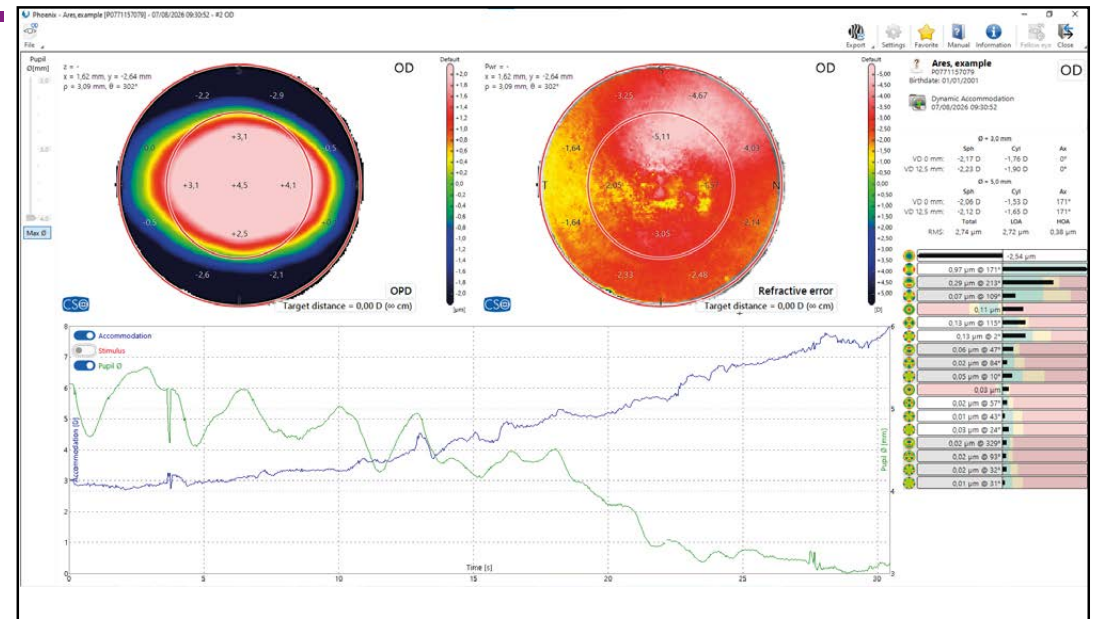
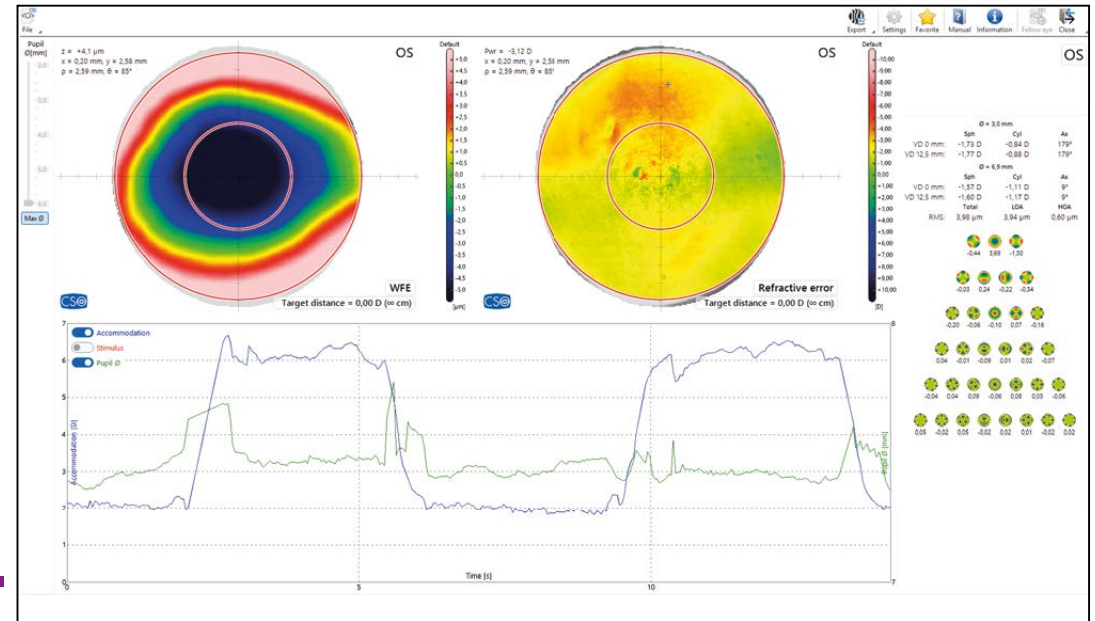
R_{FLAT} : 7,54 mm @ 159°
 R_{STEEP} : 7,43 mm @ 69°
 R_{AVG} : 7,49 mm
 Cyl: -0,65 DK Ax 160°



DYNAMIC ABERROMETRY

The Dynamic Aberrometry examination continuously records ocular wavefront data 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

The Phoenix application software allows the management of Ares and the integration of all CSO devices into a single platform, with shared storage of patients and examinations.

Phoenix facilitates the analysis, comparison, and follow-up of patients' clinical conditions.



TECHNICAL DATA	
Power supply	External power supply unit 24 Vdc In: 100-240 V AC - 50/60 Hz – 1.4 Arms Max Out: 24 Vdc 4A
Data transfer	USB 3.0
Power supply cable	with C14 socket
Dimensions (Height x Length x Depth)	509 x 308 x 289 mm
Weight	9.2 Kg
Chin rest stroke	70 mm ±1
Minimum height of the chin cup from the table top	24 cm
Movement of the base (x, y, z)	105 x 110 x 30 mm
Working distance	89 millimetres
LIGHT SOURCES	
Aberrometer	LED @ 850 nm
Aux and Keratometry	LED @ 940 nm
External fixing	Laser @ 520 nm
Biometry	SLED @ 1045 nm
ABERROMETRY	
Working principle	Pyramidal wavefront sensor
Spherical equivalent	from -20D to + 10D step 0.01D o 0.25D
Cylinder	from -10D to + 10D step 0.01D o 0.25D
Axis	0-180° Step 1°
Vertex distance (VD)	Any value
Measured points	> 55.000 on a 9 mm pupil
Minimum pupil diameter	2 mm
Maximum pupil diameter	9 mm
Vision mode	Open field
Acquisition speed	30 scans/sec
Accommodation measurement	Spherical equivalent (SE) and pupil diameter (Pupil Ø)
Standard / Regulation	Compliant with ISO 10342:2010 in the declared range Complinat with ISO 24157:2008
KERATOMETRY	
Working principle	Reflection-based (single ring)
Standard / Regulation	Compliant with ISO 10343:2014
BIOMETRY	
Working principle	Partial Coherence Interferometry (PCI)
Measurement range	from 14mm to 38 mm, step 0.01mm
Standard / Regulation	Compliant with ISO 22665:2012
For information regarding the minimum requirements for PC and operating systems, please consult your authorized dealer.	



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