Marco OPD-Scan III

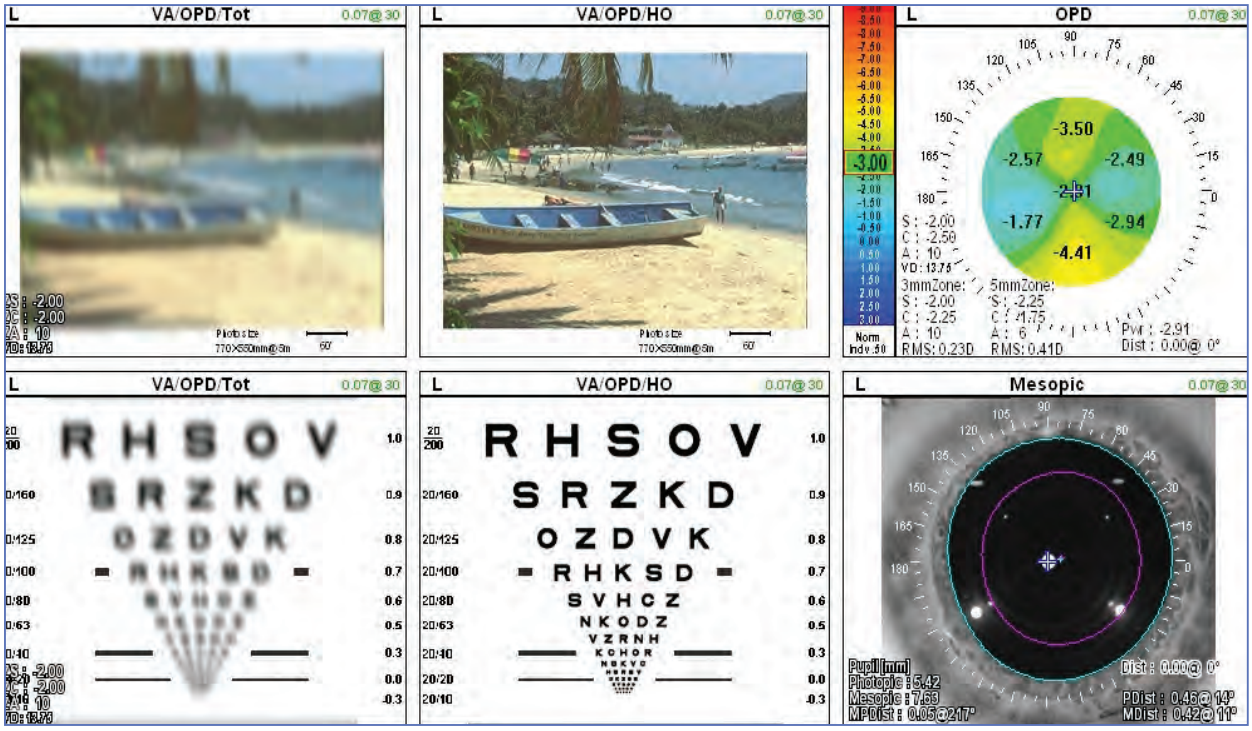
Optimizing Patient Outcomes

OPD-Scan III

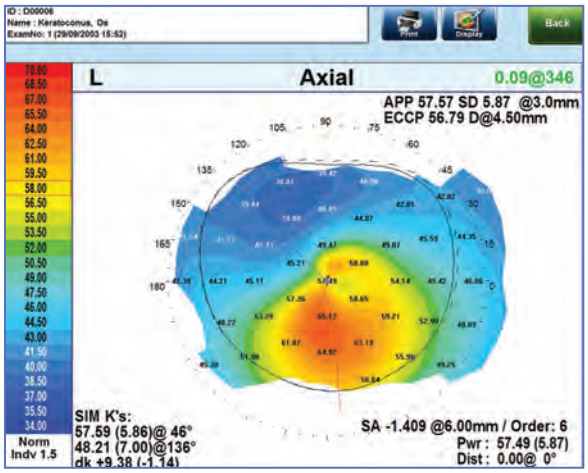
Intelligent Technologies

Over 20 diagnostic measurements are acquired in 10 seconds. Easy alignment and automatic capture of data ensures accurate readings. Wavefront data is gathered from available zones up to a 9.5mm area, adding the capability to provide for calculation of mesopic refractions. Blue light, 33 ring, placido disc topography is gathered in one second.

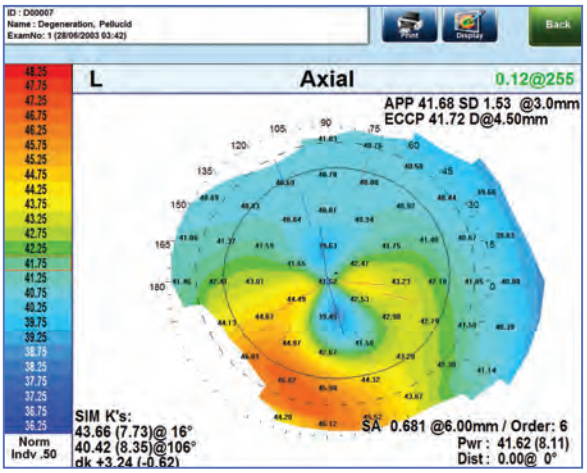
ACCURATE DIAGNOSTICS



Options available include beach scene and ETDRS chart. Great for patient education.



Ectasia, as in Keratoconus



Typical pellucid marginal degeneration pattern

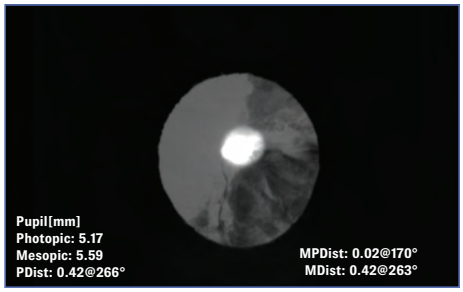
OPTIONS TO VIEW THE DATA INCLUDE:

- Axial
- Gradient
- Instantaneous
- Numeric K display
- Numeric power display
- PSF (Point Spread Function)
- Zernike Graph (including Corneal)
- Contact lens summary
- VA-ETDRS simulations
- Internal OPD
- Eye Image
- Comparison maps
- Difference Maps

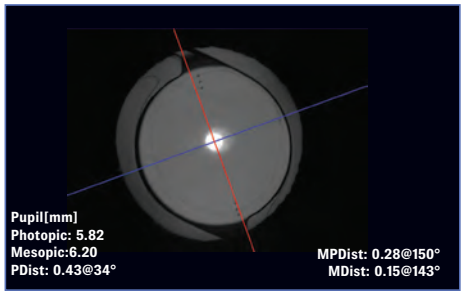
UNIQUE FEATURES

Cataract and refractive surgeries have now been taken to another dimension. Detailed patient summaries are available in just a matter of seconds. Pre-op toric axis alignment can be mapped to iris or other physical landmark positons. Retro illumination images can be used post-op to verify IOL axis alignment.

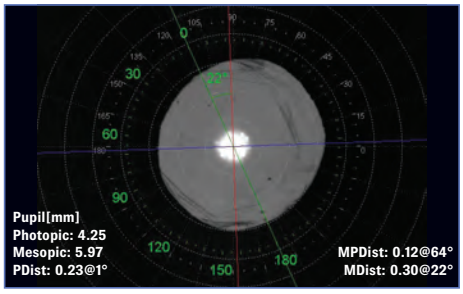
RETRO ILLUMINATION IMAGES – DOCUMENTS THE OPTICAL CONDITION



Cortical cataract documented in file



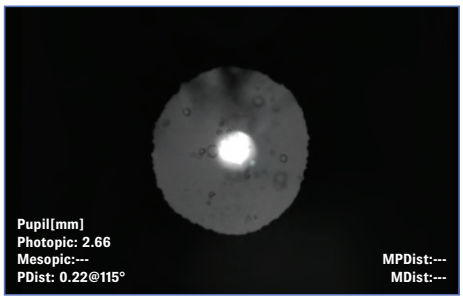
One day post-op Toric



Toric IOL post YAG off axis 22°

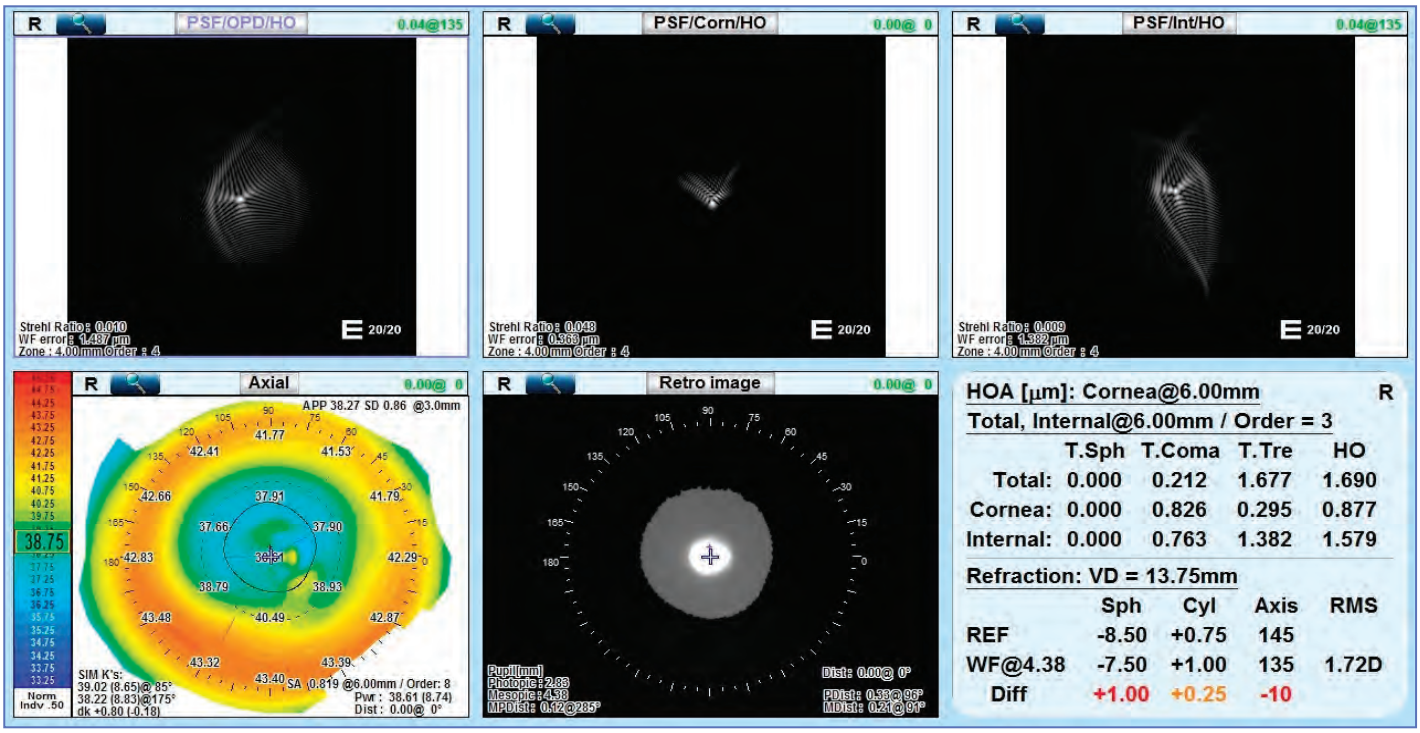
Post-op ReStor® IOL

Post-op YAG debris



Vacuoles-easy to show patient

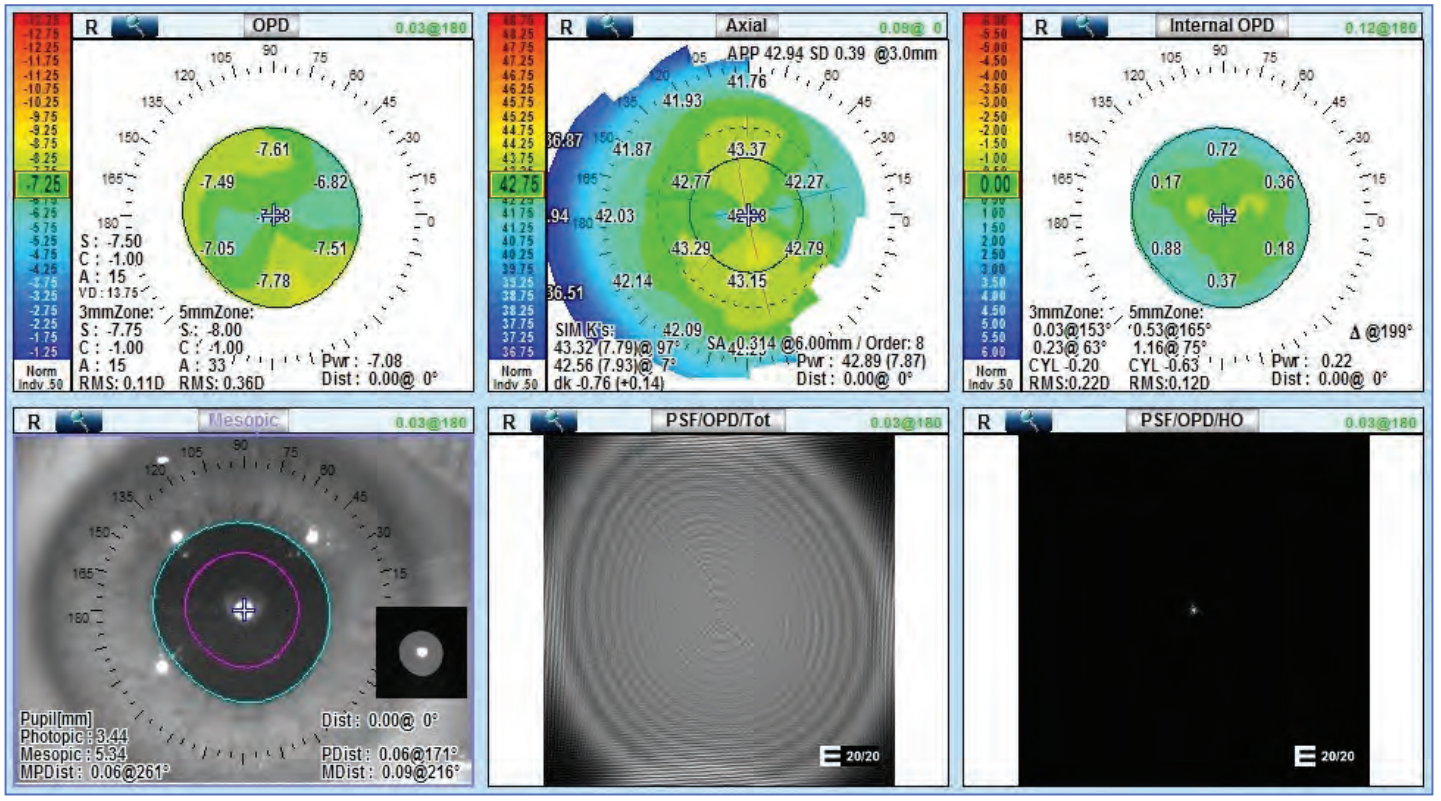
DYSFUNCTIONAL LENS SYNDROME (DLS)



The above map is a measurement of a prior myopic LASIK patient with Dysfunctional Lens Syndrome (DLS). The Point Spread Function (PSF) maps show that the cornea is contributing to the problem but the majority of the patient's issue is lenticular change. The patient thought she needed another LASIK treatment, when in actuality, the lens changed. A refractive lens exchange is recommended.

Day and Night Wavefront Refractions

Pupillometry measurements are utilized to allow for the calculation of separate wavefront refractions at 4mm and 6mm pupil sizes (or mesopic if smaller than 6mm). This provides information on the stability of the refractive error as pupil size changes, and the individual starting points for separate day and night refractions, if indicated. Your patients can receive a state-of-the-art printout of their 'before' and 'after correction' chart or understand why they are not able to achieve 20/20. Welcome to the next generation of refractive eye care.



Available Data Displays Include:

- Axial Map
- OPD Map
- Internal OPD Map
- Eye Image With Pupils
- Wavefront
- Zernike Graph
- Point Spread Function
- Visual Acuity Simulation
- Retro Illumination

HOA [um]: @6.00mm/Order = 8

	T.Sph	T.Coma	T.Tre	HO
Total:	0.297	0.083	0.313	0.460
Cornea:	0.398	0.146	0.480	0.804
Internal:	0.123	0.156	0.496	0.721

Refraction: VD = 13.75mm

	Sph	Cyl	Axis	RMS
WF@4.00:	-7.75	+1.00	94	0.19D
WF@6.00:	-8.50	+1.25	98	0.46D
Diff	-0.75	+0.25	4	

Captured in 10 seconds:

1. Corneal SA for Aspheric IOL Selection
2. Lenticular – Residual Astigmatism
3. Angle Kappa
4. Pre/Post Toric IOL Measurements
5. Pathologies (Keratoconus, Pellucid)
6. Mesopic/Photopic Pupil Size
7. Retro Illumination Image
8. Zernike Graphs: Total, Cornea, Internal
9. Corneal Refractive Power Map
10. IOL Tilt Eye Image or Decentration

XFRACTION℠
Optical Path Diagnostics & Wavefront Optimized Refraction

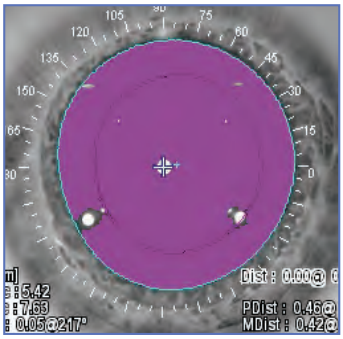
'XFRACTION℠ Process' is a perfect example of a foundational refractive solution that combines integrated technologies with new algorithms, to gain far greater insight into each patient's complete optical pathway. XFRACTION integrates the OPD-Scan III with the TRS-5100/EPIC Refraction System to output Wavefront Optimized Refraction providing:

- Significantly shorter exam times
- Patient verification of old vs. new Rx – instantly
- Educational tools that graphically display all diagnoses
- More time with you in face-to-face consults
- Time to spend in optical selection and fittings
- Fewer remakes in their lens Rx
- Solutions to day/night vision frustrations
- A completely enhanced, high-tech patient experience

OPD-Scan III: Multi-Modality Functions

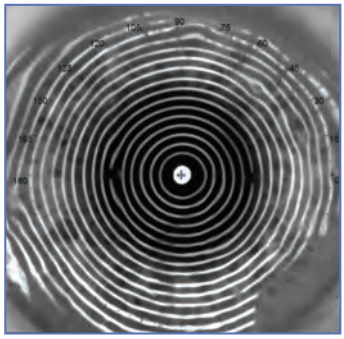
The new OPD-Scan III is the latest diagnostic/refractive instrument that serves the practice as an autorefractor, keratometer, pupillometer, corneal topographer and wavefront aberrometer.

ABERROMETRY



Max 9.5 mm
2,520 Data Points
7 Zone Measurement

TOPOGRAPHY



Blue Light Placido Based
Rings 33 Vertical, 39 Horizontal
11,880 Data Points

FUNCTIONAL HIGHLIGHTS

- 10 second eye measurement
- Auto alignment
- Auto tracking
- Auto-capture
- Electronically adjustable chinrest
- Touch screen keyboard
- Verification after each measurement
- Easily integrates with EPIC and TRS-5100

IOL APPLICATIONS

- APP – Average Pupil Power for Post Myopic LASIK calculations
- Angle Kappa
- Corneal Aberrations including Corneal Coma and Spherical Aberration
- Pupillometry – photopic and mesopic pupils
- Corneal Topography
- Placido Rings for detection of any Ocular Surface Disease (OSD)
- Zernike Graph of Total, Corneal and Internal Aberrations
- White to White corneal diameter measurements
- Retro Illumination – Displays post-op Toric lens markings, opacities, etc.
- ECCP–Effective Central Corneal Power for IOL power calculation
- Toric IOL Summary to mark axis pre-op
- Eye image can allow for marking the cornea based on landmarks
- Cataract Summary displays the pertinent data together
- Point Spread Function graphs and VA simulation charts

OPD-Scan III Specifications

Power Mapping	
Spherical power range Cylindrical power Axis	-20.00 to +22.00 D 0.00 to ±12.00 D 0 to 180°
Measurement area	2.0 to 9.5 mm (7 zone measurement)
Data points	2,520 points (7 x 360)
Measuring time	<10 seconds
Measurement method	Automated objective refraction (dynamic skiascopy)
Mapping methods	OPD, Internal OPD, Wavefront maps, Zernike graph, PSF, MTF graph
Corneal Topography	
Measurement rings	33 vertical, 39 horizontal
Measurement area	0.5 to 11.0 mm (r = 7.9)
Dioptric range	33.75 to 67.5 D
Axis range	0 to 359°
Data points	More than 11,880
Mapping methods	Axial, Instantaneous, "Refractive", Elevation, Wavefront maps, Zernike graph, PSF, MTF graph
General Information	
Working distance	75 mm
Auto tracking	X-Y-Z directions
Observation area	14 x 11 mm
Operating system	Windows embedded standard 2009
Display	10.4-inch color LCD touch panel
Printer	Built-in thermal type line printer for data print External color printer (optional) for map print
Power supply	100 to 240 Vac 50 / 60 Hz
Power consumption	110 VAC
Dimensions / Mass	286 (W) x 525 (D) x 530 (H) mm / 23 kg

Marco technologies integrate with Marco Connect software

NIDEK | MARCO

Designed and Manufactured by NIDEK – Represented by MARCO

800.874.5274
www.marco.com

F165000 BR-OPD-Scan III