RTVue Fourier-Domain Optical Coherence Tomography System


RTVue-100

▶ **As the first Fourier/spectral-doman OCT system in the US,** the
▶ RTVue FD-OCT set the standard for high-speed, high-resolution
▶ tomography scanning. Allowing discrete layers of the retina, as well as the full choroid, to be visualized clinically for the first time, the 5 micron resolution images have ushered in a new era of retina pathology documentation and diagnostic imaging. Comparative studies have demonstrated that the system offers earlier detection of minute changes in pathology than time-domain based systems, allowing for earlier intervention and better outcomes for patients.

The RTVue system uses an IR "live view" alignment camera to allow for natural dilation of the patients pupil. Scans can be accomplished. The infra-red fundus image is acquired without a flash or visible light to irritate the patient's eyes.

All captured scans are posted immediately for individual review prior to saving the data set. Due to the absence of constriction causing illumination at any phase of the capture session, repeat scans can be imaged immediately.

The system provides a number of advanced features, designed by OCT thought leaders, allowing clinician to explore new clinical methods.
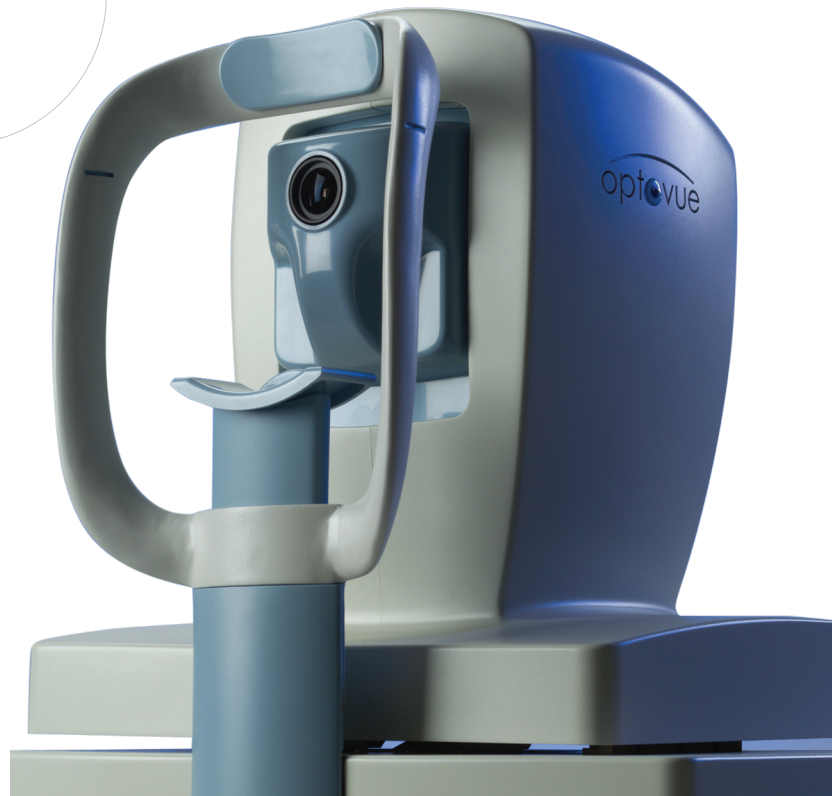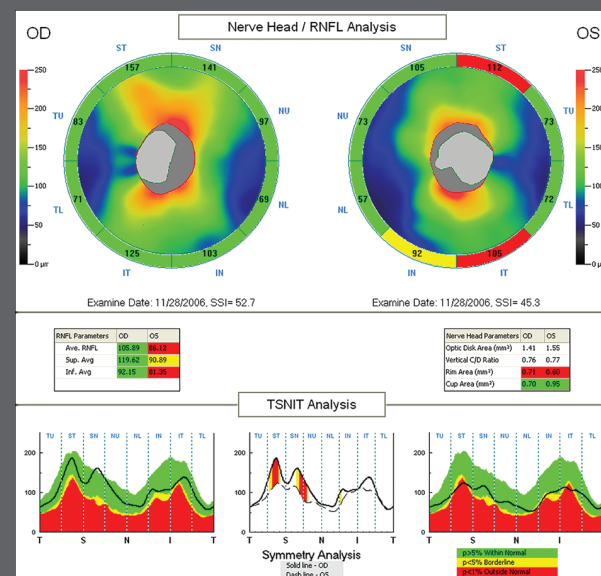
GLAUCOMA

A combination of unique scan patterns serial registration capability, and an exclusive "Deviation" analysis makes the RTVue a powerful early glaucoma detection and management tool.

Optovue introduced the NHM4 (Nerve Head Mapping) scan to provide clinicians with the equivalent analysis information produced by three popular glaucoma tools. All in one quick scan. The NHM4 goes beyond these other modalities in providing a level of accuracy and repeatability they could not match. Serial registration allows real progression and trend analysis.

The earliest changes in the ganglion cell complex (GCC), occur in the area where they are most dense. The GCC (MM7) Normative analysis is unique to the RTVue system in detecting significant changes in the ganglion cells associated with glaucoma. The "Deviation from Normal" and "Significance" analysis offers detection with very high sensitivity and specificity.
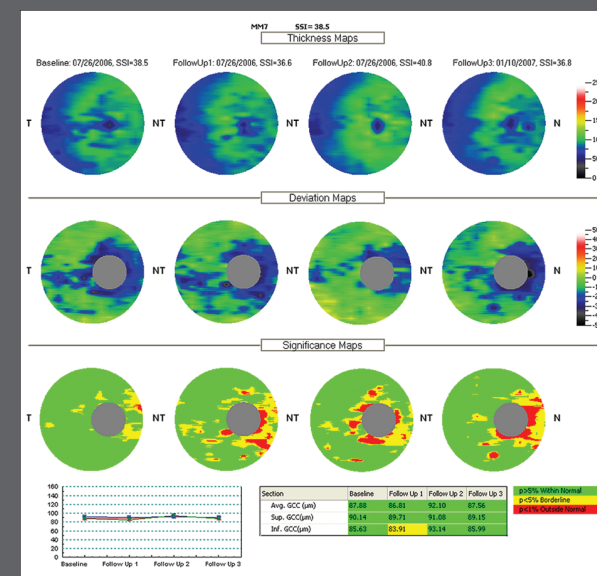
The 3D optic disc scan is the compilation of a series of B-scans over a 4mm x 4mm area (default). This animated presentation of nearly 52,000 A-scans provides an interactive evaluation of the 3-dimensional data, and precise determination off the disc boundary. The Sum (C-Scan) option provides a new perspective on a "top down" view of the optic nerve, including visualization or the Lamina Cribrosa. A full-screen "loop play" option provides a valuable clinical overview and patient or staff education tool.
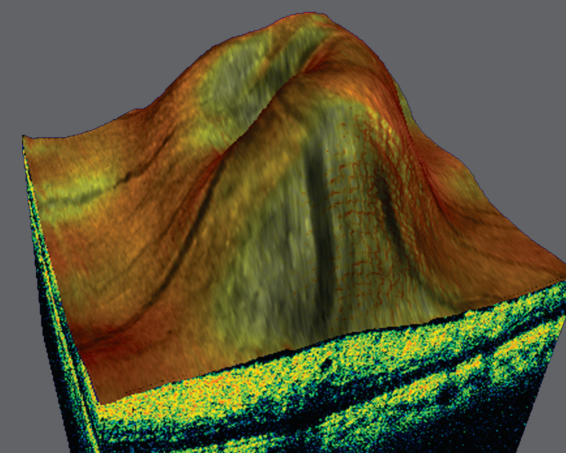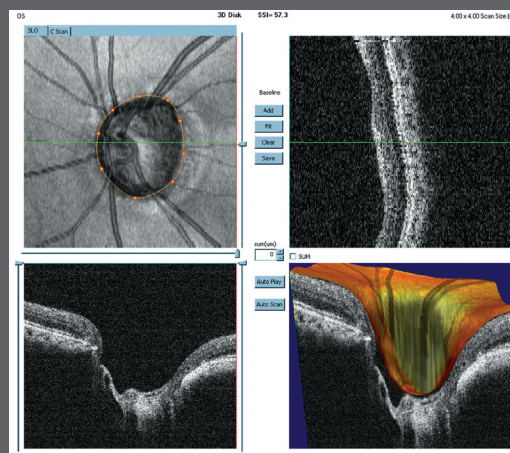

CORNEA ANTERIOR MODULE

The new CAM option for the RTVue system offers 5 micron resolution OCT imaging of the cornea and anterior segment.

The CAM option offers high-resolution imaging of the cornea for detailed documentation and precise measurement of the cornea and anterior segment.

As an optional add-on to the RTVue FD-OCT retina scanning system, the CAM offers clinical utility at a fraction of the cost of stand-alone anterior imaging devices
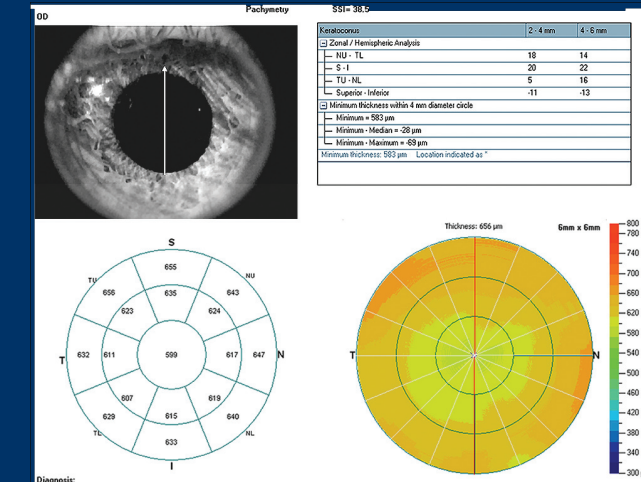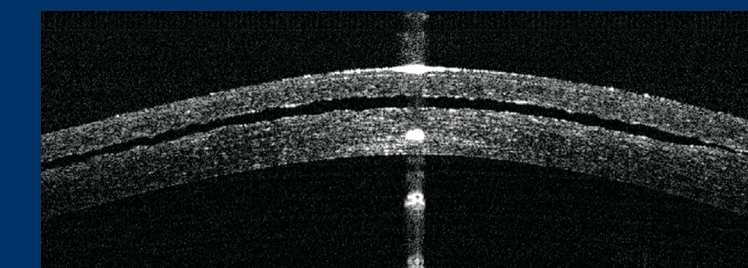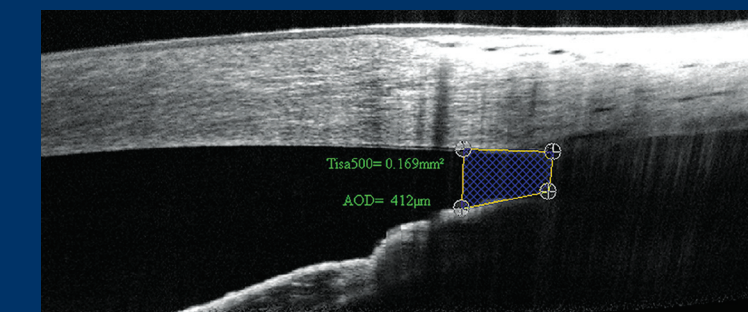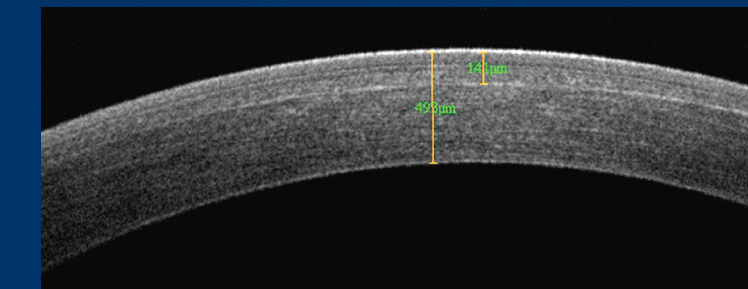
Pachymetry, angle measurement and epithelium/LASIK flap measurement makes the CAM option a valuable imaging tool.

The CAM option extends the RTVue clinical functionality to include:
▶ Pachymetry Map
▶ Keratoconus Analysis
▶ TISA 500 / AOD Angle Measurement
▶ Epithelium / Lasik Flap Measurement
▶ Anterior Lens Assessment
▶ Phakic IOL Vault Measurement
▶ Shunt / Implant Imaging
▶ Foreign Body Documentation
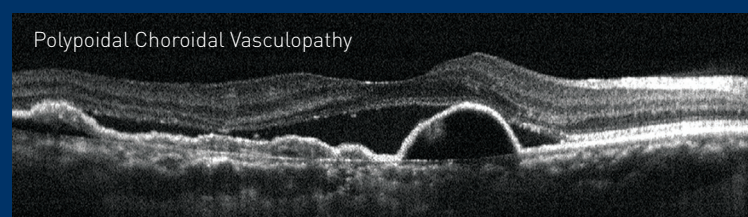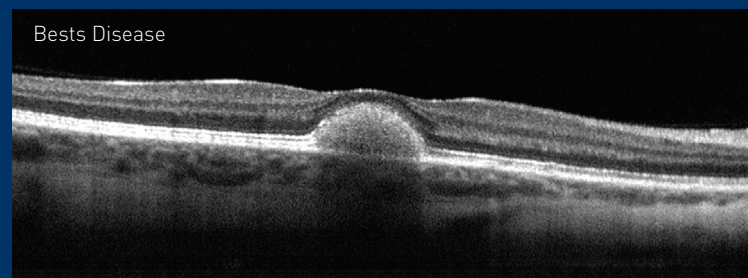▶ Surgical / Pathology Scar Monitoring
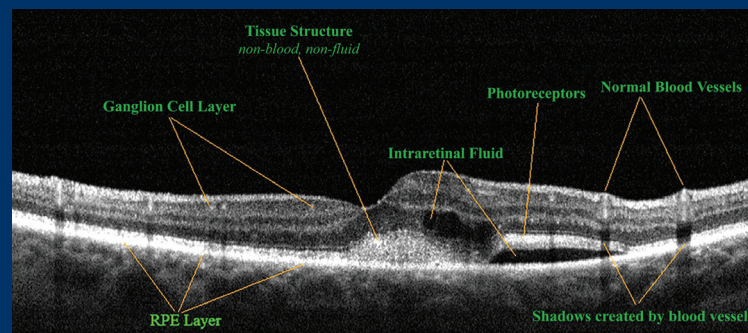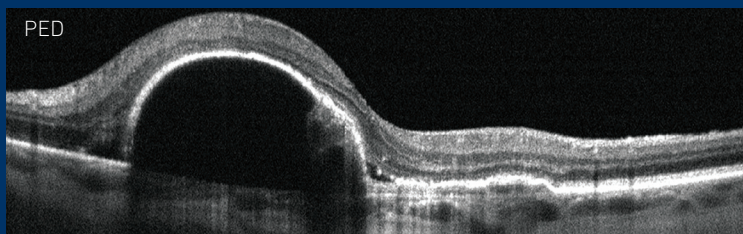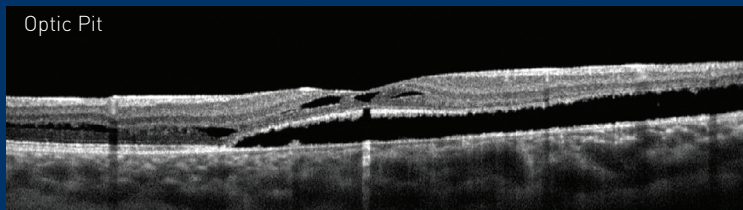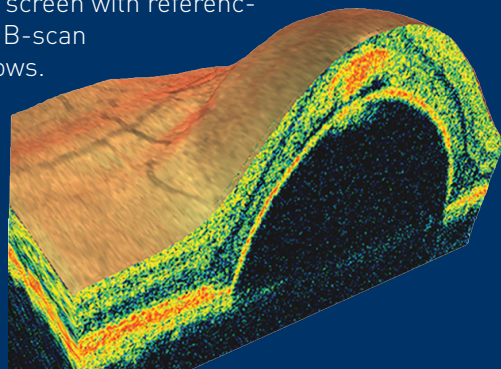

CAM Option Lenses

RETINA

The RTVue system provides 5 micron depth and 15 micron transverse resolution allowing evaluation and quantification of fine detail in the retina layers.

The scan patterns for retina are designed to take advantage of the speed and resolution the technology offers. The RTVue systems provides clinicians reliable metrics for thickness, volume and elevations, while minimizing or eliminating issue in accuracy resulting from the motion artifacts of previous technology.

With the 2 - 2.3mm scan depth, imaging and evaluation of the choroid layer provides information relative to pathology not available before

3D Imaging allows a new perspective on the pathology not available before. The RTVue 3D rendering presents a more realistic image than other systems. Fly through manually or Auto Play in full screen with referencing in the SLO and B-scan presentation windows.

Optic Pit

PED

Tissue Structure
non-blood, non-fluid

Ganglion Cell Layer

Photoreceptors

Normal Blood Vessels

Intraretinal Fluid

RPE Layer

Shadows created by blood vessels

Bests Disease

Polypoidal Choroidal Vasculopathy

The Normative Database for the MM5 scan brings new clinical perspective. Bi-lateral and Progression reports along with Significance from Normal mapping provide a valuable tool for detecting and monitoring change in retina thickness.
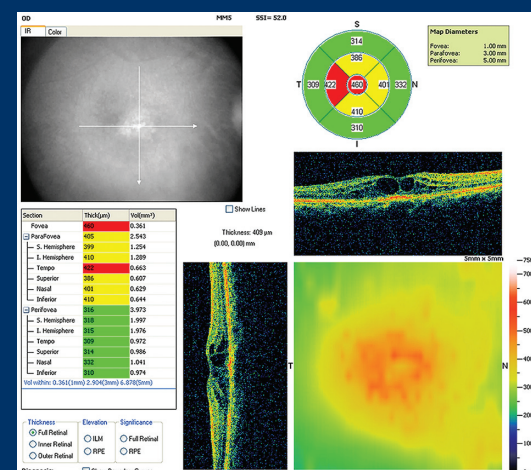
OPTOVUE

Our mission is to apply our deep understanding and expertise with OCT to lead the commercialization of new imaging modalities that improve the diagnosis and treatment of ocular diseases.

Optovue, Inc., is a privately-held ophthalmic diagnostic company located in Fremont, California. Founded in 2003 by ophthalmic industry veterans, including developers of time-domain optical coherence tomography (OCT) devices. Optovue is backed by experienced technology and health care venture capital firms and private investors.

RTVue, Optovue's ground-breaking OCT device, was launched at the Annual Meeting of the American Academy of Ophthalmology in November 2006.
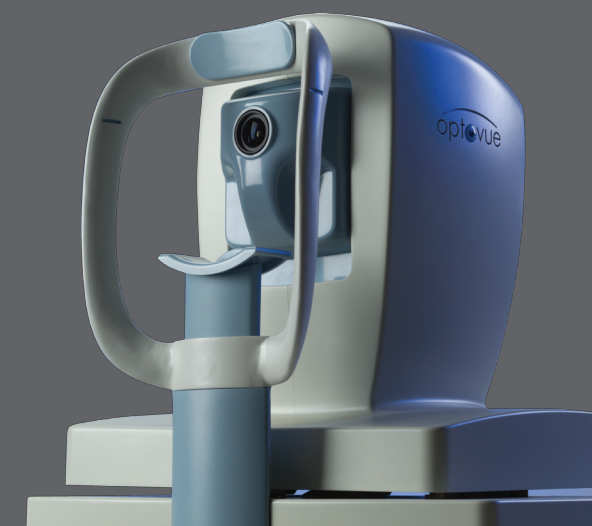
RTVue Specifications

Scanner
OCT Image: 26,000 A-scan/second
Frame Rate: 256 to 4096 A-scan/Frame
Depth Resolution: (in tissue) 5.0µm
Transverse Resolution: 15µm
Scan Range: Depth: 2- 2.3mm Transverse: 2mm to 12mm
Scan Beam Wavelength: 840nm
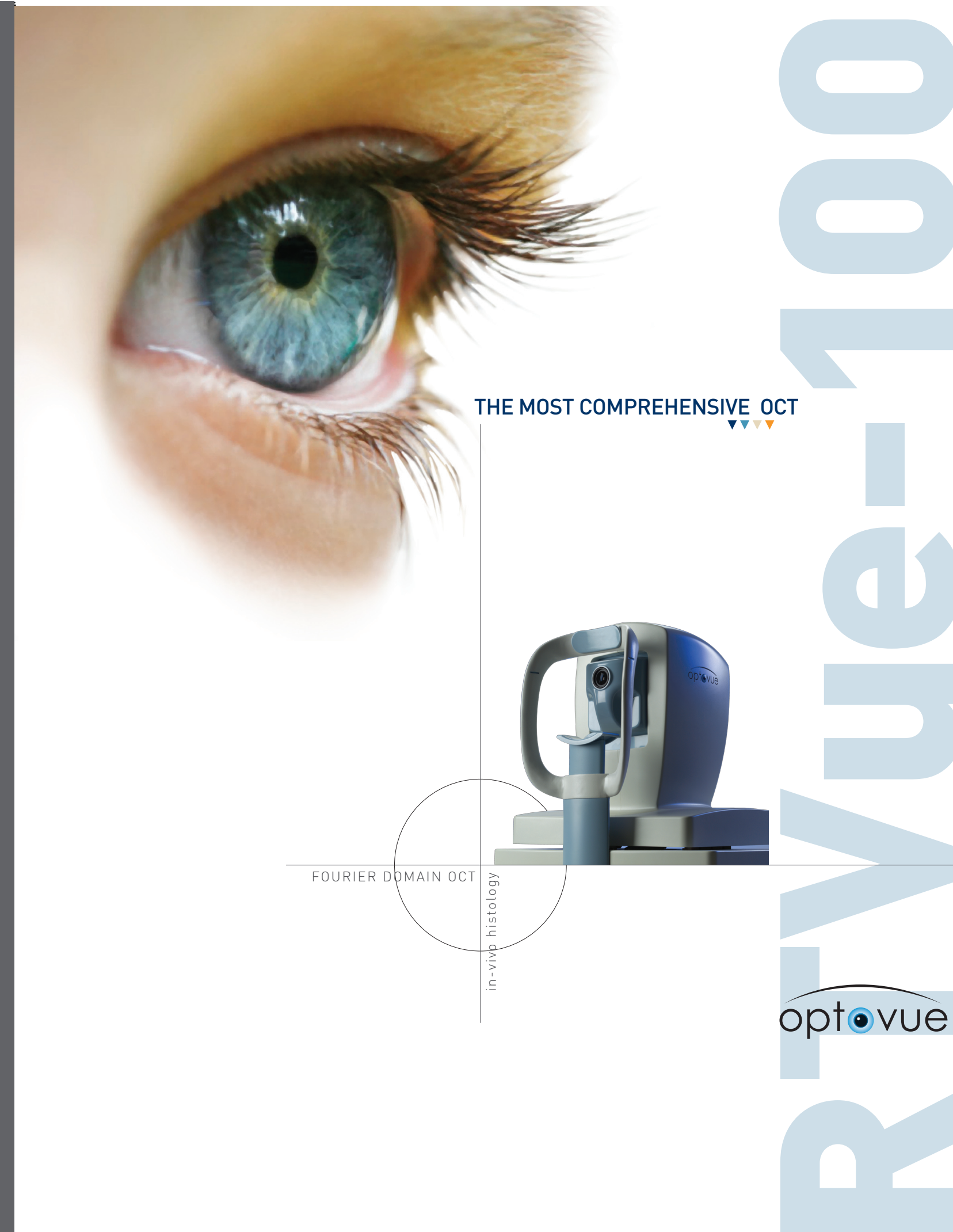Exposure Power at Pupil: 750µm

Fundus Imager
FOV: 32° (H) x 23° (V)
Recommended Pupil diameter: 3.0 mm for fundus image
Illumination: Near IR

THE MOST COMPREHENSIVE OCT

FOURIER DOMAIN OCT

in-vivo histology

RTVue-100

optovue