irx3™

Wavefront Aberrometer

Technical Specifications

The irx3 is an FDA registered and CE marked[1] diagnostic tool for professsionals that want to put the precision and power of wavefront measurement to work for them.

Package contents:

- **irx3 hardware** - includes: instrument head, translation stage with joystick, base plate, chinrest and pedal switch.
- **irx3 software** - includes 6 modules: database, measurement control, refraction / aberration analysis, accommodation analysis, keratometry analysis, case report.
- **Medical PC** with framegrabber, DC power derivation, connecting cables
- **User documentation**

Aberrometer specifications	
Area of analysis at the eye pupil plane	7.2 x 7.2 mm²
Number of sub-apertures	1024 (32 x 32)
Spatial resolution at the eye pupil plane	230 µm
Wavelength	780 nm
Sphere range	-15 to +20 δ
Sphere measurement reproducibility (artificial eye)	0.003 δ
Cylinder range	±10 δ
Cylinder measurement reproducibility (artificial eye)	0.003 δ
Wavefront aberration order range	Zernike order 10
Wavefront repeatability (artificial eye without sphere and cylinder)	λ/50
Compatibility with optical corrections	Spectacle lenses, contact lenses,etc...
Database record	Wavefront slope data
File (export) record	Zernike coefficients - OSA convention - text format
Aberration coefficient display	Zernike - OSA convention - and Diopter coefficients
Aberration map display	Wavefront and axial power maps
Performance measure display	PSF, MTF, Strehl ratio; simulated CSF, VA and retinal image

Keratometer specification	
Curvature radius range	5 to 10 mm
Curvature radius reproducibility (artificial eye)	0.02 mm

Pupillometer specifications	
Diameter range	2 to 10 mm
Diameter measurement reproducibility (artificial eye)	0.02 mm

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General specifications	
Dimensions (instrument head only)	L 40 x W 10.5 x H 35.5 cm (translation stage = L 54 x W 33 cm)
Weight (instrument head with translation stage only)	9.3 kg
Power supply - PC	110 or 220 V
Power supply - instrument head	supplied through the PC
Working temperature	15 - 35° C

Classifications	
Laser equipment	Class 1
Electric class	Class 1 - Type B
Continuous working system	
Water penetration protection	Ordinary, except for the pedal switch, protected against temporary immersion

Approvals	
93 42 EEC - Annex II	Class 2a medical device CE n°0120
FDA	Class 1, 510k-exempt medical device

1) FDA registered (510k exempt) and CE marked for use as an ophthalmic diagnostic device.

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