

SPECIFICATIONS OF OPTICAL COHERENCE TOMOGRAPHY (OCT) MACHINE

REQUIRED TO DEPT. OF OPHTHALMOLOGY, KURNOOL MEDICAL COLLEGE, KURNOOL,
& GOVT. REGIONAL EYE HOSPITAL, KURNOOL.

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The OCT machine shall have the following specification,

OCT Imaging:

- **Methodology:** Spectral domain OCT
- **Scan Wavelength:** 840 ± 10 nm
- **Exposure Power at Pupil:** ≤ 600 μ W
- **Working Distance:** 34.9 mm
- **Fixation:** Both Internal as well as External
- **Scan Speed:** ≥ 86 k A-scan/sec
- **Posterior :Scan Depth:** ≥ 3.5 mm
- **Segment Scan: Axial Resolution:** < 5 μ m
Transverse Resolution: ≤ 15 μ m
- **Scan Types/Imaging:** Raster scan, single scan with adjustable orientation, dense cube scan, circle or radial scan, 3D visualization, macular thickness map

Options:

- **Analysis Options:** Retinal thickness map, RNFL thickness map with normative database for
 - glaucoma diagnosis, Optical nerve head analysis, optic disc scanning for glaucoma, Progression analysis of RNFL, ONH or 2D, 3D modelling,
 - Enhanced depth imaging for choroidal layer scanning, Fovea to disc
 - alignment, auto disc centration or auto fovea finder, Posterior pole
 - symmetry analysis or combined ganglion cell + IPL and RNFL deviation
 - map for glaucoma diagnosis, Segmentation of different layer of retina, RPE elevation analysis or enface image analysis

Anterior Segment Scan:

- **Scan Depth:** 23.5 mm
- **Axial Resolution:** < 5 μ m
- **Transverse Resolution:** ≤ 20 μ m
- **Anterior:** Auto central corneal thickness (CCT), Anterior chamber angle view, Cornea view
 - **Accuracy Measurement:** $< 3\%$

Scan & Source Details:

- **Type of Scan:** Macular, Optic Disk, HD Scan
- **No of A Scans x B Scan:** 512 A Scans x 128 B Scan, 200 A Scans x 200 B Scans

- **A-Scan Depth:** 13.5 mm
- **Center Wave Length:** 942 ± 10 nm
- **Light Source:** Single SLD

Fundus Imaging

- **Type of Imaging:** Mono Color
- **Picture Angle:** $45^\circ \times 30^\circ$
- **Minimum Photographable Pupil Diameter:** 2.00 mm
- **Depth Resolution:** 3.5 mm - 13.5 mm
- **Vertical Scan Range on Fundus:** 13.5 mm depth, Axial Resolution $\leq 5 \mu\text{m}$
- **Horizontal Scan Range on Fundus:** 13.5 mm depth, Transversal Resolution $\leq 15 \mu\text{m}$
- **Vertical Scan Range on Cornea:** 3.5 mm depth, Axial Resolution $\leq 5 \mu\text{m}$
- **Horizontal Scan Range on Cornea:** 3.5 mm depth, Transversal Resolution $\leq 20 \mu\text{m}$
- **Lateral Resolution:** Transversal Resolution $\leq 15 \mu\text{m}$
- **Methodology:** Line scanning Ophthalmoscope (pSLO & IR)
- **Scan Wavelength:** 942 ± 10 nm
- **Exposure Power at Pupil:** $\leq 1500 \mu\text{W}$
- **Field of View:** Width: $\geq 45^\circ$, Height: $\geq 30^\circ$
- **Frame Rate:** > 7 Hz
- **Patient Interface:** Internal fixation focus adjustment | -20D ~ +20D

System Specifications and Physical Specifications

- **Dimensions:** 532 H x 346 W x 618 D (mm)
- **Weight:** 35 kg
- **Software & Hardware**
- **CPU:** i5
- **Hard Disk:** 1T or above
- **Memory:** 32G or above
- **GPU:** 8G or above
- **Display Resolution:** 2560 x 1440 or above
- **Operating System (OS):** Windows 10 and its compatible version
- **Electrical Requirements**
- **Input Voltage:** 100-240V~
- **Frequency:** 50/60Hz
- **Input Power:** 100VA

Environmental Conditions and Operating Conditions

- Temperature: 10°C to +35°C
- Relative Humidity: 30% to 90%
- Atmospheric Pressure: 80 KPa to 106 KPa

Storage Conditions:

- Temperature: -10°C to +55°C
- Relative Humidity: 10% to 95%
- Atmospheric Pressure: 70 KPa to 106 KPa

Transport Conditions:

- Temperature: -40°C to +70°C
- Relative Humidity: 10% to 95%
- Atmospheric Pressure: 50 KPa to 106 KPa
- Vibration, Sinusoidal: 10Hz to 500 Hz: 0.5g
- Shock: 30g, duration 6ms
- Bump: 10g, duration 6ms

Note: The equipment should be offered with 3 years warranty with the above specifications in originally manufactured, refurbished items are not allowed. Comprehensive Maintenance Contract from 4th to 10th year should be quoted separately.

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Optical Coherence Tomography (OCT) Technical Specification

OCT imaging	Spectral domain OCT
Methodology	840 ± 10 nm
Scan wavelength	≤ 600 W
Exposure power at pupil	34.9 mm
Working Distance	Both Internal as well as External
Fixation	≥ 86kA-scan/sec
Scan speed	Scan depth ≥ 3.5 mm
Posterior	Axial resolution < 5μm
SegmentScan	Transverse resolution ≤ 15μm
Types	Raster scan, single scan with adjustable orientation, dense cube scan, circle
Imaging	or radial scan, 3D visualization, macular thickness map
Options	
Types	Retinal thickness map-RNFL thickness map with normative database for
Analysis	glaucoma diagnosis, Optical nerve head analysis, optic disc scanning for
Options	glaucoma, Progression analysis of RNEL, ONH or 2D, 3D modelling,
	Enhanced depth imaging for choroidal layer scanning, Fovea to disc
	alignment, auto disc centration or auto fovea finder, Posterior pole
	symmetry analysis or combined ganglion cell+IPL and RNFL deviation
	map for glaucoma diagnosis, Segmentation of different layer of retina
	RPE elevation analysis or enface image analysis
Anterior Segment Scan	Scan depth 23.5 mm
	Axial resolution < 5μm
	Transverse resolution ≤ 20μm
Anterior	Auto central corneal thickness (CCT), Anterior chamber angle view, Cornea
Segment	view
Imaging	
Accuracy	< 3%
measurement	
Type of Scan	Macular, Optic Disk, HD Scan
No of A Scans	512 A Scans x 128 B Scan, 200 A Scans x 200 B
x B Scan	Scans
A-Scan Depth	13.5mm
Center Wave	942 + 10nm
Length	
Light Source	Single SLD

Type of Imaging	Mono Color
Picture Angle	45° x 30°
Minimum Photographable Pupil Diameter	2.00mm
Depth Resolution	3.5mm - 13.5mm
Vertical Scan Range on Fundus	13.5mm depth, Axial Resolution ≤ 5um
Horizontal Scan Range on Fundus	13.5mm depth, Transversal Resolution ≤ 15um
Vertical Scan Range on Cornea	3.5mm depth, Axial Resolution ≤ 5um
Horizontal Scan Range on Cornea	3.5mm depth, Transversal Resolution ≤ 20um
Lateral Resolution	Transversal Resolution ≤ 15um
Fundus imaging Methodology	Line scanning Ophthalmoscope (pSLO & IR)
Scan wavelength	942±10 nm
Exposure power at pupil	≤1500 uW
Field of view	Width: ≥45° Height: ≥30°
Frame rate	>7Hz
Patient interface	Internal fixation focus adjustment -20D~+20D
Physical Specifications	Dimensions 532Hx346Wx618D(mm) Weight 35kg
Software	CPU i5
Operating Conditions	Hard Disk 1T or above
Memory	32G or above
GPU	8G or above
Display resolution	2560×1440 or above
Operating System (OS)	Windows 10 and its compatible version
Operating Conditions	
Input Voltage	100-240V~
Frequency	50/60Hz

Input Power	100VA
Temperature	10°C to +35°C
Relative humidity	30% to 90%
Atmospheric pressure	80 KPa to 106KPa
Storage	
Conditions	
Temperature	- 10°C to +55°C
Relative humidity	10% to 95%
Atmospheric pressure	70 KPa to 106KPa
Transport Conditions	
Temperature	-40°C to +70°C
Relative humidity	10% to 95%
Atmospheric pressure	50KPa to 106Kpa
Vibration, sinusoidal	10Hz to 500 Hz:0,5g
Shock	30g, duration 6ms
Bump	10g, duration 6ms

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07-05-2026

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