

Final

LIST OF EQUIPMENT FOR THE DEPARTMENT OF OPHTHALMOLOGY (EYE)

1. Auto kerato refractometer
2. Non contact tonometer
3. Slit lamp with applanation tonometer
4. Indirect ophthalmoscope (Binocular)
5. Optical Biometer
6. ND Yag Laser
7. Wet field Bipolar coagulator
8. Digital vision chart
9. Flash Autoclave
10. Motorized OT Table
11. Motorized surgeon's stool
12. Cataract surgery set

Final

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OPHTHALMOLOGY

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1. TECHNICAL SPECIFICATIONS OF AUTO KERATO-REFRACTOMETER

Objective Refractometer Mode	
Sphere Range	-25D to +22D (0.12D/0.25D steps)
Cylinder Range	0 to \pm 10D (0.12D/0.25D steps)
Astigmatic Axis Range	0° to 180° (in 1° or 5° steps)
Minimum Measurable Pupil Diameter	\emptyset 2.0mm
Corneal Curvature Mode	
Corneal curvature Radius	5.0 mm to 10.00mm (0.01 mm steps)
Corneal Refractive Power	67.50D to 33.75D (0.12/0.25D steps)
Corneal Astigmatic Refractive Power	0 to \pm 10D (0.12/0.25D steps)
Corneal Astigmatic Axial Angle	0° to 180° (in 1° or 5° steps)
PD Measurement Range	20mm to 85mm(0.5 mm steps)
Data Transport Terminal	USB (import)/ RS-232C(export)/ LAN (export)
Dimensions	317-341mm(W) x 521-538mm(D) x 447-477mm(H)
Weight	15 Kg
Power Supply	100-240V AC, 50-60 Hz, 30-70VA

Unique Features:

- Rotary Prism Technology
- 8.5 -inch LCD Touch Screen Panel
- Connectable LAN
- Easy to load Printer.
- Motorized table

2. TECHNICAL SPECIFICATIONS OF NON-CONTACT TONOMETER
WITH PACHY-METER

Ocular Pressure Measurement	
Measuring Range	1 to 30 mm Hg / 1 to 60 mm Hg (1mm Hg steps) Average indication :1mm Hg/ 0.1mm Hg steps changeable
Corneal Thickness Measurement	
Measuring Range	0.4 to 0.75 mm(0.001 mm Step)
Monitor	8.5" WVGA color LCD monitor, Touch panel
Data Transport Terminal	USB (import)/ RS-232C(export)/ LAN (export)
Dimensions	286~ 326 (W) x 445~ 526 (D) x 466~615 (H) mm
Weight	19.5 kg
Power Supply	100-240 V AC, 50-60 HZ,75 VA

Unique Features:

- R/L fully automated measurement
- Easy-to-Use Touch Screen Control Panel
- Additional Measurement Mode
- Flexible and Space Saving Layout with adjustable control panel
- New ergonomic optical head and headrest design
- Stable IOP measurement with soft Air-Puff
- Corneal thickness measurement for IOP compensation

3. SLIT LAMP WITH GOLDMAN APPLANATION TONOMETER

Microscope Unit		
Type	Galileo Type	
Magnification	Drum, 5-step magnification	
Magnification steps	6/10/16/25/40	
Overall magnification (actual vision field)	6.37 (ϕ 35.1mm) 9.94 (ϕ 22.5mm) 15.87 (ϕ 14.1mm) 25.37 (ϕ 8.8mm) 39.62 (ϕ 5.6mm)	
Eyepiece lens	Magnification	12.5x
	Diopter adjustment range	-5D to +5D
Binocular tubes	PD adjustment: 55 to 78mm	
Illumination unit		
Illumination field	Slit width	0 to 14mm, can be altered gradually (14mm=circle)
	Slit length	14 to 1mm, can be altered gradually (14mm=circle)
	Aperture diameter	ϕ 14, 10, 5, 2, 1, 0.2 mm
Slit direction	Vertical to horizontal, can be altered gradually Inclination: 5°/10°/15°/20° Side swing	
Filter	Blue filter, red-free filter, amber filter, UV cut filter (normal use), IR cut filter (normal use), ND filter (13% transmission)	

3 Contd

Illumination lamp	Halogen type:	12V, 30W
	LED type:	3A, 10W
Base Unit		
Forward-backward movement		90mm
Right-left movement		100mm
Vertical movement		30mm
Amount of movement in all directions		12mm
Chinrest unit		
Amount of vertical movement of chinrest		80mm
Fixation target		Fixation target with diopter adjustment Luminous fixation target
Fixation lamp		LED (Red)
Other Specifications		
Dimensions	w/Table	550mm(W) x 420mm(D) x 752 to 782mm(H)
	Weight: w/Table	19kg
	Table size	550mm x 370mm
Power Supply		100-240V AC, 50-60Hz, 110VA

Additional Features:

- Motorized table
- Side viewing system
- Optional accessories – 90D lens, 78 D lens, Gonio 3 mirror lens.

3 contd:

• TECHNICAL SPECIFICATIONS OF GOLDMANN APPLANATION TONOMETER

- The measurement of the ocular pressure is carried out on the patient sitting at the slit lamp in conjunction with other routine microscopes examinations
- High accuracy of the measurement the average deviation in any one single examination doesnot exceed +/- 0.5mm Hg.
- The intraocular pressure in mm Hg is found by multiplying the drum reading by 10.
- Scleral rigidity is not to be taken into account as the small volumetric displacement of 0.56cu mm increases the intraocular tension by about 2.5% only.
- Repeated measuring procedures do not reduce the ocular preassure as no massaging effect occurs.
- There is no standardization and calibration difficulties.
- Measuring force generated by reliable leverage weight.
- Installation: Applanation tonometer is mounted on 2 supporting pivot top of the binocular microscope and can be mounted on a plate on the microscope.
- Measuring range :0-80mm hg in 2mm increments+0.5 mm hg
- Dimension: The pneumatic face 3.06mm
- Measurement uncertainty of the force :Standard divergence
- Impingement of the measuring:0.49m , $N < 3s < 1.5\%$ of the rated value element.
- Measurement:47mm wide x 33mm deep x 90mm height
- Net weight: 725 gm(without accessories)

04. W. BINOCULAR INDIRECT OPHTHALMOSCOPE

- LED / XHL illumination
- Separate fine tuning of the illumination beam $\pm 4^\circ$
- Diffuser and 3 integrated spot sizes: small spot, medium and large.
- 3 integrated filters: red free, cobalt blue, yellow filter.
- Synchronized adjustment of convergence and parallax.
- Wall mounting unit with mPack and plug in transformer.
- Head band rheostat
- Illumination optics for small pupils down to 1.0 mm (including 90° angled adapter).
- 1 scleral depressor large, 1 scleral depressor small, pad with 50 fundus charts,
- Teaching mirror.
- Hard case.
- 20 Diopter lens.

5. Optical biometer.

- Technology for measurement: OLCR (optical coherence reflectometry) for all the measurement.
- Light Source: Super Luminous Diode (SLD).
- Wave Length of light source for peripheral fixation: 570 nm.
- Power on Patients eye: < 0.02 mW.
- The machine gives complete eye measurement at one shot.
- Machine gives the following measurement : 1-Biometry, 2- Keratometry, 3-Pachymetry, 4- Lens thickness, 5-Pupillometry, 6- White to white, 7-ACD(anterior chamber depth), 8- eccentricity of visual axis, 9- Retinal thickness.

- One reading contains 16 undivided full eye scans and 4 individual keratometry scan taken on 2 concentric rings along the patients visual axis.
- Keratometry is taken in two rings of 2.3mm & 1.6mm with 32 points.
- Formulae :SRK T, Holladay, Haggis S, Hoffer Q.
- Post LASIK formulae: Shammas Corneal thickness (CT).
- Shammas No history for refractive case, Holladay 2 (optional) and Olsen Formulae(Optional).

6.Nd:YAG LASER

Treatment laser	
Type	Nd:YAG
Wavelength	1064 nm
Mode Structure	Fundamental
Pulse duration	4 nsec
Mode of operation	Q-switched
Pulse repetition rate	3 Hz (single) / 1.5 Hz (burst)
Output energy	0.3 - 10.0 mJ / pulse (continuously variable)
Burst mode	2 or 3 pulse / trigger
Spot size	8 μ m
Cone angle	16°
Focal Shift	0-500 μ m (continuously variable, toward both anterior chamber and posterior chamber)
Aiming laser	
Type	Diode laser

Wavelength	635 nm
Output power	OFF, 0.5 - 25 μ W
Cone angle	16°
Aiming method	Dual beam method
Rotation of beam	360°
Slit lamp	
Objective lens	f = 130 mm
Eye piece	12.5 x
Magnification (field of view)	32 x (6.2 mm), 20 x (10 mm), 12.5 x (16 mm), 8 x (25 mm), 5x (40 mm)
Power Supply	Single-phase, 100 - 240 Vac, 50 / 60 Hz, 100 VA
Dimensions / Weight	324 (W) x 407 (D) x 528.5 (H) mm / 16 kg 12.8 (W) x 16 (D) x 20.8 (H)" / 35.3 lbs.

Additional features:

- Side viewing arm.
- Motorized optical table.

7. WET FIELD BIPOLAR COAGULATOR

- High frequency solid state circuitry.
- Compact in size, elegant look and easy to use.
- Reusable forceps, erasers and cables.
- Foot switch control.
- Audible indication.
- Dial for variable power output.

Specifications:

Supply voltage : 230V AC and 110V AC available on request
 Frequency : 50/60 Hz

- HF output power : 10Watts
- Power adjustment control : Power adjustment control
- Display range : 0 – 10
- Dimension : 140(W) x 50(H) x 170(L)
- Casing : ABS plastic / M.S powder coated
- Weight : 2 Kg approx.
- Activation of HF power : Foot switch (detachable)
- Dial for variable power output with 7-segment digital display (optional)
- Indicator lights for power on
- Foot pedal included, hand switch option
- Instructions printed on top of unit

8.DIGITAL VISION CHART

Product Features:

- Wide angle full HD 22” LCD panel
- Testing distance : 6ft to 25ft with 0.25 ft increment
- Multimedia Access
- Built in Videos & Pictures
- Menu options in display for all functions
- Random Sequence
- Patient report

Technical Specifications:

- LCD Type: TFT LCD full HD display
- Resolution: 1920*1080p
- Luminance: 200cd/m²
- Remote control: Infrared
- Working distance: 6ft to 25ft with 0.25ft increment
- Connections: USB, Audio out
- Gross weight: 4.5Kg
- Unit dimension: 50.8cm*31.2cm*5.5cm
- Package Dimension: 56.5cm*37.5cm*11cm

9. FLASH AUTOCLAVE

Technical Specifications

- Should be a table top autoclave for Ophthalmic Applications. *with N Type & B Type cycles*
- Two automatic programmes approx. at 2.2 bar at 134 degrees C and 1.1 bar

at 121 degree C. The equipment should have automatic pressure control switch / automatic water control device to ensure that the equipment does not run dry.

- Should have flash cycle ^{/5 cycles} for rapid sterilization ~~(and should have an option for liquid cycle)~~
- Should have Air Pump for closed door drying.
- Should have rapid warm up facility. Built in reservoir to store water required to produce steam, and used water separately, for easy decantation.
- The system should be equipped with required safety features. The door should have double locking safety feature and should open only with atmospheric pressure in the chamber.
- Should have automatic cut-off to prevent overheating and cut-off for insufficient water, the machine should not start without sufficient water.
- Should have a minimum chamber capacity of 20 litres or above.
- Should have pressure display and temperature display.
- Unit should function with 200-230Vac, 50/60 Hz input power supply.
- Following accessories should be supplied along with the equipment: 1 Tray set (3 removable shelves, 1 holder and 1 frame) -- stainless steel, 2 Spring Holder, 4 sets of spare fuses.
- Pressure Safety Valve for over pressure protection
- Equipment should be provided with a line cord (power cord) of acceptable durability, quality, length and current carrying capacity and should be compatible with Indian standard power socket. 14. Controls should be visible and clearly defined.
- Labels and markings should be clear and visible
- Should have safety certificate from a competent authority ^{European} / CE / FDA (US) / ~~CE / FDA (US) /~~ certificate or valid detailed electrical and functional safety test report from ERTL.

10 MOTORIZED OT TABLE

- It has a maximum height of 920 mm and minimum height of 690mm
- Ideal for standing or sitting working position
- It is an ideal operating table with the advantages of strong applicability, easy to operate
- Adjusts conveniently and steady performance.
- Its ergonomic design ensures both surgeon and patient comfort
- Patient comfort is assured with deep antistatic cushions which are easy to clean
- The adjustable cushioned head-rest ensures doctor comfort and restraint during

operations.

Technical Specifications

DIMENSIONS

Length (With Head Rest)	1900 mm (75")
Width	600 mm (24")
Net Weight	120 kg.

ELECTRONIC MOVEMENTS Up & Down

Minimum Height	690 mm (27")
Maximum Height	920 mm (36")
Stroke Length	230mm (8.2")
Weight Lifting	150 kg.

Tilting (Forward & Reverse)

Back Rest Section	20° (Head Side)
Leg Section	30°

Power Requirements	230V AC /50 Hz, 110V AC /60 Hz
Fuses	2A Slow Blow
Power in VA	150 VA

10. MOTORIZED SURGEON STOOL

Technical Specifications

Dimensions

Length	550 mm
Width	480 mm
Net Weight	32 kg
Electronic Movements	Up&down
Minimum Height	510 mm
Maximum Height	660 mm
Stroke Length	150 mm
Weight Capacity	250 Kg

Electrical Specification

Power Supply	AC 110 - 230V 60-50 Hz Fuse 1A Slow Blow
Power In Va	115 VA

12. CATARACT SURGERY SET(TITANIUM)

- Adult Wire speculum.
- Paediatric wire speculum.
- Superior rectus forceps (STAINLESS STEEL)
- Spring Action scissors
- Lims corneoscleral forceps
- Corneoscleral forceps
- Plain forceps (straight)
- Plain forceps(curve)
- Iris forceps
- Capsulorrhesis forceps
- Mcphersons (lens holding) forceps
- Iris repositor
- Sinsky hook type lens dialer
- Ball type lens dialer
- Corneal scissors
- LongVannas scissors
- Simple vannas scissors
- Irrigating wire vectis (23G)
- Simcoe's irrigation and aspiration(classical) 21G
- Simcoe's irrigation and aspiration (reverse) 21 G
- Hydrodissection cannula(25G and 27G)
- Deweckers Scissors
- Plain Scissors(curved)
- Plain Scissors (straight)
- Spring action Barraquers needle holder(straight)
- Spring action Barraquers needle holder(curved)
- Straight Mosquito artery forceps (STAINLESS STEEL)
- Curved Mosquito artery forceps (STAINLESS STEEL)
- Towel clips. (STAINLESS STEEL)
- Suture tiers(straight)
- Suture tiers (curved)
- Lens expressor (STAINLESS STEEL)
- Wire vectis. (STAINLESS STEEL)
- AC maintainer(STAINLESS STEEL)
- Muscle hook (STAINLESS STEEL)
- Castroviejo needle holder (STAINLESS STEEL)