

TECHNICAL SPECIFICATION FOR ENT SURGICAL OPERATING MICROSCOPE

Sl. No.	Desired Specifications	Number	Remarks
	MICROSCOPE BODY AND OPTICS:	1	
1.	Surgical Microscope floor stand-model with mobile floor on four castor wheels for easy handling and absolute stability.		
2.	Should have large stereo base of at least 20mm, rotation around vertical axis more than 50 Degree left and right tilt- 40 degree, inward inclination- 50 degree, upward inclination – 120 degree and all axis moment with single button control for all axis.		
3.	Should have motorized zoom magnification system (0.4x to 2.4 S) with apochromatic optics (1:6 Zoom ratio)		
4.	Should have additional magnification amplification facility of 40% or more		
5.	All activation should be by handgrip, stand mounted I CD control panel and foot control panel with manual over ride		
6.	Total magnification range 2x – 12x or higher with 10Xeyepiece		
7.	Field of View 20 mm – 200 mm or more		
8.	Internal motorized fine focus system		
9.	Should have laser focusing system for quick focusing		
10	Should be continuously adjustable with working distance from about 200 mm to 500 mm without exchange of objective lens.		
11.	Beam Splitter should be integrated in the microscope body, without any external attachment with lateral assistant port (70:30)		
	BINOCULAR TUBE:		
12.	0-18 Degree range tilt able binocular tub with focal length of 170 mm or higher		
13.	Should have a Graduated knob for continuous adjustment of inter pupillary distance (IPD)from 50 mm to 75mm		
14.	Should have Auto balance and easy microscope draping system		
	EYE PIECES:		
15.	Pair of High Eye point wide push-in eyepieces 10x or 12.5x magnification with magnetic locks with dioptr setting from – 5D to + 5D for spectacle wearers		

H. Prayshant - Des

nchryngdsho -
16/10/19

Shyoli
16/10/19

16.	The lenses should have rubberized cuffs for comfort and should preferably have anti fogging coating		
17.	Binocular and eyepiece of stereo co observer port should be similar to main surgeon unit		
	ILLUMINATION SYSTEM		
18.	Two coaxial xenon illumination of about 300W, with back up similar rating xenon with quick action lamp changer in case of failure or main lamp should be integrated within the microscope stand.		
19.	In case of electronic system failure the light should continue to work with manual override for optics adjustment		
20.	Should have automated illumination brightness control linked to working distance and magnification		
21.	Should have automated zoom-synchronised illumination field diameter with manual override and reset feature		
22.	Should also have brightness adjustment in hand switch		
	HANDGRIPS		
23.	Easily maneuverable handgrips with adjustable keys for zoom and focus, illumination & magnetic brakes		
24.	Camera controls for video and still images should be programmable on hand grips		
	FLOOR STAND		
25.	Sturdily Solid, rotable floor stand on base with lockable castors, carrier and swivel arms with large reach of 1.30m or higher		
26.	Should have free float magnetic system with multiple magnetic brakes of microscope body and stand with release of magnetic brakes by handgrip.		
27.	Touch screen LCD with user prompts. Quick set up of different parameters and their activation of pieces of a button such as automatic speed adjustment or automatic brightness setting depending on magnification.		

H. Prayshankh Desi

Nehringdoh
16/10/19

Shyloh
16/10/19

	INTEGRATED VIDEO CAMERA SYSTEM		
28	Should have advanced digital FULL HD video camera system		
29	Should be fully integrated camera without any external attachment or module. All wires to be cased inside the microscope arm		
30	It should stabilize in less than 5 sec @ should reboot in less than 1 min		
31	In addition there should be ports for connection to PC via USB/Fore wire ports, 15 pin VGA port for colour monitor, HDMI port DVI port and preferably LAN connectivity		
32	Should be capable of doing video speed focus for independent focusing apart from microscope focus		
33	The microscope must have preinstalled Dicom		
	VIDEO/IMAGE DATA MANGEMENT SYSTEM		
35	Should have attached Full HD medical grade video recording system & still photo in the microscope stand with internal HDD of at least 500 GB or more and high speed DVD writer		
36	Latest generation Macintosh based desktop computer system with video editing software for image processing and editing		
	VIDEO MONITOR		
37	Medical grade 19" Touch screen Colour LCD display should be mounted on Microscope stand		
	ADDITIONAL FEATURES		
38	Microscope should be fully ready for image guidance system integration		
39	Image Injection of CT, MRI and Endoscope in eye pieces should be available and should be quoted as optional in Schedule XI (B) in the technical bid		
40	System should be ready to use sodium Fluorescence as well as ICG and this module		
41	The Cost of all spares/accessories/ consumables not included in warranty & CMC should be quoted in the technical bid as percentage of FOB and should be valid for 10 years		

H. Prakash - Desi

Narayana
16/10/19

Shyale
16/10/19

42	Warranty: 5 years onsite comprehensive including spares+ 5 years CMC		
43	In no case the instrument should remain non-working condition for more than 7 days, beyond which a penalty as per rules of the institute will be levied		
44	The vendor should have a good service and application back up along with the instruments to provide		
45	Environmental factors <ol style="list-style-type: none"> 1. Shall meet IEC-60601-1-2: 2001 (Or Equivalent BIS) General Requirements of Safety for Electromagnetic Compatibility or should comply with 89/366/EEC, EMC-directive 2. The unit shall be capable of operating continuously in ambient temperature of 20-30 deg C and relative humidity of 15-90% 3. The unit shall be capable of being stored continuously in ambient temperature of 0-50 deg C and relative humidity of 15-90% 		
46	Power Supply <ol style="list-style-type: none"> 1. Power input to be 220-240VAC, 50Hz fitted with Indian plug 		
47	Standards, safety and Training <ol style="list-style-type: none"> 1. Should be FDA, CE, UL or BIS approved product 2. Manufacturer should have ISO certification for quality standards 3. Comprehensive training for lab staff and support services till familiarity with the system 		
50	Documentation <ol style="list-style-type: none"> 1. User/Technical/Maintenance manuals to be supplied in English 2. List of important spare parts and accessories with their number and costing. 3. Compliance Report to be submitted in a tabulated and point wise manner clearly mentioning the page/Para number of original catalogue/data sheet. Any point, if not substantiated with authenticated catalogue/manual, will not be considered 4. Certificate of calibration and inspection 5. List of Equipment's available for providing calibration and routine Preventive Maintenance Support, as per manufacturer documentation in service/technical manual 6. Log book with instructions for daily, weekly, monthly and maintenance checklist. The job description of the hospital technician and company service engineer should be clearly spelt out. 		

H. Pringshall-Deis

Narayanaiah
16/10/19

Shyju
16/10/19

SURGICAL ELECTROCAUTERY

Sl. No	Specifications	Number	Remarks
2	<p>TECHNICAL SPECIFICATIONS (110-120 V) OUTPUT WAVEFORMS <u>BIPOLAR</u> Precise : 470 khz sinusoid Standard: 470 khz sinusoid Macro: 470 khz sinusoid <u>Monopolar cut</u></p> <ul style="list-style-type: none"> • Low : 390 kHz sinusoid . Similar to Pure cut mode except the maximum voltage is limited to a lower value • Pure : 390 kHz sinusoid • Blend : 390 kHz burst of sinusoid, recurring at 27 kHz intervals. 50 % duty cycle envelope <p><u>Monopolar Coag</u></p> <ul style="list-style-type: none"> • Desiccate : 240 kHz sinusoid repeated at 39 kHz 8% duty cycle • Fulgurate : 390 kHz damped sinusoidal burst with a repetition frequency of 30 or 57 kHz into 500 ohms • Spray : 390 kHz damped sinusoidal burst with a randomised repetition centred at 28 k Hz. Frequency includes 21 kHz < f < 35 kHz. Output is further modulated by a random 250 Hz envelope with a variable duty cycle. <p>Output power changes by less than 15 % or 5 watts, whichever is greater as the line voltage varies from 104-132 volts and 208-264 volts (at rated load). LOW FREQUENCY LEAKAGE(50-60 Hz) Source current , patient leads , all outputs tied together.</p> <ul style="list-style-type: none"> • Normal polarity ,intake chassis ground : < 10 u A • Normal polarity ground open < 50 u A • Reverse polarity , ground open < 50 u A • Sinks current 140 V applied all inputs < 50 u A <p>PER = 98 PER(power efficiency rating) is the measure of an electro surgical generators ability to accurately deliver the selected power into a wide range of tissue type. Weight and dimensions</p> <ul style="list-style-type: none"> • Height: 11.1 cm(4.3 / 8 inches) • Width : 35.6 cm(14 inches) • Length: 43.9 cm (17 inches) • Weight : <8.1 kg (< 18 lbs) <p>Input power requirements Operating range is 85 to 132 AC Volts. maximum currents is 7 Amp in Cut and 4 amperes in Coag. High frequency leakage</p> <ul style="list-style-type: none"> • Bipolar < 60 m Amp_{rms} 	1	

1. *Chandrasekar*

2. *Sankar*

3. *Chao*

4. *Shy*

5. *Shy*

6. *Shy*

- Monopolar < 150 mAmp_{rms}

REMTM contact quality monitoring system:

- Measurement frequency: 80 kHz +/- 10 kHz
- Measurement current <10 micro Amp
- Acceptable resistance range : REMTM pad -5-135 ohms
Non-REMTM pad-less than 24 ohms
- Acceptable range is 5-135 ohms after REMPolyhesive II return electrode is applied.
- Adaptive REMTM
REMTM trip is baseline impedance plus 40%. For example if the baseline impedance is 30 ohms , the upper level trip is approximately 42 ohms .If the pad-patient impedance falls below baseline impedance a new baseline is established.

Meets UL and Cul specifications

1. Chabing

2. ~~Sneate~~

Boles

5. Shays

Aggar

5m

(7)

II VIDEO NYSTAGMOGRAPHY MACHINE

Sl No	Specifications	Number	Remarks
12	<p>Technical Standards:</p> <p>Camera : IEEE 1394 FireWire Resolution: 640 x 480 pixels Images : 105 images per second binocular , 174 images per second monocular</p> <p>Safety Standards: IEC 60601-1(General Safety), IEC 60601-1-1(systemic Safety),IEC 60601-1-2(EMC)</p> <p>Physical Specifications:</p> <p>Goggle Weight:</p> <ul style="list-style-type: none"> • 240g(non- occluded view) • 320g(occluded view)with two cameras • 305g(non occluded view) • 385g(occluded view) Dispensing box with 24 pcs of disposable goggle foams pads <p>302 x216x131mm(L xWx H) With one camera</p> <p>Tests</p> <ul style="list-style-type: none"> • Bithermal caloric Test/ Monothermal caloric Test • Spontaneous Nystagmus Test • Positional test • Dix Hallpike Test • Gaze Test • Smooth Pursuit Test(tracking) • Saccade Test • Optokinetic Test • Sinusoidal Pendular test(only with rotary chair) • Step Rotation Test(only with rotary chair) <p>SYSTEM REQUIREMENTS:</p> <p>Hardware:</p> <ul style="list-style-type: none"> • Intel core 2 Duo processor 1.8 GHz or better • Minimum 1 GB of RAM • Laptop PC: one 34 mm PCExpressCard slot available • Desktop PC : Texas Instruments chipset PCI FireWire board With dual 6-pM ports • Two USB ports available • One VGA port available • Monitor resolution 1024 x 768 or better <p>Software:</p> <ul style="list-style-type: none"> • Windows 7 (32 bit or 64 bit), Windows XP SP2 • Windows Vista Business SP1 	1	

C. Chakraborty, 2 - 3 months

Mud *H. Leo*

RS

SM

	<ul style="list-style-type: none"> • Windows Vista Ultimate operating system • Microsoft Net 2.0 Framework • Window Installer 3 x • Included parts : Installation CD • Combi goggle with 1 or 2 cameras • Disposables combi goggle foam pads -1 box /24 pieces • H .34 mm Fire wire PCExpress Card with power Supply • Otoaccess™ database software and Otoaccess™ Language pack 1.0 • Operation manual • VNG Quick Guide • Multi lingual CE instruction <p>Optional Parts:</p> <ul style="list-style-type: none"> • Rotary chair • Irrigator ,water or air • Additional foam for combi mask • LCD projector • Flat panel LCD TV • Stand for flat panel LCD TV • USB Foot pedal • 			
--	--	--	--	--

1. Keyboard 2. Mouse

[Handwritten signature]

3. Mouse

[Handwritten signature]

[Handwritten signature]

SUCTION APPARATUS

Sl. No	Specifications	Number	Remarks
6	<p>PRODUCT DESCRIPTION High performance 1/5 horse power pumps delivers 0-26mm Hg(0-660 mmHg) Protection: dual protection system with float shut – off in the canister lid and inline Hydrophobic Filter to prevent back flow of fluid as well as airborne contaminants from entering the pump. High durability: Features a protective canister bracket that holds the canister and protect the guage and adjustment knob from accidents. Convenient: Features a Velco™ strap that allows you to wrap the power cord for improved portability. Extra strength premium suction feet safety and securely attach the unit to most surfaces, preventing spillage. Safe: Automatic resetting thermal limit switch prevents the unit from overheating.</p> <p>SPECIFICATION Dimensions:</p> <ul style="list-style-type: none"> • Length :13.25”(33.7 cm) • Width :8” (20.3 cm) • Height :9.75”(24.8 cm) • Weight: 12.6 lbs (5.7 kg) • Shipping weight:14.5 lbs(6.6 kg) • Motor : 120 VAC , 60 Hz, 5 amps • Vaccum Range :0-26in Hg • Horsepower:1/5 • Operating temp. range:50°F to 104°F (10 to 40° C) • Storage conditions : Temp:- -4 to 104°F(-20 to 40° C) • Humidity : Max 95% non condensing <p>Dimensions:</p> <ul style="list-style-type: none"> • Length :13.25”(33.7 cm) • Width :8” (20.3 cm) • Height :9.75”(24.8 cm) • Weight: 12.6 lbs (5.7 kg) • Shipping weight:14.5 lbs(6.6 kg) • Motor : 120 VAC , 60 Hz, 5 amps • Vaccum Range :0-26in Hg • Horsepower:1/5 • Operating temp. range:50°F to 104°F (10 to 40° C) • Storage conditions : Temp:- -4 to 104°F(-20 to 40° C) • Humidity : Max 95% non condensing <p>Suction tip and rubber pipes - Suction handle, with cut off hole, LUER cone, length 10</p>	1	

1. *Handwritten notes and signatures at the bottom left of the page.*

Handwritten signature and initials at the bottom center of the page.

cm, for use with suction tubes 204005-204025, 204305-204330

- PLESTER suction tubes, with grip plate, cut off hole and stylet, LUER, 5 Fr, Length 20 cm
- PLESTER suction tubes, with grip plate, cut off hole and stylet, LUER, 7 Fr, Length 20 cm
- PLESTER suction tubes, with grip plate, cut off hole and stylet, LUER, 9 Fr, Length 20 cm
- Suction tube, angular, LUER-lock, outer diameter 0.7mm, working length 6cm
- Suction tube, angular, LUER-lock, outer diameter 1mm, working length 6cm
- Suction tube, angular, LUER-lock, outer diameter 1.3mm, working length 6cm
- Suction tube, angular, LUER-lock, outer diameter 1.5mm, working length 6cm
 - - Suction tube, angular, LUER-lock, outer diameter 2mm, working length 6cm

1. inclusion 2. source

AB

5. Ally

Blao

SM

III MICRODEBRIDER SET

Sl. No	Specifications	Qty	Number	Remarks
7	Unidrive ECO set, motor control unit with 2 motor connectors and integrated irrigation pump, power supply: 100-120/230-240 VAC , 50/60 Hz consists of :20711420 Unidrive ECO 400A power cord 20711640 silicone tubing set sterilizable 20711621 clip set, sterilizable 20016630 double pedal footswitch	1	1	
	Stamberger – Castlenuvo Drill cut X shaver handpiece , for use with unidrive ECO/ENT/NEURO/OMFS	1		
	Suction shaver blade with integrated irrigation for Drill Cut-X handpiece straight , sterilizable , double ,serrated cutting edge, rectangular cutting window, diameter 4 mm, length 12 cm	1		
	Suction shaver blade with integrated irrigation for Drill Cut-X handpiece straight ,sterilizable, double, concave cutting edge, oval cutting window, diameter 4 mm, length 12 cm colour code: blue green, for use with Drill- X handpiece	1		
	Shaver blade with integrated irrigation for Drill Cut-X handpiece curved 65 degree ,sterilizable, cutting edged serrated forwards,double serrated, rectangular cutting window, diameter 4 mm, length 12 cm colour code: blue yellow, for use with Drill- X handpieces	1		
	Suction shaver blade with integrated irrigation for Drill Cut-X handpiece curved 40 degree, sterilizable, cutting edged serrated backwards ,double serrated, rectangular cutting window, diameter 4 mm, length 12 cm colour code: blue yellow, for use with Drill- X handpieces	1		

1. Unidrive 2. Stamberger

[Handwritten signature]

6. Shaver

[Handwritten signature]

[Handwritten signature]