

**PVMS OF
NEURO SURGERY AND NEUROLOGY**

DRAFT

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DRAFT

Clinical Specialty	Acoustic stimulation
Generic Name	Acoustic stimulation
Clinical Purpose	
TECHNICAL SPECIFICATIONS	
Head phone adult 5pin XLRconnector-----1 Ear pad for head phone adult size-----1 Head band for head phone-----1 Extension cable-----1 Ear piece-----20pcs Sound connector 16 tube-----1	
Clinical Specialty	AUTOCLAVE
Generic Name	Autoclave
Clinical Purpose	Used for sterilization of the instruments
TECHNICAL SPECIFICATIONS	
Sr.No.	DESCRIPTION
1	Chamber volume: 100-400 liters
2	Sterilization chamber made of highly acid-resistant steel.
3	Single door vertically or horizontally.
4	High Quality materials and surface finish
5	Chamber door (closing protection) door end positions, door seals, safety overpressure valves for chamber and jacket.

6	Microprocessor Controlled System.	
7	Emergency stop button	
8	Process and cycle control through pneumatic vavles	
9	Built-in electric / integral steam generator and air compressor	
10	Loading pullout shelve	
	IMPORTED OF USA, EEC & JAPAN	
Clinical Specialty		Neurosurgery
Generic Name		Diathermy Bipolar
Clinical Purpose		To be used in neurosurgical operations for securing haemostasis.
TECHNICAL SPECIFICATIONS		
Microprocessor based solid state electrosurgical unit for normal and under water cutting		
Separate controls for monopolar and bipolar coagulation		
RF power for monopolar cutting not below 300 watts		
Monopolar coagulation 120 watts or better		
At least 3 blend modes		
Bipolar coagulation not below 50 watts with floating output		
Spray coagulation		
Bipolar cutting power 120 W		
Earth free patient circuit		
Complete with following accessories		
Foot switch, reusable patient plate, monopolar handle with cord and surgical needles		
(Knife, ball electrode, loop electrode and needle 12		
Non-stick bipolar forceps with cord cable (Straight & bayonet & Angled shaped all electrosurgical unit to conform to IEC 601-1 standard		
Locally trolley with imported lockable wheels		

The system must have automatic self test	
220V 50Hz 1-Phase	
Clinical Specialty	Neuro Surgery
Generic Name	Neuro-Surgery (Image Intensifier) With Neuro-Navigation Compatibility
Clinical Purpose	Neuro- Surgery
TECHNICAL SPECIFICATIONS	
<ul style="list-style-type: none"> • The C-Arm Should be compatible with Neuro-Navigation System for real time image transferring during procedure. • Mobile Fluoroscopy System for Radiography and Fluoroscopy • High Frequency, power output of 15 KW or more • Image Intensifier Size: 9” • 360 Degree Clockwise Rotation of the C-Arm. • 95° & 48° Orbital Movement of the C for Spine Surgery • 40 to 120KV with one shot fluoroscopy facility of 75 mA or more • High Dose Pulse Fluoro Mode: ma range 0.2 ~ 20 or more • Minimum 20,000.00 Image Storage on HDD. • X-Ray Tube with rotating anode • Anode heat capacity: 3000,000 HU. • Automatic Fluoro dose control • Collimator: • TV Camera : High sensitivity, CCD camera, 1kx 1k pixels with last image hold • Display: Two (18” or more) LCD/LED/TFT monitors, medical quality • Laser pointing device • DICOM compatible • Noise reduction filter, last image hold, pulsed fluoroscopy • Edge enhancement, image inversion • Real time digital image rotation • Fluoroscopy footswitch: one cassette holder 35x35 cm • BNC composite image output for navigation system 	
Accessories:	

1. Lead Aprons 10 Nos
2. Lead Neck Collar 10 Nos
3. Lead Goggles 10 Nos
4. Compatible UPS 01 Nos

Clinical Specialty

Neurosurgery

Generic Name

Cranial Endoscopy

Clinical Purpose

Cranial Endoscopy

TECHNICAL SPECIFICATIONS

Wide Angle Straight Forward

6°, degree therapeutic stable version with angled eyepiece, outer diameter 6.1mm
instrument channel diameter 2.9mm with suction and irrigation channel 1.6mm length 18 cm,
autoclavable fiber optic light transmission incorporated,

Operating Sheath rotatable, Outer diameter 6.8 mm, working length 13.3 cm,

Obturator

puncture Needle diameter 1.7mm length 30cm

Grasping Forceps with teeth, single action jaws, diameter 2 mm
working length 30 cm,

Biopsy Forceps, both jaw parts moveable size, 2mm working length 30 cm

Bopsy Forceps, double action jaws, semi flexible 1 mm, length 30 cm

Scissors, pointed single action jaws, diameter 2 mm,
working length 30 cm,

Biopsy Forceps , single action jaws, diameter 2.7 mm length 30cm

Ventriculostomy Forceps, diameter 2 mm working length 30 cm

Ventriculostomy Forceps, diameter 1 mm flexible working length 30 cm

Coagulating Electrode, bipolar, 5 Fr.

Coagulating Electrode, unipolar, semiflexible working length 30 cm

Diameter 5 fr

Suction Satheter, flexible, for single use, diameter 2.5 mm,
working length 45 cm package of 10

Suction and Irrigation Tube, autoclavable ,with LUER lock connection

Baloon Catheter O.D.1.0 mm, length 40 cm, volume 0.20 ml sterile,
single use 10 pieces

Sterilization tray

Holding System with Complete set,

Bipolar HF Cord

Unipolar HF Cord

Digital FULL HD Camera module Camera Control Unit for use with Rigid endoscope,

Camera input:

Maximal resolution: 1920 x 1080 pixels

Automatic Gain Control: Microprocessor controlled

Connection: Module link cable toVideo processor module.

Power supply: 100 - 120 VAC, 50/60 Hz, 200 - 240 VAC, 50-60 HZ

Special features:

Modular design: For use with a video processor module and a compatible 3-chip FULL HD camera head in combination with a compatible with 3-chip camera head the following modes can be activated without special light source or filter

Color inversion by spectral color shift.

Brightening of dark areas in the endoscopic image.

Contrastenhancement.

Compatible with special FULL HD microscopy camera head.

Highest possible FULL HD resolution of 1920 x 1080 pixels.

Progressive scan for an extremely smooth image without flickering and noise.

Compatible camera heads. Changes in visualization modes, device control, digital zoom, brightness, video capture, still image capture and direct print

orders, picture-in-picture mode, image direction, white balance and setup setting can be performed in sterile area via camera head buttons

Digital 3-chip Camera Head with 2x parfocal optical zoom and 2 freely programmable

Image sensor:

3x 1/3" CCD Chip

Pixels:

1920 (H) x 1080 (V) pixels per chip

CCD chip supports;

16:9 input format

Minimum light sensitivity:

1.17 Lux (f = 1.4 mm)

Control buttons:

3 (2 of them freely programmable)

Special features:

3-chip technology for brilliant images.

Image acquisition in format 16:9, with 1920 x 1080 pixels and progressive scan 50 Hz or 60Hz.

2 freely programmable camera head buttons.

Compatible with systems with integrated, innovative visualization technology for surgery by shifting the color spectrum and via homogeneous illumination and contrast enhancement

Suitable light sources are controllable by camera head buttons .

Suitable insufflators are controllable by camera head buttons.

Suitable camera control units can store HD images and HD video clips to USB mass storage devices in conjunction with camera head.

Suitable sterilization tray is available to safely store the camera head during sterilization.

Digital FULL HD Videoprocessor Module with integrated documentation function for image and video capturing for use with 3-chip-FULL HD camera heads,

Technical data:

Connections: 2 x DVI-D output, 1 x 3G-SDI output, 3 x camera input,

Max. resolution: 1920 x 1080 pixels

Power supply: 100-120 VAC, 50/60HZ, 200 - 240 VAC, 50/60 Hz

Optional: USB to ACC adapter for device control

Special features:

Modular design: For use in combination with at least one camera module.

Parallel live display of visualization modes besides white light mode (picture-in-picture).

Up to three different camera modules can be connected to the FULL HD video processor module.

Integrated picture-in-picture mode of two different camera modules in five different display sizes available.

Primary and secondary signal source change in picture-in-picture mode can be performed easily via camera head button

Integrated communication bus for device control and information display of connected devices.

Highest possible FULL HD resolution of 1920 x 1080 pixels.

Still image capturing in FULL HD quality.

Still image capturing can be adjusted by 4 different, timewise variable image freeze selection including picture-in-picture mode.

Video capturing in FULL HD quality.

Medical USB printer compatible (plug& play).

Data capturing functions can be released by optional USB footswitch.

Automatic adjustment of light intensity of light source via communication bus.

Control of complete camera system can be realized from camera head from sterile area.

Grid and pointer can be displayed for improved orientation and communication during surgery.

Grid and pointer can be displayed individually and together.

27" FULL HD Monitor, With LED Back Light For Low Energy,

Picture-in-Picture (PiP) And Picture-by-Picture With Medical Grade from manufacturer

Video inputs: DVI,VGA,S-video, Composite / FBAS

Video outputs: DVI, S- Video, Composite / FABS

Light Source LED with integrated , high-performance LED and one light outlet,
operating hours 30,000
power supply 110 - 240 VAC, 50/60 Hz

Trolley Improved for endovision system

Clinical Specialty	Neurosurgery
Generic Name	Craniotomy Surgery Instruments set for Adult
Clinical Purpose	To be used in all kind of cranial Procedure

TECHNICAL SPECIFICATIONS

<u>Craniotomy Surgery Instruments set for Adult</u>
Description
SCALPEL HANDLE #3 E
SCALPEL HANDLE #4 E
BACKHAUS TOWEL CLAMP 135MM E
RAMPLEY DRESSING FORCEPS,250MM
DANDY DELICATE FORCEPS CVD140MM
HUDSON HAND DRILL SET COMPLETE
TWIST DRILL 2MM DIA
HOOK HANDLE F/WIRE SAWS
GIGLI WIRE SAW FINE6-WIRES400MM
DEMARTEL CONDF/WIRE SAWSFLEX350MM
ELEVATOR CAIRNS 178MM
WEITLANER RETRACTOR 3X4T. SH.130MM
OLIVECRONA BONE RONGEUR CVD 205MM
LUER-STILLE BONE RONGEUR CVD 225MM
OLIVECRONA SPATULAFLATFLEX7&9MM178MM
OLIVECRONA SPATULA FLAT FLEX 11&13MM
OLIVECRONA BRAIN SPATULA 15 A.18MM
OLIVECRONA BRAIN SPATULA 18 A.22MM
RASPATORY MCKISSOCK STR.197MM
DAVIS VASCULAR SPATULA 245MM
FERG-FRAZIER SUCT 7FR110MM WRK-LGT
FERG-FRAZIER SUCT 9FR 3/110MMWRK-LGTH
FERG-FRAZIER SUCT 12FR 110MM WRK-LGT

KRAYENBUEHL NERV HKSHRTBALL-TIP184MM
LOVE NERVE ROOT RETRACTOR STR 220MM
SCHMIEDEN-TAYLOR DURA SCISSORS 155MM
METZENBAUM SCISSORS CVD180MM E
METZENBAUM DISSECT.SCISSORS STR.180MM
MAYO-HEGAR NEEDLE HOLDER150MM E
MAYO-HEGAR NEEDLE HOLDER185MM E
TC MAYO-HEGAR NDLHOLDERHVYSERR150MM
TC MAYO-HEGAR NDL HOLDERHVYSERR185MM
TC DEBAKEY NEEDLE HOLDER 150MM
TC DEBAKEY NDL HOLDER DEL SERR 180MM
ADSON TISSUE FCPS FINE W/1X2T 120MM E
ADSON FORCEPS SERR 120MM E
DISSECT.FORCEPS MED.WIDE 1X2T.180MM
CAIRNS DOTT DISSECT.FORCEPS 178MM
KERRISON 130DG-UP 2MM 180MM
KERRISON 130DG-UP 3MM 180MM
FRAZIER BRAIN PUNCTURE CANNULA
PENNYBACKER RONGEUR 203MM
CONE LAMINECTOMY RETRACTOR 3 X 4 TEETH
FORCEPS BAYO 1X2 200MM
SPURLING RONGEUR STR 4X10MM180MM
YASARGIL MICROFORM BAYO FCPS .6MM180MM
YASARGIL MICROFORM BAYO FCPS.9MM180MM

YAS. MICRO SCISSOR BAYONETS/S225MM			
YAS. MICRO SCISSOR BAYONETS-CVDS/S225MM			
LABORATORY DISH 0.4 L			
KIDNEY TRAY STAINLESS STEEL 250MM			
1/1 SIZE PERF BASKET 485X253X76MM			
TUNNELING INSTRUMENT 450MM			
CLOWARD TYPE RETRACTOR W/5 BLADES 250MM			
STERILIZATION CONTAINER SYSTEM:			
BOTTOM FOR CONTAINER, 592 x 274 x 120 OR BETTER			
PRIMELINE LID FOR CONTAINER BOTTOM			
STERILIZATION WIRE BASKET, 536X253X70MM OR BETTER			
LUBRICATION OIL SPRAY			
SILICONE PAD 470X230X30MM			
IDENTIFICATION LABEL FOR CONTAINER			
Clinical Specialty		Neurosurgery	
Generic Name		DBS /BACLOFEN PUMP / SPINAL CORD STIMULATION	
Clinical Purpose		To be used in Neurosurgery	
TECHNICAL SPECIFICATIONS			
SYNCHROMED II - PROGRAMMABLE INFUSION SYSTEM (IMPLANT) / BACLOFEN PUMP / MORPHINE PUMP			
S #	Product No:	Description	QTY

		MEDTRONIC USA	
		<u>Intrathecal Drug System including:</u>	
1	863720	SynchroMed II Programmable Pump - 20ml/40ml reservoir	1
2	8781	InDura 2P Intrathecal Catheter	1
3	8586	Catheter Passer - 60cm	1

ITREL 4 - SPINAL CORD STIMULATION SYSTEM (IMPLANT) - UNILATERAL

S #	Product No:	Description	QTY
		MEDTRONIC USA	
		<u>Trial with Permanent Lead - 1x4</u>	
1	3487A-56	1 x 4 Pisces Quad lead kit - 28, 33, 45, 56cm	1
2	355531	Snap-Lid connector cable, disposable - *Quantity per trials	1
		<u>Implant Phase - 1x4 Lead</u>	

3	37703	ltrel 4 Implantable Neurostimulator (INS)	1
4	37746	External patient Programmer with Restore software	1
5	748925	1 x 4 Quad Extension - 10, 25, 40, 51, 66cm	1

PRIME ADVANCE - SPINAL CORD STIMULATION SYSTEM (IMPLANT) - BILATERAL

S#	Product No:	Description	QTY
		MEDTRONIC USA	
		<u>PrimeAdv System - Dual Octad Leads</u>	
		<u>Trial with permanent Leads - 2x8</u>	
1	387760	1 x 8 Standard lead kit with perc. Extension - 45, 60	2
2	355531	Snap-Lid connector cable, disposable	1
		<u>PrimeAdv System (per patient) includes:</u>	
3	37702	prime ADVANCED implantable Neurostimulator (INS)	1

4	37744	Patient Programmer	1
5	xxx	1 x 8 Octad Extension - 20, 40, 60cm	2
6	355531	Snap-Lid connector cable, disposable	1

INTERSTIM - SACRAL NERVE STIMULATOR (IMPLANT)

S#	Product No:	Description	QTY
		MEDTRONIC USA	
		<u>INTERSTIM SACRAL NERVE STIMULATOR</u>	
		<u>Trial Phase</u>	
1	3550-18	Lead Introducer Kit	1
2	3889-28	Tined Lead Kit	1
3	3531	Verify ENS (includes Belt)	1
4	3537	Controller - Reusable	1
5	3575-01	Test Stimulation Mini-hook Cable (x1) - Sterile	1

6	3576-64	64cm Twist-lock Cable (x1) - Non-sterile	1
		<u>Implant Phase</u>	
7	3058	Interstim II Neurostimulator	1
8	3037	Interstim iCon Patient Programmer	1

**ACTIVA PC - NEUROSTIMULATOR DBS (DEEP BRAIN STIMULATION) SYSTEM WITH PATIENT PROGRAMMER
FROM MEDTRONIC USA**

S #	Product No:	Description	QTY
		MEDTRONIC USA	
		<u>ACTIVA PC with Patient Programmer</u>	
1	37601	Activa PC Neurostimulator	1
2	37086-60	Activa Extension, Length 60cm	2
3	3755-40	Activa Tunneler, Length 40cm	1
4	3389-28	DBS Leads, Length 28cm	2

5	22670	Sterilised Micro Recording Array Electrode Bx/5	1
6	FC1018	Electrode Insertion Tube (Bx/5)	1
7	FC1019	Lead Insertion Tube	1
8	924256	Stimlock Lead Anchoring Devices 14mm Burr Hole Cover	2
9	37642	Activa DBS Patient Programmer	1
10	9013C0551	5-Ch. Mer Cable, Box Of 5	1

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Clinical Specialty	Psychiatry
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Generic Name	ECT MACHINE
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Clinical Purpose	To be used in Psychiatry problem
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TECHNICAL SPECIFICATIONS

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ECT Machine
Dosage Range:
50 to 1000 Millicoulombs
Split Pulse Technology
Delivery Dosage Displayed
Static and Dynamic Impedance
Single Dial Dosage Control
Auto Crescendo:
Delivers an advanced 0.25 seconds Auto Crescendo on set to the treatment to gently ease the patient into ECT
Patient Impedance Display
Cerebral Stimulation (CS) Mode
Contract Current
EEG Monitor Link/Port
Including:
Two Hand Head-Piece/Head Set (Qty: 01)
C.S. Lead with 100 Disposable Electrodes for C.S. Treatment
100 Disposable Mouth Gags (Qty: 1 Box)
Removable Stand
ECT Output Tester
Mains Cable 210-240V 40/60Hz AC
Operating & Service Manuals

Clinical Specialty	Neurology
Generic Name	EEG MACHINE
Clinical Purpose	Used to detect various kind of Epilepsies
TECHNICAL SPECIFICATIONS	
<u>EEG MACHINE</u>	
<ul style="list-style-type: none"> • Pre configured EEG machine with accessories kit. • PC based system with Windows operating system and inbuilt patient centric database. • Capable to acquire higher number of EEG channels for advanced EEG applications. • Predefined and user configurable montages. • Remote review and reporting capability of stored EEG exams via LAN. • Archival of recorded exams/reports with EEG reviewer to CD/DVD. • Printing of reports on heavy duty HP laser printer. • Ethernet LAN connectivity. • DC Outputs: 4 	
POLYSOMNOGRAPHY	
<ul style="list-style-type: none"> • ASSM Complaint automatic and manual sleep stage scoring. • Simultaneous acquisition and review of sleep studies. • Presentation of EEG, EMG, EOG, SpO₂, Snore, CO₂, PR Flow, BP etc. • Input of PAP and supplemental O₂ levels. • Time-base display for complete night recording. 	
<u>EEG Amplifier:</u>	
<ul style="list-style-type: none"> • Number of Channels: 64. • Input impedance: 200 MΩ • Internal noise level: Less than 1.5 μVp-p 	

- **CMRR: 110 dB or greater**
- **Low-cut filter: 0.016 H**
- **A/D conversion: 16 bits**
- **Sampling frequency: 10000 Hz**
- **AC interference filter: 50 or 60 Hz**
- **Sensitivity: EEG INPUT: Off, 1, 2, 3 (2.5), 5, 7, 10, 15, 20, 30, 50, 75, 100, 150, 200 $\mu\text{V}/\text{mm}$
DC INPUT: Off, 10, 15, 20, 30, 50, 70, 100, 150, 200 mV/mm**
- **Ethernet/ USB connectivity**
- **Impedance check capability**
- **Patient event switch interface.**

Photic Stimulator:

- **LED Photic Stimulator with adjustable arm.**
- **Adjustable stimulation frequency (1-60HZ) in 1Hz steps**

Standard Accessories:

1. **Electric junction box**
2. **Photic stimulator**
3. **ASSM Complaint Advanced sleep accessory kit**
4. **Flash lamp assembly**
5. **Collodion eeg electrode**
6. **Earlobe electrode**
7. **ECG lead wire**
8. **Clip on limb electrode**
9. **EEG Electrodes (10mm gold plated)**
10. **Conductive Paste**
11. **Abrasive cream**
12. **Heavy Duty HP Laser Printer**
13. **1KVA or Compatible online UPS**
14. **Original electrically isolated mobile cart with Isolation Transformer and arm**

15.21 inches LCD display

The Equipment must be CE marked (MDD/CE Certificate) or FDA 510K approved or MHLW

Country of Manufacturer/ Origin of the Product: USA / Europe / Japan.

DRAFT

TEMPLATE FOR THE SPECIFICATIONS PREPARATION

Heavy Duty Mobile Suction Unit	
Clinical Specialty	Neurosurgery
Generic Name	Heavy Duty Mobile Suction Unit
Clinical Purpose	To be used in all kind of Neurosurgical procedure for suction
TECHNICAL SPECIFICATIONS	
Heavy Duty Mobile Suction unit with Twin jars of capacity upto 4 or 5 liters each	
Reciprocating Type Min 1/6 Hp of motor	
Aspiration rate upto 40-45 litres Minutes at 650-900mm Hg	
Vacuum Continuously Adjustable	
10 Bacterial Filtres	
Bottles Autoclaveable and Explosion Proof Footswtich with complete aspiration Set	
Overflow Satety Device	
220V / 50Hz / 1 Phase	
Details of aspiration set to be given by tender	
COMMENTS OF TAC	

Clinical Specialty	Neurosurgery
Generic Name	ICP MONITOR
Clinical Purpose	To be used in cranial problem to access intra cranial pressure

TECHNICAL SPECIFICATIONS	
ICP Monitor	
3 Steps Operation ICP (Mean, Systolic and Diastolic), ICT and CPP	
Portable Unit, built in handle and IV pole Clamp	
Automatic in vivo recalibration, measuring range 10 to 100 mmHg	
Continous monitprong of Cranial pressure and monitoring should be displayed on Monitor	
<u>Should be supplied with</u>	
Bolt Cathters	
Parenchymal Catheters	
Venticular Catheters	
Clinical Specialty	Neurosurgery
Generic Name	INTRAOPERATIVE NERVE MONITORING SYSTEM
Clinical Purpose	To be used in operation for Nerves
TECHNICAL SPECIFICATIONS	
A. 8 Channel EMG Touch Screen Monitor.	
B. Independent Stimulator.	
C. Clear and Loud EMG Signal Sound.	

D. Glare free and clearly visible EMG Signals.
E. Disposable EMG Monitoring Electrodes and stimulator probes for minimum 25 surgeries.
For:
1. Skull Base Surgeries.
2. Facial Nerve Surgery.
3. Minimal Invasive Surgeries.
4. Specialty Procedures.
Required Key Features:
<input type="checkbox"/> Audio / Visual EMG data
<input type="checkbox"/> Touch-screen controls
<input type="checkbox"/> Surgeon / Procedure Settings
<input type="checkbox"/> Menu driven
<input type="checkbox"/> Contextual trouble shooting
<input type="checkbox"/> IGS Integration
<input type="checkbox"/> Current Delivered Tone (CDT)
<input type="checkbox"/> "Stimulus" Voice
<input type="checkbox"/> Stimulus Value Voice
<input type="checkbox"/> Event Threshold
<input type="checkbox"/> Auto Event Threshold
<input type="checkbox"/> Event Capture

<input type="checkbox"/> "15S" & "60mS" screens
<input type="checkbox"/> 200, 500, 2000uV scale
<input type="checkbox"/> Print
<input type="checkbox"/> Video Output
<input type="checkbox"/> USB Output
<input type="checkbox"/> Freeze
<input type="checkbox"/> Measurement cursor
<input type="checkbox"/> Largest/Last
<input type="checkbox"/> Electrode Check
<input type="checkbox"/> Adjustable Muting
<input type="checkbox"/> Muting Indicator
<input type="checkbox"/> Volume Control
<input type="checkbox"/> Constant Current
<input type="checkbox"/> Constant Voltage
<input type="checkbox"/> Stim- Rate 1 and 4 per sec
<input type="checkbox"/> Stim- Dur 100 and 250 μ V
<input type="checkbox"/> Current Adjustable down to 0.01mA
<u>NOTE:</u>
Vendor will Supply Manuals of the quoted system.
Warranty with Parts: One Year from the date of Installation.
Warranty without Parts: Total TWO Years from the date of installation.

Free Preventive Maintenance on quarterly basis for TWO Years from the date of Installation.	
Vendor will ensure availability of all disposables, accessories and parts for next 10 years at cost, from date of installation.	
FDA & CE Certificates.	
Approved Panel: USA & Europe	
Future upgradeability of the purchased equipment for extended use will be considered as an added advantage.	
Delivery period: Maximum 3 months after establishment of clean Negotiable L/C at sight (without discrepancies).	

Clinical Specialty	Neuro Surgery
Generic Name	Intra-Operative Ultrasound
Clinical Purpose	Neuro- Surgery
TECHNICAL SPECIFICATIONS	
<ul style="list-style-type: none"> • High Resolution Digital Imaging of Cranial Spinal Structures including cervical spine with specialized transducers for neurosurgery • Real Time Imaging • Real time guidance for Shunt placement and burr hole biopsy etc. • Instant tumor margin delineation • Blood flow visualization • Localization of relative anatomy and nueronaviagation integration. • Featuring Quantum Technology™, /equivalent or better 	

- **An ideal solution for surgery, general imaging, high-end urology, and other clinical needs**
- High resolution 19" LCD monitor
- Sensitive Color Doppler with superb spatial resolution and sensitivity
- Advanced Imaging Technologies
- Intuitive and Mobile
- Four hours plug-free imaging
- Advanced puncture guides
- **Detailed images of the brain, spinal cord and neurovascular structures.**
- **Real-time image guidance and convenient, sterile needle guides.**

APPLICATIONS:

Neurosurgery,

TECHNICAL SPECIFICATION:

Imaging Modes : B, M, Color Doppler, PW Doppler, Tissue Harmonic
 Features and Options: AMA, MACI, Vector Flow Imaging (VFI)*, 3D Professional, Transducer Support, DICOM, Histo Scanning.
 Display: 19" LCD Flat screen (Portrait)
 Dimensions System height: 1350-1602 mm / 53-63 in
 Keyboard height: 745-1055 mm / 29-41.5 in
 Body width: 350 mm / 14 in
 Depth: 595 mm / 24 in
 Power Requirements: 200V-240V, 50-60 Hz)
 Console: swivels and tilts

OPERATING MODES:

B-Mode: , Dual B-Mode:, M-Mode:, M-Mode and 2-D:, CFM Color Doppler:, Tissue Harmonic imaging:, Power Doppler: , Duplex:, PW Doppler:, Triplex:, Directional Power Doppler:, Pulse Doppler steering:, 3D Imaging (Optional), Spectral Doppler

2D IMAGING MODES:

Max Depth (cm): 28cm (Probe Dependent)

Multi-frequency: yes (6)
 Gain: 0-100%
 Gray scale Levels: 256
 TGC: continuous touch screen
 Frame Rate: 600 Hz
 Focal Zones: 19
 Dynamic Range Total: 170 dB
 Reverse Left/ Right: Yes
 Reverse Top/ Bottom: Yes
 Image Magnification / Zoom: 15 Level

COLOR IMAGING MODES:

Doppler Steer Angels: 40° ±20°
 Duplex: Yes
 Triplex: Yes
M MODES
 Sweep Speed: 2 to 14sec/screen (1-9cm/sec.)

CINE:

Cine Frame: 3000
 Cine Doppler: 20min
 Loop Function: Yes
 Clip: Upto 8hrs in chapters of max. 5min.

BIOPSY LINE (Built-In)

SYSTEM SOFTWARE & HARDWARE (Upgradable for future options) MEASUREMENTS:

Digital Calipers, Distance, Area: ellipse/points/freehand, Angle A/R Reduction Time, Slope
 Heart Rate, Velocity, Acceleration, Spectrum trace, RI/ PI

CONNECTIVITY AND PERIPHERALS

High Res Display, DVD/ CD Recorder, USB Port, Ethernet Port
 3 x Active Transducer Port (2 for Array Transducer / 1 for Single Element Transducer)

Built-In Hard Disk Drive (500GB)
 Data Management and review facility with thumb nail, DICOM (Compatibility Optional)

Accessories:

1 x USB Foot Switch
 1 X DVD/ CD Recorder
 1 x Mobil Keyboard Dock with backpack and battery
 Multi Frequency Neurosurgery Transducer
 Frequency Range 10 - 3.8 MHz
 Transducer Categories Intra-operative, Neonatal, Neurosurgery, Pediatric
 Contact Surface 29 x 10 mm / 1.1 x .4 in
 Focal Range 5-68 mm / .2-2.6 in

Optional

Multi Frequency Neurosurgery Transducer

Clinical Specialty	Neurosurgery
Generic Name	Laminectomy Surgery Instruments set for Adult
Clinical Purpose	To be used in all kind of Spinal Procedure

TECHNICAL SPECIFICATIONS

Laminectomy Surgery Instruments set for Adult

	Description
SCALPEL HANDLE #3 E	
SCALPEL HANDLE #4 E	
BACKHAUS TOWEL CLAMP 135MM E	
RAMPLEY DRESSING FORCEPS, 250MM	
WATSON-CHEYNE DISSECTOR LGTH 191MM	
CAIRNS DOTT DISSECT.FORCEPS 178MM	
DISSECT.FORCEPS MED.WIDE 1X2T.180MM	
WAUGH DISSECT.FORCEPS 1X2T.184MM	

CUSHING DISSECT.FORCEPS STR.180MM	
METZENBAUM SCISSORS STR 145MM E	
METZENBAUM SCISSORS CVD 145MM E	
METZENBAUM SCISSORS CVD180MM E	
METZENBAUM DISSECT.SCISSORS CVD.200MM	
ANDERSON-ADSON RETR 4X4 SHARP 190MM	
WOUND RETRACTOR TRAVERS	
BECKMANN-ADSON RETR 4X4 SEMI-S 305MM	
HARVEY JACKSON RETRACTOR SHARP 3X3T.	
CASPAR RETR ONLY	
CASPAR BLD 4-PRONGS 37X52MM	
PENNYBACKER RONGEUR 203MM	
STILLE-RUSKIN BONE RONGEUR240MM	
LUER-STILLE BONE RONGEUR STR 225.MM	
LUER-STILLE BONE RONGEUR CVD 225MM	
STILLE BONE RONGEUR230MM	
LEKSELL RONG FCPSDBACT.CVD 245MM	
KERRISON 130DG-UP 2MM 180MM	
KERRISON 130DG-UP 3MM 180MM	
KERRISON 130DG-UP 4MM 180MM	
KERRISON 130DG-UP 5MM 180MM	
LOVE-GRUENWALD RONGEURSTR2X10MM130MM	
SPURLING RONGEUR STR 4X10MM135MM	
RONGEUR CHUSHING ANG.UP 3X140MM	
RONGEUR CUSHING ANGLED UP 4 X 140MM	
RONGEUR CHUSHING ANG.DOWN 3X140MM	
RONGEUR CHUSHING ANG.DOWN 4X140MM	
CUSHING RONGEUR STR 2X10MM180MM	
SPURLING RONGEUR STR 4X10MM180MM	

LOVE-GRUENWALD RONGUP-BITE3X10MM180MM	
SPURLING RONGCVDUP-BITE4X10MM178MM	
LOVE-GRUENWALD RONGDN-BITE3X10MM180MM	
SPURLING RONGEUR DWN-BITE 4X10MM180MM	
STILLE OSTEOTOME FINE 25/205MM	
FERG-FRAZIER SUCT 6FR 2/110MM WRK-LGTH	
FERG-FRAZIER SUCT 7FR110MM WRK-LGT	
FERG-FRAZIER SUCT 9FR 3/110MMWRK-LGTH	
FERG-FRAZIER SUCT 12FR 110MM WRK-LGT	
MAYO-HEGAR NEEDLE HOLDER150MM E	
MAYO-HEGAR NEEDLE HOLDER185MM E	
MAYO-HEGAR NEEDLE HOLDER200MM E	
TC MAYO-HEGAR NDLHOLDERHVYSERR150MM	
TC MAYO-HEGAR NDL HOLDERHVYSERR185MM	
TC MAYO-HEGAR NDL HOLDERHVYSERR205MM	
TC CRILE-WOOD NDL HLD RSTD SERR185MM	
CASPAR LAMI RETRACTOR TOT W/5 BLADES	
STERILIZATION CONTAINER SYSTEM:	
BOTTOM FOR CONTAINER, 592 x 274 x 120 OR BETTER	
PRIMELINE LID FOR CONTAINER BOTTOM	
STERILIZATION WIRE BASKET, 536X253X70MM OR BETTER	
LUBRICATION OIL SPRAY	
SILICONE PAD 470X230X30MM	
IDENTIFICATION LABEL FOR CONTAINER	
Accessories:	
Optional (If any):	

<p>Burr hole Multi Frequency Transducer 10–3.8 MHz Multi-Frequency T-Shaped Intra-operative Probe 4.3 to 10MHz Multi-Frequency Convex Probe 2 to 6MHz Digital Black & White Thermal Printer 256 Gray scale</p>	
Clinical Specialty	Neuro Surgery
Generic Name	Neuro-Surgery Surgical Light
Clinical Purpose	Neuro- Surgery
TECHNICAL SPECIFICATIONS	
<u>OPERATION THEATRE LIGHT</u>	
<ul style="list-style-type: none"> ▪ Shadow less LED Type Operating Lamp with spring balanced ceiling suspension. ▪ Hermetically sealed dust proof light head ▪ Light intensity of main light min 160,000 Lux at 1 meter distance ▪ Light intensity of Satellite min 160,000 Lux at 1 meter distance ▪ Light intensity of Satellite min 120,000 Lux at 1 meter distance ▪ Shadow Management System ▪ Automatic Laser Focusing ▪ Individual LED Replaceable ▪ Adjustable Color Temperature 3500-5000K ▪ Light field Dia-meter 20cm to 30 cm ▪ Color Rendering Index Ra 98 ▪ Dimming Range 30-100%, 5 % Endo Mode ▪ Average LED Life 40,000 hours ▪ Complete with Sterilizeable Handles (03) 	
<u>INTEGRATED CAMERA SYSTEM</u>	
<ul style="list-style-type: none"> ▪ Medical Grade Full HD Camera, Pixel 2,000,000 Integrated in the Mian Light Head. ▪ Aspect Ratio: 16:9 ▪ Horizontal Resolution: 1080 ▪ Zoom: 10 x Optical , 12 x Digital 	

- **Automatic White Balance**
- **Motorized Picture Rotation**

3rd Arm

3rd Arm for the installation of the Medical Grade monitor.

Accessories

1 x HD LCD/LED Medical Grade Monitor Size 32" On Wall, Flush Installation

1 x HD Medical Grade Video Recorder

6 x Sterilizeable Handle

<u>Micro Electrode Recording (MER) system</u>	
CPU	At least Intel Core 2 Duo 2.8GHz
Memory	At least 4GB RAM
Hard Disc	2 Hard discs each with at least 320GB,
	one for patient data, one for operating system
Graphic resolution	At least 1920x1080
Interfaces	At least 14x USB
	at least 4 of them accessible from the front and at least 6 by separate USB interface cards
	2x LAN, Audio In and Out, DVI, VGA,
	2x PS2 (mouse, keyboard), 1x RS232
	Video In – Capture cards (Chinch, S-Video)
	DVD R/W
Operating system	Windows XP or Windows 7

Network possibility	via TCP/IP interface
System Component Amplifier:	
At least 5 channels for micro recordings, 5 channels for macro local field potential and up to 16 channels of any differential measurements.	
Amplifier can be mounted directly on the operating table, so that the electrodes can be connected directly on the active amplifier and no extra adaptors are required.	
Display range	0.005 μ V/DIV – 10V/DIV
Amplifier bandwidth	At least 0.5Hz – 5kHz
Amplifier input impedance	>100M Ω
Maximum input noise level	<3.4 μ Vpp
Resolution	At least 16bit
Sampling rate	At least 20kHz/channel
Blanking time	programmable
	1ms – 4ms
Impedance measurement	Impedance measurement simultaneously on all input channels possible.
Trigger Input	3x TTL
System Component Stimulator:	
Stimulator	Constant Current Stimulator
5 Channel Direct Nerve Stimulator	
Stimulation current	0.01mA to at least 6mA (max. 100V)
Stimulation frequency	2Hz – 1kHz

Stimulation mode	Macro contact
Polarity	monophasic negative
Pulse duration	60µs - 2000µs
Current flow control display	Continuous testing and displaying, if the desired current is delivered.
<u>Micro Drive:</u>	
<p>This is the fourth generation of the sophisticated high-precision instrument used by surgeons and medical professionals around the world to position electrodes during stereotactic interventions and in deep brain stimulation.</p>	
<p>Chance to reload the MicroDrive during the operation with up to 5 electrodes.</p>	
MicroDrive is completely sterilizable in autoclave.	
<p>Optional depth sensor can be mounted on MicroDrive. Depth sensor provides depth information for MER software.</p>	
<p>Orientation of MicroDrive can be changed in an angle of 45°. So the orientation of the electrodes switch between a + and x orientation.</p>	
<p>Depth stop of electrodes prevent of a wrong usage of them.</p>	
<p>Haptic feedback gives the user control about the depth. Every complete round the user feel that feedback.</p>	
Range of 40mm with a resolution of 0.05mm	

Accessories:

Connecting cable for electrodes is reusable and can connect between 1 and 5 channels. One connector for each channel.

No changes for switching between recording and stimulation necessary.

Torque meter for tightening fixations posts and pins are available.

Biopsy needles and probes available as reusable and single use items.

Supports additional tools for Brachytherapy.

Complete range of accessories for stimulation and recording for nearly all applications.

Individual adapter boxes for stimulation and recording with the possibility of flexible attachment at the bedside. Cable length at least 5 metre.

Manual stimulation matrix for interconnection of at least 8 electrode contacts for cortical stimulation and at least 6 electrodes for transcranial electrical stimulation to a high-current stimulation channel.

Connecting cable for electrodes is reusable and can connect between 1 and 5 channels. One connector for each channel.

No changes for switching between recording and stimulation necessary.

MER Software for windows-systems, MER Software Upgrade for windows-system
Brain Stimulation software for windows-system
Headbox MER 5 channel amplifier MER, inclusive 5 channel simulator,
inclusive position sensor USB, trigger in/out
Connection cable U5S-MER for voltage supply, 2x USB connectors
Recording cable 5 channels for MicroMacro electrodes
Recording cable 5 channels for iMM- and FHC-electrodes
MicroDrive manual with position sensor hand operated, range 40 mm, resolution 0.05 mm, autoclavable.
MicroGun for MicroDrive bore hole 1.1 mm applicable for electrodes with depth marks
Electrode holder for MicroDrive bore hole 1.9 mm applicable for electrodes with depth stop
Electrode holder for DBS-electrode Screw set for MicroDrive 2 screws for MicroGun,
2 screws for electrode holder, screw for electrode holder slide Screw set for electrode holder applicable
Ruler for DBS electrode Position.
Brush for cleaning the microgun AD = 3 mm
Hex wrench for MicroDrive Set screw
Fixing screw long isolated tip ,Fixing screw short isolated tip,Fixing screw for MicroGun ,in MSV base plate

Fixing screw short Fixing screw long Screw for electrode holder
MicroMacro electrode 0,6 mm with depth stop
MicroMacro electrode 0.8 mm with depth stop
MicroMove electrode with depth mark MicroMove electrode with depth stop
Macro electrode 0.8 mmwith depth stop
Guide Tubes for MicroMacro electrodes
Guide Tubes for MicroMove electrodes
Guide Tubes for MicroMove electrodes
Guide Tubes for DBS electrode
Optional (If any):
Displaying the monitor image in real time on an external PC or iPad via LAN/WLAN, using special software and galvanic isolation according to IEC 60601-1.
Integration of measurement data of S5 patient monitor
Integration of measurement data of monitor
Interface to operation microscope with the possibility for the surgeon to follow the monitoring in the eyepiece and control the display by himself.
Possibility to record the whole screen inclusive operation video and audio signal with help of a VGA Frame Grabber and storage as avi-file to network.
LFP Module for MERRecording of 5 Macro LFP channels
Connection cable LFP MER to LFP module
Connection cable LFP to LFP module

Recording cable LFP module 5 channels for MicroMacro electrode	
Clinical Specialty	neurosurgery
Generic Name	C-Arm Flouroscope
Clinical Purpose	A real time fluoroscope to be used per operatively in operation theaters
TECHNICAL SPECIFICATIONS	
<ul style="list-style-type: none"> • The C-Arm Should be compatible with Neuro-Navigation System for real time image transferring during procedure. • Mobile Fluoroscopy System for Radiography and Fluoroscopy • High Frequency, power output of 15 KW or more • Image Intensifier Size: 9” • 360 Degree Clockwise Rotation of the C-Arm. • 95° & 48° Orbital Movement of the C for Spine Surgery • 40 to 120 kv with one shot fluoroscopy facility of 75 mA or more • High Dose Pulse Fluoro Mode: ma range 0.2 ~ 20 or more • Minimum 20,000.00 Image Storage on HDD. • X-Ray Tube with rotating anode • Anode heat capacity: 3000,000 HU. • Automatic Fluoro dose control • Collimator: • TV Camera : High sensitivity, CCD camera, 1kx 1k pixels with last image hold 	

- **Display: Two (18" or more) LCD/LED/TFT monitors, medical quality**
- **Laser pointing device**
- **DICOM compatible**
- **Noise reduction filter, last image hold, pulsed fluoroscopy**
- **Edge enhancement, image inversion**
- **Real time digital image rotation**
- **Fluoroscopy footswitch: one cassette holder 35x35 cm**
- **BNC composite image output for navigation system**

5. Lead Aprons 10 Nos

6. Lead Neck Collar 10 Nos

7. Lead Goggles 10 Nos

Imported of USA/Europe and Japan

Clinical Specialty

Neuro Surgery

Generic Name

Aseptic Modular Operating Room

Clinical Purpose

Neuro- Surgery

TECHNICAL SPECIFICATIONS

WALL PANELING SYSTEM

- **Should be smooth Anti-Bacterial Powder coated.**
- **Modular SS with 304 grade steel, 1 mm to 1.2 mm with Plastic board core 18mm thickness, Wall Panel shall be mounted substructure, easy to remove Air tight medical grade silicone (Removable & Reusable) in-between the joint.**
- **Panels should be covered with protective sheath to prevent Scratch during Installation.**
- **Corners should be one sheet bent to avoid corner joint OR contoured corners**
- **Minimum Seamless Sealed Junctions**
- **The manufacturer shall provide Hygiene Certificate of the complete Solution.**
- **Conductive/Antistatic**

- **Sound Level less than 44dB**
- **Fire Retardant**
- **Resistant to commonly used detergents as per standards**
- **3 Glass Wall Panel with support panel in single color. 6mm VSG with color coating on the backside is glued with a non-flammable supporting panel. Joint sealing by removable and reusable silicone rubber profile. The width of the Glass Panel is 1250 mm x3000mm.**
- **The Glass Wall panel shall be individually printed with high resolution pictures according to user requirement.**

CABINET FOR OT

- **Built-in Cabinet system integrated in the wall.**
- **Size Approx 4.5 x 2 x 7 Feet. (WXDXH)**
- **Made of stainless steel sheet 1 mm, powder-coated / polished.**
- **Tall cabinet with 2 leaf doors each, sealed all round with rubber seal. The cabinet should have at least 3 stainless steel shelves; height of each is adjustable**

AUTOMATIC SLIDING DOOR

- **Size: 1500 x 2100mm.**
- **The Door Shall be used in O.R Environment and having CE (MDD) Certification for Medical Use.**
- **Automatic Sliding Door Stainless Steel Grinded. Stainless Steel Material 301/316L.**
- **Thickness of the Door Leaf Stainless Steel Panel is minimum 1mm.**
- **Door Frame is also made of Stainless Steel, thickness minimum 1mm**
- **Resistance to cleansing products and disinfectants.**
- **Surfaces and wall connections are hygienically smooth and free from pores.**
- **Vertical Continuous Sealing of the door to avoid pressure loss.**
- **Duplex Sandwich construction of the Door leaf with a special chipboard, impact proof approximately thickness 40-50mm.**
- **Heavy Duty Mortise Lock**
- **Inspection Window 400 x 600mm±5%**
- **2 x Door Opening Handles in case of Manual opening.**
- **Pressure Sensor on the Door Leaf from Bottom to top for Obstacle detection and safety.**
- **Complete with Fitting, Necessary components, Switches, Pressure Sensor for Obstacle**
- **Hand free opening /Closing of the door from Out Side/ In-side Operating Room.**

AUTOMATIC DOOR DRIVE

Microprocessor Controlled

- **Self-Learning**
- **Automatic Reversing**
- **Built-in Emergency Power Supply Unit/Battery**
- **Door Functions:**
 - **OFF**
 - **Permanent Open**
 - **Partially Open**
 - **Complete Open**
 - **Changeover (Open/Closed)**
- **Adjustable Opening Speed from 10-50cm/sec**
- **Adjustable closing speed from 10-50cm/sec**

HINGED DOOR

- **Size: 1200 x 2100mm.**
- **The Door Shall be used in O.R Environment and having CE (MDD) Certification for Medical Use.**
- **Automatic Sliding Door Stainless Steel Grinded. Stainless Steel Material 301/316L.**
- **Thickness of the Door Leaf Stainless Steel Panel is minimum 1mm.**
- **Door Frame is also made of Stainless Steel, thickness minimum 1mm**
- **Resistance to cleansing products and disinfectants.**
- **Surfaces and wall connections are hygienically smooth and free from pores.**
- **Vertical Continuous Sealing of the door to avoid pressure loss.**
- **Duplex Sandwich construction of the Door leaf with a special chipboard, impact proof approximately thickness 40-50mm.**
- **Heavy Duty Mortise Lock**
- **Inspection Window 400 x 600mm±5%**
- **2 x Door Opening Handles.**
- **Complete with Fitting, Necessary components and fittings.**

ANTI-STATIC VINYL FLOORING

- **Thickness 2-3mm**
- **Seamless**
- **Scratchproof**

- **Shelf leveling material should be lay down before Placement.**
- **Spill proof**
- **Hard enough for wheeled trolleys and equipment to roll on**
- **Stain free, antistatic, conductive and bacterial eliminating**
- **Anti-skid**
- **Smooth skirting on to the side walls**

PERIPHERAL LIGHTS

- **Luminaire should be made of highly resistant laminated safety glass which should ensure 100% shatter protection OR LED 2'x2' panel**
- **RGB Lighting for better working environment.**

LAMINAR AIR FLOW SYSTEM

- For use in operating rooms to provide low-turbulence displacement airflow, to be installed in the ceiling void, and comprising:
 - Size: Minimum 2877mm x 2877mm x 400-650mm
 - Total airflow volume: 6800 m³/h
- To obtain a vertical laminar pure stream (<than 5% turbulences) the air is distributed through a polyester fabric. The system should consist of:
 - A filter frame on the clean side made of extruded anodized aluminium profiles to support the HEPA-filters, horizontally placed over the whole blowing surface.
- **Single-layer textile distributor, for easy cleaning on both sides.**
- **The frame made of a minimum number of crossbars to ensure an optimized flow.**
- **OT-light tripod passage through the air distributor with a minimized blind area, meeting highest hygienically standards.**
- **The filters to be assembled with the double seal system for continuous testable impermeability of both the frame structure and the filter seals to keep the cavity between filters and frame under negative pressure through connection to an air extraction duct.**
- **The structure on the side of the unfiltered air builds an airtight pressure chamber (in Steel 02 sendzimir galvanized) with connection points for the recycled air and the primary air. The airtight OT-light box should be accessible from the clean-air side to allow easy adjustments on the OT-light tripod.**
- **The system to be characterised as one continuous even level without hinges or screws.**

Technical Data:

Size: 2877 x 2877 x 450 - 650mm
Pressure drop: 60 Pa
Total air volume: 6800 m³/h
Velocity: 0.24 m/s
N° of filters: 8 pcs. H14 610x610x78 mm
N° of filters: 12 pcs. H14 610x457x78 mm
N° of filters: 4 pcs. H14 457x457x78 mm
Filter seal: Double seal system
OT-lamp passage: 1 pc.
Air distributor: ACO-TEX one layer

AIR GUIDING SKIRT

Canopy ceiling mounted, 4-sided in laminated security glass 6.8mm fully surrounded by anodized aluminium profiles for air guiding in core zone. Free transit level at approximately 2100mm above finished floor level with a multifunctional anodized aluminium profile 83x26 mm with 3 grooves.

HVAC SYSTEM

- **Required Volume 6800-7200m³/h**
- **Temperature Range Adjustable 17-26°C**
- **Chassis with no thermal bridge**
- **Double-skin panels with fitted gasket, outer surface in lacquered steel, inner surface in stainless steel with compressed seal.**
- **High quality thermal and acoustic insulation, 42 mm thick panels with rock-wool lagging (density 90kg/m³ preventing condensation on the outside and excellent sound attenuation. Fire-risk class A, inflammable**
- **+ European standard EN 13 501-1.**
- **Centrifugal fan, directly-coupled EC motor with outside rotor ensuring high performance and avoiding pollution from worn belts.**
- **Constant air-flow control, compensating filter fouling**
- **Air speed over cooling coils 2.5 m/s maximum**
- **Condensate tray and collector in stainless steel (in conformity with the recommendations of French standard NF S 90-351)**
- **Available static pressure ranging from 50 to 1200 Pa to compensate pressure drop caused by ducting network and**

clogging filters.

- **Three modes : fresh and recycled air, all fresh air, all recycled air Adjustment of fresh air and exhausted air outputs to obtain required level of pressure in the room treated**
- **Highly efficient filtration : three-stage, adapted to the particle-free standard required**
- **Precise temperature control no matter what the outside conditions**
- **Cooling : capacity obtained by a direct-expansion condensing unit or centralised chilled water supply**

ENERGEY BRIDGE SYSTEM (O SHAPED, 4 SIDED)

Anodized Aluminum /Stainless Steel Structure

- **Turn-around on Energy Supply Bridges for easy movement of the Trolley around the table.**

Accessories on Head and Foot End

- **2 x O₂ outlets**
- **2 x N₂O outlets**
- **2 x Vac outlet**
- **2 x Medical Air Outlets (4-5 Bar)**
- **2 x Trolley's with 4 Shelves and 2 Drawers.**
- **4 x Equipotential Bounding Pins / Earth Pins**
- **8 x Power Sockets (Universal Type)**

Accessories on Surgeon /Assistant Side

- **2 x Vac Outlets**
- **2 x Medical Air Outlets 4-5 Bar**
- **2 x Medical Air Outlets 7 Bar**
- **2 x Trolley's with 4 Shelves and 2 Drawers.**
- **4 x Equipotential Bounding Pins**
- **8 x Power Sockets (Universal Type)**

SURGEON CONTROL PANEL

- **LCD Touch Screen Surgeon Control Panel.**

- **Display Size: 21 Inch or More**

Functions

- **Clock, Time and Counter**
- **Door Access and Blind Control**
- **Atmosphere (Temp and Humidity Control)**
- **Radiation Signal**
- **Surgical Light Control**
- **Peripheral Light Control**
- **Alarms (Medical Gases, Laminar Air Flow, Temperature & Humidity)**
- **Up-Gradable for the Integration System, Real Time Audio / Video management and PACS.**

X-RAY VIEWERS

- **X-Ray Viewer box of size minimum 14" x 17" to view 2 films simultaneously.**
- **Adjustable Brightness Control**
- **Complete with Shutter**

SURGICAL SCRUB STATION MINERAL COMPOSITE MATERIAL

- **2/3 Bay Scrub Station.**
- **High quality steel, matt ground, with grain, made from mineral composite resistant to all normal cleaning agents and disinfectants used in hospital,**
- **Specially designed for the specific needs of operating theatres and laboratory areas, and has a raised front edge to protect from splashing**
- **The macroscopically smooth and free from pores surface is easy to clean**
- **Thermostat wash basin mixer tap for use with arm lever operation**
- **Chrome surfaces, metal arm lever 250 mm, swivel area 100 \emptyset , ceramic tap piece 1/2", expansion material thermo element, temperature selection handle with pre-selected safety stop between 35°C and 45°C. Special fitting to facilitate thermal disinfecting Concealed S-connections, wall mounting.**
- **Chrome surface, infra-red electronic with start detection in a close up area, stop detection functions by body detection, battery electric supply type CRp2, graduated battery control (flashing signal) automatic safety switch turns off after 60 Sec**
- **Complete metal casing in cool touch design temperature, selection handle, with safety stop between 35°C and**

45°C, special fitting type IP 69, fitting panel group 1 in accordance with DIN4109, functions activated by remote control 26206: Automatic flushing follows 1 or 3 days after last operation by the wall mounted system.

- Soap and Disinfection Agent Dispenser for disinfecting agent, lotion, liquid soap, etc. aluminum casing and pump suitable for autoclave, longer, high grade steel lever, operated by elbow, changeable high grade steel pump, 3 adjustable measuring amounts (max 1.8 ml/Hub), for 1 L disposable bottles (also refillable)
- Elbow operating Soap Dispenser

Local of Scope of Work:

- Civil work directly and indirectly related to installation of system as indicated in the Drawing.
- Any reinforcement, restructuring of existing facility, including water supply and drainage system etc will be the responsibility of the firm

All electrical work directly or indirectly related to installation of system including sockets, extension wires, electric cable etc will be the responsibility of the firm.

Optional

Medical Grade DVR

Clinical Specialty	Neuro Surgery
Generic Name	Neuro-Surgery Operating Table With Carbon Accessories
Clinical Purpose	Neuro- Surgery

TECHNICAL SPECIFICATIONS

MOTORIZED OPERATING TABLE

Table Top (Radiolucent) with antistatic mattress, Six sections including split sections and equipped with X-ray cassette holder. Sturdy table for minimum patient weight of **325kg** in normal position with the following parameters:-

- Base of the table stainless steel cover, 4 swivel castors
- 5th Motorized wheel for the movement of the table
- Electrical Locking Mechanism of the Table.
- Table top length 2200mm
- Table top width 580mm
- Override panel for Table movements and locking

- X-ray cassette tunnel should be full length of the Table Top
- Oil Free Technology.

TABLE TOP IS ARRANGED AS:

- Head plate
- Back plate (Upper and Lower Back Section)
- Seat plate
- Two part Spreader leg section (one section).

MOVEMENT (REMOTE CONTROLLED):

- Position of the table should be operated electro-hydraulically / Electro-Mechanical (Oil Free)
- Up and down movement height range: 750-1100mm
- Trendelenburg/ Reverse Trendelenburg 30-35⁰
- lateral tilt 25⁰
- Back plate: up 80⁰/down 40⁰
- Leg plate ±90⁰
- Zero position: automatic
- Longitudinal shift: 270 mm or more
- **Flex/ Reflex: 220°/ 140°**
- **Operating Voltage: 220V, 50Hz with battery backup and manual override in case of electric supply failure.**

Accessories:

Crossbar attachment
Adapter for head positioning
Basic unit neuro
Skull clamp adapter
Multipurpose skull clamp
Skull pin holders
Head support
Skull pins for adults & Children

HORSESHOE-SHAPED, HEAD REST

Head rest, horseshoe-shaped
 Adapter for head positioning
 Central holder for head rest system
 Connection holder with joint short
 Cross joint
 Head rest horseshoe-shaped two parts

SPINE SURGERY ACCESSORIES

Spinal cord positioning device: To attach at foot end; used to position Patient knees during spinal column surgeries; with crank for height Adjustment; motorized leg section joints drive up and down movements; Radiolucent via C-arm; pad electrically conductive, soft and detachable; Velcro-fastened pad; stainless steel load-bearing structure Height adjustment: 300 mm
Trolley for positioning and transport of spinal cord positioning devices; during column or shuttle use; stainless steel
Iliac Roll with Lateral Support Adjustable to table top width; lateral supports can be adjusted to body width; pads integrally foamed, electrically conductive and soft; stainless steel frame Height adjustment: 400 mm
Cushion To support the patient's thorax; foam pad
Spine Bridge Wilson Frame, Adjustable flexion range; with crank for height adjustment; unrestricted radiolucency
Pad for operation at in vertebral disc large Foam pad is electrically conductive
Pad for Prone Positioning Device

Optional

RADIOLUCENT ACCESSORIES FOR NEUROSURGERY

Radiolucent Swivel adapter
 Radiolucent Retainer
 Radiolucent Coupling piece
 Radiolucent Adapter 3-joint narrow
 Radiolucent Head rest system

Clinical Specialty	Neurology
Generic Name	NCS/ EMG machine
Clinical Purpose	To be used for detection of nerve and muscles abnormality

TECHNICAL SPECIFICATIONS

NCS/ EMG machine

- **Pre configured machine with accessories kit.**
- **PC based system with Windows operating system and inbuilt patient centric database.**
- **Latest EMG/NCS acquisition and review software.**
- **Predefined and user configurable test protocols.**
- **Continues EMG recording up to 10 min.**
- **Storage to EMG with full acquisition resolution.**
- **Archival recorded exams/reports CD/DVD.**
- **Printing of reports on heavy duty HP laser printer**
- **Ether LAN connectivity.**
- **Upgradable to Intra Operative Monitoring System.**

NERVE CONDUCTION STUDY

- Motor Nerve Conduction Study
- Sensory Nerve Conduction Study
- Repetitive Stimulation
- F-wave
- H Reflex
- Blink Reflex

SOMATOSENSORY EVOKED POTENTIAL

- SEP (Somatosensory Evoked Potential)
- SSEP (Short Latency SEP)
- ECG-SSEP (ECG-triggered SSEP)
- ESCP (Evoked Spinal Cord Potential)

AUDITORY EVOKED POTENTIALS

- ABR (Auditory Brainstem Response)

- MLR (Middle Latency Response)
- SVR (Slow Vertex Response)
- EcochG (Electrocochleogram)

VISUAL EVOKED POTENTIALS

- VEP (Visual Evoked Potentials) with pattern, flash, goggle and external stimulator
- ERG (Electroretinogram)
- EOG (Electrooculogram)

EMG/NCS Amplifier:

- No. of channels: 12
- Input impedance: 1000 MOhm (Common Mode).
- CMRR:>106db (Balanced Mode).

CMRR:>112db (Isolation Mode).

- Noise level: 0.6 uV RMS or better
- Low-cut filter: 0.01, 0.02, 0.05, 0.1, 0.2, 0.5, 1, 2, 5, 10, 20, 30, 50, 100, 200, 500Hz, 1, 2, 3 kHz (\pm 20%)
- Skin electrode contact impedance check: 2, 5, 10, 20, 50 k Ω .
- A/D converter: 18 bits

Constant Current Electrical Stimulator:

- Stim Current, 0- 100mA
- Stim Voltage, 400V
- Stim Duration, 50us – 1ms
- Stim types, single, pair, train

Standard Accessories:

1. Concentric needles electrode 20mm.

2. **Concentric needles electrode 50mm.**
3. **Bi-polar needle electrode.**
4. **Extension cable for concentric needle electrode.**
5. **Extension cable for bi-polar needle electrode.**
6. **NCS extension cable.**
7. **NCS disposable electrode.**
8. **Ground electrode.**
9. **Finger electrode.**
10. **Surface stimulation electrode.**
11. **Conductive paste.**
12. **Abrasive cream.**
13. **Heavy Duty HP Laser Printer**
14. **1KVA or Compatible Online UPS**
15. **Original electrically isolated mobile cart with Isolation Transformer and arm**
16. **21 inch Color LCD.**

The Equipment Must be CE marked (MDD/CE Certificate) or FDA 510K approved or MHLW

Country of Manufacturer: USA / Europe / Japan

Clinical Specialty	Neuro Navigation
Generic Name	NeuroNavigation
Clinical Purpose	Used in cranial and spinal lesion localization preoperatively

TECHNICAL SPECIFICATIONS

Latest & Advanced Neuro Navigation System along with complete Accessories or equivalent

Two Carts, on Caster, lockable system. To localize and operate on small lesion of brain with pin pointed accuracy. Vital role placement of brain implants especially deep brain stimulation electrodes and implants. To improve safety of the operations reduces unnecessary bleeding. System must navigate with precise accuracy through Advanced Optical Navigation for adults

Electromagnetic Navigation Technology for Peads & Infants.

4. Technical Parameters of the System:

- | | |
|-------------------------------------|----------------------------------|
| a) Input Voltage | 220V - 240V |
| b) Operating Temperature | 18° to 33°C |
| c) Operating Pressure | 70kPa (700 – 1050 mbar) |
| d) Operating Altitude | 3000m maximum |
| e) Input voltage | 220 to 240 V |
| f) Maximum Current Allowed | 4.5 A |
| g) Typical Power Dissipation | 600 V-A |
| h) UPS | 5 Minutes autonomy |
| i) Relative Humidity | 10% to 80% Non-condensing |

5. Required Specifications (as below or Equivalent):

a) Surgeon Cart:

- | | |
|---|-----------------------------------|
| a) Surgeon Cart Weight | 104 Kg |
| b) Surgeon Cart Footprint | 58cm x 61cm |
| c) Surgeon Monitor Dimension | 38 cm H x 58 cm W x 7 cm D |
| d) Surgeon Monitor Weight | 7 – 9 kg |
| e) Surgeon Monitor touch Screen Resolution | 1920 x 1200 dpi, 60 Hz |

b) Staff Cart

- a) Navigation visualization screen and camera with extended camera volume & equipped with built-in Laser Pointer for precise & hassle free centering of the camera on the field of surgery.
- b) Interface for transfer of exams via CD/USB
- c) Bug Free Operating system
- d) Computer 8 GB Ram
- e) 1 TB HD
- f) High Graphic Processor.
- g) DICOM query/retrieve compatible

h) Staff Cart Footprint	58cm x 61cm
i) Staff Cart Weight	148 kg
j) Staff Monitor Dimensions	33cm x 38 cm x 4.5 cm
k) Staff Monitor Weight	3 kg
l) Staff Monitor Display	Resolution = 1440 x 900 dpi, 60 Hz

c) Application Softwares:

1- Cranial Software:

Planning & Navigation in a single Module & in Main Navigation Station. Software should support Planning, Registration in prone or any required position of the patient, Navigation, 3D and volumetric visualization engine (volume rendering) to check and avoid vessels and probable bleeding points during surgery. Procedure guided software (next/back buttons) with voice prompt, instruction window and task visualization. Choice of different patient registration methods for:

- a) **Frameless** Brain Biopsy
- b) **Pin Less Procedures**
- c) Tumor resection
- d) Shunt Placement
- e) Navigated Neuro Endoscopy
- f) Adult & Pediatric

2- Spine Software:

- a) Spine software to simplify and standardize the entire planning and navigation process. Views for each type of CT or Fluoro-Based procedures (Cervical, Thoracic, and Lumber)
- b) Seamless interface to a variety of C-arm Images from the C-arm should automatically be imported and be calibrated for navigation use. Real time tool positions overlaid onto previously acquired images.
- c) Compatible with Intra-operative O-Arm, C-arms.
- d) Capability to integrate with IONM

3- Image Merging Software for both Cranial & Spine:

- a) To merge CT, MRI (T1, T2, flare) and PET
- b) To merge & visualize multiple data sets on Navigation Station.
- c) Auto Merge.

4- Deep Brain Stimulation Software:

- a) **Stereotactic Planning Software with Functional Brain Atlas.**
- b) **Advanced 3-D modeling capabilities and display of three orthogonal views**
- c) **Multiple surgical plans with automatic calculation of frame settings**
- d) **Alternatives for anatomical structures localization such as predefined and customizable formulas, interactive Schaltenbr and-Wahren Atlas and Talairach Grid.**
- e) **Image reformatting relative to AC-PC line, so that functional targets are displayed relative to AC-PC**
- f) **Enhanced target localization by audiovisual integration of physiological signal and simultaneous display of recording position**
- g) **Automatic frame detection and registration of stereotactic frames**
- h) **Support of all commonly used stereotactic frames (Leksell or Fischer Stereotactic Frames)**
- i) **Support Frameless DBS procedures, Depth Electrode and other stereotactic frame-based procedures**
- j) **Preoperative verification of the surgical plan by virtual “probe’s eye view”**

5- DICOM Query / Retrieve Software:

To search, view and download patient exams directly from the hospital network to the Navigation System.

- a) Query of PACS systems for patient data
- b) Push and pull patient data from PACS or single scanner location, from the main Navigation Station.
- c) Conform to industry accepted DICOM standards
- d) DICOM receive from any DICOM storage class provider

- e) Patient data viewing capability within the navigation application

6- Accessories

A. Cranial Instruments:

- a) Articulated Arm
- b) Passive Planar Blunt with minimum three ports of spheres
- c) MRI/CT Markers
- d) Passive Cranial Frame
- e) Sterile Spheres
- f) Cranial Navigation Tray
- g) Equipment Ref. Sheet
- h) Skull Model with pre-loaded exam

B. Spine Instruments:

- a) **Compatible Interface for C-Arm / An interface for C-Arm 9" or 12".**
- b) **Open Spine Clamp**
- c) **Open Spine Clamp driver**
- d) **Thoracic Clamp**
- e) **Reference Frame**
- f) **Passive Planer Ball Tip with minimum three ports of spheres**
- g) **Awl, Probe and Tap with trackers.**
- h) **Spine model with holder & pre-loaded exam**

C. Universal Instrument Adapter System:

- a) Small, Medium and Large Passive Trackers
- b) Small, Medium and Large Mounts
- c) Mount Driver
- d) Sterilization Tray

D. Cranial Biopsy Instrument Kit:

- a) Articulated Arm
- b) Mount, Double Star Adapter Mayfield
- c) Biopsy Guide
- d) Probe
- e) All Necessary Accessories

E. Microscope Integration.

F.

- a) Display of the microscope focal point on anatomical images
- b) Display of ROI and Navigation symbols in oculars

G. IGS Disposables:

- I. Disposable Reflective Markers / Spheres= 500pcs
- II. Registration Markers (compatible with CT / MRI) = 200pcs
- III. Biopsy Needles = 20

H. Electromagnetic Tracking System for Pin-Less Pediatric Cranial Navigation with All Necessary Accessories.

Operating Temperature	18° to 33°C
Atmospheric pressure	500 to 1060 mbar
Input voltage	220 to 240 VAC
Maximum Current Allowed	2.0A
Nominal Power Dissipation	100 watts
Humidity	10% to 80% non-condensing
Dimensions	560 x 236 x 84 (mm)
Weight	4.8 kg
Maximum Operating Altitude	3000m
Procedure Dedicated electromagnetic Kits for Pediatric tumor resections	= 10 pcs
Procedure Dedicated electromagnetic Kits shunt replacements	= 10 pcs.

NOTE: Technical Offers / Commercial Offers failing to demonstrate below details would be rejected:

- a) Quoted System must be of advanced & Latest version.
- b) Quotation must cover Complete Equipment.
- c) Quotation must cover Complete range of disposables / Kits
- d) Quotation must provide all technical details up to the satisfaction of the end-user.
- e) CE / FDA Approved

8. Maintenance and Liability

- a. The supplier will do 6 monthly inspection, and do maintenance for 3 years from date of installation
- b. Supply maintenance, on cost of running spares of equipment for next 5 years.

Supplier will ensure demo of functioning, training for maintenance and cleaning.
- d. Literature for equipment including operating manual, operating instructions.

9. Country of Manufacturer

- a. **USA.**
- b. **Europe**

11. Delivery Period: Within 3 months after signing of the contract

12. Warranty: 02 (Two) years from the date of installation/ commissioning of equipment into service.

Clinical Specialty	Neurosurgery
Generic Name	Operating Microscope
Clinical Purpose	Used in all kind of microneurosurgical procedures with good illumination and magnification
TECHNICAL SPECIFICATIONS	
Microscope in swivable and tiltable suspension	
Mobile floor stand with lock in provision equipped with electromagnetic brake system	
Rotatable joint arms	
Motorized height adjustment of floor stand	
Effortless positioning in all directions via gross focus handles for all movements for neurosurgery with hand controls for all functions	
Motorized XY adjustment	
Motorized fine focusing and continuously variable internal focusing system from 200 to 400mm via front lens	
Motorized zoom system 1:6	
Fiber optic illumination	
Tiltable eye piece head 0 to 180° with IPD adjustment	
Two wide angle oculars 10 / 12.5X with dioptic fixation	
Xenon light source 175 W with integrated back-up xenon lamp	
Foot switch with joystick, 12 functions, waterproof	
One set of sterilizable caps	
Dust covers	
Operate able on 220V AC, 50Hz	
Optional:	
Beam splitter for documentation	
Stereoscopic observer head with 3 axis inclination and image erection, straight eyepiece head, two oculars 10X / 12.5X with dioptic fixation for spectacle wears and one set of sterizable caps	
Video camera attachment with original 1-Chip CCD high resolution color video camera (PAL) with 21" color TV DVD recorder	

Clinical Specialty	NEUROSURGERY
Generic Name	OPHTHALMOSCOPE
Clinical Purpose	Used to see fundus to rule out intracranial pressure problems

TECHNICAL SPECIFICATIONS

Sr.No	DESCRIPTION
1	Ophthalmoscope with small aperture standard aperture, concentric scale, slit aperture, min 65 corrective lenses in one diopter step, 3.5 volt halogen illumination or better,
2	Cell battery handle,
3	one spare bulb and a case
	IMPORTED OF USA, EEC & JAPAN
	Graded / Not Graded

Clinical Specialty	Neuro Endoscopy
Generic Name	Cranial Endoscopy
Clinical Purpose	A rigid endoscope used in paediatric age groups for endoscopic procedures

TECHNICAL SPECIFICATIONS

Neuro-Endoscope, with detachable handle, for freehand operating maneuvers,

Consisting of:

Operating sheath, graduated, size 2.6 mm x 4.0 mm, working length 15cm, with three working channels for irrigation/suction and for instruments size 1.3 mm, for use with telescope

Handle, for operating sheath

<p>Mandrin for operating sheath</p> <p>Forward Oblique- Telescope 0°, enlarged view, diameter 2 mm, length 26 cm, autoclavable, fiber optic light transmission.</p> <p>Telescope 12°, enlarged view, diameter 2 mm, length 26 cm, autoclavable, fiber optic light, transmission incorporated.</p> <p>Scissors, single-action jaws, semi-rigid, diameter 1.3 mm, working length 30 cm</p> <p>Biopsy Forceps, double action jaws, diameter 1.3 mm, working length 30 cm</p> <p>Grasping Forceps, double-action jaws, semi-rigid, diameter 1.3 mm, working length 30 cm</p> <p>Unipolar Coagulating Electrode, semi-rigid, diameter 1.3 mm, working length 30 cm</p> <p>Bipolar Coagulation Electrode, diameter 1.3 mm, working length 30 cm</p> <p>Bipolar High Frequency Cord, Length 300 cm,</p> <p>Unipolar High Frequency Cord, with 5 mm plug, length 300 cm,</p> <p>Balloon Catheter, O.D. 0.7 mm, length 40 cm, sterile, single use, 10 pieces</p>	
Clinical Specialty	Polysomnography
Generic Name) Polysomnography
Clinical Purpose	A description of the essential clinical or other objective/s associated with the device's utilization, e.g. anesthesia units (allow the anesthetist to) dispense a mixture of gases and vapors and vary the proportions thereof to control a patient's level of consciousness and/or analgesia during surgical procedures.
TECHNICAL SPECIFICATIONS	
<p>Standard starter kit for sleep diagnostic adult for head box and PSG-1100</p> <p>Thermo couple sensor adult-----1</p> <p>Inductive belt-----1kit</p> <p>Chest and abdomen interface cable----1kit</p> <p>Snore sensor-----1</p> <p>Body position sensor-----1</p> <p>Box of disposable ECG electrode -----1</p> <p>Snap connection cable-----1</p>	

EEG cub electrode-----1pack
 Tube of connection part ----1
 Extension cable -----4
 Tubes of skin pure /skin preparation gel-----2
 Spo2 connection cable and probe-----1

Clinical Specialty	Neurosurgery
Generic Name	Skull base Endoscopy
Clinical Purpose	Skull base Endoscopy

TECHNICAL SPECIFICATIONS

Punch for resection of the
 Uncinateprocess with round
 movable tip, upside backward cutting, working
 length 10 cm

Nasal Forceps, straight, working length 13 cm,
 size 0

Nasal Forceps, through-
 cutting,
 tissue- sparing, extra delicate, working length 13 cm, straight,
 size 1, 8 mm x 3 mm

Nasal Forceps, straight,
 through-
 cutting, tissue-sparing, , size 0, width 3 mm, working
 length 13 cm

Nasal Forceps with extra fine flat jaws, through cutting,
 tissue-sparing, bite 1.5 mm, working length 18cm, straight, sheath, jaws 45°
 Downturned

Forceps, round cupped jaws, diameter 0.6 mm, extra delicate, straight, working length 18 cm

Forceps, round cupped jaws, diameter 2.5 mm, straight, working length 18 cm

Scissors, very delicate, straight, working length 18 cm

Scissors, very delicate, curved right, working length 18 cm

Scissors, very delicate, curved left, working length 18 cm

Insulated Suction Cannula, nasal, length 10 cm

Insulated Suction Cannula, working length 17 cm, O.D. 3.5 mm, angular

Insulated Suction Cannula, for nose and epistaxis, angular, distal with non-insulated horn for coagulation, O.D. 3.5 mm, working length 12 cm, for use with unipolar high frequency cord

Suction Tube, with cut-off hole and stylet, with calibration markings, working length 15 cm, 3 mm \varnothing , lateral opening right, curved right

Suction Tube, with cut-off hole and stylet, with calibration markings, working length 15 cm, 3 mm \varnothing , lateral opening left, curved left

Coagulation Ball Electrode, diameter 2 mm, laterally curved, working length 13 cm

Coagulation Ball Electrode, diameter 4 mm, laterally curved, working length 13 cm

Sickle Knife, slightly curved, pointed, length 18 cm

FREER Suction Elevator, with mandrin, length 19 cm

Punch, circular cutting, for sphenoid, ethmoid and choanalatresia, diameter 3.5 mm, working length 18 cm

Punch, circular cutting for sphenoid, ethmoid and choanalatresia, working length 18 cm, diameter 4.5 mm

Curette, stirrup-shape, blunt, with round handle, length 25 cm

Curette, round spoon, tip slightly angled, size 3 mm, with round handle, length 25 cm

Curette, round spoon, tip slightly angled, size 2 mm, with round handle, length 25 cm

Elevator, sharp, slightly curved spatula, tip angled 15°, size 2 mm, with round handle, length 25 cm

Dissector, sharp, round spatula, tip angled 45°, size 3 mm, with round handle, length 25 cm

Dissector, sharp, round spatula, tip angled 45°, size 2 mm, with round handle, length 25 cm

Suction- Curette, with round wire, ID 7 mm, tip angled 45°, LUER, length 25 cm,

Suction- Curette, with round wire, ID 5 mm, tip angled 45°, LUER, length 25 cm

scalpel, with telescopic blade, Micro Knife pointed

scalpel, with telescopic blade, Micro Knife sickle shaped

Suction, Curette, basket-shape, round wire, size 6.5 mm, rotating tubing-connector, length 25 cm, with stylet

Suction, Curette, basket-shape, round wire,

size 5 mm, rotating tubing- connector, length 25 cm,

Curette, hook-shaped to the left, width of hook 2.5 mm, thickness of hook 0.5 mm, round handle, length 25 cm

Curette, hook-shaped to the right, width of hook 2.5 mm, thickness of hook 0.5 mm, round handle, length 25 cm

Ring-Curette, round wire, ductile, ID 7 mm, tip angled 45°, with round handle, length 25 cm

Ring-Curette, round wire, ductile, ID 5 mm, tip angled 45°, with round handle, length 25 cm

Ring-Curette, round wire, ductile, ID 3 mm, tip angled 45°, with round handle, length 25 cm

Curette, round wire, ID 7 mm, tip angled 45°, with round handle, length 25 cm

Curette, round wire, ID 5 mm, tip angled 45°, with round handle, length 25 cm

Curette, round wire, ID 3 mm, tip angled 45°, with round handle, length 25 cm

Curette, round wire, ID 7 mm, tip angled 90°, with round handle, length 25 cm

Curette, round wire, ID 5 mm, tip angled 90°, with round handle, length 25 cm

Ring- Curette, round wire, ID 3 mm, tip

angled 90°, with round handle, length 25 cm

Ring- Curette, round wire, ID 7 mm, tip laterally angled 90°, with round handle, length 25 cm

Curette, round wire, ID 5 mm, tip laterally angled 90°, with round handle, length 25 cm

Ring- Curette, round wire, ID 3 mm, tip laterally angled 90°, with round handle, length 25 cm

Curette, round wire, ID 7 mm, distally curved shaft, with round handle, length 25 cm

Curette, round wire, ID 5 mm, distally curved shaft, with round handle, length 25 cm

Curette, round wire, ID 3 mm, distally curved shaft, with round handle, length 25 cm

Ring- Curette, vertical, round wire, ID 7 mm, long curved, with round handle, length 25 cm

Ring- Curette, round wire, ID 5 mm, vertical long curved, with round handle, length 25 cm

Ring- Curette, horizontal, round wire, ID 7 mm, long bended, with round handle, length 25 cm

Ring- Curette, horizontal, round wire, ID 5 mm, long curved, with round handle, length 25 cm

Take apart Bipolar Forceps, delicate jaws, width 1 mm, distally angled 45°, size 3 mm, working length 20 cm,

Irrigation Sheath, O.D.5,0mm, working length 24cm, for use with

Telescope 30 degree

Forward-Oblique Telescope 30°, enlarged view, diameter 4 mm, length 18 cm, autoclavable, Fiber optic light, transmission incorporated,

Irrigation Sheath, O.D.5,0mm, working length 24cm, for use with Telescope 0 degree

Straight Forward Telescope 0°, enlarged view, diameter 4 mm, length 18 cm, autoclavable, Fiber optic light transmission incorporated,

Unipolar HF cable universal end

Bipolar HF cable universal end

Holding System, autoclavable, with fastener: Lock,

Lens clear Irrigation System for Telescopes,
power supply: 100-240 VAC, 50/60 Hz

Clinical Specialty	Neurosurgery
Generic Name	Spinal Endoscope
Clinical Purpose	To be used all kind of spinal procedure

TECHNICAL SPECIFICATIONS

Puncture Needle, including stylet, diameter 1.8 mm, working length 18 cm, with 1.3 mm opening for guide wire

Guide Wire, unsterile, diameter 1.2 mm, length 31 mm, package of 10

Dilation Sleeve, OD5,2mm, ID 1.5 mm, graduated, length 23cm,

Dilation Sleeve, OD8.9 mm, ID 5.3 mm, graduated, length 21 cm,

Dilation Sleeve, graduated, inner diameter 9 mm, outer diameter 12.7 mm, length 19 cm,
Dilation Sleeve, OD14.9mm, ID12.9mm, graduated, length 17cm,
Dilation Sleeve, OD16.9 mm, ID15.1 mm, graduated, length 15cm,
Dilation Sleeve, OD18.9 mm, ID17.1 mm, graduated, length 14 cm,
Dilation Sleeve, OD20.9 mm, ID19 mm, graduated, length 13 cm,
Trocar, diameter 15 mm, working length 39mm.
Trocar, diameter 19 mm, working length 40mm.
Trocar, diameter 23 mm, working length 43 mm,
Trocar Attachment, diameter 15 mm,
Telescope Holder, diameter 15 mm,
Trocar Attachment, diameter 23 mm,
Telescope Holder, diameter 23 mm,
Trocar Attachment, diameter 19 mm,
Telescope Holder, diameter 19 mm,
Trocar, diameter 23 mm, working length 94 mm, for use with
Forward-Oblique Telescope 25°, 4 mm, 11 cm
Trocar Attachment, diameter 23 mm,
Telescope Holder, diameter 23 mm,
Forward-Oblique Telescope
25°, eyepiece angled 90°,
diameter 4 mm, length 6 cm, autoclavable, fiber optic
light transmission incorporated.
Forward-Oblique Telescope
25°, eyepiece angled 90°,
diameter 4 mm, length 11 cm, autoclavable, fiber optic

light transmission incorporated.

Fiber Optic Light Cable, with straight connector,
diameter 3.5 mm, length 230 cm

KERRISON Bone Punch, dismantling, 90° upbiting, not
through-cutting, 2 mm, working length 24 cm

KERRISON Bone Punch, dismantling, 90° upbiting, not
through-cutting, 4 mm, working length 24 cm

KERRISON Bone Punch, dismantling, 40° upbiting, not
through-cutting, 2 mm, working length 24 cm

KERRISON Bone Punch, dismantling, 40° upbiting, not
through-cutting, 4 mm, working length 24 cm

KERRISON Punch, dismantling, bayonet-shaped, fixed,
downbiting 40° forward, 2 mm, working length 17 cm

KERRISON Punch, dismantling, bayonet-shaped, fixed,
upbiting 40° forward, 2 mm, working length 17 cm

Hook Scissors, single action jaws, diameter 2.5 mm,
working length 25 cm

Spoon Forceps, dismantling, robust, oval, spoon size 3 x 10 mm,
single action jaws, working length 20 cm

Dissector MORTINI dead hand, bayonet shaped, 3 mm,
curved upwards, with round handle, sharp, working length 16 cm

Dissector, distal end tapered , bayonet-shaped, working
length 15 cm

Nerve Hook, distal width 3 mm, bayonet-shaped, working
length 16 cm

Nerve Hook, distal width 5 mm, bayonet-shaped, working
length 16 cm

scalpel, with telescopic blade,

Consisting of:

Handle

outer tube

Micro-knife, pointed

Suction Tube, with distal nerve retractor, with cut-off hole,
diameter 2.7 mm, working length 15 cm

Nerve Retractor, angled 30°, distal width 5 mm, working
length 17 cm

Dissector, sharp, tip angled 15°, with round handle, size 2 mm,
length 25 cm

Palpation Hook, straight, distally 10 mm long and angled 90°,
with ball, working length 20 cm

Nerve Retractor, hook length 2 mm, diameter 4 mm, angled
sheath, working length 20 cm

Bipolar Coagulating Forceps, insulated, bayonet-shaped,
tip 0.7 mm, length 23 cm, for use with bipolar high frequency

Bipolar Coagulating Forceps, insulated, bayonet-shaped,
tip 1.2 mm, length 23 cm,

Nasal Dressing Forceps, bayonet-shaped,
length 20 cm

Plastic Container for sterilizing, suitable for steam, gas, and
hydrogen peroxide (Sterrad®) sterilization and storage, perforated,
with lid, external dimensions (w x d x h): 321 x 90 x 45 mm for use
with two rigid endoscopes up to max. 20 cm working length.

Plastic Container for Sterilization and Storage of Variable
Instrument Sets, perforated, with transparent lid, with silicone
mat, two-level storage, (1 additional insert), external dimensions

(w x d x h): 545 x 260 x 115 mm consisting of: 2x 39360 AP Snap-in Clip, package of 12 2x 39360 AS Silicone Tie-Downs, pack.

Rotation Socket to clamp on the operating table with one already mounted butterfly , for use with European and United States standard rails, with lateral clamping element for height and angle adjustment of the articulated stand

Articulated Stand, reinforced version, only, L-shaped, with one mechanical central clamp for all five joint functions, height 48 cm, operating range 52 cm, with fastener:

Bipolar High Frequency Cord, Length 300 cm,

Clinical Specialty	Neurosurgery
Generic Name	Stereotactic Frame
Clinical Purpose	To be used in Cranial Surgery with 1mm precision for use of Biopsy, lesion Generation and DBS

TECHNICAL SPECIFICATIONS

STEREOTACTIC FRAME CARTESIAN COORDINATE SYSTEM

The stereotactic system should be Arc centered with a 190mm more or less radius, and be based on a Cartesian coordinate system.

Open Stereotactic system that can be used with CT and MRI scanners including 3T systems.

The Cartesian coordinate system shall conform to the X-, Y-, and Z- nomenclature used in CT- and MR –scanning.

The total accuracy of the system should be minimum 0.7mm (with accuracy certification) and certification in this regard to be provided along with FDA and CE certificates.

There shall be sterilization trays tailored for the frame and arc system included in the delivery.

The principal components of the stereotactic system shall include a Cartesian coordinate frame and a full semicircular arc with counter scale.

There should be three options of lengths of the posterior posts (long, medium, short)

The guide and stop inserts should be able to split into two parts to enable effective cleaning.

The stereotactic system should include CT and MR adapters to secure and support the patient's head during scanning ensuring accurate imaging.

Should be supplied with all reusable instruments for biopsy, hematoma evacuation and catheter placement and other functional neurosurgery accessories.

The base frame of stereotactic system should have the capability to be utilized as a head holder for micro-surgical applications (adapter for Microsurgical Accessories, Fork and Clamp type.)

Frame must have the ability for 3-point fixation to the patient to enable fixation even in cases where a bone flap is limiting a 4-point fixation to the skull (Slotted front piece.)

The stereotactic system should provide the ability for rigid 3-point fixation of the frame to the operating table (Frame Fixation)

The CT and MR Indicator box should not be a limitation for how low the frame may be mounted (Open MR Indicator, Open CT Indicator).

System should be supplied with USFDA, CE certificate and system accuracy certificate

SURGICAL PLANNING SYSTEM for use in Stereotactic and Functional Neurosurgery.

The system shall allow the user to virtually place entry and target points directly within images of the patient's brain acquired from CT, MR and Angiography.

The system shall allow to interactively visualize and examine the tissue that the surgical pathway will affect.

The system shall allow to avoid critical structures such as blood vessels, cranial nerves or other critical structures by adjusting the virtual surgical pathway prior surgery.

It shall be possible to simulate any number of surgical pathways.

The system shall be able to import and display CT, MR, PET and Angiographic images.

Images should be possible to import directly from CT, MR and PET scanners via hospital networks or CD.

Imported images shall be automatically scaled and quality controlled.

Target should be possible to outline semi-automatically or manually, and non-continuous regions should be allowed.

3D visualization of the images shall be possible using different 3D renderings, including open book and cut box, and with all defined objects displayed.

It must possible to define the AC-PC line whether or not it lies with a single image plane.

The system should enable co-registration of frame-bases and frameless images.

The system should be Linux based.

It should be possible to design a workspace that displays more than 4 image window.

System should be supplied with USFDA, CE certificate and system accuracy certificate

ACCESSORIES:

Titanium /Aluminum Alloy head ring unit

CT/MR Compatible, consisting of 3 head fixing posts, artifact free head ring holder for Mayfield, applicable for titanium ring or frame

Head ring, target point adjusting unit for X. Y. Z axis sterilization box

CT/MR localization set for titanium and aluminum ring

Screw set for CT and MR localizer

Universal CT and MR adapters

Aiming bow with carriage sled with micrometer advance, instrument holder and sterilization box

Microdrive

Microdrive should have working distance channel of 40mm to integrate completely with the stereotactic frame with a mechanical resolution of 50 μ m and be designed for optimal, accurate positioning of electrodes in the brain when performing MER, macro stimulation and lead electrode implantation. For the optimal accuracy, the system should have the guide and stop holders.

The system should be able to hold up to five electrode(s) simultaneously and enable to record Multiple single tracks using any one of the five positions, without adjusting the arc.

Should enable the surgeon to operates with micro electrodes, combined micro-macro electrodes, macro electrodes and lead electrodes.

Should have manual control which allows continuous recording during movement of the electrode(s). The system should be

compatible with all MER systems available in the market.

System should be fully autoclavable and should be supplied with all necessary dedicated sterilization trays and components.

All necessary universal Guide tubes, microdrive bipolar lesion electrode kit, and other DBS guide tubes should also be provided.

ACCESSORIES :

Micro Drive

Electrode Holder for DBS Electrodes

Screw Set for Micro drive

Hex Wrench for Micro drive

Cleaning Brush

Long and short fixing screw

Screw for electrode holder

Micro Macro electrode 0.6mm with depth stop,

Macro electrodes 0.8mm with depth stop,

Recording cable 5 channel for Micro Macro electrodes

Guide tube for Micro Macro; electrodes

Guide tube for DBS electrodes

Universal guide tube Micro Drive

Neuro Generator Pulsed RF (for 110-120/220-240V)

Complete system for neurosurgical macro-stimulation and lesioning, including

Pulsed Radiofrequency mode. Complete with cables and remote control (for

stimulation mode). Electrodes need to be specified separately.

For 110-120/220-240V.

Consist Of :

Remote Control

Stimulation Cable
Neutral Plate for Neuro Generator
Neutral Plate Cable for Neuro Generator
Instructions for Use, Neuro Generator
Quick Reference Guide, Generator with Pulsed RF
Main Cable, China (Aus) type
Main Cable, British type
Main Cable, US type
Main Cable, Swedish type

STEREOTACTIC SYSTEM WITH POLAR COORDINATE

The stereotactic system Full/Half Arc based on Polar Coordinate with working length upto 280mm.

The Polar Coordinate System conforms to the X-, Y-, and Z nomenclature used in CT- and MRI-scanning.

Sterilization trays tailored for the frame and arc system included in the delivery.

The principal components of the stereotactic system include a Polar Coordinate System frame and arc.

Numeric coordinate values engraved on the frame and arc, and displayed in millimeters

Patient fixation

3-Point fixation on the patient's head ring with pins.

The Arc incorporate a sliding instrument carrier for use with instruments such as needles, electrodes and other micro-surgical instruments.

Three options of lengths of the posterior posts (long, medium, short).

The arc on the frame should be able to move allowing to attain the same target through two or more trajectories.

The parts of the system should be detachable to enable effective cleaning.

The instrument carrier have separate adjustable guide and stop so that the guide can be brought close to the skull opening, in order to optimize accuracy.

The stereotactic system have a standard scanner console software based method and a pre-operative planning, software for target coordinate determination.

The stereotactic system include adaptor for CT and MRI to secure and support the patient's head during scanning ensuring accurate imaging.

The imaging adapters adjustable to ensure a parallel scan plane without involving manipulation of the gantry of the scanner.

The total accuracy of the system should be < 0.5 mm, provided by the certificate by the manufacturer.

The stereotactic system with fixed patient positioning during CT and MR scanning for reproducibility of examinations, parallel and equidistant scans and allow for accurate target determinations.

The system (frame and arc) suitable for pediatric stereotaxy (for children over 2 years of age).

The system for safe patient transport in terms of the weight (not to exceed 4 pounds) of the system.

The base frame compatible with X-Ray, CT and 1.5T and 3T MRI. The stereotactic system with transoral or transnasal intubation at any time during the procedure.

The stereotactic system for an approach inferior to the Frame for posterior fossa and transphenoidal trajectories.

The stereotactic system provide fixation Point for utilization as Positioners and stabilizers for frame placement on the Ring.

The stereotactic system for arc fixation to the frame in both the lateral (in either right to left or left to right) as well as the sagittal (in either anterior/posterior or posterior/anterior) orientation.

The base frame of stereotactic system have the capability to be utilized as a head holder for micro-surgical applications (adapter. for Microsurgical Accessories, Fork and Clamp Type)

The system is validated for gas sterilization (ETO), Steam Sterilization (autoclaving) and Gas plasma sterilization).

The stereotactic system have the option of reusable skull fixation pins and biopsy needles (Reusable Fixation Screws and Reusable Biopsy Needle Kit)

Frame have the ability for 3-point fixation to the patient to enable fixation even in cases where a bone flap is limiting a 4-point fixation to the skull (Slotted from piece)

The stereotactic system provide tool for the Targer Point Verification in X,Y,Z coordinates after the complete Planning, that is used the accuracy of the complete frame and the arc.

The stereotactic system provide the ability for rigid 3-point fixation of the frame to the operating table (Frame Fixation).

The system with X-Y or polar coordinates set on both sides of the arc and frame to ensure the highest possible accuracy.

The stereotactic system have a tool that can be used under sterile condition to test the straightness of the needles and electrodes before performing surgery (Needle tester).

The CT and MR Indicator box not be a limitation for how low the frame may be mounted (Open MR Indicator, Open CT Indicator).

The fixation screws available in different lengths to provide the best solution for each patient in stereotactic neurosurgical treatments (different lengths, available in Titanium)

Quick and easy to drape the frame and arc.

A see-through drape that is tailor-made for the system is available. All drapes can be used in stereotactic system

PLANNING SOFTWARE

The Planning Software allow the user to virtually place entry and target points directly within images of the patient's brain acquired from CT, MR. and Angiography.

The Planning Software will allow to interactively visualize and examine the tissue that the surgical pathway will effect.

Life time free Re-Installation of the software and Free upgrading.

The Planning Software allow to avoid critical structures such as blood vessels, cranial nerves or other critical structures by adjusting the virtual surgical pathway prior to surgery.

Planning Software has Possibility to simulate any number of surgical pathways.

The Planning Software have an intuitive and easy-to-use graphical user interface and image handling.

The Planning Software is able to import and display CT, MR, PET and Angiographic images. Images possible to import directly from CT, MR and PET scanners via hospital networks or CD. Imported images automatically scaled and quality controlled.

The Planning Software automatically reconstruct images in directions other than that of the original tomographic image study that was imported.

All open image views correlated and reformatted in real time.

The Planning Software able to fuse two image studies, and have different fusion functions.

Planning Software Includes interactive blending in real time.

Outlined targets and paths possible to project onto all open image views and imaging modalities, including that targets outlined on angiographic Images projected onto CT, MR and PET data sets.

Possible to outline semi-automatically, or manually, and non-continuous regions allowed.

Planning Software is easy to simulate different surgical paths, and to manipulate them directly in the images.

Localization, planning and manipulation possible across different image views (axial, sagittal, coronal) and modalities (CT, MR, angle, PET)

Planning Software has facility for Placement and visualization of an unlimited number of targets, entry-points and trajectories.

Planning Software will provide the user with the stereotactic coordinates, including the ring and arc angle necessary to realize any of the virtual surgical pathways intra-operatively.

Planning Software is able to recalculate new arc and ring coordinates for a predetermined surgical pathway if the surgeon desires to reorient the arc position for any of the following orientations, Right to left, Left to right, Anterior to Posterior and Posterior to Anterior.

Planning Software give possibility to visualize planned trajectories along the probes eye view and parallel to The probe, in both 2D and 3D format, to show surrounding and traversed tissue.

The system able to create several surgical pathways by using the same target point but different entry points.

The Planning Software have the ability to reuse an entry point to plan any number of surgical pathway through a single craniotomy for multiple targets.

Planning Software offers 3D vitalization of the images possible using different 3D renderings including open book and cut box, and with all defined objects displayed.

The Planning Software is able to make stereotactic length measurements.

Possible to define the AC-PC line whether or not it lies within a single image plane.

The AC-PC line defined in 3-D space to allow correct re-alignment of the patient images and localization of targets defined by AC-PC line based formulas.

Planning Software Realign the patient's images to the AC-PC line.

Localize functional targets defined by AC-PC line based formulas. Generate a printout treatment protocol including all planned parameters as well as patient data, copies of planned images, and a skull plot.

Snapshots to take directly from the screen, allowing complete documentation of custom layouts and image sections.

Snapshots and treatment protocols in pdf.

Snapshots and treatment protocols easily exported from the planning station to a USB key.

Planning Software enables Import and export patient files via a USB key.

Complete on-line help with advanced search functions.

Planning Software enable pre-planning of the target location and probe trajectory using frameless images.

Planning Software enable co-registration of frame based and (frameless images)

The system able to combine different image modalities such as CT, MR and PET.

Planning Software will be installed on a PC Laptop.

With Planning Software patient files organized in a true database that enables easy search, sorting and export of patient data.

Planning Software is possible for the user to design new workspace layouts which displays original or reconstructed images.

Possible to design a workspace that displays 4 image window

ACCESSORIES:

Titanium /Aluminum Alloy head ring unit (1)

CT/MR Compatible, consisting of 3 or 4 head fixing posts, artifact free head ring holder for Mayfield, applicable for titanium ring or frame (1)

Head ring, target point adjusting unit for X. Y. Z axis (1)
sterilization box (1)

CT/MR localization set for titanium and aluminum ring (1)

Screw set for CT and MR localizer (1)

Universal CT and MR adapters (1)

Aiming bow with carriage sled with micrometer advance, instrument holder and sterilization box (1)

Test needle/Tester Needle (1)

MICRODRIVE

Microdrive manual with Position Sensor for MER for positioning of One or several electrodes of range 40mm to integrate completely with the stereotactic frame with a mechanical resolution of 50 μ m and be designed for optimal, accurate positioning of electrodes in the brain when performing MER, macro stimulation and lead electrode implantation.

For the optimal accuracy Micro Drive have the DBS holder and electrodes holders.

The Micro Drive able to hold up to five electrode(s) simultaneously and enable to record Multiple single tracks using any one of the five positions without adjusting the arc.

Enable the surgeon to operate with micro electrodes, combined micro-macro electrodes, macro electrodes and lead electrodes.

Manual control which allows continuous recording during movement of the electrode(s).

Micro Drive compatible with all MER systems available in the market.

Micro Drive fully autoclavable and supplied with all necessary dedicated sterilization trays and components.

All necessary universal Guide tubes microdrive bipolar lesion electrode kit, and other DBS guide tubes also be provided.

ACCESSORIES :

Micro Drive (1)

Electrode Holder for DBS Electrodes (1)

Screw Set for Micro drive (1)

Hex Wrench for Micro drive (1)

Cleaning Brush (1)

Long and short fixing screw (1)

Screw for electrode holder (1)

Micro Macro electrode 0.6mm with depth stop, disposable (05)

Macro electrodes 0.8mm with depth stop, disposable (05)

05 Recording cable 5 channel for Micro Macro electrodes

02 Guide tube for Micro Macro; electrodes

05 Guide tube for DBS electrodes

05 Universal guide tube Micro Drive

Clinical Specialty	Neuro Surgery
Generic Name	Neuro-Surgery Operating Table with Transferrable Table Top
Clinical Purpose	Neuro- Surgery

TECHNICAL SPECIFICATIONS

OPERATING TABLE COLUMN

To attach operating table tops. Electrical motor-driven adjustment of height, lateral tilt and Trendelenburg/ anti-Trendelenburg. Wireless remote control operation, optional cable remote control or foot pedal control possible; additional operating panel on column. The maintenance-free batteries, which are integrated in the column, are charged from an interior power pack. Stainless-steel covers are resistant to disinfectant agents.

UNIVERSAL OPERATING TOP

Two-piece table top segment with 4 electrical motors for adjusting the segments, consists of seat and lower back section; longitudinal shift with electrically motorized adjustment, plus manually adjustable coupling points for the lower back section (head end). Integrally foamed (bi-colored as well) or viscous elastic pads. Table top frame, coupling points and standard rails are resistant to disinfectant agents and constructed with stainless steel.

TABLE TOP IS CONSISTING OF FOLLOWING:-

Head Section (Double Joint Adjustable)
Upper Back Section
Lower Back Section
Seat Section
Two Part Leg Section

SHUTTLE (TRANSPORTER)

Transporter for maneuvering the operating table tops either by themselves or together with the mobile operating table column; Trendelenburg/ anti-Trendelenburg continuously adjustable by crank, special stainless steel transfer unit is resistant to disinfectants, the chassis is made of disinfection-resistant aluminum alloy.

TECHNICAL DETAILS:

Length (coupling to coupling): 995 mm
Width over standard rails: 600 mm

Pad width:	545 mm
Adjustment range Height	520mm to 1070mm
Adjustment range Lift	550mm
Rotation	330°
Trendelenburg / Anti Trendelenburg	$\pm 45^\circ$
Tilt	+30°
Leg section:	$\pm 90^\circ$, electrically motorized, individually and parallel
Lower back section:	+ 85° / -55°, electrically motorized
Upper back section:	+ 90° / -55°, manual
Longitudinal shift:	350 mm, electrically motorized
Maximum patient weight:	360 kg.

Accessories:

Crossbar attachment
 Adapter for head positioning
 Basic unit neuro
 Skull clamp adapter
 Multipurpose skull clamp
 Skull pin holders
 Head support
 Skull pins for adults & Children

HORSESHOE-SHAPED, HEAD REST

Head rest, horseshoe-shaped
 Adapter for head positioning
 Central holder for head rest system
 Connection holder with joint short
 Cross joint
 Head rest horseshoe-shaped two parts

SPINE SURGERY ACCESSORIES

Spinal cord positioning device: To attach at foot end; used to position Patient knees during spinal column surgeries; with crank for height Adjustment; motorized leg section joints drive up and down movements; Radiolucent via C-arm; pad electrically conductive, soft and detachable; Velcro-fastened pad; stainless steel load-bearing structure Height adjustment:

300 mm

Trolley for positioning and transport of spinal cord positioning devices; during column or shuttle use; stainless steel
Iliac Roll with Lateral Support Adjustable to table top width; lateral supports can be adjusted to body width; pads integrally foamed, electrically conductive and soft; stainless steel frame Height adjustment: 400 mm

Cushion To support the patient's thorax; foam pad

Spine Bridge Wilson Frame, Adjustable flexion range; with crank for height adjustment; unrestricted radiolucency

Pad for operation at in vertebral disc large Foam pad is electrically conductive

Pad for Prone Positioning Device

Optional

RADIOLUCENT SKULL CLAMP SYSTEM FOR NEUROSURGERY

Radiolucent Swivel adapter

Radiolucent Retainer

Radiolucent Coupling piece

Radiolucent Adapter 3-joint narrow

Radiolucent Head rest system

OPTIONAL

Dedicated Carbon Table Top, one-part operating table top made of carbon fiber with electrically motorized adjustment of longitudinal and transversal shift; with coupling point at head end for attaching head positioning accessories; 360° radiolucent; with Velcro;

Dimensions (LxW): 90.1 in x 22.0 in (2290 mm x 560 mm)

Dimensions side rail: 0.89 in x 0.39 in (25 mm x 10 mm)

TECHNICAL COMPARATIVE ANALYSIS / Diathermy Bipolar

Specifications Finalized	Make: Force FX 8C	Make: Conmed	Make: Bowa	Make: Giester
	Model:	Model:	Model:	Model: ESU X 300N

	Valley Lab	5000	ARC-350	
	Country of Origin: USA	Country of Origin: USA	Country of Origin: Germany	Country of Origin: Germany
Microprocessor based solid state electrosurgical unit for normal and under water cutting				
Separate controls for monopolar and bipolar coagulation				
RF power for monopolar cutting not below 300 watts				
Monopolar coagulation 120 watts or better				
At least 3 blend modes				
Bipolar coagulation not below 50 watts with floating output				
Spray coagulation				
Bipolar cutting power 120 W		90 watts		Optional
Earth free patient circuit				
Complete with following accessories				
Foot switch, reusable patient plate, monopolar handle with cord and surgical needles				
(Knife, ball electrode, loop electrode and needle 12				
Non-stick bipolar forceps with cord cable (Straight & bayonet & Angled shaped all electrosurgical unit to conform to IEC 601-1 standard		Stickable		Stickable
Locally trolley with imported lockable wheels				
The system must have automatic self test				
220V 50Hz 1-Phase				

TECHNICAL COMPARATIVE ANALYSIS / Microscope

Specifications Finalized	Make: Leica,	Make: OPMI-VARIO
	Model: M525 MS3	Model: Carl Zeiss

	Country of Origin: Germany	Country of Origin: Germany
Microscope in swivable and tiltable suspension		
Mobile floor stand with lock in provision equipped with electromagnetic brake system		
Rotatable joint arms		
Motorized height adjustment of floor stand	No	
Effortless positioning in all directions via gross focus handles for all movements for neurosurgery with hand controls for all functions		
Motorized XY adjustment	No lateral movement	
Motorized fine focusing and continuously variable internal focusing system from 200 to 400mm via front lens		
Motorized zoom system 1:6		
Fiber optic illumination		
Tiltable eye piece head 0 to 180° with IPD adjustment		
Two wide angle oculars 10 / 12.5X with dioptic fixation		
Xenon light source 175 W with integrated back-up xenon lamp	Backup Halogen	
Foot switch with joystick, 12 functions, waterproof		
One set of sterilizable caps	No	
Dust covers		
Operate able on 220V AC, 50Hz		
Optional:		
Beam splitter for documentation		
Stereoscopic observer head with 3 axis inclination and image erection, straight eyepiece head, two oculars 10X / 12.5X with dioptic fixation for spectacle wears and one set of sterizable caps	3 axis inclination is not present	
Video camera attachment with original 1-Chip CCD high resolution color video camera (PAL) with 21" color TV DVD recorder	No	

TECHNICAL COMPARATIVE ANALYSIS / Advanced Neuro Navigation

Latest & Advanced Neuro Navigation System along with complete Accessories or equivalent

Two Carts, on Caster, lockable system. To localize and operate on small lesion of brain with pin pointed accuracy. Vital role in placement of brain implants especially deep brain stimulation electrodes and implants. To improves safety of the operations and reduces unnecessary bleeding. System must navigate with precise accuracy through Advanced Optical Navigation for adults and Electromagnetic Navigation Technology for Peads & Infants

MEDTRONIC BRAINLAB MICROMARS SCOPIC S

4. <u>Technical Parameters of the System:</u>	MEDTRONIC	BRAINLAB	MICROMARS	SCOPIC S
<u>b) Staff Cart</u>				
a) Navigation visualization screen and camera with extended camera volume & equipped with built-in Laser Pointer for precise & hassle free centering of the camera on the field of surgery.	YES	NO	NO	NO
b) Interface for transfer of exams via CD/USB	YES	NO	NO	NO
c) Bug Free Operating system	YES	NO	NO	NO
d) Computer 8 GB Ram	YES	NO	NO	NO

e) 1 TB HD	YES	NO	NO	NO
f) High Graphic Processor.	YES	NO	NO	NO
g) DICOM query/retrieve compatible	YES	YES	YES	NO
h) Staff Cart Footprint 58cm x 61cm	YES	NO	NO	NO
i) Staff Cart Weight 148 kg	YES	NO	NO	NO
j) Staff Monitor Dimensions 33cm x 38 cm x 4.5 cm	YES	NO	NO	NO
k) Staff Monitor Weight 3 kg	YES	NO	NO	NO
l) Staff Monitor Display Resolution = 1440 x 900 dpi, 60 Hz	YES	NO	NO	NO
<u>c) Application Softwares:</u>				
<u>1- Cranial Software:</u>				
Planning & Navigation in a single Module & in Main Navigation Station. Software should support Planning, Registration in prone or any required position of the patient, Navigation, 3D and volumetric visualization engine (volume rendering) to check and avoid vessels				

and probable bleeding points during surgery. Procedure guided software (next/back buttons) with voice prompt, instruction window and task visualization. Choice of different patient registration methods for:				
a) Frameless Brain Biopsy	YES	NO	NO	NO
b) Pin Less Procedures	YES	NO	NO	NO
c) Tumor resection	YES	NO	NO	NO
d) Shunt Placement	YES	NO	NO	NO
e) Navigated Neuro Endoscopy	YES	NO	NO	NO
f) Adult & Pediatric	YES	NO	NO	NO
2- <u>Spine Software:</u>				
a) Spine software to simplify and standardize the entire planning and navigation process. Views for each type of CT or Fluoro-Based procedures (Cervical, Thoracic, and Lumber)	YES	NO	NO	NO
b) Seamless interface to a variety of C-arm Images from the C-arm should automatically be imported and be calibrated for navigation use. Real time tool positions overlaid onto previously acquired images.	YES	NO	NO	NO

c) Compatible with Intra-operative O-Arm, C-arms.	YES	NO	NO	NO
d) Capability to integrate with IONM	YES	NO	NO	NO
<u>3- Image Merging Software for both Cranial & Spine:</u>				
a) To merge CT, MRI (T1, T2, flare) and PET	YES	YES	NO	NO
b) To merge & visualize multiple data sets on Navigation Station.	YES	NO	NO	NO
c) Auto Merge.	YES	NO	NO	NO
<u>4- Deep Brain Stimulation Software:</u>				
a) Stereotactic Planning Software with Functional Brain Atlas.	YES	NO	NO	NO
b) Advanced 3-D modeling capabilities and display of three orthogonal views	YES	NO	NO	NO
c) Multiple surgical plans with automatic calculation of frame settings	YES	NO	NO	NO
d) Alternatives for anatomical structures localization such as predefined and customizable formulas, interactive Schaltenbr and-Wahren Atlas and Talairach Grid.	YES	NO	NO	NO

e) Image reformatting relative to AC-PC line, so that functional targets are displayed relative to AC-PC	YES	NO	NO	NO
f) Enhanced target localization by audiovisual integration of physiological signal and simultaneous display of recording position	YES	NO	NO	NO
g) Automatic frame detection and registration of stereotactic frames	YES	NO	NO	NO
h) Support of all commonly used stereotactic frames (Leksell or Fischer Stereotactic Frames)	YES	NO	NO	NO
i) Support Frameless DBS procedures, Depth Electrode and other stereotactic frame-based procedures	YES	NO	NO	NO
j) Preoperative verification of the surgical plan by virtual "probe's eye view"	YES	NO	NO	NO
5- <u>DICOM Query / Retrieve Software:</u>	YES	NO	NO	NO
To search, view and download patient exams directly from the hospital network to the Navigation System.	YES	NO	NO	NO
a) Query of PACS systems for patient data	YES	NO	NO	NO
b) Push and pull patient data from PACS or single scanner location, from the main Navigation Station.	YES	NO	NO	NO

c) Conform to industry accepted DICOM standards	YES	NO	NO	NO
d) DICOM receive from any DICOM storage class provider	YES	NO	NO	NO
e) Patient data viewing capability within the navigation application				
6- Accessories				
A. Cranial Instruments:				
a) Articulated Arm	YES	NO	NO	NO
b) Passive Planar Blunt with minimum three ports of spheres	YES	NO	NO	NO
c) MRI/CT Markers	YES	NO	NO	NO
d) Passive Cranial Frame	YES	NO	NO	NO
e) Sterile Spheres	YES	NO	NO	NO
f) Cranial Navigation Tray	YES	NO	NO	NO
g) Equipment Ref. Sheet	YES	NO	NO	NO
h) Skull Model with pre-loaded exam	YES	NO	NO	NO
B. Spine Instruments:				
a) Compatible Interface for C-Arm / An interface for C-Arm 9" or 12".	YES	NO	NO	NO

b) Open Spine Clamp	YES	NO	NO	NO
c) Open Spine Clamp driver	YES	NO	NO	NO
d) Thoracic Clamp	YES	NO	NO	NO
e) Reference Frame	YES	NO	NO	NO
f) Passive Planer Ball Tip with minimum three ports of spheres	YES	NO	NO	NO
g) Awl, Probe and Tap with trackers.	YES	NO	NO	NO
h) Spine model with holder & pre-loaded exam	YES	NO	NO	NO
<u>C. Universal Instrument Adapter System:</u>				
a) Small, Medium and Large Passive Trackers	YES	NO	NO	NO
b) Small, Medium and Large Mounts	YES	NO	NO	NO
c) Mount Driver	YES	NO	NO	NO
d) Sterilization Tray	YES	NO	NO	NO
<u>D. Cranial Biopsy Instrument Kit:</u>				
a) Articulated Arm	YES	NO	NO	NO
b) Mount, Double Star Adapter Mayfield	YES	NO	NO	NO

c) Biopsy Guide	YES	NO	NO	NO
d) Probe	YES	NO	NO	NO
e) All Necessary Accessories	YES	NO	NO	NO
E. <u>Microscope Integration.</u>	YES	NO	NO	NO
F.				
a) Display of the microscope focal point on anatomical images	YES	NO	NO	NO
b) Display of ROI and Navigation symbols in oculars	YES	NO	NO	NO
G. <u>IGS Disposables:</u>	YES	NO	NO	NO
I. Disposable Reflective Markers / Spheres= 500pcs	YES	NO	NO	NO
II. Registration Markers (compatible with CT / MRI) = 200pcs	YES	NO	NO	NO
III. Biopsy Needles = 20	YES	NO	NO	NO
H. Electromagnetic Tracking System for Pin-Less Pediatric Cranial Navigation with All Necessary Accessories.	YES	NO	NO	NO

Operating Temperature 18° to 33°C	YES	NO	NO	NO
Atmospheric pressure 500 to 1060 mbar	YES	NO	NO	NO
Input voltage 220 to 240 VAC	YES	NO	NO	NO
Maximum Current Allowed 2.0A	YES	NO	NO	NO
Nominal Power Dissipation 100 watts	YES	NO	NO	NO
Humidity 10% to 80% non-condensing	YES	NO	NO	NO
Dimensions 560 x 236 x 84 (mm)	YES	NO	NO	NO
Weight 4.8 kg	YES	NO	NO	NO
Maximum Operating Altitude 3000m	YES	NO	NO	NO
Procedure Dedicated electromagnetic Kits for Pediatric tumor resections = 10 pcs	YES	NO	NO	NO
Procedure Dedicated electromagnetic Kits shunt replacements = 10 pcs.	YES	NO	NO	NO

NOTE: Technical Offers / Commercial Offers failing to demonstrate below details would be rejected:	YES	NO	NO	NO
a) Quoted System must be of advanced & Latest version.	YES	NO	NO	NO
b) Quotation must cover Complete Equipment.	YES	NO	NO	NO
c) Quotation must cover Complete range of disposables / Kits	YES	NO	NO	NO
d) Quotation must provide all technical details up to the satisfaction of the end-user.	YES	NO	NO	NO
e) CE / FDA Approved	YES	NO	NO	NO
8. <u>Maintenance and Liability</u>	YES	NO	NO	NO
a. The supplier will do 6 monthly inspection, and do maintenance for 3 years from date of installation	YES	NO	NO	NO
b. Supply maintenance, on cost of running spares of equipment for next 5 years.	YES	NO	NO	NO

Supplier will ensure demo of functioning, training for maintenance and cleaning.	YES	NO	NO	NO
d. Literature for equipment including operating manual, operating instructions.	YES	NO	NO	NO
9. <u>Country of Manufacturer</u>	YES	NO	NO	NO
	YES	NO	NO	NO
a. USA.	YES	NO	NO	NO
b. Europe	YES	NO	NO	NO
11. <u>Delivery Period:</u> Within 3 months after signing of the contract	YES	NO	NO	NO
12. <u>Warranty:</u> 02 (Two) years from the date of installation/ commissioning of equipment into service.	YES	NO	NO	NO

Offering Model:		VAPOFIX-339	AMSCO CENTURY	STEAM STERILIZER 101

					1/EN
Offering Make:			BELIMED	STERIS	ANTO MATA
Offering Country of Origin:			SWITZERLAN D	USA	SPA
Name of Equipment:AUTOCLAVE / STEAM STERILIZER (Microprocessor Controlled System) (05 years comprehensive warranty)		Qty (1)	M/S VERTEX ENTERPRISES	M/S MEDIURG (PVT) LTD	M/S RAJ MEDIC (PVT)
Sr.No.	DESCRIPTION	Sr.No.		Technically not graded because Built-in / integral air compressor not available in quoted model	
1	Chamber volume: 100-125 liters	1	110 liters		108 li
2	Sterilization chamber made of highly acid-resistant steel.	2	YES		YES
3	Single door vertically or horizontally.	3	YES		YES
4	High Quality materials and surface finish	4	YES		YES
5	Chamber door (closing protection) door end positions, door seals, safety overpressure valves for chamber and jacket.	5	YES		YES
6	Microprocessor Controlled System.	6	YES		YES
7	Emergency stop button	7	YES		YES
8	Process and cycle control through pneumatic vavles	8	YES		YES
9	Built-in electric / integral steam generator and air compressor	9	NOT	YES	

10	Loading pullout shelve	10	YES		TWO YR
	IMPORTED OF USA, EEC & JAPAN		GRADED		GRAD

TECHNICAL COMPARATIVE ANALYSIS /Intraoperative Nerve Monitoring System

Intraoperative Nerve Monitoring System

For Department of Neurosurgery, Advanced Nerve Monitoring System for highly advanced Facial & Skull Base Surgeries with:

	MEDTRONIC	NIHON KOHDEN	INOMED
A. 8 Channel EMG Touch Screen Monitor.	YES	NO	NO
B. Independent Stimulator.	YESS	NO	NO
C. Clear and Loud EMG Signal Sound.	YES	NO	NO
D. Glare free and clearly visible EMG Signals.	YES	NO	NO
E. Disposable EMG Monitoring Electrodes and stimulator probes for minimum 25 surgeries.	YES	NO	NO
For:			

1. Skull Base Surgeries.	YES	YES	YES
2. Facial Nerve Surgery.	YES	YES	YES
3. Minimal Invasive Surgeries.	YES	NO	NO
4. Specialty Procedures.	YES	NO	NO
Required Key Features:			
<input type="checkbox"/> Audio / Visual EMG data	YES	NO	NO
<input type="checkbox"/> Touch-screen controls	YES	NO	NO
<input type="checkbox"/> Surgeon / Procedure Settings	YES	NO	NO
<input type="checkbox"/> Menu driven	YES	NO	NO
<input type="checkbox"/> Contextual trouble shooting	YES	NO	NO
<input type="checkbox"/> IGS Integration	YES	NO	NO
<input type="checkbox"/> Current Delivered Tone (CDT)	YES	NO	NO
<input type="checkbox"/> “Stimulus” Voice	YES	NO	NO
<input type="checkbox"/> Stimulus Value Voice	YES	NO	NO

<input type="checkbox"/> Event Threshold	YES	NO	NO
<input type="checkbox"/> Auto Event Threshold	YES	NO	NO
<input type="checkbox"/> Event Capture	YES	NO	NO
<input type="checkbox"/> “15S” & “60mS” screens	YES	NO	NO
<input type="checkbox"/> 200, 500, 2000uV scale	YES	NO	NO
<input type="checkbox"/> Print	YES	YES	YES
<input type="checkbox"/> Video Output	YES	YES	YES
<input type="checkbox"/> USB Output	YES	YES	YES
<input type="checkbox"/> Freeze	YES	YES	YES
<input type="checkbox"/> Measurement cursor	YES	NO	NO
<input type="checkbox"/> Largest/Last	YES	NO	NO
<input type="checkbox"/> Electrode Check	YES	NO	NO
<input type="checkbox"/> Adjustable Muting	YES	NO	NO
<input type="checkbox"/> Muting Indicator	YES	NO	NO
<input type="checkbox"/> Volume Control	YES	NO	NO
<input type="checkbox"/> Constant Current	YES	NO	NO
<input type="checkbox"/> Constant Voltage	YES	NO	NO

<input type="checkbox"/> Stim- Rate 1 and 4 per sec	YES	NO	NO
<input type="checkbox"/> Stim- Dur 100 and 250 μV	YES	NO	NO
<input type="checkbox"/> Current Adjustable down to 0.01mA	YES	NO	NO
<u>NOTE:</u>			
<input type="checkbox"/> Vendor will Supply Manuals of the quoted system.			
<input type="checkbox"/> Warranty with Parts: One Year from the date of Installation.			
<input type="checkbox"/> Warranty without Parts: Total TWO Years from the date of installation.			
<input type="checkbox"/> Free Preventive Maintenance on quarterly basis for TWO Years from the date of Installation.			
<input type="checkbox"/> Vendor will ensure availability of all disposables, accessories and parts for next 10 years at cost, from date of installation.			
<input type="checkbox"/> FDA & CE Certificates.			
<input type="checkbox"/> Approved Panel: USA & Europe			

	<input type="checkbox"/> Future upgradeability of the purchased equipment for extended use will be considered as an added advantage.	
	<input type="checkbox"/> Delivery period: Maximum 3 months after establishment of clean Negotiable L/C at sight (without discrepancies).	

Frameless Image-guided surgical navigation system

NAME OF FIRM		M/S ORIENTAL SALES CORPORATION	M/S MEDIURGE (PVT) LTD
NOTE:	Firms must fill the blank boxes. Ambiguous information, Erasing, Overwriting and Alternate and Conditional offer will not be considered.		
OFFERING MODEL:		STEALTH STATION S7 SYSTEM	CURVE
OFFERING MAKE:		MEDTRONIC	BRAINLAB SALES, GmbH,
OFFERING COUNTRY OF ORIGIN:		USA	GERMANY
Name of Equipment: NEURO NAVIGATION SYSTEM FOR CRANIAL AND SPINE APPLICATIONS (05 years comprehensive warranty)		QTY = 01 UNIT	M/S ORIENTAL SALES CORPORATION
			M/S MEDIURGE (PVT) LTD

Sr. No.	DESCRIPTION	Sr.No.		
1	1. FRAMELESS IMAGE GUIDED NEURONAVIGATION (System for CT, MRI based Cranial Surgery and CT, MRI, Fluoro based Spine Surgery)	1	YES	YES
a.	SYSTEM FOR CRANIAL AND SPINAL APPLICATIONS	a.	YES	YES
b.	• Quoted high end Neuro Navigation System must be of latest model should support Advanced Navigation in Cranial & Spine Surgeries. Must support intra-operative imaging like CT, MRI and C-Arm.	b.	YES	YES
c.	• System must navigate through Advanced Optical Navigation Camera with Laser Pointer for easy positioning.	c.	YES	YES
2	COMPUTER HARDWARE	2		
i.	• Two monitors one for staff and one for surgeon should provide a brilliant display for Navigation. Surgeons viewing monitor should be between 24" to 27" inch with Resolution of 1920 x 1200.	i.	24" (1920x1200)	26" (1920X1200)
ii.	• A high-speed computer with networking capabilities	ii.	YES	YES
iii.	• The infra-red camera with laser pointer and separate mobile stand and monitor on cart	iii.	YES	YES
iv.	• DVD / CD-RW Drive / USB connector	iv.	YES	YES
3	CRANIAL NAVIGATION SOFTWARE	3		

I	<ul style="list-style-type: none"> The main steps for operating the navigation system are indicated to the user via graphic guidance to make it easy operable. 	I	YES	YES
ii.	<ul style="list-style-type: none"> The Cranial software for the navigation system should provide a 3D display of outlined objects and navigated instruments, after collecting information from patients CT and MRI, allowing a better orientation for the surgeon and a faster reconstruction of the images. 	ii.	3D Display	3D Display
iii.	<ul style="list-style-type: none"> Software is able to visualize any instrument in all reconstructions and displays. 	iii.	YES	YES
iv.	<ul style="list-style-type: none"> The software offers the possibility to create new image sets, taking only valuable information of each image modality. 	iv.	YES	YES
4	CRANIAL INSTRUMENTS	4		
i.	<ul style="list-style-type: none"> Cranial Instrument Set 	i.	YES	YES
ii.	<ul style="list-style-type: none"> Biopsy Instrument Set 	ii.	YES	YES
iii.	<ul style="list-style-type: none"> Biopsy Needle Kit (Disposable) 	iii.	YES	YES
5	SPINAL NAVIGATION SOFTWARE (Fluor, CT & MRI Based)	5		
a.	<ul style="list-style-type: none"> The main steps for operating the navigation system are indicated to the user via graphic guidance to make it easy operable. 	a.	YES	YES
b.	<ul style="list-style-type: none"> Computer knowledge is not required to operate the system. 	b.	YES	YES

c.	<ul style="list-style-type: none"> Software is able to visualize any instrument in all reconstructions and displays. The software offers the possibility to create new image sets, taking only valuable information of each image modality. Namely CT, Fluoro, MRI, Intraoperative 2D or 3D imaging system. 	c.	YES	YES
6	SPINAL INSTRUMENTS	6		
a.	<ul style="list-style-type: none"> Spine Referencing Set 	a.	YES	YES
b.	<ul style="list-style-type: none"> Navigated Spine Instrument Set consisting of Handle, Awl, Probe (Thoracic and Lumbar) 	b.	YES	YES
7	IGS DISPOSABLES	7	YES	YES
a.	<ul style="list-style-type: none"> Registration Markers 200 PCS 	a.	YES	YES
b.	<ul style="list-style-type: none"> Disposable Reflective Markers 500 PCS 	b.	YES	YES
8	DICOM SOFTWARE QUERY / RETRIEVE	8	YES	YES
9	IMAGE FUSION SOFTWARE to merge CT and MRI.	9	YES	YES
10	PLANNING SOFTWARE FOR CRANIAL AND SPINAL SURGERIES	10	YES	YES
11	FIBER TRACKING SOFTWARE	11	YES	YES
12	C-ARM INTEGRATION SOFTWARE and HARDWARE	12	YES	YES

13	3-D SOFTWARE for IntraCranial and Spinal Applications.	13	YES	YES
14	PLANNING STATION with complete kit and latest computer and monitor.	14	YES	YES
15	UNIVERSAL INSTRUMENT ADAPTER for Calibration of instruments for Navigation use.	15	YES	YES
16	Quoted Frameless image Guided Neuronavigation System should be equipped with a Battery backup system.	16	YES	YES
17	OPTIONAL	17		
i.	• ELECTROMAGNETIC TRACKING SYSTEM WITH or any other advanced tracking technology.	i.	YES	YES
ii.	• MICROSCOPE INTEGRATION SOFTWARE WITH KIT	ii.	YES	YES
18	05 Years Comprehensive Warranty of the Equipment.		YES	YES
	IMPORTED: EUROPE / USA / JAPAN		USA	GERMANY
	Technical Recommendation:		GRADED	GRADED

OPHTHALMOSCOPE

Offering Model:

BX-ALPHA-13

Offering Make:			NEITZ	
Offering Country of Origin:			JAPAN	
Name of Equipment: OPHTHALMOSCOPE (2 years comprehensive warranty)			Bidders must fill the Columns regarding Specifications and Give Numeric Value/ Status in Prescribed Column & Highlight on the Brochure indicating Sr. # and Page. Also provide softcopy of the specifications.	
Sr.No.	DESCRIPTION	QTY	Sr.No.	M/S LATIF BROTHERS (INSTRUMENTS)
1	Ophthalmoscope with small aperture standard aperture, concentric scale, slit aperture, min 65 corrective lenses in one diopter step, 3.5 volt halogen illumination or better,	3	1	YES
2	Cell battery handle,		2	YES
3	one spare bulb and a case		3	YES
	IMPORTED OF USA, EEC & JAPAN			JAPAN
	Graded / Not Graded			GRADED

TECHNICAL COMPARATIVE ANALYSIS / Transsphenoidal set

Name of Equipment: TRANSPHENIODAL	Bidders must fill the Columns regarding Specifications and Give Numeric Value/ Status in Prescribed Column & Highlight on the Brochure indicating Sr. # and Page.
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INSTRUMENT SET (SURGICAL INSTRUMENT) (2 years comprehensive warranty)		Also provide softcopy of the specifications				
Sr.No.	DESCRIPTION	QTY	M/S CORAL MEDICAL	QTY	M/S	
1	Septal Breaker, Left	2	Walsham septum fcps left	2	Septal Breaker Up Opening 6¼" (159mm)	
2	Septal Breaker, Right	1	Walsham septum fcps right	1	Septal Breaker Down Opening 6¼" (159mm)	
3	Elevator-Septum, Cottle, Graduated, Double Ended (7" to 10")	2	Cottle elevator d/e 3mm 23cm	2	Cottle Septum Elevator Double Ended, Graduated 8½" (216mm)	
4	Curette-Bayonet, Micro, Straight, 3-0	1	curette oval cup 1.5mm 18.5cm	1	Micro Bayonet Curette Straight, 3-0	
5	Kerrison -Micro, 90° Down, 2mm (7" to 10")	3	Kerrison (Micro) rong 18cm 2mm 90° dw Kerrison (Micro) rong 20cm 2mm 90° dw	3	Micro Kerrison 2mm, 90° Down 8" (203mm)	
6	Kerrison -Micro, 40° UP, 2mm (7" to 10")	1	Kerrison (Micro) rong 18cm 2mm 40° up	1	Micro Kerrison 2mm, 40° Up 8" (203mm)	
7	Kerrison -Sella Punch, 40° UP, 2mm (7" to 10")	5	Kerrison (Micro) rong 20cm 2mm 40° up	5	Sella Punch 1mm, 40° Up	
8	Rongeur-, 2x10mm, Straight (7" to 10")	2	Cushing ivd rong 18cm 2x10mm str Cushing ivd rong 23cm 2x10mm str Manufacturer: Medicon Germany	2	Cushing IVD Rongeur Straight, 2 × 10mm 7" (178mm)	

12	Rongeur-, 2x10mm, Curved (7" to 10")	3	Cushing ivd rong 18cm 2x10mm 30° ang up Cushing ivd rong 23cm 2x10mm 30° ang up	3	Cushing IVD Rongeur Up, 2 × 10mm 7" (178mm)
13	Rongeur-, 1.5x10mm, Straight (7" to 10")	5	Ferris Smith Spurling ivd rong 18cm 2x10mm str	5	Cushing IVD Rongeur Straight, 1.5 × 10mm 7" (178mm)
14	Suction Tube-Endonasal, Angled, Short Curve Up, 05 Fr. (7" to 10")	1	Fergusson suct cann 7 Fr ang 12.5cm insul shaft	1	Suction Tube-Endonasal, 5 Fr, Angled Short Curved Up 8" (203mm)
15	Suction Tube-Endonasal, Angled, Short Curve Up, 07 Fr. (7" to 10")	2	Fergusson suct cann 9 Fr ang 12.5cm insul shaft	2	Suction Tube-Endonasal, 7 Fr, Angled Short Curved Up 8" (203mm)
16	Suction Tube-Endonasal, Angled, Long Curve Up, 05 Fr. (7" to 10")	1	Frazier (Fergusson) suct cann 6 fr ang 12.5cm	1	Suction Tube-Endonasal, 5 Fr, Angled Long Curved Up 8" (203mm)
17	Suction Tube-Endonasal, Angled, Long Curve Up, 07 Fr. (7" to 10")	1	Frazier (Fergusson) suct cann 8 fr ang 12.5cm	1	Suction Tube-Endonasal, 7 Fr, Angled Long Curved Up 8" (203mm)
18	Suction Tube-Endonasal, Angled, Straight Tip, 05 Fr. (7" to 10")	2	Plester suct tube 5 fr ang 13.5cm	2	Suction Tube-Endonasal, 5 Fr, Angled Straight Tip 8" (203mm)
19	Suction Tube-Endonasal, Angled, Straight Tip, 07 Fr. (7" to 10")	1	Plester suct tube 6 fr ang 13.5cm	1	Suction Tube-Endonasal, 7 Fr, Angled Straight Tip 8"
20	Suction Tube-Endonasal, Angled, Straight Tip, 11 Fr. (7" to 10")	2	Plester suct tube 9 fr ang 13.5cm	2	Suction Tube- Endonasal, 11 Fr, Angled Straight Tip 8" (203mm)
21	Suction Tube-Endonasal, Angled, Short Curve Down, 05 Fr. (7" to 10")	1	Frazier suct cann 6 fr ang 18cm	1	Suction Tube-Endonasal, 5 Fr, Angled Short Curved Down 8" (203mm)
22	Suction Tube-Endonasal, Angled, Short Curve Down, 07 Fr. (7" to	6	Frazier suct cann 8 fr ang 18cm	6	Suction Tube-Endonasal, 7 Fr, Angled Short

	10")				Curved Down 8" (203mm)
23	Suction Tube-Endonasal, Angled, Long Curve Down, 05 Fr. (7" to 10")	1	Frazier suct cann 6 fr ang 12.5cm	1	Suction Tube-Endonasal, 5 Fr, Angled Long Curved Down 8" (203mm)
24	Suction Tube-Endonasal, Angled, Long Curve Down, 07 Fr. (7" to 10")	2	Frazier suct cann 8 fr ang 12.5cm Manufacturer: Medicon Germany	2	Suction Tube-Endonasal, 7 Fr, Angled Long Curved Down 8" (203mm)
	IMPORTED OF USA, EEC & JAPAN		USA / GERMANY		

TECHNICAL COMPARATIVE ANALYSIS /

Holmium Laser

IFICATIONS

Specification for PV List Health department Punjab				
Sr no.	<u>Detail</u>	QT Y	Origion	-
	Holmium Laser			

1	Holmium: YAG Medical Laser 30 Watt or above	Make	Make	Make	Make	Make
1		Model Country of Origin				
Tower Type		Starmedtec	Wolf	Asclepion	Accu Tech	Quanta System
AVERAGE POWER 30W or above		Auriga	Mega Pulse	MultiPulse HO	ACU-H2B	Litho
LASER SOURCE Ho:YAG		Germany	Germany	Germany	China	Italy
WAVE LENGTHS 2.1 MICRON						
ENERGY PER PULSE 2-4 JOULES						
REPETITION RATE 5-20 Hertz						
PULSE DURATION UP TO 800 mSECONDS						
AMINAING BEEM GREEN DIODE, 3 INTENSITIES,						
CONTINUOUS OR BLINKING MODEL						
DELIVERY SYSTEMS OVER 100 REUSABLE AND DISPOSABLE OPTIONS						

COOLING SELF-CONTAINED
WATER-TO –AIR EXCHANGER

UTILITIES 200-230V,10A, 50/60 Hz
SINGLE PHASE

Including:

- Footswitch
- User manual
- Reusable laser fiber, length 3 m, optical core 365µm
- Reusable laser fiber, length 3m, optical core 550µm
- Reusable laser fiber, length 3.0m, optical core 200µm

Certification : CE Marked/ FDA

TECHNICAL COMPARATIVE ANALYSIS / Mobile suction pump

Specifications Finalized	Make: Medela	Make: Nouvag	Make: Ardo Medical	Make: Hirtz & Co
	Model: Dominant 50	Model:40 U	Model: Master 45	Model: Hicovac
	Country of Origin: Switzerland	Country of Origin: Switzerland	Country of Origin: Switzerland	Country of Origin: Germany
Heavy Duty Mobile Suction unit with Twin jars of capacity upto 4 or 5 liters each				
Reciprocating Type Min 1/6 Hp of motor				
Aspiration rate upto 40-45 litres Minutes at 650-900mm Hg				

Vacuum Continuously Adjustable				
10 Bacterial Filtres				
Bottles Autoclaveable and Explosion Proof				
Footswtich with complete aspiration Set				
Overflow Safety Device				
220V / 50Hz / 1 Phase				
Details of aspiration set to be given by tender				
Clinical Specialty	TRANSPHENIODAL INSTRUMENT SET (
Generic Name	TRANSPHENIODAL INSTRUMENT SET (SURGICAL INSTRUMENT))			
Clinical Purpose	Used for the approaches of the sellar and base of skull tumours or lesions though nose			
TECHNICAL SPECIFICATIONS				
TRANSPHENIODAL INSTRUMENT SET (SURGICAL INSTRUMENT))				
Sr.No.	DESCRIPTION			
1	Septal Breaker, Left			
2	Septal Breaker, Right			
3	Elevator-Septum, Cottle, Graduated, Double Ended (7" to 10")			
4	Curette-Bayonet, Micro, Straight, 3-0			
5	Kerrison -Micro, 90° Down, 2mm (7" to 10")			
6	Kerrison -Micro, 40° UP, 2mm (7" to 10")			

7	Kerrison -Sella Punch, 40° UP, 2mm (7" to 10")
8	Rongeur-, 2x10mm, Straight (7" to 10")
12	Rongeur-, 2x10mm, Curved (7" to 10")
13	Rongeur-, 1.5x10mm, Straight (7" to 10")
14	Suction Tube-Endonasal, Angled, Short Curve Up, 05 Fr. (7" to 10")
15	Suction Tube-Endonasal, Angled, Short Curve Up, 07 Fr. (7" to 10")
16	Suction Tube-Endonasal, Angled, Long Curve Up, 05 Fr. (7" to 10")
17	Suction Tube-Endonasal, Angled, Long Curve Up, 07 Fr. (7" to 10")
18	Suction Tube-Endonasal, Angled, Straight Tip, 05 Fr. (7" to 10")
19	Suction Tube-Endonasal, Angled, Straight Tip, 07 Fr. (7" to 10")
20	Suction Tube-Endonasal, Angled, Straight Tip, 11 Fr. (7" to 10")
21	Suction Tube-Endonasal, Angled, Short Curve Down, 05 Fr. (7" to 10")
22	Suction Tube-Endonasal, Angled, Short Curve Down, 07 Fr. (7" to 10")
23	Suction Tube-Endonasal, Angled, Long Curve Down, 05 Fr. (7" to 10")
24	Suction Tube-Endonasal, Angled, Long Curve Down, 07 Fr. (7" to 10")

IMPORTED OF USA, EEC & JAPAN	
Clinical Specialty	ULTRASONIC BONE CUTTER:
Generic Name	ULTRASONIC BONE CUTTER:
Clinical Purpose	<input type="checkbox"/> Laminectomy/laminotomy for degenerative disease or other extradural pathology <input type="checkbox"/> Laminectomy for intradural pathology <input type="checkbox"/> Facetectomy with or without adjacent laminectomy for TLIF <input type="checkbox"/> Anterior cervical corpectomy <input type="checkbox"/> Anterior thoracolumbar corpectomy <input type="checkbox"/> Cranial
TECHNICAL SPECIFICATIONS	
<p>ULTRASONIC BONE CUTTER: Unique surgical device in that it offers a gentler osteotomy as compared to standard bone cutting tools it efficiently slices crystalline bone while leaving elastic soft tissues largely unaffected during incidental contact.</p> <p><input type="checkbox"/> Specification:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Ultrasonic Console. <input type="checkbox"/> Two handpieces with wrenches. <input type="checkbox"/> Footswitch and system accessories. <input type="checkbox"/> Console 200-240V, 50Hz. <input type="checkbox"/> BCM-SS Autoclave able Probe cover. <input type="checkbox"/> For hard tissue tips. <input type="checkbox"/> BSM-H2 Autoclave able Probe cover. <input type="checkbox"/> For soft tissue tips. <input type="checkbox"/> MXB-T Irrigation Tube set. 	

- Ultrasonic OsteoSurgery.
- Ultrasonic Debridement and Cleansing.
- Ultrasonic Console .
- Two handpieces with wrenches.
- Footswitch and system accessories.
- Console can be configured for 110-130V, 60Hz and 200-240V, 50Hz.

Clinical Specialty	Neurosurgery
Generic Name	Harmonic scalpal
Clinical Purpose	Ultrasonic bloodless cutting of the soft tissues

TECHNICAL SPECIFICATIONS

1	<p>Function:</p> <p>Ultrasonic cutting and coagulation with limited thermal influence on tissue; no creation of smoke.</p> <p>Generator:</p> <p>Unit run automatic self-test when switching on.</p> <p>Automatic instrument check at system start-up and function monitoring.</p> <p>Extremely short set-up time of the entire system.</p> <p>Optical and acoustical function indicators.</p>
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Display of following information and settings:	· System ready for operation · System error · Error codes · Treatment time · Hand piece activated · Ultrasound power 0 – 100%. Setting in small increments of 1% and large increments of 20%
Working frequency:	55 KHZ for ultrasonic cutting and coagulation 25 KHZ for selective wound debridement and ultrasonic lavage
Voltage:	230 V +/- 10%, 115 V +/- 10%, 100V +/- 10%
Power consumption:	max. 140 VA
Quality certification:	CE Marking and FDA Approval
(

Accessories:

Ultrasonic Scissors & Ultrasonic Hooks)	
Ultrasonic-Scissors, 190mm 360° rotatable, (Reusable)	02
Söring Ultrasonic Hook, D=5,5mm/250mm (Reusable)	03
Connective cable for US-handpieces and instr.	01
Clinical Specialty	ULTRASONIC SURGICAL ASPIRATOR
Generic Name	ULTRASONIC SURGICAL ASPIRATOR CUSA
Clinical Purpose	Specifically used in brain and spinal tumours for their removal with out giving traction on normal Nervous tissues
TECHNICAL SPECIFICATIONS	
ULTRASONIC SURGICAL ASPIRATOR (CUSA)	
<p>For use in different brain and spinal operations. Electric Ultrasonic aspirating system should have 100 Watt output power. Irrigation flow maximum 25 ml to 50 ml/min. Suction pressure 0-0.6 bar. Steam autoclavable hand pieces. Ultrasonic Surgical Aspirator system on mobile trolley with 4 wheel castors. Variable energy and control aspiration. Tissue selection mode. Integrated cooling and suction facility. Compatible module for electrosurgical unit. Inclosing of the following accessories and hand pieces of :</p> <p>One Console</p>	

Magnetostrictive Technology/ Piezo Electric and water cool hand pieces
 Ultrasonic Surgical Aspirator with foot switch control system.
 One Hand Piece straight with resonance frequency 23 kHz.
 One Hand Piece angled with resonance frequency 36 kHz
 Sterilization case for each hand piece
 Ultrasonic bone sculpting saber tip
 Micro Tip for transphenoidal work
 Biopsy collection Trap
 Irrigation Built in

IMPORTED USA, EEC & JAPAN

Clinical Specialty	Visual stimulation
Generic Name	Visual stimulation
Clinical Purpose	A description of the essential clinical or other objective/s associated with the device's utilization, e.g. anesthesia units (allow the anesthetist to) dispense a mixture of gases and vapors and vary the proportions thereof to control a patient's level of consciousness and/or analgesia during surgical procedures.

TECHNICAL SPECIFICATIONS

Visual stimulation
 LED goggle,7pin DIN Connector-----1
 EP connection cable-----1
 Extension cable for ECG Electrodes-----1
 ARB extension cable-----1
 Adopter for stimulation
 Clip on limb electrode-----4pcs
 Connection cable----1
 ECG electrodes-----50pcs



DRAFT