

SPECIFICATION FOR ARTHROSCOPY SYSTEM (Version II)

High Definition Camera System for Arthroscopic Surgeries: Qty-1

Full High Definition Digital Camera Head

(developed based on the specifications of AIIMS, Bhubaneswar of 24/04/2018)


Specifications

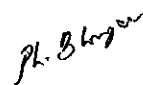
- Digital ,Triple chip, full high definition, microlens CCD Camera (Charged Couple device).
- Pixels Quantity: 1920 x 1080i
- Scanning Pattern: 1920x1080 interlaced (1080i) x3 CCD = 6220800 Pixels |
- Aspect Ratio: Capable of displaying wide screen 16:9 format. Standard definition television (SDTV) has a 4:3 aspect ratio.
- Compatible with Video Arthroscopes as well as direct view scopes.
- 3 buttons for remote control of the CCU and accessories. Able to control 6 functions on the menu using these 3 buttons
- inbuilt zoom facility, regardless of telescope used.
- Automatic optimization of all settings.
- Digital signals processing, modes of operation automatic and manual, PAL compatible.
- White balancing possible from the CCU as well as from the sterile field.
- Minimum Signal to Noise ratio of 60 decibels (dB).
- SDI Output, BNC, S-VHS and RGB outputs.
- Leakage current not more than 25 microamps in control unit and not more than 10 microamps in camera head
- Weight not exceeding 165 grams, Camera head cable minimum 12ft.
- C-Mount Zoom coupler 19.5 mm.

Full High Definition Camera Control Unit Qty-1

- ACG Microprocessor controlled
- Video Inputs : S-Video, (Y/C), Composite, HD-SDI, IEEE-1394
- Video Outputs : S-Video, (Y/C), Composite, HD-SDI, DVI
- Video Formats : NTSC and PAL
- USB 2.0 Ports : Type A receptacle, software compatible with NS16C550
- Video recording: on pendrive through USB port
- Parallel Port : Bidirectional Input / output with female DB-25 Receptacle
- Serial Port : UART Port with male DB- 9 receptacle
- VGA Port : 15-Pin female


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- Ethernet Ports : Auto select 10Base-T/100 Base-TX
- Storage : Supports read/ write of USB flash media of different sizes; CD-R/RW; 650 MB or 700 MB.
- Still Image File Formats : 24-bit RGB bitmap, 24-bit JPEG
- Still Image Resolution : NTSC / PAL
- 1920 x 1080i@ 24 bit color depth 16.77 million True Colour
- Motion Video File Format : MPED1, MPEG2, MPEG4
- Power Requirements : Input Voltage: 100-240 VAC, 50/60 Hz @ 90VA
- Processor : Intel® Pentium® M 1.6 GHz
- Operating System : Microsoft® embedded Windows® XP or advanced

High Definition Medical Grade Monitor: Qty-1

The system should have:

- Medical grade LCD monitor, flat screen
- Ability to display High Definition Resolution of 1920 X 1080i
- Wide Screen and aspect ratio of 16:9
- Compact control buttons on the sides of the panel
- Screen diagonal 24"
- Monitor stand compatible with monitor

LED Light Source Specs: Qty 1

- **Light Source Type** LED (Light Emitting Diode)
- **Color Temperature** 7000° K
- **LED Life** 30,000 hours (typical)
- **Light Guide Adaptor** Turret type to fit your choice of light cable
- **Brightness Control** 0-100% Dimming
- **Input Voltage** 100-240V AC, 50/60 Hz
- **Rated Power** 90 watt
- **Dimensions** 11.22" W x 4.49" H x 13.23" D
- **Weight** 8.05 lbs / 3.42 kg

Fiber Optic Light Cable: Qty-2

- Universal fibre optic cable with adapters. Not less than 5mm thick and 10 ft long

Arthroscopy Set (Arthroscopic, Sheath and Obturator)

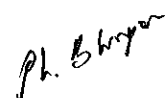
- Wide Angle, Direct View High Definition Arthroscopic



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- Light Guide insertion on opposite side of the direction of view with a J-lock fixation for cannula.
- Working Length of Not more than **160mm**
- Optimal centre-to-edge resolution for enhanced picture quality
- Angle of view: **70 degree**
- Diameter **4mm**
- Fiber optic light transmission incorporated Standard ocular window for coupling the camera head
- Scratch resistance sapphire quoted tip lens
- Advanced Rod lens system for optimum brightness, contrast and definite
- Arthroscopies should be supplied with compatible cannulas high flow, double valve, fully rotatable with fenestrated tip & conical and blunt tip obturator.
- Sheath- 5.95 to 6.0mm, high flow diagnostic cannula, double valve, fully rotatable cannula with fenestrated tip.
- Trocar-4.5mm conical obturator to fit with cannula.

Arthroscopy Set(Arthroscopic, Sheath and Obturator)

- Wide Angle, Direct View High Definition Arthroscopic
- Light Guide insertion on opposite side of the direction of view with a J-lock fixation for cannula.
- Working Length of Not more than **120mm**
- Optimal centre-to-edge resolution for enhanced picture quality
- Angle of view: **30 degree**
- Diameter **2.7**
- Fiber optic light transmission incorporated
- Standard ocular window for coupling the camera head
- Scratch resistance sapphire quoted tip lens
- Advanced Rod lens system for optimum brightness, contrast and definition
- Arthroscopies should be supplied with compatible cannulas high flow, double valve, fully rotatable with fenestrated tip & conical and blunt tip obturator.
- Sheath- 3mm to 4mm, high flow diagnostic cannula, double valve, fully rotatable cannula with fenestrated tip.
- Trocar-3mm to 4mm conical obturator to fit with cannula.

Arthroscopy Set(Arthroscopic, Sheath and Obturator): Qty- 2 Each

- Wide Angle, Direct View High Definition Arthroscopic
- Light Guide insertion on opposite side of the direction of view with a J-lock fixation for cannula.
- Working Length of Not more than **160mm**
- Optimal centre-to-edge resolution for enhanced picture quality

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- Angle of view: **30 degree**
- Diameter **4mm**
- Fiber optic light transmission incorporated
- Standard ocular window for coupling the camera head
- Scratch resistance sapphire coated tip lens
Advanced Rod lens system for optimum brightness, contrast and definition
- Arthroscopies should be supplied with compatible cannulas high flow, double valve, fully rotatable with fenestrated tip & conical and blunt tip obturator.
- Sheath- 5.95 to 6.0mm, high flow diagnostic cannula, double valve, fully rotatable cannula with fenestrated tip.

Arthroscopic Resection Shaver System Qty-1Each

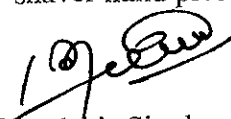
The Shaver system should comprise of Controller Console, Shaver Hand-piece, and Foot pedal.

Controller Unit

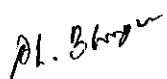
- The Controller console should have receptacles for both Shaver hand-piece, Foot Pedal and also other powered instrumentation
- The console screen should capture all information pertaining to minimum, maximum and set speeds for installed blade type; horizontal bar graph of blade speed relative to range; blade direction; diagnostic information.
- Should provide control for momentary push switches for increasing and decreasing speed setting.
- The Unit should have 2 Modes for Normal and Aggressive Resection so as to balance efficacy with safety.
- The Console should provide variable rpm ranging between 100rpm to 10,000 rpm as per the blade or burs used.
- The Motor should offer Forward, Reverse and Oscillation Mode for Resection.

Shaver Hand Piece

- The autoclavable shaver hand piece, which is compact, lightweight and ergonomically designed, with hand control.
- The connecting cable should be autoclavable and replaceable with length of approx. 10Ft.
- The hand piece should be not more than 8 Inches length and 460gms.
- The hand piece should have suction control lever.
- The Shaver Hand piece should have safety mechanism of Blade Window Lock to avoid any unintentional tissue damages on pull out.
- The Safety feature for window locking should be accessible and controllable from shaver hand piece.


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- The Shaver hand piece should have push-button motor controls: Forward, Reverse Oscillate, and Blade and Window Lock.
- The Shaver should offer Maximum torque not be less than 32oz.in
- The shaver should be supplied with compatible shaver sterilization case
- The Shaver should be able to use any electro Blades, if desired.
- Input voltage of 100 to 240V, 50/60 Hz power consumption not more than 350VA.

Foot Pedal

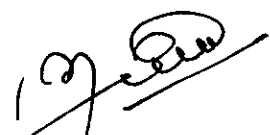
- The variable speed foot pedal should be sturdy with a long connecting cable.
- The foot pedal controls should include three standard operating modes, i.e. Forward, Reverse and Oscillation.
- The foot pedal should offer a blade window locking mode for enhanced safety during withdrawal of hand piece from joint space with blade mounted.


Consumables Shaver Blades & Burs

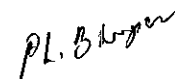
- Shaver System Should be supplied with 10- pieces of single use shaver blades of each of the different diameter, different tooth and different curved for knee and shoulder arthroscopy.

Arthroscopy Fluid Management System Qty-1

- The Fluid management System offers to maintain& control intra-articular pressure regardless of varying outflow rates. The system can also be used with any arthroscopic inflow cannula and should include main control unit, disposable tubing sets, a wireless remote control, two Fluid Level Sensors
- The control unit should not require the user to increase distension pressure to achieve high flow rates. Outflow may be adjusted while maintaining the lowest distension pressure needed
- Flow rate should be change as per operating cannula connection
- The Unit should have a LCD Display and should clearly depict High flow, Medium floe and Low Flows.
- Maximum flow rate of not less than 2.5 ltr/min for procedural speed and efficiency
- Automatic Joint pressure maintenance up-to 150 mmHg
- The unit should have receptacles for Remote and Irrigation Set Insertions.
- Should be supplied with remote foot pedal for easy operation of wash function.
- Must be supplied with Disposable tube sets for inflow only (30pcs).
- Must be supplied with Disposable Tube sets for inflow and outflow (30pcs.).
- Wireless remote control for full system control from the sterile field. Should be stop, start, lavage start/Stop, increase & decrease flow limit, increase & decrease pressure.
- Operating System: Microsoft® embedded Windows® XP


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Hand Instruments

All Hand Instruments should have single piece construction outer shaft and pin-less hinge design for distal tip, ensuring unsurpassed strength and cutting efficiency.


- **Punches:** - All purpose, low profile with a large square bite
- Basket Punch Duckbill straight Tip Profile – 2.52mm, Bite Width-3.17mm, Tip Width-5.05mm
- Basket punch Duckbill upbiter Tip Profile – 2.52mm, Bite Width-3.17mm, Tip Width-5.05mm
- Basket punch Duckbill upbiter curved right – 2.52mm, Bite Width-3.17mm, Tip Width- 5.05mm
- Basket punch Duckbill upbiter curved left – 2.52mm, Bite Width-3.17mm, Tip Width-5.05mm
- Basket Punch Narrowline Straight 1.9mm, Bite width- 1.67mm, Tip width-2.89mm
- Posterior Punch Upbiter Tip Profile -2.46mm, Bite width-2.18mm, Tip width-4.0mm
- Posterior Punch Straight 2.46mm, Bite width-2.18mm, Tip width-4.0mm
- Basket Punch - scoop 1.5mm Upbiter Tip profile-2.28mm,Bite width-1.59mm, Tip Width-3.88mm
- Basket Punches,90 deg. Rotary,cigar handle with a 3.4mm bite in left and Right.
- Basket Punch – Stingrey backbiter Left – Tip profile – 3.93mm, Bite width-2.38mm, Tip width-5.58mm
- Basket Punch – Stingray backbiter Right – Tip profile – 3.93mm, Bite width-2.38mm, Tip width- 5.58mm
- Suction Punch – 2.5mm, straight with long handle


Scissors

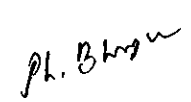
- Scissor Punches should be straight ,loop handle
- Scissor Punches Should be 20deg. Hooked Left
- Scissor Punches should be 20deg. Hooked Right

Others

- Probe Straight
- 3.0mm Heavy hook with handle
- Linear Instruments Fifteen-Unit Sterilization Trey


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Additional Requirements:


ACL & PCL Drill Guide Systems:

A comprehensive system suitable for Bone-Tendon-Bone as well as soft tissue grafts.
Comprising of –

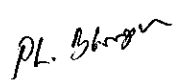
Drill guide, aimers, and bullets - single hand operation –

- ACL Director Drill Guide Handle
- Director ACL Elbow Aimer ranging from 40 to 65 deg for drilling to the laser mark at the aimer's elbow
- Director ACL Tip Aimer ranging from 40 to 65 deg for drilling to the tip of the aimer
- Director PCL Tibial Aimer with broad face tip that easily passes through notch & provides protection to posterior capsule during guide wire drilling
- Director PCL Femoral Aimer for outside in Drilling with medial incision, should have hoop tip to provide visual reference for the diameter of the fully reamed tunnel
- Director 4-Point Bullet with four sharp points for secure engagement of the guide at any angle

- Endoscopic cannulated drill bit 5mm for femoral tunnel drilling including calibration.
- Endoscopic cannulated drill bit 5.5mm for femoral tunnel drilling including calibration.
- Endoscopic cannulated drill bit 6mm for femoral tunnel drilling including calibration.
- Endoscopic cannulated drill bit 6.5mm for femoral tunnel drilling including calibration.
- Endoscopic cannulated drill bit 7mm for femoral tunnel drilling including calibration.
- Endoscopic cannulated drill bit 7.5mm for femoral tunnel drilling including calibration.
- Endoscopic cannulated drill bit 8mm for femoral tunnel drilling including calibration
- Endoscopic cannulated drill bit 8.5mm for femoral tunnel drilling including calibration.
- Endoscopic cannulated drill bit 9mm for femoral tunnel drilling including calibration.
- Endoscopic cannulated drill bit 10mm for femoral tunnel drilling including calibration.
- Endoscopic cannulated drill bit 11mm for femoral tunnel drilling including calibration.
- Endoscopic cannulated drill bit 12mm for femoral tunnel drilling including calibration.
- Cannulated drill bit 5mm for Tibial tunnel drilling
- Cannulated drill bit 5.5mm for Tibial tunnel drilling
- Cannulated drill bit 6mm for Tibial tunnel drilling
- Cannulated drill bit 6.5mm for Tibial tunnel drilling
- Cannulated drill bit 7mm for Tibial tunnel drilling
- Cannulated drill bit 7.5mm for Tibial tunnel drilling
- Cannulated drill bit 8mm for Tibial tunnel drilling
- Cannulated drill bit 8.5mm for Tibial drilling
- Cannulated drill bit 9mm for Tibial tunnel drilling
- Cannulated drill bit 10mm for Tibial tunnel drilling
- Cannulated drill bit 11mm for Tibial tunnel drilling
- Cannulated drill bit 12mm for Tibial tunnel drilling
- Slotted sizing block with slots to measure graft ranging from 5mm to 12mm with increment of 0.5mm. Also, includes the scale to measure the length of the graft
- Universal EndoFemoral Guide Handle


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- Endofemoral Aimer, no offset
- 3mm Offset Endofemoral aimer
- 4mm Offset Endofemoral aimer
- 5mm Offset Endofemoral aimer
- 6mm Offset Endofemoral aimer
- 7mm Offset Endofemoral aimer
- Offset guide for precision tibial tunnel drilling, 2mm - 5mm [Quantity-20]
- NotchmasterCurette 8.0mm
- Tendon Stripper Slotted & Closed. 4mm,5mm,6mm,7mm,8mm Diameter and 12inch length or more.
- Depth Probe for measuring femoral tunnel length, Calibrated 10mm to 130mm in 2mm increments
- 3.5mm Cannulated Hex Driver, 1.5mm cannulation [3 quantity each]
- Bio Screw Driver & Screw Starter [3 quantity each]
- 4.5mm Endoscopic Cannulated Drill Bit [10-quantity]
- 2.7mm Graft Passing Pin wire (Box of 6).
- 2.4mm Tibial Guide Wire for Tibial Tunnel (Box of 6).
- Cannuflex Guide wire 1.5mm Cannulation with Marking (Box of 6).
- ACL Chamfering Rasp
- Convex Rasp
- Compound Curve Rasp
- Bone Tunnel Plug, Small 7.0-8.0mm Pakage of 3
- BiosureRegenesorb Interference Screw Driver

- AIMER,TIBIAL PCL
- AIMER,FEMORAL, PCL
- WIRE CATCHER, PCL
- SAFETY STOP, PCL

GRASPER

All grasper should have an infinite position sliding lock mechanism that hold tissue firmly without tearing and slipping – even in the tightest area.

Pitbull Loose body Grasper with sliding lock mechanism

Blunt Grasper

- Shaft Diameter 2.75mm (1-each)
- Shaft Diameter 3.4mm (1-each)
- Shaft Diameter 4.2mm (1-each)

Tapered Grasper

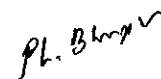
- Shaft Diameter 2.75 (1-each)
- Shaft Diameter 3.4mm (1-each)



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Alligator grasper Hook Jaw

- Shaft Diameter 2.75mm (1-each)
- Shaft Diameter 3.4mm (1-each)
- Shaft Diameter 4.2mm (1-each)

Mini Grasper

- Shaft Diameter 2.75mm (1-each)

ACL/ Loose body Grasper

- Shaft Diameter 4.2mm (1-each)

Rotator Cuff Grasper

- Shaft Diameter 4.2mm (1-each)

Suture and Tissue Management

Suture Retriever- Small diameter and low profile allow access into the tightest part of joint space

- 2,4 mm straight shaft, straight jaw (1-each)
- 2.4mm , 15° upcurved shaft straight jaw (1-each)
- 2.4mm straight shaft, 45° right curved jaw (1-each)
- 2.4mm straight shaft, 45° left curved jaw (1-each)

Fiber Tape suture retriever. (1-each)

Fiber wire Suture Grasper (1-each)

Suture hook (Crocket Hook) (1-each)

Knot Pusher- Single hole knot pusher with thumb ring (1-each)

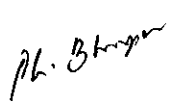
Knot Pusher- Single hole knot pusher with thumb ring open (1-each)

Suture passing instruments

- **Bird Beak penetrator**- The BirdBeak has an extremely sharp tip to penetrate soft tissue easily and a stiff shaft that resists bending during tissue shifting procedures. (1-each)
- **Penetrator Retriever**- The suture either slides or is grasped within the self ratcheting mechanism. (1-each)
- **Scorpion Suture Passer**-The Scorpion is an extremely easy-to-handle arthroscopic instrument for suture passing It grabs up to 16 mm or 20 mm of tissue and allows a double row cuff reconstruction if necessary The multifunctional instrument can be used to grasp tissue and retrieve sutures. (1-each)
- **The SCORPION-Multifire suture passer**- It should allows the surgeon to pre-load two sutures and independently pass two sutures arthroscopically through tissue. (1-each)


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Cannulated Battery Operated Bone drill. Qty-1

- Should have clock wise and anti-clock wise rotation.
Should provide with 2 battery including charger. (1-each)

Battery Bone Oscillating Saw. Qty-1

- Should provide with 2 battery, charger and different size of compatible blade .

Osteochondral Autograft Transfer System (OATS)

- Should be able to autoclave for multiple use. Should provide in different diameter size. (2-each)

Miniscal Stitcher Set (inside-out)

- Double Lumen Cannula, curved up-right
- Double Lumen Cannula, curved up-left
- Double Lumen Cannula, straight
- Double Lumen Cannula, curved left/right
- Double Lumen Cannula, curved up/down
- Single Cannula (2 included with set)
- Thimble
- Posterior Access Cannula
- Bending Tool
- Sterilization Tray for Meniscal Stitcher Set
- Needles, straight, sterile (6 per package)

IMPLANTS

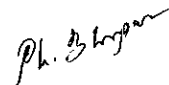
- Biodegradable interference screw of different size of diameter and length. (3-each)
- Endobutton (20 piece)
- Ultrabutton/Endobutton Adjustable Rope/loop (10 piece)
- Fiber Loop (5-Pieces)
- Fiber wire suture kit (5-Pieces)
- Fiber tape (10 pieces)



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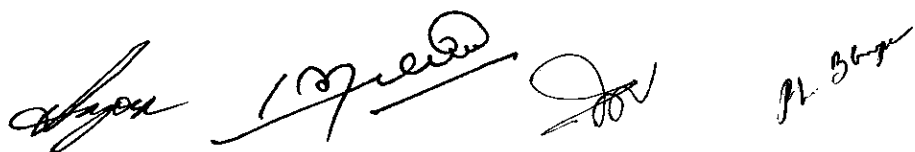
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Technical Specification of EMG/Electro Physiology System (Version II)

1. 6-8 channel equipment with software for NCV, EMG, VEP, BAER, SSEP, SSR, RNST, single fibre EMG
2. System should have head montage junction box with user configurable channels
3. Should have NCS, F wave, H reflex, Collision, Blink reflex, SSR, RR interval, RNST, Inching studies with temperature probe
4. Should have qualitative EMG, quantitative EMG, motor unit number estimate, single fibre EMG software
5. Should have pattern, flash and goggle VEP, hemifield VEP, ERG, BAER, SSEP software
6. Machine having tremor analysis software will be preferred. (Optional feature)
7. Sensitivity: 1 microvolt per division to 10 millivolt per division
8. Input impedance: above 100 Mohms differential mode. Noise < 0.6 microvolt RMS
9. Display (Sweep speed): 0.2 ms/div to 1000ms/div or more (will be preferred)
10. Common mode rejection ratio: above 112 dB isolation mode
11. Low filter settings: 0.01 Hz to 3 KHz and high filter settings: 10 Hz to 20 KHz with AC interference notch filter 50 Hz
12. Averager: Dual buffer alternate averaging preferred
13. Electrical Stimulator: monophasic / biphasic, constant current with artefact compensation
14. Should have compact stimulating electrode with convenient dials for stimulation intensity adjustment and delivery of electric stimulation with user configurable switches.
15. User should be able to open at least 8 test protocols simultaneously.
16. System should have at least 1 triggers input / output, upgradable to 6 Triggers.
17. Should have EMG (Free run needle EMG, MUAP analysis, Interference pattern, Auto MUP detection and classification, and real time turn amplitude analysis) with continuous storage of live EMG for minimum 10 minutes up to 99 sites
18. Must have Single Fiber EMG, Macro EMG, Stimulated SFEMG, and QEMG with the system
19. Should have EMG play back with waveform and sound for minimum 10 minutes
20. Should have Brain stem auditory evoked potentials with click, burst & tone pip stimulation (ABR, MLR, SVR & EcochG)
21. Should have Visual Evoked Potentials with Pattern, flash and LED goggles (ERG, EOG PRVEP & LEDVEP)
22. Should have Somatosensory Eyeiked potentials with signal triggering and back averaging (SEP, SSEP, ECG triggered SSEP and ESCP)
23. Mat have user friendly Data base management software and study schedule program for easy data management



24. Should have on-screen examination guide / Neuro navigator
25. Should be able to perform skin electrode impedance check at both junction box and console 2 to 20 K ohm
26. Should have option of P-300, collision studies
27. Should have autonomic Nervous System testing with SSR, RR interval and Microneurography
28. RNST should have pre- and post exercise protocols inbuilt with action potential graphically represented alongside table in the final result
29. Should have tetanic stimulation (50 Hz) in RNST for 10 seconds duration
30. Should have facility of exporting data to or any other suitable format for analysis with MATLAB or any other third party software as well as for teaching videos
31. Must be supplied with-Branded PC with strict in-house quality checks by manufacturer to comply with medical equipment standard.
 - a) Laboratory based PC with a standard trolley
 - b) (Branded Desktop) Intel Core i5 processor or more with 8 GB RAM, network card, multimedia
 - c) Built in DVD Super Multi Drive
 - d) With a minimum of 22" colour TFT display
 - e) Suitable latest Windows operating system
 - f) Supplied with Coloured Laser Printer
 - g) Supplied with online UPS with suitable rating with voltage regulation and spike protection for 60 minutes back up
 - h) Should be Capable of playing movies
 - i) Should Support for JPEG, GIF, PNG, and TIFF files
32. Should be supplied with following accessories:
 - a) Shielded stimulator (2 metres) (Adult)- 2 Nos.
 - b) Shielded stimulator (2 metres) (Paed)- 1 Nos.
 - c) Shielded EP electrodes (1.5 metres or more)- 3 sets
 - d) Gold plated Ear Clip electrodes (1.5 metres) - 3 pairs
 - e) Self sticking Surface electrodes (100/unit)- 2 units
 - f) Conductive paste (3 Jars of 300 gms) - 2 sets
 - g) Skin preparation gel (Set of 2 tubes) - 2 sets
 - h) EMG needle holder- 2 Nos.
 - i) EMG disposables needles (Box of 25) - 2 boxes (25 mm)
 - j) EMG disposables needles (Box of 25) - 2 boxes (37 mm)
 - k) EMG disposables needles (Box of 25) - 1 boxes (50 mm)
 - l) Single fibre EMG needle - 2 Nos.



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- m) Wrap up ground (50 c3n)- 2 Nos.
- n) Temperature prob - 1 No.
- o) Acoustically shielded Head Phones - 1 set
- p) Insert Ear Phones - 1 set
- q) 17" VEP Monitor - 1 No.
- r) LED Goggles - 1 No.
- s) ERG electrodes- 2 sets
- t) Skin marking pencils- 5 Nos.
- u) Measuring tape- 2 Nos.

33. Safety Standards:

- a) Manufacturer should have ISO certification for quality standards.
- b) Should be USFDA & CE approved product.
- c) Should be IEC 60601 -1 approved for electrical safety of Medical Equipment.
- d) Shall meet IEC 60601-2-040 Safety requirements

34. Only latest model should be quoted and year of introduction should be mentioned

35. Warranty for five year from principal manufacturer

36. Free AMC for subsequent 5 years with cost of spare from principle manufacturer

37. Commitment to provide spares and accessories for the entire period (5 yrs. CMC+ 5 yrs. AMC).

38. List of consumable and spare parts along with price list with validity of 5 years to be provided

39. Compliance certificate along with variability, if any, should be provided

40. List of installation in India during last 5 years with contact details from all vendors for the similar brand and model of equipment as quoted should be provided to verify the past performance.

Approved by:

1. Dr. Akoijam Joy Singh



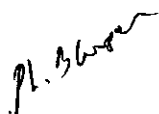
2. Prof. Y Nandabir Singh



3. Dr. Y. Ningthemba Singh



4. Dr. Ph. Bhupes



Technical specification of compact Colour Doppler Ultrasound Unit for Musculoskeletal Ultrasonography (Version II)

A state of art fully digital, compact color Doppler ultrasound machine (weight <6 kg), preferably with pin-less connector technology (optional feature) is required with following technical specifications

1. The equipment must be capable of operating in B-Mode, M-Mode, Color and power Doppler modes.
2. It must support transducer with linear, micro convex, phased array and curved array formats. It should have the standard provision of dual transducer connector to switch b/w two transducers simultaneously.
3. The system shall have broadband architecture with an operating frequency of at least 1-15 MHz (± 1 MHz).
4. Unit should be able to give very high image quality with advance technologies like compound imaging for better contrast resolution, tissue differentiation and edge detection, equivalent to high end cart based system, please specify the technology.
5. The system shall have the ability to enhance tissue margins and improve contrast resolution by reducing artifacts and improving visualization of texture patterns and needle tip within the image on both linear and curvilinear probes for procedural guidance. Please specify the technology.
6. System must have autoadjusting function for imaging parameters depending on exam type and based on imaging depth for ease of use.
7. Systems should have adaptive touch screen display with optimized menus for commonly used controls (like Scan/ Freeze, Modes, Print, Save, Clip/Image) and touch screen manipulation for calipers, zoom and Color Box.
8. The system shall process a dynamic range that is atleast 165db. The system must display at a maximum depth of 35cm.
9. The system must have a dedicated abdominal, cardiac, MSK and vascular calculations package.
10. The system shall provide a backlit keypad with no Track ball preferably for ease of use. Also, facility to disinfect the system console and transducers must be possible to avoid any cross contamination and nosocomial infections.
11. The system shall go from the off status to active scanning in fewer than 30 seconds for handling critical and emergency situation in ICU and OT. System not operating on windows operating systems will be preferred to avoid hanging and hard disc crash in critical situation.
12. The system must be mountable on original trolley and shall weigh not more than 6 kg including battery, in case it needs to be moved to other department for handling emergency conditions.
13. System and transducers must be sturdy and drop safe during accidental fall/ hit against hard surface in busy and challenging hospital conditions.



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14. The system shall have and LCD screen size no smaller than 12'' and up/down/left/right viewing area should be more than 80 degree for a wider view angle display in operating rooms.
15. The system shall have Digital video interface(DVI), S-video, VGA,USB and audio output.
16. The operating temperature range of the system, transducers, and battery shall be 10-40° C.
17. The system shall have the ability to function by AC/DC or battery power with the same degree of functionality, the battery life (run-time) shall be at least 2 (two) hours, this need to demonstrate.
18. The system must have in built memory of 16 GB for storing patient data and studies.
19. The system shall support the all DICOM functionality, storage, print, and work list, also compatible to connect to PACS.
20. The system and transducers should be US FDA and European CE certified.

Transducers to supply

1. 3-8 MHz (\pm 1MHz) curved array multi- frequency, broadband transducer for nerve, abdominal, musculoskeletal, obstetrics and spine exam applications with less than 40mm footprint.
2. 6-15 (\pm 1MHz) high frequency Linear transducer with 50 mm footprint for nerve blocks, small parts and musculoskeletal imaging.
3. An original trolley from manufacturer must be available to store and/or transport the system.
4. High frequency 'Hockey Shape' Linear transducer 6-13 MHz (\pm 1MHz) for nerve blocks, vascular access, MSK and vascular imaging.

ESSENTIAL REQUIREMENT:

- Onsite Product training and access to education material website must be provided to end users during post installation of the system.

WARRANTY: The unit and transducers should be covered with comprehensive onsite warranty for 5 years commencing from the date of issue of installation certificate.

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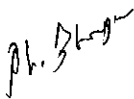
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