

C-arm image intensifier

Technical specifications:

- Features - generator
- Microprocessor controlled high frequency generator with 2.5kw or more with integrated beam filters to reduce patient skin radiation dose.
- collimator: iris or multi leaf
- x ray mode (KV & mA range):
- KV- range : 40 - 110 KV

Fluoroscopy

- A) fluoroscopy should not exceed 5 ma .
- B) pulsed fluoroscopy with last image hold

Radiography

- Radiographic mode for cassette exposures: minimum of 20mA image intensifier:
- 9"or more triple mode image intensifier with hi – resolution CCD camera image processing:
- A) minimum 12 bit digital fluoroscopy imaging unit with dedicated video pipe-line processor
- B) archival memory cd/dvd mode.
- C) detachable cassette holder for film recording.
- D) complete hi end and latest computer system with required licensed software for image capture, storage, post process, retrieval, print, transfer and patient data storage.

image display:

- Two 18" TFT/ LCD high resolution, high contrast and flicker free monochrome monitors of at least 1024 x 1024 matrix
- soft tissue filters to be provided for better visualisation of soft tissues.
- system functionality:
- Vertical ,horizontal and orbital travel should be available C arm rotation +/- 130 degree or more.
- The system should be DICOM ready

Accessories:

- A)wrap around light weight vinyl lead aprons with 0.5 mm lead equivalence certified by BARC or AERB or ISO : 6 (six nos)

Resuscitation kit

1. Silicon Resuscitator Adult (1600 ml).
2. Laryngoscope set with 2, 3, 4 number Mac Blades.
3. Airways size: 2, 3, 4 number.
4. Silicon Mask size 3, 4 number.
5. Oxygen Reservoir Bag with Valve.
6. Oxygen tube.
7. Carry bag.
8. Hand Suction.
9. Optional: Laryngeal Mask Airway & E.T Tube.

Electro-surgical cautery unit

Specification

- Instant response technology ensures that the power delivered remains virtually constant, regardless of the tissue type.
- Improved performance at lower power setting minimizes the risk of tissue damage and neuromuscular stimulation.
- Three internal microcontrollers reduce system reaction time and increase the system processing speed.
- Spray coagulation voltage of no more than 9000 volts peak-to-peak output for board, but superficial coagulation with limited capacitive coupling.
- A power efficiency rating of approximately 98 or more for cut Performance.

Three cut modes, all controlled by instant response technology, offer surgeons a Variety of choices.

- Low cut for delicate tissue or endoscopic cases.
- Pure cut for clean, precise cut
- Blend for cutting with hemostasis.

Coagulation modes:

- Desiccate for low Voltage contact coagulation suitable in endoscopic and delicate tissue work.
- High crest factor for efficient non-contact coagulation in most applications.
- Low crest factor for lower voltage coagulation in requirements. d. Spray for coagulating large tissue areas with superficial depth of necrosis.

Three Bipolar modes:

- Different setting in bipolar are controlled by the instant response System.
- Precise and standard setting utilizes low voltage to prevent sparking.

System compatible with other devices, including :

- Argon coagulation system.
- Ultrasonic surgical aspirators.
- Smoke evacuator
- Bipolar current monitor

Compatible with and used as the electrosurgical energy source for:

- Control RF ablation system.
- Electro blade rotary resection system
- Pacemaker lead extraction system.
- Compatible with and the exclusive electrosurgical generator for the computer Motion herms Voice command system.
- Unit should be advanced – microcontroller based Technology Unit should have Digital Display with push Button.
- Unit should perform self-test During Power ON.
- Unit should have programming facility for different surgeries.
- Unit should have Digital Wattage Indications for Bipolar, Monopolar Cut and Coagulation. Unit should have isolated Monopolar and bipolar outputs.
- Unit should have Split Type Patient Plate contact monitoring System for Maximum Patient Safety (Unit should not be deliver power until and unless Maximum area of the patient plate is not covered to completely minimize the risk' of post-operative H. F. burns)
- Unit should have Audio Visual Patient plate Error Monitoring System.
- Unit should Have at least 3 monopolar coagulation mode.
- Monopolar Coagulation Should consist Spray for Non-contact Coagulation, Fulgurate for under water coagulation, Desiccate/Force for open..
- Unit should have at least Three Bipolar Mode including Precise, Standard and macro.
- Unit should Have Facility to use monopolar and bipolar function without Switch over.

- Unit should have simultaneous coagulation facility in monopolar coag.
- Unit should have HF leakage monitoring system.
- Unit should have Time-out Facility to prevent accidental activation

OUTPUT WAVEFORMS: Bipolar

- Precise - more than 300 kHz
- sinusoid Standard - more than 300 kHz
- sinusoid Macro - more than 300 kHz sinusoid

Monopolar Cut

- Low - more than 300 kHz sinusoid.
- Similar to the Pure Cut mode except the maximum
- Voltage is limited to lower value.
- Pure - more than 300 kHz sinusoid
- Blend - more than 300 kHz sinusoid bursts of sinusoid, recurring at 27 kHz intervals. 50% duty cycle envelope.

Monopolar Coag

- Desiccate - more than 300 kHz sinusoid repeated at 39 kHz, 8% duty cycle
- Fulgurate - more than 300 kHz sinusoid damped sinusoidal bursts with a repletion
- frequency of 30 or 57 kHz into 500 ohms.
- Spray - more than 300 kHz sinusoid damped sinusoidal bursts with a randomized
- repetition centered at 28 KHz Frequencies include 21 kHz <35khz
- Output is further modulated by a random 250 Hz envelope with a variable duty cycle.
- Output power changes by less than 15% of 5 watts, whichever is greater as the line Voltage varies from 104-132 volts and 208-264 volts (at rated load).
- Accessories
- Ruber Silicone/split T type patient plate (pediatric and adult) – 2 each
- Monopolar forceps with hand control with accessories
- Bipolar forceps (straight long, straight short, bayonet) with accessories with non-stick coating.
- Double paddle foot switch with cable
- Bipolar foot switch
- Power cord to connect to diathermy machine (if not in build) able to fit in Indian type of electricity socket
- The Equipment should be US FDA or European CE approved

Portable X-ray Machine

General-purpose mobile diagnostic x-ray system used in a variety of routine x-ray imaging applications.

- 1) High Frequency generator of 50KHz or more compatible with conventional and computerized radiography.
- 2) Must have a digital display of mAs and kV,
- 3) Ergonomically designed unit with total soft touch switches for various operations.
- 4) Self Diagnostic Program with indicators for earthing fault error, KV error or filament error.
- 5) kV range at least 40kV to 100kV, digitally displayed mAs range at least 0.5 to 250 mAs or more.
- 6) Exposure time range at least 10 ms to 5s.
- 8) Tube power rating at least 4 kW.
- 9) Adjustable multileaf collimator, rotatable 90°with patient centring light.
- 10) Must be supplied with protective dust cover at least for control panel.
- 11) Should be compatible with various basinet size in NICU & PICU.
- 12) The generator should have microprocessor/micro-controller based electric overload system. Settings
 - 1) KV increase & decrease switches.
 - 2) mAs increase & decrease switches.
 - 3) Machine On/Off Switch.
 - 4) Collimator lamp On/Off switch.
 - 5) X-rays ON indicator should available.
 - 6) Foot switch should available for trigger X-rays. Dimensions (metric)
 1. Unit should have max. 7 foot in height, 2 foot in width and 5 foot in length.
 2. Weight -Maximum 80-90 Kg. No change Configuration

- 1) The unit must have an effective braking system for parking, transport and emergency braking.
 - 2) The tube stand must be fully counterbalanced for rotation in all directions.
 - 3) It must have an articulated arm for imaging with any patient position.
 - 4) All cables should be concealed in the arm system.
 - 5) Unit base wheels must be easily accessible for cleaning.
- 2) Should work on 220VAC +/-10%, 50 Hz.
 - 3) US FDA / European CE (issued by notified body only) & AERB Type Approved model should be offered.

Small Fragment and large fragment

Small Fragment set

- Aluminium Case, perforated 1 No
- Drill Bit, 2.5mm dia., approx. L 110/85mm for quick coupling 2 No
- Drill Bit, 3.5mm dia., approx.L 110/85mm, for quick coupling 2 No
- Countersink Shaft 3.5, approx.L 72mm 1 No
- Tap for 3.5mm Cortex Screws 2 No
- Tap for 4.0mm Cancellous Bone Screws 2 No
- T-Handle with quick coupling, approx.L 80mm 2 No
- Double Drill Sleeve 3.5/2.5 1 No
- Insert Drill Sleeve 3.5/2.5, approx. L 42mm Drill Bit 2.5mm dia. 1 No
- Screwdriver, hexagonal, small, with Holding Sleeve 1 No
- Screwdriver Shaft, hexagonal, small, approx.L 100mm, for quick coupling 1 No
- Screwdriver, hexagonal, small, with groove, approx.L 200mm 1 No
- Holding Sleeve, approx. L 80mm 1 No
- Depth Gauge for 2.7mm to 4.0mm Screws 1 No
- Sharp Hook, approx.L 155mm 1 No
- Holding Clip 4.5 - 7.0mm 2 No
- Screw Forceps, self-retaining, approx.L 85mm 1 No
- DCP Drill Sleeve 3.5 for neutral and load position 1 No
- Bending Iron, slit widths 4.5/2.5mm, approx.L 150mm, for Plates 2.7 and 3.5 1 No
- Bending Iron, slit widths 2.5/4.5mm, approx.L 150mm, for Plates 2.7 and 3.5 1 No

- Bending Pliers for Plates 2.4 to 4.0mm 1 No
- Bending Template for DCP 3.5 and LC-DCP 3.5 approx.L 80mm 1 No
- Bending Template for DCP 3.5 and LC-DCP 3.5 approx.L 110mm 1 No
- Wire Bending Pliers,approx. L 150mm 1 No
- Bending Iron, for Kirschner Wires 1.25 to 2.5mm dia., approx.L 120mm 1 No

Large fragment set

- Aluminium Case, perforated 1
- Drill Bit, 3.2mm dia.,approx. L 145/120mm for quick coupling 2
- Drill Bit, 4.5mm dia., approx.L 147/120mm for quick coupling 2
- Countersink, large, approx.L 180mm 1
- T-Handle with quick coupling, approx.L 80mm 2
- Tap for 4.5mm Cortex Screws 2
- Tap for 6.5mm Cancellous Bone Screws 1
- Double Drill Sleeve 4.5/3.2 1
- Double Drill Sleeve 6.5/3.2 1
- Screwdriver Shaft, hexagonal, large,approx. L 100mm 1
- Screwdriver, hexagonal, large, with groove, approx.L 240mm 1
- Holding Sleeve, large, approx.L 120mm 1
- Depth Gauge for 4.5 to 6.5mm Screws 1
- Sharp Hook, approx.L 155mm 1
- DCP Drill Sleeve 4.5 1
- Universal Drill Sleeve 4.5 1
- LC-DCP Drill Sleeve 4.5 1
- Bending Template for DCP 4.5 and LC-DCP 4.5 approx.L 210mm 1
- Bending Template for DCP 4.5 and LC-DCP 4.5 approx.L 120mm 1
- Bending Template for DCP 4.5 and LC-DCP 4.5 approx.L 155mm 1

Standards:

- Instruments quality should meet the international standard.
- Company should have European CE certificates and USFDA certificates of International standard.
- Company should provide material certificates.
- Material – Stainless Steel
- Grade- ISO 5832-1

Pneumatic drill and reamer

1 The Cannulated Pneumatic Drill handpiece - Compatible with existing attachments

- Cannulation with 3.2 mm diameter
- Operating pressure : 6 - 7 bars (maximum 10 bars)
- Weight of handpiece 600-800grams without any attachments
- Power 120 w
- Variable Speed from 0-900 rpm
- Noise Level of max 75 db
- Separate forward and reverse triggers
- Safety Device to cut off air supply to drill on handpiece
- Handpiece is compatible with radiolucent drive
- Instant change between clockwise and counterclockwise rotation
- Offers reliable protection of soft tissues with oscillating drill attachment
- Fully Autoclavable
- Fully machine washable
- All Attachments can be fitted on single handpiece
- The reverse trigger automatically locks when the oscillating saw and the reduction drive attachments are attached to handpiece

2 Adapter for Lubrication

- For oiling of hand piece
- Autoclavable
- Should be made of Stainless Steel

3 Double Air Hose

- Length 5 meters.
- Autoclavable
- Should have cocentric inlet and outlet pipes

4 Radiolucent Drive

- Precise aiming and drilling under image intensifier control for locking intramedullary nails
- Drill Bit diameter 2.0 to 4.5 mm, Length 100 to 150 mm, Usable length 80 to 120 mm
- Reduced exposure to x-rays

5 Jacob's Chuck attachment

- Chuck capacity up to 0 to 6.5 mm

- Cannulation of 3.2 mm diameter
- Maximum Speed of 900rpm
- Torque of 4-5 Nm

6 Quick Coupling attachment

- Cannulation 3.2 mm
- Maximum Speed: 900 rpm
- Torque of 4-5 Nm

7 Reduction Drive for Intramedullary / Acetabular Reaming with reverse option

- Reaming Speed of 300-350 rpm
- Reaming Torque of 12-14 Nm
- Option of attachment with reverse rotation

8 Quick Coupling for K-wire

- Continuous adjustment facility for wire diameter from 0.6 to 3.2 mm
- Speed up to 900 rpm

9 Oscillating Saw attachment with key

- It can operate on an oscillating frequency of 0 to 14,000 osc/min.
- Attachment can be locked in 8 different positions

10 Quick Coupling for drill bits

- Speed: 0–900 rpm
- Torque: 0–4.7 Nm
- Cannulation: 1.3 mm

11 Quick coupling for DHS / DCS triple reamers

12 Oscillating Saw Blades (All Sizes)

- For Trauma
- For Joint replacement 6

13 Aluminium case for Pneumatic Drill system, Perforated, Autoclavable

14 Aluminium Box for accessory attachment, Perforated, Autoclavable

15. Physical demo may preferably be arranged at the time of requirement.

16. Instruments quality should meet the international standard.

17. Company should have European CE/USFDA certificates of International standard.

18. Company should provide material certificates.

Goniometer

- Stage Size 2 x 3 inches (51 x 76mm)
- Sample Size 3 inches (76mm) deep x unlimited
- Contact Angle Range 0 to 180°
- Resolution 0.1°
- Accuracy +/- 0.10°
- Camera IEEE1394a FireWire, 60 fps
- Stage Precision 3-Axis Locking with Levelling Specimen Stage
- Dimensions 19 x 20 x 10 in (480x500x250mm)
- Power Supply 110 or 220 VAC

Measuring Tape (Steel Tape Roll)

- Minimum 5 M Steel Tape Roll

Electric plaster cutter

Specification

1. Should have a fiber body.
2. Should be able to cut fiber gauzes.
3. Blades should be corrosion resistant and highly durable.
4. Blades should have hexagonal mounting hole.
5. Should be supplied with 84mm, 74mm, and 64mm diameter blades.
6. Should be supplied with required tools for replacing the blades, brush and duster.
7. Should be supplied with carrying case to accommodate the plaster cutter and other accessories.
8. Should have a protective guard
9. Should be oscillating type
10. Should work with input 200 to 240Vac 50 Hz supply.

Additional Accessories

1. Blades (84mm) - 6Nos

Certificates: Notified CE/BIS/FDA and ISO 13485

Arthroscope System

High Definition Camera System for Arthroscopic Surgeries

Full High Definition Digital Camera Head

Specification

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

Full High Definition Camera Control Unit

- ACG Microprocessor controlled
- Video Inputs : S-Video, (Y/C), Composite, HD-SDI, IEEE-1394
- USB 2.0 Ports : Type A receptacle, software compatible with NS16C550
- Video Formats : NTSC and PAL
- Video Outputs : S-Video, (Y/C), Composite, HD-SDI, DVI
- Parallel Port : Bidirectional Input / output with female DB-25 Receptacle

- Video recording: on pendrive through USB port
- Serial Port : UART Port with male DB- 9 receptacle
- VGA Port : 15-Pin female
- Ethernet Ports : Auto select 10Base-T/100 Base-TX
- Still Image File Formats : 24-bit RGB bitmap, 24-bit JPEG
- Storage : Supports read/ write of USB flash media of different sizes; CD-R/RW; 650 MB or 700MB.
- Still Image Resolution : NTSC / PAL
- Motion Video File Format : MPEG1, MPEG2, MPEG4
- 1920 x 1080i @ 24 bit color depth 16.77 million True Colour
- Power Requirements : Input Voltage: 100-240 VAC, 50/60 Hz @ 90VA
- Operating System : Microsoft® embedded Windows® XP or advanced
- Processor : Intel® Pentium® M 1.6 GHz

High Definition Medical Grade Monitor

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

LED Light Source Specs

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

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

Arthroscopy Set(Arthroscopic, Sheath and Obturator)

- Working Length of Not more than 120mm
- Light Guide insertion on opposite side of the direction of view with a J-lock fixation for cannula.
- Wide Angle, Direct View High Definition Arthroscopic
- Angle of view: 30 degree
- Optimal centre-to-edge resolution for enhanced picture quality
- Diameter 2.7

- Fiber optic light transmission incorporated
- Standard ocular window for coupling the camera head
- Advanced Rod lens system for optimum brightness, contrast and definition
- Scratch resistance sapphire coated tip lens
- Arthroscopies should be supplied with compatible cannulas high flow, double valve, fully rotatable with fenestrated tip & conical and blunt tip obturator.
- Trocar-3mm to 4mm conical obturator to fit with cannula.
- Sheath- 3mm to 4mm, high flow diagnostic cannula, double valve, fully rotatable cannula with fenestrated tip.

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

- Working Length of Not more than 160mm
- Light Guide insertion on opposite side of the direction of view with a J-lock fixation for cannula.
- Wide Angle, Direct View High Definition Arthroscopic
- Angle of view: 30 degree
- Optimal centre-to-edge resolution for enhanced picture quality
- Diameter 4mm
- Fiber optic light transmission incorporated
- Standard ocular window for coupling the camera head
- Advanced Rod lens system for optimum brightness, contrast and definition
- Scratch resistance sapphire coated tip lens
- Arthroscopies should be supplied with compatible cannulas high flow, double valve, fully rotatable with fenestrated tip & conical and blunt tip obturator.

- Trocar-4.5mm conical obturator to fit with cannula.
- 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 and-piece, Foot Pedal and also other powered instrumentation
- The Motor should offer Forward, Reverse and Oscillation Mode for Resection.
- The Console should provide variable rpm ranging between 100rpm to 10,000 rpms per thebladeorburs used.
- The Unit should have 2 Modes for Normal and Aggressive Resection so as to balance efficacy with safety.
- Should provide control for momentary push switches for increasing and decreasing speed setting.
- 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;

Shaver Hand Piece

- The Shaver Hand piece should have safety mechanism of Blade WindowLock toavoidanyunintentional tissue damages on pull out.
- The hand piece should have suction control lever.
- The hand piece should be not more than 8 Inches length and 460gms.

- The connecting cable should be autoclavable and replaceable with length of approx. 10Ft.
- The autoclavable shaver hand piece, which is compact, lightweight and ergonomically designed, with hand control.
- The Shaver should offer Maximum torque not be less than 32oz.in
- The Shaver hand piece should have push-button motor controls: Forward, Reverse Oscillate, and Blade and Window Lock.
- The Safety feature for window locking should be accessible and controllable from shaver hand piece.
- Input voltage of 100 to 240V, 50/60 Hz power consumption not more than 350VA
- The Shaver should be able to use any electro Blades, if desired.
- The shaver should be supplied with compatible shaver sterilization case.

foot pedal

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

Optional Items: Powered Instrumentation

- Power drill with cable and drill hand piece, Jacobs chuck with key
- Sagittal Saw hand piece and wire driver

Consumables-Blades & Burs

- Shaver System Should be supplied with 2 pieces of single use shaver blades of each of the diameter for knee and shoulder

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 flow 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

Hand Instruments

- Basket punch Duckbill upbiter curved left – 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 Tip Profile – 2.52mm, Bite Width-3.17mm, Tip Width-5.05mm
- Basket Punch Duckbill straight Tip Profile – 2.52mm, Bite Width-3.17mm, Tip Width-5.05mm
- Posterior Punch Straight 2.46mm, Bite width-2.18mm, Tip width-4.0mm
- Posterior Punch Upbiter Tip Profile -2.46mm, Bite width-2.18mm, Tip width-4.0mm
- Basket Punch Narrowline Straight 1.9mm, Bite width- 1.67mm, Tip width-2.89mm
- Basket Punch – Stingrey backbiter Left – Tip profile – 3.93mm, Bite width-2.38mm, Tip width- 5.58mm
- Basket Punches, 90 deg. Rotary, cigar handle with a 3.4mm bite in left and Right.

- Basket Punch - scoop 1.5mm Upbiter Tip profile-2.28mm, Bite width-1.59mm, Tip Width-3.88mm
- Basket Punch – Stingray backbiter Right – Tip profile – 3.93mm, Bite width- 2.38mm, Tipwidth- 5.58mm
- Suction Punch – 2.5mm, straight with long handle

Grasper

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

Scissors

- Scissor Punches should be straight, loop handle
- Scissor Punches should be 20deg. Hooked Right
- Scissor Punches Should be 20deg. Hooked Left
- 3.0mm Heavy hook with handle
- Probe Straight
- Linear Instruments Fifteen-Unit Sterilization Tray

Technical Specifications for controlled tissue ablator for Arthroscopy

- Controlled ablation based on low temperature bi-polar radio frequency technology. Should not have any need for the secondary patient grounding pad.
- The RF probes should have multi-electrodes that will allow a uniform production of plasma
- The plasma temperatures should be between 40°C and 70°C
- The output voltage settings should be controlled by regulation on the generator from setting 1-9. Output voltage of the RF current should vary from 0-320Vrms @100 kHz frequency depending on the above settings
- The generator should have a feature of Automatic scope saver, i.e. when the probe comes too close to endoscope the controller pauses radiofrequency output and resumes radiofrequency output when the probe is returned to safe distance.
- The generator should have facility to use a foot control or a wireless footswitch for convenience and ease of use
- The generator should also have the facility to use a finger switch controlled probes.
- There should be facility to adjust ablation as well as coagulation with different settings

- There should be compatibility for probes that are used for minimally invasive treatments of Tendons and Fascia as well as probes used for sculpting articular cartilage
- The generator should be able to take over 40 different types of probes for open and minimally invasive arthroscopic procedures
- The controller should have the ability to tell the ambient temperature of the arthroscopic fluid (in the range of 20°C to 60°C) when connected with probes that have a thermocouple present near their tip

Technical Specifications of 90° ablation probe

- The ablation probes should have a tip angle of 90°, maximum tip diameter of 5.5mm and shaft diameter of 3.75mm
- They should be capable of ablating at 1.5g/minute

Technical Specifications of 50° ablation probe

- The ablation probes should have a tip angle of 50°, maximum tip diameter of 5.5mm and shaft diameter of 3.75mm
- They should be capable of ablating at 1.5g/minute

Technical Specifications of hooked dissection probe

- The probe should have 30° angle at the distal end for easy access and should have a hook like electrode for cutting and coagulation purposes

Technical Specifications of articular cartilage debridement probe

- The probe should have a dye around the tip that changes color at 50°C with a 10% error margin
- The probe should have a shaft diameter of 3mm, a 2.3mm circular annulated tip and a 15° angle

Technical Specifications of probes used for tendon & fascia treatments

- The probes should not be more than 0.8mm tip
- There should be two probes with two different lengths of 3 inches & 5 inches for open tendon & fascia surgeries and arthroscopic tendon surgeries respectively
- The probe used for open surgeries must come with built in saline delivery mechanism
- Technical Specifications of probe used for separation of soft tissue from bone
- The probe should be a bipolar radiofrequency probe capable of producing plasma in presence of a saline conductive medium
- It should be capable of producing an even and continuous plasma formation

- The probe should have capability for precise targeted tissue cutting as well as coagulation
- It should be able to operate at different settings to increase and decrease both the ablation and coagulation effects
- It should be recognized by the RF generator and default settings should be applied automatically on detecting the probe
- The probe should automatically stop ablating if it gets too close to the arthroscope and start ablating again when a safe distance is attained (intelligent scope saver feature)
- The probe should have 20° angle at the distal end for easy access and should have a hook-like electrode for cutting and coagulation purposes

Table must have the following standard features:

1. Radiolucent table top made up of Carbon Fiber for orthopedic use
2. Radiolucent top for orthopedic use:
 - a) Three or more sectional back plate with two or more detachable shoulder segment.
 - b) Seat plate with detachable buttock support
 - c) Radiolucent Perineal Post- child and adult size
 - d) Detachable divided leg plates
 - e) Should be able to slide by half.
3. Eccentric base and rolls on heavy duty castors for longitudinal and lateral movement
4. Two foldable and detachable carbon fiber traction bars fixed beneath the seat plate with two adjustable pivot joints
5. Accessory side rails for attaching accessories entire length of the table top. Rail should accept standard accessories.
6. Chrome nickel steel base
7. Additional attachment made up of carbon fibre to allow intraoperative fluoroscopy examination in paediatric patients
8. Detachable pads made of foam core, approximately 50mm thick, should be molded and radiolucent

9. All supports for different positions should be included for children separately

10. Table measurements and control panel:

a) Table Top height range- 70cm – 120cm

b) Trendelenburg/ Reverse Trendelenburg –upto 30 degree

c) Lateral Tilt- 15-30 degree

d) Motorised back plate up and down-90 degree

e) Hand control and Battery control for various table functions.

f) Battery capacity for approximately 2 weeks with average use

g) Can be operated directly from the mains for all electro hydraulic and Manual override movements

h) Patient weight capacity 180kg

i) Handset can be connected on either side of the table (head or foot end).

j) Length: 210 – 220cm

k) Width: 65-70cm

Each table must be provided with the following accessories:

1. Hand operating table

2. Lateral brace kit for total hip replacement

3. Accessory for bilateral hip surgery

4. Body strap

5. Attachments for direct approach for MIS Hip replacement should be made of carbon fibre.

6. Femoral hook for direct anterior approach for MIS Hip replacement

7. Traction bars radiolucent-02

8. Total Knee Flexion and Support System for knee arthroscopy

9. Well Leg Support system

10. Traction boot small pair with multiplaner rotation

11. Traction boot large pair with multiplanner rotation
12. Radiolucent Arm Boards with Pad(2)
13. Beach chair position system with helmet type head rest for position of the patient along with shoulder plates made of carbon fibre.
14. Skull traction and head rest for cervical spine surgery
15. Accessories for genucubital position
16. Accessories for genupectoral position
17. Mayfield attachment for cervical spine
18. Accessories for interlocking nailing of humerus and tibia,
19. Accessories for interlocking nailing for femur in supine position
20. Accessories for Hip arthroscopy including large perineal post and traction system
21. Anaesthesia screen with clamp
22. Silicone Gel pads (One set each) for various patient
 - a) Gel pads as Head ring: open and closed type for both adult and pediatric use separately
 - b) Gel pads for head rest in supine, prone and lateral positions separately for adults and children
 - c) Gel pads as operating table pad, perineal table pad, sacral protector, arm protectors
 - d) Gel pads for flexed knee in positions for spine surgery
 - e) Gel pads thigh, leg, heel
 - f) Gel pads for different positions
23. Cushions (One set each): as foam pads for different positions: Head ring, lateral positioning, leg rest cushion, cushions especially for spine surgery

Electrical drill and reamer set

Drill and Reamer Hand Piece:

- Selection of Drilling and Reaming with the built in Switch option DRILL/REAM in same hand piece.
- Selection of the drilling and reaming with the same attachment .
- Should have dual trigger for forward/ reverse and oscillation mode .
- Maximum speed of 1200 rpm in drilling, 270 RPM in reaming .
- Should have variable speed control on the hand piece .
- Should deliver maximum torque of 150 in/lbs Drill torque should be 35 in/lbs
- Should have DC brush less motor for low maintenance With appropriate adaptors for drilling, reaming and pin placement and wire placement .
- Future up gradation compatible for Navigation interface for Joint replacement surgeries .
- Micro processor controlled Hand piece Can be calibrate for the consistence performance Weight of hand piece with battery should be not more then 3.5 lbs o Fully Cannulated 4.0 mm hand piece .
- Should have Pistol grip Hand piece .
- Tool less 360 degree attachments insertion .
- Should be autoclavable o Dedicated Forward and Reverses switch with safe mode Can be calibrating for the consistence performance

Sagital Saw piece:

- Should have two speed controls with standard and fast mode.
- Free speed of 10000-12000 cycles per minute .
- Micro processor controlled Hand piece Can be calibrate for the consistence performance .
- Saw Noise level should not more then 89 db o Weight of hand piece with battery
- should be not more then 3.5 lbs r Blade mount should be adjustable to different angles with 360 degree rotation .
- Should have tool less mounting of accessories .
- Should have DC brush less motor .

- Should be autoclavable o Should have safe mode

Drill and reaming Attachments:

- ¼ inch Jacobs Drill Attachment with
- key Keyless Chuck
- Quick Connect attachment
- Reamer Attachment .
- Hudson Modified Trinkle attachment
- Pin Collet Attachment
- K Wire Collet Attachment

Battery Charger:

- 220-240 volts charger and should have the feature to count the charging cycle for a particular battery.
- Should have capability to identify the worn out battery
- Should have to charge four batteries at a time
- Should have an indicator to provide battery status for charging
- Should be able to check over autoclaved battery cycles (Number of Time and Total time)
- Should have reconditioning features for battery
- Should be able to charge different batteries with same charger

Battery Kit:

- Ni Mh & Ni Cd batteries with low internal impedance to deliver higher current than other battery types. .
- Ni Mh cells with capacity to produce more torque and non autoclavable with life of 300 approximate charging cycles.
- Should have a run time of minimum 21 minutes .
- Should include Autoclavable outer housing
- Shield to protect battery from the housing .
- 180 degree opening of battery housing for easy insertion battery .
- Should have option for autoclavable batteries

- Should have Safe Mode .
- Should have minimum 13500 CPM .

- Weight of hand piece with battery should be not more than 3.5 lbs .
- Micro-processor controlled Hand piece Can be calibrate for the consistence performance .
- Should have Pistol grip Hand piece
- Should have tool less mounting of accessories for all blades or attachments
- Saw noise level should not more then 93 db
- Should be autoclavable .
- With different blades it should have maximum speed of 13500CPM

External Fixator

- Single Pin Clamp
- Double Pin Clamp
- Open double Pin Clamp
- Twin adjustable Clamp- straight
- Twin adjustable Clamp-curved
- Transverse Clamp
- Connecting Clamp
- Single Pin Clamp with extension plate
- Double Pin Clamp with extension plate.
- Connecting rod 5mm
- Spanner 11mm
- Spanner 13mm
- T-Wrench 11mm
- Box Spanner 11mm
- Triple tocar set with Handle
- Tubular rod 4"
- Tubular rod 6"
- Tubular rod 8"
- Tubular rod10"
- Tubular rod 12"
- Tubular rod 14"

- Tubular rod 16"
- Tubular rod 18"
- Tubular rod 20"
- Tube to tube clamp
- Threaded Schanz pins (Self Tapping) 3.5mm Dia.,shaft 4mm ,Short Threaded, L 125mm.
- Threaded Schanz pins (Self Tapping) 4mm Dia.,Short Threaded, L 100-200mm
- Threaded Schanz pins (Self Tapping) 4mm Dia.,Long Threaded, L 100-200mm
- Threaded Schanz Pins (Self Tapping) 4.5mm Dia.,Short Threaded, L 100-200mm
- Threaded Schanz Pins (Self Tapping) 4.5mm Dia.,Long Threaded, L 100-200mm
- Threaded Schanz Pins (Self Tapping) 5mm Dia.,Short Threaded, L 100-200mm
- Threaded Schanz Pins (Self Tapping) 5mmDia., Long Threaded, L 100-200mm
- Cancellous front threaded 5 mm Schanz pins,Thread Length 16mm, L 100-200mm
- Cancellous front threaded 5mm Schanz pins, Thread Length 32mm, L 100-200 mm
- Cancellous front threaded 5mm Schanz pins , Thread Length 50mm, L 100-200 mm

Multimedia Projector

- DLP FULL HD Projector
- Brightness' :4000 lumens or above
- Contrast ratio:3000:1 (Minimum)
- Resolution: Native WXGA or better
- Zoom ratio:1.3:1 manual (optical)
- Keystone correction : Automatic (Both Vertical and Horizontal +/-30)
- Lamp life: 2000 Hours full brightness mode 2

Set for knee replacement

Tkr Patellar Clamp (New) =1 No.

Drill

- Tkr Drillwith Stopper Dia.8 Mm 1 No.
- Tkr Drillwith Stopper Dia. 10.6 Mm 1 No.

Tkr Patellar Positioning Jig

- Small 1 No.
- Medium 1 No.
- Large 1 No.

Tkr Trial Patellar

- Small 1 No.
- Medium 1 No Large 1 No.
- Tkr Ankle Holder 1 No.

Spring

- Tkr Spring 75 Mmfor Ankle Holder 1 No.
- Tkr Spring 90 Mmfor Ankle Holder 1 No.
- Tkr Spring105 Mmfor Ankle Holder 1 No.
- Tkr Tibialhole Guide 1 No.
- Tkr Alignment Rod 2 Nos.
- Tkr Tibialimpactor 1 No.
- Tkr Tibialcuttingjig 1 No.
- Tkr Tibial Stylus 10 Mm/ 8 Mm 1 No.

Tkr Tibial Tray Positioning Jig

- Small 1 No.
- Medium 1 No.
- Large 1 No.
- Tkr Tibial Rasp 1 No.
- Tkr Tibial Retractor 1 No.
- Tkr Spacer 16 Mm 1 No.
- Tkr 2 Mmdetachable Plate For 16 Mmspa 1 No.

- Tkr 3 Mmdetachable Plate For 16 Mmspa 1 No.
- Tkr 6 Mmdetachable Plate For 16 Mmspa 1 No.

Tkr Trial Tibial Base Plate

- Small 1 No.
- Medium 1 No.
- Large 1 No

Tkr Trial Tibial Spacer

- Small 8 Mm 1 No
- Small 11 Mm 1 No.
- Small 14 Mm 1 No.
- Medium 8 Mm 1 No.
- Medium11 Mm 1 No.
- Medium14 Mm 1 No.
- Large 8 Mm 1 No.
- Large 11 Mm 1 No.
- Large 14 Mm 1 No.
- Tkr Multi Fema.G.Mainpart 1 No.
- Tkr Handles For Multi Fema.G. 2 Nos.
- Tkr 3" Deg. External Rotation Guide Plate (L) 1 No.
- Tkr 3" Deg. External Rotation Guide Plate (R) 1 No.

Tkr Valgus Rotatory Tube

- 3" Deg 1 No
- 5" Deg 1no 7" Deg 1 No.
- Tkr Distal Femorcut Jig(New) 1 No.
- Tkr Femoral Stylus For Multi Fema.G. 1 No.

Tkr Fem Ant Post & Chamfer Cut Jig.

- Ex-Small 1 No.
- Small 1 No.
- Medium 1 No.
- Large 1 No.
- Tkr Handle For Fema/P.&Cham.Cut Jig 8 Nos

Tkr Fem Notch Cut Jig

- Ex-Small 1 No.
- Small 1 No.
- Medium 1 No.
- Large 1 No.
- Tkr Femoralimpactor 1 No.
- Tkr Femoralintramedulary Rod 1 No.
- Tkr Sawcapt -Ant. Post Chamfer Jig 1 No

Tkr Trial Femoral

- Ex-Small 1 No.
- Small 1 No.
- Medium 1 No.
- Large 1 No.
- Tkr Epicondylar Axis Plate 1 No.

Tkr Osteotome (15 Mm) Fibre Handle 1 No.

- Tkr Plier 1
- Tkr Pinremovinginstrument 1 No.
- Tkr Hohmannretractor 1 No.
- Tkr Inor Scale 6" 1 No.
- Tkr Bone Spike 1 No
- Smith Peterson Gouge St 8 Mm 1 No.
- Hexagonal Screwdriver 3.5 Mm 1
- Soft Tissue Tensioner 1 No
- Bone File 1 N

Tkr Patellar Bone Holder 1 No.

3 Groove Retractor 2 Nos.

Set for Hip Replacement

- a) Greater Shaft
- b) Greater Cups - 44, 46, 48, 50, 52, 54, 56 mm (E - 1)
- c) Trial Cups - 44, 46, 48, 50, 52, 54, 56 mm (E - 1)
- d) Muller Rasp - 7.5, 10.0, 12.5

e) Cup Inserting Device

f) Positioning Guide

g) T- Handle

h) Muller Stem Inspector

i) Stem Holder

j) Trial Heads - -3, 0, +3

k) Trial Stems - 7.5, 10.0, 12.5

l) Aluminium Graphic Case

General instrument for total hip replacement

Name of the instrument	Qty.
Scalpel Handle #4	2
Scalpel Handle #7	1
Yankauer Suction Tube	3
Mayo Dissecting Scissors Str 6 3/4"	2
Mayo Dissecting Scissors Cvd 6 3/4"	1
Halsted Mosquito Forceps Str 5"	6
Rochester-Pean Forceps Cvd 8"	2
Rochester-Ochsner Forceps Str 8"	2
Crile Forceps Cvd 6 1/4"	6
Tissue Forceps 1 x 2 Teeth 5 1/2"	2
Tissue Forceps 3 x 4 Teeth 5 1/2"	2
Russian Tissue Forceps 8"	2
Crile-Wood Needle Holder (DeBakey) 7"	2
Mayo-Hegar Needle Holder 8"	2
Allis Tissue Forceps 5 x 6 Teeth 7 1/2"	2
Beyer Rongeur Cvd 7"	1
Stille-Luer Bone Rongeur Str 8 1/2"	1
Stille-Luer Bone Rongeur Cvd 8 1/2"	1
Gerzog Bone Mallet 7 1/2"	1
Hibbs Osteotome 6 mm 9 1/2"	1
Hibbs Osteotome 10 mm 9 1/2"	1
Hibbs Osteotome 13 mm 9 1/2"	1

Bone Hook "T" Handle Large	1
Mini Hohmann Bone Elevator 8 mm 6 1/2"	1
Hohmann Bone Elevator 43 mm 10 3/4"	1
Hohmann Bone Elevator 20 mm 10 3/4"	1
Putti Bone Rasp Flat End / Conic End 12"	1
Weitlaner Retractor 3 x 4 Prongs Sharp 6 1/2"	2
Backhaus Towel Clamp 3 1/2"	6
Backhaus Towel Clamp 5 1/4"	2
Adson Forceps Cvd 7 1/4"	4
Hibbs Retractor 2" x 5/8" Blade 9"	2
Metzenbaum Scissors Cvd 8"	1
Richardson-Eastman Retractor Double End Small	1
Volkman Retractor 4 Prong Sharp 8 1/2"	2
Volkman Retractor 6 Prong Sharp 8 1/2"	2
Gelpi Retractor 7"	1
Metzenbaum Scissors Cvd 7"	1
Foerster Sponge Forceps Str Serr 9 1/2"	2
Mayo Dissecting Scissors Cvd 9"	1
Micro Adson forceps 1 x 2 Teeth 4 3/4"	2

Reflex hammer

- reflex hammer made of aluminium / brass
- optimal weight distribution
- powder coating with neurological sensor tip
- length: 230 mm | weight: 245 g
- without brush due to hygienic reasons

Plaster table

- Complete Stainless Steel construction.
- Top section with 6 movable panels.
- Dimensions 180Lx65Wx80cm.
- Movable Container is available for waste collection & can be adjustable at any panel.

Plaster room equipment (sets) with plastic table.

Orthopedic Table:

1. Should be USFDA or European CE by notified body approved model.
2. Tables should consist of a rectangular top made of carbon-fiber composite supported by a fixed base (pedestal) or a movable, swivel-caster base.
3. Top should be transferred to trolleys to transport patients to and from the OR.
4. Orthopedic tables also have padding for upper-body support, a perineal post, an apparatus for lower body support, and any number of orthopaedic accessories.
5. Should allow the conversion of the orthopedic table to a full-length surgical table.

Plaster Cutter:

1. Should be USFDA or CE certified.
2. The plaster cutter hand piece should be light weight and ergonomic design.
3. The cutter should have two speed control and with less noise
4. RPM of atleast 15,000rpm or more.
5. The cutter should have impact resistant housing and it should be versatile i.e can be used with vacuum or directly plugged into the wall/point.
6. The vacuum should have mobile on 5 castors for stability and easy transportation.
7. The vacuum should have easy facility to connect the hose with the cast cutter.
8. Locking mechanism should be there in the system to lock the hose with the cutter.
9. The length of the hose should be 6 feet.
10. One complete system should be supplied with following items/accessories

- I. Cast cutter hand piece-1 no.
- II. Cast cutter blades-20 nos(different sizes)
- III. Cast vacuum with hose and mobile stand-1 no.
- IV. Blade mounting toll-2 nos
- V. Small cast spreader-1 no
- VI. Large cast spreader-1 no.

Instruments Set with qty.:

- Drill Bit 3,2 mm/ 145 mm 3
- Drill Bit 4,5 mm/ 145 mm 2
- Countersink 4,5 mm/ 6,0 mm T-Handle 1
- Tap 6,5 mm Calibrated, 3.5 mm \rightarrow & 4.5mm 1 Each
- Reduction Forcep Asymetric 1
- Reduction Forcep 3 pointed balls 400mm 1
- Stille-Luer Bone rounger 230mm 1
- Boheler Bone Rounger Striaght- 150mm 1
- Mallet 500gm 1
- T-Handle with Jacob Chuck 1
- Tap 4,5 mm Calibrated 2
- Insert Drill Sleeve 4,5 mm/ 3,2 mm 1
- Double Drill Sleeve 4,5 mm / 3,2 mm 1
- Double Drill Sleeve 6,5 mm/ 3,2 mm 1
- Universal Drill Guide 4,5 mm 1
- Drill Guide Neutral & Load 4,5 mm 1
- T-Handle, small 1
- Screwdriver Shaft 3.5 mm Hex \rightarrow & 4.5mm 1 Each
- Screwdriver 3,5 mm Hex 1
- Holding Sleeve 4,5/6,5 mm, large 1
- 110 mm Depth Gauge 1
- Bending Template 4,5 mm 7 holes 1
- Bending Template 4,5 mm 9 holes 1

- Bending Template 4,5 mm 12 holes 1
- Sharp Hook, 150 mm 1
- Tension Device 1
- Wrench 11 mm 1
- Aluminum Case, Red
- Tray (Lower) Instruments 1
- Tray (Upper) Instruments 1
- LISTON amputation knife, approx. 170 mm 1
- BECKMANN retractor, sharp, approx. 310 mm 1
- Hammer, steelm 510 gr., approx. 260 mm 1
- LANGENBECK bone holding forceps, approx. 210 mm 1
- HIBBS osteotome, straight, 6 mm, approx. 240 mm 1
- HIBBS osteotome, straight, 13 mm, approx. 240 mm 1
- HIBBS osteotome, straight, 19 mm, approx. 240 mm 1
- HIBBS osteotome, straight, 24 mm, approx. 240 mm 1
- HIBBS osteotome, straight, 32 mm, approx. 240 mm 1
- HIBBS bone chisel, straight, 6 mm, approx. 240 mm 1
- HIBBS bone chisel, straight, 13 mm, approx. 240 mm 1
- HIBBS bone chisel, straight, 19 mm, approx. 240 mm 1
- HIBBS bone chisel, straight, 25 mm, approx. 240 mm 1
- HIBBS bone chisel, straight, 32 mm, approx. 240 mm 1
- HIBBS gouge, straight, 6 mm, approx. 240 mm 1
- HIBBS gouge, straight, 13 mm, approx. 240 mm 1
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- HIBBS gouge, straight, 19 mm, approx. 240 mm 1
- HIBBS gouge, straight, 25 mm, approx. 240 mm 1
- HIBBS gouge, straight, 32 mm, approx. 240 mm 1
- FARABEUUF periosteal elevator, straight, approx. 150 mm 1
- LANGENBECK elevatotr, 8 mm, approx. 200 mm 1
- LANGENBECK Raspatories with hollow handle, approx. 195 mm 1
- BENNETT bone lever, approx. 45 x 260 mm 1

- PUTTI bone rasp, double ended, approx. 270 mm 1
- PERCY retractor for amputation 1
- SATTERLEE amputation saw, approx. 310 mm 1
- RALK bone hand drill 1
- Forceps tissue, 1x2 teeth, approx. 145 mm 2
- ADSON forceps, serrated, approx. 120 mm 1
- SENN retractor, double, sharp, approx. 170 mm 2
- SENN retractor, double, blunt, approx. 170 mm 1
- ALM retractor, sharp, approx. 70 mm 1
- WEITLANER retractor, sharp, approx. 115 mm 2
- WEITLANER retractor, blunt, approx. 115 mm 1
- Probe, buttoned with eye, 2 mm, approx. 145 mm 1
- Grooved director, approx. 145 mm 1
- HALSEY needle holder, smooth, approx. 130 mm 2
- RUSKIN rongeur, curved, approx. 180 mm 1
- LISTON bone cutting forceps. approx. 140 mm 1
- MARTIN cartilage holding forceps, approx. 190 mm 1
- LOWMAN bone holding clamp, approx. 185 mm 1
- VOLKMANN bone curette, fig 0000 1
- VOLKMANN bone curette, fig 000 1
- VOLKMANN bone curette, fig 3 1
- Osteotome, 12 mm, approx. 135 mm 1
- Bone Chisel, 12 mm, approx. 135 mm 1
- Gouge, 12 mm, approx. 135 mm 1
- KIRK hammer, 750 g, approx. 190 mm 1
- LANGENBECK Raspatories, with hollow handle, approx. 195 mm 1
- Bone rasp, approx. 245 mm 1
- CHARRIERE amputation saw, length of blade 200 mm, approx. 300 mm 1
- STILLE Hand drill, with 9 twist drills, approx. 205 mm 1
- Frazier aspiration cannula, 30°, 8 Fr., approx. 190 mm 1
- Frazier aspiration cannula, 30°, 10 Fr., approx. 190 mm 1

Interlock nailing sets

Instruments Set with qty.:

- 1 Drill Bit, 3.2mm dia., L 225/200mm for quick coupling 2
- 2 Holding Sleeve, large, L 120mm 1
- 3 Screwdriver, hexagonal, large, L 280mm 1
- 4 Pin Wrench, 4.5mm, L 120mm 1
- 5 Combination Wrench, 11/14mm, L 150mm 1
- 6 Awl, small, L 210mm 1
- 7 Tissue Protector, L 140mm 1
- 8 T-Handle with quick coupling, L 85mm 1
- 9 Removing Tool for SynReam 1
- 10 Hand Reamer, 8.0mm dia., for predrilling in pseudarthroses 1
- 11 Reaming Rod, 2.5mm dia., L 950mm, 3.5mm olive 1
- 12 Flexible Shaft, 7.0mm dia., reaming depth to 470mm 1
- 13 Cleaning Brush for 3.6mm Flexible Shaft, L 600mm 1
- 14 Reduction Head, straight 1
- 15 Reduction Head, displacement 2.5mm 1
- 16 Reamer Head, 8.5mm dia. 1
- 17 Reamer Head, 9.0mm dia. 1
- 18 Reamer Head, 9.5mm dia. 1
- 19 Reamer Head, 10.0mm dia. 1
- 20 Reamer Head, 10.5mm dia. 1
- 21 Reamer Head, 11.0mm dia. 1
- 22 Reamer Head, 11.5mm dia. 1
- 23 Reamer Head, 12.0mm dia. 1
- 24 Reamer Head, 12.5mm dia. 1
- 25 Reamer Head, 13.0mm dia. 1
- 26 Reamer Head, 13.5mm dia. 1
- 27 Guide Rod, 3.0mm dia., with flat tip 1
- 28 Socket Wrench 11mm, cannulated, L 180mm 1
- 29 Driving Piece, curved, L 120mm 1

- 30 Driving Head 1
- 31 Guide Rod, cannulated, L 455mm 1
- 32 Ram 1
- 33 Grip, flexible, L 170mm 1
- 34 Insertion Handle, for Tibial Nails 9.0 to 14.0mm dia. 1
- 35 Threaded Bolt, conical, for Tibial Nails 9.0 to 14.0mm dia. 1
- 36 Knurled Nut for Tibial Nails 9.0 to 14.0mm dia. 1
- 37 Insertion Handle, for Femoral Nails 9.0 to 12.0mm dia. 1
- 38 Threaded Bolt, conical, for Femoral Nails 9.0 to 12.0mm dia. 1
- 39 Knurled Nut for Femoral Nails, 9.0 to 12.0mm dia. 1
- 40 Protection Sleeve 11.0/8.0, L 96mm 1
- 41 Drill Sleeve 8.0/4.5 1
- 42 Insert Drill Sleeve 3.2 1
- 43 Trocar 8.0mm dia., L 110mm 1
- 44 Depth Gauge for Locking Bolts 1
- 45 Drill Bit, 4.0/4.5mm dia., L 225/200mm, for quick coupling 2
- 46 Holding Forceps for Reaming Rod 2.5mm 1

General instrumentation set for fracture reduction

- 1. Osteotom (All sizes)
- 2. Chisel (All sizes)
- 3. Gauge (All sizes)
- 4. Nebular straight (All sizes)
- 5. Nebular angular (All sizes)
- 6. Spinal punch (All sizes)
- 7. Spine Retractor (All sizes)
- 8. Bone scoop (All sizes)
- 9. Bone hammer (All sizes)
- 10. Blunt dissectors spinal (All sizes)
- 11. Bone holding forceps (Different type and all sizes)

12. Bone cutter (All sizes)
13. Hand drill
14. Bone Pliers
15. Crocodile forceps
16. Periosteotom elevator (All sizes)
17. Bone lever (Different types All sizes)
18. Intramedullary remur set (Solid & Canulated) (All sizes)
19. Wire passer (All Size)
20. Awl with eye (All Size)
21. Plate holding foreceps (All Size)
22. Pointed Reduction Clamp(All Size)

General instrumentation set for fracture reduction 8 sets

Specification:

Specific fixation sets (Proximal Humerus, Distal humerus, Intertrochanter, proximal and distal tibia, pelvic fixation, pedicle screw, lateral mass screw and ACDF for cervical spine)

Specification:

Physiotherapy and occupational Therapy equipment sets

Specification:

Movie Camera for demonstration of live operations

Specification: