

### **SPECIFICATIONS OF ARTHROSCOPY SYSTEM**

<b>S.no.</b>	<b>Name of the item</b>	<b>Specification</b>
1	Arthroscope	<ul style="list-style-type: none"><li>• Autoclavable</li><li>• Wide angle forward oblique and lateral scope</li><li>• Angle of view= 30/70 degrees (To be decided by User)</li><li>• Diameter 4mm (Diameter 2.7mm for Ankle)</li><li>• Length 14 cm or more</li><li>• Fiber optic light transmission incorporated</li><li>• Standard ocular window for coupling camera head</li></ul>
2	Arthroscope sheath rotatable (compatible with arthroscope)	<ul style="list-style-type: none"><li>• Autoclavable</li><li>• Diameter and working length compatible with arthroscope.</li><li>• With 2 rotatable stopcocks/ snap-in coupling mechanism.</li></ul>
3.	Integrated Camera control System	<ul style="list-style-type: none"><li>• 4K Integrated Camera System with LED/OLED Light Source</li><li>• The system should be Full HDTV Endoscope Video Camera</li><li>• Optical zoom lens with desirable range (mm) F-12-35.</li><li>• 3 Camera Head. HD camera head should have resolution of minimum 3840*2160. Camera head should be having Housing and hermetically Sealed for autoclaving.</li><li>• Camera head should have programmable buttons and inbuilt zoom facility. White balance should be automatically triggered by controller front and camera head.</li><li>• Light Guide fiber optic cables (diameter- 5 mm or more and length atleast 10 ft)- should be extremely heat resistant.</li><li>• Fully Integrated Advance Image Management System</li><li>• Should have USB port for recording.</li></ul>
4	High resolution monitor	<ul style="list-style-type: none"><li>• 32 inch - 4K Medical grade Monitor with resolution of 3840*2160.</li></ul>
5	Shaver System (Shaver console)	<ul style="list-style-type: none"><li>• The console screen should capture all information pertaining to minimum and maximum, should provide control for push switches for increasing and decreasing speed setting.</li><li>• Should have three modes: standard, efficient and aggressive.</li><li>• Should provide variable RPM (Range:100 to 8000) as per the blade or burr.</li><li>• Motor should offer forward, reverse oscillation mode for resection.</li><li>• Maximum RPM forward/reverse 8000 RPM or more</li><li>• Oscillation 3000 or more</li></ul>

6	Shaver Hand Piece and Shaver foot pedal	<ul style="list-style-type: none"> <li>• Autoclavable shaver hand piece with hand control</li> <li>• Hand piece should have suction control lever and should be detachable.</li> <li>• Two different hand piece should be provided for large and short hand procedures.</li> </ul>
7	RF Ablation System	<ul style="list-style-type: none"> <li>• Automatic detection of connected probe</li> <li>• Three button controlled with ablation, coagulation, ablation power setting, metal proximity detection-suspends power when close to metal objects.</li> <li>• Protection against electric shock according to IEC60601-1.</li> </ul>
8	Arthroscopy fluid management pump/Irrigation System	<ul style="list-style-type: none"> <li>• Operation mode, inflow/outflow, flowrate more than 1500ml/min.</li> <li>• Single button setting for all arthroscopic procedures</li> <li>• Pressure setting 10-120 (Increments of 5 value)</li> <li>• Shaver and RF interface function should be available.</li> <li>• Automatic instrument recognition system</li> <li>• In addition to hand control features, the foot switch can also be used to control drain, clear and vacuum functions.</li> </ul>
9	Recording System	<ul style="list-style-type: none"> <li>• Full HD</li> <li>• Should have LED monitor for live view, play back or GUI.</li> <li>• Built in hard drive (500GB or more) should be included for recording data back up and user should also can record to USB memory and USB hard drives.</li> </ul>
10	Equipment Cart with Articulating Arm for Arthro-carts.	<ul style="list-style-type: none"> <li>• Video cart should be of same make and should have shock proof powder coating material used.</li> <li>• Should have detachable cable guards.</li> <li>• Should have isolating transformer 2000 VA with earth leakage</li> <li>• Allow mounting position for monitor mount</li> <li>• Should have cable winding aid.</li> <li>• Shaver Console &amp; Footswitch.</li> <li>• Should also have foot pedal holder, camera holder and fluid bag holder.</li> <li>• 1 Fluid Management System.</li> <li>• Size of drawers should be compatible with the size of the equipment</li> <li>• Lockable wheels</li> </ul>
11	Semi sharp obturator	<ul style="list-style-type: none"> <li>• Use with arthroscopy sheath, working length compatible with the set.</li> </ul>
<b>ACCESSORIES</b>		
1	Hand instruments	<p>All hand instruments should be USFDA/CE/BIS approved should be supplied from the same manufacturer.</p> <p>Should have one piece outer shaft with excellent control over the cutting process.</p>

	Punches	<ul style="list-style-type: none"> <li>• Straight cutting width 3.4 mm, shaft diameter 3 mm, working length 12 cm.</li> <li>• Upturned 15 degrees cutting width 3.4 mm, shaft diameter 3 mm, working length 12 cm.</li> <li>• Jaws curved 90 deg left cutting width 3.4 mm, shaft diameter 3 mm, working length 12 cm and 19 cm.</li> </ul>
	Grasper	<ul style="list-style-type: none"> <li>• Aggressive foreign body grasper shaft diameter 3mm, working length 12 cm.</li> </ul>
	Arthroscope probe	Arthroscopy probe should be graduated at 2mm intervals and approximately 18 cm long.
	Changing rod	Changing rod/ switching stick for knee and shoulder arthroscopy Knee Shoulder
2	ACL/PCL Jig for Femur and tibia	<p>Universal handle with simple wheel locking mechanism for one handed adjustment of marking hook at desired position which</p> <p>Should accommodate multiple drill sleeves for retrograde/antegrade</p> <p>The drill guide set should have</p> <ol style="list-style-type: none"> <li>1) different marking hook options for multiple indications all in one.</li> <li>2) ACL femoral foot print marking hook for making anatomic tunnel having 7-8mm round tip</li> <li>3) Tibial ACL marking hook</li> <li>4) Tibial marking hook with 10-11mm dia tip to visualize PCL footprint &amp; protect posterior structures from entering drill pin. PCL popliteal protection cap.</li> <li>5) Femoral marking hook with 7-8mm dia tip to allow visualization of PCL femoral tunnel before drilling.</li> <li>6) C-ring in the handle, accommodate multiple drill sleeves for retrograde reaming and antegrade reaming.</li> <li>7) ring/round loop at the top.</li> <li>8) Reamers should have two flute designs with tunnel reamers for femoral/tibial tunnel (size 6.5 to 10 mm)</li> <li>9) Transportal femoral offset guide for both ACL and PCL</li> <li>10) Tendon stripper for graft of variable sizes (5/7mm)</li> <li>11) Tunnel notcher</li> <li>12) Metal graft sizer block with 0.5mm increment sizer (6to10mm)</li> <li>13) PCL proximal end curved curette</li> <li>14) Meniscal root repair jig</li> <li>15) Chondropick 20 and 40 degree for osteo chondral defect management.</li> <li>16) Graft master preparation board-light weight with nonslip feet with separate graft separation base, calibrated and option to accommodate different graft preparation attachments(with graft link preparation attachments with</li> </ol>

		tensioner and screw locking mechanism with tissue clamp).
3	Arthroscopic PCL rasp	The curved tunnel/notchplasty rasp for completing the notchplasty and chamfering of the tibial and femoral tunnel rim.
4	Arthroscopic Suture Retriever	Diameter 2.75 mm Straight and curved (45 degree left and right) Straight and curved shaft for knee.
5	Arthroscopic standard Basket forceps	Straight and 15-degree curved up biter left and right Shaft diameter 3.4 mm Bite size standard 1.7 mm.
6	Arthroscopic bird beak forceps	Straight shaft with 45 degree upcurved jaw and straight jaw with 45 degrees left and right curved handle- autoclavable and reusable.
7	Arthroscopic fast suture passer	3.2mm (Knee) fast pass suture passer instrument- autoclavable and reusable
8	Flip cutter for All inside ligament reconstruction	Sizes 7mm, 8mm, 9mm
9	Arthroscopic Micro-fracture Instrument	Multiple Microfracture Awl angled 30°, 45° and 90° angled. 6mm drill depth Metal Size 3-5 mm
10	Arthroscopy Knee thigh holder	Knee Arthroscopy thigh holder with all round padding 360 swivel and rotating Clamp Height adjustable with Appropriate clamp to fit into the side rail of table.
11	Shoulder Arthroscopy set	<p>Advanced Shoulder Arthroscopy Set including General Instruments, Suture Passing and retrieval devices.</p> <ul style="list-style-type: none"> <li>• Hook Probe, 5.0-5.4 mm/Compatible with the set.</li> <li>• Tissue penetrator &amp; Suture Passer, 45 Degrees and 22- 30 degrees up tip, 2.75mm/ Compatible with the set.</li> <li>• Suture Retriever, 3.4 mm/ Compatible with the set, straight.</li> <li>• Shoulder debridement Rasp, 20–30-degree angle / compatible with the set.</li> <li>• Glenoid Rasp, 20 Degree tip /Compatible with the set.</li> <li>• Bankart Rasp, 90 Degree tip / Compatible with the set.</li> <li>• Knot pusher, closed end.</li> <li>• Shoulder Tissue Elevator, 15°/ Compatible with the set.</li> <li>• Shoulder Tissue Elevator, 20-30deg/ compatible with the set.</li> <li>• Rotator cuff Grasper.</li> <li>• Foreign body grasper- aggressive, straight jaws, sheath diameter 3.5 mm, straight, working length 19 cm.</li> <li>• Suture grasper- straight jaws sheath diameter 3 mm straight, working length 14 cm.</li> </ul>

12		<ul style="list-style-type: none"> <li>Punch- through-cutting, cross toothed, cutting width 3.4 mm, jaws curved, 15 degrees upwards, sheath diameter 3 mm, working length 19 cm.</li> </ul>
	3-Point Shoulder Distraction System and limb positioner	<ul style="list-style-type: none"> <li>Distraction system should have Shoulder traction and rotation sleeve with 1 kg and 2 kg weight, 1 Kg wt – 3, 2 Kg wt – 2 It should be low profile and flexible with double dam and dual flange, 6 to 8 mm in diameter.</li> <li>Suitable Limb positioner should be provided.</li> </ul>