

**Technical Specifications for Laparoscopy Surgery Set with High-Definition Camera System with
(Flexible Video Choledochoscope with Chip on Tip technology)**

System Contains:

1. Video Image Processor
2. LED Light Source -01
3. Flexible Video Choledochoscope with Chip on Tip technology 01
4. Upper Gastrovideoscope
5. 32" 4K Medical Grade Monitor
6. OEM Mobile Trolley-01

All products should be of the latest series/models with European CE /US FDA/BIS approved.

1. Video Image Processor: Should have following specifications:

- System should be with Resolution of 1920x1080 or better and aspect ratio of 16:9
- Should have compatibility with Flexible Video Choledochoscope
- Should have real time Optical image enhancement (NBI) for visualization of capillary vessels and fine patterns in the superficial layer of mucosa for early detection of suspicious lesions.
- Should have 5 or more Default User Preset for different surgical disciplines.
- The system should have a special color mode for easy recognition & differentiation between Fat & Lymph nodes.
- Should have touch panel for easy access of system functions & settings.
- Should have provision for saving 20 or more user settings and patient data up to 50 patients or more.
- Should have automatic Shutter and microprocessor controlled Automatic Gain Control
- Should have modes for maintaining uniform brightness and brightening of dark areas in Endoscopic Image
- System should have both structure & Edge Enhancement with 3 or more selectable levels
- Should have selectable option of 1080P/WUXGA output
- Should have both Digital and analog outputs in form of 3G/HD-SDI, DVI, Y/C and Composite.

2) LED Light Source

- Should be Powerful Multi LED (4 or more) Light source equivalent to 300W xenon to provide adequate brightness and true color reproduction.
- Should have following observation modes with multiple LED combinations:

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- i. White Light Imaging
 - ii. Real Time Optical Enhancement,
 - iii. Yellow Enhancement
- Should automatically adjust light intensity to achieve ideal illumination.
 - LED lamp should be covered under 5 years warranty.
 - Should be IR Compatible

3) Flexible Video Choledochoscope with Chip on Tip technology: Should have following specifications.

- Should be Flexible chip on technology video Choledoscopescope.
- Should be compatible for real time optical enhancement technology for observation of capillary vessels and fine patterns in the superficial layer of mucosa for early detection of lesion.
- Should offer 120 degrees or more field of view with forward viewing direction of view.
- The depth of field should be between 3-100 mm or better.
- Should offer built-in 2 mm or more instrument channels.
- Should offer angulation range up to 160 degrees or more in upwards direction and 130 degrees or more in downward direction in the bending section.
- Should have Distal End Outer diameter of 4.8mm or less and insertion tube diameter of 5.2 mm or less.
- Should be supplied along with compatible Video Processor Should be able to provide 16:9 and 16:10 output for a HDTV monitor and should be compatible with Analog and digital (HD-SDI and DVI output)
- Should be supplied with Grasping & Biopsy forceps an Stone basket & leakage tester compatible with the scope – 1 no's each

4) Flexible Upper Video Endoscope

- Should have real time optical enhancement technology NBI (Narrow Band Imaging) with Forward Direction of View.
- Should have High-Definition Scope with Built in HDTV Compatible CCD
- Distal end outer diameter: 9.2mm
- Insertion tube outer diameter: 9.2mm
- Field of view: 140 degrees
- Depth of view: 2-100 mm
- Tip Angulation: Up: 210 degree or more; Down: 90 degree or more, Right and Left: 100 degree or more
- Instrument channel: 2.8 mm
- Automatic scope identification with compatible scope.

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5) 32" LED monitor

- Medical grade monitor should be 32" or more in size with resolution of 3840x2160(UHD) and aspect ratio of 16:9
- Should have LED backlit with LCD IPS Panel Technology
- Should have facility to upscale HD/SD signals to 4K resolution.
- Should have auto detection of color gamut between BT-709 & BT-2020 for HD & 4K signals.
- Should have HDR (High Dynamic Range) mode to produce Images with High contrast & rich colors
- Should have multi-modality Display modes like PIP & POP
- Should have all desired I/P and O/P for UHD & HD visualization.
- Should have clone out for recoding Images with PIP/POP
- Should have A.I.M.E function for visualization of structures with increased sharpness.
- Monitor should be trolley mountable.

6) OEM Mobile Trolley:

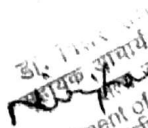
- The trolley should be compact trolley & large enough to house Imaging system. From same make .
- It should have 3 or more shelves with 4 antistatic castor wheels with locking brakes
- It should have provision for cable management through channels in the columns and cable ties on rear of shelf
- It should have built in separation transformer of 220-240V placed under the base of trolley for equipment loading
- Trolley should be offered with swivel monitor arm to allow optimized procedure image viewing position
- Should be from same make.

Note:

1. All equipment except consumable and accessories should be covered under 5 years warranty, followed by 5 years CMC


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