

**SPECIFICATIONS OF LAPAROSCOPE SET FOR TRAINING WITH  
CO2 INSUFFLATOR**

**Camera:**

1. It should be 3 chip full high definition digital camera head and console with HD image production. Resolution should be 1920 X 1080.
2. Should be fully compatible to the color systems PAL / NTSC.
3. Resolution & progressive scan technology both on camera head & console. Multiple settings allow the user to select the preferred level of image enhancement.
4. Should have optical / digital zoom to enhance the quality of image size.
5. Should have the auto exposure system for consistent illuminable level.
6. Integrated gain / shutter / enhancement with automatic brightness control.
7. Automatic white balance with memory functions for two settings.
8. The system should be Menu driven, thus allowing the surgeon to program the camera head functions as per the surgical needs and requirement.
9. Composite, S-VHS & RGB & 2 DVI output compatibility.
10. The system should have facility of attaching additional video printer / recorder functions and other peripheral units.
11. Camera head fully suitable for disinfection..
12. World power supply.

**LED LIGHT SOURCE:**

Light engine – Red, Green & Blue LED.

Patient safety & added protection in OR with safe light.

Single port universal Jaw assemble to adopt technology of fiber optic cable.

LED Light source with minimum of 170 watts light output or more having lamp life of minimum 25000 hrs or more.

**FIBER OPTIC LIGHT CABLE**

Diameter size 4.8 to 5.5 mm, Length should be not less than 250 cm.

**HIGH RESOLUTION MEDICAL GRADE VIDEO MONITOR:**

- Hi definition, Maximum resolution, colored monitor, size 26 inch or more. Flat panel LED monitor.
- Color system PAL / NTSC compatible
- S-VHS, RGB and DVI input and output compatibility.

**CO<sub>2</sub> Insufflator :**

CO<sub>2</sub> electronic insufflator, having minimum flow rate of 20 L/M or more. Unit should be easy to use clear, adjacent displays for set value and actual value allow easy

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monitoring of insufflation process touch keys for precise pre selection of set value optical and acoustic warning signals in the event of over inflation.

### **Live Recording System – 1**

- System to be compact, easy to deploy,. Portable mobile design and allows portability to any OT.
- User – centric, simple-to-use and with preview screen interface.
- Open architecture to give the hospital the flexibility to support any endoscopic vendor.
- Inputs support: DVI, S-Video, Composite, SD-SDI, HD-SDI & 3G-SDI.
- Video Resolution support up to 1920 x 1080 p.
- HD – Video Bitrates upto 60 MBPS.
- Still capture format supports JPG, BMP, PNG, DICOM.
- The system to allow playback recorded videos on the preview screen.
- Auto archive facility for external USB Drives, also for network drives.
- Direct control from devices such as iPad, iPhone.
- Direct data transfer facility to devices such as iPad, iPhone using Wi-Fi /USB cable.
- Internal HDD: Minimum 500 GB or more, expandable.

### **Instrument:**

#### **Laparoscope:**

- 10 mm 30 degree 30 – 33 cm
- 10 mm 0 degree 30 - 33 cm

It should have

- Scope should be compatible with HD camera.
- Wide angle full screen, forward – Oblique and lateral scope.
- Optimal centre – to – edge resolution for enhanced picture quality.
- 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.

### **Specification for Laparoscopic Hand Instruments and Accessories:**

#### **Trocars & Reducers**

- 120 mm Veress Needle
- 5 mm Aspiration Needle , 17 Gauge, 33 cm
- 5.5 mm Cannula Sleeve with Automatic Valve, Stop Cock (2 each)
- Trocar, Pyramid Tip, 5.5 mm (2each)
- 11 mm Cannula Sleeve with Automatic Valve, Stop Cock ( 2 each)

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- Trocar, Pyramid Tip, 11 mm ( 2 each)
- 5 m Hand Instruments with Insulated Shaft, Modular Design, Inner shaft flush port, 360° Rotation & Shaft Rotation Lock.
- Right Angled Dissector – 1
- Curved Kelly Dissector – 1
- Maryland Dissector – 1
- Mixer Dissector – 1
- Alligator Grasper – 1
- Fundus Grasper – 1
- Cobra Tooth Grasper – 1
- Serrated, Fenestrated Grasper – 1
- Dorsey Grasper – 1
- Single Action Atraumatic Grasper – 1
- Paddle Babcock Grasper – 1
- Allis Single Row Grasper – 1
- Curved Metzenbaum Scissors – 1
- 5 mm Needle holder with Handle -1
- 5 mm straight needle holder with Y Handle – 1
- 5 mm Curved Left needle holders with Y Handle - 1
- 5 mm Curved Right Needle Holder with Y Handle – 1
- Clip Applicator – 10 mm / 5 mm
- Suction irrigation – 10 mm / 5 mm.
- All laparoscopic hand instruments should be of length 33 cm or more.
- Note:- Medical Grade USFDA / European CE approved products to be quoted.

**Endo Trolley:**

It should have extendible arm for monitor mount it should have isolation transference should have extendible video arm to mount Medical grade LED monitor. Instrument trolley should have attachment of UPS system of around 30 minutes back up should be provided with the set.

**Guarantee:** Guarantee for 3 years from the date of installation.

**CMC:** CMC will be given @2% (of net rate-inclusive of Excise Duty & exclusive of VAT /CST etc.) plus service tax (as applicable) and yearly escalation of maximum 5% on last year's CMC price. The CMC will be awarded for five years (on yearly basis) after Guarantee period of three years

Manufacturer/supplier should have ISO certification for quality standards

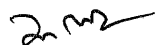
Product should have IEC safety standards wherever listed

The core items of laparoscopy set like camera system, light sources, CO2 insulator, video monitor, all hand instruments, instrument trolley and Fiber optic light cable

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should be from same manufacturer for system compatibility for optimal performance of system as whole.
Installation will be done by supplier free of cost.
The service engineer should be based in Rajasthan.
Demonstration of Equipment is must for final approval.
The company should mention the make & model name/number of the quoted equipment and submit the technical brochure of the quoted model in the Technical bid along with compliance sheet as per technical specifications.
Firm should mention all the pre-installation requirements in technical bid.
Laparoscopic set with attached instrumentation should we US FDA & CE Europe certification will be must.



**Executive Director (EPM)**  
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