

Final

**DEPARTMENT OF PAEDIATRIC SURGERY  
RAJENDRA INSTITUTE OF MEDICAL SCIENCES, RANCHI**

List & Specification of Equipments are Enclosed herewith.

Sl. No	Description
1	Patient Warmer
2	A.B.G. Machine
3	X-Ray View Box
4	Hand Instruments (Complete Set with Container)
5	C.S.S.D Equipment Set with Sterilizers
6	Flash Sterilizer
7	IV Fluid/Blood Warmer System
8	Video Assisted Thoracoscopy Surgery Set
9	Ultrasonic Cutting and Coagulation Device
10	Paediatric Cysto-Resectoscope Set
11	Virtual Reality Simulation System
12	Laparoscopic Instrument Set
13	LED Phototherapy Unit
14	Video Colonoscope
15	Staplers of all sizes for open surgery
16	Staplers of all sizes for laparoscopic surgery

**BROAD BASED QR**  
**FORCED AIR PATIENT WARMING SYSTEM**

1. Should be a light weight portable system
2. Should have minimum four variable temp settings (Range 35 to 42°C approx)
3. Should have hose disconnection alarm/indicator
4. Should have digital display of temp at end of hose pipe.
5. Should have quiet operation.
6. Should have display for elapsed time.
7. Should have air filter.
8. Should have full body adult and paediatric blankets
  - Adult - 10
  - Paediatric - 05
9. Should have CE or any other International certification of quality

## BLOOD GAS ANALYSER

### TECHNICAL SPECIFICATION

1. Should be able to measure directly PH, PCO<sub>2</sub>, PO<sub>2</sub>, Sodium, Potassium, Chloride and Calcium in a single run.
2. Should have minimum 15 calculated parameters including SaO<sub>2</sub>, Bi-carbonate (HCO<sub>3</sub>), Standard HCO<sub>3</sub>, Base Excess of Blood (BE), Base Excess of extra cellular fluid.
3. Should have a sample through put of minimum 30 samples per hour.
4. Should have an automatic calibration for all the measured parameters without the use of gas cylinder.
5. Electrode should be individual with ON / OFF facility and durable.
6. Should have an inbuilt printer and minimum inbuilt memory of 100 samples.
7. Warm up time should be less than 30 minutes.
8. Reagent pack for doing 1000 test, one deprotieniser of 125 ml, printer paper and one three level quality control of 5ml.
9. Should work on 200-240Vac 50Hz power supply.
10. Should be supplied with on line pure sine wave UPS of sufficient capacity for a minimum back up of 30 minutes.
11. Should be provided with calibration certificate issued by the manufacturer at the time of installation and calibration certificate should be issued for the machine by the supplier during preventive maintenance visit in the warranty/AMC period if demanded by the end user.
12. Should have European CE / US FDA certification. Copy of the certificate / test report shall be produced along with the technical bid.
13. Reagents supplied should have at least six months shelf life.
14. All consumables should have at least 45 days on-board stability.
15. Installation on Turn key basis.

**X-Ray View Box Specification**

LED Light Source - Intensity approx 10,000 lux - Intensity adjustable - Wall mounting / Desk Mounting

- Sizes: 500mm x 510mm x 45mm depth approx-
- 850mm x 510mm x 45mm depth approx
- 1210mm x 510mm x 45mm depth approx
- 1560mm x 510mtn x 45mm depth approx

Preferable to have CE / FDA certification

<b>HAND INSTRUMENTS SET WITH CONTAINER FOR PAEDIATRIC SURGERY</b>	
<b>MAJOR BASIC PAEDIATRIC SET</b>	<b><u>3</u> Sets</b>
FORCEPS, GROSS-MAIER, CVD., 26.5 CM	2
TOWEL FORCEPS, BACKHAUS, SHARP, 11 CM	4
TOWEL FORCEPS F. PAPER DRAPES, 11.5 CM	4
SCALPEL HANDLE, NO. 3, 12 CM	2
TC-DISSECTING SCISSORS, CVD., 11.5 CM	1
TC-DISS. SCISSORS, FINE, CVD., 14.5 CM	1
SCISSORS, JAMESON, CVD., 15.5 CM	1
TC-DISS. SCISSORS, CVD., SERR., 14.5 CM	1
OPERATING SCISSORS, SH/BL, STR., 14.5 CM	1
TISSUE FORCEPS, 1X2 T., SLIM, 14.5 CM	2
ATR. FORCEPS, DE BAKEY, 1.5 MM, 16 CM	2
DRESSING FORCEPS, MINI-ADSON, 12 CM	2
FORCEPS, MINI-ADSON, 1X2 T., 12 CM	2
HAEM. FORCEPS, MOSQUITO, CVD., 12 CM	6
HAEM. FORCEPS, MOSQUITO, CVD., 14 CM	6
FORCEPS, KOCHER, 1X2 T., STR., 14 CM	2
FORCEPS, FOERSTER, SERR., CVD., 18 CM	2
PERITON. FORCEPS, BABY-MIKULICZ, 14.5 CM	4
DISS. FORCEPS, BABY-ADSON, CVD., 14.5 CM	2
FORCEPS, MIXTER-BABY, SL. CVD., 14 CM	2
DISS. FORCEPS, BABY-MIXTER, CVD., 18.5CM	2
TC-NEEDLEHOLDER, HALSEY, 13 CM	1
TC-NEEDLEHOLDER, CRILE-WOOD, 15 CM	1
TC-NEEDLEHOLDER, MAYO-HEGAR, 16 CM	1
HOOKLET, SENN-GREEN, 10X6 MM, 16 CM	2
RETRACTOR, LANGENBECK, 30X11 MM, 22 CM	2
RETRACTOR, LANGENBECK, 40X11 MM, 22 CM	2
HOOKLET, DESMARRES, 14 MM, 16 CM	2
RETRACTOR, DOUBLE, BABY-ROUX, 12.5 CM	2
RETRACTOR, DOUBLE, ROUX, NO. 1, 14.5 CM	2
RETRACTOR, FRITSCH, 33X40 MM, 24 CM	2
HOOKLET, SHARP, 2-PR., 16.5 CM	2
RETRACTOR, DELIC., SHARP, 4-PR., 16.5 CM	2
RETR., VOLKMANN, SEMISH., 4-PR., 22.5 CM	2
SPATULA, MARTIN, MALLEAB., 16 MM, 20 CM	1
SPREADER, ADSON, BLUNT, 3X4 T., 13.5 CM	1
ABD. RETRACTOR, BALFOUR-BABY, 12.5 CM	1
TISSUE FCPS., ALLIS-BABY, 4X5 T., 13 CM	1
ATR. TISSUE FORCEPS, ALLIS, 15.5 CM	1
ATR. INT. FCPS., DOYEN-B., CVD., 13.5 CM	2
ATR. INTEST. FCPS., DOYEN, CVD., 17 CM	2
ANASTOM. FORCEPS, DERRA, NO. 2, 17 CM	2
BONE CUR., VOLKM., OVAL, NO. 000, 17 CM	1

PROBE, BUTTON END, Ø 1.0/1.0 MM, 14.5 CM	1
PROBE, BOWMAN, CYLINDR., NS, NO. 00/0	1
NEEDLE CASE, ROUND, PERF., F. 55-309-65	1
BOWL, METAL, H = 40, Ø 80 MM, 0.14 L	1
BOWL, METAL, H = 55, Ø 128 MM, 0.35 L	1
KIDNEY DISH, 250X140X40 MM	1
GUIDE NEEDLE, ANG., KNIFE SHAPE, 8 CH	1
GUIDE NEEDLE, ANG., KNIFE SHAPE, 10 CH	1
<b>MAJOR BASIC NEWBORN SET</b>	<b><u>3</u></b> <b><u>Sets</u></b>
FORCEPS, GROSS-MAIER, CVD., 20.5 CM	2
TOWEL FORCEPS, BACKHAUS, SHARP, 9 CM	4
TOWEL FORCEPS F. PAPER DRAPES, 11.5 CM	2
SCALPEL HANDLE, NO. 3, 12 CM	2
SCALPEL HANDLE F. MICROBLADE, 13.5 CM	1
TC-DISSECTING SCISSORS, CVD., 11.5 CM	1
DISSECTING & GUM SCISSORS, 13 CM	1
TC-DISS. SCISSORS, CVD., SERR., 14.5 CM	1
OPERATING SCISSORS, SH/BL, STR., 14.5 CM	1
DRESSING FORCEPS, MINI-ADSON, 12 CM	2
FORCEPS, MINI-ADSON, 1X2 T., 12 CM	2
ATR. FORCEPS, DE BAKEY, 1.5 MM, 16 CM	2
HAEM. FORCEPS, HARTMANN, CVD., 10 CM	6
HAEM. FORCEPS, MOSQUITO, CVD., 12 CM	6
FORCEPS, KOCHER, 1X2 T., STR., 14 CM	2
PERITON. FORCEPS, BABY-MIKULICZ, 14.5 CM	4
DISS. FORCEPS, BABY-ADSON, CVD., 14.5 CM	1
FORCEPS, MIXTER-BABY, SL. CVD., 14 CM	1
TC-NEEDLEHOLDER, HALSEY, 13 CM	1
TC-NEEDLEHOLDER, CRILE-WOOD, 15 CM	1
HOOKLET, SENN-GREEN, 10X6 MM, 16 CM	2
RETRACTOR, LANGENBECK, 30X11 MM, 22 CM	2
RETRACTOR, DOUBLE, BABY-ROUX, 12.5 CM	2
HOOKLET, SHARP, 2-PR., 16.5 CM	2
RETRACTOR, DELIC., SHARP, 4-PR., 16.5 CM	2
HOOKLET, DESMARRES, 8 MM, 16 CM	2
SPATULA, MARTIN, MALLEAB., 13 MM, 20 CM	1
TISSUE FCPS., ALLIS-BABY, 4X5 T., 13 CM	1
ATR. TISSUE FORCEPS, ALLIS, 15.5 CM	1
ATR. INT. FCPS., DOYEN-B., CVD., 13.5 CM	2
ATR. FORCEPS, COOLEY, ANGLED, 14.5 CM	1
ATR. FORCEPS, DE BAKEY, CVD., 13 CM	1
PROBE, BUTTON END, Ø 1.0/1.0 MM, 14.5 CM	1
PROBE, BOWMAN, CYLINDR., NS, NO. 00/0	1
NEEDLE CASE, ROUND, PERF., F. 55-309-65	1
BOWL, METAL, H = 40, Ø 80 MM, 0.14 L	1
KIDNEY DISH, 250X140X40 MM	1

<b>SUPPL. GASTRO-INTESTINAL</b>	<b>2 Sets</b>
SCALPEL HANDLE, NO. 7, SOLID, 16 CM	1
TC-DISS. SCISS., TOENNIS, CVD., 17.5 CM	1
TC-DISS. SCISSORS, CVD., SERR., 18 CM	1
FORCEPS, POTTS-SMITH, 1X2 T., 18 CM	2
ATR. FORCEPS, DE BAKEY, 1.5 MM, 20 CM	2
FORCEPS, KOCHER, 1X2 T., STR., 18.5 CM	2
HAEM. FORCEPS, MOSQUITO, CVD., 18 CM	2
PERITONEAL FORCEPS, MIKULICZ, 18.5 CM	2
ATR. TISSUE FORCEPS, ALLIS, 20 CM	2
TC-NEEDLEHOLDER, DE BAKEY, 18 CM	1
<b>SUPPL. VASCULAR SURGERY</b>	<b>2 Sets</b>
SCALPEL HANDLE, NO. 7, SOLID, 16 CM	1
VASCULAR SCISSORS, DIETHRICH, 25°, 19 CM	1
VASC. SCISSORS, DIETHRICH, 45°, 18.5 CM	1
VASC. SCISSORS, DIETHRICH, 60°, 17.5 CM	1
TC-DISS. SCISS., TOENNIS, CVD., 17.5 CM	1
FORCEPS, POTTS-SMITH, 1X2 T., 18 CM	1
ATR. FORCEPS, DE BAKEY, 2 MM, 16 CM	1
ATR. FORCEPS, DE BAKEY, 2 MM, 20 CM	1
TC-NEEDLEHOLDER, MICROVASCULAR, 17.5 CM	1
TC-NEEDLEHOLDER, DE BAKEY, 18 CM	1
CORONARY-SPREADER, 3X3 T., 6 CM	1
WOUNDSREADER, SHARP, 2X3 T., 11 CM	1
SPREADER, ADSON, BLUNT, 3X4 T., 13.5 CM	1
ELEVATOR, FREER, SH/BL, W/O PIN, 18 CM	1
NERVE HOOK, CUSHING, NO. 1, 19 CM	1
INTIMA SPATULA, BLUNT, 3 MM, 18.5 CM	1
VASC. DILATOR, DE BAKEY, Ø 0.5 MM, 19 CM	1
VASC. DILATOR, DE BAKEY, Ø 1.0 MM, 19 CM	1
VASC. DILATOR, DE BAKEY, Ø 1.5 MM, 19 CM	1
VASC. DILATOR, DE BAKEY, Ø 2.0 MM, 19 CM	1
VASC. DILATOR, DE BAKEY, Ø 2.5 MM, 19 CM	1
VASC. DILATOR, DE BAKEY, Ø 3.0 MM, 19 CM	1
VASC. DILATOR, DE BAKEY, Ø 3.5 MM, 19 CM	1
VASC. DILATOR, DE BAKEY, Ø 4.0 MM, 19 CM	1
VARADY MINI VEIN STRIPP.SET	1
HANDLE F. STRIPPERS, ROUND, 11.5 CM	1
RING STRIPPER, ROUND, Ø 2.0 MM, 50 CM	1
<b>ANAL RETRACTOR SET</b>	<b>2 Sets</b>
NASAL SPECULUM, KILLIAN, 75 MM, NO. 3	1
SIMS RECTAL SPECULUM, 60X20 MM	1
<b>SUPPL. THORACOTOMY</b>	<b>2 Sets</b>
SCALPEL HANDLE, NO. 7, SOLID, 16 CM	1

TC-DISS. SCISS., TOENNIS, CVD., 17.5 CM	1
ATR. FORCEPS, DE BAKEY, 2 MM, 20 CM	1
TC-NEEDLEHOLDER, DE BAKEY, 18 CM	1
ATR. TISSUE FORCEPS, BABCOCK, 16 CM	1
ATR. TISSUE FORCEPS, ALLIS, 20 CM	1
RIB SHEARS, SAUERBRUCH, 26 CM	1
PERINEUM SCISS., BRAUN-STADLER, 22 CM	1
RIB RASPARTORY, DOYEN, L., CHILD, 18 CM	1
RIB RASPARTORY, DOYEN, R., CHILD, 18 CM	1
RASPARTORY, CVD., 6 MM, 17 CM	1
BONE HOLDING FORCEPS, SLIM, 20 CM	1
BONE RONGEUR, BEYER, CVD., 18 CM	1
TC-WIRE TWISTING FORCEPS, 15.5 CM	1
TC-SIDE NIPPER, W. TRANSM., 17.5 CM	1
RIB CONTRACTOR, BAILEY, 20 CM	1
STERNAL SPREADER, F. PREMATURE BABIES	1
RIB SPREADER, COOLEY, ALU, 180 MM	1
LUNG SPATULA, ALLISON, 29.5 CM	1
SPATULA, MARTIN, MALLEAB., 13 MM, 20 CM	1
SUTURE HOOK, Ø 2.5 MM, 26 CM	1
ATR. FORCEPS, PEDIATRIC, NO. 2, 14 CM	1
ATR. FORCEPS, PEDIATRIC, NO. 5, 14 CM	1
<b><u>HERNIA / APPENDIX SET</u></b>	<b><u>2</u></b>
	<b><u>Sets</u></b>
FORCEPS, GROSS-MAIER, CVD., 26.5 CM	2
TOWEL FORCEPS, BACKHAUS, SHARP, 11 CM	4
TOWEL FORCEPS F. PAPER DRAPES, 11.5 CM	4
SCALPEL HANDLE, NO. 3, 12 CM	2
TC-DISSECTING SCISSORS, CVD., 11.5 CM	1
TC-DISS. SCISSORS, FINE, CVD., 14.5 CM	1
TC-DISS. SCISSORS, CVD., SERR., 14.5 CM	1
OPERATING SCISSORS, SH/BL, STR., 14.5 CM	1
TISSUE FORCEPS, 1X2 T., SLIM, 14.5 CM	2
ATR. FORCEPS, DE BAKEY, 1.5 MM, 16 CM	2
HAEM. FORCEPS, MOSQUITO, CVD., 12 CM	6
HAEM. FORCEPS, MOSQUITO, CVD., 14 CM	6
FORCEPS, KOCHER, 1X2 T., STR., 14 CM	2
FORCEPS, FOERSTER, SERR., CVD., 18 CM	2
PERITON. FORCEPS, BABY-MIKULICZ, 14.5 CM	2
DISS. FORCEPS, BABY-ADSON, CVD., 14.5 CM	2
FORCEPS, MIXTER-BABY, SL. CVD., 14 CM	2
TC-NEEDLEHOLDER, HALSEY, 13 CM	1
TC-NEEDLEHOLDER, CRILE-WOOD, 15 CM	1
TC-NEEDLEHOLDER, MAYO-HEGAR, 16 CM	1
HOOKLET, SENN-GREEN, 10X6 MM, 16 CM	2
RETRACTOR, LANGENBECK, 30X11 MM, 22 CM	2
RETRACTOR, LANGENBECK, 40X11 MM, 22 CM	2



HOOKLET, SHARP, 2-PR., 16.5 CM	2
RETR., VOLKMANN, SEMISH., 4-PR., 22.5 CM	2
HOOKLET, DESMARRES, 14 MM, 16 CM	2
RETRACTOR, DOUBLE, BABY-ROUX, 12.5 CM	2
RETRACTOR, DOUBLE, ROUX, NO. 1, 14.5 CM	2
NEEDLE CASE, ROUND, PERF., F. 55-309-65	1
BOWL, METAL, H = 40, Ø 80 MM, 0.14 L	1
BOWL, METAL, H = 55, Ø 128 MM, 0.35 L	1
KIDNEY DISH, 250X140X40 MM	1
GUIDE NEEDLE, ANG., KNIFE SHAPE, 8 CH	1
GUIDE NEEDLE, ANG., KNIFE SHAPE, 10 CH	1
<b>THYROIDECTOMY SET</b>	<b>2 Sets</b>
FORCEPS, GROSS-MAIER, CVD., 20.5 CM	2
TOWEL FORCEPS, BACKHAUS, SHARP, 11 CM	4
TOWEL FORCEPS F. PAPER DRAPES, 11.5 CM	2
SCALPEL HANDLE, NO. 3, 12 CM	2
TC-DISSECTING SCISSORS, CVD., 11.5 CM	1
TENOTOMY SCISSORS, SH/SH, CVD., 11 CM	1
TC-DISSECTING SCISSORS, CVD., 14.5 CM	1
TC-DISS. SCISSORS, CVD., SERR., 14.5 CM	1
OPERATING SCISSORS, SH/BL, STR., 14.5 CM	1
DRESSING FORCEPS, MINI-ADSON, 12 CM	1
FORCEPS, MINI-ADSON, 1X2 T., 12 CM	1
TISSUE FORCEPS, 1X2 T., SLIM, 14.5 CM	2
ATR. FORCEPS, DE BAKEY, 1.5 MM, 16 CM	2
GOIT. SEIZ. FCPS., LAHEY, 3X3 T, 15.5 CM	1
HAEM. FORCEPS, MOSQUITO, CVD., 12 CM	10
HAEM. FORCEPS, MOSQUITO, CVD., 14 CM	6
FORCEPS, KOCHER, 1X2 T., STR., 14 CM	2
FORCEPS, FOERSTER, SERR., CVD., 18 CM	2
FORCEPS, MIXTER-BABY, SL. CVD., 14 CM	1
DISS. FORCEPS, BABY-MIXTER, CVD., 18.5CM	1
TC-NEEDLEHOLDER, HALSEY, 13 CM	1
TC-NEEDLEHOLDER, CRILE-WOOD, 15 CM	1
TC-NEEDLEHOLDER, MAYO-HEGAR, 16 CM	1
ATR. TISSUE FORCEPS, ALLIS, 15.5 CM	1
PROBE, BUTTON END, Ø 1.0/1.0 MM, 14.5 CM	1
HOOKLET, DESMARRES, 14 MM, 16 CM	2
RETRACTOR, LANGENBECK, 30X11 MM, 22 CM	2
HOOKLET, SENN-GREEN, 10X6 MM, 16 CM	2
HOOKLET, SHARP, 2-PR., 16.5 CM	2
RETRACTOR, DELIC., SHARP, 4-PR., 16.5 CM	2
WOUNDSPREADER, SHARP, 2X3 T., 11 CM	1
NEEDLE CASE, ROUND, PERF., F. 55-309-65	1
BOWL, METAL, H = 40, Ø 80 MM, 0.14 L	1
BOWL, METAL, H = 55, Ø 128 MM, 0.35 L	1

KIDNEY DISH, 250X140X40 MM	1
GUIDE NEEDLE, ANG., TRIANGULAR, 10 CH	1
<b>LAPAROTOMY SET</b>	<b>3 Sets</b>
FORCEPS, GROSS-MAIER, CVD., 26.5 CM	2
TOWEL FORCEPS, BACKHAUS, SHARP, 11 CM	4
TOWEL FORCEPS F. PAPER DRAPES, 11.5 CM	4
SCALPEL HANDLE, NO. 3, 12 CM	2
SCALPEL HANDLE, NO. 7, SOLID, 16 CM	1
TC-DISSECTING SCISSORS, CVD., 11.5 CM	1
TC-DISS. SCISSORS, FINE, CVD., 14.5 CM	1
TC-DISS. SCISS., TOENNIS, CVD., 17.5 CM	1
SCISSORS, JAMESON, CVD., 15.5 CM	1
TC-DISS. SCISSORS, CVD., SERR., 18 CM	1
OPERATING SCISSORS, SH/BL, STR., 14.5 CM	1
DRESSING FORCEPS, MINI-ADSON, 12 CM	1
FORCEPS, MINI-ADSON, 1X2 T., 12 CM	1
TISSUE FORCEPS, 1X2 T., SLIM, 14.5 CM	2
FORCEPS, POTTS-SMITH, 1X2 T., 18 CM	2
ATR. FORCEPS, DE BAKEY, 1.5 MM, 16 CM	2
ATR. FORCEPS, DE BAKEY, 1.5 MM, 20 CM	2
HAEM. FORCEPS, MOSQUITO, CVD., 12 CM	6
HAEM. FORCEPS, MOSQUITO, CVD., 14 CM	6
FORCEPS, KOCHER, 1X2 T., STR., 14 CM	2
FORCEPS, KOCHER, 1X2 T., STR., 18.5 CM	2
HAEM. FORCEPS, MOSQUITO, CVD., 18 CM	2
FORCEPS, FOERSTER, SERR., CVD., 18 CM	2
PERITON. FORCEPS, BABY-MIKULICZ, 14.5 CM	4
PERITONEAL FORCEPS, MIKULICZ, 18.5 CM	2
FORCEPS, MIXTER-BABY, SL. CVD., 14 CM	2
DISS. FORCEPS, BABY-MIXTER, CVD., 18.5CM	2
TC-NEEDLEHOLDER, HALSEY, 13 CM	1
TC-NEEDLEHOLDER, CRILE-WOOD, 15 CM	1
TC-NEEDLEHOLDER, DE BAKEY, 18 CM	1
TC-NEEDLEHOLDER, MAYO-HEGAR, 16 CM	1
PROBE, BUTTON END, Ø 1.0/1.0 MM, 14.5 CM	1
HOOKLET, SENN-GREEN, 10X6 MM, 16 CM	2
RETRACTOR, LANGENBECK, 30X11 MM, 22 CM	2
RETRACTOR, LANGENBECK, 40X11 MM, 22 CM	2
HOOKLET, DESMARRES, 14 MM, 16 CM	2
RETRACTOR, DOUBLE, BABY-ROUX, 12.5 CM	2
RETRACTOR, DOUBLE, ROUX, NO. 1, 14.5 CM	2
RETRACTOR, FRITSCH, 33X40 MM, 24 CM	2
HOOKLET, SHARP, 2-PR., 16.5 CM	2
RETRACTOR, DELIC., SHARP, 4-PR., 16.5 CM	2
RETR., VOLKMANN, SEMISH., 4-PR., 22.5 CM	2
SPATULA, MARTIN, MALLEAB., 16 MM, 20 CM	1

SPREADER, ADSON, BLUNT, 3X4 T., 13.5 CM	1
ABD. RETRACTOR, BALFOUR-BABY, 12.5 CM	1
TISSUE FCPS., ALLIS-BABY, 4X5 T., 13 CM	1
ATR. TISSUE FORCEPS, ALLIS, 15.5 CM	1
ATR. TISSUE FORCEPS, ALLIS, 20 CM	1
ATR. INT. FCPS., DOYEN-B., CVD., 13.5 CM	2
ATR. INTEST. FCPS., DOYEN, CVD., 17 CM	2
ANASTOM. FORCEPS, DERRA, NO. 2, 17 CM	2
NEEDLE CASE, ROUND, PERF., F. 55-309-65	1
BOWL, METAL, H = 40, Ø 80 MM, 0.14 L	1
BOWL, METAL, H = 55, Ø 128 MM, 0.35 L	1
KIDNEY DISH, 250X140X40 MM	1
GUIDE NEEDLE, ANG., KNIFE SHAPE, 8 CH	1
GUIDE NEEDLE, ANG., KNIFE SHAPE, 10 CH	1
<b>PHIMOSIS SET</b>	<b>2 Sets</b>
FORCEPS, GROSS-MAIER, CVD., 20.5 CM	1
TOWEL FORCEPS, BACKHAUS, SHARP, 11 CM	4
TOWEL FORCEPS F. PAPER DRAPES, 11.5 CM	2
SCALPEL HANDLE, NO. 3, 12 CM	1
TC-DISSECTING SCISSORS, CVD., 11.5 CM	1
TC-DISSECTING SCISSORS, CVD., 14.5 CM	1
IRIS SCISSORS, SH/SH, CVD., 11.5 CM	1
OPERATING SCISSORS, SH/BL, STR., 14.5 CM	1
DRESSING FORCEPS, MINI-ADSON, 12 CM	1
FORCEPS, MINI-ADSON, 1X2 T., 12 CM	1
DRESSING FORCEPS, MEDIUM WIDE, 14.5 CM	1
TISSUE FORCEPS, 1X2 T., SLIM, 14.5 CM	1
HAEM. FORCEPS, HARTMANN, CVD., 10 CM	6
FORCEPS, KOCHER, 1X2 T., STR., 14 CM	1
TC-NEEDLEHOLDER, CRILE-WOOD, 15 CM	1
PROBE, BUTTON END, Ø 1.0/1.0 MM, 14.5 CM	1
PROBE, BOWMAN, CYLINDR., NS, NO. 00/0	1
NEEDLE CASE, ROUND, PERF., F. 55-309-65	1
BOWL, METAL, H = 40, Ø 80 MM, 0.14 L	1
<b>BLADDER SET</b>	<b>2 Sets</b>
FORCEPS, GROSS-MAIER, CVD., 26.5 CM	2
TOWEL FORCEPS, BACKHAUS, SHARP, 11 CM	4
TOWEL FORCEPS F. PAPER DRAPES, 11.5 CM	4
SCALPEL HANDLE, NO. 3, 12 CM	2
TC-DISS. SCISSORS, FINE, CVD., 14.5 CM	1
TC-DISSECTING SCISSORS, CVD., 14.5 CM	1
SCISSORS, JAMESON, CVD., 15.5 CM	1
VASC. SCISSORS, DIETRICH, 45°, 18.5 CM	1
TC-DISS. SCISSORS, CVD., SERR., 14.5 CM	1
OPERATING SCISSORS, SH/BL, STR., 14.5 CM	1

DRESSING FORCEPS, MINI-ADSON, 12 CM	2
FORCEPS, MINI-ADSON, 1X2 T., 12 CM	2
TISSUE FORCEPS, 1X2 T., SLIM, 14.5 CM	2
ATR. FORCEPS, DE BAKEY, 1.5 MM, 16 CM	2
HAEM. FORCEPS, MOSQUITO, CVD., 12 CM	6
HAEMOSTATIC FORCEPS, PEAN, CVD., 14 CM	6
HAEMOSTATIC FORCEPS, PEAN, CVD., 16 CM	2
FORCEPS, KOCHER, 1X2 T., STR., 14 CM	2
FORCEPS, FOERSTER, SERR., CVD., 18 CM	2
PERITON. FORCEPS, BABY-MIKULICZ, 14.5 CM	4
DISS. FORCEPS, GEMINI, STR. CVD., 13 CM	1
FORCEPS, MIXTER-BABY, SL. CVD., 14 CM	1
DISS. FORCEPS, BABY-MIXTER, CVD., 18.5CM	1
TC-NEEDLEHOLDER, HALSEY, 13 CM	1
TC-NEEDLEHOLDER, CRILE-WOOD, 15 CM	1
TC-NEEDLEHOLDER, MAYO-HEGAR, 16 CM	1
HOOKLET, SENN-GREEN, 10X6 MM, 16 CM	2
RETRACTOR, LANGENBECK, 30X11 MM, 22 CM	2
RETRACTOR, LANGENBECK, 40X11 MM, 22 CM	2
HOOKLET, DESMARRES, 14 MM, 16 CM	2
RETRACTOR, DOUBLE, BABY-ROUX, 12.5 CM	2
RETRACTOR, DOUBLE, ROUX, NO. 1, 14.5 CM	2
RETRACTOR, FRITSCH, 33X40 MM, 24 CM	2
HOOKLET, SHARP, 2-PR., 16.5 CM	2
RETRACTOR, DELIC., SHARP, 4-PR., 16.5 CM	2
RETR., VOLKMANN, SEMISH., 4-PR., 22.5 CM	2
SPATULA, MARTIN, MALLEAB., 16 MM, 20 CM	1
SPREADER, ADSON, BLUNT, 3X4 T., 13.5 CM	1
ABD. RETRACTOR, BALFOUR-BABY, 12.5 CM	1
TISSUE FCPS., ALLIS-BABY, 4X5 T., 13 CM	1
ATR. TISSUE FORCEPS, ALLIS, 15.5 CM	2
ANASTOM. FORCEPS, DERRA, NO. 2, 17 CM	1
ATR. FORCEPS, DE BAKEY, CVD., 13 CM	1
PROBE, BUTTON END, Ø 1.0/1.0 MM, 14.5 CM	1
NEEDLE CASE, ROUND, PERF., F. 55-309-65	1
BOWL, METAL, H = 40, Ø 80 MM, 0.14 L	1
BOWL, METAL, H = 55, Ø 128 MM, 0.35 L	1
KIDNEY DISH, 250X140X40 MM	1
GUIDE NEEDLE, ANG., KNIFE SHAPE, 8 CH	1
GUIDE NEEDLE, ANG., KNIFE SHAPE, 10 CH	1
<b>KIDNEY SET</b>	<b>2 Sets</b>
FORCEPS, GROSS-MAIER, CVD., 26.5 CM	2
TOWEL FORCEPS, BACKHAUS, SHARP, 11 CM	4
TOWEL FORCEPS F. PAPER DRAPES, 11.5 CM	4
SCALPEL HANDLE, NO. 3, 12 CM	2
TC-DISS. SCISSORS, FINE, CVD., 14.5 CM	1

TC-DISSECTING SCISSORS, CVD., 14.5 CM	1
SCISSORS, JAMESON, CVD., 15.5 CM	1
VASC. SCISSORS, DIETRICH, 45°, 18.5 CM	1
TC-DISS. SCISSORS, CVD., SERR., 14.5 CM	1
OPERATING SCISSORS, SH/BL, STR., 14.5 CM	1
DRESSING FORCEPS, MINI-ADSON, 12 CM	2
FORCEPS, MINI-ADSON, 1X2 T., 12 CM	2
TISSUE FORCEPS, 1X2 T., SLIM, 14.5 CM	2
ATR. FORCEPS, DE BAKEY, 1.5 MM, 16 CM	2
HAEM. FORCEPS, MOSQUITO, CVD., 12 CM	6
HAEM. FORCEPS, MOSQUITO, CVD., 14 CM	6
HAEMOSTATIC FORCEPS, PEAN, CVD., 16 CM	2
FORCEPS, KOCHER, 1X2 T., STR., 14 CM	2
FORCEPS, FOERSTER, SERR., CVD., 18 CM	2
PERITON. FORCEPS, BABY-MIKULICZ, 14.5 CM	4
DISS. FORCEPS, GEMINI, STR. CVD., 13 CM	1
FORCEPS, MIXTER-BABY, SL. CVD., 14 CM	1
DISS. FORCEPS, BABY-MIXTER, CVD., 18.5CM	1
TC-NEEDLEHOLDER, HALSEY, 13 CM	1
TC-NEEDLEHOLDER, CRILE-WOOD, 15 CM	1
TC-NEEDLEHOLDER, MAYO-HEGAR, 16 CM	1
HOOKLET, SENN-GREEN, 10X6 MM, 16 CM	2
NERVE HOOK, CUSHING, NO. 1, 19 CM	1
RETRACTOR, LANGENBECK, 30X11 MM, 22 CM	2
RETRACTOR, LANGENBECK, 40X11 MM, 22 CM	2
HOOKLET, DESMARRES, 14 MM, 16 CM	2
RETRACTOR, DOUBLE, BABY-ROUX, 12.5 CM	2
RETRACTOR, DOUBLE, ROUX, NO. 1, 14.5 CM	2
RETRACTOR, FRITSCH, 33X40 MM, 24 CM	2
HOOKLET, SHARP, 2-PR., 16.5 CM	2
RETRACTOR, DELIC., SHARP, 4-PR., 16.5 CM	2
RETR., VOLKMANN, SEMISH., 4-PR., 22.5 CM	2
SPATULA, MARTIN, MALLEAB., 16 MM, 20 CM	1
SPREADER, ADSON, BLUNT, 3X4 T., 13.5 CM	1
ABD. RETRACTOR, BALFOUR-BABY, 12.5 CM	1
TISSUE FCPS., ALLIS-BABY, 4X5 T., 13 CM	1
ATR. TISSUE FORCEPS, ALLIS, 15.5 CM	2
ATR. FCPS., DE BAKEY, STR. CVD., 16.5 CM	1
ANASTOM. FORCEPS, DERRA, NO. 1, 16.5 CM	1
ANASTOM. FORCEPS, DERRA, NO. 2, 17 CM	1
ATR. NEONATAL FORCEPS, CVD., 12 CM	1
PROBE, BUTTON END, Ø 1.0/1.0 MM, 14.5 CM	1
KIDNEY STONE FCP., RANDALL, NO. 3, 19 CM	1
KIDNEY STONE FCP., RANDALL, NO. 1, 23 CM	1
KIDNEY STONE FCP., RANDALL, NO. 2, 21 CM	1
KIDNEY STONE FCP., RANDALL, NO. 6, 19 CM	1

NEEDLE CASE, ROUND, PERF., F. 55-309-65	1
BOWL, METAL, H = 40, Ø 80 MM, 0.14 L	1
BOWL, METAL, H = 55, Ø 128 MM, 0.35 L	1
KIDNEY DISH, 250X140X40 MM	1
GUIDE NEEDLE, ANG., KNIFE SHAPE, 8 CH	1
GUIDE NEEDLE, ANG., KNIFE SHAPE, 10 CH	1
<b>THORACOTOMY (LUNG) SET</b>	<b><u>2</u> Sets</b>
FORCEPS, GROSS-MAIER, CVD., 26.5 CM	2
TOWEL FORCEPS, BACKHAUS, SHARP, 11 CM	8
TOWEL FORCEPS F. PAPER DRAPES, 11.5 CM	6
SCALPEL HANDLE, NO. 3, 12 CM	2
SCALPEL HANDLE, NO. 4, 13.5 CM	1
TC-DISSECTING SCISSORS, CVD., 11.5 CM	1
TC-DISS. SCISSORS, FINE, CVD., 14.5 CM	1
TC-DISS. SCISSORS, FINE, CVD., 20.5 CM	1
TC-DISS. SCISSORS, FINE, CVD., 18 CM	1
TC-SCISSORS, MAYO-LEXER, CVD., 16 CM	1
SCISSORS, JAMESON, CVD., 15.5 CM	1
TC-DISS. SCISSORS, CVD., SERR., 14.5 CM	1
OPERATING SCISSORS, SH/BL, STR., 14.5 CM	1
DRESSING FORCEPS, MINI-ADSON, 12 CM	2
FORCEPS, MINI-ADSON, 1X2 T., 12 CM	2
TISSUE FORCEPS, 1X2 T., SLIM, 14.5 CM	2
ATR. FORCEPS, DE BAKEY, 2 MM, 20 CM	2
ATR. FORCEPS, DE BAKEY, 1.5 MM, 16 CM	2
DRESSING FORCEPS, REES, ISOLATED, 20 CM	2
DRESSING FORCEPS, GERALD, STR., 17.5 CM	2
FORCEPS MICRO-MOSQUITO, CVD., 12 CM	6
FORCEPS, KOCHER, 1X2 T., STR., 14 CM	6
FORCEPS, KOCHER, 1X2 T., STR., 20.5 CM	2
FORCEPS, GROSS-MAIER, STR., 26.5 CM	2
PERITON. FORCEPS, BABY-MIKULICZ, 14.5 CM	4
DISS. FORCEPS, BABY-ADSON, CVD., 14.5 CM	1
DISS. FORCEPS, OVERHOLT, CVD., 13.5 CM	1
FORCEPS, MIXTER-BABY, SL. CVD., 14 CM	1
DISS. FORCEPS, BABY-MIXTER, CVD., 18.5CM	2
DISS. FORCEPS, GEMINI, STR. CVD., 13 CM	1
DISS. FORCEPS, GEMINI, STR. CVD., 18 CM	1
DISS. FORCEPS, OVERHOLT, NO. 2, 20 CM	1
ATR. TISSUE FORCEPS, ALLIS, 15.5 CM	2
ATR. TISSUE FORCEPS, BABCOCK, 16 CM	2
ATR. TANGENTIAL FORCEPS, SATINSKY, 22 CM	2
ANASTOM. FORCEPS, COOLEY-DERRA, 17 CM	2
ATR. FORCEPS, DE BAKEY, CVD., 13 CM	2
ATR. FORCEPS, COOLEY, ANGLED, 14.5 CM	1
ATR. FORCEPS, COOLEY, CVD., 17 CM	1

TC-NEEDLEHOLDER, RYDER-VASCULAR, 15.5 CM	1
TC-NEEDLEHOLDER, MICROVASCULAR, 17.5 CM	1
TC-NEEDLEHOLDER, DE BAKEY, 18 CM	1
TC-NEEDLEHOLDER, CRILE-WOOD, 15 CM	1
TC-NEEDLEHOLDER, MAYO-HEGAR, 18.5 CM	1
TC-WIRE TWISTING FORCEPS, 15.5 CM	1
TC-SIDE NIPPER, W. TRANSM., 17.5 CM	1
HOOKLET, SHARP, 4-PR., 16.5 CM	2
HOOKLET, CUSHING, 10 MM, 20.5 CM	2
HOOKLET, DESMARRES, 8 MM, 16 CM	1
HOOKLET, DESMARRES, 12 MM, 16 CM	1
HOOKLET, DESMARRES, 14 MM, 16 CM	1
GRAEFE STRABISMUS HOOK FIG 2	1
HOOKLET, SENN-GREEN, 10X6 MM, 16 CM	2
RETRACTOR, LANGENBECK, 30X11 MM, 22 CM	2
RETRACTOR, SAUERBRUCH, 45X15 MM, 22.5 CM	2
RETRACTOR, CORYLLOS, 80X22 MM, 24 CM	2
LUNG SPATULA, ALLISON, 29.5 CM	1
SPATULA, MARTIN, MALLEAB., 13 MM, 20 CM	1
SPATULA, MARTIN, MALLEAB., 16 MM, 20 CM	1
STERNAL SPREADER, F. PREMATURE BABIES	1
RIB SPREADER, CASTANEDA, ALU, 110 MM	1
RIB SHEARS, GIERTZ-STILLE, 24.5 CM	1
RIB RASPATORY, DOYEN, L., CHILD, 18 CM	1
RIB RASPATORY, DOYEN, R., CHILD, 18 CM	1
LAMBOTTE RASP. 5 MM WIDE 21,5 CM	1
RASPATORY, SEMB, NO. 1, 12 MM, 19 CM	1
RASPATORY, SEMB, NO. 3, 13 MM, 19 CM	1
BONE HOLD. FORCEPS, SEMB, CVD., 19.5 CM	1
BONE CUT. FORCEPS, RUSKIN, CVD., 18.5 CM	1
BONE RONGEUR, STILLE-RUSKIN, 23.5 CM	1
RIB CONTRACTOR, BAILEY, 15.5 CM	1
RIB CONTRACTOR, BAILEY, 20 CM	1
PERINEUM SCISS., BRAUN-STADLER, 22 CM	1
STERNAL CHISEL, LEBSCHKE, 24.5 CM	1
MALLET, VICKERS, 185 GR., NYLON, 19 CM	1
NEEDLE CASE, ROUND, PERF., F. 55-309-65	1
BOWL, METAL, H = 40, Ø 80 MM, 0.14 L	1
BOWL, METAL, H = 55, Ø 128 MM, 0.35 L	1
KIDNEY DISH, 250X140X40 MM	1
GUIDE NEEDLE, CVD., KNIFE SHAPE, 12 CH	1
GUIDE NEEDLE, CVD., KNIFE SHAPE, 14 CH	1
GUIDE NEEDLE, CVD., KNIFE SHAPE, 16 CH	1
<b>SUPL. VASCULAR CLAMPS</b>	<b>2 Sets</b>
ATR. FORCEPS, PEDI., MED. ANG., 15.5 CM	2
ATR. FORCEPS, LELAND-JONES, ANG., 18 CM	2

ANASTOM. FORCEPS, COOLEY-DERRA, 16.5 CM	1
ANASTOM. FORCEPS, COOLEY-DERRA, 17 CM	1
ATR. FORCEPS, COOLEY-BECK, ANG., 17 CM	1
ANASTOM. FORCEPS, COOLEY-DERRA, 17.5 CM	1
ATR. FORCEPS, COOLEY, SPOON-SH., 17.5 CM	1
ATR. FORCEPS, COOLEY, ANG., 17 CM	1
ATR. BULLDOG CLAMP, STR., 10 MM	2
ATR. BULLDOG CLAMP, CVD., 10 MM	2
ATR. BULLDOG CLAMP, STR., 20 MM	2
ATR. BULLDOG CLAMP, CVD., 14 MM	2
ATR. BULLDOG CLAMP, CVD., 20 MM	2
ANASTOM. FORCEPS, COOLEY-DERRA, 16.5 CM	1
ANASTOM. FORCEPS, COOLEY-DERRA, 17.5 CM	1
ATR. FORCEPS, DE BAKEY, ANG., 16.5 CM	2
ATR. FORCEPS, COOLEY, MEDIUM ANG., 16 CM	1
ATR. FORCEPS, DE BAKEY, ST. ANG., 15 CM	1
ATR. FORCEPS, COOLEY, STR., 14.5 CM	1
ATR. FORCEPS, DE BAKEY, 90° ANG., 10 CM	1
ATR. FORCEPS, DE BAKEY, S-SHAPE, 12.5 CM	1
ATR. FORCEPS, COOLEY, ANG., 17 CM	1
ATR. FORCEPS, COOLEY, STR., 17 CM	1
ATR. FORCEPS, COOLEY, STR. CVD., 16.5 CM	1
<b><u>VAGINAL SPECULA SET</u></b>	<b>1 Set</b>
BRAUN SPECULA, 56X13MM, 18CM	1
SEIDL VAGINAL SPECULA 80X8MM	1
SEIDL SCHEIDENSPEKULA 80X10 MM	1
SEIDL VAGINAL SPECULUM, SET, 90X14MM	1
KRISTELLER VAGINAL SPEKULA SET 70X15 MM	1
BRAUN VAGINAL SPECULA,60X10MM,18CM	1
<b><u>CUT DOWN SET PAEDIATRIC</u></b>	<b>2 Sets</b>
FORCEPS, GROSS-MAIER, CVD., 20.5 CM	1
TOWEL FORCEPS, BACKHAUS, SHARP, 9 CM	4
SCALPEL HANDLE, NO. 3, 12 CM	1
TC-DISS. SCISSORS, FINE, CVD., 14.5 CM	1
OPERATING SCISSORS, SH/BL, STR., 14.5 CM	1
DRESSING FORCEPS, MINI-ADSON, 12 CM	1
FORCEPS, MINI-ADSON, 1X2 T., 12 CM	1
ATR. FORCEPS, DE BAKEY, 1.5 MM, 16 CM	1
HAEM. FORCEPS, MOSQUITO, CVD., 12 CM	2
HAEM. FORCEPS, HARTMANN, CVD., 10 CM	2
FORCEPS, MIXTER-BABY, SL. CVD., 14 CM	1
TC-NEEDLEHOLDER, CRILE-WOOD, 15 CM	1
HOKKLET, DESMARRES, 14 MM, 16 CM	2
HOKKLET, SHARP, 2-PR., 16.5 CM	2
WOUNDSPREADER, ALM, SHARP, 4X4 T., 10 CM	1
NEEDLE CASE, ROUND, PERF., F. 55-309-65	1



BOWL, METAL, H = 40, Ø 80 MM, 0.14 L	1
<b>CUT DOWN SET NEWBORN</b>	<b>2 Sets</b>
FORCEPS, GROSS-MAIER, CVD., 20.5 CM	1
TOWEL FORCEPS, BACKHAUS, SHARP, 9 CM	4
SCALPEL HANDLE, NO. 3, 12 CM	1
TC-DISSECTING SCISSORS, CVD., 11.5 CM	1
IRIS SCISSORS, SH/SH, CVD., 9 CM	1
OPERATING SCISSORS, SH/BL, STR., 14.5 CM	1
DRESSING FORCEPS, MINI-ADSON, 12 CM	1
FORCEPS, MINI-ADSON, 1X2 T., 12 CM	1
HAEM. FORCEPS, MOSQUITO, CVD., 12 CM	2
HAEM. FORCEPS, HARTMANN, CVD., 10 CM	2
FORCEPS, MIXTER-BABY, SL. CVD., 14 CM	1
TC-NEEDLEHOLDER, HALSEY, 13 CM	1
GUTHRIE FIX HOOK SHARP LARGE	2
HOOKLET, DESMARRES, 8 MM, 16 CM	2
WOUNDSPREADER, ALM, SHARP, 4X4 T., 7 CM	1
NEEDLE CASE, ROUND, PERF., F. 55-309-65	1
BOWL, METAL, H = 40, Ø 80 MM, 0.14 L	1
<b>TRACHEOTOMY SET PAEDIATRIC</b>	<b>2 Sets</b>
FORCEPS, GROSS-MAIER, CVD., 20.5 CM	1
TOWEL FORCEPS, BACKHAUS, SHARP, 11 CM	4
SCALPEL HANDLE, NO. 3, 12 CM	1
TC-DISS. SCISSORS, FINE, CVD., 14.5 CM	1
OPERATING SCISSORS, SH/BL, STR., 14.5 CM	1
DRESSING FORCEPS, MINI-ADSON, 12 CM	1
FORCEPS, MINI-ADSON, 1X2 T., 12 CM	1
ATR. FORCEPS, DE BAKEY, 1.5 MM, 16 CM	1
HAEM. FORCEPS, MOSQUITO, CVD., 12 CM	2
FORCEPS, MOSQUITO, 1X2 T., CVD., 12.5 CM	2
FORCEPS, KOCHER, 1X2 T., STR., 14 CM	2
FORCEPS, MIXTER-BABY, SL. CVD., 14 CM	1
TC-NEEDLEHOLDER, CRILE-WOOD, 15 CM	1
HOOKLET, SHARP, 1-PR., 16.5 CM	2
HOOKLET, SHARP, 3-PR., 16.5 CM	2
WOUNDSPREADER, SHARP, 2X3 T., 11 CM	1
TRACHEAL DILATOR, TROUSSEAU, 14.5 CM	1
NEEDLE CASE, ROUND, PERF., F. 55-309-65	1
BOWL, METAL, H = 40, Ø 80 MM, 0.14 L	1
<b>TRACHEOTOMY SET NEWBORN</b>	<b>2 Sets</b>
FORCEPS, GROSS-MAIER, CVD., 20.5 CM	1
TOWEL FORCEPS, BACKHAUS, SHARP, 9 CM	4
SCALPEL HANDLE, NO. 3, 12 CM	1
TC-DISSECTING SCISSORS, CVD., 11.5 CM	1
OPERATING SCISSORS, SH/BL, STR., 14.5 CM	1

DRESSING FORCEPS, MINI-ADSON, 12 CM	1
FORCEPS, MINI-ADSON, 1X2 T., 12 CM	1
HAEM. FORCEPS, HARTMANN, CVD., 10 CM	2
FCPS. MIC. MOSQUITO, 1X2 T., CVD., 10 CM	2
ATR. FORCEPS, DE BAKEY, 1.5 MM, 16 CM	1
FORCEPS, MIXTER-BABY, SL. CVD., 14 CM	1
TC-NEEDLEHOLDER, HALSEY, 13 CM	1
HOOKLET, SHARP, 1-PR., 16.5 CM	2
HOOKLET, SHARP, 2-PR., 16.5 CM	2
NEEDLE CASE, ROUND, PERF., F. 55-309-65	1
BOWL, METAL, H = 40, Ø 80 MM, 0.14 L	1
<b>A-V FISTULA SET CHILDREN</b>	<b>2 Sets</b>
WEITLAN LOKT RETR BLUNT 2/3T	1
ALM RETRACTOR BLUNT	2
MICRO-MOSQUITO HAEM FCPS CVD	6
TITAN ATRAUMA FCPS 1,5 MM	1
NEONATAL CLAMP 13 CM	4
DIETRICH BULLDOG CL CVD 10MM	4
DE BAKEY DILATOR 0,5MM 19CM	1
DE BAKEY DILATOR 1MM 19CM	1
DE BAKEY DILATOR 1,5MM 19CM	1
DE BAKEY DILATOR 2MM 19CM	1
DE BAKEY DILATOR 2,5MM 19CM	1
DE BAKEY DILATOR 3MM 19CM	1
DE BAKEY DILATOR 4MM 19CM	1
DE BAKEY DILATOR 5MM 19CM	1
DIETRICH SCISSORS 45 DEG	1
CORONARY SCISSORS 10MM BLADE 45DEGR.18MM	1
TC RYDER VASCULAR NDLH	1
<b>NEONATAL THORAX INSTRUMENTS</b>	<b>2 Sets</b>
COOLEY RETRACTOR ALU 12 MM	1
LANGENBECK RETRACTOR	1
SEMB RASPATORY FIG 1	1
SEMB RASPATORY FIG 2	1
MINI LEXER CHISEL 12 MM	1
GLUCK RIB SHEARS, 8-3/4"	1
LEBSCHER STERNUM CHISEL	1
BAILEY RIB CONTRACTOR	1
VOLKMANN BONE CURETT FIG 1	1
CUTTING PLIERS 16 CM TC	1
FLAT NOS PLIERS	1
BONE RONG.FCPS.DOUBLE ARTIC.	1
<b>CHILDREN THORAX INSTRUMENTS</b>	<b>2 Sets</b>
COOLEY RETRACTOR ALU 21 MM	1
SEMB RASPATORY FIG 4	1

SEMB RASPATORY	FIG 2	1
MINI LEXER CHISEL	12 MM	1
GLUCK RIB SHEARS, 8-3/4"		1
LEBSCHER STERNUM CHISEL		1
BAILEY RIB CONTRACTOR		1
VOLKMANN BONE CURETT FIG 4		1
VOLKMANN BONE CURETT FIG 1		1
CUTTING PLIERS 16 CM TC		1
FLAT NOS PLIERS		1
ZAUFAL-JANSEN RONGEUR FORC		1
CONTAINER MICROSTOP 30X30X14 CM		46
Tray 1/2, 243x255x73 mm		1
COLOR-TAG, RED		92
CODING LABEL, WITH TEXT, WITOUT HOLE		92

- The Instruments should be European CE & FDA USA approved.
- These should be made of High quality stainless steel (350-450 grade)
- Manufacturer's name, country of origin and catalogue number should be engraved on the instruments.
- Original manufacturer catalogue with all the instruments is mandatory.
- Physical demonstration is mandatory.
- Appropriate size of containers to be quoted with each Set with Pre Printed Labels mentioning the name of the set.
- The Instruments and Container should be of the same parent company.
- It should have reusable microbial barriers instead of disposable filters. The microbial barriers should be easy to remove and clean.
- For final evaluation, total 'Set Price' as per quantity mentioned shall be evaluated. However individual rates should be mentioned for further procurement of any individual item.

**Item No. 10**

**a) Technical Specification of Cylindrical Sterilizer**

<b>High pressure steam sterilizer cylindrical Type</b>
Steam sterilizer for the sterilization of instruments, textiles, rubber goods, plastics and glass materials.
The sterilizer should be constructed in accordance with EUROPEAN CE / FDA Standard
<b>Double Door System Should be available</b>
Chamber dimensions, approximately: 500 mm X 1200 mm.
Capacity of sterilization chamber in liters: minimum 250 liters.
<b>1. JACKET.</b>
Jacket of the sterilizer contain safety valve (It blows when generated pressure reach required pressure), pressure gauge, vacuum breaker.
<b>CHAMBER.</b>
Compound gauge: - It shows the chamber pressure when steam entered into the chamber.
Dryer:- it should have in-built dryer system.
Dial thermometer: - It shows chamber temperature when steam comes into the chamber.
Plug screen:- Its prevent the dirty articles to go into the steam trap
Steam trap: - Its release condense water & arrest dry steam to build up sterilized temperature.
Non return valve :- Its allow the steam to go to in one way.
<b>DOOR.</b>
a) Door should be fixed with door hinge / sliding to the main unit for easy and smooth operation.
b) Door Gasket: Door is provided with a door gasket, fixes in the door grooves. Its prevent steam leaking through the door.
c) Mechanical Pressure lock: There is a Mechanical Pressure type Safety Door which locks automatically as soon as the Chamber under pressure and unlocking only when the chamber is exhausted.
d) The unit is fitted with safety door with self locking device. The gaskets would be provided on the door assembly.
<b>Provision of Microprocessor:</b>
A Microprocessor with the facility of MMI (Man-Machine-Interface) is provided instead of manual cycle operated multi-port operating valve. The features are:
a. The operator can program the cycles with his choice of different settings of time, temperature and corresponding pressure which can be used various contents/material to be sterilized;

- b. MMI Backlit with eight digit password protection-- ensures control of the operator;
- c. Will generally have six different settings for the cycles;
- d. Provision for digital display of temperature, time, pressure, cycle time and elapsed time for ease of operation of the cycle
- e. Can be connected to a dot matrix printer which will give the entire process taken place including date, batch, program type selected etc.,
- f. Provision of 'error code analysis' inbuilt.
- g. 'Leak test' cycle provided
- h. Dick & Bowie available.
- i. The unit will be mounted on tubular stand of mild steel in a ready to use condition.
- j. The sterilizer will be fitted with all necessary safety features.
- k. Feed Water Pump: Water can be filled up automatically, whenever required with the help of Feed Water Pump.
- l. HPHV (HIGH PRESSURE HIGH VACCUM): HPHV is for sterilization at high temperature and better drying.
- m. The unit will be fitted with an external high pressure high vacuum pump to give pre vacuum and post vacuum pulses.

**Certification**

Company should have IS-3829 marked.  
Company should have ISO 9001-2008, ISO 2003-13485 and European CE & FDA certified product.

**Manufacturing Experience**

More Than 10 years.

**Installation on turn key basis**

**b) Technical Specification of Hot & Cold Sterilizer**

**General Specification**

**Hot and Cold Water Sterilizer** electrically operated double tanks each of atleast 30 liters per hr capacity. The chamber is of stain less steel. The unit will be incorporated with low water protection and Automatic Pressure Cut-Off Device. Special Arrangement for cooling of Sterile Water to required temperature.

**Electrical & other details**

The Heating Load in Hot Boiler and Cold Boiler should be atleast 6 KW each. i.e. Total Load is 12 KW.  
The Sterilizer will be made of atleast SS AISI316 Steel with the thickness of 1.5mm i.e. 16 Gauge

<b>Electrical Load</b> : 12 KW in 3 phases, 440 volts, AC Supply										
<b>Boiler items at a minimum should have :</b>										
<table border="0"> <tr> <td>a) 1 no. Safety Valve; Steel</td> <td>b) 1 no. Water Filter made of Stainless</td> </tr> <tr> <td>c) 1 no. Steam Release Valve</td> <td>d) 1 no. Pressure Gauge</td> </tr> <tr> <td>e) 1 no. Dial Thermometer</td> <td>f) 1 no. Double Acting Valve</td> </tr> <tr> <td>g) 1 no. Steam Trap</td> <td>h) 1 no. Water Collection Valve and</td> </tr> <tr> <td>i) Water Level Indicator.</td> <td></td> </tr> </table>	a) 1 no. Safety Valve; Steel	b) 1 no. Water Filter made of Stainless	c) 1 no. Steam Release Valve	d) 1 no. Pressure Gauge	e) 1 no. Dial Thermometer	f) 1 no. Double Acting Valve	g) 1 no. Steam Trap	h) 1 no. Water Collection Valve and	i) Water Level Indicator.	
a) 1 no. Safety Valve; Steel	b) 1 no. Water Filter made of Stainless									
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e) 1 no. Dial Thermometer	f) 1 no. Double Acting Valve									
g) 1 no. Steam Trap	h) 1 no. Water Collection Valve and									
i) Water Level Indicator.										
<b>Certification</b>										
IS-3829 marked. Company should have ISO 9001-2008, ISO 13485-2003 and European CE & US FDA certified product.										
<b>Manufacturing Experience</b>										
Company should have manufacturing experience more than 10 years.										
<b>Installation on turn key basis</b>										

**c) Technical Specification of Bowl-Utensils Sterilizer**

<b>General Specification</b>
The Bowl sterilizer will be of All-weld, Stainless Steel Construction. Product benefits include Automatic Temperature Control for operational economy and automatic elimination of excess steam.
<b>Electrical Load-</b> should be compatible with the size required (Preferably 60 KW or more)
<b>Electric Supply Requirement :</b> 440 V, AC 3 Phrase
Size: 800mm X 760mm X 850 mm
<b>Main Features:</b>
<ol style="list-style-type: none"> <li>1) Automatic Temperature Control and Automatic Elimination of excess Steam.</li> <li>2) The machine is provided with the inlet, outlet and overflow arrangements</li> </ol>
<b>Certification</b>
Company should have ISO 9001-2008, ISO 2003-13485 and European CE& US FDA certificate for the product quoted.
<b>Manufacturing Experience</b>
Company should have manufacturing experience more than 10years.
<b>Installation on turn key basis</b>

### Technical Specifications

#### FLASH AUTOCLAVE

1. Should be a table top autoclave with N type and B type cycles.
2. Two automatic programmes approx. at 2.2 bar at 134 degrees C and 1.1 bar at 121 degree C. The equipment should have automatic pressure control switch / automatic water control device to ensure that the equipment does not run dry.
3. Should have flash cycle for rapid sterilization and should have an option for liquid cycle.
4. Should have Air Pump for closed door drying.
5. Should have rapid warm up facility. Built in reservoir to store water required to produce steam, and used water separately, for easy decantation.
6. The system should be equipped with required safety features. The door should have double locking safety feature and should open only with atmospheric pressure in the chamber.
7. Should have automatic cut-off to prevent overheating and cut-off for insufficient water, the machine should not start without sufficient water.
8. Should have a minimum chamber capacity of 19 litres or above.
9. Should have pressure display and temperature display.
10. Unit should function with 200-240Vac, 50/60 Hz input power supply.
11. The system should comply with National quality certification or International standards for sterilization safety.
12. Following accessories should be supplied along with the equipment.
  - 1 set of 3 removable shelves – stainless steel.
  - 1 instrument basket – stainless steel.
  - 1 Roll of sterilization indicator containing 100 nos. of indicators
  - 1 box paper sheet 100 nos crepe for sterilization packs of appropriate size.
  - 2 spare silicone gaskets.
  - 1 sets of spare fuses.
13. Equipment should be provided with a line cord (power cord) of acceptable durability, quality, length and current carrying capacity and should be compatible with Indian standard power socket.
14. Controls should be visible and clearly defined.
15. Labels and markings should be clear and visible.
16. **Should have European CE & US FDA certification. A copy of the certificate / test report shall be produced along with the technical bid.**
17. Should have air filters.
18. Gaskets should be replaced at free of cost whenever required in the comprehensive Warranty and CMC period.
19. INSTALLATION ON TURN KEY BASIS.
20. RATES OF CONSUMABLE ITEMS SHOULD BE QUOTED SEPARATELY FOR FURTHER PROCUREMENT AS PER NEED.

**IV FLUID /BLOOD (TRANSFUSION) WARMER SYSTEM:**

- Excellent performance at low to moderate flow rates. Delivers normothermic fluids at flow rates from 15 ml/ min to 250 ml/ min
- Wide temperature range, with warming set points from 28 degree C to 42 degree C. Set points determine temperature of fluids at patient entry point.
- Lightweight for easy transport (only 8 lbs)
- Convenient design attaches to standard IV pole and connects to standard electrical outlet.
- Easy maintenance and self - calibrating
- Dry heat technology
- Easy to use: disposable heat exchangers insert placing a tape into a cassette
- Easy to clean: two -button access allow for effortless heater plate cleaning
- Should be European CE/USFDA approved
- Cost of consumables should be quoted separately



**TECHNICAL SPECIFICATION OF VIDEO ASSISTED THORACOSCOPY SET**

<b><u>SL.NO.</u></b>	<b><u>Description</u></b>	<b><u>Qty</u></b>
1	Telescope 45°, enlarged view, diameter 5 mm, length 29 cm, autoclavable, fiber optic light transmission, incorporated, color code: black	1
2	Trocar, with blunt tip, size 6 mm, length 6 cm, consisting of: Cannula, Trocar, only	1
3	Trocar, with blunt tip, flexible cannula, autoclavable, size 11 mm, working length 8.5 cm, color code: green consisting of: Cannula, Trocar only	3
4	Trocar, with blunt tip, flexible cannula, autoclavable, size 6 mm, working length 8.5 cm, color code: black, consisting of: Cannula, Trocar only	2
5	Parenchymal Forceps, dismantling, atraumatic, straight jaws, single action jaws, size 5 mm, length 28 cm, consisting of: Metal Y-Handle, with geometry, axial, with 4 locking positions, Outer Tube with Forceps Insert	1
6	Parenchymal Forceps, dismantling, atraumatic, double curved jaws, single action jaws, size 5 mm, length 28 cm, consisting of: Metal Y-Handle, with geometry, axial, with 4 locking positions, Outer Tube with Forceps Insert	1
7	Lung Forceps, dismantling, atraumatic, grasping at distal end, single curved jaws, single action jaws, size 5 mm, length 28 cm, consisting of: Metal Y-Handle, with geometry, axial, with 4 locking positions, Outer Tube with Forceps Insert	1
8	Lung Forceps, dismantling, atraumatic, curved jaws, fenestrated, single action jaws, size 5 mm, length 28 cm, consisting of: Metal Handle, with hemostat style ratchet, axial, with 4 locking positions, Outer Tube with Forceps Insert	1
9	Lung Nodule Forceps, dismantling, atraumatic, fenestrated, curved jaws, single action jaws, size 5 mm, length 28 cm, consisting of: Metal Handle, with hemostat style ratchet, axial, with 4 locking positions Outer Tube with Forceps Insert	1
10	Parenchymal Forceps, dismantling, parenchymal forceps, atraumatic, single curved jaws, single action jaws, size 5 mm, length 28 cm, consisting of: Metal Handle, with 4 locking positions, Outer Tube with Forceps Insert for special use with linear stapler	1
11	Dissecting Forceps, dismantling, with connector pin for unipolar coagulation, curved jaws, double action jaws, size 5 mm, length 28 cm, consisting of: Metal Y-Handle,	1

<u>SL.NO.</u>	<u>Description</u>	<u>Qty</u>
	insulated, axial, with 4 locking positions, Outer Sheath with Forceps Insert	
12	Scissors, dismantling, with connector pin for unipolar coagulation, curved scissor blades, double action jaws, size 5 mm, length 28 cm, consisting of: Metal Y-Handle, insulated, axial, with 4 locking positions, Outer Sheath with Scissors Insert	1
13	Scissors, dismantling, with connector pin for unipolar coagulation, distally angled outer sheath, straight scissor blades, serrated, single action jaws, scissor blade opens vertical to angulation, size 5 mm, length 28 cm, consisting of: Metal Y-Handle, insulated, axial, with 4 locking positions, Outer Sheath with Scissors Insert	1
14	Biopsy Forceps, dismantling, insulated, with connector pin for unipolar coagulation, distally angled outer sheath, single action jaws, size 5 mm, length 28 cm, consisting of: Metal Y-Handle, insulated, axial, with 4 locking positions, Outer Sheath with Forceps Insert	1
15	Grasping Forceps, dismantling, atraumatic, straight jaws, single action jaws, size 5 mm, length 28 cm, consisting of: Metal Handle, with hemostat style ratchet, axial, with 4 locking positions, Outer Tube with Forceps Insert	1
16	Suction-Coagulation Cannula, with connector pin for unipolar coagulation, distally angled sheath, size 5 mm, length 28 cm, for use with handle3	1
17	Suction-Coagulation Cannula, with connector pin for bipolar coagulation, distally angled sheath, size 5 mm, length 28 cm, for use with handle	1
18	Handle with Trumpet Valve, for suction or irrigation, autoclavable, for use with coagulation suction tubes size 5 mm	1
19	Suction and Irrigation Tube, with lateral holes, distally angled sheath, size 5 mm, length 28 cm or use with Handles 30805, 37112 A and 37113 A	1
20	Suction and Irrigation Cannula, with lateral holes, distally angled sheath, size 10 mm, length 28 cm for use with handles	1
21	Two-way Stopcock, suitable for both irrigation and suction, for use with 5 mm Coagulation- and Dissection Electrodes with channel and Suction and Irrigation tubes, autoclavable	2

<u>SL.NO.</u>	<u>Description</u>	<u>Qty</u>
22	Coagulating and Dissecting Electrode, L-shaped, with connector pin for unipolar coagulation, distally angled sheath, size 5 mm, length 28 cm	1
23	Palpation Probe and Knot Tier, distally angled sheath, size 5 mm, length 28 cm	1
24	Dismantling needle holder, ergonomic pistol grip with disengageable ratchet, ratchet release on the left side, straight jaws, with tungsten carbide insert $\varnothing$ 5 mm, length 33 cm consisting of: insert, outer tube, Handle	1

All the items should be from the same company and should be USFDA and European CE approved

## ULTRASONIC CUTTING AND COAGULATING DEVICE WITH ADVANCE BIPOLAR VESSEL SEALING SYSTEM

- System should have a universal connector to connect Ultrasonic energy and Advanced RF energy instruments.
- Ultrasonic and bipolar energy in the system must work separately and at no point in combination.
- System should have automatic instrument recognition.
- System should have a touch screen display for fast and setup, operation and on-screen diagnostics.
- System should have a high-resolution display with wide viewing angles.
- System should have the ability for ONSITE software updates
- System should be a single generator that provides Ultrasonic energy and Advanced RF energy technology for soft tissue dissection and vessel sealing
- System should have a potential equalization terminal for compatibility with other medical systems requiring such connections
- System should conform to the following international standards EN (IEC) 60601-1, EN (IEC) 60601-1-2, EN (IEC) 60601-2-2, EN (IEC) 60601-1-8
- System should provide Class 1 protection against electric shock
- System should have a single footswitch for operating ultrasonic energy or advanced RF energy instruments
- System should have the ability to select handswitch or footswitch activation or both for Ultrasonic and advanced RF energy instruments and the ability to change selection during use
- System should have English language as default
- System should not have minimal lateral thermal spread more than 1 mm.
- System should not have an auto switch off mechanism.
- System should have standby mode to ensure safety.
- System should come equipped with system diagnostics and troubleshooting guide to pin point any problems in the systems.
- System should have onscreen warning display system for generator overheating, generator software upgrade, handpiece errors and instrument errors
- System should be able to power ultrasonic energy instruments with 55.5 KHz frequency and have the ability to power ultrasonic energy instruments in the frequency range of 30-80 KHz in future
- The hand piece for the system should come with an inbuilt transducer.
- System should be compatible for open surgery and for laparoscopic surgery.
- System should be compatible with both 5mm and 10mm instruments.
- System should have at least 5 power settings levels with power level display for ultrasonic energy instruments.
- System should be able to power energy instruments with microprocessor controlled bipolar electrosurgical radiofrequency technology with a quasi-sinusoidal forced impedance output.
- System should be equipped with smart advanced RF energy technology to measure the tissue impedance and control the power delivery.
- System should be equipped with advanced RF energy technology that can simultaneously seal and transect vessels up to and including 7mm, large tissue pedicles and vascular bundles.
- System should be equipped with advanced RF energy technology that provides temperature controlled energy delivery which should maintain tissue temperature approximately at 100 degree Celsius.

- System should have Advanced RF Energy hand instruments with a unique electrode configuration to minimize the lateral thermal spread.
- System should have Advanced RF Energy hand instruments with technology to deliver high compression uniformly across seal area.
- System should have Advanced RF Energy hand instruments that provide tissue / vessel seal strength to withstand bursting pressure of 7 times the systolic pressure.
- All hand probes for open and lap procedures should be able to simultaneously cut and coagulate tissues.
- System should be able to power advanced RF energy hand instruments of 5mm shaft diameter for both open & laparoscopic procedures with round trip (5mm tip width) in the following shaft lengths (14cm, 25cm , 35cm & 45cm) and should be both hand & foot activated.
- Systems should be able to power ultrasonic energy hand instruments of 5mm shaft diameter for both open & laparoscopic procedures with the following specifications

- System should comprise of the following Hardware:

- 1 Generator
- 2 Footswitch & Cable

Accessories:

- 1 Handpiece (Transducer)
- 2 Handpiece (Blue)
- 3 Generator Cart
- 4 Adaptors for ultrasonic
- 5 advanced RF energy instruments

**Open Surgery Instruments (Ultrasonic cutting and coagulation device):**

1. 9cm shaft, curved, tapered tip for precise dissection, seals 5 mm vessels, as well as lymphatic with 16 mm active blade & 240-degree activation, triggers support multiple hand positions.
2. 17cm shaft, curved, tapered tip for precise dissection, seals 5 mm vessels, as well as lymphatic with 16 mm active blade & 240-degree activation, triggers support multiple hand positions.
3. 5mm Hand Activated Curved Coagulating Shears capable of sealing blood vessels upto 5mm in diameter, 23 cm shaft length, ergonomic handle
4. Curved Blade having telescoping shaft (10cm-14cm) with integrated hand activation control buttons.
5. Dissecting Hook having telescoping shaft (10cm-14cm) with integrated hand activation control buttons.

**Open Surgery Instruments (Bipolar vessel sealing device):**

1. Hand probes with 5mm shaft diameter, 14cm long with 5mm tip width.
2. Hand probes with 5mm shaft diameter, 25cm long with 5mm tip width.
3. Hand probe with, 22cm long shaft and 40mm jaw length

**Laparoscopic Surgery Instruments (Ultrasonic cutting and coagulation device):**

1. 5mm Lap Hand Activated Curved Coagulating Shears capable of sealing blood vessels upto 5mm in diameter, 36 cm shaft length, ergonomic handle.

2. 5mm Lap Hand Activated Curved Coagulating Shears capable of sealing blood vessels upto 5mm in diameter 45 cm shaft length, ergonomic handle.
3. 5mm Lap Dissecting Hook, 32 cm long

**Laparoscopic surgery instrument (Bipolar vessel sealing device):**

1. Laparoscopic probe probes with 5mm shaft diameter, 35cm long with 5mm tip width.
  2. Laparoscopic probes with 5mm shaft diameter, 45cm long with 5mm tip width.
  3. Articulating Laparoscopic probe probes with 5mm shaft diameter, 35cm long with 5mm tip width, Probe should have ability to articulate 45- 50\* both sides.
- 

Should have European CE and FDA approved.

Rates for all consumables items should be quoted separately in the price-bid.

## Paediatric cystoscope / Resectoscopy

### 1. Cystourethroscope for Neonates and Children

#### A. Telescopes :

1. Telescope (one each) Autoclavable 134 C/273°F with enlarged image & brightness size 1.9mm, 0°
2. Telescope (one each) Autoclavable 134 °C 273°F with enlarged image and brightness size 1.9mm, 25° or 30°.

#### B. Sheath with obturator with fixed irrigation channel with stop cock.

1. Size 7.5 Fr. (one each) for diagnostic use with 0 telescope
  2. Size 8.5Fr. (one each) with instrument port capacity 3 Fr.
  3. Size 9.5 Fr. (one each) with instrument port capacity 4 Fr.
- a) Electrode : (one each)

1. Button electrode, flexible unipolar, 580mm length and 3 Fr. Size
2. Button electrode, flexible, unipolar, 580 mm length and 4 Fr. size.

### 2. Cystoresectoscope for Neonates and Children

A. **Sheath with obturator** with fixed irrigation channel with stopcock with distal end insulated size 9 Fr. (one each) with instrument port capacity 3 Fr.

B. Adaptor (bridge) – one each for examination and probing with one instrument port of 3 Fr. capacity

#### C. Accessories :

##### a) **Electrodes**

1. Coagulating electrodes for resectoscope with telescope of 1.9 mm angled 90 retrograde. Sickle shaped with distal ball (Two each)
2. Cutting electrode for resectoscope with telescope of 1.9mm (2 each)

b) **Grasping forceps** : Rigid /semirigid for stent removal length 580 mm size – 3 Fr. (one)  
Rigid/semirigid for stent removal length 580mm, size – 5 Fr. (one)

c) **Biopsy forceps** : Length 260 mm, size 3 Fr. (one)

**Biopsy forceps** : Length 260mm, size 5 Fr. (one)

3. Fibre optic cable: (one) 1.6 to 3.5 mm diameter and 1.8. to 2.0 meter long. Smaller caliber cable is preferred due to light weight which is important with miniature scopes.

4. **Light Source (One): LED, 150 watts with at least 30,000 working hours life**

### 3) Cystourethroscope for children

#### 1. **A. Telescope**

Telescope (one each) Autoclavable 134 °C/ 273 °F with enlarged image and brightness size 2.7mm, 0 degree

Telescope (one each) Autoclavable 134 °C/ 273 °F, with enlarged image and brightness size 2.7 mm , 25° or 30 degree.

2. B Sheath with obturator with fixed irrigation channel with stop cock
  1. **Size 11 Fr. (One each)** for diagnostic use with 0 degree telescope
  2. **Size 12 Fr. (One each)** with one instrument port capacity
  3. **Size 13 Fr. (One each)** with two instrument ports capacity

**C. Electrodes – (two)**

Button electrode flexible unipolar, 580 mm length and 5 Fr. Size

**4). Cystoresectoscope :** for Children

**A. Sheath with obturator with fixed irrigation channel with stopcock with distal end insulated.**

Size 11.5 Fr. (One each) with instrument port capacity 5 Fr.

B. Adaptor (Bridge) (one)

For examination without instrument port

C. Working element with passive cutting action (one)

D. Accessories

**A. Electrodes**

1. Coagulating electrode for resectoscope with telescope of 2.7mm, angled 90° retrograde, Sickle shaped with distal ball – 6 Nos.
2. Cutting electrode for resectoscope with telescope of 2.7mm – 3 nos.

**5). Pediatric Uretero-Renoscope :**

**7.3 Fr, 6°** conical, 7.3-8Fr. Working length 25-30 cm,. It should be autoclavable. It should be having an angled eye-piece with fiber optic light transmission incorporated. It should have 2 lateral irrigation port and one working channel of not more than 3.6 Fr. For use with instruments of 3 Fr. Should be with instrument port sealing and a tray for cleaning, sterilization and storage. Should be provided with a Grasping Forceps for stone fragments, with double action jaws, 3 Fr, rigid with working length of 60 cm.

**NOTE**

1. The supplied instruments should have warranty period of 5 years.
2. Supplier company will have to give training to doctors and staff of operation theatre regarding the handling and maintenance of the instrument.
4. Supplier should have local service station to provide immediate repairs of any break down of the instruments and to provide the spare parts and disposable articles, as and when required by the users of supplied instruments.
5. **The instrument should not be refurbished one and it should be fresh supply from original manufacturer of the instruments**
6. **All the above instruments and equipments must be having European CE & US FDA certification as well as IEC certification. applicable to medical instruments.**
7. **All items should be from the same OEM and should have ISS 9001 certification or 46001 certification. Additionally instruments should have been tested in accordance with ICE 601-1 international. Apart from this, companies having their own service centres in India will be highly preferred.**



## A. TECHNICAL DESCRIPTION FOR VIRTUAL REALITY LAPROSCOPIC SIMULATOR

- The system should be fully computerised and interactive.
- Should have PC and virtual reality simulation processor
- Should have 24" flat LCD touch screen
- Should have elevation mechanism for height adjustment
- Should have adjustable arm for monitor
- Should have foot switch for electrosurgical coagulation
- Should have high performance force feedback with five (5) degrees of freedom
- Should be High performance and precision
- Should have a variety of optical angles :: 0 , 30 and 45
- Should have original adapted instrument handles (graspers)
- Should have interchangeable suturing handles with suturing module
- The system should be able to provide comprehensive training in the field of laparoscopic surgery.
- The system should feature built in tools for training group and individual trainee.
- The system should have all parameters to evaluate trainee.
- Should be a web based simulator curricula management system, providing the optimal solution for administration of users, Curricula design, Pre-preparation with didactic learning, Simulation and Reporting and assessment remotely.
- The system should have the following practice modules :
  - Basic eye hand co-ordination skills
  - Basic Laparoscopic Skills
  - Tissue grasping, dissection and coagulation skills
  - Basic and advanced suturing skills
  - Should have Fundamentals of Laparoscopic Skills developed by SAGES.
  - Trainee evaluation module
- The system should enable trainee to provide full simulation (not tasks) of the following procedures :

### GENERAL SURGERY

- **Lap Cholecystectomy skills and full procedures**– Should have at least 6 virtual patient cases with 16 anatomical variations enabling hands on in an unrestricted anatomical environment.
- **Lap Incisional Hernia skills and full procedures**–Should feature cases of hernia removal using simulated tools common to real surgeries such as the Harmonic Scalpel. In addition, this module must have simulated self sticking mesh, fixation devices, touch screen capabilities, and incorporating suturing techniques. Should have at least 6 easy to difficult hernia repair cases.
- **Lap Appendectomy skills and full procedures** -The Simulator should have a complete laparoscopic appendectomy curriculum, including at least two guided tasks, three guided techniques and four complete procedures with different levels of appendix inflammation and anatomical variations. Should be able teaching surgical residents the basic steps of an appendectomy procedure and its techniques. This should include inspection of the abdominal cavity, pus removal, exposure of the appendix, cecum mobilization, division of the mesoappendix, control of the appendicular artery, division and extraction of the appendix and irrigation and inspection of the abdominal cavity. Trainees should be able to learn to prevent and manage potential complications such as perforation of the appendix and injury to the surrounding structure. Should have anatomical 3d Map and real life video.
- **Cholangiogram** –The module should feature realistic visualization of the Cholangiogram procedures. A didactic step by step guidance lead the trainee through this complicated procedure to acquirement to full proficiency.

### BARIATRIC SURGERY

- **Lap Full Gastric Bypass skills and full procedures** – Should help the trainee to understand and practice to complete a gastric bypass in its four primary steps; creation of the gastric pouch, running of the bowel, gastro jejunostomy, and gastrojejunal anastomosis with a complete instrument set.

### COLORECTAL SURGERY

- **Lap Sigmoidectomy skills and full procedures**– The Sigmoidectomy Module should allow the user to identify anatomy such as the ureter, IMA, IMV, gonadal, incise the peritoneum, dissect in the correct tissue planes, expose and dissect vessels, and perform distal division and anastomosis.

### UROLOGY

- **Lap Nephrectomy skills and full procedures** - Trainee should be able to identify the anatomy such as the ureter, gonadal vein, renal vein, renal artery, decide about the adrenal gland, perform the Hilar Dissection and perform the Colon Mobilization with a complete instrument set.

### GYN SURGERY

- **Lap Gyn – salpingostomy, oophrectomy etc. skills and full procedures** - Should have at least 7 cases to encounter a range of patient pathologies and gain experience with various techniques and surgical instruments. Included in this module are variety of complications and emergency situations such as bleeding at the implantation site, a ruptured fallopian tube and a blood filled abdominal cavity.
- **Lap Hysterectomy skills and full procedures** - Should offer complete hysterectomy procedure including ureter exposure, uterine manipulation, superior pedicles division, bladder mobilization, exposure and division of the uterine artery, and colpotomy. The course of the ureters may be visualized transperitoneally, or through a retroperitoneal dissection
- **Vaginal Cuff Suturing** - This module should provide a unique opportunity to practice vaginal cuff suturing using unidirectional and bidirectional Barbed Sutures. Training includes a variety of potential complications such as suspected injury to the bladder, ureters, colon and iliac vessels.

### THORACIC SURGERY

- **Lap Lobectomy Module** - The module should provide a unique opportunity to practice the complicated steps of the helium dissection, dissection and division of the blood vessels and bronchus in order to separate the upper right lobe. Simulates complications such as injury to the pericardium, lobe and pulmonary vessels are included. 3D anatomy atlas step by step tutorials, experts video and objective performance metrics and enhance the learning experience.

- The system should have options of selecting various hand instruments.
- The system should allow the trainee to complete the procedure in a single case of any procedure. It should not be tasks of a procedure.
- The system should have energy sources like harmonic and diathermy.
- The system processing unit should be latest generation.
- The system should be CE and ISO certified.
- 3D anatomical maps should be available on certain modules for better understanding of anatomy.
- Should have short video of real-life procedures for better understanding of the trainee.
- Should have custom building of training modules for learners of all levels.
- Should have Viewing and exporting of performances reports facilitates learning, analysis of training effect, showing the learning curve, research and future certification.
- Should have technical Skills Reporting and Assessment :
  - Time and economy of movements.
  - Safety and electrosurgical dissection.
  - Procedural errors.

- Procedure specific checklist items relating to knowledge of procedures, handling of instruments and many more.
- Should facilitate web based simulator curricula management system, providing the optimal solution for administration of users, Curricula design, Pre-preparation with didactic learning, Simulation and Reporting and assessment remotely.
- Should have ready to use designed Curricula from famous institutes.
- Should have a facility to access, assign, evaluate and administer the data of users remotely.
- Must have ready to use simulator based courses.
- Must have implementation of the ACS/APDS curricular.
- Must provide validation certificate.

## **B. TECHNICAL DESCRIPTION FOR GI & BRONCHOSCOPY SIMULATOR**

- The system should be fully computerised and interactive.
- Should have PC with latest Intel i7 and Virtual Reality simulation processor.
- Should have a stainless steel support 130cm L x 57cm W x 175cm H
- Should have a 24" Flat LCD touch screen with a movable arm.
- Should have a double foot switch.
- Should have a mannequin with a nose, mouth and buttock for performing bronchoscopy procedures and upper/lower GI procedures.
- The system should be equipped with a reliable high end technological Haptic (force feedback) to provide realistic sensation that mimic the look and feel of an actual procedure.
- Should have endoscope for upper/lower GI procedures.
- Should have endoscope for ERCP / EUS procedures.
- Should have a flexible Bronchoscopy procedures.
- Should have one master tool device, one 10cc syringe and one TBNA needle for flexible Bronchoscopy.
- Should have one master tool device, Two guide wires for Upper/Lower GI procedures.
- The system should have the following modules ::
  - **Essential Bronchoscopy Module** : This module should be developed and endorsed by American Association for Bronchology and Interventional Pulmonology.
  - **Diagnostic Bronchoscopy Module** : The module should include different patient scenarios each should constitute an entire clinical environment in which the user can perform endobronchial and transbronchial tissue sampling using biopsy forceps, cytology brush, aspiration needle and BAL.
  - **Emergency Bronchoscopy Module** : The module includes bronchoscopic procedures performed for diagnosis and treatment of emergency and ICU situations.
  - **Essential EBUS Module** : This module should feature both curved linear and radial endobronchial ultrasound. This module should help the trainee practice and interpret relevant structures and LN stations identifications (according to IASLC 2009) and correct workflow of EBUS-TBNS performance.
  - **Cyberscopy Module** : Should have at least four designated tasks aimed at optimizing the acquisition of basic GI endoscopy capabilities.
  - **GI Endoscopy Fundamental Skills Training Module** – Should provide a comprehensive solution to learning and training in Flexible Endoscopy Skills, for both Surgery and Gastroenterology. This module should incorporate at least eight skills task covering navigation, mucosal navigation, targeting, retroflexion and loop reduction.
  - **Colonoscopy Module** : Should have at least 20 virtual patient cases to enable performance of a complete survey of the lower GI tract with an

authentic forward viewing video-endoscope. Trainees should encounter true to life situations such as intestinal looping, complex colon anatomies, patient discomfort, and be able to practice therapeutic procedures such as biopsy and polypectomy.

- **Gastroscopy Module** : Should have atleast 20 virtual patient cases to offer a safe environment to perform a complete survey of the upper GI tract with a forward viewing video endoscope. Trainee should identify typical lesions in a variety of upper GI anatomies and pathologies, and perform diagnostic or therapeutic procedures according to his clinical judgment.
- **Gastric Emergency Bleeding Module**: Should have atleast 10 virtual patient cases to enable trainees training on emergency situation of the upper GI tract. The module should offer practice on both diagnostic procedures for symptoms of bleeding lesions and therapeutic procedures. Various accessories should be used for treatment of bleeding pathologies, such as spray catheter, a bipolar coagulation, an injection needle and a cold snare for clot removal.
- **Flexible Sigmoidoscopy Module** : Should have atleast 10 virtual patient cases to enable practice of Flexible Sigmoidoscopy and biopsy techniques on difficult and unusual anatomies and pathologies. Realistic anatomy of the lower GI tract should enable complete training including examination of the anus, rectum, sigmoid and descending colon, retro in the distal rectum for complete examination. It should help trainees improve their decision making skills, encounter high-risk situations, identify pathologies and make appropriate recommendations based on findings in a safe environment.
- **ERCP Module** : Should have atleast eighteen virtual patient cases. These modules should feature simultaneous displays of both endoscopic and fluoroscopic views, as well as a wide variety of accessories to perform cannulation and therapeutic procedures. The module should enable realistic environment of the upper GI tract to enable complete training tool of this challenging procedure. Trainee should gain practice in papilla cannulation, fluoroscopic understanding of the biliary tree and pancreatic duct, sphincterotomy, stricture dilation and stone extraction. Varieties of endoscopic instruments should be incorporated such as sphincterotome, needle knife, guide wire, stents, balloons and basket.
- **Endoscopy Ultrasonography Module** : Should have Two unique EUS modules offer systematic and didactic tasks, designed to train endoscopic ultrasound performance, identifying over 30 significant anatomical landmarks. Should have separate education module and task module.
- The system should have ::
  - Endobronchial bleeding cases
  - Adult foreign body aspiration scenario
  - Pediatric diagnostic scenario
  - Sarcoidosis for Diagnostic and EBUS cases.
- The system should be ISO / CE certified.
- Should have designated cyberscopy and bronchial navigation tasks to improve eye hand coordination and navigational skills.
- The simulator should have a patient environment including sedation and anaesthesia, altering consciousness and vital signs, oxygen supplement and more. All should create a reactive virtual patient which should according to real time user's performance may be agitated and cough, adequate sedated or go under diverse hemodynamic complication or respiratory depression or even deteriorate to respiratory or cardiac arrest.

- The system should allow selections sedation of moderate sedations or general anaesthesia for advanced modules.
- Should offer a choice of aids enhancing 3D and anatomical perception such as anatomy compass, external 3D Map and anatomy atlas.
- Should have a 3D map and labelling for the ease of users to learn and understand the anatomy better.
- System should support the trainees' performance with real time guidance including efficiency, comments and patient safety alerts.
- The performance assessment should be most advanced and include biopsy results per sampled location or lymph node.
- Should incorporate electric tools such as electrocautery probe and APC probe.
- Fluoroscopic view should also be available.
- Should facilitate web based simulator curricula management system, providing the optimal solution for administration of users, Curricula design, Pre-preparation with didactic learning, Simulation and Reporting and assessment remotely.
- Should have ready to use designed Curricula from famous institutes.
- Should have a facility to access, assign, evaluate and administer the data of users remotely.

## Tender Technical Specifications for Laparoscopic Set :

### 1.1. TELESCOPES :

1. 5 mm & 10 mm diameter, 30-35 cm long, 30 degree angle of view : **2 Each.**
2. Low risk of object burn.
3. Colour coded for identification.
4. Autoclavable.
5. Fiberoptic light transmission incorporated.

### 1.2. INSUFFLATOR : 1 No.

1. Fully automatic, electronically controlled gas fill.
2. Flow rate of 30-40 litres per minute.
3. Optical and acoustic warning signals in case of malfunction or excessive pressure.
4. Connectible to medical gas pipeline.
5. Control by keys on front panel.
6. Clear and adjacent display of actual and preset flow rate, actual and preset pressure, gas consumed.
7. Facility for preheating of gas to body temperature.
8. Facility for easy evacuation of smoke and mist.
9. Memory for retention of previous pressure settings.
10. Should include pin-index connection to small / big gas cylinder with regulator, high pressure hose, mains cord, silicone tubing set, universal wrench and gas filter.

### 1.3. LIGHT SOURCE : 1 No.

1. LED with minimum 175watts.
2. Manual and automatic adjustment of light intensity.
3. Lamp life 30,000- 40,000 hrs or more.
4. Display of lamp life/Bulb usage meter warning light.
5. Standby mode with emergency lamp with visual indicator.
6. Long (250 cm or more) fluid and fibre-optic light cable of diameter 4.8-5 mm.

### 1.4. SUCTION – IRRIGATION UNIT : 1 No.

1. Pump for irrigation and suction.
2. Maximum irrigation pressure 400 mm Hg.
3. Suction pressure 0.75 bar.
4. Control from control panel and / or foot pedal.
5. Overflow protection on suction bottles.
6. Accessories should include silicone tubings, bacterial filter and bottles with cap.

### 1.5. VIDEO – CART : 1 No.

- a. Made of Stainless Steel / Epoxy coated metal.
- b. Portable on 4 antistatic dual castors, 2 with locking brakes.
- c. Required number of shelves for housing all the units of the set.

- d. Adjustable arm for fixation to either side for fixing the TFT monitor.
- e. One drawer unit with lock and key.
- f. Cable Manager.
- g. Power box with concealed wiring for providing electrical connections of proper rating to all the units.

1.6. **IMAGE MANAGEMENT SYSTEM : 1 No.**

- a. Documentation system for digital storage of still images, video sequences and audio files.
- b. Latest processor & HDD, which should be specified.
- c. Largest possible RAM, which should be specified.
- d. Integrated DVD / CD writer with maximum speed which should be specified.
- e. Compact key board with drape.
- f. Cordless mouse.
- g. All types of connecting cables (BNC, DVI) and connectors, which should be specified.
- h. Flat screen colour monitor of 1024 x 768 resolution with all connectors and connection cables (BNC, S-VIDEO(Y/C), VGA), which should be specified.
- i. Separate mobile cart with lock and key for housing all the components of the image management system.

**HAND INSTRUMENTS & OTHER ACCESSORIES :**

Sl. No. :	Instrument :	Specifications :	Quantity :
1.	Reusable Veress 10 & 13 cm Pneumoperitoneum Needle.	Spring loaded blunt stylet luer lock length 10 / 15 cm.	01 Each.
2.	Reusable Trocar : 5 mm.	Multifunctional valve, insufflation stopcock and threaded sleeves, pyramidal tip, length (10.5 cm).	01 No.
3.	Reusable Trocar : 10 / 11mm & 12 mm.	Multifunctional valve, insufflation stopcock and threaded sleeves, pyramidal tip, length (10.5 cm).	01 No. Each.
4.	Safety Trocar with Port.	10 mm length approx 10.5 mm.	01 No.
5.	Spare Sealing Trocar Caps for Trocar.	5 – 6 mm.	01 No.
6.	Spare Sealing Trocar Caps for Trocar.	10 – 11 mm.	01 No.
7.	Reducer Sleeve.	10 / 11 mm to 5 / 4 mm.; 5mm to 3mm	01 No. each
8.	Reducer Sleeve.	12 mm to 6 / 5 mm.	01 No.
9.	Suction and Irrigation Cannula.	Size 5 mm, length 36 cm, used with suction and irrigation handle.	01 No.
10.	Grasping Forceps – Toothed 2 x 4 Teeth.	Double action jaws, rotating with connector pin for unipolar coagulation, size 5 mm, length 33 – 36 cm, dismantling facility.	01 No.

11.	Grasping Forceps – Toothed 2 x 3 Teeth.	Double action jaws, rotating with connector pin for unipolar coagulation, size 5 mm, length 33 – 36 cm, dismantling facility.	01 No.
12.	Maryland Forceps.	Double action jaws , rotating with connector pin for unipolar coagulation, size 5mm, length 33-36cm, dismantling facility.	01 No.
13.	Grasping Forceps – Atraumatic.	Double action jaws, rotating with connector pin for unipolar coagulation, size 5 mm, length 33 – 36 cm, dismantling facility.	01 No.
14.	Grasping Forceps – Allis.	Double action jaws, rotating with connector pin for unipolar coagulation, size 5 mm, length 33 – 36 cm, dismantling facility	01 No.
15.	Grasping Forceps – Rt Angled.	Double action jaws, rotating with connector pin for unipolar coagulation, size 5 mm, length 33 – 36 cm, dismantling facility.	01 No.
16.	Grasping Forceps – Mixer.	Double action jaws, rotating with connector pin for unipolar coagulation, size 5 mm, length 33 – 36 cm, dismantling facility.	01 No.
17.	Grasping Forceps – Plain Dissection & Grasping.	Double action jaws, rotating with connector pin for unipolar coagulation, size 5 mm, length 33 – 36 cm, dismantling facility.	01 No.
18.	Grasping Forceps – Babcock.	Double action jaws, rotating with connector pin for unipolar coagulation, size 5 mm, length 33 – 36 cm, dismantling facility.	01 No.
19.	Fan Shaped Retractor.	Rotating, size 5 mm, length 33 - 36 cm, dismantling facility.	01 No.
20.	Nathanson Liver Retractor.	Set of four sizes (45, 55, 78, 95 mm), sandblasted to eliminate light reflection.	01 No.
21.	Hook Scissors.	Double action jaws, rotating with connector pin for unipolar coagulation, size 5 mm, length 33 – 36 cm, dismantling facility.	01 No.
22.	Micro Scissors.	Single / Double action jaws, size 5 mm, length 33 – 36 cm.	01 No.
23.	Laparoscopic Knife.	5 mm, 30 – 36 cm length.	01 No.
24.	Rotating Metzenbaum Scissors.	Double action jaws, rotating with connector pin for unipolar coagulation, size 5 mm, length 33 – 36 cm, dismantling facility.	01 No.
25.	Bipolar Coagulating Forceps.	Size 5 mm, length 33 – 36 cm fenestrated.	01 No.
26.	Bipolar Coagulating Forceps.	Size 5 mm, length 36 cm, 3 mm width of jaws.	01 No.



27.	Maryland Bipolar.	Double action jaws, rotating with connector pin for bipolar coagulation, size 5 mm, length 33 – 36 cm, dismantling facility.	01 No.
28.	CO2 Connector.	Compatible with CO2 "B" type cylinder.	01 No.
29.	High Frequency Cord.	For 5 mm & 10 mm hand instruments with monopolar electrodes, spatula tip.	01 No.
30.	High Frequency Cord.	For 5 mm & 10 mm hand instruments with monopolar electrodes, hook tip.	01 No.
31.	Knot Pushers.	Eye type, length 33 – 36 cm.	01 No.
32.	Needle Holder Coaxial Type.	Size 5 mm, tungsten tip, straight handle with ratchet, single moving jaw, length 33 – 36 cm.	01 No.
33.	Assistant Needle Holder.	Size 5 mm, tungsten tip, straight handle with ratchet, single moving jaw, length 33 – 36 cm.	01 No.
34.	Clip Applicator – Medium Large.	Rotatable, provision for locking the shaft conveniently, 10 mm, compatible with clip LT 300.	01 No .
35.	Trocar under optical vision:	Trocar with endo tip size: 10mm & 5 mm, cannula rotatable with multifunction valve, working length: 11cm. The endo tip cannula should compatible with 10mm telescope for under vision entry into peritoneum.	01 No. each
36.	Grasping Forceps – Toothed 2x 3 Teeth.	Double action jaws, rotating with connector pin for unipolar coagulation, size 10 mm, length 33 – 36 cm, dismantling facility.	01 No.
37.	Grasping Forceps – Toothed 2x4 Teeth.	Double action jaws, rotating with connector pin for unipolar coagulation, size 10 mm, length 33 – 36 cm, dismantling facility.	01 No.
38.	Suction Irrigation Cannula.	10 mm.	01 No.
39.	Babcock Grasper.	Double action jaws, rotating with connector pin for unipolar coagulation, size 5 mm, length 33 – 36 cm, dismantling facility.	01 No.
40.	Stone Extractor.	10 mm single / double action Jaws.	01 No.
41.	Hassan Cone.	Adaptable to 10 mm trocar.	01 No.
42.	Bowel Grasper.	10 mm fenestrated, rotatable.	01 No.
43.	Blunt Obturator.	For 11 mm port.	01 No.
44.	L – Hook.	Size 5 mm, length 33 – 36 cm with pin for cautery. Well insulated hook with small un- insulated working part.	01 No.
45.	Spatula.	Size 5 mm, length 33 – 36 cm with pin for cautery.	01 No.
46.	Fascia Closure Instrument.	Size 2.8 mm, length 17 cm.	01 No.
47.	Washers.	For 5 & 10 mm cannula and reducers.	01 No. Each
48.	Container Systems : Metal &	For sterilization and storage of telescopes, hand	01 No.

	Plastic.	instruments and other accessories, Different sizes.	
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**2. System Configuration Accessories, Spares and Consumables :**

- 2.1. System as specified.
- 2.2. **RATES OF ALL THE ITEMS SHOULD BE QUOTED INDIVIDUALLY.**
- 2.3. **RATES OF DISPOSABLES AND CONSUMMABLES TO BE QUOTED SEPERATELY AS WELL**

**3. Standards, Safety :**

- 3.1. **Should be USFDA & EUROPIAN CE, UL approved product and from the same company**
- 3.2. Electrical safety conforms to standards for electrical safety IEC 60601-1 General Requirements (or equivalent BIS Standard).
- 3.3. Shall meet internationally recognized standard for Electro Magnetic Compatibility (EMC) for electro medical equipment : IEC-60601-1-2 : latest edition Or Equivalent BIS) or should comply with 89 / 366 / EEC; EMC – directive as amended.
- 3.4. Certified to be compliant with IEC 60601-2-2 Medical Electrical Equipment Part 2-2 : Particular requirements for the safety of equipment mentioned above – wherever applicable.

**4. Documentation :**

- 4.1. Product Literature in original along with that of accessories and indigenous components if any. Photocopies / computer generated copies are not acceptable.
- 4.2. Statement of compliance with tender specifications with clear and unambiguous links to relevant portions of product literature / authentic document, which should be highlighted. Alternatives provided for noncompliant specifications with justification must be described in detail with supporting literature.
- 4.3. Certificate of compliance with standards and approvals stated above.
- 4.4. Certificate of manufacturer/principal regarding authorization of service facility provided by the supplier.
- 4.5. List of Equipment available in the Service Centre for providing calibration and routine Preventive Maintenance Support as per manufacturer documentation in service / technical manual.
- 4.6. List of important spare parts and accessories, which are required for maintenance and repair, with their part number and costing.
- 4.7. Terms and conditions of warranty and CMC including schedules of visit by service personnel with check list of services to be carried out.
- 4.8. Commitment for supply of log book with check list for daily, weekly, monthly and quarterly preventive maintenance with contact details of service personnel along with the equipment. The job description of the hospital technician and company service engineer should be clearly spelt out in the log book.
- 4.9. List of users of quoted model with performance certificate from major hospitals.

**OPTIONAL ITEMS TO BE QUOTED ALONG WITH THE SET**

**Specifications for rapid instrument sterilant**

It should be a powder system to be mixed with normal water for the safe and rapid sterilization of medical devices.

It should be proven effective against bacteria (including mycobacteria), viruses, spores and fungi.

It should be non-damaging to sensitive instruments and compatible with automated endoscope reprocessors.

It should be virtually odour-free and non-sensitizing whilst retaining the effectiveness.

It should not present any long-term health risks to staff obviating the need for costly extraction equipment, disposal and occupational health monitoring.

It should address all the criteria for disinfection of medical devices for which autoclaving is neither possible nor practical.

It should be a rapid instrument compatible, user and totally environment friendly and bio-degradable chemical.

### **CHEMICAL COMPOSITION:**

It should be a peroxygen system generating peracetyl ions in equilibrium at pH 8.0 equivalent to peracetic acid 0.26%. The prepared solution should also contain hydrogen peroxide and acetic acid & decompose to carbon dioxide and water.

**Mode of action:** By oxidation of proteins by hydrogen peroxide acid.

**Shelf-life** – At least one year from the date of manufacture

**Life of Solution:** As per good Infection Control practice solutions must be discarded after 24 hours use.

## **SURFACE DISINFECTANT SPECS**

### **NON TOXIC HIGH LEVEL ALDEHYDE FREE 10 MINUTES THEATRE STERILIZING POWDER**

#### **Features:**

It should be a granular powder containing an optimized synergistic mix of in-organic salts, surfactant and perfume. The main oxidizing agent is potassium monoperoxysulphate.

It should be possessing the widest spectrum of any disinfectant available coupled with a high degree of safety to the user.

It should be compatible with wide range of materials including stainless steel, plastics and rubber and can be used on any surface. It should be also indicated for general laboratory use and decontamination of body fluid handling.

It should be totally environment friendly and bio-degradable.

#### **It should possess the following properties**

- Non irritant to skin and eyes.
- Should not possess any toxic rapport phase.
- It should have extremely low oral toxicity.
- It should protect staff and patients from all pathogen challenge.
- It can be used in cleaning and disinfection of all hard surfaces (walls, floors, trolleys, locker tops, equipment exteriors etc).

- General laboratory usage (Fumigation of OT / ICCU / Wards etc).
- Routine decontamination of body fluid handling devices (Renal Dialysis Machine, Blood Analyses, Blood Bank Equipment etc).
- It's efficacy should be proven by world wide independent testing programme.
- It should have a wide spectrum of activities, should be proven effective against multiple different strains of virus falling into various virus families, different strains of bacteria in various genera, different strains of fungi in various genera.

**Chemical Compositon:**

It should be a balanced stabilized blend of peroxygen compounds, surfactant, organic acids and an inorganic acids and an inorganic buffer system.

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|--|-----------------------|
| • Triple salt of potassium monopersulphate | Oxidising agent       |
| • Sulphamic acid                           | Organic acid/catalyst |
| • Malic acid                               | Organic acid/catalyst |
| • Sodium hexametaphosphate                 | Buffering agent       |
| • Sodium dodecyl benzene sulphonate        | Surfactant            |
| • Sodium chloride                          | Surfactant            |

**Mode of Action:**

It should be by oxidation of proteins and other components of cell protoplasm, resulting in inhibition of enzyme systems and loss of cell wall integrity.

### LED PHOTOTHERAPY UNIT

- LED phototherapy system.
- Optimal wave length 425-475 nm.
- Irradiance levels capable of irradiance at least  $35 \mu\text{w}/\text{cm}^2/\text{nm}$ .
- Reduced noise levels (< 30 db).
- Lifetime of more than 20000 hours.
- Omni directional, small wheels to fit under warmer basinet.
- Adjustable height 1130 mm to 1600 mm (approx) from light source to floor.
- Adjustable angle of lamp unit up to 90 degrees.
- IEC class 1 certified.
- EUROPEAN CE / US FDA approved

**Combined/ Compact video endoscopy system with LED light Source & Monitor Module**

The system should be **Comprehensive, multifunctional and compact video processor with integrated LED light source & 15" monitor.**

The powerful all-in-one unit should consist of everything needed for endoscopic imaging, Video recording, and viewing of saved Videos, the monitor, camera, and light source.

It should have USB ports and a SD card slot for documentation purpose.

**DISPLAY:**

Crystal clear display

- 15" LCD display
- LED backlight display technology for extended service life, enhanced image brightness and reduced power consumption
- Image rotation
- 24 bit color depth for lifelike color display
- DVI video output for brilliant transmission quality

**LED Light Source:**

- High-performance LED light source: Light output similar to Power LED
- Color temperature of 6000 K - similar to daylight - guarantees color fidelity
- Long lamp life - with an average lamp life of 30,000 hours - Cost Effective
- **Should have integrated air insufflation Pump to perform video GI endoscopy procedures.**

**Flexible storage options:**

- SD slot for high storage capacity
- USB ports for external hard drives and USB sticks

**Easy, extremely reliable control:**

- Membrane keyboard included, suitable for wipe-down disinfection
- Hot keys for rapid and direct manipulation
- Arrow buttons for intuitive control
- Connection socket for pedal control without lag time

**Video Colonoscope – Should have**

- High Resolution true color video images
- Large depth of field
- Uniform image brightness-even under difficult lighting conditions
- Wide angle optics with high light transmitting capacity
- Enhanced control unit
- Optimal position of control functions
- Graduated, torsion-proof insertion sheath
- Optimal instrument passage even at extreme angles
- Robust supply tube with standard connection

**Technical Specification**

Insertion tube diameter	10 mm to 11.5 mm
Distal tip diameter	Not more than 11.5 mm
Working channel diameter	3.4 mm or more
Working length	150 cm or more
Deflection of distal tip(up – down)	210°-180°
Deflection of distal tip (left – right)	160° - 160°

Field of view	160° or more
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**The following items should also be included in both the scopes:**

- Carrying Case
- ETO Cap
- Leakage Tester
- Caps for Working Channel
- Irrigation Tube
- Biopsy Forceps, oval cup
- Cleaning Brush
- Cleaning Valve

SHOULD BE USFDA APPROVED AND FROM THE SAME COMPANY  
PRICES OF BOTH THE ITEMS TO BEQUOTED SEPERATELY



**Linear Staplers (all sizes) for Open & lap surgery**

1. Linear stapler 30mm with controlled tissue compression accommodates tissue between 1.0 mm – 2.5 mm, parallel jaw closure, longer staple legs, locking trigger in handle & remote retaining pin, heavy wire option.
2. Linear stapler 60mm with controlled tissue compression accommodates tissue between 1.5 mm – 2.5 mm, parallel jaw closure, longer staple legs, locking trigger in handle & remote retaining pin, heavy wire option.

**Cartridge for Linear Staplers**

1. linear stapler standard cartridge 30 mm with yellow (Heavy) reloads compatible with Linear Stapler 30 mm.
2. linear stapler standard cartridge 60 mm with yellow (Heavy) reloads compatible with Linear Stapler 60 mm.

**Linear Cutters (all sizes) for Open & lap surgery**

1. Reusable 55-60 mm linear cutter & stapler complete set with autoclavable Handle, Blue & Green reload, knife & no knife module.
2. Selectable staple height linear cutter 55-60 mm having 4 rows of staple line, having cartridge with selectable closed staple height of (1.5 mm/1.8 mm/ 2 mm). Linear cutter gives intermediate locking position for easy issue manipulation & two sided firing for easy handling,
3. Selectable staple height linear cutter 75-80 mm having 4 rows of staple line, having cartridge with selectable closed staple height of (1.5 mm/1.8 mm/ 2 mm). Linear cutter gives intermediate locking position for easy issue manipulation & two sided firing for easy handling
4. Selectable staple height linear cutter 95-100 mm having 6 rows of staple line, having cartridge with selectable closed staple height of (1.5 mm/1.8 mm/ 2 mm) .Linear cutter gives intermediate locking position for easy issue manipulation & two sided firing for easy handling

**Cartridge for Linear Cutters for Open Surgery**

1. Universal linear cutter cartridge 55-60mm with option of closed staple height of 1.5 mm /1.8 mm/2 mm compatible with selectable staple height linear cutter 55-60 mm.

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2. Universal linear cutter cartridge 75-80mm with option of closed staple height of 1.5 mm /1.8 mm/2 mm compatible with selectable staple height linear cutter 75-80 mm.
  3. Universal linear cutter cartridge 95-100mm with option of closed staple height of 1.5 mm /1.8 mm/2 mm compatible with selectable staple height linear cutter 95-100 mm.

### **Circular Staplers (All Sizes)**

Intra - Luminal Staplers with straight and Curved shaft anvil detachable with 3 rows.

21 mm with Lumen Size 12.4 mm

25 mm with Lumen size 16.4 mm,

29 mm with lumen size 20.4mm,

33 mm with Lumen size 24.4 mm diameter head.

With adjustable staple height (1.0 - 2.5 mm) for controlled tissue compression, longer staple leg 5.5 mm.

Non- slip gripping surface.

### **Skin Stapler & Staple remover**

1. Multi -directional disposable skin stapler with coated rectangular staples having dimension of 6.9 mm x 3.9 mm (Approx.) with 35 numbers of staples with alignment indicator.
2. Multi -directional disposable skin stapler with coated rectangular staples having dimension of 6.9 mm x 3.9 mm (Approx.) with 55 numbers of staples with alignment indicator.
3. Squeeze Handle Staple extractor

**ALL THE ABOVE SHOULD BE USFDA APPROVED**

**Laprosopic Staplers**

60 MM ENDO CUTTER – STRAIGHT AND WITH ARTICULATION

45 MM ENDO CUTTER – STRAIGHT AND WITH ARTICULATION

**Cartridges for Lap. Staplers**

60 MM BLUE CARTRIDGE FOR 60 MM STAPLER

60 MM GOLD CARTRIDGE FOR 60 MM STAPLER

60 MM GREEN CARTRIDGE FOR 60 MM STAPLER

60 MM WHITE CARTRIDGE FOR 60 MM STAPLER

45 MM BLUE CARTRIDGE FOR 45 MM STAPLER

45 MM GOLD CARTRIDGE FOR 45 MM STAPLER

45 MM GREEN CARTRIDGE FOR 45 MM STAPLER

45 MM WHITE CARTRIDGE FOR 45 MM STAPLER

**ALL THE ABOVE SHOULD BE USFDA APPROVED**