



**Bihar Medical Services & Infrastructure Corporation Limited 4<sup>th</sup> floor State Building Construction Corporation Limited. Hospital Road, Shastri Nagar, Patna 800023, Phone/Fax: +91612 2283287,+ 91612 2283288**

### **Corrigendum-III**

Bihar Medical Services and Infrastructure Corporation Limited (BMSICL) had invited E-Bids from the interested parties for the procurement, rate contract and the supply of medical equipment for different Govt. Medical Colleges and Hospitals of Bihar vide Notice Inviting Tender No.- BMSICL/2018-19/ME-115. A Pre-bid meeting was held on 16.01.2019 during and after which various suggestions were received from prospective bidders for amendment in technical specification and accordingly some amendments have been made as per the Annexure-I of this corrigendum. In order to facilitate maximum participation of bidders the tender schedule is being revised as follows:-

Tender Reference No.	<b>BMSICL/2017-18/ME-115</b>
Date and time for downloading of bid document	<b>Up to 20<sup>th</sup> February 2019 till 15:00 Hrs.</b>
Last date and time of submission of online bids	<b>21<sup>st</sup> February 2019 till 17:00 Hrs.</b>
Last date and time of submission of original documents of EMD, Tender Fee and Document.	<b>22<sup>nd</sup> February 2019 till 14:00 Hrs.</b>
Date, Time and Place of opening of Technical Bid	<b>22<sup>nd</sup> February 2019 (at 15:00 Hrs.) on the website of <a href="http://www.eproc.bihar.gov.in">www.eproc.bihar.gov.in</a> in the office of BMSICL</b>
Date and time of opening of financial Bids	<b>To be announced later on <a href="http://www.eproc.bihar.gov.in">www.eproc.bihar.gov.in</a></b>

**Note:-**Please refer to the **Annexure-I (pages-20)** of this corrigendum before submission of bid.

Sd/-

**GM (Procurement)**

**BMSICL**

## Annexure-I

SI no.	Technical Specification before amendments	Technical Specification after amendmends
<b>1. Adult Cystoscope &amp; Resectoscope and Uretherotomese</b>		
The set should include the following:		
1	Straight Forward 0 degree Telescope, diameter 4mm, Autoclavable, Length 30cm, fiber optic light transmission incorporated.	No Change
2	Forward oblique 30 degree Telescope, diameter 4mm, Autoclavable, Length 30 cm, fiber optic light transmission incorporated	No Change
3	Cystoscop - Urethroscope Sheath, 19 Fr and 22Fr each with obturator and 2 LUER-lock connectors.	No Change
4	Telescope bridge, with 1 lockable channel	No Change
5	Telescope bridge, with 2 lockable channel.	No Change
6	Catheter deflecting mechanism with 2 lockable channels, with quick control.	No Change
7	Optical forceps , compatible with telescope 30 deg., can be incorporate, forceps should be double action jaws for stent removal/biopsy.	No Change
8	Forceps for removal of foreign bodies of 5Fr, 7Fr each with double action jaws, flexible with length of 40 cm.	No Change
9	Biopsy Forceps 7Fr, with double action jaws, flexible, length 40cm	No Change
10	Resectoscope Sheath with LUER-Lock stopcock, including connecting tubing for in & outflow, 26Fr, oblique beak, rotating inner sheath with cermic insulation.	No Change
11	Standard oburator	No Change
12	Visual Obturator for resectoscope sheath, with channel of 6 Fr for flexible instruments, for 24/26 Fr sheath	No Change
13	Working element Set consisting of:	No Change
	Working Element- cutting by means of a spring, the thumb support is movable and in rest position the electrode is inside the resectoscope sheath.	No Change

	HF Cords x 2 Nos.	No Change
	Cutting Loop X 2	No Change
	Coagulating electrodes X 2	No Change
	Protection sleeve (from same manufacturer) X 1	No Change
14	Cutting loop, angled X 12 Nos	No Change
15	Coagulating electrode, pointed type X 6 Nos	No Change
16	Sachse Urethrotome sheath, 21 Fr with channel	No Change
17	Obturator for urethrotome sheath.	No Change
18	Supplementary Sheath, side open for introduction of balloon catheter, to slip on urethrotome sheath.	No Change
19	Sachse cold knife, straight/ half moon X 2 Nos each.	No Change
20	US FDA/ European CE (Issued by a notified body) approved Model should be offered.	No Change
21	Addition	22 Fr Turp Set monopolar and Bipolar both.

## 2. Pediatric Cystoscope, Resectoscope & Urethrotome set

	The set should include the following:	
1	Pediatric Operating Cystourethroscopy compact 8Fr, 6 degree one step dilation, length 13 cm with angled eye piece, fibre optic light transmission incorporated with 2 lateral irrigation ports and 1 working channel 5f for instruments upto 4 fr.	No Change
2	Biopsy forceps, 3Fr, double action jaws, flexible, length 28 cm	No Change
3	Ball electrode, 3Fr, length 53 cm.	No Change
4	Hook electrode, 3Fr. Length 53 cm.	No Change
5	High frequency cords (Monopolar)	No Change
6	Knife for use with Paed Cystoscope—6 pcs.	No Change
7	US FDA/ European CE (Issued by a notified body) approved Model should be offered.	No Change

## 3. PCNL set

	PCNL set	
1	Wide-Angle Straight Forward Telescope 60 , with parallel eyepiece, autoclavable, with LUER-Lock connection for inflow, with instrument channel, fiber optic light transmission incorporated.	Wide-Angle Straight Forward Telescope 6 degree , with parallel eyepiece, autoclavable, with LUER-Lock connection for inflow, with instrument channel, fiber optic light transmission incorporated.
2	Operating Sheath, 26 Fr., for continuous irrigation and suction	Operating Sheath, 18 Fr-20Fr-22Fr-24Fr-26 Fr, for continuous irrigation and suction
3	Hollow Obturator and Fascial Dilator.	No Change

4	3 piece Puncture Cannula, for localization of renal calculi including inner and outer cannulas.	3 piece & 2 piece Puncture Cannula, for localization of renal calculi including inner and outer cannulas.
5	Dilation cannula, 0/ 3 mm, for introduction of a second safety guide wire consisting of an inner and outer cannula.	No Change
6	Telescoping Dilation Set, consisting of: set of 6 dilators, size 9, 12,15,18,21 and 24 Fr., with 2 rigid and 2 flexible guide rods	No Change
7	Dilator,27 Fr	No Change
8	Dilator, 30 Fr	No Change
9	Grasping Forceps for large stone fragments and coagula, fenestrated jaws and spring handle, length 38 cm,	No Change
10	Grasping Forceps for large stone and stone fragments, 3 expanding jaws and small fixation spikes, with spring handle, length 38 cm. x 2 Nos	No Change
11	Grasping Forceps for large stones and stone fragments with fenestrated jaws and ring handle, double action jaws, length 38 cm x2 Nos	No Change
12	Grasping Forceps for large stones and stone fragments, serrated, double, action jaws, with ring handle, length 38 cm. x 2 Nos.	No Change
13	Initial Puncture Cannula Set X2 Nos	No Change
14	Dilation Cannula Set x 2 Nos	No Change
15	US FDA/ European CE (Issued by a notified body) approved Model should be offered.	No Change
	Addition	Lithoclast:- Pneumatic+ultrasonic, lithoclast:- Swiss lithoclast
<b>MINI PNL SET</b>		
	a. Nephroscope should have a size of not more than 12f	No Change
	b. Nephroscope should have an automatic pressure control system so that the fragments come out automatically when used with pressure irrigation.	No Change
	c. Working channel should accommodate instruments upto 5 Fr.	No Change
	d. The degree of view should not be less than 12 degree	No Change
	e. It should have an angled eye piece.	No Change
	f. Scope should be supplied with non fitting sheath which should work as amplatz sheaths as well.	No Change

	g. Each sheath should be supplied with reusable, compatible one step dilator	No Change
	h. Outer sheaths along with compatible one step dilator for following sizes of sheaths:15/16/Fr, 16.5/17.5 Fr, 21/22Fr	No Change
	i. The one step dilators should have a channel for placing guide wires as and if required.	No Change
	. Grasping forceps of size not more tha 5 Fr., double action jaws should be supplied.	No Change
	k. Bipsy forceps of size not more the 5 Fr., double action jaws should be supplied.	No Change
	l. Triprong grasping forceps of size not more the 5 Fr., double action jaws should be supplied .	No Change
	m. An applicator consisting of sheath and rod should be supplied so as to use with haemostatic agents like floseal and surgiflow.	No Change
	n. US FDA/ European CE (Issued by a notified body) approved Model should be offered.	No Change

### **5.URS Set (Adult and Pediatric 6.5 Fr and 8 Fr.)**

<b>URS -6.5 Fr</b>		
1	Uretero- Renoscope,, 6.5 Fr 60, one-step conical, length 43 cm, autoclavable, with angled eyepiece, fiber optic light transmission incorporated, 2 lateral irrigation ports and 1 working channel 4.8 Fr. For instruments upto 4 Fr., sealing and tray for cleaning, sterillization and storage.	No Change
2	URS should have working length of at least 43 cm	No Change
3	Distal tip diameter of 6.5 Fr.	No Change
4	Detachable instrument port with sealing system and quick release lock, one instrument channel.	No Change
5	Distal end of sheath atraumatically shaped with rounded tip.	No Change
6	Grasping Forceps for stone fragments, double action jaws, 4 Fr., rigid, length 60 cm. x 2 Nos	No Change
7	Compatible Biopsy, double action jaws, rigid, length 60 cm. x 2 Nos	No Change
8	Detachable Instrument Port with sealing system and quick release lock, 2 channels, for use with uretero-renoscopes.	No Change
9	US FDA/ European CE (Issued by a notified body) approved Model should be offered.	No Change

### **URS set – 8 Fr**

1	Uretero- Renoscope,, 8 Fr , 60, one-step, conical, length 43 cm, autoclavable, with angled eyepiece, fiber optic light transmission incorporated, 2 lateral irrigation ports and 1 working channel 6 Fr. For instruments upto 5 Fr., sealing and tray for cleaning, sterilization and storage.	No Change
2	URS Should have working length of at least 43 cm	No Change
3	Distal tip diameter of 8Fr.	No Change
4	Detachable instrument port with sealing system and quick release lock, one instrument channel.	No Change
5	Distal end of sheath atraumatically shaped with rounded tip.	No Change
6	Grasping Forceps for stone fragments, double action jaws, 5 Fr., rigid, length 60 cm. x 2 Nos	No Change
7	Compatible Biopsy, double action jaws, rigid length 60 cm. x Nos	No Change
8	Detachable Instrument Port with sealing system and quick release lock, 2 channels, for use with uretero-renoscopes	No Change
9	US FDA/ European CE (Issued by a notified body) approved Model should be offered.	No Change

### **Pediatric URS -6.5 Fr**

1	Uretero-Renoscope,, 6.5 Fr 6 degree, one-step conical, length 34 cm, autoclavable, with angled eyepiece, fiber optic light transmission incorporated, 2 lateral irrigation ports and 1 working channel 4.8 Fr. For instruments upto 4 Fr., sealing and tray for cleaning, sterilization and storage	No Change
2	URS should have working length of at least 34 cm	No Change
3	Distal tip diameter of 6.5 Fr.	No Change
4	Detachable instrument port with sealing system and quick release lock, one instrument channel.	No Change
5	Distal end of sheath atraumatically shaped with rounded tip.	No Change
6	Grasping Forceps for stone fragments, double action jaws, 4 Fr., rigid, length 60 cm. x 2 Nos	No Change
7	Compatible Biopsy, double action jaws, rigid, length 60 cm. x 2 Nos	No Change
8	Detachable Instrument Port with sealing system and quick release lock, 2 channels, for use with uretero- renoscopes.	No Change
9	US FDA/ European CE (Issued by a notified body) approved Model should be offered.	No Change

	Addition	Turp bipolar generator/cautery and turp set should be from same manufacturer
<b>6.TRUE Bipolar cautery&amp;TURP Set</b>		
	HD Electrosurgical Device	
1	HD Electrosurgical Device for interdisciplinary use with comfortable use by 9" high resolution colour touch screen (capacitive), protected by safety glass.	No Change
2	300 procedures storable with text and parameters.In addition, the distinguishing feature of an integrated mode BiVascularsafe for permanent sealing of veins, arteries and tissue bundles.	No Change
3	26 pre-programmed procedures, upgradeable by software	No Change
4	USB- and RJ45- Service port for Software Update and extension of HF functionalities.	No Change
5	Equipped with 2 unipolar and 2 bipolar (extendable to 3 bipolar sockets by device settings)	No Change
6	HF-outlets, CF outlets for highest patient and user safety.	No Change
7	Continuous monitoring of the neutral electrode during unipolar application	No Change
8	2 foots withches connectable.	No Change
9	Toggle-function between two sockets from sterile field by footswitch	No Change
10	Toggle-function between modes/ settings within one socket from sterile field by footswitch	No Change
11	HF- activation possible by hand buttons or by footswitch	No Change
12	Self –test of all relevant parameters and functionalities for highest patient and user safety.	No Change
13	Easy device handling thanks to logical arrangement and colour design of operational elements	No Change
14	US FDA/ European CE (Issued by a notified body) approved Model should be offer.	No Change
	<b>Technical Data:</b>	No Change
	a. Line Voltage: 220-240 VAC, 50Hz	No Change
	b. BiVascular Safe for permanent sealing of veins, arteries and tissue bundles.	No Change
	c. Gastro-Cut Mode.	No Change

	d. Resection C-Cut and dry cut – the intermittent cut – coagulation modes.	No Change
	e. 13 cutting modes unipolar (Laparoscopy, Standard, Micro Resection, Resection CCut, supraLOOP, Dry cut, GastroLoop 1, GastroLoop3, Gastro Knife1, Gastro knife2, Gastro Knife 3).	No Change
	f. 11 Coag Modes unipolar (Laparoscopy, Moderate, Forced Coag, Resection, Spray, Forced Mixed, Forced Cutting, Gastro Coag, Cardiac Thorax, Cardia Mammaria, SimCoag).	No Change
	g. Bipolar-Resection and bipolar vaporization modes (Cut and Coag).	No Change
	h. Bipolar-Cut, Bipolar scissors (Cut and Coag) and Bipolar Laparoscopy, Bipolar Standard, Bipolar standard with Auto-Start, Bipolar Micro and Bipolar Forced modes.	No Change
	i. Safety Systems: Automatic self-test of the unit; Output error; Neutral electrode monitoring EASY-System: (dynamic and dual, single-and dual surface NE); Neonatal mode (with limitation of the generator to 50 Watt unipolar); LF/HF leakage current monitoring; Activation time; Disengage able HF activation.	No Change
	j. Unipolar generator with maximum 400-Watt HF power.	No Change
	k. Precise power setting and partially limitation in a 1-Watt Steps.	No Change
	l. Up to 9 hemostatic effects for unipolar cut.	No Change
	m. Bipolar generator with maximum 400-Watt HF power.	No Change
	n. Bipolar Auto- Start function.	No Change
	o. Mode for use of bipolar MIS(LAP) instruments.	No Change
	p. Three pedal Footswitch	No Change
<b>Specification for Bipolar Resectoscope set:</b>		
	o The unit should be suitable for multiple applications like monopolar, bipolar and resection in saline solution	No Change
	o System should function as per principle of True Bipolar application and current should return through the same instrument as return path and should avoid body or another instrument as a medium, i.e.	No Change



	The active and return electrode should be on the loop itself which should be completely isolated from telescope, sheath and working assembly thereby sending the current back to machine without using body or Resectoscope sheath as a medium:	No Change
	The set should be supplied with one 4 mm 12/30 degree telescope, autoclavable	No Change
	It should be supplied with Cystoscope-Upethroscope Sheath, 17 Fr and each with obturator and 2 LUER-lock connectors.	No Change
	It should be supplied with Telescope bridge, with 1 lockable channel	No Change
	It should be supplied with Forceps for removal of foreign bodies of 5Fr and 7Fr each with double action jaws, flexible, length 40cm	No Change
	It should be supplied with Biopsy Forceps 5Fr and 7F, each with double action jaws, flexible, length 40cm	No Change
	It should supplies with Scissors of 5Fr and 7F, each with single action jaws, flexible, length 40cm	No Change
	It should include sachse Urethrotome sheath, 21 Fr with channel along with compatible obturator.	No Change
	It should have supplied with Telescope Bridge for use with urethrotome sheath with 5 Fr channel for instruments.	No Change
	o It should have supplied with Supplementary sheath, side open for introduction of ballon catheter, to slip on urethrotome sheath.	No Change
	It should have supplied with sachese cold knife, straight.	No Change
	It should have supplied with cold knife, round	No Change
	· Specified cutting loops, bipolar, 24 Fr, and collin's knives Bipolar should be supplied to be used for 12 or 30 degrees telescope separately	No Change
	Specially designed loops for bipolar Resection of Bladder tumors should be supplied to have maximum safety for posterior wall tumors x 6 Nos.	No Change
	Specially designed loops for bipolar Vapo enucleation of prostate tissue should be supplied to have maximum safety for posterior wiall tumors x6 Nos.	No Change
	Bipolar Resectoscope sheath, 26 Fr, oblique vbeak, rotatable inner tube with ceramic insulation	No Change

	It should be supplied with Visual Obturator compatiblw with Resectoscope sheath.	No Change
	It should be supplied with Bi-polar, working element, cutting by means of spring, movable thumb ring, in rest position the electrode is inside the sheath X 1 No.	No Change
	It should be supplied with Bi-polar, working element, cutting by means of finger grip,movable thumb ring, in rest position the electrode is outside the sheath X 1 No.	No Change
	Compatible HF cord X 2 Nos	No Change
	US FDA/ European CE (Issued by a notified body) approved Model should be offered.	No Change

### **7.Laser System for endoscopic treatment of stones in Bladder, Ureter and kidney**

	It should consist of the following:	No Change
	A. Laser system:	No Change
1	Desktop Model for use on endoscopic video carts.	No Change
2	Maximum power upto 20 watt.	Maximum power upto 30-35 watt.
3	Should be equipped with a “Fiber recognition technology”	No Change
4	Selection of 5 energy settings between 0.5 J/0. 8 J/1.2 J/1.7 J/2j	No Change
5	Selection of 5 pulse frequencies between 4 Hz/6 Hz/8 Hz/10/15	No Change
6	For use with rigid, semi rigid and flexible endoscopes	No Change
7	It should have a feature of automatic fiber detection and hence output of the compatible energy to the laser fiber	No Change
8	It should have a automatic fiber detection capability so as to avoid a misalignment and hence provide safety to machine and laser fiber both	No Change
9	Weight not more the 35 kg	No Change
10	Certified to IEC 601-1, CE lable acc, MDD.	No Change
11	Should be compatible to 230µm, 365 µm and 600 µm.	No Change
12	Manufacturer should be able to provide disposable as well reusable fiber.	No Change
13	Aiming beam should be green in colour.	No Change
14	Aiming beam or pilot light intensity should be adjustable.	No Change
15	Based on regular power supply of 220 VAC, 50Hz	No Change
16	It should have an integrated cooling system.	No Change

17	The system should be supplied with compatible laser fiber of 230µm, 365µm, 600µm size	No Change
18	US FDA/ European CE (Issued by a notified body) approved Model should be offered.	No Change

**Uretero- Fiberscope for access to entire intrarenal collecting system:**

1	Working length of 67 cm	No Change
2	Outer diameter of the shaft should be between 7 Fr & 7.5 Fr	No Change
3	It should have an instrument channel between 3Fr to 4 Fr.	No Change
4	Direction of view should be 0 degree.	No Change
5	Angle of view should be between 80 to 90 degree	No Change
6	Maximum angle of deflection upto 270 degree downward and 270 degree upward is needed.	No Change
7	It should have a ceramic liner in the distal end of the working.	No Change
8	Channel to protect it from thermal or electrocautery damage.	No Change
9	Should be waterproof and fully immersible in solution	No Change
10	It should adhere to sterilization method with ETO, FO gas,	No Change
11	Following compatible accessories should be supplied with this instrument – Grasping forceps, and case for the instrument, Pressure compensation cap, and leakage tester and cleaning brush.	No Change
12	The Fiberscope URS and laser should be from same manufacturer	No Change
13	US FDA/ European CE (Issued by a notified body) approved Model should be offered.	No Change

**CONSUMABLES TO BE SUPPLIED ALONGWITH:**

	a) Nitinol Core wire guide with hydrophilic coating and should have the ability of being straight at one end and angled at other end, length 150cm, x 2 Nos.	No Change
	b) Ureteral Access sheath with inner diameter of 9.5 fr and length of 35cm and 45 cm, 13cm. foreign make x 2 Nos each.	No Change
	c) Ureteral access sheath with inner diameter of 12.0 fr and length of 35cm,45cm and 28cm, foreign make x 2 Nos. each	No Change
	d) Tip less stone extractor with length of 115cm and size of 2.2 fr and 1.5 fr foreign make x 3 Nos .	No Change

	e) Nitinol stone extractor with partially closer redesign the basket to provide the tight weave of a 12 or 16 wire basket. X 3 Nos	No Change
	f) Balloon ureteral dilator of 7fr & 5fr with catheter length x 3 Nos	No Change
	g) 65cm, inflated ballon diameter 6mm & 5mm, ballon length of 4cm & 10cm with x 3 No.	No Change

### 8. Hand Instruments for Donor Nephrectomy

Telescopes		
	a. Forward-Oblique Telescop 30 degree enlarged view, diameter 10 mm, length 31 cm, autoclavable; fiber optic light transmission incorporated.	a. Forward-Oblique Telescop 30 degree enlarged view, diameter 10 mm, length 31 cm, autoclavable; fiber optic light transmission incorporated -02 nos.
	b. Forward-Oblique Telescope 30 degree enlarged view, diameter 5 mm,length 29 cm, autoclavable, fiber optic light transmission incorporated, connection for fiber optic light cable offset by 90 degree.	b. Forward-Oblique Telescope 30 degree enlarged view, diameter 5 mm,length 29 cm, autoclavable, fiber optic light transmission incorporated, connection for fiber optic light cable offset by 90 degree-02 nos.
	c. Straight Forward Telescope 00 enlarged view, diameter 10 mm, length 31 cm, autoclavable, fiber optic light transmission incorporated.	c. Straight Forward Telescope 0 degree enlarged view, diameter 10 mm, length 31 cm, autoclavable, fiber optic light transmission incorporated-02 nos.
LAPAROSCOPE DISSECTING & GRASPING FORCEPS		
1	Three piece laparoscopic autoclavableKELLY dissecting and Grasping Forcep, 360 degree rotational sheeth, with connector pin for unipolar coagulation size 5 mm, length 36 cm, long, double actionjaws, with ergonomic plastic handle with larger contact area at the finger ring to avoid pressure sores, can be dismantled with the press of a button.	Three piece laparoscopic autoclavableKELLY dissecting and Grasping Forcep, 360 degree rotational sheeth, with connector pin for unipolar coagulation size 5 mm, length 36 cm, long ( 02 nos.), double actionjaws, with ergonomic plastic handle with larger contact area at the finger ring to avoid pressure sores, can be dismantled with the press of a button.
2	Three piece laparoscopic autoclavable CROCE-OLMI Grasping Forceps, 360 degree rotational sheeth, size 5 mm, length 36 cm, double action jaws, ergonomic metal handle with plastic finger rings with larger contact area at the finger ring to avoid pressure sores, can be dismantled with the press of buttom	Three piece laparoscopic autoclavable CROCE-OLMI Grasping Forceps, 360 degree rotational sheeth, size 5 mm, length 36 cm ( 02 nos.) , double action jaws, ergonomic metal handle with plastic finger rings with larger contact area at the finger ring to avoid pressure sores, can be dismantled with the press of buttom

3	<p>Three piece laparoscopic autoclavable Bowel Grasping Forceps, double action jaws, fenestrated, 360 degree rotational sheeth, size 5 mm, length 36 cm, long double action jaws, ergonomic metal handle with plastic finger rings with larger contact area at the finger ring to avoid pressure sores, can be dismantled with the press of a button.</p>	<p>Three piece laparoscopic autoclavable Bowel Grasping Forceps, double action jaws, fenestrated, 360 degree rotational sheeth, size 5 mm, length 36 cm ( 02 nos.), long double action jaws, ergonomic metal handle with plastic finger rings with larger contact area at the finger ring to avoid pressure sores, can be dismantled with the press of a button.</p>
4	<p>Three piece laparoscopic autoclavable Right Angled Dissecting and Grasping Forcep, double action jaws, fenestrated, 360 degree rotational sheeth, size 5 mm, length 36 cm, long, double action jaws, ergonomic metal handle with plastic finger rings with larger contact area at the finger ring to avoid pressure sores, can be dismantled with the press of a button.</p>	<p>Three piece laparoscopic autoclavable Right Angled Dissecting and Grasping Forcep, double action jaws, fenestrated, 360 degree rotational sheeth, size 5 mm, length 36 cm, long, double action jaws, ergonomic metal handle with plastic finger rings with larger contact area at the finger ring to avoid pressure sores, can be dismantled with the press of a button.(02 nos.)</p>
5	<p>Three piece laparoscopic autoclavable Right Angled Dissecting and Grasping Forcep, double action jaws, fenestrated, 360 degree rotational sheeth, size 5 mm, length 36 cm, long, double action jaws, ergonomic metal handle with plastic finger rings with larger contact area at the finger ring to avoid pressure sores, can be dismantled with the press of a button.</p>	<p>Three piece laparoscopic autoclavable Right Angled Dissecting and Grasping Forcep, double action jaws, fenestrated, 360 degree rotational sheeth, size 5 mm, length 36 cm, long, double action jaws, ergonomic metal handle with plastic finger rings with larger contact area at the finger ring to avoid pressure sores, can be dismantled with the press of a button.(02 nos.)</p>
6	<p>Three piece laparoscopic autoclavable ANVIL Grasping Forcep, double action jaws, fenestrated, 360 degree rotational sheeth, size 5 mm, length 36 cm, long, double action jaws, ergonomic metal handle with plastic finger rings with larger contact area at the finger ring to avoid pressure sores, can be dismantled with the press of a button</p>	<p>Three piece laparoscopic autoclavable ANVIL Grasping Forcep, double action jaws, fenestrated, 360 degree rotational sheeth, size 5 mm, length 36 cm, long, double action jaws, ergonomic metal handle with plastic finger rings with larger contact area at the finger ring to avoid pressure sores, can be dismantled with the press of a button.(02 nos.)</p>
7	<p>Three piece laparoscopic autoclavable MANHES Grasping forcep with Hemostat style ratchet, duck-bill jaws, 360 degree rotational sheeth, with connector pin for unipolar coagulation, size 5 mm, length 36 cm, long, single action jaws, with ergonomic plastic handle with larger contact area at the finger ring to avoid pressure sores, can be dismantled with the press of a button.</p>	<p>Three piece laparoscopic autoclavable MANHES Grasping forcep with Hemostat style ratchet, duck-bill jaws, 360 degree rotational sheeth, with connector pin for unipolar coagulation, size 5 mm, length 36 cm, long, single action jaws, with ergonomic plastic handle with larger contact area at the finger ring to avoid pressure sores, can be dismantled with the press of a button.</p>

8	Three piece laparoscopic autoclavable CLAW Grasping Forcep with ratchet, 2x3 teeth, 360 degree rotational sheeth, size 10 mm, length 36 cm, long single action jaws, with ergonomic metal handle, can be dismantled with the press of a button.	Three piece laparoscopic autoclavable CLAW Grasping Forcep with ratchet, 2x3 teeth, 360 degree rotational sheeth, size 10 mm, length 36 cm, long single action jaws, with ergonomic metal handle, can be dismantled with the press of a button..(02 nos.)
9	Three piece laparoscopic autoclavable Curved METZENBAUM Scissors, 360 degree rotational sheeth, with connector pin for unipolar coagulation size 5 mm, length 36 cm, long double action jaws, with ergonomic plastic handle with larger contact area at the finger ring to avoid pressure sores, can be dismantled with the press of a button.	Three piece laparoscopic autoclavable Curved METZENBAUM Scissors, 360 degree rotational sheeth, with connector pin for unipolar coagulation size 5 mm, length 36 cm long double action jaws, with ergonomic plastic handle with larger contact area at the finger ring to avoid pressure sores, can be dismantled with the press of a button.(02 nos.)
10	Three piece laparoscopic autoclavable Hook Scissors, 360 degree rotational sheeth, with connector pin for unipolar coagulation, size 5 mm, length 36 cm, long, double action jaws, with ergonomic plastic handle with larger contact area at the finger ring to avoid pressure sores, can be dismantled with the press of a button	Three piece laparoscopic autoclavable Hook Scissors, 360 degree rotational sheeth, with connector pin for unipolar coagulation, size 5 mm, length 36 cm, long, double action jaws, with ergonomic plastic handle with larger contact area at the finger ring to avoid pressure sores, can be dismantled with the press of a button.(02 nos.)
11	Ergonomic plastic Handles with Larger contact area at the finger rings with connector pin for unipolar coagulation, with or without ratchet, compatible with above asked instruments.	Ergonomic plastic Handles with Larger contact area at the finger rings with connector pin for unipolar coagulation, with or without ratchet, compatible with above asked instruments. (02 nos.)
12	Dissecting- Electrode with exchangeable electrode L-tip, autoclavable, ergonomic handling, size 5 mm, length 36 cm, with connector pin for unipolar coagulation,	Dissecting- Electrode with exchangeable electrode L-tip, autoclavable, ergonomic handling, size 5 mm, length 36 cm, with connector pin for unipolar coagulation. (02 nos.)
13	Exchangeable Electrode Tip, L-Shaped, Autoclavable	Exchangeable Electrode Tip, L-Shaped, Autoclavable. (02 nos.)
14	Unipolar HF Cord	Unipolar HF Cord. (02 nos.)
15	Nathanson Liver Retractor, small surface area, diameter 5 mm	Nathanson Liver Retractor, small surface area, diameter 5 mm-(02 nos.)
16	Nathanson Liver Retractor, Medium surface area, diameter 5 mm	Nathanson Liver Retractor, Medium surface area, diameter 5 mm-(02 nos.)
17	Nathanson Liver Retractor, Large surface area, diameter 6 mm	Nathanson Liver Retractor, Large surface area, diameter 6 mm-(02 nos.)

18	Holding system, autoclavable, with quick release coupling consisting of : Rotation Socket, to clamp to the OR table, for European and Us standard rails, with lateral clamp for height and angle adjustment of the articulated stand, reinforced version, L-shaped, especially large swivel range, with one mechanical central clamp for all five joint functions, height 46 to 48 cm, swivel range 66 to 68 cm, with quick release coupling clamping jaw, metal, with axial intake, ckamping range 4.8 up to 12.5 mm.	Holding system, autoclavable, with quick release coupling consisting of : Rotation Socket, to clamp to the OR table, for European and Us standard rails, with lateral clamp for height and angle adjustment of the articulated stand, reinforced version, L-shaped, especially large swivel range, with one mechanical central clamp for all five joint functions, height 46 to 48 cm, swivel range 66 to 68 cm, with quick release coupling clamping jaw, metal, with axial intake, ckamping range 4.8 up to 12.5 mm.(02 nos.)
19	Fascial closure Instrument for subcutaneous ligature of trocar incisions, size 2.8 mm, length 17 cm, USFDA, CE approved	Fascial closure Instrument for subcutaneous ligature of trocar incisions, size 2.8 mm, length 17 cm, USFDA, CE approved. (02 nos.)
20	SatinskyLaposcopic clamp, size of jaws 10 cm, depth of jaws 2.5 cm, straight sheath with axial handle ring, ratchet with safety locking device, 10mm, length 30cm	SatinskyLaposcopic clamp, size of jaws 10 cm, depth of jaws 2.5 cm, straight sheath with axial handle ring, ratchet with safety locking device, 10mm, length 30cm. (02 nos.)
21	SatinskyLaposcopic clamp, size of jaws 8 cm, depth of jaws 2 cm, straight with axial handle ring, ratchet with safety locking device, 10mm, length 30cm.	SatinskyLaposcopic clamp, size of jaws 8 cm, depth of jaws 2 cm, straight with axial handle ring, ratchet with safety locking device, 10mm, length 30cm.(02 nos.)
22	Vascular clamp Applicator, 10 mm, 32 cm for use with deployable vascular clamps.	Vascular clamp Applicator, 10 mm, 32 cm for use with deployable vascular clamps.(02 nos.)
23	Vascular clamp, single action jaws, length of jaws, 5cm , size 10mm, total length 11cm for use with vascular clamp applicator.	Vascular clamp, single action jaws, length of jaws, 5cm , size 10mm, total length 11cm for use with vascular clamp applicator.(02 nos.)
24	Vascular clamp, parallel action jaws, length of jaws, 5cm, size 10mm, total length 13cm for use with vascular clamp applicator.	Vascular clamp, parallel action jaws, length of jaws, 5cm, size 10mm, total length 13cm for use with vascular clamp applicator.
	Addition	Bowel Forcep-(02 nos.)
Trocar & Cannula:		
1	Cannula size :11 mm diameter with thread and rotating insufflations, should have multifunctional valve to prevent damage of sharp instruments and tip lens while passing through the cannula valve. It should have stopcock for Co2 insufflation. The working length of the cannula should be 105 mm.	Cannula size :11 mm diameter with thread and rotating insufflations, should have multifunctional valve to prevent damage of sharp instruments and tip lens while passing through the cannula valve. It should have stopcock for Co2 insufflation. The working length of the cannula should be 105 mm. (5 each)

2	Cannula size:6 diameter with thread and rotating insufflations, should have multifunctional valve to prevent damage of sharp instruments and tip lens while passing through the cannula valve. It should have stopcock for Co2 insufflation. The working length of the cannula should be 105 mm.	Cannula size:6 diameter with thread and rotating insufflations, should have multifunctional valve to prevent damage of sharp instruments and tip lens while passing through the cannula valve. It should have stopcock for Co2 insufflation. The working length of the cannula should be 105 mm. (5 each)
3	Cannula size :11 mm diameter; should have multifunctional valve to prevent damage of sharp instruments and tip lens while passing through the cannula valve. It should have stopcock for Co2 gas. The working length of the cannula should be 105 mm.	Cannula size :11 mm diameter; should have multifunctional valve to prevent damage of sharp instruments and tip lens while passing through the cannula valve. It should have stopcock for Co2 gas. The working length of the cannula should be 105 mm. (5 each)
4	Cannula size : 6mm diameter; should have multifunctional valve to prevent damage of sharp instruments and tip lens while passing through the cannula valve. It should have stopcock for Co2 insufflation. Trocar should have pyramidal tip with pin holes near the tip forsafety outlet of co2 gas. The working length of the cannula should be 105 mm.	Cannula size : 6mm diameter; should have multifunctional valve to prevent damage of sharp instruments and tip lens while passing through the cannula valve. It should have stopcock for Co2 insufflation. Trocar should have pyramidal tip with pin holes near the tip forsafety outlet of co2 gas. The working length of the cannula should be 105 mm. (5 each)
5	Double reducer, 13.5/10 &13.5/5mm	Double reducer, 13.5/10 &13.5/5mm- (5 each)
6	Reducer, 11/5 mm	Reducer, 11/5 mm- (5 each)
7	Laparoscopic High- frequency Needle for spllting &conagulation, puncture in PCOD, insulated with connector pin for unipolar coagulation, 5mm, 31cm=02.	Laparoscopic High- frequency Needle for spllting &conagulation, puncture in PCOD, insulated with connector pin for unipolar coagulation, 5mm, 31cm=02. (02 nos.)
8	Knot-tier for extra-corporeal knotting, 5mm,36cm=02	Knot-tier for extra-corporeal knotting, 5mm,36cm=02
9	Palpation probe with cm-markings, 5mm, 36cm=02	Palpation probe with cm-markings, 5mm, 36cm=02
10	Rotating, dismantling in three parts (handle, outer tube& Working insert) Laparoscopic MESO-OVARIAN Forceps, with insulation, handle with hemostat-type ratchet & pin connector for unipolar coagulation, 5mm,36cm =02	Rotating, dismantling in three parts (handle, outer tube& Working insert) Laparoscopic MESO-OVARIAN Forceps, with insulation, handle with hemostat-type ratchet & pin connector for unipolar coagulation, 5mm,36cm =02
11	Laparoscopic Myoma Fixation Instrument, screw-shaped, 5mm =02.	Laparoscopic Myoma Fixation Instrument, screw- shaped, 5mm =02.
Veress Needle		



	Veress pneumoperitoneum needle with spring loaded blunt inner cannula, LUER-Lock, autoclavable, diameter 2.1mm, working length 10-18cms.	Veress pneumoperitoneum needle with spring loaded blunt inner cannula, LUER-Lock, autoclavable, diameter 2.1mm, working length 10-18cms. (05 nos.)
	Injection Needle	
	Injection needle, LUER-lock, diameter 1.2 mm, size 5 mm, length 36 cm.	Injection needle, LUER-lock, diameter 1.2 mm, size 5 mm, length 36 cm. (05 nos.)
	Suction and Irrigation Tube	
	Suction and irrigation Tube, anti- reflex surface with two- way stopcock, for single hand control, size 5 mm, length 36 cm.	Suction and irrigation Tube, anti- reflex surface with two- way stopcock, for single hand control, size 5 mm, length 36 cm. (10 nos.)
	LAPAROSCOPIC NEEDLE HOLDERS	
	Macro needle holder with tungsten carbide insert, dismantling into three parts namely, outer tube, handle and inserts, ergonomic pistol handle, with disengageable ratchet, jaw curved to left, size : 5mm, length : 33cm for use with suture material size:0/0 to 7/0.	Macro needle holder with tungsten carbide insert, dismantling into three parts namely, outer tube, handle and inserts, ergonomic pistol handle, with disengageable ratchet, jaw curved to left, size : 5mm, length : 33cm for use with suture material size:0/0 to 7/0. (06nos.)
	Macro needle holder with tungsten carbide insert, dismantling into three parts namely, outer tube , handle and inserts, ergonomic pistol handle, with disengageable ratchet, jaw curved to right, size : 5 mm, length: 33 cm for use with suture material size:0/0 to 7/0.	Macro needle holder with tungsten carbide insert, dismantling into three parts namely, outer tube , handle and inserts, ergonomic pistol handle, with disengageable ratchet, jaw curved to right, size : 5 mm, length: 33 cm for use with suture material size:0/0 to 7/0. (06 nos.)
	Laparoscopic Bipolar Forceps	
	Three piece laparoscopic Bipolar coagulating Grasping Forceps with overload tissue protection, CLERMONT-FERRAND MODEL, Wide jaws, with connector pin for bipolar coagulation, 360 degree rotational sheeth, size 5 mm, length 36 cm, long, single action jaws, ergonomic plastic handle with larger contact area, o can be dismantled with the press of a button.	Three piece laparoscopic Bipolar coagulating Grasping Forceps with overload tissue protection, CLERMONT-FERRAND MODEL, Wide jaws, with connector pin for bipolar coagulation, 360 degree rotational sheeth, size 5 mm, length 36 cm, long, single action jaws, ergonomic plastic handle with larger contact area, o can be dismantled with the press of a button. (02 nos.)

Three piece laparoscopic Bipolar KELLY dissecting & Grasping Forceps with overload tissue protection, CLERMONT –FERRAND MODEL, Wide jaws, with connector pin for bipolar coagulation, 360 degree rotational sheeth, size 5 mm, length 36 cm, long, single action jaws, ergonomic plastic handle with larger contact area, can be dismantled with the press of a button.	Three piece laparoscopic Bipolar KELLY dissecting & Grasping Forceps with overload tissue protection, CLERMONT – FERRAND MODEL, Wide jaws, with connector pin for bipolar coagulation, 360 degree rotational sheeth, size 5 mm, length 36 cm, long, single action jaws, ergonomic plastic handle with larger contact area, can be dismantled with the press of a button. (02 nos.)
Bipolar HF connecting cable	Bipolar HF connecting cable (02 nos.)
Clip Applicator:01	Clip Applicator:05
Medium Large clip applicator dismantable rotating size:10mm, length 36cm, for Titanium clips with ratchet to lock the jaw holding the clip.	Medium Large clip applicator dismantable rotating size:10mm, length 36cm, for Titanium clips with ratchet to lock the jaw holding the clip.
Clip Applicator:01	Clip Applicator:05
Large clip applicator dismantable rotating size: 10mm, length 36cm, for Titanium	Large clip applicator dismantable rotating size: 10mm, length 36cm, for Titanium
Clips with ratchet to lock the jaw holding the clip.	Clips with ratchet to lock the jaw holding the clip.
Titanium clips :10	Titanium clips :50 Boxes 24 Clip each.
Titanium clips medium large & large, box with 16 sterile cartridges, 10 clips each for use with clip applicator.	Titanium clips medium large & large, box with 16 sterile cartridges, 10 clips each for use with clip applicator.

### 9.UNITS for Donor Nephrectomy

#### 1) SUCTION/ IRRIGATION UNIT COMPACT

It shall be a combination of suction/ irrigation pump for use in gynecological, Laparoscopic, and other endoscopic interventions. The adaptation to the correct mode of surgery intended should happen automatically when the correct type of tubing is used. The insertion of pressure lines into the unit should be simplified for ease of use. The unit should be equipped with electronic safety circuits that cut the suction/ Irrigation operation if the unit departs consistently form the present values.	No Change
The Suction/ irrigation unit should have the following features:	No Change
It is compatible with the Management System and can thus be controlled from inside the sterile area via Touch Screen and from outsid the sterile area via keyboard and mouse available at the Nurse station.	No Change

	Easy to use bundled controls for the control of all functionalities	No Change
	Touch controls and digital displays ensure safe and precise adjustment of the set values.	No Change
	Bargraph displays, easy to read and arranged clearly parallel to one another allow the user to monitor the current actual and set values of all unit parameters at any time.	No Change
	During power-up, all system go through and automatic self- test and are only released after a positive result	No Change
	Safety functions that control any departure from operator settings	No Change
	- Automatic recognition of type of procedure intended, when tubing is inserted	No Change
	Audible alarms in case of malfunction.	No Change
	Suction rate preselect are saved in memory	No Change
	Should have a suction mode that automatically maintains irrigation pressure and flow constant.	No Change
	The suction/Irrigation unit should have the following technical specifications:	No Change
	Power supply voltage: 100-240VAC	No Change
	Power frequency: 50-60Hz	No Change
	Operating conditions: +100c to +400c	No Change
	Irrigation	No Change
	Pressure: - Selectable Mode: 0.200&0.400 mmHg.	No Change
	Flow Rate - Selectable Mode: 0-500 & 0-1000ml/min	No Change
	Suction under-pressure:	No Change
	-Selectable Mode:0(-)0.8 bar (80kpa)	No Change
	Pressure indicator Bargraph Display and Digital Display	No Change
	Flow indicato Bargraph Display and Digital Display	No Change
	Certified to IEC 60601-1, UL 2601 and MDD93/42/ECC:	No Change
	Drip –Water/IPX1, CE label, class IIb and class1/Bf	No Change
	The suction/Irrigation unit should also comply with the following standards:	No Change
	According to : IEC 60601.1, CAN/CSA 22.2 No.601.1-M90:	No Change
	Type of protection against electrical shocks: protection class1.	No Change
	- Degree of protection against electrical shocks: Applied part of type BF.	No Change

	- Type of protection against moisture: drip-water protection as per IPX 1.	No Change
	US FDA/ European CE (Issued by a notified body) approved Model should be offered.	No Change
<b>2) ELECTRONIC CO2 Insufflator with Gas heating&amp;highest degree of patient safety (02 nos.)</b>		
	It should have following features:	No Change
	Heatable insufflation tube for heating the co2 gas up to patient body temperature.	No Change
	Innovative Sensitive Mode for sensitive areas such as pediatric application with safety limits in the pressure up to maximum 15 mmhg and flow ranges up to maximum 15 l/min.	No Change
	High flow mode with flow performance up to 50 l/min.	No Change
	Individually programmable procedure list for starting device with personal presets.	No Change
	Easy and intuitive use with user friendly colour touch screen for easy and precise setting of set values for pressure and flow and of insufflation mode, as well as for clear display of corresponding set values and actual values.	No Change
	Optical and acoustic alarm signals in the event of patient overpressure.	No Change
	Fully automatic, electronically controlled gas refill.	No Change
	Safety system: constant monitoring of intra abdominal pressure; any overperessure is reduced immediately.	No Change
	Applicable for use in Laparoscopy, in Thoracoscopy, in proctology (for Transanal Endoscopic operations) and for endoscopy of the upper and lower gastrointestinal tract, as well as in cardiac surgery (open or endoscopically assisted cardiac surgery to assure an optimal air extrusion and minimizing risk of postoperative wound infection – for minimally invasive cardiac surgery, e.g. mitral valve surgery ) and in vascular surgery(endoscopic vessel harvesting).	No Change
	Control via Realistic User Interface.	No Change
	Should be supplied with smoke evacuation unit.	No Change
	US FDA/ European CE (Issued by a notified body) approved Model should be offered.	No Change
	Technical Specifications:	No Change

	Gas flow:0.50 l/min.	No Change
	Pressure: 0-30 mmHg (4000pa).	No Change
	High flow mode (0 to 50 l/min.)	No Change
	Sensitive mode pressure 15 mmhg&flow 15 l/min for sensitive application	No Change
	Electronic control and colour touch screen.	No Change
	Following data are displayed on touch screen:	No Change
	Set value pressure (0-30 mmHg).	No Change
	Current patient pressure.	No Change
	Set value gas flow (0-50 l/min).	No Change
	Current gas flow	No Change
	Gas consumption (0-999 l).	No Change
	Status of gas heating	No Change
	Power supply: 220 VAC, 50 Hz	No Change
	<b>High Definition Camera System</b>	
	Three chip High definition camera system	4 K camera system and all compatible instrument with 4K System
	The system should be truly Digital HDTV endoscopic video camera. The system should have the maximum Resolution of 1920 X 1080 pixels, progressive scan and the consistent use of 16: 9 formats for Input &Output to guarantee genuine HDTV.	The system should be truly Digital HDTV endoscopic video camera. The system should have the maximum Resolution of 3840 X 2160 pixels, progressive scan and the consistent use of 16: 9 formats for Input &Output to guarantee genuine HDTV.
	The system should have facility of Optical &Digital Zoom lens to enhance the quality of Image size & cross specialty usage of the camera system, regardless of the telescope used.	No Change
	USB port for capturing FULL HD videos/ HD Stills in External USB drive and direct interface of USB printer to facilitate direct printouts.	No Change
	System should have facility of controlling additional equipments like light source/insufflators and recording device from the camera head.	No Change
	System should have facility to offer various visualization modes for surgery and diagnosis by shifting the color spectrum like BLUE & GREEN light for recognition of the finest tissue structures and their differentiation	No Change
	Parallel live display of visualization modes besides white light mode (picture-in-picture).	No Change
	Modular design: Digital FULL HD camera module should be compatible for use with video flexible GI endoscopes	No Change

	<b>Technical specifications:</b>	No Change
	Image sensor: 3 X1/3" CCD-Chip	No Change
	Pixels 1920 x1080	Pixels 3840 x2160
	AGC: Microprocessor controlled	No Change
	Lens: Integrated Zoom lens f= 15-31 (2x optical zoom)	No Change
	Minimum light sensitivity: 1. 17 Lux (f=1.4 mm).	No Change
	Control buttons: 3(2 of Them freely programmable).	No Change
	Video output: 2x DVI-D output, 1 x 3 g-SDI output, 3 x camera input for communication with compatible camer modules, LAN connetion, 4xUSB connection (2x front, 2x back	No Change
	Input: Keyboard input for character generator.	No Change
	Power Supply:- 220 VAC 50 Hz	No Change
	US FDA/ European CE (Issued by a notified body) approved Model should be offered.	No Change
<b>3</b>	<b>High Definition Medical Grade Monitor</b>	<b>4K Medical Grade monitor</b>
	The monitor should have:	
	HDTV display in original 16:9 HDTV format. 1080 p/ 50 & 1080 p/60 displays possible. LED crystal display. Max. Resolution of 1920 x1080. Screen diagonal – 26"	HDTV display in original 16:9 HDTV format. 1080 p/ 50 & 1080 p/60 displays possible. LED crystal display. Max. Resolution of 3840 x2160. Screen diagonal – 55"-58".
	Desk top with pedestal.	No Change
	Should have the facility of PIP mode.	No Change
	Specification	
	HD TFT Flat Screen Monito with stand size 26"	HD TFT Flat Screen Monito with stand size 55"-58"
	Aspect Ration 16:9 HD format	No Change
	Brightness : 500 cd/m2	No Change
	Maximum viewing angle : 1780 vertical	No Change
	Contrast ration: 1400 : 1	No Change
	Reaction Time – 8ms	No Change
	Rated power :115 watts	No Change
	Power Supply 100-240 VAC	No Change
	Screen Dimensions : 643 x 396 x 87mm	No Change
	Video Inputs: 2* DVI-D, 2* 3G SDI, 1* S video, composite 1*RGBNGA, 1* RS 232, 1* RJ 45 Interface	No Change
	Output : 1* DVI, 1* 3G SDI, 1* S-Vide	No Change
<b>4</b>	<b>Xenon Light Source with Fiber optic cable</b>	LED 300 with fibre optical cable
	· Lamp type:- Xenon 15V, 300 walt	· Lamp type:- LED 15V, 300 walt
	Color Temperatures 6000DK	Color Temperatures 6000DK and above.

	Light Intensity Adjustment :- Continuously adjustable either manually or automatically by cameras video output signal.	No Change
	Should be supplied with Diameter 4.8mm, Length 300cm.	No Change
	Certified To:- IEC 601-1 &UL 544 CE According to MDD, protection class 1/CF	No Change
<b>5</b>	<b>IMAGE / VIDEO RECORDING AND DATA ARCHIVING SYSTEM(4K)</b>	
	State of the art user friendly, Medical grade system (certified to be used in OT) offered with following features,	No Change
	User should have full control of the system from the sterile field via camera head buttons, optional touch screen, optional foot switch.	No Change
	Parallel (synchronic or independent ) recording of two image sources	No Change
	Still images and videos (optional with audio) in 2D FULL HD or 3D (with optional 3D-camera system). Water mark feature.	Still images and videos (optional with audio) in 4K FULL HD or 3D (with optional 3D-camera system). Water mark feature.
	Intelligent, adaptive storage management.	No Change
	Storage Location is freely definable and configurable.	No Change
	Storage on internal memory (2 TB, FIFO), USB storage media via 2.0 and 3.0, optical media (DVD writer, Blu-ray reader), network drive, FTP of via DICOM.	No Change
	Automatic storage in the background to reduce the time between the interventions. Easy management and overview of open/automatic save processes.	No Change
	Import of patient data via keyboard of DICOM work list	No Change
	Various adaptable templates for printing to choose from	No Change
	Integrated surgical checklist following the WHO standard or customizable. Basic functions for the editing of still images and videos.	No Change
	Playback of 2D and 3D content on separate monitor (optional 3D-System required)	Playback of 2D and 3D and 4Kcontent on separate monitor (optional 3D-System required)
	Integrated file-viewer for still images, videos and checklists from diverse data sources.	No Change
	Structured and clear user guidance, optimized for touch screen control	No Change
	Scalable range of functions.	No Change

	Low noise generation and fast system start due to SSDtechnology.	No Change
	Should have seamless USB silicone keyboard with touch pad to enter details	No Change
	Controllable via 12" inbuilt touch screen	Controllable via 12" and above inbuilt touch screen
	Input Voltage:100-240 VAC	No Change
	Input Frequency: 50-60 Hz.	No Change
	Power output: 350 watt.	No Change
	CPU: Intel Core Tm i7-@ 3.4GHz.	No Change
	Internal memory: SSD (70GB) I HDD (2 TB)	No Change
	Memory RAM : 8GB.	No Change
	Connectors: 3 x 1 GB Ethernet (RJ 45), 6x USB 2.0, 2x USB 3.0	No Change
	Image format: BMP, JPG, JPG2000.	No Change
	· Video format: MPEF-4, MPEG-2, MOV.	No Change
	Video signal inputs: 2 x DVI-D.	No Change
	Color system: PAL, NTSC.	No Change
	Resolution still images: up to 1920x1080, Aspect ration 16:9.	No Change
	Resolution videos: up to 1920x1080 Progressive Scan for 25/30 frames.	No Change
	Preinstalled printer: SONY UP-DR80MD	No Change
	Type approval: IEC 60601-1-1, EN60601-1,EN60601-2.	No Change
	The DICOM 3 interface shall be installed to the system in order to allow the surgeon to view all the DICOM 3 images stored in the PACS system on a digital light box within box within the operating rooms. Furthermore, all intra operative images recorded can be sent via the DICM 3 interface to the PACS system for further processing.	No Change
	6 Endoscopic Trolley	No Change
	Equipment Cart, rides of 4antistatic dual wheels equipped withlocking brakes, central beam withintegrated electrical subdistributorswitch 6 sockets, grounding plugs, modular in nature (should be able to add shelves and components later if required) Should have central monitor holder to mount monitor with height adjustable, swiveling and tilting, swivel range approx.. 3600,loading capacity max. 18 kg, with monitor mount VESA 75/100	No Change



	Cart should have following dimension in mm (w x h x D): Equipment cart: 830 x 1474 x730, Caster diameter should be 125 mm It should consisting of : Base Module, equipment cart 1 x Top Cover	No Change
	Beam package, equipment cart	No Change
	, 1 x Drawer Unit with Lock,	No Change
	1 x Base Plate	No Change
	1 x Cameraholder	No Change
	Cart should be compatible to accommodate followings when required	No Change
	Atleast 4 more shelve - Isolation transformer - Counter balance plate - Co2 cylinder holder - Monitor holding arms (lateral)	No Change
	US FDA/ European CE (Issued by a notified body) approved Model should be offered	No Change
<b>Note- All the equipment should be from single company for better compatibility whoever may be</b>		
<b>10. Anaesthesia machine/Anaesthesia Workstation Machine</b>		
1	Anesthesia machine complete with laryngoscope, all size endotracheal tubes, nasal and oral airways, Magill's forceps,	Deleted
2	Anesthesia gas delivery system.	Deleted
3	Circle absorber system.	Co2 absorber system with following features:-
		a. Single/Double canister
		b. Autoclavable
		c. Canister capacity of 1.2 kg or more.
		d. It should be possible to bypass the canister if removed during clinical cases to change sodalime.
	Addition	APL valve assemble and Bag mount should be conveniently placed.
4	Precision vaporizer for halothane, isoflurane	Should be able to hold three seletatec vaporizers (isoflurane, Sevoflurane &Desflurane) simultaneously, vapourizers should be maintenance free. Cost of vaporizers to be quoted separately. The anesthesia machine should provide desflurane compensation.
5	Anesthesia ventilator.	Ventilator should have automatic mode detection.
6	Detailed specifications:	
	Addition	The ventilator of the Workstation machine should have the following features:-

		<p>a. Should be electronically controlled/ gas driving.</p> <p>b. Should be suitable for both pediatric, adult and new born</p> <p>c. It should have colored touch 12'' screen with at a time loops &amp; gaps.</p> <p>d. Volume and pressure control mode of ventilations.</p> <p>e. Electronic peep.</p> <p>f. Both SIMV and pressure support mode.</p> <p>g. Tidal volume range from 20ml to 1200 ml or more.</p> <p>h. Respiratory rate from 4 to 80 or more.</p> <p>i. I:E ratio: 1:0.04 to 1:6</p> <p>j. Display: Respiratory rate, peak airway pressure and PEEP.</p> <p>k. There should be no collection of water in the breathing system.</p>
	Addition	<p>Should have safety features like:-</p> <p>a) Minimum oxygen flow of 50ml/min or more even when the machine is in on position.</p> <p>b) Should provide 25% or more of oxygen when an anaesthetic gaseous mixture is in used.</p> <p>c) Should be provided with mechanical hypoxic guard.</p> <p>d) Should have extra flow meters for oxygen only.</p>
	Addition	Should have oxygen flush with a flow rate of more than 35L/Min.
	Addition	Independent port for open circuit.
	Addition	Should be provided with three or more drawers.
7	Anesthesia gas delivery system.	No Change
8	Should have provision for delivery of oxygen, nitrous oxide and medical air with pressure gauges. With 3 flow meters for oxygen ,nitrous oxide and air	Should have pipelines attachment for oxygen, nitrous oxide and compressed air.

	Addition	Should have cascade double tube bobbin type flow meters for oxygen and nitrous oxide and single for air. There should be digital control and display for oxygen & electronic gas mixing/ Pneumatic gas mixing.
	Addition	Durable main switch to put the 2 machine in 2 the on or off position.
9	Should have independent attachments for connecting central gas supply and pin indexed cylinders. Should have provision for attaching 1 cylinder of(O2 and N2O).	Should have yoke assembly for oxygen and nitrous oxide with pin index system.
10	Oxygen and Nitrous oxide should be linked either mechanically or pneumatically to ensure a minimum of 25% oxygen delivery at all times to avoid delivery of hypoxic mixture.	No Change
11	Should have audio-visual oxygen Failure warning System with Nitrous oxide cut off.	No Change
	Addition	Should have independent oxygen sensor for FiO2 monitor and flow sensor for spirometry.
	Addition	Should be able to display atleast two wave forms at a time either of the following:
		a. Pressure Vs time.
		b. Volume Vs time
		c. Pressure Vs Volume.
12	Should have back bar which is ISO pin type to attach vaporizer easily.	Deleted
13	Should be supplied with necessary attachments to use of the breathing circuits (Bains, Jackson-Rees and closed circuit etc.,) Reusable circuit for adult and pediatric will be provided.	No Change
14	Should have top shelf to keep monitors and a tabletop to keep anesthetic drugs, equipments etc.	No Change
15	The machine should possess battery back up if any electrical components are present	Should have a battery backup of atleast 30 minutes.
16	Castor wheels should be durable and moisture resistance & Smooth.	Machine should have a good quality handle and casters to move the machine with locking system.
		<b>Monitor</b>
		<b>The Monitor should have the following Features</b>
	Addition	1. A modular configurable patient monitor.
	Addition	2. Should have atleast 14”TFT colour display with up to 12 waveforms at a time.

	Addition	3. Should be touch screen.
	Addition	4. Should be able to measure the following parameters:
		a. 3/5 lead ECG with electrocautery & defibrillator filter with ST segment & arrhythmia detection with analysis.
		b. Respiration, SpO2, temperature.
		c. NIBP, 2IBP, ETCO2
		d. Multi-Gas analysis with auto detection of all anesthetic agents.
		e. Integrated BIS/entropy Monitoring.
		f. Upgradable to cardiac output (Thermodilution) monitoring.
	Addition	5. Should be able to automatically detect and calculate MAC of all anaesthetic gases.
	Addition	6. Should be able to calculate and display FiO2.
	Addition	7. Intelligent cooling system to keeps the unit running quiet during use.
	Addition	8. Separate indicator lights for technical and physiological alarms.
	Addition	9. Maximum BEEP tone should be loud enough to be audible from atleast a distance of 12 feet's.
	Addition	10 should have graded audio and visual alarms for the following parameters:
		a. Blood Pressure- High and Low
		b. SpO2 - High and Low
		c. Heart rate- High and Low
		d. Respiration- High and Low
		e. FiO2- High and Low
	Addition	11. Trends – Upto 24 Hours or more, trend analysis, Upto 24 hours full disclosure.
	Addition	12. Battery Back up-Li-ion Battery of 1 hour or more.
	Addition	13. The machine should be internationally reputed company and should be USFDA approved.
	Addition	14. Bidder must ensure regular supply of Sodalime.
	Addition	15. The machine should supplied with the following accessories:
		a. ECG cable -2 nos.
		b. Reusable SpO2 Sensors: 2 each for Adult, Pediatric & Neonatal.

		c. NIBP cuff: 2 each for adult, Pediatric & Neonatal.
		d. IBP Transducers: Disposable 10 nos.
		e. IBP cable: 2 nos.
		f. BIS Electrode: 10 nos.
		g. ETCO2 Sample Line: 10 nos.
		h. Reusable autoclavable breathing circuit: 2 nos. each for Adult & Pediatric.
	<b>11. Table Top Sterilizer</b>	
	Autoclave HP Horizontal (Cylindrical)	No Change
	High Grade strong stainless steel, Triple walled construction.	No Change
2	Positive radial self-locking safety doors.	No Change
3	Hydrostatically tested to withstand 2.5 times the working pressure	No Change
4	Sealed with Silicon long-lasting and durable gasket.	No Change
5	Digital display for Jacket and Chamber pressure and temperature.	No Change
6	Outer jacket insulated to prevent heat loss; with a high-grade insulation material.	No Change
7	Mounted on 304 stainless steel frame.	No Change
8	Temperature and pressure cut-off device.	No Change
9	Auto cut-off at low water level	No Change
10	Rust-proof 304 grade stainless steel.	No Change
11	Cylindrical construction.	No Change
12	Equipment should have separate steam release valve and drainage system.	No Change
13	Minimum of two safety valves with auto-release at 16 and 20.	No Change
14	Capacity: 24 lts .	No Change
15	Accessories:	No Change
	a. Automatic Pressure Control Switch -2 no.	No Change
	b. Automatic Water Cut-off Device -2 no.	No Change
	c. Perforate basket(rust-free stainless steel) –2 No	No Change
	d. Biological and chemical indicators-1 set	No Change
16	Power Requirements: Input voltage-440V AC, 50Hz ,3-phase	No Change
17	USFDA/CE/BIS approved model should be offer.	No Change