

1. Laparoscopy Tower

No.	Specification	Technical data	Qty.	Fill Your Specifications
1	Monitor		1	
	Screen diagonal	At least 55		
	Contrast ratio	5000:01:00		
	Resolution and aspect ratio	3840x2160 pixels or more		
	Brightness	500cd/m ²		
	Angle of view	178° View		
	Video input	2x DVI, 1x 3G-SDI, 1x VGA, 1x S-Video, 1x Composite		
	Video out put	1x DVI, 1x 3G-SDI, 1x Composite, including: 1x External 24 VDC - Power Supply 1x Mains Cord 1x Cable Cover 4x Mounting Screws M4		
	Power supply	Internal		
	Power consumption	280-290 w		
	Power supply /frequency	100-240 VAC, 50/60Hz		
2	Monitor Assistant:		1	
	Screen diagonal	At least 30		
	Contrast ratio	1000:01:00		
	Resolution and aspect ratio	3840x2160 pixels		
	Brightness	500cd/m ²		
	Angle of view	178° View		
	Video input	1x Displayport, 1x 12G-SDI, 1x 2x DVI, 1x 3G-SDI, 1x VGA, 1x S-Video, 1x Composite		
	Video out put	1x DVI, 1x 3G-SDI, 1x Composite, including: 1x External 24 VDC - Power Supply 1x Mains Cord 1x Cable Cover 4x Mounting Screws M4		
	Power supply	Internal		
	Power consumption	280-290 w		
	Power supply /frequency	100-240 VAC, 50/60Hz		
3	Camera Head:		1	
	Lens	Fixed focus		
	Weight	Maximum 210g		
	sensor	3chip		
	Cable length	300cm		
	Cable routing length	angled Operation (camera head buttons)		
	cleaning	300cm		
	Plastic container storage head camera suitable for use with steam gas and hydrogen proxiide	Sterilization and storage head camera suitable for use with steam gas and hydrogen peroxide		
4	Camera Controller		1	
	Camera	At least 2 camera input		
	Type of control	Touch screen OR manual via membrane key board mouse and camera head button		
	Max video signal resolution	4096x2160 pixies'		
	power	110-240vac 50/60HZ		
	memory	Internal memory of more than 50 GB and internal storage medium USB		
	Brightness control	Automatic shutter control + Automatic gain control		
5	Light source:		1	
	lamp	LED		
	Life time of LED	At least 60.000 h		
	Light output	300W		
	POWER	110-240vac 50/60HZ		
	Color light	6500K		
6	CO2 Insufflators:		2	
	capacity	40 liter		
	Power supply	100-240VAC, 50/60Hz		
	Insufflations tube	Inner diameter 9mm, length 250cm or up		
	Gas filter, sterile	Sterilizable reusable		
	Max gas flow	25 per pack or more		
	Hose length	50 or up		
	High pressure in line gas filter	200cm		
7	Diathermy:		1	
	It shall operate on AC power supply in the operating theatre.			
	Provides all functions with improved properties for diverse applications			
	18 unipolar and bipolar cutting modes such as for example bipolar resection			
	25 unipolar and bipolar coagulation modes such as and the Bivascularsafemode			
	System Configurations:			
	Diathermy Machine (Electrosurgical unit) 400w with complete accessories.			
	Diathermy can be used in practically all surgical disciplines:			
	Neurosurgery "Laparoscopy" Gynecology "urology" spine surgery			
	Technical Specifications:			
	Solid-state/microprocessor-controlled frequency generator.			
	Monopolar and bipolar outputs, electrically isolated from ground.			
	high resolution color touch display.			
	Monopolar modes include pure cut, blend, and coagulate (soft, contact and spray).			
	Bipolar mode includes coagulate and cut mode.			
	Generator creates automatic program configuration			
	Maximum unipolar and bipolar power 400w			
	Bipolar resection in saline.			
	Hand switch mode when button-activated probes are connected.			
	Foot switch that can operate in monopolar and bipolar modes.			
	Yellow buttons/pedals for cut and blue buttons/pedals for coagulate.			
	Grounding pad/return electrode monitored for patient connection.			
	Front panel allows mode selection, power settings and on/off.			
	Display shows output power, system errors and electrode failure.			
	Automatic shut off/generator deactivation on grounding pad/return electrode connection failure.			
	Audible and visual indicators of activation and alarms.			
	Self-test mode.			
	Protection against defibrillator discharges.			
	The unit shall come with trolley well designed to fit the generator with drawers for keeping the accessories			
	Accessories, Spare Parts and Consumables			
	All standard accessories/consumables/parts required for the proper operation of the above item shall be included in the offer			
	1 x Foot switch, two pedals, yellow and blue, with connecting cable.			
	2 x Grounding pad/return electrodes, reusable, with 3m connecting cable (adult & child).			
	2 x Monopolar electrode handle, reusable, foot switch controlled, with connecting cable.			
	2 x Monopolar electrode handle, reusable, finger switch controlled, with connecting cable.			
	1 x Set different monopolar reusable electrodes (needle, Knife, ball, and Wire loop).			
	2 x Bipolar forceps, reusable, foot switch controlled, with connecting cable (short, straight, tip-angled).			
	2 x Bipolar forceps, reusable, foot switch controlled, with connecting cable (long, straight, tip-angled).			
8	Irrigation:		1	
	Fluid Management System:			
	Interdisciplinary single roller pump for irrigation or suction with TFT (Thin Film Transistor) touch screen.			
	Modular design can support basic functionalities across various fields of application.			
	Pump can be equipped with various software modules for multiple disciplines such as Lap, Hysteroscopy, Urology, Arthro and Spine.			
	tubing set recognition, color coded tubing sets for clear identification One hand installation of cassette Cartridge locking lever.			
	HYS Irrigation pressure: 20 to 150 mmHg.			
	HYS Irrigation flow rate: 200 to 600 ml/min.			
	Urology Software License, for cystoscopy, resection, URS and PCNL			
	Advanced Software License for extended functions of installed software.			
	Tubing Set, Irrigation, PC, sterile, for reusable use, package of 10.			
	TROLLEY:		1	
	Dimension cart (W x H x D)	At least 830 x 1474 x 730mm		
	Dimension shelf (W x H x D)	At least 630x25x510		
	wheels	Dual/Lock break		
	drawse	4 or more		
	Monitor position	With 2arm		
	Should have premium electrics			
	Should have hold camera			
9	Laparoscopic Instruments Set for General Surgery:		1	
	Telescope 30, enlaged, diameter 10mm, length 31cm, autoclavable			
	Telescope 0, diameter 10mm autoclavable			
	Telescope 30, diameter 5.3mm autoclavable			
	Plastic Container, for Sterilization, suitable for steam, gas			
	Trocar, size 11 mm			
	Trocar, size 15 mm			
	Trocar, size 6 mm			
	Trocar, size 5.5 mm			
	Reducer, 11/5 mm			
	Reduction Sleeve, 11/5 mm			

	VERESS Pneumoperitoneum Needle, with spring-loaded blunt inner cannula, LUER-Lock, autoclavable, diameter 2.1 mm, length 13 cm	2
	Grasping Forceps, atraumatic, wavy, double action jaws, size 5 mm, length 36 cm	1
	C Forceps Insert, Dissecting and Grasping Forceps, double action jaws, size 5 mm, length 36 cm	1
	Forceps Insert, Dissecting and Grasping Forceps, double action jaws, size 5 mm, length 18 cm	1
	Forceps Insert Dissecting and Grasping Forceps, double action jaws, size 5 mm, length 24 cm	1
	Forceps Insert Dissecting and Grasping Forceps heavy, double action jaws, size 5 mm, length 36 cm	1
	Forceps Insert, Dissecting and Grasping Forceps heavy, double action jaws, size 5 mm, length 18cm	1
	Forceps Insert Dissecting and Grasping Forceps heavy, double action jaws, size 5 mm, length 24 cm	1
	Forceps Insert, for grasping forceps, fenestrated, with fine atraumatic serration, single action jaws, size 5 mm, length 36 cm	1
	Forceps Insert, for grasping forceps, fenestrated, with fine atraumatic serration, single action jaws, size 5 mm, length 18 cm	1
	Forceps Insert, for grasping forceps, fenestrated, with fine atraumatic serration, single action jaws, size 5 mm, length 24 cm	1
	Scissors Insert, for scissors, double action jaws, serrated jaws, spoon-shaped, size 5 mm, length 36 cm.	1
	Forceps Insert, Claw Forceps, 2 x 3 teeth, single action jaws, size 10 mm, length 36 cm	1
	Insulated Metal Outer Tube, with LUER-Lock connector, size 5 mm, length 36 cm.	5
	Outer Tube, with LUER-Lock, connector, size 10 mm, length 36 cm	1
	Plastic Handle, without ratchet, with larger contact area at the finger ring, with connector pin for unipolar coagulation	4
	Plastic Handle, with hemostat style ratchet, with larger contact area at the finger ring, with connector pin for unipolar coagulation	1
	Metal Handle, with hemostat style ratchet	1
	Clip Applicator, dismantling, rotating, with ratchet to lock the jaw part holding the clip, size 10 mm, length 36 cm, consisting of: 30444 H Metal Handle, with ratchet 30444 A Metal Outer Tube 30440 LR Insert, for use with Pilling-Weck Titanium-Clips 30460 AL (medium large)	1
	Pilling-Weck Titanium-Clips, medium-large, box with 16 sterile cartridges, 10 clips each, for use with applicators 30443 LR, 30444 LR and 26060 LR	1
	Injection Needle, LUER-lock, diameter 1.2 mm, size 5 mm, length 36 cm	1
	Coagulating and Dissecting Electrode, with channel, L-shaped size 5 mm, length 36 cm, for use with suction and irrigation handles	1
	Suction and Irrigation Tube, with lateral holes, a anti-reflex surface, with two-way stopcock for single-hand control, size 5 mm, length 36 cm	1
	Knot Tier, size 5 mm, length 36 cm, for extracorporeal knotting	1
	BERCI Fascial Closure Instrument, for subcutaneous ligation of trocar incisions, size 2.8 mm, length 17 cm	1
	Endo-Loop Ligature, with ROEDER knot, for bleeding stumps, with absorbable synthetic suture, for single use, sterile, USP 0, size 3 mm, length 33 cm, package of 12	1
	Needle Holder, with tungsten carbide insert, ergonomic pistol handle with disengageable ratchet, ratchet position left, jaws curved to left, size 5 mm, length 33 cm, for use with suture material size 0/0 to 7/0 and needle sizes BV, SH or CT-1	1
	Needle Holder, ergonomic pistol handle with disengageable ratchet, ratchet release on the right side, right curved jaws, with tungsten carbide insert # 5 mm, length 33 cm	1
	Unipolar High Frequency Cord, with 8 mm plug, length 300 cm, for use 400 300/400	1
	Laparoscopic spatula electrode	1
	Laparoscopic spatula hook	1
	Trocar conical tip	1
	Guide rod 5mm	1
	Trocar sleeve 5,5mm self retaining	1
	Atraumatic grasping forceps 5mm	1
	Mayland dissector 5mm	1
	Grasping and dissection forceps 5 mm	1
	Bowel graspers	2
	Stomach graspers	2
	Layhe forceps, 5mm and 10mm	2
	Dissection spatula for tissue coagulation	2
	Plastic Container, for sterilization and storage. With separated rack for storage of up to 12 instruments with diameter 2.5 to 10 mm and separated insert tray for up to 6 trocars. Perforated, with transparent lid. external dimensions (w x d x h): 532 x 254 x 165 mm	1
10	Pediatric Laparoscopic Instruments Set:	
	Straight Forward Telescope 0°, enlarged view, diameter 5 mm, length 24cm, autoclavable, fiberoptic light transmission incorporated, color code: green	3
	Straight Forward Telescope 30°, enlarged view, diameter 5 mm, length 24cm, autoclavable, fiberoptic light transmission incorporated, color code: green	3
	Plastic Container, for Sterilization	3
	Straight Forward Telescope 0°, enlarged view, diameter 5 mm, length 28cm, autoclavable, fiberoptic light transmission incorporated, color code: green	3
	Straight Forward Telescope 30°, enlarged view, diameter 5 mm, length 28cm, autoclavable, fiberoptic light transmission incorporated, color code: green	3
	VERESS Pneumoperitoneum Needle, with spring-loaded blunt inner cannula, LUER-Lock, autoclavable, diameter 2.1 mm, length 10 cm	
	Trocar, size 3.5 mm	9
	Trocar, size 6 mm	9
	Grasping Forceps, rotating, dismantling, insulated, with connector pin for unipolar coagulation, with LUER-Lock irrigation connector for cleaning, double action jaws, atraumatic, fenestrated, size 3.5 mm, length 20 cm, consisting of: 33152 Plastic Handle, with style ratchet, with larger contact area 31100 Outer Sheath 31110 A Forceps Insert	6
	Grasping Forceps, rotating, dismantling, insulated, with connector pin for unipolar coagulation, with LUER-Lock irrigation connector for cleaning, double action jaws, atraumatic, fenestrated, size 3.5 mm, length 28 cm, consisting of: 33152 Plastic Handle, with style ratchet, with larger contact area 31100 Outer Sheath 31110 A Forceps Insert	6
	Bowel Grasper, rotating, dismantling, insulated, with connector pin for unipolar coagulation, with LUER-Lock irrigation connector for cleaning, double action jaws, size 3.5 mm, length 20 cm, with non tooth	4
	Bowel Grasper, rotating, dismantling, insulated, with connector pin for unipolar coagulation, with LUER-Lock irrigation connector for cleaning, double action jaws, size 2.5 mm, length 20 cm, with tooth	4
	Dissecting and Grasping Forceps, rotating, dismantling, insulated, with connector pin for unipolar coagulation, with LUER-Lock irrigation connector for cleaning, double action jaws, size 3.5 mm, length 20 cm	4
	Dissecting and Grasping Forceps, rotating, dismantling, insulated, with connector pin for unipolar coagulation, with LUER-Lock irrigation connector for cleaning, double action jaws, size 3.5 mm, length 28 cm	4
	Micro Hook Scissors, rotating, dismantling, insulated, with connector pin for unipolar coagulation, with LUER-Lock irrigation connector for cleaning, single action jaws, size 3.5 mm, length 20 cm	4
	Micro Hook Scissors, rotating, dismantling, insulated, with connector pin for unipolar coagulation, with LUER-Lock irrigation connector for cleaning, single action jaws, size 3.5 mm, length 28 cm	4
	Grasping Forceps, rotating, dismantling, insulated, with connector pin for unipolar coagulation, with LUER-Lock irrigation connector for cleaning, single action jaws, fenestrated, with especially fine atraumatic serration, size 3.5 mm, length 20 cm	4
	Grasping Forceps, rotating, dismantling, insulated, with connector pin for unipolar coagulation, with LUER-Lock irrigation connector for cleaning, single action jaws, fenestrated, with especially fine atraumatic serration, size 3.5 mm, length 28 cm	4
	Scissors, rotating, dismantling, insulated, with connector pin for unipolar coagulation, with LUER-Lock irrigation connector for cleaning, double action jaws, serrated, curved, conical, size 3.5 mm, length 20 cm	4
	Scissors, rotating, dismantling, insulated, with connector pin for unipolar coagulation, with LUER-Lock irrigation connector for cleaning, double action jaws, serrated, curved, conical, size 3.5 mm, length 28 cm	4
	Dissecting Electrode, L-shaped, size 3 mm, length 20 cm	4
	Dissecting Electrode, L-shaped, size 3 mm, length 28cm	4
	Palpation Probe, with cm-marking, size 3.5 mm, length 20 cm	4
	Palpation Probe, with cm-marking, size 3.5 mm, length 28 cm	4
	Ultramicro Needle Holder, straight handle with ratchet, length 20 cm	4
	Needle Holder, straight handle with ratchet, length 28 cm	4
	Needle Holder, with tungsten carbide insert, straight handle with disengageable ratchet, jaws curved to left, size 3 mm, length 20 cm	4
	Needle Holder, with tungsten carbide insert, straight handle with disengageable ratchet, jaws curved to left, size 3 mm, length 28 cm	4
	Suction and Irrigation Tube, size 3 mm, length 20 cm	4
	Suction and Irrigation Tube, size 3 mm, length 28 cm	4
	Two-way stopcock, for suction and irrigation, for use with cannulas 26167 LH/LHS/HLL	4
	connector pin for bipolar coagulation, curved blades, double action jaws, size 3.5 mm, length 20 cm	2
	connector pin for bipolar coagulation, curved blades, double action jaws, size 3.5 mm, length 28 cm	2
	Grasping Forceps, connector pin for bipolar coagulation, with especially fine atraumatic serration, fenestrated, double action jaws, size 3.5 mm, length 20 cm	2
	Grasping Forceps, connector pin for bipolar coagulation, with especially fine atraumatic serration, fenestrated, double action jaws, size 3.5 mm, length 28 cm	2
	Unipolar High Frequency Cord, with 8 mm plug, length 300 cm, for use with II 400 SCB series (I12, I16)300/400	2
	Bipolar High Frequency Cord, length 300 cm, pin distance on the unit side 28.58 mm	2
	Plastic Container, for sterilization and storage. With separated rack for storage of up to 12 instruments with diameter 2,5 to 10 mm and separated insert tray for up to 6 trocars. Perforated, with transparent lid. external dimensions (w x d x h): 532 x 254 x 165 mm	2
	SUPPLEMENTARY SET FOR PYLORIC STENOSIS	
	ALAIN-GROUSSEAU Pylorotome, distendable, size 3 mm, length 20 cm	1
	Pyloric Knife, with LUER-Lock connector for cleaning, size 3 mm, length 10 cm, consisting of: 26167 KS Handle, with outer sheath 26167 KRS Knife Insert, for reusable, unsterile, package of 10	2
	Percutaneous Pyloric Spreader, rotating, dismantling, without connector pin for unipolar coagulation, with LUER-Lock irrigation connector for cleaning, double action jaws, size 3.5 mm, length 20 cm, consisting of: 33161 Metal Handle, without ratchet, with larger contact area 31100 M Metal Outer Sheath 31110 PS Forceps Insert	2
	Pyloric Grasper, rotating, without connector pin for unipolar coagulation, with irrigation connector for cleaning, for percutaneous use, double action jaws, size 3 mm, length 20 cm, consisting of: 33161 Metal Handle, without ratchet, with larger contact area 30310 PS Outer Sheath, with working insert	2
	Clip applicator 20cm	4
	Clip applicator 28cm	4
	Hook 20cm	10

Hook 28cm		10
Three of color clips (yellow/green/blue)		3
Trocars 3		6
Trocars 5		6
Trocars 10		4
11 BronchoscopySet(Adult)		
StraightForwardTelescope07,diameter5.5mm,length50cm,autoclavable,fiberopticalighttransmissionincorporated		
ForwardObliqueTelescope20,diameter5.5mm,length50cm,autoclavable,Fiberopticalighttransmissionincorporated.Colorcode:red		
UniversalBronchoscope,size8.5,outerdiameter11.2mm,innerdiameter10.5mm,length43cm,consistingof:10318UniversalBronchoscope10318FiberOpticLightCarrier		
UniversalBronchoscope,size7.5,outerdiameter10.2mm,innerdiameter9.5mm,length43cm,consistingof:10318CUniversalBronchoscope10318FiberOpticLightCarrier		
UniversalBronchoscope,size6.5,outerdiameter9.2mm,innerdiameter8.5mm,length43cm,consistingof:10318DUniversalBronchoscope10318FiberOpticLightCarrier		
Adaptor,withslidingglasswindowplug,sealingcap,notchedlensandkeyholeopening		
12 Ligasure System:		2
LigaSure Device		
- Generator specialized in vessel sealing with Ligature technology		
- Compact & light weight		
- Used for open and laparoscopic procedures		
- Seals vessels up to and including 7mm, lymphatic, pulmonary vasculature and tissue bundles		
- Seal will withstand 3x the normal systolic blood pressure		
- Automatic instrument recognition by Radio Frequency Identification (RFID)		
- No setting required; device must automatically adjust for optimum power output according to connected instrument		
- Sealing time to be 2 to 4 seconds on average		
- Minimal thermal spread to surrounding tissues, resulting in less damage		
- Tissue Fect Plus sensing technology of 3,20,000 times per second to apply the appropriate energy to the targeted tissue		
- Easy software upgrade		
- Tone signal to alert the surgeon when seal is completed		
- Supports wide range of Ligature instruments for open surgery application and laparoscopic surgery		
- Instruments must have built-in knife for cutting after sealing, without change of instrument		
- Instruments must be operated both by hand switch and footswitch		
Footswitch		1
- Footswitch water proof		
- Cord length at least 4 meters.		
- For activation of vessel sealing function		
Mounting Cart (Trolley)		1
- Rust resistant		
- Conductive casters (2 locking, 2 non-locking)		
- Supplied with cord management kit		
Hemorrhoid & Thyroid Instrument		2
- Hand or foot activation		
- Integrated cutting mechanism		
- Sealer / divider		
- 16.5 mm seal length		
- 14.7 mm cut length		
- Curved jaw (28 degrees)		
General Surgery Instrument		2
- Hand or foot activation		
- Integrated cutting mechanism		
- Sealer / divider		
- Easily rotatable		
- 18 cm shaft length		
- Curved jaw		
Laparoscopic Instrument (Blunt Tip)		1
- Hand or foot activation		
- Integrated cutting mechanism		
- Sealer / divider		
- 5mm diameter		
- 37 cm shaft length		
- 20 cm shaft length		
- 28 cm shaft length		
- Easily rotatable		
- Blunt jaw		
- Atraumatic grasping and blunt dissection		
- Non-stick nano coating on the jaws		
- Maryland 2 size (adult -pediatric)		
Laparoscopic Instrument (Maryland)		2
- Hand or foot activation		
- Integrated cutting mechanism		
- Sealer / divider		
- 5mm diameter		
- 37 cm shaft length		
- 20 cm shaft length		
- 28 cm shaft length		
- Easily rotatable		
- Maryland jaw		
- Atraumatic grasping and blunt dissection		
- Non-stick nano coating on the jaws		
- Pelvic SE works retractors		
- Jolls for thyroid and Hernia		
Ligasure handles		
- Small jaw 2 (straight -curved)		2
- Large jaw 2 (straight -curved)		2
- Curved large 2 size		2
- Blunt tip Laparoscopic 2		2
- Strad		2

2. ENDOSCOPYTOWER:

No.	Specification	Technical data	Qty.	Fill Your Specifications
1	Monitor		1	
	Screen diagonal	At least 27		
	Contrast ratio	5000:01:00		
	Resolution and aspect ratio	3840x2160 pixels or more		
	brightness	500cd/m²		
	Angle of view	178 VH		
	Video input	2x DVI, 1x 3G-SDI, 1x VGA, 1x S-Video, 1x Composite		
	Video out put	1x DVI, 1x 3G-SDI, 1x Composite, including: 1x External 24 VDC - Power Supply 1x Mains Cord 1x Cable Cover 4x Mounting Screws M4		
	Power supply	Internal.		
	Power supply /frequency	100-240 VAC, 50/60Hz		
2	Video processor:			
	HD with the magni view optical zoom endoscopes, facilitates endoscopic diagnostics and therapies.			
	Automatically select and saves the cleanest image			
	Digital output			
	2xDVI:1280x1024px@1920x1080px			
	1xRGBTV(PAL, RGB-SYNC), 1xS-VIDEO(Y/C), 1xVIDEO(Composite)			
	Analog output			
	2xRemote, 2xPeripheral, 1xKeyboard, 1xCARDreader, 1xAux, 1xDigital printer, 1xFootswitch, 1xEthernet(100/10Base)			
	Control terminal			
	Colour adjustment	Brightness, Red, Green, Blue, R-Hue, Chroma, 9steps		
	Contrast	3steps		
	Image storage	USB Flash Drive		
3	Lightsource			
	Lamp	300W LED lamp.		
	Light control	Automatic light control		
	Lamp cooling	Air cooling		
	Life Time for LED	60,000 H		
4	Gastroscope:			
	Achieve successful therapeutic intervention with the, which offers a working channel			
	of 2.8 mm or 3.8 mm, an exterior diameter of 9.3 mm -10.8 mm and a water jet function to keep the area being working length 1100mm depth of field 2-100 mm total length 1400mm.			
	treated clean of mucus and debris			
	Gastroscope consisting of 1x Irrigation Tube 1x Y-Irrigation Tube 1x Pressure Compensation Cap, ETO cap 1x Leakage Tester 1x Sealing Cap, for working channel, package of 10 1x Cleaning Valve 1x Suction Valve 1x Air/Water Valve 1x Valve Brush 1x Bite Protector 1x Biopsy Forceps 3x Cleaning Brushes, diameter 5 mm 1x Protective Film 1x Case			

	Field of view	140°	
	Observation range	2 - 100 mm	
	deflection capability	Up 210°/Down 90 Right 100°/Left 100° or Up 210°/Down 100 Right 120°/Left 120° or Up 210°/Down 120 Right 120°/Left 120°	
5	Colonoscope:		
	Field of view 140°	140°	
	Observation range	2 - 100 mm	
	Bending capability	Up 180°/Down 180. Right 160°/Left 160°	
	Distal end diameter	12.8 mm	
	Flexible portion diameter	12.8 mm	
	Working channel diameter	3.8 mm	
	Working length	1,330/1,520/1,600/1,690mm	
	Total length	1,630/1,820/1,990mm	
6	Doufenoscope:		
	Field of view	100° -140°	
	Observation range	2 -100 mm	
	Bending capability	Up 130°/Down 90. Right 110°/Left 90° or Up 120°/Down 90. Right 110°/Left 90°	
	Distal end diameter	12.8 mm -or more.	
	Tube diameter	11.5mm	
	Flexible portion diameter	12.8 mm	
	Working channel diameter	4.2 mm	
	Working length	1250/1260 mm	
	Total length	1,500/1,550/1,600mm	
7	Sigmoidoscope:		
	Sigmoidoscope with an effective length of 790 mm. The working channel diameter is 3.8 mm, and it is equipped with a water jet function.		
	Field of view	140°	
	Observation range 3 -10 mm	3 -10 mm	
	Bending capability	Up 180°/Down 180. Right 160°/Left 160°	
	Distal end diameter	12.8 mm	
	Flexible portion diameter	12.8 mm	
	Working channel diameter	3.8 mm	
	Working length	790 mm	
	Total length	1,090 mm	
8	Bonchoscope:		
	provide with high quality images to enhance your diagnostic capability and improve operability in all areas of bronchial care.		
	Field of view	120°	
	Observation range	2 -100 mm	
	Bending capability	Up 180°/Down 130°	
	Distal end diameter	5.8 mm	
	Flexible portion diameter	5.9 mm	
	Working channel diameter	2.8 mm	
	Working length	600 mm	
	Total length	870 mm	
9	Diathermy:		
	It shall operate on AC power supply in the operating theatre.		
	Provides all functions with improved properties for diverse applications		
	18 unipolar and bipolar cutting modes such as for example bipolar resection		
	25 unipolar and bipolar coagulation modes such as and the Bivascularsafemode		
	System Configurations:		
	Diathermy Machine (Electrosurgical unit) 400w with complete accessories.		
	Diathermy can be used in practically all surgical disciplines:		
	Neurosurgery "laparoscopy" Gynecology "urology " spine surgery		
	Technical Specifications:		
	Solid-state/microprocessor-controlled frequency generator.		
	Monopolar and bipolar outputs, electrically isolated from ground.		
	high resolution color touch display.		
	Monopolar modes include pure cut, blend, and coagulate (soft, contact and spray).		
	Bipolar mode includes coagulate and cut mode.		
	Generator creates automatic program configuration		
	Maximum unipolar and bipolar power 400w		
	Bipolar resection in saline.		
	Hand switch mode when button-activated probes are connected.		
	Foot switch that can operate in monopolar and bipolar modes.		
	Yellow buttons/pedals for cut and blue buttons/pedals for coagulate.		
	Grounding pad/return electrode monitored for patient connection.		
	Front panel allows mode selection, power settings and on/off.		
	Display shows output power, system errors and electrode failure.		
	Automatic shut off/generator deactivation on grounding pad/return electrode connection failure.		
	Audible and visual indicators of activation and alarms.		
	Self-test mode.		
	Protection against defibrillator discharges.		
	The unit shall come with trolley well designed to fit the generator with drawers for keeping the accessories		
	Accessories, Spare Parts and Consumables		
	All standard accessories/consumables/parts required for the proper operation of the above item shall be included in the offer		
	1 x Foot switch, two pedals, yellow and blue, with connecting cable.		
	2 x Grounding pad/return electrodes, reusable, with 3m connecting cable (adult & child).		
	2 x Monopolar electrode handle, reusable, foot switch controlled, with connecting cable.		
	2 x Monopolar electrode handle, reusable, finger switch controlled, with connecting cable.		
	1 x Set different monopolar reusable electrodes (needle, knife, ball, and wire loop).		
	2 x Bipolar forceps, reusable, foot switch controlled, with connecting cable (short, straight, tip-angled).		
	2 x Bipolar forceps, reusable, foot switch controlled, with connecting cable (long, straight, tip-angled).		
10	Irrigation:		
	Fluid Management System.		
	Interdisciplinary single roller pump for irrigation or suction with TFT (Thin Film Transistor) touch screen.		
	Modular design can support basic functionalities across various fields of application.		
	Pump can be equipped with various software modules for multiple disciplines such as Lap, Hysteroscopy, Urology, Arthro and Spine.		
	Tubing set recognition, color coded tubing sets for clear identification One hand installation of cassette Cartridge locking lever.		
	HYS Irrigation pressure: 20 to 150 mmHg.		
	HYS Irrigation flow rate: 200 to 600 ml/min.		
	Urology Software License, for cystoscopy, resection, URS and PCNL.		
	Advanced Software license for extended functions of installed software.		
	Tubing Set, Irrigation, PC, sterile, for reusable use, package of 10.		
11	TROLLEY:		1
	Dimension cart (W x H x D)	At least 830 x 1474 x 730mm	
	Dimension shelf (W x H x D)	At least 630x25x510	
	wheels	Dual/lock break	
	drawers	4 or more	
	Monitor position	With 2arm	
	Should have premium electrics		
	Should have hold camera		
12	Accessories:		
	- Leak Tester		
	- Mouth Piece		
	- Water Tank		

3. Echo Ultrasound:

No.	Description of Function	Specification	Fill Your Specifications
4.1.1.	Colour Doppler Echocardiography System is required to study the anatomical abnormalities and blood flow in the heart and associated vessels.		
	Operational Requirements		
	Latest generation electronic phased array colour Doppler system with minimum 512 Electronic independent channels.		
	System must be DICOM ready and capable of being interfaced with HIS/RIS/PACS.		
	Must be upgradable to next generation system on site		
	Frequency compounding or better technology for better resolution and penetration		
	System Configuration		
	Colour Doppler System with all application packages, quad loop for serial studies with high frame rate review. Harmonic imaging capability in all modes. (Tissue, Contrast, Angio) Integrated Stress Echo Package, Digital Storage and Retrieval – 01no.		
	1-3 MHz adult cardiac probe electronic Phase array – 01ea.		
	1-11 MHz electronic Phase array probe for vascular application- cardiac – 01ea.		
	multi-plane TEE probe: 4-8 MHz adult as well as pediatric echo cardiology.		
	5-10 MHz electronic Phase array probe for pediatric cardiology		
	colour printer 0-1 No.		
	B/W video thermal printer 0-1 No.		

Technical Specifications	
Latest generation Electronic Phased array colour Doppler system with Minimum 512 Electronic independent channels.	
256 gray shades for sharp contrast resolution	
Multi-dimensional Beam former for generating two images simultaneously-one at low end of bandwidth and one at high end-then selectively retrieves and mixes the components together for finely textured 2-D or B mode image with superior contrast resolution	
Adult Cardiac and Vascular Probes to be supplied which must be latest generation wide band transducers without frequency selection for higher sensitivity of response over a broader frequency range of operation. All probes to be phased array.	
Probes for paediatric application and Trans oesophageal Echo for future requirement.	
Harmonic Imaging: System must have following modes in harmonic with separate setting for:	
Harmonic imaging capability in Adult Cardiac, Paediatric Cardiac and linear Probe.	
Gain control in two dimensions for additional level of flexibility to image quality control.	
Real time high frequency 2D for higher resolution and low frequency Doppler for higher sensitivity in all probes	
Frame rate must be 300 FPS or more.	
Steerable PW/CW in all Phased Array probes.	
High definition acoustic zoom for enlarging sections of 2D and colour flow images with more acoustic information for greater clarity and detail while maintaining an optimal frame rate.	
Modes - 4D, M-Mode, Steerable PW/CW Doppler, Colour Doppler, and High Definition colour flow with capability of automatically picking up colour flow as a function of focal depth	
Monitor must be 15" or more, high resolution colour monitor.	
Tilt and Swivel monitor must be able to view in all angles and all light conditions.	
Colour Flow Imaging for:	
Tissue Colorization (B-colour) for improved contrast resolution	
Application software for Adult, Paediatric, Foetal and Peripheral Vascular and Trans oesophageal applications. (All application packages must be built into the system).	
One loop memory -more than 120MB of memory.	
Various maps for pre and post processing.	
ECG triggers facility.	
User defined system and application pre-sets for multi-user department.	
Minimum 4.8 GB optical disc drive for image storage and retrieval. (standard with system)	
Dedicated integrated dynamic stress echo package for flexible user defined protocols with stacked sub loops facility and contrast stress protocol.	
Tissue movement colorization with quantification possibility for IHD/CAD patients.	
Three transducer ports will be preferred.	
Colour Map resolution up to 128 levels.	
Study Manager (>1.5 GB) for on-cart digital acquisition, review and editing of complete patient studies.	
Facility of Real time perfusion studies	
System Peripherals shall include:	
Accessories, spares and consumables	
Accessories:	
All standard accessories, consumables and parts required to operate the equipment, including all standard tools and cleaning and lubrication materials, to be included in the offer.	
Operating Environment	
The product offered shall be designed to be stored and to operate normally under Power Supply, Climate, Temperature, Humidity, etc. for Sudan.	
Power supply: 220-240 VAC, 50Hz fitted with appropriate plug. The power cable must be at least 3 metre in length.	
UPS of suitable rating conforming to international standards shall be supplied for minimum 30 min. backup for the entire system.	
Standards and Safety Requirements	
Must submit ISO13485:2003/AC:2007 for Medical Devices AND CE 09342 IEC Directives or USFDA approved product certificate	
The product shall comply to IEC 60601-2-37 ed1: Medical Electrical Equipment - Part 2-37: Particular Requirements for the Safety of Ultrasonic Medical Diagnostic and Monitoring Equipment.	
Type of protection against electric shocks - Class I	
Degree of protection against electric shocks for ultrasound probes Type "BF"	
For ECG electrodes Type "CF"	
User Training	
Must provide user training (including how to use and maintain the equipment).	
Warranty	
Comprehensive warranty for 2 years.	
Maintenance Service during Warranty Period	
During the warranty period supplier must ensure planned preventive maintenance (PPM) along with corrective/breakdown maintenance whenever required.	
Documentation	
User (Operating) manual in English	
Service (Technical / Maintenance) manual in English	
List of important spare parts and accessories with their part numbers and costing.	

4. **C-Arm Machine:**

No.	Specification	Fill Your Specifications
Description of Function		
Operational Requirements For continuous fluoroscopy, image storage and retrieval The system offered shall be a general fluoroscopy/radiology system. It should be a non-digital, non-DICOM compatible type.		
System Configuration		
X-ray C-Arm Mobile with complete accessories		
Technical Specifications		
X-Ray Generator		
Microprocessor based, high frequency inverter generator		
Generator Output: 5-6KW		
Continuous Fluoroscopic (manual / automatic)		
Tube voltage : 40KV ~120KV		
Tube current : 0.3 mA ~4 mA		
Pulse Fluoroscopic		
Tube voltage : 40KV ~120KV		
Tube current : 0.3 mA ~30 mA		
Radiography mode		
Radiography 40KV ~120KV		
Radiography tube current: 25 mAs ~100 mAs.		
Radiography mAs: 1.0 mAs ~180 mAs.		
X-Ray Tube		
Rotating anode type		
Single focal spot, shall not be more than 0.6 mm		
Nominal voltage: 40KV-120KV		
Tube current :0.3 Ma-4 mA		
Anode heat storage capacity not less than 300 KHU		
Inherent filtration should be at least 3 mm Al eq		
Collimator		
Operator controlled automatic collimation		
C-Arm		
Focus - I.L. Distance shall be at least 100 cm		
Depth shall be ~75cm		
Horizontal travel at least 200mm		
Vertical travel at least 450 mm		
Orbital movement shall be ~125°		
Swivel range shall be ~12°		
Rotation about horizontal axis shall be more than +/-180°		
Image Intensifier		
At least 23 cm input screen with direct coupling with camera		
Shall be at least 52 lp/cm		
Noise reduction, scattered light trap for high contrast dynamics		
CCD camera technology with ABC and AGC control		
TV Monitor		
2 units LCD monitor side by side for live and reference image		
Shall be at least 24inch with automatic brightness control		
Image rotation		
Shall be at least 625 scanning lines at 50 Hz		
Trolley for 2 display screens and with the alpha numeric keyboard included		
High resolution and anti glare		
Imaging Modes		
Fluoroscopy mode shall have the following facilities:		
Continuous fluoroscopy with last image hold		
Last image hold with at least two frames image memory		
Continuous fluoroscopy with image acquisition rate: about 20 frame/second.		
Hard disk with image storage capacity of at least 30000 images		
RAM Memory of 256 images		
Mosaic display of 16 images		
Zoom (x 2)		
Measures: at least distances, angles		
Come with CD/DVD/RW drive		

Video printer for B/W thermal printing on paper, size 20 x 25 cm, resolutions about 300 dpi; The video printer can be placed on the monitor trolley	
Indicate here other features and software functions included in this offer	
System Configuration Accessories, spares and consumables	
Video printer for B/W thermal printing 01 no.	
Sterilizable textile cover and clips, for the X-ray tube and the Cassette holder for 24 x 30 cm	
Full protective shield (lead aprons /neck shield/lead eye glasses)	
All standard accessories/consumables/parts required for the proper operation of the above item shall be included in it	

5. Conventional X-ray

No.	Specification	Fill Your Specifications
	Description of Function	
	A general purpose X-ray machine for routine X-ray examinations at healthcare facilities.	
	Operational Requirements	
	It shall be suitable to be used for adult and pediatric patients in general Radiography examination.	
	System Configurations	
	X-ray Generator, 1 Unit	
	X-Ray tube & tube support system, 1 unit	
	Radiographic patient table, fixed height 1 unit	
	Floor mounted Bucky stand, 1 unit	
	Technical Specifications	
	It should be floor to floor mounted	
	X-ray Generator:	
	Microprocessor based, High frequency inverter generator, the generator shall have at least 50 kHz.	
	Generator Output: not less than 30 K w	
	Radiographic voltage: 40 KV to 140KV, in 1Kv step.	
	Radiographic current approx :10 to 350 mA	
	Exposure time: 0.001sec (1msec) -10sec	
	Anatomical Programmable Radiographic mode shall be available.	
	Manual & automatic exposure control and automatic brightness control shall be available.	
	Shall come with over load protection device.	
	Floor Mounted Tube Stand:	
	Longitudinal travel: approx. 1750mm.	
	Vertical travel: from 630 -1850mm or in the range.	
	Movement arrested by electromagnetic brakes.	
	Rotation of tube arm around vertical axis: 1800; lockable at 00 to +/- 900.	
	X-Ray Tube:	
	Maximum tube output shall match with the generator output of not less than 20 K w.	
	X-ray tube rotating: +/-90°.	
	Large focus not more than 1.2 mm.	
	Small focus not more than 0.6 mm.	
	Maximum tube voltage 140 KV.	
	Filtration: min 2.5mm Al equivalent.	
	Cooling method passive or forced air and /or oil cooling.	
	Anode rotating speed: More than 3000 rpm.	
	Anode heat capacity shall not be less than 200 KHU.	
	Collimator:	
	Manually adjustable.	
	Manually selectable filters.	
	Light localizer with timer controlled light.	
	Built-in light switch should be provided.	
	Turning angle should be min +/- 45 degree.	
	Light source: halogen lamp or better.	
	Radiography Patient Table:	
	Radiography table shall be fixed height, 4-way floating top type with foot switch control.	
	Come with grid and cassette tray, with grid ratio: approx 8:1 or more. Grid line number: 40 line/cm. Focus distance: 115cm.	
	Cassette size: accept all sizes from cassette 5" x 7" cm to 14" x 17" type.	
	Radiography table shall be fixed height of about 60cm.	
	Table top to film distance: approx. 6cm.	
	Table top transverse movement: approx. 114cm.	
	Table longitudinal movement: approx. 23cm	
	Table top dimension: approx. 2000 x 800 mm (L x W)	
	Table movement arrested by electromagnetic brakes.	
	Floor Mounted Bucky Stand:	
	Vertical travel: from 460-1700mm or in the range.	
	Moving Grid with Grid ratio approx 8:1 or more. Grid line number: 40 lines /cm.	
	Shall come with Automatic Exposure Control for vertical Bucky exposures.	
	Cassette size: accept all sizes from 5" x 7" to 14" x 17"	
	Movement arrested by electromagnetic brakes.	
	Control Console:	
	Digital Display.	
	Minimum 3 Point Exposure Technique.	
	Status display, error display.	
	Shall have area dose product determination and display.	
	Shall come with radiography remote control in control room.	
	Accessories, spares and consumables	
	All standard accessories, consumables and parts required to operate the equipment.	
	Power supply:	
	Power supply: 415 a 50V (3 Phase), 50Hz fitted with appropriate plug	
	Environmental factors	
	The unit shall be capable of being stored continuously in ambient temperature of 0 -55deg C and relative humidity of 15-95%	
	The unit shall be capable of operating in ambient temperature of 20-50 deg C and relative humidity of 80%	
	Standards & Safety Requirements	
	Should be CE or FDA approved product certificate.	
	Warranty	
	Comprehensive warranty for 2 years.	
	Documentation	
	User (Operating) manual in English Should provide 2 sets(hardcopy and soft-copy)	
	Service (Technical / Maintenance) manual in English Should provide 2 sets(hardcopy and soft-copy)	
	List of important spare parts, accessories and consumables with their part numbers and costing.	

6. Digital X-Ray Machine:

No.	Specification	Fill Your Specifications
	Complete family of floor-mounted digital radiography solution that organize the individuality of clinic imaging routine. Digital radiographic work place for recumbent, standing, or seated patient utilizes wireless flat detector.	
	Digital X-Ray Machine consist of:	
	- Floor-mounted tube stand with X-Ray tube and collimator:	
	- Adjusted manually with handles symmetrically mounted to the tube head.	
	- Horizontal travel range 125 cm or 231 cm.	
	- Vertical travel range 147 cm manual or motorized.	
	- At least 10 inch color touch screen user interface on the X-Ray tube of multi function.	
	- Display resolutions 1280x800 pixels.	
	- Colorimeter high power LED long life time approximately 10 years and low noise without external cooling system, rotated manually by, or -45 around center beam.	
	- Max exposure voltage for X-Ray tube 150 KV.	
	- Anode range 12°.	
	- Bucky wall stand:	
	- Floor-mounted Bucky wall stand with manual high adjustable tray for 14"x17".	
	- Suited for orthopedic diagnostic, thorax and general diagnostic, trauma and ER diagnostic.	
	- At least 55 KW Generator:	
	- High frequency X-Ray generator.	
	- Multi processor system for organ programs.	
	- Automatic exposure control.	
	- Table high fixed patient positioning with floating table top design:	
	- patient positioning table top width: 80 cm	
	table top height: 70 cm.	
	- patient positioning table top length: 213 cm or more	
	- patient weight 300 kg	
	- At least 23 inch color flat- screen display as the control display integrated image station.	
	- High-end pc imaging system.	
	- Keyboard and mouse.	
	- High performance image station, with image storage capacity of at least 10000 DICOM images:	
	- DICOM network interfaces are included in basic system	
	§ DICOM send/STC	
	§ DICOM print.	
	§ DICOM work list /mpps.	
	§ DICOM query/ retrieve.	

§ Image documentation and archiving.	
§ Image transfer to the network.	
§ Automatic, user configurable data distribution(DICOM send, see also DICOM system interfaces).	
§ Automatic filming with virtual film sheet (DICOM print, see also DICOM system interfaces).	
· Operation time up to 950 images(up to 7 hour during regular utilization	

7 fluorescent microscope

No.	Specification	Fill Your Specifications
	Instrument	
	Stable & study stand with well-contoured base .corrosion resistant paint anti-fungus treated	
	side top trinocular observation head inclined at 30 and 360 rotatable .diopter adjustment ring on ocular tube .interpupillary distance from 53 to 75mm.	
	wide field eyepiece 10 (PAIRED)FOV 22mm anti-fungal and with eye guards .	
	Reverse angle quadruple (4 -5 position)nosepiece revolves on ball bearing (tilted backwards).soft rubber knurled grip on nosepiece.	
	Plan achromatic objective	
	Plan fl fluorescent objective 4 /0.10	
	Plan fl fluorescent objective 10 /0.25	
	Plan fl fluorescent objective 40 /0.65	
	Plan fl fluorescent objective 100 /1.25	
	Double layer graduated mechanical rectangular stage with size 210mmx 140mm (better) cross travel 75 (X)x50 (Y)mm on ball bearing co-axial controls driving right and spring clip specimen holder on left .	
	Sub-stage ABBE condenser center able .NA0.9/1.25 with aspheric lens .	
	low position co-axial coarse and fine focusing control on ball bearing guide ways with pre-focusing lever & tension adjustment ring .	
	The Epi-illumination is through LED illumination the fluorescent light spectrum range 420 nm -650nm	
	One exciting light waves & blue light	
	Comprising of -Exciting filter (EX) comprising of -blue light (EX-490)	
	Color separation prism (DM) comprising of -blue light (BA 530)	
	Position of ordinary transmission light (Central)	
	Illumination box with LED lamp .power supply unit 220 volt orange coloured plastic screen to safeguard the operator from UV light .	
	Power supply IAC INUT 75V-265V 50/60 Hz	
	warranty 2 years	
	external training	

8 immune full automated

No.	Specification	Fill Your Specifications
	Fully automated and computerizes system	
	Standard micro plate wells	
	Max volume 2UL -1.95ml	
	For washing 8-needles automatic prime and rinse	
	User programmable protocol (aspirating, dispense, soak)	
	Absorbance reading in 4 simultaneous channel (NIST -traceable calibration ,monochromatic or dichromatic results	
	Tungsten -xenon lamp	
	8 position filter wheel : (340 -700nm)	
	Linear -0.2 to 3.0 A	
	Open system	
	External training	

9 Immunohistochemistry

No.	Specification	Fill Your Specifications
	Fully automated, Baking deparaffinization ,cell conditioning and staining ,including IHC . SISH immunofluorescence ,multiparameter IHC staining(dual ,triple)counter stain and titration	
	1-30 slides with independent processing /functionality and temperature control for each position	
	35 reagent positions	
	Up to 7 different bulk solution can be changed on the fly without process interruption	
	Power supply (100-230 v) (50 /60Hz)	
	Open system	
	External training	

10 Multthead microscope

No.	Specification	Fill Your Specifications
	Optical system :UIS2 /UIS	
	Illumination	
	Built-in Koehler illumination for transmitted light .light preset switch . Light intensity manager switch .high color reproductively 14 W LED light source .	
	10 position nosepiece and position nosepiece	
	Objectives :	
	Plan APO N 2X /108	
	UPlan FL 4X /0.13	
	UPlan FL N 10X 0.30	
	UPlan FL N 20X /0.40	
	UPlan FL N 40X /0.75	
	UPlan FL N 60 /0.90	
	UPlan FL N 100/1.25 *	
	9 Tiltng heads	
	20WHN 10X /22 Eyepieces (10 adjustable)	
	4 dual head bridges	
	2 Beam splitters	
	5 Bridge Stands	
	Pointer with power supply	
	Power supply (12 V 100W)	
	2 Line cords	
	Camera :	
	Absorber type : metallic	
	Aperture :0.46mm	
	Lens type : 20mm	
	Maximum aperture : f/2.8	
	Diaphragm : fully automatic	
	Attachment : 62 mm	
	Filter : 62 mm screw-in	
	Pixel size : 5.5 x5.5 um	
	Resolution : 4288 x2848 (pixel)	

11 Laser Therapy Machine

	Technical Specifications	Fill Your Specifications
1.1	Modes of operation: continuous and pulsed	
1.2	Large color touch screen display	
1.3	Two outputs for simultaneous connection of two laser applicators	
1.4	Body Parts navigation	
1.5	Preset protocols and therapeutic encyclopedia	
1.6	Automatic recalculation of therapy parameters	
1.7	Therapeutic Power: 5 –40 Watts	
1.8	Dosage : 0.1–100 J/cm ²	
1.9	Frequency: 0–10 000 Hz	
1.10	Therapy area 0.1–100 cm ²	
1.11	Duty factor: 35%–100%	
2	Accessories, spares and consumables	
2.1	Trolley	
2.2	All standard accessories, consumables and parts required to operate the equipment, including all standard tools and cleaning and lubrication materials, to be included in the offer. Bidders must specify the quantity of every item included in their offer (including items not specified above).	
3	Operating Environment	
3.1	Power supply: 220-240V/ 50 Hz AC Single phase.	
4	Standards and Safety Requirements	
4.1	ISO13485:2003/AC:2007 for Medical Devices	
4.2	CE (93/42 EEC Directives), TUV or USFDA approved product certificate.	
4.3	Shall meet IEC 60601-2-10 safety requirements - Part 2: Particular requirements for the safety of Nerve and Muscle Stimulators .	
5	Warranty	
5.1	Comprehensive warranty for 2 year.	
6	Documentation	
6.1	List of important spare parts and accessories with their part numbers and costing.	

12 Laser machine power 90

Technical Specifications	Fill Your Specifications
power output of 90 watts Holmium LASER.	
repetition rate of 5 – 40 Hz	
Energy per Pulse of 0.5 – 4.5 joules	
pulse duration of 50 – 1300 microseconds	
Green – aiming beam of 1.0 mw at 532 nm, variable intensity settings.	
closed loop self-contained water to air exchanger cooling system.	
Fiber 200 – 600 µm, reusable	
Ion Exchanger	
One-Pedal Footswitch	
laser radiation wavelength: 980 – 2100 nm	
power supply: 210-240, 10% - Ac 50/60 Hz	