

**HAFFKINE BIO PHARMACEUTICAL CORPORATION LIMITED****Procurement Cell****(A Government of Maharashtra Undertaking)****Regd. Office : Acharya Donde Marg, Parel, Mumbai 400 012 (INDIA)****Phone No: 022- 24129320-23****Managing Director :022-24150628****General Manager (Procurement Cell) :022-24100478****Website : http://www.vaccinehaffkine.com****E-mail: procurementcell@vaccinehaffkine.com****दि: ३१.०७.२०२४ प्रशासकीय मंजूर निधी (प्रतिनग)****१२,२२,००,०००/- (DMER २०२४-२५) (Qty.- ०१)****No.: 7971/Haffkine/Procurement Cell/ RT1 - 4923/
Advanced Cardiac Cath Lab System with Turnkey
+ECHO + FFR+Buyback/2024-25****Date: 22.08.2024****To,****M/s. Philips India Limited****DLF IT Park 01, Tower A, 3 Floor,****08 Major Arterial, New Town Rajarhat, Kolkata – 700156.****Contact No. 9773486974.****E-Mail: ketan.kulkarni@philips.com****Subject : Supply Order for Tender No. RT1 - 4923/Advanced Cardiac Cath Lab System with Turnkey+ ECHO+FFR+Buyback**

- Reference:**
1. Tender No. RT-1 4923/HBPCL/PC/Advanced Cardiac Cath Lab System with Turnkey+IABP+IVUS+OCT+ECHO +EPI+Anaesthesia Machine+ROTA+AC Plant+Peacemaker + FFR /2024-25.
 2. शासननिर्णय, क्रमांक - यंत्रख-२०२२/प्र.क्र.१२२/प्रशा-१, दि. २२.०८.२०२२
 3. सुधारीत प्रशासकीय मान्यता क्र.यंत्रख-२०२२/प्र.क्र.१२२/प्रशा-१, दि. ३०.०१.२०२४
 4. वैद्यकीय शिक्षण व औषधी द्रव्ये विभाग, मंत्रालय मुंबई यांचे पत्र क्र.यंत्रख-२०२४/प्र.क्र. ४२३/प्रशा-१, दि. ३१ जुलै २०२४
 5. Sanction of Tender Approval Committee Meeting No. 188, Date : 20.08.2024

With reference to the tender cited under reference no 1, you are requested to supply the following goods as per details mentioned below to consignee list enclosed with this order.

Sr. No.	Name of the item	Specification of item	Quantity / Unit (DMER)	Unit Rate inclusive of GST(Rs.)	Total Amount Rs.
1	Advanced Cardiac Cath Lab System with Turnkey +ECHO + FFR + Buyback Make & Model : Philips Azurion 7M12	As per Annexure X	01	12,22,00,000/-	12,22,00,000/-
Total amount in words: Rupees Twelve Crore Twenty Two Lakh Only.					
Factory Location: Netherland					

- 1 **Forwarding:** Forwarding Free on Road Destination. I.e. door delivery basis.
- 2 **Delivery Period:** 12 weeks from the date of receipt of order by the supplier to the consignee attached.
- 3 **Pre-Dispatch Inspection:** Supplier shall make necessary arrangement / facilitate to carry out Pre-Dispatch inspection as per Tender Terms & condition and submit the Inspection report to this office. The Pre-Dispatch inspection cost will be borne by supplier. Machine should be dispatched only after Satisfactory Pre-Dispatch Inspection

**RT1 - 4923/Advanced Cardiac Cath Lab System with Turnkey +
ECHO + FFR+ Buyback**

- 4 **Risk purchase clause:** If the bidder fails to supply the stores within the stipulated delivery period, the order will stand cancelled. Undersigned shall be entitled to purchase such stores from any other source at such price which ordinarily should not be more than 10% of the tender price. The extra expenditure in such cases shall be recovered by Managing Director, Haffkine Bio Pharmaceutical Corporation Ltd. (Procurement Cell), Mumbai from the Supplier.
- 5 **Payment Terms:** Payment of 80% of the contract value will made after delivery of the material at site & on receipt of acceptance certificate and 20% after successful installation and satisfactory commissioning and operation of the machinery.
- 6 **Acceptance & Receipt:** It should be submitted in Appropriate Format to the purchasing authority.
- 7 **Delivery Challan** - Should be sent in the name of consignee in duplicate. It should specify Name of Equipment / Mfg. by / packing & quantity.
- 8 **Invoice Copy** - Should be sent in triplicate on the Name of Managing Director, Haffkine Bio Pharmaceutical Corporation Ltd. (Procurement Cell), Mumbai. Along with Bill of Entry and Country of Origin Certificate of the consignment.
- 9 **Other Terms :**
- 1) Warranty: The warranty period shall be for 2 years from the date of commissioning of all equipment supplied as certified by the consignee. After completion of 2 years warranty period Manufacturer/Supplier should give commitment to ensure services and supply of spare part for further 8 years. The successful tenderer must ensure 95% uptime during warranty period. In case of downtime, warranty period will be extended for period of downtime. If the equipment is not attended within 24 hours for Mumbai and 48 hours for other places the supplier will be liable to pay a penalty of 0.07% of purchase cost for every day of delay. Such penalty will be recovered from the amount of security deposit. Certificate of such uptime / downtime issued by the end user will be binding for the supplier Replacement of spares parts thereof due to manufacturing defects during warranty period will be entirely at the supplier's cost.
- 2) The user institution will enter to the Comprehensive Maintenance Contract with supplier agency @ 5% of the order value (excluding taxes) of the equipment per year for 8 years after completion of warranty period. In case of non-compliance of CMC the supplier will be liable to pay penalty or for appropriate action. Payment of CMC on yearly basis will be made by the user's institution, at the end of the year after satisfactory performance report from the end user.
- 10 **Contract Agreement:** Bidder should submit Contract Agreement on non-judicial stamp paper of requisite value.

Fall Clause

It is a condition of the contract that all through the currency there of, the price at which you will the supply stores should not exceed the lowest price charged by you to any customer during the currency of the contract and that in the event of the prices going down below the rate contract prices you shall promptly furnish such information to us to enable to amend the contract rates for subsequent supplies.

11 **Consignee:** As per list enclosed


General Manager

**Haffkine Bio Pharmaceutical Corporation Ltd.,
(Procurement Cell), Mumbai.**

Copy to:

- 1) Commissioner Health Services, Mumbai.
- 2) Director, Medical Education & Research, Mumbai-400 001.
- 3) Account Manager, Haffkine Bio Pharmaceutical Corporation Ltd. (Procurement Cell),
Mumbai.
- 4) Office File.

Copy to Consignee: Dean, Sir J.J. Group Hospitals, Mumbai.: As per Tender Condition No.17 The user Institution should get the Comprehensive Maintenance Contract done with supplier agency @ 5% of the Order value (excluding taxes) of equipment per year for Eight years after Completion of warranty period.

Copy Submitted to: 1) Secretary, Medical Education & Drug Department, Mantralaya, Mumbai.

Annexure-X

Technical Specification for Advanced Cardiac Cath Lab System with Turnkey +ECHO + FFR+Buyback

1	Advanced Cathlab System with Turnkey
1	Description of the expected function:
	Dedicated flat panel detector single plane digital angiography system for interventional cardiovascular/Neuro/Peripheral procedures. The firm without any additional cost should supply any updates of quoted model if available in the market at the time of supply
2	Operational requirements with minimum specification:
a.	State-of-the-art, single plane floor/ceiling mounted C-arm/G-arm cardiovascular digital imaging system with high resolution flat panel detector technology for diagnostic procedures and interventional cardiovascular procedures e.g. coronary angioplasty, balloon valvuloplasty, vascular angiography, online DSA etc. with following capabilities:
b.	Should be capable of real time digital angiography (DSA) acquisition.
c.	Should be capable of road mapping with zoom, freeze frame & advanced facilities
d.	Should be capable of storing fluoroscopy/cine sequences on hard disk and GD/CD for review.
e.	Should be capable of head to toe of standard adult patient coverage without changing position patient. Should be able to cover at least 6 ft (180 cm) patient with fluoro and radiography range without repositioning the patient.
f.	Should be user-friendly for quick access and full control of all functionality with in the examination room. Single Touch Screen Control should be required.
g.	Should be capable of 100% UPS backup for the entire system for at least 30 minutes.
h.	The system should include all packages for cardiac applications including Cardiac acquisition, Real time stent visualization, DSA. Roadmap..etc
3	C-arm/G-arm multi-directional floor/ceiling mounted:
a.	The system should have floor/ceiling suspended gantry allowing the gantry to position in multiple essential positions of the patient with at least 50 standard user defined programmed angulations. All positions should be accessible with single touch button. Auto-positioning time should be 10 sec or less.
b.	All movements of the gantry should be controllable from table side
c.	The system should have in-built collision protection
d.	The Gantry should have motorized movement for at least LAO/RAO 117/105 degree and 45 degree CRAN/CAUD
e.	The gantry should have adjustable rotation speed of at least 25 degree/sec.
f.	ISO centre to floor distance for C arm should be at least 105 cm or more
4	Patient Table:
a.	The patient table should have motorized vertical movement with free floating longitudinal & horizontal movements covering at least 110 cm longitudinal and +/- 14 cm transverse travel.
b.	Table top should be made of radiolucent material (Carbon fiber or equivalent) having minimum table length 270 cm & width 45 cm with capacity to bear at least 200 kg weight + additional 50 kg for CPR

c.	Standard accessories for the table should be provided include mattress, head fixing aids, radiolucent carbon fiber catheterization and supports, drip Stand etc
d.	Arm board for radial access should be there
e.	Vertical shield for reduction of X-ray scatter should be there.
5	X-ray Generator:
a.	Should have 3-phase high frequency X-ray generation unit with at least 100 KW power with integrated overloading protection and pulsed fluoroscopy capability at variable pulse rates from 1 to 30 fps
b.	Should have minimum radiographic range 50-140 KVP and fluoroscopy range of 50-120 KVP
c.	Should have automatic exposure control for all modes of operation.
d.	Should be able to save pre-programmed techniques.
6	X-ray Tube:
a.	X-ray tube should be with high-speed rotating anode, fine focal spot (small & large) and high cooling rate to ensure uninterrupted operation. Should have grid switch/flat emitter technology.
b.	Latest generation tubes with fluoroscopic power of at least 3000 watts with noiseless operation to support long-term use. Pulsed fluoroscopy should be offered with pulse rate of at least 1-30 frames/sec.
c.	The x-ray tube should have anode heat storage capacity 5.0 MHU or more, with heat dissipation capacity of at least 2500W using advanced efficient cooling mechanism to run continuously for at least 8 hours without shutting off. Anode cooling rate should be at least 6000W
d.	Small focal spot not more than 0.5 mm and large focal spot not more than 0.8 mm with a load ability of at least 45 KW tube power.
7	Radiation Safety:
a.	System should meet all national & international safety standards & comply with BARC, AERB and CE and FDA guidelines.
b.	System should be capable of measuring and displaying radiation dose during the Patient examination. System should display live radiation dose at all times of operation.
c.	The system should have collimator blade positioning facility without radiation
d.	Necessary latest software & hardware package for improvement of image quality, noise reduction, image stabiliser in case of moving mass and automatic dose reduction and dose optimization with virtual collimation should be provided.
e.	Should have pixel flex technology like ClarityIQ / Care & Clear/ Optique for auto dose management and reduction, with image quality optimization
f.	System should have radiation free position feature as standard
8	Digital image acquisition chain:
a.	The flat detector should be with size 12" (diagonal) or more with a pixel size of not more than 184um. The smaller pixel size will be preferred. The flat detector should be 14 bit. At least three zoom steps to be provided. The DQE should be 70% or more.
b.	Digital system with acquisition and processing in 1024 X 1024 matrix with 30/15/7.5/3.75/3/2/1 fps in both fluoro and digital cine modes.
c.	Digital fluoro loop store/replay facility & Last image hold during fluoroscopy.

d.	Complete cardiovascular computation software package including clinically validated coronary, ventricular software packages (QCA, LVA), Algorithm / software for real time stent visualization, Stent visualization should be operated and post processing from table side/console side. An easy to operate rapid calculation software for offline coronary quantification should be available. Latest application for stent enhancement in relation to vessel Lumen.
e.	The full system as per specification mentioned in the tender should have a table side control operations.
f.	The system should have on-line DSA capabilities in 1024 X 1024 matrix with wide ranges of acquisition frame rates. Angle and distance measurement facility should be available. All advanced 2D road mapping with independent windowing of roadmap and device should be possible for better image viewing. It should be possible to view guide wire and device only without any additional contrast injection.
g.	System should have max opacity and min opacity facility for iodine and CO ₂ contrast.
h.	Subsequent PACS connectivity should be possible without any additional hardware /software requirement. Auto image transfer facility to PACS should be possible in background mode.
i.	The complete digital system should be networked and connected to a DICOM.
j.	Image processing system with Series exposures with frame rates of 30/15/7.5/3.75/3/1 fps and pulsed fluoroscopy as standard.
k.	DICOM facility for patient data acquisition, documentation and archiving. Hard disc storage capacity of at least 1,00,000 uncompressed images of 1024 X 1024 matrix
l.	Post-processing software facilities with real-time edge enhancement, positive/negative image display windowing, electronic shuttering, roaming, image reversal, magnifying with text and annotation.
m.	Latest stent enhancement features including Stentview Live, clear stent live ,Stent boost live or equivalent should be provided. These features should be easily operable from the table side.
n.	System should have real-time noise reduction, image and edge enhancement, motion compensation and realtime pixel shift for better image quality.
o.	System should have specific applications to support and guide valve implantation or replacement procedures like TAVI/TAVR. TAVI guidance software with conical beam CT, fusion functionality for integration of pre interventional 3D datasets also from other modalities into the angio room should be available. MRI and CT fusion package should be provided as standard.
p.	3D road mapping should be available. It should be possible to have TAVI guidance based on this rotation angiographic data for TAVI procedures with land mark marking.
q.	Dedicated 3D workstation to be provided for 3D image processing for efficient workflow with a display in control room and in exam room large display
9	Monitors / Display:

a.	Examination room: One 55" or more monitor for live, reference, road map images, Physiology display of the patient. It must be mounted together on a ceiling rail suspension to allow free positioning at any location with weight balanced height adjustment technology.
b.	Control room: Two or more (Preferably Five) LCD/TFT monitors of 19" along with patient reporting workstation for data & image viewing. These monitors should have the facility for all review post processing and quantification of coronary and ventricular function for training and teaching. There should be facility of instant parallel working with separate workstation.
c.	TFT/LCD Monitor of Medical Grade for images of Cath Lab Radiography system and Hemodynamic Recording
d.	Real time co-registration between angiography & IVUS /OCT is required.
10	Digital Archiving:
a.	System should have facility to record images on CD/DVD in DICOM format.
b.	CDs to have DICOM software embedded for instant review in any PC.
c.	Ability to record DSA runs in CD.
d.	Ability to generate a single DVD incorporating multiple patient studies capable of review in any PC is desirable.
11	CATHLAB Hemodynamic recorder System (Qty 1) :
a.	Advanced hemodynamic recorder having Modular design for non-invasive invasive measurements & features suitable for paediatric & adult patients.
b.	Simultaneously 12 lead ECG acquisition with resting ECG reference, Spo2, NIBP, 4 invasive pressure. cardiac output measurement feature should be offered.
c.	Two monitor in console , one for patient registration and one for monitoring
d.	It should have the capability to display real time waveforms along with related numerical parameters on a single screen. It should have FFR/DFR license as standard
e.	Monitors must be able to monitor ECG (5/12 lead display), SpO2, NIBP, Respiration Dual IBP and temp.
f.	Hemodynamic recorder to be supplied with following:
	1. 5 Lead ECG electrode cable- 01 No.
	2. Spo2 Cable - 1
	3. Spo2 sensor adult - 1
	4. NIBP cuffs for Adult & Paediatrics - 01 No
	5. Temp Probe - 01 No (Skin and rectal).
	6. IBP cables – 2 nos
	7. IBP Transducer – 2 nos
	8. Thermal Printer – 1 no
12	UPS :
a.	Suitable online UPS with at least 30 min. battery backup for complete Cath Lab including cine and fluoroscopy during power interruption. Room emergency
b.	System Configuration, Essential Accessories, Spares, Consumables and Services for the Cath lab:

c.	12 channel ECG machine - 1 nos, with notified international safety certification
d.	Biphasic Defibrillator - 1 nos, with notified international safety certification
e.	Syringe Pump - 5 nos.
f.	BIPAP Machine- 2 Nos.
g.	Footswitch for fluoroscopy and acquisition to be provided.
h.	Lead Glass: 100 x 120 cm or bigger with lead equivalent as prescribed by ICRP or BARC/ARB recommendations to be fixed between the console room and gantry room for radiation protection.
i.	Radiation Protection aprons as given in specification - Minimum 10 Nos. (all skirt type) – The should be zero lead and light weight apron, should meet IEC 61331 -1 (both 80 kv &100 kv) world standards.
j.	Thyroid Guard – Complying above norms, as in 'm'
k.	Stand with Hanger - 3 nos.
l.	Ceiling-suspended operation lamp, cool LED type-1 no. Focused ceiling-mounted light with a handle for positioning the light. This handle should be removable.
m.	State-of-the-art single head high Pressure (minimum 800 PSI) Injector compatible with the machine - One (along with 200 disposable, 150 ml syringes).
n.	Table mounted radiation protection - 1 no. (As per international radiation protection system).
o.	Laser Network Printer with high resolution - 2nos. (1 nos. colour &1 nos. Black &white)
p.	One ALL-IN-ONE desktop computer (windows 10) for reporting purpose
q.	Bedside table - 2 nos.
r.	DVD- 500 Nos.
13	Standards, Safety and Training:
a.	Main Cath lab should be CE, USFDA and AERB approved product.
b.	Electrical safety conforms to standards for electrical safety IEC-60601-General Requirements.
c.	Manufacturer should have ISO certification for quality standards.
d.	Shall comply with AERB and BARC guidelines.
e.	Latest zero-lag (real-time) stent enhancement should be provided. These features should be operable from the table side.
f.	There should be grid switch or flat emitter technology in X-ray tube.

g.	Low dose with best imaging software's including different dose reduction packages, automatic/manual with filter algorithm, Machine learning, comprehensive dose reduction package should be standard and not optional
h.	System should have 24X7 remote monitoring with dedicated IP for preventing breakdowns and advance intimation on any part failure
14	Specifications for Turnkey Work
a.	Site preparation including Civil, Electrical, Furniture, Networking, Fire System,HVAC etc. work for @ 1100sqft area as per Cath lab site layout.Required for successful installation, commissioning,Operations of Cath lab machine
b	Detailed BOQ scope of work mentioned below ,Turn keywork should be further planned by participating company after viewing the actual site.
c.	Vendor should mention Electrical power required for Machine, Lighting, Air conditioning it will be provided at One place by us in Cath lab UPS/Electrical room by us.
d.	Required statutory approval from AERB procurement permission, License will be obtained by us Vendor should provide guidance for same.

Item no.	Item Description	Unit	Quantity
A	DEMOLITION & SITE PREPARATION		
A1	Removal of existing floor and skirting tile with bedding material to reach the bare slab, cleaning the space, shifting and stacking debris at specified location and disposed off.	Sqm	61.50
A2	Removal of existing dado tile with bedding material to reach the wall surface, at any level, location, height ect. including all type of scaffolding and staging, cleaning the space, shifting and stacking debris at specified location and disposed off.	Sqm	92.50
A3	Removal of existing false ceiling at any level, location, height ect. including all type of scaffolding and staging, cleaning the space, shifting and stacking debris at specified location and disposed off.	Sqm	170.00
A4	Removal doors with frames	Nos.	2.00
A5	Removal of Ductable AC, high wall split AC, Central Air cooler & diffusor, dampers, ducts, Cu piping, Wiater piping, Electrical & communication cables..etc	Job	1.00
A6	Remvoal of bath fitting, WC, basin and shut down all the plumbing &sewar lines within premises.	Job	1.00
A7	Removal of other services such like existing fire sprinklers, smoke detectors ...etc.	Job	1.00
A8	Dismantaling of existing platforms along with carpentry & plumbing connection.	Job	1.00
A9	Disconnecting of existing electrical, wiring, fitting & fixtures and same has to be handed over to hospital maintenance.	Job	1.00
A10	Disposable of debris at outside the hospital premises.	LS	1.00
B	CIVIL WORK		
B1	Providing and constructing Brick Masonry in cement mortar 1:6 (1 cement 6 Coarse sand), including RCC patti beam of 100mm thick at every 1.2m c/c in the cement concrete mix M15 and including racking out joints, curing, independent legged scaffolding, all complete as per specification ect complete.		
	For 6" Brick work	Sqm	8.00

B2	Providing and applying 12mm thick Cement Plaster single coat with rough finish in cement mortar in ratio 1:5 to the internal surfaces of concrete masonry work including kamps, sills, grooves, pattas, wattas rounding of corners ect all complete as per specifications and including racking out joints, hacking concrete, providing and fixing chicken mesh to junctions of concrete and brickwork, at any level, location, height ect. including all type of scaffolding and staging, cleaning of debris, stacking at specified location and disposed off all complete.	Sqm	120.50
B3	Providing and applying Plaster of Paris punning of 15 to 18 mm thickness over plastered surface to prepare the surface even and smooth, complete.	Sqm	100.00
B4	Providing and applying two coats of Interior Synthetic Enamel paint of approved colour and make conforming to IS-428 to ceiling, internal wall, beams and columns over a coat of primer after scrapping and rubbing the plastered surface with sand paper and finished smooth, with proper putty work including cleaning the dirt & other impurities etc, and as directed by Engineer-in-charge.	Sqm	100.00
B5	Providing and fixing 800 x 800 mm standard Vitrified Tiles, 10mm thick of approved shade on the bed of 1:4 cement mortar including filling up the tile joints in white cement with matching coloured pigment, curing and cleaning the space ect complete. Make - Kajaria OR equivalent	Sqm	25.00
B6	Providing and fixing Dado up 10ft height in 600 x 300 double charged glazed ceramic tiles of approved shade including filling the tile joints in white cement with matching coloured pigment, curing and cleaning the space ect completed. Make - Kajaria OR equivalent	Sqm	92.50
B7	Providing and laying Indian Patent Stone (IPS) cement concrete flooring upto 75mm thick with 1:2:4 cement concrete laid to proper level and slope including compactions, filling joints or as directed etc. finishing smooth with cement mortar 1:1 of sufficient minimum thickness to give a smooth & even surface and curing etc. complete	Sqm	40.00
B8	Providing and laying cementitious self levelling compound for Vinyl flooring over Kota/ IPS / Vetrified Tile as per Vinyl flooring suppliers specifications.	Sqm	40.00
B9	Providing and fixing 5mm thick Roll formed vinyl antistatic flooring of Tusker or Armstrong or approved make laid as per manufacturers specifications and directions. All guarantees and warranties' documents provided by the manufacturer to be taken on clients' name and shall be passed on to the client after completion of works, during final handover.	Sqm	40.00
B10	Providing and fixing Ceiling Grid Structure for installation of the suspended monitor trolley as per the design and drawing submitted.	Job	1.00
B11	Providing and fixing Gypsum False Ceiling with heavy gauge GI Framing as per India Gypsum specifications & using approved 12mm thick gypsum sheets in proper line and levelling. The cost to include that for all necessary hardware, jointing tape & compound, etc. The cost to include that for making cutouts, openiings, etc for light fittings, AC grills, etc.	Sqm	92.50
B12	Providing and fixing 'ARMSTRONG' or equal acoustical tiled approved dropped ceiling materials of size 595 x 595 mm in true horizontal level, with perforations in approved shade including recommended suspension system with 4 mm dia. GI metal suspender @ 1800 c/c max. fixed to ceiling with all trims, angles, recessed edge profile (20 x 20 mm) screwed to panel and making opening for light fittings A.C. diffusers etc. wherever required all complete as / manufacturer's printed instructions and as shown in drawing, specified and directed.	Sqm	110.00
B13	Providing and fixing Modular Stainless Steel tiled false ceiling of size 600 x 600 mm in true horizontal level, non perforated including recommended suspension system fixed to ceiling and making opening for light fittings A.C. diffusers etc. wherever required all complete as / manufacturer's printed instructions and as shown in drawing, specified and directed.	Sqm	40.00
B14	MS Cable Trey: Providing ceiling mounted ladder type tray in technical room of size 300 x 100mm, including Al Strip / treaded rods to hold the tray from ceiling & fixed with SS screws	Mtr.	20.00

B15	Providing wood work in frames of doors, windows, clear storey window and other framed, wrought framed and fixed in position in hollock wood etc. complete. Fane Size - 5" x 2.5", inclusive of polish etc. complete.	Cum	0.10
B16	Providing 40 mm x 3mm flat iron hold fast 40 cm long including fixing to frame with 10 mm dia bolts, nuts and wooden plug and embedding in cement concrete block 30 cm x 10 cm x 15 cm 1:3:6 (1 cement : 3 coarse sand: 6 graded stone aggregate 20 mm nominal size).	Nos.	6.00
B17	Providing & Fixing in position the 38 mm thk. Commercial Grade Flush Door of approved make and finish with 1mm thk approved laminate from both sides, The rate shall be including cost of all approved hardware such as Heavy Duty Brass hinges 3no, Door Closer, Glass for vision panel shall be 10mm thk clear float glass fixed with T. W. beading as per detailed drawings. The rate shall also be inclusive of 1/4" thk. PVC Chrome Plated 'T' strip to be fixed in the door shutter (4nos) from external side. Cost of other fittings to be included in the above cost including Mortise Lock , PVC Buffer with handle of approved make. Complete the same in all respects as per drawings and directions.	Sqm	
B18	Do- as above (B-18) but in addition to the above lead sheet of 2 mm to be provided in such a way that it is sandwiched between commercial grade flush door & 8 mm thk Commercial plywood.	Sqm	3.50
B19	Providing and fixing the mat finish Stainless Steel Corner guard and to be flushed with tile surface etc. complete.	Mtr.	50.00
B20	Providing and fixing Heavy Duty Stainless Steel door for UPS Room with locking facility and with 1 hour fire rating.	Sqm	4.00
B21	Floor trench of size 200 mm x 150 mm with openable trench covers made from plywood.	Mtr.	20.00
B22	Fixing of the lead glass with wooden frame on both sides of the lead glass including lead lining of the wooden frame, finished with 1mm laminate etc. complete.	Job	1.00
B23	Providing and casting concrete base for the fixing of the c-arm and patient table etc. complete.	Job	1.00
B24	Rodent, Termite and Cockroach proofing wherever required.	Nos.	1.00
C	FURNITURE		
C1	Providing and supplying the High / Medium / Low Back chair of approved make and series with Net Back, Fabric upholstered seat, ABS cantilever arms, S S Legs with Castors, Gas Lift, Syncro lift mechanism etc. and complete the same all as approved.		
√	High back Back	Nos.	6.00
C2	Supplying Patient Waiting Chairs (Metallic Moulded 3 in 1-chairs in common steel stand in group) in steel with common stand (Perforated chairs, with handles, SS arm rest) etc complete.	Nos	10.00
C3	Supply of Magazine Rack	Nos.	3.00
C4	Providing and making the Work stations in 18mm thk water & termite proof ply wood of approved make with necessary verticals / supports as per the drawings and detail. The table shall have 25 mm Top in blockboard and finished with 1 mm Thk. Laminate from Outside and 0.8 mm thk Laminate from Inside of approved make. Each workstation shall be provided with pedestal unit 450 mm wide (2 nos) and which shall be comprises of lockable drawers(1 no), 1 openable storage for filling and key board tray. The Table Top shall be provided with powder coated wire manager. All The Edges to be finished with 2mm Thk PVC edge banding strip and complete the same all per drawings and details and as directed.		
√	Console Room - (size: 1.5m long x 0.7m deep x 0.75m high) x 1 no.	Sqm	1.20
√	Console - (size: 1.2m long x 0.7m deep x 0.75m high) x 1 no.	Sqm	0.90

C5	Providing and fixing full Height Catheter Storage made out of 18mm thk approved make water & termite proof Plywood as per the drawing submitted. All the surfaces including edges and the front shall have 1.0 mm thk Laminate of approved make and colour as shown or directed. Shutters made out of 18mm thk Block board / Plywood All the surfaces including edges and inside with 0.8 mm thk laminate and outside with 1 mm thk laminate of approved make and colour with joints as shown or directed. Each shutter shall have 75 mm long black oxidised brass butt hinges. Minimum 4 nos. hinges. Flush tower bolts on the inside at top and bottom to the required shutters only - other shutters will have magnetic catch fixed at top and bottom. 4 - lever brass body dead lock with S.S. Key - master key for groups as required. 75mm wide 'C' shaped brush steel approved handle.		
√	Examination Room - (Size 7.0m long x 0.6m deep x 2.0m high) x 1 no.	Sqm	14.00
C6	Providing and installing the MS powder coated 5 door lockers of approved make of 350 x 450 x 1800 mm size and complete.	Nos	1.00
C7	Dressing table with mirror (fabricated) and hooks for cloths and curtain with SS Rod etc. complete	No.	1.00
C8	Patient Trolley with Matress and O2 Cylinder etc. complete.	No.	1.00
C9	Providing and fixing air tight partition for HVAC system.	Sqm	15.00
C10	Name boards for all rooms	Nos.	10.00
C11	Department Display Board made with LED lights in back & finish with Acrylic sheet	No	1.00
C12	PA Addressing system (2 no's of speaker with 1 mic) with FM/USB	Nos	1.00
C13	Roller Curtain/vertical blinds	Sqm	29.60
C14	Providing and supplying shoe Rack	Nos	2.00
C15	Office Almirah / cupboards of reputed brands like Godrej etc. (Size : 0.9m long x 0.45m deep x 2.1m high)	Nos	3.00
C16	Crash Carts	Nos.	2.00
C17	LED View Box - 2 Films (Make - BioX)	No.	2.00
D	ELECTRICAL & ELECTRONICS WORKS		
D1	Supply and installation of main LT panel, wall mounted front operated totally enclosed vermin proof, indoor non-draw out-cubicle type power panel fabricated out of 2mm the CRCA sheet having gas keted hinged cover on each cubicle fully powder coated / enamel painted after seven tank treatment, incorporating horizontal and vertical sleeved copper busbars'complete with all internal wiring danger board, two earthing lugs, cable chamber etc. as reqd.'housing below mentioned switchgears / meters.		
	LT PANEL & DISTRIBUTION BOARDS		
	L T panel (Including the main equipment panel, AC and general lighting)		
√	PANEL A	No.	1.00
	1 no., 0-150A, Ammeter with CT and selector switch		
	1no., 0-500V, Voltmeter with selector switch and fuse		
	1Set, TPN, Copper bus bars of size 25mm x 5mm the PVC insulated suitable for 200 Amp load.		
	1Set, RYB, indicating lamps with resistors and fuses		
	1 No. 320 Amp MCCB (4 Pole) from Mains		
	Raw power outgoing		
	1 No. 200 Amp MCCB (4 Pole) to UPS i/p		
	4 No. 63 Amp MCB for Packaged AC		
	2 No. 63 Amp MCB for HVAC Heater/De-humidifier Panel		
	1 No. 40 Amp MCB for General lighting		
	1 No. 40 Amp MCB for Service Points		
	1 No.40 Amp TPN MCB for Spare		
	UPS Power Incoming		
	1 No. 200 Amp MCCB (4 Pole) for UPS o/p (from UPS output)		
	1Set, TPN, Copper bus bars of size 25mm x 5mm the PVC insulated suitable for 200 Amp load.		
	1Set, RYB, indicating lamps with resistors and fuses		
	1 No.150 Amp MCCB (4 Pole) for X-ray Generator		
	1 No.150 Amp Contactor for X-ray Generator		
	1 No.40 Amp MCCB (4 Pole) for X-ray Generator		
	1 No.32 Amp Contactor for X-ray Generator		

	1 No. 40 Amp TPN MCB for General DBs		
D2	Sub Distribution Boards		
✓	Distribution Boards (On Raw)- Supply & fixing of following sizes of recess type metal clad triple pole and neutral distribution with MCB's of 5 to 32 amp per way complete with incoming MCB confirming with relevant specifications	Nos	1.00
✓	Distribution Boards (On UPS)- Supply & fixing of following sizes of recess type metal clad triple pole and neutral distribution with MCB's of 5 to 32 amp per way complete with incoming MCB confirming with relevant specifications	Nos	1.00
D3	MAIN & SUBMAIN CABLING-		
✓	Supply & Fixing of the following sizes of PVC insulated and PVC sheathed armoured conductor cable of 1.1 kv grade as per IS 1554 (part 1) 1976 in trenches on surface of wall or the ceiling complete with saddles, ties, thimbles, lugs etc		
a)	Single core 70 sq.mm. flexible copper cable for UPS i/p & O/p	Mtr.	200.00
b)	Single core 70 sq.mm. flexible copper cable from 150 Amp contractor to x-ray generator.	Mtr.	30.00
c)	Single Core 16 sq.mm. flexible copper cable from 32 Amp contractor to Control Cabinet.	Mtr.	30.00
d)	Providing, laying and termination of the 3.5C x 16 Sqmm Armoured copper cable from Panel to Outdoor AC Distribution Boards etc. complete	Mtr.	100.00
✓	Supply and making end termination with brass compression glands for PVC insulated and PVC sheathed armoured aluminum conductor cable of 1.1kv grade complete with lugs for following size of cables.		
a)	70 sq. mm. (Ring Type)- Cu	Nos	5.00
b)	70 sq. mm (Pin Type)- Cu	Nos	1.00
c)	16 sq. mm (Ring type)-Cu	Nos	1.00
d)	16 sq. mm (Pin type)- Cu	Nos	1.00
e)	16 sq. mm (Pin type)- Au	Nos	8.00
D4	COPPER EARTHING		
✓	Supply, installation, testing and commissioning of maintainance free earthing comprising of electrode of 17.2 mm diameter low carbon steel wth 250micron molecular copper bnded earthing rod of length 3 m along with 25 kg carbon based environment friendly back fill ground enhancing compound required to fill up the excavated earth with required quantity complete.	Nos.	4.00
✓	Providing and Fixing 25 x 3mm copper earthing strip on parapet or surface of wall as required for Horizontal as well as vertical runs. (For earthings).	Mtr.	200.00
✓	Providing earthing with galvanized iron earth plate size 60 X 60X 0.6 cm complete with pit 1.5mtr below ground level with 40 kg charcoal & salt with 19mm dia GI pipe, funnel with wire mesh for watering & bricks mesonery block, CI cover complete asper IS 3043.	Nos.	8.00
✓	Providing and Fixing 25 x 5 mm GI earthing strip on parapet or surface of wall as required for Horizontal as well as vertical runs. (For GI earthings).	Mtr.	140.00
D5	General lighting		
✓	Providing & fixing of primary Light / Fan / Ex. Fan Point Work using 1.5 Sq.mm copper flexible wire through PVC Pipe above false ceiling in Semi concealed manner & cutting in wall/ drop/runs & switch board using specified Modular switches and accessories like Ceiling Rose /Angle holder/Batten Holder and Connector whatsoever complete everything.	Nos.	25.00
✓	Same as above but for secondary points	Nos.	10.00
✓	Providing and fixing 6/16A Power Plug socket complete with specified Modular 16 Amp. Switch & 6/16 A Plug - Socket, concealed box, interconnection with provided wiring etc.	Nos.	25.00
✓	Same as above , but for MRI UPS points	Nos.	15.00
✓	Providing & fixing of following Light fittings and fixtures with necessary lamps like LEDs and Tube lights etc. complete everything.		
	32 Watt PL 24" x 24" ceiling / flush LED light – Wipro / Philips make (up to 400 Lux)	Nos.	20.00
	Recessed down lighter spot light 15 Watt LED	Nos.	6.00
	Dimmer lights for Console	Nos.	2.00

D6	Supplying and drawing following sizes of pvc insulated copper wiring mains /flexible cables in PVC Pipe (2 mm thick) in concealed manner		
	3 x 1.5 sq mm (All Lighting Circuits)	Mtr	150.00
	2 x 2.5 sq.mm + 1 x 1.5 sq.mm (All 6/16A power plug points)	Mtr	200.00
	4 x 6.0 sq.mm + 1 x 1.5 sq.mm (for RAW DB)	Mtr	30.00
	4 x 6.0 sq mm + 1 x 1.5 sq.mm.(for UPS DB)	Mtr	30.00
D7	Providing and making Emergency Stop with wiring in 1.5 Sqmm Polycab flexible Copper Wires with necessary conduit accessories ect complete.	Nos	3.00
D8	Electronics & General elctrical items		
a)	RO with capacity of 200 Lit per day Kent or equivalent.	No.	1.00
b)	Providing and fixing 2 bay stainless steel SCRUB unit (SS 304 Body) with automatic Sensor taps (warm and cold water) with foot operated including necessary fittings, hand drier, automatic soap dispenser, necessary plumbing work and Water RO plant etc complete.	No.	1.00
c)	Providing & fixing elbow operated wall mounted mixing facuet in scrub area.	Nos.	1.00
E	Fire Fighting System, EPBAX Networking & Broadband		
E1	Supply, installation, testing & commissioning of a microprocessor based 4 Zone conventional fire alarm system with 2 hours battery back up (Make :- RAVEL/PCD)	No.	1.00
E2	Supplying, installing, testing and commissioning of Conventional Smoke detector with base (AFC & BFF) (System Sensor / Cooper)	Nos.	12.00
E3	Supplying, installing, testing and commissioning of Conventional Heat detector with base (AFC & BFF) (System Sensor / Cooper)	Nos.	6.00
E4	Supplying, installing, testing and commissioning of Response indicator for all detectors located above false ceiling	Nos.	6.00
E5	Supplying, installing, testing and commissioning of Conventional Single action Manual call point	Nos.	1.00
E6	Supplying, installing, testing and commissioning of Conventional Hooter with built in Flasher light with base UL/EN listed.	Nos.	1.00
E7	Supplying, installing, testing and commissioning of 2 core x 1.5 Sqmm FRLS PVC , Shilded , multistrand Copper Cu Ar cable conforming to IS standards and specifications	Mtr	200.00
E8	Fire Extinguishers		
✓	Fire Extinguishers 3 kg - Co2 type	Nos	6.00
✓	Fire Extinguishers Ball for UPS & Batteries room	Nos	2.00
E9	Networking		
✓	Providing RJ 45 Connector and Crimping at the respective points (D link)	Nos.	10.00
✓	Supply & laying of Cat-6 computer cable	Mtr.	200.00
✓	Lan 24 Port Switch (10/100/1000 Gigabite-Dlink)	Nos.	1.00
✓	9U server rack for switch	Nos.	1.00
✓	Patch Cords	Nos.	10.00
E10	Providing Broad Band Connection of BSNL / VSNL / MTNL for SRS connectivity ect complete. (BBG Combo ULD 900, 2 Mbps upto 8 GB, 512 Kbps beyond) - With static IP	Years	10.00
	Total for Fire Fighting System, Networking & Broadband		
F	CCTV - SURVILANCE SYSTEM		
F1	IR BULLETT CAMERA-FIXED LENS Supply , installation , testing commisioning of IR Bullet fixed lense Camera 2MP , IP66 enclosure with required supports & accessories, ICE, FCC, UL CERIFIED MAKE : HIKVISION DS-2CC11A2P(N)-IRT	Nos.	6.00
F2	IR HD DOME CAMERA-INDOOR DOME Supply , installation , testing commisioning of 2MP high resolution indoor Dome Camera, IP66 enclosure with required supports & accessories, ICE, FCC, UL CERIFIED MAKE : HIKVISION DS-2CC52A1P-VPIR2	Nos.	4.00

F3	8 CH HD DIGITAL VIDEO RECORDER Supply, installation, testing commissioning of 8CH HD DVR • H.264 video compression • Up to 8-ch video input recording • HDMI output • 2 SATA interfaces • MAKE : HIKVISION DS-7216HWI-SH	Set	1.00
F4	4 TB SURVILLANCE HDD	No.	1.00
F5	32" 24/7 CCTV Monitor with wall mount accessories. The CCTV monitors shall be the perfect professional security monitor with Full HD a native 1920x1080 panel resolution optimized for CCTV applications and designed for 24/7 use. Benefiting from the latest onboard LED panel technology, high resolution and various video output via HDMI, VGA. Built-in Speaker, Accessories : Wall Mount stand, HDMI cable MAKE : LG / SAMSUNG	Nos.	1.00
F6	4+1 CCTV cable Supply & Laying of 4+1 Coax + power cable with MMS FRLS PVC Conduits, supports & all required accessories as per IS standard.	Mtr.	200.00
G	Medical Gas Line		
✓	15mm copper pipes for Oxygen	Mtr.	50.00
✓	15mm O/D copper pipes for Compressed Air.	Mtr.	50.00
✓	22mm O/D copper pipes for Vacuum.	Mtr.	50.00
✓	15mm O/D copper pipes for Nitrous.	Mtr.	50.00
✓	12mm O/D copper pipes for drops.	Mtr.	30.00
✓	Oxygen Outlet points	Nos.	4.00
✓	Compressed air Outlet points	Nos.	4.00
✓	Vacuum Outlet Point	Nos.	4.00
✓	Nitrous Outlet Point	Nos.	4.00
✓	15mm O/D Isolation Valves	Nos.	4.00
✓	Supply and Fixing oxygen flow meter Parkinson type	No.	4.00
✓	Supply and fixing 600ml vacuum Flow meter	No.	4.00
H	HVAC WORK		
A	HVAC higher side Job		
✓	Supply of 11.0 TR Ductable Package Units (Inverter Package Unit)	Nos.	4.00
	Total of higher side HVAC job		
B	Lower side HVAC job		
✓	Removal of Old Package Ductable Unit	Nos.	4.00
✓	Installation Package Ductable Unit	Nos.	4.00
✓	Supply, installation Copper Refrigerant Piping with supporting and with 10mm thick insulation.	Mtr.	320.00
✓	Supply, installation Control Wiring for connecting outdoor unit and indoor unit	Mtr.	336.00
✓	Supply, installation Drain pipe insulation.	Mtr.	20.00
✓	Fabrication and installation of Outdoor unit stands	Nos.	8.00
✓	Supply & Installation G I Ducting	Sqm	80.00
✓	Supply & Installation Insulation	Sqm	80.00
✓	Supply & Installation Gas R410	Kg	48.00
✓	Supply & Installation Canvas Connection	Nos.	4.00
✓	Supply & Installation of VCD	Sqm	4.00
✓	Lifting & Shifting of Units	Lot	1.00

Site Layout for Turnkey area @ 1100sqft

4	High End 2D Echo Machine:-
1.	Latest generation: high end & technologically advanced Digital 2 D & 3D echocardiography for adult, paediatric and neonatal cardiac. TEE/fetal echo.
2.	Applications with Live 3D echocardiography for adults & paediatrics. System should use digital beam former technology capable for incorporating future techniques should be upgradable through software and hardware. Quote only one & the advanced model.
3.	System should have open architecture and must be capable for future developments

	through hardware and software.
4.	System should have multiple lines acquisition capable of achieving very high frame rate. At least 300-500 frames per second. System must allow frame-by-frame review.
5.	System should have multi array probe technology for phased array, linear array and adult and paediatric Multiplane trans-oesophageal echocardiography (TEE) Transducers.
6.	Should have great ergonomic design, with one or more touch control panel, which is comfortable and convenient to avoid muscle strain & stress injuries. A lightweight system should have at least 20 inch OLED monitor- medical grade.
7.	The system shall be capable of providing following imaging and operating modes
	a) Sector, Linear, Multiplane TEE imaging
	b) 2D, M-mode, colour M-Mode, Pulse Doppler, CW Doppler, Colour Now imaging, strain imaging.
	c) Live 3D Echo on adult transthoracic echo (TTE) and adult transesophageal echo Live 3D I TE paediatric, 20/3D paediatric TEE echo, fetal echo
	■ The system shall be capable of applying adaptive image-processing technology to 3D volumes and Multi planar displays
	■ The system shall support simultaneous display of volume and Multiplanar (MPR) views.
	■ The system should provide 3D colour flow rendering with the ability to crop, rotate, suppress colour, suppress the B&W image, suppress the baseline and change gains.
	■ The system shall support full screen display of all 3 D views including Individual X.Y.& Z MPR views and simultaneous display of thumbnail Views on the same system display monitor
	■ Volume rotation in all planes must be supported.
	■ 3D probe should support all the modes like 2D.M-Mode,CW,PW, CFM
	■ Light source with advanced depth rendering
	d) Colour flow Doppler imaging
	e) Fully steer-able pulsed Doppler
	f) Fully steer-able continuous wave Doppler
	g) System should have tissue Doppler with high frame rate and 2D strain imaging
	h) Digital cine replay of all imaging and Doppler modalities.
	i) On-screen cine storage and image recall
	j) Digital image storage ad patient archive with true scanner frame rates.
	k) Full measurement and analysis capabilities
	l) Review of stored ultrasound images and loops
	m) User adjustable B colorization maps, gain setting, colour Doppler baseline angle correction and other important parameters with live/frozen/archived images/loops.
	CONTRAST SPECIFIC IMAGING
	The system shall support contrast specific imaging capability.
	The system shall provide for L.V opacification which should be upgradable to myocardial perfusion contrast echo.
	The system shall provide support for both low and hi mechanical index
	The system shall support a contrast specific user interface with commonly used controls (i.e. output power) easily accessible
	ADVANCE QUANTIFICATION
	Measurements-The system shall provide the following measurement tools ability to

	calculate and display linear distances using up to 8 pairs resizable electronic calipers.
	Ability to trace, calculate and display the perimeter of a displayed structure. Provide means of incremental erasing of perimeter trace. Provide both trace and ellipse methods.
	Ability to trace, calculate and display the area of a displayed structure with choice of trace or ellipse method.
	Ability for clinicians to create their own measurements and arrange measurements within the order and location they desire.
	Plug-in/On-board options should include cardiac 3D quantification (3DQ) and 3D Viewing, cardiac 3D Advanced Quantification, Cardiac 2D Quantification (2DQ), Region of interest (ROD) Quantification, automated Intima Media Thickness (IMT) and Strain Quantification (SQ).
	CARDIAC 2D QUANTIFICATION
	Biplane volume measurements based on the simpson's Biplane Method p(auto mode)
	CARDIAC 3D QUANTIFICATION
	Display & manipulation of dynamic three-dimensional rendering and left ventricular (LV) volumes.
	Display 3 D renderings in grayscale or pseudo colorization.
	Multi planar reconstruction (MPR) views.
	Slice provides equally spaced MPR views between the LV mitral annulus and apex automatically with long and short axis.
	Measurements of LV endocardia volume and ejection fraction using a semi -automated border detection.
	Images and measurements are to be labelled and annotated and stored as AVI, BMP or JPEG file.
	Can divide the LV into multiple segments in strain imaging. System should show the bulls Eye.
	Computes global volumes based on 3D LV segments
	CARDIAC 3D QUANTIFICATION
	3D image controls, cropping
	System should support auto-crop, Manual crop, live cropping ,
	Roatation,Magnification,3D vision, 3D color render with user selectable post Processing, Colonize, 3D vision,3D color render with user selectable post processing,
	Multiplanar Reconstruction (MPR) views both on and off line, 3D quantification form MPR includes distance, area, 3D slice plane, parallel plane.
	CARDIC 3D MEASUREMENTS
	Distance area, LV volume, LV ejectionfraction.
	Capable of adding LV volume, mass and ejection fraction data to final patient report (labelled according to measurement method used)
	Strain Quantification(SQ)
	System should support 4D Strain
	Measures the myocardial velocity
	ESSENTIAL ACCESSORIES
1.	Adult echo transducer with frequency ranging from 1.5-4Mhz.
2.	Paediatric Echo Transducer with frequency ranging from 3-8Mhz
3.	Neonatal Echo Transducer with frequency ranging from 4-12Mhz
4.	Multiplane 2D/3D pediatric TEE transducer with button 4-9 Mhz.
5.	Live 3D Echo (TTE) Transducer for Adult with frequency ranging from 1.5-3Mhz.
6.	Live 3D multiplane TEE transducer with button for Adult (with frequency 3-7 Mhz) with Tissue Harmonic imaging and with electro cautery suppression.
	a) Live 3D TTE transducer for paediatric use frequency 2-7 MHz

	b) Transducer for fetal echo(convex) 1-5 MHz.
7.	Integrated STRESS ECHO PACKAGE facility to perform Digital and Stress Echo exams as per following specifications: <ul style="list-style-type: none"> • The system shall support acquisition of full motion digital clips in all modes (including 2D, colour Doppler, pulse Doppler, etc.) in a free manner. • The stress capability shall support pausing the stress echo and adding complete full volume data join for further interrogation. • Length of acquired images shall be user-adjustable. • Ability to display full screen and quad screen loops
8.	ACQUISITION: <ul style="list-style-type: none"> a) The acquisition length shall be user adjustable between 1 second and 50 seconds. b) The system shall support the ability to acquire routine cardiac images
9.	Integrated DVD/CD compo writer to be provided
10.	Latest B/W Thermal printer and paper colour printer (On ordinary/photo paper A4 size)
11.	KVA online UPS with a backup of 30 min. minimum, from any reputed brand.
12.	ECG: <p>ECG display size and position must be user adjustable.</p> <p>The system should display heart rate on screen continuously.</p> <p>The system must include permanent adult leads, permanent paediatric lead.</p>
13.	Software-driven, backlit, and illuminated digital touch panel, assignable rotary knobs and keys for easy mode and setting changes.
14.	System integrated keyboard for easy patient data, annotation and report entries.
15.	IMAGE MANAGEMENT SYSTEM <ul style="list-style-type: none"> a) System should have programmable intensive software drive architecture with data processing of phase, amplitude and frequency, raw data digital replay for cine/single loops. b) System should have storage facility of images, loops in the hard disk drive of 500 GB or more,. System should be able to transfer images and clips to CD & DVD media. c) System should have Inbuilt Image Management facility with facility for direct storage of Images and loops in the Hard Disk Drive. d) Digital cine replay allowing to store and replay images including 2D, colour Doppler including Doppler including Doppler Audio. e) An offline workstation with similar capabilities of on-board, analysis and quantification of 2D and 3D data's sets should be offered.
16.	ZOOM:Should have a hi-fi pan zoom capability with live/frozen/stored images. Should have capability of zooming the archived cine loops.
17.	Should be DICOM 3 compliant.
18.	should have direct CD writing facility
19.	Should have on board workstation for storage and review of all Examinations, 2D, 3D linages, loops. Etc.
20.	Should be provided with a VGA cable and monitor for direct live Transmission for seminars, conferences and teaching
	TECHNICAL SUPPORT <ul style="list-style-type: none"> 1. It should follow international standard and safety requirement. 2. User's list with the address and contact Nos. to be provided. 3. All standard accessories. 4. Application Training to Dept. of cardiology Doctors and paramedics if any. 5. Operating and details services manual should be supplied.

	6. Power supply: 230V-± 15%, 50Hz ± 3%	
	7. Tropicalization:	
	a. Operating room temp : up to 40° C	
	b. Storage room temp : up to 60° C	
	Warranty "Full Machine including all probes"	
	Consumables to be supplied along with the machine	
	1 additional ECG cable	
	5000 CDs + 500 DVDs	
	100 rolls for B/W Thermal Sony Printer	
	A4 size 5000 sheets for colour printer (ordinary + photo paper)	
	1000 Jelly Bottles	
	<u>FFR (Indicative)</u>	
1.	FFR link power requirements and consumption	Power requirement: 100-240 VAC, 50/60 Hz Power Consumption: 20VA nominal at all voltages
2.	IVUS Auto-pullback sled speed	Two options: 0.5mm/sec and 1.0 mm/sec
3.	Maximum IVUS Run Length	Manual Pullback: 18000 frames max Auto pullback: 3000 frames @ 1 mm/sec or 6000 frames @ 0.5 mm/sec
4.	IVUS image views available	Manual Pullback: Cross sectional and dualview displays. Auto pullback: cross-sectional, dual-view displays
5.	Digital Storage/ retrieval	Cases may be stored on local hard drive, space permitting cases may also be archived as DICOM studies to CD (650MB), DVD (4.7 GB), removable hard drive (Up to 2 TB), and to the network (PACS)
6.	Operating System	Windows 7 or more
7.	10 FFR catheters to be supplied	

Consignee Detail:

M/s. Philips India Limited		
Advanced Cardiac Cath Lab System with Turnkey +ECHO + FFR + Buyback Make & Model : Azurion 7M12		
Delivery Period	12 weeks	
PO Ref. No.	No.: 7971/Haffkine/Procurement Cell/RT1 - 4923/Advanced Cardiac Cath Lab System with Turnkey +ECHO + FFR+ Buyback / 2024-25. Date: 22.08.2024	
	दि: २१.०७.२०२४ प्रशासकीय मंजूर निधी (प्रतिनग) १२,२२,००,०००/- (DMER २०२४-२५) (Qty.- ०१)	
Sr. No.	Name & Address of the Consignee	Qty.
1)	Sir J.J. Group Hospitals, Mumbai.	01
	Total	01


General Manager

Haffkine Bio Pharmaceutical Corporation Ltd.
(Procurement Cell), Mumbai.