

**Name of Work: Replacement of old defective AHU/CSU/FSU of HVAC System in Super Speciality Hospital , Sanathnagar**

S.No	SSR	Description	Quantity	Unit	Rate	Amount
<b>Electrical Work</b>						
<b>For SSR rate 2025-26: Basic SSR rate +CP&amp;OH-15% +1% Labour cess+ GST 18% = Base SSR Rate * 1.37</b>						
1	SSR ELEC 6.5.1.m	<p>Supply, Installation, Testing &amp; Commissioning of 6800 CFM Double skin construction Horizontal Integrated Ceiling Suspended Air Handling Units with Plug Fan AC Motor including supply installation testing and commissioning of suitable VFD package</p> <p>Cooling Capacity : 17 TR, Fan Type : Single plug fans, Pre Filter Type : MERV 8, Cleanable, at AHU inlet Panel</p> <p>Construction: (45mm +/-2) thick double skin sandwich PUF panels of density 40+/-2 mm or rockwool insulation of density 55-60 kg/cum and fan section with perforated Sheet. The sheet thickness shall be minimum 0.6 mm for the outer skin and 0.6 mm thickness for the inner skin of GI. Glass view panel &amp; Marine light shall be considered</p> <p>Frame Structure shall consist of 2mm Extruded Aluminium with thermal break profile and Filtration Section shall be provided with washable type of Pre filter Box Type.</p> <p>Coil Section: Chilled water coil 6 multi row deep constructed with Aluminium fins of minimum 0.11mm thickness with Hydrophilic coatings and copper tubes of minimum 26-27G thickness. Copper tube shall be 9.6mm or 12.5mm diameter. The coil face area shall not exceed 2.5m/sec.</p> <p>Fan Section: . SISW Backward Curve, Direct Driven multiple plug type Centrifugal Fan with Squirrel cage induction motor (IE 3 Efficiency), GSS frame supporting frame work, spring type vibration isolators, base frame, Motor shall be suitable for Variable Frequency Drive operation. The fan section shall be provided with limit switch for safety to shut off fan during Opening of access door.</p> <p>Unit Mountings : Vibration Isolators ( Spring Type / Rubber Pad ) for mounting the units on pedestals. Vibration Velocity (RMS) should be &lt; 2.5mm/Sec</p> <p>Drain Pan: Condensate drain pan shall be fabricated from SS 304 powder coated, insulated with 13 mm thick closed cell elastomeric insulation if It is outside the AHU.</p> <p>Noise level : Should be lesser than &lt; 65 DbA @ 1 Mtr distance Makes : System Air / VTS / Carry Air / Edge Tec/ ZRCO/ Citizen/Boopaty , preferably Edgetech as Existing units are Edgetec and Make of VFD : Danfoss/ ABB /Yaskava/Fuji electric/or equivalent approved make</p>	4	Nos	₹ 513,750.00	₹ 2,055,000.00
2	MR	<p>Supply, Installation, Testing &amp; Commissioning of Double skin construction Ceiling Suspended FAN COIL Units with AC Motor of followin Capacity</p> <p>Fan Type : Single fans, Pre Filter Type : MERV 8, Cleanable, at FCU inlet</p> <p>Type: Horizontal Integrated Ceiling Mounted Fan Coil Units</p> <p>Panel Construction: (45mm +/-2) thick double skin sandwich PUF panels of density 40+/-2 mm or rockwool insulation of density 55-60 kg/cum and fan section with perforated Sheet. The sheet thickness shall be minimum 0.6 mm for the outer skin and 0.6 mm thickness for the inner skin of GI. Glass view panel &amp; Marine light shall be considered</p> <p>Frame Structure: Frame Structure shall consist of 2mm Extruded Aluminium with thermal break profile</p> <p>Filters: Filtration Section shall be provided with washable type of G4 Box type.</p> <p>Coil Section: Chilled water coil along with Valve Section.</p> <p>Fan Section: . SISW Backward Curve, Direct Driven multiple plug type Centrifugal Fan with Squirrel cage induction motor (IE 3 Efficiency), GSS frame supporting frame work, spring type vibration isolators, base frame, Motor shall be suitable for Variable Frequency Drive operation. The fan section shall be provided with limit switch for safety to shut off fan during Opening of access door.</p> <p>Unit Mountings : Vibration Isolators ( Spring Type / Rubber Pad ) for mounting the units on pedestals. Vibration Velocity (RMS) should be &lt; 2.5mm/Sec</p> <p>Drain Pan: Condensate drain pan shall be fabricated from SS 304 powder coated, insulated with 13 mm thick closed cell elastomeric insulation if It is outside the FCU</p> <p>Noise level : Should be lesser than &lt; 65 DbA @ 1 Mtr distance Makes : System Air / VTS / Carry Air / Edge Tec/ ZRCO/ Citizen/Boopaty , preferably Edgetech as Existing units are Edgetec</p>				
2.a	MR	800 CFM FCU unit	4	Each	₹ 79,393.94	₹ 317,575.76
2.b	MR	400 CFM FCU unit	1	Each	₹ 69,325.00	₹ 69,325.00

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3		<p>construction Floor Mounted Air Handling Units with Plug Fan AC Motor of Recirculation. AHU should be with Double decker and separate motors for Supply and Return ends. Cooling Capacity - 14 TR</p> <p>Type: Horizontal Integrated Air Handling Units with Recirculation double decker with Mixing Chamber.</p> <p>Panel Construction: (45mm +/-2) thick double skin sandwich PUF panels of density 40+/-2 mm or rockwool insulation of density 55-60 kg/cum and fan section with perforated Sheet. The sheet thickness shall be minimum 0.6 mm for the outer skin and 0.6 mm thickness for the inner skin of GI. Glass view panel &amp; Marine light shall be considered</p> <p>Frame Structure: Frame Structure shall consist of 2mm Extruded Aluminium with thermal break profile</p> <p>Filters: 10 Microns pre filter and 5 Microns Bag filters. Filtration Section shall be provided with Pre and Fine Filter sections of 10 &amp; 5 Microns.</p> <p>Coil Section: Chilled water coil 6 multi row deep constructed with Aluminium fins of minimum 0.11mm thickness with Hydrophilic coatings and copper tubes of minimum 26-27G thickness. Copper tube shall be 9.6mm or 12.5mm diameter. The coil face area shall not exceed 2.5m<sup>2</sup>/sec.</p> <p>Fan Section: . SISW Backward Curve, Direct Driven multiple plug type Centrifugal Fan with Squirrel cage induction motor (IE 3 Efficiency), GSS frame supporting frame work, spring type vibration isolators, base frame, Motor shall be suitable for Variable Frequency Drive operation. The fan section shall be provided with limit switch for safety to shut off fan during Opening of access door.</p> <p>Unit Mountings : Vibration Isolators ( Spring Type / Rubber Pad ) for mounting the units on pedestals. Vibration Velocity (RMS) should be &lt; 2.5mm/Sec</p> <p>Drain Pan: Condensate drain pan shall be fabricated from SS 304 powder coated, insulated with 13 mm thick closed cell elastomeric insulation if it is outside the AHU</p> <p>Noise level : Should be lesser than &lt; 65 Dba @ 1 Mtr distance Static pressure and Motor Rating : Static pressure is 120 / 40mmwg with motor capacity of 3.7 K.W 2P / 1.5 k.W 4P. Makes : System Air / VTS / Carry Air / Edge Tec/ ZRCO/ Citizen/Boopaty , preferably Edgetech as Existing units are Edgetech</p>				
	MR	AHU 3500 CFM for Supply/3000 CFM for Return for OT 3 & 4	2	Each	₹ 617,060.94	₹ 1,234,121.88
4		<p>Supply, Installation, Testing &amp; Commissioning of the following Double skin construction Floor Mounted Air Handling Units with Plug Fan AC Motor of Recirculation. AHU should be with Double decker and separate motors for Supply and Return ends. Cooling capacity - 20 TR</p> <p>Type: Horizontal Integrated Air Handling Units with Recirculation with Mixing Chamber</p> <p>Panel Construction: (45mm +/-2) thick double skin sandwich PUF panels of density 40+/-2 mm or rockwool insulation of density 55-60 kg/cum and fan section with perforated Sheet. The sheet thickness shall be minimum 0.6 mm for the outer skin and 0.6 mm thickness for the inner skin of GI. Glass view panel &amp; Marine light shall be considered</p> <p>Frame Structure: Frame Structure shall consist of 2mm Extruded Aluminium with thermal break profile</p> <p>Filters: 10 Microns pre filter and 5 Microns Bag filters. Filtration Section shall be provided with Pre and Fine Filter sections of 10 &amp; 5 Microns.</p> <p>Coil Section: Chilled water coil 6 multi row deep constructed with Aluminium fins of minimum 0.11mm thickness with Hydrophilic coatings and copper tubes of minimum 26-27G thickness. Copper tube shall be 9.6mm or 12.5mm diameter. The coil face area shall not exceed 2.5m<sup>2</sup>/sec.</p> <p>Fan Section: . SISW Backward Curve, Direct Driven multiple plug type Centrifugal Fan with Squirrel cage induction motor (IE 3 Efficiency), GSS frame supporting frame work, spring type vibration isolators, base frame, Motor shall be suitable for Variable Frequency Drive operation. The fan section shall be provided with limit switch for safety to shut off fan during Opening of access door.</p> <p>Unit Mountings : Vibration Isolators ( Spring Type / Rubber Pad ) for mounting the units on pedestals. Vibration Velocity (RMS) should be &lt; 2.5mm/Sec</p> <p>Drain Pan: Condensate drain pan shall be fabricated from SS 304 powder coated, insulated with 13 mm thick closed cell elastomeric insulation if it is outside the AHU.</p> <p>Noise level : Should be lesser than &lt; 65 Dba @ 1 Mtr distance Static pressure and Motor Rating : Static pressure is 125 mmwg with motor capacity of 5.5 K.W 4P Makes : System Air / VTS / Carry Air / Edge Tec/ ZRCO/ Citizen/Boopaty , preferably Edgetech as Existing units are Edgetech</p>				
	MR	AHU 5000 CFM for OT 1 & 2	2	Each	₹ 600,257.74	₹ 1,200,515.48
5	DSR 30.3	<p><b>INSULATED CHILLED WATER PIPING (expanded polystyrene insulation)</b></p> <p>Supplying, laying/ fixing, testing and commissioning of following nominal sizes of chilled water piping plumbing inside the building (with necessary clamps, vibration isolators and fittings but excluding valves, strainers, gauges etc.) duly insulated with fire retardant quality expanded polystyrene moulded pipe section of density 20 kg/cu.m after a thick coat of cold setting adhesive (CPRX compound) wrapping with 500g polythene faced hessain and covered with Sand Cement Plastering, repairing of damage to building etc. as per specifications and as required complete in all respect. Note:-The Pipes shall be M.S. 'C' class as per IS : 1239</p>				
5.a	30.3.10	65 mm dia (4.5 mm wall Thickness) (32 mm thick insulation)	70	Mtr	₹ 2,716.00	₹ 190,120.00
5.b	30.3.11	50 mm dia (4.5 mm wall Thickness)(32 mm thick insulation)	70	Mtr	₹ 2,265.00	₹ 158,550.00
5.c	30.3.12	40 mm dia (4.5 mm wall Thickness)(32 mm thick insulation)	80	Mtr	₹ 1,928.00	₹ 154,240.00
6	DSR 30.7	<p><b>Insulated Valves</b> : Supplying, fixing, testing and commissioning of following valves, strainers, gauges in the chilled water plumbing duly insulated to the same specifications as the connected piping and adequately supported as per specifications.</p>				

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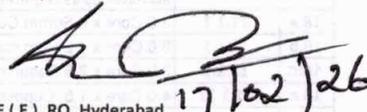
6.a	30.7.1.7	Supply, installation, testing and commissioning of <b>50 mm Dia Butterfly valves</b> . The valve shall be complete with flow control lever with factory machined companion flanges with bolt and nuts complete as per technical specifications and drawings etc.. Type: Slimeal Lever operated Butterfly valves (ON/OFF Body: Cast Iron with Epoxy coated Ductile Iron Disc PressureRating:P16StandardCompliance:IS/ASTM Accessories: Flanges . Unions as required etc	32	Each	₹ 4,627.00	₹ 148,064.00
6.b	30.7.4.7	Supply, installation, testing & commissioning of 50 mm dia <b>Y Strainers</b> with matching flanges.Type: Y Strainer with 32mm Nitril rubber Insulation with 26G Aluminium cladding Body: Gun Metal with Bronze Screen Basket Standard Compliance: IS /ASTM Pressure rating: PN16 Accessories: Flanges . Unions , Drain Plug as required etc	8	Each	₹ 6,459.00	₹ 51,672.00
7	DSR 30.8	Providing and fixing in position industrial type pressure gauges with gun metal / brass valves complete etc. as required.	16	each	₹ 1,491.00	₹ 23,856.00
8	DSR 30.9	Supply, installation, testing & commissioning of <b>Dial type industrial Thermometer</b> with stainless steel body - IP 65 protection.(Range: 0 - 50 °C)	16	each	₹ 1,132.00	₹ 18,112.00
9	MR	Supply, installation testing & commissioning of <b>Automatic air vent</b> with Brass body with necessary ball valve.	8	Each	₹ 5,500.00	₹ 44,000.00
10	MR	Supply, installation testing & commissioning of Brass body <b>Drain cock</b> (With Dead Plugs)- 25 mm dia	8	each	₹ 16,500.00	₹ 132,000.00
11	MR	Providing Test points ( Brass body) For taking pressure & temperature measurements.	8	each	₹ 3,750.00	₹ 30,000.00
12	MR	Supply, installation and testing of EPS insulation of 32mm thick covered with Sand Cement Plastering for Pressure & Temp. Guages etc	48	Each	₹ 2,000.00	₹ 96,000.00
13	SSR ELEC 6.8.17	Supply, installation, testing & commissioning of <b>CPVC</b> pipes with 9 mm thick FM Approved nitrile rubber insulation for drain pipes as approved from the units to the Nearest drain points.				
13.a	c	40 mm dia	170	Mtr	₹ 650.75	₹ 110,627.50
13.b	a	25 mm dia	140	Mtr	₹ 397.30	₹ 55,622.00
14	DSR 30.11.4.6	Supplying, Installation, Testing and Commissioning of <b>50 mm dia</b> electronic, self-balancing, pressure independent type dynamic balancing valve with integrated 2 way modulating control valve in a single body. The actuator shall be capable of accepting upto 10V DC and upto 20mA electric signal and shall provide similar transduced feedback output to control system. Maximum close off pressure shall not be less than 6 Bar for upto 50 mm valves and 7 Bar for 65 mm & above. Valves should have pressure rating of 25 Bar minimum.	8	each	₹ 36,431.00	₹ 291,448.00
15.a	MR	SITC of SMPS, Junction BOX with Fused Terminals and Terminations at the Valve side, Including the Cabling from terminal box up to Valve. UPS Input power supply to terminal box will be Electrical contractor. ( To meet the modulating Valve requirements )	8	Each	₹ 11,900.00	₹ 95,200.00
15.b	MR	Supplying, installation, testing and commissioning of of Thermostat with duct RTD external Temperature sensor (6m Length)	8	Each	₹ 3,932.94	₹ 31,463.52
16		Supply, assembling, installation, testing & commissioning of following LT panels. Quoted rate shall include necessary Frame, C channels for fixing on wall. Constrction of panel complies to IEC60439/Relevant IS standards. Electrical starter panel complete with Variable frequency drives , By pass Starter, Metering, all accessories, controls, harmonic filters for AHU drive motors including enclosure & necessary a/m switches and auxillary contacts for BMS Operation of the following AHU Capacities.The final rating of the equipment kW shall be as per the approved MAR. (Incoming Power supply to the Starter panel is under ESIC Scope) VFD shall be able to connect with BMS of any make, shall take ON/OFF command from remote controller, shall be able to do the following :- 1) scheduling from remote controller. 2) Accept signal from temeprature/ pressure transmitter 3) Read V, A, Kwh, frequency & RPM & send to remote controller VFD Make : Danfoss/ABB				
16.a	MR	3500 CFM with dual motor -3.7 K.W / 1.5 K.W	2	Each	₹ 128,100.80	₹ 256,201.60
16.b	MR	5000 CFM with dual motor - 5.5 K.W	2	Each	₹ 148,975.00	₹ 297,950.00
17	AoR	Supply & laying of LT Power and Control cables shall be rated for 1100 Volts. Grade PVC insulated XLPE Al. / Cu. Conductor, steel armoured Power Cables (XLPE A2XFY/YWY/YFY) as per specification, including necessary clamping and tagging of cables as part of cable laying work.The cable laying shall be directly fixing on wall/ceiling or on cable trays as the case may be. Make: Airson / Rhino /Torrent / Universal / Unicab / Havells / KEI/Polycab/Gloster/Orbit/ Paragon/RR Kabel /KEC /Asian Cables /Rhino /Pawancab/AKG/LS cable/ Polywires/South king/Avocab/Gemscab/Batra Henlay				
17.a	AoR	3.0 Core x 16 Sqmm Copper Armoured Cable	70	Mtr	₹ 841.00	₹ 58,870.00
17.b	AoR	3.0 Core x 6 Sqmm Copper Armoured Cable	40	Mtr	₹ 486.00	₹ 19,440.00
17.c	AoR	3.0 Core x 4 Sqmm copper Un.Armoured Cable	150	Mtr	₹ 350.00	₹ 52,500.00
17.d	AoR	3.0 Core x 2.5 Sqmm copper Un.Armoured Cable	100	Mtr	₹ 275.00	₹ 27,500.00
17.e	AoR	6.0 Core x 1 Sqmm PVC insulated and Sheathed copper flexible Cable	80	Mtr	₹ 133.00	₹ 10,640.00
17.f	AoR	4 Core x 1.5 Sq.mm Copper un armoured Cable	150	Mtr	₹ 268.00	₹ 40,200.00
17.g	AoR	2 Core x 1 sqmm Copper unarmoured Cable	80	Mtr	₹ 185.00	₹ 14,800.00
18	DSR 11.1	Supply and erection of 1.1 KV Grade PVC insulated cables cable terminations with Cu. lugs, double compression type cable glands, PVC insulation tapes and all other accessories as required.				
18.a	11.1.1	3.0 Core x 6 Sqmm Copper Armoured Cable	4	Each	₹ 294.00	₹ 1,176.00
18.b	11.1.1	3.0 Core x 4 Sqmm copper Armoured Cable	24	Each	₹ 294.00	₹ 7,056.00
18.c	11.1.1	3.0 Core x 2.5 Sqmm copper Armoured Cable	18	Each	₹ 294.00	₹ 5,292.00
18.e	11.1.32	4.0 Core x 1.5 Copper armoured Cable	16	Each	₹ 325.00	₹ 5,200.00
18.g	11.1.8	3.0 Core x 16 Sqmm Copper Armoured Cable	4	Each	₹ 326.00	₹ 1,304.00

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19	DSR 4.6.2	Supplying and installing following size of perforated Hot Dipped Galvanised Iron cable tray (Galvanisation thickness not less than 50 microns) with perforation not more than 17.5%, in convenient sections, joined with connectors, suspended from the ceiling with two numbers GI Suspenders i/c base of suitable size GI angle, GI bolts & nuts, fastner etc as required. <b>150mm x 50 mm x 1.6 mm thick</b>	190	Mtr	₹ 803.00	₹ 152,570.00
20	DSR 5.19	Providing and fixing 4.00 mm dia copper wire on surface or in recess for loop earthing along with existing surface/ recessed conduit/ wiring/ cable as required.	240	Mtr	₹ 139.00	₹ 33,360.00
21	SSR ELEC 6.8.4	Supply, Factory fabrication, Transportation and erection of ..... guage GI sheet Rectangular ducting with minimum 120 GSM as per SMACNA complete with neoprene rubber gaskets, Elbows, sheet metal / Angle iron / C-cleats / TPF Flanges as required, G.I.fasteners, bolts, nuts and washers, guide vanes as required, supports shall be galvanised threaded rods etc complete.Makes : Tata / Zindal (where ever required and for closing the additional Louvers opening provided at the Site)				
21.a	6.8.4.d	24 gauge galvanized sheet steel	180	Sq mt	₹ 1,769.59	₹ 318,525.33
21.b	6.8.4.c	22 gauge galvanized sheet steel	30	Sq mt	₹ 2,138.25	₹ 64,147.46
22	DSR 30.14	Supply installation, testing and commissioning of Motorized damper . The dampers shall be supplied with matching flanges on both sides. MOC: Galvanized Steel frame with Blades of shell & leaf thickness shall be 1.6mm Modulation: Actuator( Spring return type - 12NM Torque) with extended sleeve 400/600mm with accessories as required . Single Phase supply. Compatible with BMS integration for Modulation and Fire Interlocking. Actuator IP Rating: IP 54 Certification: UL-555				
22.a	30.14.1	Total Area - Damper with Extended Stem for Actuator fixing	6	Sq mt	₹ 18,377.00	₹ 110,262.00
22.b	30.14.2	Actuators - Torque 12Nm	14	Each	₹ 9,793.00	₹ 137,102.00
23		ELECTRICAL DUCT HEATER TO CONTROL RH : Supply, installation, testin & commissioning of Flange-in-type Duct Mounted (suitable for fixing on GI ducts) Finned tubular air heating element comprising, stainless sheathed black heat operations, safety thermal cut-out (manual), air differential pressure switches, temp auto thermostat, terminal bar, factory internal wiring with copper conductor, insulated walls, glanding, earthing, contactors for ON/OFF control and BMS integration including cabling and interconnections. The minimum capacity of strip heaters shall be as indicated below. G.I. fins 28 mm housed In 16 SWG G.I Enclosure in the main supply air duct at suitable location and complete as required. Strip Heater capacity should cater for all seasonal variations and changes in equipment / product load from 0% - 100% through a thyristor control. The heaters shall be connected in equal capacity across each phase. The heater shall be fired by the Thyristor, based on the input from RH sensor via cominded humidistat and thermostat in the lab/duct. Should have necessary provision to get ON/OFF status & control to BMS. all communication should be 4-20mA & 0-10V.				
23.a	MR	30 kw in independently operating banks	2	Each	₹ 285,250.00	₹ 570,500.00
23.b	MR	20 kw in independently operating banks	2	Each	₹ 265,300.00	₹ 530,600.00
24	MR	Supply, installation, testing & commissioning of T& RH sensor For Monitoring of Both CHW(chilled water) and heater banks	13	Each	₹ 37,000.00	₹ 481,000.00
25	SSR 6.10.14	Supply and fixing of trap door for AHU / CSU/FCU in existing false ceiling duly made from 12 mm thick laminated board, hinged with wooden frame of cheed wood size 50mm x 80 mm, frame suspended with MS strip of 25 x 6 mm with anchor fastener minimum 8 supports from ceiling, hinges, locking arrangements etc., as required.	24	Sq.m	₹ 7,096.60	₹ 170,318.40
26	DSR ( C ) 15.57	Dismantling aluminium/ Gypsum partitions, doors, windows, fixed glazing and false ceiling including disposal of unserviceable material and stacking of serviceable material with in 50 meters lead as directed by Engineer in-charge( including all taxes and CP)(Added 10.28 % Cost Index)	120	sq.m	₹ 62.14	₹ 7,457.13
27	AoR	Refixing of false ceiling incl labour charges & taxes	120	sq.m	₹ 31.27	₹ 3,752.40
					TOTAL - A	₹ 9,885,237.46
<b>Buy Back Items</b>						
28	MR	Credit for all the old dismantled and removed AHU/CSU/FCU/VALVES AND M.S PIPE/PANEL/CABLES/Insulation Rubber/Nut and Bolts Clamps Cpvc Pipes Extra including taking away and Transportation from site to Bidder's facility.	1	lot	₹ 399,000.00	-₹ 399,000.00
					TOTAL	₹ 9,486,237.46
					Add Contingencies @ 5%	₹ 474,311.87
						₹ 9,960,549.34
					Say	₹ 9,960,549.00

(Rupees Ninety Nine Lakhs Sixty Thousand Five Hundred and Fourty Nine only)

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