PRICE BID FOR VRF/VRV AIR CONDITIONING WORK FOR PROPOSED FUTURASTIC SBI neXT BRANCH, PANCHVATI, AHMEDABAD					
S.NO	**DESCRIPTION**	**UNIT**	**QTY**	**RATE**	**AMOUNT**
A	**PART - A - HIGH SIDE**				
1	SUPPLY, INSTALLATION, TESTING AND COMMISSIONING OF VARIABLE REFRIGERANT FLOW (VRF)/VRV TYPE AIR-CONDITIONING SYSTEM				
	Supply, Installation, Testing and Commissioning (SITC) of a Variable Refrigerant Flow (VRF) / Variable Refrigerant Volume (VRV) type air-conditioning system suitable for cooling operation, comprising 100% fully inverter-driven multiple compressors using R-410A refrigerant gas, complete in all respects as per the approved technical specifications, manufacturer's recommendations and project requirements. The outdoor condensing unit shall be complete with refrigeration compressors, condenser coils, electronic expansion valves (EEVs), solenoid valves, four-way reversing valves wherever applicable, refrigerant shut-off valves, service ports, refrigerant accumulator, and all other necessary components, accessories, controls, safety devices and fittings required for the proper and efficient functioning of the system.				
	The outdoor condensing unit shall continuously assess the refrigerant flow requirements of each connected indoor evaporator unit through microprocessor-controlled electronic expansion valves and regulate refrigerant flow according to the individual and total cooling load requirements. The unit shall be of modular construction, suitable for Indian climatic conditions, and capable of operating in cooling mode at an outdoor ambient temperature of 52°C. The unit shall be equipped with high-efficiency, inverter-driven scroll compressors incorporating suitable inverter power modules (IPM), with variable-speed operation to modulate cooling capacity according to the actual cooling load. The system shall provide high energy efficiency in terms of COP/EER. The outdoor unit shall have an adjustable external static pressure setting of up to 60 Pa, configurable at site, subject to the manufacturer's approved design.				
	The modular combination of outdoor units shall be capable of connecting up to 64 indoor units, subject to the manufacturer's approved system configuration, connected capacity ratio, refrigerant piping limitations and model-specific technical requirements.The condenser fans shall be equipped with DC variable-speed motors providing a minimum of 25 speed-control steps or equivalent variable-speed control. The system shall incorporate automatic connection-error checking, automatic indoor unit addressing and automatic system-demand control functions.The outdoor unit shall incorporate an efficient oil separation and oil-return management system to minimise oil carryover and ensure adequate compressor lubrication and reliable operation under extended refrigerant piping conditions.				

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	The sound pressure level shall be less than 60 dB(A), measured at 1 metre horizontally from the unit casing and 1.5 metres above floor level under the manufacturer's specified test conditions. A selectable night-time noise-reduction mode shall be provided. Compressor rotation and load-balancing functions shall be incorporated wherever applicable. Emergency backup operation shall be provided to maintain partial system operation in the event of compressor or module failure, subject to the manufacturer's approved system configuration. The condenser coil shall comprise internally grooved copper tubes mechanically bonded to aluminium fins, including slit-type fins where applicable. A suitable factory-applied anti-corrosion coating shall be provided to protect the coil against climatic deterioration. The system shall incorporate automatic refrigerant-charge checking or refrigerant-amount judgement functionality wherever supported by the manufacturer's approved system design. Reliable communication between indoor and outdoor units shall be provided through the manufacturer's approved communication system.				
	All necessary safety and protection devices, including high- and low-pressure protection, compressor overload protection, phase protection wherever applicable, temperature sensors and other standard protective functions, shall be provided to ensure safe, reliable and efficient operation. The complete system shall include all necessary refrigerant piping connections, interconnecting control wiring, accessories, supports, insulation, fittings, valves, testing, evacuation, refrigerant charging, commissioning and other incidental works required for satisfactory operation, as specified in the relevant BOQ items and approved tender documents. The entire installation shall be carried out in accordance with the manufacturer's recommendations and approved technical specifications.				
	MAKE: DAIKIN/HITACHI/MITSUBISHI ELECTRIC/MITSUBISHI HEAVY/O GENERAL/ TOSHIBA				
1.1	24 HP Outdoor Unit	Nos	1		
1.2	20 HP Outdoor Unit	Nos	1		
1.3	10 HP Outdoor Unit	Nos	2		
2	Supply of 4 Way CASSETTE UNITS type indoor units comprising decorative grill with pre-filter, fan section with low noise fan multi speed motor, coil section with DX coil, outer cabinet, drain water lift-up mechanism, insulation, pipe connections etc. of various capacities as per specifications and drawings. with **Cordless Remort Control and Receiver Kit.**				
2.01	4.0 TR CASSETTE UNIT	Nos	4		
2.02	3.2 TR CASSETTE UNIT	Nos	8		
3	1- WAY CASSETTE Type INDOOR UNIT with fittings,Consisting of fan,Four speed motor,Panel,coil section with DX coil, outer cabinet,filter,insulated drain pan(with inbuilt drain pump),provision for fresh air,Including all accessories etc. Including all accessories etc.				
3.01	2.0 TR 1-way cassette Unit	Nos.	1		
3.02	1.5 TR 1-way cassette Unit	Nos.	4		
3.03	1.0 TR 1-way cassette Unit	Nos.	2		
3.04	0.8 TR 1-way cassette Unit	Nos.	1		

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4	**REF NET joints and Accessories**				
4.01	Ref-Net joints and Accessories for IDU & ODU	Pair	18		
5	Installation , testing and commissioning of All REF NET joints and Accessories with insulation for above VRF/VRV System (All the Insulation joint must be covered with aerotape.)	Lot	1		
	PART - A TOTAL AMOUNT				
B	**LOW SIDE WORKS**				
1	Lifting, Shifting, Positioning & Installation of VRF Outdoor units	Nos	4		
2	Lifting, Shifting, Positioning, Installation, Commissioning and Testing of VRF Indoor units	Nos	20		
3	Pressure testing with nitrozen gas, vacuuming the system, Gas filling and topping up with R410-Ozone/ eco Friendly and NonCFC Refrigerant and commissioning of above system.	Per / HP	64		
4	Supply & installation of suction & discharge soft /Hard copper Refrigerant piping with proper supports/hangers from ceiling/wall as required at site & duly insulated with closed cell elastomeric nitrile insulation Class " O" of 19mm thick for pipes above 1" and 13 mm thick for pipes below 1" as suggested by the manufacturer. **(only one length will be considered for both suction and Discharge lines). The scope of work includes scoffolding work). The Copper piping layout has to be approved by OEM**				
4.1	for suction and discharge line as per O.E.M specification	Rmt	278		
5	Supply and Erection of hard CPVC condenseted drain piping with 9mm thick Nitrile insulated class :O" including support and wall opening of the .The sizes shall be as per OEM 40mm/32mm/25mm	Rmt	146		
6	Supply and Laying of Control and communication cable and connecting the VRF IDUs and ODUs (control wiring using 3C X 1.5 Sq.mm shielded copper cable) with conduit or as per OEM norms	Rmt	345		
7	Supply and fixing of following size GI perforated cable tray made out of 2mm thick galvanized sheet and the tray covered with 2mm thick cover including GI / MS supports for fixing the tray, anchor fasteners,hi tech supports etc., complete as required. (For Copper pipes and CPVC Pipes) 300mm*75 mm	Rmt	110		
8	**Associated Civil works**				
	MISC. Civil work like wall jurry, Chipping ,chasing & Plastering the wall openings in cement morter 1:6 of 15 mm thick finishing to line and level with sand facied finishing at all levels, including all leads & lifts, scaffolding, curing etc complete (for Copper & Drain openings in all rooms etc. The scope of work includes supplly & laying of suitable conceate base to mount above outdoor units	Lot	1		
9	**Displat type Centralized Controller**				
	Supply, installation ,testing and commissioning of Stand-alone Touch panel type Centralized Control system through a display, monitor to suit the above VRV/VRF equipment(1Nos of 24HP, 1Nos of 20HP and 2 no of 10HP outdoor units and all indoor units, Cassette units etc.). This Controller shall be stand-alone controller with features like visual navigation, graphical report, Multi-PC access, Temperature Limitation and have the capability to program for sequential operation of indoor units etc.,complete.	Set	1		

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10	**MS Stand for Outdoor Units**				
	M.S Structure duly epoxy painted for installing above VRF outdoor unit , TFA , Split and TFA ODU/Condensor unit on MS HEAVY STURCTUE With MIN. 75 x 40 mm Channel with Angle and Supports including if Scafolding Requried as per site condition.	KG	400		
	PART - B TOTAL AMOUNT				
C	**TREATED FRESH AIR**				
1	**TREATED FRESH AIR UNIT Ceiling Suspended AHU type Unit having following approximate capacities**				
	TFA Double Skin type 23 mm thick Ceiling suspende Air Handing Units of capacity 5.0 TR (minimum) each complete with indoor withand 8 row deep Cooling Coil, Centrifugal Blower, TEFC Squirrel Cage Induction Drive Set, F1 Fitters and other accessories capacity 2200 CFM, with outer skin of 0.6 mm prepainted galvanized at and inner skin or 0.6 mm galvanized sheet, 50 mm static pressure of unit with microprocessor based control unit, remote controller etc complete as will be required Make: ZECO/ EDGETECH/ CITIZEN/ ETA/ JPC				
1.1	5.0 TR (2200 CFM)	Nos.	1		
2	The outdoor (condensing unit) shall be of corrosion-resistant galvanized powder-coated or eq. Sheet steel low vibration assembly installed on suitable vibration isolators & comprising of energy-efficient scroll/rotary compressor with controls such as thermal protector, hp/lp cutouts, pressure relief valve; the outdoor unit shall also comprise of finned tube air cooled condenser & condenser fan unit. The units shall have integral refrigerant copper piping within compressor & condenser & accessories such as refrigerant shutoff valves at compressor/compressors & liquid refrigerant outlet if req. & filter dryer; cooling fans shall have a protective metal frame.				
2.1	5.0 TR CONDENSEING UNIT	Nos.	1		
3	Air Distribution System for fresh Air				
	Supply, Fabrication, installation and testing of sheet metal ducts in accordance with the approved shop drawings. From Outside area to be taken for intake of fresh Air				
3.1	24 G 0.63 mm	SQMTR	75		
3.2	Fresh Air round Air grill in Aluminium Extruded Construction duly powder coated (Size-8") with Disc Valve	Nos.	20		
3.3	FA Dampers with Bird Screen and Rain Protection Crowl.	SQMTR	2		
3.4	Thermal Insulation for treated Fresh Air Ducting with 13 mm Thick Fire Retardant Nitril Rubber Insulation Class 'O'.	SQMTR	75		
3.5	Acoustic Insulation for treated TFA duct first 1.5 mtr piece with 9 mm armasound nitril rubber Class 'O' or equivalen material.	SQMTR	8		
3.6	3"/ 4 " dia Fresh Air Flexible Duct or Equivalent Connecting Fresh Air Dcuting & Cassate AC indoor unit's.	RMT	50		
3.7	Electrcical Starter Panel for AHU & ODU Condenser with interlocking of the same and control	Nos.	1		
3.8	CO2 sensor	Nos.	1		
	PART - C TOTAL AMOUNT				
		Total Part: A + B + C			
	Note: GST Extra as Applicable				

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D	**COMPREHENSIVE ANNUAL MAINTENANCE CONTRACT**				
1	COMPREHENSIVE ANNUAL MAINTENANCE CONTRACT(CAMC) FOR ABOVE ACS, WHICH .If the vendor has quoted CAMC amount below 4% of the amount of SITC quoted in the tender. The difference between the 4% of the SITC of all 5 years and quoted amount for all five years shall be kept as a retention amount and it will be deducted from the final bill. It will be released after completion of 5 years CAMC period. Eg SITC cost quoted in tender is say Rs 100. CAMC for all five years is Rs 15 (as quoted) and desirable CAMC is minimal of Rs 20 (for five years at 4% ie 4% of Rs 100 for 5 years). Then retention that Bank will keep would be Rs 5 for 5 years				
1.1	CAMC for 2nd Year	per Hp	64		
1.2	CAMC for 3rd Year	per Hp	64		
1.3	CAMC for 4th Year	per Hp	64		
1.4	CAMC for 5th Year	per Hp	64		
1.5	CAMC for 6th Year	per Hp	64		
	PART - D TOTAL AMOUNT				
	Note: GST Extra as Applicable				