

CONTRACTORS ARE ADVISED TO READ THE SPECIFICATIONS STATED BELOW CAREFULLY & QUOTE IN ONLINE BIDDING AND HAVE TO FOLLOW THE RECOMMENDED MAKES AS MENTIONED IN THE TENDER. NO OTHER MAKE WITHOUT PRIOR APPROVAL OF PROJECT IN CHARGE WILL BE ACCEPTED



**BOQ FOR VRV AIR CONDITIONING WORK AT SBI MAIN BRANCH FIRST FLOOR**

**PART-1 (HIGH SIDE ITEMS)**

**Supply of VRV Air Conditioning System Comprising of following items:**

S.No.	Item	Qty	Unit	Rate	Amount
	<b>SUB-HEAD 'A' HIGH SIDE SUPPLY OF EQUIP.</b>				
	Supply of <b>Variable Refrigerant Volume</b> type multi unit air-conditioning system complete with indoor and outdoor units with individual controller for cooling only operations. <b>(Make: O-General/Daikin/Mitsubishi Heavy Industries)</b>				
1.0	<b>Outdoor Unit</b>				
	Supply of Variable Refrigerant Volume Outdoor Unit complete with hermitically sealed scroll compressor as per following nominal capacities complete with protective coated fins, mounting frame, casing, microprocessor panel, and other standard accessories : i) Microprocessor panel , ii) First charge of refrigerant R 410A , iii) Protective coated fins iv) Mounting frame with isolation pad , all required accessories, structural support and civil foundation. v) Interconnecting Pipes for Liquid, Discharge and Suction vi) Interconnecting Cables and Earthing from nearest given point .				
	All Inverter Scroll Compressor(s) with variable refrigeration evaporating temperature enabled feature in outdoor unit capable of inverter control with 6 pole compressor motor. The inverter compressor should be capable of changing the speed in accordance to the variation in cooling or heating load requirement, back pressure control mechanism for efficient operation in low-load				
	The outdoor unit should be fitted with low noise, aero spiral design fan with minimum External Static Pressure of 75 Pa for easy discharge of Hot air, aero fitting grille, to reduce pressure loss.				

	The outdoor unit should be capable of automatic refrigerant charge function. The heat exchanger shall be constructed with copper tubes mechanically bonded to aluminium fins to form a cross fin coil.				
	<b>Heat Pump [VRV X]</b>				
1.1	<b>30 HP</b> Heat Pump Top Discharge (RXYQ12ARY6+RXYQ18ARY/Equivalent Model with Same Capacity & Specifications in O-general/Mistubishi/Daikin)	1	Nos		
2.0	<b>Indoor Unit</b>				
	<b>4 way cassette Type Unit (Make: O-General/Daikin/Mitsubishi Heavy Industries)</b>				
	Supply, installation, testing & commissioning of 4 way cassette type indoor unit. Unit shall be with necessary long life high quality filters, cooling coil, electronic expansion valve, fan, fan motor, in-built drain pump etc., as per tender drawing and specification. Indoor units shall be able to operate on individual remote as well as on the centralised remote controller.				
	The units shall be suitable for input power supply of 1phase, 230volts, 50hz.				
2.1	1.0 TR (Nearest available Model with Higher Tonnage) Round Flow Cassette (FXFSQ32ARV16)	1	Nos		
2.2	1.59 TR (Nearest available Model with Higher Tonnage) Round Flow Cassette (FXFSQ50ARV16)	1	Nos		
2.3	2.0TR (Nearest available Model with Higher Tonnage) Round Flow Cassette (FXFSQ63ARV16)	1	Nos		
2.4	3. 2TR (Nearest available Model with Higher Tonnage) Round Flow Cassette (FXFSQ100ARV16)	6	Nos		
4.0	Indoor Refnet Joint	8.00	Nos		
5	Wireless Remote for Each Indoor Unit	9.00	Nos		
	<b>PART-2 (LOW SIDE ITEMS)</b>				
	<b>Installation of VRV Air Conditioning System</b> <b>Comprising of following items:</b>				
<b>S.No.</b>	<b>Item</b>				

	<b>SUB-HEAD 'B' LOW SIDE ( Installation Of Equipments)</b>				
	<b>SITC OF VRV UNITS:-</b>				
	Installation, Testing and commissioning of Air Cooled Inverter controlled Variable Scroll Compressor Unit by using 410A refrigerent. Unit shall be provided with micro processor based panel for sequential starting of condensing units,coils,expansion valves etc.The unit shall also be provided with other standard accessories.Capacity of out door unit is as follows:				
1.0	<b>Outdoor Unit</b>				
	Required Truck & Hidra for Transporation one place/building to another place/building and Heavy Labour for shifting of ODU Unit from Ground floor to 1st and 2nd Floor ODU Platform. IN OUR SCOPE				
	<b>Heat Pump [VRV X]</b>				
1.1	30 HP Heat Pump Top Discharge	30	HP		
2.0	<b>Indoor Unit</b>				
2.1	1.06 TR Round Flow Cassette WLR (FXFSQ32ARV16)	1	Nos		
2.2	1.65 TR Round Flow Cassette WLR (FXFSQ50ARV16)	1	Nos		
2.3	2.08 TR Round Flow Cassette WLR (FXFSQ63ARV16)	1	Nos		
2.4	3.30 TR Round Flow Cassette WLR (FXFSQ100ARV16)	6	Nos		
3	<b>REFRIGERANT PIPING</b>				

	SITC of Refrigerant gas piping sizes & gauges( <b>as per specification of OEM</b> ) duly insulated with proper hanging arrangements as required with channels as per the recommendations of OEM. It shall be in total clamping manner above false ceiling & in total concealed manner below false ceiling level. From the structural ceiling it should hang or shall be fixed on wall / beam etc. with clamps & the distance between two clamp shall be less than 1 meter. It shall not be placed over the false ceiling nor it shall be fixed with false ceiling members. The diameter / gauge of the ref.pipe shall be as per the specifications of the Manufacturing company (OEM) only for each type of machine. <b>MAKE: COPPER PIPE- Mandev / Rajco / Totaline Thermal Insulation Material-a) Nitrile Rubber - Armaflex / K Flex / Equivalent as approved by E-I-C/Architect.</b> <b>B Thermocole – Breadshell / Equivalent</b>				
3.1	<b>Gas Piping :</b>	100	RMT		
3.2	<b>Liquid Piping :</b>	100	RMT		
4	<b>Refrigerant R 410 gas for excess Copper Piping for all circuits for entire system.</b>	30	KG		
5	<b>DRAIN PIPING</b>				
	Providing and fixing in position the following UPVC condensate drain pipes cut to required lengths and necessary elbows, tees and reducers, hanger, supports, fittings and covered with 9mm thk. Nitrile Rubber Insulation. Quoted price shall be inclusive of adhesive, nitrile rubber tape etc. as per specification and drawing.( <b>Make:- U PVC Pipe Supreme / Prince/astral/Equivalent as approved by E-I-C</b> )				
5.2	32 mm dia.	20	RMT		
5.3	25 mm dia.	80	RMT		
6	<b>COMMUNICATION WIRE</b>				
	Supply & Laying of FRLS type 2C / 3C x 1.5 sq.mm copper shielded armoured Communication/Control Cabling with end termination between Outdoor Units & Indoor Units, Communication cabling between the individual controllers to the main central controller, necessary supports, Plug Top, Earthing connection etc. as per site requirement in an approved manner complete as per Technical Specifications and drawing.	300	RMT		

7	<b>REFNET CONNECTION</b>				
	KHRP26A22/33/72T6	9	Nos		
8	All sort of Civil work or carpentary work required to be executed in order to make the Air-conditioning system installed & put in working condition. The item includes, making holes / gaps in walls to pass duct & pipes, making zaries required for various types of drain, refrigerant & drain water pipes / lines in walls, floor etc. using cutter machine, including core cutting , wall cutting etc as required.Scaffolding is also to be provided by AC vendor as required.	1	LOT		
10	Supply and installation of perforated painted with powder coating MS cable trays with perforation not more then 17.5% in convenient section joint with connector and suspended from the ceiling with MS suspenders including bolts and nuts painting suspenders etc as required				
	100mm width x 50mm depth x 1.6mm thickness	mtr	30		
	150mm width x 50mm depth x 1.6mm thickness	mtr	40		
11	Taken out existing AC with outdoor unit in the complete fitting and wiring pipeing and hand over to bank proper condition	each	15		
	<b>GRAND TOTAL</b>				
<b>GST WILL BE PAID EXTRA AS APPLICABLE.</b>					
NOTE:-	The rate quoted shall be firm and shall include all costs, allowances, Charges, levies, Royalties, Cess,transportation etc. but excluding GST as applicable which will be reimbursed by the Bank as per Government norms prevailing from time to time. Contractor's are advised to visit the site before quoting. The quantities are tentative may increase or decrease as per site requirement.				
	<b>The Eligible vendor must submit the authorisation letter from the authorised dealers/OEMs of ACs for supply &amp; installation of the Air Conditioners of respective make as mentioned in the tender which will be a part of technical bid document.</b>				