

PRICE BID OF VRF/VRV AIR CONDITIONING WORK FOR STATE BANK OF INDIA 3rd Floor RACPC EAST BRANCH AT CHANDKHEDA, AHMEDABAD					
SR. No.	Description of Item	Unit	Qty	Rate	Amount
				Rs.	Rs.
A)	PART 'A'				
I	Variable Refrigerant Volume (VRV/VRF) System				
1	Supply, Installation, Testing and Commissioning of Variable refrigerant volume type air-conditioning system suitable for cooling using 100 % Fully Inverter Multiple Compressors based of R- 410A refrigerant gas complete as per specifications with the condensing unit shall be complete with refrigeration compressors,condenser coils, electronic expansion valve, solenoid valves, 4 way valve, shut down valves, service ports, accumulator and all other components which are essential for safe and satisfactory operation of the system as per original equipment manufacturer.				
	The ODU shall have maximum external static pressure 80 Pa to achieve installation flexibility. ESP must be selectable in minimum 3 steps to select as per requirement to optimize energy, capital cost, building aesthetics & noise level. Outdoor unit heat exchanger coil should be accommodated within 3 sides of outdoor unit. The 4th side to be freely available for ease of maintenance and safety of the person.				
	VRF system shall have auto Restart function i.e. In case of power failure, units should restart automatic when power resume.				
	VRF system shall have auto bypass or manual i.e. If any one IDU have any electric or PCB failure, rest of the system should continue to operate.				
	The VRF system shall have three phase technology, which shall correct phases automatically in case of phase reversal.				
	The VRF has above 3.5 cop at 100% load @35 deg c outside and 27 deg c inside				
	Units shall be provided with building microproseser control panel, for automatic opration capacity control machine shall be shuitable for working BMS system.				
	It should be with latest technology and highest efficiency unit.				
	MAKE: DAIKIN / HITACHI / MITSUBISHI ELECTRIC / MITSUBISHI HEAVY / O GENRAL / TOSHIBA				
1.1	Supply of Outdoor Unit				
1.1.1	Supply of 72 HP Unit (ODU combination as per OEM technology)	NOS	1		
1.2	Supply of Indoor Unit				
a	4 Way Round/Reguler Flow CASSATTE 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.				
1.2.1	4.0 TR CASSETTE UNIT	NOS	1		

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1.2.2	2.4 TR CASSETTE UNIT	NOS	1		
c	In the Ceiling Type INDOOR UNIT withIncluding all accessories etc. (Low/Medium Static Model)				
1.2.5	1.2 TR In The Ceiling Type Unit	NOS	4		
1.2.6	1.6 TR In The Ceiling Type Unit	NOS	4		
1.2.7	2.4 TR In The Ceiling Type Unit	NOS	1		
d	In the Ceiling Type INDOOR UNIT withIncluding all accessories etc. (High Static Model)				
1.2.9	Total 12.5 TR In The Ceiling TYPE Concealed UNIT	NOS	4		
1.3	CORDLESS REMOTE CONTROLLER with Receiver kit				
1.3.1	CORDLESS REMOTE CONTROLLER with receiver kit for Cassette, Hi-Wall Splitc & Ductable Type Unit	NOS	15		
1.4	REF NET joints and Accessories				
1.4.1	Ref-Net joints and Accessories for IDU & ODU	PAIR	14		
1.5	Supply and Installation of Drain Pump for Split AC	NOS	1		
TOTAL PART 'A'					
B)	PART 'B'				
1	Refrigerant Piping and Ref Joint				
	All detailed drawings should be made by the vendor as Mfg. Company norms. Work shall be started after the submission of the drawing by the authorized person of Mfg. Company with covering letter				
	Supply & Installation of interconnecting Refrigerant copper pipe size approved by O&M Comapny,insulated with 19 mm thick closed cell electrometric nitrile class 'O' type rubber tubular insulation between each set of indoor & outdoor units ,all piping inside the room shall be properly fixed/supported with suitable size of clamp/ M.S. hanger and all external/ exposed to sun piping shall run in M.S. painted cable tray etc. as required.				
2.1.1	Supply and Installtion of approved Copper Pipe with Insulation as per the specifications (Both suction and discharge pipes should be combined and counted as a single length (RMT))	RMT	240		
2.1.2	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 aertape.)	LOT	1		
2	Drain Piping				
2.2.1	Supply & Installation of 32/25/19/12 MM Rigid UPVC piping complete with fittings and supports with class "O" 9mm Rubber insulation.	RMT	120		

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3	<u>Control & Transmission Wiring</u>				
2.3.1	Providing & fixing control cum transmission wiring of 3 core x 1.5 sqmm Shielded/Seathed flexible control cable between indoor and outdoor unit as per the specifications with necessary supports and shall be run in pvc conduit.	RMT	290		
4	<u>MS Stand for Outdoor Units</u>				
2.4.1	M.S Structure duly epoxy painted for installing above VRF outdoor unit , TFA , Split and TFA ODU/Condensor unit on MS HEAVY STRUCTURE With MIN. 75 x 40 mm Channel with Angle and Supports including if Scaffolding at Terrace Only	KG	300		
5	<u>Installation, Testing & Commissioning of VRV System</u>				
	Handling, lifting & shifting, and installation of all indoor & outdoor units at the site with required anchor bolts, gi threaded rod, etc. As per the site requirement and approved drawing by architect/consultant				
	Pressure testing of complete copper piping network @2 times of working pressure for 24 hours to ensure leakproof piping				
	Reqd. Refrigerant gas charging & topping up as per indoor, outdoor capacity, additional copper piping (additional gas charging sheet should be attached in handing over the report)				
2.5.1	Outdoor Units of 72 HP with all connected indoor Units as per Approved Drawing	LOT	1		
6	<u>Ducting Work</u>				
	Air distribution ducting made out of G.I. sheet including collars, class VIII conforming to IS 655 including supports, bracing, flanges, turning vanes, fasteners, rivets, gaskets, nuts & bolts, etc. complete at every 2.4 m c/c & at bends etc. as per specifications.				
2.6.1	0 - 750 mm : 24 Gauge (Rectangle Duct)	SQMT	180		
2.6.2	Plenum : 22 Gauge (Rectangle Duct)	SQMT	220		
7	<u>Insulation Work</u>				
2.7	Supply & Installation having 19 mm thick closed cell nitrile class 'O' rubber insulation with aluminium sheet/foil on Supply/Return Ducting	SQMT	400		
8	<u>Accoustic Work</u>				
2.8	Duct Insulation applied inside of duct work with 25mm thick rigid fiber Glass 48 Kg/Cum density covered with RP tissue and finished with 26 G Al./GI perforated sheet or equivalent Accoustic.	SQMT	220		
9	<u>Supply / Return Air - Diffuser/Grille</u>				
2.9	Supplying and fixing of supply air square diffusers of powder coated aluminium with OBD (aluminum volume control collar damper anodized in matt black shade) as per specifications complete as required.	SQMT	15		

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10	<u>Volume Control Duct Damper</u>				
2.1	Supply, installation, testing and balancing of galvanized steel construction opposed blade volume control duct dampers, blades & casing both to be of as per approved drawings and specifications.	SQMT	5		
11	<u>Canvass Connection</u>				
2.11	Supply and Fixing of flexible Rixin connection	SQMT	10		
12	<u>Civil Work</u>				
1.12	MISC. CIVIL WORK LIKE WALL JURRY, WALL / SLAB / BEAM CUT OUTS TO PASS DUCTS & PIPES AND RE FINISHING OF THE SAME TO THE ORIGINAL FINISH	LOT	1		
13	Installation charges for existing 2.00 TR / 1.5 TR / 1.00 TR High wall mounted split A/C at new location including connection servicing & gas filling complete as directed. Shifting Existing Premises including indoor and outdoor with MS stand etc complete as directed, rates includes removing of AC from existing location, transportation to new location with proper care and fixing at new location with proper cleaning of machines.	NOS	3		
14	Refrigerant piping - insulated 0.80mm wall thickness copper tube of Mandav/ Totalline make between indoor to outdoor unit beyond 5 R m dist. Of 1.0 TR/1.50TR/2.00 TR Hi wall split unit with 2.5 Sq mm 3 Core copper flexible cable of Finolex/R R Kable/ Havells /CEI make. The copper piping shall be insulated with 13 mm thick Nitrite rubber insulated of 'O' Class of K Flax/Armaflex / Superlon Make (copper pipe concealed in inside wall)	RMT	40		
TOTAL PART 'B'					
PART 'C' - Treated Fresh Air System					
1	TREATED FRESH AIR UNIT Ceiling Suspended AHU type Unit having following approximate capacities				
	TFA Double Skin type 23 mm thick Ceiling suspende Air Handling Units of capacity 3.0 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 2000 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/ ETHOS				
1.1	5.0 TR (2000 CFM)	NOS	1		-

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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	2		
3	Air Distribution System for fresh Air				
	Supply, Fabrication, installation and testing of sheet metal ducts in accordance with the approved shop drawings. From Terrace Duct to be taken for intake of fresh Air				
3.1	24 G 0.63 mm	SQMT	70		
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.	SQMT	2		
3.4	Thermal Insulation for treated Fresh Air Ducting with 6 mm Thick Fire Retardant Nitril Rubber Insulation Class 'O'.	SQMT	70		
3.5	Acoustic Insulation for treated TFA duct first 1.5 mtr piece with 9 mm armasound nitril rubber Class 'O' or equivalen material.	SQMT	5		
3.6	3"/ 4 " dia Fresh Air Flexible Duct or Equivalent Connecting Fresh Air Dcuting & Cassate AC indoor unit's.	RMT	50		
4	Electrcical Starter Panel for AHU & ODU Condenser with interlocking of the same and control	NOS	1		
TOTAL PART 'C'					
Total PART 'A + B + C' Excluding GST					