

**PROPOSED HVAC (AIR-CONDITIONING) FOR
STATE BANK OF INDIA, REGIONAL BUSINESS OFFICE, (RBO)
SITUATED AT ONGOLE.**

DETAILED SPECIFICATIONS AND BILL OF QUANTITIES: HVAC (AIR-CONDITIONING)

S. No.	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
A	PART - A - HIGH SIDE BOQ				
1	Condensing Unit with heating and cooling mode. (Outdoor Unit):				
	Supply, Transportation, Installation, Testing and Commissioning of VRV / VRF / High COP minimum of One / Two / Three Out door units comprising of DC scroll / DC Twin Rotary, Inverter driven compressor, Air cooled condenser operation on R-134A / 410A / R290 / R600 Refrigerant gas and on 415V, 50Hz, 3 phase AC supply. The multiple compressors offered shall have independent refrigerant circuit, also shall cut off automatically in part load condition. The unit shall have microprocessor controls. The out door units shall be installed on the space allotted in the drawings and scope shall include all supports for the out door units. Units shall be factory assembled and only the refrigerant piping shall be carried out at the site. The noise levels for the out door unit shall be less than 65db(A). The price shall include the vibration isolator, all types of outdoor units connection piping (T-Shape and Y-shape) kits in pair excluding refrigerant pipe and refrigerant gas for the following capacities COP 4.1.				
1.1	22 HP Outdoor Unit with cooling mode.	Nos	2		
2	Supply, Installation, Testing and Commissioning of ceiling mounted ductable type indoor units operating on single phase 220V, 50Hz AC supply comprising of prefilter fan, density & population sensor, section with low noise fan, multispeed motor coil section with DX coil, outer cabinet, Double skin drain pan with drain water lift-up mechanism, insulation, including all types of Refrigerant pipe joint kit connections, fresh air intake, with cordless remote controller etc., for the following capacities.				
2.3	8 TR cooling capacity not less than 28KW	Nos	3		
2.3	6 TR cooling capacity not less than 21KW	Nos	3		
3	Supply of CASSETTE UNITS type indoor units (Gas - R 32 / R134A / R407 / R410 / R290 / R600 - Ozone Friendly and Non CFC Refrigerant) with necessary Gas comprising with pre-filter, fan section with low noise fan 3/4 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 REMOTE CONTROL. Panel size should be not more than 950mm Square.				
3.1	2.0TR Capacity	Nos	1		
3.2	1.5TR Capacity	Nos	1		
4	Supply of HI WALL type indoor units (Gas - R 32 / R134A / R407 / R410 - Ozone Friendly and Non CFC Refrigerant) with necessary Gas comprising with pre-filter, fan section with low noise fan 3/4 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 REMOTE CONTROL.				
4.1	1. TR Capacity	Nos	2		
5.0	S.I.T.C. of 3 Star inverter model Split A.C. (Gas - R 32 / R134A / R407 / R410 - Ozone Friendly and Non CFC Refrigerant) with necessary Gas Top Up comprising Indoor & Out-door units. Indoor unit comprising Multi Row DX cooling coil, expansion valve, drier, motor driven air-blower with metallic frame etc. Out-door unit will have rotary/scroll compressor, condenser coil, & fan, Cordless remote control unit etc. including refrigerant gas charging.				
5.1	2 TR	Nos.	2		
5.2	1.5 TR	Nos.	2		
6	Multi kits for Indoor and Outdoor units at various sizes, based on the manufactures requirement.	Nos	16		

S. No.	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	TOTAL EQUIPMENT COST				
	TOTAL COST - PART 1.			Rs	
B	LOW SIDE WORKS				
1	Lifting, Shifting, Positioning & Installation of VRF Outdoor units	Nos	2		
2	Lifting, Shifting, Positioning, Installation , Commissioning and Testing of VRF Indoor units	Nos	10		
3	Vacuuming the system, Gas topping up of R410a, pressure testing and commissioning of above system.	Lot	1		
4	Supply & installation of suction & discharge Hard copper Refrigerant piping with proper supports/hangers from ceiling/wall as required at site & approved by consultant & duly insulated with closed cell elastomeric nitrile insulation of 19mm thick for pipes above 1" and 13 mm thick for pipes below 1"				
4.1	6.4/12.7 mm	Rmt	20		
4.2	9.5/15.9 mm	Rmt	56		
4.3	9.5/19.1 mm	Rmt	46		
4.4	9.5/22.2 mm	Rmt	30		
4.5	12.7/28.6 mm	Rmt	10		
4.6	19.1/41.3 mm	Rmt	31		
5	supply , installation , testing and commissioning of Factory Fabricated GSS ducting complete with angel iron flanges, high tech supports (Vanes if reuired) as per IS 655 & Class VIII specifications				
5.1	22 Gauge	Sqm	45		
5.2	24 Gauge	Sqm	195		
6	Fire retardent Canvass connections with 150 mm Zip	Nos	6		
7	Supply,installaion , testing and commissioning of Accoustic insulation with 12 mm thk. Resin boned fiber glass of density 48 kg/ cum covered with RP tissue and 28 G AL perforated sheet	Sqm	50		
8	Supply,installaion , testing and commissioning of Thermal insulation for ducts with 25mm thick fibre glass of density 24 kg/ cum covered with factory laminated aluminum foil	Sqm	184		
9	Supply,installaion , testing and commissioning of Extruded aluminum powder coated continous grills	Sqm	32		
10	Supply,installaion , testing and commissioning of MS Powder coated collar dampers	Sqm	7.5		
11	Supply,installaion , testing and commissioning of GI Volume control dampers made out of 18G GI sheets	Sqm	5.5		
12	Supply and Erection of hard PVC condensetd drain piping with 9mm thick Nitrile insulated including support and wall opening of the following sizes etc..				
12.1	a) 32mm Dia	Rmt	30		
12.2	b) 25mm Dia	Rmt	20		
13	Supply and Laying of Control and communication cable and connecting the IDUs and ODUs (control wiring with conduit).				

S. No.	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
13.1	4C X 2.5 Sq.mm copper cable	Rmt	180		
13.2	3core x 1.5 sq mm for 1.0 TR Hi Wall & 1.5 TR	Rmt	60		
	Associated Civil Works				
14	Chipping, chasing the wall openings for Copper& Drain openings in rooms etc.	Lot	1		
	MS WORK				
15	Outdoor Flat form/Stand work for mounting of Outdoor units for all the above Outdoor units.	Nos	2		
16	Cyclic Timer for AC.	Nos	1		
	TOTAL LOW SIDE WORK				
	TOTAL COST - PART 2.			Rs	
	TOTAL COST - PART 1.			Rs	
	TOTAL COST - PART 2.			Rs	
	GRAND TOTAL = PART A + PART B:			Rs	
	DISCOUNT IF ANY :				
	NETT TOTAL :			Rs	