

REGIONAL BUSINESS OFFICE, DIBRUGARH

BOQ for Supply, Installation and Commissioning of VRF Air Conditioner at proposed new premises of RBO, Dibrugarh

Sl. No.	Description	UOM	Qty.	Rate (Rs.) (Exclusive of GST)	Amount (Rs.) (Exclusive of GST)
A	High Side Work: Supply of machines				
1	Supply of Variable Refrigerant Flow / Volume SYSTEM (VRF) (with only Cooling facility) comprising of 100% DC inverter based scroll compressor Outdoor unit only connectable to multiple indoor units as per specification. Outdoor units shall be factory assembled weather proof. Casing constructed from heavy gauge mild steel(sheet metal material is hot zinc plate & sheet metal thickness is 1 mm) ,must have 100% DC Inverter Scroll compressor in each module & with top Air discharge through. The outdoor unit should contain error code LED display for ease of operation. The system should be equipped with eco - freindly refrigerant R 410A. The system should be suitable for operation within the ambient temperature range of 40 to 56 deg The outdoor unit shall be complete with safety devices . The outdoor unit should be fitted with low noise fan with multiple speed DC motor and large air flow. The unit should also be capable to deliver at least 70pa external static pressure to avoid short cycling of hot exhaust air. t, Air-cooled condenser along with in built Micro Processor Panel. Units should be capable to handle incoming voltage fluctuation during operation it should have a voltage operating range from 320V - 460 V 3 phase 50Hz, balanced volt. Considering the long length piping the unit should have a good oil management system to ensure reliability. The unit should have oil separator to ensure oil recovery in the system. To maintain the oil balance in the system the units should have a facility of swapping the oil on the next ODU on a regular basis. Units should capable to operate on very low load condition upto 5%. To handle extreme climatic condition, corrotion and polluted atomshperes unit should have powder coated GI sheet metal cabinets,all hardware of anti rust quality,conformal coating on PCBs to protect from dust and humidity,hydrophilic blue fins for better corrosion resistance, weather - proof enclosures for critical components. The minimum COP of the modules should be 3.5 at 100% load at ARI conditions. Units should be of 5th generation variant.				
i)	26 HP OUTDOOR UNIT	Nos.	1		
2	Supply of VRF Ductable Split unit to be connected to the above VRF system having high static 25-120pa for long ducting, powder coated for long life.				
i)	8.5 TR INDOOR UNIT	Nos.	2		
ii)	5.5 TR INDOOR UNIT	Nos.	1		
3	Supply of 1.0 TR Capacity Hi Wall mounting 5-star rated Inverter Split AC with cordless remote and Copper Condensor Coil Coiland refrigerant (R32 or R 410A). AC Make, Voltas/Bluestar /Carrier/Daikin /LG/Godrej(INCLUDING 3 M COPPER PIPES)	Nos.	6		
4	Supply of 1.5 TR Capacity Hi Wall mounting 5-star rated Inverter Split AC with cordless remote and Copper Condensor Coil Coiland refrigerant (R32 or R 410A). AC Make, Voltas/Bluestar /Carrier/Daikin /LG/Godrej(INCLUDING 3 M COPPER PIPES)	Nos.	1		

Sl. No.	Description	UOM	Qty.	Rate (Rs.) (Exclusive of GST)	Amount (Rs.) (Exclusive of GST)
5	"Supply of 3.0 TR 4-way Cassette Type Inverter AC, 5 STAR with Copper Condensor Coil and refrigerant (R32 or R 410A) Indoor unit ceiling hung comprising cooling coil, evaporator fan with motor, filters, insulated drain pan, drain pump, expansion valve, refrigerant filter drier with codeless remote control unit, etc. Outdoor unit comprising single phase hermetically sealed scroll / rotary compressors, condenser coil with fan & motor, starters / controls / cutouts / relays etc., mounted inside a powder coated sheet metal cabinet of 2mm thick, duly treated for corrosion protection complete, mounted on ribbed rubber pads. AC Make, Voltas/Blue Star/Carrier/Daikin /LG"	Nos.	1		
TOTAL - A (Excluding GST)					
B Lowside Work: Supply and installation of auxiliaries and commissioning of units					
1	Supply of wireless remote controllers	Nos.	3		
2	Supply and fixing of Refnet "Y" Joint for Indoor & Outdoor Units.	Nos.	3		
3	Lifting & Instalation of all the above mentioned (as per item No.1,2) VRF machine Out Door / Indoor Units , Presiure testing with Nitrogen Presure & Vacuumising and Charging of required quantity of refregerant Gas- R-410 with Group Controller.	Lot	1		
4	Supplying, installation, testing & commissioning of GSS ducting of following thickness including necessary supports etc complete as per IS 655.				
i)	24 Gauge GSS Ducting site fabricated as per IS 655	sq m	130		
5	Full duct thermal insulation with 13mm thick, Aluminium foil faced nitrile rubber	sq m	110		
6	Duct accoustic insulation with 10mm thick open cell nitrile rubber	sq m	30		
7	Supply and fixing of Air Distribution Grille / Diffuser				
i)	Supply air grille/diffuser with vcd	sq m	5		
ii)	Return air grille/diffuser without vcd	sq m	5		
iii)	Duct Damper	sq m	1.2		
8	Supply and fixing of canvass connection in the Ductable IDU and duct	Nos.	2		
9	Supply, Installation, Testing & Commissioning of mirror finish inside /outside refrigerant piping, including thermal insulation out of hard drawn copper pipes suitable for VRV/VRF system including all fittings like bends,elbows, tees with all internal joint type fittings. Pipe line must be tested for requisite pressure & must be supported at every 8 ft in intervals. All refrigerant piping to be insulated with 19 mm thick class "O" armafex nitrile rubber. Complete copper piping with fitting to be coated with Blygold / Thermoguard. Also vendor to provide per meter running length cost of the suitable piping size cumulative- * Chiesling (Wall Openings, cut-outs, etc) Drain piping for AC units shall he included in the Piping Rates.				
i)	Suction line	Mtr.	80		
ii)	Discharge Line	Mtr.	80		
10	Supply, Instalaltion, Testing & Commissioning of UPVC Drain Pipe and arrangement should be at lastly all drain pipes to be connected with rain water pipe:-				
i)	PVC drain piping 25 mm with 6mm nitrile insulation	Mtr	10		
ii)	PVC drain piping 32 mm with 6mm nitrile insulation	Mtr	20		
iii)	PVC drain piping 40 mm with 6mm nitrile insulation	Mtr	30		

Sl. No.	Description	UOM	Qty.	Rate (Rs.) (Exclusive of GST)	Amount (Rs.) (Exclusive of GST)
11	Supply and laying, termination and commissioning of 1.5 sqmm 2 core shielded communication cable between Indoor unit and outdoor unit and for centralized remote control laid in PVC conduit.	Mtr	80		
12	Placing of machine with supply of MS Stand with rib rubber pad and PCC Pedestal for VRF outdoor unit 26 HP Out Door Unit.	Nos	1		
13	Preparation of AC drawing layout showing refrigerant pipeline route, drain line and machine position	Lot	1		
14	Installation charges of the 1 Tr/1.5 TR Hi-Wall Split AC including outdoor frame / stands to withstand the full load of outdoor units and making good all the damage.	Nos.	7		
15	Installation charges of the 3.0 TR Cassette Split AC including outdoor frame / stands to withstand the full load of outdoor units and making good all the damage.	Nos.	1		
16	For 3.0/2.0 TR Copper Cassette type split air conditioners: Supply and laying of copper pipes, drain pipes (covered with GI pipes wherever necessary), copper wiring in GI conduits neatly drawn in professional manner from power points to outdoor / indoor units complete with all necessaries and making good all the damages.	RM	120		
17	For 1.0 TR/1.5 TR Hi-Wall type split air conditioners: Supply and laying of copper pipes, drain pipes (covered with GI pipes wherever necessary), copper wiring in GI conduits neatly drawn in professional manner from power points to outdoor / indoor units complete with all necessaries and making good all the damages.	RM	20		
18	Supply and Installation of 3 KVA Stabilizer for 1.5 TR Split type Acs	Nos.	7		
19	Supply and Installation of 5 KVA Stabilizer for 3.0 TR Cassette type Acs	Nos.	1		
20	Un-installation, shifting, servicing including gas charging, cleaning & installation of 2.0 TR 4-way Cassette Type Inverter AC, 3 STAR unit and other accessories from old premises to new premises(Distance 5KM)(LG Make)	Nos.	9		
21	MS structure catwalk for maintenance of Air conditioner outdoor unit 750mm width and 15000 mm length with hand rail(for 3rd and 4th floor AC)	lot	1		
	TOTAL - B (Excluding GST)				
	TOTAL (A+B) (excluding GST)				