

**REFURBISHMENT OF GUWAHATI BRANCH**  
**BOQ FOR AIR-CONDITIONING WORK**

Sl. No.	Description	UOM	Qty.	Rate (Rs.) (Exclusive of GST )	Amount (Rs.) (Exclusive of GST )
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 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 operting 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 atomshpheres 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)	<b>28 HP OUTDOOR UNIT</b>	No	5		
2	Supply of Non-Ductable Four way Cassette unit to be connected to the above VRF system convenient to mount on false ceiling , powder coated for long life, detachable panel for easy service, various level of fan speed for user comfort and convenience, low sound level .				
i)	<b>3.2TR INDOOR UNIT</b>	No	2		
ii)	<b>2.3TR INDOOR UNIT</b>	No	12		
iii)	<b>1.7 TR INDOOR UNIT</b>	No	6		
iv)	<b>0.8 TR INDOOR UNIT</b>	No	4		
3	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)	<b>8.0TR INDOOR UNIT</b>	No	8		

4	Supply of group controller having touch screen based user friendly controller upto 16 indoor units and 3 systems can be controlled , parameters for individual indoor units can be set,remote shielding of machines can be performed,parameters like on/off status ,mode of operation temp setting can be viewed and set.	No	4		
5	Supply of wired remote controllers	No	8		
6	Supply of wireless remote controllers	No	25		
7	Supply of Refnet "Y" Joint for Indoor & Outdoor Units.	No	31		
8	Lifting & Installation of all the above mentioned (as per item No.1,2,3) VRF machine Out Door / Indoor Units , Pressure testing with Nitrogen Pressure & Vacuuming for Charging of "Gas- 410" with Group Controller.	Lot	1		
9	Site Fabricated insulated by 13 mm nitrile rubber Class -1 GI ducting as per IS 655 including supply installation GI sheets, sealants,supports,GI turning vanes,accessories, grilles, & diffusers,Volume control damper ,Mechanical Fire damper and Acoustic insulation by 25 mm Thick Glass wool rigid board wrapped with 26 SWG Aluminium perforated sheet and tissue paper, for 1st /2nd & 3rd Floor.	Sq.mtr	155		
10	Supply Installation and Testing of Refrigerant pipe with (19mm /13 mm thick) closed cell elastomeric nitrile rubber tubular insulation between each set of indoor & outdoor units complete with necessary connecting Y joints and other accessories as per specifications, all Refrigerant Pipe Should Run on cable trays at the surface of the building of required Size and should be complete with Supports ,Hangers etc.				
i)	53.98 mm O.D.	Mtr.	10		
ii)	41.3 mm O.D	Mtr.	15		
iii)	28.6 mmOD	Mtr.	15		
iv)	38.01 mm O.D.	Mtr.	10		
v)	34.9 mm O.D.	Mtr.	15		
vi)	31.80 mm O.D.	Mtr.	15		
vii)	28.6 mm O.D.	Mtr.	40		
viii)	25.4 mm O.D.	Mtr.	10		
ix)	22.2 mm O.D.	Mtr.	130		
x)	19.1 mm O.D.	Mtr.	130		
xi)	15.9 mm O.D.	Mtr.	130		
xii)	12.7 mm O.D	Mtr.	130		
xiii)	9.5 mm O.D.	Mtr.	150		
iv)	6.4 mm O.D.	Mtr.	20		

11	Supply, Instalaltion, Testing & Commissioning of UPVC Drain Pipe and arrangement should be dONE so that lastly all drain pipes to be connected with rain water pipe:-				
i)	PVC drain piping 25 mm with 6mm nitrile insulation	Mtr	200		
ii)	PVC drain piping 32 mm with 6mm nitrile insulation	Mtr	100		
iii)	PVC drain piping 40 mm with 6mm nitrile insulation	Mtr	100		
12	Supply, Installation, Testing & Commissioning of communication cable for VRF unit	lot	1		
13	Lifting & Placing of machine with MS Stand/ rib rubber pad for VRF outdoor unit 28 HP Out Door Unit.	Nos	5		
14	<b>Comprehensive AMC of the all the VRF system including indoor, outdoor, other connected system after completion of warranty period of 1 year from the date of installation.</b>	year	1		
	GST will be extra as applicable.			Grand Total	