

**RENOVATION OF TAWANG BRANCH
BOQ FOR VRF AIR CONDITIONING UNIT**

S.No.	Specification/ Model	Qty	Unit	Supply Rate	Total Rate
	GROUP "A"				
1	Supply of modular type Variable Refrigerant Flow / Volume SYSTEM Hot & cool comprising of 100% DC inverter based scroll compressor only ,connectable to multiple indoor units as perspecification. Outdoor units shall be factory assembled weather proof. Casing constructed from heavy gauge mild steel(sheet metal material is hotzinc plate & sheet metal thickness is 1 mm),must have 100% DC Inverter Scroll compressor in each module & with top Air discharge through. Theoutdoor 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 airflow. The unit should also be capable to deliver at least 70pa external static pressure to avoid short cycling of hot exhaust air, Air-cooled condenseralong with in built Micro Processor Panel. Units should be capable to handle incoming voltage fluctuation during operation it should have a voltgae operating range from 320V - 460 V 3 phase 50Hz, balanced volt. Considering the long length piping the unit should have a good oil managementsystem to ensure reliability.. The minimum COP of the modules should be 3.5 at 100% load at ARI conditions. Units should be of 5th generationvariant The ODU shall have the digital console for monitoring and shall be compatible to BMS. Note : The same system have 100 % capacity upto 43degree Celsius and non stop cooling upto 56 degree Celsius . The units shall be as per specifications for the following capacities:				
	Outdoor Unit Hot & Cool				
i)	12Hp	2	Nos.		
2	Indoor Units for above mentioned outdoor units: - Supply of 4way supply Cassete type VRF indoor units with compact cooling coil, electronic expansion valve and multispeed fan motor. The blower shall be statically & dynamically balanced and designed forsilent operation, the filters shall be washable synthetic media type arranged for convenient cleaning and replacement. The unit shall also consist ofdrain pan and drain pump and Cordless Remote Controller.				
i)	Capacity-.8TR	1	Nos.		
ii)	Capacity-1.3 Tr	1	Nos.		
iii)	Capacity-1.7 Tr	2	Nos.		
iv)	Capacity-2.8Tr	5	Nos.		
3	Supply Of Cu Refnet Joints for indoor and Outdoor.				
i)	For indoor	7	Nos.		
	Total Basic Value for Supplying of Equipments(Rs)				
	Total for Group "A" Excluding GST				
	Group "B"				
4	VRF Out door shifting at location , Installation with Rubber pad ,Testing -Flushing with N2 & Pre Commissioning .				
	Out Door Unit				
i)	12Hp	2	Nos.		
5	Indoor Unit Installation, Testing & Commissioing				
a)	VRF Cassete Unit				
i)	Capacity-.8TR	1	No		
ii)	Capacity-1.3 Tr	1	No		
iii)	Capacity-1.7 Tr	2	No		
iv)	Capacity-2.8Tr	5	No		
6	Installation,Testing and Commissioing of Cu Refnet Joints /Y Joints				
	For indoor	7	No		
7	Supplying & Installation of interconnecting following sizes of one end expanded refrigerant copper pipe work of following outer diameter, insulated with 19/13 mm thick closed cell electrometric nitrile 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 piping shall run in cable tray ladder type etc. as reqd. MAKE- MANDEV/MAXFLOW/				
i)	6.4mm Dia	12	Rmt		
ii)	9.5mm Dia	37	Rmt		
iii)	12.7mm Dia	49	Rmt		
iv)	15.9mm Dia	37	Rmt		
v)	19.1 mm dia	28	Rmt		
vi)	22.2mm Dia	35	Rmt		
vii)	28.6mm Dia	30	Rmt		
8	UPVC Drain piping : - "Providing & fixing rigid PVC piping complete with fittings, supports as per specifications and pre insulated with 6mm thick closed cell elastomeric nitrile rubber tubular				
i)	25mm dia	50	Rmt		
ii)	32mm dia	20	Rmt		
9	Supply, Installation, Testing & commissioning of sealded and fully proof copper flexible cable for indoor communication with all respect.				
i)	2 C X.75 SQMM	120	Rmt		
10	Additional Refrigerant Gas Charging				
	Additional Gas Charging-R410A	40	kg		
11	Commissioing Of the System	1	Lot		
	Total Basic Value for low Site in Group-B(Excluding GST)				
	Group C"				
12	Comprehensive Annual Maintenance Contract for Complete VRF Air Conditioning unit Installed at Tawang Branch after expiry of defect liability period.	1	Year		
	Total Basic Value for AMC in Group "C"(Excluding GST)				
	TOTAL PROJECT COST(Group-"A" + Group-"B" + Group-"C")				