

## BILL OF QUANTITIES FOR AIR CONDITIONING WORKS AT SBI DEHRADUN MAIN BRANCH, DEHRADUN

S. No.	Description	Unit	Quantity	Rate	Amount
1	Supplying, Installation, Testing & Commissioning of Outdoor VRV/VRF units in modular design complete with 100% inverter type scroll compressor suitable for Heating/ cooling only complete with air cooled condenser with low noise fan having inter-connected control wiring, refrigerant piping with standard accessories, duly charged with R32/ R410A refrigerant with suitable size MS channel stand, duly painted complete as required. VRV/VRF System shall be suitable for working on 49°C ambient temperature with refrigerant R-410a with MS channel outdoor stand of suitable size to carry the weight of outdoor unit inclusive of full charge of Refrigerant Gas & oil etc. complete as required. The Cop of System mentioned below shall be not less than 4.7 at 50 % load, at 45° CDB ambient temp, at 7°CDB,19°CWB inside temp. (Toshiba/ Hitachi/ O-General/ LG) Item to include powder coated outdoor stands as per the manufacturer specifications. (Combination of outdoor as per oem)				
	Odu 16 Hp (Heating+Cooling)	Nos.	2		
2	<b>CASSETTE/ WALL SPLIT VRF TYPE INDOOR UNIT AIR CONDITIONERS</b>				
	Supplying, Installation, Testing and Commissioning at site of 4 way cassette, Hiwall and Ductable VRF type indoor air-conditioning units with cordless remotes of the following capacity for mounting on ceiling, each comprising of cooling/ heating coil, blower with multi-speed motor, electronic expansion valve, supply and return air grill, filters, insulated connection of refrigerant circuit, intake air port for fresh air entry, condensate water drain pump with electronic level sensor complete, suitable to operate from central remote control & installation from ceiling with all required supports, anchor fasteners hardware, interconnecting refrigerant copper piping, valves, supports etc. including terminations at nearest power outlet with copper wire of 3 C x2.5 sq.mm. in metallic flexible conduit and interlocking with outdoor units .				
2.1	1.0 TR wall split unit	Nos.	3		
2.2	1.3 TR 4 way cassette unit	Nos.	4		
2.3	1.6 TR 4 way cassette unit	Nos.	1		
2.4	2.2 TR 4 way cassette unit	Nos.	2		
2.5	2.6 TR 4 way cassette unit	Nos.	1		
2.6	3.2 TR 4 way cassette unit	Nos.	2		
3.1	<b>Remote Controller- Cordless remotes</b>	Nos.	13		
3.2	<b>Refnets</b>	Nos.	12		
4.0	<b>COPEER REFRIGERANT PIPING</b>				
	Supply, Installation, testing and commissioning including vaccumiazation and Nitrogen testing of following nominal sizes of soft/ hard drawn copper refrigerant piping for VRV/ VRF system, complete with fittings, with suitable adjustable ring type hanger supports, jointing/ brazing including accessories, insulated with XPLE Class-O tubular insulation/ with Class-O closed cell elastometric nitrile rubber tubular sleeves sections of specified thickness as given below for Suction and Liquid lines, all accessories as per specifications etc. as required :				
4.1	6.4 mm dia (OD) (Soft drawn) with tube thickness 1.2 mm with 19 mm thick insulation	R.Mt.	45.00		
4.2	9.5 mm dia (OD) (Soft drawn) with tube thickness 1.2 mm with 19 mm thick insulation	R.Mt.	80.00		
4.3	12.7 mm dia (OD) (Soft drawn) with tube thickness 1.2 mm with 19 mm thick insulation	R.Mt.	20.00		

<b>4.4</b>	15.86 mm dia (OD) (Soft drawn) with tube thickness 1.2 mm with 19 mm thick insulation	R.Mt.	60.00		
<b>4.5</b>	19 mm dia (OD) (Hard drawn) with tube thickness 1.2 mm with 19 mm thick insulation	R.Mt.	40.00		
<b>4.6</b>	22.2 mm dia (OD) (Hard drawn) with tube thickness 1.2 mm with 19 mm thick insulation	R.Mt.	10.00		
<b>5</b>	<b>DRAIN PIPING</b>				
	Providing and fixing drain piping up to drain as directed by the engineer incharge with all accessories e.g. elbows, unions, sockets, reducers, reducing tees, nipples etc. Complete job including cutting chiseling in walls, floor and making good of all chases/ cuts etc. and discharging the drain into a floor trap/ gully as per site conditions with insulation, both as specified by the manufacturer. (make as approved by Architect/ Bank).				
<b>5.1</b>	25 mm dia PVC drain pipe for Split AC	R.Mt.	30.00		
<b>5.2</b>	32 mm dia PVC drain pipe for Cassette AC	R.Mt.	60.00		
<b>6</b>	<b>Control &amp; Transmission Wiring</b>				
	Supply, Installation, Testing and Commissioning of control cum transmission wiring of 3 core x1.5 sq mm copper wire in suitable PVC conduits between indoor & outdoor units	R.Mt.	160.00		
	<b>TOTAL FOR AIR CONDITIONING WORKS</b>				

**Note:- The rates quoted includes all other taxes , duties , loading, unloading , transportation, other expenses etc to site. only GST will be paid Extra**