

**MIHAN BRANCH, SBI**

**VRF TYPE AIR-CONDITIONING SYSTEM INCLUDING ALL REQUIRED ANCILLARY WORK :-**

<b>S.No</b>	<b>Description</b>	<b>Unit</b>	<b>Quantity</b>	<b>Unit Rate</b>
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**PART A) ANNEXURE – I : HIGH SIDE : EQUIPMENTS:**

**Preambles**

- 1 All Items shall be quoted in the given format.
- 2 Client reserves the right to take any item as client supplied
- 3 Client reserves the right to add or delete any item from the tender during or after the finalization of the tender.
- 4 Boq items shall be read with the technical specifications
- 5 In case of discrepancy in Boq and technical specifications the stringent shall be followed.
- 6 Control cable from outdoor unit to indoor unit (condenser to evaporator) with necessary insulating tape etc.
- 7 It is advice to visit the site before quoting the boq
- 8 MS Powder coated bracket with fasteners to be fixed on walls / slab with all necessary fixing accessories ALONG WITH ANIT VIBRATION CUSHOR FOOT MOUNTING ONLY.
- 9 The Items in the Boq may or may not be operated as per site conditions.
- 10 Any deviation with respect to boq shall be informed and mentioned while quoting TENDER.
- 11 Insulation shall be done properly with vapour barrier and to provide mechanical protection against abrasion.
- 12 Indoor unit shall be considered with required structural support to hang in ceiling or floor / loft with anchor fasteners, rubber gaskets, nuts, bolts, inlet outlet connections
- 13 Treated fresh air unit shall be considered with MERV 13 pre filter
- 14 Copper piping shall be considered with T and Y joints with insulation.
- 15 All AHUs except VRF ductable unit shall be DX type unless otherwise mentioned.
- 16 Any item missed in the tender for competing the installation, testing, commissioning of the complete HVAC system all also to be included.

1 **CARRIER / BLUE STAR / HITACHI / TOSHIBA / MITSUBUSHI / DAIKIN -VRF UNITS : FULLY INVERTER ONLY :-**

Supply Installation, commissioning & testing of VRF Multi- split systems as specified and complete with the following and suitable for cooling

**DX VRF OUTDOOR UNITS :**

a) Outdoor units complete with DC Twin rotary compressors / FULLY DIGITAL BASED SCROLL COMPRESSOR with atleast 2 x 100% inverter compressors cooling only etc as specified latest technology fully inverter based compressor. Each Outdoor Unit will require minimum 2 Nos. Fully Inverter Compressor Only.

b) Environmental friendly refrigerant. (HFC) : R410 REFRIGERANT GREEN GAS

c) The required distribution board with required isolators to supply power two both ODU in a MS fabricated & Powder Coated Enclosure of IP 65 Protection with weatherproof canopy.

d) with Required cowl piece on fan discharge.

1.1 VRF Modular Type Outdoor unit 20 HP Top discharge : Space Saver Compact Model ONLY. Sets 1

2 **VRF INDOOR UNITS : Indoor units of types mentioned below complete with Panel - Grill, cordless remote controller, mounting arrangements, drain pump etc.**  
**VRF INDOOR UNITS : Indoor units of types mentioned below complete with Panel - Grill, cordless remote controller, mounting arrangements, drain pump etc.**

2.1 FOUR WAY COMPACT CASSETTE AC's VRF Indoor Units :

a 2.4 TR Capacity Four Way Cassette AC Nos 6

b 1.5 TR Capacity Four Way Cassette AC Nos 1

c 1.5 TR Capacity Hi Wall Split AC Nos 1

3 Supply and installation of Touch Screen based Digital central Remote Controller Nos 1

4 **NON VRF UNITS**

a 1.0 TR Capacity Split AC 5 Star with 3 Mtr Copper piping and 3mtr Control cable Nos 2

**TOTAL BASIC COST**

**PART B) ANNEXURE – II : LOW SIDE ANCILLARY INSTALLATION WORK :**

**Schedule of Ancillary Works & Price : FOR INSTALLATION & ITS ANCILLARY WORK :**

S.No	Description	Unit	Quantity	Unit Rate Rs.
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**APPROX. INSTALLATION BREAK UP**

1 Hard Copper Piping with 19mm thick nitrile rubber "O" Class insulation and necessary supports : minimum 18 G Hard COPPER PIPES Make Of Copper Pipes : Mandev / Rajco / Max Flow / Totaline Only & With "O" Class 19 mm thick Insulation make "Superlon / Armaflex" : Piping material shall Confirm to ASTM B280 Standards : For VRF System as per following dimension :

1.1	6.4 to 31.05 mm	RMT	70
1.2	Copper piping for non VRF Split AC Units(suction and liquid) i/c all accessories	RMT	0
2	Control Cabling between Indoor & Outdoor Units (3 CORE X 1.5 SQMM SHEILDED CABLE ) CABLE MAKE "POLYCAB / FINOLEX." - Laid in Conduits Pipe Only.	RMT	70
3	Control Cabling between Indoor & Outdoor Units for Non VRF Split Acs	RMT	0
4	Hard UPVC Drain piping with 6 mm Rubber Nitrile Class "O" Insulation Make "Plasto/ Supreme" 32 mm dia.	RMT	50
5	Hard UPVC Drain piping for Non VRF AC Units	RMT	10
6	Supply & Laying of 300 mm Width GI Tray fabricated with 16 G Thick perforated sheet for laying of copper piping / electrical cabling / drain piping etc.	RMT	10
7	MS stand for Outdoor Units WITH PROVISION OF ANTI VIBRATION CUSHOR FOOT MOUNTING FOR MACHINE & Hanging Stand For Indoor Units with required MS frame arrangements only : MS "C" Channel Structure Type as per site requirement only - Fabricated with MS "C" Channel only & fabricated hanging stand for Indoor Units, DX Units for mounting of independent Outdoor units as require.	Nos	1
8	MS Powder coated bracket with fasteners to be fixed on walls / slab with all necessary fixing accessories ALONG WITH ANIT VIBRATION CUSHOR FOOT MOUNTING ONLY for Non VRF Split AC Units	Nos	2
9	Standard Installation / Pressure Testing / Vaccumissing / Commissioning		
9.1	Leak Testing of Outdoor Machines for inverter Compressors complete with provisioning of anti-vibration isolators pads for complete machine etc.		
10	20 HP OUTDOOR UNITS.	Sets.	1
	Installation, Testing & Commissioning Of Cassette AC's Type VRF Indoor Units :		
a	2.4 TR Capacity Four Way Cassette AC	Nos	6
b	1.0/1.5 TR Capacity Four Way Cassette AC / Hi Wall Unit	Nos	2
11	Installation, Testing & Commissioning Of Non VRF AC Units		
a	1.5 TR Capacity Split AC	Nos	2
12	Supply & Fixing Of Refrigerant Joints as per company STD. material for VRF units only.	Nos	7
13	SITC of digital timer i/c all necessary accessories etc as reqd.	Nos	1
14	Lifting Shifting of Indoor & Outdoor Units On Terrace Level.	LOT	1
<b>TOTAL BASIC INSTALLATION COST</b>			
14	Providing Comprehensive annual maintenance for Airconditioning units which includes servicing and repairing of all the Airconditioning units by predefined frequency. The AMC Period will start after completion of 1 year warranty period.		
	For 1st Year	TR	18
	For 2nd Year	TR	18

For 3rd Year	TR	18
For 4th Year	TR	18
For 5th Year	TR	18

**TOTAL AMC CHARGES FOR 5 YEARS AFTER WARRANTY PERIOD OF 1 YEAR**

**GRAND TOTAL**