

**Air-Conditioning estimate for the KEMS Corner**

Sr. no	Particulars	Qty	Nos.
1	<b>Supply of Out Door Units suitable for VRF / VRV System</b>		
	Supply of Modulating outdoor units, with multi scroll compressors (minimum two compressors) with inverter type compressor, special pre-coated fins, panel, corrosion resistant (suitable for seaside installation) coated condenser, inverter-based condenser fan M.S. hot dip galvanized stands / supports, electrical & microprocessor panel, isolating valves and all the necessary accessories for proper functioning of the units, having following approximate capacities. Outdoor units suitable for following capacities:		
	Note: Fins and copper tubes of Air Cooled Condenser along with copper tubing / piping with all joints and U-Bends exposed to coastal areas corrosive atmosphere / aggressive ambient, shall be painted with special corrosion prevention coating either in factory or at site Note: Fins and copper tubes of Air Cooled Condenser along with copper tubing / piping with all joints and U-Bends exposed to coastal areas corrosive atmosphere / aggressive ambient, shall be painted with special corrosion prevention coating either in factory or at site		
i	<b>12 HP VRF ODU</b>	1	No
2	Supply of VRF based Indoor units complete with remote and all accessories, Vibration isolators & supports. The indoor unit shall be suitable for a power supply of 240V/ 1 phase/ 50Hz OR 415V / 3 phase / 50Hz		
	4-way Cassette Type Indoor Units, unit shall be complete with wireless remote controller		
i	3TR	4	nos
ii	1.0TR	1	nos
3	Refnet Joints		
	<b>Supply of Refnet Joints</b>	4	nos
4	<b>Supply, Of 1.5 TR SPLIT Type (1 Phase,3STAR) Air Conditioning Units.</b>		

		Supply, of 1.5 TR SPLIT type (1 phase,3STAR) air conditioning units comprising of indoor unit, outdoor unit, first fill of refrigerant gas, thermostatic control, safety cut outs, corded remote for unit operation, condenser and evaporator mounting stand, insulation of refrigerant piping, drain piping and any other accessories required for installation Note: The rates quoted above shall include the cost of indoor units, mounting brackets, first charge of gas. Materials like fittings, clamps, supports, U trap in drain piping with necessary slope etc., minor civil work like opening in the walls for piping and cables and finishing the same. pipes & cables between through wall shall be taken through sleeves and plugged to avoid leakages, condenser mounting with all accessories vibration mounting pads etc., piping and cabling connections at indoor.		
	i	<b>1.5TR</b>	2	nos
	ii	1.0 TR	4	nos
		<b>SECTION 'A' TOTAL</b>		
		<b>B-SECTION</b>		
		<b>Installation of VRF/ VRV system</b>		
1		Installation, Testing and Commissioning of Out Door Units suitable for VRF / VRV System & -Price shall inclusive of Refrigerant charge, LIFTING SHIFTING OF ALL VRF UNITS, and other necessary accessories Pressure Testing, Nitrogen flushing, gas charging (R410A), testing & commissioning of the air-conditioning system		
	i	12 HP VRF ODU	1	no
2		Installation, Testing and Commissioning of Indoor Units suitable for VRF / VRV System. Costs shall include hanging / mounting arrangements for the respective IDUs and shall also include for wall mounting of remote controllers near respective units and LIFTING SHIFTING, ERECTION.		
		4-way Cassette Type Indoor Units, unit shall be complete with wireless remote controller		
	i	3TR	4	nos
	ii	1.0TR	1	nos
3		<b>REFRIGERANT PIPING FOR VRF</b>		
		Supply, installation, testing & commissioning of the insulated refrigerant piping for all the units as per specifications with insulation of thick Nitrile rubber throughout the running length of the refrigerant piping with supporting arrangements		

	i	Hard & Soft Pipe with insulation – 19 mm thick for suction	60	mtrs
	ii	Hard & Soft Pipe with insulation – 13 mm thick for liquid	60	mtrs
		<b>REFRIGERANT PIPING FOR SPLIT AC UNIT</b>		
4	i	Supply & installation for additional Hilton insulated hard/soft copper refrigerant piping complete with fittings, elbows, bends, supporting arrangement on walls, cable trays. (separate for each unit) Hot side + cold side piping will be measured as one length existing copper Refrigrant piping for 1.5/1.0TR Hi wall type unit will be measured beyond 5mtrs of each unit.	40	mtrs
5	a	<b>CONTROL CABLING FOR VRF</b>		
		Supply, installation, testing & commissioning of the control cabling from indoor to outdoor unit .& from indoor to outdoors unit and from outdoor to central controller 2 cX0.75 sq. mm. shielded communication cable	80	mtrs
	b	<b>CONTROL CABLING FOR SPLIT AC UNIT</b>		
		Supply, installation, testing & commissioning of Power & control cabling required from indoor unit to outdoor unit. Power supply will be made available near the indoor unit only. Power & control cabling for 1.5TR highwall type unit will be measured beyond 5mtrs of each unit.		
6	a	<b>DRAIN PIPING FOR VRF &amp; SPLIT AC UNIT</b>		
	i	Drain water piping work out of PVC/HDPE hard pipes covered with Hilton insulations, complete with fittings, bends, elbows, tees flanges, tappings, wall sleeves, hangers, supports, anchors NOTE- Drain piping for 1.5/1.0TR Hi wall type unit will be measured beyond 4mtrs of each unit	60	mtrs
7		<b>Fresh air with cowl</b>	4	nos
8		<b>GI CABLE TRAY 200mm wide,22swg</b>	30	mtrs
9		<b>CONDENSING UNIT STANDS FOR VRF &amp; SPLIT AC UNIT</b>		
		Supply and installation of condensing units stand on roof level to install the condensing units 300 mm above roof finish floor. Condensing units stand should be manufactured out of heavy gauge MS channel frame work and painted with 2 coats of epoxy primer & 2 coats of anticorrosive paint with epoxy painting, vibration isolating pads, supports, hangers, railing, brackets etc. suitable for the above VRF &SPLIT AC units.		
	i	<b>12 HP VRF ODU</b>	1	no
	ii	<b>1.5 TR SPLIT AC UNIT</b>	2	nor
	ii		4	nos
10		<b>REFREGERENT 410 GAS FOR VRF</b>	15	KG

11		<b>Dismantling of Existing Ac Units and Ducting, Piping Etc</b>	1	JOB
12		<b>Core Cuttings</b>	1	Nos
13		<b>FLEXIBLE CU CABLING 1.5 SQ MM X 3 CORE</b>	30	mtrs
14		<b>CU CABLING 16 SQ MM X 4 CORE FROM ODU TO DB</b>	10	mtrs
		<b>SECTION 'B' TOTAL</b>		

SIGNATURE & STAMP OF VENDOR

ANNEXURE				
		<b>TOTAL OF HIGH SIDE-A</b>		
		<b>TOTAL OF LOW SIDE-B</b>		
<b>GRAND TOTAL (A+B) (Excluding GST)</b>				
<b>GST ON SIDE A( 28%)</b>				
<b>GST ON SIDE B( 18%)</b>				
		<b>Total after GST</b>		

**RECOMMENDED BRANDS:**

1. Daikin

2. Carrier

3. Mitsubishi Heavy

4. Blue Star

5. Hitachi

6. Mitsubishi Electric

7. Voltas

8. Toshiba