

Bill of Quantity (BOQ) for AC Works at Lalitpur Branch, RBO-VI Jhansi

Sr. No.	Description	Qty.	Unit	Rate in Rs.	Amount in Rs.
<b>A</b>	<b>High Side Work</b>				
<b>1.0</b>	<b>Outdoor Units</b>				
	Supply of Air Cooled VRV/VRF units with multiple DC Twin Rotary/Scroll Compressor capable of modulating capacity i.e. it should be able to vary speed of the compressor as per the varying load conditions and works on R410A Heating & Cooling. The outdoor unit shall be a factory assembled unit housed in a sturdy weather proof casing constructed from rust-proofed mild steel panels coated with powder coated finish. Each unit shall be equipped, with an oil separator to ensure stable operation with long refrigerant piping. The Outdoor Units should be fitted with Accumulator, Oil return Cylce. Each outdoor unit should be able to read and write data from outdoor unit directly on smart phone without the need of connecting PC or opening cabinet through Near Field Communication/NFC. The system should be BMS compatible suiting our building interface. The Operating temperature range for the Outdoor units in cooling mode should be in between -5 deg C to 49 Deg C. Sound level in db should not be more than 68 db. Variable refrigerant flow modular type air-conditioning system suitable for Cooling by inverter driven capacity control compressor Outdoor unit having COP at 50% Load to be more than 8.0 at 35 deg. Outside ambient conditions. All the units shall be provided with built-in microprocessor control panel, for automatic operation and capacity control. All compressor shall have inverter technology i.e. outdoor units shall have all inverter based compressor. The manufacturer of ODU and compressor shall be same.				
a	12 HP - Heat Pump	2	Nos.		
<b>2.0</b>	<b>Indoor Units</b>				
	Supply of below mentioned Ceiling Suspended Four Way Cassette type air conditioners complete with Metal housing with wired remote Control, factory assembled inbuilt drain pump with 600 mm Vertical Lift, fan and fan motor, interconnecting refrigerant piping with insulation, cabling, earthing etc with necessary galvanized steel supports etc. as per specification and drawing. The Cassette unit should have Individual Louver Control i.e. the angles of each of the four Louvers can be set individually which enables airflow to be adapted to user preferences. The cooling capacity of indoor unit will be at air inlet conditions of 27 Degree C DB and 19 Degree C WB temperature				
a	4.0 TR / Cooling Capacity : 14.0 KW - 1200 CFM	6	Nos.		
<b>3.0</b>	Supply of 2 Tr hi wall type BEE rated 5 star inverter technology split air conditioner with full function wireless remote and auto restart feature, with indoor/outdoor unit, gas charge, <b>Copper condenser coils and Copper cooling coils</b> company provided copper refrigerant pipe complete in all respects. Acceptable makes AC: Daikin/ Carrier/ Blue Star/ Voltas/ Hitachi/Mitsubishi.	1	Nos.		
<b>4.0</b>	Supply of 1.5 Tr hi wall type BEE rated 5 star inverter technology split air conditioner with full function wireless remote and auto restart feature, with indoor/outdoor unit, gas charge, <b>Copper condenser coils and Copper cooling coils</b> company provided copper refrigerant pipe complete in all respects. Acceptable makes AC: Daikin/ Carrier/ Blue Star/ Voltas/ Hitachi/Mitsubishi.	5	Nos.		
<b>5.0</b>	Supply of 1 Tr hi wall type BEE rated 5 star inverter technology split air conditioner with full function wireless remote and auto restart feature, with indoor/outdoor unit, gas charge, <b>Copper condenser coils and Copper cooling coils</b> company provided copper refrigerant pipe complete in all respects. Acceptable makes AC: Daikin/ Carrier/ Blue Star/ Voltas/ Hitachi/Mitsubishi. (AGM Chamber 1st floor)	4	Nos.		
	<b>TOTAL FOR HIGH SIDE WORK ( A )</b>				
<b>B</b>	<b>Low Side Work</b>				
<b>1</b>	Installation, testing and commissioning of variable refrigerant volume/Variable Refrigerant Flow airconditioning system complete with indoor and outdoor units with individual controller and cooling feature with refrigerant piping, gas charging R-410 as per detail given in specification and dwg. <b>Variable Refrigerant Flow/ System</b>				
	Lifting, shifting, positioning, installation, testing of indoor units, outdoor units, fittings (Imported Y-joints & header etc.) outdoor stand remote controls of indoor units, complete as per specification and drawings.				
<b>1.1</b>	<b>Outdoor Unit including stand and gas charging as per requirement</b>	2	Nos		
<b>1.2</b>	<b>Indoor Units</b>				
a	4-Way Cassettes	6	Nos		
<b>2</b>	Installation, testing and commissioning of 2/ 1.5/ 1 TR Hi wall type split/window air conditioner/ <b>old AC</b> dismantled from branch with wall cutting/ mounting, stabiliser and making good of damages complete in all respects. For old AC dismantling also to be done. ( if pipe required to be concealed then chipping and repairing with plaster and painting to be done by the vendor)	12	Set		
<b>3.0</b>	<b>Refrigerant Piping</b>				
	SITC of Refrigerant piping Interconnecting pipe work with (19mm/13 mm thick) closed cell elastomeric nitrile rubber tubular insulation (including R410a Gas) between each set of indoor & outdoor units as per specifications, all piping inside the room shall be properly supported (if pipe required to be concealed then chipping and repairing with plaster and painting to be done by the vendor)				
a	28.6 mm	20	Rmt		
b	22.2 mm	25	Rmt		

c	19.1 mm	30	Rmt		
d	15.9 mm	25	Rmt		
e	12.7 mm	25	Rmt		
f	9.5 mm	40	Rmt		
g	6.4 mm	40	Rmt		
3.1	Supply, installation, testing and commissioning of insulated copper refrigerant piping set (suction and discharge) duly insulated by nitrile rubber for 2/1.5/1 TR Cassette/Split AC. Size (thickness and dia) of both Copper pipe should as per recommendation of AC manufacturer's technical specification. (Old pipe dismantled from branch is also to be used) Makes:Totaline/ Met Tube/ Diamond/ Star/ Camipro. ( if pipe required to be concealed then chipping and repairing with plaster and paiting to be done by the vendor)	150	Rmt		
4.0	<b>Drain Piping:</b>				
	SITC of UPVC Drain piping for indoor to respective drain point along with 9 mm nitrile rubber insulation. ( if pipe required to be concealed then chipping and repairing with plaster and paiting to be done by the vendor)				
a	32 mm	60	Rmt.		
b	25 mm	80	Rmt.		
5.0	<b>Control Cabling</b>				
a	Indoor to Outdoor unit Control cabling with sheathed Cu cable 3C x 1.5 Sq.mm. For VRF/VRF system	130	Rmt.		
b	Supply, installation, testing and commissioning of inter connecting wiring/ cabling between indoor and outdoor of Cassette/hi wall type split AC (power supply will be made available at the outdoor unit, please quote accordingly) (Only single distance will be considered)( if wire required to be concealed then 19 mm medium duty PVC conduit pipe, chipping and repairing with plaster and paiting to be done by the vendor)	160	Rmt.		
6.0	<b>Cable Tray</b>				
a	Supply & Laying of Cable Tray 300 mm GI for Copper Pipes & Cables horizontally and vertically along with threaded rod, nut, bolt, saddle, tie etc.	120	Rmt.		
7.0	<b>MS outdoor Stand</b>				
a	Supply & installation of MS outdoor stand for VRF/VRV system	2	No.		
b	Supply and installation of robust MS angle, MS flat fabricated floor/ wall mounting stand suitable for hi wall split/ cassette outdoor units	10	No.		
8.0	Supply of 5 KVA, wall mounted hi lo cut off stabiliser with TDR, voltage range 140-280V, complete in all respects. Stabilizer: Servel/ V Gaurd/ Marc/Sen & Pandit/ Stambh/ Inmag/Microtek/Servocon	1.00	Set		
9.0	Supply of 4 KVA, wall mounted hi lo cut off stabiliser with TDR, voltage range 140-280V, complete in all respects. Stabilizer: Servel/ V Gaurd/ Marc/Sen & Pandit/ Stambh/ Inmag/Microtek/Servocon	9.00	Set		
	<b>TOTAL FOR LOW SIDE WORK ( B )</b>				
	<b>GRAND TOTAL ( SITC) C=A+B</b>				
Note: Rates are considered inclusive of all including GST. However, bill is to be raised showing GSTat prevalent rates/ rules.					