

RBO KALYAN - AIRCONDITIONING PRICE BID

Architect - Vastukala

SR.No	DESCRIPTION	UNIT	QTY	UNIT RATE	AMOUNT
A.]	AIRCONDITIONING				
1.0	WALL MOUNTED UNITS				
	Supply of Wall mounted Indoor units. The unit shall include pre-filter, fan section and DX-coil section. The housing of the unit shall be powder coated galvanized steel. The body shall be light in weight. Unit shall have an external attractive panel for supply and return air. The condensate drain of the units to be done with proper insulation & fittings to be terminated to the main drain line as per the layout plan. (Along with individual wireless remote controller for each Unit) Drain pumps incorporation shall be subjected to brand selected				
1.1	Capacity - 1.0 TR	Nos.	0		
2.0	4-WAY ROUND FLOW CASSETTE UNITS				
	Supply of 4-way flow cassette type. The unit shall include pre-filter, fan section and DX-coil section. The housing of the unit shall be powder coated galvanized steel. The body shall be light in weight. Unit shall have an external attractive panel for supply and return air. The condensate drain of the units to be done with proper insulation & fittings to be terminated to the main drain line as per the layout plan. (Along with individual wireless remote controller for each Unit) Drain pumps incorporation shall be subjected to brand selected				
2.1	Capacity - 1.28 TR	Nos.	2		
2.2	Capacity - 1.60 TR	No.	1		
2.3	Capacity - 2.01 TR	Nos.	8		
2.4	Capacity - 2.55 TR	Nos.	2		
3.0	4-WAY (COMPACT) FLOW CASSETTE UNITS				
	Supply of 4-way flow cassette type. The unit shall include pre-filter, fan section and DX-coil section. The housing of the unit shall be powder coated galvanized steel. The body shall be light in weight. Unit shall have an external attractive panel for supply and return air. The condensate drain of the units to be done with proper insulation & fittings to be terminated to the main drain line as per the layout plan. (Along with individual wireless remote controller for each Unit) Drain pumps incorporation shall be subjected to brand selected				
3.1	Capacity - 0.6 TR	Nos.	1		
3.2	Capacity - 1.60 TR	Nos.	3		

4.0 1-WAY Cassette FLOW CASSETTE UNITS					
	Supply of Ceiling suspended "One-way Cassette type" VRF Indoor Unit having following approximate capacities with Cordless remote Controls, Decorative Panel-Grill and Drain pump. (as per approved drawing)				
4.1	Capacity - 2.02 TR	Nos.	4		
4.2	Capacity - 1.28 TR	Nos.	2		
6.0 VRF/VRV OUTDOOR UNITS					
	Supply of Aircooled inverter based modular type VRV/ VRF system using R-410A refrigerant & hermetically sealed scroll type compressor. This should complete with interconnecting copper refrigerant piping with insulation and cable tray, gas, copper power cabling and control wiring in PVC conduit between indoor and outdoor, Stand, Twining kit etc. (given in separate head).				
6.1	16 HP Outdoor unit	Set	1		
6.2	18 HP Outdoor unit	Set	1		
6.3	20 HP Outdoor unit	Set	1		
7.0 Y-JOINTS & HEADERS					
	Supply, installation of imported fittings, Y-joints and headers etc complete in all respect.	Nos.	23		
8.0 VRV/ VRF CONTROL MANAGER					
	Supply, installation and commissioning of VRV/VRV controller featuring an array of simple, useful system management functions for added value and shall be touch type and complete in all respect.	Nos.	UR		
Total Supply of VRF Equipments					
9.0 DX- SPLIT UNITS					
	Supplying of factory built Dx Wall Mounted unit with Hermetically Sealed Scroll Compressors inverter type, housing various components, as per technical specification. Unit shall have following inbuilt features i.e. External Control Command, Interlock Control, Auto Restart, Low Gas Indication, Filter Status Sign, Switchable fan Speed, Cordless Remote Control etc.				
	Quoted price shall include, Refrigerant, Oil Traps, Insulation, suitable Control cum transmission cable between ODU to IDU, Placement of Outdoor Condensing units as shown in the drawing (with Powder Coated MS Angle Frames) & all related consumables required to commission/ run the Unit. Outdoor Condensing unit shall be placed at a distance of not more than 35 mtr and at a height not more than +3 mtr from indoor. All the unit should be in 5 star rating only. Unit shall be supplied with environment friendly refrigerant gas only and in no condition R22 base Units will be accepted.				
9.1	Capacity-1.0 TR	Nos	4		
Total Supply of DX Unit					

B.]	VENTILATION EQUIPMENTS				
1.0	INLINE FANS				
	<p>Supply, installation, testing and commissioning of duct mounted inline fan for Fresh Air/exhaust air as shown in drawings with all the accessories for complete installation. Each fan shall be complete with motor, mounting flanges, accessories like bird screen, fixed louvers and GI sheet canopy for weather protection as required.</p> <p>Circular Inline fans shall be with backward curved polyamide blades & external rotor motor. Casing shall be hot rolled GSS sheet metal construction. Fan must be tested for tightness class C for air leakage.</p> <p>Rectangular Inline fans shall be backward curved manufactured from aluminum and steel. Smaller dia fans (315 to 450 mm) shall be equipped with external rotor motor. Higher dia fans (500 to 630 mm) shall be with standard IEC motors. Casing shall be of pre-galvanized steel.</p> <p>All Inline Fans should be AMCA Certified.</p> <p>Contacter mounted inside a powder coated box shall be provided adjacent each fan. The contractor shall have auto / manual switch for remote operation.</p>				
1.1	400 CFM @ 10 mm static	Nos	2		
1.2	500 CFM @ 10 mm static.	Nos	2		
1.3	1200 CFM @ 35 mm ESP static.	Nos	1		
2	PROPELLER FAN				
	<p>SITC of Heavy Duty exhaust type Wall mounted propeller fan with motors and Complete with mounting accessories, 20G Cowl with SS net and any other item required to make the system complete. Fans shall be suitable for 220V, 1 Phase, 50 Hz AC power supply.</p> <p>Fan shall have noise level < 70 dba at a distance of 1.0 Meter</p>				
2.1	Dia 250mm 300 cfm For Pantry	Nos	2		
	TOTAL VENTILATION EQUIPMENT				
	Total High Side				

RBO KALYAN - HVAC LOW SIDE PRICE BID

Architect - Vastukala

SR.No	DESCRIPTION	UNIT	QTY	UNIT RATE	AMOUNT
A.]	AIRCONDITIONING				
1.0	WALL MOUNTED UNITS				
	Installation, Commissioning & Testing of Wall mounted Indoor units. The unit shall include pre-filter, fan section and DX-coil section. The housing of the unit shall be powder coated galvanized steel. The body shall be light in weight. Unit shall have an external attractive panel for supply and return air. The condensate drain of the units to be done with proper insulation & fittings to be terminated to the main drain line as per the layout plan. Vendor to include Threading rod, fastners, nut bolt etc for Hanging Machine with Transportation and Lifting Shifting of Machine. (Along with individual wireless remote controller for each Unit) Drain pumps incorporation shall be subjected to brand selected				
1.1	Capacity - 1.0 TR	Nos.	0		
2.0	4-WAY ROUND FLOW CASSETTE UNITS				
	Installation, Testing & Commisioning of 4-way flow cassette type. The body shall be light in weight. Unit shall have an external attractive panel for supply and return air. The condensate drain of the units to be done with proper insulation & fittings to be terminated to the main drain line as per the layout plan. Vendor to include Threading rod, fastners, nut bolt etc for Hanging Machine with Transportation and Lifting Shifting of Machine. (Along with individual wireless remote controller for each Unit) Drain pumps incorporation shall be subjected to brand selected				
2.1	Capacity - 1.28 TR	Nos.	2		
2.2	Capacity - 1.60 TR	No.	1		
2.3	Capacity - 2.01 TR	Nos.	8		
2.4	Capacity - 2.55 TR	Nos.	2		
3.0	4-WAY (COMPACT) FLOW CASSETTE UNITS				
	Installation, Testing & Commisioning of 4-way flow cassette type. The body shall be light in weight. Unit shall have an external attractive panel for supply and return air. The condensate drain of the units to be done with proper insulation & fittings to be terminated to the main drain line as per the layout plan. Vendor to include Threading rod, fastners, nut bolt etc for Hanging Machine with Transportation and Lifting Shifting of Machine. (Along with individual wireless remote controller for each Unit) Drain pumps incorporation shall be subjected to brand selected				
3.1	Capacity - 0.6 TR	Nos.	1		
3.2	Capacity - 1.60 TR	Nos.	3		

4.0 1-WAY Cassette FLOW CASSETTE UNITS			
	Supply, Installation, Testing & Commissioning of Ceiling suspended "One-way Cassette type" VRF Indoor Unit having following approximate capacities with Cordless remote Controls, Decorative Panel-Grill and Drain pump. (as per approved drawing) Vendor to include Threading rod, fasteners, nut bolt etc for Hanging Machine with Transportation and Lifting Shifting of Machine.		
4.1	Capacity - 2.0 TR	Nos.	4
4.2	Capacity - 1.28TR	Nos.	2
5.0 VRF/VRV OUTDOOR UNITS			
	installation, testing and commissioning of Aircooled inverter based modular type VRV/ VRF system using R-410A refrigerant & hermetically sealed scroll type compressor. This should complete with R-410A Gas, M.S Stand as per Site Condition, Rubber Pad.		
5.1	16 HP Outdoor unit	Set	1
5.2	18 HP Outdoor unit	Set	1
5.3	20 HP Outdoor unit	Set	1
Total Installation of VRV System			
6.0 DX- SPLIT UNITS			
	installing, testing and Commission of factory built Dx Wall Mounted unit with Hermetically Sealed Scroll Compressors inverter type, housing various components, as per technical specification.		
	Quoted price shall include, Refrigerant, Oil Traps, Insulation, suitable Control cum transmission cable between ODU to IDU, Placement of Outdoor Condensing units as shown in the drawing (with Powder Coated MS Angle Frames) & all related consumables required to commission/ run the Unit. Outdoor Condensing unit shall be placed at a distance of not more than 35 mtr and at a height not more than +3 mtr from indoor. All the unit should be in 5 star rating only. Unit shall be supplied with environment friendly refrigerant gas only and in no condition R22 base Units will be accepted.		
6.1	Capacity-1.0 TR	Nos	4
Total Installation of DX Unit			
7.0 REFRIGERNAT PIPING (WITH INSULATIONS)			
	Supply, installation, testing and commissioning of refrigerant pipe (Suction+Liquid) work with closed cell elastomeric Class O nitrile rubber tubular insulation between each set of indoor & outdoor units as per specification, all piping inside the room shall be properly supported with M.S Support and all external piping shall run in covered cable tray.		
7.1	Hard Drawn Pipe	RMT	170
7.2	Soft Drawn Pipe	RMT	115
8.0 Control Cable for VRV System			
	Supply and laying, testing & commissioning of following sizes of Copper conductor control cables through PVC conduit on existing tray including fixing clamps & proper connections to equipments etc. complete as required. As per specification/drawings.		
8.1	3CX 1.5 Sq.mm	RMT	430

9.0	Y-JOINTS & HEADERS				
	Supply, installation of imported fittings, Y-joints and headers etc complete in all respect.	Nos.	20		
10.0	VRV/ VRF CONTROL MANAGER				
	Supply, installation and commissioning of VRV/VRF controller featuring an array of simple, useful system management functions for added value and shall be touch type and complete in all respect.	Nos.	UR		
11.0	COPPER REFRIGERANT PIPING FOR DX SPLIT UNITS				
	Supply, Laying , testing and commissioning of refrigerant piping with 6mm/9mm nitrile insulation with GI tray 100 mm with clamping arrangements (Total length considered 15m per unit). Following extra provision have to be included with each unit.				
11.1	Anodised coated stand	Nos.	4		
11.2	Supply of cable 3CX2.5sq.mm, Maximum 10m in length included per unit.	RMT	93		
11.3	100 mm GI tray	RMT	UR		
11.4	Refrigerant piping for 1.0 TR - Indoor to Outdoor	RMT	80		
11.5	Drain Pump	Nos.	2		
11.6	Supplying, Installation, Testing, and Commissioning (SITC) of a Microcontroller-based Automatic Sequential/Cyclic AC Controller Panel to operate two/three AC units alternately to ensure equal runtime, including all accessories, wiring, and commissioning	Nos.	2		
12.0	CONDENSATE DRAIN PIPING WITH U TRAPS				
	Supplying, hanging & fixing of following items as per approved drawings, schedule and specifications. The contractor is to do the supports as per the drawing. Supports of drain pipe shall be installed using high Quality GI Slotted Channels, Saddle Nuts, Threaded Rods, Nuts, Washers, Rubber Lined Clamps etc. All piping shall be installed in a perfect straight line.				
	Drain water piping of hard uPVC (industrial grade) as required and as specified complete with bends, reducers, tees, flanges etc. as required and with 9 mm thick closed cell elastomeric. Thermal conductivity max. 0.037 W/(m*K) @ +20 Deg C shall be considered for selection of insulation material with density of 55 Kg/cubm. All related works including Cutouts, Sealing of Cutouts, Connections to traps etc for completion of drain connections to Toilets, External Gully Traps, U traps etc shall be included and the same shall be done up to the satisfaction of EIC.				
12.1	20mm dia.	RMT	UR		
12.2	25mm dia.	RMT	UR		
12.3	32 mm dia.	RMT	110		
12.4	40mm dia	RMT	80		
12.5	50mm dia	RMT	UR		
Total of Air-conditioning equipments					

B.] VENTILATION EQUIPMENTS					
1.0	INLINE FANS				
	<p>Installation, testing and commissioning of duct mounted inline fan for Fresh Air/exhaust air as shown in drawings with all the accessories for complete installation. Each fan shall be complete with motor, mounting flanges, accessories like bird screen, fixed louvers and GI sheet canopy for weather protection as required.</p> <p>Circular Inline fans shall be with backward curved polyamide blades & external rotor motor. Casing shall be hot rolled GSS sheet metal construction. Fan must be tested for tightness class C for air leakage.</p> <p>Rectangular Inline fans shall be backward curved manufactured from aluminum and steel. Smaller dia fans (315 to 450 mm) shall be equipped with external rotor motor. Higher dia fans (500 to 630 mm) shall be with standard IEC motors. Casing shall be of pre-galvanized steel.</p> <p>All Inline Fans should be AMCA Certified.</p> <p>Contactors mounted inside a powder coated box shall be provided adjacent each fan. The contractor shall have auto / manual switch for remote operation.</p>				
1.1	400 CFM @ 10 mm static	Nos	2		
1.2	500 CFM @ 10 mm static.	Nos	2		
1.3	1200 CFM @ 35 mm ESP static.	Nos	1		
2	PROPELLER FAN				
	<p>SITC of Heavy Duty exhaust type Wall mounted propeller fan with motors and Complete with mounting accessories, 20G Cowl with SS net and any other item required to make the system complete. Fans shall be suitable for 220V, 1 Phase, 50 Hz AC power supply.</p> <p>Fan shall have noise level < 70 dba at a distance of 1.0 Meter</p>				
2.1	Dia 250mm 300 cfm For Pantry	Nos	2		
TOTAL VENTILATION EQUIPMENT					
C.] AIR DISTRIBUTION SYSTEM					
1.0	Ducting				
	<p>Supplying, installing, testing and balancing of Galvanised Steel Sheet (Completely Factory Fabricated with TDF Flanges) (L SECTION) seamed ducting of following thickness including necessary supports, hangers, nuts, bolts, gaskets, splitter dampers, turning vanes, canvas connections, connection pieces of rectangular to Spiral etc. complete as per technical specifications. All archs shall have baffles inside. The bidder shall quote his rates considering elbows, reducers, tees, baffles etc.</p> <p>The thickness of ducting shall be according to SMACNA with 120 GSM.</p> <p>Support/Gaskets shall be provided strictly as per the technical specifications, drawings and as per directions of Engineer in Charge.</p> <p>Support shall be considered at an interval of 3.0 mtrs and on all branches. All supports should be made of galvanised steel angle with drilled holes & GI threaded rods with check nuts & washers of Hilti with support from roof of Gripple/Equivalent make.</p> <p>Measurement shall be made based upon effective duct area, Contractor to bid accordingly. 2.5 mm to 3 mm thick self adhesive normal gasket for Ducting as per OEM specifications to be considered.</p>				
	Rectangular seamed galvanised steel sheet ducting (Factory Fabricated)				
1.1	22 Gauge	SQMT	UR		
1.2	24 Gauge	SQMT	125		
1.3	26 Gauge	SQMT	UR		

1.4	Flexible Ducting-Non Insulated Non Insulated flexible ducting including Clamps, GI Rods, fastener etc. for fixing & any other required accessories complete in all respects. 100 mm dia	RMT	40		
2.0	Ducting built-in components				
	Rectangular Manually Operated Duct Dampers				
2.1	Supplying, installing, testing and balancing of rectangular volume control damper made of 18 G GI casing 120 mm wide and 20 G GI sheet blade 100 mm wide, chrome plated spindles, self lubricating bushes blade linkage fully enclosed, handle operation with status indicator suitable for rectangular ducting connection and complete as per drawing.	SQMT	1.0		
2.2	Collar Dampers	SQMT	1.0		
2.3	Back draft damper	SQMT	UR		
3.0	Grilles for Supply/Return air.				
	Supplying, installing, testing and balancing of aluminium powder coated/ anodized, linear/ rectangular with single or double deflection adjustable louvers grills with fixed bar having 0 Deg, 15 Deg & 30 Deg deflection with fixed or removable core complete as per drawing. (Sample shall be approved before the execution). The grill for the return air in Audi shall be with adjustable blades.				
3.10	For Supply & Return air continuous grill (100 mm high) without damper	SQMT	UR		
3.20	DOOR Grill	SQMT	UR		
3.30	Grills with VCD	SQMT	UR		
3.40	Grills without VCD	SQMT	1.0		
4.0	Grilles for Supply/Return air.				
4.1	Extruded Aluminium powder coated Round Disc valves				
	Dia 100 mm	Nos	20		
	Dia 150 mm	Nos	UR		
5.0	Weather Resistant Louvers/Wiremesh				
	Supply, Installation and testing of powder coated extruded aluminium Wall Louvres having frames and fixed blades with Wire Mesh screen of Aluminum/ Galvanized Steel, Mesh Size 20x20mm, Flanges drilled/riveted as standard. with proper neoprene gasket . Louvres to be mounted on Brick/Block/Concrete Wall, all arrangements required for fixing, including cutting, drilling, fixing, Water Proofing etc to be considered in the Quote. RAL standards color to be matched with external wall shade or as approved by architect.	SQMT	1.0		
TOTAL AIR DISTRIBUTION SYSTEM					
D.]	INSULATION				
1.0	Duct Thermal Insulation				
	Supply & Installation of Thermal Insulation on Ducts using Closed Cell Class O Nitrile Rubber Elastomeric Insulation of Density 40 - 55 Kg/m ³ , Thermal Conductivity of 0.037 W/mk at 20 degree Celcius Mean Temp. and $\mu \geq 7000$ (without any additional vapour barrier), using manufacturer's recommended Rubber based Adhesive in a blend of solvents				
1.1	19 mm thick - For Fresh Air Duct	SQMT	75		
TOTAL INSULATION					
Total Low Side					
Total High side+ Low Side					
E	AMC				

	Comprehensive Annual Maintenance Contract (CAMC) for the Air Conditioning units installed after warranty / defects liability period of one year (i.e. 54 HP VRF indoor and out door units system and 4 TR Split AC). This includes all spares, compressor, replenishing the refrigerant, PCB, Bimonthly servicing, any number visits if any problem occurs and scope as specified etc. Payment will be paid quarterly/Half yearly. 				
i	Second Year AMC	Job	1		
ii	Third Year AMC	Job	1		
	Total of AMC				
	Grand Total (A+B+C+D+E)				
	GST AT ACTUAL				