

PRICE BID			
SCHEDULE OF QUANTITIES FOR HVAC WORKS FOR OFFICE AT STATE BANK OF INDIA, MADAME CAMA ROAD BRANCH AT NARIMAN POINT,MUMBAI			
SR. NO.	DESCRIPTION OF WORKS	QTY	UNIT
<b>A</b>	<b>VRF / VRV SYSTEM (Makes : Mitsubishi Elec.,Daikin,Train, Toshiba,Mitsubishi Heavy, Hitachi)</b>		
<b>1.0</b>	<b>Supply of Out Door Units suitable for VRF / VRV System</b>		
	Supply of Modulating outdoor units, with multi scroll compressors (minimum two compressors per condensing unit) with inverter type compressor, special pre-coated fins, panel, corrosion resistant (suitable for seaside installation) coated condenser, inverter based condenser fan , Vibration isolation pads, electrical & microprocessor panel, isolating valves and all the necessary accessories for proper functioning of the units, having following approximate capacities.		
	Note : Fins and copper tubes of Air Cooled Condenser alongwith 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		
	Outdoor units suitable for following capacities:		
1.1	40 HP VRF ODU	1	no
1.2	32 HP VRF ODU	1	no
	<b>Above outdoor unit capacity is selected based on our design calaculations. However, suitable outdoor unit to be selected as per VRF manufacturer standard &amp; to quote accordingly</b>		
	The indoor unit shall be suitable for a power supply of 240V/ 1 phase/ 50Hz OR 415V / 3 phase / 50Hz.		
<b>2.0</b>	<b>Supply of VRF Ceiling Cassette Type 4- way Indoor units , indoor unit shall be complete with wired controller. Unit size (3feetsx3feets)</b>		
2.1	3 TR	12	Nos.
2.2	2 Tr	3	Nos.
2.3	1.5 Tr	3	Nos.
2.4	1 Tr	7	Nos.
<b>3.0</b>	<b>VRF wall mounted decorative Indoor units , indoor unit shall be complete with wireless controller</b>		
3.1	1 Tr	4	Nos.
<b>4.0</b>	<b>VRF Ref net Joints</b>		
4.1	Multi Kits / Ref Joints	28	Nos.

SR. NO.	DESCRIPTION OF WORKS	QTY	UNIT
<b>5.0</b>	<b>Remote Controllers for VRF units</b>		
5.1	Wireless remote controllers	24	Nos.
<b>6.0</b>	<b>Central Remote Controller analog type</b> with Technical Specifications suitable for automatic operation of all indoor and outdoor units.	1	Set
<b>7.0</b>	<b>Inline centrifugal fans with necessary supports, canvas connections and other accessory.</b>		
	Inline ceiling suspended Ex fans		
7.1	1000 cfm 10 mm static for Fresh air , pantry and toilets	1	Nos
<b>8</b>	Supply of stand alone type cooled wall mounted DX units, complete with 3 star wall mounted indoor unit, condensing unit, remote controller. Condensing unit fins shall be of Copper and shall be coated for corrosion resistance		
8.1	1 Tr	2	Nos
<b>9</b>	Drain pumps	2	Nos
	<b>TOTAL FOR 'A' - VRF / VRV SYSTEM (Excluding Taxes)</b>		

SR. NO.	DESCRIPTION OF WORKS	QTY	UNIT
	<b>Installation of VRF/ VRV system</b>		
<b>B</b>	<b>VRV / VRF SYSTEM (LOCAL ITEMS)</b>		
<b>1.0</b>	Installation, Testing and Commissioning of Out Door Units suitable for VRF / VRV System & -Price shall inclusive of Refrigerent charge ,lifting shifting of all vrf units, Anti corrosive coating on condensing coil and fins , and other nessesary accessories Pressure Testing, Nitrogen flushing, gas charging (R410A), testing & commissioning of the air-conditioning system.		
1.1	40 HP VRF ODU	1	no
1.2	32 HP VRF ODU	1	no
<b>2.0</b>	Lifting Shifting, Erection, Installation, Testing and Commissioning of <b>Indoor Units</b> 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.		
	<b>Installation of VRF Cassette Indoor units ,</b>		
2.1	3 TR	12	Nos.
2.2	2 Tr	3	Nos.
2.3	1.5 Tr	3	Nos.
2.4	1 Tr	7	Nos.
<b>3.0</b>	<b>Installation of VRF wall mounted decorative Indoor units ,</b>		
3.1	1 Tr	4	Nos.
<b>4.0</b>	<b>Installation of inline fans, with supports stdn , pin top, cavas connection and power cable and required all other accessories.</b>	10	Nos.
<b>5.0</b>	<b>Installation of stand alone wall mounted decorative Indoor units with fabricated stand to keep ODU also price shall be inclusive of copper pipes, Drain pipe , cable and other related accessories.</b>		
5.1	1 Tr	2	Nos.
<b>6.0</b>	<b>Supply and intallation of MS Structure for intallting Condensing unit stan.Condensing units stand should be Fabricated uing MS C Channnel frame Size 75X40X5mm. Support shall be taken from nearby RCC floor/slab/ Column. M Minimum 16 Hilti Bolt hould be used to secure the MS stand with building. Two coat of red oxide and one coat of black paint to be applied on the structure. Detailed drawing of MS Structure , fixing arrangment should be submitted for approval of consultant, architect and client.</b>	460	Kg

SR. NO.	DESCRIPTION OF WORKS	QTY	UNIT
<b>7.0</b>	<b>Power &amp; Control cabling:</b>		
	<b>Electrical contractor shall terminate power in individual switch socket for each IDU as per requirement. For VRF ODU incoming power shall be provided at the PDB, from there to each VRF ODU the cabling shall be carried out by HVAC contractor.</b>		
7.1	Power and Control cabling with copper conductor cable with end termination for Indoor units with Plug Top, Earthing connection, etc. with FRST PVC conduit	425	RMT
<b>8.0</b>	<b>Refrigerant piping</b>		
	All refrigerant piping between indoor & outdoor units shall be of 16G thickness only. All refrigerant piping to be insulated with minimum 19 mm thick class "O" armaflex nitrile rubber with UV protection and covered with Al. foil as per specifications. All piping shall be installed on GI Perforated cable tray & Pipe line must be tested for requisite pressure & must be supported as per specification.		
<b>8.1</b>	Hard Pipe with insulation – 19 mm thick	125	RMT
<b>8.2</b>	Soft Pipe with insulation – 19 mm thick	240	RMT
<b>9.0</b>	Drain piping in hard PVC with all fittings, supports and clamps upto 50 mm dia. including drilling hole in wall chipping wall etc to conceal and to route the drain pipe. The piping shall be suitably insulated with 13 mm thk Closed Cell insulation / 60 kg/m3 density stuck with approved adhesive compound.		
	Dia 32 mm	54	RMT
	Dia 40 mm	75	RMT
	Dia 50 mm	125	RMT
<b>10</b>	<b>AIR DISTRIBUTION:</b>		
<b>13.1</b>	<b>SHEET METAL DUCTING - FACTORY FABRICATED</b>		
	Rectangular / Circular Ducting in <b>Galvanised Steel</b>		
	Supply, Fabrication, Installation, Testing & Commissioning of following gauges of Galvanised Iron ( GI ) Sheet complete with splitters, supports, dampers, and turning vanes. (Approved Makes: Jindal, SAIL, TATA, Equivalent) 180 GSM sheet. GI duct fabrication shall follow SMACNA Standards. Duct shall be painted in black colour ( expose part which to be seen )		
a	0.63 mm (24 SWG) GSS ducting	95	Sq.M.
13.2	Flexible round duct		
	Dia 100 mm	49	mtr

SR. NO.	DESCRIPTION OF WORKS	QTY	UNIT
<b>14.0</b>	<b>ACCESSORIES</b>		
<b>14.1</b>	<b>Butterfly Volume Control Dampers</b>		
	Supply, installation and adjusting of GSS Volume Control Damper complete with Manual quadrant control with position indicator to be provided to enable adjust volume of air as required.in 18 G complete as per specifications. ( 100 mm dia) for fresh air Duct	28	Nos
	Volume control dampers	2	Sq.M.
<b>15.0</b>	<b>GRILLES</b>		
	Supply, fabrication, assembling and installation of linear aluminium powder coated grilles as indicated in the drawings and as per specifications.		
	(color to match as per architects requirements)		
	100/150 mm wide	2	Sq.M.
<b>17.0</b>	<b>Double Canvass Connection</b>		
	Supply, fabrication & installation of double canvass (fire retardant) flexible connection as per drawings & specifications.	16	SETS
<b>20.0</b>	<b>UNDERDECK INSULATION</b>		
	Supply, fabrication and laying of under deck thermal insulation with suitable thickness & of approved make as specified and shown on the drawing complete with:	36	Sq.M.
	a) 19 mm Closed Cell Foam Insulation - minimum density Class O, 60 kg/cu.m density with minimum R Value 4.1/inch with Water vapour permeability shall not exceed 0.017 Perm inch (2.48 x 10 <sup>-14</sup> Kg/m.s.Pa), i.e. Moisture Diffusion Resistance Factor 'μ' value should be minimum 7000.		
	The insulation shall meet the Class 'O' Fire category.		
	b) Recommended / Proprietary synthetic adhesive bonding.		
	<b>TOTAL FOR B' Installation Work</b>		
	<b>SIGN &amp; SEAL OF THE CONTRACTOR</b>		

SR. NO.	DESCRIPTION OF WORKS	QTY	UNIT
<b><u>SUMMARY STATEMENT</u></b>			
<b>A</b>	<b>HIGH SIDE (SUPPLY ITEMS)</b>	<b>Rs.</b>	
<b>B</b>	<b>LOW SIDE (INSTALLATION ITEMS)</b>	<b>Rs.</b>	
<b>C</b>	<b>TOTA OF HVAC WORKS - (A) + (B)</b>	<b>Rs.</b>	
<b>D</b>	ADD: GST @ 28% OF (A)	Rs.	
<b>E</b>	ADD: GST @ 18% OF (B)	Rs.	
	<b>GRAND TOTAL (C+D+E)</b>	<b>Rs.</b>	
	<b>SIGN &amp; SEAL OF THE CONTRACTOR</b>		

SR. NO.	DESCRIPTION OF WORKS	QTY	UNIT
	<b>NOTE :-</b>		
	1. Above quantities may vary as per the final approved interior layout plans.		
	2. Lengths of cables copper pipes from Section-B may vary as per the approved locations		
	3. Work shall be done upto to the satisfaction of Client / Architect.		
	4. Item shall not be left unquoted / unfilled, failure to comply with either of these conditions, such tenders will be rejected without assigning any reason by the client. And no explanation / justification by tenderer will be entertained.		
	5. Rate shall be quoted both in figures & in words in columns specified. All erasures & alterations made while filling the tender must be attested by initials of the tenderer. Overwriting of figures is not permitted & may result into rejection of such tender with assigning any reason by the client. And no explanation / justification by tenderer will be entertained.		
	6. Submission of Handover documents is necessary for Certification of Final Bill. In case of failure to submit the same Client / Consultant / Architect reserves right not to certify the final bill without submission of Handover Documents alongwith the Final Bill.		
	7. All the Material samples shall be approved from Client / Architect / Consultant before delivery at site.		
	8. HVAC drawings shall be approved from the Consultant / Client.		
	9. Rates shall be quoted including all type of required civil works required for AC unit's copper / drain piping such as chiseling or wain, wain openings, slab core cutting (if required), making required size cut outs in wains & re cementing & making surface uniform including all necessary hardware & accessories etc. complete as required & as per		
	10. All bidders shall visit the site prior to giving quotes to get themselves acquainted with site conditions. No demand shall be later entertained due to site conditions.		
	11. Running Bill will be certified only against the tender items executed at site at the time of billing & not against the material supplied at site which are not installed during certification of running bill.		
	12. All rates shall be quoted exclusive of GST		
	13. Contractor shall inspect site before quoting .		
	<b>SIGN &amp; SEAL OF THE CONTRACTOR</b>		