

**BOQ FOR VRF AIR CONDITIONING WORK at STATE BANK OF INDIA COMMERCIAL BRANCH**

S.No.	Specification/ Model	Quantity	Units	Rate	Amount
<b>A</b>	<b>VRF HIGH SIDE WORK</b>				
<b>1.0</b>	Supply of 380- 415V - 3 Ph - 50 Hz +/- 10% Top Discharge Modular type Heat & cool Next Generation Variable Refrigerant Flow system, each Outdoor unit comprises of 100% Inverter Driven Hermetically sealed Scroll Compressors, air cooled condenser with <b>100% Capacity at 44deg</b> , protective coated fins heat exchangement Corrosion fin factory coated Propeller type Fan with motor,Specially designed ODUs with refrigerant cooled heat sink;Non-stop working <b>at 56 deg. C</b> . Outdoor with capable of working within Range of Voltage fluctuation from 380V to 420V, auto addressing setting, refrigerant cooled PCB, electronic expansion valve.Microprocessor Controller with <b>R410A</b> gas.				
a)	42.0 HP ( IVRFB-20TCA ) + ( IVRFB-22TCA )	1	Nos.		
b)	44.0 HP ( IVRFB-22TCA ) + ( IVRFB-22TCA )	1	Nos.		
<b>2.0</b>	<b>INDOOR UNIT</b>				
	Supply of below mentioned capacities Ducted type, Cassette type & Hiwall type indoor air conditioners complete with evaporator coil, fan and fan motor, control panel as per specifications and drawings. Having				
a)	9.0 TR VRF Ductable Unit ( VSD - 108 )	1	Nos.		
b)	6.0 TR VRF Ductable Unit (VSD - 72 )	2	Nos.		
c)	5.0 TR VRF Ductable Unit ( DSD - 60 )	2	Nos.		
d)	4.0 TR VRF Ductable Unit ( DSD - 48 )	2	Nos.		
e)	3.2 TR VRF 4 Way Cassette Unit ( VLC - 38 )	1	Nos.		
f)	2.8 TR VRF 4 Way Cassette Unit ( VLC - 34 )	3	Nos.		
g)	1.7 TR VRF 4 Way Cassette Unit ( VLC - 20A )	4	Nos.		
h)	1.3 TR VRF Compact Cassette Unit ( VCC - 16 ) for RM 1	1	Nos.		
i)	1.5 TR VRF Compact Cassette Unit ( VCC - 18 ) For DGM Chamber	2	Nos.		
j)	1.0 TR VRF Compact Cassette Unit ( VCC - 12 )	2	Nos.		
k)	0.8 TR VRF Compact Cassette Unit ( VCC - 10 ) for	5	Nos.		
l)	1.3 TR VRF Hi Wall Unit ( VHW - 16A ) TradeMill/ Store	1	Nos.		
m)	1.5 TR VRF Hi Wall Unit ( VHW - 18A ) for UPS Room	1	Nos.		
<b>3.0</b>	Supply of Corded Remote Controller	20	Nos.		
<b>4.0</b>	Supply of Corded Remote Controller	7	Nos.		
<b>5.0</b>	Supply of Refnet joints for indoor and outdoor units of suitable size as per requirement.	27	Nos.		
<b>6.0</b>	Supply of group controller having touch screen based user freindly controller upto 10 indoor units and 3 systems can be controlled , parameters for individual indoor units can be set,remote sheilding of machines can be performed,parameters like on/off status ,mode of operation temp setting can be viewed and set.	2	Nos.		
<b>7.0</b>	Supply of non-vrv/ vrv 1.5 ton split INVERTER split-type,hi-wall indoor unit and outdoor condensing unit (with scroll/rotary compressor), electronic expansion valves, high efficiency filters, Blue fins with turbo cooling Energy management, automatic drain pump with sensor other accessories etc. for server room. Make Bluestar Ltd.	1	Nos.		
	<b>TOTAL A ( Excluding GST )</b>		<b>Rs.</b>		
<b>B</b>	<b>LOW SIDE WORK:</b>				
<b>8.0</b>	<b>Outdoor Units:</b>				
	Supply , Installation, Nitrogen testing, Vaccumation, Commissioning of below Mention INDOOR / OUTDOOR Units :				
a)	42.0 HP ( Top Discharge )	1	Nos.		

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a)	44.0 HP ( Top Discharge )	1	Nos.		
<b>9.0</b>	<b>Indoor Units:</b>				
	Installation, Nitrogen testing and commissioning of below mentioned capacities VRF indoor units with Nitrogen flushing & pressure testing.				
a)	9.0 TR VRF Ductable Unit ( VSD - 108 )	1	Nos.		
b)	6.0 TR VRF Ductable Unit (VSD - 72 )	2	Nos.		
c)	5.0 TR VRF Ductable Unit ( DSD - 60 )	2	Nos.		
d)	4.0 TR VRF Ductable Unit ( DSD - 48 )	2	Nos.		
e)	3.2 TR VRF 4 Way Cassette Unit ( VLC - 38 )	1	Nos.		
f)	2.8 TR VRF 4 Way Cassette Unit ( VLC - 34 )	3	Nos.		
g)	1.7 TR VRF 4 Way Cassette Unit ( VLC - 20A )	4	Nos.		
h)	1.3 TR VRF Compact Cassette Unit ( VCC - 16 ) for RM 1	1	Nos.		
i)	1.5 TR VRF Compact Cassette Unit ( VCC - 18 ) For DGM Chamber	2	Nos.		
j)	1.0 TR VRF Compact Cassette Unit ( VCC - 12 )	2	Nos.		
k)	0.8 TR VRF Compact Cassette Unit ( VCC - 10 ) for	5	Nos.		
l)	1.3 TR VRF Hi Wall Unit ( VHW - 16A ) TradeMill/ Store	1	Nos.		
m)	1.5 TR VRF Hi Wall Unit	2	Nos.		
<b>10.0</b>	<b>Refrigerant Pipe Works:( For VRF )</b>				
	Supply, Installation, Testing & Commissioning of mirror finish inside /outside refrigerant piping, including thermal insulation out of hard drawn copper pipes suitable for VRV/VRF system including all fittings like bends,elbows, tees with all internal joint type fittings. Pipe line must be tested for requisite pressure & must be supported at every 8 ft in intervals. All refrigerant piping to be insulated with 19 mm thick class "O" armaflex nitrile rubber. Complete copper piping with fitting to be coated with Blygold / Thermoguard. Also vendor to provide per meter running length				
a)	Suction Line with 19mm Thick Nitral Insullation.	276	Rmtr		
b)	Discharge Line With 13mm Thick Nitral Insullation.	276	Rmtr		
<b>11.0</b>	<b>Drain piping:</b>				
	Providing and fixing of Hard PVC drain water piping with fittings, support and insulated with 9mm thick closed cell elastomeric nitrile rubber insulation complete as per specifications.				
a)	UPVC Drain Pipe of 25mm	160	Rmt.		
b)	UPVC Drain pipe of 32mm	80	Rmt.		
<b>12.0</b>	<b>Communication Cable:</b>				
	Supply and laying, termination and commissioning of 1.5 sqmm 2 core shielded communication cable between Indoor unit and outdoor unit and for centralized remote control laid in PVC conduit.				
	2C x 0.75 Sq.mm	320	Rmt.		
<b>13.0</b>	<b>Refrigerant- 410 A</b>	69	Kgs		
<b>14.0</b>	Supply ,Installation, Fabrication and Fixing of Galvanised Sheet (GI) Ducting of 24 Gauge.	240	Sqm		
<b>15.0</b>	Acoustic Insulation of Duct Plenum with 10 mm open Cell Nytrell Sheet.	40	Sqm		
<b>16.0</b>	Thermal Insulation with 13mm thick nitral rubber	200	Sqm		
<b>17.0</b>	Canvas Connection	7	Nos.		
<b>18.0</b>	Supply Fixing of Supply Air Grill/ Diffuser	10	Sqm		
<b>19.0</b>	Supply Fixing of Return Air Grill/ Diffuser	10	Sqm		

S.No.	Specification/ Model	Quantity	Units	Rate	Amount
20.0	Duct Demper	7	Sqm		
21.0	Lifting and Shifting of Outdoor unit from Ground level to 2nd Floor Base level	1	Lot		
	<b>TOTAL - B (Excluding GST)</b>				
	<b>TOTAL (A+B) (excluding GST)</b>				