



SMALL INDUSTRIES DEVELOPMENT BANK OF INDIA

Mumbai Office, Swavalamban Bhavan, C-11, G Block, Bandra Kurla Complex, Bandra East, Mumbai, Maharashtra 400051
Tel.: 022-6753-1100, www.sidbi.com

TENDER DOCUMENT

HVAC Works including supply, installation, testing and commissioning etc. in SIDBI Office at Swavalamban Bhavan, C-11, G Block, Bandra Kurla Complex, Bandra East, Mumbai.

Volume – II

COMMERCIAL BID

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Prepared & Issued By:

BIM & MEP CONSULTANTS



B-602, Kailas Business Park, Veer Savarkar Marg,
Park Site, Vikhroli (W), Mumbai 400 079

Phone:022-2085-7272 E:mail@litrum.in www.litrum.in

CIN: U74140MH2013PTC250934

Contact Person: - Prashant Barbade (Mobile- 9975275855)

Issued To: -

**HVAC PROJECT COSTING FOR BRAND NEW ITEMS****Brand/Make Offered:** _____

Sr. No.	Description	Unit	Qty	Rate	Total
	[Part "A"]- Supply of Equipments				
1	All Inverter Top Discharge Type VRF Systems with hermetically sealed Scroll/Rotary DC Inverter Compressors. Cooling mode capacity range of -5 degree Centigrade to 55 degree centigrade. ODU's must compulsorily have a noise level of less than 66 dB(A), with precise temperature control adjusted with 0.5 deg step, floating evaporating temperature for optimum energy management, G type heat exchanger, ESP up to 60Pa, duty cycling of outdoor units in multiple module, backup operation up to 4 days. CoP at 100% load must be minimum 3.3, at 75% load must be minimum 4.5 and at 50% load must be minimum 5.0.	-	-	-	-
1.1	Supply of Outdoor Units with multiple ODU connection Kit if necessary	-	-	-	-
a)	System 1 - 34 HP	Nos	1		
b)	System 2- 44 HP	Nos	1		
c)	System 3- 16 HP	Nos	1		
d)	System 4- 48 HP	Nos	1		
e)	System 5- 40 HP	Nos	1		
f)	System 6- 38 HP	Nos	1		
g)	System 7- 38 HP	Nos	1		
h)	System 8- 24 HP	Nos	1		
1.2	Supply of Indoor Units	-	-	-	-
1.2.3	Compact Cassette Units	-	-	-	-
a)	0.6TR	Nos	5		
b)	1.0TR	Nos	19		
1.2.4	Large Cassette Units	-	-	-	-

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Sr. No.	Description	Unit	Qty	Rate	Total
a)	1.3TR	Nos	15		
b)	1.6TR	Nos	9		
c)	2.0TR	Nos	11		
d)	2.3TR	Nos	5		
e)	2.6TR	Nos	15		
f)	2.8TR	Nos	3		
g)	3.2TR	Nos	4		
1.2.5	Ductable Units	–	–	–	–
a)	8.0TR	Nos	11		
1.3	Supply of Cordless Remote Controller for VRV System Indoors	Nos	86		
1.4	Supply of Corded Remote Controller for VRV System Indoors with wall mounting holster with necessary lengths of wires/cable etc	Nos	11		
1.5	Touch Sensor Central Controller to control all the systems together providing for Group control of Indoors, Individual control, Fan Speed Control, Mode Selection, Mode Lock, Remote Lock, Keyboard Lock, 24Hr timer, Error Reporting, Startup/Shutdown Function, Clean Filter reminder, Parameter Querying and BMS Access- all these functions are a must.	Nos	1		
2	Supply of Imported Y-Joints for Indoor and Outdoor units	Nos	95		
3	Supply of Air-cooled Ceiling Suspended Ducted Air-Conditioners with hermetically Sealed imported "Scroll Compressors", DX coil, filter, blower section with motor and drive, Air cooled condenser, Hi-lo pressure cut out, thermostatic control and "Microprocessor" based Remote controller etc.	–	–		
a)	8.0TR	Nos	2		
4	Supply of DX Cassette Unit with Remote	–	–	–	–
a)	2.0TR	Nos	1		
	TOTAL PART A				

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Sr. No.	Description	Unit	Qty	Rate	Total
B	[PART "B"]- Installation Testing and Commissioning	-	-	-	-
1	INSTALLATION OF INDOOR UNITS, REMOTES AND PC MONITORING SYSTEM			-	-
	Installation of the following Units. The vendor must ensure that the installation is carried out as per the standard OEM guidelines.	-	-	-	-
a)	Compact Cassette Units	Nos	24		
b)	Large Cassette Units	Nos	62		
c)	Ductable Units	Nos	11		
d)	Corded Remotes for Ductable	Nos	11		
e)	PC Monitoring System	Nos	1		
f)	DX Cassette Unit system including ODU with Remote	Nos	1		
2	SITC OF REFRIGERANT GAS TOP UP CHARGE	-	-	-	-
	Top Up Supply and Charging of the Refrigerant up to the mandated pressure limits as specified by the Principal Manufacturer.	-	-	-	-
a)	For VRF System	Lot	1		
b)	For Air Cooled Ductable Units	Lot	1		
3	SITC OF REFRIGERANT PIPING	-	-		
a	Supply, Installation, Testing and Commissioning of hard/soft copper refrigerant piping for VRV SYSTEM, of suitable sizes complete with fittings between indoor units and remote location condenser /ODU units. Each of the circuits must have Suction lines insulated with 19 mm thick Tubular Nitrile Rubber Insulation and Liquid Line with 13mm, also for outside exposed piping insulation must have UV treatment(coating) protection	Rmt	1250		



Sr. No.	Description	Unit	Qty	Rate	Total
b	Supply, Installation, Testing and Commissioning of hard/Soft drawn compatible refrigerant piping of Suitable Size for INDEPENDENT DX UNITS of 8.0 TR Capacity, between indoor and outdoor units insulated with 13mm thickness of Tubular Nitrile Rubber insulation for both suction line and liquid line.	Rmt	45		
4	SITC OF DRAIN PIPING	–	–	–	–
	Supply, Installation, Testing and Commissioning of UPVC drain-pipe of 25 mm /32mm dia with 6 mm thick Tubular form Nitrile Rubber insulation. Drain piping must have designated U Traps.	Rmt	1100		
5	SITC OF CONTROL/COMMUNICATION CABLING			–	–
	Supply and Installation of Control cabling of adequate size - from Indoor to outdoor unit for all the units and for the PC Monitoring System, complete with the necessary fittings and supports. The cabling shall be FRLS weatherproof type. It shall be bundled properly and neatly aligned with the Refrigerant piping.	Rmt	1600		
6	SITC OF POWER CABLING			–	–
a	Supply and Installation of Power cabling of adequate size - from MCB to OUTDOOR unit for all the units and for the PC Monitoring System, complete with the necessary fittings and supports. The cabling shall be FRLS weather-proof type. It shall be bundled properly and neatly aligned with the Refrigerant piping.	Rmt	132		
b	Supply and Installation of Power cabling of adequate size - from MCB to INDOOR unit for all the units and for the PC Monitoring System, complete with the necessary fittings and supports. The cabling shall be FRLS weather-proof type. It shall be bundled properly and neatly aligned with the Refrigerant piping.	Rmt	228		
c	MCB of required capacity with IP65 waterproof box	Nos	11	–	–

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Sr. No.	Description	Unit	Qty	Rate	Total
7	SITC OF PIR DUCTING	–	–	–	–
	Supply, fabrication, Installation, Testing and Air Balancing of Smart Pre-Insulated PIR Ducting with Panel having Reinforced Chequered Aluminium foil FSK on both sides and close cell not less than 95% Rigid cellular foam insulation of 20MM thickness. Material to be class O as per BS 476 Part 6 & Part 7 with density of 48kg/m ³ , thermal conductivity 0.019W/mK. Water Absorption not more than 0.03% as per EN13403 standard. Duct should be able to handle pressure of up to 2000 Pascals.	SQM	1100		
8	SITC OF FLEXIBLE DUCTING	–	–	–	–
	Supply, fabrication, Installation, and testing of Flexible Ducting 150mm Dia.	Rmt	70		
9	SITC THERMAL INSULATION			–	–
a	Elastomeric nitrile rubber 40-60 kg/m ³ with thermal conductivity < 0.035 W/m ² K at an average temperature of 0°C; Fire Propagation compliance as per BS476 Part 6 to meet the Class 'O' Fire category (without Al/outer metallic foil); Water vapor permeability shall not exceed 0.017 Perm inch (2.48 x 10 ⁻¹⁴ Kg/m.s. Pa). Thickness 9mm.	SQM	235		
10	SITC of ACCOUSTIC INSULATION	–	–	–	–
a	Acoustic insulation of ducts with 10 mm thick nitrile rubber of class o Material with class 1 smoke propagation index as per BS 476 class vi & vii std. with 140-180 Kg/m ³ density.	SQM	120		
11	SITC of AIR DISTRIBUTION	–	–	–	–
a	Supply air / Return air Aluminum extruded Powder Coated linear bar Grille 0 /15/45deg deflection with end flanges.	SQM	55		
b	Vertical blade type Collar Damper for supply air collars made of Aluminium. The damper should be gear operated type.	SQM	12		



Volume-II: Commercial Bid

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Sr. No.	Description	Unit	Qty	Rate	Total
C	Fire Retardant Flexible Canvas Connection for Ductable Units	Nos	11		
d	Fresh air intake Grille with damper - 200mm X 200mm	NO	65		
e	Trap door's /Boxing insulation- Supply and Installation of 15mm thick Open Cell Nitrile Rubber 140/180 Kg/m3 density.	Sqmt	280		
f	Insulation - above the False Ceiling-Supply and Installation of Insulation above the false ceiling for areas which are exposed to the underside of the roof with 50 mm thick Expanded Polystyrene sheet of 16 kg/cum density.	Sqmt	1950		
G	GSS Fusible Link Fire Damper with casing & blade 16G -150 mm wide, 90 Mint fire rating as per UL 555 certified by CBRI roorkee with 18 G GI Sleeve.	SQM	5		
h	Opposed Blade Volume Control Dampers with both the Frame Casing and Opposed blades made of 16G thick GI material, duly silver painted.	SQM	8		
I	MS Structural Framework with rust resistant paints (black color) for Ancillary supports and ODU Frame Base Plate- using MS angle and chequered plate. (excluding ODU stand)	Kgs	395		
12	INSTALLATION, TESTING AND COMMISSIONING	-	-		
a	Installation of imported Y-Joints for Indoor units.	Nos	95		
13	Installation, charging and commissioning of all the VRV Systems. This shall include the nitrogen leak testing, oil charging, vaccumisation and commissioning of the Systems- using adequate and mandated installation guidelines by the Principal Manufacturer.	-	-	-	-
a)	System 1 - 34 HP	Nos	1		
b)	System 2- 44 HP	Nos	1		
c)	System 3- 16 HP	Nos	1		
d)	System 4- 48 HP	Nos	1		
e)	System 5- 40 HP	Nos	1		

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Sr. No.	Description	Unit	Qty	Rate	Total
f)	System 6- 38 HP	Nos	1		
g)	System 7- 38 HP	Nos	1		
h)	System 8- 24 HP	Nos	1		
14	OTHER ANCILLARIES	-	-	-	-
a	SITC MS Stand with rust resistant paints (i.e. two coats of black color enamel paint on two coats red oxide) for VRF ODU Units with Vibration Isolator set up for Outdoor Units of the Following Systems	-	-	-	-
a)	System 1 - 34 HP	Nos	1		
b)	System 2- 44 HP	Nos	1		
c)	System 3- 16 HP	Nos	1		
d)	System 4- 48 HP	Nos	1		
e)	System 5- 40 HP	Nos	1		
f)	System 6- 38 HP	Nos	1		
g)	System 7- 38 HP	Nos	1		
h)	System 8- 24 HP	Nos	1		
b	MS Stand for Air Cooled Ductable, ODU Units and ODU of Independent HiWalls with Vibration Isolator set up	-	-	-	-
a)	8.0TR	Nos	2		
b)	2.0 TR Independent Cassette	Nos	1		
c	Lifting/Shifting/Positioning of all the Indoor and Outdoor Units to the respective floor and then positioning of these units at their respective location, using manual Labour or chain block pulley whichever is required	Lot	1		
d	Supply Installation of Perforated GI cable Tray with supporting Rod or GI channel.	-	-	-	-
a)	150X50mm	Rmt	125		

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Sr. No.	Description	Unit	Qty	Rate	Total
b)	200X50mm	Rmt	425		
15	Removal and dismantling, shifting of material, and taking out from building of existing air distribution duct, AHU, Piping, Chiller, Pumps, HVAC Power Supply Panel, Cooling tower, Cold water Piping, Return Piping, Valve, Wiring, Cabling, Cable Tray etc. Related to existing HVAC System also, Chilled Water disconnection and reconnection while floor wise VRF/VRV Installation & making it good to run the Existing Chiller system for each floor.	Job	8		
16	Provide following portable AC arrangement on Rent 4 Nos. 4 Ton Portable AC Per Floor, 6 Nos Table Mounted Portable 0.5 Ton AC, Portable 6 Nos Pedestal Fans. (Contractor to Provide Rent Amount per Month)	Month	8		
TOTAL PART B					
Less1	Buyback Price for Existing Chiller, Pumps, Cooling Towers and AHU's Buyback price should be inclusive of dismantling and cartage charges	Job	1		
Less2	Scrap of GI Pipe and MS Work	Job	1		
TOTAL OF BUYBACK					
GRAND TOTAL (Part A Total + Part B Total – Less1 – Less2)					

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**AMC COSTING**

Sr. No.	Description	Unit	Qty	Rate	Total
	[PART "C"]- Comprehensive Annual Maintenance Contract (CAMC)				
1	CAMC cost after initial warranty/DLP of 1 year. The warranty & AMC will be comprehensive and all cost of repairs / replacement of parts, accessories, etc. will be borne by the successful tenderer. The CAMC payments will be released six monthly after successful completion of the period. Comprehensive AMC includes A) Servicing and maintenance of supplied ACs, B) Repairing and replacement of any electrical parts such as fan, switches, MCBS. Faulty Cables, pipeline leakage attend, C) Refilling of oil and gas and consumables etc. D) Periodical (Monthly/Quarterly, Yearly) servicing etc. The above list is only indicative and agency has to carry out complete preventive and Corrective maintenance to keep the system in the good working condition.	-	-	-	-
a	1. For 1 st year after warranty period	Job	1		
b	2. For 2 nd year after warranty period	Job	1		
c	3. For 3 rd Year after warranty period	Job	1		
d	4. For 4 th Year after Warranty Period	Job	1		
	TOTAL PART C				
	TOTAL FOR PART A + B + C – Less1 – Less2				

Note: L1 Tender Shall be decided on the Total Cost of Part A, Part B & Part C.

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