

HVAC WORK BOQ SBI NBCC BRANCH NDMB					
SUB HEAD-VI HVAC ESTIMATE SBI NBCC BRANCH NDMB					
1	Propeller Fans	Unit	Qty.	Rate (Rs.)	Amount (Rs.)
	Supplying, installing, testing and commissioning of direct driven PROPELLER FANS for exhaust/fresh air as shown in drawings. Each fan shall be complete with permanent split capacitor or shaded pole motor, mounting plate, accessories like wire guard, bird screen and fixed louvers for weather protection as required.Fan shall be provided with speed regulator and NC level 3M away from source shall be less than 55db. Fan selection arrangement and Electrical characteristics shall be as follows :				
i	150 mm dia 1400 RPM fan suitable for 220±6% volts 50 cycles, 1 phase AC supply in plastic body .Designer fan as approved by Interior Designer.	Nos.	17		
2	Ball Valves (For Drain purpose ,in forged brass/Gun metal construction with screwed end)				
	Providing and fixing in position the following ball Valves as per the specifications. Quoted price shall be inclusive of insulation as per the specifications and of PN-16 rating.				
i	20 mm dia	Nos.	10		
ii	15 mm dia	Nos.	6		
3	Auto air Purge				
	Providing and fixing in position the following automatic purge valve with ball valve.				
	15mm dia	Nos.	8		
5	Condensate Drain Piping				
	Supply, installation, testing and commissioning of condensate drain water piping of uPVC complete with fittings like elbows, tees, reducers, bends, U-traps, braided flexible pipe connections with GI clamps, flanges, supports, solvent etc. as required conforming to tender specifications and of following sizes.				
i	20 mm dia pipe	Rmt	60		
6	Factory Fabricated GI Duct				
	Supply, fabrication, Installation, testing and commissioning of factory fabricated rectangular ducts using G.I Sheets (120GSM coating). The price shall include factory fabricated MS flanges (wherever required), turning vanes, splitter dampers, supports (factory fabricated, full threaded G.I rod/hangers & G.I slotted channel), sealant, neoprene gasket, access door etc.as required and as per ISI specifications.The joints shall be with least leak and shall be tested with pressure testing machine of approved vendor.Corrective action shall be taken ,if the leakage is more than the permissible limit.				
i	24 gauge galvanized sheet steel	Sq.m	1850		
ii	22 gauge galvanized sheet steel	Sq.m	400		
iii	20 gauge galvanized sheet steel	Sq.m	60		
7	GSS VOLUME CONTROL DAMPER				
	Supply, installation, testing and balancing of opposed multiblade box type GI volume control damper within ducts to be provided with suitable links, levers and quadrants for manual control of volume of air flow and for proper balancing of the air distribution system as per approved shop drawings & specifications	Sqm	10		
8	SUPPLY/RETURN AIR SLOT DIFFUSERS				
	Supply, installation, testing & commissioning of Extruded Aluminium powder coated Supply/Return Air linear Slot Diffusers with all side flanges with out damper.Slot diffusers shall be supplied in accordance with specifications and approved shop drawings.				
i	1 Slot (20mm gap)	Rmt	RO		
ii	2 Slot (20mm gap)	Rmt	75		
iii	3 Slot (20mm gap)	Rmt	30		
9	SUPPLY/ RETURN AIR DIFFUSERS				
	Supply, installation, testing and balancing of square, rectangular and round extruded aluminium powder coated Supply/ Return Air diffusers. Diffuser shall be with spring loaded removable core type distribution grid , key operated aluminium black matt finish dampers .Diffusers shall be supplied in accordance with specifications and approved shop drawings.	Sqm	10		
10	LINEAR GRILL (FIXED BAR)				
	Supply, installation, testing & balancing of removable core type ,continuous, linear, fixed bar extruded aluminium powder coated Supply Air / Return Air / Exhaust Air grills, normal flow, 15° angle one way / two way deflection with all sides flanges.Blade thickness shall be minimum 5mm in front and 1.0 mm in rear side.Grills shall be supplied in accordance with specifications and approved shop drawings.				
a	200 mm/150mm/100mm High	Sqm	20		
11	VCDs FOR LINEAR GRILL SUPPLY AIR COLLARS				
	Supply, installation, testing & balancing of key operated extruded Aluminium volume control dampers in black mat finish for supply/return/exhaust air duct collars as per approved shop drawings and specifications.	Sqm	20		

12	FLEXIBLE CONNECTION FOR DUCTS				
	Supply, installation and testing of double layer flexible duct connector consisting of a flame retardant fabric secured to extruded aluminium frame on both sides to provide a wear resistant airtight flexible connection. Fabric shall be mildew resistant, water proof and silicon impregnated. Flexible connector shall be supplied in accordance with the specifications and drawings.	Sqm	40		
13	Thermal Insulation(Internal ducting):				
	Supply & installation of external thermal insulation on ducts with approved sample of black colour factory laminated fibre glass cloth on closed cell nitrile rubber/Aluminium foil faced XLPE duct insulation with density 40-60 Kg/ Cum for nitrile rubber & density 25-30 Kg/Cum for XLPE, class 'O' complete as per specifications. All longitudinal and transverse joints shall be sealed with 50mm wide and 3mm thick Nitrile rubber /XLPE tape .The cost shall be inclusive of Low VOC adhesive				
a	13mm thick	Sqm	2310		
14	Acoustic lining				
	Supply & Installation of acoustic lining within supply and return air ducting using open cell elastomeric insulation/XLPE insulation with 140-160 Kg/cum. density. All ducts shown cross hatched on the approved shop drawings shall be provided with acoustic lining as per the specifications. The cost shall be inclusive of low VOC adhesive				
	15 mm thick	Sqm	100		
15	Supplying, erection, testing and commissioning following wall mounted Split/ Root mounted cassette units of (Toshiba/ Mitsubishi/ Hitachi/ Daikin/O-General/Carrier/Voltas) with cordless remote complete with all necessary fittings duly insulated with 9 mm thick nitrile rubber pipe insulation with (all coils – copper only) , fan and fan motor, machine control panel improved Refrigerant Joints, Air conditioners shall be fitted with hermetically sealed type suction cooled reciprocating or discharge cooled rotary compressor or scroll compressor. Compressor unit operating on R32/ R-410. All complete as per drawing, approval and instructions of the Architect/ Employer (Rates to be inclusive of Copper refrigerant pipe with insulation and Drain pipe up to 3 Mtr length). Item to include powder coated outdoor stands as per the manufacturer specifications.				
a	2 TR wall mounted split unit (Minimum 5-Star rating inverter type) including all necessary fittings and mountings as specified by the manufacturer.	Nos.	10.00		
16	EXTRA REFRIGERANT PIPING				
	Supplying and laying of Extra copper refrigerant piping with nitrile rubber pipe insulation, both of size as specified by the manufacturer suitable for 1.0 TR/ 2.0 TR Split type AC and 2.0 TR/ 4.0 TR Cassette AC (From Indoor to outdoor Units).				
a	For 2.0 TR High Wall Split as specified by the manufacturer	Mtr.	100.00		
17	DRAIN PIPING				
	Providing and fixing drain piping up to drain as directed by the engineer incharge with all accessories e.g. elbows, unions, sockets, reducers, reducing tees, nipples etc. Complete job including cutting chiseling in walls, floor and making good of all chases/ cuts etc. and discharging the drain into a floor trap/ gully as per site conditions with insulation, both as specified by the manufacturer.				
a	25 mm dia PVC drain pipe for Split AC	Mtr.	110.00		
18	Providing and fixing Stabilizer with 3 step relay and input voltage range of 140-280 V and output to be 230 V (Blue bird/ Logic state/ Inline/ V-gourd) (copper winding).				
a	5 KVA (For Split AC)	Nos.	10.00		
19	Providing and fixing of lockable caging for outdoor unit grouted on wall or on roof with open able shutter made of 10 X 10 mm MS square bars placed vertically @ 5" c/c welded with 40 X 3 mm MS flat all- round. Item includes all necessary hardware, priming coat, synthetic enamel paint, hanger, clamps other accessories etc. All complete as per approval and instructions of the Architect/ employer.				
a	For 1.0/ 1.5/ 2.0 TR Hi Wall split units	Nos.	10.00		
20	Supplying and laying of Extra Electrical interconnecting control cable from indoor to outdoor of size as specified by the manufacturer suitable for 1.0 TR/ 1.5 TR/ 2.0 TR Split type AC.	Mtr.	150.00		
	TOTAL				
J	SALVAGE				
	SALVAGE:- Dismantling and removal of all existing Ducting ,insulation , Panel etc. including making the area free from all debris and complete site clearance to receive new works all complete as per the instructions of Bank's Engineer/ Architect	Lot	-1.00		
	Sub-Total Carried To Summary				