

BOQ

Sub: Provision of Class 10,000 air quality in the Common Tissue Culture Lab

Item	Description	Unit	Qty	Rate	Amount
A	EQUIPMENT				
1	NDSR Supply installation testing and commissioning of Inline fans complete with insulation and 3 speed regulator and wiring with DP switch with plenum of following capacity				
1	800 CMH/ 6 mm static	Sets	1		
2	DSR Supply, installation, balancing and commissioning of fabricated at site GSS sheet metal rectangular/round ducting complete with neoprene rubber gaskets, elbows, splitter dampers, vanes, hangers, supports etc. as per approved drawings and specifications of following sheet thickness complete as required as per specifications.				
2.1	Ref no 16.12.2.1 Thickness 0.63 mm sheet	Sqm.	110		
2.2	Ref no 16.12.2.2 Thickness 0.80 mm sheet	Sqm.	20		
3	NDSR Supply, fabrication, installation and testing the flexible connections constructed of fire resistance flexible double canvas sleeve as per the approved shop drawings.	Sqm.	1		
4	Ref no 16.13 Supply, installation, testing and commissioning of GI volume control duct damper complete with neoprene rubber gaskets, nuts, bolts, screws linkages, flanges etc, as per specifications.	Sqm.	0.5		
5	Fire Damper with Control Mechanism				
5.1	Ref no 16.2 Supplying, Fixing,testing and commissioning of fire dampers in supply air duct/main branch and return air path as and where required of required sizes i/c control wiring,the damper shall be motorized and spring return so as to close the damper in the event of power failure automatically and open the same in case of power being restored. The spring return action shall be inbuilt mechanism and not externally mounted. The damper shall also be closed in the event of fire signal complete as required and as per specifications.	Sqm	1		
	Electric Actuator				
5.2	Ref no 16.2 Electric actuator with necessary linkage to actuate fire dampers complete with required wiring and associated accessories.	Nos.	1		
	Note: Fire dampers shall be supplied with sensors/actuators/control etc duly factory fitted and tested at manufacturers works and certificate to this effect produced along with delivery of fire damper.				
6	NDSR Supplying & fixing of opposed blade aluminium construction volume control dampers in supply air duct collars as per approved drawings and specifications.	Sqm.	2		
7	NDSR Supply and installation of External Thermal insulation on ducts with cross linked nitrile rubber class O as per the approved specifications. Quoted price shall be inclusive of adhesive, tapes as per specification.				
	Inside the building				
	13 mm thick insulation for air ducts.	Sqm	140		
8	ref 16.25 Supply and fixing of 50 mm thick resin bonded fiber glass insulation of 24 kg/cum density, after applying 2 coats of CPRX compound sealing all joints with aluminium tape, covering with 0.63 mm x 19 mm GI wire mesh, netting, butting all joints and laced with GI wire complete and fully covered with 1 layer of tarfelt stuck with hot bitumin to give a smooth finish as per specifications and as required complete in all respect.	Sqm	130		
	Exposed to atmosphere				
9	Supply of following Double skin Air Handling unit with thermal break, including control cabling and earthing appx 50 mtr length as per attached specifications & lifting positioning connecting at all floors				
	NDSR 2000 CFM, 8 HP coiling coil, Backward curved blower, 110 mm Total pressure. (double decker type fitting with micro and hepa filter as specified)	Nos	1		
	NDSR 3600CFM, 18 HP coiling coil, Backward curved blower, 110 mm Total pressure	Nos	1		
10	Variable refrigerant volume modular type air-conditioning system suitable for cooling and heating by using all inverter driven capacity control compressors complete with indoor and outdoor units, COP at 100% should be minimum 3.5 at 35 C (AHRI Conditions) with individual controller, electronic expansion valve and fittings etc. as per quantity given below including full charging of R-410A refrigerant gas(according to piping length) complete i/c powder coating complete as per specifications including lifting positioning, etc at all floors/heights including control cabling and double earthing 5sqmm dia (60 mtr appx).				
	8 HP	Nos	2		
11	S/I/T/C of Exhaust air purification unit with inlet and outlet air volume control damper				
	1000 CFM	Nos	1		
12	Refrigerant piping with following interconnecting pipes one end expanded refrigerant copper pipe work for Variable Refrigerant Volume units of following outer diameter, insulated with 19/13 mm thick XLPE closed cell electrometric nitrile rubber tubular insulation between each set of indoor & outdoor units with outer mechanical protection of aluminum cladding for all exposed pipes as per specification				
a	19.1 mm dia with 13 mm thick nitrile rubber insulation	Mtr	10		
b	9.5 mm dia with 13 mm thick nitrile rubber insulation	Mtr	10		
c	6.5 mm dia with 13 mm thick nitrile rubber insulation	Mtr	5		
13	Supplying of following 1100 volt grade insulated sheathed Aluminium conductor armoured cables / copper cables				
2.1	Armoured Copper conductor cable.				
2.1.5	4 x 4 sq.mm	Mtr	60		
2.2	Armoured Aluminium conductor cable.				
	3.5 C 35 sqmm	Mtr	60		
14	Isolator				
	Providing & fixing weather proof isolator near each outdoor unit. Capacity 63Amp/40 Amps 3 Phase.	Nos.	1		
15	Providing and fixing of Air Curtain of size 4'x1'x1' having automated magnetic or mechanical sensor operation. Air curtain having MS sheet of 20 gauge thickness, powder coated cream colour should have double blower type motor .5 HP, 1400 RPM, single phase of Make-CG/KIRLOSKAR/GEC. Aluminum material blower velocity 20-25 cum/hr with front grill fitted	Nos	2		
	Total				

Approved Makes

- 1 VRV- Daikin/Samsung/LG/Toshiba
- 2 AHU- Edgetech/Zeco