

## HVAC for DNA and Toxicology Section, NFSA

S.No	Description	Qty	Unit
1.	Supply, installation, testing and commissioning of condensing unit & AHU. The AHU shall be double skin 50mm thick, low velocity front/top suction/discharge, draw through type DX coil (reversible), complete with return air plenum/mixing box, filters sections for 2" thick mesh aluminum pre filters, n=95% bag filters and heap filters including motor, VFD, manometers of range 0-750 Pascal fixed across filter section, volume control damper at fresh air and return air neck. The unit shall be built in with all safeties, controls microprocessors/controller, remote temp display & built-in wire controls system for operation in low ambient temp. Complete in all respects as specified in specifications.	2	Nos.
2.	Supply, installation, testing and commissioning of Imported electric operated Steam Humidifier suitable for installation in duct, having controls, water inlet & drain valve etc. Complete in all respects as specified in specification and as directed by engineer incharge in following capacity parameters.  Capacity – 2 kg/hr	2	Nos.
3.	Supply, fabrication, installation and testing of flanged type/pocket joint SS sheet ducting by using prime quality sheets (non-magnetic) suitable to work for high static pressures with proper sealant to stop the leakage. The Scope of work shall include all tees, bends, reducers, splitter damper on each branch take off, guide vanes in all short radius and square elbows, bracing, hangers and supports wooden frames at all wall crossing. Complete in all respect as per specifications and as directed by the engineer in charge.	Approx. 8952	SFT
4.	Supply and installation of 1" thick Glass wool insulation around 40 Kg/m <sup>3</sup> density on the duct work with factory applied vapor barrier including 8 oz canvas cloth wrapping. Complete in all respect as per specifications with all circumferential and longitudinal joints scaled with Aluminum foil self-adhesive tape Complete in all respect and as directed by engineer in charge.	Approx. 8952	SFT
5.	Supply, fabrication and installation of SS sheet metal cladding 26 gauge on insulated duct, as per specifications and as directed by Engineer In-Charge.	Approx. 2286	SFT

6.	Supply and installation of Air-Distribution equipment of powder coated aluminum. Complete in all respects as specified and as directed by engineer incharge. As per specifications as given below:		
	i. RAG/SAD	Approx. 11464	Sq.In
	ii. VCD's	Approx. 3747	Sq.In
	iii. Flexible Duct Connector of different sizes where required	Approx. 654	Sq.In
7.	Supply and installation of fire dampers 16 gauge complete with fusible links location. Complete in all respects and as directed by engineer incharge.	Approx. 374	Sq.In
8.	Electrical Systems for complete system, supply and installation of power distribution boards. Complete with starter, On/Off push buttons and safety devices, relays, power wiring etc wherever required as specified for HVAC equipment, lighting, fan, filter batteries etc and as per site requirement. Complete in all respects and as directed by Engineer Incharge. Also, supply, installation testing and commissioning of HVAC automatic controls, damper motors. PD Transmitter, temperature/humidity sensor and transmitters programmable microprocessor, controller along with display BacNet Card display in room, complete with prewired 15swg, powder coated control panel with all accessories i.e. transformer relay GE make or approved equal in the following AI & DI, AO & DO (Analog-Digital) inputs and outputs makes of controls. Complete for smooth and efficient working of system and as directed by Engineer in charge.	1	Job
9.	Civil Works related to complete the HVAC works including wall openings, their finishing and preparation of foundations for AHUs and Condensing units.	1	Job
10.	Air-Balancing of the system and testing & commissioning of the HVAC System.	1	Job
11.	Digital monitor measuring temperature, humidity and air purification must be calibrated with certificate.		
12.	Biosafety level must meet to BSL-3		

13.	Required temperature 20 °C (±5)
14.	Humidity level <50
15.	Fire Resistance: Class B
16.	Aluminum fans of IE3 or IE-4
17.	Fixed 12 FPI and air flow limit 2.5 m/s
18.	Hepa Filter

NOTE:

- Three years standard warranty of all parts and maintenance/service
- After three years' service contract will be made
- Hands on training of troubleshooting, maintenance and cleaning
- Minimum two hours uninterrupted power backup
- High quality and durable unit meet relevant quality ISO standards
- Suitable power generator for HVAC