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Department of Biological Sciences and Bioengineering
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Dated: 16th February, 2016

Sealed technical/financial bid(s) is/are invited for the items given in the tender. Specifications of the material are also mentioned in the attached tender.

Notes:

1. All quotations must reach by 24.2.2016 addressed to
   Dr. Jayandharan Giridhara Rao
   Associate Professor
   Department of Biological Sciences & Bioengineering
   IIT Kanpur, Kanpur-208 016.

2. Quotation(s) must be valid till 60 days .

3. Delivery period will be 2 to 4 weeks. Extension of Delivery period is not allowed.

4. Send technical details and photographs of the item(s).

5. Participating firms should submit proof of documentation on authorized vendor for product and eligible to provide the warranty.

6. For Foreign Currency through Net 30 or L/C

7. For Rupee payment 90% on delivery and 10 % after satisfactory use.

Dr. Jayandharan Giridhara Rao
Project Investigator

Encl: Copy of Tender

Individual Ventilator Caging (IVC) system containing

1. IVC Cage Assembly – 96 nos.
2. IVC Cage Rack -1 no.
3. IVC Ventilator-1no.
4. Accessories for IVC system (UPS Supply-1 / Exhaust air pre-filter-4 nos,Supply and Exhaust HEPA Filter-4 nos and IVC Cage card holder-96).

Specifications

1. **IVC Cage Assembly:-**
   - Cage bottom and top should be made of polysulfone plastic material (autoclavable) with minimum 3 year warranty.
   - Cage bottom should have total available floor area of not less than 500 sqcm.
   - Wire bar lid should be made of AISI 304 grade stainless steel without any edges and v-shaped pointers.
   - Cage bottom should be symmetrical from both ends and should have rounded corners without any projections inside.
   - Water bottles should be exterior/outside the top cover and it should make perfect sealing when nozzle inserted into the cage.
   - Water bottle should be minimum 250 ml capacity and should have silicon gasket on its neck for perfect capping to avoid water leakage.
   - Water bottle nozzle/caps should be made of AISI 316 quality stainless steel and should have any wielded joints.
   - Cage top cover should have wider microbiological filter with air tight filter retainer. Microbiological filter should have third party certification for more than 99.9% virus and bacterial filter efficiency.
   - Air inlet and outlet should never come in contact with animal inside the cage.
   - Air speed inside the cage should not be disturbing to the animals (0.2m/sec) (third party certification is must).
   - Cage should have detachable and autoclavable card holder should be air tight and gaskets used for airtight sealing should be made of silicon material (autoclavable).
   - Overall Dimensions: - (365) Length X (207) Wirth X (190) Height.
   - Material:- Polysulfone cages, resistance to autoclave conditions and can withstand autoclave temperature up to 150° C. Cage lid: In PC / PSU / Ultem construction.
   - Cage lid clamps: In special grade nylon construction.
   - Supply air port with isolator: In special grade nylon construction.
   - Exhaust air port: In special grade nylon construction with single sided isolator.
   - Water bottle port: In special grade nylon construction with single sided isolator.
   - Breather filter: In special construction, suitable to withstand autoclave conditions.
   - Filter retainer grill: In special grade nylon construction.
     - Cage grill with feed hopper: In single sided construction.
   - Water bottle: In PC / PSU construction with bottle cap in single sided construction.

2. **IVC Cage Rack**

- Rack must hold maximum number of cages but it should be able enter into cage and rack washer.
- It should be double sided rack on four caster wheels (autoclavable) with brakes for front two wheels.
- Rack should have vertical plenums for supply and exhaust air for easy washing in automated cage and rack washers.
- Air change per hour (ACH) inside the cage at all levels should not vary much from the mean ACH value (±15%) and it should be the same even with 50% cages removed from the rack.
    - Third party validation (TUV) is must.
- It should have automatic visual indicator for proper fixing of cages in the slots (into air vents).
- Double Sided and capacity to hold 96 cages.
- Dimensions: - (1476) Length X (880) Width X (1965) Height.
- Base frame and rack structure: In single sided construction.
- Ducting network for clean air supply: In single sided construction.
- Ducting network for evacuation of contaminated air: In SS 304 construction.
- Supply and exhaust nipples with lock nut: In SS 304 construction.
- Cage pressure sensing tube with quick release coupler: In SS 304 const. with rubber hose.
- Supply air nozzles: Special grade rubber with a special grade nylon Tip.
- Exhaust air nozzles: In special grade rubber construction.
- Nozzle retainer rings: In special grade nylon construction.
    - Duct couplers: In special grade rubber construction.
- Cage runners: In special grade nylon construction.
- Castor Wheels: Special grade nylon wheels housed in single sided casing.
- Fasteners & Hardware: In single sided construction.

3. IVC ventilator

- It must be a stand - alone unit on wheels with breaks for front two wheels.
- It should be able to supply maximum number of racks (two double sided racks or four single sided racks or one double sided and two single sided racks).
- It should be able to supply maximum ACH (upto 80).
- It should have separate washable pre filters and separate 0.3 micron size HEPA filters for supply and exhaust air (DOP test certification for HEPA filters is a must).
- Exhaust air from AHU must be connected to room exhaust.
- AHU should have monitoring device to check the status of filters.
- AHU noise level should not be more than 50dBA.
- Efficiency: 99.99% down to 0.03 micron.

Components

Fresh air supply system comprising of

- Fan with regular speed regulator.
- Pre filter: Size 380 x 305 x 25 mm - 1 No. per unit.
- HEPA filter: Size 380 x 305 x 66 mm - 1 No. per unit.

Exhaust air evacuations system

- Fan with regular speed regulator.
- Pre filter: Size 380 x 305 x 25 mm - 1 No. per unit.
- HEPA filter: Size 380 x 305 x 66 mm - 1 No. per unit.Overall Filtration

Necessary electrical with internal wiring.

Programmable Logical Controller consisting of:-

- HMI with 16 keys keypad, 896 KB memory with data logging facility.
- Programmable fault indication & alarm system.

- Facility to monitor following parameters:-
  - Supply and Exhaust Air Quantity.
  - Average Cage Humidity.
  - Average Cage Pressure.
  - Facility to set upper/ lower Limits of above mentioned parameters.
- Facility to provide Remote alarm in case unit fails to maintain any of the above parameters within pre-set limits.
- Data Logging facility for all 5 parameters listed above & programming of your personal computer/ laptop to download data as and when required (Computer/Laptop not in our scope).
- **Note:** The computer in which the data is required to transfer should have serial port to connect with IVC System.
- Castor wheel in special grade nylon construction with SS housing, 2 Nos. free moving & 2 No. with pad lock.
- Supply & Exhaust air nuzzles suitable to connect 2/3 racks with ventilator.
- Housing & structure in SS 304 construction

Power supply and controls

- 220 Volt, 50 Hz, single phase.
- Main Power Supply On / Off Switch.
- Supply air unit On / Off Switch.
- Exhaust Air unit On / Off Switch.
- Supply air fan speed regulator (for 0 to 100 % speed).
- Exhaust air fan speed regulator (for 0 to 100 % speed).
- Remote Alarm :Potential free contact change over on unit shut off / Power failure or on running out of set parameters.

4. **Accessories For IVC Ventilator**

- **UPS: -** 0.5/1.0 KVA, approx 8 hr backup supply and AC supply with earth leakage protection.
- **Supply and exhaust HEPA filter**

  German Make HEPA filter, efficiency 99.97% down to 0.03 micron with anodized aluminum frame having joint less gasket suitable for IVC Ventilator.
- **Supply/ Exhaust air Pre-Filter for IVC Ventilator**

- Size 380 x 305 x 25 mm, having filters element in synthetic non woven fiber construction and the frame in SS 304 construction. The filter will have a supporting wire grid on one side in SS 304 construct.

- Cards and Card Holder for IVC Cage.

5. Certificates

- Manufacturing company should have quality management system certification to ISO9001 and Environmental management System certification according to ISO 14001.
- Should have Life Cycle Assessment (LCA) according to ISO 14040 and ISO 14044.
- IVC system should be TUV certificated.
- DOP test certificates for HEPA filters.
- Annual maintenance contract support for 3 years

Please send your technical and financial bids to the undersigned within 7 days of this advertisement:

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Uttar Pradesh-208016, India.