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### **Limited Tender Enquiry**

Sealed and separate quotations are invited for the following equipments latest by 30 Aug. 2011.

#### **1. ULTRA LOW TEMPERATURE (-86 °C or ULT) FREEZER**

1. Upright ultra-low temperature freezer of 300-360 litres capacity
2. Space saving model using vacuum insulated panels with stainless steel interior. The external width of the freezer may be less than 30 inches (leaner the better)
3. Operating temperature -50 °C to -86 °C with 2-stage cooling
4. Capable of running in voltage range 190 – 270V with built in voltage stabilizer
5. Fully programmable, microprocessor-controlled freezer
6. Audible and visible alarms for temperature, power failure, system failure, low battery with remote alarm port for connection to an auto dialer
7. Digital display panel and on screen system messaging display
8. Self diagnostic system, condition monitoring and data storage system
9. Heavy duty lockable castors and pad-locked outer door
10. Capable of storing more than 20,000 storage vials of 2 inch size, storage racks to fill at least 2 shelves with 2 inch vials must be included
11. Freezer must use CFC-FREE, HCFC-FREE non flammable refrigerants
12. Adjustable shelves with 3-5 compartments, each compartment with its own doors
13. Auto resume function after power failure is a must
14. At least 5 years of unconditional, comprehensive warranty on-site
15. Voltage stabilizer and any other accessories as needed for trouble-free operation

A compliance/deviation statement for all of the above features must be provided.

#### **2. Ice Flaking machine:**

1. Production capacity-Not less than 2 kg/hr or 50kg/day
2. Dimension-Not more than 2x2x3 feet (w/d/h), slim built for table top or floor use.
3. Bin Capacity-Not less than 10 kg
4. PUF insulated stainless steel body- (Outside & Inside both)
5. Auto Cut Off, Auto Resume (after power failure) and auto control of water, ice and power.
6. CFC/HCFC-free refrigerant
7. Energy efficient, Low power consumption
8. Noise-free and vibration-free operation

A compliance/deviation statement for all of the above features must be provided.

### **3. HIGH SPEED REFRIGERATED MULTIPURPOSE CENTRIFUGE**

1. Compact, table top or floor-mounted portable model with minimal foot print
2. Max Speed (RPM): 11,000 or more with 4-6 x 50 ml tubes, speed accuracy of 10 RPM
3. Max. RCF : 20,000 x g or more
4. Operating temperature range from 0°C to +40°C with CFC-free refrigeration system for fast and stand by cooling facility. Sample temp. should be 4°C or less at max speed
5. Multiple rotor choice for 0.2ml-1.5ml microtubes/strips, tubes of 2ml, 15ml, 30ml 50ml
6. Facility (Rotor) to run the Micro Titer Plate (MTP) / 96 Well PCR Plate
7. Time pre-selection : Short run, 0-99 minute, continuous run
8. Microprocessor controlled alphanumeric LCD Screen for display of set & run parameters i.e. Speed, RCF, Temperature, Run Time, etc.
9. Maintenance-free, noiseless and brushless drive motor
10. End of run alarm and Emergency lid opening on power failure
11. Motorized lid lock with automatic lid opening after run
12. Power supply : 220-240V AC, 50/60 Hz, voltage stabilizer to be included (if needed)
13. Auto resume function after power failure.
14. At least 2 years of unconditional, comprehensive warranty on-site

A compliance/deviation statement for all of the above features must be provided.

### **4. PLANT GROWTH CHAMBER**

1. Plant growth chamber with total capacity in the range of 300-450 L
2. Body make and Dimensions: (W x D x H in mm)
  - a. External : not more than 900 x 900 x 2000 (W x D x H in mm) powder-coated steel
  - b. Internal : At least 600 x 600 x 900 but not more than 600 x 600 x 1200 mm, stainless steel cabin with tempered safety glass door with silicon packing
3. Temperature (operating) range of 0 to 60 °C (10-50 °C with lights),  $\pm 0.1^\circ\text{C}$  accuracy
4. Humidity range of 30-98% RH ( $\pm 1-2$  % accuracy) with electronic sensor and humidifier.
5. Microprocessor-based PID program controller for photoperiodic light and temp control
6. Digital display for temperature, humidity and other parameters
7. 0-30 k Lux photosynthetic light illumination with photosensor
8. CO<sub>2</sub> in the range of 0- 20% with CO<sub>2</sub> sensor. (optional)
9. Over temperature cut-off and over current breaker
10. Energy efficient operation at 220 V, 50/60Hz, with inbuilt/included voltage stabilizer
11. Auto resume function after power failure.
12. At least 2 years of unconditional, comprehensive warranty on-site

A compliance/deviation statement for all of the above features must be provided.

### **5. Glassware Washer**

Glassware washer for cleaning, drying & disinfecting all types of glassware, plasticware, labware

1. Facility to wash and dry narrow as well as wide mouthed glassware/plasticware including pipettes, test tubes, centrifuge tubes of sizes 20 to 60 ml, petriplates, microtitre plates, measuring cylinders of sizes 50ml to 500ml, beakers of sizes 50ml to 2000 ml, flasks and bottles of 100, 150, 250, 500 ml, 1 litre, 2 litres, etc.

2. Stainless steel corrosion-proof, rustproof, heatproof body and fittings/baskets
3. Max internal temp. : 80-99 °C
4. Should have built-in water softener/purifier.
5. Separate pumps for inlet and outlet of water to avoid any cross contamination
6. Programmable for different types of washing needs
7. Digital display for temperature, program cycle and time.
8. Audio-visual alarms for hot glass, water-low, water overflow
9. Drain filter to trap any kind of debris to protect the pumps
10. All kinds of racks and baskets, as necessary should be included
11. Power supply: 230V, 50/60Hz with built-in/included voltage stabilizer
12. Should be energy efficient
13. Auto resume function in case of power failure.
14. At least 2 years of unconditional, comprehensive warranty on-site

A compliance/deviation statement for all of the above features must be provided.

## **6. Refrigerated Incubator shaker**

1. Compact, front opening, stackable design within the size limit of 2.5x2.5x3 ft (WxDxH)
2. Temperature range: 5-60 °C with an accuracy of  $\pm 0.1$  °C and uniformity  $< 0.5$  °C
3. Shaking speed: 30-400 rpm
4. Digital PID controller
5. Digital display for temperature and rpm
6. Brushless/beltless noise free motor
7. Photosynthetic illumination of at least 1 kilolux with option to vary light
8. Additional tray/shelf for incubating Petriplates, tubes and other stationery items
9. Stainless steel corrosion-proof inner cabin and power-coated outer body
10. Audio-visual alarm for temperature deviation
11. Clamps for flasks of 100-1000 ml, culture vials of 3-10 ml, test-tube racks and any other accessories should be provided
12. Auto resume function in case of power failure
13. Power supply: 230V, 50/60Hz with built-in/included voltage stabilizer
14. At least 2 years of unconditional, comprehensive warranty on-site

A compliance/deviation statement for all of the above features must be provided.

## **7. Refrigerated circulating waterbath**

1. Compact, slim stainless steel body with 5-10 litres water capacity
2. Working temperature range: -10 to 80 °C with an accuracy/uniformity of  $\pm 0.1$  °C
3. Heater power at least 1 kW
4. Cooling output at 20 °C of at least 0.2 kW
5. Digital display for temperature
6. Pump pressure of 0.2 bars and flow of 15 L/min
7. Auto cut off on excess deviation from set parameters
8. Auto resume function in case of power failure
9. Power supply: 230V, 50/60Hz with built-in/included voltage stabilizer
10. At least 2 years of unconditional, comprehensive warranty on-site