



National Center for Biological Sciences
Tata Institute of Fundamental Research
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ENQUIRY

Ref: NCB/CA17-196/163041

December 22, 2017

Dear Sirs

Please let us have your Quotation for the following:

S.No.	Item Code	Description	Qty	UOM
1	LCXAC000036	Air-Handling Unit (AHU) as per attached detailed specifications.	6.00	NO

1. The bids shall be enclosed in an envelope and due date sealed duly marked Tender for _____ Ref No: 163041. The bids should be addressed and to be mailed to 'THE HEAD-PURCHASE'.

The bids are liable to be rejected if the sealed envelope is not addressed to "THE HEAD-PURCHASE" with Tender Ref No. and Item Description and due date. The bids delivered in person shall be dropped in Purchase Section. If the bids are sent through courier or mail, it should reach by submission date and time and NCBS will not be responsible for the delay.

2. DUE DATE FOR SUBMISSION OF QUOTATION AGAINST THIS ENQUIRY IS 12/01/2018.

3. QUOTATIONS RECEIVED AFTER THE DUE DATE SHALL BE REJECTED.

4. The validity of your quotation should be for 60 days from the due date.

5. All duties, taxes, surcharge and cess as currently applicable must be stated in your quotation, separately. Otherwise your quote is liable to be rejected.

6. Your quotation should indicate delivery period & warranty period.

7. Delivery to be made to our stores. Please indicate charges, if any extra. Transit Insurance should be done upto NCBS Stores.

8. If you are unable to supply the quality, specifications or brand as mentioned in our enquiry, please state so and then offer alternative to quality/specifications.

9. Payment: within one month after delivery & acceptance/satisfactory installation.

10. Please ensure that the enquiry number and the due date is superscribed on the envelope failing which your quotation is liable to be rejected.

11. Since we are a public funded research institution, we are exempted from paying Customs duty (Except ad valorem duty of 5% + 2% Cess and 1% Cus Sec & High Edu. CESS vide Notification No.51/96 with latest amendments) and excise duty vide Notification No. 10/97 CENTRAL EXCISE dated 01-03-1997 for all scientific equipments, technical instruments, equipments (including computers), their accessories, spares, consumables and software. Hence, please offer your prices

12. If the item is covered under DGS&D rate contract, please quote the rate as per the DGS&D rate contract with xerox copy of the DGS&D order.

13. Any dispute or differences that may arise between the parties shall be referred to the sole arbitration of the Centre Director or his nominees. The decision of the arbitrator shall be final and binding on the parties. The venue for arbitration shall be Bangalore. The provisions of the Arbitration and Conciliation Act, 1996 as amended from time to time shall apply. The courts in Bangalore shall have exclusive jurisdiction to deal with any or all disputes between the parties

Yours faithfully

For and on behalf of

National Centre for Biological Sciences



NALINI R

Copy to: Prof. / Dr. / Mr. / Mrs. / Ms. / Shri / Smt. BASAVARAJ JALIHAL (NCB-12P4510)
Your Indent Req. No.BJA0170018 Dated:07/12/2017 refers.

Schedule of quantities & detailed specifications are as given below;

Sl. No.	Description of item	Qty	Unit
1	<p>Supply of modular, sectionalized vertical type, double skin AHU with KRUGER make BDB 280 model Backward Curved fan of 2000CFM capacity, 35mm WG static pressure.</p> <p>6 row deep vertically mounted, chilled water cooled copper cooling-coil with fin face area of min. 5 Sq.ft. SS drain tray.</p> <p>Fan-motor assembly mounting provision on the same base plate with lockable and position adjustable base plate for motor. Drive connection with double grooved pulleys & V belts.</p> <p>Two canvases, one for fan to AHU connection & other for external AHU to the further connection at site. The canvases of suitable dimension & with height of 350mm with flange type connections.</p> <p>Mesh protected water washable type 5 micron, 90% efficiency air filter. Enclosure to be well finished with sturdy support structure.</p> <p>There shall be a view port for fan-motor section along with a 11W CFL water tight bulkhead light fitting with door limit switch.</p> <p>Detailed specifications & typical drawings are enclosed (dimensions suggestive).</p> <p><i>Pls note: Motor is under NCBS scope but pulley, belt, motor base plate are to be supplied by the AHU manufacturer.</i></p>	6	Sets

NOTE:

- Each page of tender document shall be signed by the contractor along with date and seal, and submitted along with the offer.
- Dimensional details & GA of AHU are to be enclosed with the quote.
- AHU GA & dimensional drawings to be got approved before fabrication.
- Drawings of the typical AHU are enclosed for reference. Exact drawings shall be developed from the vendor.
- The newly fabricated AHUs shall match the existing AHU room in all respects & the drawings shall be got approved before fabrication*
- Vendors must visit the site & get acquainted with the site requirements, mounting arrangement of the AHU being offered, air, water & electrical circuit connection etc., before quoting.*

Approved makes' of items;

Centrifugal Fans: Kruger, BDB 280
 Air filters: Aerosol / MNR / OEM / equivalent.
 Pulley, Belts: Fenner.
 All other items: ISI / approved items only to be used

Detailed Specifications: Supply of well finished AHUs with double skin enclosure operating on Chilled water supply at 8.0 deg C, as per the following;

	AHU details		Qty	Remarks
1	AHU Enclosure			
a)	AHU Capacity / type	2000CFM/Vertical		

Contractor Signature:

Company Seal:

Date:

b)	Static pressure	35 mm WG (total)		
c)	AHU frame work	Aluminum hollow profile		
d)	AHU Panel	Double skin, all the panels to be fixed with easy hand removable fasteners & flush type door handles.		
e)	Outer skin	0.6 mm pre coated GI		
f)	Inner skin	0.6 mm pre coated GI		
g)	Panels thickness	25 mm \pm 2 mm (minimum)		
h)	Insulation density / material	40 kg \pm 2 Kg / CFC free PUF		
i)	Hinged / fixed Access door	To be provided (bolt fixed)		
k)	Overall size	Should not exceed as Height-1400 Width-1000 Depth-650mm. The sizes mentioned are complete, including panel door fasteners. Visit the site to evaluate.		
2 AHU Fan section details				
a)	Fan Type	DIDW, Backward curved		
b)	Capacity / static pressure	2000 CFM / 35mm WG		
c)	Outlet velocity	Less than 8 m/s (AHU room noise to be less than 55 dB(A))		Achieve good noise reduction
d)	Motor & Fan mounting	Fan should be mounted on left & motor provision on right side (from front view), on suitable AVMs with lockable and position adjustable base plate. Both motor & fan should be on a common base plate to avoid relative movement		Motor under NCBS scope..
e)	Motor adjustable base plate	Adjustable base plate suitable for motor of frame size 180L	1 No	
f)	Drive connection between motor & fan	Twin V-belt with double grooved pulleys	2 Pulleys, 2 belts	
g)	Canvas material, Fan outlet connection to AHU body connection & external AHU connection	Canvas of Height 350mm, with flange at both ends Flexible, fire retardant and water proof material.	2 Canvases	
h)	View port & light	View port at a suitable position. 11W CFL water tight bulk-head light fitting (along with 11W CFL bulb, pin type) with door limit switch.		
3 Coil section details				
a)	Face area / rows deep	Minimum 5 Sq.ft / 6 rows		

Contractor Signature:

Company Seal:

Date:

b)	Tube size and Materials	1/2" or 5/8" & Copper		
c)	Fin material & fins/inch	Aluminium and 12 nos./inch		
d)	Coil header	Material - MS, min. 40mm dia. The header should exit from the bottom panel only.		
e)	Coil end connection	The header ends should be welded with 1" BSP female threaded MS Socket	1" MS Socket - 2 no's . Welded for coil I/L & O/L connections	The end connection should not protrude out to avoid damage to coil during transportation
f)	Required temperature & RH in conditioned space	To achieve < 22 deg.C & < 65% RH		
g)	Air purge vent at the top of the coil	In Return header. To be accessible from the top front panel	Pin valve type – 1no	
h)	Drain tray	Min. 22 SWG, SS tray with 3/4" BSP female threaded MS Socket. Joints at the edges etc to be properly welded to avoid leaks. <i>Drain outlet shall be accessible for cleaning from the front side itself, after just removing the filter.</i>	3/4" GI Socket - 1no welded to tray for pipe connection	Tray size should cover the possible water condensate spillage.

4	Filter section details			
a)	Type / Flow.	Box / 2500 CFM. Flush mounted to AHU. (Higher capacity filter is chosen for reducing pressure drop and improving air flow)	2 No's	Can be multiple filters
b)	Filtration level	5 micron, 90% efficiency		
c)	Media & mechanical protection	Water washable synthetic media with aluminium mesh		To avoid Rodent entry

Contractor Signature:

Company Seal:

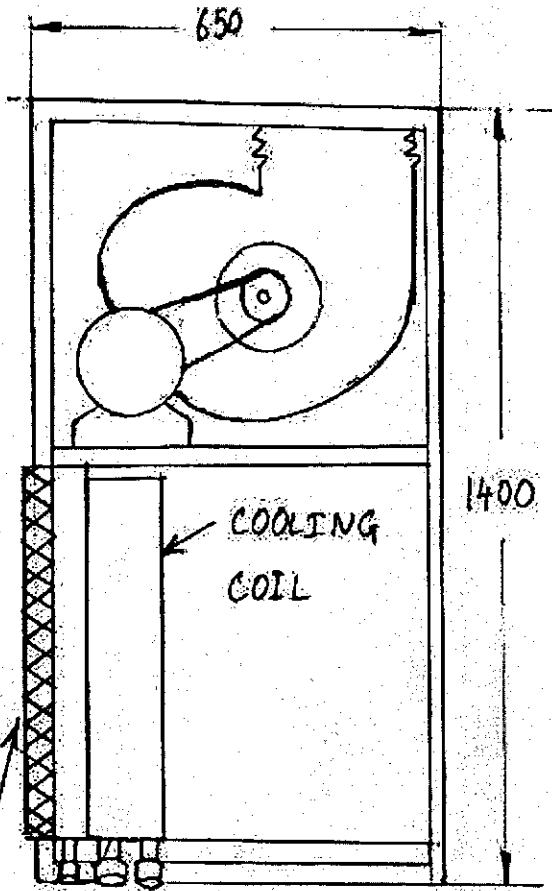
Date:

TYPICAL AHU DRAWING 1400 X 1000 X 650, QTY - 6 NOS.

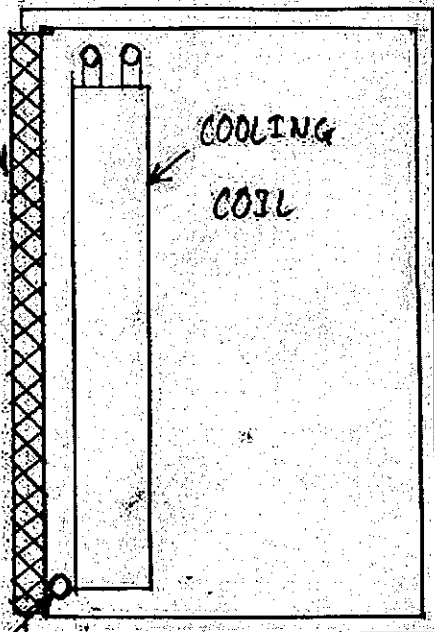
ALL DIMENSIONS

ARE IN MM

SECTION

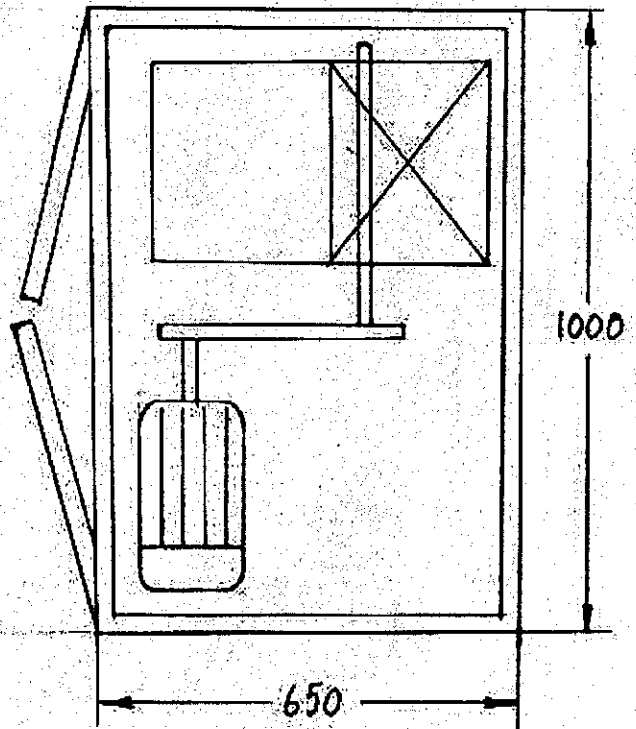


FILTERS



DRAIN

PLAN AT LOWER LEVEL



PLAN AT UPPER LEVEL