



An ISO 9001
Company

Bharat Heavy Electricals Limited

(High Pressure Boiler Plant)

Tiruchirapalli – 620014, TAMIL NADU, INDIA

MATERIALS MANAGEMENT / CAPITAL EQUIPMENT

ENQUIRY NOTICE INVITING TENDER	Phone: +91 431 257 7653 Fax : +91 431 252 0031 Email : skaruna@bheltry.co.in , Web : www.bhel.com
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TWO PART BID Tender to be submitted in Two Parts	Enquiry Number: 2731300006	Enquiry Date: dt.20.05.2013	Due date for submission of quotation dt.20.06.2013
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You are requested to quote the Enquiry number date and due date in all your correspondences. This is only a request for quotation and not an order.

Please note that under any circumstances both delayed offer and late offers will not be considered. Hence vendors are requested to ensure that the offer is reaching physically our office before 14.00 Hrs on the date of tender opening

Item No.	Item Description	Quantity
10	Supply, Installation and commissioning Air/Fan Filter Unit with Control Cabinet as per the Technical Specification & Commercial Conditions applicable (to be downloaded from web site www.bhel.com or http://tenders.gov.in)	10 Nos.

Important Points to be taken care during the submission of offer:-

1. Bidder's Response Column in technical specification sheet to be duly filled in without fail. Additional details provided in the offer may be supported with documentary evidence.
2. Check list to be filled and enclosed along with the offer failing which, the offer will not be considered for evaluation.
3. The equipment shall be guaranteed for 18 months from the date of supply or 12 months from the date of commissioning whichever is earlier.

BHEL's General guidelines /instructions including bank guarantee formats and list of consortium banks, commercial terms checklist can be downloaded from BHEL web site <http://www.bhel.com> or from the government tender website <http://tenders.gov.in> (public sector units > Bharat Heavy Electricals Limited page) Tender Enquiry reference "2731300006"

Tenders should reach us before 14:00 hours on the due date Tenders will be opened at 14:30 hours on the due date Tenders would be opened in presence of the tenderers who have submitted their offers and who may like to be present	Yours faithfully, For BHARAT HEAVY ELECTRICALS LIMITED Engineer / MM / Capital Equipment
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Qualification Criteria for “Air/Fan Filter Unit with Control Cabinet”

Qualification Criteria for Air/Fan Filter Unit with Control Cabinet

- 1.0 The supplier shall have minimum five years’ experience in manufacturing and supply of Fan Filter Units applicable to clean room environment.
- 2.0 Offers from OEM (Original Equipment Manufacturer) only will be accepted. Offers from traders will not be considered for evaluation.
- 3.0 Supplier shall submit list of companies to whom they have supplied similar kind of Fan filter units along with Name and postal address of the customer Phone number, Fax number and Email address of the contact person.
- 4.0 Along with the technical offer the vendor should submit one performance certificate from the customer for satisfactory performance of the equipment supplied to them.
- 5.0 BHEL reserve the rights right to verify the information provided by the vendor. In case the information provided by the vendor is found to be false or incorrect the offer will be rejected.
- 6.0 Details of Service after sales set up in INDIA including the addressof agents / service center in South India
- 7.0 The bidder / vendor shall submit the offer in TWO parts
 - 7.1 Technical offer including qualification criteria
 - 7.2 Price Bid
- 8.0 The technical offer shall contain a comparative statement of technical specification points along with technical supporting documents, product catalogue ...

Qualification Criteria for “Air/Fan Filter Unit with Control Cabinet”

The performance certificate should be produced **on Customer’s Letter Head.**

PERFORMANCE CERTIFICATE

1. Supplier of the equipment	
2. Make & Model of the equipment	
3. Month & Year of Commissioning	
4. Performance of the equipment (Strike off whichever is not applicable)	Satisfactory / Good / Average / Not Satisfactory
5. Any Other remarks	
 Date: Signature & Seal of the Authorityissuing the Performance Certificate	

Technical Specification for “Fan Filter Unit” for Assembly Cabin

1.0 Purpose:

Fan Filter Units (FFU – Air Filter Unit) are required to maintain minimum ISO class-8 cleanliness condition or lower class condition of the assembly cabins mentioned below, which are housed in a very large size Air Conditioned building. Filter units shall be capable of filtering particle size 0.30 micrometer and above.

2.0 Assembly Cabin:

The assembly cabin is used for Industrial fabrication application where activities like assembly, welding and cleaning of mechanical components will be performed. The above activities are to be performed in a clean environment of ISO class-8 condition. The required cleanliness is planned to establish using Fan Filter units. The sides walls of the cabins are made up of metallic structure partially covered with transparent material and firmly bolted to the ground. The top cover of the cabin is made up of metallic structure loosely housed on the fixed side walls. The top cover of the cabin is dismantling type and it will be moved out for housing of large diameter assembly inside the cabins. Refer the attached layout of the cabin SK:3:MOD:002 and the table given below for further details:

Description	Size	unit
Cabin 3		
Width of Assembly Cabin	5000	mm
Length of Assembly Cabin	16500	mm
Height of Assembly Cabin	5000	mm
Volume of the Assembly Cabin	412.25	m ³
No. of detachable roof at top of Assembly Cabin	5	No

3.0 Mounting of FFU:

The Fan Filter Units may be mounted to side walls or to the top of covers of the cabin. Fixing of filters location shall be suggested according to the merit. The location of fan filter shall have access for cleaning/replacement of filter elements. As the top portion (roof) of the cabin is to be dismantled and mounted for loading / unloading of the job, all cables between the AFU and the Control Cabinets shall be easily disconnected / connected with suitable arrangements such as “Plug In” type.

Technical Specification for “Fan Filter Unit” for Assembly Cabin

4.0 Scope of Supply:

The Scope of supply shall include supplying of Fan Filter Units as per specification, installation, testing and commissioning to meet the requirements described vide 5.1.0.

4.1Qty requirements:

(No of assembly cabin : 1 No. Each Assembly cabin consists of Cabin3refer enclosed sketch SK:3:MOD:002)

No. of FFU for Assembly Cabin:	5 X 2 = 10 No.
Control cabinet for Assembly Cabin	1 set

5.0Specification requirements:

5.1.0 Vendor has to confirm the following requirements:

- 5.1.1 Frame materials shall be stainless steel,
- 5.1.2 Efficiency shall be more than 99.5%,
- 5.1.3 Size of the unit Around 1200 x 620 x 310 mm –(L x B x H)
- 5.1.4 Flow Capacity: suggested flow rate 1000 to 1200 m³/hr (approx).
- 5.1.5 Noise level shall be less than 60 dB when the unit is operating at highest flow rates
- 5.1.6 Unit shall capable of operating at minimum 3 speed level.
- 5.1.7 Operating Control panel shall be kept in cabin1 and the units shall capable operated individually.
- 5.1.8 In the event of mounting FFU on the top of the cabin easy dismantling of electrical power supply by meeting safety requirement (Refer 3.0)
- 5.1.9 Air flow indicator shall be mounted for each and every unit and preferably made available at the control panel.
- 5.1.10 The filter unit pack must be sealed to the filter frame to prevent by-pass leakage so that the filter will meet the minimum efficiency requirements. Details of arrangement shall be provided.
- 5.1.11 Filter element shall have longer life period and shall be easily replaceable.
- 5.1.12 Unit shall consume lesser power and all safety requirements shall be adhered to.
- 5.1.13 Guarantee for period of 18 months from the date of dispatch or 12 months from date of commissioning, whichever is earlier.
- 5.1.14 After installation of units on to the cabins, supplier shall measure the clean environment condition (minimum ISO class-8 condition is to be demonstrated).
- 5.1.15 Supplier shall provide technical specification and operating instruction along with the units.
- 5.1.16 An Emergency Off button (EMO) shall be located in the control panel in a conspicuous location.

Technical Specification for “Fan Filter Unit” for Assembly Cabin

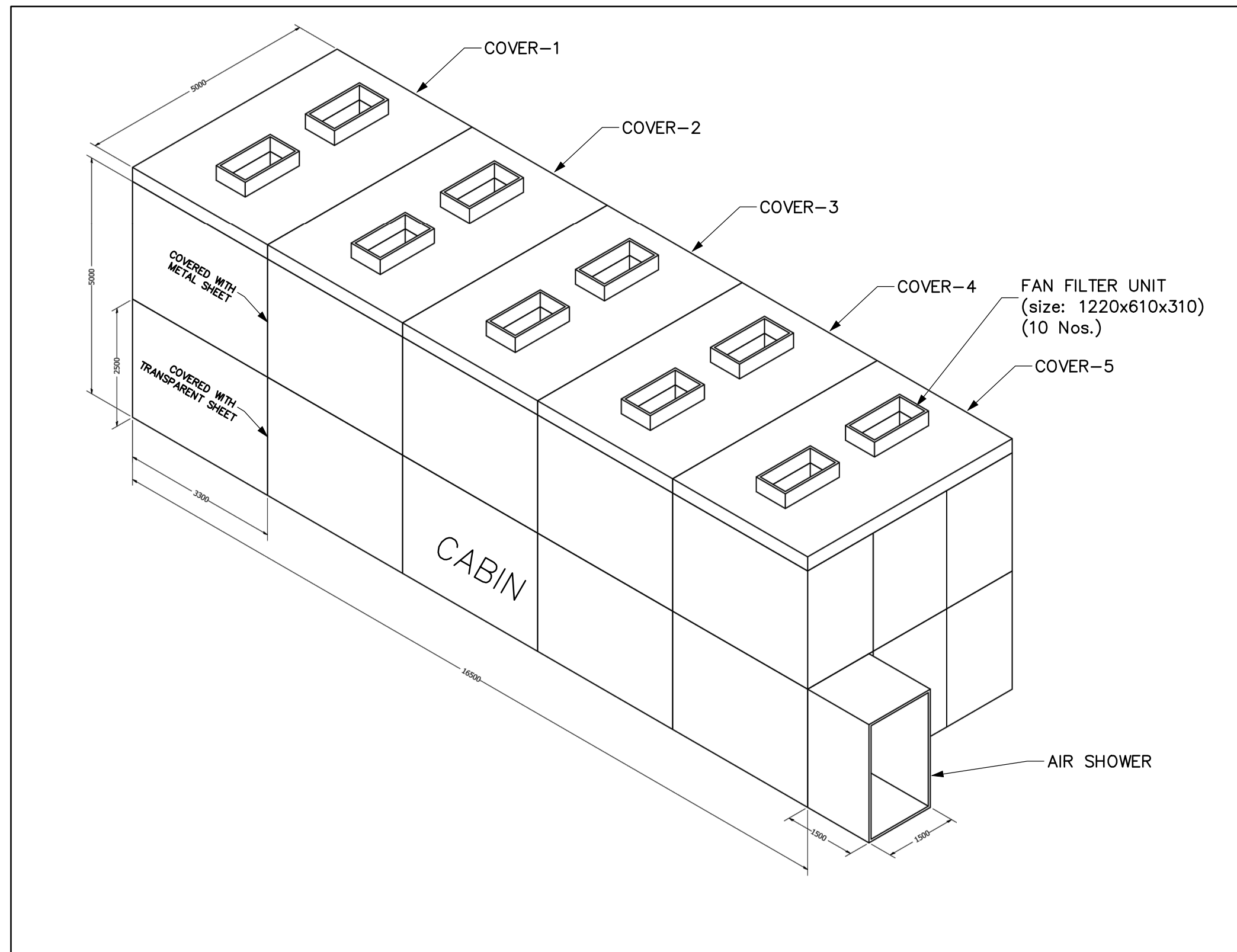
5.2.0 Vendor has to specify the following values and submit the necessary documents along with the offer for technical evaluation:

- 5.2.1 Size of Air Filter unit (L x B x H)
- 5.2.2 Testing criteria
- 5.2.3 Temperature rating
- 5.2.4 Flow capacity
- 5.2.5 Number of equipment required per cabin (Suggested number is shown in the BHEL sketch and the same shall be confirmed by the supplier)
- 5.2.6 Type of filter suggested class and its details, sealing arrangement and maintenance details
- 5.2.7 Life and time period of the filters replacement
- 5.2.8 Number of spare filters element needed for safe operation for a period 2 years
- 5.2.9 Unit shall consume lesser power (Power requirement shall be indicated)
- 5.2.10 Filter sizes, capacities and construction options shall be submitted in the drawing and document.

6.0 Delivery, Installation and Commissioning of Air filter unit shall be completed within 2 months from the date of Purchase order.

7.0 Supplier shall submit supporting documents for supply of similar units applicable to industrial/fabrication industry.

CAUTION: THE INFORMATION ON THIS DOCUMENT IS THE PROPERTY OF BHARAT HEAVY ELECTRICALS LIMITED. IT MUST NOT BE USED DIRECTLY OR INDIRECTLY IN ANY WAY DETERIMENTAL TO THE INTEREST OF THE COMPANY.



NOTES: -

1. ALL TOP COVERS ARE REMOVABLE TYPE.
2. FAN FILTER UNIT SHALL BE MOUNTED ON THE TOP COVER. (SUPPLIER SHALL PROVIDE THE FIXING ARRANGEMENT OF FFU TO THE TOP COVER WITH PROPER CEILING ARRANGEMENT)
3. AIR SHOWER SIZE SHALL BE SUITABLE TO THE TENTATIVE SIZE SUGGESTED IN THE DRAWING.

DRN	KR
CHD	DC
APPD	VR
DATE	300313

TITLE:

ASSY CABIN

SK. NO.

SK:3:MOD:002

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