

Enquiry No - E7190272

**Bharat Heavy Electricals Limited, Unit : Jhansi**

**EQUIPMENT** : **Dust Extraction Plant for Band Saw Machine**  
**ITEM NO** : **ME-1/4/2665**  
**LOCATION** : **Transformer Manufacturing**  
**(Dry Type Cast Resin Coils Mfg.)**  
**QUANTITY** : **1 No**  
**SPECIFICATION NO** : **7107/R-1**

**DUST EXTRACTION PLANT FOR BAND SAW MACHINE**

**1.0 DUST EXTRACTION PLANT**

- 1.1 Design, manufacturing, supply, erection commissioning and proving of dust extraction plant for band saw machine.
- 1.2 This equipment is to be self contained unit and is required for collection of dust produced during cutting operation of epoxy cast resin coils by Band Saw machine for cutting & grinding of cast resin dry type coils.
- 1.3 **The extraction volume shall not less than 2700 m<sup>3</sup>/hr**
- 1.4 The overall dimensions of the machine chamber shall be width - 5000mm x Length - 6500 mm and height - 4000 mm.
- 1.5 The dust laden air shall be extracted by means of suitable suction hoods and ducting provided on the above machine which shall be connected to the dust extraction plant through a common header.

**2.0 EQUIPMENT**

- 2.1 The Dust extraction unit shall be suitable for out door use and shall comprise of the following:-
- 2.2 **Housing and Hopper Unit for separation and collection-** These shall be adequately reinforced and robust in construction fabricated from mild steel plate in welded construction. This shall be complete with its rigid supports the hopper unit shall be complete with slide type valve & shall ensure trouble free removal of dust.
- 2.3 **Exhaust fan-** The unit must be capable of creating sufficient suction so that dust is sucked from the working chamber and carried to the dust separator/ collector and dust free air exhausted into atmosphere. This shall be complete with electric motor controls and supports. The efficiency of the equipment shall be >99% at 0.5 micron. The outlet discharge of the filter shall be left at a height of 3.0 Meter above floor level.
- 2.4 **Ducting and supports-** The Band saw machine is located inside the Bay-5 near the wall and dust collection equipment will be located outside the Bay-5. Main duct will run out side with branch connection at a height of Approx. 3.0 meters from floor level. The branch ducting will run to the machine at suitable points and terminated through 1 meter of flexible ducting at the machine end. Suitable damper valves are to be included in each branch. The flexible ducting at the inlets shall have appropriate sieve to prevent larger size particles entering in ducting & systems.

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- 2.5 **Filtration system** : The filter system shall be tubes/bags/cartridge type. The filters shall be secured firmly in the chamber bottom hole to ensure positive seal. Tubes/bags/cartridge replacement shall be easy with proper tension and ensure quick assembly.
- 2.6 **Filter Cleaning system** – Filter cleaning system shall be provided. The unit shall be so designed that loss of time is minimum for cleaning of ducts and removal of dust. Dust collection buckets shall be provided to collect the dust.
- 2.7 **Electrical** - All controls, switches, fuses, relays, connectors etc. are to be grouped together and located on one side of the dust collecting unit on a panel. All electrical are to be of reputed make and to operate on 415 volts, 3 phase, 4 wire, 50hz, AC supply system. All controls and power cables shall be terminated with lugs inside the panel shall be of copper with numbered ferrules. Emergency cut off switch is to be provided on the control panel. Supply will be given by BHEL at one point and for which main ICTPN fuse switch unit shall be provided on the equipment. All electrical shall be suitable for operation in an ambient temperature varying between 5°C to 60 °C & 95 % RH.
- 2.8 **Air Supply** – If required BHEL will provide compressed air of 4 – 5 bar pressure at single point supply.

### 3.0 TECHNICAL DATA

- |     |                           |   |                                       |
|-----|---------------------------|---|---------------------------------------|
| 3.1 | Extraction volume         | : | Not less than 2700 M <sup>3</sup> /hr |
| 3.2 | Fan static pressure range | : | 3100 to 1550 Pascal                   |
| 3.3 | Voltage                   | : | 415 volt 3 phase 50 HZ AC supply      |
| 3.4 | Protection                | : | IP 54                                 |

### 4.0 Details to be furnished with the offer

- 4.1 Detailed General arrangement drawing of the equipment.
- 4.2 The constructional feature.
- 4.3 Dimensional details & capacities of various items offered
- 4.4 Details of dust arrestor. Filter tubes/bags/cartridge, Clamping arrangement of filter tubes/bags, Shaking device/ cleaning device etc.
- 4.5 Design type and material used in the manufacturing of exhaust fan.
- 4.6 Capacity of exhaust fan and pressure under which it shall be operating
- 4.7 Size of ducting & gauge of sheet metal used.
- 4.8 Details of damper valve
- 4.9 Space requirement
- 4.10 Power requirement with rating of motor
- 4.11 Type & make of brought out components.

### 5.0 SPARES

- 5.1 Two year nominal working spares are to be quoted separately.

### 6.0 ERECTION AND COMMISSIONING

- 6.1 Erection & commissioning of the equipment shall be done. Separate price for the erection and commissioning will be submitted.

**7.0 GURANTEEE**

- 7.1 The equipment shall be guaranteed for the operation and proper functioning for the period of two years after commissioning.

**8.0 PROVE OUT OF PLANT**

- 8.1 Effectiveness of the plant shall be demonstrated by vender during actual working on shop floor. Payment shall be released only after proving of effectiveness of plant.

**9.0 GENERAL REQUIREMENT**

- 9.1 All the drawing including outline general arrangement shall be submitted to us in Triplicate for approval before commencement of work.
- 9.2 At least 15 day advance information should be given to enable us to depute our representative for inspection / testing. Dispatch shall be affected only after inspection.
- 9.3 Offer shall be sent with complete literature and necessary details.
- 9.4 Not withstanding the details in this specification if any thing else is required for its functioning the same should brought in the notice and included in the offer.
- 9.5 The instruction and maintenance manual should be sent along with the equipments.

**10.0 QUALIFYING CONDITION**

- 10.1 Only those vender, who have supplied and commissioned at least one Dust extraction plant for similar specification/ application in the past five years and such plant is presently working satisfactorily for more than one year (more than six month if supplied to BHEL) after commissioning should quote. The following information is to be submitted by the vender about the companies where similar plants have been supplied. This is required from venders for qualifications of their offers.
1. Name of the customer / company where similar plant is installed. (copy of purchase order to be furnished)
  2. Complete postal address of the customer.
  3. Year of supplying / commissioning.
  4. Application for which plant is supplied with details.
  5. Name and designation of the contact person of the customer.
  6. Phone. FAX, no and E-mail address of the contact person of the customer.
  7. Copy of Purchase order/ Performance certificate/ commissioning report from the customer regarding supply of one plant.
  8. BHEL reserves the right to verify information submitted by vender. In case the information is found to be false/ incorrect, the offer shall be rejected.

*04 lead*  
Anshuman Mathur  
Dy. Manager (TRM)

*S.J.*  
S.J.Chakraborty  
DGM (WE&S)

*Inder*  
Inder Mathur  
Manager (WE&S)

*A.K.*  
A.K.Srivastava  
AGM (FW)

*B.D. Richariya*  
B.D.Richariya  
Sr. Manager (TRM)

*V.K.*  
V.K.Agarwal  
AGM (TRM/TRP)

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