

TECHNICAL SPECIFICATION FOR WET TYPE DUST COLLECTOR

Technical Specification No.: EMT-6794 Rev.01

| Sl. no. | Description of Item | Qty. | Offered | Remarks |
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| 1.0 | PURPOSE : | | | |
| 1.1 | Wet type Dust Collector will be used for extraction of glass dust generated during grinding of insulating components manufactured from Epoxy Based Glass Laminate on existing grinding machine. | | | |
| 2.0 | SCOPE OF SUPPLY : | | | |
| 2.1 | The scope includes design, manufacturing, supply, erection and commissioning of Wet type Dust Collector at BHEL Haridwar works as per this Technical Specification. | | | |
| 3.0 | JOB DESCRIPTION : | | | |
| 3.1 | TG rotor slot liner of size 15 mm (wide) x 7500 mm (Length) shall be ground on existing grinding machine to reduce the thickness as per assembly requirement. | | | |
| 3.2 | Fine glass powder is generated during the grinding operation as stated in sl.no. 3.1. The glass powder is to be extracted by Wet type Dust Collector so that glass powder does neither affect the machine nor environment. | | | |
| 4.0 | TECHNICAL SPECIFICATION of WET TYPE DUST COLLECTOR : | | | |
| 4.1 | Air Volume: 1200 cubic metre/hour minimum. Total Pressure: 180 da Pa Available External Pressure: 50 da Pa Motor capacity: 1.5 KW approx. Motor speed: 2800 rpm Suitable and effective suction fan shall be supplied and directly driven by the motor. Suction fan and motor shall be of reputed make and suitable for working in humid condition. | | | |
| 4.2 | Construction of Wet type Dust Collector | | | |
| 4.2.1 | Body of Wet type Dust Collector shall be welded sheet metal construction of cylindrical configuration. | | | |
| 4.2.2 | Removable sludge container fixed suitably on castor wheels clamped at the bottom of Wet type Dust Collector to discharge the sludge formed of the glass powder and water. | | | |
| 4.2.3 | The sludge container will be disconnected from the bottom of the dust collector at the end of 8 hours working shift to discharge the collected sludge at designated location. | | | |
| 4.2.4 | Separation section with suitable and effective | | | |

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| | filter shall be provided for fine dust filtration. | | | |
| 4.2.5 | Wet type Dust Collector shall be for indoor installation so that filtrated air can be released in the shop floor. Dust emission in the exhaust air should be less than 20 mg/Nm ³ | | | |
| 4.2.6 | Connection for water supply along with automatic water level indication cum regulation. | | | |
| 4.2.7 | Hopper and flexible pipe (3000 mm approx.) shall be supplied for suction of dry glass powder from the grinding point to the Wet type Dust Collector. | | | |
| 4.2.8 | Noise Level | | | |
| 4.2.9 | Maximum Noise Level of Wet type Dust Collector should be below 85 db(A) one meter away from the dust collector. | | | |
| 5.0 | GENERAL ARRANGEMENT DRAWING OF WET type DUST COLLECTOR : | | | |
| 5.1 | Vendor shall submit General Arrangement drawing , Technical Literature, catalogue of Wet type Dust Collector, along with their offer. | | | |
| 6.0 | GENERAL ARRANGEMENT DRAWING OF WET type DUST COLLECTOR : | | | |
| 6.1 | Vendor shall submit General Arrangement drawing of Wet type Dust Collector, within 4 weeks after placement of Purchase Order, for BHEL approval. | | | |
| 7.0 | OPERATIONAL & MAINTENANCE MANUAL of WET type DUST COLLECTOR: | | | |
| 7.1 | 5 sets of Operation & Maintenance Manual in English language shall be supplied with Wet type Dust Collector. | | | |
| | NOTE : In addition to other information, O & M Manual should contain the following details also: | | | |
| 7.1.1 | Erection Manual | | | |
| 7.1.2 | Detail Operation Manual | | | |
| 7.1.3 | Drawing, Instruction for disassembly and assembly of Suction Fan , Motor, Sludge Container, Filter etc. for the maintenance work. | | | |
| 7.1.4 | Electrical Wiring Diagram | | | |
| 7.1.5 | Water Piping Circuit Diagram | | | |
| 7.1.6 | Safety Instruction for the operation of Wet type Dust Collector | | | |
| 8.0 | POWER SUPPLY AND ENVIRONMENT CONDITION : | | | |

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| 8.1 | BHEL will provide input electrical power supply 3 phases, 3 wire, 415 +/- 15 % volt, 50 +/- 3 Hz at a single point near the equipment. All types wiring / cabling, circuit breakers etc. required for Wet type Dust Collector, shall be in the scope of the vendor. There will be no neutral wire and earthing will be provided through structure column. | | | |
| 9.0 | PAINTING : | | | |
| 9.1 | Inside and outside of Wet type Dust Collector shall be coated with 2 coats of primer and 2 coats of apple green colour. Paint shall be water resistance. Vendor will repair the paint incase the same is damaged in transit /during erection before commissioning of Wet type Dust Collector at BHEL Haridwar works. | | | |
| 10.0 | PRE-ACCEPTANCE OF WET type DUST COLLECTOR AT VENDOR'S WORK : | | | |
| 10.1 | Wet type Dust Collector shall be pre-inspected by BHEL representative at vendor's works before dispatch to BHEL Haridwar. | | | |
| 10.2. | Following features shall be checked and verified during Pre-acceptance: | | | |
| 10.2.1 | Effective suction capability of the Wet type Dust Collector. | | | |
| 10.2.2 | Effective sludge formation and collection of the sludge of the container fixed at the bottom of Wet type Dust Collector. | | | |
| 10.2.3 | Ease of disassembly and assembly of sludge container. | | | |
| 11.0 | ERECTION AND COMMISSIONING OF WET type DUST COLLECTOR AT BHEL HARIDWAR WORKS : | | | |
| 11.1 | Vendor will take full responsibility for carrying out the erection and commissioning of Wet type Dust Collector. | | | |
| 11.1.1 | Service requirement like unskilled man power, overhead crane, compressed air and water shall be provided by BHEL. | | | |
| 12.0 | FINAL ACCEPTANCE OF WET type DUST COLLECTOR : | | | |
| 12.1 | Successful operation for effective suction of glass powder generated during grinding /machining operation of slot liner and proper sludge formation of glass powder and removal, on completion of commissioning of Wet Type Dust Collector at BHEL Haridwar Works. | | | |
| 13.0 | GUARANTEE : | | | |
| 13.1 | Guarantee for the Wet type Dust Collector and other supplied items, for 24 months from the date | | | |

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| | of final acceptance (sl. no. 12.1) | | | |
| 13.2 | Any spares required during guarantee period, will be arranged by the vendor free of cost (up to BHEL Haridwar stores) and duty levied have to be borne by the vendor. | | | |
| 14.0 | SPARES : | | | |
| 14.1 | Vendor shall offer the list of recommended spares along with the following items as spares | | | |
| 14.1.1 | Filter element (if regenerative type), Qty/machine Filter element (if disposable type), Qty/machine | 4 nos. 20 nos | | |
| 14.1.2 | Flexible pipe, Qty/machine | 1 no. | | |
| 15.0 | PACKING : | | | |
| 15.1 | Wet type Dust Collector shall be packed in rigid wooden packing box so that the same is not damaged during transit / lost during transit. | | | |
| 15.2 | Hopper and flexible pipe etc. shall be properly packed in wooden box to avoid any damage during transit. | | | |
| 15.3 | Spares item shall be packed separately in wooden box with proper marking for identification | | | |
| 16.0 | QUALIFYING CONDITIONS : | | | |
| 16.1 | Only those vendors (OEMs) will be qualified who have commissioned at least one Wet Type Dust Collector for extracting glass dust or similar Wet Type Dust Collector of Air Volume capacity 1200 cubic metre/hour or more in the past fifteen years (on the date of opening of Tender) and the referred machine is presently working satisfactorily for more than one year after commissioning (on the date of opening of Tender). The following information should be submitted by the vendor about the companies where similar machine (s) have been supplied. This is required from all the vendors for qualification of their offer. | | | |
| 16.1.1 | Name of customer / company where referred machine is installed. | | | |
| 16.1.2 | Complete postal address of customer. | | | |
| 16.1.3 | Month and year of commissioning. | | | |
| 16.1.4 | Wet Type Dust Collector for extracting glass dust or similar Wet Type Dust Collector of Air volume capacity 1200 cubic metre/hour or more. | | | |
| 16.1.5 | Name and designation of the contact person of the customer. | | | |
| 16.1.6 | Phone, FAX no. and email address of the contact person of the customer. | | | |
| 16.1.7 | Performance certificate from the customer regarding satisfactory performance of machine | | | |

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| | supplied to them (Original Certificate or Through E-mail directly from the customer). The original performance certificate may be returned after verification by BHEL, if required. | | | |
| 16.1.8 | BHEL reserves the right to verify the information provided by vendor. In case the information provided by vendor is found to be false/incorrect, the offer shall be rejected. | | | |
| 17.0 | NOTE: | | | |
| 17.1 | One number similar wet type dust collector is available in BHEL which can be seen and examined by the vendors before submitting the offer. | | | |