

**TECHNICAL SPECIFICATION FOR VERTICAL DISC GRINDING**

**MACHINE: - SPECIFICATION NO. EMT-6811**

**(This Specification is for one no. vertical disc grinding machine)**

SL.NO.	DESCRIPTION OF BHEL REQUIREMENT	REQUIRED	OFFERED	DEVIATION
1.0	<b>PURPOSE :-</b>			
	Vertical disc grinding machine is required for grinding segments, blocks etc. of insulating material like epoxy glass based laminates, paper based laminates, cotton fabric laminates etc.			
2.0	<b>SCOPE :-</b>			
	The scope of supply includes the design, manufacturing, supply, erection, commissioning and proving of performance of Vertical disc grinding machine to the satisfaction of BHEL, at BHEL Haridwar works.	01 No.		
3.0	<b>TECHNICAL SPECIFICATION OF VERTICAL DISC GRINDING MACHINE:-</b>			
3.1	Single sided sanding disc (Aluminum) diameter = 900 mm or more			
3.2	Suitable arrangement should be provided for sanding disc mounting and its protection.			
3.3	Table length = 1200 mm or more			
3.4	Table width = 400 mm or more			
3.5	Table below disc center = 100 mm			
3.6	Table tilting up = 25° Table tilting down = 30°			
3.7	Least count for tilt angle = 15 minutes			
3.8	Table height from floor level = 750 mm (Approx.)			
3.9	Electrical panel: - Electrical panel should be provided at suitable place on the machine for ease of working. It should have emergency stop button, switch ON/OFF for main motor, switch ON/OFF for dust collector, etc.			
3.10	Abrasive paper of appropriate size (diameter) should be glued on the sanding disc. Type, make and grade of abrasive paper and also adhesive required for glueing abrasive paper to be furnished by the vendor in the offer.			
3.11	The complete arrangement should be driven by suitable capacity electric motor. <b>Parameters of motor are as under:-</b>			

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	<ul style="list-style-type: none"> <li>• Motor capacity = 5 HP or more</li> <li>• 3 phase, continuous duty</li> <li>• R.P.M. = 750 (Approx.)</li> </ul> <p><b>Note: - These parameters are given for reference. However, vendor may select better parameters to achieve intended performance of the system. It will be sole responsibility of vendor to prove the performance at BHEL works.</b></p>			
3.12	<p>Vertical disc grinding machine to be equipped with suitable dust collection system, complete with connecting pipe lines, power cables etc. for proper extraction of dust particles generated during grinding of insulating materials.</p> <p><b>Note: - Machine will be installed inside a room of size 5 (L) x 4 (W) x 4 (H) meter.</b></p> <p><b>Construction of room will be in the BHEL's scope.</b></p> <p><b>The parameters of dust collection system are as under:-</b></p> <ul style="list-style-type: none"> <li>• Motor- 5 HP or more, continuous duty, three phase.</li> <li>• Capacity- 2500 Cubic meter per hour or more</li> <li>• Vacuum- 250 mm of water (WG) or better</li> <li>• Filter bags</li> <li>• Trolley for dust removable</li> </ul> <p><b>Note: - These parameters are given for reference. However, vendor may select better parameters to achieve intended performance of the system. It will be sole responsibility of vendor to prove the performance at BHEL works.</b></p>			
4.0	<b>General Arrangement Drawing :</b>			
4.1	<p>Vendor shall furnish the General Arrangement Drawing for Vertical disc grinding machine with dust collection system, along with the offer.</p> <p>Vendor should indicate the overall dimension of the machine with length, width and height and also the space required for installation of the machine.</p>			

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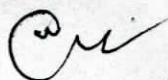
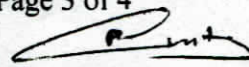
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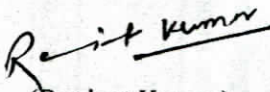
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4.2	Vendor shall also submit the <b>General Arrangement Drawing of 'Vertical disc grinding machine with dust collection system'</b> for BHEL approval, within 4 weeks after placement of Purchase Order.			
5.0	<b>FOUNDATION DRAWINGS:-</b>			
5.1	The foundations drawings (If any) shall be supplied by the vendor at least 3 months in advance before dispatch of the grinding machine.			
5.2	BHEL will carry out civil foundation work as per supplier drawings only.			
6.0	<b>SPARES:-</b>			
6.1	Spares for 2 years trouble free operation, if required, to be quoted separately along with following:- Filter bags of dust collection system Aluminum sanding disc	1 no. 1 no.		
7.0	<b>PRE-ACCEPTANCE OF VERTICAL DISC GRINDING MACHINE AT VENDOR'S WORKS :</b>			
7.1	Vertical disc grinding machine will be inspected by BHEL engineers on following points at vendor's works :	Vendor To confirm		
7.1.1	Overall Dimensions of each components, make and specification of motors and other components with reference to <b>approved General Arrangement Drawing.</b>			
7.1.2	All operations of Vertical disc grinding machine to be checked.			
8.0	<b>ENVIRONMENTAL CONDITION:-</b>			
8.1	Ambient Temperature : 4°C to 45°C			
8.2	Relative humidity- 30 to 90 %			
8.3	Voltage fluctuation- +/- 15 %			
9.0	<b>POWER SUPPLY</b>			
9.1	BHEL will provide <b>input power supply 3 phase, 3 wire, 415 +/- 15% volt, 50 +/- 3% Hz</b> to Isolator Switch (BHEL scope) nearby Vertical disc grinding machine. <b>Cable connection (approx. 20 metre) from the supply to the Vertical disc grinding Unit will be in the scope of Vendor.</b>			

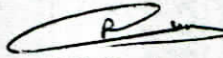
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<b>10.0</b>	<b>ERECTION &amp; COMMISSIONING :-</b>			
10.1	Erection & Commissioning and proving of the machine shall be done by the vendor. The machine will be finally accepted after successful performance of Vertical disc grinding machine along with dust collection system at BHEL Haridwar works. <b>Note: - During commissioning man power support if needed, same will be provided by BHEL.</b>	Vendor To confirm		
10.2	During commissioning if any item is damaged / not functioning, vendor shall replace the same without any cost to BHEL.	Vendor to confirm		
10.3	<b>First filling of all oils, grease etc. shall be in the vendor's scope of supply.</b>	Vendor To confirm		
<b>11.0</b>	<b>NOISE LEVEL:</b>			
11.1	Maximum noise level of the Grinding system must be below 85 dB (A), one meter away from the system with correction factor for background noise.	Vendor to confirm		
<b>12.0</b>	<b>OPERATION &amp; MAINTENANCE MANUAL :</b>			
12.1	Vendor shall furnish 3 sets of detailed Operation & Maintenance manual with the consignment. The operation & maintenance manual should contain drawings, make and specification of components used in Vertical disc grinding machine.			
<b>13.0</b>	<b>GUARANTEE :-</b>			
13.1	Vendor shall furnish 24 months guarantee of vertical disc grinding machine from the date of commissioning.	Vendor To confirm		
13.2	Any spare required during guarantee period shall have to be arranged by the vendor free of cost (up to BHEL Haridwar stores) and duty levied has to be borne by the vendor.	Vendor to confirm		

  
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**QUALIFYING CONDITIONS FOR VERTICAL DISC GRINDING MACHINE:-**

DESCRIPTION OF BHEL REQUIREMENT	TO BE SUPPLIED/ CONFIRMED/ SUBMITTED BY	OFFERED	DEVIATION	REMARKS
<p><b>Only those vendors (OEM) should quote who have commissioned at least one grinding machine of motor capacity 3 HP or more with dust collection system for grinding insulating materials in the past fifteen years (on the date of opening of Tender) and referred machine is presently working satisfactorily for more than one year after commissioning (on the date of opening of Tender).</b></p> <p>The following information should be submitted by the vendor about the companies where similar grinding machine with dust collector has been supplied. This is required from all the vendors for qualification of their offer.</p>	<p>Vendor to accept &amp; confirm.</p>			
<p>1. Name of the customer / company where referred grinding machine with dust collection system is installed.</p>	<p>Vendor to inform.</p>			
<p>2. Complete postal address of the customer.</p>	<p>Vendor to inform.</p>			
<p>3. Month &amp; Year of commissioning</p>	<p>Vendor to inform.</p>			
<p>4. Parameters of grinding machine with dust collection system supplied and application for which the grinding machine is supplied.</p>	<p>Vendor to inform.</p>			
<p>5. Name and designation of the contact person of the customer.</p>	<p>Vendor to inform.</p>			
<p>6. Phone, FAX no. and email address of the contact person of the customer.</p>	<p>Vendor to inform.</p>			
<p>7. Performance certificate from the customers regarding satisfactory performance of grinding machine with dust collection system 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.</p>	<p>Vendor to submit.</p>			
<p>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.</p>	<p>Vendor to accept &amp; confirm.</p>			

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