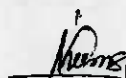


**TECHNICAL SPECIFICATION FOR RECIPROCATING TYPE AIR  
COMPRESSOR: - SPECIFICATION NO. EMT-6836**

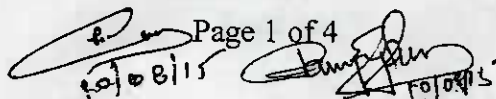
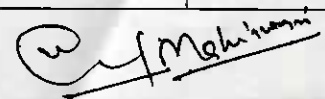
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SL.NO.	DESCRIPTION OF BHEL REQUIREMENT	REQUIRED	OFFERED	DEVIATION
1.0	<b>PURPOSE :-</b>			
	Reciprocating type Air Compressor consisting of Compressor, Dryer and Filter is required to supply dry and filtered air to Putty mixing machine for its operation at uniform pressure.			
2.0	<b>SCOPE :-</b>			
	The scope of supply includes the design, manufacturing and supply of Reciprocating Type Air Compressor along with dryer and filters. The scope also includes erection, commissioning and proving of performance of Reciprocating Type Air Compressor along with dryer and filters to the satisfaction of BHEL, at BHEL Haridwar works.	01 No.		
3.0	<b>TECHNICAL SPECIFICATION OF RECIPROCATING TYPE AIR COMPRESSOR:-</b>			
3.1	<p><b>COMPRESSOR:</b></p> <p>An independent two stage reciprocating type air compressor with receiver tank of capacity 200 liters (minimum) and capable of continuously supplying compressed air to the putty mixing machine and having following parameters:-</p> <ul style="list-style-type: none"> <li>• Air Delivery = 20 Cubic meter/hour or more</li> <li>• Maximum working pressure = 12 Kg/cm<sup>2</sup> or more</li> <li>• Operating pressure = 6-7 Kg/cm<sup>2</sup> (Suitable arrangement to be provided for setting the pressure at desired value for operation).</li> <li>• The Compressor will be powered by a 3 phase A.C. electric motor of suitable rating with receiver tank of minimum capacity 200 liters with safety valves, Automatic Pressure switch with unloader, belt guard, suction filter, auto drain valve, Non-return valve, V-Belt, Pressure Gauge and DOL starter for the</li> </ul>			

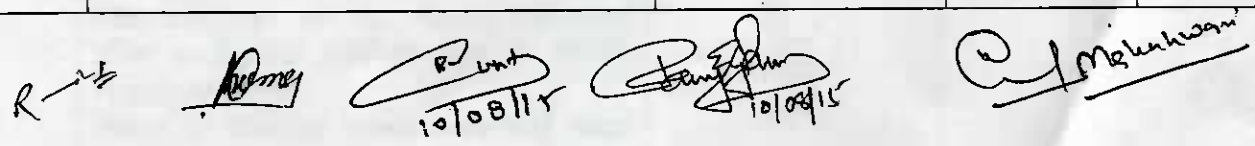
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	motor.			
3.1.1	<p>Compressor should have following design features in addition to other features recommended by the supplier:</p> <ul style="list-style-type: none"> <li>• Suitable for continuous duty</li> <li>• Efficient cooling</li> <li>• Air Receiver</li> <li>• Optimal operating speed</li> <li>• Pressure relief valve</li> <li>• Convenient oil sight Glass &amp; oil drain</li> <li>• Low wear SS valves</li> <li>• Efficient Air filter</li> <li>• Pressure Gauges</li> </ul>			
3.2	<p><b>AIR DRYER:</b> Compressor unit should have a Refrigerated type Air Dryer, Suitable for above mentioned application. Air Dryer should be able to deliver compressed air to the putty mixing machine according to ISO-8573-1 having following parameters of air:</p> <ul style="list-style-type: none"> <li>- Solid particle/dust : Class-1</li> <li>- Humidity : Class-4</li> <li>- Oil content : Class-1</li> </ul>	Vendor to confirm & provide supporting documents		
3.3	<p><b>FILTERS:</b> Suitable sets of Pre Filters, Carbon Filters and Fine Filters for the removal of oil and other foreign particles from the compressed air for the delivery of compressed air meeting the quality requirements mentioned at point no-3.2 to putty mixing machine should be provided.</p>			
3.4	<p>Necessary Hoses, Pipes, Connectors and Cables between compressor, Air dryer and Filters are to be supplied with the unit. Interconnecting piping between Compressor, Drier and Filter shall be carried out by the vendor. Also connecting hose pipe joint up to putty mixing machine will be in the scope of vendor.</p>			
4.0	<b>CATALOGUE / DRAWING:</b>			


  
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4.1	Vendor shall furnish the catalogue / drawing of the offered Air Compressor consisting of filters and driers along with the offer. Vendor should indicate the overall dimension of the machine with length, width and height and also the space required for installation of the machine.			
5.0	<b>FOUNDATION DRAWINGS:-</b>			
5.1	The foundations drawings (If any) shall be supplied by the vendor in advance before dispatch of Air Compressor.	Vendor to confirm		
5.2	BHEL will carry out civil foundation work as per supplier drawings only.			
6.0	<b>SPARES:-</b>			
6.1	Following Spares for 2 years trouble free operation to be quoted with the offer:- 1. Each type of Air Filter Element used in the system 2. Each type of Gasket used in the system 3. Each type of kit of piston rings 4. Auto drain valve 5. Dry filter for dryer	<b>Quantity</b> 2 nos. 2 nos. 1 no. 1 no. 1 nos.		
7.0	<b>ENVIRONMENTAL CONDITION:-</b>			
7.1	Ambient Temperature : 0°C to 45°C			
7.2	Relative humidity- 30 to 90 %			
7.3	Voltage fluctuation- +/- 15 %			
8.0	<b>POWER SUPPLY</b>			
8.1	BHEL will provide <b>input power supply 3 phase, 3 wire, 415 +/- 15% volt, 50 +/- 3% Hz</b> to Isolator Switch (BHEL scope) nearby Air Compressor. <b>Any length of Cable required for connection from the supply to the Air Compressor will be in the scope of Vendor.</b>			
9.0	<b>ERECTION &amp; COMMISSIONING :-</b>			
9.1	Supplier shall carry out the Erection & Commissioning of Air Compressor along with Dryer and filters at BHEL, Haridwar works. The machine will be finally accepted after successful performance at BHEL Haridwar works. <b>Note: - During commissioning man power support if needed, same will be</b>	Vendor To confirm		

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	provided by BHEL.			
9.2	During commissioning if any item is damaged / not functioning, vendor shall replace the same without any cost to BHEL.	Vendor to confirm		
9.3	<b>First filling of all oils, grease, refrigerant etc. shall be in the vendor's scope of supply.</b>	Vendor To confirm		
10.0	<b>NOISE LEVEL:</b>			
10.1	Maximum noise level during normal operation of the unit must be below 85 dB (A), one meter away from the system with correction factor for background noise.	Vendor to confirm		
12.0	<b>OPERATION &amp; MAINTENANCE MANUAL :</b>			
12.1	Vendor shall furnish 3 sets of detailed Operation & Maintenance manual with the Air Compressor unit. The operation & maintenance manual should contain drawings, make and specification of components used in Air Compressor, Dryer and Filters.			
13.0	<b>GUARANTEE/WARRANTY :-</b>			
13.1	Vendor shall furnish 12 months Guarantee/Warranty of Air Compressor, Dryer and Filters from the date of commissioning.	Vendor To confirm		
13.2	Any spare required during guarantee/warranty 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		

*Ranjeet Kumar*  
 (Ranjeet Kumar)  
 E2, EMT

*Kapil Maheshwari*  
 (Kapil Maheshwari)  
 E3, Wex, Mech-BI-1

*P.K. Gupta*  
 (P.K. Gupta)  
 E4, wex, Elec-BI-1

*Ranjay Kumar*  
 (Ranjay Kumar)  
 E2, WEX-AC

*Amit Kumar*  
 (Amit Kumar)  
 E4, Prod-BI-1

*AGM (EMT & SUM)*  
 11/8/15

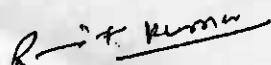
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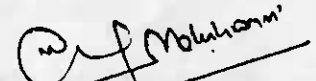
TECHNICAL PURCHASE SPECIFICATION

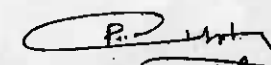
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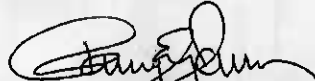
## QUALIFYING CONDITIONS FOR AIR COMPRESSOR:-

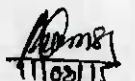
DESCRIPTION OF BHEL REQUIREMENT	TO BE SUPPLIED/ CONFIRMED/ SUBMITTED BY	OFFERED	DEVIATION	REMARKS
<p>Only those vendors should quote who have supplied &amp; commissioned at least one Reciprocating Type Air Compressor of working pressure minimum 6 kg/cm<sup>2</sup> with Dryer and Filters units in the past fifteen years (on the date of opening of Tender).</p> <p>The following information should be submitted by the vendor about the companies where referred Air Compressor have been supplied. This is required from all the vendors for qualification of their offer.</p>	Vendor to accept & confirm.			
1. Name of the customer / company where referred Air Compressor is installed.	Vendor to inform.			
2. Complete postal address of the customer.	Vendor to inform.			
3. Month & Year of commissioning.	Vendor to inform.			
4. Parameters of Air Compressor supplied and application for which it is supplied.	Vendor to inform.			
5. Name and designation of the contact person of the customer.	Vendor to inform.			
6. Phone, FAX no. and email address of the contact person of the customer.	Vendor to inform.			
7. Copy of purchase order and supporting acceptance papers or MOM of commissioning of Reciprocating Type Air Compressor from the customer will be required.	Vendor to submit.			
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.	Vendor to accept & confirm.			

  
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(E4, Prod-1)

  
Virendra Singh  
AGM (EMT & SUM)