



Bharat Heavy Electricals Limited

(High Pressure Boiler Plant)

Tiruchirappalli – 620014, TAMIL NADU, INDIA

An ISO 9001
Company

CAPITAL EQUIPMENT / MATERIALS MANAGEMENT

ENQUIRY	Phone: +91 431 257 7421 Email : vkaruna@bhel.in Web: www.bhel.com
NOTICE INVITING TENDER	

TWO PART BID	Enquiry Number:	Enquiry Date:	Due date for submission of quotation:
Tender to be submitted in two Parts	2632000002	01.02.2020	24.02.2020

You are requested to quote the Enquiry number date and due date in all your correspondence. This is only a request for quotation and not an order.

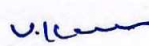
Please note that under any circumstances both delayed offer and late offers will not be considered. Hence vendors are requested to ensure that the offer is reaching physically our office before 14.00 hrs on the Date of tender opening.

Item	Description	Quantity	(Indigenous Vendors) Matl. will be Delivered to
10	SCREW TYPE AIR COMPRESSOR 95 CFM as per the technical specification & commercial conditions applicable (to be downloaded from web site (http://www.bhel.com) http://www.bhel.com/tender/tender_home.php or https://eprocure.gov.in/epublish/app)	1 No.	FOR, BHEL Stores, High Pressure Boiler Plant, Tiruchirappalli - 620014

Important points to be taken care during submission of offer

1. Material shall be delivered to: Indigenous Vendors: As stated above.
2. Delivery required 1.5 month including PDI from the date of purchase order.
3. Erection & Commissioning period required 2 Week from the date of intimation by BHEL to vendor for deputation of their Engineers for E&C.
4. EMD for this Tender will be (not less than): NIL
5. Compliance Form Nos.: TRY/IND/08 to be filled and enclosed along with the offer failing which, the offer will not be considered for evaluation.
6. All updates, amendments, corrigenda, etc., (if any), for each tender will be posted only on the above websites from time to time, as and when required, until each tender is opened. There will be no publication of such updates, amendments, corrigenda, etc., through newspapers or any other media.

BHEL's General guidelines / instructions (refer MM / CE / GENL / 001 – NO EMD) including bank guarantee formats and list of consortium banks, commercial terms check-list can be downloaded from BHEL web site (<http://www.bhel.com>) http://www.bhel.com/tender/tender_home.php or from the Government tender website <https://eprocure.gov.in/epublish/app> under above Enquiry reference.

(This is not an E-tender, please submit your offer in hard copies) 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  DGM / Capital Equipment / MM
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M&S/Gas Services		
Annexure - PART-A		
Supply, Installation and Commissioning of Screw type Air Compressor of 95 cfm Capacity		
	QUALIFICATION CRITERIA	
S.No	Description	Vendor to confirm
1	Only those vendors, who have experience and carried out the following activities specified in Sl.No.1.1 to 1.3 and submitting the requested documents are eligible to participate in the tender and further evaluation. If not meeting the qualifying criteria,the tender is liable for rejection:	
1.1	Vendors who have supplied screw type air compressors of capacity 95 cfm or above (upto 1000cfm) for atleast to two companies in the past five years from the date of tender opening for which required order copies are to be submitted along with the offer.	
1.2	The vendor should submit performance certificate from minimum one customer for the satisfactory performance of the screw type air compressor that is supplied for order submitted for the above Sl.No.1.1.	
1.3	The vendor shall be either manufacturer of screw type air compressor(OEM) or authorised dealer of the OEM of screw type air compressor for which required documents are to be submitted. Incase the vendor is an authorised dealer, the valid dealership certificate issued by the OEM is to be submitted.	
2	BHEL reserves the right to visit the manufacturer's works if required for verifying the manufacturing facilities and any other credential furnished by the vendor. In case the information furnished alongwith the offers is found to be false/incorrect, the offer shall be rejected.	

Annexure - PART-B		
Supply, Installation and Commissioning of Screw type Air Compressor of 95 cfm Capacity		
Sl. No.	DESCRIPTION	TO BE CONFIRMED BY VENDOR
1.0	Scope of Supply;	
1.1	Design, Manufacture, Supply, Erection and Commissioning of 95 cfm capacity , 7 Kg/cm ² (g) rated pressure, Air cooled, Oil lubricated Screw Air compressor along with complete accessories at specified location in BHEL Trichy, Tamil Nadu.	
1.2	The compressor with in-built air & oil coolers,lube system,control panels and other necessary accessories shall be complete packaged machine with canopy arrangment, inbuilt/stand alone moisture seperator with good accessibility for maintenance.	
1.3	All equipments furnished is to be heavy duty,continous,designed for around 46 deg.C ambient temperature.	
1.4	Quantity: 1 No. (95 cfm delivery (min.) shall be from single unit of compressor only.More than one unit of compressor with split up delivery is not acceptable)	
2.0	Site Conditions:	
2.1	Design inlet condition: Suction at atmosphere	
	a)Ambient temperature around 46 deg.C	
	b)Relative humidity: around 35 to 100%	
	c)Altitude: approx. 82 meter above MSL	
3.0	Technical Specifications:	
3.1	Rating : Continous	
3.2	Free Air delivery-Capacity per compressor : 95 cfm(minimum)	
3.3	Rated Pressure(Minimum) : 7 Kg/cm ² (g)	
3.4	Normal Operating Pressure range : 5.0 to 6.0 Kg/cm ² (g)	
3.5	Compressor Shaft power (KW) : Vendor to specify	

3.6	Specific power consumption of the compressor inclusive of cooling fan @ 5.5 bar(g) or 5.61 Kg/cm ² (g) pressure shall be 0.165 KW/cfm(max.)	
3.7	Number of stage of compressor shall be single stage.	
4	Drive Motor:	
4.1	The motor is to be specially designed and suitable for the torque,speed and horse power characteristic of the compressor.	
4.2	The motor shall be of asynchronous type and TEFC design and shall be compatible for use with VFD.	
4.3	The motor is to be operated by 3 phase,415V +/-10% ,50Hz +/-5% power source.	
4.4	The starting current of the motor (inclusive of tolerance) to be specified.	
4.5	The motor should be Squirrel cage induction motor with suitable rating, IP 55, S1,Class F.	
4.6	The motor efficiency shall be IE-3.	
4.7	Motor should confirm to IS standard(IS:12615-2011)	
4.8	Motor make:BHEL/ABB/Siemens/Kirloskar/SEW/Crompton/Bharat Bijlee/Alstom(Marathon),Fuji, Mitsubishi/INGERSOLL RAND are only acceptable.	
4.9	Vendor shall indicate the capacity of motor selected and its frame size	
4.10	Vendor shall indicate the service factor of the motor selected	
4.11	Vendor shall indicate the size of the cable required between the Power supply point and the motor terminal box in the Compressor. The motor terminal box shall be suitable to receive the cable size and fitted with cable gland for the specified cable.	
4.12	Suitably designed Automatic Star delta starter to be provided by the vendor and vendor to specify the make & model of offered starter .	

4.13	415V,3 phase,50Hz,4 wire supply will be provided with an isolator near to the compressor usage point by BHEL. Required cables from power supply point to compressor is also in the scope of BHEL for which the required cable details is to be provided by the vendor along the offer. Necessary Control voltage requirements shall be derived by the supplier by providing suitable transformers in the starter/control panels if required.	
5	Lubrication Systems:	
5.1	Initial fill of biodegradable oil for compressor should be done	
6	Operation and Control: Vendor to indicate in their offer the controls provided by them	
6.1	Display parameters	
6.2	Adjustable operating parameters	
6.3	Fault warnings	
6.4	Fault shutdowns	
6.5	Compressor package should have noise level less than 85 dB(A) at 1 M distance in normal operating condition.	
6.6	Necessary safety interlocks for the operation of the compressor shall be incorporated and the same to be specified in the offer.	
7	Scope of Supply:	
7.1	Vendor to provide the item wise list of the complete scope of supply of the 95 cfm capacity compressor package along with the offer.	
8	General Points:	
8.1	The offer shall include the catalogues for the offered equipment and also the material of construction of the major parts. Full description of the compressor protection features should be included.	
8.2	GA Drawing, Schematic & Foundation diagram showing the layout and interconnection shall be submitted along with the offer.	

8.3	Incase of any foundation requirement for the compressor,the same shall be clearly mentioned in the offer and supply of the foundation material like bolts and nuts, washers, levelling plate etc., required for total installation shall be in vendor scope.Only civil work will be in BHEL Scope.	
8.4	All electrical devices,contactors,relays,limit switches,push buttons,etc. shall be from SEIMENS/L&T/ALSTOM/BCH/Telemechanique or any other BHEL approved makes.	
9	Spares:	
9.1	Itemized break up of consumable spares, mandatory mechanical, electrical and electronics spares used in the machine in sufficient quantity as per recommendation of vendor for 2 years of trouble free operation on continous running basis shall be offered by vendor. Spare price shall be quoted seperately and shall not constitute part of main offer.(Unit price for each item of spare shall be offered in the price bid).	
9.2	All type of spares and service support for total machines and accessories shall be available for atleast 10 years after supply of the machine. If machine is likely to become obsolete in this period,the vendor should inform BHEL sufficiently in advance and provide drawings of parts/details of spares and supplier's to enable BHEL to procure in advance, if required.	
9.3	Vendor to confirm the complete list of spares for machine and accessories,along with item part number/specification/type/model and name and address of the spare supplier shall be furnished along with documentation to be supplied with the machine.	

10	Documentation:	
10.1	Five set of following documents(in 5 hard copies) in English language should be supplied along with the compressor.	
10.2	Operation and Maintenance Instructions	
10.3	Spare parts manual	
10.4	GA Drawing	
10.5	Electrical wiring drawings, Power and control circuits	
10.6	Necessary material test certificate,applicable Pressure test certificates are to be submitted.	
10.7	One additional set of all the above documentation shall be given in the form of CD.	
11	Training:	
11.1	The vendor shall impart necessary training to BHEL operators and maintenance crew in Operatoin and Maintenance after the commisssioning of machine at BHEL works.	
12	Installaion and Commissioning:	
12.1	Vendor to take full responsibility for erection, start up, test the compressor, its control and all type of other supplied equipments upto its commissioning. Service requirements like power, interconnecting compressor delivery piping with exisiting air piping , civil works shall be provided by BHEL.	
12.2	Required tools, tackles to carry out the erection activities shall be provided by BHEL.	
12.3	All special tools & spares required for commissioning of the compressor shall be brought by the vendor.	
12.4	Schedule of erection and commissioning shall be submitted with offer.	
12.5	Erection and commissioning cost should be furnished in detail seperately by vendor along with offer.Erection and commissioing charges shall be on lumpsum basis.	

13	Testing and acceptance	
13.1	The equipments shall be offered for pre-dispatch inspection by BHEL Engineers at supplier's work prior to despatch.	
13.2	Testing : Compresor shall be fully tested at the supplier works to determine its mechanical and electrical characteristics. Compressor air capacity, pressure , temperature,KW/cfm ,noise level and other applicable parameter testing shall be measured and recorded and shall confirm to ISO 1217 Appendix-C.	
14	Guarantee/Warranty:	
14.1	The equipment shall have guarantee/warranty for proper operation and shall have guarantee/warranty for a period of 24 months from date of Commissioning or 30 months from the date of supply whichever is earlier.	