

EOI FOR PROPOSED TWO NUMBER CNC HORIZONTAL BORING MACHINE

Date: 21/12/2021

PURPOSE:

Traction division of BHEL-Bhopal requires 2 Nos. of CNC Horizontal Boring machine with a rotary table for the complete machining of stator frames of traction motors in general and 6FRA6068, TM4303 Fuji motor in particular. Machine drawings for the stator frames are attached for better understanding and for enabling the prospective vendors to provide latest, economical and productive solution, prevalent in the market.

The general machining parameters as per our past experience and requirements are mentioned below. The dimensions are indicative in nature, vendor is free to provide better solutions to address the machining issues. Productivity and quality of the jobs shall be the sole guiding light for selection of the machine. Broad machining requirements are shown in Table-1.

Table 1: Broad Machining Requirements

S No.	Description	Attributes	Remarks
01	The machine is required for carrying out complete machining operations on 6FRA6068 Stator (Single Setup) and TM4303 (FUJI) Stator.		Vendor to comply
02	Machining Time		Vendor to comply
	6FRA6068 Stator Frame (Single Setup) (Annexure-1)	06-08 hrs	
	TM4303 (FUJI) Stator Frame excluding Pole pad Machining (Annexure-2)	16 hrs	
03	Material to be machined (mainly Alloy Steel/Cast Steel)		
a)	6FRA6068 Stator Frame		
	Material Grade	IS:1030'89 Gr. 230-450W	
	Hardness	133HB (min)	
b)	TM4303 (FUJI) Stator Frame		
	Material Grade	IS: 4491 – 1994, Gr.:1	
	Hardness	102 to 128 HB	
04	Maximum Weight of the Job	4 Ton	
05	Machine Configuration		Vendor to comply
a)	CNC Controller, PLC, Drive, Motor	Siemens/Fanuc Only	
b)	Horizontal Traverse	2000mm – 2500mm	
c)	Vertical Traverse	1500mm – 1800mm	
d)	Transverse (Tool) Traverse	1000mm – 1200mm	
e)	Rotary table		Vendor to specify
e.1	Size of the Table	As per Job Requirement	
e.2	Load carrying capacity	≥ 5 Ton	
e.3	Table type	Circular/Square	Vendor to specify
f)	Spindle		Vendor to specify
	Spindle Diameter	As per Job Requirement	
	Spindle RPM		
06	Surface Finish and Machining Accuracy	As per Job Drawings (Annexure-1 & 2)	Vendor to comply
07	The material of main and sub-assemblies of the machine to be specified		Vendor to specify

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K.P. Singh
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21/12/2021
(R.K. Gupta)
Convener

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for election Supervisor only
Man.

for civil work only
21/12/21 (M. Manojan Thakur)
M. pr. (T.M)

Table -2 Pre-Qualifying Conditions (PQC)

S No.	Pre-Qualifying Conditions	Remarks
01	The supplier should either be an original equipment manufacturer (OEM) or an authorized dealer of the OEM for the offered machine. Dealers have to submit along with the offer a valid certificate of authorization from OEM for quoting the machine.	Vendor to comply
02	The OEM or an authorized dealer of the OEM must have supplied at least two machines meeting minimum requirements as per Clause 5b,5c,5d,5e.2,5e.3,6&7 of Table 1 in the past 10 years (on the date of EOI issue date). Successful commissioning certificates for the machines to be furnished by the party. Copy of purchase order to be submitted along with offer. The item, type, make and model number should be clearly mentioned in the PO copy.	Vendor to comply
03	Make in India content to be specified by the supplier in terms of %.	Vendor to specify

NOTE:

- 1) Drawing of 6FRA 6068 stator (Drawing Number: 04453164051 ANNEXURE-1) and Drawing of TM4303 Stator (Drawing Number: 04393180001 ANNEXURE-2) is for understanding the machining requirements only. Drawings are intellectual property of BHEL and are confidential in nature, it cannot be reproduced or redistributed for any other purpose.
- 2) Potential Vendors are advised to visit BHEL Bhopal with prior appointment for any clarifications/discussions about our machining requirements.
- 3) Vendor to submit complete technical specification such as machine configuration, constructional details, accuracy, tooling and any other any other attachment/ feature required in the machine to achieve machining time of the job as mentioned in the **Clause-2 of Table-1**.
- 4) Offers of only those vendors who qualifies PQC as mentioned in **Table-2** will be evaluated.

(Signature)
(R. K. Gupta)
Convenor

DTC Members:

(Signature)
(Manojanjan Thakur)
Manager (TXM)

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