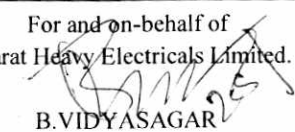
		BHARAT HEAVY ELECTRICALS LIMITED (A Government of India Undertaking) Ramachandrapuram, Hyderabad, 502032, A.P. India Phone 040-23184526, 23182322 FAX:040-23021910, 1954			भारत हेवी इलेक्ट्रिकल्स लिमिटेड (भारत सरकार का उपक्रम) रामचन्द्रपुरम, हैदराबाद, 502032 आंध्र प्रदेश, भारत			RFQ NO :		PURCHASE DEPARTMENT ENQUIRY क्रय विभाग जांच (ई मेल : tenderbox@bhelhyd.co.in)		SHEET:1 OF :1
HY17001 C REV.NO.0		Phone 091-40-23184526 091-40-23182322		FAX : 091-40-23021910 091-40-23021954		E Mail: tenderbox@bhelhyd.co.in			PURCHASE DEPARTMENT 21.04.14			
			Enq/Collective Number :M1A1N05190		Enq.Date : 28.03.2014		No.Of Items :1		DUE DATE OF QUOTATION : 24.04.2014			
Office Copy				Please submit your lowest quotation in sealed cover superscribed with Enquiry No./Collective No.(RFQ No) and due date subject to our terms and conditions attached ,for the materials mentioned below.Your offer has to reach us onor before due date by 11.00 Hours (IST) and will be opened at 14.00 Hours.(IST).If our Enquiry No./Collective No.(RFQ No) and tender due date are not super scribed on the tender cover , your offer shall be summarily rejected.Whosoever desires to send offers on their own risk (complete in all respects) via e-mail have to send offers to the common e-mail address : tenderbox@bhelhyd.co.in . Incomplete offers and late offers will not be considered.								
SL NO	Purchase Req.no	item no	Material Code	Drg no - Ver , Rev & Spec - Ver , Rev	Description	Unit	Qty	Delivery Date	Schedule Qty			
1	1600005190	10	HY8440277539	, NA,	SPARES FOR SK12 VERT. BORER(07-1067)	SET	1.000	11.10.2014	1.000			
Special Remarks												
1.GENERAL CONDITION OF CONTRACT (GCC) HY:MM:GCC REV OO IS APPLCABLE 2.INSTRUCTION TO BIDDER (ITB) HY: MM: ITB REV OO ATTACHED ALONG WITH THISENUIRY SHALL BE DULY FILLED IN AND SUBMITTED TO CONSIDER YOUR OFFER 3.TWO PART BID SYSTEM SHALL BE FOLLOWED												
						TEST CERTIFICATE REQD: Y GUARANTEE REQ : Y SAMPLE REQD : N BID TYPE : TWO PART			For and on-behalf of Bharat Heavy Electricals Limited.  B.VIDYASAGAR PURCHASEOFFICER/CMM			



BHARAT HEAVY ELECTRICALS LIMITED
RAMACHANDRAPURAM: HYDERABAD – 502 032

**SPECIFICATIONS OF MOTOR-DRIVE SYSTEM FOR SK12 (07-1067) VERTICAL
TURNING MACHINE**

Ref: M&S/E/LS/KVS/SPECS/SK12/10RS/083
Dt: 19.03.2014
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**REPLACEMENT OF MOTOR-DRIVE SYSTEM, CONTROL PANEL WITH SWITCHGEAR AND INTERFACING WITH EXISTING PANEL FOR
DOUBLE COLUMN VERTICAL TURNING MACHINE.**

1. **OBJECTIVE:** The objective is to replace the existing motor with latest AC motor with Variable Frequency Drive (VFD) system with control panel, interfacing with existing panel and prove-out.

DETAILS OF EXISTING MOTOR : SCHRAGE MOTOR - SKODA MAKE

ROTOR	400 V	50 Hz	Stat	91 V
	37	37		12 KW
	2300	1800		580 rpm
ROTOR	70	67		55 A
STATOR	75	75		95 A

Qualifying conditions and references

1. Only those vendors who have Retrofitted and Commissioned at least one Horizontal borer of spindle dia 100 mm or Vertical lathe with table dia 1200 mm with **ABB / Siemens** make Motor Drive System for similar applications in the past five years (on the date of opening the tender) and such machine is working satisfactorily for more than one year should quote.
2. The vendor should have at least 5 years continuous experience in this field.
3. Performance certificate from the customers regarding satisfactory performance of retrofit to be enclosed along with technical offer.
4. The Bidder/Vendor to furnish reference list of customer, with full address, details of contract person, where similar system or higher version has been supplied in the past.
5. BHEL reserves the right to verify the information provided by Bidder/vendor. In case the information provided by Bidder/Vendor is found to be false / incorrect the offer shall be rejected.



BHARAT HEAVY ELECTRICALS LIMITED
RAMACHANDRAPURAM: HYDERABAD - 502 032

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SPECIFICATIONS OF MOTOR-DRIVE SYSTEM FOR SK12 (07-1067) VERTICAL TURNING MACHINE

Specifications	Supplier's confirmation	Deviations if any /Remarks
<p>2 SCOPE OF MATERIAL SUPPLY</p> <p>2.1 THE MOTOR: 3-Phase AC maintenance free Induction motor, 415 V, 50Hz, 37 kW, 1500 RPM(rated) and 3000RPM(maximum). External fan for air cooling. Type: Flange mounted, shaft vertical down words (IMV35) Protection: IP55 ,Insulation class F, Duty Cycle S1 * Technical data sheet which contain Type and other details to be provided with offer. Application : Rotary table MAKE: Siemens 1PH7167 -2HF03 - OCA3 or ABB HX+225SMB4</p> <p>2.2 THE DRIVE for table rotation: AC 3phase Variable Frequency Drive (VFD), 4-Quadrant, regenerative braking system for dynamic control of above the motor. Application : Rotary table The drive shall have following features</p> <ul style="list-style-type: none">• Facility to input analog reference voltage of (0 to ±10 V) DC through external potentiometer as well as digital reference (by speed increase/decrease digital inputs)• Digital inputs for Direction, Inching, Speed increase/decrease and Start/Stop• Potential free digital outputs for Zero speed, Drive trip, drive status etc.		

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**SPECIFICATIONS OF MOTOR-DRIVE SYSTEM FOR SK12 (07-1067) VERTICAL
TURNING MACHINE**

	<ul style="list-style-type: none">• Overvoltage / over current protection• Inch and continuous operation• Local/Remote operation• <p>The drive control panel shall have indication lamps for</p> <ul style="list-style-type: none">• Drive fault• Drive in operation etc . <p>Make: SIEMENS SINAMICS S 120, 55 KW OR ABB ACS 850 - 04 -094A -5</p>		
2.3	<p>Control panel (details): a standard control Panel with</p> <ul style="list-style-type: none">• THE VARIABLE FREQUENCY DRIVE (VFD)• LINE FILTER/ CHOKE• Complete SWITCHGEAR• INDICATION METERS FOR MOTOR POWER AND CURRENT etc• 24V DC POWER SUPPLY• RPM METER ON THE PENDENT.. <p>Dimentions Min (mm): Height:1800mm, Width: 1200mm (two door) Depth: 600mm</p>		
2.4	<p>Cables: Necessary power/signal/interface cables of MAKE: Lapp/ equivalent.</p>		
3	SCOPE OF WORK		
	ELECTRICAL AND ELECTRONICS		
3.1	Dismantling of existing motor, cables etc.		
3.2	Installation of new motor-drive system, electrical panel and interfacing to existing panel etc.		

C. Ashwini
B. Srinivas



BHARAT HEAVY ELECTRICALS LIMITED
RAMACHANDRAPURAM: HYDERABAD – 502 032

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SPECIFICATIONS OF MOTOR-DRIVE SYSTEM FOR SK12 (07-1067) VERTICAL
TURNING MACHINE

SCOPE OF MECHANICAL WORK:

- | | | | |
|-----|---|--|--|
| 3.3 | Mounting of motor on the machine | | |
| 3.4 | Design, manufacture and mounting of brackets and fixtures to mount and align the motor. | | |

INSTALLATION AND COMMISSIONING

- | | | | |
|-----|---|--|--|
| 3.5 | Installation & Commissioning and testing of motor-drive system on the machine | | |
|-----|---|--|--|

4 DOCUMENTATION

- | | | | |
|-----|---|--|--|
| 4.1 | The supplier shall supply 3 sets of the following documents for MOTOR-DRIVE system | | |
| | ii. Installation/commissioning/Parameter manuals | | |
| | ii. Electrical drawings of the control panel and pendent panel. | | |
| 4.2 | One set of the above documents and Drive Data shall be furnished in a 16GB Pen drive. | | |

5 GENERAL POINTS

- | | | | |
|-----|--|--|--|
| 5.1 | All equipment must be suitable to run with input voltage 3 wire, 3 phase, 415 volts \pm 10% 50 Hz \pm 2 Hz | | |
| 5.2 | All equipment shall be tropicalized and suitable for operation in shop floor conditions, where temperature variation is between 10 ^o to 45 ^o C | | |
| 5.3 | Panels shall be free standing floor mounting type. | | |
| 5.4 | Supplier should arrange for training on maintenance of Drive- free of cost for two personnel at Manufacturer's training facility. | | |
| 5.5 | Supplier to quote separately for the material and for installation and commissioning charges. | | |

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**SPECIFICATIONS OF MOTOR-DRIVE SYSTEM FOR SK12 (07-1067) VERTICAL
TURNING MACHINE**

5.6	Supplier to send his offers for commercial and technical bids in a separate sealed cover and for price bid in a separate sealed cover.		
5.7	The supplier is required to study the machine, the scope of supply and certify the completeness of the scope in order to execute the work. In case of any discrepancies, the supplier is required to highlight the same to BHEL before acceptance of the order.		
5.8	Material removed from the machine shall be handed over to BHEL.		
5.9	Cleaning of the machine before taking up the machine for work is in suppliers' scope of work.		
5.10	Planning and lying of all necessary cables is in suppliers' scope of work.		
5.11	Control panel of reputed make with IP54 degree of protection and Control Panel with LT switchgear and drive. All incoming cables to the panel should be from bottom of the panel. Control Panel Should be provided with proper glands at the incoming and outgoing points of the cable (Rats / Foreign particles should not enter in the panel)		
5.12	Flexible PVC Conduits for the power and control cables. Make: LAPP, Germany/Equivalent		
5.13	All the switch gear items like contactors, relays, switches, OLRs etc. should be reputed make.		
5.14	Before commencing manufacture of the panels, electrical and general arrangement drawings should be submitted to BHEL for approval.		
5.15	Before dispatch of material the supplier should arrange for inspection /working of the motor-drive system for BHEL personnel at his works. BHEL shall be intimated ten days in advance before calling for inspection. Material shall be dispatched only after written clearance from BHEL		
5.16	Supplier has to prove out all the functions of drive and demonstrate working of the machine to the satisfaction of BHEL.		
5.17	Indication lamps wherever required to be provided.		



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**SPECIFICATIONS OF MOTOR-DRIVE SYSTEM FOR SK12 (07-1067) VERTICAL
TURNING MACHINE**

5.18	Earthing: All non-current carrying metallic parts shall be Earthed. All doors and movable parts shall be connected to the earth bus with flexible copper connections.		
5.19	The machine will be available for modifications for duration of 1 week.		

Byshw

B. Phane