

**SCOPE OF SUPPLY FOR VARIABLE FREQUENCY INVERTER DRIVE FOR HMT MAKE LB-20 LATHE**

**1. Variable Frequency Drive of Siemens/ABB make of following specification**

- 1.1 **Rating** 7.5 kW, 400V AC, ± 15%, 50 Hz
- 1.2 **Input voltage** 400V AC, ± 15%, 50 Hz, Three Phase
- 1.3 **Duty** Continuous
- 1.4 **Overload rating** 130% for 60 seconds
- 1.5 **Operator Controls** Start, Stop, Reverse, Run, Jog, Parameter Setting
- 1.6 **Digital input** Start, Stop, Reverse, Run
- 1.7 **Braking** DC Injection or dynamic Braking
- 1.8 **Speed Control** Through potentiometer of Bourns make or equivalent ,10kΩlog, And six step selector switch for six pre-defined speeds. Manual switchover system to be provided.  
Single turn with suitable with Vernier dial knob.
- 1.9 **Others** Digital display for fault conditions

**1.10 Enclosure for Drive Panel**

Drive shall be mounted in a sheet metal enclosure (1200x500x400mm), with following Components fitted and connected with the drive with insulated copper wire of suitable Size:

- (i) Pushbuttons for Fwd/Stop/Rev/Reset/E-Stop for local control of drive.
- (ii) Remote terminals for Forward/Stop/Reverse operation.
- (iii) Terminals for incoming supply and Motor connection.
- (iv) Panel light with door switch.
- (v) Cooling Fan of suitable rating for drive.
- (vi) Indicating LED lamps for R, Y and B Phase, Drive Fault and Run.
- (vii) Control ON/OFF push buttons/Switch.
- (viii) Suitably rated SFU for incoming supply.
- (ix) Suitable glass/transparent plastic covered door/opening for access to drive Control panel.
- (x) 6 way connector, 10 A, 400V AC for connecting Forward/stop/Reverse/Reset actuators covered with sheet metal cover.
- (xi) Suitable VIF Meter
- (xii) Logarithmic potentiometer of Bourn make.
- (xiii) Six step selector switch.
- (xiv) Speed controller change over circuit.
- (xv) All other required interfacing and circuit elements shall be supplied by party.

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**DOCUMENTS (01set):**

- (i) Operation and service manual of Drive.
- (ii) Electrical Schematic of Panel after approval from engineer in-charge. (Hard copy and soft copy, both)
- (iii) Commissioning document and manual (including hardware and software required) of the material supplied to be given by the party.

**3. Training:**

The vendor shall provide training to BHEL personal in the field of operation, maintenance and commissioning of drive at drive OEMs training centre.. The training will be of 05 working days for 02 persons. Vendor shall inform BHEL atleast 15 days in advance for training. Boarding & lodging charges of BHEL personnel will be borne by BHEL. *Training to be carried out before dispatch of material from vendor's works.*

**4. Commissioning:**

Commissioning will be done by BHEL.

**5. Warranty:**

12 months from the date of commissioning or 18 months from the date of dispatch of material, whichever is earlier.

**6. Qualifying Criteria:**

- 1. The party must have supplied and commissioned the offered drive series. Party to provide the copies of PO, commissioning certificate and performance certificates.
- 2. The party must be OEM / OEM authorized channel partner or system house for last 05 years and continues to be the same on the date of enquiry opening.

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**7. General:**

- (i) Party may visit the machine before submitting their offer.
- (ii) Party shall reply point wise to our scope.
- (iii) Party must get the drawing approved by BHEL before manufacturing.

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W. J. S. Party

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