

TENDER DOCUMENT

Sub : 300KW MEDIUM FREQUENCY IGBT CONVERTER FOR VERTICAL IH MACHINE AT HT SHOP, EM DIVISION, BEML KGF.

Description	AGREE	DISAGREE	VENODOR REMARKS
Specification for 300kw IGBT Converter:			
(A) Medium Frequency Solid State IGBT based converter			
Rated power - 300 kW			
Range of output frequency – 10 to 15 kHz			
Inverter Topology - Current/Voltage fed IGBT Parallel/Series Resonant.			
Input supply - 415 V, + 10%, - 10%, 3ph, 50Hz			
Input power factor - above 0.93 at all loads			
Converter panel should also consist of:			
(a) A moulded-case circuit breaker to disconnect the Mains supply and interlocked with panel doors.			
(b) A set of fast-acting, semi-conductor fuses to limit the fault current.			
(c) Operator touch panel diagnostic and alarm indication.			
(d) Protective devices like thermostats, pressure switches in the cooling system to monitor Water temperature and pressure/flow within the required limits for safe operation.			
(e) Multi parameter Indicating instrument for the display of Voltage, Current, KW, KWH etc is to be provided in convertor panel.			
(B) Heat Station consisting of water cooled			
(a) Current Transformer			
(b) Matching Transformer			

(c) Capacitors			
(C) 2.5 Meters of Medium Frequency Water cooled extension Bus bar with a set of flexible MF Water cooled cable of 2 Meter length			

INSTALLATION & COMMISSIONING SCOPE OF WORK	AGREE	DISAGREE	VENODOR REMARKS
1. BEML will provide Material Handling Equipment, Input Power Supply and water to the Converter unit.			
2. Firm has to utilize existing Water Chiller unit for cooling of Converter, Matching Transformer, Capacitors etc.			
3. Firm has to interface the converter with existing CNC Controls (SIEMENS SINUMERIK 802D).			
4. Firm has to prove the functioning of the converter for various components with required Power and Frequency.			
5. The necessary process tools towards components prove out will be provided by BEML.			
6. Firm has to provide the following documents (both hard copy and soft copy).			
a. Detailed Power and Control Circuit drawing			
b. Maintenance manual/ Trouble shooting manual			
c. Spare parts list			
7. Firm has to provide training to BEML persons towards maintenance and trouble shooting at BEML site during & after Installation/Commissioning.			
8. The converter has to be offered for inspection at firm's works before dispatch.			
Terms & Conditions			
1. Firm should depute their technical representative before submitting their offer to study the existing			

machine and requirement.			
2. Firm has to quote separately for materials (item wise) and labour charges.			
3. Firm has to arrange for Manpower, necessary tools required for the Installation & Commissioning.			
4. Firm has to comply with all statutory norms for the workmen employed.			
5. Necessary safety precautions for the Workmen will be the responsibility of the Firm. BEML is not responsible for any accident met by firm's workmen at the time of carrying out the work at Our site.			
6. The work has to be executed under the supervision and as per the direction of the Engineer/Supervisor In-charge.			
7. Firm has to supply all the materials required for Installation& Commissioning as per the Scope and any additional spares required during execution should be borne by the firm Without any additional cost.			
8. Warranty: 18 Months from the date of supply OR 12 months from the date of commissioning towards materials & workmanship.			
9. Payment terms: For Material : 80% of material cost + 100% taxes against receipt & certification by BEML ON 30TH DAY. For Service : Balance 20% of material cost & 100% of labour charges will be paid after successful commissioning, performance prove out against certification by BEML and submission of PBG (for 10% of total PO value excluding GST valid for a period of warranty +3 months extra, from the date of commissioning).			

Qualifying Criteria:			
1. Only Original Equipment Manufacturer or Authorised Dealers of OEM should submit the offer, with valid authorization certificates. The OEM should have ISO/Equivalent Certification.			
2. The firm should have supplied similar capacity of Converter to minimum 5 reputed firms in the past 10 years and <u>performance certificate has to be enclosed.</u>			

NOTE:

The Firm should agree for all the above scope of work, terms & conditions for technical qualification of bids, otherwise bids will be technically rejected.

DATE:**BIDDER SIGNATURE WITH SEAL**