

<u>BHARAT HEAVY ELECTRICAL LIMITED</u>			Enquiry No. :		
<u>RAMACHANDRAPURAM</u>			Due Date :		
UNIT'S ADDRESS:			Supplier Qtn. No.:		
UNIT'S PHONE NOS.					
CONTACT PERSON'S NAME/DESIGN./PHONE NO./E-MAIL (FROM PURCHASE DEP'T.)			Date :		
SPECIFICATION CUM COMPLIANCE CERTIFICATE FOR 100 TON CAPACITY WELDING ROTATOR. QUANTITY: 3 Nos.					
NOTE;					
1. Vendor must submit complete information against clause nos. 12.0 and 15.0 The offer meeting this clause would only be processed.					
2. Inadequate / incomplete, ambiguous, or unsustainable information against any of the clauses of the specifications/requirements shall be treated as non-compliance					
3. The offer and all documents enclosed with offer should be in English language only					
ADDRESS OF THE SUPPLIER :					
TELEPHONE NOS.:			TELEPHONE		
FAX NOS.:			FAX NOS.:		
E-MAIL ADDRESS :			E-MAIL		
SPECIFICATION FOR 100 TON CAPACITY WELDING ROTATOR. QUANTITY: 3 Nos.					
SNo.	Description for BHEL Requirement	REQUIRED	OFFERED	DEVIATIONS	REMARKS
1.0	PURPOSE:				
1.1	Motorised job rotator for rotation of shells to carry out welding & assembly works.	Vendor to confirm			
2.0	MAIN PARAMETERS:				
2.1	Total load capacity of Rotators: 100 Tons.	Vendor to confirm			
2.1.1	Drive Rotator unit support : 50 Tons	Vendor to confirm			
2.1.2	Idler Rotator unit support : 50 Tons.	Vendor to confirm			
2.2	Height from floor level to roller top : 750-1000 mm	Vendor to specify			
2.3	Maximum diameter of shell that can be accommodated on the roller : 3000 mm	Vendor to confirm			
2.4	Minimum diameter of shell that can be accommodated on the roller: 1000 mm	Vendor to confirm			

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2.5	Holes to be provided for drive and idler rollers to accommodate shells of 1000, 1500, 2000, 2500, 3000mm shells	Vendor to Furnish details.			
2.6	Control Panel / Operators panel shall be provided at easily accessible location for carrying out all operations as well as maintenance. Operators panel shall have emergency stop, forward, Reverse push buttons, potentiometer, linear movement mm./min. (indicator) .The projected parts like potentiometer knob, push button, emergency stop knob shall be suitably protected.	Vendor to confirm			
2.7	No. of drives : TWO	Vendor to confirm			
2.8	A.C. Variable drive with inverter to achieve speed range of 75 mm to 1000 mm / min. Inverter drives shall be SIEMENS or ABB make.	Vendor to confirm			
2.9	AC Motor Capacity (minimum 5KW) with Model & Make (ABB, Crompton, NGEF, Seimens, GEC & Kirloskar)	Specify make, model & capacity			
2.10	Suitable Gear Box Make & Model (Radicon, Elecon & Shanti)	Specify			
2.10.1	Gear hardness shall be : 50-52 HRC.	Specify			
2.11	Rotator Wheels (rollers) are of forged steel cambered wheels with required hardness (minimum hardness required is 40 HRC)	Confirm& specify hardness			
2.11.1	Peripheral (surface) speed of rotator - to suit Submerged Arc welding : 75-1000 mm/min	Vendor to specify			
2.11.2	BULL GEAR materials shall be FORGING : 42 CR MO 4 V or equivalent	Vendor to specify			
2.12	Rotator Axels are of heat treated forged steel	Vendor to confirm			
2.13	Materials for PINION SHAFTS shall be 40 Ni 2 Cr 1Mo 28 OR equivalent , Hardness : 50-52 HRC	Vendor to confirm and furnish details			
2.13	The rollers shall be manually adjustable type across the frame.	Vendor to confirm			
2.14	REMOTE CONTROL with 15 mtr cable to be provided which should consist of Forward, reverse, Stop & potentiometer - with protection for push buttons & potentiometer.	Vendor to confirm			

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3.0	General arrangement drawing of the rotator offered furnishing over all dimensions, location of Gear box, drive motor, control panel etc shall be submitted along with offer.	Furnish			
4.0	Suitable Anti creep device shall be quoted along with offer.	vendor to quote with details			
5.0	AMBIENT CONDITIONS & THERMAL STABILITY :	Vendor to confirm			
5.1	Rotator should work trouble free and efficiently under following operating conditions. Input Power Supply: Voltage : 415 V \pm 10% Frequency : 50 Hz \pm 5% No. of phases = 3 Ambient Conditions : Temperature = 5 to 50 degree celsius Relative Humidity = 95% Max.	Vendor to confirm			
6.0	ELECTRICAL :				
6.1	All electrical / electronic equipment shall be tropicalized.	Confirm			
6.2	Motors shall conform to IEC or Indian Standards	Confirm			
6.3	Vendor should ensure the proper earthing for the machine and its peripherals.	Confirm			
6.4	Total connected load (KVA)	specify			
7.0	SAFETY ARRANGEMENTS:				
7.1	Equipment should have adequate and reliable safety interlocks / devices to avoid damage to the machine, work piece and the operator due during loading & unloading of job. Suitable protective covers to be provided where necessary.	specify			
8.0	ENVIRONMENTAL PERFORMANCE OF THE ROTATOR :				
8.1	Maximum noise level shall be < 85 dB at normal load condition.	Vendor to confirm			
9.0	INSPECTION: BHEL Engineers will inspect the equipment at vendor's works. The vendor shall demonstrate the equipment for its proper functioning.	Vendor to confirm			

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10.0	GUARANTEE: The equipment shall be guaranteed for 18 months from the date of commissioning.	Vendor to confirm			
11.0	Only original equipment manufacturers to quote.	Vendor to confirm			
12.0	QUOTATION: Along with technical offer, the firm to submit point to point answers to our specification with all relevant / supporting data.	Vendor to confirm			
13.0	GENERAL :				
13.1	Total weight of the Rotator.	Specify			
13.2	Painting of equipment : RAL 6011 Apple Green (Polyurethane Paint)	Specify			
13.3	General assembly drawing of the rotator to be provided along with the offer	Vendor to furnish			
13.4	Technical Catalog to be furnished It shall be with information about bearings used, gear box model, type. Vendor to list all the bought out items used in the rotators.	Vendor to Furnish			
13.5	Erection and commissioning and prove out by vendor at BHEL works	Vendor to confirm			
14.0	Spares : spares for 2 years normal operation to be quoted separately - item wise , with break up.	Vendor to confirm			
15.0	REFERENCE LIST / QUALIFYING CONDITIONS:	Vendor to furnish			
15.1	Only those vendors, who have supplied and commissioned atleast one of same or higher sizes for similar applications in the past ten years and such Rotator is working satisfactorily for more than one year, after commissioning should quote. The following information should be submitted by the vendor about the companies where similar Rotator have been supplied. This is required from all the vendors for qualification of their offer.				
15.2	Name of the customer / company where similar machine is installed.				
15.3	Complete postal address of the customer.				
15.4	Year of commissioning.				

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15.5	Phone, FAX no. and email address of the contact person of the customer.	Vendor to furnish			
15.6	Copy of PO from customer and performance certificate from customer for similar or higher capacity equipment				
16.0	TRAINING : for BHEL personnel at BHEL works after commissioning				
17.0.	DELIVERY in months:				
18.0	DOCUMENTS : 5 Sets of operating and maintenance manuals in English for complete system with electrical, electronics and general arrangement drawings shall be furnished along with the equipment.				