

SPECIFICATION OF RADIAL ARM DRILLING MACHINE					
SN	DESCRIPTION FOR BHEL REQUIREMENT	SPECIFIED/ TO CONFIRM	OFFERED	DEVIATIONS	REMARKS
1.0	PURPOSE				
1.1	The drilling machine will be used for drilling, tapping of TA10102 stator frame, rotor barrel, gear case and other similar work.				
2.0	SPECIFICATIONS:-				
2.1	CAPACITY				
2.1.1	Drilling in steel (50kgf/mm ²) 50 mm	Vendor to confirm			
2.1.2	Drilling in cast iron (BHN 180) 60 mm	Vendor to confirm			
2.1.3	Tapping in steel - Metric fine thread M56 x 2.5	Vendor to confirm			
2.1.4	Tapping in steel - in inch BSW 1 3/4"	Vendor to confirm			
2.2	DRILL HEAD				
2.2.1	Taper in spindle MT5	Vendor to confirm			
2.2.2	Number of spindle speeds 12	Vendor to confirm			
2.2.3	Speed range standard RPM 40 - 1800	Vendor to confirm			
2.2.4	Number of auto feed 6	Vendor to confirm			
2.2.5	Feed range mm/rev 0.125 to 1.25	Vendor to confirm			
2.3	WORKING RANGE				
2.3.1	Column sleeve diameter 400 mm (approximate)	Vendor to specify			
2.3.2	Width of arm guideways 250 mm (approximate)	Vendor to specify			
2.3.3	Drilling radius maximum 2350 mm	Vendor to confirm			
2.3.4	Drilling radius minimum 550 mm	Vendor to confirm			
2.3.5	Quill traverse 325 mm	Vendor to confirm			
2.3.6	Base plate to spindle maximum 1645 mm minimum 380 mm	Vendor to confirm			
2.3.7	Drilling head traverse 1800 mm	Vendor to confirm			
2.3.8	Arm traverse 940 mm	Vendor to confirm			
2.4	POWER				
2.4.1	Power main motor 3.6/4.5 kw (approximate)	Vendor to specify			
2.4.2	Power arm motor 3 kw (approximate)	Vendor to specify			
2.4.3	Hydraulic pump motor 0.37 kw (approximate)	Vendor to specify			

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2.5	WEIGHT, DIMENSION & SPECIAL FEATURES				
2.5.1	Weight with motor	Vendor to specify			
2.5.2	Dimension 3600 mm x 1400 mm x 3300 mm (approximately)	Vendor to specify			
2.5.3	Hardened and precision ground gears in the main drive	Vendor to confirm			
2.5.4	Electro-hydraulic clamping through push button	Vendor to confirm			
2.5.5	Spindle reversal clutch for tap withdrawal	Vendor to confirm			
2.5.6	Automatic spindle feed with auto stop	Vendor to confirm			
2.5.7	Manual feed coarse & smooth	Vendor to confirm			
2.5.8	3 wire connection WITHOUT NEUTRAL shall be given at one point . Machine to operate on 415 +/- 10 % volts , 50 +/- 3 % Hz. Proper wiring to be done.	Vendor to confirm			
2.6	ACCESSORIES				
2.6.1	Cast iron box table 1000 mm x 750 mm x 500 mm 1 no	Vendor to confirm			
2.6.2	Coolant equipment with pump and motor 1 no	Vendor to confirm			
2.6.3	Machine lamp for 220 V 1 no	Vendor to confirm			
2.6.4	Tools for machine adjustment should be included in the supply	Vendor to confirm			
2.7	PAINTING:				
2.7.1	The machine should be given two coats of red oxide primer and finished with two coats of polyurethane paint.	Vendor to specify			
2.8	PACKING:				
2.8.1	Sea worthy & rigid packing for all items of complete equipment & spares.	Vendor to confirm			
2.9	SPARES:				
2.9.1	The supplier should recomend and offer itemwise price breakup of mechanical, electrical and electronic spares to be maintained in sufficient quantity for 2 years of trouble free operation on three shifts continuous running basis.	Vendor to specify			
3.0	INSPECTION:				
3.1	Pre-dispatch testing and inspection of the machine will be witnessed by BHEL at the supplier's works for capacity and parameters. An inspection call shall be given by the supplier at least 20 days before the date of inspection. Four copies of inspection & test certificate and guarantee certificate shall be submitted and got approved before dispatch.	Vendor to confirm			
3.2	Demonstration / physical inspection of all features, assemblies, subassemblies, control panel, bought out items and all accessories shall be done to the full satisfaction of BHEL representative.	Vendor to confirm			

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4.0	ERECTION & COMMISSIONING & PROVING OF THE EQUIPMENT				
4.1	Supplier will be solely responsible for the erection, commissioning and proving the machine at BHEL works.	Vendor to confirm			
4.2	Separate lump-sum charges for erection, commissioning and proving may be indicated in the offer.	Vendor to confirm			
4.3	Actual job shall be proved at Bhopal in all respect for accuracy and performance during commissioning. Special tools for equipment proving, if any, shall be brought by the supplier.	Vendor to confirm			
4.4	During erection & commissioning, BHEL operators & engineers will be trained by the supplier's experts/ engineers.	Vendor to confirm			
4.5	First fill consumables should be supplied with the machine.	Vendor to confirm			
4.6	Compressed air, 3 phase 3 wire 415V AC supply point, and material movement facility shall be provided by BHEL.	Vendor to confirm			
4.7	The machine should be able to work on parameters and capacities guaranteed in the offer	Vendor to confirm			
5.0	DOCUMENTATION:				
	Four sets of following documents (Hard copies) in English language should be supplied along with the equipment				
5.1	Operating and maintenance manuals of the equipment and supplied accessories. Maintenance manual of equipment should contain System Description, Block diagram, Schematic drawings, Circuit diagrams & hardware details, Trouble shooting charts, All Assembly/ Sub Assembly Drawings shall be supplied with the part list.	Vendor to confirm			
5.2	Pre dispatch Inspection and Guarantee certificate of the equipment	Vendor to confirm			
6.0	GUARANTEE:				
6.1	The radial arm drilling machine should be guaranteed for 12 months from the date of acceptance of the equipment. Free after sales services is to be provided during the guarantee period including free replacement of defective parts, if any.	Vendor to confirm			
7.0	GENERAL: THE SUPPLIER SHOULD FURNISH THE FOLLOWING INFORMATION ALONG WITH THE OFFER				
7.1	Equipment model	Vendor to specify			
7.2	Total connected load (KVA) :	Vendor to specify			
7.3	Total weight of the system	Vendor to specify			
7.4	Floor area required (Length, Width, Height) for complete equipment & accessories	Vendor to specify			

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7.7	Detailed catalogues, sketch/ photographs and technical literature of the equipment and accessories/ attachments. Civil work for foundation which is in the scope of BHEL must be specified with diagrams along with the offer.	Vendor to specify			
7.8	General arrangement drawing of the equipment showing the constructional features, capacities of the individual components, etc should be furnished along with the offer.	Vendor to specify			
7.9	List of standard accessories	Vendor to specify			
7.10	Optional accessories, consumables and supporting facilities.	Vendor to specify			
8.0	QUALIFYING CONDITION:				
8.1	Only makes of renowned companies who have supplied at least 2 radial arm drilling machines of similar capacity in the past ten years and such equipment is presently working satisfactorily for more than three years after commissioning may be quoted in the tender. The information sought in the subsequent clauses is to be submitted by the vendor fully satisfying the conditions in this clause about the companies where similar equipment have been supplied.	Vendor to specify			
8.2	Name of the customer / company where similar equipment is installed/ supplied. (Copy of purchase order should be attached).	Vendor to specify			
8.3	Complete postal address of the customer.	Vendor to specify			
8.4	Year of commissioning.	Vendor to specify			
8.5	Name and designation of the contact person of the customer.	Vendor to specify			
8.6	Phone, FAX no. and email address of the contact person of the customer.	Vendor to specify			
8.7	Performance certificate from the customers regarding satisfactory performance of equipment supplied to them .	Vendor to specify			
8.8	On verification, if the information furnished above is found false / incorrect, the offer shall be rejected.	Vendor to confirm			