

	<b>BHARAT HEAVY ELECTRICALS LIMITED</b>		Indent No. C/3991/7/3432/T		
	UNIT'S ADDRESS:		Enquiry No. :		
	UNIT'S PHONE NO.:		Due Date :		
	CONTACT PERSON FROM PURCHASE DEPTT.:		Supplier Qtn. No.:		
			Date :		
<b><u>SPECIFICATION CUM COMPLIANCE CERTIFICATION FOR</u></b> <b><u>TOOL PRESETTING DEVICE FOR NEW BLADE SHOP PHASE-IV</u></b>					
<b>NOTE:-</b>					
<p>1. Vendor(OEM) must submit complete information against clause at Sl.No. 19.0 (Qualifying condition)/The offer, complying this clause, would only be considered.(OEM : Original Equipment Manufacturer)</p> <p>2. The vendor should fill the "Offered" Column in compliance to specified requirements and also "Deviations" Column, where there is deviation from the requirement. Duly filled specification cum compliance certificate should be submitted along with the offer. Inadequate, incomplete, ambiguous or unsustainable information against any of the clauses of the specifications/ requirements shall be treated as non-compliance.</p> <p>3. The offer and all documents enclosed with offer should be in English language only.</p>					
4. All dimensions are in mm unless otherwise stated.					
ADDRESS OF THE SUPPLIER :			ADDRESS OF THE INDIAN AGENTS :		
TELEPHONE NOS.:			TELEPHONE NOS.:		
FAX NOS.:			FAX NOS.:		
E-MAIL ADDRESS :			E-MAIL ADDRESS :		
<b>SL. NO.</b>	<b>DESCRIPTION FOR BHEL REQUIREMENT</b>	<b>REQUIRED</b>	<b>OFFERED</b>	<b>DEVIATIONS</b>	<b>REMARKS</b>
<b>1</b>	<b>PURPOSE</b>				
	Tool Presetting Device is required for measurement of length and radius offset of tools for various types of CNC Machines viz. CNC High Speed 5 axis machining cells, CNC Machining Centers, CNC Milling Machines etc.	Vendor to offer			
	The equipment shall be Image Processing Video camera interfaced with PC.	Vendor to offer			

SL. NO.	DESCRIPTION FOR BHEL REQUIREMENT	REQUIRED	OFFERED	DEVIATIONS	REMARKS
<b>1.1</b>	<b>Basic machine</b>				
	The machine should consists of following essential features:				
1.1.1	Pneumatic Slide clamping	Vendor to offer			
1.1.2	Slide displacement shall be manual , single hand operation.				
1.1.3	Measuring system with Heidenhein glass scales				
1.1.4	Electronic micro Adjustment facility bellow cover	Vendor to offer			
<b>1.2</b>	<b>TECHNICAL SPECIFICATION</b>				
	<b>Measuring Range</b>				
1.2.1	<b>Z-Axis</b> (Length) : 600 mm or more	Vendor to offer			
1.2.2	<b>X-Axis</b> (Diameter) : 400 mm or more.	Vendor to offer			
1.2.3	High Precision Spindle ISO 50 with intergrated calibration edge	Vendor to offer			
1.2.4	<b>The Tool presetting Device - Hardware &amp; Software shall have following features in addition to standard features :-</b>				
1.2.4.1	Adopter management for any number of Zero points and tools	Vendor to offer			
1.2.4.2	Graphic operating screen	Vendor to offer			
1.2.4.3	Dynamic cross-hairs	Vendor to offer			
1.2.4.4	InPicture-measuring& Zoom	Vendor to offer			
1.2.4.5	Adjustable intensity of cutting edge inspection	Vendor to offer			
1.2.4.6	Performance capability test for measuring machine	Vendor to offer			
1.2.4.7	Acceptance record	Vendor to offer			
1.2.4.8	Measuring Real Time	Vendor to offer			
1.2.4.9	Help System	Vendor to offer			
1.2.4.10	Automatic zero point monitoring	Vendor to offer			
1.2.4.11	Touchscreen, mouse & Key-Board operation	Vendor to offer			
1.2.4.12	Analogue, coloured display	Vendor to offer			
1.2.4.13	Navigation system for manual axis adjustment in order to carry out positioning of nominal value	Vendor to offer			
1.2.4.14	Automatic transmitted light regulation for camera	Vendor to offer			
<b>2.0</b>	<b>Tool Holding Device :</b>				
2.1.1	Clamping system	Vendor to offer			
2.1.2	Adopter Tool post BT 50/ ISO 50 to be integrated with the basic machine.	Vendor to offer			
	Adopter SK 50 with integrated calibration edge.	Vendor to offer			
2.1.3	Reduction adapters for HSK 63 Tool Holders to be offered with clamping elements . It should include drawings and other details.	Vendor to offer			

SL. NO.	DESCRIPTION FOR BHEL REQUIREMENT	REQUIRED	OFFERED	DEVIATIONS	REMARKS
2.1.4	The party to offer adopter tool post along with clamping elements and arrangement with tool clamping pull studs / standard clamping of tools holder by vacuum clamping independent of pull studs.	Vendor to offer			
2.1.5	Arrangement for calibration of all types of tool holders with or without calibration mandrel for measurement in both axes shall be offered.	Vendor to offer			
<b>3.0</b>	<b>Other Items :</b>				
3.1	<b>Universal tool Holding Fixture.</b> To be offered along with quick-change device for fixing of any adapter tool post.	Vendor to offer			
3.2	Calibration mandrel/ calibration bar to be offered along with the machine.	Vendor to offer			
3.3	Key Deposit : Turret to store Allan keys	Vendor to offer			
3.4	Adopter Board : For Adopter toolpost, adopter, clamping elements, Zero gauges	Vendor to offer			
3.5	Protective Covers	Vendor to offer			
3.6	Tool presetter , PC, printer, UPS to be housed in a suitable housing	Vendor to offer			
3.7	Each item shall be individually priced against each of the above category.	Vendor to offer			
<b>4.0</b>	<b>Control system for Tool measurement :</b>				
4.1	The machine shall be equipped with latest Windows based operating system(Licensed copy).Consisting of PC- CPU (Intel Pentium-IV 3 GHz or higher at the time of order), having 17 inches TFT colour display with touch, mouse and keyboard, One network connection on board. Image software for hard-disk back-up, VGA- graphics on board. All standard features should be listed in technical offer. Also all recommended optional features of CNC system shall be offered and item wise price be indicated in commercial offer.	Vendor to confirm			
	The CNC System should have the following features:				

SL. NO.	DESCRIPTION FOR BHEL REQUIREMENT	REQUIRED	OFFERED	DEVIATIONS	REMARKS
4.1.1	Hard disk of 80GB (easily replaceable) or of highest rating available at the time of submission of order.	Vendor to confirm			
4.1.2	1GB DDR RAM or of highest rating available at the time of order.	Vendor to confirm			
4.1.3	RS232-C interface, 4 USB ports( or more), RJ45 100MBPS Ethernet Port and other standard port(s) .	Vendor to confirm			
4.1.4	2GB PEN DRIVE - 2 No.	Vendor to confirm			
4.1.5	DVD R/W Drive - 1 No. for data back-up	Vendor to confirm			
4.2	<b>Networking/ Interfacing</b>				
4.2.1	The system should have provision for Networking / connecting the machine on a networking through Ethernet port and other standard port(s).(Refer Clause 4.1.3). The party to offer the necessary hardware and software required also along with complete details of the available features shall be submitted. (Qty = 1 set)	Vendor to offer			
4.3	<b>Software</b>	Vendor to offer			
4.3.1	Software for easy data input with photo realistic input dialogue to measure & preset tools.	Vendor to offer			
4.3.2	Software to manage & measure /preset tool lists & to input & output data via USB network, online data output directly to the machine control unit in a suitable input format(to be decided during technical discussions). Standard output formats for CNC control unit - Siemens 840D.	Vendor to offer			
4.4	<b>Printer :</b>				
4.4.1	Provision for printing of labels for tool identification nos. and measured values to be interfaced with the offered control system. It should be offered with the spares and complete interfacing cables. 20000 no. of labels , 02 nos. spare cartridge / ribbon for printer shall also be included in the offer.	Vendor to offer			
4.4.2	The vendor shall provide the detailed specification of the printer along with the offer.	Vendor to offer			
4.4.3	Printer board fixed to support arm- Printer Fixed to support arm	Vendor to offer			

SL. NO.	DESCRIPTION FOR BHEL REQUIREMENT	REQUIRED	OFFERED	DEVIATIONS	REMARKS
4.5	<b>UPS</b>				
	1 KVA on-line UPS to ensure automatic unattended shutdown of the system in case of power failure or even in normal machine shutdown.	Vendor to offer			
4.6	<b>Note : Item wise price to be indicated in the commercial offer</b>	Vendor to note & Accept			
<b>5.0</b>	<b>Technical supply / Environmental Conditions :</b>				
	The machine set up shall be suitable for operation in the following conditions:				
5.1	Voltage : 415 V + 15/-15 % or 220 V +15/-15%	Vendor to note			
5.2	Frequency : 50 Hz +/- 3%	Vendor to note			
5.3	Temperature : 20 to 30 degree Celcius in Air Condition hall	Vendor to note			
5.4	Relative Humidity: 70 %	Vendor to note			
5.5	Compressed Air available at BHEL : 4 to 5 Kg/Cm <sup>2</sup>	Vendor to note			
5.6	No temperature controlled enclosure will be provided.	Vendor to note			
5.7	BHEL shall provide power supply at single point near mschine. All types of cables, connectors etc. required for connecting BHEL supply to supplied equipement shall be responsibility of the vendor.	Vendor to note			
<b>6.0</b>	<b>Spares :</b>				
6.1	The vendor shall offer recommended set of spares for trouble free operation of the machine for a period of two years with detailed item wise price list. Recommended spare parts (both electrical/electronics and mechanical) should also be quoted by the vendors.	Vendor to offer			
6.2	Additionally , following spares which are applicable to the machine shall be quoted by the party.	Vendor to offer			
6.3	All electronic boards specifically designed for the offered tool pre-setter. (Complete nomenclature, specifications and item wise prices to be given) - 1 No. each type	Vendor to offer			
6.4	Measuring Scales for both X- and Z- axes & Transducers.(Make and lengths of the scales to be clearly given) - 1 No.each type	Vendor to offer			
6.5	Light source or Halogen lamp, whatever used. - 5 Nos.	Vendor to offer			
6.6	Set of Bellow covers - 1 No. each type	Vendor to offer			
6.7	Pneumatic valves - 2 Nos. each type	Vendor to offer			
6.8	Pneumatic tubes and connection- 2 Nos. each type	Vendor to offer			

SL. NO.	DESCRIPTION FOR BHEL REQUIREMENT	REQUIRED	OFFERED	DEVIATIONS	REMARKS
6.9	Air maintenance kit with spare filter, regulator etc. - 2 Nos.	Vendor to offer			
7	Linear and other bearings- 1 No. each type	Vendor to offer			
7.1	Timing belts.- 2 Nos. each type	Vendor to offer			
7.2	TFT monitor as supplied with the machine -1 No.	Vendor to offer			
7.3	Motor (if used) - 1 No.	Vendor to offer			
7.4	Motor controller with controller expansion (if used) - 1 No.	Vendor to offer			
7.5	LM guide ways - 1 No. each type	Vendor to offer			
7.6	Dial Gauges - 1 No. each type	Vendor to offer			
7.7	Electrical switches & bulbs / Press switch/ limit/ proximity/ any other sensor used - 2 Nos. each type	Vendor to offer			
7.8	Add on card(if used) - 1 No.	Vendor to offer			
7.9	Handwheels( If used) - 1 No. each type	Vendor to offer			
7.10	Wire for counter weight.- (10 Nos.)	Vendor to offer			
7.11	Spare hard disc with all software/program loaded.- 1 No.	Vendor to offer			
7.12	Electronic/electrical spares of air drier/moisture separator, if used- 1 No. each type	Vendor to offer			
7.13	Spare for tool clamping system includes clamping elements, adaptor and pull stud etc.- 1 Set	Vendor to offer			
7.14	<b>Note : Item wise price to be indicated in the commercial offer</b>	Vendor to offer			
<b>8.0</b>	<b>Machine Acceptance &amp; Accuracy Tests :</b>				
8.1	All standard accuracy and calibration test shall be carried out by vender at their works prior to dispatch and same shall be repeated at BHEL works during its commissioning. Details of test shall be submitted by the vendor with offer. Report of test carried out at vendors work shall be sent with the tool presetter. BHEL reserves right to inspect and witness these test on the tool presetter at vendors work prior to despatch.	Vendor to confirm			

SL. NO.	DESCRIPTION FOR BHEL REQUIREMENT	REQUIRED	OFFERED	DEVIATIONS	REMARKS
8.2	In addition to all the accuracy tests, the standard alignment tests together with the calibration of all tool adapters and establishment of tools in all the adopters shall be the basis of acceptance of the machine.	Vendor to confirm			
8.3	<b>BHEL shall make final acceptance at BHEL, Hardwar after successful completion of erection and commissioning and achieving the specified accuracy.</b>				
<b>9.0</b>	<b>Training :</b>				
	Training of BHEL engineers in the field of Programming , Electrical /Electronic maintenance and Operations at the time of commissioning shall be provided at BHEL , Hardwar for a mutually agreed period.	Vendor to confirm			
<b>10.0</b>	<b>Foundation Bolts &amp; Leveling Shoes :</b>				
	Air material required for the erection of the machine shall be included in the scope of supply. The vendor should mention necessary items required eg. Foundation Bolts & Leveling Shoes etc	Vendor to confirm			
<b>11.0</b>	<b>Air drier and moisture separator filter unit:</b>				
11.1.1	Peumatic requirement of machine shall be offered by the vendor.	Vendor to confirm			
11.1.2	FLR & Air Dryer Unit of appropriate capacity to arrest moisture and other suspended particles etc. in order to provide dry and clean air for machine operation to use centralized air supply of BHEL.	Vendor to offer			
<b>12.0</b>	<b>Erection and Commissioning :</b>				
	Complete installation and commissioning of the equipment alongwith all accessories at BHEL Hardwar shall be carried out by vendor . The vendor shall also demonstrate the calibration method of different tool holders along with tool measurement procedure during commissioning of the equipment.	Vendor to confirm			

SL. NO.	DESCRIPTION FOR BHEL REQUIREMENT	REQUIRED	OFFERED	DEVIATIONS	REMARKS
<b>13.0</b>	<b>Manuals</b>				
13.1	All manuals about operation of the machine, circuit diagrams, calibrating and service manuals in English language including complete electrical scheme & electronic circuit diagram and Service manual of motor & controllers.	Vendor to confirm			
13.2	The drawings of Adapters and studs are to be submitted with the offer.	Vendor to confirm			
13.3	Complete list of Mechanical/Electrical spares giving identification no., type, specification and make. Mechanical assembly diagram/ drawings showing all the parts with identification/code no. of all the assemblies/sub assemblies of the machine. Complete list of bought out items giving make, model, technical specification and suppliers address.	Vendor to confirm			
13.4	Detailed specification of the offered printer to be submitted with the offer.	Vendor to offer			
13.5	Qty = 2 sets of Hard copy + 01 copy on CD for all the manuals	Vendor to confirm			
<b>14.0</b>	<b>GUARANTEE</b>				
	Guarantee for complete machine,CNC Control, softwares and all supplied accessories/equipments for 24 months from the date of final acceptance of the machine. Any spare required during guarantee period shall have to be arranged by the vendor free of cost and duty levied have to be born by the vendor.	Vendor to offer			
<b>15.0</b>	<b>TROPICALISATION:</b>				
	All machine electrical controls, instrumentation and paints shall be suitably tropicalised.	Vendor to confirm			
<b>16.0</b>	<b>COLOUR OF THE MACHINE</b>				
	The standard colour of the machine shall be indicated	Vendor to offer			
<b>17.0</b>	<b>Annual Maintenance Contract (AMC) :Optional</b>				
	If a PC based machine is offered than Modalities for Annual Maintenance contract of PC & Printer to be supplied alongwith the machine to be intimated.	Vendor to offer			
<b>18.0</b>	<b>OTHER INFORMATION TO BE SUBMITTED ALONG WITH TECHNICAL OFFER:</b>				
18.1	Following specific information shall form part of technical offer in addition to other information related to machine and system for vendor's bid evaluation:				
18.2	The specification with their make, model	Vendor to offer			

SL. NO.	DESCRIPTION FOR BHEL REQUIREMENT	REQUIRED	OFFERED	DEVIATIONS	REMARKS
18.3	The total connected load of the machine and its peripherals.	Vendor to inform			
18.4	Total machine weight.	Vendor to inform			
18.5	Floor space requirement in terms of Length X Width X Height in meters along with drawings.	Vendor to inform			
18.6	Detailed catalogue/ photograph of the machine and accessories and attachments.	Vendor to offer			
<b>19.0</b>	<b>QUALIFYING CONDITIONS :</b>				
19.1	Only those vendors who have manufactured, supplied and commissioned atleast one Tool presetting device of same size ( Length -600mm & Dia. 400mm) or higher size for similar application in the past ten years(on the date of opening of tender) and such device is working satisfactorily for at least last one year after commissioning(on the date of opening of tender) should quote. However, if such machine has been supplied to BHEL than such machine should be presently working satisfactorily for more than six months after its commissioning and acceptance (on the date of opening of tender) in BHEL.	Vendor to inform			
19.2	Name of the customer / company, where refrred machine is installed.	Vendor to inform			
19.3	Complete postal address of the customer.	Vendor to inform			
19.4	Month & Year of Commissioning .	Vendor to inform			
19.5	Parametres of machine(s) supplied and Application for which the machine has been supplied.	Vendor to inform			
19.6	Name and designation of the contact person of the customer.	Vendor to inform			
19.7	Phone no., FAX no. and email address of the contact person of the customer.	Vendor to inform			
19.8	Performance certificate from the customers regarding satisfactory performance of machine supplied to them ( Original Certificate or through E-mail directly from the customer). The original certificate may be returned after verification by BHEL.if required	Vendor to submit			
19.9	BHEL reserves the right to verify information submitted by vendor. In case the information is found to be false/incorrect, the offer shall be rejected.	Vendor to accept & confirm			

SL. NO.	DESCRIPTION FOR BHEL REQUIREMENT	REQUIRED	OFFERED	DEVIATIONS	REMARKS
<b>20.0</b>	<b>SPECIAL INSTRUCTIONS</b>				
20.1	The vendor should reproduce the specification and submit compliance / agreement / comment against each and every feature / item. Any deviation in the offer shall be clearly highlighted against that particular feature / item.	Vendor to confirm			
20.2	Reference list of parties to whom such equipment have been supplied shall be submitted alongwith the offer.	Vendor to confirm			