

<u>BHARAT HEAVY ELECTRICAL LIMITED</u>		Indent No. : C/3991/7/3400	
		Date: 04.08.2007	
	UNIT'S ADDRESS: HEEP, RANIPUR HARIDWAR - 249403 UTTARANCHAL, INDIA		Enquiry No. : Due Date :
		Supplier Qtn. No.:	
<u>CONTACT PERSON FROM PURCHASE DEPTT.:</u> <u>NAME: MR. A.SANYAL</u> <u>DESIGNATION: SENIOR MANAGER (PPX-CAP)</u> <u>PHONE NO.: 0091 - 1334 - 285291</u> <u>E-MAIL: asanval@bhelhwr.co.in</u> <u>FAX NO. : 0091 - 1334 - 226462</u>		Date :	
<u>SPECIFICATION CUM COMPLIANCE CERTIFICATION FOR VIBRO FINISHING EQUIPMENT= Qty 2 Nos.</u>			
NOTE :-			
<p>1. Vendor(OEM) must submit complete information against clause at Sl.No. 28.0 (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>			
ADDRESS OF THE SUPPLIER :		ADDRESS OF THE INDIAN AGENT(S) :	
TELEPHONE NOS.:		TELEPHONE NOS.:	
FAX NOS.:		FAX NOS.:	
E-MAIL ADDRESS :		E-MAIL ADDRESS :	

SCOPE:	SUPPLY, ERECTION & COMMISSIONING OF VIBRO FINISHING EQUIPMENT - 2 Nos. AS SPECIFIED BELOW:				
SL. NO.	DESCRIPTION OF BHEL REQUIREMENT	REQUIRED	OFFERED	DEVIATION	REMARKS
1	PURPOSE To improve the Surface finish of Blades from Surface Roughness (Ra) 1.6 - 2.5 microns to 0.40 microns or better. The machine is to be used for polishing of various types of Steam Turbine Blades to achieve finish of Rz 2.5 or better. The polishing will be done by vibro-abrasion between turbine blade and suitable chips in an acid medium followed by cleaning in a neutralizing medium. The length of the blades to be accommodated shall be between 100 mm to 700 mm.	Vendor to Comply			
2	PRESENT RANGE OF COMPONENTS: 1. Min. Blades size: 100 (L)x 32(W) x 22(T) (200 gm), Blade Drawing: 11010246001 2. Max. Blade size: 440(L) x 84(W) x 70 (T) (10 Kg). Blade Drawing: 01030741004 Drawing No : 11010246001 and 01030741004 enclosed for reference.				
2.1	MINIMUM BATCH CAPACITY : 1) 200 no's of min. size of Blades or 2) 6 no.s of max. size of Blades (For a maximum Cycle time [Floor to Floor] of 8 Hrs)	Vendor to inform.			
2.2	Average cycle time for complete processing of one batch.	Vendor to inform and to be proved in case of order.			
3	DESIGN FEATURES				
3.1	Bowl / Drum/Tank /Lining: The processing bowl shall be of high strength, completely stress relieved metallic bowl made of high quality steel and inner surface lined with Polyutherane (PU) or similar material. The shore hardness of the PU or similar material lining should also be intimated. The Processing bowl should also have the lid with PU protective/ similar material lining for Sound proofing.	Vendor to Comply and furnish all details including sound level in full load condition.			
3.2	Bowl / Drum / Tank Capacity	600 ltrs or more to accommodate blades			
4	Motor				
4.1	Motor Capacity: More, Technical details including following details : a. Power (HP / KW) b. Make & Model c. No.of Speed(s) d. No. of Phase and cycle e. The details of the unbalance motor to be furnished.	7 HP or more Reputed make eg. Siemens, Hitachi, Kirloskar etc. Vendor to specify Vendor to specify Vendor to specify Vendor to specify			
4.2	Bearings	Specification to be furnished.			

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4.3	Springs	Specification to be furnished.			
4.4	Anti Vibration Pads	Specification to be furnished.			
4.5	DOSING UNIT: Complete with metering pumps , water flow meter, filter , pressure gauge , pressure regulator, solenoid valve system to be controlled by main panel. The system is complete with solenoid valve , water flow meter and dosing pumps for acids and neutralizing compounds. Technical Details and quantity of chemicals required per batch to be intimated.	Vendor to Comply and intimate the technical details and the operation sequence.			
4.6	Automatic separating arrangement of media and components The machine should have provision to separate blades from media after completion of finishing process.	Vendor to Comply and submit functioning details.			
4.7	CONTROL PANNEL: a. Electrical cabinet should be provided with tube light illumination and 220V,5A socket for maintenance purpose. b. Complete with frequency converter (Make = to be intimated, to control speed range = to be intimated), timers , all necessary switches and controls to enable a fully automatic process sequence without any involvement of operator in between process cycle. c. The control system of ETP should be integrated with control system of vibratory machine. Each emergency switches should be able to control both the equipment. The variable speed mechanism should be of preferably Siemens (details to be furnished) with standard protection control . d. The frequency converter shall be located in the control panel which should be Air- conditioned. e. Hour counter , necessary switches and controls of contactors & relays to prevent overloading & single phasing controls of dosing unit , mixing tank & effluent treatment plant will also be centralized through the main control panel. f. One set of cable ducts & pipes etc for connecting the machine to BHEL provided Power supply point. g. Necessary software (Licensed copy) of MMI Qty. = 1 set	Vendor to Comply and specify the technical details			
4.8	Mixing Tank: a. Capacity. b. The tank shall be manufactured from high quality Material with PU lining. c. Maximum and Minimum alarm level switches. d. It should have stainless steel stirrer to ensure continual and effective mixing of chemicals. e. Filling of tank should be automatic through magnetic solenoid valve, controlled from main control panel.	100 ltrs or more.			
4.90	First filling: All required Oils , lubricants, & Grease etc. for the machine and auxilary system. to be supplied by vendor. Indigenous (Indian) source or Indian equivalent and specifications of oils/ greases are also to be provided by the vendor. The vendor shall also submit estimated annual consumption of all these items on 7000 hours per year working basis.	Vendor to Comply and intimate consumption details.			

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5	EFFLUENT TREATMENT PLANT (ETP) and Disposal				
5.1					
	Effluent Treatment Plant (ETP) : A suitable ETP shall be offered for treatment and disposal of effulents from Vibro Finishing machines.The offered ETP should have capacity to neutralise the effulents of at least 3 Nos. Vibro Finishing machinesbefore disposal.	Vendor to offer and Comply			
	a. The offered ETP should be able to meet all the environment conditions as per ISO-14000/OSHAS and BOD and COD level of 100 and 250 mg/Liter respectively. b. The discharge from ETP shall be disposed off from the Filter press / centrifuge / filter bag to factory disposal system and the cake/sludge obtained from the process can be disposed off in ground. c. TETP should be capable of neutralizing the effluents before discharge. d. The offered system should have Automatic PH control & registration (integrated with the control). e. All piping work for connecting the Vibro Finishing machines with ETP shall be in vendor's scope.	Vendor to offer and Comply			
	Details of ETP offered, its capacity and functioning shall be submitted with the offer.	Vendor to Comply and intimate details			
6	AIR DRIER: The Equipment should have Moisture and Dust seperator with Air Drier	Vendor to Comply and intimate details			
7	CHEMICAL PROCESS: A. The process offered should be from renowned REM CHEMICALS INC / Chemofinish / IDU for improving the surface finish of blades. In case any other chemical process is offered, its performance report from reputed turbine blade manufacturers using steam turbine blades of material grade X20CR13 , X22CRMOV12.1 or equivalent to be furnished. B. Necessary certification to be furnished by the vendor stating that the offered chemical process is : i. A proven / already established process. ii. The process will not affect the mechanical / metallurgical properties of the blade material mentioned above.	Vendor to Comply, and indicated the process being offered as per A and Necessary certification as per B i & ii			

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8	CONSUMABLES FOR TRIAL RUN (Job proving & Supervision): Vendor to provide the necessary consumables for 50 <u>operation (lots) cycles for trial runs (operation) and one week supervision</u> . The details (Type and quantity) of Chemicals and ceramic chips to be intimated. All consumables eg. Abrasive compounds (Chemical and burnishing process), Neutralizing compounds/ Base water treatment , Flocculating agents and chips suiting to blade polishing with complete details (Estimated consumption) to be offered. The offer for the quantities should be individually priced along with complete details of supplier, their catalogue / ordering nos etc. for future procurement.	Vendor to furnish the desired technical details in a tabular format indicated the Description of item offered, Units, Quantity offered, Rate of consumption per cycle (Lot). Vendor to ensure that the stated items are individually priced in the commercial bid.			
9	CONSTRUCTION:				
9.1	Vendor to furnish constructional details of all machine and sub-assemblies.	Vendor to Comply and intimate the technical details.			
9.2	Technical features/ Literature with Photographs , drawings explaining the technical features should be enclosed with the offer. Preferably soft copy shall also be given alongwith hard copy.	Vendor to Comply and intimate the technical details.			
9.3	OPERATION AND CONTROL SYSTEM: PLC (Siemens / Fanuc) based control system for machine operation and Effluent treatment plant (ETP).	Vendor to Comply and intimate the technical details of the process along with detailed flow diagram.			
9.4	OPERATOR'S PANEL:	Vendor to Comply and intimate the technical details.			
9.5	Fixed / Swiveling type operator's panel having complete PLC machine control system shall be provided on the operators platform. All switches with suitable interlock should be within reach of operator of average height (Indian) for easy & safe operation. All displays/indications should also be conveniently placed accordingly. Layout showing complete details should be submitted.	Vendor to Comply and intimate the technical details.			
10	VOLTAGE STABILISER	Vendor to Comply and intimate the technical details.			
10.1	Indian make Oil / Air Cooled Servo Controlled Voltage Stabilizer suitable for complete machine, its drives, controls, PLC etc. with no undesirable Harmonics in the stabiliser output.	Vendor to Comply and intimate the technical details.			

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10.2	Make (To be specified by indentor as per the practice of units.)	Vendor to Comply and intimate the technical details.			
10.3	Model & Rating	Vendor to Comply and intimate the technical details.			
10.4	Catalogue of the Voltage Stabiliser shall be submitted with the offer.	Vendor to Comply			
11	ELECTRICAL:	Vendor to Comply and intimate the technical details.			
11.1	415V + 10% / -15%, 50HZ +/-3 HZ, 3 Phase AC (3 wire system with out neutral) Power Supply Voltage will be provided by BHEL at a single point near the machine, as per layout recommended by Vendor. All types of cables, connections, circuit breakers etc. required for connecting BHEL's power supply point to different parts of the machine/control cabinets, shall be the responsibility of vendor. Requirement of grounding/earthing with required material details is to be informed by vendor well in advance so that same could be incorporated during construction of foundation.	Vendor to Comply			
11.2	Tropicalisation: All electrical / electronic equipment shall be tropicalized	Vendor to Comply.			
11.3	All electrical & electronic control cabinets & panels should be dust and rodent proof.	Vendor to Comply.			
11.4	All electrical components should be mounted on DIN Rail	Vendor to Comply.			
11.5	All electrical and electronic panels including operator's panel should be provided with fluorescent lamps for sufficient illumination and power receptacles of 220Volts, 5/15 Amp AC. All adapters/receptacles should have compatibility with Indian equivalents.	Vendor to Comply.			
11.6	Motors shall conform to IEC, CE or Indian Standards	Vendor to Comply.			
11.7	All cables moving with traversing axes should be installed in caterpillar / Drag chain. Additionally, all the cable trays required for laying of cables should be included in the offer.	Vendor to Comply if applicable.			
11.8	Vendor should ensure the proper earthing for the machine and its peripherals.	Vendor to Comply.			
12	SAFETY ARRANGEMENTS:	Vendor to Comply.			
	Following safety features in addition to other standard safety features should be provided on the machine:				
	1. Machine should have adequate and reliable safety interlocks / devices to avoid damage to the machine, workpiece and the operator due to the malfunctioning or mistakes. Machine functions should be continuously monitored and alarm / warning indications through lightsshould be available.				

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	2. A detailed list of all alarms / indications provided on machine should be submitted by the supplier.				
	3. All the pipes, cables etc. on the machine should be well supported and protected. These should not create any hindrance to machine operator's movement for effective use of machine.				
	4. All the rotating parts used on machine should be statically & dynamically balanced to avoid undue vibrations.				
	5. Emergency Switches at suitable locations as per International Norms are to be provided.				
	6. Oil & water pipe lines should not run with electrical cable in the same tray / trench.				
13	ENVIRONMENTAL PERFORMANCE OF THE MACHINE :				
	The Machine shall conform to following factors related to environment :	Vendor to Comply and intimate details			
	(a) Maximum noise level shall be 85 dB(A) at normal load condition, 1 M away from the machine with correction factor for back ground noise, if necessary. This will be measured as per international standards like DIN 45635-16. Supplier to demonstrate compliance to noise level, if so required.				
	(b) There should not be any effluent from the machine. In case there are any effluents from the machine, requisite effluent treatment plant or pollution control device should be built into the machine by the supplier.				
	(c) No hazardous chemicals shall be required to be used in the machine.				
	(d) If any safety / environmental protection enclosure is required it should be built in the machine by the vendor.				
	(e) Paint of the machine should be oil / coolant resistant and should not peel off and mix up with coolant.				
14	Statutory Requirement: To Meet ISO 1400 and OSHAS requirements, Vendor to provide MSDS of chemicals / Consumables in the event of order.	Vendor to Comply and intimate details			
15	LEVELING & ANCHORING SYSTEM	Vendor to Comply and intimate details			
15.1	Complete anchoring system including foundation bolts, anchoring materials, fixators, leveling shoes etc should be supplied.	Vendor to intimate the items and the quantity to be supplied in the event of order.			

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16	TOOLS FOR ERECTION, OPERATION & MAINTENANCE :	Vendor to intimate the items and the quantity to be supplied in the event of order.			
16.1	Special tools and equipment required for erection and necessary tools like Torque Wrench, Spanners, Keys, grease guns etc.for operation and maintenance of the machine should be supplied. List of such tools should be submitted with offer				
17	SPARES:				
17.1	Itemised breakup of mechanical, Pneumatic and electrical used on the machine in sufficient quantity as per recommendation of Vendor for 2 years of trouble free operation on three shifts continuous running basis should be offered by vendor. The list to include following, in addition to other recommended spares:	Vendor to intimate the items and the quantity to be supplied in the event of order.			
17.2	a) Mechanical & Hydraulic Spares: 1. All types of Pumps -1 each , Dosing Pump - 3 Nos, Pneumatic Cylinders -1 No each, solenoid Valves- 2 Nos each, Pneumatic valves -2 Nos each, Pressure Switches- 2 Nos each 2. Rotary Actuators, Transducers, Flow Switches, Filters, Seals, O-rings, Hydraulic Hoses , Guards / Covers and consumables, metering pump, pressure pumps, solenoid valves (preferable ASCO/Danfoss/Rexroth/ Vickers make), manual valves , Stop cocks , Gauges - 2 sets each 3. Filters of ETP -10 Nos each type. 4. Spare drum for chemical process and accessories - 1 set 5.Filters of Air Drier/moisture seperator & Dust seperator - 5 Nos each.	Vendor to offer along with item wise details			
17.3	b) Electrical /Electronic : 1. All types of Relays, Contactors, Proximity Switches - 5 Nos of each type (party to mention no of types) 2. Indicating Lamps - 30 Nos 3. Fuses(Semiconductor & Special etc.) - 10 Nos each. 4. main Power switch - 1 No. 5. Circuit Breakers- 1 No. 6. Operator's panel with Display Unit - 1 No. 7. I/O Cards for PLC- 1 No of each type - Vendor to mention total no of cards.) 8. Power Supply - 1 No. 9. Complete Main drive unit - 1 No. 10. Main Motor - 1 No. 11. PLC CPU -1 No.	Vendor to offer along with item wise details			
17.4	All types of spares for total machine and accessories should be available for atleast ten years after supply of the machine. If machine or control is likely to become obsolete in this period, the vendor should inform BHEL sufficiently in advance and provide drawings of parts / details of spares & suppliers to enable BHEL to procure them in advance, if required.	Vendor to offer along with item wise details			

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17.5	Vendor to confirm that complete list of spares for machine and accessories, along with specification / type / model, and name & address of the spare supplier shall be furnished along with documentation to be supplied with the machine	Vendor to offer along with item wise details			
18	ERECTION & COMMISSIONING	Vendor to Comply and intimate details			
18.1	Supplier to take full responsibility for carrying out the erection, start up, testing of machine, it's control & all types of other supplied equipment for polishing of blades. Service requirement like power, air & water shall be provided by BHEL at only one point to be indicated by supplier in their foundation/layout drawings. Both the equipments and ETP are to be located in a room where no crane is existing. Helping personnel shall be provided by BHEL for erection and commissioning activities. Details of these requirements should be informed by vendor in advance.				
18.2	Commissioning spares, required for commissioning of the machine within stipulated time, shall be brought by the supplier on returnable basis.				
18.3	Portion, if any, of the machine, accessories and other supplied items where paint has rubbed off or peeled during transit or erection should be repainted and merged with the original surrounding paint by the vendor. For this purpose, the vendor should supply sufficient quantity of touch-up paint of various colours of paint used.				
18.4	Schedule of Erection and Commissioning shall be submitted with the offer.				
18.5	Charges, duration, terms & conditions for E&C should be furnished in detail separately by vendor along with offer.				
19	AMBIENT CONDITIONS & THERMAL STABILITY :	Vendor to Comply			
19.1	Ambient Conditions: Temperature = 2 to 48 degree celsius Relative Humidity = 95% max. (Vendor to confirm that machine is suitable for above and details of provisions on the machine for the same are to be furnished by Vendor)	Vendor to Comply			
19.2	Weather conditions are tropical, Atmosphere may be dust laden during some part of the year. Machine shall be kept in the normal shop floor condition. Max. temperature variation is up to 25 deg Celsius in 24 hours. (Vendor to confirm that machine is suitable for above and details of provisions on the machine for the same are to be furnished by Vendor)	Vendor to Comply			
19.3	Thermal Stability of the complete machine keeping in view specified Ambient Conditions and accuracy requirements of BHEL components and trouble free operation of the machine should be ensured by vendor. (Confirm that machine is suitable for above and details of provisions on the machine for the same should be furnished)	Vendor to Comply			

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20	DOCUMENTATION : Following manuals/diagrams/ list/ specifications shall be supplied in English language along with the machine documentation in case of order:	Vendor to Comply and intimate details			
20.1	Basic Machine operation and maintenance/ service manual - 5 copies				
20.2	Detailed Maintenance manual of machine with all drawings of machine assemblies/sub-assemblies/parts including Electrical / Pneumatic/ Coolant / Hydraulic circuit diagrams. All Assembly/ Sub Assembly Drawings shall be supplied with the part list also.				
20.3	Maintenance, Interface & commissioning manuals of Drive controller , Display unit (OP7 or equivalent)				
20.4	Catalogues, O&M Manuals of all bought out items including drawings,wherever applicable.				
20.5	PLC print-out in Operand form with comments in English- 5 copies				
20.6	Soft copies of PLC user program on CD				
20.7	Programming manual of PLC				
20.8	Necessary Software (Licensed copy) for MMI				
20.9	Electrical schematic of the machine- 5 copies				
20.10	Detailed assembly drawing with clear marking of each component and giving reference of manufacturer of each assembly/sub-assembly- 5 copies.				
20.11	Hydraulic, Pneumatic, Lubrication and Coolant circuit diagram along with part list, complete specification and make of each element used – 5 copies.				
20.12	Wiring diagram including details of terminal blocks, plugs, junction boxes , cable description, wiring details between all units of machine such as cooling unit, operator panel, auxilairy pendent (if any) ATC, AWC , table etc in additional to electrical schematic diagram- 5 sets				
20.13	List of all bearings, ball bushings etc. with full specification and make.- 5 sets.				
20.14	Spare part list along with specification, part number and address of manufacturers- 5 sets.				
20.15	Service and user manuals of all bought out items- 5 sets.				
20.16	Alarm list and fault diagnostic manual- 5 sets				
20.17	Help guides for diagonistic service systems- 5 sets				
20.18	S7 software licesensed copy along with necessary cable etc.				
20.19	Detailed specification of all rubber items and hydraulic/lube fittings				
20.20	One set of Total documentation in CD				

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21	TRAINING : Training of BHEL engineers at supplier's works in following disciplines for a mutually agreed period as per details given below: i. Chemical process and Technology transfer. ii. Mechanical maintenance . iii. Electronic / Electrical maintenance . Per working day training Charges if any, shall be intimated on prorata basis in the commercial offer.	Vendor to Comply.			
22	Pre-Shipment Inspection Pre- dispatch trial of the equipment at supplier's works shall be carried out in the presence of BHEL representative. Final dispatch clearance shall be given after satisfactory trial performance by BHEL representative.	Vendor to Comply.			
23	Foundation . The machine is to be erected on a concrete floor . Following details shall also be supplied in the event of an order: a) Layouts of pipelines of oil, water and air supply. b) Lay out of power lines. c) The requirement of air, water, power supply for machine and its Auxiliaries. d) Foundation details for machine and its accessories. The Scope shall also include supply of foundation bolts , anchoring elements and other items required for fixing the machine on foundation. All foundation drawings , load diagram , services (air water , power) requirement etc shall be provided by the vendor to BHEL within 1 month from the receipt of the Purchase order / LOI.	Vendor to Comply.			
24	PROVE OUT OF PARTS: After successful completion of erection, testing at BHEL, Hardwar , supplier shall carry out complete proving of about 20 lots (20 complete cycle of operation) of different sizes (Indicated at Point no 2 of Tender specification or mutually discussed items) to the specific surface finish to prove the machine. The vendor will extend supervision of one full week of production on their machine as a part of prove out for demonstrating consistency and repeatability of quality for final acceptance of the machine at BHEL, Hardwar.	Vendor to Comply.			
25	GUARANTEE:				
25.1	Guarantee for complete machine, 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 borne by the vendor.	Vendor to offer.			

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26	PACKING:				
26.2	Sea worthy & rigid packing for all items of complete machine, all Accessories and other supplied items to avoid any damage/ loss in transit. When machine is despatched in containers, all small loose items shall be suitably packed in boxes.				
27.0	GENERAL :				
27.1	Machine Model	Vendor to intimate			
27.2	Total connected load (KVA):	Vendor to intimate			
27.3	Floor area required (Length, Width, Height) for complete machine & accessories	Vendor to intimate			
27.4	Painting of Machine / Electrical Panels : RAL 6011 Apple Green (Polyurethane Paint)	Vendor to intimate			
27.5	Total weight of the machine	Vendor to intimate			
27.6	Weight of heaviest part of machine	Vendor to intimate			
27.7	Weight of the heaviest assembly / sub-assembly of the Machine	Vendor to intimate			
27.8	Dimensions of largest part/ sub-assembly/ assembly of the machine	Vendor to intimate			
27.9	Vendor to submit, along with offer, reference list of customers where similar machines have been supplied mentioning broad specifications of the supplied machine i.e. Model.	Vendor to intimate			
27.10	Detailed catalogues , sketch/ photographs of the m/c and accessories/ attachments should be submitted with the offer.	Vendor to intimate			
27.11	Pneumatic & oil pipings should be preferably metallic except places where flexible pipings are essential.All the pipes required for the same shall be included in the standard scope of the machine.	Vendor to intimate			
28.0	QUALIFYING CONDITIONS :				
28.1	Only those vendors should quote, who have supplied and commissioned at least one no. Vibrofinishing machine of same tank capacity or higher, for similar application with the offered chemical process in the past ten years (On the Date of Opening of tender) and such machine is presently working satisfactorily for atleast one year after commissioning (On the Date of Opening of tender).However, if such machine(s) has/had been supplied to BHEL, then such machine should be presently working satisfactorily for atleast six months after its commissioning and acceptance (On the Date of Opening of tender) in BHEL, should quote. The following information should be submitted by the vendor about the companies where similar machines have been supplied. This is required from all the vendors for qualification of their offer.	Vendor to Comply and intimate details			

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	1. Name of the customer / company where similar machine is installed.				
	2. Complete postal address of the customer.				
	3. Month and year of commissioning.				
	4. Name and designation of the contact person of the customer.				
	5. Phone, FAX no. and email address of the contact person of the customer.				
	6. Performance certificate from the customers regarding satisfactory performance of machine supplied to them.				
	7. BHEL reserves the right to verify the information provided by vendor. In case the information provided by vendor is found to be false/incorrect, the offer shall be rejected.				
29	SPECIAL INSTRUCTION:				
29.1	Quotations should be complete with point to point answers to the specification alongwith catalogues/ detailed literatures of all accessories and other information sought in various clauseds of the specification.	Vendor should reply accordingly.			
30.0	NOTE:				
	Quote separate price for the basic machine and individual prices for the optionals				
31	Supply of Consumables	Optional			
31.1	CONSUMABLES: Vendor to provide the necessary consumables for 450 operation (lots) cycles for about six months working. The details (Type and quantity) of Chemicals and ceramic chips to be intimated. All consumables eg. Abrasive compounds (Chemical and burnishing process), Neutralizing compounds/ Base water treatment , Flocculating agents and chips suiting to blade polishing with complete details (Estimated consumption) to be offered. The offer for the quantities should be individually priced along with complete details of supplier, their catalogue / ordering nos etc. for future procurement.	Vendor to furnish the desired technical details in a tabular format indicatiod the Description of item offered, Units, Quantity offered, Rate of consumption per cycle (Lot). Vendor to ensure that the stated items are individually priced in the commercial bid.			
31.2	Optional Requirement: The party will offer rate contract for all the consumables item wise which will be valid for atleast 2 years from the date of commissioning at the rate offered in the tender.	Optional requirement.			