



**BHARAT HEAVY ELECTRICAL LIMITED**

**UNIT'S ADDRESS:**

**UNIT'S PHONE NOS.**

**CONTACT PERSON'S NAME/DESIGN./PHONE NO./E-MAIL  
(FROM PURCHASE DEPT.)**

**Enquiry No. :**

**Due Date :**

**Supplier Qtn.  
No.:**

**Date :**

**SPECIFICATION CUM COMPLIANCE CERTIFICATE FOR PORTABLE HYDRAULIC TAPPING MACHINE**

**NOTE:-**

- 1. Inadequate / incomplete, ambiguous, or unsustainable information against any of the clauses of the specifications/requirements shall be treated as non-compliance.**
- 2. The offer and all documents enclosed with offer should be in English language only.**

<b>ADDRESS OF THE SUPPLIER :</b>	<b>ADDRESS OF THE INDIAN AGENTS :</b>
<b>TELEPHONE NOS.:</b>	<b>TELEPHONE NOS.:</b>
<b>FAX NOS.:</b>	<b>FAX NOS.:</b>
<b>E-MAIL ADDRESS :</b>	<b>E-MAIL ADDRESS :</b>

**SCOPE: SUPPLY & COMMISSIONING OF PORTABLE HYDRAULIC TAPPING MACHINE COMPLYING WITH SPECIFICATION AS BELOW**

<b>Sl. No</b>	<b>DESCRIPTION FOR BHEL REQUIREMENT</b>	<b>SPECIFIED BY</b>	<b>OFFERED</b>	<b>DEVIATIONS</b>	<b>REMARKS</b>
<b>1.0</b>	<b>PURPOSE (Operation)</b>	Required for carrying Tapping / Threading operations in the components.			

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<b>2.0</b>	<b>SPECIFICATION OF THE MACHINE / CONFIGURATION :</b>				
2.1	Type of TAPPING Equipment / Machine	Hydraulic with chuck N°4-Ø60 (Collet)			
2.2	Tapping size range	M6 - M60			
2.3	Max. Tapping capacity	Tapping M60 in 240 Brinell, HB 36 or 870 N/sq.mm			
2.4	Max. Torque	Vendor to specify			
2.5	Spindle speed Range & no. of stages of gear box suitable for tapping size range M6 - M60 (Clause no. 2.2)	Vendor to specify			
2.6	Thread depth / Max. stroke	Vendor to specify			
2.7	Working space with 360° rotation of spindle head of the machine / equipment	Vendor to specify (Width / depth / height)			
2.8	Motor Rating	Vendor to specify			
2.9	Maximum Hydraulic Pressure	Vendor to specify			
2.10	Hydraulic oil tank capacity	Vendor to specify			
2.11	Recommended hydraulic oil	Vendor to specify			
2.12	<b>Equipment / Machine should equip with the following : .</b>				
2.12.1	Multiposition head (360°) for tapping in any positions including vertical.	Vendor to confirm			
2.12.2	The speed of rotation of the head is adjustable and suitable for tapping for the specified range (M6 - M60)	Vendor to confirm			
2.12.3	Parallel arm	Vendor to confirm			
2.12.4	Fixed mount	Vendor to confirm			
2.12.5	Quick change chuck (Tap insert Holder) for BILZ system control, size 2, 3 & 4.	Vendor to confirm			
2.12.6	Independent manual / electronic tap speed governors (Forward and reverse)	Vendor to confirm			
2.12.7	Tap lubrication system which allows enough atomized tapping oil in the tap in order to do one thread, so we could have the best use of this oil.	Vendor to confirm			
2.12.8	Digital tachometer (Digital readout)	Vendor to confirm			
2.12.9	Inverter	Vendor to confirm			
2.12.10	Coolant pump & tank	Vendor to confirm			

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2.12.11	Magnetic base to search perpendicular position.	Vendor to confirm			
<b>3.0</b>	<b>Construction :</b>				
3.1	Substructure with built-in cabinet, Hydraulic groups without any table mounting the hydraulic groups in a moving / mobile box and articulated arms.	Vendor to confirm			
3.2	The tap should be turned by a hydraulic motor and turning speed adjustment should be done by means of potentiometer in the digital models.	Vendor to confirm			
3.3	The machine should be mounted with a quick change head for rapid change of collets with safety clutch.	Vendor to confirm			
3.4	Different collets for each tap size with safety clutch adjustable to maximum allowable torque.	Vendor to confirm			
<b>4.0</b>	<b>Accessories :</b>				
4.1	Drill chuck adapters/reducers - N°4/N°2 (Ø60/Ø31) & N°4/N°3 (Ø60/Ø48)	1 Nos. each			
4.2	Tap Adapters / collets (Suitable for DIN standard Shank Sizes of Spiral Taps)	As per Annexure - 1			
4.3	Automatic depth control (Programming depth stop and automatic reverse)	Vendor to confirm			
4.4	Magnetic clamp with double magnets (Equivalent to model no. B2 of CMA).	Vendor to confirm			
4.5	C-Clamp mount	Vendor to confirm			
<b>5.0</b>	<b>Electrical :</b>				
5.1	415V, 50HZ +/-3 HZ, 3 Phase AC (4 wire system with neutral & Ground) Power Supply will be provided by BHEL.	Vendor to Confirm			
5.2	Cables / wiring and other electrical material shall meet relevant BIS standards	Specify & shall be of reputed make			
5.3	<b>Tropicalisation:</b> All electrical / electronic parts shall be tropicalized	Vendor to confirm			
<b>6.0</b>	<b>Compliance to SAFETY Standards / ARRANGEMENTS (IS / ISO / CE / EMV / Other)</b>	Vendor to safety the applicable standard.			
6.1	The oil hose pipes should withstand at least 250 Bar and breakage at pressure above 350 Bar.	Vendor to confirm			

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6.2	Machine / Equipment should have adequate and reliable safety interlocks / devices to avoid damage to the equipment, work piece and the operator due to the malfunctioning or mistakes and alarm / warning (Error Message) indications through lights.	Vendor to furnish the Details			
6.3	If any safety / environmental protection enclosure is required it should be built in the equipment by the vendor.	Vendor to Confirm			
<b>7.0</b>	<b>SPARES:</b>				
7.1	Vendor should include and offer the spares (mechanical, electrical and electronic) used on the machine / equipment in sufficient quantity for 2 year (Guaranty / warranty period) trouble free operation.	Vendor to Confirm			
7.2	All types of spares of the equipment should be available for at least ten years after supply of the machine / equipment. If equipment 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 these in advance, if required.	Vendor to Confirm			
<b>8.0</b>	<b>DOCUMENTATION : Five sets of following documents (Hard copies) in English language should be supplied along with the machine / equipment</b>				
8.1	Operating manuals of the machine / Equipment	Vendor to Confirm			
8.2	Detailed Maintenance manual of the machine / equipment with all drawings of assemblies/sub-assemblies/parts including Electrical / Electronic circuit diagrams & wiring diagrams.	Vendor to Confirm			
8.3	Catalogues, O&M Manuals of all bought out items including drawings, wherever applicable.	Vendor to Confirm			
<b>9.0</b>	<b>COMMISSIONING</b>				
9.1	Supplier to take full responsibility for carrying out the start up, testing of the machine / equipment & it's controls etc.	Vendor to Confirm			
9.2	Successful proving of BHEL components by the supplier shall be considered as part of commissioning. All tests, as mentioned at clause 10.0 (Machine / Equipment Acceptance) shall form part of the commissioning activity.	Vendor to Confirm			
9.3	Charges, duration, terms & conditions for E&C should be furnished in detail separately by vendor along with offer.	Vendor to Confirm			

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<b>10.0</b>	<b>Machine / Equipment ACCEPTANCE: (Tests/Activities should be Performed by Vendor)</b>	Vendor to specify the applicable standard (IS/ISO/Other)			
<b>10.1</b>	<b>Tests/Activities should be carried out at supplier's works on the machine / equipment before dispatch :</b>				
10.1.1	Demonstration of all features of the equipment, control system & accessories for efficient and effective use of the machine / equipment	Vendor to Confirm			
10.1.2	Full load test as per Cl. No. 2.2 to demonstrate the maximum capacity of the machine / equipment.	Vendor to Confirm			
10.1.3	Prove out / Testing of the machine / equipment as per applicable standard (IS/ISO/Other). Vendor to supply test piece	Vendor to Confirm			
<b>10.2</b>	<b>Tests/Activities should be carried out at BHEL works while commissioning the machine / equipment :</b>				
10.2.1	Demonstration of all features of the machine / equipment, control system & accessories to the satisfaction of BHEL for efficient and effective use of the equipment.	Vendor to Confirm			
10.2.2	Full load test as per Cl. No. 2.2 to demonstrate the maximum capacity of the machine / equipment.	Vendor to Confirm			
10.2.3	Prove out / Testing of the machine / equipment as per applicable standard (IS/ISO/Other). Active jobs will be supplied by BHEL	Vendor to Confirm			
10.2.4	Supplier's engineer shall demonstrate for 2 to 3 components. BHEL will arrange the active jobs.	Vendor to Confirm			
10.2.5	Training of BHEL personal in operation of complete machine / equipment by the supplier's experts / engineers during their stay at BHEL works	Vendor to Confirm			
<b>11.0</b>	<b>TRAINING:-</b>				
11.1	BHEL Persons should be trained at supplier's Works during pre-dispatch inspection in Operation & Maintenance (Mechanical, Electrical & Hydraulic) of the machine / equipment and other accessories if any.	Vendor to Confirm			
<b>12.0</b>	<b>Packing</b>	Vendor to specify			
<b>13.0</b>	<b>GUARANTEE :</b>				
13.1	24 Months satisfactory operation from the date of acceptance of the machine / equipment.	Vendor to Confirm			

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13.2	Service beyond guarantee period	Vendor to specify			
13.3	Supplier shall be responsible for after sales service of the equipment.	Vendor to Confirm			
<b>14.0</b>	<b>GENERAL :</b>				
14.1	Machine / Equipment Model No.	Vendor to specify			
14.2	Size of the machine / equipment (Length, Width & Height)	Vendor to specify			
14.3	Painting of the machine / Equipment	Vendor to specify			
14.4	Total weight of the machine / equipment	Vendor to specify			
14.5	Vendor to submit , along with offer, reference list of customers where similar or higher capacity <b>Tapping machine / equipment</b> have been supplied mentioning broad specifications of the supplied equipment, i.e. Model, Tapping Capacity etc. However, if such equipment(s) has/ had been supplied to BHEL, then such equipment should be presently working satisfactorily for more than six months after its commissioning and acceptance in BHEL.	Vendor to Confirm			
14.6	Detailed catalogues should be submitted with the offer.	Vendor to Confirm			
14.7	Vendors shall submit his latest design. In case of any variance with the present Spec., BHEL reserves the right to study & make minor changes.	Vendor to Confirm			
<b>15.0</b>	<b>Delivery</b>	Vendor to specify			