

**ANNEXURE –B****(TECHNICAL BID – BI 6300031951)**

Tender: Procurement of 1 Number of **1000T Double Action Ram Hydraulic Press** required for Deference Production

<b>Technical Delivery Conditions (TDC) for <u>1000T Double Action Ram Hydraulic Press</u></b>				
SI No	TDC	Description	Complied / Not Complied	Remarks (With Justification)
<b>1</b>	<b>Description Of Press Frame</b>			
1.1	Press Designation	600Ton-400Ton.1000Ton		
1.2	Press Frame design	Slide frame push down type		
1.3	Capacity range (adjustable)	600-400Tons		
1.4	Slide stroke	1000mm		
1.5	Open height – Top of bolster slide	1500mm		
1.6	Shut height – Top of bolster slide	500mm		
1.7	Bed size (L-RXR-B)	4000mm x 2800mm		
1.8	Slide lift capacity	80 Tons		
1.9	Slide guiding & Configuration	Heat compensated Guiding		
1.10	Slide T-Slot pattern	Per customer specification		
1.11	Bottom Die Bolster size	3000mm x 1800mm		
1.12	Bolster Locking type	Fixed		
1.13	Bolster T-Slot pattern	Per customer specification		
<b>2</b>	<b>Speed</b>			
2.1	Blank slide	250 mm/sec		
2.2	Draw pressing	1-30 mm/sec		
2.3	Stripping	10-100 mm/sec		
2.4	Fast open	250 mm/sec		
<b>3</b>	<b>Cylinders</b>			
3.1	Centre Draw Cylinder	3 sets X 200 Tons, 600 Tons		
3.2	Blank Holder Cylinder	4 sets X 100 Tons, 400 Tons		
3.3	Slide Lifting Cylinder	2 sets X 50 Tons		
<b>4</b>	<b>Hydraulic Pump</b>			
4.1	Main Hydraulic Pump	2sets axial piston pump, Rexroth		
4.2	Pilot pump	1setaxial piston pump, Rexroth		
<b>5</b>	<b>Hydraulic Oil Cooling &amp; Filtration Unit</b>			
5.1	Inlet Temperature	32° C		
5.2	Outlet Temperature	38° C		
5.3	Inlet Pressure	2 Kg/cm <sup>2</sup>		
5.4	Outlet Pressure	120,000 Kcal/hr		

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<b>6</b>	<b>Hydraulic Control System</b>			
6.1	Main hydraulic pumps	Rexroth or Parker		
6.2	Fluid solenoid logic control valves	Rexroth or Parker		
6.3	Tonnage control	±1%		
6.4	Speed control	±1 mm		
6.5	Position control	±1 mm		
<b>7</b>	<b>Electric Motor Group</b>			
7.1	Main pump motor	2 sets X 250KW, 1450 RPM		
7.2	Pilot motor	1 set X 7.5KW, 1450 RPM		
7.3	Cooling circulation motor	1 sets X 7.5KW, 1450 RPM		
<b>8</b>	<b>Electrical Control system &amp; Equipment</b>			
8.1	Electrical control system & components	Siemens S7		
8.2	PLC Control system	Siemens S7		
8.3	HMI	Siemens S7		
8.4	Ethernet for remote diagnostic support	Included		
8.5	Operational modes	Manual, Semi auto, Auto		
8.6	Master press operating	Pendant type		
8.7	Slide position control	Linear displacement transducer (LVDT)		
8.8	Emergency stop buttons	2		
<b>9</b>	<b>Electric Power equipments</b>			
9.1	Main electric supply	415 Volts-3 Phases-50 Hz AC		
9.2	Main control voltage	220 Volts-31 Phases-50 Hz AC		
9.3	PLC, Out-put device, Push buttons	24 Volt DC		
<b>10</b>	<b>Standard Features &amp; Equipments</b>			
10.1	Press Frame construction	Steel Fabricated & Stress relieved		
10.2	Press accuracy	JIS B 6403 CLASS 1		
10.3	Bed & Slide deflection under full press load	0.1mm/m, 2/3 Bolsterer area		
10.4	Slide safety lock pin units	Two(2)- Left & right columns		
10.5	Slide guide sweep	Sixteen(16)		
10.6	Buzzer	One(1)		
10.7	Safety & service platform around crown	Included / Fully enclosed		
10.8	Press crown service ladder with safety cage	One(1)		
10.9	Steel panel covers for press slide columns ~ Removable	Included		
10.10	Air outlets for air tool operation-Two(2)	On L front R rear Press column		

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10.11	Press anchor bolts	Included		
10.12	Press Tool kit and stand	One(1)set		
10.13	Press operator, service & maintenance manuals	One(1)set, CD Diskette		
10.14	Press paint colour scheme	To customer specification		
<b>11.</b>	<b>PRESS GENARAL DATA (Approximate).</b>			
11.1	<b>Floor to top of bolster</b>	± 0mm		
11.2	<b>Press height above floor level</b>	Approx. 9,000mm		
11.3	<b>Press width overall (L-R)</b>	Approx. 6,200mm(At floor level)		
11.4	<b>Press depth overall (F-B)</b>	Approx. 1,500mm(At floor level)		
<b>12</b>	<b>CONSTRUCTION OF FOUNDATIONS</b>			
12.1	Final Foundation Layout and detailed drawing should be submitted to BEML by supplier within in 2 weeks from the Date of LOI for earmarking the space required for erection. The layout should consist of all required details for erection			
12.2	The construction of complete civil foundations is BEML Responsibility			
12.3	Supplier has to provide foundation brake, Anchoring Materials, Levelling etc//			
<b>13</b>	<b>WARRANTY &amp; AVAILABILITY</b>			
13.1	The machine with all the accessories shall carry warranty 24 months from the date of successful commissioning of the equipment			
13.2	During warranty period, The firm shall attend the complaint within 24 hours and if any part found to be defective shall be repaired /replaced by the firm free of cost within 48 hours from the time of intimation of breakdown. Firm to keep stock of all the necessary warranty spares parts and replace defective items			
13.3	Tenderer should submit a Performance Bank Guarantee for 10% of the order value with validity covering the warranty period.			
<b>14</b>	<b>Installation &amp; Commissioning</b>			
14.1	BEML intends to install the Machine in normal shop floor environment with temperature from 10 to 4 deg. Celsius. However the firm shall specify the exact requirement to adhere o warrant clause.			
14.2	The installation & Commissioning will be done at BEML site.			
14.3	Installation commissioning & prove out activities shall complete within 2 months from the date of receipt of machine.			
14.4	Foundation kit like Levelling unit, vibro mounts, bolts etc. required for foundation to be supplied.			
14.5	The drawings for foundation with necessary details to be supplied by Vendor.			
14.6	Requirement of power, water and compressed air lines to specified by Vendor.			

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14.7	Data Backup for reinstallation in case of failure should be supplied on CD/suitable media at the end of commissioning.		
14.8	The data backup should include NC,MC,PLC Archie files, Alarm text, Fixed cycles. etc		
14.9	Necessary checks should be carried out for commissioning and the results have to be checked for acceptance norms. The commissioning will be treated as complete when BEML issues the certificate acceptance.		
15	<b>Safety</b>		
15.1	Working area of the machine should have safety enclosure with transparent windows.		
15.2	The machine must be provided with all safety features necessary to protect the machine control and the operate while in operation from possible damage/injury in line with Machine safety norms applicable in India.		
15.3	Automatic machine shutoff with warning in the event of lubrication and coolant failure spindle off and axis over travel. Position for safety against over run collisions and excessive load torque condition.		
15.6	Oil retention tray to avoid oil spillage around the machine		
15.7	Emergency stop/retraction function t be provided for protection against power failure.		
16	<b>Pre-Dispatch Inspection:</b>		
16.1	Vendor should offer the machine for inspection by BEML personnel at its works before dispatch of the machine to BEML. Vendor should indicate the probable duration required for carrying out pre-dispatch inspection. Note: BEML reserves the right for waiving off the pre-dispatch inspection in the event f un avoidable circumstances.		
16.2	Necessary Laser calibration should be carried out and the results have to be checked against the acceptance forms.		
17	<b>Packing and Supply:</b> Packing as per the standard to suit the mode Of transport & site location		
18	<b>Delivery:</b> Machine shall reach BEML premises within 7 months (T0+7) from the date of placement of PO. Where , T0 is date of issue of PO.		
19	<b>Installation &amp; Commissioning</b>		
19.1	BEML intends to install the Machine in normal shop floor environment with temperature from 10 to 4 deg. Celsius. However the firm shall specify the exact requirement to adhere o warrant clause.		
19.2	The installation & Commissioning will be done at BEML site.		
19.3	Installation commissioning & prove out activities shall complete within 2 months from the date of receipt of machine.		
19.4	Foundation kit like Levelling unit, vibro mounts, bolts etc. required for foundation to be supplied.		

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19.5	The drawings for foundation with necessary details to be supplied by Vendor.		
19.6	Requirement of power, water and compressed air lines to specified by Vendor.		
19.7	Data Backup for reinstallation in case of failure should be supplied on CD/suitable media at the end of commissioning.		
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19.9	Necessary checks should be carried out for commissioning and the results have to be checked for acceptance norms. The commissioning will be treated as complete when BEML issues the certificate acceptance.		
20	<b>Experience and track record</b>		
20.1	Shall enclose the company's financial status for last three years with complete profile.		
20.2	Firm shall have the experience & track record in the manufacture of machining centres for a minimum period of 20 years. Must have supplied Minimum 10 Nos. similar or higher capacity machining centres in past 05 years in India/abroad. Firm shall furnish the reference order with related details.		
20.23	Vendors should provide the performance reports and contract details of two customers name, designation, Phone number, Email ID, Address. BEML reserves the right to verify the information by the vendor. In case the information is found to be false/in correct the offers shall be summarily rejected.		
21	<b>Service support:</b> The firm shall have its office or representing authorized agency in India or service related activities and shall attend service related issues within 48 hours from the date of request. shall specify the strength of service team in india		
22	<b>Training:</b> Suppliers engineer should provide training on machine operation programming CNC control system and maintenance of the machine to BEML personnel for a period of TWO weeks free of cost at BEML EMD KGF.		
23	<b>Documentation</b>		
23.1	Three sets of the following documents in ENGLISH are to be supplied with the machine		
23.2	Operator Manual, Programming Manual, Maintenance manual, Electrical wiring diagrams, Preventive maintenance check list, trouble shooting charts and guidelines. Machine test charts, General drawing of machine. Printouts of Ladder Diagram of the machine, machine data, special sub-routines. Spares part Manual, System & drives Manual, Servo motors & PLC manual etc.		
23.3	Supplier shall supply required special tools for maintenance along with complete tool kit. Tooling racks and cupboards shall be supplied along with the machine for storing tools and documents.		
24	<b>Acceptance test and Inspection</b>		

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24.1	The test charts/methods adopted for conforming the geometrical accuracies of the machines are to be furnished by the FIRM along with technical bid.		
24.2	All the tests required for conforming the geometrical and positional accuracies should be demonstrated to BEML's engineers for acceptable at manufactures works as well as at BEML site.		
24.3	All machine features / functions shall be checked for satisfactory performance with programmed cycle.		
25	<b>DIE &amp; PUNCHES:</b> 1 Set of Die & Punches to be supplied along with Machine.		

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