

**Requirement of Workshop Deptt. to be procured through e-Tender-13/14-15 under CAT-E**

Sr. No.	Name of items	Complete Specification	Qty.																																																																											
01.	<b>Down-stroke friction Screw-press capacity 50 Ton. Steel fabricated body</b>	Screw Dia. 108 to 110mm Base of machine 1015 X 687m or above Bed-size 380 X 400mm Bore size in bed plate 89 mm Maximum distance between Table & Ram 355 mm Stroke of Ram 200-203 mm max. Bore in Ram 38mm max. Max. No. of stroke per minutes 30 Nos Motor Power 5 H.P <ul style="list-style-type: none"> <li>• Along with 02 Nos. Dies (i) Chisel 6" (ii)Spanner Size 15, 16 mm</li> <li>• With standard accessories, tool kit, operation and maintenance manual</li> <li>• Installation and commissioning to be provided</li> <li>• Warranty for one year after commissioning to be provided</li> </ul>	01																																																																											
02.	<b>Universal Cylindrical Grinder Machine</b>	<table border="0"> <tr> <td><b>CAPACITIES</b></td> <td><b>UNIT</b></td> <td><b>VALUES</b></td> </tr> <tr> <td>Centre Height</td> <td>mm</td> <td>125</td> </tr> <tr> <td>Admit Between Centers</td> <td>mm</td> <td>600</td> </tr> <tr> <td>Grinding Length</td> <td>mm</td> <td>400</td> </tr> <tr> <td colspan="3"><b>LONGITUDINAL SLIDE</b></td> </tr> <tr> <td><b>Type</b></td> <td colspan="2">V &amp; Flat, Turcite Coated Continuous Lubrication</td> </tr> <tr> <td>Table Speed</td> <td>m/min</td> <td>0.1-5</td> </tr> <tr> <td>Max. Travel</td> <td>mm</td> <td>400</td> </tr> <tr> <td>Min. Automatic Travel (Approx.)</td> <td>mm</td> <td>2.5</td> </tr> <tr> <td>Swivel of Table</td> <td>degree</td> <td>0 - 30</td> </tr> <tr> <td colspan="3"><b>INFEED SYSTEM</b></td> </tr> <tr> <td><b>Slide</b></td> <td colspan="2">Movement Antifriction Linear Guide Ways</td> </tr> <tr> <td>Rapid Approach</td> <td>mm</td> <td>40</td> </tr> <tr> <td>In-feed with Hand Wheel</td> <td>mm</td> <td>20</td> </tr> <tr> <td>Min. Increment In-feed on Dia</td> <td>mm</td> <td>0.001</td> </tr> <tr> <td colspan="3"><b>WHEEL HEAD</b></td> </tr> <tr> <td><b>Type</b></td> <td colspan="2">Hydrodynamic</td> </tr> <tr> <td>Grinding Wheel (OD x Width x Bore)</td> <td>mm</td> <td>300 x 40 (ROS) x 127</td> </tr> <tr> <td>Min. Wheel with Zero Job</td> <td>mm</td> <td>220</td> </tr> <tr> <td>Spindle Cone Size</td> <td>mm</td> <td>40</td> </tr> <tr> <td>Spindle Speed</td> <td>rpm</td> <td>1910,2120,2350</td> </tr> <tr> <td>Grinding Speed</td> <td>m/sec</td> <td>30</td> </tr> <tr> <td colspan="3"><b>WORK HEAD</b></td> </tr> <tr> <td><b>Type</b></td> <td colspan="2">Hydrodynamic / Dual Speed</td> </tr> <tr> <td>Spindle Speed (8 Steps)</td> <td>rpm</td> <td>90-1000</td> </tr> </table>	<b>CAPACITIES</b>	<b>UNIT</b>	<b>VALUES</b>	Centre Height	mm	125	Admit Between Centers	mm	600	Grinding Length	mm	400	<b>LONGITUDINAL SLIDE</b>			<b>Type</b>	V & Flat, Turcite Coated Continuous Lubrication		Table Speed	m/min	0.1-5	Max. Travel	mm	400	Min. Automatic Travel (Approx.)	mm	2.5	Swivel of Table	degree	0 - 30	<b>INFEED SYSTEM</b>			<b>Slide</b>	Movement Antifriction Linear Guide Ways		Rapid Approach	mm	40	In-feed with Hand Wheel	mm	20	Min. Increment In-feed on Dia	mm	0.001	<b>WHEEL HEAD</b>			<b>Type</b>	Hydrodynamic		Grinding Wheel (OD x Width x Bore)	mm	300 x 40 (ROS) x 127	Min. Wheel with Zero Job	mm	220	Spindle Cone Size	mm	40	Spindle Speed	rpm	1910,2120,2350	Grinding Speed	m/sec	30	<b>WORK HEAD</b>			<b>Type</b>	Hydrodynamic / Dual Speed		Spindle Speed (8 Steps)	rpm	90-1000	01
<b>CAPACITIES</b>	<b>UNIT</b>	<b>VALUES</b>																																																																												
Centre Height	mm	125																																																																												
Admit Between Centers	mm	600																																																																												
Grinding Length	mm	400																																																																												
<b>LONGITUDINAL SLIDE</b>																																																																														
<b>Type</b>	V & Flat, Turcite Coated Continuous Lubrication																																																																													
Table Speed	m/min	0.1-5																																																																												
Max. Travel	mm	400																																																																												
Min. Automatic Travel (Approx.)	mm	2.5																																																																												
Swivel of Table	degree	0 - 30																																																																												
<b>INFEED SYSTEM</b>																																																																														
<b>Slide</b>	Movement Antifriction Linear Guide Ways																																																																													
Rapid Approach	mm	40																																																																												
In-feed with Hand Wheel	mm	20																																																																												
Min. Increment In-feed on Dia	mm	0.001																																																																												
<b>WHEEL HEAD</b>																																																																														
<b>Type</b>	Hydrodynamic																																																																													
Grinding Wheel (OD x Width x Bore)	mm	300 x 40 (ROS) x 127																																																																												
Min. Wheel with Zero Job	mm	220																																																																												
Spindle Cone Size	mm	40																																																																												
Spindle Speed	rpm	1910,2120,2350																																																																												
Grinding Speed	m/sec	30																																																																												
<b>WORK HEAD</b>																																																																														
<b>Type</b>	Hydrodynamic / Dual Speed																																																																													
Spindle Speed (8 Steps)	rpm	90-1000																																																																												

Spindle Nose Taper		MT-4
Swivel Range	degree	0-90
Power	kW	0.16/0.3
<b>TAIL STOCK</b>		
Quill Travel	mm	20
Taper		MT-3
<b>INTERNAL GRINDING HEAD</b>		
<b>Type Lifetime Lubricated</b>		
Spindle Housing Bore Dia	mm	60
Spindle Speed (Std.)	rpm	18000
<b>COOLANT SYSTEM</b>		
Tank capacity	ltrs.	150
Coolant Pump Delivery	lpm	40
<b>POWER PACK</b>		
Tank Capacity	ltrs.	70
Motor Power	kW	0.75
<b>Accessories</b>		
I.	Wheel Adopter with Puller	
II.	Live Spindle Draw-Bar	
III.	Micro Dressing Attachment with Diamond	
IV.	Set of Machine Mounting Leveling Pads	
V.	Balancing Mandrel	
VI.	Balancing unit with arbor for wheel dia. up to 400 mm	
VII.	Precision Carbide Tipped Centre MT-3 Full	
VIII.	Precision Carbide Tipped Centre MT-4 Full with Nut for Extraction	
IX.	Precision Carbide Tipped Centre MT-3 Half male	
X.	Precision Carbide Tipped Centre MT-3 Female	
XI.	Set of Driving Dogs	
XII.	1 Set of Service Tools	
XIII.	Poly 'V' Belts for Work Head, Wheel Head and Internal Head	
XIV.	Splash Proof , Low voltage Lighting System	
XV.	Collet Adopter for mounted wheel with special C-Spanner for 60 mm x 250 mm spindle	
XVI.	Collet attachment with collets and draw bar	
<b>GENERAL</b>		
	<ul style="list-style-type: none"> <li>• Electrical Equipments Suitable for 415V, 3 Phase, 50 Cycles AC</li> <li>• Complete Hydraulic System Including Motor, Pump &amp; Tank</li> <li>• Work Head Oil/ Wheel Head Oil/ <b>Power pack Oil (Initial Fill)</b></li> <li>• Instructions and service manual</li> <li>• Installation and commissioning to be provided</li> <li>• Warranty for one year after commissioning</li> </ul>	

		<p>to be provided</p> <ul style="list-style-type: none"> <li>Machine accuracy as per IS/ international standards.</li> </ul> <p>Test Chart to be provided</p>																																																																									
03.	<b>Horizontal Boring Machine</b>	<p><b>CAPACITY UNIT VALUES</b></p> <table> <tr> <td>Diameter of the spindle</td> <td>mm</td> <td>Up to 63</td> </tr> <tr> <td>Working Spindle movement</td> <td>mm</td> <td>555-565</td> </tr> <tr> <td>Boring Dia.</td> <td>mm</td> <td>355-365</td> </tr> <tr> <td>Facing Dia.</td> <td>Mm</td> <td>630</td> </tr> <tr> <td>Working Spindle Tape</td> <td>Morse</td> <td>5</td> </tr> <tr> <td>Distance of fixed stay bearing from facing head</td> <td>mm</td> <td>1790 - 1805</td> </tr> <tr> <td>Table Movement in spindle Direction</td> <td>mm</td> <td>1055-1065</td> </tr> <tr> <td>Table Movement crosswise to spindle direction</td> <td>mm</td> <td>795-805</td> </tr> <tr> <td>Height of spindle centre over table max.</td> <td>mm</td> <td>715</td> </tr> <tr> <td>Job weight max.</td> <td>Kg</td> <td>1510</td> </tr> </table> <p><b>ROTARY TABLE</b></p> <table> <tr> <td>T –Slots ,width/distance</td> <td>mm</td> <td>22/125</td> </tr> <tr> <td>Clamping Surface max.</td> <td>mm</td> <td>725x900</td> </tr> <tr> <td>Centering Dia.</td> <td>mm</td> <td>75H-7</td> </tr> </table> <p><b>FACING HEAD</b></p> <table> <tr> <td>Chuck Dia. Max.</td> <td>mm</td> <td>405</td> </tr> <tr> <td>T-Slot ,width/distance</td> <td>mm</td> <td>14/265</td> </tr> <tr> <td>Boring Stay Bearing</td> <td>mm</td> <td>80H-7</td> </tr> </table> <p><b>TOOL SPEED</b></p> <table> <tr> <td></td> <td>Rpm</td> <td>4-1400</td> </tr> </table> <p><b>FEED RADIAL SLIDE OF FACING HEAD</b></p> <table> <tr> <td>Range</td> <td>Per/rev</td> <td>.0046 - 9.1</td> </tr> <tr> <td>Rapid Traverse</td> <td></td> <td>To be provided</td> </tr> </table> <p><b>ACCURACIES</b></p> <p>Cordinate setting with standard scale and Vernier</p> <table> <tr> <td></td> <td>mm</td> <td>0.05</td> </tr> </table> <p>Rotary table settings</p> <table> <tr> <td></td> <td>min</td> <td>1</td> </tr> </table> <p>Positioning of rotary table</p> <table> <tr> <td></td> <td>mm</td> <td>± 0.01</td> </tr> </table> <p>Quality of Bore obtainable</p> <table> <tr> <td></td> <td></td> <td>H7</td> </tr> </table> <p><b>ELECTRIC POWER</b></p> <table> <tr> <td></td> <td>HP</td> <td>Up to 5</td> </tr> </table> <p><b>GENERAL</b></p> <ul style="list-style-type: none"> <li>Electrical Equipments Suitable for 415V, 3 Phase, 50 Cycles AC</li> <li>Safety features for safe operations</li> <li>Machine accuracy as per Dr Schlesinger's Standards.</li> <li>Instructions and service manual</li> </ul>	Diameter of the spindle	mm	Up to 63	Working Spindle movement	mm	555-565	Boring Dia.	mm	355-365	Facing Dia.	Mm	630	Working Spindle Tape	Morse	5	Distance of fixed stay bearing from facing head	mm	1790 - 1805	Table Movement in spindle Direction	mm	1055-1065	Table Movement crosswise to spindle direction	mm	795-805	Height of spindle centre over table max.	mm	715	Job weight max.	Kg	1510	T –Slots ,width/distance	mm	22/125	Clamping Surface max.	mm	725x900	Centering Dia.	mm	75H-7	Chuck Dia. Max.	mm	405	T-Slot ,width/distance	mm	14/265	Boring Stay Bearing	mm	80H-7		Rpm	4-1400	Range	Per/rev	.0046 - 9.1	Rapid Traverse		To be provided		mm	0.05		min	1		mm	± 0.01			H7		HP	Up to 5	01
Diameter of the spindle	mm	Up to 63																																																																									
Working Spindle movement	mm	555-565																																																																									
Boring Dia.	mm	355-365																																																																									
Facing Dia.	Mm	630																																																																									
Working Spindle Tape	Morse	5																																																																									
Distance of fixed stay bearing from facing head	mm	1790 - 1805																																																																									
Table Movement in spindle Direction	mm	1055-1065																																																																									
Table Movement crosswise to spindle direction	mm	795-805																																																																									
Height of spindle centre over table max.	mm	715																																																																									
Job weight max.	Kg	1510																																																																									
T –Slots ,width/distance	mm	22/125																																																																									
Clamping Surface max.	mm	725x900																																																																									
Centering Dia.	mm	75H-7																																																																									
Chuck Dia. Max.	mm	405																																																																									
T-Slot ,width/distance	mm	14/265																																																																									
Boring Stay Bearing	mm	80H-7																																																																									
	Rpm	4-1400																																																																									
Range	Per/rev	.0046 - 9.1																																																																									
Rapid Traverse		To be provided																																																																									
	mm	0.05																																																																									
	min	1																																																																									
	mm	± 0.01																																																																									
		H7																																																																									
	HP	Up to 5																																																																									

		<ul style="list-style-type: none"><li>• Installation and commissioning to be provided</li><li>• Warranty for one year after commissioning to be provided</li><li>• Test Chart to be provided</li><li>• Standard tooling for All general operations boring     ,facing ,chamfering ,grooving to be provided</li><li>• Provision for providing &amp; installation of DRO Facility of accuracy 005 <math>\mu\text{m}</math>, to be quoted separately.</li></ul>	
--	--	------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--