

**ANNEXURE A TO
TENDER NO. 23.27.0000.167.441.4112316.20.21
DATED 25 APRIL 2021**

DETAILS OF THE MACHINE

SI. No	Specification	A/U	Qty
(a)	(b)	(c)	(d)
	CNC Internal Grinding Machine with all standard and additional accessories as per specification below:	No	01
1.	<u>Specification :</u>		
a.	Hole diameter of grinding	:	Min not more than $\Phi 6$ mm – Max not less than $\Phi 60$ mm
b.	Internal grinding length	:	Min 100 mm
c.	Rotational speed of Internal grinding wheel	:	Min 10,000 rpm
d.	<u>Work piece diameter :</u>		
	(1) Minimum	:	To be mentioned
	(2) Maximum	:	To be mentioned
e.	<u>Z- axis travel :</u>		
	(1) Longitudinal Travel	:	Min 200 mm
	(2) Resolution	:	Min 0.001mm
	(3) Speed	:	Min 0.001 mm/min – Max not less than 5,000 mm/min
f.	<u>X- axis travel :</u>		
	(1) Transverse Travel	:	Min 100 mm
	(2) Resolution	:	Min 0.001mm
	(3) Speed	:	To be mentioned
g.	External grinding length (Optional)	:	To be mentioned
h.	Size of External grinding wheel (Optional)	:	To be mentioned
j.	Rotation speed of External grinding wheel (Optional)	:	To be mentioned
k.	<u>Work Head-C axis :</u>		
	(1) Work head spindle speed	:	Min 550 rpm
	(2) Min Rotational angle	:	15° or more
	(3) Resolution	:	To be mentioned
l.	<u>Wheel Head-B axis (Optional) :</u>		
	(1) Swivel range	:	To be mentioned
	(2) Resolution	:	To be mentioned
m.	Control system	:	FANUC/SIEMENS/Equivalent (with min 10" display)
n.	Software	:	Compatible CAD-CAM software to be supplied along with the machine for smooth operation
p.	Power supply	:	380~400v, 3 phase, 50Hz
q.	<u>Spare Grinding wheel and accessories to be supplied:</u>		
	(1) Internal grinding wheel (CBN)	:	Dia 3, 4, 5, 6, 8, 10, 12, 14, 16, 18, 20mm, Qty : 10Nos each
	(2) Internal grinding wheel (Diamond)	:	Dia 3, 4, 5, 6, 8, 10mm Qty : 10Nos each
	(3) External grinding wheel (CBN)-Optional	:	Qty : 05 Nos.

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Sl. No (a)	Specification (b)	A/U (c)	Qty (d)														
	(4) External grinding wheel (Diamond)- Optional	:	Qty : 05 Nos.														
	(5) Internal grinding wheel arbor	:	Qty : 04 Nos. (for each wheel size)														
	(6) External grinding wheel flange (Optional)	:	Qty : 01 No.														
	(7) Laptop (Core i7 processor, 32 GB RAM, 4 GB Graphic Card, Keyboard Layout US- EN)	:	Qty : 01 No.														
r.	Machine weight	:	Min 2500 kg														
2.	<p>Condition :</p> <p>a. All standard attachment and accessories like Wheel dressing unit, Tailstock (if required), must be supplied with the machine to grind different types of carbide and steel die, punch, sleeve etc.</p> <p>b. 01 Set of required attachment and accessories like 3 Jaw chuck, Jaw (02 sets), Wheel dresser (50 Nos), Tool box etc. must be supplied with the machine to perform the job as per sample drawing attached.</p> <p>c. Any additional accessories, attachments, tools & fixture required to perform the above mentioned job to be supplied along with the machine and mentioned with price in the financial offer.</p> <p>d. List of spare parts required for five (05) years operation must be supplied with price in the financial offer.</p> <p>e. All optional items with price must be mentioned in the financial offer which will be certified by the manufacturer of the machine (not by the local agent).</p> <p>f. Foreign Training : Machine operation with maintenance training for 02 BOF persons for 05 working days (excluding journey period) to be provided at machine manufacturer site. Air ticket, pocket money, food, accommodation & medical (if needed) costs will be provided by BOF. Supplier must submit foreign training plan along with the offer.</p> <p>g. Pre-shipment Inspection (PSI) :</p> <p>(i) PSI of the machine will be carried out by 02 BOF persons for 03 working days (excluding journey period). All cost of the PSI to be borne by BOF.</p> <p>(ii) Supplier must submit details plan of PSI (Modus Operandi).</p> <p>(iii) Supplier must also mention PSI cost to be borne by them at their end.</p> <p>h. Machine installation, commissioning & trial run must be done by the supplier within 30 days from the date of arrival of the machines at BOF. Operation, Repair & Maintenance training (Local Training) of BOF personnel for at least 12 (Twelve) working days. Following information must be given as under :</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center;">Ser</th> <th style="text-align: center;">Training</th> <th style="text-align: center;">Details</th> <th style="text-align: center;">Supplier's Opinion</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">(1)</td> <td rowspan="3" style="vertical-align: top;">Local Training after machine installation</td> <td>Trainer Type (Local/Foreign)</td> <td></td> </tr> <tr> <td></td> <td>Number of Trainer</td> <td></td> </tr> <tr> <td></td> <td> <p>Training :</p> <p>a. Machine Operators Training : 07 Working Days</p> <p>b. Machine maintenance, trouble shooting and repair training : 05 working days</p> <p>Topics :</p> <p>(i) Details operation of electrical, electronics, pneumatic system, hydraulic system and mechanical system with diagrams in details.</p> <p>(ii) Control system : program loading and unloading, debugging, editing and servo drive and servo motors interconnection and parameter setting in details.</p> </td> <td></td> </tr> </tbody> </table>			Ser	Training	Details	Supplier's Opinion	(1)	Local Training after machine installation	Trainer Type (Local/Foreign)			Number of Trainer			<p>Training :</p> <p>a. Machine Operators Training : 07 Working Days</p> <p>b. Machine maintenance, trouble shooting and repair training : 05 working days</p> <p>Topics :</p> <p>(i) Details operation of electrical, electronics, pneumatic system, hydraulic system and mechanical system with diagrams in details.</p> <p>(ii) Control system : program loading and unloading, debugging, editing and servo drive and servo motors interconnection and parameter setting in details.</p>	
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	(iii) Trouble shooting : Artificial problems to be created by removing sensors and changing the parameters of servo drive and servo motors then faults diagnosis and repair procedures. (iv) Safety procedures.		
	(2) Supplier must submit local training plan along with the offer.		
	k. 2 x User/ programming manual in English (Hard & Soft copy) must be supplied with the machine.		
	l. 2 x Operation, 2 x Maintenance and Repair manual (Hard & Soft copy) with parts catalogue and circuit diagram of electrical devices in English to be supplied with the machine. These books must contain the following topics/items : (1) Operation Manual : Hydraulic, Pneumatic, Electrical, Electronic and Mechanical operational circuit and component diagrams with their detail working principles & description. Simulation/Animation of major items working/operation to be included in the soft copy. (2) Maintenance and Repair Manual : Detail troubleshooting & repair procedure as well as maintenance and safety system.		
	m. All necessary Software to handle & maintain the machine must be supplied along with the machine.		
	n. Warranty for 01 (one) year after acceptance should be provided by the manufacturer.		
	p. Bidder should submit original Leaflet/ Brochure along with the offer.		
	q. The service support with spares for minimum 10 years to be provided by the manufacturer.		
	r. Standard Lubricating & Lighting system should be provided with the machine.		
	s. Any other points related to do the required job should be mentioned in the offer.		
3.	Brand of the Machine	PALMARY/ TOP KING TECHNOLOGIES/ JAINNHER/ e-tech/ Az Spa/ Robbi Group SRL/ JONES & SHIPMAN	
4.	Country of Origin	Taiwan / Italy / UK	
5.	Country of Manufacture & Assembly	Taiwan / Italy / UK	
6.	Country of Shipment	Taiwan / Italy / UK	

Terms & Conditions

Supplier must mention their compliance on the following mentioned points :

1. A principal/manufacture can submit **only one offer through one local agent** for any individual item. Offers through multiple local agents by same principle/manufacture will be **treated as rejected**.
2. To ensure unhindered LC handling the principal must provide a certificate to confirm that their LC operating bank has RMA (Relationship Management Agreement) with the local Banks of Bangladesh.
3. Supplier must **clearly mention** (in the technical offer) that as principal/manufacture they poses necessary **export permit** from the concern ministry or any other authority of their country. They must also submit a certificate in this regards as per the attached specimen format at Annex F.
4. Before signing the contract, Performance Guarantee @ 10% of total LC value is to be submitted by the Principal in favour of Commandant, Bangladesh Ordnance Factories, Gazipur Cantonment, Gazipur through any scheduled Bank located in Bangladesh (As per the format at Annex D).
5. A separate **certificate should be provided** by the principal **originally signed** (Computerized or digitally edited signature will not be accepted) stating that they are aware of the requirement of the PG and if the contract is awarded they will be bound to provide the PG as per the format at Annex E.
6. The stores should be supplied to BOF at **supplier's cost**.
7. On arrival of the stores at BOF, the supplier must complete installation, commissioning, trial run & trial production within 01(one) month (from the date of entry at BOF). Otherwise, penalty will be imposed at the rate of 2% but not less than 1% and will not exceed 10% of the total CFR/LC vale (As applicable).

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8. If the supplier fails to deliver the stores within the stipulated period, the followings will be applicable:
 - a. Cancel the contract and/or
 - b. Decision at the discretion of BOF.
9. Inspectorate is the authority in all matters pertaining to Inspection. Any verdict by the inspectors regarding rejection, acceptance, and/or deviation of machine involving price reduction will be treated as final and will not be subject to arbitration.
10. The Supplier must submit the following **attested documents** with the schedule :
 - a. **Trade License**
 - b. **Tin Certificate**
 - c. **Up to date VAT Registration certificate.**