Invitation to Tender

Finishing Machine
Ref: GG

1. About LaserMaster

From its creation in 2002, LaserMaster, located in the heart of Cornwall, has been at the forefront of competitive technology and machinery. This has allowed us to grow substantially within a short period of time. Our equipment list and production capabilities have grown significantly, including our latest acquisition of a local engineering company, that has not only brought over their engineering equipment, but also their excellent team with a combined 150 years of experience.

2. Background and Context

In order to continue to offer new services to the market, we wish to invest in a finishing machine.

The purchase of this system is part of a grant funded application process and therefore procurement will be subject to grant approval of the project. We will assess tenders received on lowest compliant Tender.

3. Tender requirements

3.1 The finishing machine we are seeking must be able to process the following LaserMaster minimum requirements:

Description material	Steel Stainless steel Aluminium Foiled parts Zincor parts Protrusion		
Material Processing	Laser cutting Water jet cutting Punching		
Application	Deburring Edge rounding Finishing		
Minimum product dimensions (mm)	**Length**	**Width**	**Thickness**
Min*	50mm	50mm	1mm
Max	∞	1350mm	100mm
	This is for plate without holes but LaserMaster would wish in time to process smaller parts to Ø 30 x 2 mm.		

3.2 LaserMaster would expect the machine to meet or exceed the following general specifications:

a. One rotary brush head processes the entire working width, with a total of eight brushes.
b. An even wear of the abrasive flap brushes, regardless of where the machine operator places the parts.
c. Quick release to change brushes and grinding belts in seconds to retool the machine
d. Standard vacuum table with automatic vacuum control to hold small parts (up to 50 x 50 mm) and aluminium parts during processing.
e. Automatic cleaning cycle on the vacuum table at every machine stop and maximum after 4 hours production.

3.3 Machine Configuration is expected to meet or exceed the following:

3.3.1 Wide abrasive belt contact roller head for deburring and finishing (x2)

a. Contact roller: made of special "High Flexible" vulcanised oil and heat resistant rubber with special profiled grooves for pre-grinding, removing the upstanding burr and finishing.
b. Fine adjustment in height of head with a precision of a minimum of 0,01 mm to change pressure or for abrasive belt thickness. The displacement to be read out on the dial indicator.
c. Frequency-controlled motor to determine the speed of the grinding belt.
d. Outboard support: quick release mechanism that locks and unlocks for quick change of abrasive belts and provides rigid support of the contact roller head.
e. Abrasive belt tension: air operated. Air tensioning automatically compensates for belt stretch. Machine cannot be started unless belt is tensioned.
f. Abrasive belt tracking: an electronic system automatically keeps the fastrevolving abrasive belt on the head.
g. Jog function transport: for adjusting the grinding belt pressure.
h. Jog function grinding belt: for checking the grinding belt tracking.
i. Belt trim lever: for correcting mis tracking of abrasive belt.
j. Brake: to stop grinding head when limit switch is tripped, or emergency stop is activated.
k. Pneumatic rise and fall of the grinding head: the grinding head will lower after it has reached his full speed and will rise when if an emergency stop when put on automatic mode. The grinding head can be put in the up position when not required
l. Diameter contact roller to be between 150 and 200 Mm
m. Hardness rubber minimum 50 Shore
n. Abrasive belt operate between 5 - 15 m/sec
o. Abrasive belt dimensions (LxW) 1,900 x 1,380 Mm
p. Main motor minimum of 10 kW
q. Total power of the head to machine the main motor 11kW

3.3.2 Multi Rotary Brush Head For deburring, edge rounding and non-directional finishing.

a. A multi-directional rotary brush head with a minimum of eight brushes, four brushes rotate clockwise, and four brushes rotate counterclockwise.
b. Frequency controlled variable main motor to control the speed of the brushes, with digital read-out.
c. Motorised height adjustment to adjust the height of the brush carousel and compensate for brush wear. The height of this carousel is readable on an HMI screen and can be calibrated to 0.
d. Quick release mechanism for easy change of the brushes.
e. Brush dimensions (L x W) 530 X 350 Mm
f. Brush speed frequency controlled at least 10-15 m/sec
g. Motor brush head total minimum 5 kW
h. Main motor carousel minimum of 1 kW
i. Motor height adjustment brush head 0.5 kW
j. Total power head a minimumof 5 kW

3.4 Main Requirements

3.4.1 Operational

a. A user friendly control touch panel.
b. Service screen with alarm list.
c. Hour meter to record time of operation and for maintenance purposes.
d. Digital display for main parameters.
e. Press buttons to start/stop the heads with light indicator.
f. Go-To positioning material thickness.
g. Single joystick operation to start and stop the conveyor belt.
h. Load meters to indicate the percentage of motor load.
i. LED lighting infeed and outfeed side with machine status.
j. Operation on the left side of machine.

3.4.2 Conveyor table

a. A robust box construction of tempered steel.
b. Vacuum table, with high friction vacuum conveyor belt, optimised for processing small parts of approx. 50 x 50 x 1 mm
c. Frequency controlled vacuum pump for constant vacuum level no matter if the table is full with products or empty.
d. Frequency controlled feed speed.
e. Motorised table height adjustment for product thickness settings.
f. Automatic cleaning cycle of the inner vacuum table via timer and at each machine stop.
g. Conveyor belt running direction is from right to left seen from the belt changing side.

3.4.3 Different thicknesses in one pass

3.4.4 Pressure rollers for accurate guiding of parts

a. Pressure rollers to ensure safe product infeed and operational safety. The rollers are to be covered to prevent scratching etc.
b. Over-thickness protection with safety switch on the infeed roller to prevent oversized parts entering the machine.

3.4.5 CE and safety

a. Protective guards at all pinch points.
b. Finger protection, if the hinged guard is triggered, the conveyor belt will stop.
c. Door safety switch, if a door is opened during operation, the machine will stop.
d. Emergency push buttons at infeed and outfeed side of the machine.
e. Machine to be CE approved.

3.4.6 Return Table

a. 180° right curve directly out of machine and straight table length back to the frontside of the machine.
b. Max load per m2; (up to 100 kg).
c. Standard machine opening 0-20 mm.
d. Machine with constant pass 0 - 100 mm.
e. Straight table with bend; 180° to front of machine (inc. front table).
f. Belt speed: 0.5-8 m p/min (incl. drive motor).
g. Belt height: 840-940 mm (constant pass to 1040 mm).

3.5 Other Technical Specification Requirements.

The tenderer is expected to meet or exceed the following:

a.	Max. working width no more than	1400mm
b.	Machine opening minimum range	0.8-100mm
c.	Feed speed frequency controlled, variable speed	0.2-8m/min
d.	Electrical connection	400V
e.	Main frequency	50Hz
f.	Control voltage	24V
g.	Total power	48kW
h.	Air pressure required	6bar
i.	Total air consumption	45l/min
j.	Extraction capacity required at 100 mm WC	7,000 m^3/h

3.6 Spares

a. 3M starter set abrasive belts x10
b. **Aluminium Oxide brush, #180 - 3&5 mm** (Medium edge rounding and surface finishing of steel, aluminium, and stainless steel)

3.7 Delivery, installation and operator training at LaserMaster Ltd, United Downs Industrial Park, St Day, Redruth, Cornwall TR16 5HY

3.8 Warranty and servicing. Minimum of 12 month warranty after start-up or 2000hrs whichever occurs first. UK based service engineers.

4. Budget

The total maximum budget available for this commission is **£170,000** (exc VAT) but inclusive of all expenses.

Tenders that exceed the total budget will not be considered.

The budget will be reviewed as part of the tender evaluation detailed in Section 10 and will reflect the degree to which there is a saving on the maximum budget

5. Tender and Commission Timetable

The timetable for submission of the Tender, completion of the programme are set out below.

Milestone	**Date**
Date ITT available on Contracts Finder	19th February 2024
Last date for raising queries	27th February 2024
Last date for clarifications to queries	29th February 2024
Deadline to return ITT	1700: 4th March 2024 days
Evaluation of ITT	From 5th March
Award of Contract	This is subject to successfully obtaining grant funding and will normally be no later than 90 days from contract evaluation

6. Tender Submission Requirements

Please include the following information in your Tender submission.

6.1 Your proposal and any necessary technical or specification sheets.
6.2 Complete the compliancy matrix enclosure 1.
6.3 Budget.
6.4 Details of lead in time.
6.5 Details of payment breakdown.
6.6 Single point of contact.

7. Sub-contracting

Tenderers should note that a consortia can submit a tender but the sub-contracting of aspects of this commission after appointment will only be allowed by prior agreement with LaserMaster.

8. Conflicts of Interest

Tenderers must provide a clear statement with regard to potential conflicts of interests. Therefore, **please confirm within your tender submission** whether, to the best of your knowledge, there is any conflict of interest between your organisation and LaserMaster or its programme team that is likely to influence the outcome of this procurement either directly or indirectly through financial, economic or other personal interest which might be perceived to compromise the impartiality and independence of any party in the context of this procurement procedure.

Receipt of this statement will permit LaserMaster to ensure that, in the event of a conflict of interest being notified or noticed, appropriate steps are taken to ensure that the evaluation of any submission will be undertaken by an independent and impartial panel.

9. Tender clarifications

Any clarification queries arising from this Invitation to Tender which may have a bearing on the offer should be raised by email to: jackie@jackiegeorge.co.uk in accordance with the Tender and Commission Timetable in section 5.

Responses to clarifications will be anonymised and uploaded by LaserMaster to Contracts Finder and will be viewable to all tenderers.

No representation by way of explanation or otherwise to persons or corporations tendering or desirous of tendering as to the meaning of the tender, contract or other tender documents or as to any other matter or thing to be done under the proposed contract shall bind LaserMaster unless such representation is in writing and duly signed by a Director/Partner of the tenderer. All such

correspondence shall be returned with the Tender Documents and shall form part of the contract.

10. Tender evaluation methodology

Each Tender will be checked for completeness and compliance with all requirements of the ITT. The award of the contract will be to the LOWEST COMPLIANT BID.

13. Tender Award

Any contract awarded as a result of this tender process will be in accordance with this ITT and the tenderer's response.

14. Tender returns

Tenders are to be returned by email.

Tenders are to be returned in accordance with Section 5
Latest date to be returned: As per Section 5
Latest time to be returned: 17:00

Emailed tenders should be sent electronically to jackie@jackiegeorge.co.uk with the following message clearly noted in the Subject box; 'Finishing Machine: Ref: GG'

Tenderers are advised to request an acknowledgement of receipt of their email.

15. Disclaimer

The issue of this documentation does not commit LaserMaster to award any contract pursuant to the tender process or enter into a contractual relationship with any provider of the service. Nothing in the documentation or in any other communications made between LaserMaster or its agents and any other party, or any part thereof, shall be taken as constituting a contract, agreement or representation between LaserMaster and any other party (save for a formal award of contract made in writing by LaserMaster or on behalf of LaserMaster).

Tenderers must obtain for themselves, at their own responsibility and expense, all information necessary for the preparation of their tender responses. Information supplied to the tenderers by LaserMaster or any information contained in LaserMaster's publications is supplied only for general guidance in the preparation of the tender response. Tenderers must satisfy themselves by their own investigations as to the accuracy of any such information and no responsibility is accepted by LaserMaster for any loss or damage of whatever kind and howsoever caused arising from the use by tenderers of such information.

LaserMaster reserves the right to vary or change all or any part of the basis of the procedures for the procurement process at any time or not to proceed with the proposed procurement at all.

Cancellation of the procurement process (at any time) under any circumstances will not render LaserMaster liable for any costs or expenses incurred by tenderers during the procurement process.

16. Enclosures

Compliancy Matrix