

**REGISTERED/IMMEDIATE**

Heavy Industries Taxila  
Marketing and Procurement  
Directorate (CP Branch)  
Taxila Cantt, Pakistan  
Telephone: (051) 9315029  
Fax No. (051) 9315029  
5001/IT-3007/18-19/DESCOM/FOB/CP-/Proc  
19 April 2019

To: M/s \_\_\_\_\_  
(All Concerned)

Subject: **REQUEST FOR PROPOSAL (FOB) - Tender Inquiry no. 5001/IT-3007/18-19 /DESCOM/FOB/CP-1/Proc dated 19 April 2019**

Dear Sir,

1. Heavy Industries Taxila invites Proposals from reputable and renowned firms/companies having sound financial background and relevant experience for procurement of CNC Piston Ring Grinding Machine on FOB Basis.
2. Request for Proposal document is attached at **Annex 'A'**.
3. The proposal complete in all respects in sealed envelopes should reach following address and be clearly marked Procurement of CNC Piston Ring Grinding Machine. "Pre-qualified / shortlisted companies will be asked to provide technical specifications and commercial quotation on which the firms will furnish their proposed solution and financial offers".

**REGISTERED**

**REQUEST FOR PROPOSAL**

REQUEST FOR PROPOSAL INQUIRY NO: **5001/IT-3007/18-19/DESCOM/FOB/CP-1/ Proc dated 19 Apr 2019**

TO BE OPENED ON: **23 May 2019 at 1100 hours**

TO: ASSISTANT DIRECTOR (PROCUREMENT)

FROM: M/s \_\_\_\_\_

4. The proposal shall be opened for acceptance till **1030 hrs on 23 May 2019.**

Yours sincerely,

Lieutenant Colonel  
Assistant Director Procurement  
(Riaz Fida)



# Heavy Industries Taxila

Request for Proposal (RFP)

For

CNC PISTON RING GRINDING MACHINE (Shop-2 DESCOM)

Ver 1.0 Dated: \_\_\_\_\_ Apr 2019

**Table of Contents**

Abbreviation	.....	3
Introduction and General Information	.....	4
Purpose	.....	4
Coverage & Participation	.....	4
Vendor Understanding of the RFP.	.....	4
Good faith Statement	.....	4
Errors and omissions in the RFP and Enhancements	.....	4
Addenda	.....	5
Definitions	.....	5
Existing Infrastructure.	.....	6
Civil Structure.	.....	6
Scope of Work	.....	6
Country of Origin	.....	6
Major Specification of the Machine.	.....	6
Performance Requirements	.....	6
Diagnostic Function.	.....	7
CNC Programming Features.	.....	7
Power Supply Rating.	.....	7
Other Features.	.....	7
Installation / Commissioning	.....	8
Machine Safety.	.....	8
Operating Temperature.	.....	8
Maintenance Schedule / Plans requirement.	.....	8
Machine Environment.	.....	8
High Reliability with Low Operating cost	.....	8
Easy in Operation	.....	8
Documentation and Laptop with Soft ware	.....	8
Pre Shipment Inspection	.....	8
Training	.....	8
Logistic Backup Support	.....	9
Machine Foot Print	.....	9
Machine Weight	.....	9
Warranty / Guarantee	.....	9
Notes	.....	9

**Abbreviations/Acronyms**

**Organization/Industry**

<b>S.No.</b>	<b>Abbreviation</b>	<b>Description</b>
1.	CNC	Computerized Numerical Control
2.	EOI	Expression of Interest
3.	HIT	Heavy Industries Taxila
4.	HITB	Heavy Industries Taxila Board
5.	DESCOM	Development Engineering Support and Components Manufacturing
6.	OEM	Original Equipment Manufacturer

## HEAVY INDUSTRIES TAXILA

### REQUEST FOR PROPOSAL (RFP)

#### PROCUREMENT OF CNC PISTON RING GRINDING MACHINE for SHOP - 2 DESCOM

1. **Purpose:**

The purpose of this Request for Proposal (RFP) is to invite vendors to submit a proposal to HIT for a CNC Piston Ring Grinding Machine in HIT as detailed in this document. The RFP provides vendors with the relevant operational, performance, application, and architectural requirements of the system.

2. **Coverage & Participation:**

The intended coverage of this RFP, and any agreement resulting from this solicitation, shall be for the use of HIT along with national needs. HIT reserves the right to add / delete elements, or to change any element of the coverage and participation at any time without prior notification and without any liability or obligation of any kind or amount.

3. **Vendor Understanding of the RFP:**

In responding to this RFP, the vendor accepts the responsibility fully to understand the RFP in its entirety, and in detail, including making any inquiries to HIT as necessary to gain such understanding. HIT reserves the right to disqualify any vendor who demonstrates less than such understanding. Further, HIT reserves the right to determine, at its sole discretion, whether the vendor has demonstrated such understanding. That right extends to cancellation of award if award has been made. Such disqualification and/or cancellation shall be at no fault, cost, or liability whatsoever to HIT.

4. **Good Faith Statement:**

All information provided by HIT in this RFP is offered in good faith. Individual items are subject to change at any time. HIT makes no certification that any item is without error. HIT is not responsible or liable for any use of the information or for any claims asserted there from.

5. **Errors and omissions in this RFP and enhancements:**

- a. Vendors shall bring to the notice of HIT any discrepancies, errors, or omissions that may exist within this RFP. With respect to this RFP, vendors shall recommend to HIT any enhancements, which might be in HIT's best interest. These must be submitted in writing or through email and must be received prior to technical proposals submission.
- b. Inquiries about technical interpretations must be submitted in writing and be received prior to technical proposals submission. Any query received after the said date may not be entertained.
- c. Inquiries for clarifications/information that will not require addenda may be discussed verbally at any time during this process.
- d. The clarification and its replies will be shared with all prospective bidders.

- e. The authorized representatives for all correspondence queries/clarifications in relation to this RFP are:

**Primary Contact**

**Name:** Lt Col. Riaz Fida  
**Designation:** Assistant Director (Proc)  
**Postal Address:** M&P Directorate, HIT Taxila Cantt  
**Phone (Office):** 051-9315029  
**Email:**

**Name:** WM Imtiaz Ali  
**Designation:** Deputy General Manager Manufacturing  
**Postal Address:** Mfg Gp, Prod Br, DESCOM, HIT Taxila  
**Phone (Office):** 051-9315432

**Secondary Contact**

**Name:** Col. Syed Muhammad Toufique Zia Jafri  
**Designation:** General Manager Production  
**Postal Address:** Production Br (DESCOM) HIT Taxila Cantt.  
**Phone (Office):** 051-9315047

6. **Addenda:**

HIT will make a good-faith effort to provide a written response to each question or request for clarification that requires addenda.

7. **Definitions**

Some important definitions used in this document are listed below:

- a. **Purchaser:** means the Heavy Industries Taxila (HIT) or any other person for the time being or from time to time duly appointed in writing by the Purchaser to act as Purchaser for the purposes of the Contract.
- b. **Vendor/Firm/Company:** These terms are used interchangeably for the firms who have participated in EOI activity.
- c. **Bidder / Tendered:** means the interested Firm / Company / Supplier / Distributors that may provide or provides the subject related services to any of the public/private sector organization under the contract and have registered for the relevant business thereof.
- d. **Authorized Representative:** means any representative appointed, from time to time, by the Purchaser or the Bidder/Contractor.
- e. **Contractor:** means the Tendered whose bid has been accepted and awarded Letter of Acceptance for a specific item followed by the signing of Contract.
- f. **Contract:** means the agreement entered into between the Purchaser and the Contractor, as recorded in the Contract Form signed by the parties, including all Schedules and Attachments thereto and all documents incorporated by reference therein.

- g. **Force majeure:** shall mean any event, act or other circumstances not being an event, act or circumstances under the control of the purchaser or of the Contractor. **Non-availability of materials / supplies or of import license or of export permit shall not constitute Force majeure.**
8. **Existing Infrastructure.**  
The vendor will survey / study the existing range and will consider all essential parameters prior to submitting the proposal for the subject purpose.
9. **Civil Structure:**  
The vendor is required to survey the designated place for the installation of CNC Piston Ring Grinding Machine. The vendor needs to check the building's conformity for the subject purpose and also to advise necessary changes if any
10. **Scope of Work.**  
CNC Piston Ring Grinding Machine provides greater machining productivity as compared to performing the same job in different series of conventional machine's set-ups. This will therefore not only enable DESCOM (F) to meet the production tgts of Piston Rings comfortably but will also enhance the production capacity of the factory. Existing Conventional Piston Ring Grinding Machine in Shop-2 (D) is being utilized for grinding of Piston Rings. Still there is a req to replace / shift further ops from conventional machine to CNC Machine in order to achieve the desired tgt with negligible rejection and optimum precision. Furthermore, no alternative Conventional Piston Ring Grinding Machine / CNC Piston Ring Grinding Machine is available in DESCOM (F). In case of any mal-function of existing Conventional Piston Ring Grinding Machine (Installed in 1979), achieving target for Grinding of Piston Rings 1500 ~ 1800 per year will be adversely affected. The quality parameters specified in RFP must be strictly adhered. The facility must qualify relevant international standards including health, safety, environmental and European Conformity (EC) requirements. Reputed national / international firms having expertise in this field are only admissible to participate in the RFP.
11. **Country of origin.**  
Italy, USA , UK, Germany/Equivalent
12. **Major Specifications of the Machine.**
- a. Electromagnetic Table :-
- |                                     |                                 |
|-------------------------------------|---------------------------------|
| (1) Max dia of Work piece           | 200mm                           |
| (2) Max Height of Work piece        | 100mm                           |
| (3) Table Speed of existing machine | is 225 rpm                      |
| (4) Table Tilt angel                | } +8°<br>-3° At Horizontal Axis |
- b. Drgs of 3x types of Rings to be ground are attached.
- c. Grinding Wheel Size:-
- |     |  |
|-----|--|
| (1) | Ø300x75x25mm (used on existing machine).       |
| (2) | Max Speed of Grinding Wheel ≥2800 rpm          |
| (3) | Reciprocating movement 200mm                   |
| (4) | Wheel Spindle Motor = 3 phase 380V 50Hz ≥ 10KW |
13. **Performance Requirements.**  
(1) With automatic ring feed system, M/C should be capable to Grind Taper /

Trapezoidal Compression Ring.

- (2) Accuracy of Machine = 0.001mm
- (3) Surface finishes up to Delta 10 achieving and checking system/device.
- (4) Radius up to 0.2-0.4mm achieving and measuring system/device.
- (5) Thickness measuring at midpoint of (Trapezoidal Compression Ring) system/device.

14. **Diagnostic Function.**

Diagnostic functions for following should be included in controller to warn the operator for any deficiency:-

- a. Low hydraulic oil level
- b. High hydraulic oil temperature
- c. Any other warning considered necessary

15. **CNC Programming Features.**

- a. Support of standard formats of file transfer such as DXF, DWG, IGES, IGS, ASM, PRT, NEU, XPR, XAS, STP,STEP, STE, SLDPRT, SLDASM, SLDRW and should be able to support codes generated in Pro-E / CREO (G-Codes and M-Codes).
- b. Precise time estimation for accurate job costing and reporting preferred
- c. Automatic speed reduction in software at sharp corners and curves to have better edge finish.
- d. Nesting module both automatic and manual in software.
- e. Automatic management information system report generation system to be provided.

16. **Power Supply Rating.** 3-Phase, 380 V AC, 50 Hz

17. **Other Features.**

a. **Job Locating and Alignment.**

Hi Tech facility for reference point determination / alignment shall be provided with the machine.

b. **Accessories.**

- (1) Booster pump as per requirement if any.
- (2) Tool box with standard tools required for the maintenance of the CNC Piston Ring Grinding Machine.
- (3) Firm to provide details of accessories required for the CNC Piston Ring Grinding Machine to be supplied by the firm.

c. **Consumable / Replacement Parts.**

Provide all types of consumables parts for 5 years or 5000 hours of operation with the machine.

d. **Machinery Spares.**

All essential / critical spares required to be supplied with the machine for smooth operation for 5 years or 5000 hours. Details of all such parts to be attached with the offer.

e. **User Controls.**

PC based control software. Controller details be provided.

f. **User Interface.**

Easily understandable working environment.

g. **Controller.**

- (1) The controller must be able to accept Pro-E / CREO generated manufacturing codes. Must be able to import files from Auto CAD, Master CAM. Adobe illustrator and other popular CAD/CAM drawing packages.



- (2) In case of any disturbance / emergency stop, the controller should be able to recover.
- h. **Post Processor.**  
Post processor to be included for Pro-E / CREO, Master cam as parts of software provided.
- j. **Operating Cost.**  
Provide the information that KW hour consumption of electricity with low to full load operating per hour. Machine with less operating cost will be preferred.
- k. **Protection**  
(1) Protection from dust, dirt and grit for drive line and bearing should be provided.  
(2) All the electricity system should be protected with suitable protection devices.
- l. **Life of replacement parts / assys.**  
Provide life of all the parts, assys and consumables to be replaced in terms of machine running hours.
- m. **Software.**  
On board CAD / CAM software / package with detail to be provided. Must accept Pro-E / CREO generated G and M Codes / manufacturing programs and perform manufacturing operations accordingly.
- n. **Turn Key Solution.**  
Machine to be installed as Turn Key Solution at purchaser site.
18. **Installation / Commissioning.**  
a. Preparation of room for installation with commissioning is the responsibility of supplier i.e. civil works including air conditioning, aluminum doors and windows, false ceiling, vinyl flooring, blinds, 2 x computer chairs and 1 x computer tables.  
b. All the auxiliary material / equipments like wiring, fuses, distribution boxes, oils, lubricants, compressor for required air pressure and compressed air dryer for installation / commissioning will be provided by the supplier free of cost.  
c. 100 % installation / commissioning of machine will be undertaken by the supplier at purchaser premises
19. **Machine Safety.**  
All safeties (included as integral part of the machine) to be clearly specified.
20. **Operating Temperature.**  
Must be able to operate in temperature range of 20 ~ 45 °C.
21. **Maintenance / Calibration Schedule / Plans Requirement.**  
Complete details of maintenance / calibration schedule along with maintenance requirements to be specified.
22. **Machine Environment.**  
Specify whether machine will be closed or in open environment.
23. **High Reliability with low operating cost.**  
Machine should be highly reliable, preferably maintenance free with low operating cost.
24. **Easy in Operation.**  
Easy to learn type of system / operation of the machine. Installation, maintenance and programming should be user friendly and machine parts must be easily available in

market.

25. **Documentation and Laptop with software.**

Firm to provide state of the art laptop with complete software, operator repair manuals and part catalogue duly installed / copied in the laptop system. Extra registered DVD's of all opr programme softwares as a backup should be provided.

26. **Pre Shipment inspection.**

100 % inspection including testing of the machine will be undertaken by the purchaser's tech rep at OEM premises by a three members of tech official team including officers for one week excluding journey time. Complete expenses in FE and LC on account of inland transportation, boarding, loading, messing, return air tickets, and medical facilities, TA/DA of the team and miscellaneous expenditures of the team will be borne by the supplier.

27. **Training.**

Four weeks training will be imparted to three officials including officers of tech team of DESCOM at OEM site.

28. **Logistic Backup Support.**

OEM to support the machine with backup spare parts for continuous operation for at least 20 years.

29. **Machine Foot Print.**

Provide detail dimensions of the machine along with machine foot print.

30. **Machine Weight.**

Specify the overall machine weight.

31. **Warranty / Guarantee.**

Warranty and Guarantee must include all components installed as replaceable under normal operating conditions. The entire machine should have one year warranty including, electronics, hardware, software parts etc.

32. **Notes.**

- a. Specifications are enlisted with available information. Firm may not restrict themselves on these only and may offer machine with even better specs / parameters.
- b. Machine with best suitable options will be selected.
- c. Supplier will be responsible for complete installation / commissioning / civil work of the machine.
- d. Supplier to include any part that is considered essential for the installation / commissioning of the machine and not covered in the above mentioned request.
- e. After installation / commissioning, supplier team will be responsible for complete satisfaction of the purchaser regarding functioning / performance of the machine.