



**Government of Pakistan
PAKISTAN ORDNANCE FACTORIES
TENDER ENQUIRY**

To

M/s _____

Dear Sirs,

Reference : TENDER ENQUIRY NO. 0001/FP/54/Capital Pur-MGFy DATED 08-Feb-25

You are requested to submit quotations for the items noted in the schedule to the tender. Offers should be sent duly sealed in an envelope. Please note the following instructions for filling the tender:-

1. SUBMISSION OF TENDER

- 1.1 Tenders will be opened at 1030 hrs on **19-March-25** at Bidding Centre adjacent to Rabita Hall, POF Wah Cantt. and must reach at Bidding Centre before 30 Minutes of opening time. The tender received late will not be entertained. You may witness the opening of the tender if you so desire. If a representative is deputed, he should bring a letter of authority from you.
- 1.2 Only one tender should be included in one envelope. The outside of the envelope should be inscribed with:-

Tender Enquiry No: 0001/FP/54/Capital Pur-MGFy

Tender to be opened on: 19-March-25

Address as follows:-

MANAGING DIRECTOR

MACHINE GUN FACTORY POF WAH CANTT

AT BIDDING CENTRE (RABTA HALL) POF WAH CANTT

- 1.3 If envelope does not indicate reference of T.E. or received late the same may be returned un-opened.
- 1.4 Tender "By Hand" can be delivered at Bid Center, Rabita Hall, POF Wah Cantt.

2. GENERAL INSTRUCTIONS REGARDING PREPARATION OF QUOTATIONS

- 2.1 For materials, the prices should be filled in column 5 and delivery date in column 6 of the schedule to this Tender Enquiry. The undertaking should be signed at the bottom of the Schedule which shall form the Quotation. You may use a separate sheet if necessary.

2.2 The tendering procedure as laid down in PPRA Rule No. 36 d i.e Two stage Two envelope will be applicable. For Plant and Machinery, you are required to quote in two parts:-

Part I "Technical Offer": It should exclusively give technical details and literatures/ brochures of the offered plant, machinery and equipment; validity date; delivery schedule; and signed undertaking given on the schedule to this Tender Enquiry. It must not indicate price, costs etc.

Part II "Commercial Offer": It should indicate the commercial terms e.g. price, terms of payment, mode of payment, mode of supply.

Each part should be placed in a separate sealed cover. The envelopes should be inscribed with: Part I "Technical Quotation without Price" and Part II "Commercial Quotation with Price".

2.3 The quotation must remain valid for, at least 120 days from the date of opening of Commercial Tenders.

2.4 The quotation should hold good for any reduced or enhanced quantities without notice.

2.5 In the event of non-acceptance of offer, intimation may be given to the Tenderers on their request.

2.6 Conditional offers or alternative offers are likely to be ignored.

2.7 Quotations should be based on FOB. The consignment will be shipped through Pakistan National Shipping Corporation (PNSC). In case there is no PNSC service in the country of shipping, please quote on C & F basis. The freight should be indicated separately. Insurance premium should not be included in the quoted price. However, where insurance is considered necessary, advice to that effect should be given in the quotation.

2.8 Submission of the offer through an agent in Pakistan should be avoided. In case it is considered inevitable, the agent's quotation must invariably be accompanied by the original proforma invoice from the principals/manufacturers. **However, contract will be placed on principals/manufacturers.**

2.9 Country of origin and port of shipment to be stated

2.10 The offer of the principal must clearly indicate whether the rate quoted is inclusive of agent's commission, and if inclusive rate of commission included be specified.

2.11 Suppliers will render necessary information regarding hazardous effects on environment, of the materials/products supplied by them, in their quotations and shipping/despatch documents

2.12 If the requisite information is not furnished on the T.E form or offer received is not in conformity with the requirement of the T.E each offer shall be ignored.

2.13 The supplier will furnish a declaration regarding fees, commission and brokerage/environmental effect etc payable by the firm alongwith shipping documents.

3. INSPECTION

3.1 Supplies shall be subject to the inspection and acceptance by the competent inspection authority nominated by the Purchaser, who will arrange it at his own cost. Inspection facilities such as tools, test equipment, instruments etc will, however, be provided by the Suppliers in accordance with the relevant specifications.

3.2 Where considered necessary by the Purchaser, stores may be obtained on Warranty/Guarantee, subject to inspection on receipt. Rejected stores will be removed and replaced with the acceptable stores by the Supplier at his own expense, within a specified time.

3.3 TENDER SAMPLE

Where required offer must accompany tender sample strictly according to the description and specification given in Tender Enquiry. Offer not accompanied by tender sample will NOT be entertained excepting the established and reputable firms who have either previously satisfactorily supplied the same or similar stores or have submitted an acceptable sample thereof against previous T.E.

4. ACCEPTANCE OF OFFERS

- 4.1 POF may reject all bids or proposals at any time prior to the acceptance of a bid or proposals, but is not required to justify grounds for its rejection.
POF Shall incur no liability towards suppliers or contractors who have submitted bids or proposals.

5. BID Security

- 5.1 A copy of Bid Security should accompany the tender in shape of deposit at call receipt/Pay Order/Banker Cheque from scheduled bank drawn in favour of: **MD MG FACTORY**
- 5.2 Bid security instrument in original must be provided on the day/date of tender opening in the Bid Center as under:
- a. Registered/indexed firms including foreign firms - 2% of quoted value subject to the maximum ceiling of Rs. 0.5 Mn.
 - b. Registered/un indexed firms including foreign firms - 3% of quoted value subject to the maximum ceiling of Rs. 0.75 Mn.
 - c. Unregistered Firms including foreign firms - 5% of quoted value subject to the maximum ceiling of Rs. 1.00 Mn.
 - d. Govt organization/production units/state owned enterprises/welfare projects of Svcs HQ - Rs 0.50 M. can be waived off on request by DG(C)
 - e. Bid money will be returned to unsuccessful (less first three lowest quotee firms) bidders on opening of commercial offers.
 - f. Bid money will be returned to successful bidders on submission of performance bond/unconditional B.G.
 - g. Quotation accompanied with less bid money will be accepted on provisional basis for 10 x days after opening of bids. However the firms are bound to provide/furnish the balance bid money within 10 x days after opening of bid otherwise such quotations will be ignored or rejected.
 - h. Offers received without Bid Security will not be entertained.
 - i. Bid money will be forfeited in case the quotation is withdrawn before the expiry of its validity date.

6. PERFORMANCE BOND

- (a) The successful bidder will provide Performance Bond at the rate of 10% of F.O.B value of the contract in favour of Controller Military Accounts (CMA) POF Wah Cantt. The Performance Bond will be furnished in the form of Deposit At Call Receipt (CDR) from

any scheduled bank in Pakistan or an unconditional bank guarantee on prescribed proforma covered by any scheduled bank in Pakistan. The performance Bond shall be furnished within 45 days from the date of opening of Letter of Credit. It shall be valid for a period of 12 months after the date of expiry of letter of credit. If the Performance Bond is not furnished within the prescribed time of 45 days, the Purchaser reserves the right to:

i. Impose penalty @ 1% per month of the value of CDR/BG.
(Clause-42 (a i) is not applicable in case of procurement of
Plant/Equipment/Machinery items).

OR

ii. Cancel the contract and make other arrangements for purchase of the stores at the risk and expense of the Supplier.

(b) No Performance Bond will be required if the total FOB value of the contract is less than US \$50,000 and contract is placed directly on the foreign Supplier.

7. FAILURE TO SUPPLY THE STORES

All deliveries must be completed by the specified date. In case of failure to deliver the stores within the scheduled time should have arisen from "Force Majeure", which the purchaser may admit as reasonable ground for further time, he will allow such additional time as he may consider to have been required by the circumstances of the case. Otherwise, he will be entitled, at his discretion, to cancel the contract; and/or claim liquidated damages upto 2% but not less than 1% of the contract price of the items and their quantities for each and every month or part of a month, beyond the specified delivery date, during which these may not be delivered, subject to a maximum of 10% of the total contract value of the particular stores which remained unsupplied either in part or in full: or, to purchase from elsewhere, the unsupplied stores at the risk and cost of the supplier.

8. PAYMENT

Payment will normally be made by means of irrevocable letter of credit. Unless otherwise stated 70% payment may be released on submission of despatch documents to Bank along with pre-shipment inspection acceptance certificate from the purchaser. Remaining 30% payment will be released after installation, commissioning and satisfactory completion of trial run of the machines at purchaser premises against the final acceptance test certificate issued by the Purchaser.

8.1 All Bank charges incurred in Pakistan in connection with the establishment of LC will be borne by the Purchaser whereas all Bank charges incurred in connection with drawing of payment including charges for confirmation of L.C. by the advising Bank/Foreign Bank will be borne by the Supplier.

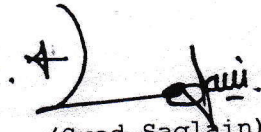
9. SECURITY OF INFORMATION

The tenderer and his employees must not communicate any information relating to the sale/purchase of stores under this enquiry to any person other than the manufacturer or to any press or agent not authorised in writing by POFs to receive it. Please return the Schedule to the Tender duly signed by the specified date, along with the specifications, drawings etc., if any, enclosed herewith - even if you are unable to quote.

WARNING In case the firm abstain from making offers or fail to return/acknowledge the tender form by the specified date on three consecutive occasions, no further tender enquiry may be issued to them and their names would liable to be removed from the approved list.

Note: Offers/bids through email & fax are not acceptable. The offers/bids must be submitted with warranty/guarantee certificate on firm's original letter head pad through Mail/ Courier.

Yours Faithfully


(Syed Saqlain)

MANAGING DIRECTOR-MGFY
for PAKISTAN ORDNANCE FACTORIES

Tele 9314101, 22125

Fax 051-9314100

Telex 5840 POFAC PK

PAKISTAN ORDNANCE FACTORIES

SCHEDULE TO TENDER NO. 0001/FP/54/CAPITAL PUR-MGFy DATED 08-Feb-25

Sr. No.	Description	Qty.	Specification
01	Electro Chemical Machining Unit (ECM) For Boaring & Rifling of Barrel Of 12.7x108 mm Gun	01 Unit. 02xmachines.	Attached as Annexure-

(1) FOR MATERIALS

(2) For Plant & Machinery: Specification:-

(3) Special Conditions

Bid shall be opened as per PPRA Rule 36 d i.e two stage two envelope bidding procedure.

First stage:

In which the bid shall comprise of two separate envelopes marked " Financial Proposal & Thechnical Proposal to avoid confusion".at first stage only the envelope marked technical proposal shall be opened. The envelope marked as Financial Proposal shall be retained in the custody of the procuring agency without being opened.The technical proposal shall be discussed with the bidders with reference to the procuring agency's technical requirement.Those bidders willing to meet the requirement of the procuring agency shall be allowed to revise their technical proposals following these dicussions;

Bidders not willing to conform their technical proposal to the revised requirements of the procuring agency shall be allowed to withdraw their respective bids without forfeiture of their security;

Second stage:

After agreement between the procuring agency and the bidders on the technical requirements, bidders who are willing to conform to the revised technical specifications and whose bids have not already been rejected shall submit a revised technical proposal and supplementary financial proposal, according to the technical requirement. The revised technical proposal alongwith the financial proposal and supplementary financial proposal shall be opened at a date,time an venue announced in advance by the procuring agency : provided that in setting the date for the submission of the revised technical proposal and a supplementary price proposal a procuring agency shall allow sufficient time to the bidders to incoprate the agreed upon changes in the technical proposal and to prepare the required supplementary financial proposal.The procuring agency shall evaluate the whole proposal in accordance with the evaluation criteria and the bid found to be the lowest evaluated bid shall be accepted.

ALL CHINESE AND HONG KONG BASED FIRMS MUST QOUTE IN CURRENCY CHINESE YUAN (CNY)

IN CASE OF FIRST TIME BUSINESS OF FOREIGN FIRM WITH POF:

FIRM WILL PROVIDE CREDENTIAL CERTIFICATE + EXPORT LICENSE.

PAKISTAN ORDNANCE FACTORIES

POF 1262

SCHEDULE TO TENDER NO. 0001/FP/54/Capital-MGFy DATED 08-Feb-25

2. Local firms can also participate on FOR basis and in case of local firm:
- (a) FIRM WILL PROVIDE TENDER FEE + BID MONEY.
 - (b) GST MUST BE SHOWN SEPARATELY.

(4) Undertaking

Should our offer be accepted, we hereby undertake to supply the stores/render the services contracted on the basis of Conditions of Contract embodied in Form POF 1282, and to deposit the performance bond within the prescribed time, failing which it will constitute a breach of contract, and POF will have the right to purchase the stores/services elsewhere at our risk and cost.

Place
Date

Signature of the Tenderer
Name
Postion
Address
Income Tax G.I.R. No

PAKISTAN ORDNANCE FACTORIES

1. Nomenclature of Machine:

Electro Chemical Machining (ECM) Unit(For Boring & Rifling of Barrel of 12.7mm x 108 mm Guns)

2. Quantity: Single Unit

3. Production Rate: Min 1000 x barrels per Annum (in single shift of 08 hrs)

4. Technical Specifications of Machine:

Sr. #	Parameter	Specification
i.	Current	1500A to 10000A
ii.	Voltage	8V to 24V
iii.	Electrolyte Type	Sodium Nitrate or Sodium Chloride (10~30%) as suitable for operation
iv.	Electrolyte Flow Rate	5 to 20 L/min
v.	Tool Diameter	12mm to 13.5mm (selected as per inner bore of barrel)
vi.	Tool Material (Cathode)	Copper Alloy, suitable for rifling & boring operation
vii.	Tool Feed Rate	5 ~ 500 mm/min
viii.	Gap Distance	0.02mm (min)
ix.	Rifling Groove Depth	0.4mm (min)
x.	Rifling Groove Width	2 ~ 4mm
xi.	No of Grooves	8 Grooves & 8 Land (Spiral – Twist 45°)
xii.	Tool Movement Type	Rotating and Linear Feed
xiii.	Electrolyte Temperature	20°C to 60°C
xiv.	Work Piece Size	Cylinder inner hole length 1050mm (min)
xv.	Spindle Box Speed	500mm/min (move the spindle box in straight forward or retreat speed)
xvi.	Rotational Position Repeatability	+0.05°
xvii.	Concentrate Requirement	Machine's working range ≤ 0.01

5. Spares, Tools & Parts to be provided by Supplier:

- i. 02x Sets of spare tools for each part of each Machine.
- ii. 02x Sets of spare tool holders for each part of each Machine.
- iii. Pre-Setting device.
- iv. Electrical and mechanical spare parts for 5000 operating hrs for each Machine
- v. Electronic Spares for control unit for 10 years.
- vi. 1000 ~ 5000 KAmper Generating electronic circuit (30 Volt)

6. Drawings & Literature:

04 x sets of following documents in English language: -

- i. Schematic diagram of each PCB.
- ii. Main Spindle control unit with diagram.
- iii. Electric sequence control circuit of each machine.
- iv. Detail of motors and their controls.
- v. Operating, maintenance and service manual.
- vi. Working drawing of cutting tool and equipments.
- vii. Software package and program of the parts. Software and coding on window based PC with CD be provided.
- viii. Up-graded version of the software within 10 x years will be provided by the OEM free of cost.

7. Site Condition & Available Services:**a. Electric Supply System:**

- i. 400 ± 5% VAC, 50 Hz, 3 Phase, 4-Wire System.
- ii. 230 ± 5% VAC 50 Hz, Single Phase.
- iii. Available earthing resistance is less than 01 ohm.

b. Site Operating Conditions:

- i. The available process water at 40 PSI and at 20°± 50°C.
- ii. The temperature variation between Winter and Summer is from -5°C to 52°C.
- iii. The relative humidity varies between 15% to 90%.
- iv. Brine Solution (Salt Tank) and Steam is available

8. Safety:

Safety devices in accordance to international standards must include the followings: -

- i. Over Current / Voltage Tripping System
- ii. Safety guards (Fumes Hood) must be provided
- iii. Mechanical overload protection
- iv. Electronic overload protection
- v. The electric equipment should be earthed

- vi. Equipment should have line protection circuit breakers with electronic overload relays alongwith electro-magnetic contractors, as required. It should be followed by cut-out and safety fuses, if necessary.
- vii. All motors should be equipped with all standard safety protections and fulfill IP-52 or above ratings.

9. Training:

- i. Free of cost training in parallel to the PSI for 10 x working days for 06x POF Engineers / Technicians per machine on programming, operating & maintenance at firm's premises.
- iii. Minimum 30x barrels will be manufactured by training team at firm's premises. Barrel in semi-finished form for training team will be provided by the firm free of cost. The barrels should qualify all the dimensional and drawing parameters.
- iii. Boarding, lodging and air ticketing will be borne by the purchaser.

10. Pre-Shipment Inspection:

- i. Pre shipment inspection / acceptance of machines at firm's premises will be conducted by 02x POF Officials for 05 x working days in parallel to Training team.
- ii. The supplier shall provide Assembly & Test protocol during PSI including assembly of Control panel, Pneumatic system, Hydraulic system and electrical components.
- iii. The machine & equipment will be dispatched only after the receipt of pre-delivery trials acceptance certificate from purchaser, certifying that the machines & equipment have qualified the function / quality test and components produced have been passed in gauges requirements.
- iv. During PSI, 15 x barrels at each machine will be manufactured at firm's premises as per production rate of 600 barrels per annum as a trial run. Barrels for trial run will be provided by the firm free of cost. All possible gauges of components will be confirmed by the team at PSI stage. There should be No stoppage of machine, and machined component should conform in relevant gauges.
- v. Tooling & processing materials used during PSI will be provided by Supplier.
- vi. Rejected machine/ equipment will be removed and replaced with the acceptable one by the Supplier at his own expense, within a specified time. The supplier will render warranty / guarantee certificate as per **Annex "B"**.
- vii. Expenses of POFs personnel at Supplier's premises including boarding, lodging, return Air Tickets & Daily allowance etc. will be borne by the purchaser.

11. Installation & Commissioning:

- i. The machine shall be commissioned and trial production of the machine shall be carried out by supplier's engineers. However, Purchaser shall provide required number of operators and technicians for the commissioning and trial production of the machine.
- ii. The supplier is to indicate the total man-weeks of his engineers / technicians required for installation, commissioning and trial production of the machine. Terms and conditions are to be stated clearly. All expenses, including boarding & lodging, air travel and daily

allowances of the engineers / technicians are to be borne by the supplier. Local transportation shall be arranged by the Purchaser. ^{POF 1262}

- iii. The supplier is to indicate the time schedule for the completion of whole project.
- iv. Machine layout diagram will be provided by the firm well before shipment of machine.
- v. The oil and process lubricants required 1st time to run the machines for one year shall be supplied by the supplier.

12. **Final Acceptance Test (FAT):**

- i. Final acceptance test will be performed at purchaser premises. This test will be carried out with the technical assistance of the supplier and will comprise successful production of acceptable quality of components as per Specified drawing, visual inspection and specified gauges.
- ii. **Machine Capacity Run:** Machine will be given capacity run for 14x working days in customer premises. Output of machine in terms of production capacity & quality will be checked as mentioned in operation cycle. The components produced from the input material must qualify all the specified gauges as per drawing requirements.
- iii. The supplier experts will stay, at supplier cost till the production has been achieved provided such delays are attributable to supplier. Supplier experts should stay for 01 week after successful trial run to look after / handle the machine problems at supplier's expense.
- iv. The Tooling, Spares and Process lubricants consumed during trial production run will be in addition to the original contracted/ supplied quantities by the supplier.
- v. In case, the machine could not be commissioned by the OEM, the same will be commissioned by utilizing locally available expertise at the risk and cost of the OEM.

13. **Payment Terms & Conditions:**

Payment terms & conditions are negotiable. Payment will be released through LC against shipping documents including acceptance certificate by PSI team, 10% performance bond at FOB value of contract and warranty/ guarantee certificate valid for 12x months after successful installation & commissioning of the machine. The general conditions of performance bond and payment are as under: However, firm has to provide following documents for release of payment as per accepted.

a. **Performance Bond:**

The successful bidder will provide Performance Bond at the rate of 10% of F.O.B. value of the contract in favour of CMA (Store) POF Wah Cantt. The Performance Bond will be furnished in the form of Deposit at Call Receipt from any scheduled bank in Pakistan or an unconditional bank guarantee on prescribed proforma covered by any scheduled bank in Pakistan. The Performance Bond shall be furnished within 45 days from the date of

opening of letter of Credit. It shall be valid for period of 12 months after the issuance of FAT certificate.

If the Performance Bond is not furnished within the/m prescribed time, the Purchaser reserves the right to cancel the contract and has the right to take risk purchase action.

b. **Payment:**

Payment will normally be made by means of irrevocable letter of credit. Unless otherwise stated 70% payment may be released on submission of despatch documents to Bank along with pre-shipment inspection acceptance certificate from the purchaser. Remaining 30% payment will be released after installation, commissioning and satisfactory completion of trial run of the machines at purchaser premises against the final acceptance test certificate issued by the Purchaser.

All Bank charges incurred in Pakistan in connection with the establishment of LC will be borne by the Purchaser whereas all Bank charges incurred in connection with drawing of payment including charges for confirmation of L.C. by the advising Bank/Foreign Bank will be borne by the Supplier.

14. Delivery Schedule:

- i. Delivery of the machine will be made within 06 × months after establishment of LC.
- ii. Delivery of the machine will be made on C&F basis.
- iii. The firm to ensure export permit of the machine to POF.
- iv. LD Charges, if imposed, will be recovered up to the rate of 2% but not less than 1% of the value of un-supplied quantity of the item (s) per month or part of a month (max 10% of contract value)

15. Country of Origin:

Europe, UK, USA, Japan, Turkiye & South Korea or any other country having license from OEMs of these origins for machine manufacturing.

16. Color:

Preferably RAL-6011 (Reseda Green)

WARRANTY / GUARANTEE CERTIFICATE

Firm's Name: **M/s** _____

Contract No. _____, Date: _____.

The Seller guarantees the high quality of delivered goods and their full conformity to the contract conditions. The delivered goods should be in accordance with the technical conditions of the company-producer and should be confirmed by the quality certificate of the company-producer.

Quality and quantity acceptance should be affected on the territory of the Buyer. The guarantee period is 12 months since date of start-up, but not more than 18 months from date of shipment.

Excluded from our warranty are parts subjects to normal wear and tear, damages due to incorrect storage and starting up, poor maintenance and damages due to corrosion of cavitations.

The liability of the SELLER is limited to replace damages concurred on the delivered GOODS itself (direct damages). All subsequent damages (indirect damages), including loss of production and loss of profit are excluded from SELLER's liability.

For personal injuries, which are covered by SELLER's product liability is not applicable.

The Buyer has the right to raise a claim to the Consignor:

- a. in relation to the quality: in case of nonconformity to quality requirement during guarantee period.
- b. in relation to the quantity: in case of lack of places or _____ non-conformity to the Specification not later than 45 days from the date of receipt of goods

The subject and the ground of the claim are to be confirmed by the report. The present report is binding for both parties and it confirms the quality and the quantity of goods received by the Buyer. The Seller must consider a claim and reply within 20 working days from the date of receipt of the claim.

Otherwise, in case of non-reply during 20 days, the claim is considered accepted. In the case delivery of non-qualitative goods, the Seller is obliged to replace them by the goods corresponding to quality requirements.

All transportation and customs charges related to the replacement and repairing of goods are borne by the Seller.

Signature _____

Name _____

Status in the Firm _____

Dated _____

TECHNICAL COMPARISON

(TO BE FILLED BY SUPPLIER)

TE No. 0001/FP/54/Capital Pur-MGFy DATED08-Feb-25

Sr. #	TENDER SPECIFICATIONS	OFFERED SPECIFICATIONS WITH REFERENCE TO PAGE NO. OF QUOTATION

BID QUALIFICATION & SELECTION CRITERIA

Sr #	Technical/Commercial aspects to be considered to ease out most advantageous bid	Compliance Level			Remarks
		Fully Complied	Partially Complied	Not Complied	
1*	Bid submitted in compliance with PPRA Rule 36(d)				
2*	Confirm to Tender Specification				
3*	Confirm Tender Quantity (s)				
4	Complete Technical literature/Brochure/catalogue provided in first go along with technical				
5.	Prices are valid for any reduced quantity(s) without notice				
6*	120 days bid validity from date of opening of commercial offers/bid confirmed				
7	Confirm Delivery period 06 xmonths after issuance of contract				
8	Payment terms as per tender enquiry				
9	In case of new entrant, proof of past performance/ list of identical supplies to prove capabilities in the relevant filed				
10*	Certificate regarding fulfillment of all tender requirements				
11*	T.E undertaking-Signed/Stamped				
12*	Offer/Bid (Tech+Comm) is un conditional				
13*	Complete company profile				
14	Certificate that firm is not blacklisted or under debarment by any Govt/Semi Govt Organization				
15.	Confirmation of performance Bond against LC as per T.E Clause-6				
16*	Main Features as per Annex "A" of T.E				
17*	Technical Requirements as per Annex "A" of T.E				
18*	Site & Operating Conditions as per Annex "A" of T.E				
19*	Country of Origin as per Annex "A" of T.E				
20*	Specification for Electric Supply System as per as per Annex-A				
21*	Literature Required as per Annex "A" of T.E				
22*	Spares,Tools & Partsas per Annex "A" of T.E				
23*	Terns & Conditions as per Annex "A" of T.E				
Note:- Clause with (*) are necessary to be complied. In case of non-compliance of the same, the bid may be disqualified					

Signature of the Tenderer with Stamp

Place-----

Date-----

DIMENSIONS ARE IN MM

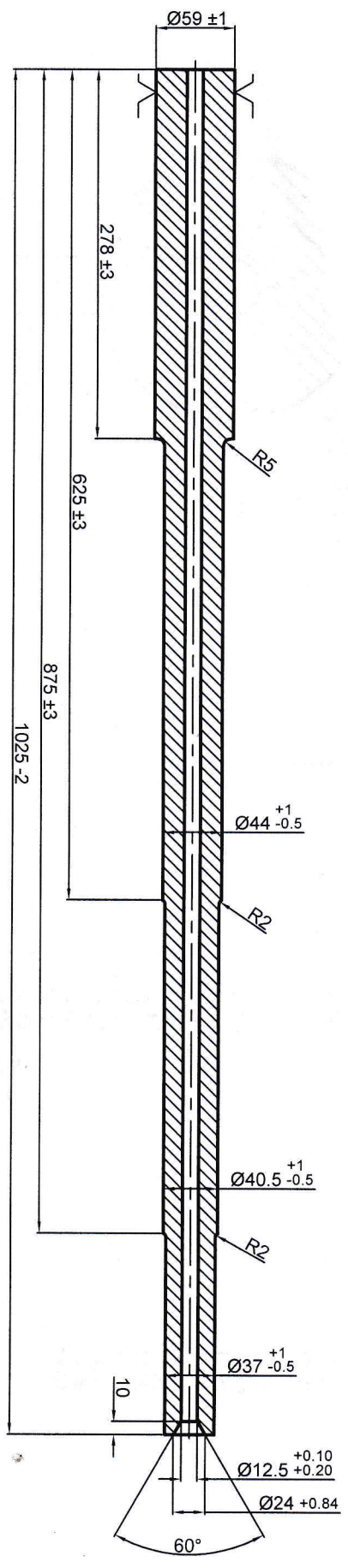
SURFACE FINISH $\nabla 6$

Amox E

IF IN DOUBT ASK!

NOTE:

1. THE BARREL FAILING IN OBTAINING FINISH $\nabla 6$ AFTER BEING REAMED TO 12.50 +0.10MM DIA, MAY BE REAMED TO 120.50 +0.20MM DIA.



CUTTERS & AUXILIARY TOOLS

1. CARBIDE TIPPED REAMER
2. ARBOUR FOR CARBIDE TIPPED REAMER
3. CLEANING ROD

DRG No.

FIXTURES

1. STAND
2. HOLLOW CENTER

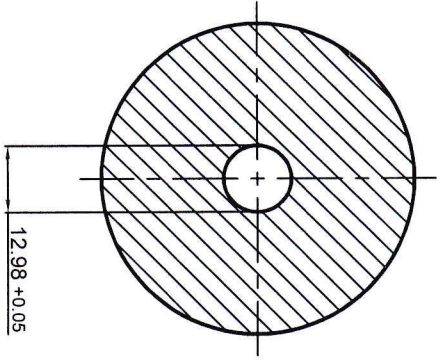
GAUGES

1. TOOL SETTING RING GAUGE DL-3T (12.35)
2. TOOL SETTING RING GAUGE DL-4Z (12.33)
3. TOOL SETTING RING GAUGE DL-5T (12.55)
4. TOOL SETTING RING GAUGE DL-6Z (12.53)
5. TOOL SETTING RING GAUGE DL-7T (12.70)
6. TOOL SETTING RING GAUGE DL-8Z (12.68)
7. PLUG GAUGE L-2 (12.30)
8. PLUG GAUGE L-3 (12.50)
9. PLUG GAUGE L-23 (12.70)

DATE	MOD. No.	AMENDMENT	SIGR.	DRAWN	RAO KASHIF
BARREL, BEFORE BORING				CHECKED	RAO KASHIF
12.7x108mm GUN				APPROVED	M. ABID ABBAS
				SCALE	N.T.S
				BASED ON	
				POFS. MG.FY.	
				DRG. No.	
				SK/COM-914	
REF. JOB No.	AUTH. MD-MG.FY.	SOURCE MG.FY.	DATE:	10-02-2025	
MATERIAL	30 Si Mn No VA	SHOP	SHEET	SHEET SIZE	
MACHINE	REMAINING MACHINE Z8016	G-02	1 OF 1	A3	

DIMENSIONS ARE IN MM

SECTION OF BARREL



NOTE:
1. THIS OPERATION SHALL BE CARRIED OUT ACCORDING TO OPERATION SHEET FOR ELECTRO CHEMICAL MACHINING.

CUTTERS & AUXILIARY TOOLS

1. ECM TOOL

PLUG GAUGES REQ. BEFORE ELECTRO CHEMICAL MACHINING

- 12.50
- 12.51
- 12.52
- 12.53
- 12.54
- 12.55
- 12.56
- 12.57
- 12.58
- 12.59
- 12.60
- 12.61
- 12.62
- 12.63
- 12.64
- 12.65
- 12.66
- 12.67
- 12.68
- 12.69
- 12.70

PLUG GAUGES REQ. AFTER ELECTRO CHEMICAL MACHINING

- 12.95
- 12.96
- 12.97
- 12.98
- 12.99
- 13.00
- 13.01
- 13.02
- 13.03
- 13.04
- 13.05
- 13.06
- 13.07

DATE	MOD. No.	AMENDMENT	SIGR.
ELECTROCHEMICAL MACHINING AFTER BORING			
12.7x108mm GUN			
REF. JOB No.	AUTH. MD-MG.FY.	SOURCE MG.FY.	DATE:
MATERIAL	30 Si Mn Mo VA	SHOP	SHEET
MACHINE	ECM MACHINE	G-04	1 OF 1

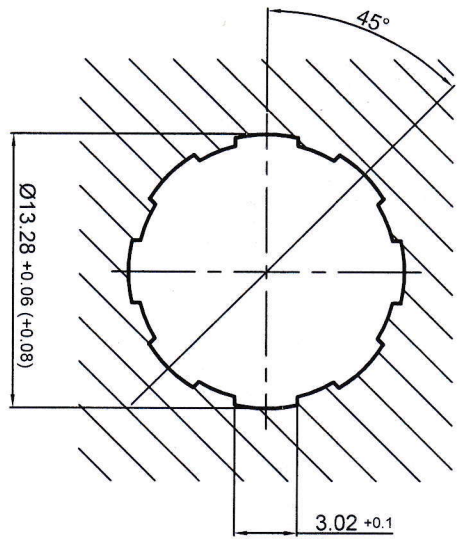
POFS. MG.FY.
DRG. No. **SK/COM-915**

DRAWN: RAO KASHIF
TRACED: -
CHECKED: RAO KASHIF
APPROVED: M. ABID ABBAS
SCALE: N.T.S.
BASED ON: _____

IF IN DOUBT ASK!

DIMENSIONS ARE IN MM

ALL OVER VVV8



NOTES:

1. THE BORE SHALL BE RIFLED WITH A RIGHT HAND TWIST OF ONE TURN IN 380⁺²⁰ mm, WHICH IS GAUGED WITH STEEL RULE.
2. THE RIFLING SHALL CONSIST OF 8 GROOVES AND 8 LANDS.
3. TWIST 45° AND NUMBER OF GROOVES & LANDS SHALL BE ENSURED BY ELECTROCHEMICAL RIFLING TOOL WHICH IS ACCOMPANIED BY A CERTIFICATE.
4. DIFFERENCE BETWEEN GROOVE DIAMETER AND LAND DIAMETER SHALL BE 0.29mm TO 0.33mm.

CUTTERS & AUXILIARY TOOLS

1. ECM RIFLING TOOL

PLUG GAUGES REQ. BEFORE ELECTRO CHEMICAL RIFLING	SIZE	PLUG GAUGES REQ. AFTER ELECTRO CHEMICAL RIFLING	SIZE
	12.95		13.27
	12.96		13.28
	12.97		13.29
	12.98		13.30
	12.99		13.31
	13.00		13.32
	13.01		13.33
	13.02		13.34
	13.03		13.35
	13.04		13.36
	13.05		
	13.06		
	13.07		
	13.08		

DATE	MOD. No	AMENDMENT	SIGR.
ELECTROCHEMICAL MACHINING AFTER RIFLING			
12.7mm A.A MACHINE GUN			
REF. JOB No.	AUTH. MD-MG FY.	SOURCE MG.FY.	DATE:
MATERIAL	30 Si Mn Mo VA	SHOP	SHEET
MACHINE	ECM MACHINE	G-04	1 OF 1
			SHEET SIZE
			A3

DRAWN	RAO KASHIF
TRACED	-
CHECKED	RAO KASHIF
APPROVED	M. ABID/ABBAS
SCALE	N.T.S
BASED ON	

POFS. MG FY.
 DRG. No.
SK/COM-916

IF IN DOUBT ASK!