GOVERNMENT COLLEGE OF ENGINEERING, KEONJHAR
ସରକାରୀ ଯାନ୍ତ୍ରୀକ ମହାବିଦ୍ୟାଳୟ, କେନ୍ଦୁଝର
(An Affiliated College of BPUT, Odisha)
At :Jamunalia, P.O.: Old Town, Dist., Keonjhar, Pin: 758002 (Odisha)
Web: www.gcekjr.ac.in / Mail id- principal@gcekjr.ac.in

Notice No: 1739 **Date:** 30-10-2026

TENDER CALL NOTICE

Sealed tenders are invited form reputed authorized manufacturers/distributors for supply of equipment through speed post for **Department of Mechanical Engineering**. The date of opening the tender is mentioned in the tender document, which will be opened in the office of the Principal, Government College of Engineering, Keonjhar in the presence of bidders and/or their nominees. The tender bid documents with details of terms and conditions are to be downloaded from the College Website: **www.gcekjr.ac.in.**

The authority reserves the right to reject/cancel the tenders in whole or in part without assigning any reason thereof. The authority will not be responsible for any postal delay.

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Principal
Government College of Engineering
Keonjhar

BIDDING DOCUMENTS AND INSTRUCTION TO SUPPLY EQUIPMENTS

FOR

DEPARTMENT OF MECHANICAL ENGINEERING

GOVERNMENT COLLEGE OF ENGINEERING, KEONJHAR

[An Affiliated College of Biju Patnaik University of Technology]

Jamunalia,Old Town, Keonjhar– 758 002

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INVITATION FOR BIDS

Principal, Government College of Engineering, Keonjhar invites sealed bids from eligible bidders for supply of machineries/equipment for Department of Mechanical Engineering.

Interested eligible Bidders may obtain detail information and list of items with technical specifications from the college website **www.gcekjr.ac.in**

Particulars about submission of bidding document are as follows:

Price of bidding document	Rs.1000/- (Service Tax is included) (non-refundable)
First date of availability of Bidding	31-10-2026 10:00 AM
Last date and time for submission of bids	23-11-2026 5:00 PM
Time and date of opening of bids	30-11-2026 3:00 PM
Place of opening of bids	Principal Office Government College of Engineering, Jamunalia, Old Town, Keonjhar-758002
Address for communication	Principal Government College of Engineering, Jamunalia, Old Town, Keonjhar-758002

Sd/
Principal

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1. Eligibility of Tenderer and General Instructions:

1.1 Mandatory Eligibility Conditions for Technical bid:

a) The tenderer must be a reputed Original manufacturer or the authorized agent/ dealer of a reputed manufacturer. Manufacturers must provide all documents relating to their manufacturing capabilities.

b) If the tenderer is an Authorized Dealer/Agent of a reputed manufacturer, necessary certificate to this effect from the manufacturer must be enclosed.

c) The manufacturer/vendor must be ISO certified (Preferably ISO:9001-2008).

d) The tenderer must have the willingness for providing comprehensive maintenance support of the machine supplied by him for at least two years after expiry of the warranty period. The maintenance cost (if any) will be borne by the institute.

e) The manufacturer preferably has its own NABL (National Accreditation Board for Testing and Calibration Laboratories) accredited laboratory or equipment supplied should have certification from any NABL accredited laboratory in respect of quality and performance.

f) The manufacturer/vendor must be registered with GST.

g) The tenderer must have cleared GST up to date. Attested copies of GST Clearance Certificate or non-assessment certificate from the concerned Authority valid up to date and attested copy of Income Tax Clearance Certificate or non-assessment certificate, as the case may be, from the competent authority, up to date and PAN Number must be enclosed along with the tender documents.

h) Average annual turn-over of the manufacturer/vendor should be more than **Rs. One Crore for last three financial years**. As a letter of support the bidder should submit audited balance sheet of last three financial years.

i) All after sales support should be provided directly by the manufacturer/vendor only.

j) The tenderer must provide evidence of successful execution of supply orders with installation and successful after sales support in reputed organizations like NITs/IITs/IIESTs/IISERs/Central Research Laboratories.

k) An affidavit must be submitted on stamp paper that all the terms and conditions of bid are accepted.

l) An affidavit must be submitted on stamp paper that bidder is not being debarred/Blacklisted in last 10 years by central/state government body or any institute.

The tenderers must enclose the above documents in the technical bid to qualify the technical round of the tender.

S. Swarup
30/8/2026

1.2 General Instructions:

The selection for procurement of equipment will be based on quality and performance along with cost. In this context decision of technical committee is final based on documentary evidence or actual physical verification.

a) Submission of more than one bid by a particular tenderer under different names is strictly prohibited. In case it is discovered later on that, this condition is violated, all the tenders submitted by such tenderer/s would be rejected or contract cancelled.
b) The tenderer should mention in the tender paper, the location of its service center nearest to Keonjhar.
c) All offers should be in English and the price quoted for each item should be firm.
d) Warranty period, Delivery period and After-Sale-Service conditions, etc. are also to be clearly indicated.
e) The rates and the conditions of the offer will remain valid for six months from the date of opening of the tender and no change or alteration of the rate will be acceptable on any account.
f) Submitted tender forms with overwriting or erased or illegible specifications and rates will be rejected.
g) Request from tenderer in respect of additions, alterations, modifications, corrections, etc. of either terms & conditions or rate after opening of the bid may not be considered. However, negotiation may be made before finalization.
h) Tenderers shall carefully examine the bid documents and fully inform themselves of all the conditions, which may in any way affect the work of the cost thereof.
i) Should a tenderer find discrepancies or omissions from the specification or other documents and any doubt as to their meaning, he should at once notify the purchaser and obtain clarification in writing.
j) This, however, does not entitle the tenderer to ask for time beyond the due date fixed for receipt of tenders.
k) The tenderer must also specify minimum time and maximum time to repair/replace in the event of a failure and penalty thereof.
l) Verbal clarification and/or information given by the purchaser or its employees or representatives shall not be binding on the purchaser.
m) Submission of sealed bid will carry with the implication that the tenderer agrees to abide by the conditions laid down in the detailed particulars of the bid notice.
n) Conditional offers and offers qualified by vague and indefinite expression, as 'subject to immediate acceptance' 'subject to prior sale', etc. will not be considered.
o) While tenders are under consideration, tenderers and their representatives or other interested parties are advised to refrain from contacting by any means, to the purchaser's personnel or representatives on matter relating to the tenders under study.
p) The purchaser, if necessary, will obtain clarification on tenders by requesting such information from any or all the tenderers either in writing or through personal contact as may be necessary.
q) The tenderer will not be permitted to change the substance of his offer after the tenders have been opened.
r) In the event of non-compliance with this provision, the tenderer is liable to be disqualified.

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1.3Procedure for Submission of Tenders:

a) The Tenderers must submit their bids as required in two parts in separate sealed covers prominently super scribed as Part-I "Technical Bid" and Part-II "Financial Bid" and also indicating on each of the covers the "Tender call Notice Number & Date" and due date and time of submission as mentioned in Tender Call Notice.

Part-I (Technical Bid)

Excepting the price schedule, all other documents as mentioned in Para 1.1 shall be covered in part-I (Technical Bid)

a. Tender Fee and EMD.
b. Copy of firm registration certificate from the competent authorities.
c. The tenderer must be a reputed Original manufacturer or the authorized agent/ dealer of a reputed manufacturer. Manufacturers must provide all documents relating to their manufacturing capabilities. (Attach Supporting Documents)
d. If the tenderer is an Authorized Dealer/Agent of a reputed manufacturer, necessary certificate to this effect from the manufacturer must be enclosed. (Attach Supporting Documents)
e. The manufacturer/vendor must be ISO certified. (Preferably ISO:9001-2008). (Attach Supporting Documents including ISO Certificate)
f. The tenderer must have the willingness for providing comprehensive maintenance support of the machine supplied by him for at least two years after expiry of the warranty period. (Attach Supporting Documents)
g. The manufacturer preferably has its own NABL (National Accreditation Board for Testing and Calibration Laboratories) accredited laboratory or equipment supplied should have certification from any NABL accredited laboratory in respect of quality and performance. (Attach Supporting Documents)
h. The manufacturer/vendor must be registered with GST. (Attach Supporting Documents)
i. The tenderer must have cleared GST up to date. Attested copies of GST Clearance Certificate or non-assessment certificate from the concerned Authority valid up to date and attested copy of Income Tax Clearance Certificate or non-assessment certificate, as the case may be, from the competent authority, up to date and PAN Number must be enclosed along with the tender documents. (Attach Supporting Documents)
j. Average annual turn-over of the manufacturer/vendor should be more than **Rs. One Crore for last three financial years**. As a letter of support the bidder should submit audited balance sheet of last three financial years. (Attach Supporting Documents)
k. All after sales support should be provided directly by the manufacturer/vendor only. (Attach Supporting Documents)

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l. The tenderer must provide evidence of successful execution of supply orders with installation and successful after sales support in reputed organizations like NITs/IITs/IIESTs/IISERs/Central Research Laboratories. (Attach Supporting Documents).
m. An affidavit must be submitted on stamp paper that all the terms and conditions of bid are accepted.
n. Affidavit must be submitted on stamp paper that bidder is not being debarred/Blacklisted in last 10 years by central/state government body or any institute.
o. Tender document duly signed by the authorized person in each page.

Part-II (Financial Bid)

All indications of price shall be given in Part-II (Financial Bid)

a) Both sealed covers Part-I **"Technical Bid"** and Part-II **"Financial Bid"** should be placed in a third cover along with the **EMD** (in the form of DD drawn in favor of **Principal, Government College of Engineering, Keonjhar** at any Nationalized Bank payable at Keonjhar), others requisite supporting documents etc. and sealed. The sealed cover containing tender documents as per procedure indicated above should be sent to the Office of the Principal, GCE, Keonjhar by Registered Post/Speed Post addressing to the Principal, Government College of Engineering, Jamunalia, Old Town, Keonjhar-758002**within the due date and time as stipulated in Tender. The sealed envelope must show the name of the tenderer and his address and should be super scribed as "*Tender for supply of Equipment for Mechanical Engineering Department*" on the top of the envelope.**

b) All the documents submitted must be in the papers showing signature of the tenderer and printed office name of the tenderer on official seal.

c) All the documents must be submitted in a sequential manner with proper indexing, separator/flags to help in quick scanning of the documents. Wherever possible, data in tabular form should be given.

2. Requirements by Tenderer before Supply:

2.1 Rating Plate, Name Plate and Labels:

Each of the equipment is to have permanently attached to it, a rating plate of non-corrosive material in a conspicuous position, upon which the total specifications along with the manufacturer's name, address, etc. are to be engraved.

2.2 Packaging:

All the equipment are to be suitably protected, covered in water -proof packing and crated to prevent damage or deterioration during transit and storage till the time of installation. The supplier shall be responsible for any loss or damage caused during transportation, handling or storage till their successful installation.

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2.3. Inspection:

a) All materials / equipment shall be inspected and tested for completeness, proper assembly, operation, cleanliness and state of physical condition and performance as per quoted specification.

b) The test shall be conducted, reported and certifications to be provided by the tenderer.

c) The tenderer shall provide all test and measuring equipment/tools required for inspection / testing.

d) The cost of all such tests shall be borne by the Tenderer.

e) GCE reserves the right to reject any equipment if it does not comply with the specifications during site testing, installation and commissioning stage.

f) Inspection & testing would be conducted, jointly, at various stages as applicable during unpacking, installation and commissioning of respective equipment / components at the manufacturing site.

2.4. Environmental Condition:

All the equipment supplied shall be rugged and should operate without any deviation in quality, or degradation of equipment performance. All the specification/parameters shall be guaranteed over the following environmental conditions:

* Storage Temperature : 0 to 50^0 C
* Operating Temperature : 0 to 50^0 C
* Humidity : 95% RH (non-condensing)

All the equipment is intended to operate under 220 V/ 440V, 50 Hz power supply.

3. Requirements by Tender after Supply:

3.1 Supply:

a) The material would be delivered by the supplier at GCE, Jamunalia, Old Town, Keonjhar – 758002, Odisha.

b) The items should be supplied directly from the manufacturing terminal having passed all tests successfully with Certifications as required.

c) The equipment should conform to the latest relevant National/International standards and shall be completed in all respect.

d) Any component, fitting etc. which may not have been specifically mentioned in the specifications but which are usual and necessary for the equipment, shall be supplied by the tenderer at no extra cost.

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e) In case, articles are found damaged in transit or found short at the time of delivery the full cost of the same will be deducted from the bill of the supplier in case the supplier does not replace the stock within a week from the date of the complaint.

f) The articles ordered must be supplied in one lot within 4 (four) weeks of placing of the order.

g) In case of delay in delivery or successful installation, a penalty of 1% (one per cent) per week shall be levied.

h) GCE reserves the right to procure the materials from alternative sources at the risk and cost of the successful tenderer giving 15 days' notice.

i) Any increase in tax and duties after expiry of delivery period will be borne by the supplier.

j) In case the items supplied by the supplier are found not up to the specification shall be rejected.

k) The supplier will be intimated to take back the stocks at his own cost within three days from the date of rejection and to replace the same within 7 days, failing which the EMD will be invoked in addition to taking legal actions.

l) Imported consignment, if any, should be destined to GCE, Jamunalia, Old Town, Keonjhar – 758002, Odisha, India through Bhubaneswar Air Port.

m) The suppliers shall be responsible for releasing the consignments from the carriers/transporters.

n) The equipment shall be delivered and installed at site at the cost of the tenderer.

o) All taxes, levies, surcharges including the customs clearance and handling freight and insurance should be paid and handled by the tenderer.

3.2 Installation and Commissioning:

Installation and Commissioning shall include the following:

a) Installation and Testing of the Equipment, Machineries etc. must be conducted by the tenderer at GCE.

b) It will be the responsibility of the tenderer to provide all necessary spares and consumables, which may be required during installation and commissioning, at no extra cost to purchaser.

c) The tenderer is to bring their own testing and measuring instruments required for installation, testing, commissioning, which can be taken back after completion.

d) Installation must complete within 15 days after delivery on site.

e) During installation and commissioning the complete intended experiments is to be conducted with results must be within accepted level of accuracy.

f) The raw materials and samples required for conducting experiments during installation is to be supplied by the tenderer free of cost.

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3.3 Documentation:

a) Detailed technical manuals, handbooks, drawings, Warranty card and Factory Quality Assurance checklist, test results and any other certifications mentioned in the Technical specifications shall be supplied along with the consignment.
b) Supplied manuals/handbooks must cover detailed technical specifications and installation, operation, maintenance and System Safety procedures.
c) For Experimental setups details of theory, procedure and methods of taking measurements etc. should be provided in the form of hand books for each experiment.
d) The receipts for taxes paid, if any, for the supplied materials should also be submitted.

3.4 Trial Operation and Performance Guarantee Test:

a) After successful completion of Installation and Commissioning of the equipment, a 7-day continuous trial operation putting those on optimum use shall be conducted by the tenderer at site, during which the performance of the equipment shall be demonstrated for trouble-free continuous operation, meeting the specified standards and proper training shall be imparted to two persons of the purchaser.
b) During trial operation, tenderer shall do all necessary adjustments required to ensure the performance as per the acceptable level.
c) In case, guaranteed performance is not established, the tenderer shall be given opportunity to rectify/replace the equipment/components, and restart the 7 days continuous trial operation, at the risk and cost of the tenderer.

3.5 On-Site Warranty:

a) The entire materials may be used continuously. The reliability and safety of the total installed system and trouble-free operation are, therefore, of prime importance. The supplied devices/equipment and components shall be covered under **Two-years or more** comprehensive on-site warranty from the date of issue of successful completion of Performance Guarantee Report.
b) During the period of warranty, it shall be the responsibility of the tenderer to provide all essential spares and consumables, which may be required for maintenance and trouble-free operation of the devices / components at the tenderer's cost.
c) Software, if any, has to be tested with at least one-year warranty for trouble free operation.

3.6 Comprehensive Maintenance Contract:

a) The tenderer shall be under the obligation of entering into a Comprehensive Maintenance Contract (CMC) with GCE for a minimum period of two years, renewable if felt necessary, on mutually acceptable rates, terms and conditions. CMC shall start after the completion of warranty.

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b) The scope of CMC shall cover maintenance and supply/replacement of materials and components, for smooth and reliable operation of the systems without trouble.
c) Accordingly, the tenderer has to offer rates for the CMC structure per equipment along with the price for the Systems and other associated Equipment supplied.

3.7 After Sales Service

a) During the warranty period and subsequently, after signing of Agreement for CMC the tenderer shall attend to the problems reported by the users of GCE on a priority basis.

b) For any problem reported the tenderer shall attend and rectify the problem within 7 (seven) days or provide a standby system of the similar configuration.
c) The report on any problem will be informed through phone or fax number of which shall be given by the tenderer.
d) The branch office of the concerned manufacturing firm will be fully responsible to provide maintenance service, in case of any negligence, in providing the service by the tenderer.
e) On failure to comply with those instructions, the Bank Guarantee provided for the warranty period shall be invoked.

4. Financial Terms:

4.1 EMD

a) The tenderer has to submit a Demand Draft / Banker's Cheque / Pay order of **Rs.30000/ - in favor of Principal, Government College of Engineering, Keonjhar** payable at Keonjhar in any Nationalized Bank towards EMD.

b) There will be no interest paid to the tenderer towards EMD money.

c) In no case, the EMD Money in cash or other forms will be accepted at the time of opening of the bid.

d) No request for adjustment of claims, if any, will be accepted.

e) The EMD of unsuccessful tenderers will be refunded as soon as possible after the tenders are finalized.

4.2 Performance Security Deposit

In case of successful Bidder EMD will be kept as Performance Security Deposit and will be refunded after expiry of stipulated warranty periods from the completion date of installation and commissioning on satisfactory performance of the equipment.

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4.3 PRICES:

Price quoted should be for **Government College of Engineering, Keonjhar** only. **Tax components as applicable should be mentioned clearly in the financial bid.**

a) Price should be quoted for individual equipment. Financial bid comparison will be done as per the price of individual equipment.

b) Purchase order will be placed as a single lot for each type of item or for all the items together, as the case may be.

c) In case of items of import, the tenderer should take full responsibility for customs clearance, handling, tax payment, etc. and specify the charge for the same in the price bid.

4.4 Tax Concession:

Central Sales Tax Concession is to be availed on production of the required certificates applicable to Educational Institution.

4.5 Discount:

a) Our Institute is a pioneer Institution in the field of Teaching and Research in Engineering and allied disciplines and do not run with profit motive.

b) As such we are availing price discount for purchase of equipment/instruments.

c) The rate of discount or any other Institutional benefit arising out of Govt. Policy etc., on each item may also be indicated in the bid specifically.

4.6 Payments:

a) In case of imported items, payment will be made by opening LC in the name of the manufacturer subject to the condition that a Bank Guaranty for an equal amount will be submitted by the selected tenderer to GCE for the period of completion of installation and commissioning.

b) In case of purchase in Indian Rupees, payment of 90 percent of the ordered value will be made after successful installation and commissioning of the equipment subject to submission of satisfactory performance report by the concerned Head of Department. The rest 10 percent of the payment will be made after one year of successful installation of the equipment.

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4.8 Penalty:

If the delivery, installation and commissioning is not carried out in time as specified in other part of the tender document, the tenderer/manufacturer will be charged @ 1 % (one per cent) per week of the total value of the concerned machine / equipment.

4.9 Rate Contract with DGS&D or any other Government Organisation:

In case the tenderer has entered into a Rate Contract with DGS & D or any other Government Organization such as EPM, rate contract preference, number & copy of rate contract have to be submitted along with tender.

5. Instruction to the Tenderer:

a) Some of the minimum specifications specified may be redundant, obsolete or incompatible and in these cases, quote the particulars of correct specification of latest trend and technology.
b) Higher specifications instead of minimum specifications are allowed if a minimum specification is not available, obsolete or incompatible.
c) Otherwise, model with higher specification should be in addition to the model with minimum specifications.
d) Specify brand name and full model name and number for each offer.
e) Include the printed catalogue and pricelist if any for each of the equipment quoted.
f) Specify the list of Accessories required along with each of the equipment.
g) Quote the additional price of the accessories; only those, which are fully compatible with the quoted model, should be furnished.
h) Specify the list of Accessories to be given free of cost, along with the equipment as **"Free Accessories"**; these should be fully compatible with the quoted models.

5.1 Solving Disputes:

a) GCE, the tenderer and the manufacturer shall make all efforts to resolve amicably by direct informal negotiation on any disagreement or dispute arising between them under or in connection with this contract.
b) All disputes arising out of the contract shall be referred to courts under the jurisdiction of the Keonjhar court only.
c) The above terms and conditions except those otherwise agreed upon shall form a part of the Purchase Order.
d) Sign on each page of this tender document and Return it along with the offer enclosing this part together with the Technical Offer.
e) The GCE authority has all rights to accept / reject any tender without assigning any reasons thereof.

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6. Technical Specifications:

Following are the minimum specifications of the equipment.

a) The minimum specifications are indicative and not exhaustive.
b) The models with higher specifications may be quoted.
c) The quoted materials should be of latest trend and technology.
d) Each equipment should be complete in itself without needing any extra requirements except the requirement of general test and measuring instruments.

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Technical Specification of "CNC WIRECUT EDM"

TECHNICAL SPECIFICATIONS OF CNC WIRECUT EDM			
1] FEATURES:			
1.	Integrated construction for machine tool and generator.		
2.	Compact footprint. 1800 x 1825 mm		
3.	Open loop DC step servo system (X, Y, U & V axes.)		
4.	'e' pulse technology.		
5.	USB 2.0 for data Input		
6.	Low maintenance single cartridge filtration system		
7.	Multi language display (Optional)		
8.	Mineral filtration system (Optional)		
9.	Prejog		
2] MACHINE TOOL			
10.	Work Table	:	600 X 370 mm
11.	Maximum work piece weight	:	300 kg
12.	Main table travel	:	250 X 350 mm
13.	Aux. Table travel,		30 X 30 mm
14.	Max. dry run speed	:	80 mm/min
15.	Resolution	:	0.001 mm
16.	Job admit	:	200 mm
17.	Max wire spool capacity	:	6 kg
18.	Wire spool size	:	DIN 125, DIN 160, P-3-R, P-5-R
19.	Wire electrode diameter	:	0.25 MM (STANDARD) , 0.2,(OPTIONAL)
20.	Wire guide type	:	Diamond closed type
21.	Wire feed rate	:	0 - 10 m/min
22.	Overall dimensions (W X D X H)	:	1800 x 1825 x 1950 mm
23.	Max Taper Angle	:	+/- 5 °/ 100 mm
24.	Net weight	:	2000 kg
3] GENERATOR TO BE INTEGRAL WITH MACHINE TOOL			
1.	Pulse Generator	:	MOSFET
2.	Pulse Peak Voltage	:	1 Step
3.	Max. Machining Current	:	8 A
4.	Pulse ON Time	:	32 Steps
5.	Pulse OFF Time	:	64 Steps
6.	Trim-cut mode (Multi-pass cutting)	:	Standard
7.	Abnormal Discharge Control	:	2 Stage
8.	Line Filter	:	Built-in
9.	Input Power Supply	:	3-Phase, AC 415V, 50 Hz (Alternate voltage ratings available on request.)
10.	Connected load	:	3 KVA
11.	Average load	:	1.5 to 2.3 KVA

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4] TECHNOLOGY:			
1	Constant / Proportional mode.		
2	Multi pass cutting (max. Two cuts)		
3	Max. cutting speed : 70 mm sq./min. (0.25 mm □ ELEKTRADURACUT wire & 50 mm HCHC Work piece)		
4	Technology charts for steel		
5	Best surface finish : 1.2µRa on HCHC Steel		
6	Job accuracies : +/- 0.015 mm		
5] GEOMETRY, POSITION MEASURING SYSTEM :			
1.	Controlled Axes	:	X, Y, U,V Simultaneous/Independent
2.	Main Table Servo System	:	DC Stepper
3.	Auxiliary Table Servo System	:	DC Stepper
4.	Position measuring system - X,Y,U,V	:	Open loop
5.	Interpolation	:	Linear & Circular
6.	Least Input Increment	:	0.001 mm
7.	Least Command Increment	:	0.001 mm
8.	Max. Programmable Dimension	:	+/-999.999
9.	Position Command	:	Incremental
10.	Main table positioning accuracy	:	0.020/300 mm
11.	Main table positioning scatter	:	0.015 mm
12.	U-V positioning accuracy	:	0.020/30 mm
13.	U-V positioning scatter	:	0.030 mm
14.	Square ness X to Y axis	:	0.020/300 mm
15.	Square ness U to V axis	:	0.020 mm
16.	Square ness Z to job stand surface	:	0.020/100 mm
6] CNC CONTROL :			
1	TYPE OF CONTROL	:	Controller EMT 90W.
7] DATA INPUT AND OUTPUT :			
1	Keyboard - Special Function Sealed Keyboard		
2	RS-232C Serial Interface		
3	USB 2.0		
8] DISPLAY :			
1	Display Type	:	15" Colour LCD Display
2	Text in English	:	Other language display available on request
3	Information displayed in various screen	:	Large character actual value display for X,Y,U,V (only in MDI Mode)
			Cutting rate
			2D Graphic simulation of Wire path
			Error messages
			Different screen for MDI programming, STBLK, ENDBLK, GRAPHIC.

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9] OPERATING AIDS :			
1	Mirror Image : On X, Y, XY axes		
2	X, Y Axes Rotation : +/-90°		
3	Dry Run		
4	Single step		
5	Linear Positioning		
6	Edge Finding / Centre Finding		
7	MDI		
8	Wire path graphic display during machining		
9	No man function		
10	Prejog		
11	External Machine Control Panel (RCU)		
12	E code for technology		
13	G & M code programming		
14	Online program Editor		
15	Off-line Automatic Part Programming System ELCAM V1.XX . Windows based Graphic programming CAD tool . Powerful Editing . Transformations (Copy, Move, Rotate, Scale, Mirror, R-Mirror etc.) . Tool path reversal . DXF Compatible . On profile offset & taper change facility.		
10] COMPENSATION :			
1	Backlash compensation		
2	Pitch error compensation		
11] SAFETY & PROTECTIONS :			
1	Safety and protection routines continuously active for CPU, SMD and Mains voltage.		
12] DIAGNOSTICS :			
1	Display of error messages		
13] PUMP FILTER UNIT			
1.	Dielectric Fluid	:	Water
2.	Dielectric tank capacity	:	140 Liters
3.	Paper Filter	:	0.01 mm

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Technical Specification for Torsion Testing Machine

TECHNICAL SPECIFICATION FOR TORSION TESTING MACHINE		
1	Maximum torque Capacity-	300 Nm
2	Maximum Rotation Speed-	60RPM
3	Torque range-	3-300Nm
4	Accuracy class-	0.5 Class
5	Torque reading accuracy-	±0.5% of reading
6	Torque resolution-	1/500000FS Nm
7	Torsion Angle Range-	0-10000°
8	Torsion angle accuracy-	±0.5% of reading
9	Troptometer angle resolution-	0.001°
10	Troptometer angle accuracy-	±1.0% of reading
11	Torsion speed accuracy-	±1.0% of setting
12	Grip distance-	300mm
13	Gripping end diameter-	Φ6- Φ14mm
14	Motor consumption-	0.85 kW
15	Rated power supply -	Single phase, 220VAC, 50Hz
16	Machine size-	1600 × 422 × 1200 mm
17	Three-channel high-precision 24-bit analog signal acquisition system.	up to 1200Hz acquisition frequency and 20BIT resolution
18	Necessary compatible Software and Hardware	

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Technical Specification for Surface Roughness Tester

TECHNICAL SPECIFICATION FOR SURFACE ROUGHNESS TESTER		
Measurement capability		
Gauge	Range	400 µm / 100 µm / 10 µm
	Resolution	50 nm / 10 nm / 5 nm
	Noise floor (Ra)	150 nm / 100 nm / 50 nm
	Repeatability (Ra)	0.5 % of value + noise
	Pickup type	Inductive
	Gauge force	150-300 mg
	Stylus tip radius	5 µm (200 µin) default / 2 µm (80 µin) or 10 µm (400 µin) optional
	Measurement type	Skidded
Calibration	Process	Automated software calibration routine
	Standards	Able to calibrate to ISO 4287 roughness standards
Analysis	Filter cut-off	0.25 mm / 0.8 mm / 2.5 mm
	Filter type	2CR / Gaussian
	Evaluation length	0.25 mm - 25.0 mm (0.01 in - 1.00 in
	Max X axis range	25.5 mm
Speed	Measuring speed	1 mm / sec (0.04 in / sec)
	Returning speed	5 mm / sec (0.06 in / sec)
Analysis capability		
Parameters	Standards	ISO 4287, ISO 13565-1, ISO 13565-2, ASME 46.1, JIS 0601, N31007

20/X/2024

Technical Specification for Semi-Automatic Hardness Tester

TECHNICAL SPECIFICATION FOR SEMI-AUTOMATIC HARDNESS TESTER	
1	Micro/Low-load hardness testing machine for Vickers, Knoop and Brinell for standardized testing according to EN ISO and ASTM.
2	Torsional stiff aluminium cast body, granite- baseplate with vibration-isolating screw-feet for load range 10 gf - 62.5 kgf (0.098 - 613.16 N).
3	PLC measurement and control electronics for controlling the load application with automatic test load change and vertical motor-driven adjustable test unit 12MPix colour camera incl.3-step zoom Motor-driven 6-fold measurement turret incl. 5 lens adapter and 1 indenter adapter Motor-driven Z-axis, traverse path 235 mm.
4	Manual cross slide with analogue micrometer spindle, traverse path 25 x 25 mm Height adjustment with fast gear 20 mm/s.
5	High performance LED vertical illuminator Capacitive 10" touch-display with LED backlight Integrated PC with Win 10 IoT 64-bit and 128 GB SSD storage capacity Interfaces: 4x USB 3.0, 1x Displayport, 1x HDMI, 2x RJ45
6	Basic operating software incl. 1 test method for fully automatic image analysis according to standards (Brinell, Vickers, Knoop) Automatic brightness control and autofocus with statistic and report functions.

30/11/2026