

## **TENDER PROPOSAL**



### **Tender Notice # GH-25/04-01**

#### **Equipment/Chemicals/Air Conditioner/Miscellaneous Items**

National Textile University, Sheikhupura Road, Faisalabad-37610  
[www.ntu.edu.pk](http://www.ntu.edu.pk)

**M/S.....**

## **Introduction:**

The idea of establishing a Textile Institute of world fame was conceived by a group of visionary industrialists in 1954. To realize this idea the Government of Punjab joined hands with the leading textile industrialists to form an Institute of Textile Technology in Faisalabad (then Lyallpur) and provided sixty-two acres of state-owned land free of cost. Kohinoor Industries, Colony Textile Mills, Dawood Foundation and Lyallpur Cotton Mills provided funds to the tune of Rs.2.5 million, which were utilized for the construction of building and provision of other infrastructure. The Government of U.K. provided the bulk of equipment and machinery, along with the services of experts under Colombo Plan. Field Marshall Muhammad Ayub Khan, the then President of Pakistan, laid the foundation stone of the Institute, on the 12th of October 1959.

A Board of Trustees, with the Minister of Industries as chairman and nominees of the donor companies as members was constituted to manage the affairs of the Institute. In order to meet the recurring expenses of the Institute a Cess was levied by the government on the Textile industry of Pakistan. Later, in 1965, the Institute was granted affiliation by the University of Engineering & Technology, Lahore, and it was renamed as “National College of Textile Engineering”. The first batch of graduate engineers was passed out in 1966. In 1973 the administrative control of the Institute was transferred to Federal Government, and it was renamed as “National College of Textile Engineering”.

In 1992, the college received a comprehensive assistance worth 650 million yen from the Japanese Government, through JICA program, in the form of latest machinery and equipment for all the departments of the Institution. The college was upgraded as National Textile University on 15 November 2002 through promulgation of Ordinance No. CXXIV of 2002 by the President of Islamic Republic of Pakistan.

Ever since its inception National Textile University has been the premier Institute of textile education in the country, meeting the technical and managerial human resource needs of almost entire textile industry of Pakistan. It always retained a close relationship with the industry and industrialists.

## ADVERTISEMENTS OF THE TENDER # GH-25/04-01

Last date: 22-04-2025

i.	PPRA website dated	03-04-2025
ii.	NTU website dated	28-03-2025
iii.	The Express Tribune	30-03-2025
iv	Daily Ausaf	30-03-2025

Advertisement as it is:



**NATIONAL TEXTILE UNIVERSITY, FAISALABAD**  
(Federally Chartered Public Sector University)

**Tender Notice #. GH-25/04-01**

**Equipment/Chemicals/Air Conditioner/Miscellaneous Items**

1. Tender will be processed through EPADS (e-Pak Acquisition& Disposal System) <https://www.eprocure.gov.pk>, otherwise, Tender will not be accepted.

2. National Textile University, Faisalabad invites bids as per PPRA Rule-36(b), FOR basis in sealed envelopes from the original Manufacturers, Authorized Agents/Distributors, Firms, Suppliers (GST, PST, Income Tax Registered) for the purchase of following items. Delivery of all items will be made at NTU Faisalabad Campus. Detail is in tender document.

Sr. #	Description	Earnest Money (Fixed) Amount(Rs.)
1.	Repair and Maintenance of 05-Lab Machines	50,600/-
2.	Different Type of 17 Items (16 Chemicals and 01 Consumable)	2,400/-
3.	08 Air Conditioners	54,000/-
4.	Different Type of 02 Chemicals	11,000/-
5.	Different Type of 02 Equipment	56,000/-
6.	Different Type of 27 Items (Chemicals and Consumable etc.)	3,100/-
7.	Different Type of 08 Equipment	73,700/-
8.	Different Type of 06 Equipment	94,600/-
9.	Integrated Sphere	146,250/-
10.	Electron Multiplier Horn	24,750/-
11.	Different Type of 24 Consumable Items	89,350/-
12.	Hydroentangled Nonwoven Fabrics Manufacturing Machine	78,750/-
13.	Data Acquisition System	27,000/-
14.	Fibers Packing Accessories	3,825/-
15.	Fibre Treatment Setup (Chemical)	173,250/-
16.	Different Type of 18 Chemicals	10,600/-
17.	Different Type of 12 Consumable Items	8,900/-

3. Tender Document may be downloaded from the official website of NTU ([www.ntu.edu.pk](http://www.ntu.edu.pk)) or may be obtained from the office of Convener Purchase. The fee of Tender Document is non-refundable **Rs. 1,000/- (One Thousand Only)**. The tender document fee will be accepted in shape of Pay Order/Demand Draft drawn on Faisalabad in the name of **“National Textile University, Faisalabad”**.

4. Eligible firms should submit their bids along with earnest money (fixed) amount in sealed envelope of Technical Bid as mentioned against each serial in above table in the shape of CDR/Bank Draft in favor of **National Textile University, Faisalabad**, drawn on Faisalabad.

5. **Date, Time, and Venue:** Sealed bids should reach in the office of Convener Purchase by or before **02:30 pm on 22-04-2025**. Bids received within the stipulated time and date **will be opened** by the Purchase Committee in the **Meeting Room of NTU Faisalabad** on the **same day at 03:00 pm** in the presence of the bidders or their authorized representatives.

6. The names of contact persons for any technical queries are given in tender document.

**Convener Purchase**

National Textile University, Faisalabad-37610, Tel: 041-9230081-5 Ext: 113, 281, [www.ntu.edu.pk](http://www.ntu.edu.pk)

**16x4**

<b>IMPORTANT NOTE</b>	
i.	<ul style="list-style-type: none"> <li>a) Technical bid and Financial bid shall be accepted through EPADS, additionally dispatch the same in hard form on original letterhead pad of the company dully sign and stamped by authorized officials.</li> <li>b) Photocopy of such document (s) (as hard copy of technical and financial bids) shall not be accepted even with original stamp &amp; signature.</li> </ul>
ii	<ul style="list-style-type: none"> <li>a) Only and only: existing Machine/Equipment/Item /part/Accessory which is indicated on the Manufacturer's web/catalogue /brochure with model number/catalogue number will be accepted where applicable.</li> </ul>
iii	<ul style="list-style-type: none"> <li>a) Any Special prepared model of Machine/Equipment/Item or its part / accessory to meet the requirement of NTU shall not be accepted.</li> <li>b) Any Special prepared model of Machine / Equipment / Item or its part / accessory shall be accepted if it is specifically asked / indicated / mentioned in technical specification(s).</li> </ul>
iv	<ul style="list-style-type: none"> <li>a) Any type of alteration /modification to meet the requirement of NTU in any existing model of Machine /Equipment/Item or any part/Accessory will not be accepted.</li> <li>b) Any type of alteration /modification to meet the requirement of NTU in any existing model of Machine /Equipment/Item or any part/Accessory will be accepted if it is specifically asked/indicated/mentioned in technical specification(s) or mentioned in tender document in specific item detail.</li> </ul>
v	<ul style="list-style-type: none"> <li>a) The catalogue/brochure of the quoted model must be on the web of principal manufacturer /company etc. Self-made catalogue/brochure by the bidder will be considered as cheating and this attitude can create serious problems (as per PPRA rules) in the business of the bidder.</li> </ul>
vi	<ul style="list-style-type: none"> <li>a) A fake website or a fake advertisement of the quoted model (to make money from NTU or to meet the requirement of NTU) on the genuine web site of the principal manufacturer /company will be considered cheating and the case will be proceeded as per PPRA rules.</li> </ul>
vii	<ul style="list-style-type: none"> <li>a) Complete machine/equipment/item in its original packing (as in the country of origin) will be accepted. Its any specific part/Accessory (locally made) will not be accepted unless categorically mentioned (locally made) in the final technical specifications.</li> </ul>
vii	<ul style="list-style-type: none"> <li>a) Any part of the equipment/machine (even it is compulsory to make equipment /machine operational) if it is as per requirement of NTU then do not write the word "optional". Please quote optional item separately if categorically requested.</li> </ul>
ix	<ul style="list-style-type: none"> <li>a) Successful bidder is bound to provide <i>only and only</i> the exact quoted model number of machine / equipment/ items. Justification(s) such as: (quoted model is not available right now, its manufacturing for NTU will take long time, it is outdated, company has stopped its manufacturing) will not be accepted. Bidder's offer such as "Latest model with better/similar technical specifications can be delivered in the same price and time" shall <b>not be accepted</b> of this tender document.</li> <li>b) Situation will be declared as "failure in delivery of machine /equipment /item". Case will be forwarded to the blacklisting committee to proceed further as per PPRA rules-19.</li> </ul>

All bidders /suppliers are requested to participate independently I each item / serial / lot as indicated in the advertisement.

Each item / serial / lot shall be compared for prices independently to calculate the most advantageous bidder.

## 2. Deadline and Procedure for Bids:

i.	Tender Proposals required under PPRA Rule 36(b), FOR Basis.
ii.	<p><b>PPRA Rule 36(b): Single stage two envelope procedure.</b> Technical &amp; Financial Bids must be sealed (separately) with covering letter. There must be clearly mentioned on each envelope "Technical proposal" / "Financial Proposal".</p> <p><b>NOTE:</b> 2<sup>nd</sup>, 3<sup>rd</sup>, 4<sup>th</sup> option(s) of any complete item or its any part shall not be considered in any case. Only 1<sup>st</sup> option will be considered for healthy competition under this rule.</p>

## 3. Bidder's Eligibility and Qualification

i.	Bidding firm must be registered with EPADS, Govt. tax authorities (GST, PST and Income Tax etc.) and shall submit the certificates of registration.
ii.	Bidders are required to submit the certificate along with their offer i.e. "Certified that the prices quoted in the tender are firm, final and the prices will not change in any case.
iii.	An Affidavit duly attested by the Oath Commissioner/Notary Public showing that the firm <b>is not Blacklisted</b> from any Govt./Semi Govt. Department of the Pakistan.

iv.	Bidder will provide address of nearest office to Faisalabad (mandatory) and Web page address (mandatory where applicable).																																																						
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<b>5.</b>	<b>Conditional Tender:</b>																																																						
i.	Terms and conditions published in this Tender document are final. Any condition(s) imposed by the bidder in contradiction of the published document shall not be accepted.																																																						
<b>6.</b>	<b>Bid Security (PPRA Rule-25):</b>																																																						
i.	Eligible firms should submit their bids along with earnest money (fixed) amount, independently /separately as explained above in advertisement, in sealed envelope of <b>Technical Bid</b> in the shape of CDR / Bank Draft in favor of National Textile University, Faisalabad, drawn on Faisalabad. Details of fixed bid security as per advertisement is given below:																																																						
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<b>7.</b>	<b>Performance Guarantee (PPRA rule 39):</b>																																																						
i.	<ul style="list-style-type: none"> <li>a) Successful bidder shall provide an amount of 06% of the quoted price in the form of CDR/Pay order within the 03 working days after the issuance of the intimation letter along with the contract agreement {A contract agreement on stamp paper as per Punjab Govt. finance act 2018 (Sr. # 2C(b)} will be signed by the bidder / supplier).</li> <li>b) Supply order will be issued after the fulfillment of the above requirements.</li> </ul>																																																						
ii.	<ul style="list-style-type: none"> <li>a) Performance guarantee will be retained only for the items in serial No. 3, 5, 7, 8, 9, 10, 12, 13, 15 for the given warranty period (01 year) that will start from the date of commissioning/ installation/supply.</li> <li>b) An amount of 06% excluding serial No. 3, 5, 7, 8, 9, 10, 12, 13, 15 will be returned / reimbursed back after the comments from the end user at the time of job completion.</li> <li>c) As stated, “All chemicals / consumables and other items are as per given specifications and are without any breakages /cracks /exact quantity /weight and expiry date. Bidders are requested to hand over the chemical s/ breakable items to the personally instead of luggage carrier /TCS etc.</li> <li>d) The supply of items or any part must be <b>BRANDED</b> (originally manufactured &amp; assembled) &amp; complete in all respects with original manufacturer’s packing and strictly conforming to given specifications.</li> </ul>																																																						

	<p>e) Any used part /component (inner or outer) will not be accepted.</p> <p>f) The parts if applicable for manufacturing, or alterations required / modifications relating to task for research project will be performed under the recommendation / guidance provided by principal investigator.</p>
<b>8.</b>	<b>Taxes/Duties:</b>
i.	<b>FOR basis:</b> Applicable all Govt. Taxes will be paid by the bidder.
ii.	All payments will be made after the supply of items.
iii.	A contract agreement on stamp paper as per the Punjab finance act 2018 (Sr. # 2C(b), (i.e., 25 paisas for everyone hundred rupees)} shall be signed by the bidder /supplier before providing services.
<b>9.</b>	<b>Bid Validity Period:</b>
i.	All pricings shall be guaranteed not to increase, based on an order placed. The offer should be valid for 90 days from the date of opening of the tender in case of PPRA rule 36(b).
<b>10.</b>	<b>All Expenditures like: Freight/Loading/Unloading/Commissioning/Installation on site:</b>
i.	All expenditures like: Freight/Loading/Unloading/Installation/Training (on site for operation, maintenance & troubleshooting etc. as well as for other items/equipment etc.) and testing of equipment/item/machine <b>on site</b> will be provided by the bidder.
ii.	All expenditures up to the place of installation / supply at NTU Faisalabad of item(s) / equipment / items will be paid by the bidder and this should be included in the bid price.
<b>11.</b>	<b>Requirement:</b>
i.	The items /services must be according to the specifications provided.
ii.	<p><b>Training /Trainer (foreign/local)</b> where applicable,</p> <p>Training of equipment /machine will be on site (at NTU through qualified engineers local / foreigner). Please make sure about the availability of your trainer (local / foreign) to train our lab. Engineers, MS and PhD students as well as faculty members then quote your offer.</p> <p><b>NOTE:</b> Make sure about the foreign trainer availability (if applicable) as per travel (to Pakistan) rules &amp; regulations of that country before quoting your price</p>
iii.	<p><b>Redressal of Grievances (PPRA rule-48)</b></p> <p>Please follow PPRA rule-48 in case of any Grievance(s) and contact NTU grievances committee.</p>
iv.	<p><b>Warranty:</b></p> <p>Warranty only for the items, For serial No. 3, 5, 7, 8, 9, 10, 12, 13, 15, should be <b>one year</b>. One year will be considered from the date of supply / commissioning / installation (operational on site). The items or any part must be <b>BRANDED</b> (originally manufactured &amp; assembled) &amp; complete in all respects with original manufacturer's packing and strictly conforming to given specifications. Any used part /component (inner or outer) will not be accepted.</p>
v.	<p><b>Penalty for late delivery:</b></p> <p>a) In case of late delivery on the part of bidder / supplier to supply the equipment's as per specifications / quantity within the stipulated time (without extension / approval from the competent authority i.e., Rector of National Textile University), a penalty at least 0.25% but not exceeding 10% per month will be imposed after the approval of competent authority.</p> <p>b) Tender with any cuttings, over writings and erasing shall not be entertained.</p>
<b>12.</b>	<b>Prices:</b>
i	<b>FOR</b> prices must be in Pak rupees. All payments of equipment / item(s) / services will be made after the supply, installation, commissioning and operational onsite. No advance cash payment /or advance payment through cheque / cash will be made in any case).
ii	<p><b>EXAMPLE-1</b></p> <p>The bidder/supplier should quote unit price of each optional / compulsory accessory (as per technical specification of the tender); however, all such prices will be incorporated in the price of main equipment / machine / item/serial as named in the given (advertisement) equipment/item list for the price comparative statement.</p> <p><b>Every Serial No. / Item will be offered with rate independently including each item in the main serial where applicable.</b></p>

	<b>Example:</b> Each item will be compared independently for competition.
<b>13. Payments:</b>	i. The Payment will be made on the availability of funds (approvals from Government planning agencies etc., other relevant authorities and University management). If payment is delayed (from Government planning agencies, other relevant authorities, and University management) due to any reason; no extra interest/mark-up will be paid to the supplier/bidder.
<b>14. Expenditures:</b>	i. All expenditures {technical, personnel, any transportation, or any type of charges of repair/replacement of any part(s) of the item(s)/equipment etc. during the supply/service period/guarantee period will be borne by the supplier/bidder.
<b>15. Conformity with given Specifications:</b>	i. Equipment/items/supply etc. will be inspected on site (at National Textile University) in the presence of the supplier/bidder/their representative. Equipment/item or any part will be rejected if not found according to the given specifications. ii. In case any material / item is found not in conformity with the specifications provided in the tender, either on account of inferior quality, defective workmanship, faulty design, or is short supplied, or wrongly supplied, the supplier will replace the short supplied wrongly supplied, faulty or defective part /material free of charges including transport charges etc. iii. In case of failure on the part of supplier to supply /provide the services/equipment/item as per specifications / quantity within the stipulated time, the case will be forwarded to the NTU blacklisting committee (Blacklisting policy can be downloaded from the NTU web.). Tender with any cuttings, over writings and erasing shall not be entertained.
<b>16. Notification of award:</b>	i. The university will award the contract to the technically successful bidders/suppliers whose tender has been determined to be substantially responsive and has been determined as the most advantageous financial proposal. ii. The University will display the official comparative statement on EPADS, or the notice board for which such date will be notified to all bidders/suppliers accordingly.
<b>17. Blacklisting:</b>	i. In case the offer is withdrawn, amended, or revised during the validity period of the tender, failure in the delivery (of equipment/item/service or its part/accessory), the case will be sent to NTU blacklisting committee. The Blacklisting policy can be downloaded from the NTU website url: <a href="https://www.ntu.edu.pk/tender-details.php?id=3102">https://www.ntu.edu.pk/tender-details.php?id=3102</a> as per PPRA rule-19.
<b>18. Mandatory Signature &amp; Stamp:</b>	i. Bidder or its authorized representative must sign & stamp each page of the bid documents (technical & financial). Also bidder/supplier will provide the certificate that is provided at the end of this document named as Declaration Certificate (Mandatory).
<b>19. Rights of the University:</b>	i. In case of conflicts, it is fundamental that issue will be resolved as per PPRA rule, Govt. of Pakistan. ii. The University reserves the right to reject any or all bids with assigning reason(s). iii. The University reserves the right to ignore or waive off minor irregularities or errors in any offer. iv. The University reserves the right to award the contract to one bidder or divide it among several bidders. (if applicable) v. The University reserves the right to cancel the offer of the Bidder whose bid has been found financially to be the lowest if it is revealed to the University that the Bidder does not have the capability or financial resources or facilities to carry out the contract in accordance with the terms and conditions of this Tender Documents.
<b>20. Breach of Contract:</b>	i. In case of breach of warranty by the supplier/bidder, the damages suffered by the University shall be recovered from the supplier/bidder out of any payment due to the supplier/bidder and / or in accordance with the terms and conditions of the Contract Performance Bond mentioned without notice to the Contractor.
<b>21. Force Majeure:</b>	i. The supplier/bidder shall not be liable for any additional cost or for liquidated damages for delay or any failure

to perform the Contract arising out of force majeure or cause beyond his/her control including acts of God, or of the public enemy or any uncontrollable circumstances. The supplier/bidder shall within one day from the beginning of such delay notify the University in writing of the causes of the delay. The University shall ascertain the facts and the extent of the delay and extend the time for completing the supplies as in its judgment the findings justify.

**22. Legal proceedings:**

i. The law of Pakistan shall govern the contract and the tender documents. Any dispute arising out shall be decided by Competent Authority of the University as per PPRA rules.

For any technical query even for any confusion in understanding tender document/technical specifications, pl contact following persons.

**23. Contact Person(s):**

Sr.# 1	Mr. Faisal Sadique:	041-9230081-85, Ext. 208
Sr.# 2 and 12 to 15	Dr. Sheraz Ahmad:	041-9230081-85, Ext. 108
Sr.# 3, 7 to 11 and 16 to 17	Dr. Ahsan Nazeer:	041-9230081-85, Ext. 192
Sr.# 4 and 5	Dr. Dr. Bilal Qadir:	041-9230081-85, Ext. 104
Sr.# 6	Dr. Nadeem Nasir:	041-9230081-85, Ext. 231

**Declaration Certificate  
(Mandatory)**

"I, ..... on behalf of (company name) ....., hereby solemnly declare that I have thoroughly read and understood all the terms and conditions outlined in the tender document (Tender Notice # GH-25/04-01) issued for National Textile University, Faisalabad. I confirm that all the information provided by the undersigned in the tender proposal for the said tender is accurate, complete, and true to the best of my knowledge.

I fully accept the responsibility for the correctness of the information provided in the proposal and understand that any discrepancies or inaccuracies may result in disqualification from the tender process."

Signature

Date: \_\_\_\_\_

Company name address & stamp.

# 1-Serial Specification

Tender # GH-25/04-01 Sr. # 1

## Specifications

Sr	Item	Specification
1	Injection Slub device of long Tex (HZ-DC2) installed on Ring machine K-44 Rieter	Drafting Rollers controlled by PLC (Panasonic FP-XH C14T) and servo derive (Panasonic MDDHT 3530E02) is not working.

Coordinator Yarn Manufacturing Lab

27/03/25

Tender # GH-25/04-01 Sr. # 1

### Specification:

Services required for Lonati Model GL-544, 2009 Socks knitting Machines

1. Can Card Repairing
2. Invertor Repairing
3. Volve Replacement
4. Wiring Replacement
5. PCB Mother Board 01 Repairing
6. PCB Mother Board 02 Repairing
7. Electronic and Mechanical Services of overall Machine

**Repair & Maintenance / Service required for Weaving Lab Machines.**

**Specification:**

**1. Services required for Socks Knitting Machine (Company name # CESARE COLOSIO Model # MAGICA U)**

1. Invertor Repairing
2. PCB Mother Board 01 Repairing
3. Electronic and Mechanical Services of overall Machine

**2. Warp Beam Finished required for Projectile Sulzer Loom Tappet (Model # P-7100)**

1. Count: 16/1 Ne
2. Total Ends: 3800
3. Beam width: 65 inches
4. Warp sheet length: 4500 *m*

**3. Warp Beam Finished required for Piconol Loom**

1. Count: 16/1 Ne dyed yarn
2. Total Ends: 6500
3. Beam width: 65 inches
4. Warp sheet length: 4500 *m*

*✓ 16/1 Ne  
28/3/25*

*✓ 16/1 Ne  
28/3/25*

## 2-Serial Specification



Tender# GH-25/04-01 Sr. # 2

### Expendable Supplies

Date: - 26-03-2025

#	Chemical Name (write molecular weight where applicable)	CAS #	Grade/ Purity	Packing size	Quantity required	Any Other Specs./ Special Instructions*
1	Methanol		Lab Grade	LTR	7.5	(Packing Size 2.5 Ltr)
2	Ethanol		Lab Grade	LTR	10	(Packing Size 2.5 Ltr)
3	Sulfuric Acid		Lab Grade	LTR	2.5	(Packing Size 2.5 Ltr)
4	pH strips box		Lab Grade	BOX	1	
5	Sodium Hydroxide (NaOH)		Lab Grade	KG	35	310-73-2
6	Hydrogen Peroxide		Lab Grade	LTR	30	
7	Hydrofluoric Acid		Lab Grade	LTR	1	Molecular Weight: 20.01
8	Polyethylene Oxide		Lab Grade	KG	0.250	
9	Poly Propylene Oxide		Lab Grade	KG	0.250	
10	Dimethyl formamide		Lab Grade/ Purity: 99%	LTR	1	
11	Dimethyl sulfoxide		Lab Grade/ Purity =99.7%	LTR	1	
12	Magnet Stirrer Bar 1"		Bar 1"	NOS	1	Bar 1"
13	Cellulose Enzyme		Lab Grade	KG	1	
14	Enzymatic Desizer		Lab Grade	KG	1	
15	Hypochlorite Bleach		Lab Grade	LTR	1	
16	Anti Back Staining Agent		Lab Grade	KGS	1	Nonionic, Off White powder, 9 +/- 1
17	2-Methylimidazole		Lab Grade	GRM	400	M50850, Sigma-Aldrich (Packing 100 Gram)

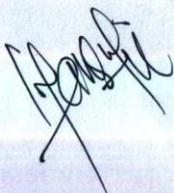
Signatures

### 3-Serial Specification

Tender# GH-25/04/01 Sr. #3

Air Conditioner Split (Required Quantity = 06 Nos.)

	Specifications	Description
1	Type	Non-Inverter (Cool Only)
2	Capacity	2 Ton (24000 BTU)
3	Style	Wall Mounted
4	Coolant Gas	Eco friendly
5	Other features	Powerful Air-Flow Golden Fins Auto Restart Sleep Mode 24 Hour Timer Turbo Function Hidden LED Display
6	Warranty	Minimum 2 Years PCB warranty Kenwood or Equivalent



on

Tender # GTH-25/04-01 Sr. # 3

## Air Conditioner Inverter (Required Quantity = 02 Nos.)

- 2.0 Ton Inverter
- Up to 75% Energy Efficient
- T3 Compressor
- EER 3.6
- Wi-Fi Function
- Ampere Lock Mechanism
- Evaporator Anti Corrosion Coating
- Self Cleaning
- Turbo Cooling
- Quiet Mode
- Eco-Friendly R410 Gas
- 4 Year PCB Warranty
- 10 Year Compressor Warranty

Kenwood or equivalent

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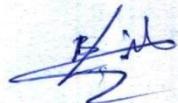
## 4-Serial Specification

Tender # GH-25/04-01 Sr.#4

### Tender Specifications for Consumable Items (PSF/CRP/P-NTU/T-Helix (194))

#### Required Chemicals

Sr No	Chemicals	Specification	Quantity
1.	Silver nitrate	<ul style="list-style-type: none"><li>• 99.9999% trace metals basis</li><li>• Crystalline, solid</li><li>• Analytical grade with certificate of analysis, approved from calibration body and traceability</li><li>• 30 gram packing and 6 packings are required</li><li>• Original Packing required, local packing/repacking is not acceptable</li><li>• Only authentic and well-known international chemical companies' products are acceptable</li></ul>	180 g
2.	Polyvinylpyrrolidone	<ul style="list-style-type: none"><li>• powder, average <math>M_w \sim 55,000</math></li><li>• Analytical grade with certificate of analysis, approved from calibration body and traceability</li><li>• 200 gram packing and 3 packings are required</li><li>• Original Packing required, local packing/repacking is not acceptable</li><li>• Only authentic and well-known international chemical companies' products are acceptable</li></ul>	600 g



# 5-Serial Specification

Tender# GH-25/04-01 Sr.# 5

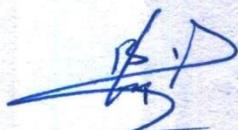
## Tender Specifications for Fixed/permanent Items/equipment (PSF/CRP/P-NTU/T-Helix (194))

### Item-1 : Contact angle analyzer

- Automatically drop volume adjustment by software ( minimum 1  $\mu$ L)
- Smart Capture for Super-hydrophilic material
- Sessile drop method and touch to surface, using in parallel
- Automatic and rapid sample analysis and high-speed dynamic image capture
- Improved precision and reproducibility by the elimination of operator error.
- Available to connect to notebook or PC via USB port
- Auto calculation of surface energy and work of adhesion
- High resolution and powerful image capture system
- Automatic and Manual image analysis

### Item-2 : Trinocular optical microscope

- FULL HD image sensor
- Precise measurement possible
- Various magnification lenses available from 25x to 2500x
- Contact and non-contact
- Available to connect to notebook or PC via USB port
- Software and data cables included
- Usable in conjunction with an endoscope
- Can be used for machine parts condition, tool wear, crack inspection, etc.
- Can be used for fiber tissue patterns, yarn and cross-section inspection, dyeing status, etc.
- Can be used for circuit pattern inspection, inspection of semiconductor parts and before and after cleaning, etc.
- Image enlargement function
- Compatible with monitors of various ratios
- Various lenses available
- Image capture and management function
- Can be changed to Normal, Rotate, Mirror, Negative, Gray type



## 6-Serial Specification

Tender# GH25/04-01 (Sr # 6)

### List of chemicals required

Sr #	Name of chemicals	CAS #	Grade/Purity	Packing size	Quantity required	Any other Specification/Special instructions
1	Aluminium Trioxide (Al <sub>2</sub> O <sub>3</sub> )		Lab Grade	GRM	500.00	(Packing size 500 g)
2	Ammonia solution (NH <sub>3</sub> )		Lab Grade	LTR	5.0	(Packing size 2.5, LTR)
3	Benzene		Lab Grade	LTR	2.50	(Packing size 2.5 LTR)
4	Cupric Chloride (CuCl <sub>2</sub> )		Lab Grade	KG	1.00	(Packing size 1 KG)
5	Barium Sulphate		Lab Grade	GRM	500.00	(Packing size 500 GRM)
6	Dimethyl glyoxime		Lab Grade	GRM	100.00	(Packing size 100 GRM)
7	Eriochrom Black -T		Lab Grade	GRM	25.00	(Packing size 25 GRM)
8	Ferric alum		Lab Grade	KG	1.00	(Packing size 1 KG)
9	Fructose		Lab Grade	KG	0.50	(Packing size 500 GRM)
10	Hydrogen per oxide (H <sub>2</sub> O <sub>2</sub> )		Lab Grade	LTR	1.00	(Packing size 1 LTR)
11	Hydrogen sulphide (H <sub>2</sub> S)		Lab Grade	LTR	1.00	(Packing size 1 LTR)
12	Methylene blue		Lab Grade	GRM	100.00	(Packing size 50 GRM)
13	Mohr's salt		Lab Grade	KG	1.00	(Packing size 1 KG)
14	Naphthalene Ball		Lab Grade	KG	0.50	(Packing size 500 GRM)
15	n-Butyl alcohol		Lab Grade	ML	2500.00	(Packing size 2.5 LTR)
16	Mercurous nitrate		Lab Grade	GRM	250.00	(Packing size 250 GRM)
17	Potassium oxalate (Monohydrate)		Lab Grade	KG	1.00	(Packing size 1 KG)
18	Resorcinol		Lab Grade	KG	0.50	(Packing size 500 GRM LTR)
19	Vanillin		Lab Grade	GRM	250.00	(Packing size 250 GRM)

p.Tah Sadiq

20	Zinc dust		Lab Grade	GRM	500.00	(Packing size 500 GRM)
21	pH strips box		Lab Grade	BOX	2.00	
22	Gloves Surgical		Lab Grade	PAR	50.00	
23	Sprit		Lab Grade	LTR	10.00	(Packing size 2 LTR)
24	Face Mask		Lab Grade	BOX	2.00	
25	Thiophene		Analytical Grade	ML	500.00	(Packing size 500 ML)
26	Copper foil A4 Size		Analytical Grade	NO	2.00	
27	Nickel foam A4 Size		Analytical Grade	NO		

*p. T. A. Sadiq*

## 7-Serial Specification

Tender # GH-25/04-01 Sr. # 7

Item # 7 Dry Oven (Required Quantity = 01 Nos.)	
Specifications	
air convection	natural
chamber capacity (l) / <sub>1</sub>	50
working capacity (l)	45
controller	microprocessor with external LCD graphic display
display	4.3" full colour touch screen
Temperature	
temperature range (°C)	+5 °C above ambient temperature to +300 °C
temperature resolution every ... (°C)	0.1
over temperature protection	class 2.0 to DIN 12880 / class 3.1 (option)
Chamber	
door type	solid
Smart	acid-proof stainless steel to DIN 1.4301
IG Smart	acid-proof stainless steel to DIN 1.4301
Smart	powder coated sheet
IG Smart	stainless steel linen finish
overall dimensions (mm) / <sub>2</sub>	
width	590
height	850
depth	620
internal dimensions (mm)	
width	400
height	530
depth	360
shelves (standard / max)	2 // 5
max shelf workload (kg) / <sub>5</sub>	25
Electrical Parameters	
voltage	230V 50Hz
nominal power (W)	1700
<b>Warranty</b>	1 Year



Tender # GH-25/04-01 Sr. # 7

Item#6 Vortex Mixer (Required Quantity = 01 Nos.)  
Specifications

<b>Motion type</b>	Touch operation/Continuous
<b>Orbital diameter</b>	4mm
<b>Speed range</b>	0-3000rpm(Adjustable)
<b>Speed display</b>	Scale
<b>Run type</b>	Touch operation/Continuous
<b>Motor type</b>	Shaded pole motor
<b>Motor rating input</b>	58W
<b>Power</b>	60W
<b>Dimension[W×H×D]</b>	127×130×160mm
<b>Protection class</b>	IP21
<b>Warranty</b>	1 Year



Tender # GH-25/04-01 Sn #7

Item # 5 Digital Water Bath (Required Quantity = 01 Nos.)	
Specifications	
Capacity	30Liter
Including	1Heater cover and Bath Lid
Heating	Direct Immersion Sheath Heater
Temp. Range	ambient + 5 °C ~ 120 °C
Accuracy	± 0.2 °C at 37.0 °C (JSWB-11T)
Uniformity	± 0.8 °C at 37.0 °C (JSWB-11T)
Control	Digital Microprocessor PID Temperature Controller
	3-Zone Temperature Control Algorithm
	3-Point Temperature Calibration
	1-Point Temperature Offset Calibration
Sensor	Class A Pt-100 Ω Sensor
Safety	Over-Temperature Cut-Off
	Over Current Cut-Off
Material	Body - Epoxy Powder Coated Steel
	Bath – Electro-polished Seamless Stainless Steel 304
	Heater Cover – Perforated Stainless Steel 304
Electric	220±10% VAC 50/60Hz 1-Phase
Plug config.	CEE 7/7 Schuko or BS 1363
Warranty	1 Year



Tender # GH-25/04-01 Sr #7

Item # 4 Rotory Vaccume Pump (Required Quantity = 01 Nos.)	
Specifications	
Flow rate [m <sup>3</sup> /h] at atm. pressure	1.14
Flow rate [l/min] at atm. pressure	19
Ultimate vacuum [mbar abs.]	7
Max. Power P [W]	80
Max. current [A]	0.4
Motor speed [rpm]	1450
Hose connections [mm]	9
Noise [dB]	50
Dimensions W x D x H [mm]	310x152x165
Weight [kg]	5.4
Power supply	220V/50Hz
Warranty	1Year



Tender # GH-25/04-01 Sr. # 7

Item # 3 pH meter ( Multimeter) (Required Quantity = 01 Nos.)		
Specifications		
pH	Measuring Range	-2.00 to 20.00 pH
	Resolution	0.1/0.01 pH
	Selectable Resolution	Yes
	Accuracy	± 0.01 pH
ORP, Redox	Pre-Defined Buffer Groups	5
	Measuring Range	±2000.0 mV
	Resolution	0.1mV
	Accuracy	±0.5 mV
Conductivity	Units	mV, RmV
	Measuring Range	0.01 S/cm to 19.99 S/cm 20 S/cm to 199.9 S/cm 200 S/cm to 1999 S/cm 2.00 mS/cm to 19.99 mS/cm 20.0 mS/cm to 500.0 mS/cm
	Resolution	0.01 S/cm minimum; auto-range
	Accuracy	± 0.5 % Reading ± 2 Least Significant Digit
	Reference Temperature	20 °C, 25 °C
TDS	Cell Constants	0.001 to 10.00 cm <sup>-1</sup>
	Temperature Compensation	Linear (0 to 10.0%/°C), off
	Measuring Range	0.1mg/L to 199.9 g/L
	Resolution	0.01 mg/L minimum, auto-range
Resistivity	Accuracy	± 0.5 % Reading ± 2 Least Significant Digit
	TDS Factor Range	Linear, 0.01 to 10.00, default 0.5
	Measuring Range	2 to 100 M -cm
Practical Salinity	Resolution	0.01 -cm auto-range
	Accuracy	± 0.5 % Reading ± 2 Least Significant Digit
	Measuring range	0 to 100 psu
Temperature	Resolution	0.01 psu minimum, auto-range
	Accuracy	± 0.5 % Reading ± 2 Least Significant Digit
	Measuring Range	-5.0 to 110.0°C
Calibration	Resolution	23.0°F to 230.0°F
	Accuracy	0.1 °C, 0.1 °F
	Calibration points	Up to 5 points for pH; 1 point cell constant calibration; 6 conductivity standard solutions available (10, 84, 146.5, 500, 1413 S/ cm and 12.88mS/cm)
Meter Specifications	Calibration Sign	Slope/offset & Cell Constant & Fase
	Must Provide Calibartion Standards (Buffer)	pH(4.0,7.0,10.0), conductivity 146.5S/cm
	Calibration mode	Linear
	Display Type	6.5" Segment & Dot matrix LCD with backlight
	Multilanguage User Interface	English, Spanish, French, Portuguese, Chinese, Russian and Turkish
	Measurement End-point Modes	Auto-stop, Continuous
	Datalog for measurement	1000 sets data points with time and date stamp
	Datalog for calibration	Last calibration
	Keypad	Capacitive touch
	Output	Connect to PC via RS232 and USB, Connect to Printer via RS232
	pH electrode input	BNC
	Conductivity input	Mini-Din
	Temperature input	Cinch, NTC 30 k
	Installation Overvoltage	Category II
	Pollution	Degree 2
	Power Supply	Universal 100-240 VAC, 50-60 Hz
	Ambient Operating	5 to 40 °C, 5 to 80 %, non-condensing

Tender# GH-25/04-01 Sr. #7

Item # 2 Incubator (Required Quantity = 01 Nos.)	
Specifications	
Cycle Mode	freeze circulation
Tem. Range	RT+5~70°C
Tem. Resolution Ratio	0.1°C
Tem. Motion	±0.5°C
Tem. Uniformity	±0.8°C
Inner Chamber	Mirror stainless steel
Outer Shell	Cold rolling steel electrostatic spraying exterior
Insulation layer	High quality foam board
Heater	Mica electrothermal film
Tem. control mode	PID Intelligent
Tem. setting mode	Touch button setting
Tem. display mode	Digital temperature: LCD upper row;
	Setting temperature: the lower row
Timer	0-9999 min (with timing wait function)
Operation function	Fixed temperature operation, timing function, auto stop.
Sensor	PT100
Volume	50 L
Shelf number	9
Load per rack	15kg
Shelf space	35mm
Supply(50/60HZ)Current rating	AC220V/1.1A
NW/GW (kg)	32/35
Shelf	2
Shelf frame	4
Warranty	1 Year



Tender # G7H-25/04-01 Sr. # 7

Items#1 Analytical Weighing Balance (Required Quantity = 01 Nos.)

Specifications	
Capacity	220 g
Readability	0.1mg
Repeatability (standard deviation)	0 to 200 g: 0.1 mg, 200 to 252 g: 0.2 mg
Minimum weight	140 mg
Linearity	±0.3 mg
Stabilization time	Approx. 2 seconds
Sensitivity drift	±2 ppm/°C (10 to 30 °C/50 to 86 °F)
Internal calibration	Yes
Clock and calendar function	Yes
Operating environment	5 to 40 °C (41 to 104 °F), 85% RH
Display type	Reverse backlit LCD
Display refresh rate	5 times/second (10 times/second can be selected)
Units of measure	g (gram), mg (milligram), oz (ounce), ozt (troy ounce), ct (metric carat), mom (momme), dwt (pennyweight), gr (grain), pcs (counting mode), % (percent mode), SG (density mode), and a user-programmable unit
Counting mode	Minimum unit mass :0.1 mg Number of samples:10, 25
Percent mode	Minimum 100% reference mass:10.0 mg % readability:0.01%, 0.1%, or 1% (depends on the reference mass stored)
Interface	RS-232C
Applicable calibration weight value	250 g, 200 g 100 g, 50 g
Weighing pan size	Ø90 mm
Power supply	AC adapter
Product Region	All Except China and Korea
Warranty	1 Year

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Tender # GH-25/04-01 Gr. # 7

Item # 8 Ultra Sonic Bath (Required Quantity = 01 Nos.)	
Specifications	
Capacity	6L
Working Temperature Range	Ambient +5°C to 80 °C
Display	Digital LED
Frequencies	40kHz
Digital Time Setting	1- 99 mins
Interior Dimension (L x B x H) in mm	300 x 155 x 150 mm
Exterior Dimensions (L x B x H) in mm	330 X 180 X 330 mm
Ultrasonic Power	150W
Heater Power	300W
Material	Stainless Steel
Includes	Plastic lid, Drain fittings, Power cord
Warranty	1 Year



# 8-Serial Specifications

Tender# GH-25/04-01 Sr. # 8

Digital Pick Counter (Required Quantity = 01 Nos.)

	Specifications	Description
1	Equipment Type	Digital Pick Counter for woven and knitted fabrics
2	Measuring range	Up to 300 threads/cm (762 threads/in)
3	Units of measure	Both cm and inches (1/cm and 1/in)
4	Measuring accuracy	± 1% or better
5	Test Length	1 inch (Minimum)
6	Response time	≤ 1 second
7	Connectivity	USB port (for data collection/charging)
8	Applicability/Suitability	Woven fabric, plain weave, Twills, satins Knitwear, courses & wales double faced,double pick fabrics, multilayered fabrics 2/2 twills Alignment aid for fine fabrics Fabrics with multiple repeats
9	Power Source	Replaceable or rechargeable batteries
10	Accessories	Any other accessory for smooth operation, calibration template, PC software for evaluation etc.
11	Other Requirements	Technical maintenance services must be available by local engineers Minimum 1 year free parts and maintenance warranty

Off

Tender# GH-25/04-01 Sr.# 8

Pneumatic Jaws for UTM (Required Quantity = 01 Nos.)

	Specifications	Description
1	Jaws Type	Pneumatic (internal actuator leverage clamping)
2	Working Capacity/Force	5-7 kN (minimum 5 kN)
3	Clamping on/off system	Locking foot switch
4	Jaws dimensions	50 x 60mm, 25 x 25 mm, 25 x 50 mm
5	Testing Standards Compliance	ISO 13934-1
		ISO 13934-2
		ASTM D5034
		ASTM D5035
		ISO 13935-1
		ISO 13935-2
		ISO 13936-1
		ISO 13937-2
		ISO 13937-2
		ISO 13937-3
6	Compulsory Accessories	Spare jaws rubber to replace upon wear and tear during use Air Regulator to control air pressure
7	Compatibility	Jaws must be compatible with Ametek Lloyd LRX Plus Universal Tensile Strength Tester
8	Other Requirements	Technical maintenance services must be available by local engineers Minimum 1 year free parts and maintenance warranty

Tender# GH-25/04-01 Sr.# 8

Pick Glass (Required Quantity = 01 Nos.)

	Specifications	Description
1	Equipment Type	Magnifying Glass
2	Test Length	1 Inch Square
3	Resolution	1/8 Inch
4	Power Source	Replaceable or rechargeable batteries
5	Accessories	Wooden Box 12 X 12 inch With White acrylic Sheet
6	Standard Conformance	Must Comply ASTM D3775, BS EN 1049

Tender# GH-25/04-01 Sr. # 8

Digital Weighing Balance (Required Quantity = 01 Nos.)

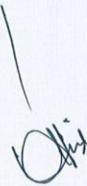
	Specifications	Description
1	Equipment Type	Digital Weighing Balance with Textile Function i.e. Tex, Nm, NC, Td
2	Capacity	220-310 grams
3	Units of measure	gram, Oz, dwt, gn, Lb, N, (Textiles Tex, Nm, NC, Td count)
4	Resolution	0.1 mg (four decimals)
5	Calibration	Automatic Internal + External
6	Pas Size Ø	80-90 mm
7	Response time (sec.)	03-04
8	Linearity	±0.0003 g
9	Repeatability	0.1 mg
10	Minimum Load	10 mg
11	Display	TOUCH-SCREEN
12	Tare Range (Subtractive)	220 g
13	Windshield	Sliding windows
14	Power Supply	220 Volts, 50-60 Hz
15	Calibration Weight	200 g (or any compatible)
16	Accessories	Portable Ioniser for static charges dissipation ( if applicable) Density Kit for solid and liquids Any other accessories for smooth operation
17	Special Requirements	Textile function to measure yarn linear density Density function, with density index (DI) calculation



Tender# GH-25/04-01 Sr. # 8

Hot plate + Stirrer (Required Quantity = 01 Nos.)

	Specifications	Description
1	Equipment Type	Hot plate + Stirrer
2	Top Plate Shape	Square
3	Top Plate Size	7.25 x 7.25 inches (minimum 4 Litre)
4	Top Plate Material	Ceramic
5	Digital Display	Yes
6	Stirring Speed	50-1500 RPM
7	Min Temp °C	30
8	Max Temp °C	500
9	Voltage	220 V
10	External Temperature Probe	Yes (mandatory)
11	Certification	Certificate of Compliance





Tender # BH-25/04-01 Sr. # 8

pH Meter (Required Quantity = 01 Nos.)

	<b>Specifications</b>	<b>Description</b>
1	Parameter	pH, Conductivity
2	Channel	Single-channel Bench top
3	pH measuring range	-2,000 – 20,000
4	pH resolution	0.001, 0.01, 0.1
5	pH accuracy ( $\pm$ )	0.002
6	mV resolution	0.1, 1
7	mV accuracy ( $\pm$ )	0.10
8	Temperature Range	-30 °C – 130 °C
9	Temperature resolution	0.1 °C
10	Temperature accuracy ( $\pm$ )	0.1 °C
12	Memory Size	250 analyses (20.000 data points)
16	Accessories	Any other accessories for smooth operation

OK

# 9-Serial Specifications

Tender # GH-25/04-01 (Sr. # 9)

**Procurement of Equipment " Integrated Sphere"**  
**under Project No. PSF/CRP/T-Helix-42,**

## INTEGRATED LAMBDA SPHERE

### TECHNICAL SPECIFICATIONS

- Measuring Geometry: 0°:45°x to DIN 5033
- Light Source: Tungsten
- Spectral Range: 380 to 1100 nm
- Effective Bandwidth: 10nm
- Wavelength Resolution: 3.3nm
- Spectrometer Principle: Monolithical compact spectrometer with imaging grating
- Detector: 256 pixel diode array
- Density: 0.01 D
- Colorimetric: 0.03 CIELAB 4E\*ab
- Near IR: 0.3 %R (700 to 1000 nm)
- Inter-Instrument Agreement (bold it)
- Density: 0.01 D
- Colorimetric: 0.3 CIELAB 4E\*\*
- Near IR: +/- 0.5 %R (700 to 1000nm)
- Aperture: 3mm measuring
- Battery: Rechargeable NiMH > 10,000 measurements/charge
- Instrument Interface: USB 2.0
- Storage: 0 to 40°C
- Data acquisition system (Core i7, 12th Generation, 512 SSD, 32 GB RAM)



# 10-Serial Specifications

Tender # GH-25/04-01 Sr. # 10

Consumables Item Specifications			
Sr	Items Description	Packing Size	Quantity
1	Electron multiplier horn Part No # (G3170-80103 for 5977B GC/MSD	Pack of 1	1



# 11-Serial Specifications

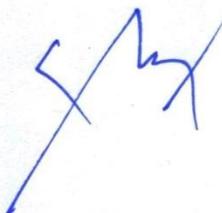
Tender# GH-25/04-01 Sr.# 11

24 Consumables Items		Specifications	
Sr	Items Description	Packing Size	Quantity
1	Filaments for GCMS Part # G7005-60061	Pack of 1	4
2	ESI Needle Part # (G1960-20032) fro LSMSDiQ	Pack of 1	1
3	Easy Fit torch one piece 5100 radial ICP Part No# G8012-60000	Pack of 1	1
4	Gemini C18 110Å 150 x 2 mm, 5µm equivalent performance with samedimensions	Pack of 1	1
5	High gain electron multiplier horn Part# G2571-80103	Pack of 1	1
6	inlet liner, Ultra Inert, splitless, single taper, glass wool Part#5190-2293	Pack of 1	5
7	Quartz Cuvettes 10mm	Pack of 2	4
8	GCMS vials Transparent 2 ml ,Part No#5182-0714 with caps and Septa	Pack of 100	10
9	GCMS vials AMBER 2 ml ,Part No#5182-0716 with caps and Septa	Pack of 100	10
10	Glass Reaction Vial Amber with caps PTFE Amber Size: 60ml	Pack of 100	2
11	Glass Reaction Vial Transparent with caps PTFE Amber Size: 60ml	Pack of 100	2
12	Glass Syringe 10 ML	Pack of 1	2
13	PTFE Membrane Filter	Pack of 100	5
14	GCMS Autosampler syringe Part# (9301-0713)	Pack of 1	2
15	PVC peristaltic pump tubing,black/black tabs,Part#3710027200	Pack of 12	2
16	Funnels , Glass	Pack of 1	10
17	Test Tube Glass 16ml with caps and Septa	Pack of 1	200
18	Lab coat white XL size Qty 2, Large Quantity 1	Pack of 1	3
19	Syringe Filter PTFE 0.45um	Pack of 100	10
20	Steel Spatula Micro,Lab Grade	Pack of 1	5
21	Steel Spatula Spoon,Lab Grade	Pack of 1	5
22	Filtration Assembly Glass 1000ml	Pack of 1	1
23	60ml Reaction Vials Stand	Pack of 1	10
24	Helium Gas Purification System,for Gas Chromatography,Moisture Gas Clean Filter CP17971 Qty 1 Hydrocarbon Gas,Clean Filter CP17972 Qty 1 Gas Filter Connector CP89921,Connecting Unit Assay 1/8Inch Qty 1	Pack of 1	1

## 12-Serial Specifications

Tender# GH-25/04-01 Sr. #12

Specification	Details (Required Quantity = 01 Nos.)
Machine Type	Lab-Scale Hydroentangled (Spunlace) Nonwoven Bonding Machine
Working Width	0.5m - 1.0m (typical for lab-scale machines)
Production Speed	10 - 100 m/min (adjustable for testing and development purposes)
Fabric Weight Range	20 - 200 gsm (grams per square meter)
Water Pressure	20 - 200 bar (adjustable for different bonding requirements)
Water Jet Strips	Compact jet strips with fine nozzles for uniform hydroentanglement
Pre-Wet Section	Equipped with a small pre-wetting unit for uniform water penetration
Drying System	Compact dryer (e.g., infrared or small multi-cylinder dryer)
Raw Material	Fibers (e.g., polyester, viscose, cotton, or blends)



# 13-Serial Specifications

Tender# GH-25/04-01 Sr.# 13

## Data Acquisition Systems (Required Quantity = 02 Nos.)

- Genuine Windows 11 Home
- Processor: Intel Core i9 13th Generation (24 cores), 32 threads, 36MB Intel Smart Cashe,
- Display: 14"-15" diagonal OLED 2.8K
- Weight: less than 2.5 kg
- Ram: 16 GB DDR5-5600
- Graphics Card: NVIDIA GeForce RTX 4060 Laptop GPU (8 GB GDDR6 dedicated)
- Hard Drive: SSD 1TB PCIe Gen4 NVMe
- Wireless: Intel Wi-Fi 6E and Bluetooth 5.3 combo option
- Camera: 5MP IR camera with privacy shutter and smart features
- With Keyboard Backlight

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# 14-Serial Specifications

Tender# GH-25/04-01 Sr.# 14

## Fiber Packing Accessories

Sr. #	Item	Description	Quantity
1	Polypropylene Sheet	Durable, flexible, moisture-resistant, 0.5–1 mm thick and 1000 mm wide	50 meters
2	Wooden Pallets	Heavy-duty hardwood, 1200 × 1000 mm, with a load capacity of 500 kg	10
3	Metal Straps	High-tensile galvanized steel, 16 mm wide, 0.5–1.0 mm thick	10 Kg
4	Shrink Wrap	High-strength polyethylene (PE) or polyolefin film, 100 microns thick, with heat-shrink capability	10 Kg
5	Foam Sheets	Lightweight polyurethane (PU) foam, 5 mm thick, 1000 X 2000 mm.	50



# 15-Serial Specifications

Tender# GH-25/04-01 Sr. # 15

Date: 20-03-2025

## Fibre Treatment Setup (Chemical)

Fibre treatment setup (Chemical) is composed of four components which are as follows:		
SR	Item / Descriptions	QTY
01	<p><b>Chemical Treatment Unit:</b>            Capacity: 215 L            Body: Stainless Steel 304, 16 Guage, Jacketed with thermal insulation            Chemical Bath: L-600mm W-600mm H-600mm, one inlet (25mm) and one drain value (50mm)            Heater 1Kw with SSR drive and digital temperature controller, Timer Alarm,            Gear Motor (with rotating mechanism): Rotation 20 rpm, able to rotate the container (mentioned at serial 4).</p>	01
02	<p><b>Washing Unit:</b>            Capacity: 215 L            Body: Stainless Steel 304, 16 Guage,            Washing Bath: L-600mm W-600mm H-600mm, one inlet (25mm) and one drain value (50mm), Timer Alarm,            Gear Motor (with rotating mechanism): Rotation 20 rpm, able to rotate the container (mentioned at serial 4).</p>	01
03	<p><b>Hydro-extracting Unit:</b>            Capacity: 90 L            Frame: MS            Body: Stainless Steel 304, 16 Guage, with drain (50mm)            Motor: 1.5KW 3Ph shell, 850-900 rpm, able to rotate the container (mentioned at serial 4).            Air shock absorber for vibration damping, spring hanging mechanism, easy to open lid,</p>	01
04	<p><b>Container:</b>            Container: Diameter-500mm, Depth-458mm, Hole size-3mm, Stainless Steel 304, 16 Guage, perforated to hold the fibers. The container must be detachable and removable, easy to place in the extractor, chemical bath and water bath. Container must be designed in a way that it can be adjusted in chemical bath, water bath and hydro-extractor.</p>	03

### Note:

No standard equipment is available in the market. The supplier must offer completely customized solutions. For further details the interested suppliers are advised to contact/discuss with the undersigned before applying for the tender.

The interested suppliers must have their own CAD and Manufacturing facilities.

The end user(s) shall visit the CAD and manufacturing facilities.

The interested supplier must have prior experience (at least 5 years) in machine design and manufacturing. The supplier must have already designed and deployed at least 5 similar/ more complex equipment.

The interested supplier shall arrange visits to see the similar machines (in working conditions) already supplied by him.

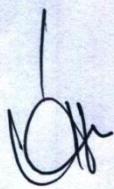
Signature: 

# 16-Serial Specifications

Tender # GH-25/04-01 Sr. # 16

## 1-Chemicals

#	Chemical Name (write molecular weight where applicable)	CAS #	Grade/ Purity	Packin g size	Quantity required	Any Other Specs./ Special Instructions*
1.	Sulphuric acid, (H <sub>2</sub> SO <sub>4</sub> )	7664-93-9	98 %	2.5 Liter	20 liter	Certificate of analysis
2.	Formic acid	64-18-6	98-100 %	2.5 Liter	20 liter	Certificate of analysis
3.	Zinc Chloride	7646-85-7	98%	1.0 kg	10 kg	Certificate of analysis
4.	Dimethyl formamide	68-12-2	99%	2.5 Liter	7.5 liter	Certificate of analysis
5.	m-xylene	108-38-3	99%	2.5 Liter	2.5 liter	Certificate of analysis
6.	Acetone	67-64-1	99.00%	2.5 liters	2.5 liters	Certificate of analysis
7.	Dioxane	123-91-1	99.00%	2.5 liters	2.5 liters	Certificate of analysis
8.	Cyclohexanone	108-94-1	99.00%	2.5 liters	2.5 liters	Certificate of analysis
9.	Buffer Solution 4 Ph	--	--	1.0 Litre	1.0 Litre	Certificate of analysis
10.	Buffer Solution 7 Ph	--	--	1.0 Litre	1.0 Litre	Certificate of analysis
11.	Buffer Solution 10 Ph	--	--	1.0 Litre	1.0 Litre	Certificate of analysis
12.	Potassium Chloride (KCl)	7447-40-7	Molecular Wt: 74.55	1 Kg	2 Kg	Certificate of analysis
13.	Ethanol	64-17-5	--	2.5 litre	2.5 litre	Certificate of analysis
14.	Hydrogen Per Oxide	7722-84-1	--	2.5 litre	2.5 litre	Certificate of analysis
15.	Lactic Acid	50-21-5	--	500 ml	500 ml	Certificate of analysis
16.	Ammonium Acetate	631-61-8	--	1 Kg	1 Kg	Analytical Grade
17.	Enzymatic Desizer	--	--	--	20 kg	--
18.	Wetting Agent	--	--	--	10 kg	--



# 17-Serial Specifications

17

Tender # GH-25/04-01 Sr. #17

## 2- Consumables

Sr #	Consumables	Specifications/Part No	Packing size	Quantity required	Any Other Specs./Special Instructions*
1.	Rubbing Fabric (5cm x 5cm)	--	500 pieces pack	4 packing	ISO 105-F09
2.	Abrasion Blade	--	Pkt	1	--
3.	Bursting Diaphragm	12.8 cm diameter 2 mm thickness	Pack of 10	10	Conforms to ISO 13938-2
4.	Corn Oil	--	1.0 Litre	1.0 Litre	Mazola or Rafhan
5.	Glassine Paper	width (11.9")	10 Meter Roll	1 Roll	AATCC Test Method 130
6.	Multifiber fabric DW (wool)	--	50 meters roll	1 rolls	Complies with ISO 105 F10
7.	Multifiber fabric (TV style-41)	--	10 meters roll	1 rolls	Complies with ISO 105 F10
8.	Aluminium Foil	37.5 square feet packing Heavy Duty	Pack	12 Pack	--
9.	Balls Stainless Steel	6 mm diameter	50 per pack	6 packs	Conforms to ISO 105 series of tests
10.	Make Weight	20 X 20 cm	1 Kg Set	2 set	Conforms to ISO 6330
11.	ECE detergent A	ISO 6330 (SDCE Type 2)	2 kg packing	1 packing	Certificate of analysis
12.	ECE detergent B	ISO C06 (SDCE Type 5)	2 kg packing	1 packing	Certificate of analysis

