NATIONAL UNIVERSITY OF MEDICAL SCIENCES (NUMS)

TENDER DOCUMENT

(Single Stage - Two Envelopes Procedure)

INFORMATION FOR BIDDERS

Tender Reference No:	MS/Office of ED(R&C) NIASR/2026/1
Tender for:	Procurement, Supply, Installation, Testing & Commissioning of Medical Laboratory Equipment for NIASR-NUMS
Procurement Method	Single Stage – Two Envelopes
Submission Platform	Both PPRA E-PADS and Hard copy of bid in sealed form (Technical & Financial bids
Physical Submission	Signed copy of Bidding documents and Bid Security (Original Instrument) to be delivered physically
Issuance Date:	**29th March 2026**
Last Date for submission	**16th April, 2026 (1000 Hours)**
Technical Bid Opening	**16th April, 2026 (1100 Hours)**
Venue for Opening	Seminar Room, 1st Floor, NUMS-NIASR, The Mall, Abid Majeed Road, Rawalpindi
Bid Validity	180 Days from the date of bid opening
Bid Security	2% of total bid value (refundable)
Performance Guarantee	10% of Contract Value
Delivery Period	Non-imported: 20 days; Imported: 08 weeks
Warranty Period	Minimum 03 years comprehensive

LIST OF ACRONYMS

Acronym	Description
ADP	Annual Development Programme
ATR	Attenuated Total Reflectance
BIA	Bioelectrical Impedance Analysis
BOQ	Bill of Quantity
CDR	Call Deposit Receipt
CE	Conformité European- European Conformity
CIF	Cost, Insurance and Freight
DD	Demand Draft
DDP	Delivered Duty Paid
E-PADS	Electronic-Pak Acquisition and Disposal System
ECG	Electrocardiogram
EMR	Electronic Medical Record
ESI	Electrospray Ionization
FBR	Federal Board of Revenue
FDA	Food and Drug Administration
FEC	Foreign Exchange Component
FOR	Free on Road
FT-IR	Fourier Transform Infrared Spectroscopy
GCC	General Conditions of Contract
GLP	Good Laboratory Practice
GMP	Good Manufacturing Practice
GST	General Sales Tax
HPLC	High Performance Liquid Chromatography
IEC	International Electrotechnical Commission
ISO	International Organization for Standardization
ITBs	Instructions to Bidders
KF	Karl Fischer
LC	Letter of Credit
LC-MS/MS	Liquid Chromatography Tandem Mass Spectrometry
LIMS	Laboratory Information Management System
LIS	Laboratory Information System
MRM	Multiple Reaction Monitoring
MHLW	Ministry of Health, Labour and Welfare (Japan)
NIBP	Non-Invasive Blood Pressure
OEM	Original Equipment Manufacturer
PFM	Public Finance Management
PO	Pay Order
PSDP	Public Sector Development Programme
RCF	Relative Centrifugal Force
RO	Reverse Osmosis
RPM	Revolutions Per Minute
RWP/ISB	Rawalpindi/Islamabad
SCC	Special Conditions of Contract
TOC	Total Organic Carbon
UPS	Uninterruptible Power Supply
USP	United States Pharmacopeia
UV-Vis	Ultraviolet-Visible Spectroscopy

SECTION 1. INSTRUCTIONS TO BIDDERS (ITB)

1.1. Introduction and Scope

1.1.1. The National University of Medical Sciences (NUMS) invites sealed bids (**valued both in PKR and FEC**) from well-reputed Firms/Companies/Sole Proprietors (Original Manufacturers/Authorized Sole Distributors) who are registered on **E-PADS (Electronic-Pak Acquisition and Disposal System)** for the **"Procurement, Supply, Installation, Testing and Commissioning of Medical Laboratory Equipment for NIASR-NUMS"** with an estimated value of PKR 200 Million approximately. This procurement is being undertaken in accordance with the Public Procurement Rules, 2004 (as amended).

1.1.2. The procurement shall be conducted on **'Single Stage - Two Envelopes'** basis in accordance with Rule 36(b) of the Public Procurement Rules, 2004. Under this procedure:

a) Bidders shall submit **TECHNICAL PROPOSAL** and **FINANCIAL PROPOSAL** in separate sealed envelopes;
b) The Technical Proposals shall be opened publicly on the specified date and time which shall be evaluated by the Tender Evaluation Committee;
c) The Financial Proposals of technically qualified bidders shall remain sealed and will be opened at a later date; Financial Proposals of technically disqualified bidders shall be returned unopened.

1.1.3. Bidders are required to submit their bids through **E-PADS** as per the prescribed procedure. The original instrument of bid security @ 2% of the total bid value, must be physically delivered to the Procurement Directorate, NUMS, prior to the closing date/time, and a scanned copy uploaded on E-PADS.

1.1.4. The scope of work includes procurement, delivery, installation, testing, commissioning, and after-sales support of Medical Laboratory Equipment. Detailed specifications, terms and conditions are provided in the bidding documents.

1.1.5. NUMS reserves the right to increase or decrease the quantity of items as per requirement without any change in unit price, and to accept or reject any or all bids prior to acceptance or cancel the whole tender at any stage in accordance with PPRA Rules.

1.1.6. Bidders are expected to examine all instructions, forms, terms, specifications, and other information in the bidding documents. Failure to furnish all information required or to submit a bid not substantially responsive shall be at the Bidder's risk and may result in rejection of its bid.

1.2. Source of Funds

1.2.1. NUMS has allocated funds from its Annual Development Programme (ADP)/Public Sector Development Programme (PSDP) for the establishment of NIASR laboratories. The source of funding is the Government of Pakistan.

1.2.2. The funds shall be disbursed in accordance with the financial regulations and procedures of the Government of Pakistan and NUMS.

1.3. Eligible Bidders

1.3.1. This Invitation for Bids is open to all well-reputed Firms/Companies/Sole Proprietors (Sole Distributors)/Original Manufacturers/Authorized Sole Agents of Foreign or Local manufacturers in Pakistan.

1.3.2. Interested bidders must have a **minimum of five (05) years' relevant experience** in the supply and installation of Medical Laboratory Equipment in public or private sector organizations.

1.3.3. The Bidder must possess a valid, legally enforceable, **exclusive valid authorization** from the Foreign or Local Manufacturer (in case of agents). Manufacturers must provide documentary proof to that effect.

1.3.4. Bidders must be registered with:

a) **E-PADS** (mandatory for bid submission)
b) **Federal Board of Revenue (FBR)** - Active Taxpayer List (ATL) for GST & Income Tax with valid NTN and GST certificates
c) **Respective Provincial Revenue Authority** (if applicable -for Professional Tax certificate)

1.3.5. Bidders must not be under a declaration of ineligibility for corrupt and fraudulent practices issued by PPRA or any government agency.

1.3.6. Bidders blacklisted by any government organization shall not be eligible to participate. Cross debarment shall apply, meaning a bidder debarred by any procuring agency shall be considered as debarred by all procuring agencies.

1.3.7. Joint ventures or consortia are permitted subject to the following conditions:

a) All partners shall be jointly and severally liable for the performance of the Contract;
b) A joint venture agreement must be submitted specifying the lead partner and the division of responsibilities;
c) All partners must individually meet the eligibility criteria specified in ITB Clause 1.3.4 and 1.3.5.

1.4. Eligible Goods

1.4.1. Country of manufacture should preferably be USA, Europe, or Japan, unless otherwise specified in the Technical Specifications. However, goods from any geographical region conforming to applicable quality standards shall be considered as per Pakistan's import laws and regulations.

1.4.2. "Origin" means the place where the goods are mined, grown, produced, or manufactured. Goods are produced when, through manufacturing, processing, or substantial assembly, a commercially recognized product is produced that is substantially different in basic characteristics from its components.

1.4.3. Medical equipment shall comply with respective standards/requirements mentioned in the specifications / End Notes of annexures (whoever is as applicable):

1.4.4. For the purposes of this clause, "Services" include related services such as transportation, insurance, installation, commissioning, after-sales service, spare parts availability, and training.

1.5. Cost of Bidding

1.5.1. The Bidder shall bear all costs associated with the preparation and submission of its bid. NUMS shall in no case be responsible or liable for those costs, regardless of the conduct or outcome of the bidding process. This includes costs of printing, documentation, courier, travel, demonstrations, site visits, and any other expenses incurred by the Bidder in connection with its bid.

1.6. Clarification of Bidding Documents

1.6.1. A prospective Bidder requiring any clarification may notify NUMS in writing at the following address:

Procurement Directorate, National University of Medical Sciences,
NUMS-ATR Building- Adiyala Road, (Near APS-Humayoun Road), Kutchery Chowk, Rawalpindi
Email: nums.procurementdte@numspak.edu.pk ,
Phone: +92-51-8909018

1.6.2. NUMS shall not respond in writing to any request for clarification received later than **seven (07) days** prior to the deadline for submission of bids.

1.6.3. Written copies of NUMS's response (without identifying the source of inquiry) shall be sent to all prospective Bidders who have obtained the bidding documents through proper source.

1.6.4. Should NUMS deem it necessary to issue an addendum or amendment as a result of a clarification, such addendum or amendment shall be binding on all bidders and issued in accordance with ITB Clause

1.7. Amendment of Bidding Documents

1.7.1. At any time prior to the deadline for submission of bids, NUMS may modify the bidding documents by issuing an amendment.

1.7.2. All prospective Bidders shall be notified of the amendment through E-PADS/PPRA/NUMS Website and it shall be binding on them.

1.7.3. To allow reasonable time for amendment consideration, NUMS may extend the deadline for submission of bids.

1.7.4. Any oral explanation or instruction given by NUMS or its representatives shall not be binding and shall not be considered as an amendment to the bidding documents. Only written amendments issued in accordance with this clause shall be valid.

1.8. Language of Bid

1.8.1. The bid prepared by the Bidder, as well as all correspondence and documents relating to the bid, shall be written in the **English language**.

1.8.2. Supporting documents and printed literature may be in another language provided they are accompanied by an accurate translation of the relevant passages in English. For purposes of interpretation, the English translation shall govern.

1.8.3. In case of any dispute, reference shall be made to the original documentation retained on record by NUMS.

1.9. Documents Comprising the Bid

1.9.1. The bid shall comprise the following components, submitted in separate sealed envelopes:

TECHNICAL PROPOSAL (Envelope-1) shall contain:

Sr.	Document	Reference	Original/Copies
a)	Bid Form - signed and stamped on each page	Annex-1	Original
b)	Bid Security (photocopy with hidden amount)	ITB 1.15	Attested Copy
c)	Manufacturer's Authorization (for agents) OR OEM Certificate (for manufacturers)	Annex-3	Original
d)	NTN Certificate (active status / ATL)	-	Attested Copy
e)	GST Registration Certificate	-	Attested Copy
f)	Professional Tax Certificate of Provincial Revenue Authority (if applicable)	-	Attested Copy
g)	Certificate of Incorporation / Partnership Deed / SECP Registration (whichever is applicable)	-	Attested Copy
h)	Audited Balance Sheets for the last three (03) financial years (2022-23, 2023-24, 2024-25)	-	Attested Copy
i)	Income Tax Returns for last 03 years	-	Attested Copy
j)	Power of Attorney for the person signing the bid	Annex-14	Original
k)	Affidavit of Non-Blacklisting (on stamp paper)	Annex-9	Original
l)	Affidavit of Lowest Rate Assurance (on letterhead)	Annex-10	Original
m)	After Sales Service Commitment	Annex-11	Original
n)	Bidder's Profile with all supporting documents	Annex-12	Original
o)	List of major supplies with copies of supply orders (minimum 03)	Annex-15	Attested Copies
p)	Performance certificates from Govt./Semi-Govt. organizations	Annex-16	Original/Attested
q)	ISO/CE/FDA certifications (as applicable)	-	Attested Copy
r)	Certificate of Origin (for imported goods)	-	Attested Copy
s)	Technical literature, catalogues, datasheets of offered products	-	Original
t)	Technical Compliance Statement (item-wise)	Annex-7	Original
u)	Checklist of Mandatory Documents (duly filled)	Annex-8	Original
v)	Integrity Pact (if applicable)	Annex-13	Original
w)	E-PADS Registration Proof	-	Attested Copy
x)	Proof of Minimum 05 Years' Experience in supply of Medical Lab Equipment	-	Attested

FINANCIAL PROPOSAL (Envelope-2) shall contain:

Sr.	Document	Reference	Original/Copies
a)	Price Schedule (**PKR and FEC**) - duly filled, signed, and stamped on each page	Annex-2	Original
b)	Bid Security (original instrument)	ITB 1.15	Original

1.9.2. No other documents except bid security shall be included in the Financial Proposal. Inclusion of any price-related information in the Technical Proposal shall result in immediate rejection.

1.9.3. The Bidder shall submit hard copy of the Technical Proposal, clearly marked as Technical Proposal.

1.9.4. All pages of the Technical Proposal shall be numbered consecutively, and an index shall be provided.

1.9.5. Failure to furnish all information required or to submit a bid not substantially responsive may result in rejection.

1.10. Bid Form and Price Schedule

1.10.1. The Bidder shall complete the Bid Form (Annex-1) and Price Schedule (Annex-2) furnished in the bidding documents, using the exact formats provided.

1.10.2. The Price Schedule shall clearly indicate:

a) Item name and description as per Schedule of Requirements
b) Make and Model of the offered equipment
c) Country of origin
d) Country of manufacture
e) Quantity
f) Unit price in Pakistani Rupees (PKR) excluding GST
g) Unit price in Foreign Exchange Component (FEC) – PKR equivalent
h) GST percentage
i) Unit price including GST (PKR)
j) Total price including GST (PKR)

1.10.3. Any alteration, erasure, or overwriting in the Price Schedule shall be valid only if initialled by the person(s) signing the bid. Uninitialled alterations may result in rejection.

1.11. Bid Prices (must be provided in PKR & FEC)

1.11.1. Dual Pricing Format: Bidders are required to quote prices in two distinct components:

a) **PKR Component (Local):** For goods and services that are locally sourced or for which payment is to be made in Pakistani Rupees, including local taxes, duties, insurance, transportation, and delivery charges.

b) **FEC Component (Foreign Exchange Component):** For imported goods, equipment, or components that require foreign currency payment. This component shall be quoted in PKR equivalent based on the exchange rate notified by SBP on the date of financial bid opening **[Reference: PPRA Rules 2004, Rule 30(2)]**

1.11.2. The total bid price shall be the sum of the PKR Component and the FEC Component.

1.11.3. The Bidder shall quote on **FOR (Free on Road)** basis i.e., delivered at NUMS NIASR stores, The Mall, Abid Majeed Road, Rawalpindi, inclusive of all costs including packing, forwarding, insurance, transportation, clearing, and delivery.

1.11.4. For imported goods, the quoted FEC component shall include all customs duties, taxes, clearing charges, and inland transportation up to the delivery point.

1.11.5. Prices must include all applicable taxes and duties. If taxes are not mentioned, the quoted price shall be considered inclusive of all prevailing taxes.

1.11.6. Prices quoted shall be tem-wise with complete standard accessories as per technical specifications. Optional accessories, if any, shall be quoted separately and clearly marked as "OPTIONAL".

1.11.7. The benefit of exemption from or reduction in GST or other taxes shall be passed on to NUMS.

1.11.8. No request for price increase due to market fluctuation, currency devaluation, or any other reason shall be entertained after bid submission.

1.11.9. In case of discrepancy between unit price and total price, the unit price shall prevail, and the total price shall be corrected. If there is a discrepancy between words and figures, the amount in words shall prevail.

1.11.10. If a Bidder does not accept the correction of errors, its bid shall be rejected.

1.12. Bid Currencies

1.12.1. Prices shall be quoted in **Pakistani Rupees (PKR)** with the FEC component clearly identified as a separate line column against each item.

1.12.2. For imported items, the exchange rate prevailing on the date of financial bid opening (as notified by the State Bank of Pakistan-SBP) shall be used for evaluation purposes, but the contract payment shall be in PKR at the quoted rates. [Ref: PPRA Rules 2004, Rule 30(2)]

1.13. Documents Establishing Bidder's Eligibility and Qualification

1.13.1. The Bidder shall furnish, as part of the Technical Proposal, documents establishing eligibility and qualifications as specified below. NUMS shall determine to its satisfaction whether the Bidder is qualified to perform the Contract satisfactorily.

Requirement	Details	Documentary Evidence
Company Registration	Valid registration with SECP/concerned authority	Certificate of Incorporation / Partnership Deed / Registration Certificate
Tax Registration	Active taxpayer status with FBR and Provincial Revenue Authority	NTN Certificate (ATL status), GST Registration Certificate, Professional Tax Certificate
Manufacturer Status	For manufacturers: proof of being original manufacturer; For agents: exclusive authorization	OEM Certificate OR Exclusive Authorization Letter from Manufacturer (Annex-3)
Financial Soundness	Minimum Annual Turnover: Rs. 10 Million (Rs. 1 Crore)	Audited Balance Sheets and Income Tax Returns for last 03 years (2022-23, 2023-24, 2024-25) certified by Chartered Accountant
Experience	**Minimum 05 years** in supply and maintenance of Medical Laboratory Equipment	List of major supplies with dates, values, and client details
Past Performance	Satisfactory performance in at least 03 similar contracts	Copies of supply orders (minimum 03) and performance certificates from Govt./Semi-Govt. organizations
Technical Capability	Qualified technical staff, testing/calibration equipment, workshop facilities	List of technical staff with qualifications and experience; List of equipment with make, model, and calibration status
Legal Status	No pending litigation that could affect contract execution	Affidavit on stamp paper (Rs. 100/-) as per Annex-9
Market Standing	Established presence in the market	User list (Govt./Semi-Govt./Reputed Pvt. hospitals/organizations) where quoted model is installed

1.13.2. NUMS reserves the right to inspect the Bidder's premises to verify technical capabilities. Such inspection may include:

a) Verification of workshop facilities and equipment
b) Interview of technical staff
c) Review of maintenance records and spare parts inventory
d) Inspection of similar equipment supplied to other clients

1.13.3. The Bidder shall provide a list of all ongoing contracts and pending litigation, if any, with full details.

1.14. Documents Establishing Goods' Eligibility and Conformity

1.14.1. The Bidder shall furnish, as part of the Technical Proposal, documents establishing the eligibility and conformity of goods to the bidding documents.

Document	Description	Requirement
Original Equipment Manufacturer (OEM) Certificate	Certificate declaring make, model, and country of origin	Mandatory
CE Mark Certificate	For EU compliance (safety, health, environmental standards)	Mandatory for medical equipment
FDA Certificate	For US compliance (510K clearance for medical devices)	Mandatory for US-origin medical equipment
ISO Certification	Relevant ISO certifications (ISO 13485, ISO 9001, etc.)	Mandatory
Certificate of Origin	Document certifying country of manufacture	Mandatory for imported goods
Technical Literature	Original catalogues, brochures, datasheets of quoted model	Mandatory
Certificate of Conformity	From manufacturer confirming compliance with specifications	Mandatory
Certificate of Free Sale	For medical devices (if applicable)	Where applicable

1.14.2. The quoted model shall be available on the manufacturer's official website; otherwise, it shall be considered obsolete and rejected.

1.14.3. The Bidder must declare the make, model, and country of origin of all standard accessories to be provided with the equipment.

1.14.4. Any deviation from the specified technical requirements shall be clearly indicated in the Technical Compliance Statement (Annex-7). Failure to disclose deviations may be considered as fraudulent practice.

1.15. Bid Security

1.15.1. An amount 2% of the total quoted price/bid value (item-wise, as per Schedule of Requirements). The Bid Security amount shall be calculated on the basis of the quoted cost.

1.15.2. Form: Demand Draft (DD)/Pay Order (PO)/Call Deposit Receipt (CDR) from a scheduled bank in favor of: **"National University of Medical Sciences (NUMS)"**

1.15.3. Submission:

a) Bid Security must be submitted as part of the Financial Proposal in a separate envelope clearly marked "BID SECURITY".
b) The **original instrument** must be physically delivered to the Procurement Directorate, National University of Medical Sciences (NUMS), NUMS-ATR Building- Adiyala Road, (Near APS-Humayoun Road), Kutchery Chowk, Rawalpindi, prior to the closing date/time.
c) A scanned copy must be uploaded on E-PADS.
d) The tender number must be clearly mentioned on the back side of the Bid Security along with the firm's stamp and signature.

1.15.4. Format of Bank Guarantee: The form of a Bank Guarantee, shall be in the format specified in Annex-4 and shall be issued by a scheduled bank operating in Pakistan.

1.15.5.. **Acceptance:** Bid Security less than the required amount or in any other form shall not be accepted and will result in rejection of the bid.

1.15.6. Forfeiture: Bid Security shall be forfeited in any of the following events:

a) If the Bidder withdraws its bid during the validity period.
b) If the Bidder does not accept correction of arithmetical errors.
c) If the Bidder, being notified of award, fails to furnish the Performance Guarantee or sign the Contract within the stipulated time.
d) If the Bidder is found to have engaged in corrupt or fraudulent practices.

1.15.7. Return of Bid Security:

a) **Unsuccessful Bidders:** Bid Security shall be returned after finalization of the award and signing of the Contract with the successful Bidder.
b) **Successful Bidder:** Bid Security shall be returned upon furnishing of the Performance Guarantee.

1.16. Bid Validity

1.16.1. Bids shall remain valid for a period of **180 days** from the date of bid opening.
1.16.2. A bid valid for a shorter period shall be rejected as non-responsive.
1.16.3. In exceptional circumstances, NUMS may request an extension of the bid validity period. The request and responses shall be in writing.
1.16.4. Bidders agreeing to the extension shall not be permitted to change the substance of their bids.
1.16.5. Bidders not agreeing shall be allowed to withdraw their bids without forfeiture of bid security.

1.17. Format and Signing of Bid

1.17.1. The bid shall be typed or printed. All pages shall be numbered sequentially.
1.17.2. The bid shall be signed and stamped by the Bidder or a person duly authorized to bind the Bidder to the Contract. The Power of Attorney authorizing such person shall be attached (Annex-14).
1.17.3. The person(s) signing the bid shall initial all pages of the bid, including all annexures and supporting documents.
1.17.4. Any alteration, erasure, or overwriting shall be valid only if initialled by the person(s) signing the bid.
1.17.5. Bidding Documents must be signed and stamped on each page, meaning thereby that the Bidder agrees to all terms and conditions mentioned therein.

1.18. Sealing and Marking of Bids

1.18.1. Bidders shall prepare and submit three separate sealed envelopes as follows:

Envelope	Marking	Contents
Envelope-1	"TECHNICAL PROPOSAL - [Tender Ref] - [Bidder Name]"	All Technical documents (original + copy) + Bid Security in separate sub-envelope
Envelope-2	"FINANCIAL PROPOSAL - [Tender Ref] - [Bidder Name]"	Price Schedule only (original)
Envelope-3	"BID SECURITY - [Tender Ref] - [Bidder Name]"	Original Bid Security instrument (if not placed inside Financial Proposal)

1.18.2. All three envelopes (or two envelopes if Bid Security is placed inside financial Proposal) shall be placed in one outer sealed envelope addressed to Procurement Directorate, National University of Medical Sciences (**NUMS**), NUMS-ATR Building- Adiyala Road, (Near APS-Humayoun Road), Kutchery Chowk, Rawalpindi
1.18.3. For E-PADS submission: Bidders shall follow the E-PADS procedure for uploading Technical and Financial Proposals separately. The physical Bid Security shall be delivered as specified.

1.19. Deadline for Submission of Bids

1.19.1. Bids must be submitted through E-PADS (and physical bid security delivered) not later than:

Date: 16th April, 2026
Time: 1000 Hours (10:00 AM PST)

1.19.2. In case the bid submission/closing date is declared a public holiday, the next working day shall be considered as the bid opening day.
1.19.3. NUMS may extend the deadline for submission of bids by issuing an amendment in accordance with ITB Clause 1.7.

1.20. Late Bids

1.20.1. Any bid received after the deadline (through E-PADS or physical) shall be rejected and returned unopened.

1.20.2. The time of receipt shall be determined by the E-PADS system time for online submissions and by the official time recorded by the Procurement Directorate for physical submissions.

1.21. Withdrawal of Bids

1.21.1. A Bidder may withdraw its bid prior to the deadline through E-PADS, followed by a written request.

1.21.2. No bid may be withdrawn during the interval between the deadline for submission and the expiration of the bid validity period. Withdrawal during this interval shall result in forfeiture of bid security and debarment from future procurements.

1.21.3. Requests for withdrawal shall be in writing, signed by the authorized representative, and shall be processed in accordance with the prescribed procedure.

1.22. Bid Opening Procedure

1.22.1. Technical Bid Opening:

a) **Date: 16th April, 2026**
b) **Time: 1100 Hours (11:00 AM PST)**
c) **Venue: Seminar Room, 1st Floor, NUMS-NIASR, The Mall, Abid Majeed Road, Rawalpindi**
d) The Technical Proposals shall be opened publicly in the presence of Bidders' representatives who choose to attend.
e) The following information shall be announced and recorded:
   - Bidder's name
   - Whether Bid Security is furnished
   - Any other details NUMS may consider appropriate

1.22.2. Financial Bid Opening:

a) The date, time, and venue for opening of Financial Proposals shall be communicated to technically qualified bidders only.
b) Financial Proposals of technically disqualified bidders shall remain unopened and be returned.
c) Financial Proposals shall be opened publicly in the presence of bidders' representatives who choose to attend.
d) The bid prices (both PKR and FEC components) shall be read aloud and recorded.
e) Minutes of the financial bid opening shall be prepared and signed by the attending bidders and the Tender Opening Committee.

1.23. Confidentiality

1.23.1. No Bidder shall contact NUMS on any matter relating to its bid from the time of bid opening to the time the Contract is awarded.

1.23.2. Any effort by a Bidder to influence the evaluation or award process shall result in rejection of the bid and subsequent blacklisting. **Canvassing is strictly prohibited and will lead to disqualification.**

1.23.3. The Tender Evaluation Committee shall maintain confidentiality of the evaluation process until the announcement of results.

1.24. Clarification of Bids

1.24.1. During evaluation, NUMS may ask a Bidder for clarification of its bid. The request and response shall be in writing.

1.24.2. No change in prices or substance of the bid (including make/model/brand) shall be sought, offered, or permitted.

1.24.3. Any clarification provided by a Bidder that modifies the substance of the bid may result in rejection.

1.24.4. If a Bidder does not respond within the time specified, its bid may be evaluated on the basis of available information.

1.25. Preliminary Examination

1.25.1. NUMS shall examine the bids to determine completeness, document availability, arithmetic correctness, and any computational errors.

1.25.2. NUMS may waive any minor informality, non-conformity, or irregularity that does not constitute a material deviation.

1.25.3. A substantially responsive bid is one that conforms to all terms and conditions without material deviations. Deviations from critical provisions (e.g., missing bid security, missing authorization, incomplete technical specifications) shall be deemed material and result in rejection.

1.25.4. Arithmetic errors shall be corrected as follows:

- **a)** If there is a discrepancy between the unit price and the total price obtained by multiplying the unit price by the quantity, the unit price shall prevail and the total price shall be corrected.
- **b)** If there is a discrepancy between words and figures, the amount in words shall prevail.
- **c)** If the Bidder does not accept the correction of errors, its bid shall be rejected.

1.26. Technical Evaluation Criteria

1.26.1. Knock-Out Criteria (Mandatory Compliance): Failure to meet any of these shall result in immediate rejection without further evaluation.

Sr. No.	Evaluation Parameter	Compliance (Yes/No)
1	E-PADS Registration Proof	
2	NTN Certificate (Active Status / ATL)	
3	GST Registration Certificate	
4	Professional Tax Certificate (Punjab)	
5	Certificate of Incorporation / Partnership Deed	
6	Bid Security (2% - Original submitted physically)	
7	Bid Validity (180 days declared in Bid Form)	
8	Affidavit of Non-Blacklisting (on stamp paper)	
9	Manufacturer's Exclusive Authorization (for agents) OR OEM Certificate (for manufacturers)	
10	CE/FDA/ISO Certifications (as per specifications)	
11	Technical Compliance Statement duly filled	
12	Checklist of Mandatory Documents duly filled	
13	Bid Form duly signed and stamped	
14	After Sales Service Commitment	
15	Proof of Minimum 05 years of experience in Medical Lab Equipment Supply	

1.26.2. Technical Evaluation (Qualification Criteria): Bidders must achieve minimum **70% marks** to qualify for financial opening.

Sr. No.	Evaluation Parameter	Max Marks	Scoring Criteria
A. Company Profile & Experience (30 Marks)			
A-1	Years of Experience in Medical Lab Equipment supply	10	5+ years: 10 marks; 3-5 years: 5 marks; <3 years: 0
A-2	Number of similar contracts completed (Govt./Semi-Govt.)	10	>5 contracts: 10 marks; 3-5: 5 marks; <3: 0

A-3	Financial Turnover (average of last 3 years)	10	>Rs. 10 Million: 10 marks; Rs. 5-10 Million: 5 marks; <Rs. 5 Million: 0
B. Technical Capability (40 Marks)			
B-1	Qualified Technical Staff (Biomedical Engineers/Technicians)	15	Documented team with qualifications: 15 marks; Partial: 7 marks
B-2	Service Workshop & Testing Equipment in RWP/ISB	15	Fully equipped workshop: 15 marks; Regional: 7 marks; None: 0
B-3	Spare Parts Inventory	10	Adequate stock maintained: 10 marks; Partial: 5 marks
C. Product Compliance (30 Marks)			
C-1	Technical Compliance with Specifications	15	Full compliance with all item-wise specifications: 15 marks; Minor deviations acceptable to end-user: 7 marks; Material deviations: 0
C-2	Quality Certifications (ISO/CE/FDA)	10	All required certifications: 10 marks; Partial/Not provided: 0
C-3	Warranty (beyond minimum requirement)	5	>3 years: 5 marks; 3 years: 3 marks; <3 years: 0
	TOTAL	**100**	**Minimum Required: 70**

1.26.3. The Technical Evaluation Committee reserves the right to inspect the Bidder's premises to verify technical capabilities. The Committee's decision regarding technical qualification shall be final.

1.26.4. Bids declared "Responsive" or "Substantially Responsive" (with minor deviations not affecting quality/efficiency) shall be considered for financial opening.

1.27. Financial Evaluation

1.27.1. Financial Proposals of only technically qualified bidders (securing ≥70% marks) shall be opened.

1.27.2. Financial evaluation shall be on an **item-wise basis** as per the Schedule of Requirements.

1.27.3. The lowest evaluated bidder for each item/package shall be determined based on the **total quoted price (PKR Component + FEC Component, inclusive of all taxes)**.

1.27.4. For evaluation purposes, the FEC component shall be converted to PKR using the exchange rate prevailing on the date of financial bid opening (as notified by the SBP) Ref: PPRA Rules 2004, Rule 30(2)

1.27.5. In case of identical prices, the bidder with higher technical marks shall be preferred.

1.27.6. The Bidder having lesser Bid Security than required shall be rejected, and the next lowest bidder shall be considered.

1.27.7. NUMS may split the award among multiple bidders if it is in the best interest of the procurement and provides better value for money.

1.28. Contacting the Procuring Agency

1.28.1. No Bidder shall contact NUMS on any matter relating to its bid from the time of bid opening to the time of award.

1.28.2. Any effort by a Bidder to influence the evaluation or award process shall result in rejection of the bid and subsequent blacklisting. Canvassing is strictly prohibited and will lead to disqualification.

1.29. Rejection of Bids

1.29.1. NUMS may reject any or all bids at any time prior to acceptance, in accordance with Rule 33 of the Public Procurement Rules, 2004.

1.29.2. NUMS shall, upon request, communicate the grounds for rejection to any Bidder but is not required to justify those grounds. [Reference: PPRA Rules 2004, Rule 33(1)]

1.29.3. NUMS incurs no liability to Bidders solely by virtue of rejecting any or all bids. [Reference: PPRA Rules 2004, Rule 33(2)]

1.29.4. Bids are liable to be rejected for, but not limited to, the following reasons:

- **a)** Bid Security not attached or less than required
- **b)** Conditional, optional, or incomplete bids
- **c)** Received after the due date and time
- **d)** Taxes not indicated separately
- **e)** Multiple rates quoted against one item
- **f)** Bid validity not as required
- **g)** Material deviations from technical specifications
- **h)** Missing mandatory documents
- **i)** Submission of false or misleading information
- **j)** Bidder found blacklisted or indulging in corrupt practices
- **k)** Non-responsiveness to any mandatory requirement of the bidding documents

1.30. Re-Bidding

1.30.1. If NUMS rejects all bids, it may call for re-bidding after assessing reasons for rejection and may revise specifications, evaluation criteria, or any other conditions.

1.30.2. Before invitation for re-bidding, NUMS shall assess the reasons for rejection and may revise specifications, evaluation criteria, or any other conditions.

1.31. Announcement of Evaluation Report

1.31.1. NUMS shall announce the results of bid evaluation, providing justification for acceptance or rejection of bids, at least fifteen (15) days prior to the award of Contract, in accordance with Rule 35 of the Public Procurement Rules, 2004.

1.31.2. The evaluation report shall be made available to bidders upon written request.

1.32. Corrupt or Fraudulent Practices

1.32.1. NUMS requires that all Bidders observe the highest standard of ethics during procurement and contract execution. [Reference: PPRA Rules 2004, Rule 2(1) (f)]

1.32.2. 1.32.2 Definitions as per PPRA Rules 2004, Rule 2(1) (f):

- **a)** **"Corrupt practice"** means the offering, giving, receiving, or soliciting, directly or indirectly, of anything of value to influence the acts of another party for wrongful gain.
- **b)** **"Fraudulent practice"** means any act or omission, including a misrepresentation, that knowingly or recklessly misleads, or attempts to mislead, a party to obtain a financial or other benefit or to avoid an obligation.
- **c)** **"Collusive practice"** means any arrangement between two or more parties to the procurement process designed to stifle open competition for any wrongful gain, and to establish prices at artificial, non-competitive levels.
- **d)** **"Coercive practice"** means any impairing or harming or threatening to impair or harm, directly or indirectly, any party or the property of the party to influence the actions of a party to achieve a wrongful gain or to cause a wrongful loss to another party.
- **e)** **"Obstructive practice"** means harming or threatening to harm, directly or indirectly, persons to influence their participation in a procurement process, or affect the execution of a contract.

1.32.3. NUMS shall:

- **a)** Reject a proposal for award if the Bidder has engaged in corrupt or fraudulent practices. Declare a firm ineligible (blacklist) for a stated period if found indulging in such practices.
- **b)** Cross-debar such firm, meaning it shall be considered debarred by all procuring agencies.

SECTION 2. AWARD OF CONTRACT

2.1. Award Criteria

2.1.1. The Bidder with the **technically & financially evaluated as most advantageous bid** (item-wise), meeting all terms and conditions and not in conflict with any law/rules/regulations, shall be awarded the Contract. [Reference: PPRA Rules 2004, Rule 36]

2.1.2. NUMS shall award the Contract within the original or extended bid validity period.

2.1.3. The award shall be made to the bidder whose bid has been determined to be:

a) Substantially responsive to the bidding documents;

b) Technically qualified (securing ≥70% marks); and

c) The lowest evaluated bid price (PKR Component + FEC Component, inclusive of all taxes).

2.1.4. 2.1.4 The Bidder having lesser Bid Security than required shall be rejected, and the next lowest bidder shall be considered.

2.2. Right to Vary Quantities

2.2.1. NUMS reserves the right at the time of Contract award to increase or decrease the quantity of goods originally specified without any change in unit price or other terms and conditions, as per PPRA Rules.

2.2.2. The extent of variation shall not exceed the limit specified in the procurement regulations.

2.3. Notification of Award

2.3.1. Prior to the expiration of bid validity, NUMS shall notify the successful Bidder in writing (by registered letter/email) that its bid has been accepted.

2.3.2. The notification of Award shall constitute the formation of the Contract, subject to signing of formal Contract and furnishing of Performance Guarantee.

2.3.3. Simultaneously, NUMS shall notify all unsuccessful bidders of the outcome.

2.4. Signing of Contract

2.4.1. Within **07 days** of receipt of the Notification of Award, the successful Bidder shall sign and date the Contract on stamp paper of appropriate value (as per Stamp Duty Act, 1899).

2.4.2. The Contract shall be in the form specified in Annex-6 and shall include all agreements between the parties.

2.4.3. If the successful Bidder fails to sign the Contract within the stipulated time, its Bid Security shall be forfeited, and the firm shall be blacklisted for minimum three (03) years. NUMS may then award to the next lowest evaluated Bidder or call for re-bidding.

2.5. Performance Guarantee

2.5.1. Amount:

a) **10% of the Contract amount** (for both local & imported equipment / FEC component)

2.5.2. Form: Deposit at Call / Irrevocable Bank Guarantee from a scheduled bank in favor of: **"National University of Medical Sciences (NUMS)"**

2.5.3. Format: The Performance Guarantee shall be in the format specified in Annex-5.

2.5.4. Submission: On the date of signing of the Contract.

2.5.5. Validity: Equal to the warranty period plus 60 days.

2.5.6. Release: The Performance Guarantee shall be released after successful completion of warranty period and issuance of clearance/ satisfactory certificate by the end-user.

2.5.7. Failure of the successful Bidder to furnish the Performance Guarantee shall constitute sufficient grounds for annulment of the award and forfeiture of Bid Security.

2.6. Redressal of Grievances

2.6.1. NUMS shall constitute a committee comprising an odd number of persons to address complaints of bidders that may occur prior to the entry into force of the procurement contract. [Reference: PPRA Rules 2004, Rule 46]

2.6.2. Any bidder feeling aggrieved may lodge a written complaint concerning its grievances not later than Five (5) days after the announcement of the bid evaluation report.

2.6.3. The complaint shall be addressed to The Vice Chancellor, National University of Medical Sciences (NUMS) The Mall, Abid Majeed Road, Rawalpindi and submitted in Procurement directorate-NUMS.

2.6.4. The committee shall investigate and decide upon the complaint within **fifteen (15) days** of receipt.

2.6.5. Mere lodging of a complaint shall not warrant suspension of the procurement process. [Reference: PPRA Rules 2004, Rule 46]

2.6.6. Any bidder not satisfied with the decision may lodge an appeal in the relevant court of jurisdiction.

SECTION 3. GENERAL CONDITIONS OF CONTRACT (GCC)

3.1. Definitions: In this Contract, the following terms shall be interpreted as indicated:

Term	Definition
"The Contract"	The agreement entered into between NUMS and the Supplier, including all attachments and appendices
"The Contract Price"	The price payable to the Supplier for full and proper performance of contractual obligations
"The Goods"	The equipment, machinery, consumables, accessories, and all items to be supplied
"The Services"	Installation, commissioning, testing, training, after-sales support, maintenance, and all incidental services
"The Procuring Agency"	The National University of Medical Sciences (NUMS)
"The Supplier"	The successful Bidder awarded the Contract
"Day"	Calendar day
"Delivery Point"	NUMS NIASR, The Mall, Abid Majeed Road, Rawalpindi

3.2. Application

These General Conditions shall apply to the extent that they are not superseded by provisions of the Special Conditions of Contract (Section 4).

3.3. Country of Origin

3.3.1 Country of manufacture shall be as specified in the Technical Specifications. If not specified, goods from USA, Europe, Japan, or any other country conforming to applicable quality standards shall be acceptable.

3.3.2 The Supplier shall provide Certificate of Origin with the shipping documents.

3.4. Standards

3.4.1 Medical equipment shall comply with:

Region	Standard
USA	FDA 510(K) clearance
Europe	CE (MDD/MDR) certification
Japan	MHLW certification
Others	Relevant international standards (ISO, IEC)

3.4.2 Non-medical equipment shall comply with relevant national/international quality standards.

3.4.3 The Supplier shall provide certificates of conformity with the delivery documents.

3.5. Use of Contract Documents and Information

3.5.1 The Supplier shall not disclose any Contract provision, specification, plan, or information to any third party without NUMS's prior written consent.

3.5.2 All documents remain the property of NUMS and shall be returned upon completion of the Contract.

3.5.3 The Supplier shall treat all information obtained from NUMS as confidential and shall not use it for any purpose other than performance of the Contract.

3.6. Patent Rights

3.6.1 The Supplier shall indemnify NUMS against all third-party claims of infringement of patent, trademark, or industrial design rights arising from use of the Goods.

3.6.2 NUMS shall notify the Supplier promptly of any such claim and shall provide reasonable assistance to the Supplier in defending the claim.

3.7. Delivery and Documents

3.7.1 The Supplier shall make delivery as per the Schedule of Requirements and the delivery period specified in the SCC.

3.7.2 Original documents to be furnished with the Goods:

Sr.	Document	Quantity
a)	Delivery Challan/Goods Receiving Report	3 copies
b)	Packing List	3 copies
c)	Certificate of Origin	2 copies
d)	Certificate of Conformity/Inspection	2 copies
e)	Commercial Invoice	3 copies
f)	Insurance Certificate	2 copies
g)	OEM Certificate	2 copies
h)	Operational Manuals (hard copy)	2 sets
i)	Service Manuals (hard copy)	2 sets
j)	Operational Manuals (soft copy on CD/USB)	2 sets
k)	Service Manuals (soft copy on CD/USB)	2 sets
l)	Warranty/Guarantee Certificates	2 copies

3.7.3 For imported items, the following additional documents shall be provided:
a) Airway Bill/Bill of Lading
b) Goods Declaration (GD) Certificate
c) Import General Manifest (IGM) copy

3.8. Insurance

3.8.1 For imported goods on CIF basis, marine insurance shall be the Supplier's responsibility and shall be included in the Contract Price.

3.8.2 For DDP deliveries, all risks insurance up to final destination shall be included in the Contract Price.

3.8.3 Insurance shall be with a reputable insurance company operating in Pakistan, covering 110% of the value of Goods.

3.9. Transportation

3.9.1 The Supplier shall arrange transportation to prevent damage/deterioration during transit to the delivery point.

3.9.2 All transportation, loading, and unloading costs shall be included in the Contract Price.

3.9.3 The Supplier shall ensure that the mode of transportation is appropriate for the nature of the Goods.

3.10. Incidental Services

3.10.1 The Supplier shall provide all incidental services (installation, commissioning, and training) at no extra cost.

3.10.2 For high-end equipment, factory training for NUMS biomedical engineers and clinical training for end-users shall be provided as specified in the SCC.

3.10.3 The Supplier shall provide all necessary tools, equipment, and consumables required for installation and commissioning.

3.10.4 The Supplier shall demonstrate that the Goods are fully operational and meet all specifications before handing over to NUMS.

3.11. Warranty

3.11.1 **Warranty Period:** Minimum **three (03) years** comprehensive warranty from the date of final acceptance/commissioning. For LC-MS/MS, the detector (Photo Multiplier Tube) must have a minimum warranty of **10 years** as specified in technical specifications.

3.11.2 Warranty shall cover all parts, labor, travel costs, and any other expenses required to remedy defects.

3.11.3 **Uptime Guarantee:** 95% uptime during warranty period (calculated on an annual basis). If uptime falls below 95%, the warranty period shall be extended as per the following formula:

Uptime Percentage	Warranty Extension
95% - 100%	No penalty
80% - 94.9%	Extension by 2x downtime days
60% - 79.9%	Extension by 3x downtime days
Below 60%	Extension by 4x downtime days

3.11.4 The Supplier shall maintain a **Log Book** for all equipment recording breakdowns, maintenance, and repairs. The Log Book shall be available for inspection by NUMS at all times.

3.11.5 **Response Time:**

a) The Supplier shall respond to service calls within**24 hours** (working days) of receipt of complaint.

b) Major breakdowns shall be rectified within **07 working days**.

c) Critical equipment (LC-MS/MS, HPLC, FT-IR) shall be attended to within 12 hours.

3.11.6 **Remote Service:** For high-tech equipment, remote diagnostic and service capability via modem shall be provided, if available.

3.11.7 **Preventive Maintenance:** The Supplier shall carry out preventive maintenance as per manufacturer's recommended schedule at no extra cost.

3.11.8 **Spare Parts:** The Supplier guarantees the availability of essential spare parts for a minimum of **05 years** from the date of commissioning.

3.11.9 **IQ/OQ:** The Supplier shall perform Installation Qualification (IQ) and Operational Qualification (OQ) of all equipment through manufacturer-certified engineers. IQ/OQ protocols must be licensed and automated/locked as per manufacturer protocols.

3.12. Payment Terms

3.12.1 **No advance payment** shall be made to selected bidder.

3.12.2 **For DDP (Local Supply / PKR Component):** 100% payment after complete delivery, installation, commissioning, and acceptance by the end-user, upon submission of:

- **a)** Installation and Commissioning Report signed by end-user
- **b)** b) Delivery Challan/Goods Receiving Report
- **c)** c) Invoice in triplicate
- **d)** d) Warranty/Guarantee certificates
- **e)** e) All required manuals and documents

3.12.3 **For CIF (Imported Supply / FEC Component):** 100% payment via irrevocable Letter of Credit (LC) at sight upon presentation of shipping documents, provided that **10% of the LC amount** shall be payable after successful installation and commissioning.

3.12.4 **Retention Money:** 10% retention money shall be deducted from each bill and released after successful completion of the Defect Liability Period (warranty period).

3.12.5 Payment shall be released within **25-30 days** of submission of complete and correct invoices/documents.

3.13. Prices

3.13.1 Prices charged shall not vary from the quoted prices and shall remain fixed for the entire Contract duration.

3.13.2 No price adjustment on account of exchange rate fluctuations, market conditions, or any other factor shall be allowed.

3.14. Contract Amendments

3.14.1 No variation or modification of the Contract shall be made except by written amendment signed by both parties.

3.14.2 Change in make/model shall not be allowed unless the manufacturer has discontinued the model, in which case an upgraded model of similar or better specifications shall be offered at no extra cost.

3.14.3 Any such change must be approved in writing by NUMS.

3.15. Assignment

3.15.1 The Supplier shall not assign, in whole or in part, its obligations under this Contract without NUMS's prior written consent.

3.16. Subcontracts

3.16.1 The Supplier shall not sublet the job except as disclosed in the bid and approved by NUMS.

3.16.2 The Supplier shall remain fully responsible for the performance of any subcontractor.

3.17. Delays in Performance

3.17.1 Delivery shall be made as per the Schedule of Requirements and the delivery period specified in the SCC. [Reference: PPRA Rules 2004, Rule 39]

3.17.2 If the Supplier encounters conditions impeding timely delivery, it shall promptly notify NUMS in writing.

3.17.3 NUMS may, at its discretion, extend the time for performance, with or without liquidated damages.

3.18. Penalties/Liquidated Damages

3.18.1 **Rate of Penalty: 0.1% (one-tenth of one percent) of the Contract value per day** of delay, subject to a maximum of **10%** of the Contract value.

3.18.2 The penalty shall be calculated on the value of the delayed items.

3.18.3 Once the maximum penalty is reached, NUMS may terminate the Contract and forfeit the Performance Guarantee.

3.18.4 If substandard items are supplied, NUMS may arrange risk purchase, and the price difference shall be borne by the Supplier.

3.18.5 The imposition of liquidated damages shall not relieve the Supplier from its obligation to deliver the Goods.

3.19. Termination for Default

3.19.1 NUMS may terminate this Contract by written notice if the Supplier: [Reference: PPRA Rules 2004, Rule 40]

- **a)** Fails to deliver any or all goods within the specified period or any extension granted.
- **b)** Fails to perform any other obligation under the Contract.
- **c)** Has engaged in corrupt or fraudulent practices.
- **d)** Becomes insolvent or bankrupt.
- **e)** Provides substandard goods that do not meet specifications.

3.19.2 Upon termination, the Performance Guarantee shall be forfeited, and the Supplier may be blacklisted.

3.19.3 Termination shall not prejudice any other rights or remedies available to NUMS.

3.20. Force Majeure

3.20.1 The Supplier shall not be liable for delay or failure to perform if such delay or failure results from Force Majeure. [Reference: PPRA Rules 2004, Rule 41]

3.20.2 **Force Majeure** means an act of God or an event beyond the control of the Supplier, not involving fault or negligence, including but not limited to: wars, revolutions, fires, floods, earthquakes, strikes, epidemics, and freight embargoes.

3.20.3 The Supplier shall promptly notify NUMS in writing within **07 days** of occurrence, with sufficient evidence of such condition.

3.20.4 If Force Majeure conditions continue for more than **30 days**, either party may terminate the Contract without liability.

3.21. Termination for Insolvency

3.21.1 NUMS may terminate the Contract by giving one month's written notice if the Supplier becomes bankrupt or insolvent.

3.22. Resolution of Disputes

3.22.1 The parties shall make every effort to resolve amicably any disagreement arising under or in connection with the Contract.

3.22.2 If not resolved within 30 days of informal negotiations, either party may require that the dispute be referred to arbitration.

3.22.3 The arbitrator shall be appointed with mutual consent of both parties. If no consensus is reached within 30 days, either party may request the Chairman, Pakistan Engineering Council (for engineering disputes) or the concerned forum to appoint an arbitrator.

3.22.4 The decision of the arbitrator shall be final and binding on both parties.

3.22.5 The arbitration shall be conducted in Rawalpindi/Islamabad in accordance with the **Arbitration Act, 1940**.

3.22.6 The cost of arbitration shall be borne as determined by the arbitrator.

3.23. Governing Language

3.23.1 The Contract shall be written in English. All correspondence and documents shall be in English. [Reference: PPRA Rules 2004, Rule 6]

3.24. Applicable Law

3.24.1 This Contract shall be governed by the laws of Pakistan, and the courts in Rawalpindi/Islamabad shall have exclusive jurisdiction.

3.25. Notices

3.25.1 Any notice given by one party to the other shall be sent in writing to the address specified in the Special Conditions of Contract.

3.25.2 Notices shall be deemed effective when delivered by hand, registered post, or courier, or on the date specified in the notice, whichever is later.

SECTION 4. SPECIAL CONDITIONS OF CONTRACT (SCC)

Clause	Description
SCC-1	Procuring Agency: National University of Medical Sciences (NUMS), The Mall, Abid Majeed Road, Rawalpindi
SCC-2	Supplier: [To be filled after award]
SCC-3	Place of Delivery: NUMS NIASR, The Mall, Abid Majeed Road, Rawalpindi
SCC-4	Delivery Period:
	- Non-imported items: Within 20 days from issuance of Supply Order
	- Imported items: Within 08 weeks from issuance of Supply Order
SCC-5	Warranty Period:
	- Standard equipment: 03 years comprehensive (parts, labor, travel) from date of final acceptance
	- LC-MS/MS Detector (Photo Multiplier Tube): 10 years warranty
SCC-6	After-Sales Service: Service facility in Rawalpindi/Islamabad with qualified Biomedical Engineers/Technicians
SCC-7	Spare Parts Guarantee: Minimum 05 years from date of commissioning
SCC-8	Training:
	- Factory training for 02 Biomedical Engineers (for LC-MS/MS, HPLC, FT-IR) at the manufacturer's facility
	- On-site clinical training for end-users (minimum 03 days)
	- All training costs (travel, accommodation, daily allowance) shall be borne by the Supplier
SCC-9	Documentation: Two sets of Operation and Service Manuals (hard copy) plus soft copies on CD/USB
SCC-10	Insurance: Marine and inland insurance included in Contract Price
SCC-11	Customs Clearance: Supplier's responsibility; NUMS to provide facilitation documents (exemption certificate, etc.)
SCC-12	Penalty for Delay: 0.1% per day, maximum 10% of Contract value
SCC-13	Performance Guarantee: 10% of Contract value (for imported items); 5% (for local items)
SCC-14	Payment: As per GCC Clause 3.12
SCC-15	Retention Money: 10% deducted from each bill, released after warranty period
SCC-16	Correspondence Address:
	Procuring Agency: The Director Procurement, National University of Medical Sciences (NUMS), The Mall, Abid Majeed Road, Rawalpindi. Phone: +92-51-8909018, Email: nums.procurementdte@numspak.edu.pk
	Supplier: [To be filled after award]
SCC-17	Liquidated Damages: As per GCC Clause 3.18
SCC-18	Dispute Resolution: As per GCC Clause 3.22, with arbitration in Rawalpindi/Islamabad
SCC-19	Applicable Law: Laws of Pakistan
SCC-20	Language: English
SCC-21	IQ/OQ Requirement: Supplier shall perform Installation Qualification (IQ) and Operational Qualification (OQ) of all equipment through manufacturer-certified engineers
SCC-22	21 CFR Part 11 Compliance: All software for LC-MS/MS, HPLC, FT-IR, and data management systems must be fully 21 CFR Part 11 compliant

SECTION 5. SCHEDULE OF REQUIREMENTS

5.1. Scientific Equipment for Clinical Trial (Drug Bioequivalence) – Imported

Sr. No.	Item Name	Brief Description	Qty	Delivery Period
1	LC-MS/MS Spectrometer	Triple Quadrupole Liquid Chromatography Mass Spectrometry System with complete accessories, columns, software, UPS, and 02 person foreign training	1	08 weeks
2	HPLC with Photo Diode & Fluorescence Detector	High Performance Liquid Chromatography with DAD and FLD detectors, software, UPS, and accessories	1	08 weeks
3	FT-IR Spectroscopy with Diamond-ATR Module	Fourier Transform Infrared Spectrometer with Diamond ATR, software, and accessories	1	08 weeks
4	-80°C Freezer	Ultra-low temperature freezer for sample storage (545 liters or higher)	1	08 weeks

5.2. Scientific Equipment for Clinical Trial (Drug Bioequivalence) – Local

Sr. No.	Item Name	Brief Description	Qty	Delivery Period
1	Blood analyzers, Simple and handy Micro Lab spectrophotometer	Fully automated / semi-automated blood analyser, ≥60 tests/hour	1	20 days
2	Balance, Analytical	Analytical balance, 200g capacity, 0.1mg readability	1	20 days
3	Oven Drying	Laboratory drying oven, ≥120 liters, 250-300°C	1	20 days
4	Soxhlet Heating Mantles, Electro thermal	Electrothermal Soxhlet heating mantle, single/multi-position	1	20 days
5	Glassware Washer, Cub	Under-counter glassware washer, ≥100-150 pieces/cycle	1	20 days
6	Karl Fischer moisture Titrator, Volumetric type	Volumetric Karl Fischer titrator with 21 CFR Part 11 software	1	08 weeks
7	Magnetic Stirrer/ Hotplates	Digital magnetic stirrer with hotplate, 300°C, 1500 rpm	2	20 days
8	Muffle Furnace	High temperature muffle furnace	1	08 weeks
9	PH Meter	Bench-top digital pH meter, 0-14 pH, 0.01 resolution, 21 CFR Part 11	1	20 days
10	Refrigerator	Laboratory refrigerator, 2-8°C, ≥400 liters	1	20 days
11	Thermostatic Baths	Laboratory thermostatic bath, ambient+5 to 100°C	2	20 days
12	Vacuum oven	Laboratory vacuum oven, ambient+5 to 300°C, vacuum range 0-1000 mbar	1	08 weeks
13	Compact Millipore water purification up to HPLC grade	Water purification system, HPLC grade / Type I, ≥18.2 MΩ·cm	1	08 weeks
14	Refrigerated centrifuges	Refrigerated centrifuge, -20°C to 40°C, ≥15,000 rpm	1	08 weeks
15	Hematology Analyzer 05part	Fully automated 5-part hematology analyzer	1	08 weeks
16	Chemistry Analyzer	Fully automated clinical chemistry analyzer	1	08 weeks

17	Electrolyte Analyzer	Fully automated electrolyte analyzer (Na^+, K^+, Ca^{2+}, Cl^-, pH)	1	08 weeks
18	Linear® ELISA reader and washer	Microplate reader and washer for ELISA assays	1	08 weeks
19	Human® Coagulometer	Semi-automated coagulometer, 4 channels	1	08 weeks
20	Liquid Handling System Eppendorf	Adjustable/fixed volume micropipettes (set of 6 volumes)	2 sets	20 days
21	RO + Water Deionization unit/ system	Combined Reverse Osmosis + Deionization system, ≥100 L/hour	1	20 days
22	Freezers, Deep- 25	Upright/chest deep freezer, -40°C, ≥500 liters	1	20 days
23	UV Spectrometer with full spectra facility	Double beam UV-Vis spectrometer, 180-1,200 nm, 21 CFR Part 11	1	08 weeks
24	Dissolution with Auto sampling	Fully automated dissolution tester with auto-sampling, 14 vessels	1	08 weeks
25	Vortex Fixed speed	Laboratory vortex mixer, fixed speed	2	20 days
26	Vacuum pumps	Oil-free/dry laboratory vacuum pump	1	20 days
27	Centrifuges	Benchtop centrifuge, 10-14,000 RPM, ≥22,000 RCF	1	20 days

5.3. Scientific Equipment for Clinical Trial Unit – Local

Sr. No.	Item Name	Brief Description	Qty	Delivery Period
1	Telemetry Monitors (Complete Set with full accessories)	Multi-parameter telemetry patient monitor, ECG, NIBP, SpO_2, etc.	2 sets	20 days
2	Medical Crash Carts (with complete accessories)	Fully equipped mobile crash cart for emergency response	2	20 days
3	Special purpose Medical Beds	Adjustable hospital/clinical beds for patient monitoring	2	20 days
4	Stretchers	Patient transport stretcher for clinical/ward use	2	20 days
5	Wheel Chairs	Standard/foldable patient wheelchair for clinical use	2	20 days

SECTION 6. TECHNICAL SPECIFICATIONS

SECTION 7.

7.1. LC-MS/MS Spectrometer

Triple Quadrupole Liquid Chromatography Mass Spectrometry System

System Overview:

Triple Quadrupole Liquid Chromatography Mass Spectrometry System must have compatibility for HPLC and UHPLC separation with PC (genuine MS Office), printer, and pure sine wave online UPS.

General Requirements:

- Able to switch between both modes (Positive and Negative) rapidly.
- Able to auto path finder for washing and running the system.
- Ion source ESI and APCI compatible with the Flow rate from 1 uL/min to 1000 ul/min.
- Spray Chamber: Dual Orthogonal Geometry.
- The detector must have fixed gain with no drop in sensitivity through Photo Multiplier Tube sealed in vacuum. **(Minimum warranty 10 years)**
- It must be capable of performing MS, MS/MS and MRM experiments automatically.

Performance Specifications:

Parameter	Requirement
Resolution	0.5 or better FWHM without reduction in sensitivity
Mass stability	<0.1 Da for 24 hours
Sensitivity (ESI-)	200,000:1 or better
Sensitivity (ESI+)	600,000:1 or better
Mass Analyzer scan speed	20,000 Da/s or more

Additional Requirements:

- Self-contained Nitrogen Generator with built-in Air Compressor. Membrane technology to remove oxygen, moisture and other gases to leave clean, dry, and phthalate free nitrogen.
- Automatic calibration of all ion transfer and analysis parameters via software.

Software Requirements:

- Integrated compound identification capabilities, and statistical analysis tools for streamlined data analyses.
- Database with Software at a minimum of 500 or more chemicals MRM based.
- The MS control software, latest windows-based platform and could control both the MS and specified LC devices.
- **Software must be fully 21 CFR Part 11 Compliant.**

HPLC System Specifications:

Pump - Quaternary Gradient:

Parameter	Requirement
Operating Pressure	1000 Bar or better
pH Range	1-12.5 or better
Stable flow rate	0.01ml/min to 5ml/min or better
Flow Accuracy	±1% or better
Composition Precision	0.15% RSD
Column Compartment	Ambient - 90 ˚C or better
Temperature Accuracy	± 0.5˚C or better with two-point temperature calibration

Auto Sampler:

Parameter	Requirement
Injection Volume	0.1 to 10.0 ul & 1000 ul with optional loops
Sample compartment temperature	4 - 40˚C or better with cooling thermostat
Sample capacity	90 vials or better
Sample Carryover	≤0.002%

Data Station:

- Branded 13th Generation Core i7 or more, 16 GB DDR, 1 TB SSD, DVD RW
- LCD 24" Keyboard Mouse
- Color Laser jet Printer
- Compatible online UPS pure sinewave for backup of 30 mins of complete instrument

Columns:

Item	Quantity
C18 column, 2.1x100mm, 1.7um or equivalent	2
C18 Column, 2.1x150mm, 1.7um or equivalent	1
LCMSMS Certified clear glass Vials 1.5 ml or better (100/pk)	5
LCMSMS Certified Amber Glass Vials 1.5 ml or better (100/pk)	5

Additional Requirements:

- IQ / OQ of Instrument must be performed by vendor.
- Additional Injection Loop: 50ul.
- Installation, qualification and operators training must be offered by Factory trained / Manufacturer trained engineers locally at site.
- Different components/parts must be from the same series.
- **02 Person application Foreign Training must be included in proposal.**
- Instruments must be provided with evidence directly from Manufacturer to Purchaser i.e., Principle / Manufacture PFI must be submitted with Technical & Commercial Proposals. Shipments from non-principal port / origin not acceptable.
- To Ensure Uninterrupted Operations include a backup System Having Same Configuration.
- IQ, OQ, GD and Certificate of Origin will be required for all Equipment's. CE Marked equipment's required verifiable CE certificate.

- **02 Years of Comprehensive warranty** of each component/module from the date of clearance CRV inclusive of all consumables / nonconsumable parts, hardware and software will be the warranty of supplier.
- Supplier will be responsible for undertaking calibration of equipment during warranty period.
- Supplier will be responsible for valid equipment calibration by the OEM. Certificates will be provided at the time of installation.

7.2. 6.2 HPLC with Photo Diode & Fluorescence Detector

Quaternary Gradient Pump Specification:

Parameter	Requirement
Pump operating pressure	650 bar or better
Pump flow range	0.001 ml/min to 5.0 ml/min, in 0.01 ml increments
Pump type	Low pressure quaternary gradient pump with solvent blending
Degassing	Integrated vacuum degassing of all mobile phase lines
Flow path compatibility	pH range of 1 to 12.5
Flow precision	≤0.075% RSD or ±0.02 min SD, whichever is greater
Flow accuracy	±1% or better
Composition precision	<0.15% RSD or ±0.04 min SD, whichever is greater
Additional features	Integrated and programmable seal wash and leak sensor

Sample Manager Specification:

Parameter	Requirement
Injector	With integrated programmable needle wash option
Sample carryover	<0.002% or less
Injection accuracy	±0.2 µL or better
Injection precision	≤1.0% RSD
Injection volume range	0.1 to 1000.0 µL
Sample capacity	Minimum 96 vials of 2ml volume
Syringe capability	Handle low volume inserts as little as 0.1ul from 7ul
Injector linearity	≥0.999 correlation coefficient

Column Compartment Specification:

Parameter	Requirement
Column support	Columns up to 30 cm in length
Temperature range	4° C to 65° C or better
Temperature accuracy	±0.5 °C or better
Temperature stability	±0.3 °C or better

Photo Diode Array Detector Specification:

Parameter	Requirement
Low noise sensitivity	<10 µAU
Bandwidth and optical resolution	190-800 nm with 1.2 nm or better
Wavelength accuracy	±1 nm

Fluorescence Detector Specification:

Parameter	Requirement
Wavelength range	200 to 890 nm
Bandwidth	≤25 nm
Wavelength Accuracy	±3 nm
Data Channels	Up to four 2D or one 3D channel
Light Source	Xenon lamp or equivalent
Flow cell volume	13 or 14 µl
Flow cell type	Analytical or low-dispersion
Pressure limit	10 bar or better
Sample measurement range	0.001 to 100,000 emissions or better
Wavelength repeatability	±0.30 nm or better

Controlling Software:

- **Must be 21 CFR Part 11 approved compliant Ready Software.**
- Recovery of data base in any accidental loss of computer hard disk.
- Software must comply with GxP, cGMP compliance.
- Software must work with latest windows operating system. Ensure connectivity with LIMS, CDS with ethernet cable.

Additional Requirements:

- Vendor must perform IQ/OQ of software and hardware through manufacturer certified engineer.
- IQ/OQ protocols must be licensed and automated/locked as per manufacturer protocols.
- Equipment must be FDA certified.
- Installation, qualification and operators training must be offered by Factory trained / Manufacturer trained engineers locally at site.
- **03 Years of Comprehensive warranty** of each component/module from the date of clearance CRV inclusive of all consumable / nonconsumable parts, hardware and software.
- Supplier will be responsible for undertaking calibration of equipment during warranty period.
- Supplier will be responsible for valid equipment calibration by the OEM. Certificates will be provided at the time of installation.

7.3. 6.3 FT-IR Spectroscopy with Diamond-ATR Module

Technical Specifications:

Parameter	Requirement
Data acquisition	Scanning in both directions
Interferometer	Retro-reflecting cube corner design
Stability correction	Automatic mirror tilt compensation
Dynamic alignment	Electro-optical actuators (if flat mirrors used)
Correction frequency	≥4× Fourier frequency at max scan speed
Beam splitter	KBr for MIR applications
Windows	KBr windows (8000–350 cm^{-1} range)
Humidity option	ZnSe beam splitter & windows
ZnSe range	6000–500 cm^{-1}
Spectral resolution	Better than 2 cm^{-1}
Optional resolution	≤0.75 cm^{-1} adjustable to 256 cm^{-1}
Mirrors	Gold-coated optics
Signal-to-noise ratio	>50,000:1 (1 min, 4 cm^{-1})
Performance validation	Automated reference standard
Compliance	PhEur 2.2.24, PhJP 2.25, USP <854>
Spectral libraries	Pharmaceutical ATR ≥8,000 spectra

Software Requirements:

- Software must work with latest windows operating system.
- Ensure connectivity with LIMS, CDS with ethernet cable.
- **Must be 21 CFR Part 11 compliant.**

Additional Requirements:

- Printer compatible with system provided.
- All OEM recommended accessories will be provided with the system.
- Equipment must be FDA/CE certified.
- Country of manufacturing: Japan, Korea, Western Europe or USA.
- **Warranty: Manufacturer ≥10 years** on critical components.

7.4. 6.4 -80°C Freezer

Specifications:

Parameter	Requirement
Temperature Range	-40°C to -80°C (adjustable set point)
Temperature Uniformity	±1.0°C to ±2.0°C
Display	LED, Digital Display
Door Type	Solid insulated door with lock (single or double)
Capacity	545 liters or higher
Compliance	SNAP-compliant insulation
Setpoint security	3-digit numeric code

Controller	Microprocessor
System status	Instrument health display
Visual and audible alarms	High/Low temperature, Electrical Power failure, Door ajar
Data logging	USB, Internal Data Storage
Refrigerants	Natural hydrocarbon: R290 (1st stage), R170 + R290 mix (2nd stage)
Connectivity	External Monitoring Compatible; 4-20mA, RS485
Cryo gloves	≥1 pair
Glove lining	Polyolefin with cotton inner
Temperature protection	Down to −160 °C
Certification	ISO 13485 Certified

Additional Requirements:

- All OEM recommended accessories will be provided with the system.
- Equipment must be FDA/CE certified.
- Country of manufacturing: Japan, Korea, Western Europe or USA.
- IQ, OQ, GD and Certificate of Origin will be required. CE Marked equipment required verifiable CE certificate.
- Supplier will be responsible for undertaking calibration of equipment during warranty period.
- Supplier will be responsible for valid equipment calibration by the OEM. Certificates will be provided at the time of installation.

7.5. 6.5 Scientific Equipment for Clinical Trial (Drug Bioequivalence) – Local

1. Blood Analyzers, Simple and Handy Micro Lab Spectrophotometer

Specifications:

- Type: Fully automated / semi-automated blood analyser
- Parameters: Hb, glucose, cholesterol, urea, creatinine, lipids
- Sample type: Whole blood / serum / plasma
- Throughput: ≥60 tests/hour
- Methodology: Photometric / colorimetric analysis
- Wavelength range: 340 – 800 nm
- Display: LCD / touchscreen interface
- Sample volume: ≤20 µL
- Data storage: ≥5,000 results
- Quality control: Built-in QC programs
- Calibration: Auto / manual calibration
- Connectivity: USB / LIS compatible
- Power supply: 220–240 V, 50 Hz
- Warranty: ≥2 years

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2. Balance, Analytical

Specifications:

- Type: Analytical balance (laboratory grade)
- Capacity: ≥200 g or better
- Readability: 0.1 mg (0.0001 g)
- Repeatability: ≤0.1 mg
- Linearity: ±0.2 mg or better
- Weighing units: g, mg, %, pcs, others
- Calibration: Internal automatic calibration
- Display: Digital LCD / touchscreen
- Draft shield: Glass, anti-static
- Connectivity: USB / RS232 interface, compatible with LIMS

- Functions: Tare, counting, density, % weighing
- Leveling: Adjustable feet with level indicator
- Power supply: 220–240 V, 50 Hz
- Compliance: GLP / GMP compatible
- Accessories: Calibration weight, dust cover, compatible Printer
- Warranty: ≥2 years

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3. Oven Drying

Specifications:

- Type: Laboratory drying oven (forced air / natural convection)
- Temperature range: Ambient +5 °C to 250–300 °C
- Temperature accuracy: ±1 °C
- Temperature uniformity: ±2 °C or better
- Capacity: ≥120 liters or better
- Display: Digital LCD / touchscreen
- Controller: PID temperature control
- Heating system: Electric heating elements
- Air circulation: Forced air fan (uniform heating)
- Chamber material: Stainless steel (corrosion resistant)
- Timer: Digital timer with auto shut-off
- Safety: Over-temperature protection
- Door: Insulated with viewing window
- Ventilation: Adjustable air exhaust vent
- Power supply: 220–240 V, 50 Hz
- Compliance: GLP / GMP compatible
- Warranty: ≥2 years

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4. Soxhlet Heating Mantles, Electrothermal

Specifications:

- Type: Electrothermal Soxhlet heating mantle
- Capacity: 250 mL, 500 mL, 1000 mL (interchangeable sizes)

- Positions: Single / multi-position (2–6 units)
- Temperature control: Adjustable analog / digital control
- Max temperature: Up to 450 °C
- Heating element: Uniform electrothermal heating
- Controller: Built-in energy regulator / PID
- Heating surface: Fiber-glass insulated mantle
- Safety: Overheat protection
- Insulation: High thermal efficiency, minimal heat loss
- Power supply: 220–240 V, 50 Hz
- Compliance: GLP / GMP compatible
- Accessories: Clamps, stands
- Warranty: ≥2 years

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5. Glassware Washer, Cub

Specifications:

- Type: Cub / under-counter glassware washer
- Capacity: ≥100–150 pieces per cycle
- Chamber material: Stainless steel (corrosion resistant)
- Wash levels: Multi-level racks / adjustable trays
- Programs: Multiple wash cycles (intensive, normal, rinse)
- Temperature range: Up to 90–95 °C (wash/disinfection)
- Drying: Hot air
- Control system: Microprocessor / programmable control
- Display: Digital LCD / touchscreen
- Water consumption: Low water usage per cycle
- Detergent system: Automatic dosing system
- Pumps: High-pressure circulation pump
- Filtration: Multi-stage filtration system
- Safety: Door lock during operation
- Alarm system: Error and cycle completion alerts
- Connectivity: USB / RS232

- Power supply: 220–240 V, 50 Hz
- Compliance: GLP / GMP standards
- Accessories: Baskets, racks, injector modules
- Warranty: ≥2 years

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6. Karl Fischer Moisture Titrator, Volumetric Type

Specifications:

- Type: Volumetric Karl Fischer titrator
- Moisture range: 0.01% to 100%
- Measuring range: –1200 to +1200 mV
- Method: Volumetric titration (KF method)
- Burette: Motor-driven, high-precision dosing
- Accuracy: High accuracy with reproducible results
- Drift correction: Automatic drift compensation
- Endpoint detection: Bi-potentiometric detection
- Display: Digital LCD / touchscreen
- Control: Microprocessor-based system
- Sample introduction: Liquid / solid / gas compatible
- Stirring system: Built-in magnetic stirrer
- Calibration: Automatic / manual calibration
- Data storage: Internal memory with result storage
- Methods: Pre-programmed and user-defined methods
- Connectivity: USB / RS232 / LIMS compatible
- Software: Integrated titration software
- Compliance: GLP / GMP compatible
- **21 CFR Part 11: Fully compliant software required**
- Accessories: Titration vessel, electrodes, reagents kit
- Power supply: 220–240 V, 50 Hz
- Warranty: ≥2 years

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7. Magnetic Stirrer/Hotplates

Specifications:

- Type: Magnetic stirrer with hotplate
- Plate material: Ceramic-coated / stainless steel
- Temperature range: Ambient to ≥300 °C
- Temperature control: Digital
- Temperature accuracy: ±1–2 °C
- Stirring speed: 100 – 1500 rpm
- Speed control: Variable / digital control
- Display: LED / LCD (temperature & speed)
- Motor: Brushless, maintenance-free
- Stirring capacity: ≥1–5 liters
- Safety: Overheat protection
- Indicators: Hot surface warning
- Power supply: 220–240 V, 50 Hz
- Compliance: GLP / GMP compatible
- Accessories: PTFE-coated stir bars
- Warranty: ≥2 years

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8. Muffle Furnace

Specifications:

- Type: High temperature muffle furnace
- Temperature Range: Up to 1200°C
- Temperature controller: PID microprocessor
- Chamber material: Ceramic fiber
- Door: Hinged with safety interlock
- Safety features: Over-temperature protection
- Power supply: 220-240 V, 50 Hz
- Warranty: ≥2 years

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9. pH Meter

Specifications:

- Type: Bench-top digital pH meter
- pH range: 0 to 14 pH
- Resolution: 0.01 pH
- Accuracy: ±0.01 pH
- mV range: ±1999 mV
- Temperature range: 0 – 100 °C
- Temperature compensation: Automatic (ATC)
- Calibration: 2–5 point calibration
- Electrode: Combined glass pH electrode
- Display: Digital LCD / touchscreen
- Control: Microprocessor-based system
- Data storage: Internal memory
- Connectivity: USB / RS232 / LIMS compatible
- Functions: pH, mV, temperature measurement
- Stability indicator: Automatic endpoint detection
- Compliance: GLP / GMP compatible
- **21 CFR Part 11: Required for software/data systems**
- Data integrity: Audit trail, user access control
- Power supply: 220–240 V, 50 Hz
- Accessories: Buffer solutions, electrode stand
- Warranty: ≥2 years

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10. Refrigerator

Specifications:

- Type: Laboratory / pharmacy refrigerator
- Temperature range: 2 °C to 8 °C
- Capacity: ≥400 liters or better
- Temperature control: Microprocessor-based controller
- Display: Digital LCD / touchscreen
- Temperature accuracy: ±1 °C
- Uniformity: ±2 °C or better

- Cooling system: Forced air circulation
- Defrost system: Automatic defrost
- Refrigerant: CFC-free / eco-friendly
- Door type: Solid / glass door with lock
- Alarm system: Audio-visual alarms
- Alarms include: High/low temp, door ajar, power failure
- Data logging: Built-in temperature recorder
- Connectivity: USB / RS232 / remote monitoring
- Backup: Battery backup for display & alarms
- Security: Key lock / password protection
- Compliance: GLP / GMP / WHO guidelines
- Power supply: 220–240 V, 50 Hz
- Warranty: ≥2 years

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11. Thermostatic Baths

Specifications:

- Type: Laboratory thermostatic bath (digital or analog)
- Temperature range: Ambient +5 °C to 100 °C
- Temperature stability: ±0.1–0.5 °C
- Timer: Digital programmable timer
- Display: Digital temperature display
- Construction: Stainless steel interior
- Safety: Over-temperature protection
- Warranty: ≥2 years

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12. Vacuum Oven

Specifications:

- Type: Laboratory vacuum oven
- Temperature range: Ambient +5 °C to 250–300 °C
- Temperature accuracy: ±1 °C
- Temperature uniformity: ±2 °C

- Vacuum range: 0 – 1000 mbar (adjustable)
- Chamber material: Stainless steel (corrosion resistant)
- Air circulation: Forced convection (for uniform heating)
- Door: Glass window or solid insulated door
- Vacuum pump: Built-in or compatible external connection
- Controller: PID digital temperature and vacuum control
- Display: Digital LCD / touchscreen
- Safety: Over-temperature and vacuum failure protection
- Timer: Digital programmable timer with auto shut-off
- Power supply: 220–240 V, 50 Hz
- Compliance: GLP / GMP standards
- Warranty: ≥2 years

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13. Compact Millipore Water Purification up to HPLC Grade

Specifications:

- Type: Compact / bench-top water purification system
- Purity grade: HPLC grade / Type I ultrapure water
- Production capacity: ≥2–5 L/hour
- Resistivity / Conductivity: ≥18.2 MΩ·cm at 25 °C
- TOC: ≤5 ppb (optional <2 ppb)
- Bacteria removal: 0.2 µm filtration, endotoxin-free
- Pre-treatment: Carbon filter, deionization, sediment filter
- Storage: Integrated reservoir ≥10–20 L, recirculation
- Dispensing: Touch-free or manual dispensing
- Display: Digital LCD / touchscreen for status monitoring
- Monitoring: Conductivity, temperature, TOC display
- Purification stages: Reverse osmosis + UV + polishing cartridge
- Alarm system: Low water, filter replacement, UV lamp status
- Connectivity: Optional USB / RS232 / remote monitoring
- Compliance: GLP / GMP / USP / ASTM
- Power supply: 220–240 V, 50 Hz

- Warranty: ≥2 years

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14. Refrigerated Centrifuges

Specifications:

- Type: Laboratory refrigerated centrifuge
- Rotor type: Fixed-angle and/or swing-bucket compatible
- Speed programming: 10 RPM / 10 xg steps
- Maximum speed: ≥15,000 rpm or better
- Maximum RCF: ≥25,000 × g
- Temperature range: −20 °C to 40 °C
- Temperature control: Digital microprocessor-controlled
- Precooling program: With rotor spinning and selectable temperature
- Temperature accuracy: ±1 °C
- Acceleration / deceleration: Programmable with soft start/stop
- Display: Digital LCD / touchscreen for speed, RCF, time, temperature
- Capacity: ≥24 × 1.5–2 mL microtubes fixed-angle rotor and 4 × 50 mL swing-bucket rotors
- Timer: Programmable, up to 99 hours 59 minutes
- Rotor recognition: Automatic rotor detection
- Braking system: Progressive controlled braking up to 175 selectable ramps
- Safety features:
    - Imbalance detection and auto shut-off
    - Lid lock during operation
    - Emergency stop
- Data logging: Internal memory with USB / RS232 connectivity
- Compliance: GLP / GMP standards
- Power supply: 220–240 V, 50 Hz
- Warranty: ≥2 years

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15. Hematology Analyzer (5-Part)

Specifications:

- Type: Fully automated 5-part hematology analyzer

- Differential count: 5-part WBC differential
- Sample types: Whole blood (EDTA), Body fluids (CSF, Peritoneal, Pleural, Synovial)
- Parameters measured:
    - CBC & RBC indices: WBC, RBC, HGB, HCT, MCV, MCH, MCHC, PLT, RDW-SD, RDW-CV, PDW, MPV, P-LCR, PCT
    - WBC differential: NEUT#, LYMPH#, MONO#, EO#, BASO#, NEUT%, LYMPH%, MONO%, EO%, BASO%, IG#, IG%
    - Reticulocytes: RET#, RET%, IRF, LFR, MFR, HFR, RET-He
    - Platelet analysis: PLT-O
    - Body fluids: WBC-BF, RBC-BF, MN#, PMN#, MN%, PMN%, TC-BF#
- Technology:
    - WBC & Reticulocytes: Fluorescence Flow Cytometry
    - WBC: Flow Cytometry
    - RBC & PLT: DC Impedance with hydrodynamic focusing
    - Hemoglobin (HGB): Cyanide-free SLS method
- Special features: pRBC / IRBC malaria flag for malaria detection (FDA approved)
- Throughput: ≥60–100 samples/hour
- Sample volume: Minimal (≤20–50 µL)
- Calibration: Automatic and manual calibration
- QC & validation: Automated internal quality control
- Display: Digital LCD / touchscreen
- Data storage: ≥5,000 results with full parameters
- Connectivity: USB / LIS / LIMS compatible
- Safety & alarms: Low sample/reagent, clog, maintenance alerts
- Warranty: ≥2 years

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16. Chemistry Analyzer

Specifications:

- Type: Fully automated clinical chemistry analyzer
- Sample types: Plasma, Serum, Urine
- Number of assays: ≥32 tests or more
- Throughput: ≥85 tests/hour

- Sample cycle time: ≤600 seconds
- Sample volume: Minimum 50 µL
- Reaction principle: Photometric / kinetic / turbidimetric methods
- Calibration: Automatic and manual calibration
- Quality control: Built-in QC programs with alerts
- Reagent system: Ready-to-use reagents with long shelf life
- Display: Digital LCD / touchscreen
- Data storage: ≥5,000 results with patient/sample ID
- Connectivity: USB / LIS / LIMS compatible
- Alarms: Low sample/reagent, error alerts
- Temperature control: Automatic reaction temperature regulation
- Compliance: GLP / GMP
- Power supply: 220–240 V, 50 Hz
- Warranty: ≥2 years

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17. Electrolyte Analyzer

Specifications:

- Type: Fully automated electrolyte analyzer
- Parameters measured: Na^+, K^+, Ca^{2+}, Cl^-, pH
- Sample type: Plasma, Serum, Urine
- Throughput: ≥60 tests/hour (typical)
- Sample volume: Minimal (≤50 µL)
- Measurement method: Ion-selective electrodes (ISE)
- Storage capacity: ≥50,000 results with sample ID
- Working temperature: 5–40 °C
- Calibration: Automatic and manual calibration
- Quality control: Built-in QC programs with alerts
- Display: Digital LCD / touchscreen
- Connectivity: USB / LIS / LIMS compatible
- Alarms: Low sample/reagent, error, maintenance
- Power supply: 220–240 V, 50 Hz

- Compliance: GLP / GMP
- Warranty: ≥2 years

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18. Linear® ELISA Reader and Washer

Specifications:

- Type: Microplate reader, 96-well format compatible
- Wavelength range: 400–700 nm (filter-based or monochromator)
- Read modes: Absorbance, optional fluorescence/kinetic
- Measurement method: Single / dual wavelength, endpoint and kinetic readings
- Accuracy: ±1 nm wavelength
- Precision: CV ≤1.0%
- Sample capacity: 96-well microplates
- Display: Digital LCD / touchscreen interface
- Data storage: Internal memory + USB / PC connectivity
- Software: ELISA data analysis, curve fitting, standardization
- Temperature control: Optional incubator for temperature-sensitive assays
- Wash modes: Standard, rapid, manual, or user-defined programs
- Volume control: Adjustable dispense and aspiration volumes (50–400 µL/well)
- Channels: ≥8–12 channels simultaneous washing
- Cross-contamination prevention: Anti-drip and independent aspiration
- Compliance: GLP / GMP standards
- **21 CFR Part 11: Required if electronic records/logging included**
- Power supply: 220–240 V, 50 Hz
- Warranty: ≥2 years

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19. Human® Coagulometer

Specifications:

- Type: Semi-automated coagulometer
- Channels / Positions: 4 measurement channels
- Light source: LED
- Parameters measured: PT (Prothrombin Time), APTT (Activated Partial Thromboplastin Time), Fibrinogen (Fib)

- Sample volume:
    - PT / APTT: 50 µL
    - Fibrinogen: 10 µL
- Sample & reagent handling: Manual pipette with auto-start function
- Display: LCD digital display
- Programs: ≥15 pre-programmed assay programs
- Calibration: 7–9 point calibration curves
- Method flexibility: 12–15 assay methods programmable
- Printer: Integrated thermal printer for immediate results
- Operating temperature: 10 °C – 30 °C
- Data storage: Internal memory for results (optional USB / LIS connectivity)
- Alarms: Error, low sample, maintenance
- Power supply: 220–240 V, 50 Hz
- Compliance: GLP / GMP standards
- Warranty: ≥2 years

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20. Liquid Handling System Eppendorf

Specifications:

- Type: Adjustable / fixed volume micropipettes
- Set composition (typical volumes):
    - 0.5–10 µL
    - 10–100 µL
    - 100–1,000 µL
    - 1–5 mL
- Accuracy: ±1–3% depending on volume
- Precision (CV): ≤1–2%
- Tip type: Universal / filtered tips compatible
- Ergonomics: Lightweight, anti-fatigue design
- Material: Chemical-resistant, autoclavable components
- Calibration: Pre-calibrated, adjustable if required
- Sterility: Optionally sterile / RNase & DNase free

- Operation: Manual or electronic pipettes included
- Compliance: ISO 8655 standard
- Warranty: ≥2 years

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21. RO + Water Deionization Unit/System

Specifications:

- Type: Combined Reverse Osmosis (RO) + Deionization (DI) water purification system
- Capacity: ≥100 L/hour or better
- RO stage: Multi-stage RO membrane with ≥98% salt rejection, automatic flush
- DI stage: Mixed-bed or separate cation/anion resin, resistivity ≥1–2 MΩ·cm
- Final water quality: ≥18.2 MΩ·cm resistivity, TOC ≤5 ppb
- Bacteria control: 0.2 µm final filter, endotoxin-free
- Storage reservoir: 20–50 L with recirculation pump
- Dispensing: Tap or foot-switch controlled, continuous supply
- Monitoring: Digital display for resistivity, flow rate, UV lamp status
- Alarms: Low water, filter/resin replacement, system faults
- Control: Microprocessor-based with digital interface
- Power supply: 220–240 V, 50 Hz
- Operation temperature: 5–40 °C
- Compliance: GLP / GMP, USP standards
- Maintenance: Easy cartridge replacement, low maintenance design
- Warranty: ≥2 years

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22. Freezers, Deep -25°C

Specifications:

- Type: Upright / chest deep freezer
- Temperature range: −40 °C ±2 °C
- Capacity: ≥500 liters or above
- Shelves / drawers: Adjustable shelves or bins for sample organization
- Cooling system: Forced air or static with efficient insulation
- Refrigerant: Eco-friendly, CFC-free

- Compressor: Heavy-duty, energy-efficient
- Temperature control: Digital microprocessor-based controller
- Display: Digital LCD / touchscreen
- Alarms: High/low temperature, door ajar, power failure
- Data logging: USB / RS232 connectivity
- Noise level: ≤50 dB
- Door lock: Key lock for security
- Defrost system: Manual or semi-automatic
- Power supply: 220–240 V, 50 Hz
- Compliance: GLP / GMP standards
- **21 CFR Part 11: Required integrated data logging**
- System status: Instrument health display
- Visual and audible alarms: High/Low temperature, Electrical Power failure, Door ajar
- Data logger, USB, Internal Data Storage
- Connectivity: External Monitoring Compatible; RS485
- Cryo gloves: ≥1 pair
- ISO 13485 Certified
- Warranty: ≥2 years

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23. UV Spectrometer with Full Spectra Facility

Specifications:

- Type: Double beam UV-Vis spectrometer
- Spectral range: 180 – 1,200 nm
- Spectral resolution: 2.3 – 2.5 nm
- Spectral bandwidth: Variable 0.2, 0.5, 1, 2, 4 nm
- Photometric range: −3 to 3 Absorbance (A)
- Baseline stability: ±0.002 A / hour
- Wavelength accuracy: ±1 nm
- Stray light: ≤0.05%T at 220 nm / 340 nm
- Beam type: Double beam for reference/sample correction
- Data acquisition: Full spectra scanning, multi-wavelength scanning

- Display: Digital LCD / PC interface with software
- Software features:
    - Pharmacopoeia-compliant methods (USP, Ph. Eur., JP)
    - Spectrum analysis, peak integration, multi-component analysis
- Sample handling: Standard cuvettes (1 cm path), microvolume
- Connectivity: USB / RS232 / LIMS compatible
- Compliance: GLP / GMP, pharmacopoeia-compliant
- **21 CFR Part 11: Required for electronic record/data integrity**
- Power supply: 220–240 V, 50 Hz
- Warranty: ≥2 years

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24. Dissolution with Auto Sampling

Specifications:

- Type: Fully automated dissolution tester with auto-sampling
- Display: Resistive touchscreen interface
- Vessels: 14 vessels
- Stirrer positions: 8 programmable positions
- Stirring speed: 25 – 250 RPM
- Speed accuracy: ±2% (preferably <1%)
- Stirrer shaft wobble: ≤0.2 mm
- Heater range: 25 – 45 °C
- Heater accuracy: ±0.2 °C
- Temperature sensors: Overheating protection included
- Temperature Range: Ambient (max.28°C) - 50°C, independent cooling optional down to 5°C
- Temperature Probe: PT100, DIN 751 Class A, Resolution: 0.01°C, Tolerance: ±0.2°C
- Evaporation: Ultra-low, ≤0.7%
- Auto-sampling: Programmable intervals with fraction collector
- Storage: >100,000 Methods and >100,000 Reports
- Software: Data logging, dissolution profiles, USP/Ph. Eur. compliant methods
- Connectivity: USB / RS232 / LIMS compatible
- Compliance: GLP / GMP / USP / Ph. Eur.

- **21 CFR Part 11: Required if electronic data logging included**
- Power supply: 220–240 V, 50 Hz
- Warranty: ≥2 years

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25. Vortex (Fixed Speed)

Specifications:

- Type: Laboratory vortex mixer, fixed speed
- Operation: Manual push-button or continuous mode
- Speed: Fixed, typically 2,500 – 3,200 RPM
- Orbit diameter: ~4–5 mm
- Tube compatibility: 0.2 mL – 50 mL tubes, microplates optional
- Motor type: Brushless / maintenance-free motor
- Construction: Corrosion-resistant, compact, anti-slip base
- Power supply: 220–240 V, 50 Hz
- Compliance: GLP / GMP standards
- Warranty: ≥2 years

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26. Vacuum Pumps

Specifications:

- Type: Oil-free / dry laboratory vacuum pump
- Vacuum range: 0 – 1000 mbar (adjustable, suitable for analytical applications)
- Flow rate / capacity: ≥10–20 L/min (depending on lab requirement)
- Motor: Maintenance-free, brushless or quiet operation
- Control: Manual or digital vacuum control
- Connections: Standard laboratory fittings
- Power supply: 220–240 V, 50 Hz
- Construction: Corrosion-resistant, chemical-resistant materials
- Safety features: Overheating protection
- Compliance: GLP / GMP standards
- Warranty: ≥2 years

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27. Centrifuges

Specifications:

- Type: Benchtop centrifuge
- Sample types: Plasma, serum, urine, other biological fluids
- Speed range: 10 – 14,000 RPM
- Maximum RCF: ≥22,000 × g
- Rotor capacity: 10–15 tubes (fixed-angle or swing-bucket)
- Number of programs: ≥99 programmable methods
- Timer: Up to 99 hours, continuous run function available
- Noise level: ≤59 dBA
- Acceleration / Deceleration: Programmable soft start/stop for sample integrity
- Safety features:
    - Lid lock during operation
    - Imbalance detection and auto-shutoff
    - Emergency stop
- Display: Digital LCD / touchscreen for speed, RCF, time, and temperature
- Data logging / connectivity: USB / RS232 / optional LIMS integration
- Compliance: GLP / GMP standards, suitable for clinical trials
- Power supply: 220–240 V, 50 Hz
- Warranty: ≥2 years

6.6 Scientific Equipment for Clinical Trial Unit – Local

1. Telemetry Monitors (Complete Set with Full Accessories)

Specifications:

- Type: Multi-parameter telemetry patient monitor
- Display: High-resolution color LCD / touchscreen, ≥10 inches
- Parameters monitored:
    - ECG (3/5 leads)
    - Heart rate (HR)
    - Blood pressure (NIBP & optional IBP)
    - SpO_2 (Pulse oximetry)
    - Respiratory rate (RR)
    - Temperature
    - Optional: CO_2, invasive pressures, arrhythmia detection
- Waveforms: Real-time multi-lead ECG with telemetry transmission
- Alarms: Visual and audible, fully adjustable for HR, SpO_2, BP, and arrhythmias
- Telemetry capability: Wireless / wired data transmission to central monitoring station
- Data storage: Internal memory for ≥72 hours of full parameter trends
- Battery backup: ≥2 hours operation in case of power failure
- Accessories included:
    - ECG cables and electrodes (disposable or reusable)
    - NIBP cuff set (adult, pediatric, neonatal)
    - SpO_2 sensors (adult, pediatric, neonatal)
    - Temperature probes
    - Carrying accessories and mounting brackets
- Connectivity: Central station compatibility, optional integration with hospital EMR
- Compliance: IEC 60601, ISO 13485, GLP / GMP standards
- Warranty: ≥2 years

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2. Medical Crash Carts (with Complete Accessories)

Specifications:

- Type: Fully equipped mobile crash cart for emergency response

- Construction:
    - Durable, corrosion-resistant metal or ABS body
    - Lockable drawers and cabinet
    - Smooth-rolling caster wheels with brakes
- Drawers / compartments: Multiple compartments for medications, instruments, and emergency supplies
- Included accessories:
    - Airway management kits (ambu bag, masks, suction catheters, endotracheal tubes)
    - Defibrillator / AED storage space
    - Emergency medications (adrenaline, atropine, antiarrhythmics, etc.)
    - IV sets, syringes, needles, and cannulas
    - Monitoring accessories (BP cuffs, SpO_2 sensors, stethoscope)
    - Personal protective equipment (gloves, masks, gowns)
    - Miscellaneous tools (scissors, clamps, tape, sharps container)
- Mobility: Smooth-rolling, lockable wheels for stability and easy transport
- Ergonomics: Easy-access drawers, color-coded compartments for rapid response
- Safety features: Lockable cart, spill-proof trays, organized labeling
- Power supply: Optional built-in power strip for electrical devices
- Compliance: ISO 13485, GLP / GMP standards for hospital and clinical use
- Warranty: ≥2 years

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3. Special Purpose Medical Beds

Specifications:

- Type: Adjustable hospital/clinical beds for patient monitoring
- Construction: Durable metal frame with corrosion-resistant finish
- Bed surface: High-quality, easy-to-clean mattress platform
- Adjustability:
    - Backrest angle adjustable
    - Leg section adjustable
    - Height adjustment (manual or electric)
- Patient safety features:
    - Side rails, foldable and lockable

    - Anti-slip mattress
    - Brakes on wheels for stability
- Mobility: Lockable caster wheels for easy transport
- Weight capacity: ≥150–200 kg
- Accessories included:
    - IV pole
    - Over-bed table (optional)
    - Mattress
- Electrical supply (if electric): 220–240 V, 50 Hz, battery backup optional
- Compliance: ISO 13485, GLP / GMP standards for clinical use
- Warranty: ≥2 years

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4. Stretchers

Specifications:

- Type: Patient transport stretcher for clinical/ward use
- Construction: Durable, corrosion-resistant metal frame with easy-to-clean surface
- Bed surface: Padded, comfortable mattress for patient safety
- Adjustability:
    - Backrest adjustable (manual or hydraulic/electric)
    - Height adjustable (manual, hydraulic, or electric)
    - Trendelenburg / reverse Trendelenburg optional
- Side rails: Foldable and lockable for patient safety
- Mobility: Heavy-duty caster wheels with brakes for stability
- Weight capacity: ≥150–200 kg
- Accessories included:
    - IV pole
    - Restraints / belts for patient safety
    - Oxygen tank holder
- Safety features: Lockable wheels, anti-slip surface, secure side rails
- Compliance: ISO 13485, GLP / GMP standards
- Warranty: ≥2 years

5. Wheel Chairs

Specifications:

- Type: Standard / foldable patient wheelchair for clinical use
- Construction: Durable, corrosion-resistant steel or aluminum frame
- Seat & backrest: Padded, comfortable, easy-to-clean
- Armrests: Fixed or flip-back for easy transfer
- Footrests: Adjustable, removable or swing-away
- Wheels:
    - Rear: Large, durable wheels for smooth movement
    - Front: Swivel caster wheels for easy maneuverability
- Brakes: Rear wheel locking brakes for safety
- Weight capacity: ≥150–200 kg
- Foldable: For storage and transport (optional)
- Mobility: Lightweight design with smooth rolling bearings
- Compliance: ISO 13485, GLP / GMP standards
- Warranty: ≥2 years