

Installation Preparation Conditions for HPLC/UHPLC Systems

Dear Valued Customer:

Thank you for choosing the high-performance liquid chromatography system from BIKAI Technology. To ensure seamless on-site installation, technical commissioning, and long-term optimal operations, please complete the requirements outlined in the specifications matrix below before the arrival of our service engineers.

1. Laboratory Environment & Mechanical Requirements

Parameter Item	Technical Requirements & Standard Specifications	Verification / Operational Notes
Temperature Control	- Ambient Temperature: 15°C – 35°C - Temperature Stability: Fluctuation $\leq 2^{\circ}\text{C}$ per 8 hours - Optimal Target: $25^{\circ}\text{C} \pm 2^{\circ}\text{C}$	Fluctuations directly degrade baseline stability and column oven thermal precision.
Humidity Control	- Relative Humidity: $< 80\%$ - Condition: Non-condensing environment	High humidity leads to degradation of precision optical modules and micro-electronics.
Ventilation & Airflow	- Equipped with localized exhaust or proper room ventilation. - Prohibited: Direct placement under HVAC vents or high-airflow crosscurrents.	Prevents accumulation of toxic or organic chromatographic solvent vapors. Drafts cause baseline drift.
Workbench Dimensions & Structural Support	- Width: ≥ 2500 mm (allocates space for HPLC stack + PC Workstation) - Depth: ≥ 700 mm - Load Capacity: > 100 kg (Rigid, level, vibration-isolated table) - Clearances: Front/Rear ≥ 100 mm, Left/Right ≥ 50 mm	[DIAGRAM REFERENCE BOUNDARY] Do not place the instrument flush against walls. Rear clearance is mandatory for cooling and maintenance lines.

2. Electrical Infrastructure & Power Specifications

Power Infrastructure Item	Mandatory Technical Specification	Risk Control & Operational Function
Main Voltage Grid	- Single-phase AC power: 110-220V - Frequency: 50 / 60 Hz	Stable input is foundational for precision electronic modules.
True Earth Grounding (Critical Component)	- Requires an isolated, independent true grounding line. - Voltage (Neutral to Ground): $\leq 5V$ - Prohibited: Connection to utility water or heating pipes.	Faulty grounding results in critical baseline noises, ghost peaks, or severe control board failure.
Power Regulation & UPS Protection	- Voltage Regulator: Automatic AC regulator (Output Capacity $\geq 1500W$) - The neutral-to-ground voltage shall be less than 5 V. If this requirement cannot be met, a UPS shall be equipped. - UPS System: Online pure sine-wave UPS (Total Capacity > 3.0 KVA)	Mandatory for areas with high grid fluctuations. Protects critical micro-pumps and optical detectors from blackouts.
Sockets & Outlets	- Type: High-quality, certified terminal blocks (Rated 10A) - Minimum Socket Count: ≥ 8 single-phase 3-hole configurations	Supplies power independently to the full stack, computer workstation, monitor, printer, and accessories.
Electromagnetic Isolation	Avoid close proximity to high-power inductive loads or vibrating assets (Centrifuges, muffle furnaces, deep freezers).	Eliminates radiofrequency or magnetic interference on the analytical detector signal.

3. Chromatographic Reagents & Auxiliary Equipment Matrix

Category	Items & Quantities Required On-Site	Mandatory Technical Standard
Chromatographic Grade Solvents	- Ultra-pure Water: ≥ 1000 mL - Methanol (HPLC Grade): ≥ 1500 mL - Acetonitrile (HPLC Grade): ≥ 1500 mL - Isopropanol (HPLC Grade): ≥ 1500 mL	- Ultra-pure Water: Resistivity ≥ 18.2 MΩ·cm - Solvents must be original, factory-sealed un-opened bottles. High background chemical noise occurs if compromised.
Filtration Assets	- Glass Solvent Filtration Apparatus - Vacuum Filtration Pump 0.22 μm Aqueous phase membrane filters 0.22 μm or 0.45 μm Organic phase membrane filters - Syringe filters + Disposable syringes	All mobile phases must be micro-filtered before running. Protects check valves, solvent filters, and column packs from particulate clogging.
Laboratory Tools & Glassware	- Beakers: clean glass, 100mL, 500mL, 1000mL - Volumetric Flasks: 10mL, 50mL, 100mL - Graduated cylinders, pipettes, and micro-pipettors - Ultrasonic Cleaner (Laboratory-grade)	Ultrasonic cleaner is mandatory for solvent degasification and regular instrument component maintenance.

4. Workstation Computer Technical Specifications

Hardware / Software Module	BIKAI Recommended Minimum Benchmarks
Processor (CPU)	Intel Core i5 (12th Gen or higher) / AMD Ryzen R5 equivalent and above
Memory (RAM)	16 GB or higher capacity capacity
Storage Infrastructure	Solid State Drive (SSD) ≥ 500 GB
Display Resolution	1920 × 1080 or higher for optimized multi-window chromatogram analysis
Operating System (OS)	Genuine Windows 10 or Windows 11 Professional / Enterprise Edition (64-bit OS)
Connectivity Ports	At least 6 native USB ports on the rear chassis, and 1 independent

	Gigabit LAN Ethernet Port
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5. Delivery Logistics, Unpacking Protocol & Compliance Notice

Policy Element	Operational Directives & Compliance Commitments
Upon-Arrival Check	Users must inspect the outer wooden crates or shipping boxes immediately for structural harm, wetness, or distortion. Document anomalies via photographs, demand a courier exception signature, and report to BIKAI instantly.
Unpacking Restriction (Critical Legal Boundary)	End-users are STRICTLY PROHIBITED from opening or dismantling shipping containers prior to the arrival of the authorized BIKAI Service Engineer. Unboxing must be executed as a collaborative joint inspection.
Warranty Limitation	If independent unboxing is initiated by the customer, BIKAI Technology will not assume liability for component shortfalls, superficial damages, or delicate optical adjustments missing from standard delivery packages.
Engineering Schedule	Upon formal return of the sign-off sheet proving 100% environment compatibility, BIKAI will finalize application team dispatch to your facility within 3 to 5 business days.

6. Installation Readiness Sign-off Receipt (Action Required)

Verification No.	Required Infrastructure Readiness Target	Status Confirmation (Check X)
Verification 01	Ambient Temperature (15-35°C) & Relative Humidity (<80%) stabilized.	☐ Ready ☐ Not Ready
Verification 02	Rigid laboratory bench dimensions verified (Depth ≥ 750mm, Width ≥ 2500mm).	☐ Ready ☐ Not Ready
Verification 03	Isolated true ground line complete with Neutral-to-Ground voltage ≤ 5V.	☐ Ready ☐ Not Ready
Verification 04	HPLC ultra-pure water, sealed Organic solvents (MeOH, ACN, IPA) & filters ready.	☐ Ready ☐ Not Ready
Verification 05	Dedicated Chromatographic Station PC meets system specifications and is operational.	☐ Ready ☐ Not Ready

Customer Corporate Name (Seal/Stamp): _____

Authorized Site Project Principal (Signature): _____

Direct Contact Phone / Mobile Number: _____

Target Desired Installation Date Request: _____ Year _____ Month _____ Day