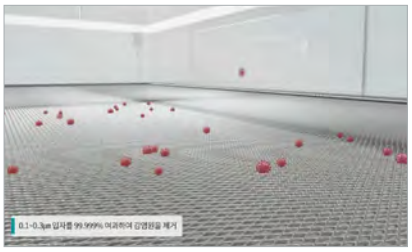
Biosafety Cabinet

Safe Experiment Environment Certified by EN 12469

- Airflow design that protects users, samples, and the environment by separating indoor air from internal air of the equipment.
- By applying ULPA filter that can filter particles of 0.1~0.3 um by 99.999%, it provides more reliable and clean workspace than traditional HEPA filter.
- Maintains a stable airflow velocity with an inflow of 0.53 m/s and a downflow of 0.31 m/s when the sash height is 210 mm. (Certified by EN 12469)

JB-15A

Microbial Challenge Test Completed

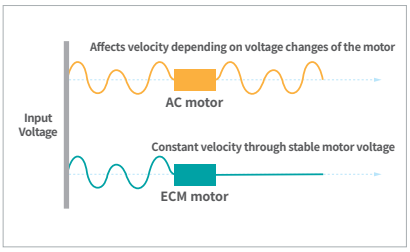


ULPA filter that removes 99.999% of 0.1~0.3 um particles

Canopy (Option) that removes small quantities of volatile chemicals

Application of ECM Motor with High Durability and Excellent Energy Efficiency

- Embedded ECM (Electronically Commutated Motor) which generates low heat and maintains a constant airflow velocity under voltage fluctuations(unstable voltage) or heavy filter loads.
- Low noise compared to conventional AC motor-applied equipment can reduce the fatigue of the user during prolonged experiments.
- Realize office environment noise level. (60 dB)



Comparison of the motor control depending on voltage change (AC vs ECM)

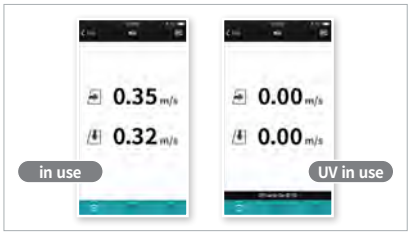
Safety Function to Concentrate on Experiments

- Monitors velocity and temperature, and generates an alarm when it exceeds the ranges.
- Generates visual and audio alarms for abnormal power supply, abnormal sensor, and accessories replacement for immediate safety measures.
- Records the most recent 20 alarms, and separately manages replacement alarms of the main accessories for useful experiment feedback.
- A UV-protecting tempered glass is applied and resistant to shock. The glass breaks into small pieces in case of breakage to prevent injury to the user.
- Removes small quantities of volatile chemicals or radioactive isotopes using Canopy. (Option)

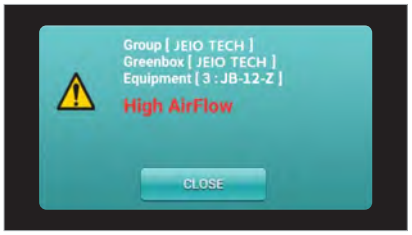
CE | K-Innovative Product | Patented | Smart Door System | Diffusing Muffler | UV Light | Touch Display | 21 CFR Part 11 Compliance | JeioTech Bluetooth | LC Connected | Computer Interface

Smart Technologies

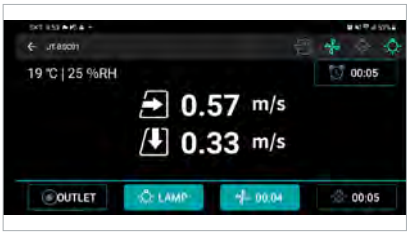
- Sash door, UV lamp, LED lamp, and blower are interconnected allowing for integrated control by opening/closing sash door. (Patented in Korea)
- Real-time push notification to mobile devices and live monitoring of temperature and airflow data with LC Connected. (Requires LC GreenBox, option)
- Offers both 'Auto Start' mode (fan and lamp start/stop based on sash position), and 'Manual' mode (manually control fan and lamp to customize user environment).
- Users can easily check status during experiments with their mobile devices and adjust settings without removing their hands. (LC Bluetooth, option)



Real-time mobile monitoring (Option)



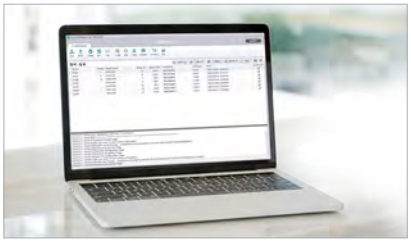
Push notification to smartphone (Option)



Using LC Bluetooth helps to prevent cross-contamination (Option)

User Convenience

- Integrates with LC DataKeeper, compliant with 21 CFR Part 11, to support GMP audits (option).
- Safe experiment environment with Post-purge: fan runs for a set time to remove residual contaminants before shutdown.
- Two outlets for small equipment; outlet power can be enabled/disabled via touch controller.
- Events logged for easy tracking and separate records for filter, lamp, and UV lamp replacements for streamlined maintenance.
- MagPost™: internal steel plate in walls allows for convenient magnetic board use.


Data integrity software for GMP audit support (Option)


MagPost™ minimizes human error by attaching protocols with magnets

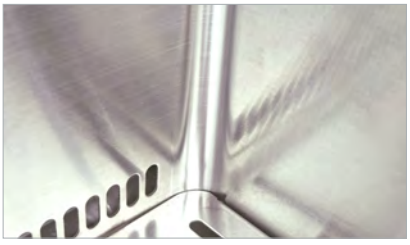
Consumable replacement alarm history

Ergonomic Structure

- Easy to clean working tray with handles, and convenient disposal of dirty water through drain valve.
- An ergonomic armrest designed for comfortable arm positioning during experiments.
- Seamless single-plate workstation prevents microbial contamination and allows easy cleaning.
- Built-in outlets and valves for suction pumps come as standard, with additional service valve provided for easy space utilization.

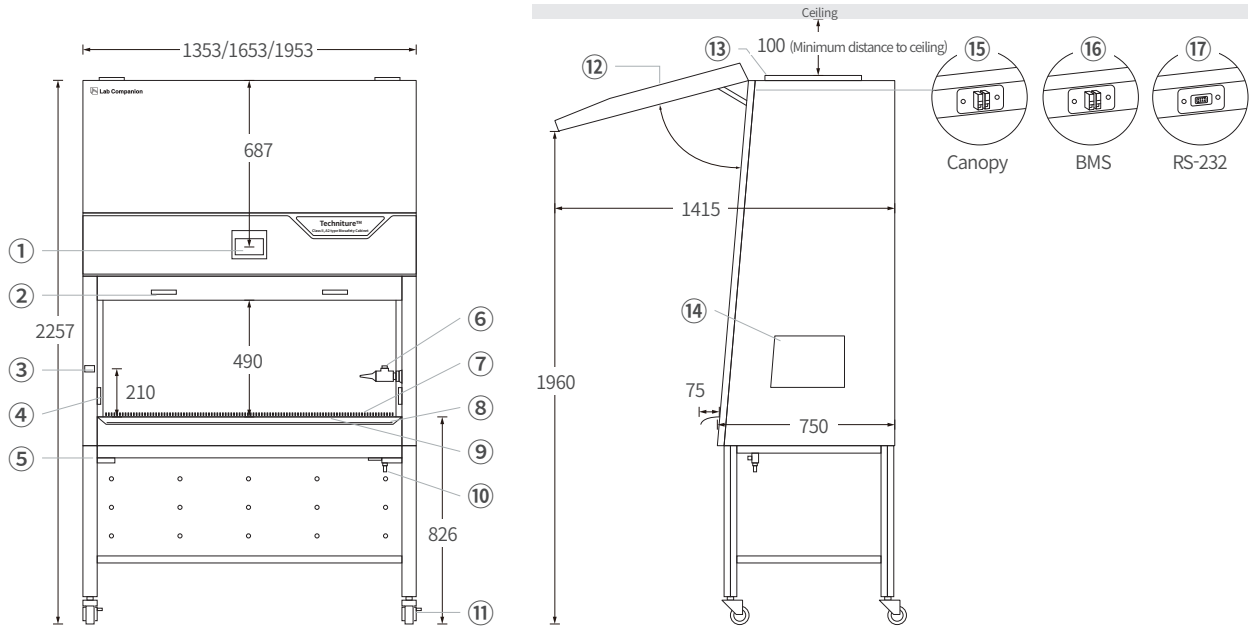

Easy-to-clean Working Tray


Arm Rest for Comfortable Experiments


Seamless structure to prevent contamination in fine gaps

Dimension

(Unit: mm)



1. Control panel
2. Sash door & Handle
3. Safe sash height
4. Internal power outlet
5. Stand*
6. Service cock valve
7. Air slot
8. Arm rest
9. Work surface
10. Drain valve
11. Fixable caster
12. Front cover
13. Exhaust filter cover
14. Service nozzle inlet
15. Canopy alarm port
16. Alarm contact
17. RS-232 port

* Stand size (W x D x H, mm / inch)
JB-12A : 1353 x 700 x 735 / 53.3 x 27.6 x 28.9 JB-15A : 1653 x 700 x 735 / 65.1 x 27.6 x 28.9 JB-18A : 1953 x 700 x 735 / 76.9 x 27.6 x 28.9

Specification

Models		JB-12A	JB-15A	JB-18A
Type		Class II A2		
Air	Airflow type	Vertical laminar flow		
	Filter	ULPA, typical efficiency of 99.999% at 0.1~0.3 μm		
	Downflow velocity (m/s)	0.31±0.025		
	Inflow velocity (m/s)	0.53±0.025		
	Exhaust volume (m^3/h)	452	562	672
Material	Main body	Epoxy powder coated steel		
	Working surface	Stainless steel #304		
	Sash	UV absorbing tempered glass (5.0T)		
Dimensions	External (W x D x H, mm / inch)	1353 x 824 x 2257 / 53.3 x 32.4 x 88.9	1653 x 824 x 2257 / 65.1 x 32.4 x 88.9	1953 x 824 x 2257 / 76.9 x 32.4 x 88.9
	Working area (W x D x H, mm / inch)	1230 x 572 x 658 / 48.4 x 22.5 x 25.9	1530 x 572 x 658 / 60.2 x 22.5 x 25.9	1830 x 572 x 658 / 72.0 x 22.5 x 25.9
	Sash max opening (mm / inch)	515 / 20.3		
	Working opening (mm / inch)	210 / 8.3		
Noise level (dB)		< 57 db	< 58 db	< 60 db
LED lamp intensity (Lux)		More than 800		
Net weight with stand (kg / lbs)		305 / 672	347 / 765	390 / 860
Power Consumption (230V, 50/60Hz) (W)		308	374	418
Cat. No. (Body + Stand)		**AAAB8001**	**AAAB8002**	**AAAB8003**
Cat. No. (Body only)		**AAAB8101K**	**AAAB8102K**	**AAAB8103K**
Cat. No. (Stand only)		**AAAB5101K**	**AAAB5102K**	**AAAB5103K**

※ The unit comes standard with an ULPA filter, UV lamp, LED lamp, and 2 service valves.

Accessories

(Unit: mm)

Designation	Cat. No.	Model	Description
ULPA filter set (2 ULPA filters)	AAAB8511	JB-12A	670 x 457 x 120 and 1209 x 457 x 65
	AAAB8512	JB-15A	870 x 457 x 120 and 1509 x 457 x 65
	AAAB8513	JB-18A	1070 x 457 x 120 and 1809 x 457 x 65
Canopy	AAAB8551	JB-12A	708 x 441 x 285
	AAAB8552	JB-15A	905 x 441 x 285
	AAAB8553	JB-18A	1105 x 441 x 285
UV lamp	CHE0004423	JB-12A/JB-15A/JB-18A	Ø26*890
LED lamp	BSC0000071	JB-12A/JB-15A/JB-18A	Ø16*850
IV bar	AAAB8521	JB-12A	Ø15.8*1223
	AAAB8522	JB-15A	Ø15.8*1523
	AAAB8523	JB-18A	Ø15.8*1823
Service cock valve	AAAB8531	JB-12A/JB-15A/JB-18A	86 x 131 x 64
Suction pump	BEA1002901	JB-12A/JB-15A/JB-18A	160 x 120 x 150
LC-Bluetooth	AAAB8541	JB-12A/JB-15A/JB-18A	Supported from Android 9 and above, iOS 11 and above
Tablet PC for LC-Bluetooth	BEA0008542	JB-12A/JB-15A/JB-18A	Contact to salesperson
LC GreenBox	AAHQ1011K	JB-12A/JB-15A/JB-18A	Supported from Android 9 and above, iOS 11 and above
LC DataKeeper-Basic	SSA11001	JB-12A/JB-15A/JB-18A	FDA 21 CFR Part 11 compliant software, 1 year license
LC DataKeeper-Pro	SSA11002	JB-12A/JB-15A/JB-18A	FDA 21 CFR Part 11 compliant software, permanent license

※ The unit comes standard with an ULPA filter, UV lamp, LED lamp, and 2 service valves.
※ The Trial version of LC DataKeeper is available for 30 days and features same as Basic.

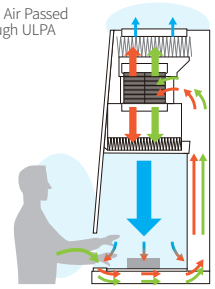
Biosafety Cabinet vs. Clean Bench vs. Fume Hood: Similar Appearance, Different Functions

Biosafety Cabinet

Protecting Users, Samples, and the Environment Simultaneously

Sample	User	Environment
✓	✓	✓

Safe Zone
Indoor Air
Contaminated Air Passed Through Samples
Clean Air Passed Through ULPA



Airflow of Biosafety Cabinet

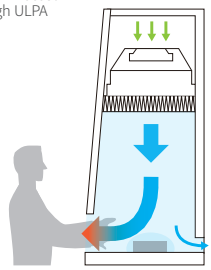
Air entering through the sash door doesn't directly enter the chamber; instead, it moves to the top through a negative pressure plenum along with the air that has passed through the chamber. Some of this air is purified and exhausted through the exhaust ULPA filter, while some is purified by the supply ULPA filter to create vertical laminar airflow inside the chamber, ensuring the protection of users, samples, and the environment simultaneously.

Clean Bench

Preventing Cross-Contamination of Samples

Sample	User	Environment
✓	✗	✗

Safe Zone
Indoor Air
Contaminated Air Passed Through Samples
Clean Air Passed Through ULPA



Airflow of Clean Bench

Air entering from the top is filtered through an HEPA filter by a fan and provided creating vertical laminar airflow inside the chamber. The air passing through the chamber is discharged through the sash opening, preventing cross-contamination of samples.

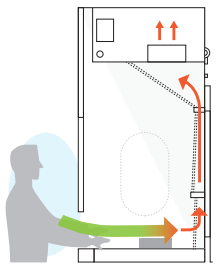
Find out more on **Clean Bench**

Fume Hood

Protecting Users from Harmful Gases

Sample	User	Environment
✗	✓	✗

Safe Zone
Indoor Air
Air Containing Harmful Gases such as Samples



Airflow of Fume Hood

Indoor air enters the chamber through the sash opening, and the air inside the chamber exits through the rear baffle into a central exhaustduct. It safely protects users from harmful gases that can affect respiratory health.

Find out more on **Fume Hood**