

Biological Safety Cabinet

BSC-0605IIA2/1005IIA2/1305IIA2/1605IIA2/1805IIA2



Airtech biological safety cabinet Class IIA2 airflow ratio is 70% recirculation and 30% exhaust, providing the protection to person, samples and environment from biological hazards and contamination. It equips with DC ECM motor for 60% energy saving, HEPA H14 filter efficiency 99.995%@0.3 micron which conforms EU standard EN1822.

The performance meets the standard YY0569, EN12469 and NSF/ANSI49.





International Standards

	Biosafety Cabinets	Air Quality	Filtration	Electrical Safety
Standards Compliance	Designed to meet: EN 12469 (Europe) NSF/ ANSI 49 (USA) JIS K 3800 (Japan) SFDA YY0569 (China)	ISO 14644.1, Class 5, Worldwide US Fed Std 209E, Class 100 USA	ISO29463, Worldwide EN-1822, Europe EN13091, Europe IEST-RP-CC034.1, USA	EN-61010-1, Europe IEC61010-1, Worldwide



ECM DC brushless motor

CAV (Constant air volume) technology

CPAS (Constant pressure apheresis system) technology

The biological safety cabinet adopts the ECM DC brushless motor working with the CPAS and CAV technology providing safe and reliable airflow volume and pressure during the operation in BSC. Based on the ECM feature that can determine supply air volume and pressure by detecting changes in internal current and power, and realize automatic adjustment on the balance of air volume or pressure. The CPAS and CAV technologies are to precisely control airflow. When the cabinet is operated at set velocities and without read-justing the fan speed control, a 50% increase in pressure drop across the filter doesn't decrease total air delivery more than 10%.

The velocity meets USA NSF/ANSI49 standard and EN12469 standard.



Integrated filtration system

USA HV brand HEPA Filter medium are applied in the supply H14 HEPA filter and exhaust HEPA filter guaranteeing the filtration efficiency $\geq 99.995\%$ for 0.3micron particles (Europe EN1822 standard) providing strong filtration capability. The 2 HEPA filters are designed with the leakage resistance patent technology, ensuring the work area air cleanliness at Class 5 (ISO14644.1 standard) . Therefore, it can provide the production in operated in clean environment. Optional U15 ULPA filter 99.9995% efficiency for partial size 0.12um.



Negative Pressure Protection

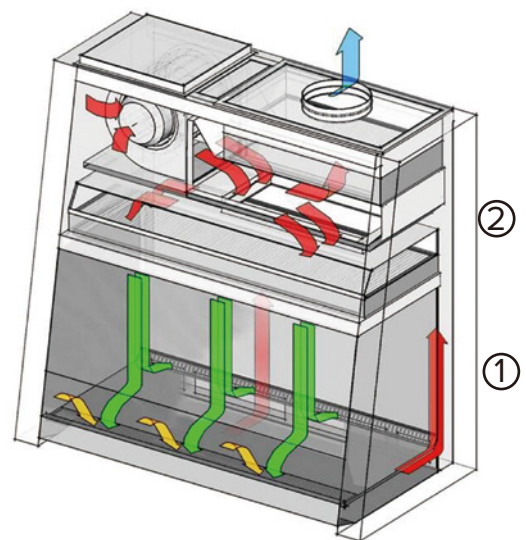
The work area is made of one piece of SUS304 plate without weld point, it supports the precisely controlled airflow forms to the biologically contaminated ducts and plenums under negative pressure or surrounded by negative pressure ducts and plenums. it reduce the contaminated air in work area to leakage to room and protects the operator in safety. Filtered air exhaust to room or outside.

Approximately 30% of the air in the common plenum is exhausted through the HEPA filter to the room. The contaminated air filtrated by H14 HEPA filter and becomes clean air into the room. Advanced airflow sensors have a known standard of deviation exceeding safe airflow requirements by biological safety cabinets.

Approx. 30% air exhausted
Approx. 70% recirculated through downflow
Inflow air creates a air barrier to protects the
Inside air leakage to room and room air entry into
Work zone.

- ① Downflow HEPA filter
- ② Exhaust HEPA filter

- Room air
- HEPA filter downflow air
- Contaminated air
- HEPA filter exhaust air



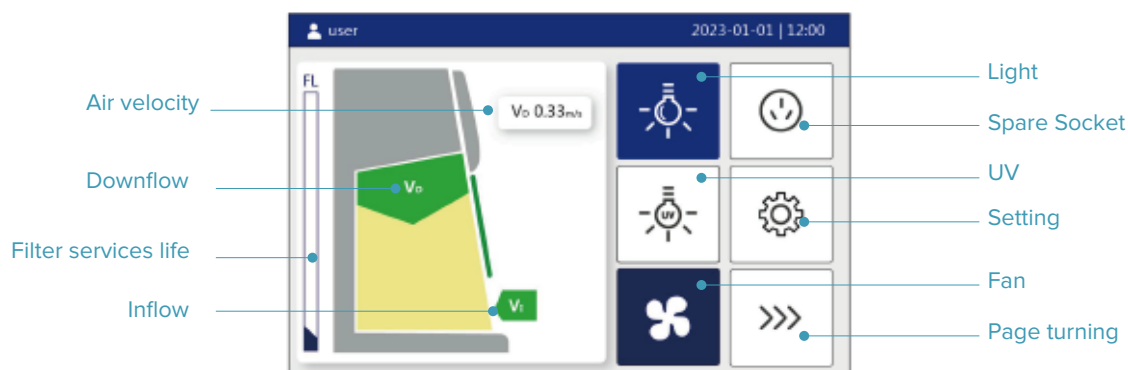
Humanized design

- ▶ The 10° sloped front make the operator comfortable and non-depressed
- ▶ 6mm front sash window adopts hanging lifting system (Imported from Japan) ,using spring to limit the sash glass height level at arbitrary positioning, and avoid sash glass drop down suddenly.
- ▶ The interior work zone is made of one piece of SUS304 plate with round corner and no weld points, no leakage risk and easy for cleaning. The work zone is surrounded by negative pressure, ensuring the contaminated air not leak outside.
- ▶ Worktable is made of SUS304 plate and can be taken out. It can be risen up by handle and support rode, convenient for cleaning.
- ▶ The exterior is made of steel with sprayed powder, anti-bacteria and easy for cleaning.
- ▶ The base stand is equipped with mobile castors and leveling feet.
- ▶ Power is restored after a power failure, power-off protect memory function will make the Biosafety cabinet quickly enter the operating mode.



Intelligent smartflow control system

7-inch touch screen display show the Biosafety Cabinet status in real time, inflow and down air velocity, air filter pressure, check equipment information and provide repair information and time.



- ▶ Angled color LCD display is easy to read the BSC working status.
- ▶ Display blower, LED light, UV light and socket works condition.
- ▶ Display downflow velocity and inflow velocity, the velocity display accuracy is 0.001m/s, This is based on 2 independent sets of velocity sensors.
- ▶ Display filter life in percentage, it reminds the user to in safe condition to operate the BSC and change the filter in time.
- ▶ Display time it is easy to know the operation time.
- ▶ Display UV timer.
- ▶ Built-in clock, stopwatch, and countdown timer functions for user.
- ▶ Three levels of password management, more effective control of the use of Biosafety Cabinets.
- ▶ Built-in RS485 signal interface for convenient expansion.

Alarm

- ▶ Inflow velocity alarm
- ▶ Downflow velocity alarm
- ▶ Sash height alarm
- ▶ Filter high resistance alarm
- ▶ Blower failure alarm
- ▶ UV life time alarm

ECO mode

- ▶ Multiple built-in operating modes, including on-off mode and UV lamp operating mode, etc.
- ▶ Assessed the risk, the fan selected the ECO mode. When all sliding windows are closed, the Biosafety cabinet will save 30% energy consumption.
- ▶ When shut down front sash and BSC will turn to ECO mode automatically. It reduces the speed of the motor blower to save the energy.
- ▶ Using ECO Mode can reduce the open-close time. At the same time of saving energy, it saves time for self-purification, UV disinfection and also for cleaning works.

UV light and UV timer

254nm UV germicidal light for decontamination UV light, light and sliding sash are interlocked, UV light can only be turned on when light is off and anti-UV sliding sash is fully closed. It is to protect the operator in safe.

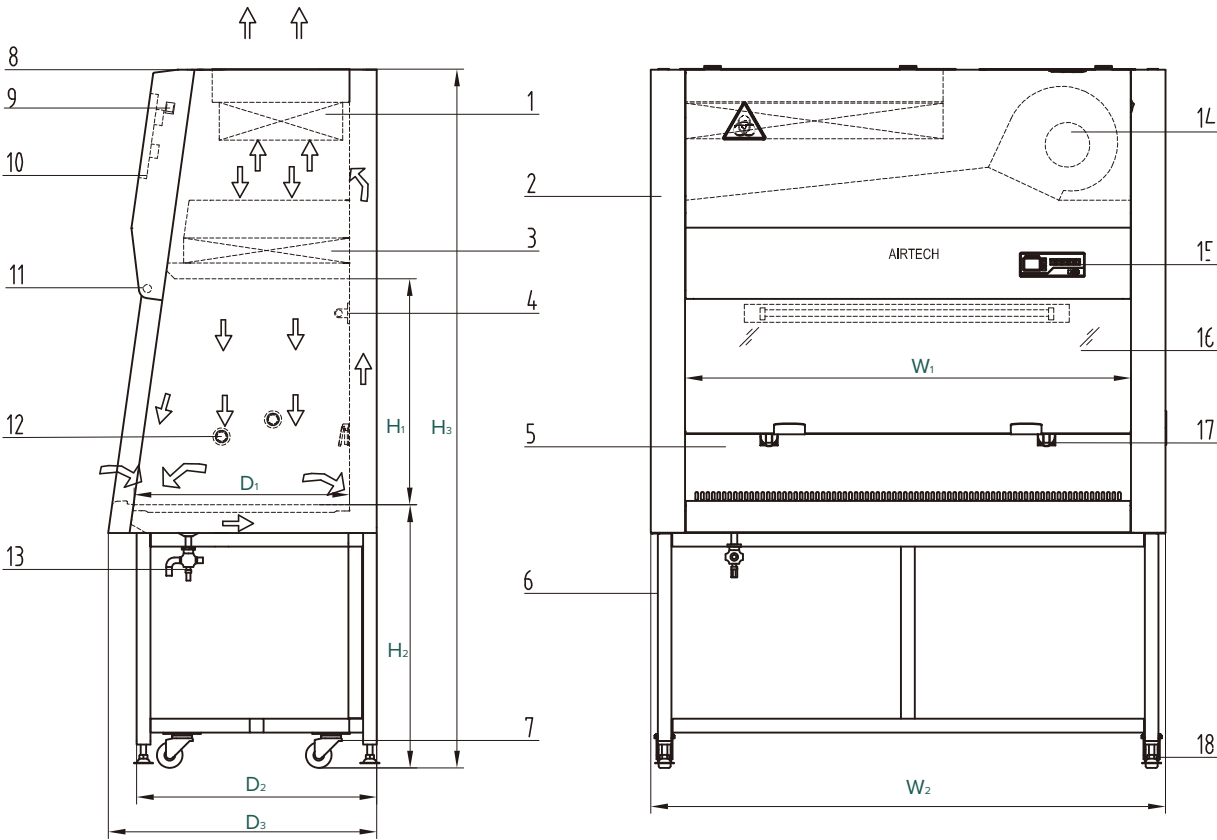
UV light timer function is programmable with increment of 1 minutes.

- ▶ UV light turning off delay setting.
- ▶ UV light turning on time and turning off time setting.



Class II Type A2 Biological Safety Cabinet

Engineering Drawing



1. Air Exhaust Filter
2. Body
3. Air supply Filter
4. UV light
5. Working Chamber
6. Lower stand
7. Universal Caster
8. Fuse Seat
9. Power Switch
10. Elec. Box
11. LED Light
12. Water/gas Valve Port
13. Waste valve
14. Fan
15. Control Panel
16. Sliding Sash
17. Power Socket
18. Leveling Feet

Model	Dimensions in mm							
	W1	W2	D1	D2	D3	H1	H2	H3
BSC-1006IIA2	1004	1200	630	700	785	660	770	2050
BSC-1306IIA2	1304	1500	630	700	785	660	770	2050
BSC-1606IIA2	1604	1800	630	700	785	660	770	2050
BSC-1806IIA2	1804	2000	630	700	785	660	770	2050

Technical specifications

Model		BSC-0605IIA2	BSC-1005IIA2	BSC-1305IIA2	BSC-1605IIA2	BSC-1805IIA2
Dimensions	Nominal Size	2 feet	3 feet	4 feet	5 feet	6 feet
	Internal Dimensions (W x D x H)	650*560*540 mm	1004*630*630 mm	1304*630*630 mm	1604*630*630 mm	1804*630*630 mm
	External Dimensions (W x D x H)	750*700*1200 mm	1200*785*2050 mm	1500*795*2050 mm	1800*795*2050 mm	2000*795*2050 mm
Airflow	Type	Class II, Type A2				
	Exhaust Direction	Top Exhaust				
	Airflow Pattern (downflow / exhaust)	70% / 30%				
	Average Inflow Velocity	≥0.53m/s				
	Average Downflow Velocity	≥0.33m/s				
Cabinet Construction	Blower	DC ECM Blower				
	Work Zone	Stainless Steel SUS304				
	Main Body	Electro-galvanized steel with powder coated				
	Sash Glass Thickness	6mm				
	Sash Glass Type	Tempered Glass, UV-proof				
	Sash Working Opening	200mm				
	Sash Maximum Opening	500mm				
	Full Access for Glass Cleaning	Yes				
	Illumination (Lx)	≥1000				
	Noise (dB)	≤65				
	Cleanliness	HEPA: ISO Class 5 (Optional U15 ULPA: ISO Class 4)				
Cleanliness	Filtration Efficiency	H14 HEPA:≥99.995%,@0.3 μm (Optional U15 ULPA≥99.9995%,@0.12um)				
	Personnel Protection	Total colony in impaction sampler ≤10CFU./Time Total colony in slit type sampler ≤5CFU./Time				
	Product Protection	Total colony in culture dish ≤5CFU./Time				
	Cross-contamination Protection	Total colony in culture dish ≤2CFU./Time				
Controlling System	Display	7" Touchscreen				
	Downflow Velocity Display	Yes				
	Inflow Velocity Display	Yes				
	Filter Lifetime Display by %	Yes				
	Blower Switch	Yes				
	Brightness Lamp Switch	Yes				
	UV Lamp Switch	Yes				
	Socket Power Switch	Yes				
	UV Timer	Yes				
	Main Power Switch	Yes				
Electrical Data	Rated Power (W)(without socket)	120	180	220	290	330
Power Supply	AC220V,1Φ,50HZ/60HZ	Yes	Yes	Yes	Yes	Yes
Weight	Net Weight(kg)	110	240	280	340	380
Alarm	Alarm Type	Sound+Flash				
	Sash Height High/Low	Yes				
	Filter Lifetime Remind	Yes				
	Inflow Velocity High/Low	Yes				
	Downflow Velocity High/Low	Yes				
Filter	Downflow	HEPA Filter (Optional ULPA filter)				
	Exhaust	HEPA Filter (Optional ULPA filter)				
Accessories	LED Lamp	1 pc				
	UV Lamp	1 pc				
	Receptacle (pieces)	2 pcs				
	Water Valve	Optional * 1 pc				
	Vacuum Valve	Optional * 1 pc				
	Stand	NO	Yes			
	Adjustable Feet	NO	4, as standard			
	Castors	NO	4, as standard			