Biological Safety Cabinet
(Class II Type A2 & B2)

Heal Force leads you to healthier life

Biological Safety Cabinet

Leak Test

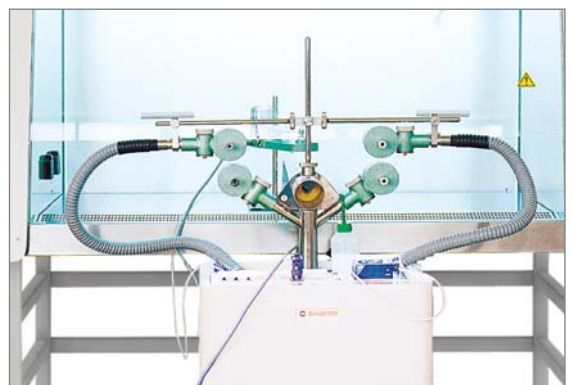Filter Life Indicator (For Type A2 Manual-control Models)

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System safe
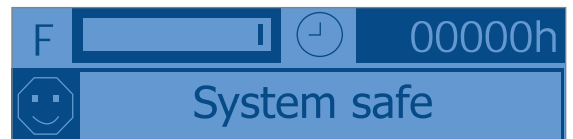
Filter Life Indicator (For Type A2 Motorized-control & Type B2 Models)

KI-Discus Containment Test (1)

KI-Discus Containment Test (2)

Enhance Your Comfort

- 200 mm height window front with ±5mm precision position alarm
- Filter life indication with audio & visual alarm system
- Integrative stainless steel inner structure & coved corner facilitate cleaning
- Integrated armrest enhances user comfort and prevents airflow disorder
- 10° inclined angle sash offers wider and brighter operation zone
- Foot control is available
- 2 built-in waterproof sockets enable device operation
- 3 valves for extendable functions
- User-friendly control panel

(Class II Type A2 & B2)
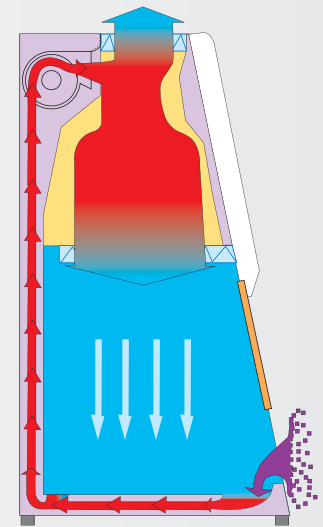

Airflow Pattern of Class II Type A2

Everything for Your Safety

- Downflow without eddy currents & dead air pockets in operation zone
- Negative pressure protection
- Non air leakage from operation zone
- High efficient HEPA and ULPA filters
- Strict KI-Discus containment test
- Cabinet & filters leakage DOP test
- UV interlock provides additional safety by prohibiting UV light unless the front window is fully closed
- UV disinfection timer (30 and 60 minutes)
- UV-resistant & toughened safety glass front window
- Vertical laminar airflow provides protection for operators, samples and environment.
- Interchangeable inflow and downflow velocity and volume
- Password protection

- Inflow Air
- Negative Pressure
- Unfiltered Air
- Filtered Air

- 30% air exhaust
- 70% air recirculation
- Average inflow velocity at 0.53 m/s
- Negative pressure air surrounding all biological contaminated parts

Class II Type A2

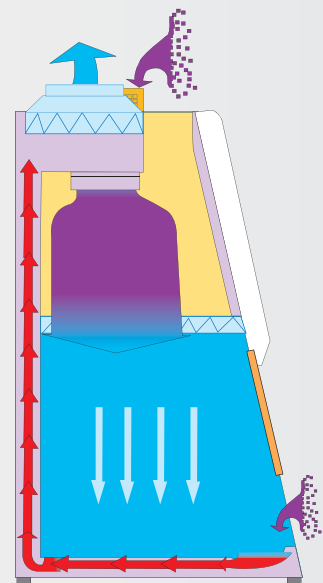## Class II Type B2

Airflow Pattern of Class II Type B2

- 100% air exhaust
- Average inflow velocity at 0.53 m/s
- Negative pressure air surrounding all biological contaminated parts

- Inflow Air
- Negative Pressure
- Unfiltered Air
- Filtered Air

Features

HEPA & ULPA Filter

2 long-life filters are equipped. The main filter is for downflow while the exhaust filter is for airflow into environment.

	Main Filter	Exhaust Filter
Class II Type A2, Manual Control*	HEPA	HEPA
Class II Type A2, Motorized Control	ULPA	ULPA
Class II Type B2, Manual Control	ULPA	HEPA
Class II Type B2, Motorized Control	ULPA	HEPA

*An optional module of ULPA filter (for main & exhaust filter together) is available on request.

To achieve reliable disinfection and protect sample, environment and operator from pollution, all filters are applied with 2 high quality HEPA or ULPA filters.

HEPA filter with 99.999% efficiency can prevent particles larger than 0.3 μm.

ULPA filter can filtrate particles larger than 0.1~0.2 μm at 99.999%.

Self-induced Blower

As a core component, blower motor maintains airflow variation less than 10% in case wind pressure via filter change up to 50%, therefore guarantees safety for operator and sample.

Filter Service Life Indication

Filter has estimated service life, which is uncertain subject to different local air quality, research subjects and operation frequency. There is potential pollution hazard if operator is unconscious to filter expiration.

Automatic filter life display is designed to measure filter service life in according to actual condition of membrane.

Ergonomical Structure

10° leaning front window provides operator comfortable posture and extensive operating view. Standard 200mm hatch, with precise ±5mm limitation alarm, also brings comfortable and safe operation area.

Real-time Air Flow Velocity Indicator

Velocities of downflow and inflow are inspected at real-time, and indicated on the control panel. Alarm is activated in case velocity fluctuating over 20%.

Motorized Control Window (optional)

Motorized control window is optional for both Class II Type A2 & B2. The front window is adjustable by a foot switch or touching panel and free of manual control, which would reduce chance of infection substantially.
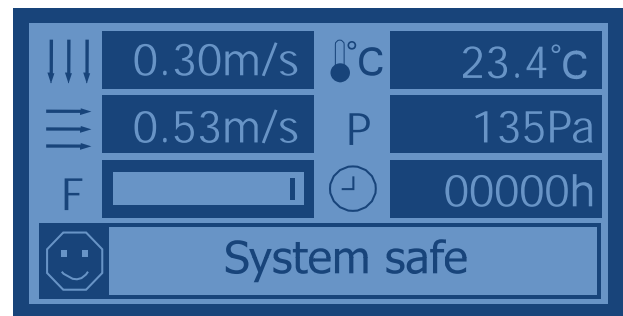
Display Panel for Class II Type B2

||| Downflow Velocity / Volume   P Pressure of Main Filter
≡ Inflow Velocity / Volume   Cumulative Working Time
F Filter Life Indicator   System Status
°C Temperature
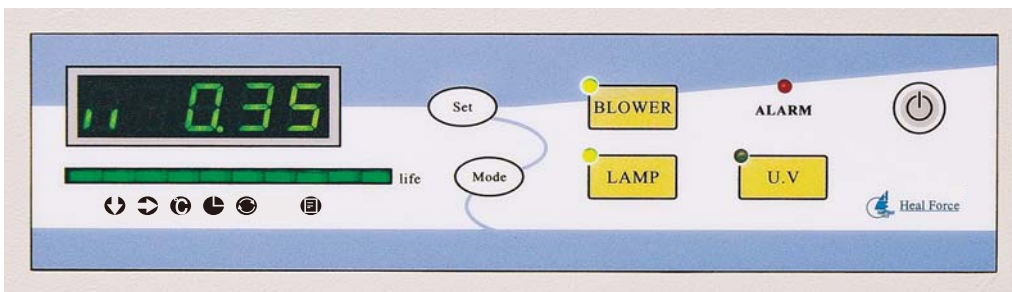
Control Panel for Class II Type A2 (Manual-Control)

Downflow Velocity / Volume
Inflow Velocity / Volume
Temperature
Cumulative Working Time
Circulation
Menu

Class II Type A2 Biological Safety Cabinet
(Manual & Motorized Control)

Exhaust Duct(optional)
Blower (behind the cover)
Exhaust Filter (behind the cover)
Control & Display Panel
Main Filter (behind the cover)
Upper Cover
UV Lamp (behind the cover)
Front Window
Fluorescent Lamp (behind the cover)
Downflow Velocity Transducer
Supply Valve Port
Waterproof Power Supply Socket
Front Airflow Intake Grid
Drain Trough with Valve
Foot-control Set (optional for motorized control models)
Floor Stand (optional)
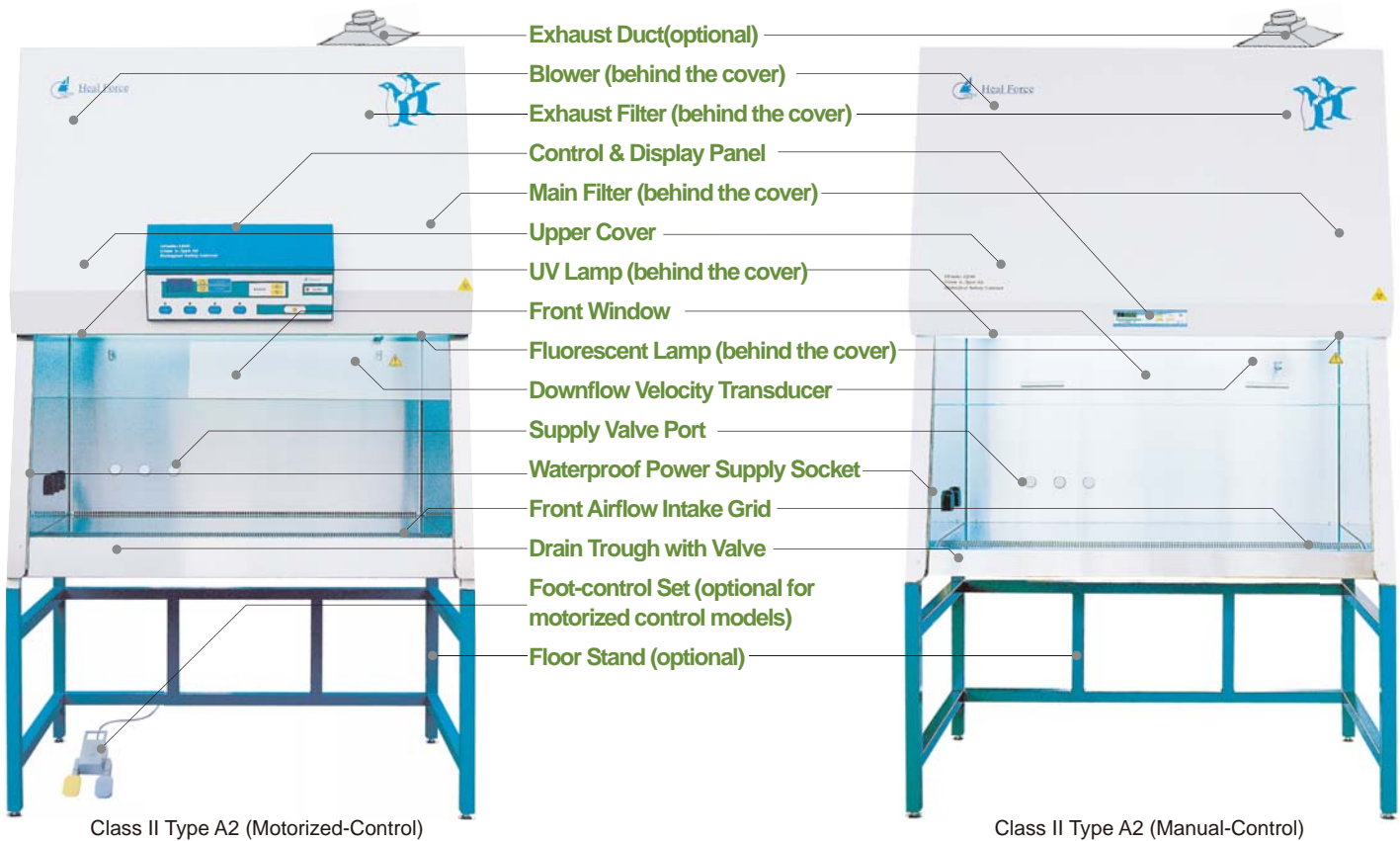
Class II Type A2 (Motorized-Control)

Class II Type A2 (Manual-Control)

Exhaust Duct
Through exhaust duct, Class II Type A2 biological safety cabinet is compatible with exhaust system (optional & customizable), whose function is to exhaust potentially contaminated air outside the cabinet and room.

Upper Cover
Removable upper cover simplifies filter replacement and blower maintenance.

Front Window
Front window consists of frameless laminated glass or toughened glass and UV-resistant glass, automatically sliding (Motorized-control) or handle adjustment (Manual-control).

Control & Display Panel
Panel indicates information on downflow and inflow velocity, filter life, pressure, temperature and system status, with precise alarm system. Password protection is for front window control (Motorized-control models only).

Drain Trough with Valve
Volume of trough is over 4 litres, equipped with drainage valve and easy to clean.

UV Lamp
Interlocked and activated to work when fluorescent lamp and blower are turned off and front window is closed.

Waterproof Socket
2 waterproof sockets are located in the side panel, for optimum convenience of using small devices inside the cabinet.

Downflow Velocity Transducer
Transducer monitors real-time downflow velocity and displays result on the panel.

Front Airflow Intake Grid
Aerodynamically designed front airflow intake gird eliminates potential turbulence and contamination.
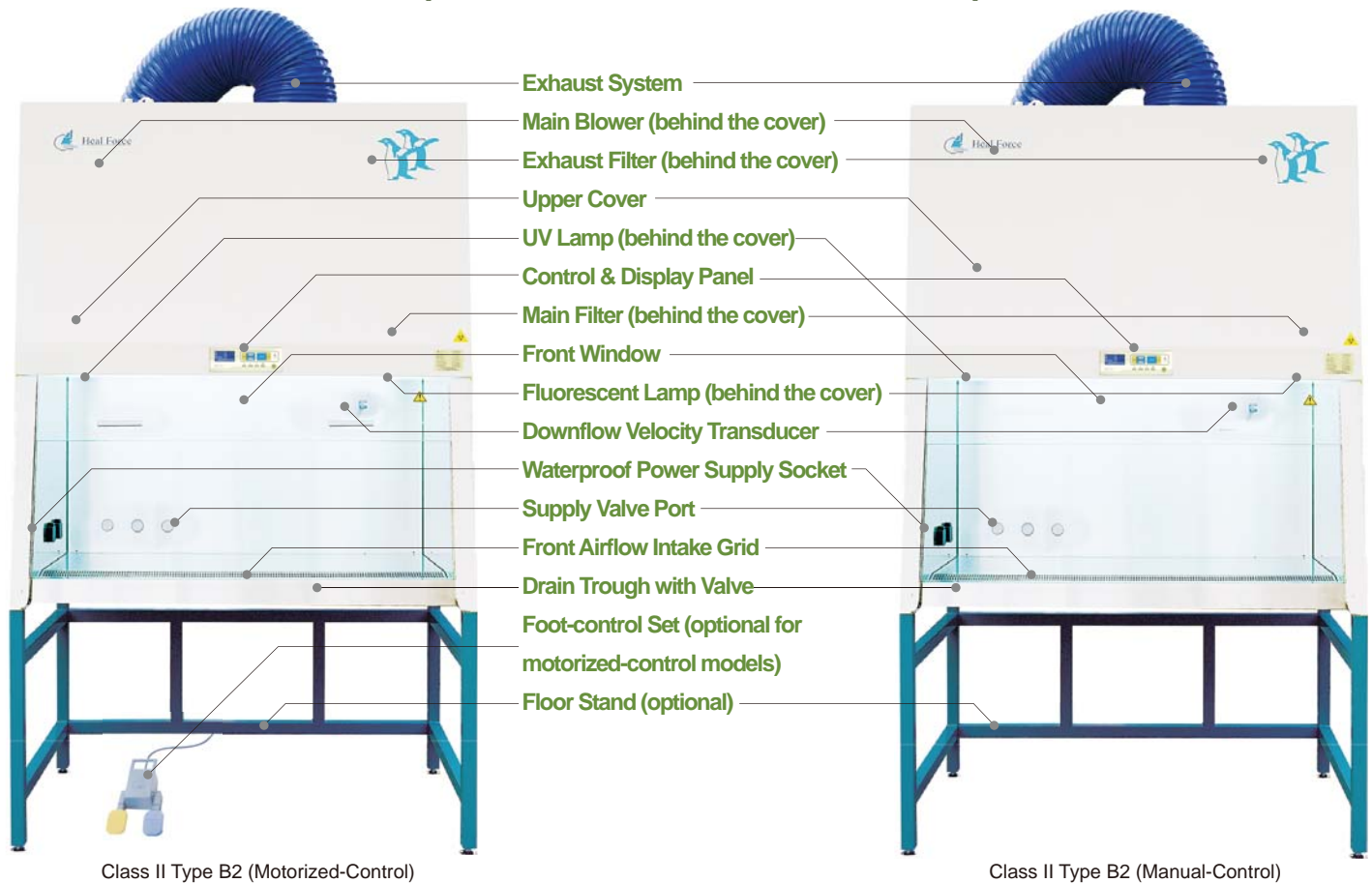
Extensible Valve Port
3 supply valve ports are available for extensive functions, compatible with liquid, gas and vacuum cartridge.

Floor Stand (Optional)
2 styles optional floor stand, stationary (without casters) and moveable (with casters and/or brake).

Class II Type B2 Biological Safety Cabinet
(Manual & Motorized Control)

Exhaust System
Main Blower (behind the cover)
Exhaust Filter (behind the cover)
Upper Cover
UV Lamp (behind the cover)
Control & Display Panel
Main Filter (behind the cover)
Front Window
Fluorescent Lamp (behind the cover)
Downflow Velocity Transducer
Waterproof Power Supply Socket
Supply Valve Port
Front Airflow Intake Grid
Drain Trough with Valve
Foot-control Set (optional for motorized-control models)
Floor Stand (optional)

Class II Type B2 (Motorized-Control)

Class II Type B2 (Manual-Control)

Exhaust System
With the exhaust system, Class II Type B2 biological safety cabinet is able to exhaust potentially contaminated air outside the cabinet and room.

Upper Cover
Removable upper cover simplifies filter replacement and blower maintenance.

Front Window
Front window consists of frameless laminated glass or toughened glass and UV-resistant glass, automatically sliding (Motorized-control) or handle adjustment (Manual-control).

Control & Display Panel
Panel indicates information on downflow and inflow velocity, filter life, pressure, temperature and system status, with precise alarm system.

Floor Stand (optional)
2 styles of floor stand are optional, stationary (without casters) and moveable (with casters and/or brake).

Drain Trough with Valve
Volume of trough is over 4 litres, equipped with drainage valve and easy to clean.

UV Lamp
Interlocked UV lamp is controlled to work when fluorescent lamp and blower are turned off and front window is closed.

Waterproof Socket
2 waterproof sockets are located in the side panel, for optimum convenience of using small accessorial devices inside or by the cabinet.

Downflow Velocity Transducer
Transducer monitors real-time downflow velocity and displays result on the panel.

Front Airflow Intake Grid
Aerodynamically designed front airflow intake gird eliminates potential turbulence and contamination.

Supply Valve Port
3 supply valve ports are available for extensive functions, compatible with liquid, gas and vacuum valves.

Exhaust Blower
Besides the routine blower, a blower is equipped in exhaust system for more powerful exhaust.

Specifications

Class II Type A2 Biological Safety Cabinet

Model	HFsafe-900	HFsafe-1200	HFsafe-1500	HFsafe-1800
External Dimensions (W × D × H)(mm)*	1023 × 800 × 2260	1323 × 800 × 2260	1623 × 800 × 2260	1923×800×2260
Internal Dimensions (W × D × H)(mm)	900 × 600 × 678	1200 × 600 × 678	1500 × 600 × 678	1800×600×678
Downflow Velocity (m/s)	0.35±0.025	0.35±0.025	0.35±0.025	0.35±0.025
Inflow Velocity (m/s)	0.53±0.025	0.53±0.025	0.53±0.025	0.53±0.025
Noise (dB)	≤65	≤65	≤65	≤65
Lighting (Lux)	800~1100	800~1100	800~1100	800~1100
Control System	Microprocessor			
Main Filter	Manual-control: HEPA (standard), ULPA (optional)**			
	Motorized-control: ULPA (standard)			
Exhaust Filter	Manual-control: HEPA (standard), ULPA (optional)**			
	Motorized-control: ULPA (standard)			
Filter Performance	HEPA filter: for particulate >0.3μm at 99.999%, output air quality class 100			
	ULPA filter: for particulate >0.1~0.2μm at 99.999%, output air quality class 10			
Filter Life Indicator	Motorized-control: LED strip display			
	Motorized-control: LCD display			
Power Supply***	220V/50Hz (standard)			
	220V/60Hz or 110V/60Hz (optional)		220V/60Hz (optional)	220V/60Hz (Motorized)
Power (W)	1850	1850	2200	2200

*External dimensions include floor stand (optional accessory)
**ULPA filters are optional for manual-control models and main & exhaust filters should be replaced together before ex-factory
***Please contact us for more optional power supply information

Class II Type B2 Biological Safety Cabinet

Model	HFsafe-900	HFsafe-1200	HFsafe-1500	HFsafe-1800
External Dimensions (W × D × H)(mm)*	1023 × 800 × 2260	1323 × 800 × 2260	1623 × 800 × 2260	1923×800×2260
Internal Dimensions (W × D × H)(mm)	900 × 600 × 678	1200 × 600 × 678	1500 × 600 × 678	1800×600×678
Downflow Velocity (m/s)	0.30±0.025	0.30±0.025	0.30±0.025	0.30±0.025
Inflow Velocity (m/s)	0.53±0.025	0.53±0.025	0.53±0.025	0.53±0.025
Exhaust Volume (m^3/h)	923	1229	1537	1844
Downflow Volume (m^3/h)	578	771	964	1157
Noise (dB)	<60	<60	<65	<65
Lighting (Lux)	800~1100	800~1100	800~1100	800~1100
Control System	Microprocessor			
Main Filter	ULPA			
Exhaust Filter	HEPA			
Filter Performance	ULPA filter: for particulate >0.1~0.2μm at 99.999%, output air quality class 10			
	HEPA filter: for particulate >0.3μm at 99.999%, output air quality class 100			
Filter Life Indicator	LCD display			
Power Supply**	220V/50Hz			
Max. Power (W)	2200			

*External dimensions include floor stand (optional accessory)
**Currently no optional power supply available, please contact us for more optional power supply information

Certificates   Biological Safety Cabinet (Class II Type A2 & B2)

US Standard ANSI/NSF49:2002
European Standard EN12469:2000
Chinese Standard YY0569-2005

TÜV CE   TÜV ISO13485   TÜV NORD EN12469
                                      (For HFsafe-900/1200,Standard Manual-control Model)

TÜV NORD GS
(For HFsafe-900/1200,Standard Manual-control Model)

Heal Force Laboratory Equipment

Laboratory Centrifuge

CO₂ Incubator

Biological Safety Cabinet

Water Purification System

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