# 资源 1

HFSafe LC Series

Biological Safety Cabinet

# 资源 1

# The next level of

# performance

# 资源 3

HFsafe LC

Biosafety Cabinet

Product and Solution Overview

Heal Force HFsafe LC biosafety cabinets set the standard in quality design, and innovation that comes from a heritage of over 25 years experience. At Heal Force we know how important it is to offer a high level of protection to operator, sample and environment with advanced technology. With an extensive track record of safety, reliability and performance, HFsafe LC cabinets make ideal investments for a wide range of applications including work with infectious agents that require Biosafety Level 1, 2 or 3

# Biological Safety Cabinets

## Table of Contents



What to look for

in an ideal BSC?

Which

system

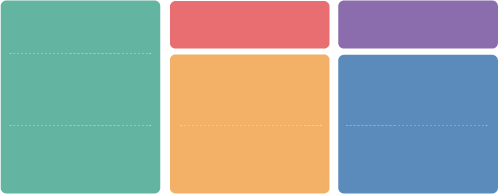
is best

for you?

Global market vision

and design philosophy

**Heal Force Solution**



11 Options and Accessories

15 LCA2 technical specifications

17 LCB2 technical specifications

6 Advanced design for non-compromising safety

7 Enhanced comfort and convenience

8 Easy to clean and outstanding decontamination

9 How to set a new benchmark for the whole industry?

13 Service Access and Validation

14 Standard and Test

What to look for

in an ideal BSC?

**Proven Reliability**

Outstanding safety is assured through avariety of core components and features to improve cleanliness and eliminate sample contamination risk.

**Energy Efficiency**

From the motor controller to the lighting,new patent-pending innovations provide significant annual cost savings while maintaining superior performance.

**Outstanding Comfort**

With seven thoughtful features, from the view screen to the work environment and ergonomic design.

**Added Conveniences**

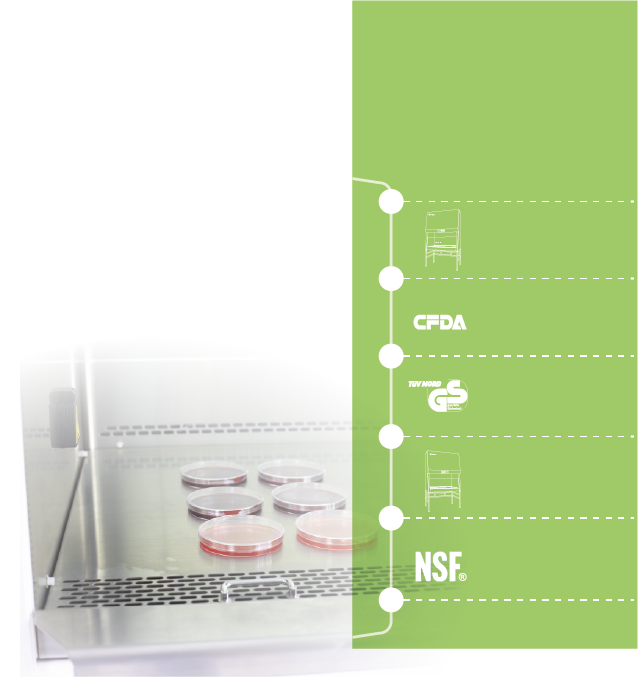
Packed with convenient features and the largest,unobstructed usable work area in the industry, there, s plenty of room for lab equipment and less hassle when managing controls.

**Easy to Clean**

An exceptionally reliable membrane-sealed control panel, and a one-piece work surface featuring radius ed, caved corners instead of seams, allows for easy and effective cleaning**Certified Performance**

With an innovative front-access design, on-site validation, customer support packages,

Maintenance is quicker and easier



**Innovation TIMELINE**

Heal Force HF safe LC biosafety cabinets set the standard in quality, design, and innovation that comes from a heritage of over 25 years\* experience. With an extensive track record of safety, reliability and performance, HFsafeLC cabinets make ideal investment for a wide range of applications.

1999

Our first product line of

safety cabinet

2005

One of drafters for YYO569 standard formulation in China

2007

The first in Asia got stringent certificate of TUV-NorCBGVEN12469

2013

Launch of the energy efficient HFsafeLC series A2 BSC

2014

HFsafe LC series are tested and certified to

NSF∕ANSI49

Heal Force

Which System is best for you?



|  |  |  |
| --- | --- | --- |
| ***Class II*** | ***TypeA2*** | ***Type B2*** |

|  |  |  |  |
| --- | --- | --- | --- |
|  | Medium Preparation | o | *o* |
|  | Tissue Culture | o | o |
| *Biotechnology* | Blood Elements Analysis | o | o |
|  | Human Histology | o | o |
|  | Polymerize Chain Reaction | o | o |
|  | Medium Preparation | o | *o* |
|  | Culture nuisance odors | - | o |
|  | Isolated Clinical Sample | o | o |
| *Microbiology* | Blood 7est∕Analysis | o | o |
|  | QA/QC | o | o |
|  | Minute Quantities of Volatile Toxic Chemicals |  | o |
|  | Trace Amount of Radiotelephones |  | o |
| *Pharmaceutical* | Anti tumor drug preparation |  | *o* |
|  | Trace Amount of Radiotelephones |  | *o* |
| *Routine research* | Cell/Tissue Immobilization & Staining |  | o |
|  | Toxic Powder/ Suspended Substance | o | o |



HFsafe LC Type A2 HFsafe LC Type B2

With a range of biological safety cabinets, Heal Force has the right technology to

meet every application, setting, and budget.

**资源 2**资源 3

**YY0569**

Heal Force, as a leading dafter for Chinese BSC standard, has HFsafeLC series independently tested and certified to YY0569

**EN12469**

Our Class II type A2 biological safety cabinets are independently tested and certified to EN 12469 standard by TUV Nord, a leading testing agency in Europe

**NSF/ANSI 49**

HFsafeLC series are independently tested and certified to NSF/ANSI 49, By NSF International, a leading testing agency in the USA.

Global market vision

At Heal Force we know how important to design a product in compliance with current worldwide safety standards. There are three widely recognized global standards for BSC performance: NSF/ANSI 49 (American Standard), EN 12469:2000 (European Standard), YY0569:2005 (Chinese Standard).



Save energy, maintains sterility

When the front sash is closed, our intelligent speed control automatically reduces flow speed Less air flows through the ULPA filters, extending filter life and decreasing energy consumption.

Continuous airflow helps to maintain a sterile working environment, even when the cabinet is notin use

Hy-ChamBer plenum design with long life and lasting containment surrounds contaminated areas Negative-pressure, dual side walls prevent the possibility of contamination from leaks to the exterior environment

Flow-safe technology is designed to ensure your safety. Laminar airflow over the working area takes containment to new levels

Smart and self-induced motor monitors and controls fan speed in real time to maintain constant airflow during filter loading or temporary obstruction.

Antedate Flow-safe system automatically balances the downflow and inflow velocities to maintain user and sample protection

Uniform, non-turbulent air stream protects against cross contamination within the work area

Complete your operation requirements with Heal Force Lab-alert monitoring solution. Lab-alert > makes the monitoring of your biosafety cabinet easier than ever. You can keep a constant check on the airflow, window position etc.- anytime, anywhere.

Monitoring system alerts user when containment is compromised

Dependant sensors detect airflow changes constantly to ensure safe operating conditions.

Airflow velocities are displayed on the control panel for monitoring and recording.

Visual and acoustic alarm for indication of unsafe airflow conditions and window position

A sash position indicator decal provides a visual confirmation of the proper working height

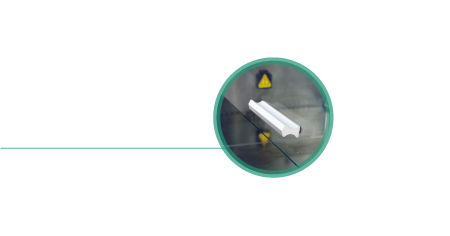
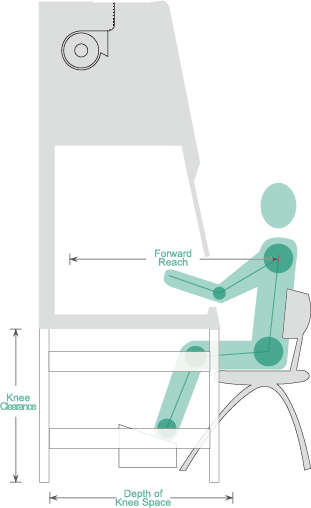
Behind the primary function to provide you cleanliness and containment, there, s the technology that made it all possible. Heal Force Flow-safe, Lab-alert, Low-Vel are innovations designed to increase safety and minimize sample contamination

Behind every great discovery, there is the technology that made it all possible.

Non-compromising safety

Enhanced comfort

and convenience



The radius ed edge prevents the potentially dangerous practice of placing materials in this area

The position of the light tubes ensure excellent illumination over the whole working zone and reduces operator fatigue comfortable viewing than vertical sashes.

10 0 backward-slanted safety grade glass provides

protection from explosion and UV with more comfortable

viewing than vertical sashes.

The position of the light tubes ensure excellent illumination over the whole working zone and reduces operator fatigue comfortable viewing than vertical sashes.

Counterbalanced sliding sash can be raised to a maximum height for easy introduction of large itemsmore comfortable

viewing than vertical sashes.



Easy to Clean

Programmable automatic UV light timer simplifies operation while extending UV lamp life and saving energy.

Powerful UV irradiation illuminates entire work area, design to ensure thorough disinfection of the complete chamber

UV lamp with interlocking safety switch allowing operation only when blower and fluorescent light are off and sash is fully closed

Unique hidden UV lamp protects operator1 s eyes from hurt

The cabinet work zone has no welded joints to collect contaminants or rust.

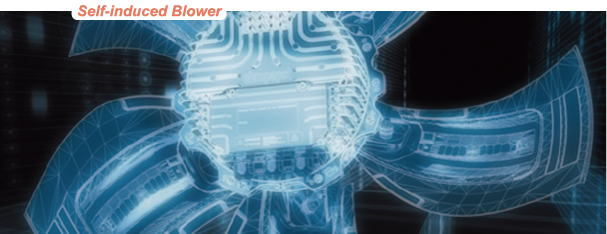
Details of cabinet developed further to ensure easier cleaning with normal cleaning solvents

Airflow lamina tor protects the filter surface during wipe cleaning.

Optional multiple piece stainless steel work surface is easier to remove and put into autoclave / washer.

Bottom sink is made of stainless steel type 304 with round corners and draining valves

UV Decontamination

****

How to set a new bench

ark for the whole industry?

**Filter Life indication**

Filters 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

Patented filter life indicator is designed to measure filter life according to actual

condition of membrane

You can rely on filter life indicator to make a confident plan for future filter replacement

HFsafe LC biosafety cabinets are equipped with long life UL Pa filtration technology by Swedish Camfil Farr

Supply and exhaust filters provide 99. 999% typical efficiency for particle size of 0. 1 to 0.2 microns, providing superior product protection over conventional HEPA filters.

Silicate glass fiber treated with moisture-proof hydrophobic bonding agent is folded in

aluminum alloy frame to enlarge filtration area

Leak-free performance is guaranteed through structural stability and scan test conducted

Self-compensation for the clogging of filters optimizes filter use and minimizes service

**ULPA Filtration System**

German made ebm-papst motors selected for energy efficiency, impact design, and flat profile. Synchronously mmunicates with microprocessor, there is no need for manual speed ntrol Automatically mpensates for normal power line variation, air disruption and filter loading. Motor nsumes less energy, reduces heat output and operates more quietly

**Airflow velocity monitoring**



Exaust airflow sensor

Temperature-compensated airflow sensors monitor the airflow constantly to ensure safe operating cond itions are maintained

Two independent sensors(downflow exhaust airflow)mean double security.

Downflow sensor provides instant and precise feedback to the blower so that its speed remains constant regardless of changes in conditions, such as filter loading

Velocities of airflow and temperature are inspected at real-time, and indicated on the control panel

Alarm thresholds(±10% of the control point are precisely controlled via microprocessor which guarantees excellent airflow performance

**Friendly Communication**

The durable LCD is mounted at eye level for

at-a-glance viewing of airflow, operating

parameters, and alarm messages.

The intuitive interface delivers a constant

read-out of working area temperature, air veloaity'volume, flter Ife span, total running time

Easy-to-clean touchpad controls allow manual activation of blower, lamp, UV, electrical receptacles

Engage the security lock feature to prevent access to the cabinet by unauthorized or unfamiliar user

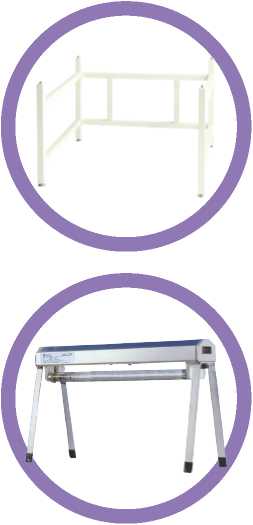
**Robust Construction Compact Design**

Energy saving epoxy/polyester coated steel exterior with solid construction, nice looking curves and fresh colour

Constructed of seamless, non-porous, autoclavable Type 304 stainless steel for working plate, one-piece side/rear walls and bottom sink

Slim, compact design and dimensions allows for easy positioning and location in the laboratory, can be easily transported through standard 800 mm doorways

The low cabinet height allows the choice of bench top location or mounting on a support stand, easily accommodated in a laboratory with 2. 5m ceiling height



Contact Heal Force for ordering information and technical assistance in selecting the right duct work for your installation

**Prefilters**

Optional prefilters can be located beneath the work surface, prevents wipes from being drawn into the blower where they could damage components and alter airflow

**Ultraviolet Lamp Kits**

Controlled by automatic UV lamp timer through microprocessor control panel

Emission of 253. 7 nanometers for most efficient decontamination

Lamp is positioned away from operator line of sight for safety and proper

exposure to interior surfaces

Optional mobile UV lamps strengthen the decontamination effect

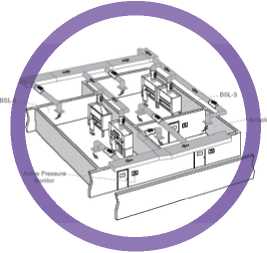
**Support stand**

Options and Accessories

Saves lab bench space and ensure stability & ergonomic working position Standard heights available: 560mm (22.0"), 660mm (34.0") or 760mm (29.9,,) Manual adjustable leveling feet to mpensate for ground unevenness.

Available with castors (option) for easy re-location or transportation.

Durable polyurethane caster wheels with 360 degree horizontal rotation



**Others**

Two electrical duplex receptacles, with ground fault interruption and splash covers

Service valves for Gas. Water and vacuum mounted on side wall.

PVC Armrest Chemically treated, improves operator comfort, easy to clean

Foot pedal for front window control

Loop heat sterilizer

If biosafety cabinets are used for minute quantities of volatile toxic chemicals and trace amounts of radiotelephones required as an adjunct to microbiological research, they must be exhausted through properly functioning exhaust canopies The extraction of exhaust air from HFsafe LC cabinet is usually achieved by either a dedicated or"shared"extract duct, in either case it is always via an electric closed exhaust valve& constant flow rate valve with a coordinated control system.

**Exhaust connection fitting**

Disposable, impregnated carbon filters(AAF)trap non-volatile nuisance odors of chemicals in the exhaust airflow

Mount atop the biosafety cabinet

Independent display panel for pressure, temperature, working time of filtration system

Coordinated control with biosafety cabinet, which can adjust the exhaust airi volume automatically to minimize filter load variation effect.

Real-time filter life display with a visual and audio reminder

**Active Carbon Postfilters**

The polished, standard stainless steel Multi-purpose table top

is easy to remove for cleaning

This flexibility of work top choice enables the HFsafe LC to be configured to suit your exact practical requirements

Other options are available to suit customer requirements

Illumination light provides sufficient brightness to the working chamber. There are two illumination lamps located at inner side of the front panel

**Illumination Light**

**Worktop**



Heal Force offers a wide range of high quality services for all our equipment. These services include on-site validation, customer support packages, factory acceptance testing.

Choose Heal Force as an equipment supplier and validation nsultant can greatly reduce the time and cost involved with getting new equipment compliant and ready for use.

**Validation**

**Unique services Heal Force Offers:**

On-site consultation

Unit specific authorized proto documents

Customizable testing procedures to meet customer specific requirements

Unbiased testing of competitive equipment

Pre-delivery Services:

Validation support

Consultation

Factory acceptance testing

On-site Services:

Installation qualification

Operational qualification

Calibration

**Change of HEPA filters**

Fluorescent lamps

UV lamps

Adjustment or change of circuit boards and sensors

All adjustments to alarms, fan speed, and DOP valves are made via the microprocessor control panel

Service code protected

Help for rectifiers, the hinged maintenance assembly opens to a fixed position on integrated, gas spring struts providing front service access. Consequently, the cabinet can remain in situ without making any positional changes in your laboratory or having to disconnect any ducting

All service is performed from the front of the cabinet, including:

**Service Accessv**

All services, adjustments and filter change is carried out

from the front of the cabinet.

Service Access

& Validation

1593688155(1)

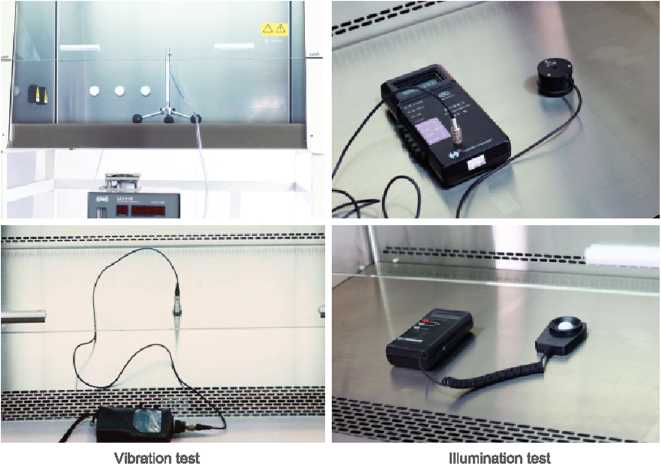
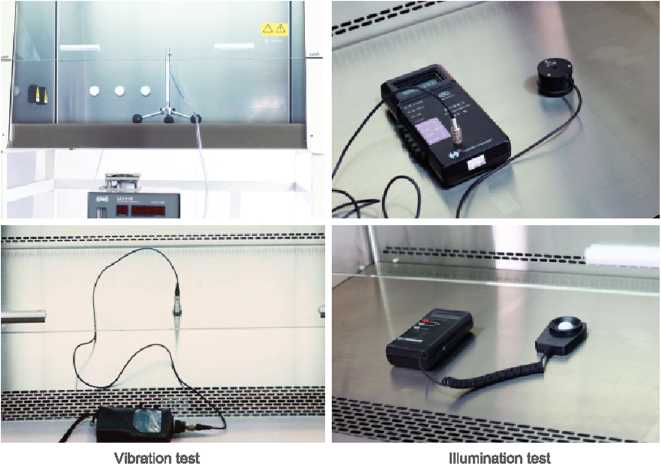
**Standards Compliance**

Standards & Test

|  |  |
| --- | --- |
| Biosafety Cabinets | EN12469f Europe, Certified by TUV NORD / NSF^19,USA / SFDA YY0569j China / SANS 12469, South Africa |
| Air Quality | ISO 14644.1, Class 3j Worldwide |
| Filtration | EN-1822(H14). Europe ∕ IEST-PR-CC001.3. Worldwide / IEST-PR-CC007.1. Woridwide / IEST-PR-CC034.1. Worldwide |
| Electrical Safety | EN61010-1 r Europe / IEC61010-1 f Worldwide / CSA C22.2 No. 61010-1-12*1*UL 61010-1: |
| Manufacturer Qualification | ISO 13485:2003, Certified by TUV SUD / ISO 9001:2008, Certified by TUV SUD |

**Comprehensive performance testing**

Every HFsafe model manufactured by Heal Force is individually tested, documented by serial number and validated with the following test methods



KI-discus containment test 2

KI-discus containment test 1

**KI Discus Containment Test According to EN12469(Potassium lodide)**

Heal Force is currently one of the few companies in the world equipped to

perform the KI Discus test for validating the operator/personnel protection

capabilities of biosafety cabinet

The KI Discus test shows excellent correlation

with the microbiological test method for

operator protection, and is useful for validating

the actual containment performance of the

cabinet on-site

The Kl-Discus takes only 45 minutes as

opposed to 2 days for microbiological testing

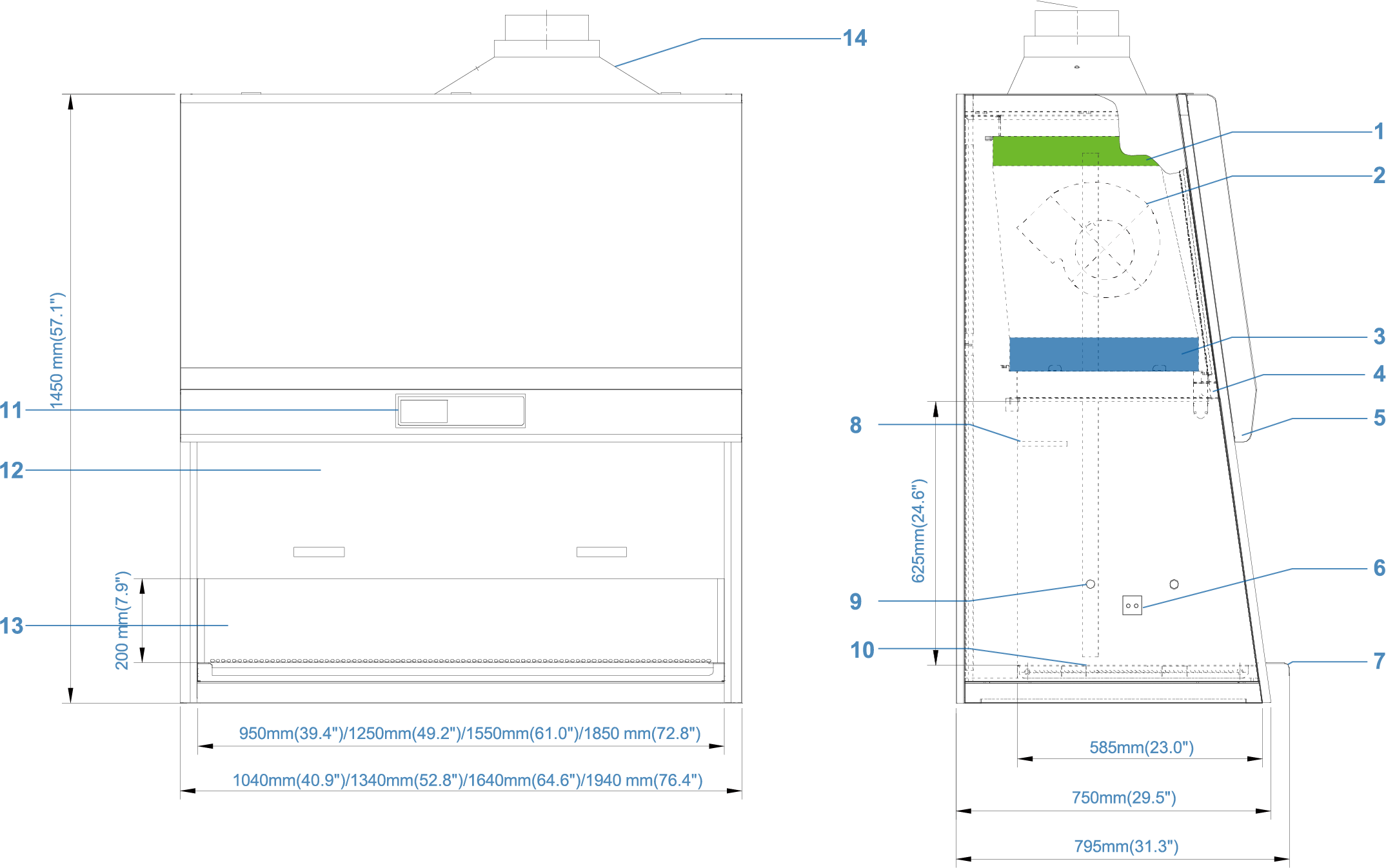
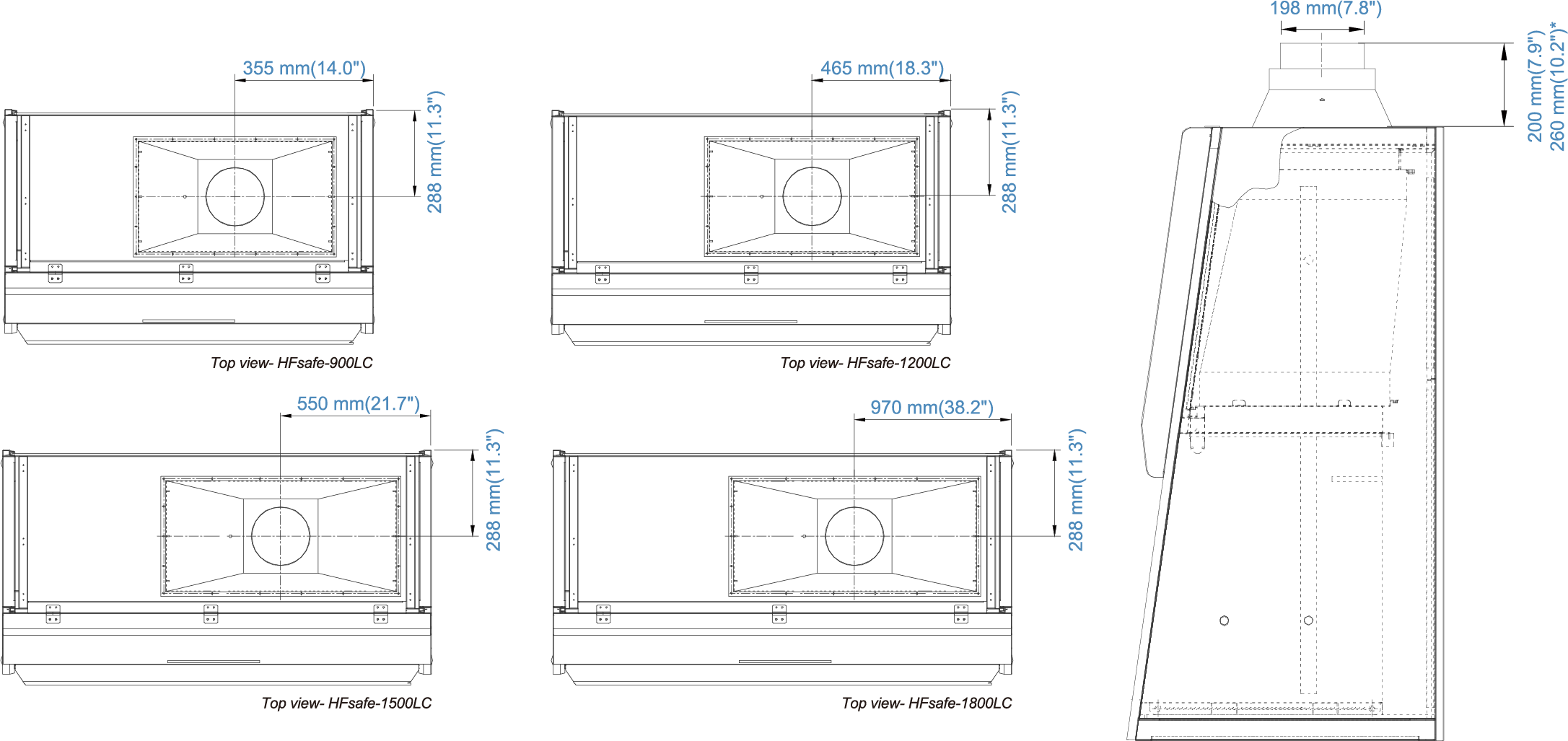
Thus, Each HFsafe model is factory tested on

a sampling basis using the KI-Discus method

for operator safety.

scan test for filters Vibration test lumination test

Inflow/downflow velocity Air particle count test UV radiation test



**Optional Exhaust Collar Positions for Thimble-Ducting for HFsafe LC Models**

**HFsafe LC Biological Safety Cabinet Technical Specification**

1.Exhaust filter

2. Blower

3. Downflow filter

4. Standard UV light

5. Fluorescent lighter

6. Universal electical outlet

(2 single outlets in work zone）

7. Stainless steel armrest

8. Downflow sensor

9. Gas /vacuum/water service fixture

10. Stainless steel single-piece work tray

11. Micro processor control system

12. Manual sliding sash

13. Single piece stainless steel back wall and side wall

14. Thimble exhaust collar(optional)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| *Model* | *HFsafe-900LC* | *HFsafe-1200LC* | *HFsafe-1500LC* | *HFsafe-1800LC* |
| *Nominal Size* | *0.9 meters(3)* | *1.2 meters(4)* | *1.5 meters(5)* | *1.8 meters(6)* |
| ***External Dimensions with Base Stand*** | 1023×771×2255mm | 1323×771×2255mm | 1623×771×2255mm | 1923×771×2255mm |
| ***(W×D×H)*** | 40.3×30.4,×88.8 | 52.1×30.4'×88.8 | 63.90"×30.4,,×88.8 | 75.7×30.4×88.8 |
| ***Internal Work Area, Dimensions*** | 900×600×678mm | 1200×600×678mm | 1500×600×678mm | 1800×600×678mm |
| ***(W×D×H)*** | 35.4,×23.6,×26.7 | 47.2,×23.6,×26.7 | 59.1,×23.6×26.7 | 70.9×23.6×26.7 |
| ***Internal Work Area, Space*** | 0.54m2(5.8 sq.ft) | 0.72m2(7.8 sq.ft) | 0.9m2(9.7 sq.ft) | 1.08m2(11.6 sq.ft) |
| ***Average Airflow Velocity \**** | | | | |
| Inflow | 0.53m∕s(104.3fpm) | 0.53m∕s(104.3fpm) | 0.53m∕s(104.3fpm) | 0.53m∕s(104.3fpm) |
| Downflow | 0.35m∕s(68.9fpm) | 0.35m∕s(68.9fpm) | 0.35m∕s(68.9fpm) | 0.35m∕s(68.9fpm) |
| ***Airflow Volume*** | | | | |
| Inflow | 363m3∕h(213cfm) | 477m3∕h(281cfm) | 592m3∕h(348cfm) | 706m3∕h(416cfm) |
| Downflow | 658m3∕h(377cfm) | 866m3∕h(510cfm) | 1075m3∕h(633cfm) | 1282m3∕h(755cfm) |
| Exhaust | 363m3∕h(213cfm) | 477m3∕h(281cfm) | 592m3∕h(348cfm) | 706m3∕h(416cfm) |
| ***ULPA Filter Typical Efficiency*** | | | | |
| Downflow | Filters provide 99.9995% typical efficiency for particle size of 0.1 to 0.2 microns | | | |
| Exhaust | Filters provide 99.9995% typical efficiency for particle size of 0.1 to 0.2 microns | | | |
| ***Biosafety Protection Test*** | | | | |
| Personnel Protection Test | Kl-Discus ∞ntainment and microbiological testing is performed | | | |
| Product Protection Test 1~8×106 | ≤5CFU | ≤5CFU | ≤5CFU | ≤5CFU |
| Cross-∞ntamination Test 1~8×106 ≤2CFU | | ≤2CFU | ≤2CFU | ≤2CFU |
| ***Sound Emission (Typical)*** | | | | |
| NSF/ANSI 49 | <60dBA | <62dBA | <62dBA | <65dBA |
| EN 12469 | <57dBA | <59dBA | <60dBA | <62dBA |
| Fluorescent Light Intensity | 800~1200 Lux (74~112 foot candles) | | | |
| Excellent light distribution | Yes | Yes | Yes | Yes |
| *RMS* | ≤2.3μm | ≤2.3μm | ≤2.3μm | ≤2.3μm |
| ***Cabinet Construction*** | | | | |
| Main Body | 1.2mm(0.05") steel with white oven-baked epoxy-polyester | | | |
| Work Zone | 1.5mm(0.06) stainless steel, type 304 | | | |
| Side Walls | 1.5mm(0.06) stainless steel, type 304 | | | |
| *Electrical sliding windows Option* | Yes | Yes | Yes | Yes |
| *Window material* | Hardened/laminated safety glass | | | |
| ***Electrical*** | | | | |
| Cabinet Full Load Amp(FLA) | 2A | 2A | 4A | 4A |
| Fuses | 10A | 10A | 10A | 10A |
| Cabinet Nominal Power | 361W | 452W | 813W | 850W |
| Optional Outlets FLA | 5A | 5A | 5A | 5A |
| Total Cabinet FI\_A | 7A | 7A | 9A | 9A |
| ***Power Supply\**** | | | | |
| 220V∕50Hz | Yes | Yes | Yes | Yes |
| 220V∕60Hz | Yes | Yes | Yes | Yes |
| 110V∕60Hz | Yes | Yes | N/A | N/A |
| ***Net Weight*** | | | | |
| Manual Type | 120kg(264lbs) | 225kg(496lbs) | 280kg(617lbs) | 320kg(705lbs) |
| ***Shipping Weight*** | | | | |
| Manual Type | 175kg(386lbs) | 295kg(650lbs) | 350kg(772lbs) | 390kg(860lbs) |
| *Shipping Dimensions Maximum* | 1125×945×1717mm | 1425×945×1717mm | 1725×945×1717mm | 2026×945×1717mm |
| *(W×D×H)* | 46.3×37.2×67.3 | 56×37.2×67.3 | 67.9×37.2,×67.3 | 79×37.2,×67.3 |
| *Shipping Volume, Maximum* | 1.81m3(63.9cu.ft.) | 2.30m3(81.2cu.ft.) | 2.79m3(98.5cu.ft.) | 3.27m3(115.5cu.ft.) |

\* Please ntact us for more optional power supply information

**General Specifications, HFsafe LC Biological Safety Cabinets (Class II Type A2)**

\* Please ntact us for more optional power supply information



**Standard Exhaust Collar Positions for Thimble-Ducting for HFsafe LCB2 ModelsModels**

6. Universal electical outlet

(2 single outlets in work zone)

7. Stainless steel armrest

8. Downflow sensor

9. Gas /vacuum/water service fixture

10.Stainless steel single-piece work tray

11. Micro processor control system

12. Manual sliding sash

13. Single piece stainless steel back wall and side wall

14. Thimble exhaust collar

1.Exhaust filter

2. Blower

3. Downflow filter

4. Standard UV light

5. Fluorescent light

**HFsafe LCB2 Biological Safety Cabinet Technical Specification**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| *Model* | *HFsafe-900LCB2* | *HFsafe-1200LCB2* | *HFsafe-1500LCB2* | *HFsafe-1800LCB2* |
| *Nominal Size* | *0.9 meters(3)* | *1.2 meters(4)* | *1.5 meters(5)* | *1.8 meters(6)* |
| ***External Dimensions with Base Stand*** | 1040×710×2130mm | 1340×710×2130mm | 1640×710×2130mm | 1940×710×2130mm |
| ***(W×D×H)*** | 40.9×30.0×83.9 | 52.8×30.0×83.9 | 64.6×30.083.9 | 76.4×30.0×83.9 |
| ***Internal Work Area, Dimensions*** | 950×575×625mm | 1250×575×625mm | 1550×575×625mm | 1850×575×625mm |
| ***(W×D×H)*** | 37.4×22.6,×24.6 | 49.2×22.6×24.6 | 61.0×22.6×24.6 | 72.8×22.6×24.6 |
| ***Internal Work Area, Space*** | 0.54m2(5.8 sq.ft) | 0.72m2(7.8 sq.ft) | 0.9m2(9.7 sq.ft) | 1.06m2(11.4 sq.ft) |
| ***Average Airflow Velocity \**** | | | | |
| Inflow | 0.53m∕s(104.3fpm) | 0.53m∕s(104.3fpm) | 0.53m∕s(104.3fpm) | 0.53m∕s(104.3fpm) |
| Downflow | 0.30m∕s(59.1fpm) | 0.30m∕s(59.1fpm) | 0.30m∕s(59.1fpm) | 0.30m∕s(59.1fpm) |
| ***Airflow Volume*** | | | | |
| Inflow | 363m3∕h(214cfm) | 477m3∕h(281cfm) | 592m3∕h(348cfm) | 706m3∕h(416cfm) |
| Exhaust | 927m3∕h(546cfm) | 1220m3∕h(718cfm) | 1515m3∕h(892cfm) | 1805m3∕h(1062cfm) |
| ***Filter Typical Efficiency*** | | | | |
| Downflow | ULPA filters provide 99.9995% typical efficiency for particle size of 0.1 to 0.2 microns | | | |
| Exhaust | HEPA filters provide 99.97% typical efficiency for particle size of 0.3 microns | | | |
| ***Biosafety Protection Test*** | | | | |
| Personnel Protection Test | Kl-Discus ∞infotainment and microbiological testing is performed | | | |
| Product Protection Test 1~8×106 | ≤5CFU | ≤5CFU | ≤5CFU | ≤5CFU |
| Cross-∞insemination Test 1~8×106 ≤2CFU | | ≤2CFU | ≤2CFU | ≤2CFU |
| ***Sound Emission (Typical)*** | | | | |
| NSF/ANSI 49 | <60dBA | <62dBA | <62dBA | <65dBA |
| EN 12469 | <57dBA | <59dBA | <60dBA | <62dBA |
| ***Fluorescent Light Intensity*** | | | | |
| Excellent light distribution | Yes | Yes | Yes | Yes |
| *RMS* | ≤3μm | ≤3μm | ≤3μm | ≤3μm |
| ***Cabinet Construction*** | | | | |
| Main Body | 1.2mm(0.05") steel with white oven-baked epoxy-polyester | | | |
| Work Zone | 1.5mm(0.06) stainless steel, type 304 | | | |
| Side Walls | 1.5mm(0.06) stainless steel, type 304 | | | |
| *Electrical sliding windows Option* | Yes | Yes | Yes | Yes |
| *Window material* | Hardened/laminated safely glass | | | |
| ***Electrical*** | | | | |
| Cabinet Full Load Amp(FLA) | 4A | 4A | 5A | 5A |
| Fuses | 10A | 10A | 10A | 10A |
| Cabinet Nominal Power | 850W | 855W | 1200W | 1200W |
| Optional Outlets FLA | 5A | 5A | 5A | 5A |
| Total Cabinet FLA | 9A | 9A | 10A | 10A |
| ***Power Supply\**** | | | | |
| 220V∕50Hz | Yes | Yes | Yes | Yes |
| 220V∕60Hz | Yes | Yes | Yes | Yes |
| ***Net Weight*** | | | | |
| Manual Type | 210kg(463lbs) | 250kg(551lbs) | 295kg(650lbs) | 340kg(750lbs) |
| ***Shipping Weight*** | | | | |
| Manual Type | 260kg(573lbs) | 310kg(683lbs) | 365kg(804lbs) | 420kg(926lbs) |
| *Shipping Dimensions Maximum* | 1125×945×1710mm | 1425×945×1710mm | 1725×945×1710mm | 2026×945×1710mm |
| *(W×D×H)* | 44.3×37.2×67.3 | 56.T×37.2×67.3 | 67.9×37.2×67.3 | 79.8×37.2×67.3 |
| *Shipping Volume, Maximum* | 1.81m3(64cu.ft.) | 2.30m3(81cu.ft.) | 2.79m3(99cu.ft.) | 3.27m3(115cu.ft.) |

**General Specifications, HFsafe LCB2 Biological Safety Cabinets (Class II Type B2)**

\* Please intact us for more optional power supply information



**Biosafety Cabinet**

Heal Force brand stands for the highest standards of safety, ergonomics and performance. Taking advantage of a heritage from over 25 years experience, Heal Force offers safety features, options and accessories beyond the standard requirements, to fulfill virtually all needs. Thousands of units installed in laboratories in more than 100 Countries

**Centrifuge**

Neofuge, the name that defines quality centrifuges from Heal Force. Offering bench-top high speed models with or without refrigeration for today1 s discerning laboratory technicians. Neofuge series provide excellent centrifugal effect and maximum application versatility.

**CO2/Tri-Gas Incubator**

Heal Force Smart Cell incubator provides you wiiħ unsurpassed natural simulation to ensure optimum growth ∞nditions for you culture at all time. Thafs why it becomes the first choice of researchers in fields of application including tissue engineering, in vitro fertilization, neuroscience, cancer research and other mammalian cell researches.

**Water Purification**

Well-proved Heal Force water purification system offers ideal and comprehensive solution for a choice of water qualities that range from primary for simple routine washing and rinsing, through to ultra-high grade for the most critical science and analytical applications.

**Thermal Cycler**

Since PCR is central for molecular biology research, you need flexible solutions that can help you achieve PCR success for virtually any application. Heal Force has been developing new cycling platforms from economical option to advanced series to empower your search. These instruments are renowned for their reliability, accuracy, and user-friendly interfaces.

Heal Force Bio-Meditech Holdings Group

Heal Force International Trading（shanghai）Co.Ltd

6788 songze Road，Qinpu District，shanghai201706，P.R.China

Tel： +86 21 62728646 E-mail：[export@healforce.com](mailto:export@healforce.com) Fax： +86 21 62710529

Website： [www.healforce.com](http://www.healforce.com)

Information is subject to change and/or updating without notice. Copyright © 2015 Heal Force. All Rights Reserved.

Heal Force Laboratory Equipment

Heal Force specialises in the design, development, manufacture and sales of laboratory equipments in the fields of Biosafety protection, Centrifugation, Cell culture, Water purification & Gene amplification.