

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.



Biosafety Cabinet

Heal Force brand stands for 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 different 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 today'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 with natural simulation to ensure optimum growth conditions for your culture at all time. That's why it is widely used 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 different 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.

Clean benches

Adopts dual monitoring breeze speed sensors to provide safer protection for samples.

Low temperature cold chain products

Provide -80 °C ultra-low temperature refrigerator, -40 °C/-25 °C low temperature refrigerator, 2-8 °C medicine storage box.

Life Science



Biological Safety Cabinet

Heal Force Life Science Instrument Series



Heal Force leads you to healthier life



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The next level of performance

HFsafe LC Series

HFsafe LC
Biosafety
Cabinet

Product and Solution Overview

Heal Force HFsafe LC biosafety cabinets specialize 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 containment.

Biological Safety Cabinets

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What to look for in an ideal BSC?

Proven Reliability

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

Energy Efficiency

The motor controller and lighting can 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 large, 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 radiused, coved corners instead of seams, allows for easy and effective cleaning.

Certified Performance

With an advanced front-access design, on-site validation, customer support packages, Maintenance is quicker and easier.

TIMELINE

Heal Force HFsafeLC biosafety cabinets specialises in quality and design 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 biological safety cabinet



2005
One of drafters for YY0569 standard formulation in China



2013
Launch of the energy efficient HFsafeLC series A2 BSC



2014
HFsafe LC series are tested and certified to NSF/ANSI 49

Which System is best for you?



HFsafe LC Type A2



HFsafe LC Type B2

| Class II | Type A2 | Type B2 |
|------------------|---|---------|
| Biotechnology | Medium Preparation | ○ |
| | Tissue Culture | ○ |
| | Blood Elements Analysis | ○ |
| | Human Histology | ○ |
| | Polymerase Chain Reaction | ○ |
| Microbiology | Medium Preparation | ○ |
| | Culture nuisance odors | - |
| | Isolated Clinical Sample | ○ |
| | Blood Test/Analysis | ○ |
| | QA/QC | ○ |
| Pharmaceutical | Minute Quantities of Volatile Toxic Chemicals | - |
| | Trace Amount of Radionucleotides | - |
| | Antitumor drug preparation | - |
| Routine research | Trace Amount of Radionucleotides | - |
| | Cell/Tissue Immobilization & Staining | - |
| | Toxic Powder/ Suspended Substance | ○ |

○ Applicable - N/A



With a range of biological safety cabinets, Heal Force has the right technology to meet different application, setting, and budget.



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), EN12469:2000 (European Standard), YY0569:2005 (Chinese Standard).



NSF/ANSI 49

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

EN12469

Our Class II type A2 biological safety cabinets are independently tested and certified to EN12469 standard

YY0569

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

Non-compromising safety

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

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 designed to increase safety and minimize sample contamination



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.

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. You can keep a constant check on the airflow, window position etc.

Monitoring system alerts user when containment is compromised

Independent 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



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 not in 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

Enhanced comfort and convenience



10 ° backward-slanted safety grade glass provides protection from explosion and UV with more comfortable viewing than vertical sashes.



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



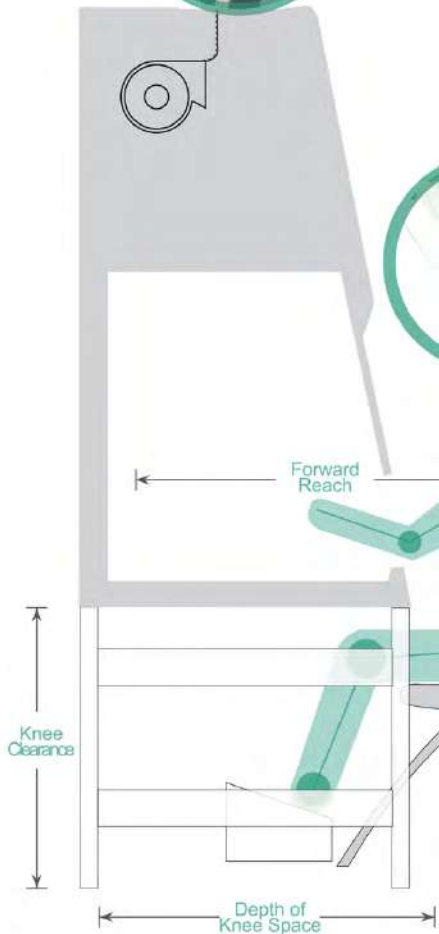
The position of the light tubes ensure excellent illumination over the whole working zone and reduces operator fatigue.



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



Silent working conditions save your brain, you can concentrate on work and even hear yourself thinking.



UV Decontamination

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

Hidden UV lamp protects operator's eyes from hurt



Easy to Clean

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 laminator protects the filter surface during wipe cleaning.

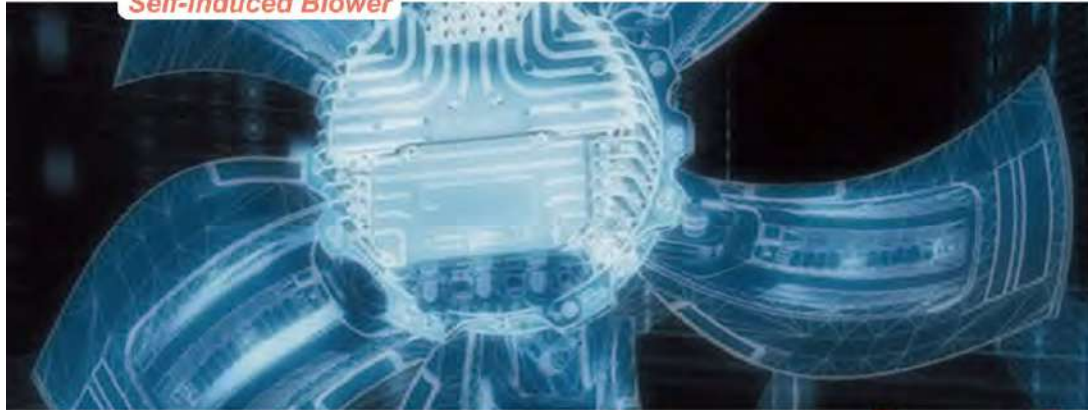
Optional multiple piece stainless steel work surface is easier to remove and put into autoclave / washer.

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



How to provide higher quality to meet different applications?

Self-induced Blower



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



ULPA Filtration System

HFsafe LC biosafety cabinets are equipped with long life ULPA 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 prior to shipping.

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

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.

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.



Airflow velocity monitoring

Temperature-compensated airflow sensors monitor the airflow constantly to ensure safe operating conditions are maintained.

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

Downflow sensor provides instant 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 ($\pm 10\%$ of the control point) are strictly controlled via microprocessor which guarantees excellent airflow performance.



Exhaust airflow sensor

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 velocity/volume, filter life span, total running time.

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

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



Control Panel for HFsafe LC

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.



Options and Accessories

Support stand

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 compensate for ground unevenness.
Available with castors (option) for easy re-location or transportation.
Durable polyurethane caster wheels with 360 degree horizontal rotation



Ultraviolet Lamp Kits

Controlled by automatic UV lamp timer through microprocessor control panel
Emission of 253.7 nanometers for 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



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.

Illumination Light

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



Worktop

The polished, standard stainless steel Multi-piece 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



Active Carbon Postfilters

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 air volume automatically to minimize filter load variation effect.
Real-time filter life display with a visual and audio reminder.



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



Exhaust connection fitting

If biosafety cabinets are used for minute quantities of volatile toxic chemicals and trace amounts of radionucleotides 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.



Contact Heat Force for ordering information and technical assistance in selecting the right ductwork for your installation.

Service Access & Validation

All services, adjustments and filter change is carried out from the front of the cabinet.

Service Access

Help for certifiers, 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:

Change of HEPA filters:

Fluorescent lamps

UV lamps

Adjustment or change of circuit boards and sensors

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

Service code protected

Validation

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 consultant can greatly reduce the time and cost involved with getting new equipment compliant and ready for use.

Services Heal Force Offers:

On-site consultation

Unit specific authorized protocol 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

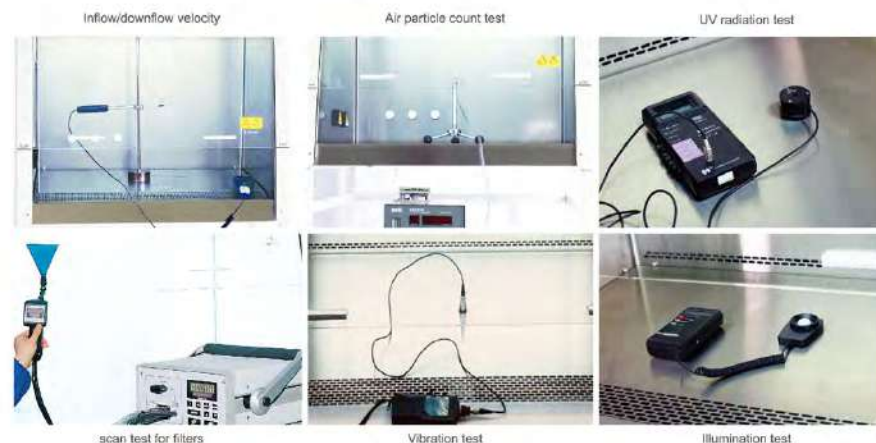
Standards & Test

Standards Compliance

| | |
|-----------------------------------|---|
| Biosafety Cabinets | EN12469, Europe / NSF-49, USA / SFDA YY0569, China / SANS 12469, South Africa |
| Air Quality | ISO 14644.1, Class 3, Worldwide |
| Filtration | EN-1822(H14), Europe / IEST-PR-CC001.3, Worldwide / IEST-PR-CC007.1, Worldwide / IEST-PR-CC034.1, Worldwide |
| Electrical Safety | EN61010-1, Europe / IEC61010-1, Worldwide / CSA C22.2 No. 61010-1-12 / UL 61010-1:2012 |
| Manufacturer Qualification | ISO 13485:2003 / ISO 9001:2008 |

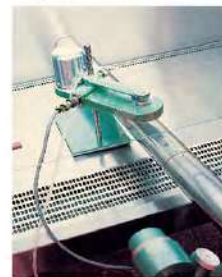
Comprehensive performance testing

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 According to EN12469 (Potassium Iodide)

Heal Force is currently one of the companies in the world equipped to perform the KI Discus test for validating the operator/personnel protection capabilities of biosafety cabinet.



KI-discus containment test 1

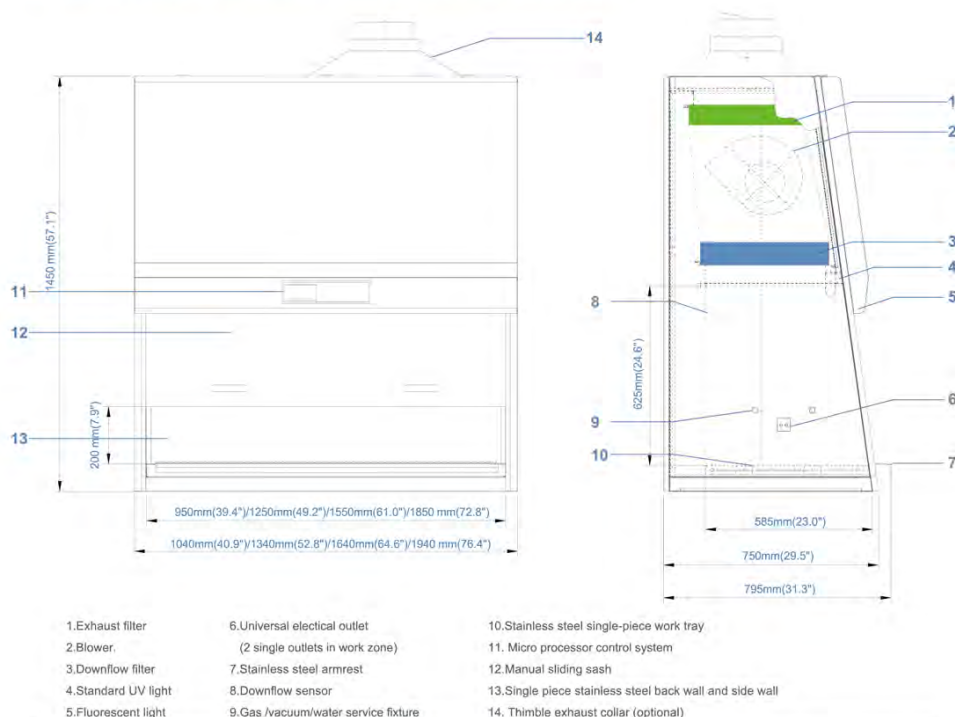
The KI Discus test shows excellent correlation with the microbiological test method for operator protection, and is useful for validating the actual containment performance of the cabinet on-site.

The KI-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.

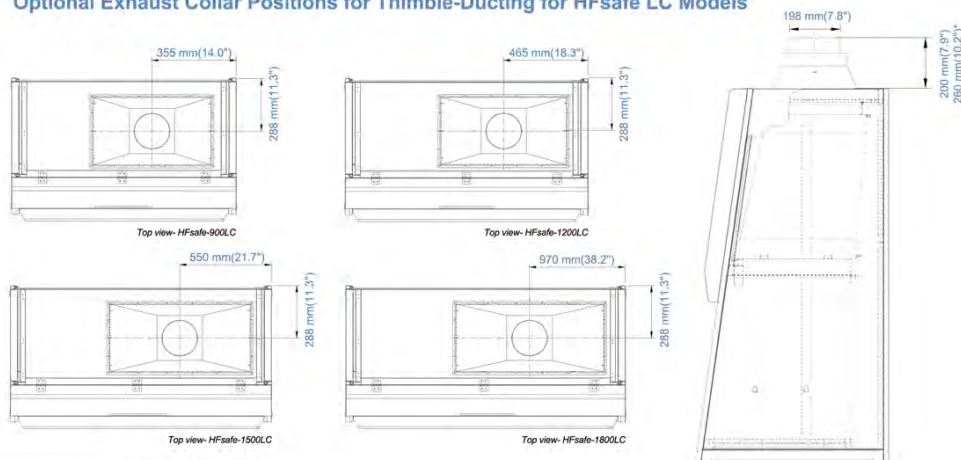


KI-discus containment test 2

HFsafe LC Biological Safety Cabinet Technical Specification



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



*Applicable for opening exhausting connection

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

| 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 (W×D×H) | 1040×790×2130 mm | 1340×790×2130 mm | 1640×790×2130 mm | 1940×790×2130 mm |
| | 40.9"×31.1"×83.9" | 52.8"×31.1"×83.9" | 64.60"×31.1"×83.9" | 76.4"×31.1"×83.9" |
| Internal Work Area, Dimensions(W×D×H) | 950×575×625 mm | 1250×575×625 mm | 1550×575×625 mm | 1850×575×625 mm |
| | 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 | 0.54m ² (5.8 sq.ft) | 0.72m ² (7.8 sq.ft) | 0.9m ² (9.7 sq.ft) | 1.08m ² (11.6 sq.ft) |
| Average Airflow Velocity * | | | | |
| Inflow | 0.53±0.025m/s (104.3±4.92fpm) | | | |
| Downflow | 0.35±0.025m/s (68.9±4.92fpm) | | | |
| Airflow Volume | | | | |
| Inflow | 363m ³ /h(213cfm) | 477m ³ /h(281cfm) | 592m ³ /h(348cfm) | 706m ³ /h(416cfm) |
| Downflow | 718m ³ /h(422cfm) | 945m ³ /h(556cfm) | 1172 m ³ /h(689cfm) | 1280m ³ /h(753cfm) |
| Exhaust | 363m ³ /h(213cfm) | 477m ³ /h(281cfm) | 591m ³ /h(348cfm) | 705m ³ /h(415cfm) |
| 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 | KI-Discus containment and microbiological testing is performed | | | |
| Product Protection Test 1~8×10 ⁶ (three times in succession) | ≤5CFU | ≤5CFU | ≤5CFU | ≤5CFU |
| Cross-contamination Test 1~8×10 ⁶ (three times in succession) | ≤2CFU | ≤2CFU | ≤2CFU | ≤2CFU |
| Sound Emission (Typical) | | | | |
| NSF/ANSI 49 | <60dBA | <62dBA | <62dBA | <65dBA |
| EN 12469 | <57dBA | <59dBA | <60dBA | <62dBA |
| Fluorescent Light Intensity | ≥650 Lux (≥60 foot candles) | | | |
| Excellent light distribution | Yes | Yes | Yes | Yes |
| RMS | ≤5µm | ≤5µm | ≤5µm | ≤5µm |
| 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 | N/A | N/A |
| 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 FLA | 7A | 7A | 9A | 9A |
| Power Supply* | | | | |
| 220V/50Hz | Yes | Yes | Yes | Yes |
| 220V/60Hz | Yes | N/A | 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(W×D×H) | 1125×945×1717mm | 1425×945×1717mm | 1725×945×1717mm | 2026×945×1717mm |
| | 46.3"×37.2"×67.3" | 56.1"×37.2"×67.3" | 67.9"×37.2"×67.3" | 79.8"×37.2"×67.3" |
| Shipping Volume, Maximum | 1.81m ³ (63.9cu.ft.) | 2.30m ³ (81.2cu.ft.) | 2.79m ³ (98.5cu.ft.) | 3.27m ³ (115.5cu.ft.) |

* Please contact us for more optional power supply information