LORDERAN

TECHNICAL DATASHEET
DS-BSC-FA2-EN · REV. B · NOV 2026

BIOLOGICAL SAFETY CABINET

NSF/ANSI 49 **Class II A2 Biosafety Cabinet**

Certified to **NSF/ANSI 49** — two ULPA filters at **99.9995 %**, a motorized front window and an **ECM** motor that holds airflow as filters load.

MODELS

BSC-3FA2 | BSC-4FA2 | BSC-6FA2



NSF 49	**99.9995 %**	**3 · 4 · 6 ft**	**10 °**
CLASS II A2 CERTIFIED	ULPA AT 0.12 MM	CABINET WIDTHS	SLANTED FRONT
ECM	**≤ 0.10 Ω**	**≥ 1000 lux**	**GL / NA**
SPEED-ADJUSTABLE DC MOTOR	GROUND RESISTANCE	ILLUMINATION	M/S OR FPM READOUT

01 Constant protection
Air speed adjusts automatically as the filter loads.

02 Comfortable for long sessions
10° slanted front cuts glare and brings the work closer.

03 GL or NA
Airflow shown in m/s (GL) or fpm (NA).

APPLICATIONS

Clinical microbiology · Cell and tissue culture · Hospital pharmacy · North American labs

Warranty
Major defects: full refund or replacement.

Free DDP shipping
Duties paid, no surprise import charges.

30-day returns
Most new, unopened items.

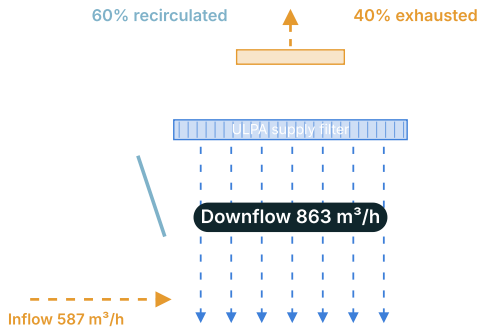
PRODUCT OVERVIEW

Three directions of protection in one airflow

A Class II A2 biological safety cabinet certified to NSF/ANSI 49, with a motorized front window and two ULPA filters at 99.9995 % at 0.12 µm. It protects the operator, the sample and the room at the same time, in 3, 4 and 6 ft widths.

Room air enters at the front grille and forms a barrier for the operator; ULPA-filtered air falls over the work zone; about **40 %** of the air is exhausted through the second ULPA filter (65/35 on the BSC-4FA2). An ECM motor adjusts speed as filters load, so protection stays constant over filter life.

Airflow volumes. Shown for BSC-4FA2-GL / NA. The BSC-4FA2 (4') runs a 65 % / 35 % split.



HOW IT WORKS

01 Inflow barrier
441–824 m³/h of room air drawn in at the front grille, by width.

02 ULPA downflow
60 % of the air recirculated through the supply ULPA filter.

03 Exhaust
40 % exhausted through the second ULPA filter.

04 ECM motor
Speed-adjustable DC motor, 110 V and 220 V, low power consumption.

05 Interlocks
UV lamp and window, UV and blower or lamp, blower and window.

TESTED OPENING
254 mm
200 mm on BSC-4FA2

MAX OPENING
550 mm
520 mm on 3'

INFLOW
441–824 m³/h
by width

GROUND
≤ 0.10 Ω
≥ 1000 lux

FILTRATION
99.9995 % at 0.12 µm
ULPA efficiency at the most penetrating particle size, about 10× fewer particles through than an H14 HEPA filter (99.995 %).

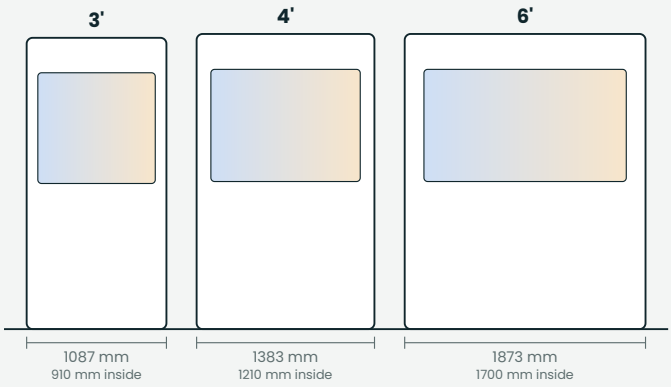
Work at the tested opening
The safety height of the sash is part of the certified configuration.

Keep the grilles clear
Front and rear grilles carry the inflow and the downflow return; never block them.

Certify on site
Verify inflow, downflow and filter integrity after installation, relocation and at least annually.

FEATURES

Comfortable for long sessions



01 Control

- Large LCD with all information on one screen
- **Motorized front window**
- Automatic air-speed adjustment as the filter loads
- Power-failure memory
- GL reads velocity in m/s, NA in fpm

02 Safety

- Two **ULPA filters**, 99.9995 % at 0.12 µm, filter life indicator
- Alarms for airflow, filter replacement and window height
- UV lamp, blower, lamp and window interlocks
- Germicidal UV at 253.7 nm
- Ground resistance **≤ 0.10 Ω**

03 Build

- Single-piece **304 stainless** side and back walls
- Front slanted **10°** for comfort and reach
- Laminated toughened glass ≥ 5 mm, anti-UV
- Water tap, gas tap and two waterproof sockets
- Stainless I.V. bar with 10 hooks

TECHNICAL SPECIFICATIONS

Technical specifications

Parameter	3'	4'	6'
External W	1087 mm	1383 mm	1873 mm
Internal W	910 mm	1210 mm	1700 mm
Inflow	441 m^3/h	587 m^3/h	824 m^3/h
UV lamp	20W	30W	40W
Consumption	400W	500W	700W
DIMENSIONS			
External Dims (W*D*H)	1383*775*2295 mm	1087*775*2265 mm	1383*775*2295 mm
Internal Dims (W*D*H)	1210*600*660 mm	910*600*660 mm	1210*600*660 mm
Work Surface Height	750 mm		
Max Opening	550 mm (22'')	520mm(20.5'')	550mm (22'')
Tested Opening	Safety height 200mm (8'')	Safety height 254mm (10'')	Safety height 254mm (10'')
Gross Weight	340kg	270kg	340kg
Package Size (W*D*H)	1540*1080*1900 mm	1220*1080*1840 mm	1540*1080*1900 mm
AIRFLOW AND FILTRATION			
Airflow Volume (Inflow)	462m3/h(272cfm)	441m3/h(259cfm)	587m3/h(346cfm)
Airflow Volume (Down flow)	65%:863m3/h(507cfm)	60%:649m3/h(382cfm)	60%:863m3/h(507cfm)
Airflow Volume (Exhaust)	35%:462m3/h(272cfm)	40%:445m3/h(259cfm)	40%:587m3/h(346cfm)
ULPA Filter	Two, 99.9995% efficient at 0.12μm. Filter life indicator.		
Filter Guard Type	Aluminum alloy frame		
DC Motor	One ECM motor, 110V& 220V acceptable, Speed adjustable, high efficiency and low power consumption		
CABINET			
Front Window	Motorized. Two-layer laminated toughened glass ≥5mm. Anti UV		
Noise	≤67 dB		
Illumination	≥1000Lux		
Display	LCD Display		
Alarm	Abnormal airflow velocity; Filter replacement; Front window at unsafe height.		
UV Emission	Germicidal UV lamp, Emission of 253.7 nanometers for most efficient decontamination		
Illuminating Lamp	18W*2 LED lamp	10W*2 LED lamp	18W*2 LED lamp
Tap	Water tap*1, Gas tap *1		
Material	Working area: 304 stainless steel/ Frame and Decorative Plate: cold-rolled steel with anti-bacteria power coating		

Parameter	3'	4'	6'
ELECTRICAL			
Waterproof Socket	2, Total consumption:≤500W		
Ground Resistance	≤ 0.10Ω		
Power Supply	AC220V±10%, 50/60Hz; 110V±10%, 60Hz, Full load Amps: 9A, BTU/Hr: 1689		
ACCESSORIES			
Standard Accessory	Illuminating lamp, UV lamp*2, Base stand, SS water & gas taps, Drain valve, Waterproof sockets, Stainless Steel I.V. Bar with 10 hooks		
Optional Accessory	Armrest, Airflow tester, Formalin fumigation sterilizer, Infrared sterilizer, Electric height adjustable base stand, Remote control		

Specifications from the LORDERAN product documentation. Subject to change without notice for product improvement.

CLASS II TYPES COMPARED

	Class II A2	Class II B2
Air recirculated in the cabinet	about 70 %	0 %
Air exhausted	about 30 %	100 %
Exhaust connection	room, or canopy (thimble) connection	hard-ducted, dedicated exhaust blower
Minimum average inflow, NSF/ANSI 49	0.51 m/s (100 fpm)	0.51 m/s (100 fpm)
Typical use	biological agents, non-volatile work	biological agents with volatile chemicals

Summary of NSF/ANSI 49 cabinet types; reference values for selection.

AIR CLEANLINESS · ISO 14644-1 LIMITS, PARTICLES PER M³

Class	≥ 0.1 µm	≥ 0.2 µm	≥ 0.3 µm	≥ 0.5 µm	≥ 1 µm
ISO 3	1,000	237	102	35	8
ISO 5	100,000	23,700	10,200	3,520	832

Maximum permitted concentration of particles equal to or larger than each size (ISO 14644-1:2015). Reference values.

APPLICATIONS & SERVICE

Where it works, and what comes with it

Clinical microbiology
Certified containment for biological agents.

Cell and tissue culture
ULPA-clean downflow for sterile work.

Hospital pharmacy
I.V. bar with 10 hooks for compounding.

North American labs
NA versions read airflow in fpm.

INSTALLATION

Supply
ECM motor accepts 110 V and 220 V.

Room
Away from doors and supply diffusers that disturb the air curtain.

Certification
Field-certify inflow, downflow and filter integrity on installation.

WARRANTY & SERVICE

Warranty
Major defects under warranty: full refund or replacement.

30-day returns
Return most new, unopened items within 30 days.

Free DDP shipping
Delivered duty paid, no surprise import charges.

Formal quotation
PDF quote on request, with a confirmed ship date.

Request a quotation

Send your application, model and quantity through www.lorderan.com and we will reply with a formal PDF quotation.

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Laboratory and environmental test equipment