



CLASS II, TYPE A2 BIOLOGICAL SAFETY CABINET SERIES

BSC

Models:

MHE-N300A2-PE + PP | MHE-N400A2-PE + PP

MHE-N500A2-PE + PP | MHE-N600A2-PE + PP

Optimum protection of personnel, product and environment. BSC Class II, Type A2 Biological Safety Cabinets offer a combination of cabinet design, airflow and filtration systems to protect personnel, the product and the environment from biological particulates.

BSC BIOLOGICAL SAFETY CABINETS



BSC Biological Safety Cabinets Class II, Type A2

3 ft / 90 cm

4 ft / 120 cm

5 ft / 150 cm

6 ft / 180 cm

MHE-N300A2-PE + PP

MHE-N400A2-PE + PP

MHE-N500A2-PE + PP

MHE-N600A2-PE + PP

BSC Biological Safety Cabinets offer optimum protection of personnel, product and environment

BSC Class II, Type A2 Biological Safety Cabinets are designed for use in cell culture laboratories where biological containment is important. These cabinets are configured to meet the European Standard EN 12469:2000 and other criteria for safety and performance consistent with quality standards and industry requirements.



BSC Biological Safety Cabinets

FOUR DIFFERENT SIZES FOR MAXIMUM FLEXIBILITY

HIGH PERFORMANCE AIRFLOW

The cabinet design regulates air velocity through HEPA filters and distributes the downflow air across the work surface to create a containment zone. The unit is designed to capture airborne contaminants before they can enter the work area.

ERGONOMIC DESIGN & EASE OF USE

The sloped profile to the front of the cabinet positions work in close proximity to the user. This improves comfort and minimises the stress of repetitive movements. Uniform interior lighting and a glare-resistant front window enhance visibility.

HIGH CAPACITY FILTRATION

The front-access supply and exhaust HEPA filters are designed to capture particulates with an efficiency of 99.995% for 0.3 microns. A closed-cell peripheral gasket surrounds

the filter housing to prevent particulate bypass and escape to the environment.

PROTECTION

Our Class II, Type A2 Biological Safety Cabinets offer a combination of cabinet design, airflow and filtration systems to protect personnel, the product and the environment from biological particulates. True laminar airflow with a constant inflow velocity prevents contamination.

BSC APPLICATIONS

- Cell culture protocols
- Animal research processes
- Clinical laboratory work
- Biomaterial processing
- Pharmacy preparation

Class II, Type A2 cabinets are intended for particulate protection. HEPA filters do not protect against chemical vapors.

SAFETY AND COMFORT

Models: MHE-N300A2-PE/PP | MHE-N400A2-PE/PP | MHE-N500A2-PE/PP | MHE-N600A2-PE/PP

LOW COST OF OWNERSHIP

The supply air plenum design and electronically commutated motor, with automatic feedback control, work together to extend filter life.

HEPA FILTRATION AT 99.995%

The front-access supply and exhaust HEPA filters are designed to capture particulates an efficiency of 99.995% for 0.3 microns. A closed-cell peripheral gasket surrounds the filter housing to prevent particulate bypass and escape to the environment.

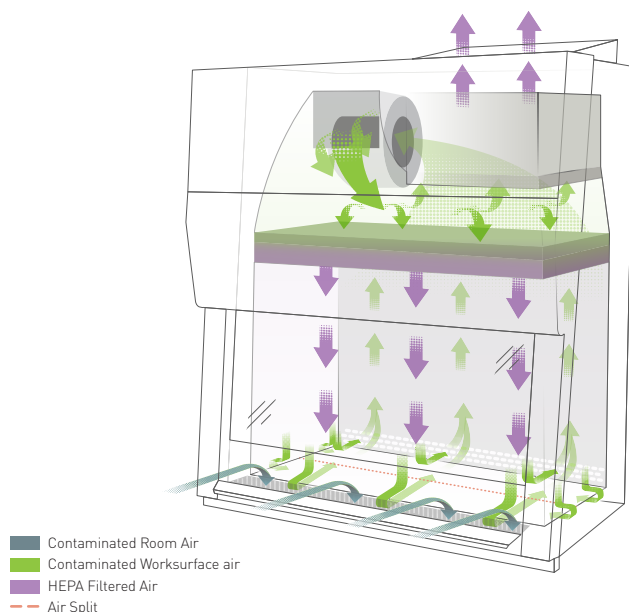
CABINET AIRFLOW

Room air from the laboratory is drawn into the safety cabinet at a inflow velocity of 0.53 m/s. This air is captured by negative pressure through small openings around the front armrest and sides where it passes through a HEPA supply filter at the top of the work surface.

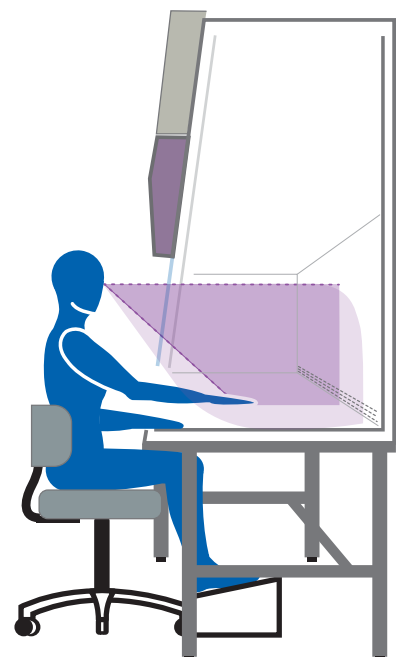
The combination of inflow velocity, ambient air capture, downflow air split and exhaust protects the user, the work surface and the environment from contamination. The cabinet is designed for particulate capture only.

DESIGN FEATURES OPTIMISE WORKSPACE

An ergonomic arm rest in front of a recessed airfoil ensures operator safety and eliminates turbulent airflow at the cabinet's front opening. The recessed interior tray expands the work surface safe zone to bring work closer to the user. A spacious, frameless, sliding window (533 mm high) extends the user's field of vision. The cabinet base is adjustable to 673 mm or 826 mm for standard sitting or bench work, depending upon preference. The base stand offers plenty of knee-room in a seated position.



Inflow air velocity of 0.53 m/s through a 10" window opening resolves into a downflow apportionment over the work surface of 70% filtered recirculated air and 30% filtered exhausted air.



CABINET FEATURES AND CONSTRUCTION

Models: MHE-N300A2-PE/PP | MHE-N400A2-PE/PP | MHE-N500A2-PE/PP | MHE-N600A2-PE/PP



Model: MHE-N400A2-PE pictured with front open and included base stand.

- 1 Controlled airflow, per the European Standard EN 12469:2000 criteria, for inflow velocity, recirculation vs. exhaust ratio and incoming air capture through negative pressure scrubber holes around the cabinet opening.
- 2 Sloped cabinet design improves ergonomic interface in seated or standing positions.
- 3 Included base for accessibility and comfort.
- 4 Adjustable levelling feet and adjustable height permit seated or standing operation.
- 5 Hinged front filter opening permits safe, efficient filter replacement.
- 6 Control components are positioned outside containment area.
- 7 Microprocessor control includes softkey interface.
- 8 Utility connections for air, gas, water and vacuum are prepositioned.
- 9 Interior electrical outlet includes vapour-proof cover.
- 10 Uniform, high visibility fluorescent lighting reduces eye strain.
- 11 UV light fitted as standard.
- 12 Work surface with glare-resistant finish.
- 13 Removable work tray has coved corners for easy cleaning.
- 14 Positive pressure plenum delivers uniform pressure to supply filter to optimize particulate loading and extend filter life.
- 15 Interior chamber drain with valve simplifies cleaning.



The microprocessor controller provides continuous supervision of all cabinet functions. Universal icon softkey buttons simplify one-handed access to on/off and alarm/monitoring system.

All BSC biological safety cabinets share operational attributes from the compact 3 foot cabinet to the wide-profile 6 foot cabinet. These cabinets are certified Class II, Type A2 to the European Standard EN 12469:2000.

All PHCbi biosafety cabinets provide biological containment protection for both operator and product proven by an independent test. This test has been conducted and listed by TÜV NORD. The PHCbi biosafety cabinet units are TÜV NORD certified and

carry the GS mark (German Standard). The GS mark is a sign that the product has passed the product safety testing of an independent testing agency, and that PHC Europe B.V., as a supplier, is a sufficiently reliable and capable partner.



CABINET CONSTRUCTION

The dual wall cabinet design creates a negative pressure envelope around the positive pressure plenum. The cabinet's negative/positive pressure orientation assures that potential leaks are captured before they can contaminate the work surface or the laboratory.

- Exterior construction is 100% stainless steel, 16/18 gauge combination.

- The interior chamber is fabricated with 100% polished welds to eliminate the need for silicone sealants.
- A removable work surface tray includes coved corners for easy cleaning.
- A valve drain simplifies manual cleaning when required.

What it is	Why it is important	What it does
Front Window Sash	Access to the cabinet interior is through a standard 10" (254 mm) opening.	<ul style="list-style-type: none"> • The window opens to a full 21" (533 mm) height to accommodate cleaning and loading of equipment. • The angled window includes non-glare glass for user comfort and a wider field of vision on the work surface.
Filtration	Proper balance between airflow and filtration is critical to biological safety cabinet performance.	<ul style="list-style-type: none"> • H14 HEPA supply and exhaust filters are 99.995% effective at capturing 0.3 micron particulates. • Filters are accessible from the front, eliminating the need to move the cabinet when filter changes are required.
Airflow Configuration	The European Standard EN 12469:2000 specifies a downflow velocity range of 0.25 m/s - 0.5 m/s over the work surface and a minimum inflow velocity of 0.4 m/s. An airflow sensor monitors cabinet airflow.	<ul style="list-style-type: none"> • All air entering the cabinet passes through a negative pressure plenum where it is directed through a HEPA supply filter. • Air flowing to the work surface is a mix of 70% fresh filtered air and 30% recirculated air. • Of the total downflow air volume, 30% is exhausted through the HEPA exhaust filter. • Perforations along the front and back of the work surface remove all downflow air and reprocess for filtration, downflow or exhaust.
Controls, Alarms, Monitors	All cabinet functions are managed by a microprocessor controller, front mounted at eye level and positioned outside the containment area for additional safety.	<ul style="list-style-type: none"> • An airflow monitor displays a digital indication of inflow velocity. • Airflow and window opening alarms include ringback warnings. • All controls are serviced from the front to simplify maintenance. • Fluorescent lights, UV lamp, interior outlet and alarm settings are managed via softkey control interface buttons.
Motor and Blower	The BSC biological safety cabinet is powered by a high-efficiency electronically commutated motor (ECM) with automatic compensation for filter loading and voltage fluctuations.	<ul style="list-style-type: none"> • The ECM motor automatically maintains 0.53 m/s inflow velocity as voltages change or filtration resistance is increased over time. • The combination motor and blower is designed to maintain energy-efficient operation in support of lower total cost of ownership. • Design minimises vibration transfer. • Upon sliding the window into the closed position, the motor/blower will continue to operate at a lower rate to save energy and maintain interior clean air conditions ready for use upon window opening.
Utilities	Standard interior utilities include gas valve, service couplings and two 230 V power sockets with vapor-proof covers.	<ul style="list-style-type: none"> • A gas service valve is located on the right side wall. • Additional service couplings are located on the right side wall (1) and left side wall (2). • A valve drain in the cabinet floor beneath the removable work tray permits manual cleaning and draining as desired.
Decontamination	A UV light is included with each BSC biological safety cabinet. The UV light can be turned on for overnight sterilisation of interior air adding an extra measure of protection.	<ul style="list-style-type: none"> • Standard cleaning protocols include a manual wipe down with 70% ethanol. • The cabinet is designed to simplify full decontamination processes under the supervision of authorised certifiers.

CABINET SPECIFICATIONS

Models: MHE-N300A2-PE/PP | MHE-N400A2-PE/PP

Model Number		MHE-N300A2-PE/PP3 foot (0.9 m)	MHE-N400A2-PE/PP4 foot (1.2 m)
External Dimensions (W x D x H) ¹⁾ nominal	mm	1057 x 799 x 1572	1362 x 799 x 1572
Internal Dimensions (W x D x H) ²⁾ nominal	mm	873 x 654 x 724	1178 x 654 x 724
Net Weight	kg	186	218
Crated Shipping Weight ³⁾	kg	209	240
Performance			
Personal Protection		EN 12469	EN 12469
Product Protection		EN 12469	EN 12469
Classification		Class II, Type A2	Class II, Type A2
Construction			
Style of Cabinet		Benchtop/console with base stand/storage cabinet	Benchtop/console with base stand/storage cabinet
Cabinet Construction		All welded stainless steel 16/18 gauge, Type 304 pressure tight design	All welded stainless steel 16/18 gauge, Type 304 pressure tight design
Cabinet Depth with Armrest Removed	mm	799	799
Minimum Cabinet Height for Transport	mm	1499	1499
Work Access Opening (standard height)	mm	254	254
Standard Inflow Velocity ²⁾	m/s	0.53	0.53
Diffuser for Air Supply (Non-flammable, Metal)		Included	Included
HEPA Supply Filter		99.995% effective on 0.3 microns, neoprene gasket, type H14	99.995% effective on 0.3 microns, neoprene gasket, type H14
HEPA Exhaust Filter		99.995% effective on 0.3 microns, neoprene gasket, type H14	99.995% effective on 0.3 microns, neoprene gasket, type H14
Gas Valve / Service Coupling (½" NPT)	qty	1 right sidewall	1 right sidewall
Service Coupling (½" NPT)	qty	1 right sidewall, 2 left sidewall	1 right sidewall, 2 left sidewall
Power Socket	qty	2 backwall	2 backwall
Ultraviolet Light (included)	qty	1 backwall	1 backwall
Viewing Window Opening Range: (tempered safety plate sliding glass)	mm	533 open	533 open
Exhaust Opening	mm	254	254
Required Exhaust, Canopy Variable Flow Thimble (MHE-NAC11)	CFM CMH	363-588 617-1000	363-588 617-1000
Required Exhaust, Canopy Fixed Flow Thimble (MHE-NAC07)	CFM CMH	426 724	426 724
Duct Static Pressure	mm H ₂ O	1.27-2.54	1.27-2.54
Heat Rejected, non-vented	BTU/hour	1140	1140
Heat Rejected, vented	BTU/hour	157	157
Electrical and Noise Level			
Power Supply	V	230	230
Frequency	Hz	50	50
+Amps: Blower/Lights		2.9	2.9
Amps: Outlet		3	3
Amps: Rated		10	10
Power Cord		3.7 m, 14 gauge - 3 Wire, 15A	3.7 m, 14 gauge - 3 Wire, 15A
Sound pressure level per ISO 4871 ³⁾	dB (A)	not to exceed 56	not to exceed 56
Options			
Adjustable Electrical Base Stand		MHE-NAC00-133-PE	MHE-NAC00-134-PE

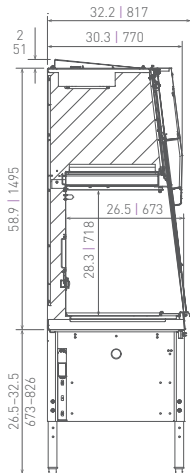
Appearance and specifications are subject to change without notice.

¹⁾ External depth is measured with armrest removed and takes into account the control center. Height includes exhaust grill in the final measurement.
²⁾ Measured at 10" (254 mm) window height. Internal depth is measured with the armrest removed.
³⁾ Crated shipping weight does not include weight for accessories or options.
⁴⁾ Nominal level, measured 15" (381 mm) above the work tray and 12" (305 mm) in front of viewing window.
⁵⁾ Measurement performed per ISO 11201 in normal running mode.

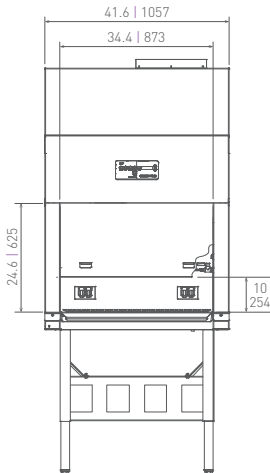
DIMENSIONS

Models: MHE-N300A2-PE/PP | MHE-N400A2-PE/PP

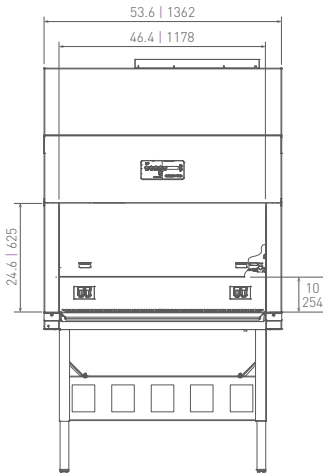
inches | mm



Profile View



3 ft / 90 cm | MHE-N300A2-PE/PP



4 ft / 120 cm | MHE-N400A2-PE/PP

CABINET SPECIFICATIONS

Models: MHE-N500A2-PE/PP | MHE-N600A2-PA

Model Number		MHE-N500A2-PE/PP5 foot (1.5 m)	MHE-N600A2-PE/PP6 foot (1.8 m)
External Dimensions (W × D × H) ¹⁾ nominal	mm	1669 × 799 × 1572	1972 × 799 × 1572
Internal Dimensions (W × D × H) ²⁾ nominal	mm	1483 × 654 × 724	1788 × 654 × 724
Net Weight	kg	258	290
Crated Shipping Weight ³⁾	kg	281	313
Performance			
Personal Protection		EN 12469	EN 12469
Product Protection		EN 12469	EN 12469
Classification		Class II, Type A2	Class II, Type A2
Construction			
Style of Cabinet		Benchtop/console with base stand/storage cabinet	Benchtop/console with base stand/storage cabinet
Cabinet Construction		All welded stainless steel 16/18 gauge, Type 304 pressure tight design	All welded stainless steel 16/18 gauge, Type 304 pressure tight design
Cabinet Depth with Armrest Removed	mm	799	799
Minimum Cabinet Height for Transport	mm	1499	1499
Work Access Opening (standard height)	mm	254	254
Standard Inflow Velocity ²⁾	m/s	0.53	0.53
Diffuser for Air Supply (Non-flammable, Metal)		Included	Included
HEPA Supply Filter		99.995% effective on 0.3 microns, neoprene gasket, type H14	99.995% effective on 0.3 microns, neoprene gasket, type H14
HEPA Exhaust Filter		99.995% effective on 0.3 microns, neoprene gasket, type H14	99.995% effective on 0.3 microns, neoprene gasket, type H14
Gas Valve / Service Coupling (½" NPT)	qty	1 right sidewall	1 right sidewall
Service Coupling (½" NPT)	qty	1 right sidewall, 2 left sidewall	1 right sidewall, 2 left sidewall
Power Socket	qty	2 backwall	2 backwall
Ultraviolet Light (included)	qty	1 backwall	1 backwall
Viewing Window Opening Range:(tempered safety plate sliding glass)	mm	533 open	533 open
Exhaust Opening	mm	254	254
Required Exhaust, Canopy Variable Flow Thimble (MHE-NAC11)	CFM CMH	363-588 617-1000	363-588 617-1000
Required Exhaust, Canopy Fixed Flow Thimble (MHE-NAC07)	CFM CMH	426 724	426 724
Duct Static Pressure	mm H ₂ O	1.27-2.54	1.27-2.54
Heat Rejected, non-vented	BTU/hour	1140	1140
Heat Rejected, vented	BTU/hour	157	157
Electrical and Noise Level			
Power Supply	V	230	230
Frequency	Hz	50	50
+Amps: Blower/Lights		2.9	2.9
Amps: Duplex		3	3
Amps: Rated		10	10
Power Cord		3.7 m, 14 gauge - 3 Wire, 15A	3.7 m, 14 gauge - 3 Wire, 15A
Noise Level ⁴⁾	dB (A)	not to exceed 56	not to exceed 56
Options			
Adjustable Electrical Base Stand		MHE-NAC00-135-PE	MHE-NAC00-136-PE

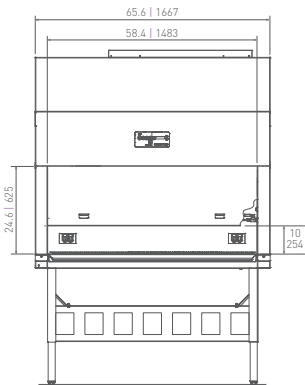
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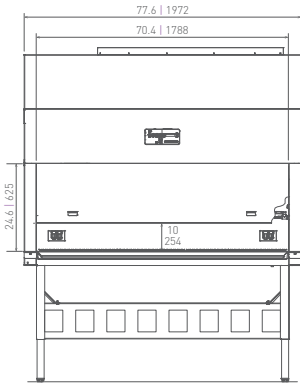


DIMENSIONS

Models: MHE-N500A2-PE/PP | MHE-N600A2-PE/PP



5 ft / 150 cm | MHE-N500A2-PE/PP



6 ft / 180 cm | MHE-N600A2-PE/PP



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