



Thermo Scientific MSC-Advantage
Class II Biological Safety Cabinets

*Good for you,
good for the environment*

Thermo Scientific MSC-Advantage

Enjoy **best-in-class performance** and **value**



Superior Containment

Unique airflow design maximizes safety

Extremely Comfortable

Ergonomic design simplifies ease of use

Added Convenience

Choice of configuration increases flexibility



1.2 m MSC-Advantage biological safety cabinet on optional electric stand

Optimizing Safety and Efficiency

Laboratories today are facing new challenges. Safety and reliability continue to be paramount. Yet, there is growing need for improved energy efficiency, simpler operation and less maintenance.

Our Thermo Scientific MSC-Advantage Class II biological safety cabinets provide best-in-class safety, ergonomics and energy efficiency for today's most demanding laboratory applications.

MSC

Advantage

The Thermo Scientific MSC-Advantage is backed by our global reputation and commitment to provide the safest and most reliable biological safety cabinets available.

We have decades of market leadership in biological safety cabinets, as well as a full suite of laboratory solutions – all with unmatched quality and world-renowned service and support.

MSC-ADVANTAGE

8160





Ergonomic Design for Ease-of-Use

Ergonomic Design Enhances Safety

Sloped Front

Cabinet front is sloped 10° for enhanced comfort and reduced operator fatigue.

Reduced Noise Level

Lower noise level enhances the attention and allows user to focus on work without distraction.

Spacious Work Area

The large, unobstructed work surface increases productivity and safety.

Comfortable Armrest

Armrests sit just above the intake grill to enable farther reach inside the cabinet while maintaining safe airflows.



Our MSC-Advantage products are independently tested and certified to EN 12469 standard for Class II biological safety cabinets by:

- TÜV Nord (Germany)
- LNE (France)
- HPA Porton Down (UK)

Easy-to-Access Control Panel and Performance Data

The large control panel displays valuable safety and performance data, and is within easy view and reach from a seated position. The intuitive interface delivers a constant read-out of downflow and inflow velocities and overall cabinet performance status.



Ease-of-Use for Enhanced Safety

An efficient working environment can eliminate expensive disruptions to lab procedures. Our Thermo Scientific MSC-Advantage delivers easy-to-use features that enable you to perform your best work – productively and safely.

SmartClean™ Window Design

To reduce risk of sample contamination, our patented window design easily lowers for thorough cleaning of the window's inner surface. This unique design protects the operator by maintaining inflow even when the window is lowered.

Easy Servicing

Fan control and power supply can be replaced independently of the DC motor with no need for disruptive decontamination of the cabinet. All cabinet components, including HEPA filters, are easily accessible from the front to allow for rapid service and minimal work disruption. The SmartClean window design simplifies access to the downflow filter during annual certification.

Exceptional Safety

Smooth components are used throughout the cabinet, virtually eliminating the risk of injury during routine cleaning, servicing and maintenance procedures.

Worry-free Decontamination

The easy to use, optional UV light is programmable from 30 minutes to 24 hours in 30-minute increments, extending bulb life and saving energy.

Fumigation-Ready

The easy to install, HPA-validated fumigation accessory, allows the cabinet to be fumigation-ready in just minutes.



Hour Counter & Airflow Read-Out:

Clearly displays critical safety and real-time performance data including inflow and downflow velocities and hours of operation

Patented Performance Factor:

Displays real-time information of overall cabinet status including operation safety and service requirements

Front Window Status:

Visual and audible alarm indicates whether front window is in correct working position

Operating Speed Airflow Indicator:

Audible and visual alarms indicate when airflow is safe or restricted

Energy-Savings Airflow Indicator:

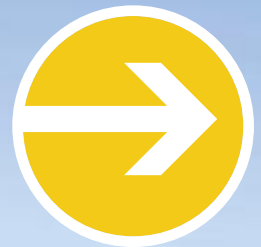
Displays reduced speed operation when front window is closed

Good for you, good for the environment

Thermo Scientific MSC-Advantage features advancements in brushless DC motor technology for dramatically improved energy efficiency, safety performance and reliability. We pioneered the use of brushless DC motors in our biological safety cabinets in 2002, and now use them across our full line.

DC motors —

- *reduce energy costs*
- *increase reliability*
- *reduce air conditioning costs*
- *optimize environmental protection*



Thermo Scientific biological safety cabinets are available in the broadest selection of energy saving models for any application or budget. Visit www.thermo.com/bsc to learn more about the independent validation of our energy saving calculations.

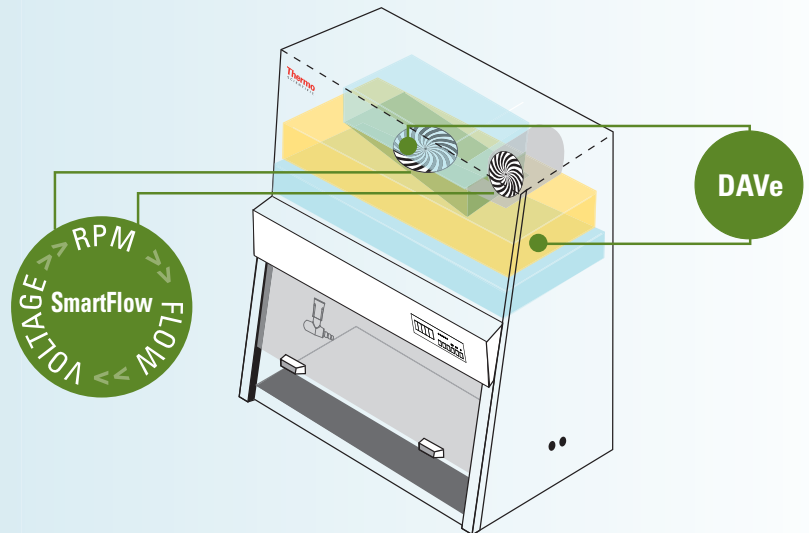
Independent **Safety** Systems for Unmatched **Security**

SmartFlow™ maintains a safe working environment.

The MSC-Advantage employs a unique airflow system that raises safety and containment to a new level. Independent supply and exhaust blowers automate balancing of downflow and inflow/exhaust velocities to ensure continuous safe working conditions. Our smart DC motors monitor and control fan speed in real-time to maintain user protection at the access opening, even as the filters load or the line voltage fluctuates.

Digital Airflow Verification (DAVe) validates product and personnel protection.

Independent pressure sensors detect changes in pressure across the exhaust and downflow plenums. An alarm signals when changes in inflow/exhaust or downflow occur to alert the user if safety is compromised. Airflow velocities are displayed on the control panel for monitoring and recording.



Night-set-back mode saves energy while maintaining a clean work area.

When the front sash is closed, our intelligent speed control automatically reduces blower speed to 30%, extending HEPA filter life and ensuring a sterile working environment even when the cabinet is not in use.

This reduced flow mode uses <40W (1.2 m cabinet) to operate, and is >75% more energy efficient than similar features on other biological safety cabinets.



Thermo Scientific MSC-Advantage

Ordering Information for Options and Accessories

Ordering No.	Description	Factory Installed	Accessory Option
Country versions with local sockets and plugs			
51900300	Country version Switzerland	x	
51900303	Country version UK	x	
51900306	Country version Italy	x	
51900448	Country version France	x	
51900449	Country version Australia	x	
51900481	Country version Denmark	x	
51900315	Country version Phillipines	x	
51900771	Country version B/CZ/SK/PL	x	
51900900	Country version China	x	
		Order the appropriate country version to ensure the correct line cord and receptacle is shipped with the cabinet	

Stand options			
50109309	Fixed height floor stand 1.2 m, 750 mm working height	Provides comfortable work surface height of 750 mm	x
50109311	Fixed height floor stand 1.8 m, 750 mm working height		
50109312	Manual adjustable floor stand 1.2 m, 750 to 950 mm working height	Provides comfortable work surface height of 750 mm to 950 mm, adjustable in 50 mm increments for seated or standing applications	x
50109313	Manual adjustable floor stand 1.8 m, 750 to 950 mm working height		
50109314	Electric adjustable floor stand 1.2 m with cable remote control, 750 to 950 mm working height (230V)	Provides infinite adjustability for comfortable work surface height of 750 mm to 950 mm	x
50109325	Electric adjustable floor stand 1.8 m with cable remote control, 750 to 950 mm working height (230V)		
50109977	Casters (not to be used with electric stands)	Provides limited mobility of the cabinet for cleaning purposes. For use with fixed height stands only	x
50051983	Footrest bar 1.2 m (not to be used with electric stand)	Adjustable footrest bar for ergonomic foot posture support during seated use	x
50051985	Footrest bar 1.8 m (not to be used with electric stand)		

Chamber Equipment			
50073944	IV bag holder kit with 6 hooks	Provides bar and hooks to hang IV bags near the interior ceiling of the cabinet	x
50073663	Replacement stainless steel armrest (set of 2)	Provides ergonomic forearm support and extended reach inside the cabinet with less airflow disruption	x



Ordering No.	Description		Factory Installed	Accessory Option
Filter				
51900657	Additional exhaust HEPA filter for all models, factory installed	Provides double HEPA-filtered exhaust (H14 HEPA 99.995% MPPS)	x	
50109987	Additional exhaust HEPA filter for 1.2 m cabinet			x
50109988	Additional exhaust HEPA filter for 1.8 m cabinet			
51900658	Additional exhaust carbon filter for all models, factory installed	Provides carbon filtered exhaust for reducing unpleasant odors	x	
50109989	Additional exhaust carbon filter for 1.2 m cabinet			x
50110305	Additional exhaust carbon filter for 1.8 m cabinet			
Exhaust transitions				
50109981	Direct duct exhaust transition for 1.2 cabinet	Connection diameter 200 mm Allows the biological safety cabinet to be connected to an external exhaust for the removal of volatile toxic chemicals or radionuclides used in the cabinet system		x
50109982	Direct duct exhaust transition for 1.8 cabinet			
50109984	Thimble duct exhaust transition for 1.2 m cabinet			x
50109985	Thimble duct exhaust transition for 1.8 m cabinet			
Disinfection				
50114036	Fumigation sealing kit	HPA-validated sealing kit for preparing MSC-Advantage cabinet prior to fumigation		x
UV irradiation				
51900912	UV light option	Provides safe and easy method for cabinet disinfection	x	
50109994	UV light option, field installed			x
Utilities				
50046015	Combustible gas valve for side wall, yellow (we recommend to also order 50074905 solenoid valve)	Rated for combustible gas dispensing inside the cabinet chamber		x
50045959	Noncombustible gas valve for side wall, black	Rated for non-combustible gas dispensing inside the cabinet chamber		x
50044678	Vacuum valve for side wall, grey	Rated for routing vacuum inside the cabinet chamber		x
50044679	Water valve for side wall, green	Rated for water dispensing inside the cabinet chamber		x
50059017	Hose connection to fit through side wall access port, fits 10-13 mm inner diameter tubing	Allows easy routing of tubes through the port in the side wall of the cabinet		x
50076408	Hose connection to fit through side wall access port, fits 3 mm inner and 6 mm outer diameter tubing			



Service valves
(gas, water, vacuum)



Direct duct
exhaust transition



Thimble duct
exhaust transition

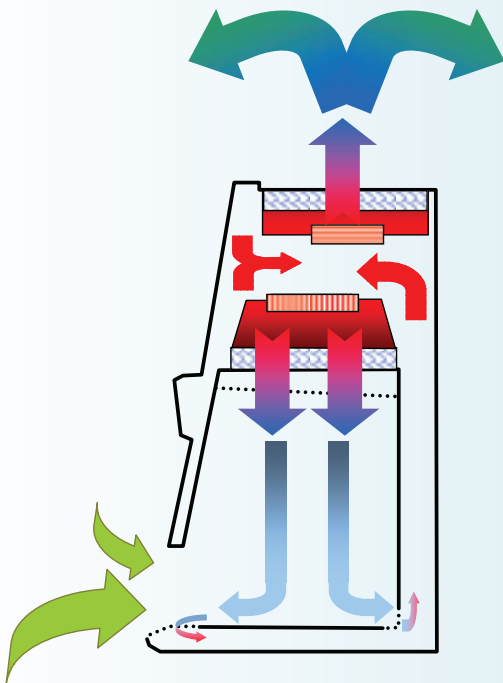


Additional exhaust HEPA filter

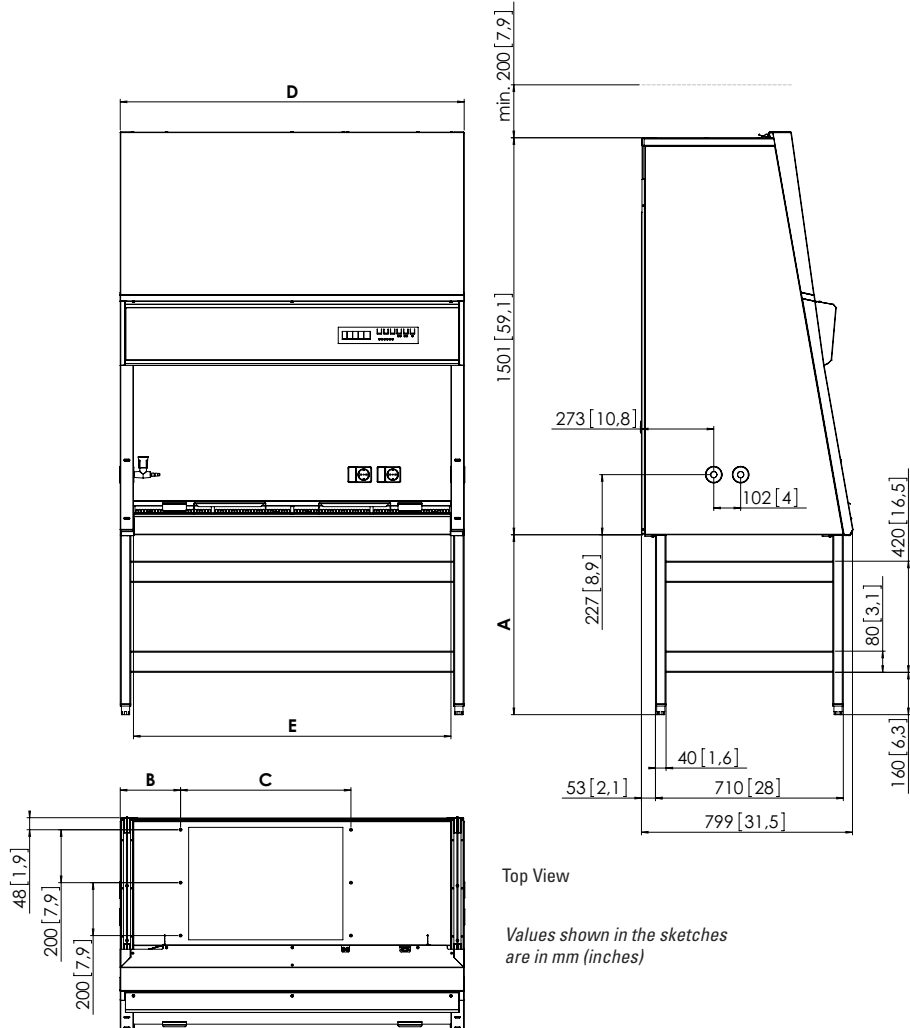
Schematic Drawing MSC-Advantage

MSC-Advantage: Designed according to EN 12469

The MSC-Advantage features HEPA-filtration with recirculation of the air inside the work chamber and is ideal for most microbiological and tissue culture applications. The MSC-Advantage may be exhausted to the outside of the building using the optional thimble or direct duct exhaust connection, providing a safe working environment when working with minute quantities of volatile toxic chemicals.



- Clean Air
- Ambient Air
- Potentially Contaminated Air
- HEPA Filter
- Blower



Top View

Values shown in the sketches are in mm (inches)

		A				
stand height minimum	mm	680				
stand height minimum	inch	26.8				
stand height maximum	mm	880				
stand height maximum	inch	34.7				
		B	C	D	E	
MSC-Advantage 1.2	mm	228	644	1300	1200	
MSC-Advantage 1.2	inch	9.0	25.4	51.2	47.2	
MSC-Advantage 1.8	mm	475	951	1900	1800	
MSC-Advantage 1.8	inch	18.7	37.4	75	70.9	

Attention: With additional gas valves in the side walls, you must plan for more width (dimension D)

Ordering Information

Thermo Scientific MSC-Advantage Class II Biological Safety Cabinets



Specifications and Ordering Information

Model		MSC-Advantage 1.2	MSC-Advantage 1.8
Cat. No.		51025411	51025413
Dimensions			
Exterior dimensions WxHxD	mm (inches)	1300 x 1550 x 798 (51.2 x 61.0 x 31.4)	1900 x 1550 x 798 (74.8 x 61.0 x 31.4)
Interior dimensions WxHxD	mm (inches)	1200 x 780 x 465 (47.2 x 30.7 x 18.3)	1800 x 780 x 465 (70.9 x 30.7 x 18.3)
Worksurface height (adjustable)	mm (inches)	750 to 950 (30 to 37)	750 to 950 (30 to 37)
Working height of front window	mm (inches)	200 (8)	200 (8)
Maximum opening height of front window	mm (inches)	535 (21)	535 (21)
Shipping dimensions ¹ WxHxD	mm (inches)	1410 x 1730 x 925 (55.5 x 68.1 x 36.4)	2010 x 1730 x 925 (79.1 x 68.1 x 36.4)
Weight			
Net weight	kg (lbs)	~170 (~375)	~230 (~507)
Shipping weight ¹	kg (lbs)	~195 (~430)	~265 (~584)
Maximum weight load of one-piece work tray	kg (lbs)	50 (110)	50 (110)
Maximum weight load of divided work tray	kg (lbs)	25 (55), max of 50 (110)	25 (55), max of 50 (110)
Ventilation System			
Exhaust / Inflow air volume	m ³ /h (cf/m)	389 (229)	583 (343)
Exhaust volume, thimble	m ³ /h (cf/m)	505 (297)	758 (446)
Heat emission at 25°C ambient			
Normal Heat Output in operation mode (non-vented)	W (BTU/hr)	200 (682)	340 (1160)
Reduced Flow Heat Output (lights off, non-vented)	W (BTU/hr)	40 (136)	70 (239)
Filter Specification			
Supply/exhaust air filter	H14 HEPA EN 1822, 99.995% at the most penetrating particle size (mini-pleated)		
Additional exhaust filter option (AEF)			
Performance			
Certification		EN 12469: by TÜV-Nord, LNE, HPA	EN 12469: by TÜV-Nord
Sound pressure level	dB (A)	55	59
Lighting power	lx/ft ²	>1200/116	>1500/139
Electrical Data			
Voltage	V	230	230
Frequency	Hz	50/60	50/60
Energy consumption, operating set point ²	W	200	340
Energy consumption, reduced flow mode	W	40	70
Protection class	I / IP	20	20
Protective measure		Conductor connection	
Individual precautions on customer side		Lead fuse (slow blow) T 16 A or circuit breaker B 16. The local electrical regulations in the country of use as well as the relevant connection conditions must be observed. The national regulations for electrical engineering as well as the relevant technical connection conditions must be taken into account.	
Supply Management			
Supply requirement		230 V, 50/60 Hz standard supply. Total requirement including interior sockets 13-16 Amps.	
Receptacles		The receptacles have a load capacity of up to 5 A and are protected with T 5 A fuses. When all receptacles are in use simultaneously, they must not exceed the maximum total load capacity of 5 A.	
Radio interference		Circuit is interference free in accordance with EN 55 014	
Features			
Receptacles		One double, right side	Two double, left and right side
Access ports (23 mm diameter)		4 (2 on each side)	
Service valves		Up to 4 (installed through access ports)	
Warranty		2 years parts and labor	

¹ Export packaging dimensions and weight available upon request

² Clean filters, fans operating at nominal set point, interior lighting activated

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