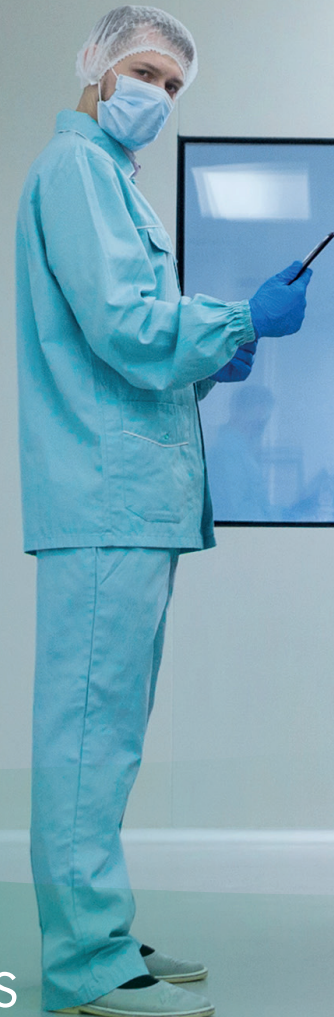
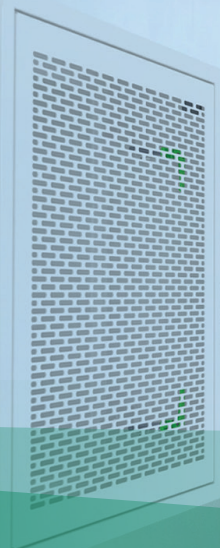


# CLEANSEAL

A family of supply and exhaust  
air HEPA housings for controlled  
environments



Clean air solutions

# CLEANSEAL: RELIABLE AND VERSATILE TERMINAL HEPA FILTER HOUSINGS

CleanSeal is a range of state of the art filter housing solutions specially developed for life science, healthcare and clean room facilities. The CleanSeal range of housings are characterised as being easy to install, easy to handle and easy to maintain. The CleanSeal offers easy access with maximum safety through its fully welded design, which also reduces the risk of leakages. The CleanSeal offers economic and environmental benefits, as the housings are equipped to handle Camfils most energy efficient panel HEPA filters. The new and updated CleanSeal family offers a complete range of HEPA housings for both supply and exhaust air applications that can be utilised in both ceilings and walls. The CleanSeal can be complemented by custom adaptations to fit your clean room environment.

## PROVEN QUALITY AND PERFORMANCE

Every HEPA filter is individually tested and comes with his individual test certificate attached. But what about the housings? With Camfil, what is on the box – is in the box. Features and performance values are backed up by lab test reports and production quality assurance.



### PRODUCTION QUALITY

The CleanSeal goes through many dimensional, geometrical and functional checks according to a clear, product-specific protocol. This ensures that you have full traceability for every housing installed in your controlled environment.



### CORROSION PROTECTION

Double layer powder coat for enhanced corrosion protection against decontamination agents commonly used in life science and clean process environments. For environments with high condensation risk, stainless steel versions of Cleanseal are available.



### PRODUCT DNA

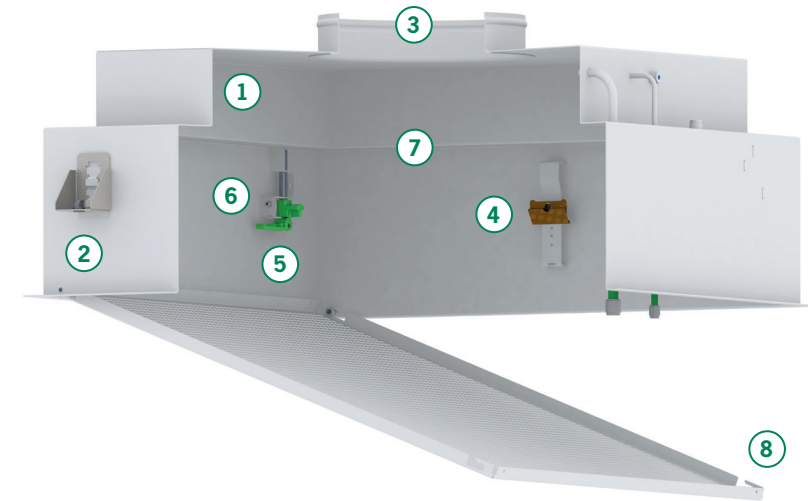
The CleanSeal name is a promise of consistent product DNA across the scope of base versions as well as for available options. Every CleanSeal housing will share all the unique features associated with the CleanSeal range, to make keeping your air clean that much easier.



### TRANSPORT PROTECTION

The CleanSeal is packaged for efficient transport protection against unpleasant last-minute surprises. Our stringent quality checks ensure the CleanSeal arrives with you in a condition that is ready for installation and operation.

# CLEANSEAL HOUSING



### 1. STRONG, FULLY WELDED CONSTRUCTION

The housing body, including a full suite of measurement ports, is fully welded to ensure reliable performance and absence of leaks over the full lifetime.

### 2. UNIVERSAL MOUNTING SYSTEM

The housings supports are adapted for both suspended installation and compression mounting on a panel.

### 3. FLEXIBLE AIR HOOKUP

Spigots are designed for flexible, multi-purpose hookup with different ducting systems.

### 4. FILTER RETAINER PRE-POSITIONING SYSTEM

Allows the filter to be held in place during installation, reducing the need for additional installation assistance.

### 5. TOOLLESS FILTER CLAMPING

For ease of installation and maintenance the filter can be installed without any tools.

### 6. BUILT-IN FILTER SCALING OPTION

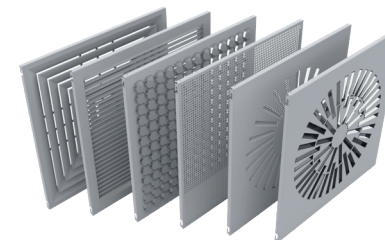
CleanSeal has been designed to handle all Camfil Megalam filter sizes (MG/MD/MX). This ensures that adaptable filter configurations are available as cleanroom requirements evolve.

### 7. AVAILABLE FOR PU AND GEL GASKETS

CleanSeal versions allow customer to chose between PU or Camfil GEL gaskets.

### 8. INNOVATIVE QUICK GRID FASTENER

Immediate access to filter and control ports thanks to a unique fastener device and hinged diffusion plate. Open it only with a badge or a "credit" card.



### LARGE CHOICE OF FRONT PLATES

Front plates for ceiling housings are fully compatible and interchangeable at any time.



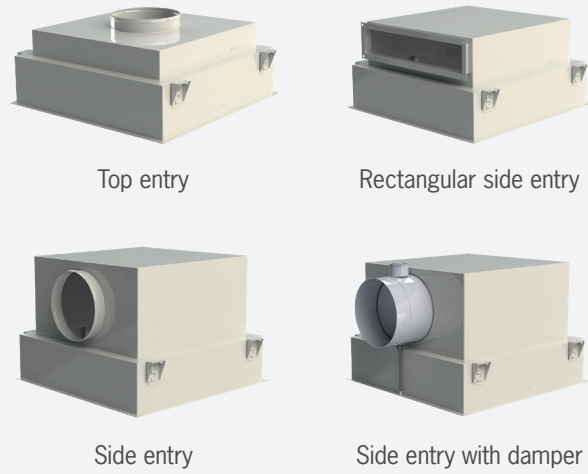
### CHOICE OF EXHAUST DOORS

Doors for exhaust housings are fully interchangeable at any time; They offer optional integration of a 50 mm prefilter.



# CLEANSEAL – FLEXIBLE AND ADAPTABLE

## AVAILABLE CONFIGURATIONS



## STANDARDIZED DIMENSIONS

		Filter (ext./mm)							
		305 x 305	305 x 610	457 x 457	508 x 508	610 x 610	915 x 610	1108 x 508	1220 x 610
		3P3*	3P6*	4P4	5P5*	6P6*	9P6*	11P5	12P6
		392 x 392	392 x 697	544 x 544	595 x 595	697 x 697	1002 x 697	1195 x 595	1307 x 687

## Housing foot print (ext./mm)

\* Sizes available for CleanSeal Exhaust

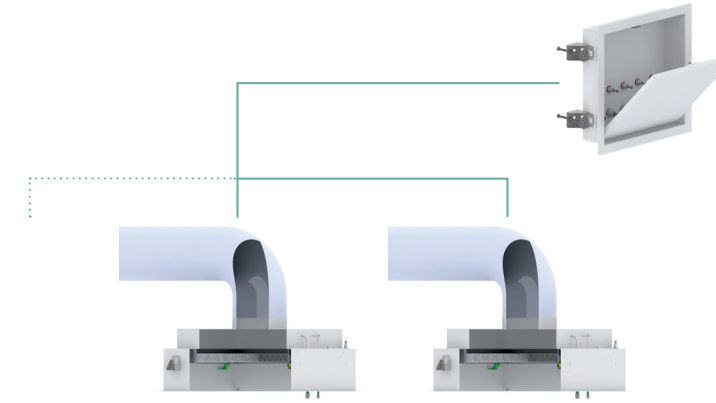
## CLEANSEAL EXTRACT DOOR OPTIONS



Wall mounted option available with or without prefilter section in the door.

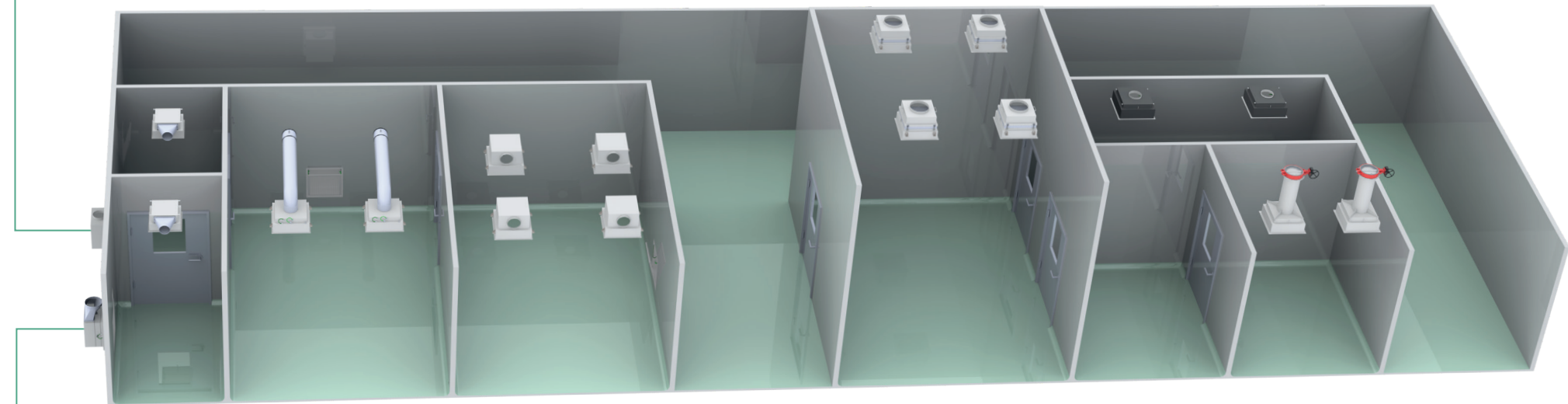
## CEILING OR WALL MOUNTED SUPPLY OR EXHAUST AIR

Large standard range suitable for most applications.



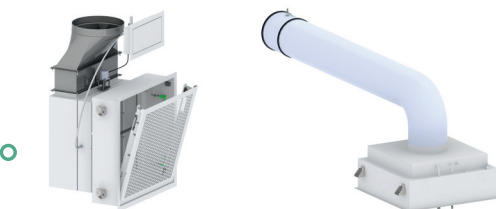
## INTEGRITY

- Networking your aerosol injection
- Aerosol injection through a central control box for any standard CleanSeal housing
- From 1 to 5 CleanSeal Integrity can be managed from a single Control Box inside or outside of the room
- Additional local injection option through the individual housing for Integrity versions



## CUSTOMIZABLE – BESPOKE INTEGRATION

CleanSeal design concept is open to adaptation to your specific needs, from additional features and functions to specific finishes, custom formats and fully bespoke ceiling or wall integration. Examples include:



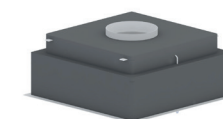
## ADD-ONS FOR STANDARD FEATURES

- Complements for ISO compliant filter testing
- Integration and ergonomic enhancements
- Suspension options
- Integration flanges



## TOPLoader

Service access exclusively from above e.g. for high ceilings.



## ARMAFLEX™ INSULATION

Insulates the housing to ensure its suitable for cold process air.



## INTEGRATED BUBBLE TIGHT DAMPER

Bespoke integration for high containment applications and processes.

## INTEGRITY - QUALIFIED FILTER VALIDATION

The optional integrated HEPA filter testing devices for supply and exhaust air applications are carefully tested for aerosol distribution quality and leak detection performance, to ensure safe operation and optimum support of ISO 14644-3 compliant in-situ testing.



### FOR SUPPLY AIR

- IntegriPod injection for ISO 14644-3 compliant aerosol distribution
- ISO 14644-3 compliant aerosol distribution
- Upstream concentration uniformity has been validated for testing with discrete particle counter or photometer, with DEHS or PAO
- Aerosol injection through a central IntegriBox or through the individual housings
- Lower aerosol quantities
- More efficient testing
- Faster maintenance and operation
- Operator fail safe design
- Risk mitigation
- Clean room configuration adaptability: Injection from room side or technical side, for new built or retrofit projects



### FOR EXHAUST AIR

- Compact testing shroud for aerosol injection with ISO 14644-3 compliant distribution
- Lower aerosol quantities
- For safe and easy use on wall and ceiling housings, easy to store

### SUPERIOR LEAK DETECTION CAPABILITY

- Manual Integrity Probe (MIP) for filter scanning
- Qualified leak detection capability
- Sampling port and MIP drive access through a freely positioned control box
- MIP control with handheld driver or integrated direct drive

### TRY OUR CONSULTANT PORTAL

- Customise the CleanSeal range to meet your cleanroom requirements
- Design and easily package your Supply and Extract air system requirements
- Get accurate budget pricing for all of your project requirements
- Get access to all of Camfil's online software and training platform

FIND OUT ABOUT OUR  
**CONSULTANT PORTAL**



## ENERGY EFFICIENT FILTERS FOR BEST-IN-CLASS PERFORMANCE LEVELS IN ALL APPLICATIONS

Original Camfil filters make the best of your CleanSeal filter housings. Energy efficient HEPA panels are available for all housing sizes and many life-science relevant airflow modes, from low-energy laminar supply air to turbulent high airflow extraction. Between housing and filter sizes, there is a combination with best-in-class performance for every application.

The new Megalam EnerGuard filters extend this to offer still lower energy consumption and unprecedented robustness.



### REDUCING ENERGY CONSUMPTION

Lowest initial dP of existing alternatives. 30 to 50% less energy consumption than glass fiber, comparable energy efficiency to membranes.

### REDUCING OPERATIONAL COSTS

Potential elimination of transport and installation failures through physical strength and robustness. Long product life through high particulate loading capacity and chemical inertness.

### MAINTAINING PROCESS CLEANLINESS

Featuring ultra-low outgassing and a boron-free material composition, EnerGuard is also ProSafe certified for food & beverage applications. Efficiency is maintained over the lifetime.

### ENSURING COMPLIANCE

Fully certified to industry standards, every filter is individually scan tested ex-works, and suitable for ISO 14644-3 in-situ testing.

### HOW CAN WE HELP?

- Powerful R&D for energy efficient filters and global product vision
- Application experts to help you choose the best solution
- A dedicated team for application engineering at your service for bespoke customization and integration, based on proven features of a clear product DNA

FIND OUT MORE ABOUT  
**MEGALAM ENERGUARD**



## Camfil – a global leader in air filters and clean air solutions

For more than half a century, Camfil has been helping people breathe cleaner air. As a leading manufacturer of premium clean air solutions, we provide commercial and industrial systems for air filtration and air pollution control that improve worker and equipment productivity, minimize energy use and benefit human health and the environment.

We firmly believe that the best solutions for our customers are the best solutions for our planet, too. That's why every step of the way – from design to delivery and across the product life cycle – we consider the impact of what we do on people and on the world around us. Through a fresh approach to problem-solving, innovative design, precise process control and a strong customer focus we aim to conserve more, use less and find better ways – so we can all breathe easier.

The Camfil Group is headquartered in Stockholm, Sweden and has 33 manufacturing sites, six R&D centres, local sales offices in 30 countries and 4,800 employees and growing. We proudly serve and support customers in a wide variety of industries and in communities across the world. To discover how Camfil can help you to protect people, processes and the environment.

[www.camfil.com](http://www.camfil.com)

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For further information please contact your nearest Camfil office.