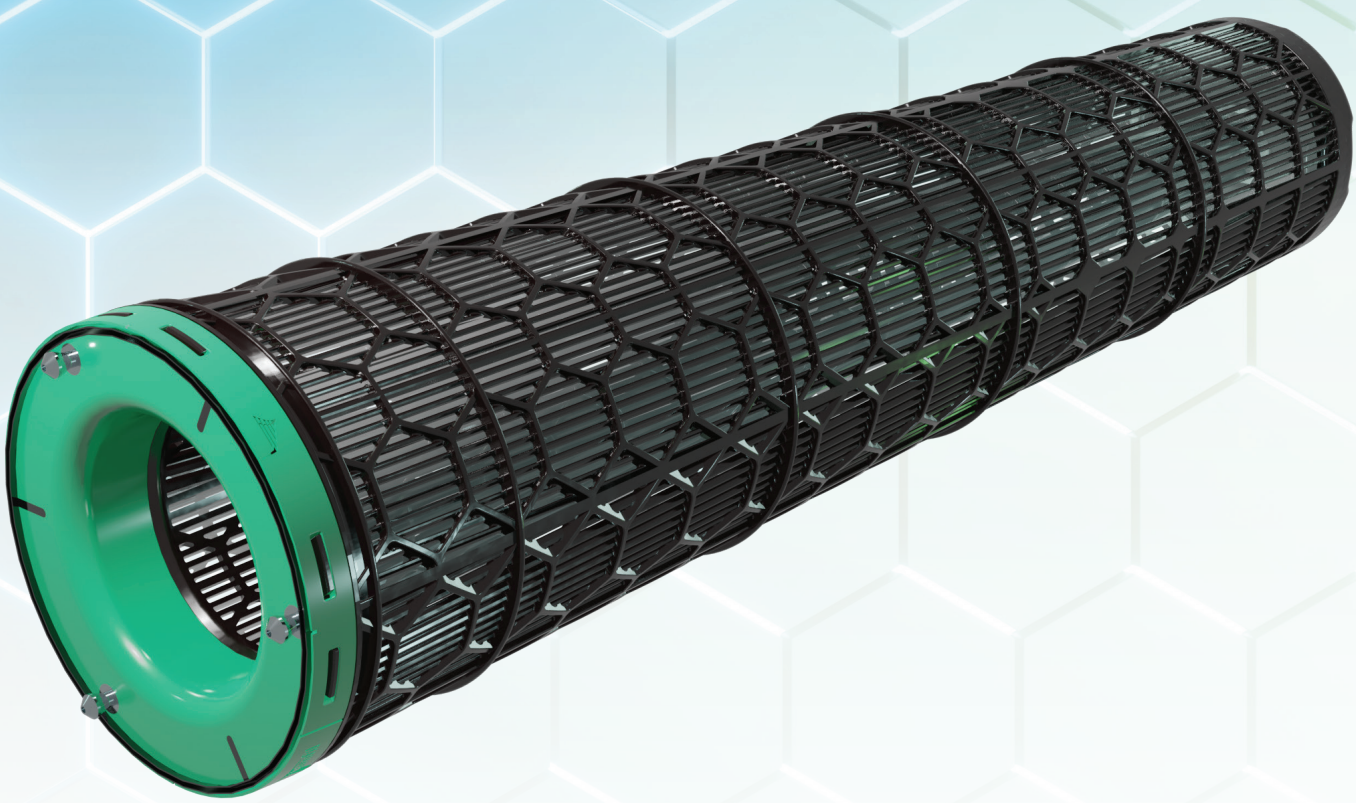
camfil

CAMCARB XG
MOLECULAR AIR FILTER

INNOVATIVE CONICAL DESIGN DELIVERS SUPERIOR PERFORMANCE

Engineered for energy and maintenance cost savings
in molecular contamination control applications



Clean air solutions

THE NEED FOR MOLECULAR FILTRATION

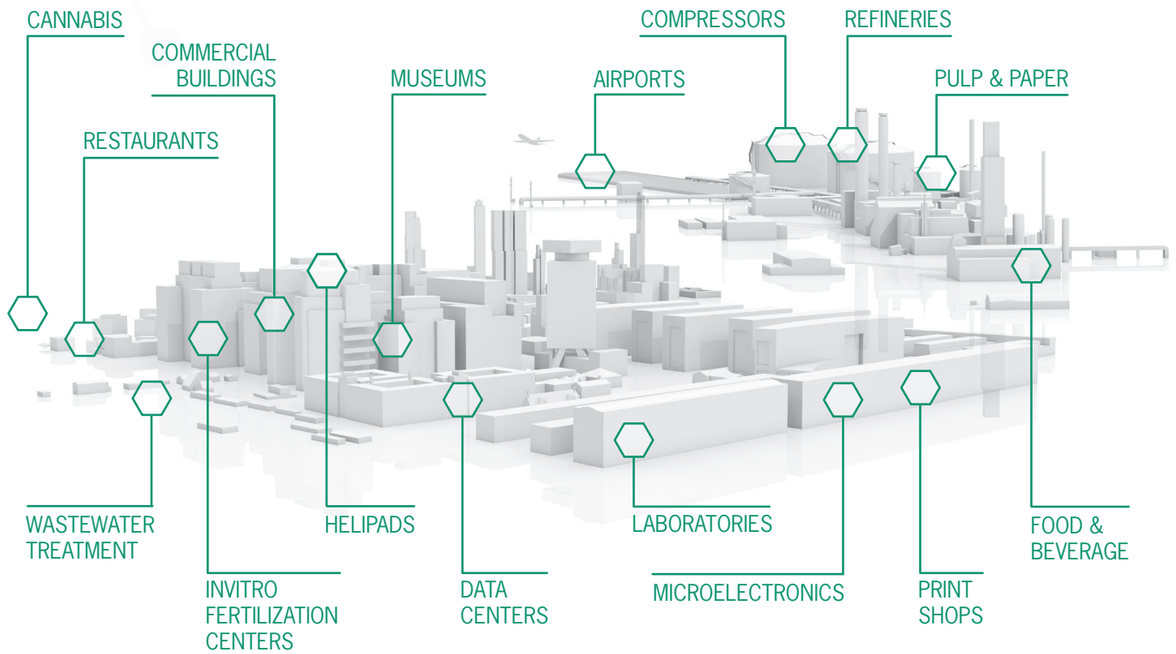
Throughout the industrialized world, there is increasing concern for the threat posed by molecular, or gaseous, pollutants. We now recognize that the air we breathe is often contaminated by invisible chemical pollution.

Industrial processes, vehicles and power generation sites emit chemicals that continuously challenge our environment. Inside commercial and leisure buildings, humans are exposed to gases generated by processes, furniture, and construction materials. The chemicals may be dispersed and lead to environmental damage both near and far from the source.

In addition to being harmful to human health and the wider environment, atmospheric pollution can cause irreversible damage to seemingly inert objects, such as museum, archive and library artifacts.

Molecular atmospheric pollution has proven to be severely detrimental to the yield of some sensitive manufacturing processes, such as microelectronics. In this industry, the presence of certain gases even in concentrations as small as parts per trillion (ppt) can lead to costly product failure.

INDUSTRIES WHERE MOLECULAR FILTRATION MAY BE NEEDED



CHALLENGES FACED BY END USERS

Molecular filtration can solve gaseous contamination concerns in many industries and applications. It works by a mechanism known as adsorption. In simple terms, gas molecules adhere to materials with extremely high surface areas.

In order to maintain the lowest possible levels of molecular contaminants, many facilities are challenged with the increasing costs of servicing and disposal of depleted filters and media. Additionally, facilities managers must balance the trade-off of high efficiency requirements with energy consumption.

CAMFIL'S BEST-IN-CLASS SOLUTION

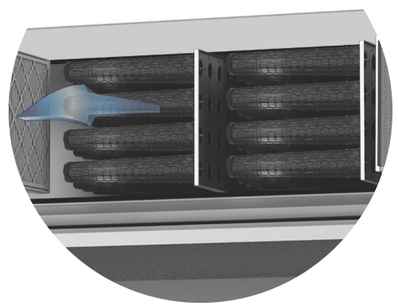
Camfil has always invested heavily in research & development (R&D) to provide the most innovative and cost-effective filtration solutions.

With multiple laboratories and ISO 10121 test facilities around the world, Camfil develops molecular filtration solutions that meet a wide range of performance requirements. These resources enabled researchers specializing in fluid dynamics and media adsorption to optimize the shape of the CamCarb cylinder to minimize pressure drop and maximize media utilization.

By leveraging customer input, intensive research, advanced simulation software, and in-house testing capabilities, Camfil has developed this highly innovative product.

The new CamCarb XG is the best-in-class solution. Its conical shape enables high removal efficiency while maintaining low-pressure drop. The patented design maximizes adsorbent media utilization resulting in an overall lighter-weight filter with a longer lifetime compared to the previous generation cylinder. **This unique combination provides a lower total cost of ownership (TCO).**

Industrial control room with CamCarb XG installed in a recirculation air handling unit and inside a Camfil air cleaner.



LOWER TOTAL COST OF OWNERSHIP

Total cost of ownership (TCO) is understanding the complete cost of a filter. A filter's TCO includes first cost, energy, service labor, and disposal costs. The optimized media utilization, lower the pressure drop, and increased lifetime of the CamCarb XG provides lower energy consumption, less service labor, and reduced waste resulting in the lowest TCO in its class.

LABOUR AND DISPOSAL COSTS

These often overlooked factors are important components to the TCO of a system.

UP TO 50% REDUCTION

ENERGY CONSUMPTION

CamCarb XG offers the lowest pressure drop of any molecular filter to enable significant energy savings.

35% REDUCTION

**Example for typical product vs existing solutions. Actual values depend on energy, labor and item costs in each country*

DESIGNED TO DELIVER THE **BEST-IN-CLASS PERFORMANCE**

The new CamCarb XG with improved design and performance is equipped with a proprietary conical shape. The lightweight, intuitive design offers high media utilization and a long lifetime against corrosive, odorous and irritant gaseous contaminants.

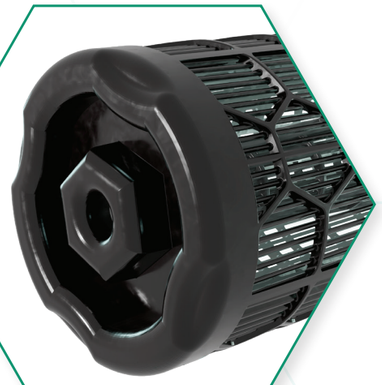
CamCarb XG is a versatile, ergonomic, cost-effective and corrosion-resistant filter suitable for supply, recirculation and exhaust air systems in commercial, industrial and process applications

INNOVATIVE CONICAL SHAPE CYLINDER

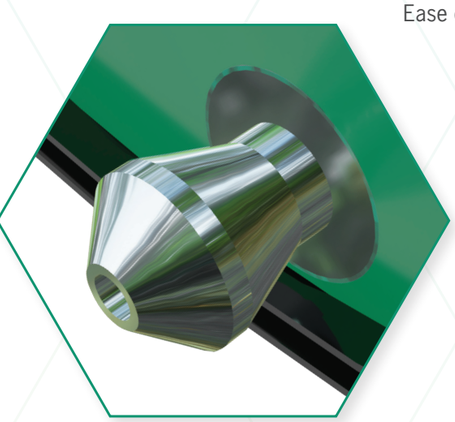
- Higher media utilization, lighter weight and improved filter performance.
- Robust construction, corrosion resistant and incinerable.
- No adhesive used in construction, no degradation of media and negligible outgassing.
- Fillable with a wide range of molecular filtration medias for various applications.

FACTORY REFILLABLE MEDIA
By Camfil service teams in selected countries

DUST PROTECTION
Protection for dust control on selected models

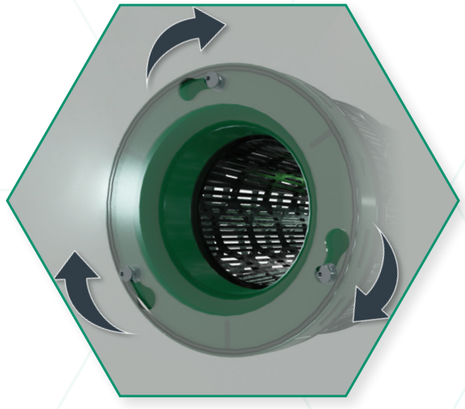


ERGONOMIC GRIP
Ease of installation



UNIVERSAL PINS
Adaptable for all CamCarb cylinder holding frames

INTERNAL MOLDED GASKET
Leak-free installation



QUICK AND SIMPLE INSTALLATION

VERSATILE INSTALLATION

CamCarb XG can be installed in supply, recirculation, and exhaust air systems. When mounted in the unique holding frame, all internal leaks are eliminated for very high-efficiency operation.

CamCarb XG can also be supplied in Camfil's air cleaners with a molecular module or in a CamCube / GlidePack housing.

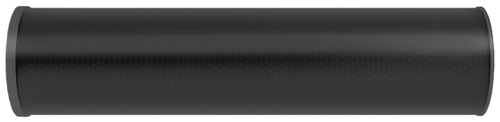
Two stage filtration is available as an option with a mounting rail for 48 mm particle pre or after filters. Housings are used in comfort and industrial applications.

(Picture of CamCube housing)

INCREASED LIFETIME AND REDUCED PRESSURE DROP

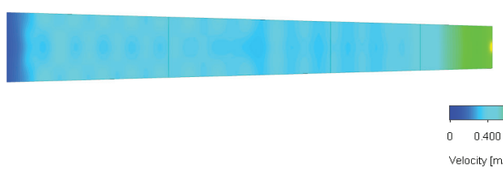
CAMCARB XG

TYPICAL CYLINDRICAL FILTER



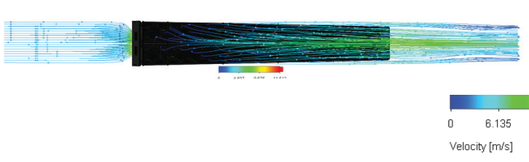
AIRFLOW DIRECTION

Uniform air velocity across the entire filter resulting in maximum media utilization, longer lifetime.



Uneven velocity across the entire filter restricts media utilization and decreases lifetime.

Stable laminar flow at the outlet reduces pressure drop.



Turbulent airflow at the outlet increases pressure drop and energy usage.

(Images generated with Computational Fluid Dynamics Simulation)

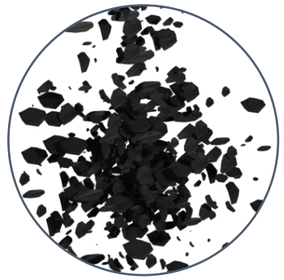
HIGH PERFORMANCE MOLECULAR FILTRATION

Designing the most cost-effective molecular filtration solution requires selecting the most appropriate media for the contaminant gases.

Nearly all of Camfil's molecular filters utilize activated carbon or alumina (CamPure™) as the primary ingredient. It is equally important to ensure that sufficient media is deployed in the filter to ensure that a high efficiency value is maintained over an extended period and a low life cycle cost (LCC) or total cost of ownership (TCO) value is obtained.

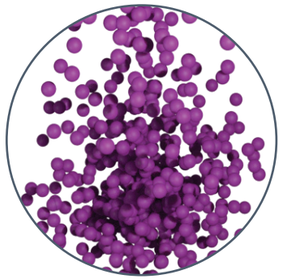
Camfil manufactures all their key media in-house according to stringent QA procedures in an ultra-modern, purpose designed facility that uses the latest process control technologies. Performance testing is also undertaken in-house in Camfil's unique molecular filtration test laboratory.

All media undergoes performance testing in accordance to the test method listed in the ISO 10121-1:2014 document. The test conditions depicted in the standards are closely reflective to actual operating conditions.

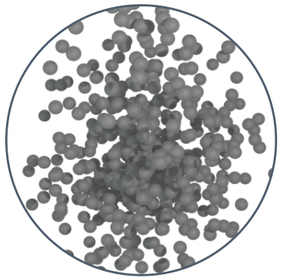


Activated Carbon Granular

Activated Carbon Pelletized



Activated Alumina CamPure™



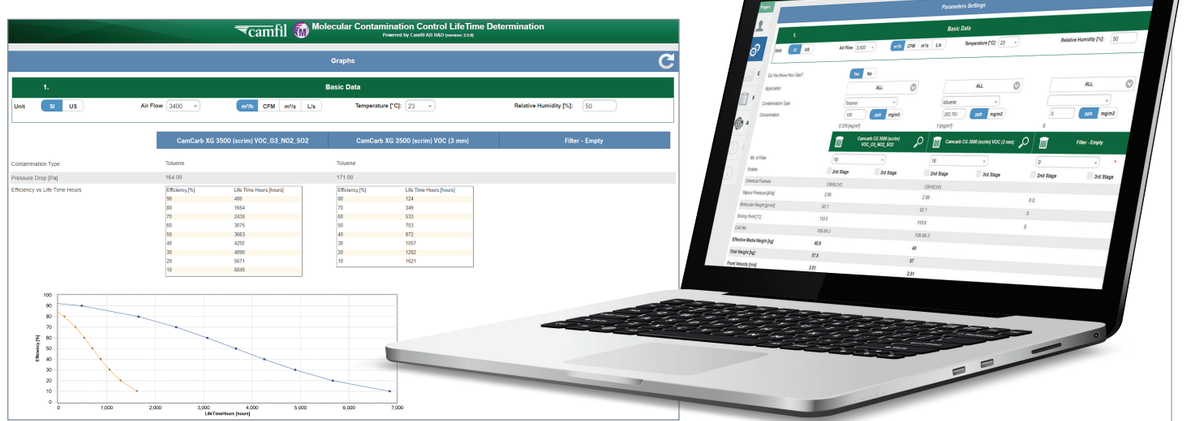
Hybrid Alumina Carbon CamPure™

UNIQUE LIFETIME SIMULATION SOFTWARE AND LIFETIME TESTING

The lifetime of the **CamCarb XG** cylinders can be simulated using the unique Camfil's **Molecular Contamination Control Lifetime Determination (MCCLD) software** for molecular filtration.

This media filter life analysis provides "best estimates" of the performance of Camfil's molecular filters under actual conditions. Contact your Camfil agent for a custom simulation.

Camfil recommends that the filter media is tested on a periodic basis for media life analysis. The test provides an indication of remaining removal capacity of the media. With this information, the usage of the media can be maximized, and the replacement of the media can be planned in advance before the overall performance of the system starts to deteriorate.



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 30 manufacturing sites, six R&D centers, local sales offices in 35+ countries, and about 5,600 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, visit us at www.camfil.com.

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