



MEGALAM ES PROSAFE

**THE MOST DURABLE SOLUTION AVAILABLE  
FOR LIFE SCIENCE PRODUCTION CLEANROOMS.**



**REFORMULATED, PROVEN  
MEDIA TECHNOLOGY  
*ONLY BY CAMFIL.***



# DESIGNED FOR LIFE SCIENCE : FULL PROTECTION AND ENERGY SAVINGS.

Life Science Industries requires highly sensitive manufacturing processes. These processes need the highest level of care while complying with the demands of regulatory bodies. So anytime we can make technology and operations around air filtration easier, we help Life Science Process and Facility engineers, as well as Quality Assurance personnel in their day to day difficult assignments to keep product quality to the highest standard.

Therefore, Camfil introduces the Megalam ES ProSafe. Externally, the filter may seem familiar, however, the technology within the filter is groundbreaking. With the lowest pressure drop ever, the Megalam ES ProSafe is a highly efficient and reliable filter that forgives rough handling, minimizes downtime and maximizes production time, therefore making operations highly profitable in the long run.

Megalam ES ProSafe delivers full protection, maximum compliance and... peace of mind.



## TESTED AND CERTIFIED

As required by Regulations and cGMPs, every Megalam ES ProSafe filter is individually tested and certified for airflow, resistance and efficiency with information prominently displayed on a label and an individual serial number for full traceability. We do not batch test our filters.

## LEAK-FREE SEAL

The Megalam ES ProSafe includes a seamless gasket or gel seal to ensure a leak free seal between filter and Camfil's Cleanseal and Pharmaseal terminal diffusers, or any conventional holding frame. Additional sealing options are available.

## FIVE TIMES MORE ROBUST THAN TRADITIONAL HEPA FILTERS

Care and attention has been important while handling HEPA filters for installation and certification. The Megalam ES ProSafe is more forgiving to the handling mistakes that can occur during shipping, unpacking, and unexpected changes in the manufacturing environment.

Camfil's new ePTFE membrane media reduces failures from installation or storage to yield a cost saving of 10-20%. Megalam ES ProSafe delivers the required performance over its lifetime with ease and peace of mind, ideal for continuous manufacturing applications.

## DESIGNED FOR LIFE SCIENCE.

The Megalam ES ProSafe is designed for Life Science and related critical processing applications. Its complete package of certifications fully supports your change control and regulatory audits.



## MAXIMUM ENERGY SAVING

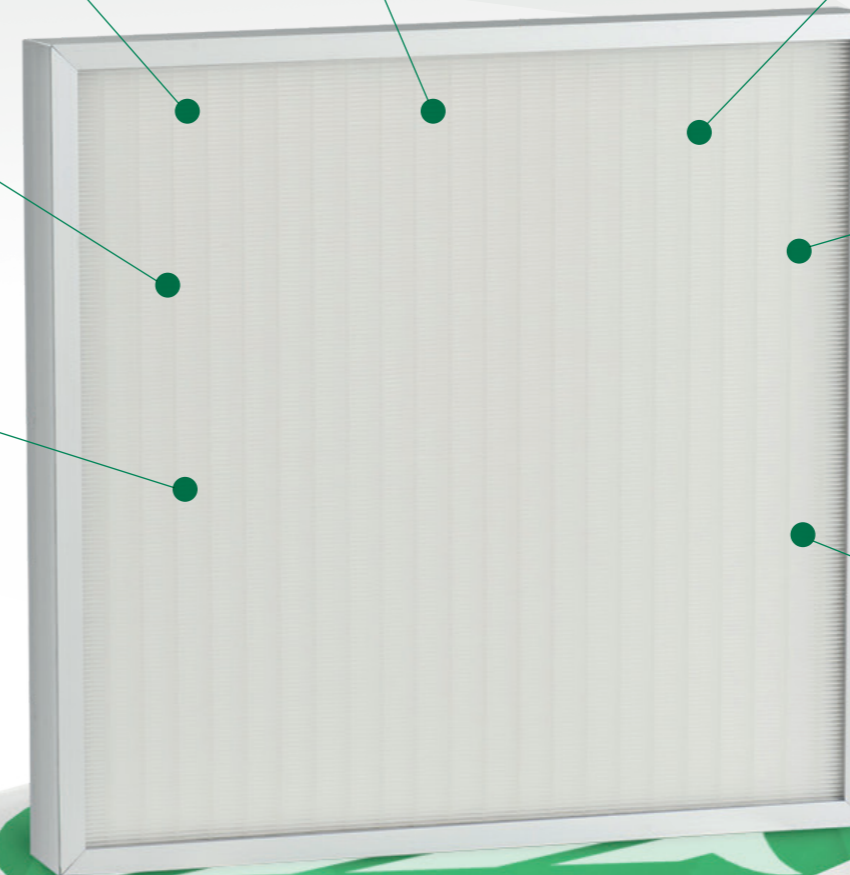
Camfil is known to have the lowest pressure drop HEPA filters with glass fiber media for Life Science Applications. Continuing to advance HEPA technology, Camfil has developed the Megalam ES ProSafe offering the lowest pressure drop in the market. Compared to standard glass fiber media or other membrane type products, overall savings can be up to 50 percent!

## EFFICIENCY

Megalam ES ProSafe covers the complete needs for customers with efficiencies from H13 to U15 and type C, K, and F efficiency classes according to IEST-RP-CC001. Camfil will never compromise on delivering the right efficiency with a scan test report for each HEPA filter.

## MAXIMUM QUALITY FOR COMPLIANCE

The Megalam ES ProSafe offers all compliances of the ProSafe range. Camfil delivers a letter of conformance to meet product assurance compliance for the most critical applications. The conformance letter is backed up by 3rd party laboratory tests reports.



## TECHNICAL DESCRIPTION

**Application:** HEPA filter for life science clean rooms and LAF benches

**Type:** HEPA-Filter

**Frame:** Extruded and anodised aluminium

**Gasket:** Seamless Polyurethane or Sil-Gel

**Media:** Polymer & membrane layers

**Sealant:** Polyurethane

**Grid:** Mild steel white (RAL 9010) epoxy paint

**MPPS Efficiency acc. EN 1822:2009:**  $\geq 99,995\%$  at MPPS (also 99,95 % and 99,9995% at MPPS)

**Recommended final pressure drop:** 2x initial pressure drop

**Temperature/Humidity:** 70°C / 100% RH

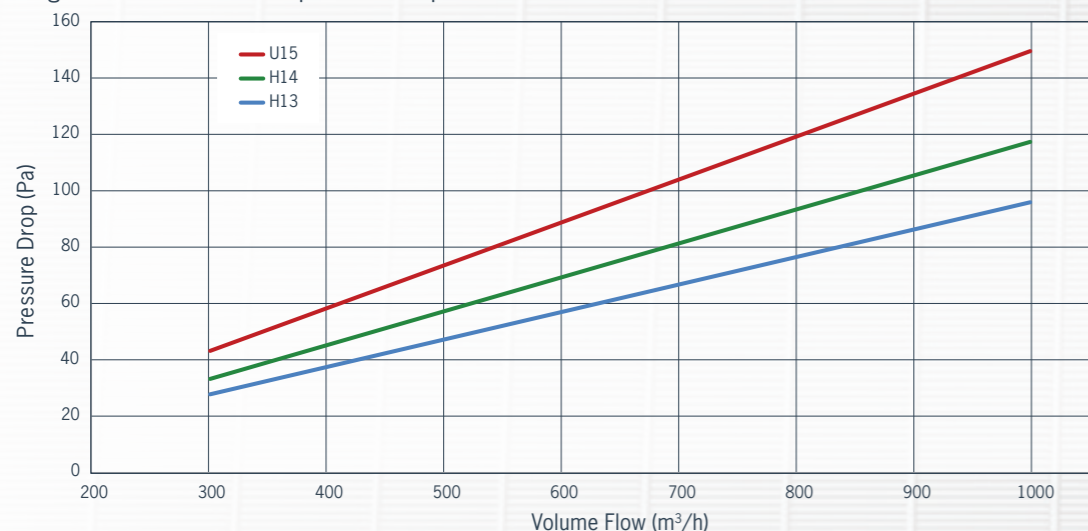
**Remarks:** Individually scan tested acc. EN 1822:2009 with protocol and packed in PE-foil.



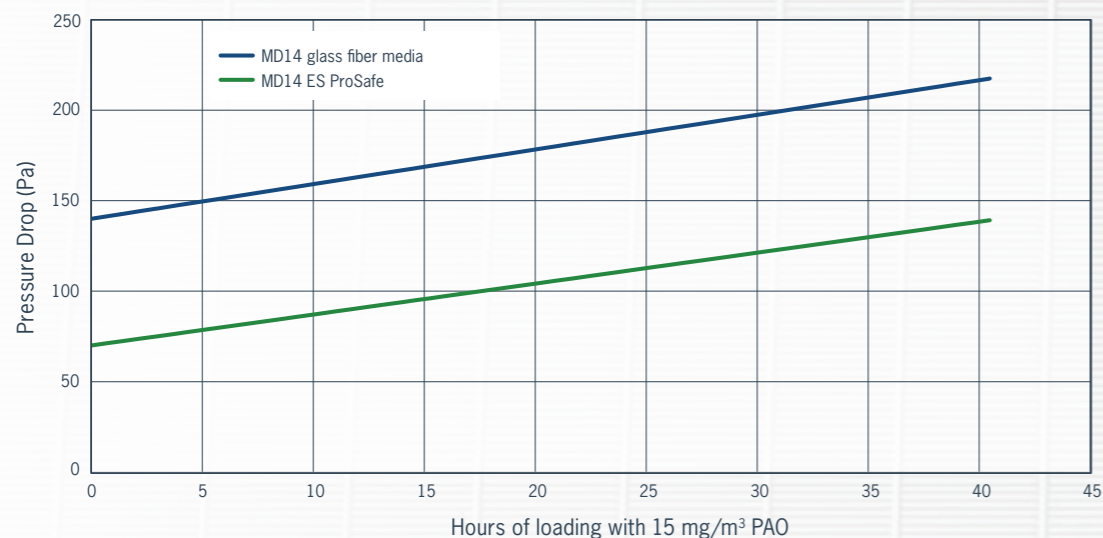
Compliant with ProSafe requirements (see page 6).

Read more about ProSafe at [www.camfil.com/prosafe](http://www.camfil.com/prosafe)

Megalam ES ProSafe initial pressure drop vs airflow



Camfil Megalam (glass fiber) vs. Megalam ES ProSafe filter loading (dP) vs. time with PAO aerosol at 15mg/m³ concentration



## CAMFIL, FIRST IN MARKET WITH ePTFE

In 1995, Camfil was the first to introduce high flow hydrophobic expanded Polytetrafluorethylene, ePTFE to the air filtration industry. Today, Camfil introduces a new, reformulated generation of air filtration products using ePTFE, designed specifically for Life Science industries.

The Megalam ES ProSafe, developed with ePTFE membrane media is five times more robust than traditional media, offers lower average pressure drop and delivers a true H14 rating acc. to DIN EN 1822:2009 - with 99,995% at MPPS. Camfil is known to have the lowest pressure drop and longest life for HEPA filters in Life Science applications.

Continuing to advance HEPA technology, Camfil's reformulated ePTFE membrane medias offer a complete range of H13, H14 and U15 ratings.

The Megalam ES ProSafe media was developed to be used in a Life Science cleanroom applications. It can stand up to oil-based challenge agents, such as PAO, and is resistant to SOP cleaning, disinfectant and decontamination agents including chlorine dioxide, formaldehyde and vaporized hydrogen peroxide.

Your product integrity and quality can be greatly affected by even small variations in the manufacturing environment including foreign particle introduction. Camfil recognizes this challenge, the Megalam ES ProSafe provides the answer — the highest level of air quality and reliability for your sensitive manufacturing process.



### Every Filter is Tested and Certified

We do not batch test our filters. As required by regulatories and cGMPs, every Megalam ES ProSafe filter is individually scan-tested for airflow, resistance and efficiency.

### Efficiency

Megalam ES covers the complete needs for customers with efficiencies of 99.95%, 99.995% and 99.9995% at MPPS according to IEST-RP-CC001. Camfil will never compromise on delivering the required efficiency, which is why a scan-test report accompanies each and every HEPA filter shipped.

## SUPERIOR PERFORMANCE

It is well known that building energy costs are significant. Calculations reveal that energy normally accounts for 70 percent of the total life cycle cost of the HVAC system. And the energy consumption is directly proportional to the average pressure drop over the filter. Because the Megalam ES ProSafe offers you the lowest pressure drop in the market, you can be assured that you are protecting your processes while additionally saving cost.

Camfil is the only filter manufacturer of ePTFE membrane filters in Europe. Strict quality control is essential to provide your ideal filter in a timely manner, with no delays to installation.



Camfil strongly recommends proper care when handling any filter. Although accidents happen, nothing should come in contact with the media except air.

**5x MORE ROBUST**

## PROSAFE – AIR FILTERS FOR YOUR MOST SENSITIVE PROCESSES

Life Science Industry demands more than Clean Air. It's not enough that the filter protects your products from undesirable particles. The filter must also be manufactured from materials that are proven not to contaminate the sensitive process.

Camfil's ProSafe Program offers various relevant compliances such as microbial inertness acc. to ISO 846 / VDI6022 and food contact acc. to EC1935/2004 and 10/2011, absence of harmful chemicals such as Phthalates and Formaldehyde. Camfil's components have been tested to prove their resistance to decontamination agents over time.

Letters of conformance accompany every filter to meet product assurance compliance. This also demonstrates Camfil capability to tests and work more with its Life Science customers and their specific requirements.

With a Camfil ProSafe-marked filter, customers can rest assured their processes will be safe from any root causes of critical issues that commonly affects the Life Science industry. This brings confidence and peace of mind.

To be absolutely sure you have the right filter, look for the ProSafe symbol. When you see it, you can be sure the filter has been certified for use in processes with strict demands on safety, traceability and control.



## WE KNOW WHAT IT TAKES

We at Camfil have delivered filter systems for over 50 years. Our high demands on research, development and quality assurance mean you can feel secure.

We know all about the demands on clean air in the pharmaceutical industries. Which is why we offer a complete range of ProSafe filters – specially designed for your needs.

Read more about ProSafe at [www.camfil.com/prosafe](http://www.camfil.com/prosafe)

## **CAMFIL – a global leader in air filters and clean air solutions.**

Camfil is a global leader in the air filtration industry with more than half a century of experience in developing and manufacturing sustainable clean air solutions that protect people, processes and the environment against harmful airborne particles, gases and emissions. These solutions are used globally to benefit human health, increase performance and reduce energy consumption in a wide range of air filtration applications.

Our 26 manufacturing plants, six R&D sites, local sales offices and 3,800 employees provide service and support to our customers around the world. Camfil is headquartered in Stockholm, Sweden. Group sales total more than SEK 6 billion per year.

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

For further information please contact your nearest Camfil office.