

AAF's AstroSafe Housings and MEGAcel I Filters meet highest safety standards for a Finnish microbiological laboratory

CASE STUDY - MICROBIOLOGICAL LABORATORY



Customer and Project Profile

End User: High level microbiological laboratory operating in Finland

Industry: Microbiological

Project partner: Senaatti

Industry: Real Estate

Web: <https://www.senaatti.fi/en/>

The end user of the AAF/Dinair solution presented here is one of the most sophisticated laboratories in Finland, conducting groundbreaking studies in the field of health maintenance. Together with Dinair Clean Air Oy's long-term cooperation partner Senaatt, a containment solution to manage the filtering of the exhaust air for a laboratory complex had to be developed and implemented.

Initial Situation

Containment systems are high-quality, high-efficiency systems used to filter and contain dangerous particulate and/or gaseous contaminants. When it comes to containment solutions for laboratories, there is one overarching goal: Safety. Safety not only in the direct sense for the laboratory staff, but also in the sense of avoiding any kind of contamination for the building itself, the tools, the equipment, and indeed the entire infrastructure. Ensuring this is not an easy task because, on the one hand, a large number of norms and industry standards must be taken into account and, on the other hand, the required solutions usually have to be tailored exactly to the customer's needs.

So also in this case. As in many similar projects, a standard solution could not be used, as this could not be installed due to the specific conditions on site. In addition to delivering high product quality, state-of-the-art engineering is therefore always part of an AAF/Dinair solution. Only with detailed engineering, compatibility and maximum operating efficiency of the filtration system can be ensured.

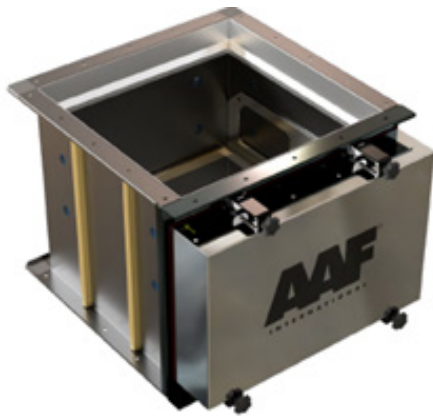


Bringing clean air to life.®

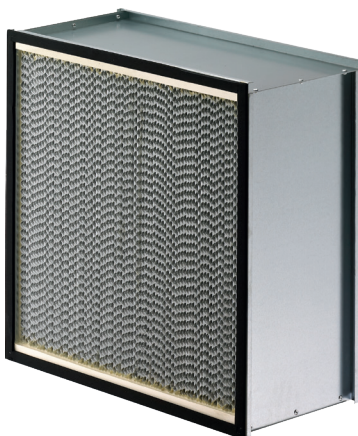
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AAF Products of choice

As a basis AAF/Dinair decided for AstroSafe RPT housings. These housings, already in their standard configuration, provide the required high Safety-Level and can be equipped with a Bag-in-Bag-out system for safe filter changes. In addition AstroSafe RPT can easily be connected with gas phase filter housings, which was a requirement for some of the housings.



In terms of filter elements all AstroSafe RPT housings are equipped with MEGAcel I eFRM H14 HEPA filters due to their robustness and excellent chemical resistance.



AstroSafe RPT (standard features):

- Bag in / bag out provision for safe filter changes
- Designed to withstand a positive pressure of up to 2500 Pa and a negative pressure of up to 3000 Pa.
- Welded air tight construction
- Epoxy powder coated finish
- Easy to decontaminate and resistant to disinfectants
- Side access for easy filter replacement

MEGAcel I:

- H14 filtration efficiency according EN 1822
- eFRM media combines ultra-high efficiency with the lowest possible pressure drop
- High tensile strength and chemically inert eFRM reduces risk of media damage and degradation
- No boron outgassing
- Compatible with Discrete Particle Counter (DPC) test methods

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Implemented Solution

All AAF/Dinair products used in containment applications are designed, developed, and maintained to exact standards for control of dangerous, toxic, or noxious contaminants. However, the standard design of the selected AstroSafe RPT housings and their arrangement needed customization to meet the requirements of the Finnish lab.

An extensive planning and design phase including 3D BIM modelling was therefore needed to ensure a seamless integration of the filtration system to the laboratories' infrastructure. This customized manufacturing of total filtration system allowed the project team to match components accurately to available space, airflow rate and capacity, residence time, and other technical requirements.



DIN test port for test filter gasket leakage (separated from contents with in-line Hepa) and Aerosol feeding port.



Service Hatch
Movable T-scanner and test port.



Pressure gauge with transmitter (separated from content with in-line Hepas. with CE-label)



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