



AstroSorb-C

AstroSorb®-C

GAS-PHASE **CANISTER** FILTER FOR MAKE-UP AIR

Excellent Performance Against Airborne Molecular Contamination (AMC)

The AstroSorb-C is a chemical filter designed to remove airborne molecular contamination (AMC) in makeup air units (MAUs) and outside air conditioning (OAC) units. The delivery system consists of a plastic canister filter containing a one-inch-thick bed of chemical media providing high contaminant removal efficiencies and long service life.

These canisters can easily be installed in existing holding frames without the need for any special tools. Each canister is supplied with an O-ring seal to prevent air bypass when locked into place on the holding frame.

The AstroSorb-C uses proprietary chemical filtration media to target specific AMC or multiple AMC in semiconductor and microelectronic manufacturing cleanroom applications.

Construction

Each AstroSorb-C canister filter is made from acrylonitrile butadiene styrene (ABS) that provides a sturdy and non-corrosive product that is also fully recyclable.

Each canister is installed into a galvanized steel holding frame using a leak-free bayonet closure assuring no bypass around or through the filter.

Media

The AstroSorb-C is a chemical air filter composed of canister filters filled with media designed to remove AMC from outdoor air that may be introduced through MAUs and OACs that can affect critical semiconductor fabrication processes and manufacturing applications.

Depending on the target gases, the AstroSorb-C canister filter is available in both 18" and 24" length to provide a filter system that meets the specific the customer's specific AMC control and service life requirements.

The adsorbent media used can be tailored to suit specific AMC control applications:

- MA for Acids; a corrosive gas that reacts chemically as an acid (an electron acceptor).
- MB for Bases; a corrosive gas that reacts chemically as a base (an electron donor).
- MC for Condensables; a contaminant whose boiling point is typically above room temperature and is capable of condensing on a (wafer) surface.
- MD for Dopants; a contaminant that modifies the electrical properties of (semiconductor) material.

Product Overview

- Removal of airborne molecular contamination in cleanroom environments. Target gases: ammonia and amines, acids (HF, HCl, Cl₂, NO_x, SO_x, H₂S), VOCs (toluene, PGME, PGMEA, siloxanes), ozone, others
- High adsorption capacity and high removal efficiency
- Single media or media blends are available
- Constructed of cleanroom-compatible materials that do not emit dopants, metals, organics, or other molecular contaminants at levels that would pose a risk to cleanroom processes
- Corrosion-free, non-metal construction
- Industry standard dimensions
- Bayonet closure ensures 100% leak-free filtration

Typical Applications:

- Wafer manufacturing
- Semiconductor device fabrication
- Microelectronics component assembly
- TFT/LCD manufacturing
- LTPS OLED manufacturing
- Hard disk drive manufacturing
- Biopharmaceuticals
- Genetic engineering

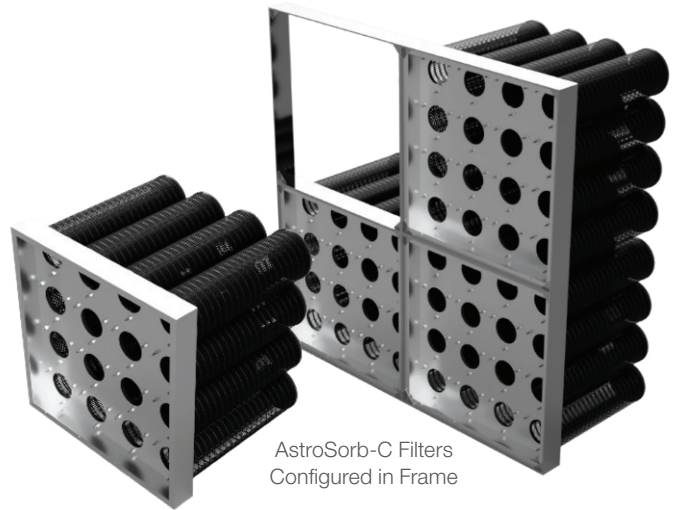
Additional Features

The AstroSorb-C canister filter is suitable for retrofit into existing MAUs and OACs for specification into new construction projects, or for direct replacements of existing canister-type, bayonet mount chemical filters.

The canisters typically ship in a box of four and each canister is individually sealed in a polybag to prevent exposure to fugitive gaseous contaminants prior to installation at customer's site.



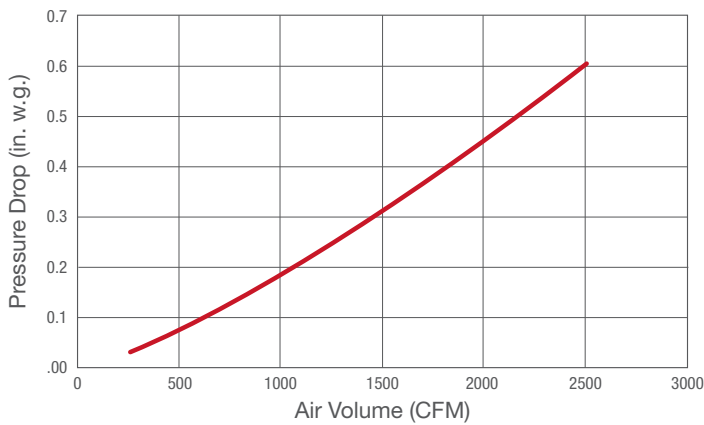
AstroSorb-C



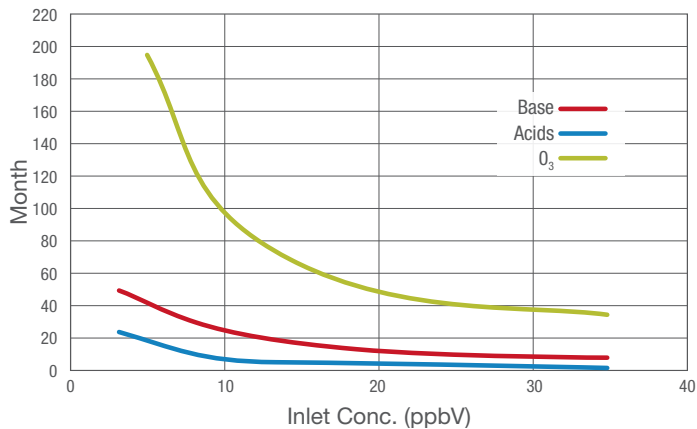
AstroSorb-C Filters
Configured in Frame

Performance Data

Pressure Drop



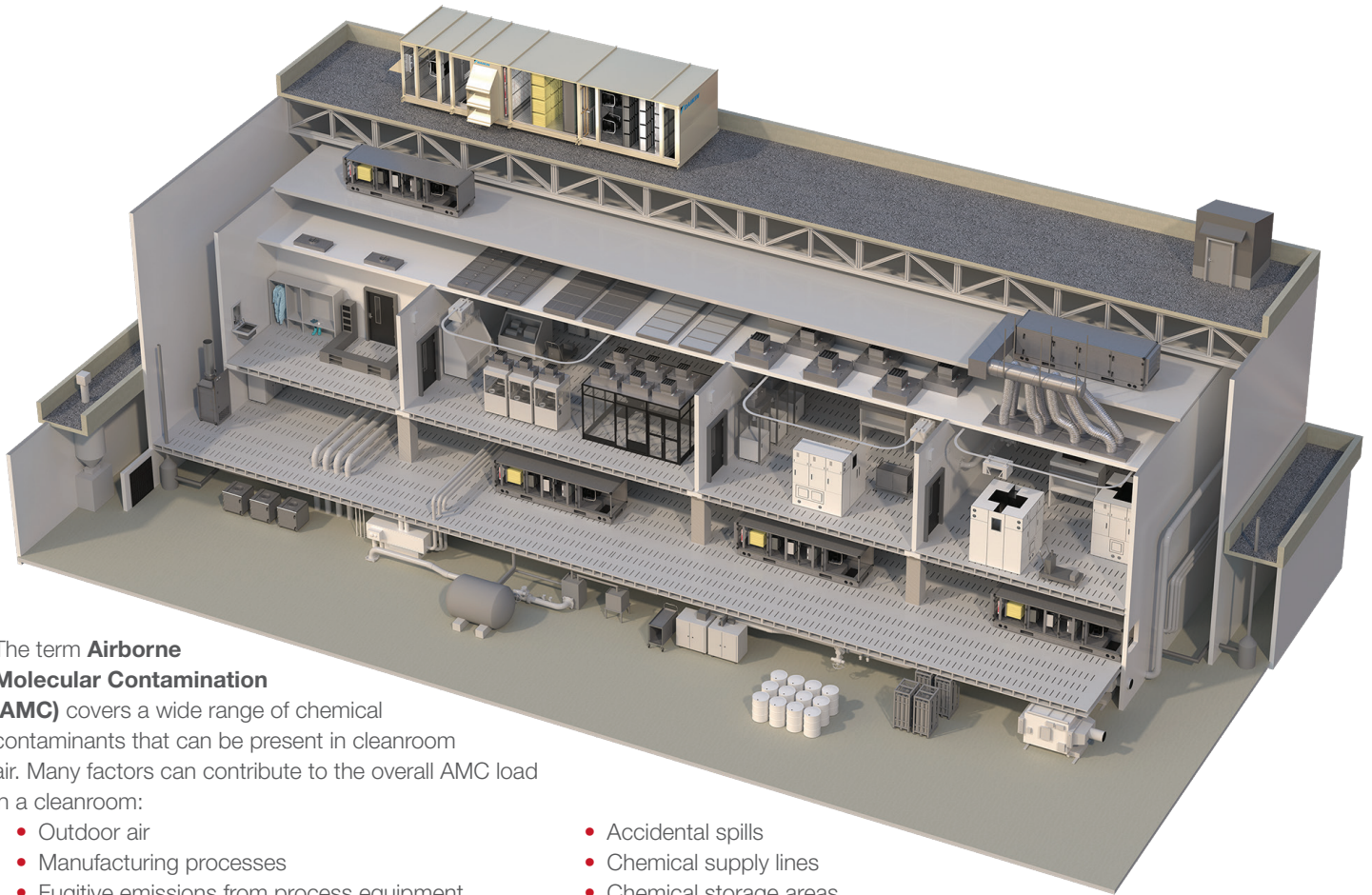
Lifespan Curve



General Specification

Canister-Type Filter for Make-up Air

Filter type	Canister Type
Application	Make-Up Air Unit (MAU)
Adsorbent	SAAFCarb, SAAFOxidant, SAAFCarb MA, SAAFCarb MB, others
Frame	Plastic (ABS)
Gasket	Eco EPDM
Temperature (°F)	59 ± 5
Humidity (%)	75 ± 5
Standard Size (in)	24 x 24 x 18 (nom.)
Weight (lb)	100 ± 10 Canisters (16 pieces): 70 Canisters (16 pieces + plate): 99.2
Typical Air Flow Rate (CFM)	0 – 2,500
Target Gases	NH ₃ , Amines Acids (HF, HCl, Cl ₂ , NO _x , SO _x , H ₂ S) VOCs (Toluene, PGMEA, Siloxane) O ₃

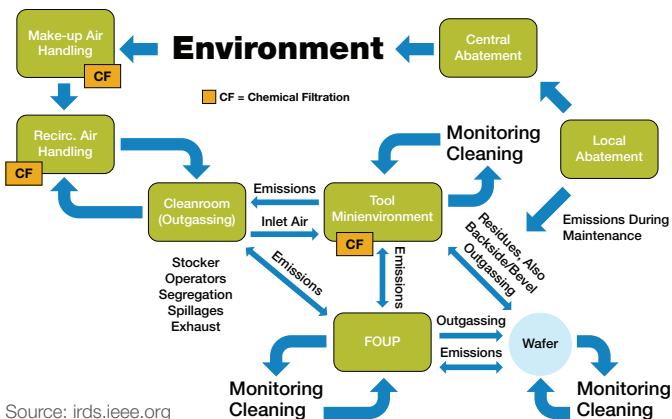


The term **Airborne Molecular Contamination (AMC)** covers a wide range of chemical contaminants that can be present in cleanroom air. Many factors can contribute to the overall AMC load in a cleanroom:

- Outdoor air
- Manufacturing processes
- Fugitive emissions from process equipment
- Off-gassing from building and construction materials
- Cross-contamination between manufacturing areas
- Accidental spills
- Chemical supply lines
- Chemical storage areas
- Bioeffluents from cleanroom personnel

AMC can be detrimental to many processes and products and can also represent considerable health hazards to personnel.

International Roadmap for Devices and Systems (IRDS 2023)

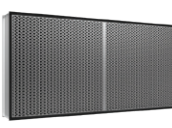






Source: irds.ieee.org

Meeting AMC Requirements: The Total AMC Concept

AAF is involved with ongoing updates to the IRDS in general and more specifically on the topic of AMC control. **The Total AMC Concept** takes into account sources of AMC as well as where local control is required and AAF solutions should be applied.

AAF's complete line of AMC filtration solutions

	AstroSorb-P Panel Filters for Fan Filter Unit Applications		AstroSorb-B Box Filters for Make-up Air Applications
	AstroSorb-V V-Bank Filters for Make-up Air Applications		AstroSorb-T Tray Filters for Make-up Air Applications
	AstroSorb-C Canister Filters for Make-up Air Applications		



AAF International has a policy of continuous product research and improvement. We reserve the right to change design and specifications without notice.