EDGE

Gas Phase Removal

6 C 12.011

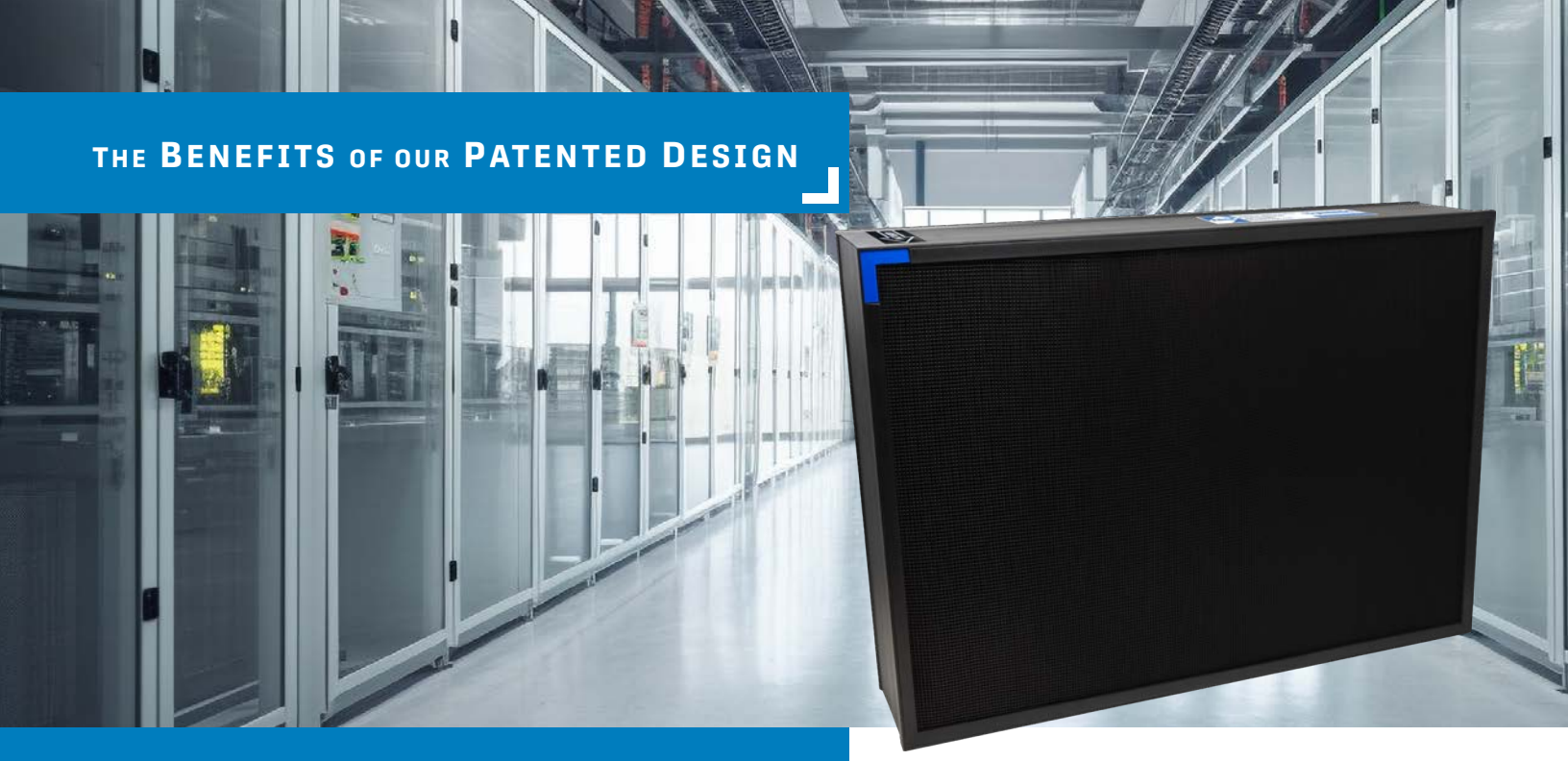
The Next Generation in Gas Phase

State-of-the-Art Technology for Precise Control of Gas Phase Contaminants at a Fraction of the Energy

145.2

DynamicAQS.com

Dynamic Air Quality Solutions



The Benefits of our Patented Design

Dynamic EDGE Panels feature a patented design that gives them the leading edge over competitive systems. Tangential airflow along EDGE media is even, non-restricted, and predictable. The design takes advantage of geometry to optimize the pathlength of airflow and contaminant contact time, paving the way for:

- Low static pressure allows for new opportunities in gas phase filtration for existing systems and significant energy savings vs. competition
- High removal efficiencies, complete utilization of activated carbon and additives, and a lean Mass Transfer Zone (MTZ)
- ASHRAE Standard 145.2 third-party tested for select EPA Criteria Pollutants, 62.1-2022 Design Compounds, and Inorganic Contaminants
- No media settling, bypass, or dusting. No post filtration necessary
- Design versatility and application specific customization via flexible panel configurations, media blends, product depths, and media densities

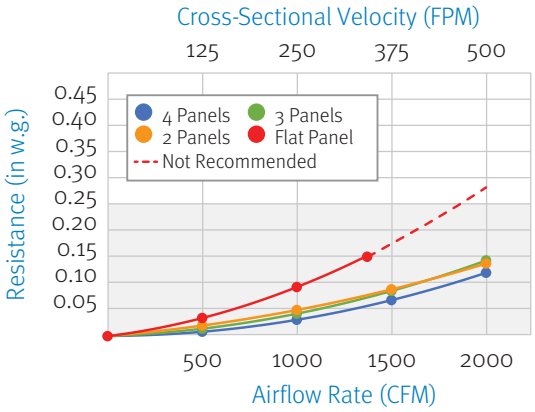
Dynamic EDGE opens the door for customized gas phase filtration solutions.

DynamicAQS.com

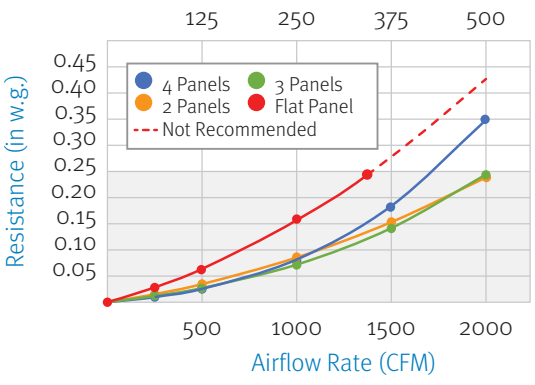
24" x 24" EDGE Panels Configured and Tested in an ASHRAE 52.2 Duct with a 24" x 24" Cross-Section

At a Cross-Sectional Velocity of 500 FPM:	
4 Angled Panels	136 FPM Media Velocity
3 Angled Panels	181 FPM Media Velocity
2 Angled Panels	272 FPM Media Velocity

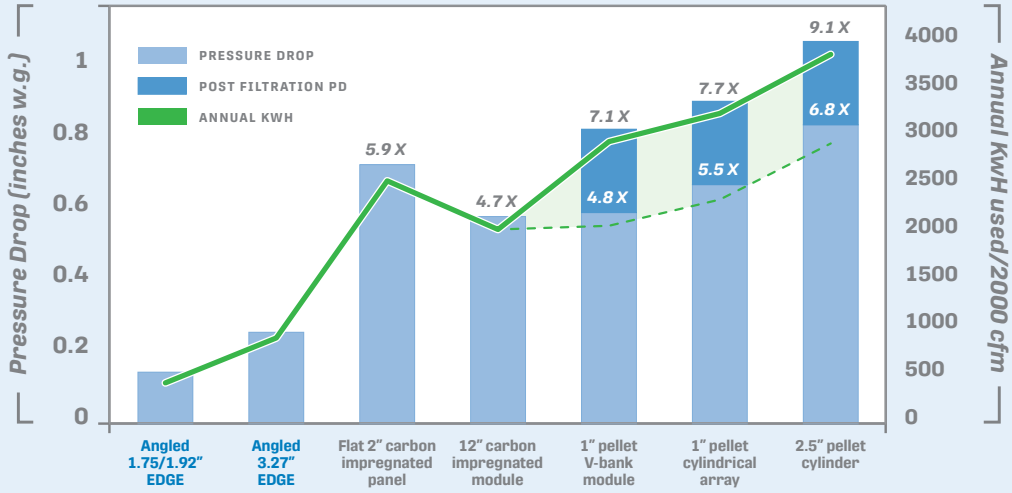
EDGE 1.75/1.92" Configurations: Pressure Drop



EDGE 3.27" Configurations: Pressure Drop



EDGE® Energy Usage Comparison



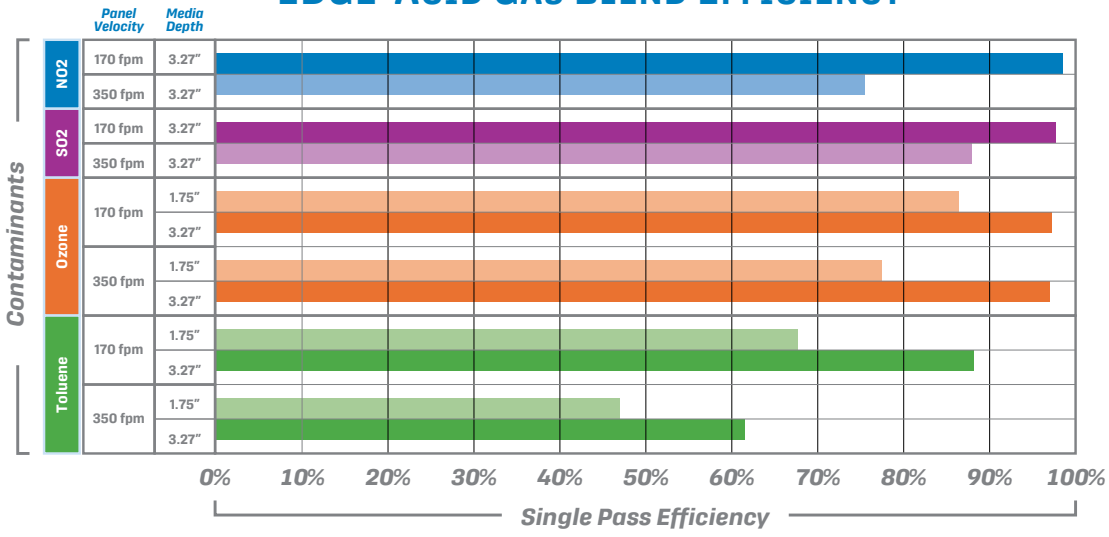
EDGE uses 6.8x less annual KwH than 2.5" pellet cylinders. *(Based on 2000 cfm over one year 24/7 operation.)*

EDGE Performance and Mass Transfer Zone

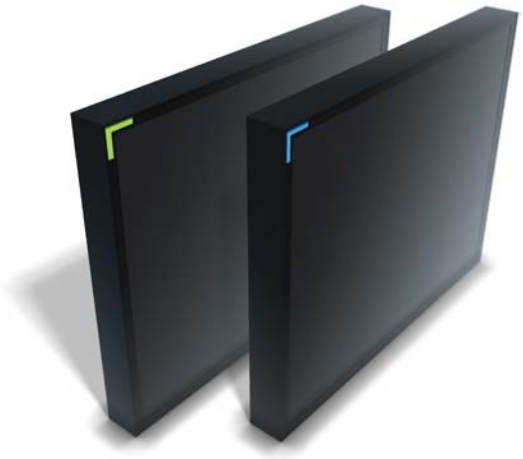
The Mass Transfer Zone (MTZ) is the area of active removal and minimum media depth required to remove 100% of a contaminant at fixed conditions. As the MTZ migrates from inlet to outlet, the media upstream becomes saturated, breakthrough concentrations increase, and efficiency decreases. Smaller, leaner mass transfer zones result in higher initial efficiencies and better utilization of available media, increasing the life of a gas phase filtration system. MTZ size depends on factors such as contaminant type, concentration, mechanism of removal (i.e. chemisorption, physical adsorption), residence time, surface area, amount, type, and accessibility of adsorbent, temperature, and relative humidity.

Dynamic EDGE utilizes thin, fully accessible media that is precisely engineered to optimize contact with specially selected, high-quality activated carbon powders and additives. This design minimizes the MTZ and maximizes capacity, resulting in exceptional efficiencies.

EDGE® Acid Gas Blend Efficiency



Dynamic Air Quality Solutions



Contaminant Specific Media Blends

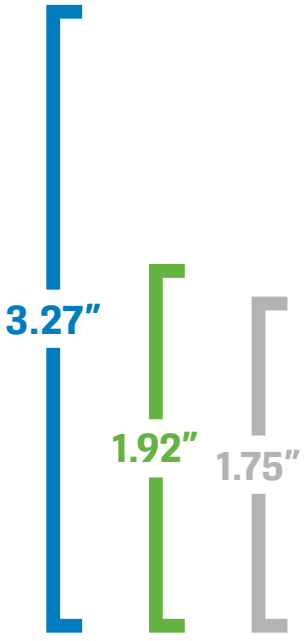
Dynamic offers two EDGE media blends that are engineered for targeted removal of specific gas phase contaminant types. This allows us to customize our solutions to the challenges of each application. **EDGE VOC Blend** removes medium to high molecular weight VOCs such as toluene and terpenes. **EDGE Acid Gas Blend** removes VOCs as well as small inorganic acidic gases, including H_2S, SO_X and NO_X, by means of chemisorption.

	Application	Examples	Removes
EDGE Acid Gas Blend	Urban Non-Attainment Zones and Other Areas with Combustion By-products	Entrainment of automotive, diesel, kitchen, or gen-set exhaust, aviation fumes at airports, helicopter exhaust at hospitals	NO_X, SO_X, Benzene, Toluene, Ethylbenzene, Xylene (BTEX), aldehydes
	Mission Critical Facilities	Data centers, libraries, museums, labs, clean manufacturing facilities, water treatment facilities, embassies	NO_X, SO_X, BTEX, VOCs, H_2S
	Corrosive Environments	Salt marshes, fertilized farm fields, transfer stations	H_2S, SO_2, mercaptans, VOCs
	General IAQ Upgrades	Gas-phase contaminant removal and possible outdoor air reductions in commercial buildings	Toluene, aldehydes, aromatics, other VOCs
	Tobacco Smoke	Casinos and smoking lounges	SO_2, H_2S, VOCs, aldehydes
EDGE VOC Blend	Indoor Agriculture and Processing	Cannabis grow facilities, dispenseries, extraction sites	Terpenes

Additionally, Dynamic's dedicated team can custom-engineer IAQ solutions to meet the specific requirements of your application. The possibilities are endless!

EDGE Depths, Configurations, and Media Densities

- 3 product depths: 3.27", 1.92" and 1.75". More depth means increased capture of the MTZ and higher efficiencies.
- EDGE panels provide the option to reduce media velocity and extend contact time by incorporating additional angled panels within the available space. Slower velocity enhances contaminant removal, reduces MTZ, and boosts overall efficiency.
- For low gas phase concentrations, contact your Regional Sales Manager about our light commercial EDGE, with increased media spacing and reduced static pressure.
- Available in most standard filter sizes and custom offerings up to 26" in width and 25" in height. See **specification sheet** for details.



330 Carter Road, Building 3, Princeton, New Jersey 08540
(800) 578-7873 **DynamicAQS.com**
EDGE_bro-236 01/25

Dynamic® Air Quality Solutions