

# FRONT ACCESS FILTRATION SYSTEM TYPE: MC CELL



## INTRODUCTION

Circul-Aire's MC Cell design combines both particulate filters and dedicated removable media modules within a stationary frame to provide continuous air filtration for the highest possible removal efficiency of airborne contaminants. The air filter assembly is available for front access applications in field assembled banks where side access loading is restricted. Engineered for flexibility, MC Cells can be used in new or existing applications for light or heavy contaminant loading, in single or multi-pass, intake, exhaust, or recirculation air systems.

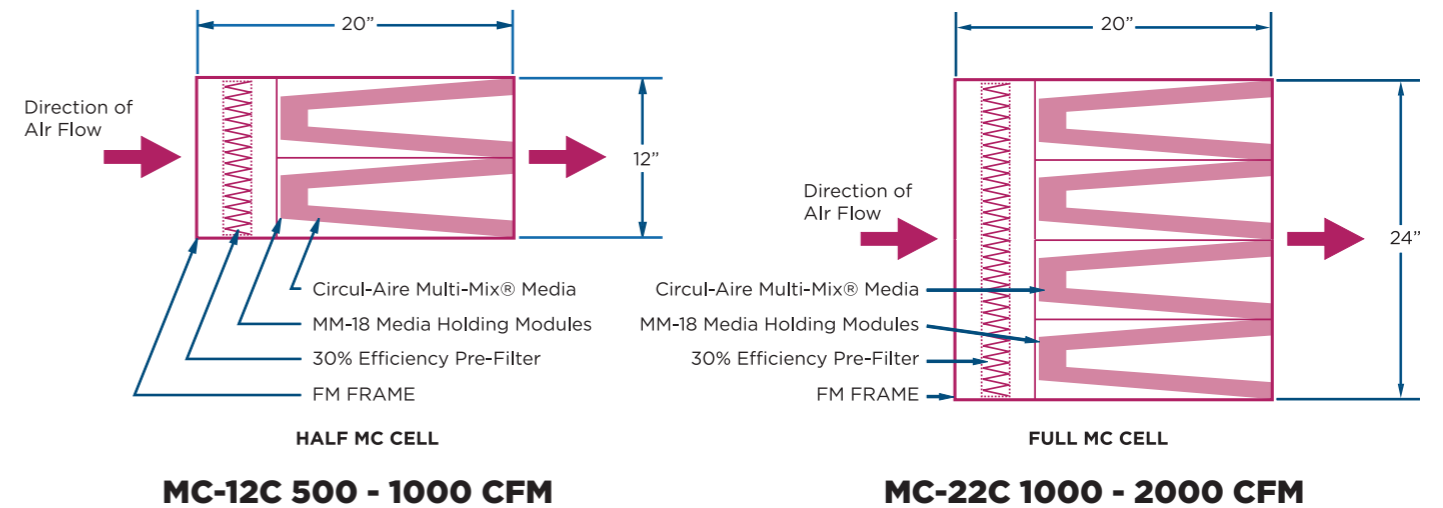
For acceptable indoor air quality, most building codes and standards recommend minimum ventilation rates of outdoor air. However, when outdoor air is of deficient quality, the indoor environment is put at risk, and appropriate air cleaning systems should be used. By providing total filtration on the outdoor air side of a building's ventilation system, the MC Cell assembly will guarantee maximum protection against harmful outdoor air contaminants like jet exhaust fumes, automobile/diesel exhaust, sulfur oxides, nitric oxides, and ground level ozone.

Conversely, when outdoor air is of acceptable quality, the cost of conditioning this air can be excessive. Fortunately, the amount of outdoor air normally required for dilution can be reduced if proper air cleaning methods are applied. By positioning the MC Cell assembly on the return air side of a building's ventilation system, and filtering any contaminants generated within the space, a portion of that air can be recirculated. The amount of clean air which is recirculated, reduces the amount of outdoor air required for dilution. The result of this ventilation strategy is clean air and substantial energy savings.

## ADVANTAGES

- MULTIPLE APPLICATIONS**  
 Remove a wide variety of odors and gases with chemical media selected to meet the specific needs of each application.
- CONTINUOUS FILTRATION**  
 Protect the indoor environment by eliminating many of the harmful contaminants found in deficient outdoor air.
- ENERGY EFFICIENCY**  
 Reduce the amount of outdoor air required for dilution and realize substantial savings in air conditioning costs.

## PRODUCT FEATURE



## CIRCUL-AIRE MULTI-MIX® MEDIA & SERVICES

### 1.0 FM-FRAME

The FM-Frame shall be constructed of 16 ga. zinc coated steel complete with flush mitered and welded corners. Slide tracks shall be incorporated into the housing design to ensure maximum sealing integrity of the media holding modules (MM-18). Closed cell neoprene gasketing shall be used on all housing surfaces in contact with MM-18 modules. The FM-Frame shall be equipped with two-way snap fasteners for pre-filter retention. All internal and external surfaces shall be treated with a three-part corrosion resistant polyurethane enamel paint.

### 3.0 MM-18 MEDIA HOLDING MODULES (UL CLASS 1 LISTED)

The MM-18 media modules shall be constructed of 24 ga. zinc coated perforated steel and 20 ga. zinc coated steel side plates. The perforated metal containers shall be designed to provide maximum air contact with the chemical media while minimizing the pressure drop across the bed. A removable panel cover with quick snap fasteners allows for easy loading of chemical media without the need of special tools. Each MM-18 module shall be 18" x 24" x 6" and have a media containment volume of 0.6 ft<sup>3</sup>. All surfaces of the module shall be coated with a three-part aliphatic polyurethane enamel paint. (Note: For lower face velocities and retrofit applications, MM-12D media holding modules are also available. Please consult Circul-Aire for details.)

### 2.0 ROUGHING PRE-FILTERS

Roughing pre-filters shall be selected based on their edge sealing characteristics, moisture and dust holding properties, low pressure resistance and the appropriate average synthetic dust weight arrestance. MC Cells shall be equipped with standard pre-filters which are rated at a minimum 30% average efficiency in accordance with ANSI/ASHRAE\* Standard 52.1-1992.

### 4.0 CHEMICAL MEDIA (UL CLASS 1 LISTED)

Circul-Aire's Multi-Mix® chemical media shall be manufactured for superior crush resistance, pore structure, and retentivity. The specific needs of each application shall dictate the final selection and/or combination of chemical media required. In order to guarantee the efficiency of all gas-phase filtration equipment, Circul-Aire shall monitor the Multi-Mix® media with their Tech-Chek Program, completely free of charge. With this service, periodic testing shall be performed by Circul-Aire's in-house lab to ensure optimum media change-out while verifying the performance and consumption rate of the chemical media.

## COMPONENT DESCRIPTION

MC Cell Type	FM-Frame Size	Qty of MM-18 Media Modules Per Cell	Qty of 30% Efficiency Pre-Filters Per Cell	Pressure Drop**	Approximate Weight (including media)**
MC-12C	20" x 24" x 12"	(2) MM-18	(1) P30-MV2-12	0.18" WG - 0.6" WG	120 lb
MC-22C	20" x 24" x 24"	(4) MM-18	(1) P30-MV2-22	0.18" WG - 0.6" WG	215 lb.

\* American National Standards Institute / American Society of Heating, Refrigerating and Air-Conditioning Engineers.

\*\* Based on a velocity of 500 FPM across Multi-Mix® Media MM-1355.

\*\*\* Estimated, based on MM-18 modules c/w Multi-Mix® Media MM-1355.