

CamCarb CM

Cylindrical Molecular Filters



- Maximum efficiency with leak free installation
- Modular and flexible assembly
- Suitable for ISO 10121-1:2014 tested activated carbon media
- Lowest possible Life Cycle Cost (LCC
- Ideal for supply air, recirculation air and exhaust air ventilation systems

Camfil CamCarb CM filters are metal cylindrical molecular filters. The filters are used for high efficiency removal of molecular contaminants from supply air, recirculation air and exhaust air ventilation systems in sensitive buildings and process applications.

Filter construction

CamCarb filters consist of a pair of concentric cylinders formed from perforated sheets or expanded metal. The two cylinders are robustly joined to the inlet and bottom end caps. The cylinders are filled using a vibratory technique to achieve perfect packing density of the carbon, this essential procedure prevents subsequent settling and formation of by-passes.

The cylinder top cap is fitted with a durable rubber gasket and 3 bayonet fittings to facilitate mounting in the base-plate mounting frame.

Versatile

CamCarb cylinders may be filled with either standard grades or chemically impregnated grades of activated carbon. Unimpregnated grades are used to provide "Broad Spectrum" control of VOCs or where the precise nature of the contaminant challenge has not been determined. In some applications, where a complex range of gases are to be removed, it may be appropriate to use a multi-stage filter installation with different grades of activated carbon. Filters supplied by Camfil are tested according to ISO 10121-1:2014.

Lifetime

The achieved service life in any application will be influenced by several factors, including: airflow, type and concentration of the contaminant challenge, temperature, humidity and amount of media To ensure the ongoing effectiveness of the molecular filter installation, a series of life analysis tests should be conducted on media samples to determine the remaining capacity.

Specialised software for Lifetime Determination

The lifetime of the CamCarb CM modules can be simulated using the unique Camfil's Molecular Contamination Control Lifetime Determination (MCCLD) software for molecular filtration. The purpose of this software is to provide 'best estimates' of the performance of molecular filtration products under selectable conditions that closely approximate real applications. Contact Camfil for a dedicated simulation report for your application.

| Parameter | Unit | Specifications | | | |
|--|-----------------|-------------------------------------|--------------|--|--|
| Par anieter | Offic | CM 2600 | CM 3500 | | |
| Nominal dimensions (Dia x Length) | mm (inch) | 145 x 450 | 145 x 600 | | |
| | | (5.7 x 17.7) | (5.7 x 23.6) | | |
| Rated air flow | m³/hr (ft³/min) | 2500 (1,470) | 3400 (2,000) | | |
| Nominal Bed depth | mm (inch) | 25 (1) | | | |
| Cylinder construction material | - | Galvanized steel or stainless steel | | | |
| Number of cylinders per 610 x 610 (2' x 2') area | - | 16 | | | |



CamCarb CM

Cylindrical Molecular Filters

| Models ^{#1} | Pressure drop (±15%) ^{#2} | | Nominal Weight | | Optimum Operating Conditions | | |
|--|---------------------------------------|-----------|----------------|----------|------------------------------|----------|---------|
| | | | | | Temperature | | DH (9/) |
| | Pa | IWG | kg | lb | °C | °F | RH (%) |
| CamCarb CM 2600/3500 VOC | 110/190 | 0.44/0.76 | 3.9/5.2 | 8.6/11.5 | Max. 40 | Max. 104 | 0 – 70 |
| CamCarb CM 2600/3500 H2S_Mercaptans | 110/190 | 0.44/0.76 | 3.9/5.2 | 8.6/11.5 | 10 – 60 | 50 – 140 | 40 – 90 |
| CamCarb CM 2600/3500 Acids | 110/190 | 0.44/0.76 | 3.9/5.2 | 8.6/11.5 | 10 – 60 | 50 – 140 | 40 – 90 |
| CamCarb CM 2600/3500 Bases | 110/190 | 0.44/0.76 | 3.9/5.2 | 8.6/11.5 | 10 – 60 | 50 – 140 | 40 – 90 |

Note: #1 - Other models with different media options are available. High performance media will be selected in accordance to the type of application #2 - Pressure drop at rated air flow for 16 cylinders.

Operating Conditions

CamCarb CM should not be used in conditions above 80°C (140°F) and below -21°C (-5.8°F).

Filter performance will be affected if used in conditions where T and RH are above or below the optimum conditions. Condensing atmosphere must be avoided.

For filters used for removal of acids, sulfur compounds and bases, condensation may result in chemical impregnation runoff.

For removal of organic compounds susceptible to highly exothermic reactions such as ketones, please contact Camfil for recommended conditions.

Camfil recommends effective pre-filtration for all molecular filtration products. The efficiency of the pre filter shall have a minimum rating of ePM1 55%. This is to prevent the media from becoming clogged with dust or particulate matter.



Recommended Periodic Monitoring

Camfil recommends that the media is tested on a periodic basis for media life analysis. The test provides an indication of balance removal capacity of the media. In combination with an air analysis conducted at the inlet and outlet of the filtration system, the result obtained can provide useful information of the filter lifetime.

The usage of the media can either be maximized or the replacement of the media can be planned in advance before the overall performance of the system starts to deteriorate.

Contact Camfil to find out more about the full range of analytical services available.

Packaging and Storage Condition

The CamCarb cylinders are packed in heat sealed PE bags and carton box (4/6/8 pcs per box).

The modules should be stored in a segregated, clean and dry location. The storage area shall be located as far as possible from any potential source of chemical contamination.

Recommended maximum shelf life: 1 year from date of manufacturing

Handling and Disposal

Used modules must be disposed of in a responsible manner and in accordance with all site, local and national regulations relevant to the point of use. Disposal methods may differ based on different media types, amount of chemical contamination, site location, media quantity and environmental regulations.