

CityPleat



Advantages

- Compact "2-in-1" solution
- Double action: particle and odour filtration
- Ideal for filtering most low concentration interior and exterior pollutants
- 100% incinerable
- Can be used to upgrade existing installations
- Range of standard sizes

Application: High efficiency particle filtration for deodorisation and removal of gas pollutants, used for filtration in offices, airports.

Type: Prefilter for gas and particles removal.

Frame: Moisture resistant cardboard.

Media: Synthetic fibre and broad spectrum carbon.

EN 779:2002 filter class: G4.

ASHRAE 52.2:2007 filter class: MERV 7.

Recommended temperature: 0 - 40°C.

Recommended relative humidity: 30 - 70%.

Recommended final pressure drop: 250 Pa.

Maximum final pressure drop: 350 Pa.

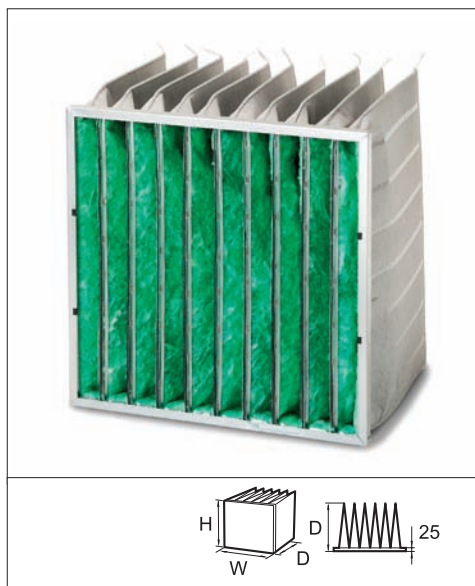
Ozone removal efficiency: 50 - 70% depending on model and air flow.

All values are $\pm 15\%$.

Reference	Model	Dimensions (WxHxD) mm	Particle removal filter class	Average ozone removal efficiency at rated airflow (%)*	Airflow / pressure drop m ³ / hr / Pa	Unit Weight kg	Unit Volume m ³
5103001	CityPleat-100-594x594x44	594 x 594 x 44	G4	55%	1900/135	1.0	0.019
5103007	CityPleat-100-289x594x44	289 x 594 x 44	G4	55%	900/135	0.5	0.010
5103005	CityPleat-200-594x594x44	594 x 594 x 44	G4	55%	3175/135	1.8	0.019
5103004	CityPleat-200-289x594x44	289 x 594 x 44	G4	55%	1500/135	0.9	0.10
5103011	CityPleat-200-594x594x95	594 x 594 x 95	G4	55%	3175/110	2	0.039
5103008	CityPleat-200-289x594x95	289 x 594 x 95	G4	55%	1500/110	1	0.019
5103010	CityPleat-480-594x594x95	594 x 594 x 95	G4	65%	3175/90	3.8	0.039
5103009	CityPleat-480-289x594x95	289 x 594 x 95	G4	65%	1500/90	1.9	0.019

* Full size test in Camfil Farr molecular filtration test rig.

City-Flo



Advantages

- Range of standard sizes
- Can be used to upgrade existing installations
- Ideal for filtering most low concentration interior and exterior pollutants
- Robust metal header frame
- Double action: particle and molecular filtration

Application: Particle and odour removal in Hospitals, Offices, Airports etc.

Type: Multi pocket particle and gas filter.

Frame: Galvanised steel.

Media: Glass fibre and broad spectrum carbon (RAD).

EN 779:2002 filter class: F7.

ASHRAE 52.2:2007 filter class: MERV 13.

Recommended temperature: 50°C maximum in continuous service.

Recommended relative humidity: 70% RH maximum.

Holding frames: Front and side access holding frames are available: Type 8 and FC Housings.

Recommended final pressure drop: 250 Pa.

Maximum final pressure drop: 450 Pa.

Ozone removal efficiency: 80%.

Filter also available with F9 media.

Reference	Dimensions (WxHxD) mm	Filter classification EN 779:2002	Average ozone removal efficiency at rated airflow (%)*	Number of pockets	Media area m ²	Airflow / pressure drop m ³ / hr / Pa	Unit Weight kg	Unit Volume m ³
604001	592 x 592 x 534	F7	80%	10	6.2	3400/140	6	0.05
604003	490 x 592 x 534	F7	80%	8	5	2550/140	4.6	0.05
604002	287 x 592 x 534	F7	80%	5	3.1	1700/145	3.5	0.03

Well known bag filter construction is now available with a particle and gas filtration layer. The frame components are made of galvanized sheet metal to ensure a robust construction.

Ultimate solution

City-Flo is the ultimate solution when a high performance bag filter and a high performance odour removal filter are needed in the same encapsulated space. The filter can be easily fitted into new or existing standard filter frames. High performance Camfil Farr glass fibre media is now combined with an exclusive broad spectrum carbon media that utilises the benefits of RAD (Rapid Adsorption Dynamics) to remove a wide range of VOCs and odours.

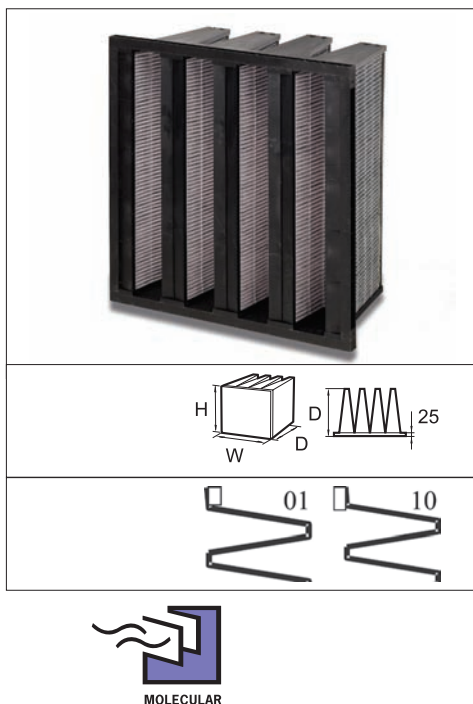
1. Highly effective filtration: Classed as F7 according to EN779:2002, it stops 85% of 1 micron particles and meets the recommendations of UNICLIMA and EUROVENT 12/1-92.
2. Adsorption of odours and pollution: This specifically designed product can provide very high efficiencies for ozone, Polyaromatic Hydrocarbons (PAH) and organic contaminants, which are the main pollutant in urban environments.

Service life

The filter can be replaced when pressure loss exceeds the maximum allowed value for the ventilation system or after a maximum of one year.

Maintenance

Following good practice for all filters, used City-Flo filters should be bagged immediately after removal from the unit and disposed of by the appropriate route.



Advantages

- Compact “2-in-1” solution
- Double action: particle and molecular filtration
- Ideal for filtering most low concentration interior and exterior pollutants
- 100% incinerable
- Can be used to upgrade existing installations
- Range of standard sizes

Application: High efficiency particle filtration for deodorisation and removal of gas pollutants, used for filtration in e.g. offices, airports and industrial workshops.

Type: High efficiency, activated carbon, incinerable filter.

Frame: Polypropylene, 25mm flange, 21mm on request.

Media: Synthetic fibre and broadspectrum carbon (RAD).

Sealant: Polyurethane.

Gasket: Seamless PU gasket.

EN 779:2002 filter class: F7.

ASHRAE 52.2:2007 filter class: MERV 13.

Recommended temperature: 50°C maximum in continuous service.

Recommended relative humidity: 70% RH maximum.

Maximum flow rate: 4000m³/h.

Mounting system: “Camfil holding frame” frames in kit form, FC type housings.

Recommended final pressure drop: 250 Pa.

Maximum final pressure drop: 450 Pa.

Ozone removal efficiency: 90%.

Reference	Dimensions (WxHxD) mm	Filter classification EN 779:2002	Average ozone removal efficiency at rated airflow (%)	Media area m ²	Airflow / pressure drop m ³ / hr / Pa	Unit Weight kg	Unit Volume m ³
56700001	592x592x292	F7	90%	8	3400/120	9.8	0.13
56700010	592x490x292	F7	90%	6.6	2800/120	8.2	0.13
56700002	592x287x292	F7	90%	3.5	1400/120	4.9	0.06

1. Highly effective filtration: Classed as F7 according to EN 779:2002, it stops 85% of 1 micron particles and meets the recommendations of UNICLIMA and EUROVENT 12/1-92.
2. Adsorption of odours and pollution: This specifically designed product can provide very high efficiencies for ozone, Polyaromatic Hydrocarbons (PAH) and organic contaminants, which are the main pollutant in urban environments.

CityCarb is designed to fit in place of the existing pocket or compact filter within an air handling system. The existing frames can be used because the filter fixings are the same and as you are not adding an extra filter stage, the pressure drop remains low.

The RAD or Rapid Adsorption Dynamic ensures the optimum efficiency of CityCarb. Rather than the amount of carbon (the traditional measure), it is the capacity of this new form to rapidly trap gasses which ensures the advanced performance of CityCarb. The carbon is in the form of very small granules into which gas molecules can rapidly diffuse.

CityCarb is specifically designed to handle common substances found in atmospheric contamination:

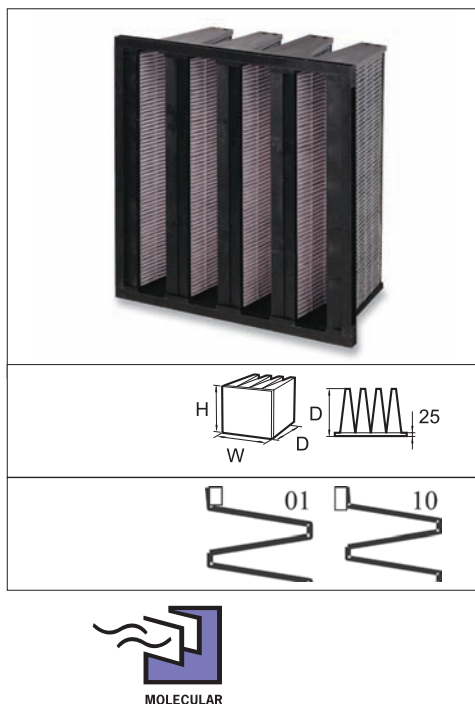
- Volatile Organic Compounds (VOC's) are caused by vehicle exhaust, solvents and aerosols.
- PAH and ozone is caused by vehicle emissions
- Butadiene 1.3 is caused by vehicle emissions.

Some of these molecules are included in the calculation of the atmospheric pollution index.

CityCarb is also available with a media for acid removal.

The filter can be replaced when pressure loss exceeds the maximum allowed value for the ventilation system or after a maximum of one year. Following good practice for all filters, used CityCarb filters should be bagged immediately after removal from the unit and disposed of by the appropriate route.

CitySorb



Advantages

- Compact solution
- Rigid design concept
- High efficiency
- Incinerable
- Large air flow capacity
- Constant pressure drop
- Range of standard sizes

Application: Adsorption of odours and gasses in air conditioning applications.

Type: Rigid pleated filter.

Frame: Polystyrene, 25mm flange, 21mm on request.

Media: Multilayer carbon media.

Sealant: Polyurethane.

Gasket: Seamless PU gasket.

Recommended temperature range: 0 - 40°C.

Recommended relative humidity: < 70% RH.

Recommended pressure drop: Constant if filter is protected by F7 particle filtration.

Holding frames: Front and side access housings and frames are available, Type 8 and FC Housings.

Ozone removal efficiency: 70%.

Reference	Model	Dimensions (WxHxD) mm	Average ozone removal efficiency at rated airflow (%)	Media area m ²	Airflow / pressure drop m ³ / hr / Pa	Unit Weight kg	Unit Volume m ³
56700003	242412-01PU	592 x 592 x 292	70%	8	3400/80	10.8	0.13
56700004	242012-01PU	592 x 490 x 292	70%	6.6	2800/80	9.2	0.13
56700005	241212-01PU	592 x 287 x 292	70%	3.5	1500/80	5.4	0.06

CitySorb is a high-efficiency compact molecular filter for addressing IAQ issues in public and commercial buildings. This filter satisfies demands to tackle nuisance odours such as PAH, ozone and butadiene 1.3 caused by vehicle emissions and VOCs from vehicle exhaust, solvents and aerosols and provide occupants with the highest indoor air quality as specified in the European Standard EN 13779. The material selection and construction method ensures that CitySorb is a clean, light filter that is both quick and easy to maintain.

CitySorb uses a special ingredient - RAD

RAD or Rapid Adsorption Dynamic ensures the optimum efficiency of CitySorb. Rather than the amount of carbon (the traditional measure), it is the capacity of this new form to rapidly trap gasses which ensures the advanced performance of CitySorb. The carbon is in the form of very small granules into which gas molecules can rapidly diffuse. Also available, CitySorb Acid, for more efficient treatment of specific acid molecules.

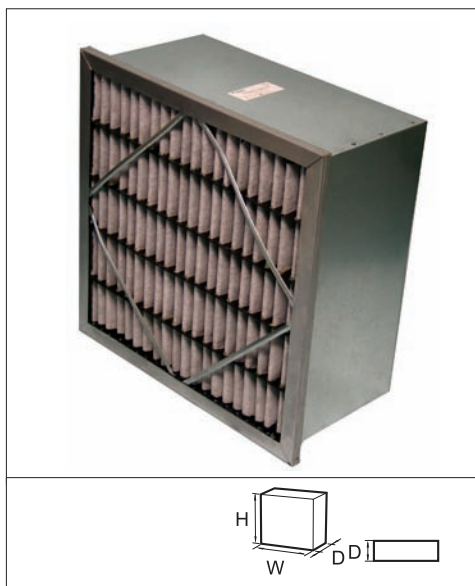
Service life

The filter can be replaced after a maximum of one year or when the smell or problem reappears.

Maintenance

Following good practice for all filters, used CitySorb filters should be bagged immediately after removal from the unit and disposed of by the appropriate route.

Riga-Carb



Advantages

- Available as box type, single or double header
- Compact solution with low pressure drop
- Standard design for removal of acids, alkalines, organic smells and condensable organics.

Application: Adsorption of gases for industrial application such as harddisk facilities.

Type: Disposable carbon filter.

Frame: Galvanised steel (other on request).

Media: Type 202: nonwoven fiber material with impregnated carbon for removal of acids.

Type 204: nonwoven fiber material with impregnated carbon for removal of alkalines.

Recommended temperature: 0 - 40°C.

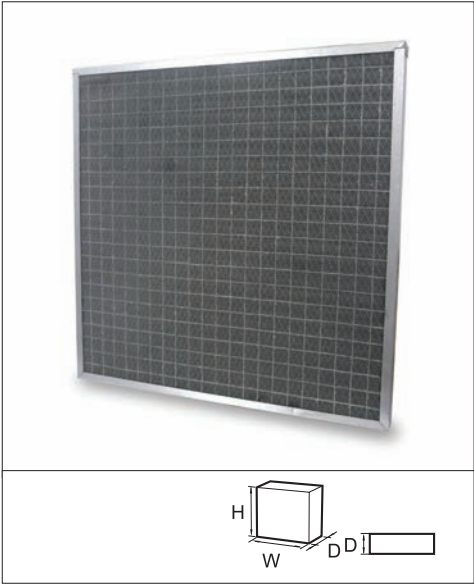
Recommended relative humidity: 30 - 70%.

Particle cleanliness: ISO Class 6.

Reference	Model	Dimensions (WxHxD) mm	Media area m ²	Airflow / pressure drop m ³ / hr / Pa	Unit Weight kg	Unit Volume m ³
5640001	RC-202-24-24-12-BH	592 x 592 x 292	6	3400/124	15	0.1
5640010	RC-202-12-24-12-BH	287 x 592 x 292	3.2	1700/124	8	0.05
5640006	RC-202-24-24-12-PH	592 x 592 x 292	6	3400/124	15	0.1
5640004	RC-202-12-24-12-PH	287 x 592 x 292	3.2	1700/124	8	0.05
5640002	RC-204-24-24-12-BH	592 x 592 x 292	6	3400/124	15	0.1
5640012	RC-204-12-24-12-BH	287 x 592 x 292	3.2	1700/124	8	0.05
5640011	RC-204-24-24-12-PH	592 x 592 x 292	6	3400/124	15	0.1
5640005	RC-204-12-24-12-PH	287 x 592 x 292	3.2	1700/124	8	0.05

BH: Double Header; PH: Single Header

CamSure



Advantages

- Range of standard and non-standard sizes
- High performance
- Suitable for a wide range of air volumes

Application: Adsorption of odours and gases in air conditioning applications.
Type: Loose fill adsorbent panels.
Frame: Galvanised steel.
Media: Campure or activated carbon based materials.
Temperature: 40°C maximum in continuous service.
Recommended relative humidity: 30 - 70%.
Mounting systems: Front and side access housings and frames are available.

Reference	Model	Dimensions (WxHxD) mm	Airflow / pressure drop m ³ / hr / Pa	Unit Weight kg	Unit Volume m ³
5100003	RS80-D-LGS048	594 x 594 x 47	850/70	7.5	0.017
5100004	RS80-D-LGS048	594 x 289 x 47	425/70	4	0.0083

Above are sample sizes, filters are available in a comprehensive range of sizes, please specify.
Also available with stainless steel case.

As part of our continuous improvement, Camfil Farr reserve the right to change specifications without notice.

Efficient Gas Filtration With Camcarb

Advanced, high capacity media is used in the CamCarb cylinders to remove smell, corrosive and toxic gases as well as organics in make-up and exhaust air applications.

CamCarb design

Camfil Farr offers a wide range of high efficient media tailored to the customer requirements. Camfil Farr experts select the right CamCarb model and the best suitable media based on lowest cost-of-ownership to fulfill customer requirements. .

Non impregnated activated carbon is typically used to remove volatile organic compounds (VOC) including smell whereas typically impregnated activated carbon is used to remove acidic, caustic and corrosive gases.

Multiple gas filtration with one, two or three filter stages in series can be achieved in applications with unknown gas mix or when for instance VOC's acids and bases are present in the same air stream. Media blends are also available

A special designed holding plate system is used as installation frame for the CamCarb cylinders (CamCarb and CamCarb green). The system is available in three different standard sizes.

It is recommended to use a F7 pre-filter to protect the CamCarb system against particle contamination. Particles in the air block the micro pores of the high efficient activated carbon resulting in rapid performance decrease.

Enforcement of the holding plates is required in big scale CamCarb installations (e.g. make-up air unit). Camfil Farr offers the right stabilization solution with the RZA/MZA modular frame set.

CamCarb refill service for better operational cost and to protect the environment

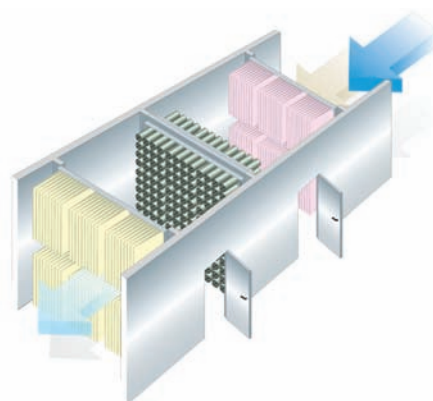
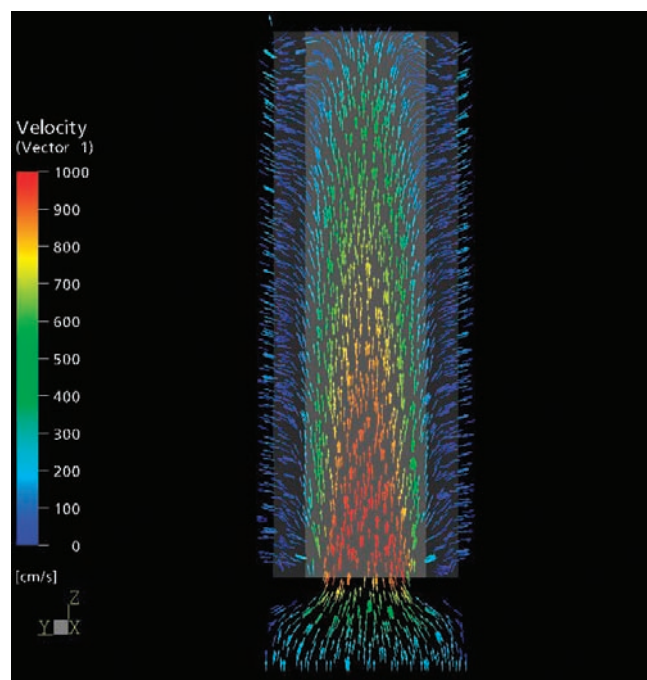
The CamCarb cylinders can be emptied and refilled with new media. This service offers lower operational cost compared to the replacement of the whole cylinder.

Camfil guarantees the same performance of the CamCarb cylinder after the refill service due to special filling technology as well as in-house QA.

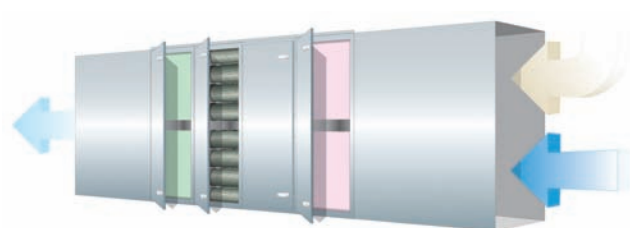
A spare set of cylinders is required to maintain the system operation during the filling process

CamCarb air flow distribution

Camfil did CFD (Computer Fluid Dynamics) simulations to design the Camcarb cylinder to achieve a uniform air flow distribution through the media resulting in longer life time compared to competitor products.

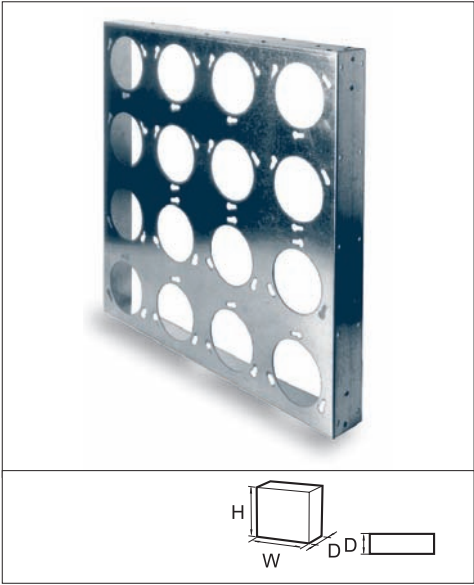


Example of RZA/MZA modular frame set system



Application in make-up air unit

CamCarb® Mounting Frames



Advantages

- Modular design adaptable for all types of installations
- Reduced weight
- Rapid fitting system via bayonet fitting
- Quick and easy service

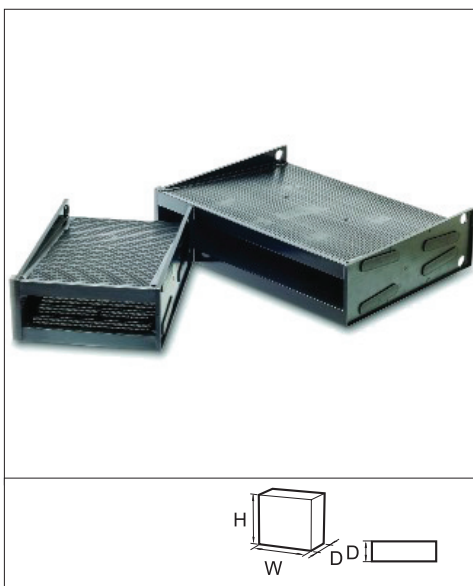
Application: Assembly of Camcarb cylinders.
Type: Quick bayonet-mounted support frame for Camcarb cylinders.
Design: Galvanised steel or stainless steel.
For filters: Camcarb cylinders (Green or Metal).
Mounting: Bayonet locking.

Type	Model	Dimensions (WxHxD) mm	Cylinder capacity	Unit Weight kg	Unit Volume m³
Camcarb	Frame G8 SS	305 x 610 x 70	8	5	0.02
Camcarb	Frame G12 SS	457 x 610 x 70	12	5.7	0.03
Camcarb	Frame G16 SS	610 x 610 x 70	16	6	0.04

RZA, MZA and ZWB installation accessories are also available on request



CamPure® GDM Green Disposable Modules



Advantages

- Completely incinerable
- Various medias available dependent upon the contaminant(s) of concern
- Retrofit of existing installations
- Low pressure drop

Description: Disposable plastic adsorber module designed to remove corrosive gases from industrial or commercial environments.

Typical application: Existing side-access housings or built up bank assemblies.

Efficiency: Media selection dependent, consult factory.

Adsorbent: "Broad Spectrum" activated carbon, adsorption of odours, ozone and organic gases. Impregnated activated carbon or campure impregnated alumina for adsorption of both organic and inorganic gases.

Temperature: Maximum continuous operating temperature of 50°C.

Recommended relative humidity: 30 - 90%.

Type	Dimensions (WxHxD) mm	Airflow / pressure drop m ³ / hr / Pa	Media volume	Application
GDM 300F	600 x 295 x 300	425/75	27L	Make up air-handling units (MUA), recirculation air handling units, exhaust.
GDM 300H	300 x 295 x 300	212/75	13.5L	Make up air-handling units (MUA), recirculation air handling units, exhaust.
GDM 440F	600 x 145 x 440	700/50	13.5L	Make up air-handling units (MUA), recirculation air handling units, exhaust.
GDM 440H	300 x 145 x 440	350/50	6.75L	Make up air-handling units (MUA), recirculation air handling units, exhaust.

* Housings are available on request.

Activated Carbon and Campure Media

Effective molecular filtration media

A comprehensive range of molecular filtration medias for the control of corrosive gases, toxic gases, odours and other gaseous pollutants. The medias may be used as part of original equipment packages or as replacement for spent media.

The campure media range comprises chemically impregnated adsorbents based on activated alumina which may be use on their own or blended with activated carbon.



Demanding applications

Campure medias are designed for the most difficult and demanding applications in industrial and commercial environments. The principal areas of use include the control of acidic gases in pulp and paper, oil refining, and steel production industries. If left untreated, acidic gases

such as hydrogen sulphide, sulphur dioxide, chlorine and oxides of nitrogen may cause serious damage to key electrical equipment essential to process management. Other applications include the control of acidic and odourous gases in waste water treatment applications and the protection of sensitive artefacts in museums and art galleries.



Flexible filtration solutions and support services

Activated carbon and campure medias may be deployed in a range of Camfil Farr hardware systems. These allow standard and custom, solutions for all industrial and commercial applications using various media amounts and bed depths. Activated carbon and campure medias may be re-filled directly into other manufacturers hardware.

These medias are supported by a comprehensive range of technical support services including: media life analysis, corrosion monitoring coupons, on-line monitoring and media handling.

Media	Target gases	Media type
CEX003 CEX004	VOCs, hydrocarbons, general odours	Extruded activated carbon, 3 and 4mm diameter (coal based)
LGS036 LGS048	Light VOCs, hydrocarbons, general odours	Granular activated carbon (coconut shell based)
Impregnated Carbon	Acids, Alkalines, etc.	A wide range of impregnation is available.
Campure 4	H ₂ S, SO ₂ , NOX, formaldehyde, ethylene, light VOCs, Blow mol. Wt. aldehydes and organic acids	H ₂ S, SO ₂ , NOX, formaldehyde, ethylene, light VOCs, low mol. Wt. aldehydes and organic acids
Campure 5	Halogens, halogen acids and organic halides	Activated alumina with chemical impregnation
Campure 8	Enhanced removal of H ₂ S, SO ₂ , NOX, formaldehyde, ethylene, acid gases	Activated alumina with chemical impregnation
Campure 15	H ₂ S, SO ₂ , mercaptans, acid gases, chlorine	Activated alumina and activated carbon with chemical impregnation
Blends	Any of the Campure medias may be blended with either of the activated carbon based medias to provide an adsorption system that combines broad spectrum and highly specific characteristics. The usual blend ratio is 50/50 by volume.	

See individual data sheets for grade specifications