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Why Molecular Filtration?

Air pollution caused by traffic, manufacturing, power plants, agriculture and even forest fires is a growing problem in our industrialized world.

Molecular gaseous compounds are invisible and all around us. Some of these compounds are so toxic, and yet so hard for us to detect, that they can do us harm with our even realizing we have been exposed.

Unfortunately we are routinely being subjected to such hazardous compounds in our offices, our homes, our cities and even during our leisure time.

The impact of such exposure can be significant. High ozone or volatile organic compound (VOC) levels represent a serious health threat for all of us. At the same time air pollution can damage everything from valuable artifacts in museums to exposed surfaces in our homes and offices.

In manufacturing environments Airborne Molecular Contamination (AMC) can cause a variety of problems. In semiconductor manufacturing, for example, AMC can reduce product yield, corrode valuable optical components and damage a wide range of process equipment.

In other industries, as products and processes become more complex and more sensitive to all types of contamination, the control of AMC will become an ever more critical part of ensuring product quality and improving process yield rates.



Filter test rig in Camfil Tech Center, Sweden



Gigachek



Campure Coupon

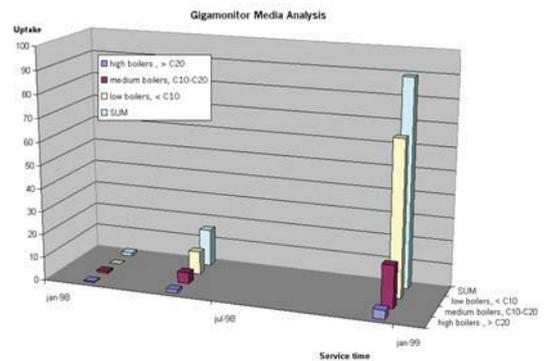
Additional services

Camfil offers a wide range of AMC focused services that allow our customers to remain focused on their core business. These service include filter life time analysis, real time online measurement of contaminants and passive sampling to precisely determine the type and concentration of the problem compounds.

Once local analysis has been completed our AMC experts can propose comprehensive AMC solutions based on the minimum possible Life Cycle Cost available to meet customer needs.

Camfil is the only filter company equipped with a full size filter test facility designed to performance test not just filter media samples but also full size filters under precisely simulated conditions. This full size filter testing is the basis for all our published technical data and can be used to test filter performance against wide and varied range of AMC challenges under precise temperature, humidity and air flow conditions.

This type of performance data can be invaluable when it comes to determining the optimal solution for any specific AMC challenge.



Example: Rest capacity check of a molecular filter in operation

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

Ozone rating



Camfil introduce an ozone removal efficiency classification for molecular filters.

Ozone may be removed from air by molecular filters. To help customers assess the effectiveness of different products, Camfil introduce an ozone removal efficiency rating system. This is a first in the filtration industry.

Ozone

Ozone is a naturally occurring gas that is widely present in our environment at ground level. The ozone molecule is composed of three oxygen atoms, rather than the two atoms of normal oxygen. Ozone is formed by the interaction of other gaseous pollutants such as oxides of nitrogen and volatile organic compounds (VOCs) under the influence of ultraviolet (UV) light. City centre levels of ozone increase during periods of high sunlight. Ozone is classed as an oxidising agent, and has the potential to damage or destroy other molecules.

Ozone and human health

Ozone is an extremely reactive gas and inhalation of ozone can be harmful to human health. The presence of ozone in air may be readily correlated to hospital admission rates relating to respiratory illness. Symptoms of ozone exposure include; throat irritation, aggravation of asthma, decrease in lung function and increased susceptibility to respiratory infection. Ambient ozone levels and high alerts may be available on local government websites in many parts of the world.

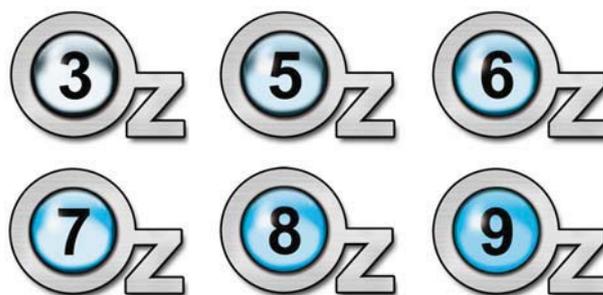
Removing ozone from the air

Molecular filters reduce ozone levels in the air through processes of adsorption and decomposition.

Measuring ozone removal efficiency

Camfil use a unique test rig to measure ozone removal efficiency. Temperature and relative humidity conditioned air is blown through full size production filters. Ozone is injected into the airstream and sensitive ozone detectors measure the concentration upstream and downstream of the filter. Filter efficiency is readily calculated from the up-and downstream ozone concentrations.

Camfil are market leaders in the validation of performance of molecular filters. Filters can be challenged with many different gases and vapours. Using temperatures between 5 and 50 deg C and relative humidity values between 30% and 90%, we can determine the performance of our filters under the conditions present in our customer applications.



| Filter Type | Average Ozone Removal Efficiency | Ozone Rating |
|------------------|----------------------------------|--------------|
| City-Flo XL | 35% | 3 |
| CityPleat 200 2" | 50% | 5 |
| CityPleat 480 4" | 65% | 6 |
| CitySorb | 70% | 7 |
| City-Flo | 80% | 8 |
| CityCarb | 90% | 9 |

(i) All filters tested at 2.5 m/s face velocity (500 fpm);
 (ii) Ozone challenge = 150 – 450 ppb;
 (iii) Temperature = 22 deg C; iv) Relative humidity = 50%)

All the filters use a high quality broad spectrum adsorbent, based on activated carbon to destroy the ozone molecules. Laboratory tests show that filters based on the use of potassium permanganate, which is itself a strong oxidising agent are unlikely to be as effective.



Our "City" - Products

Sick-Building-Syndrome

Sick-Building-Syndrome is the negative impact on health of human beings caused by harmful substances.

The sources of harmful substances are outside e.g. traffic, power plants, industrial manufacturing, forest fires and bacteria. Inside of buildings e.g. furniture's, coatings, carpets and detergents.

All these chemical, harmful substances together can cause headache, fatigue, allergy and decreasing concentration.

Our 2-in-1 principle

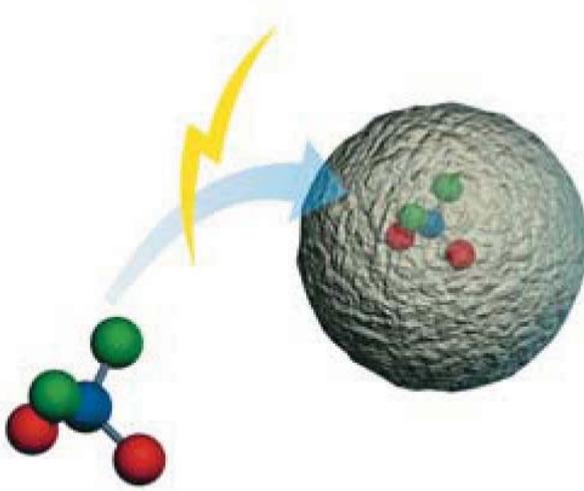
Our CityPleat, City-Flo and CityCarb filter are able to remove particles, bacteria, spores, air pollution and smell. As a result the indoor air quality (IAQ) index is significantly improved.

This improvement is due to:

1. High efficiency particle filtration: filter class F7 / F9 according EN 779.
2. Adsorption of volatile organic compounds (VOC) including smell, sulfur dioxide and ozone: High efficiency through RAD principle.

RAD Principle

RAD stands for Rapid Adsorption Dynamics and is the basis for high efficiency gas filtration. Our filters are able to remove effectively smell and gaseous air pollutants. Ozone for instance is removed with an efficiency higher than 90% thanks to the high efficiency media used in Citycarb. Camfil is using best-in class media to achieve a relative long life time of the filters.



Easy installation

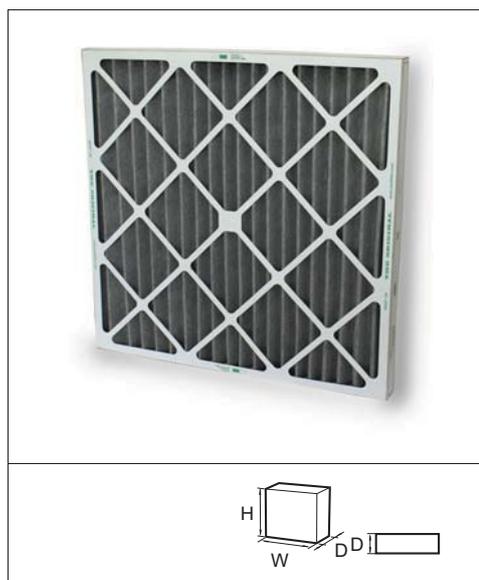
Our filters can be easily installed due to the customer friendly HF frame set. The "City" filters can be normally installed in the existing bag filter frames.

Active against dust, air pollution and smell with only one filter!



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

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.

EN779:2012 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.

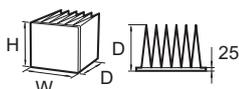
All values are +-15%.

| Model | Width | Height | Depth | Filter Class | Air flow m ³ /h | Pressure drop | Volume m ³ | Weight kg |
|--------------------------|-------|--------|-------|--------------|----------------------------|---------------|-----------------------|-----------|
| CityPleat-100-594x594x44 | 594 | 594 | 44 | G4 | 1900 | 135 | 0,019 | 1 |
| CityPleat-100-289x594x44 | 289 | 594 | 44 | G4 | 900 | 135 | 0,01 | 0,5 |
| CityPleat-200-594x594x44 | 594 | 594 | 44 | G4 | 3175 | 135 | 0,019 | 1,8 |
| CityPleat-200-289x594x44 | 289 | 594 | 44 | G4 | 1500 | 135 | 0.10 | 0,9 |
| CityPleat-200-594x594x95 | 594 | 594 | 95 | G4 | 3185 | 110 | 0.039 | 2 |
| CityPleat-200-289x594x95 | 289 | 594 | 95 | G4 | 1500 | 110 | 0.019 | 1 |
| CityPleat-480-594x594x95 | 594 | 594 | 95 | G4 | 3185 | 90 | 0.039 | 3,8 |
| CityPleat-480-289x594x95 | 289 | 594 | 95 | G4 | 1500 | 90 | 0.019 | 1,9 |

*Full size test in Camfil molecular filtration test rig.

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

City-Flo



Advantages

- Double action: particle and molecular filtration
- 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

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

Type: Multi pocket particle and molecular filter.

Frame: Galvanised steel.

Media: Glass fibre and broad spectrum carbon.

EN779:2012 efficiency: F7.

Temperature: 50°C maximum in continuous service.

Humidity: 70% RH maximum.

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



| Width | Height | Depth | Filter class | Air flow m ³ /h | Pressuredrop | Bags | area m ² | Volume m ³ | Weight kg | Initial eff. % | ME % | Energy class | Energy consumption kWh/y |
|-------|--------|-------|--------------|----------------------------|--------------|------|---------------------|-----------------------|-----------|----------------|------|--------------|--------------------------|
| 592 | 592 | 534 | F7 | 3400 | 140 | 10 | 6,2 | 0,2 | 6 | 62 | 55 | D | 1823 |
| 490 | 592 | 534 | F7 | 2700 | 140 | 8 | 5 | 0,2 | 4,6 | | | D | |
| 287 | 592 | 534 | F7 | 1700 | 140 | 5 | 3,1 | 0,1 | 3,5 | | | D | |

* ME%: Minimum efficiency ref. to EN779:2012
 * Energy Consumption, kWh/year: Calculated according to Eurovent Guideline 4/11
 * Energy class: Calculated according to Eurovent 4/11

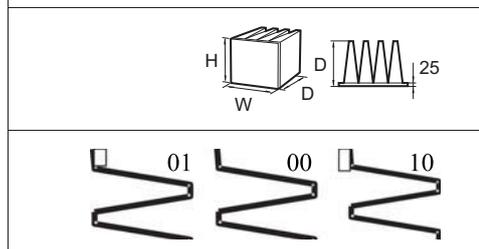
Industry leading bag filter construction is available with an additional molecular filtration media layer to provide gas filtration and enhanced IAQ.

City-Flo is the ultimate solution when a high performance bag filter and a high performance molecular (gas, odour) filter must be installed in a single location. City-Flo filter can easily be fitted into new or existing standard filter frames. High performance Camfil glass fibre media is combined with an exclusive "Broad Spectrum" carbon media that exploits the benefits of "Rapid Adsorption Dynamics" (RAD) to remove a very wide range of VOCs and odours. Molecular pollutants are released from both external sources (traffic fumes, power generation, industry) and internal sources (building construction and finish materials, wooden materials, carpets, cleaning agents etc.).

The filter should be replaced when the pressure loss exceeds the maximum allowable value for the ventilation system or after a maximum of one year. In accordance with good practice, used City-Flo filters should be bagged immediately after removal and disposed of by the appropriate route.



CityCarb®



Advantages

- Double function: particle and molecular filtration
- Ideal for filtering low concentrations of most external and internal source pollutants
- 100% incinerable
- Can be used to upgrade existing installations
- Range of standard sizes
- Compact “2 in 1” solution

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

Type: Compact particle and molecular filter.

Frame: Polystyrene.

Media: Synthetic fibre and broad spectrum carbon.

ASHRAE 52.2:2007 filter class: MERV 13.

Maximum flow rate: 4000m³/h.

Mounting system: Front and side access holding frames are available: Type 8, Type L and FC housings.

| Width | Height | Depth | Filter class | Air flow m ³ /h | Pressure drop | Bags | area m ² | Volume m ³ | Weight kg | Initial eff. % | ME % | Energy class | Energy consumption kWh/y |
|-------|--------|-------|--------------|----------------------------|---------------|------|---------------------|-----------------------|-----------|----------------|------|--------------|--------------------------|
| 592 | 592 | 292 | MERV 13 | 3400 | 120 | | 8 | 0,1 | 11,8 | | | G | >1550 |
| 592 | 490 | 292 | MERV 13 | 2800 | 120 | | 6,6 | 0,1 | 8,5 | | | G | |
| 592 | 287 | 292 | MERV 13 | 1500 | 120 | | 3,5 | 0,05 | 6 | | | G | |

* ME%: Minimum efficiency ref. to EN779:2012

* Energy Consumption, kWh/year: Calculated according to Eurovent Guideline 4/11

* Energy class: Calculated according to Eurovent 4/11

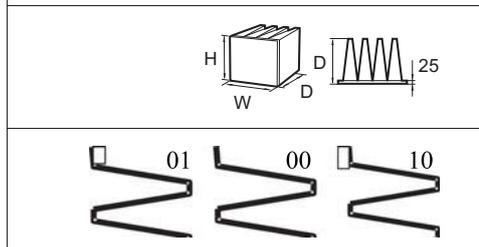
A compact filter with an additional molecular filtration media layer to provide enhanced IAQ through combined particle filtration and gas filtration.

CityCarb is the ultimate solution when a high performance compact filter and a high performance molecular (gas, odour) filter must be installed in a single location. CityCarb filter can easily be fitted into new or existing standard filter frames. Particle filtration media is combined with an exclusive “Broad Spectrum” carbon media that exploits the benefits of “Rapid Adsorption Dynamics” (RAD) to remove a very wide range of VOCs and odours. Molecular pollutants are released from both external sources (traffic fumes, power generation, industry) and internal sources (building construction and finish materials, wooden materials, carpets, cleaning agents etc).

The filter should be replaced when the pressure loss exceeds the maximum allowable value for the ventilation system or after a maximum of one year. In accordance with good practice, used CityCarb filters should be bagged immediately after removal and disposed of by the appropriate route.

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

CitySorb



Advantages

- Ideal for filtering low concentrations of most molecular pollutants from external and internal sources.
- 100% incinerable
- Range of standard sizes
- High efficiency
- Large air flow capacity
- Compact filtration solution

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

Type: Rigid pleated filter.

Case: Polystyrene.

Media: Multilayer carbon media.

Sealant: Polyurethane.

Gasket: One piece PU gasket.

Recommended temperature range: 0-40°C.

Recommended relative humidity: < 70% RH.

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

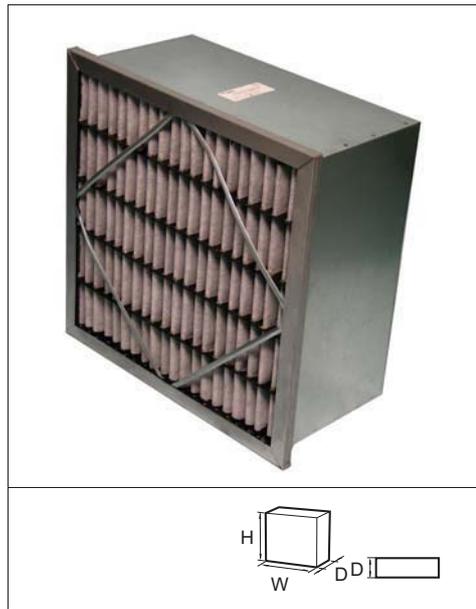
| Width | Height | Depth | Air flow m ³ /h | Pressure drop | Area m ² | Volume m ³ | Weight kg |
|-------|--------|-------|----------------------------|---------------|---------------------|-----------------------|-----------|
| 592 | 592 | 292 | 3400 | 80 | 8.0 | 0.1 | 10.8 |
| 592 | 490 | 292 | 2800 | 80 | 6.6 | 0.1 | 9.2 |
| 592 | 287 | 292 | 1500 | 80 | 3.5 | 0.05 | 5.4 |

A compact molecular filter to provide enhanced IAQ in buildings. CitySorb is the ultimate solution when a high performance molecular filter must be installed in the ventilation system and there is existing pre-filtration. CitySorb filter can easily be fitted into new or existing standard filter frames. "Broad Spectrum" carbon media that exploits the benefits of "Rapid Adsorption Dynamics" (RAD) is used to remove a very wide range of VOCs and odours. Molecular pollutants are released from both external sources (traffic fumes, power generation, industry etc.) and internal sources (building construction and finish materials, wooden materials, carpets, cleaning agents etc).

The filter should be replaced when the pressure loss exceeds the maximum allowable value for the ventilation system or after a maximum of one year. In accordance with good practice, used CitySorb filters should be bagged immediately after removal and disposed of by the appropriate route.

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

Riga-Carb



Advantages

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

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

Type: Disposable carbon filter.

Frame: Galvanised steel (other on request). BH: Double Header, PH: Single Header.

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%.

| Model | WxHxD mm | Media area m ² | Air flow / pressure drop m ³ /h/Pa | Unit weight kg | Unit volume m ³ |
|------------------------------|-----------------|---------------------------|---|----------------|----------------------------|
| Riga-Carb CSRC-202-242412-BH | 592 x 592 x 292 | 6 | 3400/75 | 15 | 0.1 |
| Riga-Carb CSRC-202-241212-BH | 287 x 592 x 292 | 3.2 | 1700/75 | 8 | 0.05 |
| Riga-Carb CSRC-202-242412-PH | 592 x 592 x 292 | 6 | 3400/75 | 15 | 0.1 |
| Riga-Carb CSRC-202-241212-PH | 287 x 592 x 292 | 3.2 | 1700/75 | 8 | 0.05 |
| Riga-Carb CSRC-204-242412-BH | 592 x 592 x 292 | 6 | 3400/75 | 15 | 0.1 |
| Riga-Carb CSRC-204-241212-BH | 287 x 592 x 292 | 3.2 | 1700/75 | 8 | 0.05 |
| Riga-Carb CSRC-204-242412-PH | 592 x 592 x 292 | 6 | 3400/75 | 15 | 0.1 |
| Riga-Carb CSRC-204-241212-PH | 287 x 592 x 292 | 3.2 | 1700/75 | 8 | 0.05 |

BH: Double Header; PH: Single Header

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

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.



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.



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

Flexible filtration solutions and support services

Activated carbon and campure medias may be deployed in a range of Camfil 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](#)

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

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.

| Model | Dimensions (WxHxD) mm | Air flow / pressure drop m ³ /hr/Pa | Unit weight kg | Unit volume m ³ |
|----------------|-----------------------|--|----------------|----------------------------|
| RS80D-LGS048 | 594 x 594 x 47 | 850/70 | 7.5 | 0.017 |
| RS80D-LGS048 | 594 x 289 x 47 | 425/70 | 4 | 0.0083 |
| CamSure-LGS048 | 600 x 600 x 24 | 680/125 | 9.0 | 0.0086 |
| CamSure-LGS048 | 300 x 600 x 24 | 340/125 | 4.5 | 0.0043 |

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 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 offers a wide range of high efficient media tailored to the customer requirements. Camfil 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 offers the right stabilization solution with the RZA/MZA modular frame set.

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

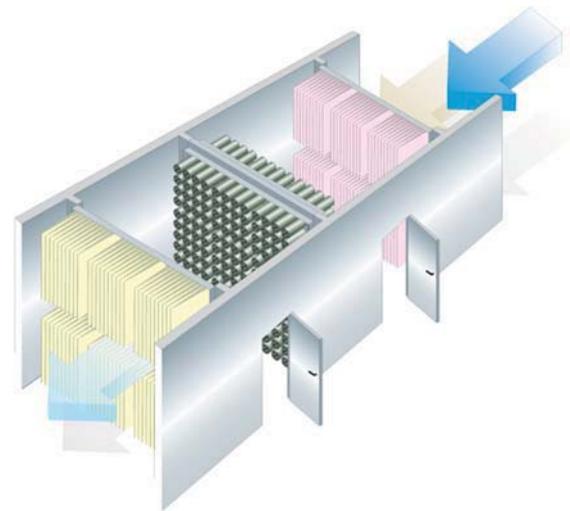
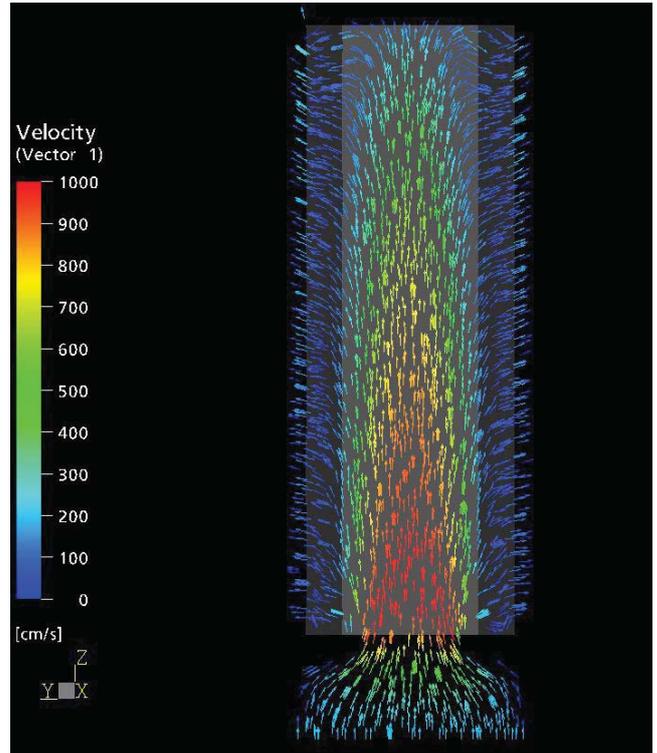
The CamCarb cylinders can be emptied and refilled with new media. This service offers lower operational cost compared to the replacement of the whole cylinder.

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

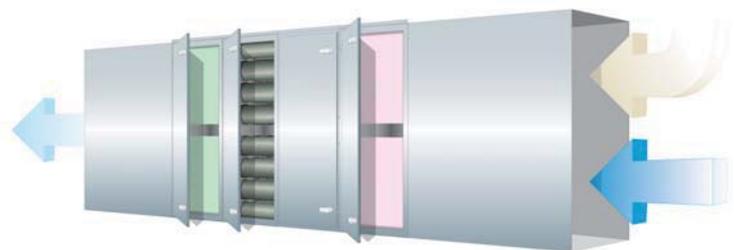
A spare set of cylinders is required to maintain the system operation during the filling process

CamCarb air flow distribution

Camfil did CFD (Computer Fluid Dynamics) simulations to design the Camcarb cylinder to achieve a uniform air flow distribution through th 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 Green



Advantages

- Leak-free installation ensures maximum possible efficiency
- 360 degree geometry and even air distribution ensures maximum possible lifetime
- High level of product cleanliness
- Rapid bayonet fitting system and integral dual TPE gaskets
- Totally corrosion resistant
- Reduced weight compared to Metal version
- Modular and flexible assembly
- May be filled with a wide range of molecular filtration medias

Application: The most reliable molecular filter for high efficiency and long-term control of molecular contaminants in sensitive buildings and process industries.

Type: Cylindrical molecular filter cartridge manufactured from engineering grade resins.

Filtration media: Broad Spectrum activated carbon for control of odours

Cleanliness: Internal scrim protection.

Temperature: 40°C maximum in continuous service.

Mounting system: Dedicated base plate in 3 standard sizes (see separate page).

| Model | Diameter mm | Length mm | Carbon Type | Rated Airflow m ³ /hr * | Pressure loss Pa ** | Unit Weight kg | Unit volume-unpacked m ³ |
|------------|-------------|-----------|-------------|------------------------------------|---------------------|----------------|-------------------------------------|
| CCG-R 1300 | 148 | 240 | CEX003 | 1250 | 65 | 1.55 | 0.005 |
| CCG-R 2600 | 148 | 452 | CEX003 | 2500 | 100 | 2.85 | 0.01 |
| CCG-R 3500 | 148 | 595 | CEX003 | 3400 | 150 | 3.75 | 0.013 |

* Per set of 16 cylinders on a 610 x 610 baseplate

** At rated flow. Pressure drop may vary depending on direction of installation and space in the air handling unit.

CamCarb Green filters are filled with high quality activated carbon or CamPure media and are used for high efficiency removal of molecular contaminants from supply air, recirculation air and exhaust air ventilation systems in sensitive building and process applications.

CamCarb Green filters eliminate customer problems with different categories of airborne molecules, including; odours, irritants, toxic gases and corrosives (acidic gases).

The molecular filtration media is deployed in an annular pattern with uninterrupted 360 degree geometry along the entire length of the filter. This arrangement ensures even air distribution over the entire filter area and maximizes filter lifetime.

Filters mount onto a dedicated baseplate using integrated bayonet fastenings without the need for specialized tools. Three standard sizes of the modular baseplate allow the filter installation to be accommodated in any size air handling unit, duct or plenum.

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

CamCarb Metal



Advantages

- Leak-free installation ensures maximum possible efficiency
- 360 degree geometry and even air distribution ensures maximum possible lifetime
- May be re-filled, lowest possible Life Cycle Cost (LCC)
- Rapid bayonet fitting system and integral dual TPE gaskets
- Stainless steel construction
- Modular and flexible assembly

Application: The most reliable molecular filter for high efficiency and long-term control of molecular contaminants in sensitive buildings and process industries.

Type: Cylindrical molecular filter cartridge manufactured from stainless steel.

Filtration media: Broad Spectrum activated carbon for control of odours

Temperature: 40°C maximum in continuous service.

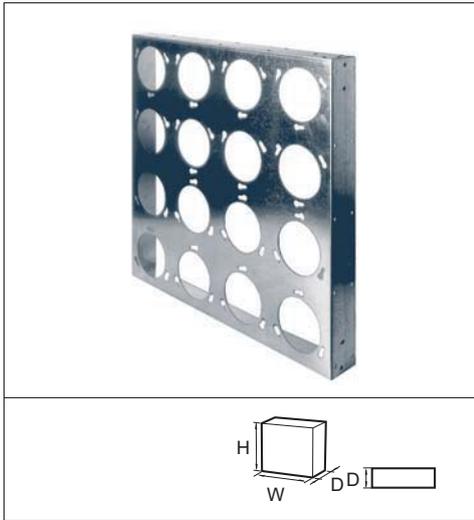
Mounting system: Dedicated base plate in 3 standard sizes (see separate page).

| Model | Diameter mm | Length mm | Carbon Type | Rated Airflow m ³ /hr * | Pressure loss Pa ** | Unit Weight kg | Unit volume-unpacked m ³ |
|---------|-------------|-----------|-------------|------------------------------------|---------------------|----------------|-------------------------------------|
| CC 2600 | 147 | 450 | CEX003 *** | 2500 | 100 | 3.9 | 0.01 |
| CC 3500 | 147 | 600 | CEX003 | 3400 | 150 | 5.2 | 0.14 |

* Per set of 16 cylinders on a 610 x 610 baseplate.

** At rated flow. Pressure drop may vary depending on direction of installation and space in the air handling unit.

CamCarb Mounting Frames (Baseplates)



Advantages

- Modular design adaptable for all types of installations
- Rapid fitting system via bayonet fitting
- Quick and easy service
- Three standard sizes
- Assembly by bolting, rivets, welding

Application: Dedicated mounting frames to ensure leak-free installation of CamCarb molecular filters in AHUs, ducts and plenums.

Applicable filters: CamCarb Metal and CamCarb Green in 2600 and 3500 sizes. (Note always specific filter type when ordering as base plate thickness may vary to accommodate different weights of filters).

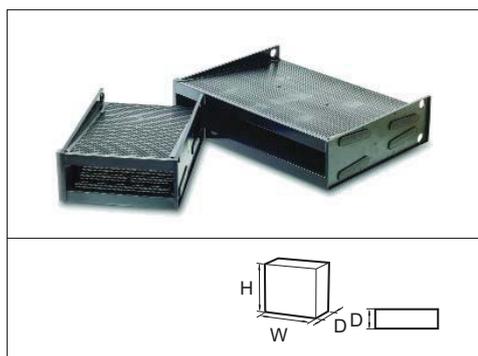
Material: Galvanised steel or stainless steel (specify with order)

| Model | Width mm | Height mm | Depth mm | Cylinder capacity | Indicative weight kg | Approx. Unit volume m ³ |
|-------|----------|-----------|----------|-------------------|----------------------|------------------------------------|
| G8 | 305 | 610 | 70 | 8 | 5.0 | 0.02 |
| G12 | 457 | 610 | 70 | 12 | 5.7 | 0.03 |
| G16 | 610 | 610 | 70 | 16 | 6 | 0.04 |



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CamPure® GDM Green Disposable Modules



Advantages

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

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.

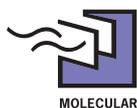
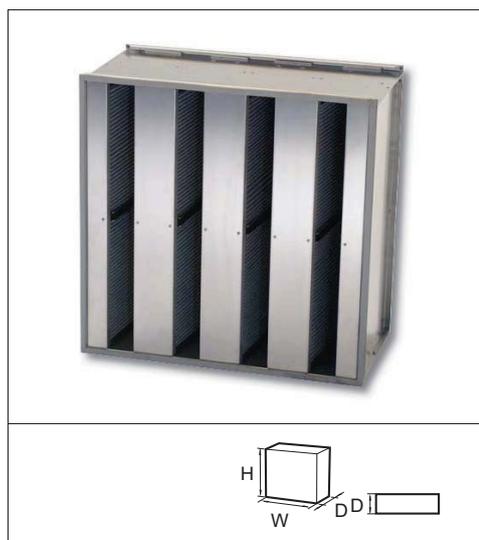
Temperature: Maximum continuous operating temperature of 50°C.

Recommended relative humidity: 30 - 90%.

| Model | Dimensions (WxHxD) mm | Air flow / pressure drop m ³ /h/Pa | Media volume | Application |
|----------|-----------------------|---|--------------|--|
| GDM 300F | 600x295x300 | 425/75 | 27L | Make up air-handling units (MUA), recirculation air handling units, exhaust. |
| GDM 300H | 300x295x300 | 212/75 | 13.5L | Make up air-handling units (MUA), recirculation air handling units, exhaust. |
| GDM 440F | 600x145x440 | 700/50 | 13.5L | Make up air-handling units (MUA), recirculation air handling units, exhaust. |
| GDM 440H | 300x145x440 | 350/50 | 6.75L | Make up air-handling units (MUA), recirculation air handling units, exhaust. |

*Housings are available on request.

Gigapleat XPC/XPB



Advantages

- Reduced waste through re-usable housing
- Exchangeable panels
- Up to 2 media types can be combined into the same filter
- Compact solution
- High media cleanliness

Application: Clean room recirculation air and clean room make up air.

Type: Compact filter with exchangeable panels.

Housing: Stainless steel. Removable sheet metal profiles for panel replacement.

Gasket: Position: 01 - downstream, 10 - upstream.

Sealant: Polyurethane.

Configuration XPC: 2 layers of 8 panels / full size housing.

Configuration XPH: 1 layer of 8 panels / full size housing.

Recommended temperature range: 10 - 40°C.

Recommended relative humidity: 30 - 70%.

Particle cleanliness: ISO Class 6.

Outgassing: Individually outgassing tested for VOC emissions on request

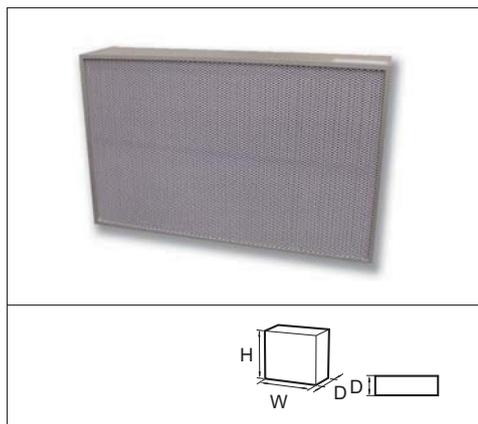
| Product | Type | Material | Width | Height | Depth | Number of panels per layer | Number of panels per housing | Appr. Weight with panels kg | Volume m ³ |
|----------------|-----------------|-----------------|-------|--------|-------|----------------------------|------------------------------|-----------------------------|-----------------------|
| Box Housing | XPC 610x610x292 | Stainless Steel | 610 | 610 | 292 | 8 | 16 | 28 | 0,13 |
| Box Housing | XPC 305x610x292 | Stainless Steel | 305 | 610 | 292 | 4 | 8 | 16 | 0,06 |
| Header Housing | XPH 592x592x292 | Stainless Steel | 592 | 592 | 292 | 8 | 8 | 17 | 0,13 |
| Header Housing | XPH 287x592x292 | Stainless Steel | 287 | 592 | 292 | 4 | 4 | 9 | 0,06 |

| Panel | Fit Housing Width | Fit Housing Height | Fit Housing Depth | Air flow m ³ /h | Pressure drop Pa +15% |
|--------|-------------------|--------------------|-------------------|----------------------------|-----------------------|
| XPC A3 | 610/305 | 610 | 292 | 2600/1100 | 95 |
| XPC B2 | 610/305 | 610 | 292 | 2600/1100 | 95 |
| XPC C3 | 610/305 | 610 | 292 | 2600/1100 | 95 |
| XPC L3 | 610/305 | 610 | 292 | 2600/1100 | 95 |
| XPH A3 | 592/287 | 592 | 292 | 2600/1100 | 60 |
| XPH B2 | 592/287 | 592 | 292 | 2600/1100 | 60 |
| XPH C3 | 592/287 | 592 | 292 | 2600/1100 | 60 |
| XPH L3 | 592/287 | 592 | 292 | 2600/1100 | 60 |

| AMC removal vs filter model | L3 | B2 | A3 | C3 |
|--|------------|------------|------------|------------|
| Acids | | | | YES |
| Bases | | YES | YES | |
| Condensables (B.Pt > 150 deg. C) | YES | | Yes | Yes |
| Dopants (Organophosphates) | YES | | Yes | Yes |
| Dopants (BF3) | | | | YES |
| Organics (B.Pt < 150 deg. C) | YES | | | |
| Ozone | YES | | Yes | Yes |
| For specific contaminants, please contact Camfil | | | | |

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Gigapleat NXPP



Advantages

- Extremely low pressure drop
- High media cleanliness
- Individually VOC outgassing tested
- Extremely small form factor
- Wide range of dimensions
- Multiple media types can be combined into the same filter

Application: For clean room ceiling, Fan Filter Units, mini-environment or process equipment.

Type: Panel filter.

Frame: Anodized aluminium.

Available filter depth without knife edge: 66, 90, 110, 150, 172 and 200 mm.

Available filter depth with knife edge: 66 (+38), 90 (+38), 110 (+38), 150 (+15) mm.

Knife: KU facing up, KD facing down.

Sealant: Polyurethane.

Gasket: 01=Downstream gasket, 10=Upstream, 11=2 gaskets.

Faceguard: 02: Downstream faceguard; 20: Upstream faceguard, 22: 2 faceguards.

Recommended temperature range: 10 - 40°C.

Recommended relative humidity: 30 - 70%.

Particle cleanliness: ISO Class 6.

Outgassing: Individually outgassing tested for VOC emissions.

| Type | Width | Height | Depth | Air flow m ³ /h | Pressure drop Pa +/-15% | Appr. Weight kg | Volume m ³ |
|-------------|-------|--------|-------|----------------------------|-------------------------|-----------------|-----------------------|
| NXPP A3 | 610 | 610 | 90 | 535 | 15 | 5 | 0,04 |
| NXPP A3 | 1220 | 610 | 90 | 1070 | 15 | 10 | 0,04 |
| NXPP B2 | 610 | 610 | 90 | 535 | 15 | 5 | 0,04 |
| NXPP B2 | 1220 | 610 | 90 | 1070 | 15 | 10 | 0,04 |
| NXPP C3 | 610 | 610 | 90 | 535 | 15 | 5 | 0,04 |
| NXPP C3 | 1220 | 610 | 90 | 1070 | 15 | 10 | 0,04 |
| NXPP L3 | 610 | 610 | 90 | 535 | 15 | 5 | 0,04 |
| NXPP L3 | 1220 | 610 | 90 | 1070 | 15 | 10 | 0,04 |
| NXPP B2C3L3 | 610 | 610 | 150 | 535 | 50 | 14 | 0,06 |
| NXPP B2C3L3 | 1220 | 610 | 150 | 1070 | 50 | 28 | 0,06 |

Other dimensions and media combinations available on request. Adapter frames for FFU installation available on request.

| AMC removal vs filter model | L3 | B2 | A3 | C3 |
|---|------------|------------|------------|------------|
| Acids | | | | YES |
| Bases | | YES | YES | |
| Condensables (B.Pt > 150 deg. C) | YES | | Yes | Yes |
| Dopants (Organophosphates) | YES | | Yes | Yes |
| Dopants (BF3) | | | | YES |
| Organics (B.Pt < 150 deg. C) | YES | | | |
| Ozone | YES | | Yes | Yes |

For specific contaminants, please contact Camfil

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Gigapleat NXPB



Advantages

- Low pressure drop
- High media cleanliness
- Low weight
- Incinerable

Application: Clean room recirculation air, clean room make up air.

Type: Compact filter with header.

Frame: ABS.

Sealant: Polyurethane.

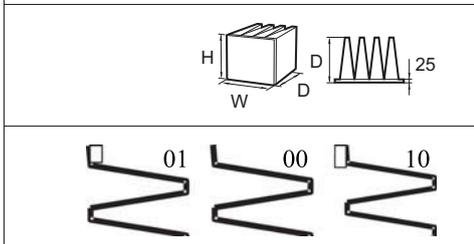
Gasket: 01= downstream, 10 = upstream.

Recommended temperature range: 10 - 40°C.

Recommended relative humidity: 30 - 70%.

Particle cleanliness: ISO Class 6.

Outgassing: Individually outgassing tested for VOC emissions on request.



| Type | Width | Height | Depth | Air flow m ³ /h | Pressure drop Pa +-15% | Appr. Weight kg | Volume m ³ |
|---------|-------|--------|-------|----------------------------|------------------------|-----------------|-----------------------|
| NXPB A3 | 592 | 592 | 292 | 3300 | 60 | 12 | 0,13 |
| NXPB A3 | 592 | 287 | 292 | 1600 | 60 | 6,5 | 0,06 |
| NXPB B2 | 592 | 592 | 292 | 3300 | 50 | 12 | 0,13 |
| NXPB B2 | 592 | 287 | 292 | 1600 | 50 | 6,5 | 0,06 |
| NXPB C3 | 592 | 592 | 292 | 3300 | 60 | 12 | 0,13 |
| NXPB C3 | 592 | 287 | 292 | 1600 | 60 | 6,5 | 0,06 |
| NXPB L4 | 592 | 592 | 292 | 3300 | 60 | 12 | 0,13 |
| NXPB L4 | 592 | 287 | 292 | 1600 | 60 | 6,5 | 0,06 |

| AMC removal vs filter model | L3 | B2 | A3 | C3 |
|--|------------|------------|------------|------------|
| Acids | | | | YES |
| Bases | | YES | YES | |
| Condensables (B.Pt > 150 deg. C) | YES | | Yes | Yes |
| Dopants (Organophosphates) | YES | | Yes | Yes |
| Dopants (BF3) | | | | YES |
| Organics (B.Pt < 150 deg. C) | YES | | | |
| Ozone | YES | | Yes | Yes |
| For specific contaminants, please contact Camfil | | | | |

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Gigapleat NXPC



MOLECULAR

Advantages

- Low pressure drop
- High media cleanliness
- Wide range of dimensions

Application: Clean room recirculation air, clean room make up air.

Type: Compact filter.

Frame: GI, aluminium or stainless steel.

Sealant: Polyurethane.

Gasket: 01 = downstream, 10 = upstream.

Recommended temperature range: 10 - 40°C.

Recommended relative humidity: 30 - 70%.

Particle cleanliness: ISO Class 6.

Outgassing: Individually outgassing tested for VOC emissions on request

| Type | Width | Height | Depth | Air flow m ³ /h | Pressure drop Pa +15% | Appr. Weight kg | Volume m ³ |
|---------|-------|--------|-------|----------------------------|-----------------------|-----------------|-----------------------|
| NXPC A3 | 610 | 610 | 292 | 2600 | 60 | 15 | 0,13 |
| NXPC A3 | 305 | 610 | 292 | 1100 | 60 | 8 | 0,06 |
| NXPC A3 | 595 | 595 | 292 | 2600 | 60 | 15 | 0,13 |
| NXPC A3 | 289 | 595 | 292 | 1100 | 60 | 8 | 0,06 |
| NXPC A3 | 592 | 592 | 292 | 2600 | 60 | 15 | 0,13 |
| NXPC A3 | 287 | 592 | 292 | 1100 | 60 | 8 | 0,06 |
| NXPC B2 | 610 | 610 | 292 | 2600 | 60 | 15 | 0,13 |
| NXPC B2 | 305 | 610 | 292 | 1100 | 60 | 8 | 0,06 |
| NXPC B2 | 595 | 595 | 292 | 2600 | 60 | 15 | 0,13 |
| NXPC B2 | 289 | 595 | 292 | 1100 | 60 | 8 | 0,06 |
| NXPC B2 | 592 | 592 | 292 | 2600 | 60 | 15 | 0,13 |
| NXPC B2 | 287 | 592 | 292 | 1100 | 60 | 8 | 0,06 |
| NXPC C3 | 610 | 610 | 292 | 2600 | 60 | 15 | 0,13 |
| NXPC C3 | 305 | 610 | 292 | 1100 | 60 | 8 | 0,06 |
| NXPC C3 | 595 | 595 | 292 | 2600 | 60 | 15 | 0,13 |
| NXPC C3 | 289 | 595 | 292 | 1100 | 60 | 8 | 0,06 |
| NXPC C3 | 592 | 592 | 292 | 2600 | 60 | 15 | 0,13 |
| NXPC C3 | 287 | 592 | 292 | 1100 | 60 | 8 | 0,06 |
| NXPC L3 | 610 | 610 | 292 | 2600 | 60 | 15 | 0,13 |
| NXPC L3 | 305 | 610 | 292 | 1100 | 60 | 8 | 0,06 |
| NXPC L3 | 595 | 595 | 292 | 2600 | 60 | 15 | 0,13 |
| NXPC L3 | 289 | 595 | 292 | 1100 | 60 | 8 | 0,06 |
| NXPC L3 | 592 | 592 | 292 | 2600 | 60 | 15 | 0,13 |
| NXPC L3 | 287 | 592 | 292 | 1100 | 60 | 8 | 0,06 |

For media choice, please refer to Gigapleat NXPH