

CARBOFIL®

MODULES WITH ACTIVATED CARBON

For decolorization, deodorization and other activated-carbon treatments of liquids



Characteristics

CARBOFIL® modules allow the user to handle large areas of activated carbon sheets easily in a disposable assembly. The treatment is performed in a closed system. There is no need for use of activated carbon powder or granules and no messy filter cake.

Dimensions

Modules are available in the following versions:

	12"	16"
Diameter	300 mm	400 mm
Area / module	1.8 m ² (19 sqft)	3.6 m ² (38 sqft)
Height (bayonet adapter)	330 mm	330 mm
Height (flat adapter)	272 mm	272 mm

Filter area for modules with 16 cells.

Adapter types

The FILTRIX activated carbon modules are available in all common adapter types:

- flat adapter (= DOE)
- bayonet adapter (= DOR = F)

The bayonet adapter is a safer alternative due to its double-o-ring sealing gaskets.

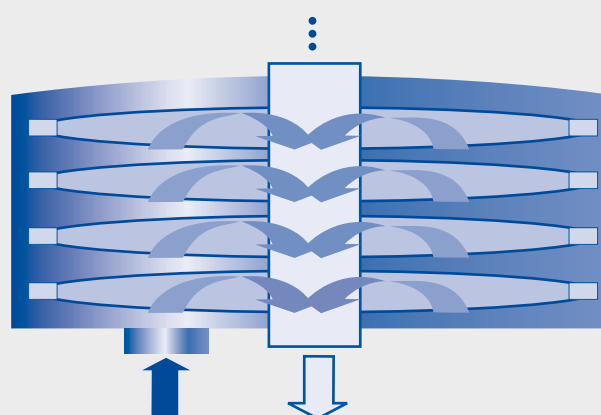
The handling of that adapter type is, in addition, much easier.

Rigid Construction

The module consists of a polypropylene backbone (rigid core) and activated carbon sheets on drainage bodies.

Function principle

The module is placed in a special housing. Liquid fills the space between the housing and the outside part of the module. The liquid flows through the sheets where it gets into contact with the activated carbon particles. The treated liquid is drained through the inside of the drainage body and the rigid core to the outlet of the filter housing.



Applications

All applications where liquid has to be treated with activated carbon for removing color, odor, off-taste or chlorine of a liquid.

Carbon treatment applications include

- decolorisation of blood products, glucose solutions, antibiotics, solvents, sugar syrups, cosmetics, chemicals, silicone oils, electroplating chemicals, alcoholic beverages
- deodorisation of fruit juices, beverages
- dechlorination of water
- off-tastes removal in food and beverages

Carbon content

According to the production parameters we specify the following carbon content per module:

Diameter	Carbon content [g/m ²]	Carbon content per Module [g]
12	450	810
16	450	1620

Modules with higher carbon content upon request.

Activated carbon

CARBOFIL® lenticular modules have steam activated carbon inside with a high absorptive capacity and a high purity. The carbon meets the requirements of the U.S. food chemicals codex (4th edition, 1996).

General characteristics activated carbon

Molasses number (EUR)	330
Methylene blue adsorption	12 g/100 g
Internal surface area (B.E.T)	650 m ² /g
Apparent density (tamped)	455 kg/m ³ (129 Kg/ft ³)
Water soluble matter	1 mass %

Specifications activated carbon

Molasses decolorizing efficiency (RE)	min.	95
pH	min.	4.3
	max.	7.0
Particle size, laser, volume		
d5	min.	2.7 µm
d50	min.	30 µm
	max.	42 µm
d95	max.	130 µm
Pore size distribution		
through 100 mesh (150 µm)		99%
through 325 mesh (45 µm)		70%

Operating conditions

Max. operating temperature: 82° C
Max. differential pressure (Module): 2.4 bar
Recommended rinsing volume: 50 l/m²

Extractables

Heavy metals content referring to recommendations XXXVI/1
German BgVV: < 50 ppm
(law on foodstuffs and items of practical use)
Carbofil modules are free of extractable organic solvents since no organic solvents are used during the production.

FILTROX quality assurance

FILTROX assures the best quality control according to international standards:

- ISO 9001 (Quality management)
- ISO 14001 (Environmental management)
- FDA drug master file: # 16418

External tests of lenticular modules and filter sheets were performed and certified according to

- USP plastic class test VI (BSL, Munich)
- other CFR requirements by the NAMSA

FILTROX is using polyamidoamine, as wet strength agent, in its filter sheets. The ISEGA Institute for food analysis in Aschaffenburg (Germany) performed a test for extractable MCPD and DCP. The FILTROX filter sheets extracts were below the detection limit of the approved standard method.

The filter sheets are free of GMO and common allergens.

Material

Backbone material
The drainage bodies and the rigid core is made of polypropylene.
There is no metal used within the module.

Gasket material

Available material:
- Silicone (standard)
- EPDM
- Teflon® (encapsuled gaskets)

Activated carbon sheets

Sheets are made of activated carbon, purified and bleached cellulose, natural inorganic filter aid (DE) and Polyamidoamine (< 3%).

Diatomaceous earth (DE)

Carbofil sheets contain DIATOMACEOUS EARTH (DE / «Kieselguhr») as an inorganic filter aid.
FILTROX uses only natural kieselguhr with a «Cristobalite» content < 1 % (detection limit).

Expiring and storage

Carbofil modules should be stored in a dry and odor free storage. Properly stored they will not expire before 5 years.

Your FILTROX dealer:

The information contained in this pamphlet is up-to-date at the time of release. However, each end user is requested to check the suitability of their product(s) with the types of filtration mentioned in this leaflet. Technical modifications are reserved.