CARBOFIL™ depth filter media with immobilized activated carbon
Powdered activated carbons (PAC) play a critical role in a vast and diverse range of applications. Decolorization, deodorization or the removal of other trace impurities are amongst the most common applications where PAC are widely used in the pharmaceutical as well as in the food & beverage industries. Due to their unique adsorption characteristics, PAC are also used in biotechnological processing and the production of fine chemicals. In order to meet these various demands, there are a large number of activated carbons available, offering different levels of activation, molecular structure and purity levels. Using activated carbon in an immobilized form (e.g. in a depth filter sheet or lenticular module) offers significant benefits in handling, cleaning and time (cost savings), compared to using PAC. FILTROX CARBOFIL™ products bring out all the benefits of immobilized activated carbon versus PAC. Furthermore, the adsorption efficiency of immobilized activated carbon is higher than with an equivalent amount of bulk PAC.

Activated carbon characterization
Pore size distribution
Activated carbon is a highly porous adsorptive material. Organic contaminants get trapped within the pores. Pore sizes vary between micropores, mesopores and macropores with various pore size distribution patterns amongst different activated carbons, depending on the activation method and the material source involved.

Activated carbon selection
Based on these characteristics, it can be determined which types of molecules are adsorbed by a certain activated carbon. The size of the molecules adsorbed is directly related to the pore size distribution of the activated carbon.

* Dark colors, proteins and foaming agents
Various industries – diverse applications

CARBOFIL™ products can be used as flat sheets in a plate and frame filter such as in the NOVOX® series, or they may be applied as FILTRODISC™ lenticular modules in closed housings such as the DISCSTAR™ series.

<table>
<thead>
<tr>
<th>Industry</th>
<th>Decolorization</th>
<th>Removal of organic impurities</th>
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<tbody>
<tr>
<td>Biopharmaceutical industry</td>
<td>– Albumin</td>
<td>– Removal of PKA from human plasma fractions</td>
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<td>– Vitamins</td>
<td>– Removal of endotoxins</td>
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<td></td>
<td>– Antibiotics</td>
<td>– Removal of organic impurities from contrast liquids</td>
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<td>– Vaccines</td>
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<td>Chemical industry</td>
<td>– API</td>
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<td>– Silicon oils</td>
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<td></td>
<td>– Solvents</td>
<td>– Removal of organic impurities</td>
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<td></td>
<td>– Fine chemicals</td>
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<tr>
<td>Food &amp; beverage industry</td>
<td>– Plant/herbal extracts</td>
<td>– Deodorization of ethanol</td>
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<td>– Fragrances</td>
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<td>– Sugar syrup</td>
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<td>– Spirits</td>
<td>– Removal of off-tastes from spirits</td>
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<td></td>
<td>– Cider</td>
<td>– Removal of bitterness from soups</td>
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<tr>
<td></td>
<td></td>
<td>– Decolorization</td>
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</tbody>
</table>

Convenient media grade selection

CARBOFIL™ products are available with various different grades. To assist in finding the most suitable CARBOFIL™ grade for any application, FILTROX offers the easy-to-use CARBOFIL™ Test Kit. For further information about the CARBOFIL™ Test Kit contact your local FILTROX representative or the FILTROX Academy (applications@filtrox.com).

FILTROX Group

The FILTROX Group is your reliable partner offering solutions for all applications within the field of microfiltration of liquids where we are experts due to our long-term experiences. With several production facilities worldwide, we offer highest flexibility as well as custom-made products for your special needs.
FILTROX. DEPTH FILTRATION FOR VALUABLE LIQUIDS.

As a global market leader in depth filtration, FILTROX offers complete solutions for filtration of high value liquids.

We are experts in development, manufacturing and supply of Swiss top quality products for a wide range of applications in pharmaceuticals, biotechnology, chemicals and cosmetics as well as in food and beverage. Since 1938, we have been developing and manufacturing both filter media as well as filtration equipment in-house. Based on this experience, we can offer our customers a complete range of products.

FILTROX’s worldwide distribution network and comprehensive technical support will help you optimize your filtration process.

Visit us online at www.filtrox.com for more information.

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