

MOBICON®



Delivery of a MOBICON®

Features

The use of mobile adsorption systems has several advantages:

- Just connect and start
 - Rapid and easy site installation
 - Quick connection
- No on-site carbon handling
 - Combined transport vessel and filter
 - Can be used with other media
- Available on a rental base, without investment cost
 - Daily contracts
 - No maintenance costs
- Possibility to test and evaluate new applications without capital investment
- Efficient design (low pressure drop)
 - Installation in series or parallel is possible

Description

The MOBICON® is a mobile interchangeable adsorption filter, specially developed for the treatment and purification of water and liquids.

The MOBICON® is a combined transport and adsorption vessel that can be temporarily or semi-permanently installed into the process giving the advantage of no on-site media handling.

The MOBICON® is prefilled with a selected media and then delivered to the customer's site ready for use with a DESOTEC truck. The frame of the filter allows it to be placed on a flat and hard surface.

The MOBICON® comes complete with piping, valves and connections suitable for immediate connection to the stream to be treated. The filter is normally connected with flexible hoses and is used down-flow.

The MOBICON® is used in a simple and economical way as single filter or in series or in parallel to treat liquids.

When the MOBICON® is saturated or the treatment objective is reached, it is taken off-line to exchange the entire filter by another unit, filled with fresh media. This eliminates the need for spent media disposal by the user and minimises manipulation and transport costs. Once the mobile filter is returned to DESOTEC, it is discharged of spent media, cleaned, checked and refilled with the required product.

The MOBICON® can be used on-site for industrial applications such as waste water treatment, groundwater remediation, treatment of leachate and also for the purification of chemicals, foods, drinking water. Food grade units are kept in a separate pool to avoid any risk of contamination.

DESOTEC recycling services

DESOTEC ACTIVATED CARBON supplies products, such as activated carbon and other filtration media, that are used to remove a wide range of molecules from liquids and gases by processes such as adsorption, chemisorption,... Once the supplied products are saturated, or the treatment objective is reached at customers' site, it is named 'spent product'. As part of DESOTEC's complete service package, we offer several recycling or treatment options:

1. Recycling of spent activated carbon by thermal reactivation
2. Energy valorisation of spent activated carbon or other carbonaceous media
3. In the rare event that spent material cannot be reactivated or the energy cannot be valorised, DESOTEC assures the proper elimination of the spent material.

The recycling option depends on the nature of the spent product. Prior to anything, DESOTEC will analyse the process data and the spent product sample supplied by the user, to advise and select the most cost effective and environmentally friendly solution.

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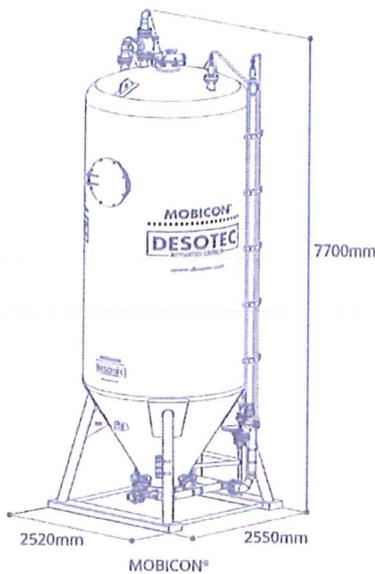




Pressure drop

For the treatment of water and liquids, granular activated carbon is normally used. For the calculation and the prediction of this pressure drop, use the pressure drop graph (on request). The pressure drop depends on the particle size and particle size distribution of the granular activated carbon, the viscosity of the fluid and the design of the filter itself and is only to be used as a guideline.

Typical lay-out



Technical description

Flow rate (Max.) (m ³ /h)	100
Temperature [*] (Max.) (°C)	60
Pressure ^{**} (Max.) (barg)	3
Useful volume (Max.) (m ³)	20
Vessel - Total volume (m ³)	26.6
Material of construction	Steel vessel
Vessel coating	Vinyl ester glass flake
Gaskets	EPDM
Piping material	HDPE
Connections - Inlet	DN 100 Guillemin Male
Connections - Outlet	DN 100 Guillemin Male
Connections - Drain	DN 100 Guillemin Male
Valve	DN100 Butterfly valve (PVC)
Inlet sampling	½ " Ball valve
Outlet sampling	½ " Ball valve
Dimensions	Height 7.7m x 2.6m x 2.5m
Clearance height (Min.) (m)	9
Drained weight (Max.) (MT)	22
Floor weight (Max.) (MT)	40

(^{*}) The unit should be insulated when operating above 40°C to comply with the CDM regulation.

(^{**}) The unit is not vacuum rated, pressure relief to be provided by the customer.

DESOTEC reserves the right to change specifications without notice.

Safety

Wet activated carbon preferentially removes oxygen from air. In closed or partially closed containers and vessels, oxygen depletion may reach hazardous levels. If workers are to enter a vessel containing activated carbon, appropriate sampling and work procedures including local requirements for potentially low-oxygen spaces should be followed.

The company

DESOTEC ACTIVATED CARBON is an international developer, producer and supplier of purification solutions mainly based on activated carbon technology. Our complete solutions include the supply of a wide range of mobile adsorption systems, the design, construction and start up of tailor made fixed systems and the recycling of used activated carbon. The AIRCON[®] mobile adsorption systems are designed to purify gases using the AIRPEL[®] range of products while our MOBICON[®] systems are used to purify liquids with the ORGANOSORB[®] range of products. The secret of our success is our vision of customer service, 24 hours per day and 7 days a week.

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ORGANOSORB® 10



ORGANOSORB® 10 is a granular activated carbon produced by steam activation of selected grades of coal for use in various water treatment applications. **ORGANOSORB® 10** is successfully used by a wide range of customers including drinking water producers, brewers, soft drink manufacturers and in industrial water treatment.

Applications

ORGANOSORB® 10 is used in a wide range of applications. These applications include

- Groundwater (BTEX, Chlorinated solvents, PAH)
- Industrial wastewater (COD, AOX, EOX, TOC)
- Landfill leachate (COD, AOX, TOC)
- Process water (Feed water, condensate,...)
- Municipal and industrial drinking water production
- Several purification steps in industrial processes
- Food and food ingredients purification
- Dechlorination

An **ORGANOSORB® 10** with a grain size distribution of 0,42-1,70mm has typically a mean particle diameter (mpd) of 1,1mm compared to 1,6mm for grain size distribution of 0,60-2,36 mm.

The adsorption kinetics, in general, are faster for smaller mpd compared to bigger mpd's and will have a smaller mass transfer zone. Therefore **ORGANOSORB® 10** with a 0,42-1,70mm grain size distribution should be selected for treatment of viscous solutions.

Properties

Specifications		
Iodine number (Min.) (mg/g)	950	950
Particle size* (mm)	0,42-1,70	0,60-2,36
Sieve analysis		
<2,36mm (Min.) (%)		90
<1,70mm (Min.) (%)	90	
>0,60mm (Min.) (%)		93
>0,42mm (Min.) (%)	93	
Typical values		
Bed density** (kg/m ³)	440	440
Backwashed & drained density*** (kg/m ³)	415	415
BET**** surface area (m ² /g)	960	960

(*) Other particle sizes are available upon request

(**) Bed density is used for adsorber sizing

(***) Backwashed & drained density are used for drinking water applications

(****) Brunauer-Emmett-Teller

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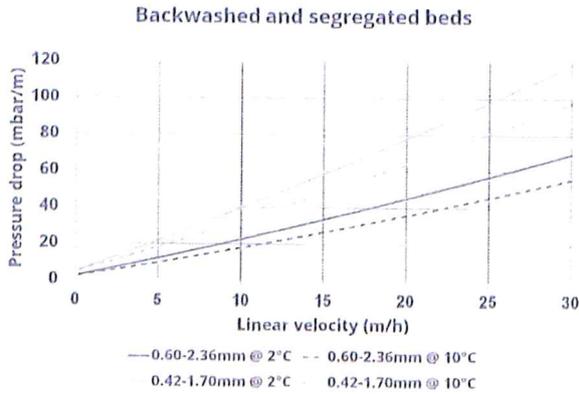
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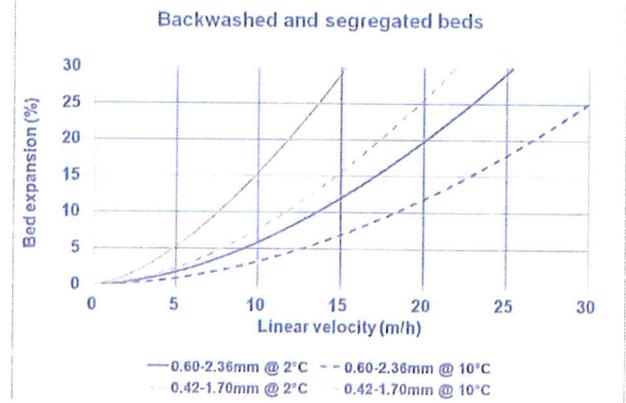




Typical pressure drop curve



Typical backwash curve



Pressure drop for non segregated beds can be 3 times higher than segregated beds.

Packaging

- Small bags
- Big bags
- Mobile equipment
- Other packaging upon request

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The General DESOTEC Sales Conditions apply to all trade correspondence and transactions (see www.desotec.com).

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