

ACTIVATED CARBON FILTERS

ACTIVATED CARBON FILTERS FOR DECHLORINATION AND ORGANICS REMOVAL

Activated Carbon is a specialised filter media used principally for dechlorination or removal of organic compounds and colour in water. It will also remove other contaminants at low levels. The benefits of carbon filtration are mainly the elimination of tastes and odours. It is sometimes used as a post-polishing process.

The length of the contact time of the raw water with the Activated Carbon is crucial to its removal capability which often means that large volumes of the media are needed for effective water treatment.

Most of the Activated Carbon used for general water treatment is made by carbonising coconut shell. The carbon is 'activated' with high pressure steam. This leaves the carbon with numerous minute spores in its surface while retaining a high crush resistance. During

organics filtration with Activated Carbon, the molecules of the contaminant travel into the pores and are trapped. Eventually all the pores become filled and the Activated Carbon needs to be changed. The frequency of changing will depend on the type and concentration of the contaminants.

Chlorine removal is a catalytic process in which the media does not become exhausted or blinded by the Chlorine. However the catalytic sites on the surface of the Activated Carbon will eventually become blinded by other contaminants in the raw water so that the media will still need to be changed (typically every 1-3 years), even when the primary use of the media is for dechlorination.

The effectiveness of Activated Carbon at removing organic compounds such as pesticides and trihalomethanes varies according to the precise nature of the contaminant. Please consult your installer for more information.



**THE RIGHT PRODUCT
....AT THE RIGHT PRICE
....AT THE RIGHT TIME**

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System Management & Backwashing

During service the filter media will need to be backwashed to remove debris that accumulates on the surface of the Carbon and to 'reclassify' the media to prevent channelling of water through the filter bed. The backwash and rinse cycle takes approximately 20 minutes in total.

Backwashing frequency is usually controlled by a timer which will backwash the system at pre-set intervals. Meter controlled valves can also be used which will backwash the filter media after a pre-set volume of water has been treated.

For sites where there is high organic load on the filter, the Activated Carbon media may need to be changed frequently. On larger systems, special tanks are available with additional side and top ports to speed up the process and eliminate the need to disturb the backwash valve and internal distribution system.

Specifying and Sizing

Sizing of a dechlorinator is based on a contact time of 6 minutes, equivalent to 10 bed volumes per hour. Decolourisation may require a longer contact time and therefore more media or a slower flow rate may be needed. Larger systems using steel vessels and service valve controllers are available to order.

Technical Details and Model numbers

Model	FA1054	FA1248	FA1354	FA1465	FA1665	FA1865	FA2160	FA2469	FA3072	FA3672	FA4278	FA4882
Flow rate m3/h	0.40	0.50	0.70	1.00	1.40	1.90	2.25	3.25	4.50	7.50	10.00	12.50
B/W flow m3/h	0.50	0.90	1.00	1.20	1.50	2.20	2.60	3.40	5.30	7.70	10.50	13.70
Connections In/Out	1" BSP	1" BSP	1" BSP	1" BSP	1" BSP	1" BSP	1" BSP	1" BSP	1.5" BSP	2" BSP	2" BSP	2" BSP
Height mm	1570	1430	1570	1860	1860	1990	1830	2210	2370	2450	2220	2350
Diameter mm	270	315	335	370	410	510	560	620	770	930	1080	1230

NB. To prevent damage to the vessel these filters must be protected from negative pressure from the drain or supply. A vacuum relief valve is recommended on the inlet supply and is supplied with all vessels from 370mm diameter upwards.

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