

Continental Carbon Group

Continental Filtration Solutions – MAG-50 FILTERS

Continental Pre-Engineered Filtration Systems are rugged, dependable water treatment solutions designed for the rigors of the industrial and municipal markets.

Combining industry leading filtration knowledge with the correct application of MAG-50 media, Continental Carbon has created efficient and durable filtration systems that are designed to operate at high loading rates for use in the reduction of iron, manganese, arsenic, radium and hydrogen sulfide.



MAG-50

MAG-50 is a highly effective media for the removal of iron, manganese, arsenic, radium and hydrogen sulfide. This robust filter media has proven highly successful in municipal, small community and industrial pretreatment applications where manganese is in the water. The MAG-50 media is a catalytic manganese dioxide filtration media and, like many filtration medias, does not get changed for years. In the case of MAG-50 media, it will not be changed for 10+ years. The design is based on surface loading rate, expressed as gallons per minute per square foot of filtration area and a 36" media depth. There is no holding time required for this unit. The filtration media is cleaned by periodic backwashing, but this is a cleaning, not a regeneration step.

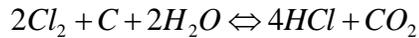
Oxidant Feed

To maintain and further augment the long-term performance and removal capacity of the media, an oxidant feed is required. This will maintain the oxidation catalyst properties of the media and enhance removal capacity. Chlorine injection up stream of the filter feed is a typical way to meet this requirement. An oxidant feed is required for long term performance of the media for Fe and Mn removal with the ferric feed enhancing the catalytic properties of the media.

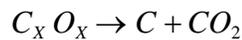
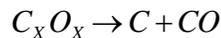
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Granular Activated Carbon (GAC)

GAC has long been used for the removal of residual chlorine from water. As super chlorination finds wider acceptance in the public water supply industry, means of dechlorination are required. Dechlorination by granular carbon is extremely effective and reliable. Because the granular activated carbon acts principally as a catalyst for the reduction of hypochlorous acid to chloride ion, the capacity of the carbon is determined not by normal adsorption parameters but by other considerations.



The chemisorbed nascent oxygen decomposes in either of the following two ways.



This takes place on the surface of the carbon.

So in the case 100 GPM system designed at 4.5 minutes of FBCT contact time the bed life at 0.2ppm of excess free chlorine before water is filtered through the GAC Vessels can be at least 1,000 days or more as shown below in Figure 1.0.

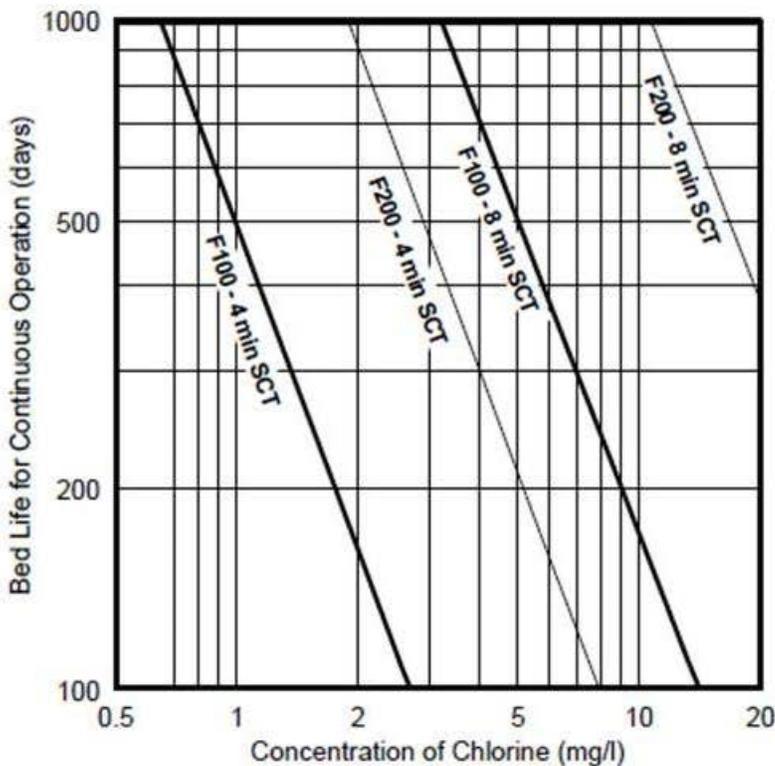


Figure 1: Graph to calculate the estimated bed life for dechlorination.