

Iron And Manganese removal

Iron and manganese are commonly found in borehole water. They can cause unsightly staining and at high levels they can cause health problems. Both can be removed to leave the water crystal clear. Some medias will also remove the hardness which causes furring in boilers at the same time with no extra treatment. Of all water treatments the removal of iron and manganese from the supply is very dependant on a good water analysis as the performance of the medias will depend upon factors such as pH level, hardness, turbidity etc. Primary stage treatment may be necessary in order to prepare the water correctly for iron and manganese removal.

Media Mix CR

CR media is an ion exchange media which removes iron, manganese and hardness. The minimum pH requirement is 6.0 and this media will raise the pH in these acidic waters. It works at its best on clear water, i.e. when the iron/manganese are in a dissolved form. It will also remove hardness with no extra treatment. Ammonia, lead, hydrogen sulphide and copper can also be reduced. The media bed can be sanitised if required with chlorine from time to time. The regeneration process is exactly the same as that used in a water softener and requires regeneration with salt (sodium chloride). There are two types of CR media, one is used where the pH is between 6 and 7 and will increase the pH. The other is used where the pH is 7 or above. This media has a number of advantages over conventional systems in that pH correction, iron/manganese removal and softening can all be addressed in a single process.

Kit Ref	1054CR100	1252CR100	1354CR100	1465CR100	1665CR100	1865CR100
Vessel	10.54	12.52	13.54	14.65	16.65	18.65
Forward flow cu.m/h	1.5	1.8	2.0	2.5	3.0	4.0
Backwash flow cu.m/h	1.6	1.8	2.30	2.3	3.4	3.9

Media mix FLX

This media is used for removing iron, hydrogen sulphide and manganese from water supplies. It is a media that utilises an oxidation-reduction reaction and filtration process similar to Greensand, but at a much higher level of performance. FLX media contains 80% manganese dioxide in an extremely unique cluster format for enhanced performance and maximised capacity. FLX out performs Greensand, Birm etc due to the purity of its particles, superior oxidation, filtration capacity, and durability. Requires a minimum bed depth of 500mm. Needs a pH of at least 8 for effective manganese removal. Minimum dissolved oxygen content of 15%

Kit Ref	1054FLX	1252FLX	1354FLX	1465FLX	1665FLX	1865FLX
Vessel	10.54	12.52	13.54	14.65	16.65	18.65
Forward flow cu.m/h	2.0	2.7	3.4	4.1	5.4	6.1
Backwash flow cu.m/h	1.9	2.7	3.1	3.6	4.8	6.0

Base ion exchange

If water conditions are right then a simple method of removing iron and manganese from water is to use a Base Ion Exchange media. This media works over a wider range of pH than FLX media and has the added benefit of softening the water. The media works by taking on board ions of iron and manganese which replace sodium ions. During the regeneration cycle, which uses salt, the iron and manganese is replaced by sodium, this iron and manganese are released into the backwash water and flushed to drain. The sodium level in the water produced is increased and care should be taken that the regulatory limits are not exceeded. Natural sodium levels in water is usually quite low and so this is not normally an issue.

Kit Ref	1054SOF	1252SOF	1354SOF	1465SOF	1665SOF	1865SOF
Vessel	10.54	12.52	13.54	14.65	16.65	18.65
Forward flow cu.m/h	1.7	2.5	3.0	4.0	5.0	5.7
Backwash flow cu.m/h	1.6	1.8	2.30	2.8	3.4	3.9

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