

Softener units

What is hard water?

Rainwater which falls on chalk and limestone dissolves and collects hard water minerals. This water collects in underground aquifers before either naturally coming back to the surface as streams or being pumped via a borehole. The minerals naturally drop out of solution forming scale deposits, especially when the water is heated. In many applications this scale build up becomes unsightly or interferes with efficiency, and needs to be removed. Just 1.6mm of scale build up will cause a 12% loss in heating efficiency in boiler water. Softened water also reduces the effective use of detergents and soaps. Hard water can be softened by passing the water through an ion exchange resin where the calcium and magnesium are absorbed. Periodically the hardness gets flushed away. The resin is regenerated with a salt solution.

Applications

- Domestic use
- Boiler feed water
- Industrial/domestic hot water systems
- Pure Water pre-treatment (eg reverse osmosis).
- Food industry
- Electronics industry
- Window/car cleaning industry

How does it work?

An automatic ionic exchange unit consists of a vessel filled with resin media. Located on the top of the pressure vessel is the control valve. The water is passed through the control valve and down through the vessel. As the water passes across the resin bed, the minerals that cause hardness become attached to the resin. Periodically, depending on how much water is used, the resin needs to be refreshed. This is done automatically by flushing a small amount of salt solution (stored in an external brine tank), through the resin media. Once this process has been completed the resin is refreshed and ready to begin again. This process is usually programmed to occur at night thus minimising disruption to the water supply.



Kit Ref	210.301	210.302	210.303	210.304	210.305	210.306
Vessel	10.44	10.54	12.52	13.54	14.65	16.65
Forward flow cu.m/h	1.6	2.0	2.5	3.0	5.0	6.0
Capacity in cu.m/h @ 300 ppm CaCO3	6.7	8.3	10	12.5	20	25

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