**What is Physical Filtration and what does a Media Filter look like?**

Physical filtration is the removal of solid material from the water using a water filter. Media filters are filters containing loose granular media such as sand or grit. Some filters contain more than one type of media. This media is contained within a shell, often made of plastic or fibreglass and about 1.5m tall. There is often a backwash timer box on top of the filter.

**How do these filters work?**

Solid material suspended in the water gets trapped on the filter media, mostly on the surface. Clean water passes through the filter onto the next stage of treatment. As the filter gets dirtier, it gets harder to push water through the media and the flow may reduce. Washing the filter by passing water (and sometimes air) back through the media in the opposite direction enables this dirt to be removed and the filter to be restored to its original condition.

**How do these filters remove iron and manganese?**

Iron and manganese can cause problems in water supplies because they have a visible impact on the water, stain fittings and clothing and can block ultra-violet disinfection systems and other vital treatment processes. By oxidising these substances, using air or chlorine, they become insoluble and can be removed using media filters. These filters will require a reliable system of backwashing or they will quickly become blocked.

**Do I need one of these filters on my private water supply?**

If there is not much solid material in the water supply and little iron or manganese (less than about 300 microgrammes per litre) of iron, cartridge filters may be adequate and easier to use. Media filters need to be used where there is a significant quantity of sediment in the water or higher concentrations of iron and manganese.

**How easy are these filters to look after?**

These filtration systems are not complicated, but they do need regular backwashing in order to continue to operate effectively. This is best achieved via a timed mechanism that sits on top of the filter vessel (*right*) and periodically triggers an automatic backwash by opening and closing the correct valves. If the media has been in use for a number of years it may require replacement, but this should be left to a specialist contractor.