

Cartridge Filters - What You Need to Know - FAQ



What is physical filtration and what does a cartridge filter look like?

Physical filtration is the removal of solid material from the water using a water filter. Cartridge filters are simple, modular filters that are inserted into a housing and can be used to remove particles, or sometime chemicals, from the water. Cartridge filters can be composed of a number for materials. Some may be made from wound strands of a material such as polypropylene. Examples of filters and housings are shown in the pictures.

How do these filters work?

Solid material suspended in the water gets trapped on the cartridge filter. The filter will be rated to remove particles of a certain size – for many supplies, several filters in descending order of particle removal size will be needed. A typical choice would be a 20 micron filter followed by a 5 and / or 1 micron filter, but the exact choice depends on the quality of the supply and the substance(s) that need to be removed. The filter should be clearly marked with its size rating.

What can these filters remove?

As long as they are installed and used correctly, cartridge filters can remove sediment, metals and some microorganisms from the water. It is necessary to make sure that the filters are correctly sized for the flow of water you require, otherwise they may block. Cartridge filters work best in situations where there is not much solid material in the water supply and little iron or manganese (less than about 300 microgrammes per litre) of iron. Filters containing loose media may need to be used where there is a significant quantity of sediment in the water or higher concentrations of iron and manganese. In order to remove Clostridium with certainty, a filter rated at 0.5 micron will be needed. For Cryptosporidium this should be 1 micron. Some filters are impregnated with carbon to remove low concentrations of the organic compounds that cause colour in water.



How should I install a cartridge filter?

The correct installation depends on individual circumstances and it may be best to consult a specialist contractor, otherwise you risk the filters not being effective, or blocking. Try to choose filters that are approved by the WRAS or NSF organisations. You should install the largest graded filter first, with filters getting progressively finer. Filters should be fitted upstream of any disinfection process such as UV.

How easy are these filters to look after?

As cartridge filters are not backwashed, they are simply replaced once they become dirty or block. The frequency of changing depends on the quality of the water passing through the filter, and should be determined for each supply. It's best to keep stocks of spare cartridge filters in case they are needed. Changing a cartridge should simply be a matter of turning the supply off, unscrewing the housing, emptying any water inside the housing and carefully replacing the filter, taking care to achieve a good seal. Take care not to contaminate the new filter and dispose of the old one carefully.