Pleatco Pure™

ANSWERS to FREQUENTLY ASKED QUESTIONS.

What are the different types of filtration for a Pool or Spa?

There is a lot of confusion about various filters, and many different opinions. Here are a few facts to consider. The first is that a pool can be properly maintained with any of the filter systems available: Filter Cartridge, Sand or Diatomaceous Earth Swimming Pool Filter Systems .Here is a brief description of each type:

• Filter Cartridge
The economic low maintenance filter.
This one is easy to understand. Water passes though a filter material and the filter captures the debris. This is just like the water filters used under your sink. Cartridges have much more available area to filter than sand. Most start at 50 Sq.ft and the majority of the cartridge filters sold are larger than 100 Sq.ft. Cartridge Filters are designed to run at lower pressure than sand. This puts less back-pressure on the pump and hence you get more flow and turnover for an equivalent pump size. Generally these filters have to be cleaned once or twice a season by simply hosing them off, so you don't touch them as often. In terms of particle size filtered out, cartridge is somewhere between sand and DE.

• Sand
The older style filter
Water is pushed through a bed of filter sand and removed through a set of lateral tubes at the bottom. The filter area of a sand filter is equal to the area of the filter itself. For example, a 24" filter will have 3.14 sqft of filter area. Only the top 1" of sand is actually used to filter the water. The principle behind this filter is that water is pushed through the filter sand, somewhat like an espresso machine. Dirty water goes in the top and clean water exits out the bottom.

As the filter sand becomes plugged with debris from the pool, the pressure increases on the filter and the water flow drops. In order to clean the filter, you just run it in reverse and dump the waste water; this is referred to as "back washing" the filter. Once the filter is back washed, you move to the rinse mode and that repacks the sand and then back to filter. This has to be done manually every few weeks. From a hydraulics standpoint, a backwash valve is typically the most inefficient piece of equipment you can add to a swimming pool system. Should the sand ever become really dirty, it is easily and inexpensively replaced. In terms of particle size filtered out, sand is the lease effective method – it can allow smaller particles to pass back into the pool.

• DE
Low-usage alternative
Diatomaceous earth is mined and is the fossilized exoskeletons of tiny diatoms. They are used to coat "grids" in the filter housing and act as tiny sieves to remove debris. They are very small and as such can filter out particles as small as 5 microns. Diatom filter area are sized between sand and cartridge – around 60-70 sq ft are most common. Once the filter pressure rises, the filter is back washed just like a sand filter and then "recharged" with more DE powder. Typically it is poured in a slurry into the skimmer and it then coats the filter grids. DE filters run at higher pressures than cartridge filters and as such can lead to some inefficiency and flow loss.

NOTE* Pleatco does not recommend the use of diatomaceous earth (DE) with cartridge filters. DE Particles will become trapped in the body of the media and shorten cartridge life.
(Resource: Ray Cronise: about.com)

How can I tell when a Filter Cartridge needs to be replaced?

With no moving parts or electrical switches to fail, Filters Cartridges do not have a defined end-of-life. Instead media will gradually plug up over time.

In a typical spa, the culprit that plugs the media is perspiration and body oils combined with soaps, chemicals and very fine particulate. In a swimming pool, the loading is primarily debris along with suntan lotions and organic matter such as algae.

Assuming the Filter is properly maintained and correctly sized to the pump, determining when the Filter Cartridge is exhausted depends primarily upon three factors:

1) Shorter cycle time between cleanings,
2) Low water flow rate and high differential pressure,
3) Catastrophic failure such as a tear in the media or center core collapse.

All three are dependent upon proper pool or spa water chemistry and following a routine maintenance schedule. Filter elements are plastic and should be handled and maintained accordingly.

How do I maximize the life of a filter cartridge?

• Clean the elements per manufacturers cleaning instructions
• Never use a stiff brush to clean the media
• Maintain your pool or spa water chemistry in proper balance
• Alternate two sets of filter crtridges when cleaning

For swimming pools, clean the cartridge when filter canister pressure reaches 8 PSI above the initial system or new cartridge starting pressure. For spas, establish a routine cartridge cleaning schedule based on the amount of spa usage. If Baquacil is used as a sanitizer, the filter element must be cleaned with Baqua Clean before any cartridge cleaner is used.

What is the procedure to clean my filter cartridge?

1) Remove the cartridge from the filter housing following the manufacturer's instructions

2) Use a garden hose with a straight flow nozzle to wash down the filter element. Work from the top down, holding the nozzle at a 45 degree angle, and wash all the pleats with emphasis between the pleats.

3) Rinse until all dirt and debris is gone

4) For all spa cartridges and elements used in swimming pools where perspiration, suntan lotions, and other oils are present, soak the element for at least one hour (overnight is most effective) in:

(A) a commercial filter cleaner, or,
(B) one cup tri sodium phosphate (TSP) to five gallons of water
(C) one cup dishwasher detergent to five gallons of water.

5) Rinse the cartridge again to remove oils and cleaning solution.
6) If the filter has a coating of algae, calcium carbonate (residue from calcium hypo chlorite), iron, or other minerals, soak the cartridge in a solution of one part muriatic acid to twenty parts water until all bubbling stops.

7) Rinse the filter cartridge clean and reassemble housing.

Filter cleaning instructions for chlorine users.

The life of your Pleatco Replacement Filter Cartridge depends upon you the consumer. Our heavy duty Polyester filter cartridge elements will show maximum longevity with proper care and maintenance. Here are some helpful hints to help you get the most out of our product.

The best indications of a "soiled" filter cartridge in need of a cleaning are an increase in pressure within the cartridge's housing canister or a visible decrease in the system's water flow rate. Generally an increase in pressure of 8 pounds per square inch (PSI) or greater above the filer's normal operating pressure (as prescribed in the manufacturer's owners manual) indicates the need to clean the cartridge.

The filter cartridge can be cleansed of coarse dirt and debris by pressure washing inside and out with a garden hose. Fine particles of dirt are more easily removed from the filter pleats when the cartridge is dry. Therefore after hosing the cartridge, allow the filter to dry and either CAREFULLY BUSH, but do not – scrub the pleated surface areas; or apply a stream of compressed air to the filter's outer surface to remove fine particles.

Algae, suntan oil, and body oils can form a coating on the filter pleats which may not be thoroughly removed by hosing. Such a film of algae and/or oils will rapidly clog up the filter's pores thereby greatly reducing filtration. Therefore it is imperative to remove such materials from the filter element as soon as possible. We recommend soaking the cartridge in a solution of commercially available filter element cleaner to remove algae and /or oils from the filter media. Follow the manufacturers' directions for the proper use of such (surfactant, soap) – cleaning solutions. Allow one hour for soaking and then hose the cartridge thoroughly before re-installing in the filer. If clogging persists due to either algae or oils readjustment of water chemistry is necessary to combat the problem.

Excessive calcium or mineral deposits on the filter media can be removed by treatment with a muriatic acid soaking solution. Use commercially available 20% muriatic acid and add to water in a 1 to 1 ratio to make a 10% muriatic acid solution.

CAUTION: Make sure to use a plastic container and take extreme care when handling acid solutions as they can be harmful to eyes, skin and clothing. After cleaning the cartridge, flush the filter element with water and remember to dispose of the acid solution properly.

A spare "stand-by" filter cartridge is an excellent investment. It provides convenience and a well maintained clean cartridge assures you that your filter will always be ready to operate at peak efficiency.