

INFO SHEET

*Performance Through
Technology and Service*

Everything You Need To Know About Pool Filters

Thanks to “Pool Pros”

POOL FILTERS

Let’s be honest there is nothing sexy about pool equipment! That rings true with pool filters too. However, choosing the right pool filter is critical to reducing the amount of time dedicated to maintaining your pool. To better help, you choose the right pool filter system for your new pool we put together a guide for all pool filter systems and we will leave the decision up to you.

WHAT IS A POOL FILTER

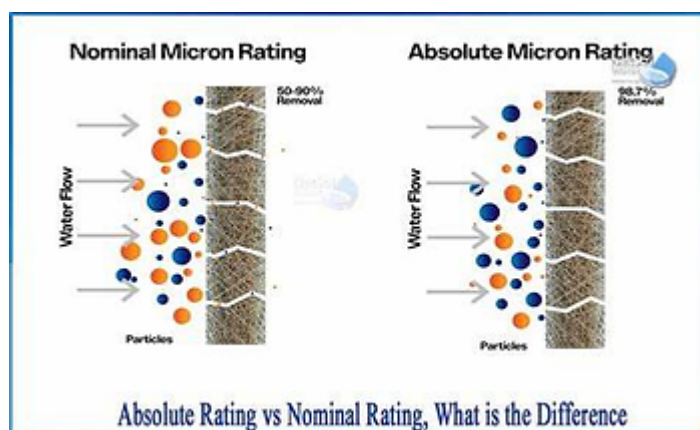
A pool filter is the foundation to keep your pool clean, clear and safe to swim in. There are 3 key components to keeping your pool clean, clear and in swimmable condition. Sanitization, Circulation and Filtration. Pool Filtration is arguably the most important. Basically, a pool filter will remove small particles including dirt, sand, hair, algae, bacteria and other small particles and contaminants from the water. A Pool Filter catches this debris in what’s called filter media. Filter Media is either, Cartridge Fabric, Diatomaceous Earth granules, and sand or glass.

3 TYPES OF POOL FILTERS

There are 3 types of pool filters available for swimming pools. Sand Pool Filters, Diatomaceous Earth Pool Filters and Cartridge Pool Filters. There are other fringe filter types that haven’t been readily adapted by the mainstream pool industry yet so for the sake of keeping things simple we will cover the 3 core filter types that are widely used in the pool industry. Before we get there, we have to learn about filtration area and micron rating.

FILTRATION AREA

Filtration Area refers to the surface area of a pool filter that is exposed to the pool water. The larger the surface area the more efficiently the filter will grab and pull stuff out of the pool water. So, with Pool Filters, the bigger the better. The larger the filtration area the quicker your filter will grab all the dirt in the pool water, and it will also extend the time between needed filter cleanings. In turn reducing your pool maintenance.



MICRON RATING

The dirt and debris from your pool is measured in microns (micrometre) which is one millionth of a meter. **1 millimeter = 1,000 microns**. For example, here are some debris that may be in your pool measured to microns.

Bacteria- 2 microns

Household dust- 4 microns

Pollen- 30 microns

Human hair- 50-100 microns.

The Micron Rating of pool filter media is the rating of the size of particles your filter media will trap. Diatomaceous Earth will trap the smallest particles down to 5 microns which is equivalent to the size of a red blood cell. Cartridge Filter Media can trap around 15 microns and sand filter systems will catch 30-40 micron size particles.

Sand Pool Filter



SAND FILTER SYSTEM

The Sand Filter System has been around since the times of the romans. A Sand Filter has a large tank that has a centre pipe that branches out at the bottom of the filter with a series of laterals. This tank is filled with a specific sized sand granule or glass that catches the debris as the pool water passes through it. The average Sand Pool Filter has a Filtration Area of about 0.3 to 0.5 Sq M

SAND FILTER MAINTENANCE

A Sand Pool Filter Requires weekly maintenance as a pool filter catches debris pressure will build up in the tank. This pressure will be viewable on the pressure gauge attached to the Pool Filter Valve. When the pressure on the gauge increases over 10 psi it is time to clean or backwash your sand filter. To backwash a Sand Filter, you must first turn off the pool pump, then turn the filter valve to the backwash position. Next turn the pool pump back on and let the pump run for between 30 to 90 seconds. While you are backwashing the filter you are losing hundreds of gallons of water through the waste port on your filter so be sure that you add make up water to the pool once you are done cleaning the sand filter to keep your pool water at the proper level. You will also need to add make up chemicals to the water to help bring the pool water back in balance due to the water loss and adding fresh untreated pool water. Once done backwashing turns the pool pump off then turn the filter valve to rinse and then turn the pump back on to rinse out the valve for 30 seconds. Then turn the pool pump back off and turn the valve back to the filter setting and turn the pool pump back on and you are back in business.

Your sand pool filter will also need the sand or glass filter media change every 3-5 years. The sand or glass filter media has sharp corners that catch and grab debris as the water passes through the grains. Over time these sand or glass grains lose their sharp corners and fail to catch debris in the pool as well as it had originally. That is when it is time to change your Sand Filter Media. This is typically every

three to five years and is recommended that you hire a professional to do this. Most Sand Filters have 1000 – 1500 kg of wet sand in them which has to be extracted manually or with a special vacuum system. Care has to be taken when replacing the filter media so as to not damage the centre pipe or laterals at the bottom of the sand filter. If the laterals become damaged and then filled with sand, the second you turn on the pool pump for the first time the filter sand will get blown back into the pool through the laterals. So to avoid that and the mess to follow we recommend hiring a professional for this service. You can expect to pay \$500.00 to \$700.00 to have your pool filter sand replaced professionally.

SAND FILTER MICRON RATING

The Micron Rating for a Sand Filter is the worst out of all 3 types of Pool Filters, coming in at 30 to 40 microns. This means a lot of "stuff" will blow right through the sand filter media and back into the pool.

SAND FILTER FILTRATION AREA

The Sand Filter has a filtration surface area of around 0.3 to 0.5 sq M. That is the least amount of any 3 types of pool filters.

SAND FILTER LIFESPAN

A Sand Filter System can last 20-30 years, however the sand will need to be replaced every 3-5 years.



Cartridge Filter - Pentair Clean & Clear

CARTRIDGE FILTER SYSTEM

Cartridge Filters are used in many applications from filtering pool water, drinking water to oil, paint, etc. A Cartridge Pool Filter consists of a large 2 piece tank and 1 or more Pleated Fabric Filter Cartridges. These fibrous cartridge elements have a filtration surface area from 10 Sq M up to 40 Sq M like the Pentair Clean and Clear 420 that we use @ Pool Pros. A Cartridge Pool Filter can collect particles up to as small as 15 microns.

CARTIDGE FILTER MAINTENANCE

Cartridge Filter Systems have a much large surface area for collecting debris as compared to the sand filter system. In the case of the Pentair Clean and Clear 320 vs a Standard Sand Filter the Clean and Clear has 100 times the filtration surface area. So, the Cartridge Filter System will reduce the frequencies in which you need to clean the filter. In some cases you only need to clean a cartridge system once per season. To clean a Cartridge Filter, you first must turn off the pool pump, open the pressure relief valve on top of the filter then remove the top of the filter tank. Then pull the filters out. With a garden hose and spray nozzle thoroughly rinse the cartridges. Also remove the drain plug in the bottom of the tank and rinse out the inside of the filter too. Once everything is cleaned up put the filters back in the filter tank, put the filter lid on securely and according to the manufacturer's specs.

Then turn the pool pump and you are back in business. We always recommend having a 2nd set of cartridges on hand so you can remove the dirty filters and stick in a fresh clean set while you work on

cleaning the others. This way you don't have any down time. During the cleaning process you don't lose any pool water, so you don't need to add make up water or make up chemicals to rebalance the pool chemistry. A cartridge filter system allows for a much more even water chemistry without the up and down swings. So, with a cartridge filter system you will spend less on water, less on chemicals and less on heating since there is no need to add cold makeup water to the pool. Replacement Filter Cartridges vary based on the size of the filter system but can range from \$2-\$500.00 every 3-5 years.

CARTRIDGE FILTER LIFESPAN

A Cartridge filter system will last 20-30 years, however the cartridges will need to be replaced every 3-4 years. Water chemistry play a large roll in lifespan of the filter media and if you use a pressure washer to clean the filters you will damage them and reduce its ability to catch and trap dirt. So the better you treat your pool and all of its equipment the longer it will all last you.

CARTRIDGE FILTER MICRON RATING

The Micron Rating for a Cartridge Filter is right in the middle of the 3 types of Pool Filters, coming in at 15 Microns. This means a cartridge filter will collect more than twice the debris a sand filter will but not as much as a D.E. Filter.

CARTRIDGE FILTER FILTRATION AREA

The Cartridge Filter has a filtration surface area of around 10 to 40 sq M. This is the largest filtration area of all 3 types of pool filters.

DE (Diatomaceous Earth) Pool Filter



DE (Diatomaceous Earth Filters)

The DE Filter is almost identical to a cartridge filter. It has a series of grids with a fabric on them that holds the DE Powder which in turn grabs and filters out debris in the water. DE can filter out the smallest particles of all 3 types of pool filters, but it comes with its drawbacks. It is very delicate, and DE may not stick to its grids evenly to offer optimal filtration and requires more hands-on maintenance to keep it running optimally.

DE FILTER MAINTENANCE

To clean a DE Pool Filter, you will need to A backwash the filter every 1-3 months and disassembled the grids that hold the DE and clean them thoroughly at least 2 times per season. You will also need to add fresh DE to the filter through the pool skimmer each time you backwash. Keep in mind that DE cannot be flushed down the drain in your garage, home or even the sewer in the street. So you will need to find a solution for where to backwash your DE Filter and where to clean it without it running off into the sewer system. Also be sure to wear proper PPE equipment when handling DE. You don't want to breathe that stuff in.

DE FILTER LIFESPAN

DE Filters will last 20 to 30 years on average. The grids will need to be replaced every 2-3 years at a cost of around \$200.00.

DE FILTER MICRON RATING

DE Pool Filters are the very best when it comes to filtering out the smallest particles. A DE Filter can strain out particles down to the size of a red blood cell or 5 microns!

DE FILTER FILTRATION AREA

The average DE Filter has a filtration area of 60-100 sq ft.

MORAL OF THE STORY

There are 3 great options for pool filtration that have been around for decades. We @ Pool Pros chose the Cartridge Filter System because it facilitates reduced maintenance (once per season), reduced water usage (no backwashing) reduced heating expenses (not needing to heat make up water) and reduced chemical usage (not needing to treat freshly make up water). Cartridge Filters just make the most sense to us. Some may disagree but at least you now the basic knowledge to help make an informed decision when purchasing your new pool. Check out these other great articles for more useful pool info. When Quality Counts, Count on Pool Pros.