

## HOW DO I CHANGE THE SAND IN MY ASTRALPOOL FILTER?

The procedure for changing your filter media is as follows:

Turn off the pumps directly attached to the filter system.

Open the air relief valve at the top of the filter to release any extra pressure

Remove the lid and gasket from the filter

Fill filter about 3/4 full of water

Remove the sand drain located at the bottom of the filter  
(be careful not to lose the O-ring or get wet)

Make sure that the sand does not block the sand passage, use a shovel to continually pull the sand away from the drain port.

Using a hose from above, spray the sand as the filter drains to keep a steady flow.

It may be necessary to enter the filter to remove the final 1/4 portion of sand. (be careful, enter with care and lightly).

Replace sand drain lid, making sure the O-ring is in good condition.

Add the required filtration media as noted in the owners & operations manual or on the data plate.

## HOW DO I CALCULATE THE RIGHT SIZE FILTER OR PUMP FOR MY POOL?

Please See: [Filter and Pump Sizing](#) – Page 3

## WHY DO I NEED TO INSTALL NSF LISTED FILTERS ON MY POOL?

National Sanitation Foundation (NSF) is a not for profit organization. The NSF mark informs everyone that this product does not add anything to the water source that would be harmful if ingested. The NSF mark on filtration systems is required by law in most states.

## HOW MUCH SAND & GRAVEL DOES MY ASTRALPOOL FILTER HOLD?

Every filter has a data plate attached to the upper right hand side of the filter; directly to the right of the upper port connection. This data plate indicates the amount of sand & gravel required for that particular filter.

You may also find the amount of required media for your filter in your owners & operations manual. Please note: You can print a copy of your owners & operations manual from this web-site. Media requirements are also listed within this web-site. You will need your filters model number to obtain this information. Please click the description below that best fits your filter.

## WHAT SIZE SAND & GRAVEL SHOULD I PUT INTO MY ASTRALPOOL FILTER?

For the very best results, ASTRALPOOL recommends the use of NSF listed filtration media only.

PEA GRAVEL should be a GRADE # 20 (1/8" - 1/4" Pea Gravel)

SILICA SAND should be a GRADE # 20 (.45mm - .55mm Granular Size)

Please refer to your owners and operations manual for proper installation requirements.

## WHY IS IT IMPORTANT TO ADD GRAVEL TO MY FILTER?

A layer of pea gravel covering the lateral system by 1" is required on all ASTRALPOOL sand filters unless otherwise noted. Additional reasons are listed as follows:

Gravel helps support the laterals from the weight of the sand

Gravel will filter out the sand from the water before reaching the lateral system

Gravel will help eliminate anaerobic bacteria from forming underneath the lateral system

Gravel provides more open area for a smoother flow of water after it has passed through the sand.

Warranty could be voided if the required amount of gravel is neglected. Please be sure to read your owners & operations manual before attempting any work.

### **HOW OFTEN SHOULD I CHANGE THE SAND ON MY ASTRALPOOL FILTER?**

Water is highly aggressive and overtime can wear down the sharp edges on each particle of sand, allowing sand to become "rounded out" or "dual" preventing it to trap unwanted materials. This is why we strongly recommended that all ASTRALPOOL filtration systems receive new media every 5-7 years on a pool and every 3-5 years on a spa. This will ensure optimum performance.

Please contact your local dealer for sand change assistance or call (866) 45-POOLS for an authorized dealer near you.

### **CAN I USE AN ALTERNATE FILTRATION MEDIA OTHER THAN SAND?**

ASTRALPOOL recommends sand as it's primary source of filtration media. However there are many other sources of media to choose from. In order for the NSF listing to hold true on your filtration system you must only install an NSF approved alternate media or the warranty on the vessel could be void.

### **WHEN OR HOW OFTEN SHOULD I BACKWASH MY FILTER?**

In filter beds, there are thousands of channels for water to pass through, trapping particulate matter.

As time passes these channels become blocked and it becomes necessary to clean the filter bed and restore the filter to its optimum working condition by discharging the trapped particles. The velocity of water for the backwash cycle should be the same as the filtration mode. This velocity should never exceed 20 GPM/Sq. Ft.

Recommended backwashing should start when the influent pressure and effluent pressure reaches a difference of 16.5 PSI. The backwashing cycle should run for 3 to 5 minutes. It is advisable to place a sight glass in the drain line close to the filter so you can see the water clearing and stop the backwash to avoid any unnecessary waste of water.

### **CAN ALL ASTRALPOOL FILTERS BE PLACED OUTSIDE IN DIRECT SUNLIGHT?**

During the manufacturing process every ASTRALPOOL filter is fitted with a clear coating to protect the outer shell from the sun. If your ASTRALPOOL filtration system will be placed outside in direct sunlight it is recommended to periodically clean the outer surface with soap and water, then let dry and apply a clear varnish to help protect the fiberglass from harmful UV rays. Doing this every 5-7 year will help greatly extend the life of your ASTRALPOOL filter system.

### **WHAT COULD BE THE PROBLEM IF I HAVE SAND RETURNING TO THE POOL?**

If you are experiencing sand returning to the pool there is a good chance that the filter has a broken lateral. The sand will need to be removed and the broken lateral replaced. Please contact us with the filter's Model Number & Serial Number; one of our professional representatives will assist you with instructions or a local dealer who can perform the work for you.

Broken laterals are often caused during the backwash process. The media bed is lifted above the lateral system for 3-5 minutes. When the system is placed back to filtration it sometimes slams back down onto the lateral system breaking the lateral fingers loose.

Sand returning to the pool can also happen after a backwash cycle. This will disappear in a few days and return only after your next backwash. This is commonly caused by the sand bed lifting to high within the filter vessel causing sand to empty into the waste line. When the system is turned back into filtration mode the sand left in the line from backwashing will blow back into the pool. This problem can be rectified by either turning back the backwash flow rate or waiting 2-3 minutes before turning the system on after a backwash cycle.

### **CAN ALL OF THE ASTRALPOOL FILTERS BE APPLIED TO POOLS & SPAS?**

Yes, the entire family of ASTRALPOOL commercial filter systems currently holding the NSF mark are listed for Pool & Spa applications.

## Pump and filter sizing

When the total volume of a pool is filtered within a 24-hour period, the pool is described as having one turnover per day. As the returning filtered water is mixed with the pool water it is diluted, making it less turbid. Once equilibrium is achieved, a six-hour turnover will result in 98% clarification, assuming that the filters medium is effective and the filter is properly sized to accommodate the amount of contamination introduced into the water.

ASTRALPOOL recommends a minimum turnover rate for any public swimming pool to be not more than 8 hours. In the case of public pools for children, the turnover should not exceed 30 minutes. For excellent filtration results, we recommend that filtration speeds of 15 GPM/Sq. Ft. are not exceeded. Also note that the filtration speed is dependent on the granular size of the media and the filters bed depth.

### Calculating Filtration Surface Area (Sq. Ft.)

The following steps will help you to calculate the required filtration area for your commercial swimming pool.

**Step #1:** Take the TOTAL GALLONS and DIVIDE BY the TURN-OVER RATE in minutes.  
See Chart Below:

Turn Over Rate in Minutes	
HOURS	MINUTES
8 Hours	480 Min.
6 Hours	360 Min.
4 Hours	240 Min.
1 Hour	60 Min.

**Step #2:** DIVIDE the number received from Step #1 by the FILTRATION SPEED.  
See Chart Below

Filtration Speed
10 GPM / Sq .Ft.
15 GPM / Sq .Ft.
20 GPM / Sq .Ft.

#### Example:

Total Pool Gallons	100,000 gallons
divided by	
Turn-Over Rate	360 (6 hours)
divided by	
Filtration Speed	15 (GPM / Sq. Ft.)
Equals	
Total Filtration Area	<u>18.51 Sq. Ft.</u>

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### Calculating Filtration Speed (GPM/Sq.Ft.)

Take the FLOW RATE (GPM) and DIVIDE BY the TOTAL FILTRATION SURFACE AREA (Sq. Ft.). This will supply you with your systems FILTRATION SPEED (GPM/Sq. Ft.)

#### Example:

Flow Rate	277 GPM
divided by	

Filtration Area	18.51 Sq.Ft.
Equals	<hr/>
Filtration Speed	<u>14.96 GPM / Sq. Ft.</u>

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### Calculating Flow Rate (GPM)

Take the SURFACE AREA (Sq. Ft.) and MULTIPLY it by the FILTRATION SPEED (GPM/Sq. Ft). This will supply you with the FLOW RATE.

#### Example:

Filtration Area	18.51 Sq. Ft.
Multiplied by	
Filtration Speed	15 GPM / Sq. Ft.
Equals	<hr/>
Flow Rate	<u>277 GPM</u>