Backwashing A Sand Filter

Probably the second most common type of filter in the Denton area is a sand filter. Sand filters are the oldest types of filter—they were used in ancient times. They are typically very reliable and are easy to operate. The concept of a sand filter is fairly simple—sand filters are approximately 2/3 full of sand and any dirt and debris that is larger than the sand is filtered before it reaches the bottom of the filter, where there is a plumbing assembly (consisting of a hub and typically 8 laterals) which collects the water and then it returns to the pool.

The type of sand that is typically used is #20 silica sand —but check with your specific filter manufac-turer to confirm. This sand can filter down to 30-40 microns, which is very small. For example, a grain of salt is approximately 100 microns and the human eye can see down to approximately 40 microns.

One of the disadvantages of sand filters is that they do not filter as fine a particle as DE filters and cartridge filters do, therefore the use of a water clarifier is sometimes necessary. A water clarifier will pull together the tiny dirt and debris particles that pass through the filter and group them together into a larger piece of debris that can become trapped in the sand.

As the dirt and debris is trapped by the filter, the filter becomes dirty which increases the pressure and decreases the water flow—thus rendering the filter inefficient and oftentimes incapable of physically cleaning the pool water. When this occurs, it is necessary to clean the filter.

The most common way to clean the filter is by backwashing. Sand filters have a valve that reverses the flow of the water thru the filter, which flushes out the filter—this is referred to as backwashing.

How often do I need to backwash?

We recommend following the operating instruc-tions for backwashing from the manufacturer of your filter. Most of these are available online at your filter manufacturer's website. Following is a general guide if you are unable to find your manufacturer's operating instructions.

1. Layout the backwash hose (if necessary).
2. Turn the pump off
3. Turn the handle on the multiport valve to the backwash position. If you have a push/pull valve (also called a slide valve), then move the valve to the down position and be sure that it is in the locked position (usually achieved by turning the valve handle).
4. Turn the pump on (standing away from the filter) and leave on until the water coming out is clear. This typically doesn't take more than 2-3 minutes.
5. Turn off the pump.
6. Return the valve (either multiport or push/pull) back into the filter mode.
7. Turn the pump on and run for 20-30 seconds.
8. Repeat steps 2 thru 5 until the there is no dirty water coming out of the backwash line (this often takes 3-4 times, depending on how dirty the filter is).
9. Turn the pump off.
10. Turn the handle on the valve to the filter position.
11. Turn the pump on (standing away from the filter) and be sure that water begins to flow.

Note: If the filter has a manual air relief valve, turn it to the full open position any time that the pump is first turned on. After water comes out of the air relief valve, turn it to the closed position.

Filter valves

All sand filters have filter valves, which allows you to backwash the filter. There are two types of filter valves:

1. **Push/pull valve** (also called a slide valve)— These types of valves have two positions, either filter or backwash. On a sand filter, the filter mode is typically the up position and the back wash mode is in the down position.
2. **Multiport valve** (also called dial valve)— Most of these types of valves have six positions. The six positions of the valve are as follows:

Filter—the normal position for routing water through the filter and back into the pool. *Backwash*—reverses the flow of water through the filter and cleans it by carrying dirt and debris out through the waste line.
Rinse—this prevents dirt from re-entering the pool when you start filtering.
Re-circulate—allows water to be circulated by passing the filter, normally use only until a leaky filter is repaired.
Waste—discharges water directly to the waste line, use to drain pool or to vacuum dirt directly out of pool.
Closed—used if pool is "winterized" (equipment is drained) for the winter.

Please note that regardless of the type of valve that you have, the pump should always be turned off when changing the position of the valve.

Notes:
If sand returns to the pool when the valve is in the filter mode—then it is usually a problem of a broken lateral or hub in the filter tank, or possibly backwash valve problems.

We recommend that the sand in a sand filter be replaced every 3-5 years. Most pool owners employ us to provide this service, but it is some-thing that many do-it-yourselfers are capable of doing.