



## CleanTech Water Filtration Has Arrived!

Rev. Date: 01 Oct 2018

### FilterBalls Service Bulletin #2

#### Clearing water at Start up

In our first Service Bulletin, we covered FilterBalls superior dirt holding capacity and the benefits of variable speed pumps. In this Service Bulletin, we address challenging pools that are not clearing at first installation. We find that start-up problems largely occur for three reasons:

1. Not enough filter media
2. The wrong media for the application
3. System flow is exceeding the equipment manufacturer specifications

While we often find other issues such as broken laterals or an improper filter housing assembly, installing enough media or too much flow are often the culprits.

#### **1. Not enough media.**

FilterBalls Blü and Sanž are packaged in 1 cubic foot bags of media and designed to replace two standard 50 pound bags of filter sand in filter housings rated at 250 pounds of sand or greater. For example, a sand filter housing rated at 300 pounds of sand needs 3 bags of FilterBalls Blu or FilterBalls Sanz. That said, we find variances across Filter Housing manufacturers so this simple rule of thumb should be confirmed. For instance the open area below the lateral assembly varies greatly between manufacturers. This dead space does not contribute to the filtration process but does sacrifice a certain volume of useable media. Some manufacturers, e.g. Pentair, recommend filling this area in their housings with pea gravel. We always suggest following the filter housing manufacturer's instructions, as FilterBalls were designed to work within those parameters.

Every filter housing should filter properly with 12 inches of FilterBalls above the laterals. With 12 inches above the laterals you are providing enough media to prevent "channeling" or "bypass" allowing the dirty water to avoid the FilterBalls and return to the pool. We suggest using a tape measure and permanent marker to draw a ring around the stand pipe at the 12 inches distance above the top of the laterals. Filling the housing to the 12-inch mark or a little above, will ensure enough media is available for proper filtration. It won't hurt to add more media above the 12-inch mark, allowing for a little settling once the water is introduced into the system. Leaving at least 30% open space will facilitate FilterBalls media to move about and shake loose the embedded dirt during backwashing.

If your filter housing is rated at 250 pounds of sand or less, always use FilterBalls Minis. The balls are smaller and help to prevent bypass in small housings. One bag of Minis is designed to replace one 50-pound bag of sand.



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### 2. It' all about flow.

Every filter housing has a rating indicating the maximum water flow for the housing. The rating is usually expressed in gallons per minute (GPM) or alternately Liters per minute (LPM). Filter housing manufacturer extensively test their products and rate them for maximum flows and pressures. These housings work best when they are operated at or below those ratings.

Excessive flow and/or pressure can:

- 1) Warp lateral fingers
- 2) dislodge the diffusor basket
- 3) force media to lodge into lateral slots
- 4) or worse, into the system plumbing and into your pool

Which is why when you perform a sand media change-out it is important to dislodge the sand particles stuck into the lateral assemblies fingers or replace them.

Without enough flow, some optional components such as water heaters or salt generators will not operate. Because FilterBalls offer very little resistance compared to sand, you can expect ***the flow rate in your system to increase significantly***. This increase in flow is a big benefit for power efficiency, pump life, and increasing the number of times your water turns in the pool for healthy water. But take caution if the pool is not clearing that you have confirmed that the amount and type of media is correct. If you have a variable speed or 2-speed pump, simply turn the pump to a lower setting. Your heaters and salt generators should work fine because the low setting should still provide adequate flow. If you own a single speed pump and the water is not clearing, you really need to check the flow and assure the flow is not exceeding the filter housing manufacturer's recommended flow rate.

It has been said that a **single speed pool pump is the most expensive appliance in most homes...** costing up to \$2,000 per year to operate. What can you do if the flow is too great with a single speed pump? Because FilterBalls generate more flow with lower rpms, the best solution is to replace it with a multi speed pump. An investment in a VFD pump will pay back 10x over the life of the pump and your customer will be delighted with the crystal clear, healthy water. Contact FilterBalls for benchmarks and payback schedules for upgrading your customers.

Another option is to regulate the flow with a device that will regulate the flow. FilterBalls technical support can provide you with a plug-in flow regulator, however we feel the multi speed pump is really best for your customers.

Installing a flow meter with a variable speed pump is a smart configuration. There are economically priced flow meters on the market that can do a perfectly adequate job for residential pools. *With the flow meter, the pool professional can calibrate the flow* to optimal levels for filtration, accessory equipment performance, water features/fountains/slides and power savings.



4069-71 Joseph Drive  
Waukegan, IL 60087

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Tools of the Trade include VFD and 2 speed pumps, the flow regulator, and the flow meter.

### Variable Frequency Pumps (VFD)



and

### Two Speed pumps:



### Flow Regulator: (available from FilterBalls only)



### Flow Meter Options



Phone: 224.637.8900 • Fax 224.637.8904

[www.FilterBalls.com](http://www.FilterBalls.com)