



## When a Filter, When a Sand Eliminator?

The first thing that people think when they have something in their water is, “I need a filter.” The next thing people think about is the downside of using a filter. Filters get dirty, create pressure loss, and often need to be taken apart and cleaned. As quickly as someone thinks they need a filter, they just as quickly talk themselves out of it.

It is important to understand that the Eliminator is a particle eliminator and, by definition, not a filter.

There is a need for all types of products in filtration, from particle removal to water treatment. The eliminator is most typically a pre-filter, installed after a pump and before finer filters or water treatment. The eliminator system removes larger particles so that finer filtration systems can take over after the removal of those heavier sediments or solids. The ones that would settle out in three to four minutes in still water or fluid. With larger particles removed, finer filters and water treatment can do their job better with less maintenance and servicing and fewer replacements.

An eliminator’s role as a first-stage filter is critical. For example, a number of traditional filtration devices are meant to change the taste, color, and odor of water or fluid by using extremely fine membranes, screens, and treatment media; the problem is that they are very vulnerable to the bulk of the sand, sediment, grit, and precipitated minerals all the different types of harmful particles that can clog and abrade the various components of the system. Fine filtration systems are typically not designed to filter larger particles.

The problem can be resolved by recognizing that it is more efficient to use two or more filters when faced with two or more types of contaminants in the water. After the eliminator does its job, the finer traditional filters can efficiently remove the finer particles. Users often do not realize that common 2- to 5-micron filters will need to be cleaned or replaced far more often if relied on to remove heavier, larger particles. Debris will accumulate quickly and shut a fine filter system down. The eliminator system addresses all these concerns. It does not create the same loss in pressure and does not need to be cleaned as a standard filter. The product purges just the dirt and very little water and, therefore, wastes little water. Many other types of filters use a large amount of water to backwash or flush the debris from filter screens. Using the eliminator as a pre-filter allows the finer filtration systems to run longer and more efficiently. The eliminator helps to eliminate the larger particle problem instead of just moving it around.

### Eliminators

The Eliminator removes sand and other solids from pumped water and other fluids. There are no screens, cartridges, or filter elements. The key to removing solids is centrifugal action. As water enters the eliminator, it immediately transfers from the outer chamber to the inner chamber through tangential slots. Those slots maintain the centrifugal action in the same direction and accelerate the water into a smaller diameter chamber. That allows centrifugal action to do what gravity would do over time. So, the performance of an eliminator is predicated on the weight of a particle, and not on its size.

A rule of thumb is that if the particle matter or sediment would settle within three to four minutes in still water, then those particles are separable in an eliminator. (See the three to four minutes separation test). Once those particles get pushed to the outside, they will gradually fall down the perimeter, past the deflector plate, and into the collection chamber. While the centrifugal action creates an outward pressure, there is also a low pressure at the center. Water follows the lowest pressure, the vortex of that tornado, and migrates upward to the center of the eliminator to a smaller diameter pipe—the vortex outlet. So all the water goes in, dirt is spun to the bottom, clean water spirals up the operative eliminator, and the particles fall to the collection chamber, where they are either periodically or continually purged from the eliminator to evacuate the unit.



### The three to four minutes separation test

When you've got solids in your liquid, all it takes is a clear jar to decide if an Eliminator can solve that problem. Use any clear jar.

And all it takes is about 3-4 minutes. Here's how:

1. Gets a sample of the sand coming through the water system. From the hot water heater. From the toilet tank. From a plugged cartridge or screen filter. Whatever you can get your hands on from within your water system.
2. Add the sand to a jar of clean water and shake the jar to mix the sand & water.
3. Let the mixture stand and watch what happens:



**Particles that settle to the bottom within 3-4 minutes can be removed with an Eliminator installed after the pump.**

### Advantages of Sand eliminators

- Separation efficiency does not depend on vertical or horizontal position
- Separation occurs without any interruption to the flow
- Very little liquid is lost by purging
- No need for any consumable material
- Zero maintenance



## Markets for our Eliminator and Filtration systems



**Water Transport**



**Water Treatment**



**Chemical**



**Oil & Gas**



**Storage & Transloading**



**Energy**



**Food & Pharmaceuticals**



**Environment & Waste Water Treatment**



**Agriculture & Irrigation**



**Cooling towers**



**Automotive Industry**



**Aviation**



**Infrastructure**



**Manufacturing**



**Shipping & Dredging**

**And more, we can give this upon request**

### Address

**Head Office - 110-111, 1st Floor, Rishabh Ipex Mall, Patparganj, Delhi - 110092**

**Unit 1 - H-5/6, Site-5, UPSIDC Industrial Area, Kasna, Greater Noida, Uttar Pradesh - 201310**

**Ph. No.: +91-120-2341166**

**E-mail: [info@cbsenergy.com](mailto:info@cbsenergy.com) | [cbsenergy@gmail.com](mailto:cbsenergy@gmail.com)**