



## Water Quality at Final Filtration

*Poor quality process water can sometimes contribute equally, if not more, to the clogging of pre and final filters at bottling. Using properly treated water can yield large savings on a plant's Total Costs of Filtration.*

### What impact can poor quality water have on the final filtration process?

Poor water quality can deposit materials and clog filters sometimes as much, if not more, than process streams. Improving water quality may lead to as much as a 20-30% reduction in a facility's total filter spend when using costly membrane filters.

### What types of process water may contact the filters?

Water used for cleaning or sanitation will be the bulk of water contacting process filters. Water used to make-up cleaning or storage chemicals or for pushing product may also contact filters.

### What materials in the water can be most problematic?

Clays, silicates, carbonates, microbial loads such as iron bacteria or algae, or general particle debris may all be present in water supplies.

### How can I tell if I might have poor quality water affecting my filters?

Increasing differential pressures after cleaning is a common indicator. That may also be due to other cleaning related problems such as inadequate pre-rinsing. A high usage of final membrane filters vs. prefilters may also indicate a water problem. Membranes have a low holding capacity and will be more affected by water related issues.

## What steps can be taken to improve water quality?

- Strainers or Media Beds
- Water Softeners
- Chemicals or Flocculants
- UV light
- Microfiltration

## Are there any treatments for filters once they are plugged with water deposits?

Citric acid can remove carbonates. With other deposits such as silicates there are no treatments. It is best to prevent materials from reaching process filters.

## Are municipal water sources cleaner than well or other sources?

No. In fact many municipal water supplies are the most plugging. Municipal water is treated for safety, not filterability.

## Can water quality change over time?

Yes. Water quality is very much seasonable and there are many things that may impact water quality. Heavy rains or spring thaw cause increases in water related plugging. Droughts may also, depending on source depth. Tremors or earthquakes in California break loose clays in underground springs and aquifers and are often followed by reduced water quality. Municipal water authorities may pull from many different sources leading to changes in water quality.

## I use RO at my plant, can I use water from that at the filters?

Yes. RO (Reverse Osmosis) is a one-step treatment that produces extremely high quality water.

## What is SDI?

Silt density index is a value often used for measuring water quality in industrial or RO applications. It is one form of a modified filterability test through a membrane disk.

## Is turbidity a good indicator of water quality?

No. Turbidity offers very little correlation to how any stream will filter.

## Where can I test or find out about my water quality?

There are many local water treatment and testing facilities that routinely run water quality tests for a variety of industrial applications.