

CBC Online 2020 | The Virtual Craft Brewers Conference

5 REASONS TO NOT USE REVERSE OSMOSIS WATER IN YOUR CRAFT BREWING

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Presented by
The Water Dr. - US Water Systems



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What Makes Up a Typical RO System?



5 or 6 Years Ago, About
20-25% of Craft
Breweries Used RO

Today, that number has grown to over 70%

OK.... This is Tongue-in-Cheek



Let me put a disclaimer here. This is not a presentation on **Why You Don't Ever Want To Use Reverse Osmosis** because we are proponents of Reverse Osmosis.



But, there are occasions when you don't need reverse osmosis.



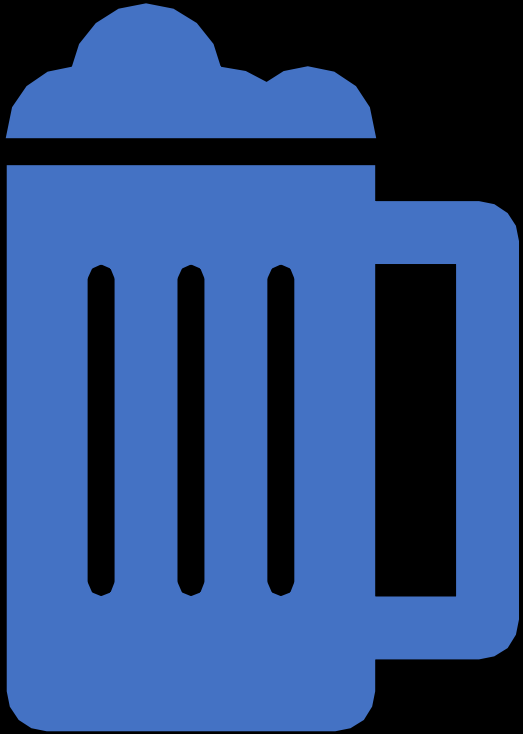
We're going to talk about a number of water treatment methods and applications, and I'll explain why you may or may not want to apply reverse osmosis in your craft brewery.

Can We Agree
on This?

WATER IS LIFE
BEER IS 90% WATER

Therefore
BEER IS LIFE

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All Beer Has #1 Common Ingredient

Whatever beer you're making, you're using the same ingredient that everybody else is.

Water

Beer is 90-95% Water



Water Quality is much different than it was 50 years ago.



Increased chemical contaminants



Complex problems with the water



Water infrastructures are aging



Flourishing populations limit the ability to properly treat

What's in the Water?

Chlorine

Chloramine

Nitrates

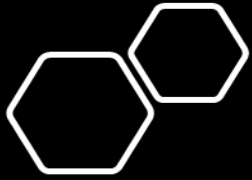
Arsenic

High TDS

Sodium

Chlorides &
Sulfates

PFOA/PFAS
(Forever
Chemicals)



What Determines the Best Method for Treating Your Water?

Even though beer is 90% to 95% water... it depends upon:

- Where you're geographically located
- Whether you have city or well water
- Whether your water source uses Chloramine or Chlorine, and
- What type of beer you want to brew

Remember
One Thing:

**Its very difficult to
overstate the importance
of the water quality when
in the process of making a
great, craft beer.**



Water Quality Varies Daily

If you think your water from a municipality is the same every day... Think again.

Due to pressure from growth, cost, aging infrastructure and emerging contaminants, water quality can fluctuate wildly.

This means that the water profile you brew with today, could be dramatically different tomorrow.

CONSISTENCY. CONSISTENCY. CONSISTENCY.

Look at the Difference of 2 Days in 1 City:



THE FLUORIDE CAN
VARY FROM 0.7 TO
1.5 MG/L



THE CHLORIDE CAN
VARY FROM 24-45
MG/L



THE CHLORINE
VARIES FROM 0.26
TO 2.2 PPM



THE HARDNESS
VARIES FROM 303
TO 486 PPM



THE IRON VARIES
FROM ND TO 0.40
PPM



THE MANGANESE
VARIES FROM ND TO
0.044 PPM

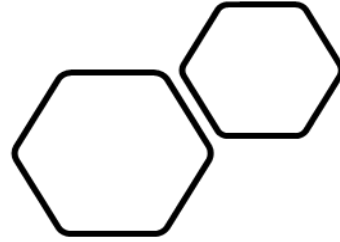


THE SODIUM VARIES
FROM 16 TO 31 PPM



THE SULFATE VARIES
FROM 69 TO 190
PPM

How Can You Consistently Brew Beer?



**The short answer is that
you will never
consistently work with
the exact same profile for
your water... and your
beer will never be
consistent!**

The water is a given, but you do your magic with the recipes that are used.

With the malts, hops, barley, yeast.. whatever it happens to be.

That's where a true craft beer artist comes in the picture.

However, if you're relying on the city to be your source of consistent profiled water, we have some bad news! You are now held hostage to that city and whatever is quality that water will be today. \$\$ down the drain!

Beer is 90%
Water and
10% Magic...



What is Your TDS?

- **Depending on your TDS level and what type of beer you're trying to brew, you might be led to choose different technologies to treat your water.**
- **For instance, if your TDS is below 200, you may decide you don't want Reverse Osmosis. Maybe you're going to use Micron filtration and Carbon filtration... But don't forget about disinfection.**

Disinfection

Craft beer is a beverage you are making for the public, so you absolutely want some type of disinfection for that water... even if for the sake of liability.

Typically, Ultraviolet Light or UV is the best solution.



Proper Pre-Treatment



Even the best RO system in the world will not work very long without proper pre-treatment.



Chlorine & Chloramine Removal



Iron, Sulfur & Manganese Removal



Water Softener or Anti-Scalant (when needed)

Measure Twice – Cut Once

That has never been **true**er than when you are planning a water treatment system. That's when you measure twice and we do that by having a good laboratory analysis of the water. Get a good water test. We have them available.



A Typical System

1. Carbon Filter
2. Anti-Scalant Injection
3. RO System
4. Storage Tank
5. Re-pressurization
6. Ultraviolet



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From 3 Barrel Systems to 500 Barrel Systems and EVERYTHING in-between.



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5 Reasons Not to Use RO



Your water is below 200 TDS...



You don't have the money (well duhhh...)



You have no room (it happens...)




You don't care what your beer tastes like...?



You don't plan on being in business that long...?



**WATER IS LIFE
BEER IS**

90% WATER 

**THEREFORE
BEER IS LIFE**

Questions?

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Thanks!

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