Performance Data Sheets

Tankless systems have… wait for it… no tank :) These systems use a high powered booster pump to force water through the RO membrane, providing filtered water on-demand vs storing the water in a tank ready to use. Typically tankless systems save a bit of space under the sink, but they come with some performance tradeoffs. Let's try to peel back the data.

Culligan Aquasential Tankless RO and Aquasential Tankless RO with Mineral Boost+

Comparing production rates between tankless and traditional RO systems can be really confusing. Tankless systems have high production rates because that communicates the actual flow rate from the faucet, traditional systems like Cloud quote production rates that only tell you how quickly the tank fills. In a traditional system the flow rate is a product of the tank pressure, NOT the production rate. Alright so let's break down this 715 GPD number. #mathhat

1 day = 1,440 minutes
715 gal / 1,440 min = 0.5 gal per min
0.5 gal per min = 64 ounces per min
60 seconds / 64 ounces = ~1 ounce per second

Standard glass size is 12 ounces. So to fill a glass you are going to be waiting 12 full seconds. 😳

THATS IS REALLY SLOW.

Cloud will fill that same 12 oz glass in about 6 seconds.

d you are about your water treatment systems, the more confident you will be about its performance. It's because rs of commitment to customer satisfaction that Culligan is providing this Performance Data Sheet to its customers.

ance Data Sheet and compare the capabilities of this unit with your actual water treatment needs. d that before purchasing a water treatment unit, you have your water supply tested to determine treatment needs.

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Tankless systems are notorious for providing misleading waste ratios. You will often see tankless systems advertise ratios that are 2:1 - 4:1. Simply put, these are not representative of the actual water flowing to the drain over the course of time. Tankless systems speed up the reverse osmosis process which requires them to perform a flushing cycle that cleans scale off of the membrane periodically. The flushing cycle happens in the background and the user is unaware. The tankless manufacturers typically do not calculate these waste flushes into the waste ratio. You can see this discrepancy on certified systems that have to publish the actual data. The Efficiency Rating of 65% is indicative of how much water is sent to the drain when you fill a glass. But, the recovery rating which looks at the waste ratio over a given volume of water is far lower, approaching 1:1. Morale of the story, tankless systems do waste less water than traditional systems, but they have roughly the same 1:1 waste ratio as Cloud :)

Aquasential

talled according to local plumbing codes on the cold water line.

r replacement of all filters to maintain proper operation. Depending on usage and influent ers should be changed at least annually and the reverse osmosis membrane should be arying chlorine, sediment, or TDS levels may affect replacement frequency.

Testing Conditions & Results:

Temperature:	77 ± 2°F (25°C)	pH:	7.5 ± 0.5
Pressure:	50 psi (345 kg/cm)	Turbidity:	<1 NTU

Product Specifications:

Daily Production Rate:	715 gpd	Recovery Rating[1]:	58.4%
Operating Temp. Range:	40-100°F (5–38°C)	Electrical Requirements:	120VAC, 50/60 Hz, 1 Amp
Working Press. Range:	15–120 psi (1–11 kg/cm^2)	Efficiency Rated[2]:	65.2%

Substance Reduction

While testing was performed under standard laboratory conditions, actual performance may vary.

Substance Concentration	Influent Challenge Water Concentration (mg/L)	Max. Permissible Water Concentration (mg/L):	Average Percent Reduction
Total Dissolved Solids	750 ± 40	187	81.4%

This system has been tested and certified by the Water Quality Association according to NSF/ANSI 58 and CSA B483.1 for the reduction of the substances listed below. The concentration of the indicated substances in water entering the system was reduced to a concentration less than or equal to the permissible limit for water leaving the system, as specified by NSF/ANSI 58 and CSA B483.1.

The Aquasential™ Tankless RO and Aquasential Tankless RO with Mineral Booster+ have been tested and certified by WQA against NSF/ANSI/C SI 58 for the reduction of TDS as verified and substantiated by test

TDS or Total Dissolved Solids represents the smallest particles present in drinking water. Therefore, TDS is often used as the primary proxy for a water's "purity". The more dissolved solids removed, the more powerful the RO system. All of the other contaminant data can create unnecessary noise, focus on the TDS reduction to judge how good the system is at removing toxins. Typically tankless RO systems have poor TDS reduction rates in the 75-85% range. Simply put, tankless systems don't offer as powerful filtration as a traditional tank based system. For reference, Cloud's NSF certified TDS reduction rate is 98%.

CAUTION!

Do not use with water that is nknown quality without adequate disinfection before or after th cyst reduction may be used on disinfected water that may c

[1] Recovery rating means the percentage of t tion of the system that is available to the user as reverse osmosis treated water when the s ank or when the storage tank is bypassed. This system has been tested and shown to c g under standard laboratory conditions.

This reverse osmosis system contains a replaceable component critical to the efficiency of the system. Replacement of the reverse osmosis component should be with one of identical specifications, as defined by the manufacturer, to assure the same efficiency and contaminant reduction performance.

Refer to your Installation and Operating Instructions and written limited Warranties for more specific product information. To avoid contamination from improper handling and installation, your system should only be installed and serviced by your Culligan dealer. Performance will vary based on local water conditions. The substances reduced by these systems are not necessarily in your water.

[2] Efficiency rating means the percentage of the influent water to the system that is available to the user as reverse osmosis treated water under operating conditions that approximate typical daily usage.