

Technical Data Sheet

Reverse Osmosis Water to Drain Explained

All reverse osmosis (RO) systems operate on the same basic principle, using a highly sophisticated process to produce purified water.

Because the system relies on a hydraulic shut-off valve the valve closes when pressure in the tank reaches about two-thirds of the feed pressure while the drain flow remains constant. This is normal and can result in up to 10 gallons of drain water for every gallon of purified water.

When drawing only a small amount of water say, an 8-ounce glass, the 2/3 pressure balance causes proportionally higher flow to the drain.

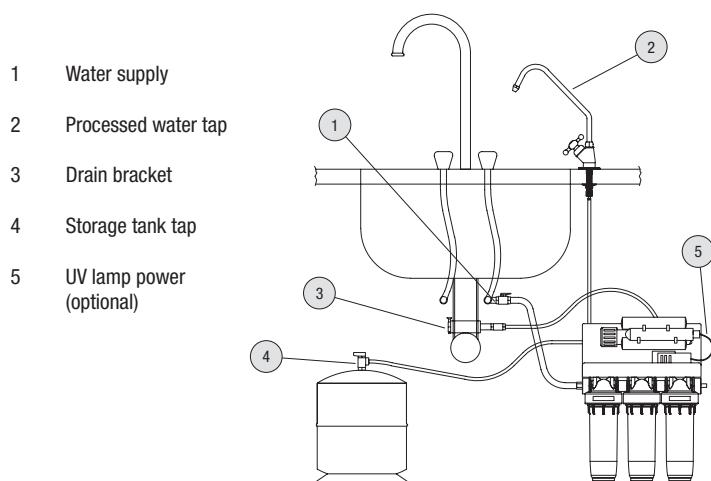
The drain water, also called rinse water, serves an important purpose as it flushes the membrane to keep it functioning properly. If the rinse flow is restricted too much, the membrane's lifespan will shorten significantly and may lead to premature failure. In other words, the rinse water you see is necessary for the system's performance and longevity.

Industry standard for the brine-to-product ratio for residential RO systems typically ranges from 3:1 to 4:1, meaning 3 to 4 gallons of wastewater are produced for every gallon of purified water. In some cases, particularly those operating at lower pressure or delivering small volumes of water at a time, the ratio can be as high as 10:1.

A solution would be to slow the flow to drain by providing a tighter flow-restrictor. It could be reduced to a 1:1 range. This would reduce the membrane life and lead to more frequent change outs. At a 1:1 ratio the membrane would need to be changed out every year. This would change the proportionally higher ratio due to lower pressure or small draws from 10:1 to 4:1 on the higher side.

Tighter restrictors can be used, but they're not covered under warranty due to the added stress on the membrane.

Oasis Series Reverse Osmosis Water Purification Systems



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