

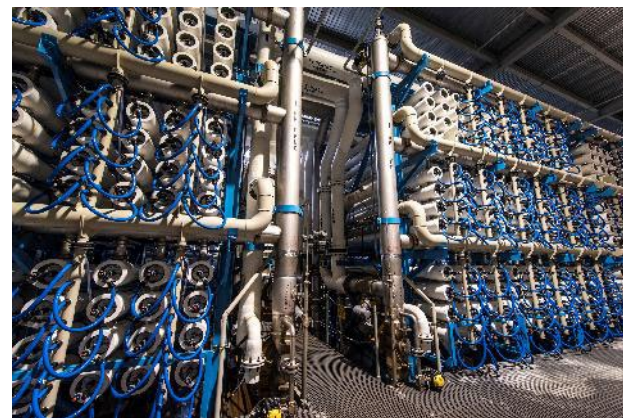
# Reverse osmosis in a bottle

Read the full article at [rsc.li/3wAy62O](https://rsc.li/3wAy62O)

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The bottle is intended for personal and community use by people who don't have sufficient access to clean water and would be compact and portable.

Water filters via a reverse osmosis membrane into a chamber connected to a synthetic leaf. The leaf consists of a nanoporous membrane on a microporous mesh. A negative pressure difference between the inside and the outside of the surface creates suction that overcomes the reverse osmosis at the filter, resulting in desalination.



Massive desalination plants are already used in arid places like California. Could they be portable?

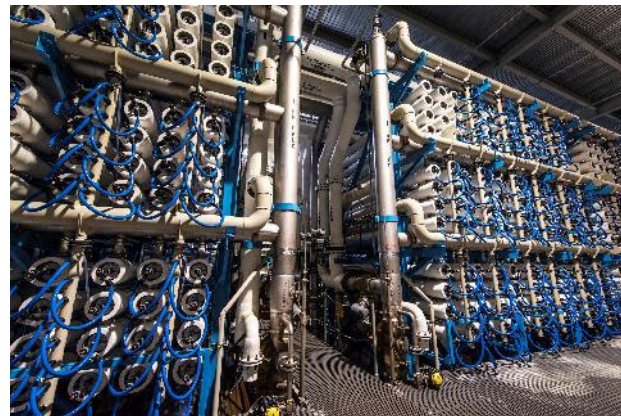
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1. Suggest what the difference is between nanoporous and microporous membrane.
2. Describe another method used to turn salty water into potable water.
3. Explain why using reverse osmosis on a large scale is expensive.



Massive desalination plants are already used in arid places like California. Could they become cheap and portable?