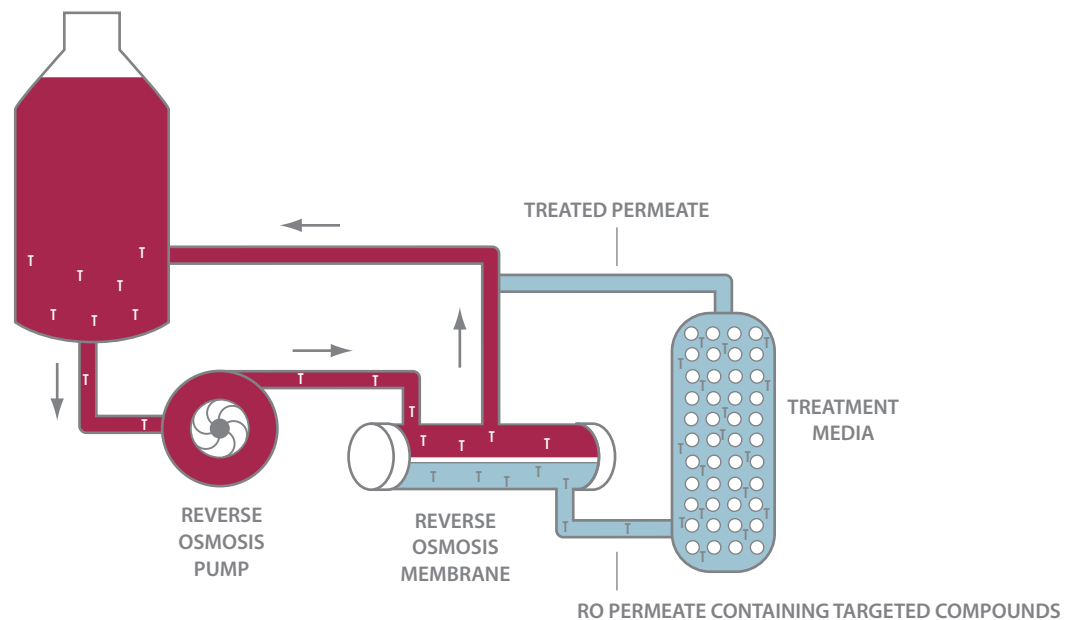


## Flavor Recovery by Reverse Osmosis

## How does it work?

Our taint removal methods selectively remove unintended compounds from your wine



### Get back the wine you intended to create

- **Proven performance**  
 Long history of successful VA removal  
 Fastest equipment in North America  
 Nothing added, flavor protected
- **Effective techniques**  
 Remove acetic acid and ethyl acetate  
 Brett taint banished, smoke taint smoked!
- **Unmatched versatility**  
 Membranes may be changed to trap specific molecules.  
 Switch treatments for targeted removal.  
 Never tasted that before? We probably have the answer.

California  
Flex Your Power  
Award Winner

*When optimism fails you,  
call Winesecrets.*

*Wine is a complex, living product. As such, sometimes Mother Nature throws you a curve with unintended flavors and compounds that mask the true character of your wine. Winesecrets can help restore the proper flavors by removing VA/ethyl acetate, smoke products from wild fires, or 4EP/4EG from brettanomyces and other yeasts.*

*Winesecrets' flavor recovery may be performed at your facility or ours. Your wine is treated gently throughout. Many of our processes involve recirculation of the wine in a single tank, which reduces the risk of oxidation and manages the headspace of your wine. This helps you deliver the consistent flavor profile that your customers enjoy.*

*Filtration Equipment Sales and Services, your facility and ours.*

## Taint Removal

## How does it work?

The basic process is as pictured on the front side. Wine from the tank is transferred via a pump to a reverse osmosis housing. As the wine flows past the reverse osmosis membrane, a small portion of the fluid diffuses through the membrane. The retentate, or the portion of the wine that does not pass through the membrane, is essentially the same as the untreated wine except it has a slightly lower concentrations of alcohol, water and acetic acid. The permeate, or that portion of the wine that does pass through the membrane, is a colorless, mostly flavorless liquid that contains only water, alcohol, acetic acid and other organic acids (such as small phenolic molecules such as those absorbed by wine grapes when exposed to smoke). The permeate is then passed through the treatment media, which targets the selected compounds for removal, leaving the water, alcohol, and the acids and compounds not targeted by the treatment media to pass through. The treated permeate is then recombined with the retentate and returned to the wine tank. The targeted taint is removed from the wine as filtration continues.

## Volatile Acidity Reduction

## How does it work?

Spoilage of wine by Vinegar bacteria or other micro-organisms elevates the concentrations of acetic acid and ethyl acetate, collectively referred to as volatile acidity (VA) in wines. This can reduce market value and, in extreme cases, cause a total loss if the wine must be sold for vinegar stock.

Winesecrets offers a mechanical process for volatile acidity (VA) reduction from bulk wine. This process consists of reverse osmosis filtration (essentially a pump, feeding wine in tangential flow over a semi-permeable membrane) and an anion exchange column. This is a patented process (U.S. Patent No. 08/218,920) developed by Vinovation, Inc. Winesecrets holds the rights for use in North America. Winesecrets offers VA removal as a part of our mobile filtration services.

## Smoke Taint Removal

## How does it work?

Winesecrets provides a reliable and cost effective on-site filtration service for removing the effects of brush fire smoke exposure from bulk wine. Like other Winesecrets' filtration technologies, the unit employs reverse osmosis filtration, along with a carbon block filter (an illustration of the process is on the front).

Winesecrets' smoke removal has been approved for use on organic wines by CCOF. The only materials that the wine comes into contact with, outside the normal tanks, hoses and piping used in wine production, is a polyimide membrane used in reverse osmosis and carbon filter. Winesecrets is the industry leader, having provided fire smoke taint removal services in North America since 2004. Our filtration service has already restored hundreds of thousands of gallons of smoke-effected wines. Some of these wines have received considerable critical acclaim. Winesecrets' filtration specialists are skilled and responsive, and will work with you to yield the wine that you want when the smoke taint removal process is complete.

**Winesecrets offers taint removal services using mobile filtration units at your facility, or as a service at own or contracted facilities in most wine producing regions.**