

# CROSSFLOW FILTRATION



## OVERVIEW

Since its introduction in the late 1970s, Crossflow Filtration has evolved and extended through many industries. As the 20th century came to a close, crossflow filtration became further refined and adapted for the wine industry, thanks to improvements in the field of membrane research, development and production. Winetech's own contribution to the development of high-quality filtration has been anything but quiet, having launched the first mobile filtration solution on the market.

## PROCESS

The emergence of more efficient and durable crossflow membranes have opened doors for use of the tangential or crossflow filtration concept. Crossflow Filtration works by moving the flow of wine across the membrane at a high velocity, continually scouring the surface, and removing fouling materials. Wine and dissolved solids continually pass through the membrane, while suspended solids are retained by the membrane and further concentrated.

## EQUIPMENT

Winetech's filtration equipment is the result of many membrane filtration trials. Our hollow fiber membranes direct the flow through a nominal 0.2 micron membrane, getting closest to sterile filtration. The membranes create minimal friction, are gentle on the wine and create an almost undetectable temperature increase. Our filtration solution is superior to other multistep systems such as DE, pads and cartridge filtration, resulting in a lower environmental impact—and less stress on your wine.

**QUALITY CONTROL:** Turbidity tests are performed on the spot before, during and after filtration.



EQUIPMENT	<ul style="list-style-type: none"> <li>•Hollow Fiber membranes</li> <li>•Pore size: 0.2 µm nominal</li> <li>•No waste DE to dispose of</li> <li>•Less handling and processing of wine versus multi-step filtration</li> </ul>
APPLICATIONS	<ul style="list-style-type: none"> <li>•Separation of suspended solids respecting the organoleptic characteristics and preserving the structure of the wine</li> </ul>
COMPLIANCE	<ul style="list-style-type: none"> <li>•FDA and TTB approved.</li> </ul>
PROCESS	<ul style="list-style-type: none"> <li>•Throughput: 400 - 1,800 gallons/hours</li> <li>•Wine temperature: 55° - 65° F (13° - 18°C), whites 35° - 65° (1.7° - 18°C)</li> <li>•Max working pressure: 2.5 bar</li> <li>•Average wine loss: &lt;1%</li> <li>•Cleaning agent: Sodium hydroxide 1%</li> <li>•All equipment is sanitized after each use</li> </ul>
SERVICE REQUIREMENTS	<ul style="list-style-type: none"> <li>•<b>Power:</b> Dedicated receptacle within 100 feet <ul style="list-style-type: none"> <li>•220 Volts tri-phase 60 Amp</li> <li>•480 Volts tri-phase 30 Amp</li> <li>•480 Volts tri-phase 60 Amp</li> </ul> </li> <li>•<b>Receptacle:</b> Hubbell style three poles + ground 30A 480V / 60 A 240V NO HARD WIRING will be done by our Filter Technicians. We can sell the receptacle to be installed by your contractor. We will not perform the service without the necessary receptacle in place</li> <li>•<b>Water:</b> Within 70 feet with 3/4" garden hose fitting</li> <li>•<b>Tanks:</b> Wine tank within 70' with Tri Clover fitting (above ground level), sanitized tank</li> <li>•<b>Hoses:</b> 1 ½" or 2", sanitized, enough to reach the tanks</li> </ul>
WINE REQUIREMENTS	<ul style="list-style-type: none"> <li>•<b>Wine:</b> Racked, blended, in tank.</li> <li>•<b>Lot size:</b> Minimum 120 gallons</li> <li>•<b>Wine temperature:</b> Reds 55°- 65°F, Whites 35°- 65°F (1.7° - 18°C)</li> <li>•<b>Brix:</b> Max 25°</li> <li>•<b>Note:</b> No CO2, clarifying products, bentonite, seeds or pomace</li> <li>•<b>Turbidity:</b> Less than 200 NTU</li> </ul> <p><b>CAUTION:</b> Blending wines after the filtration can compromise the filterability. Wines with starting high NTUs (over 100) might not achieve turbidity &lt;1 after filtration. As with all filtrations, wine filterability cannot be guaranteed since fouling is based largely on the wine chemistry. Pre-filtration is recommended prior to sterile filtration (0.45) and bottling</p> <p><b>Should these requirements not be met at the time of service, Winetech reserves the right to reschedule, revise pricing and/or cancel the service</b></p>