V.A. ADJUSTMENT

OVERVIEW

With the continued production of higher alcohol wines comes out-of-control Volatile Acidity (VA)—a problem affecting winemakers worldwide. Stuck fermentation, spoilage during fermentation and increased VA during aging have all been known culprits of VA increase.

PROCESS

At a guaranteed minimum VA removal per pass of 30%, VA adjustment membranes are used to separate small molecules, like acetic acid, into the permeate stream. The permeate stream is then treated separately, removing the VA without damaging pigmented retentate, which is responsible for wines' complex characteristics. Other filtration systems can adjust VA levels—but our equipment can also guarantee no pH shift. Operating at low pressure also ensures a gentle process.*

EQUIPMENT

Winetech's system consists of a combination of loose reverse osmosis membranes and ion-exchange columns. Winetech's membranes and resins allow pH stability resulting in no pH shift in your wine.

QUALITY CONTROL

Pre- and post-treatment lab analysis and pH monitoring during processing.

**VA Adjustment is not filtration. We remove VA, not the micro-organism itself. Wine needs to be sterile filtered to remove the cause of the problem.*

V.A. ADJUSTMENT

Please review these wine & service requirements carefully prior to your service date to ensure a successful and efficient project.

EQUIPMENT	•Winetech Loose RO System with Ion Exchange Resins •Membranes: FDA approved, thin-film tangential membrane •Resins: FDA approved, odorless and flavorless
APPLICATIONS	•Removal of Volatile Acidity from wine without affecting the pH
COMPLIANCE	•All components, materials and chemicals are FDA approved •TTB compliant
PROCESS	•No pH shift (± 0.1) •Throughput: 250 - 800 gallons / hour •Wine temperature: 55° - 65° F (13° - 18° C) •Max working pressure: 740 PSI (50 bar) •Average wine loss: 0.5% - 3% (small lots) •VA removal rate: 30% minimum guaranteed per passage (only if wine pH < 4) •Cleaning agent: sodium / potassium hydroxide / hydrochloric acid •All equipment is sanitized after each use
SERVICE REQUIREMENTS	•**Analyses: VA levels no older than one week.** •**Power:** Dedicated receptacle within 100 feet •220 Volts tri-phase 60 Amp •480 Volts tri-phase 30 Amp •**Receptacle:** Hubbell style three poles + ground 30A 480V / 60A 480V / 60A 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. •**Water:** Within 70 feet with 3/4" garden hose fitting •**Tanks:** Wine tank within 70' with Tri Clover fitting (above ground level). •**Hoses:** 1-1/2" or 2", sanitized, enough to reach the tank
WINE REQUIREMENTS	•**Wine:** Racked, blended, in tank. •**Lot size:** Minimum 500 gallons •**Wine temperature:** Minimum 55° - 65° F •**Brix:** Max 10° •**Note:** No CO2, clarifying products, bentonite, seeds or pomace •**Turbidity:** Less than 200 NTU **CAUTION:** Maintain free SO2 level between 20 - 30 mg/l before and after treatment. VA ADJUSTMENT IS NOT A FILTRATION: You need to filter the wine to remove the micro-organisms responsible for VA. **Should these requirements not be met at the time of service, Winetech reserves the right to reschedule, revise pricing and/or cancel the service.**

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.

CROSSFLOW FILTRATION

Please review these wine & service requirements carefully prior to your service date to ensure a successful and efficient project.

EQUIPMENT	•Hollow fiber membranes •Pore size: 0.2 µm nominal •No waste DE to dispose of •Less handling and processing of wine versus multi-step filtration
APPLICATIONS	•Separation of suspended solids respecting the organoleptic characteristics and preserving the structure of the wine.
COMPLIANCE	•FDA and TTB approved.
PROCESS	•Throughput: 400 - 1,800 gallons/hour •Wine temperature: 55° - 65°F (13° - 18°C) •Max working pressure: 2.5 bar •Average wine loss: <1% •Cleaning agent: Sodium hydroxide 1% •All equipment is sanitized after each use.
SERVICE REQUIREMENTS	•**Power:** Dedicated receptacle within 100 feet •220 Volts tri-phase 60 Amp •480 Volts tri-phase 30 Amp •480 Volts tri-phase 60 Amp •**Receptacle:** Hubbell style three poles + ground 30A 480V / 60A 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. •**Water:** Within 70 feet with 3/4" garden hose fitting. •**Tanks:** Wine tank within 70' with Tri Clover fitting (above ground level). Sanitized tank. •**Hoses:** 1-1/2" or 2", sanitized, enough to reach the tank.
WINE REQUIREMENTS	•**Wine:** Racked, blended, in tank. •**Lot size:** Minimum 120 gallons •**Wine temperature:** Reds 55°- 65°F, Whites 35°- 65°F •**Brix:** Max 25° •**Note:** No CO2, clarifying products, bentonite, seeds or pomace. •**Turbidity:** Less than 200 NTU **CAUTION:** Blending wines after the filtration can compromise the filterability. Wines with starting high NTUs (over 100) might not achieve turbidity <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 (0.45µm) and bottling. **Should these requirements not be met at the time of service, Winetech reserves the right to reschedule, revise pricing and/or cancel the service.**

Ion-Exchange Resin Ph Adjustment

EQUIPMENT

Winetech's system consists of Ion-Exchange Resin columns.

EQUIPMENT	•Ion-Exchange Resin columns •Resins: FDA approved, odorless and flavorless
APPLICATIONS	•Ph adjustments
COMPLIANCE	•All components, materials and chemicals are FDA approved •TTB compliant
PROCESS	•Throughput: 250 - 800 gallons / hour •Wine temperature: 55°- 65° F (13°-18° C) •Cleaning agent: hydrochloric acid •All equipment is sanitized after each use
SERVICE REQUIREMENTS	•**Power:** Dedicated receptacle within 100 feet •220 Volts tri-phase 60 Amp •480 Volts tri-phase 30 Amp •**Receptacle:** Hubbell style three poles + ground 30A 480V / 60A 480V / 60A 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. •**Water:** Within 70 feet with 3/4" garden hose fitting •**Tanks:** Wine tank within 70' with Tri Clover fitting (above ground level). •**Hoses:** 1-1/2" or 2", sanitized, enough to reach the tank
WINE REQUIREMENTS	•**Wine:** Racked, blended, in tank. •**Lot size:** Minimum 250 gallons •**Wine temperature:** Minimum 55° - 65° F •**Brix:** Max 10° •**Note:** No CO2, clarifying products, bentonite, seeds or pomace •**Turbidity:** Less than 50 NTU **Should these requirements not be met at the time of service, Winetech reserves the right to reschedule, revise pricing and/or cancel the service.**

DE-ALCOHOLIZATION

OVERVIEW

Demand for De-Alcoholization (de-alc) has increased dramatically in the last 15 years. Initially used to avoid higher taxation, de-alc technology is now widely employed as a way to improve wine quality—by restarting stuck fermentations and correcting wines that are "off-balance." Wineries throughout California are quietly embracing alcohol adjustment as an effective "wine-tuning" solution.

PROCESS

A gentle yet effective osmotic transport process is used to de-alc wine by separating ethyl alcohol from wine. Alcohol-rich wine is pumped along one side of a completely hydrophobic, microporous membrane and recirculated back into its original tank. The osmotic transport membrane runs a counter flow of filtered strip water on the opposite side, absorbing the evaporated alcohol.

EQUIPMENT

Winetech's system consists of a combination of osmotic transport and hydrophobic membranes.

QUALITY CONTROL

Pre- and post-treatment lab analysis and sensory evaluation.

COMPLIANCE: Each facility requires the following:

TTB: DSP (Distilled Spirits Plant) Permit

ABC: Type 4 License & Type 6 License*

*Note: As of 2015, Winetech is the owner of a fully licensed DSP facility. If you choose to have this service done remotely, the requirements above still apply.

DE-ALCOHOLIZATION

Please review these wine & service requirements carefully prior to your service date to ensure a successful and efficient project.

EQUIPMENT	•Winetech Osmotic Transport System •Membrane: FDA approved, hydrophobic membrane
APPLICATIONS	•Removal of Ethyl Alcohol from wine.
COMPLIANCE	•Service performed only at wineries federally bonded as DSP (Distilled Spirits Plant) with the TTB and equipped with both License Type 4 and License Type 6 from the ABC. •All components, materials and chemicals are FDA-approved •TTB compliant
PROCESS	•Average removal: 1% per hour •Throughput: 500 gallons/hour •Wine temperature: 55° - 65° F (13° - 8° C) •Max working pressure: 45 PSI (3 bar) •Average wine loss: Equal to reduction due to removal of ethyl alcohol and up to 0.5% processing losses •Cleaning agent: sodium hydroxide •All equipment is sanitized after each use.
SERVICE REQUIREMENTS	•**Power:** Dedicated receptacle within 100 feet •220 Volts tri-phase 20 Amp •480 Volts tri-phase 10 Amp •**Receptacle:** Hubbell style three poles + ground 30A 480V / 60A 480V / 60A 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. •**Water:** Within 70 feet with 3/4" garden hose fitting •**Tanks:** 1) Wine tank within 70' with Tri Clover fitting (above ground level). 2) Water tank (volume = to approximately 1/5th the volume of wine being treated) within 70' with Tri Clover fitting (above ground level). •**Hoses:** 1-1/2" or 2", sanitized, enough to reach the tank.
WINE REQUIREMENTS	•**Wine:** Racked, blended, in tank and PRE-FILTERED to 10 micron. •**Lot size:** Minimum 60 gallons •**Wine temperature:** Minimum 55° - 65° F •**Note:** No CO2, clarifying products, bentonite, seeds or pomace •**Turbidity:** Less than 20 NTU **CAUTION:** Maintain free SO2 level between 20 - 30 mg/l before and after treatment. **Should these requirements not be met at the time of service, Winetech reserves the right to reschedule, revise pricing and/or cancel the service.**

LEES FILTRATION

OVERVIEW

The Rotary Drum Vacuum, one of the earliest technologies for filtration, was first developed to aid the wastewater industry in the 1960s. Its introduction into the wine industry came some 20 years later. While plate-and-frame filtration has historically been the way to filter out lees, the rotary drum vacuum is superior in speed, production and resultant quality.

PROCESS

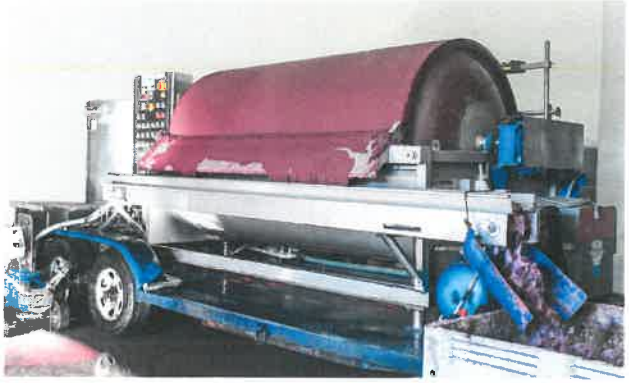
The Rotary Drum Vacuum fuses diatomaceous earth (DE) and/or Perlite vacuum filtration to create an efficient and effective process for removing lees and other solids. Winetech's internal pump model picks up minimal oxygen, providing maximum return. Wine is pulled from within the vacuum's rotating drum, which is coated with DE filtration media, and into the base of the machine. The drum rotates, with its vacuum pulling wine slowly through the porous material and into a clean tank. The exhausted DE on the drum's edge is sloughed off by a stationary blade and ushered via conveyer belt into waiting waste bins.

EQUIPMENT

Constructed entirely of stainless steel, Winetech's internal pump rotary vacuum filter can be effectively sanitized, ensuring a clean application every time. Winetech's technology allows for minimum oxygen pickup.

QUALITY CONTROL

Clarity level evaluation.



LEES FILTRATION

Please review these wine & service requirements carefully prior to your service date to ensure a successful and efficient project.

EQUIPMENT	•Rotary drum vacuum filter, 10 sq. meters •Fully stainless steel filter that is thoroughly sterilized before use •Internal submerged pump that moves extracted filtered wine preventing oxidation
APPLICATIONS	•Removal of large amounts of yeast and other solids •Stop fermentation of sweet wines •Filtration of light and heavy lees - Juice lees - Barrel lees - Bentonite and other fining agent lees - Tank lees after first and second racking
COMPLIANCE	•All components, materials and chemicals are FDA approved •TTB compliant
PROCESS	•Hourly production: 300 - 1,000 gal / hour •Oxygen pick up: very low •Recovery rate: 65%-95% (white and juice lees) 40%-70% (red lees) •Cleaning agent: sodium / potassium hydroxide •All equipment is sanitized after each use
SERVICE REQUIREMENTS	•**Power:** Dedicated receptacle within 100 feet •208-240 Volts tri-phase 60 Amp •460-480 Volts tri-phase 30 Amp •**Receptacle:** Hubbell style three poles + ground 30A 480V / 60A 480V / 60A 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. •**Water:** Within 70 feet with 3/4" garden hose fitting •**Tanks:** Wine tank within 70' with tri Clover fitting (above ground level.) Sanitized tank •**Hoses:** 1-1/2" or 2", sanitized, enough to reach the tanks •**Pump:** Customer to provide 2" air pump (diaphragm) or waukesha pump (lobe) for heavy lees only (red or bentonite) •**Bin:** Capture bin for DE scrapings
WINE REQUIREMENTS	•**Wine:** Lees must be pumpable. •**Lot size:** Minimum 400 gallons **CAUTION:** Do not add SO2 to fermented lees before treatment **Should these requirements not be met at the time of service, Winetech reserves the right to reschedule, revise pricing and/or cancel the service.**

4EP-4EG TREATMENT

OVERVIEW

Brettanomyces ("Brett") yeast produces two molecules during its lifespan in wine: 4-Ethylphenol (4EP) and 4-Ethylguaiacol (4EG). Much of the year 2003 was spent in the Winetech lab as we searched for an adequate resin to catch the Brett off-flavors from wine and remove 4EP/4EG—our resultant discovery solidified our standing as an industry leader in wine treatment solutions.

PROCESS

Similar to the use of reverse osmosis (RO) in VA removal, the 4EP/4EG removal system uses loose RO to separate 4EP and 4EG into the permeate stream. The permeate stream is then treated separately to remove Brett off-flavors without damaging pigmented retentate, which is responsible for wines' complex characteristics. After treatment, the permeate is blended back into the retentate.*

EQUIPMENT

Winetech's system is a combination of loose RO membranes and absorbent resins.

QUALITY CONTROL

Pre- and post-treatment lab analysis and sensory evaluation.

**4EP/4EG removal is not filtration. We remove off-flavors, not the Brettanomyces that cause them. Wine needs to be sterile filtered to remove the cause of the problem.*

4EP-4EG TREATMENT

Please review these wine & service requirements carefully prior to your service date to ensure a successful and efficient project.

EQUIPMENT	•Winetech Loose RO System with Ion Exchange Resins •Membranes: FDA approved, thin-film tangential membrane •Resins: FDA approved, odorless and flavorless
APPLICATIONS	•Removal of Brettanomyces off-flavors (4EP-4EG) from wine
COMPLIANCE	•All components, materials and chemicals are FDA approved •TTB compliant
PROCESS	•Average removal: 20% per pass •Throughput: 350 - 600 gallons/hour •Wine temperature: 55° - 65° F (13° - 18° C) •Max working pressure: 740 PSI (50 bar) •Average wine loss: 0.5% - 3% (small lots) •Cleaning agent: sodium / potassium hydroxide •All equipment is sanitized after each use.
SERVICE REQUIREMENTS	•**Analyses: 4EP-4EG levels no older than one week** •**Power:** Dedicated receptacle within 100 feet •220 Volts tri-phase 30 Amp •480 Volts tri-phase 15 Amp •**Receptacle:** Hubbell style three poles + ground 30A 480V / 60A 480V / 60A 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. •**Water:** Within 70 feet with 3/4" garden hose fitting. •**Tanks:** Wine tank within 70' with tri Clover fitting (above ground level). •**Hoses:** 1-1/2" or 2", sanitized, enough to reach the tank.
WINE REQUIREMENTS	•**Wine:** Racked, blended, in tank. •**Lot size:** Minimum 500 gallons •**Wine temperature:** Minimum 55° - 65° F •**Brix:** Max 10° •**Note:** No CO2, clarifying products, bentonite, seeds or pomace •**Turbidity:** Less than 200 NTU **CAUTION:** Maintain free SO2 level between 20 - 30 mg/l before and after treatment. **THIS TREATMENT IS NOT A FILTRATION:** You need to filter the wine to remove the brettanomyces responsible for the off flavors. **Should these requirements not be met at the time of service, Winetech reserves the right to reschedule, revise pricing and/or cancel the service.**

SMOKE TAINT REMOVAL

OVERVIEW

The rampant wildfires that plagued California's north and central coasts in 2008 led to a significant amount of smoke-tainted wines, full of campfire aromas and bitter flavors. It wasn't long after that the Winetech lab developed a solution for smoke taint. Elevated levels of 4-Methylguaiacol (4MG) and Guaiacol (G) proved to be effectively removed using reverse osmosis (RO) technology, along with absorbent media.

PROCESS

Similar to the use of RO in VA removal, Winetech's Smoke Taint Removal System uses loose RO to separate 4MG/G into the permeate stream. This permeate stream is then treated separately through ion-exchange resin columns, removing smoke taint without damaging pigmented retentate, which is responsible for wines' complex characteristics. After treatment, the permeate is blended back into the retentate.

EQUIPMENT

Winetech's system consists of a combination of loose RO membranes and absorbent media.

QUALITY CONTROL

Pre- and post-treatment lab analysis and sensory evaluation.

SMOKE TAINT REMOVAL

Please review these wine & service requirements carefully prior to your service date to ensure a successful and efficient project.

EQUIPMENT	•Winetech Loose RO System with Absorbent Media •Membranes: FDA approved, thin-film tangential membrane •Absorbent Media: FDA approved, odorless and flavorless
APPLICATIONS	•Removal of Smoke Taint off-flavors (4MG-G) from wine
COMPLIANCE	•All components, materials and chemicals are FDA approved •TTB compliant
PROCESS	•Throughput: 350 - 650 gallons/hour •Wine temperature: 55° - 65° F (13° - 18° C) •Max working pressure: 740 PSI (50 bar) •Average wine loss: 0.5% - 3% (small lots) •Cleaning agent: sodium / potassium hydroxide •All equipment is sanitized after each use
SERVICE REQUIREMENTS	•**Analyses: Sensory evaluation** •**Power:** Dedicated receptacle within 100 feet •220 Volts tri-phase 30 Amp •480 Volts tri-phase 15 Amp •**Receptacle:** Hubbell style three poles + ground 30A 480V / 60A 480V / 60A 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. •**Water:** Within 70 feet with 3/4" garden hose fitting •**Tanks:** Wine tank within 70' with Tri Clover fitting (above ground level) •**Hoses:** 1-1/2" or 2", sanitized, enough to reach the tank
WINE REQUIREMENTS	•**Wine:** Racked, blended, in tank. •**Lot size:** Minimum 500 gallons •**Wine temperature:** Minimum 55° - 65° F •**Brix:** Max 10° •**Note:** No CO2, clarifying products, bentonite, seeds or pomace •**Turbidity:** Less than 200 NTU **CAUTION:** Maintain free SO2 level between 20 - 30 mg/l before and after treatment. **Should these requirements not be met at the time of service, Winetech reserves the right to reschedule, revise pricing and/or cancel the service.**

ETHYL ACETATE REMOVAL

OVERVIEW

Ethyl Acetate is the most common ester in wine—a reaction of ethanol and acetic acid—that, when overly produced, imparts unmistakable and objectionable aromas of acetone, or nail-polish remover, into wine. Ethyl Acetate frequently develops on the vine, due to contamination with Acetobacter and other aerobic bacteria. Winetech's pioneering removal solution removes excessive ethyl acetate through RO technology and absorbent media.

PROCESS

Similar to the use of RO in VA removal, Winetech's Ethyl Acetate Removal System uses loose RO to separate ethyl acetate into the permeate stream. This permeate stream is then treated separately to remove ethyl acetate without damaging pigmented retentate, which is responsible for wines' complex characteristics. After treatment, the permeate is blended back into the retentate.*

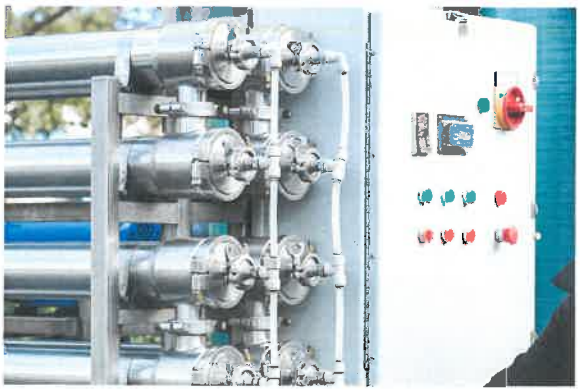
EQUIPMENT

Winetech's system consists of a combination of loose RO membranes and absorbent media.

QUALITY CONTROL

Pre- and post-treatment lab analysis and sensory evaluation.

**Ethyl acetate removal is not filtration. We remove off-flavors, not the acetobacter or other aerobic bacteria that cause them. Wine needs to be sterile filtered to remove the cause of the problem.*



ETHYL ACETATE REMOVAL

Please review these wine & service requirements carefully prior to your service date to ensure a successful and efficient project.

EQUIPMENT	•Winetech Loose RO System with Absorbent Media •Membranes: FDA approved, thin-film tangential membrane •Absorbent Media: FDA approved, odorless and flavorless
APPLICATIONS	•Removal of Ethyl Acetate from wine.
COMPLIANCE	•All components, materials and chemicals are FDA approved •TTB compliant
PROCESS	•Average removal: 30% per pass •Throughput: 350 - 600 gallons/hour •Wine temperature: 55° - 65° F (13° - 18° C) •Max working pressure: 740 PSI (50 bar) •Average wine loss: 0.5% - 3% (small lots) •Cleaning agent: sodium / potassium hydroxide •All equipment is sanitized after each use
SERVICE REQUIREMENTS	•**Power:** Dedicated receptacle within 100 feet •220 Volts tri-phase 30 Amp •480 Volts tri-phase 15 Amp •**Receptacle:** Hubbell style three poles + ground 30A 480V / 60A 480V / 60A 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. •**Water:** Within 70 feet with 3/4" garden hose fitting •**Tanks:** Wine tank within 70' with Tri Clover fitting (above ground level) •**Hoses:** 1-1/2" or 2", sanitized, enough to reach the tank
WINE REQUIREMENTS	•**Wine:** Racked, blended, in tank. •**Lot size:** Minimum 500 gallons •**Wine temperature:** Minimum 55° - 65° F •**Brix:** Max 10° •**Note:** No CO2, clarifying products, bentonite, seeds or pomace •**Turbidity:** Less than 200 NTU **CAUTION:** Maintain free SO2 level between 20 - 30 mg/l before and after treatment. **Should these requirements not be met at the time of service, Winetech reserves the right to reschedule, revise pricing and/or cancel the service.**

TCA-TBA REMOVAL

OVERVIEW

Wineries are often faced with off-flavors caused by 2,4,6-trichloroanisole (TCA) and 2,4,6-tribromoanisole (TBA) mold molecules. TCA and TBA are two molecules both created by mold, and are found in wineries. In the rare case that chlorine and bromine molecules get into contact with the mold, the mold's metabolism will produce TCA and TBA as off-flavors in the wine. Winetech's solution is licensed by the patent holder to safely and effectively remove TCA and TBA off-flavors.

PROCESS

Wine is gently pumped through the column and back to the original tank. Our process allows for the minimum lot size of one barrel and above. In addition, this process is offered as a mobile filtration service, as well as by a rental contract.*

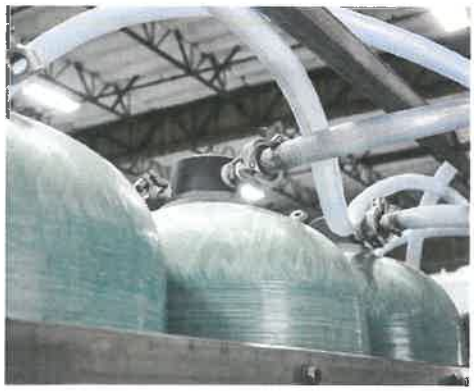
EQUIPMENT

Winetech's TCA machine is complete with a pump and treatment column and is licensed under patent #6,610,342. Our TCA/TBA filtration solution uses chromatographic methods to remove TCA and TBA. Special resin beads in the column are used to specifically absorb these compounds. Our machine actually removes TBA—it doesn't just cover it.

QUALITY CONTROL

Pre- and post-treatment lab analysis.

**This technology is based upon accurate numbers of TCA and TBA starting levels.*



TCA-TBA REMOVAL

Please review these wine & service requirements carefully prior to your service date to ensure a successful and efficient project.

EQUIPMENT	• Winetech TCA-TBA Removal System: chromatographic method: absorbent resin column + pump • Pat # 6,610,342
APPLICATIONS	• Removal of TCA and TBA from wine.
COMPLIANCE	• All components, materials and chemicals are FDA approved • TTB compliant
PROCESS	• Equipment available to treat from 1 barrel and up • Removal rate: 100% • All equipment is sanitized after each use
SERVICE REQUIREMENTS	• **Power:** 110V or compressed air • **Nitrogen** • **Receptacle:** 110V standard receptacle • **Water:** Within 70 feet with 3/4" garden hose fitting • **Tanks:** Wine tank within 70' with Tri Clover fitting (above ground level). Sanitized tank • **Hoses:** 1-1/2" or 2", sanitized, enough to reach the tank
WINE REQUIREMENTS	• **Wine:** Racked, blended in tank • **Minimum lot size:** 60 gallons • **Wine Temperature:** 55°- 65° F (13° - 18° C) **CAUTION:** Maintain free SO2 level between 20 - 30 mg/l before and after treatment. **Should these requirements not be met at the time of service, Winetech reserves the right to reschedule, revise pricing and/or cancel the service.**

DE-ALCOHOLIZATION by distillation

OVERVIEW

Demand for De-Alcoholization (de-alc) has increased dramatically in the last 15 years. Initially used to avoid higher taxation, de-alc technology is now widely employed as a way to improve wine quality—by restarting stuck fermentations and correcting wines that are "off-balance." Wineries throughout California are quietly embracing alcohol adjustment as an effective "wine-tuning" solution.

EQUIPMENT

Winetech's system consists of a combination of tight reverse osmosis and distillation.

QUALITY CONTROL

Pre- and post-treatment lab analysis and sensory evaluation.

DE-ALCOHOLIZATION by distillation

EQUIPMENT	•Winetech tight reverse osmosis and copper pot still. •Membrane: FDA approved
APPLICATIONS	•Removal of Ethyl Alcohol from wine.
COMPLIANCE	•Service performed only at our federally bonded as a DSP (Distilled Spirits Plant) facility with the TTB and equipped with both License Type 4 and License Type 6 from the ABC. •All components, materials and chemicals are FDA approved
PROCESS	•TTB compliant •Wine temperature: 55°- 65° F (13°-18° C) •Max working pressure: 740 PSI (50 bar) •Cleaning agent: sodium hydroxide •All equipment is sanitized after each use
WINE REQUIREMENTS	•**Wine:** Racked, blended and delivered to our facility. •**Lot size:** Minimum 200 gallons •**Wine temperature:** Minimum 55° - 65° F •**Note:** No CO2, clarifying products, bentonite, seeds or pomace •**Turbidity:** Less than 200 NTU •**Brix:** Max 10° **CAUTION:** Maintain free SO2 level between 20 - 30 mg/l before and after treatment. **Should these requirements not be met at the time of service, Winetech reserves the right to reschedule, revise pricing and/or cancel the service.**