



COMMON CAUSES OF CROSSFLOW FILTRATION PROBLEMS

THE WINE CONTAINS SUBSTANCES THAT WILL DAMAGE THE FILTER OR SLOW FILTRATION

PVPP: PVPP will clog the filter membranes, void the membrane warranty, and membranes will likely need to be replaced. If PVPP is run through the filter, immediately conduct several cold water rinses.

Suspended Solids: if wine contains > 1% suspended solids, filtration may be slow

Bentonite: bentonite will collect in the filter membranes and slow filtration. If bentonite is run through the filter, conduct several cold water rinses.

Pectin: wine should be tested for pectins prior to filtration or preventatively treated with pectinase enzymes. If pectin-positive wine runs through the crossflow, conduct an **enzyme cleaning cycle***.

Glucans: wine should be pre-treated for glucans. If glu-can-positive wine runs through the crossflow, regeneration will be difficult. Contact us to speak with an enzyme specialist.

THE FILTER WAS NOT SET UP CORRECTLY

Membranes were not clean from previous cleaning cycle

If membranes are not clean from the previous cycle or have sat for too long without being cleaned, filtration may be slow and wine may get contaminated. If this problem is suspected, immediately stop filtration and conduct a regular cleaning cycle.

Some fittings or valves are leaking

Filter is connected to the wrong tank

Filter is not connected to the correct valve (racking valve) on the tank

Alarms were not addressed and cleared prior to filtration

REGULAR CLEANING PROCEDURE MAY NOT BE EFFECTIVE BECAUSE:

Chemicals are not of appropriate concentration

If chemicals are not of proper concentration, the crossflow is not being fully cleaned and filtration may be slow.

Consult the crossflow manual for recommended chemical concentrations. Scott Laboratories recommends using liquid caustic and citric. Ensure proper concentration by testing pH during each cleaning cycle with color indicating test strips: caustic cycle (pH 11-12), citric cycle (pH 2-4), after water rinse (pH 6-7).

If regular cleaning procedures have not been effective, conduct a **caustic soak****. If problems persist, conduct a **hydrogen peroxide cycle*****.

Water used for cleaning is not of appropriate quality

Facility water quality should be within these parameters. If it is not, water impurities may collect on membranes and filtration may be slow.

PARAMETER	CONCENTRATION
Fe, Mn	<0.1 ppm
Al	<0.5 ppm
Silica	<10 ppm
Chlorine	Not Detectable
Hardness	<60 ppm CaCO ₃
Sum: Ca + Mg	<70 ppm
Turbidity	<1 NTU

Water is not hot enough to effectively clean the crossflow

Hot water temperature must be between 48-60C (120-140F) in order to effectively clean membranes.

***Enzyme Cleaning Cycle:** enzyme cleaning cycles can be helpful if pectin positive wines were run through the filter. For protocol, visit scottlab.com and search "cleaning with enzymes."

****Caustic Soak:** allow membranes to soak for 24-48 hours in caustic (consult manual, typically 30-50% concentrate). Afterward, conduct an appropriate citric acid neutralization and water rinse.

*****Hydrogen Peroxide Cycle:** consult the manual for proper hydrogen peroxide concentration. Check expiration date - hydrogen peroxide has a short shelf life and needs to be used prior to expiration date.

IF FILTRATION PROBLEMS PERSIST, CONTACT US TO SPEAK WITH A FILTRATION EXPERT