

Optimal Conditions for Use of Seitz-Schenk® Filter Sheets in Wine Filtration

Flow Rate and Differential Pressure:

20x20 cm Sheet:

	Optimum Gal/hr/sheet	Maximum Gal/hr/sheet	Maximum Differential Pressure
Sterilizing Filtration	5	6	21 psi (1.5 bar)
Polishing Filtration	9	13	45 psi (3.0 bar)

- Effective filter area 0.77 sq. ft. (0.070 meter sq.)

40x40 cm Sheet:

	Optimum Gal/hr/sheet	Maximum Gal/hr/sheet	Maximum Differential Pressure
Sterilizing Filtration	20	25	21 psi (1.5 bar)
Polishing Filtration	35	50	45 psi (3.0 bar)

- Effective filter area 1.54 sq. ft. (0.143 meter sq.)

60x60 cm Sheet:

	Optimum Gal/hr/sheet	Maximum Gal/hr/sheet	Maximum Differential Pressure
Sterilizing Filtration	46	50	21 psi (1.5 bar)
Polishing Filtration	75	100	45 psi (3.0 bar)

- Effective filter area 3.58 sq. ft. (0.330 meter sq.)

Expected throughput range 5-50 times maximum recommended flow rate.
Throughputs outside this range may be acceptable but are generally not recommended.

Rinsing and Sterilization:

Unsterilized sheets should be rinsed with water or recirculated with product for a minimum of 10 minutes prior to use.

- Hot Water Sterilization: 20 minutes at a minimum 180°F
- Steam Sterilization (Stainless Steel Plates ONLY): 20 minutes at a maximum pressure of 7 psi and a maximum temperature of 230°F. Do not expose filter plates to heat in fully tightened condition. Retighten filter after cooling
- Chemical sterilants are unreliable.
- Chlorinated or caustic chemicals may damage structure.
- Surfactants such as Quaternary Ammonium or Iodofor are difficult to rinse from the sheet matrix.
- Suggested Compatible Sanitizers:
 - Sulfur Dioxide @ 1000ppm
 - 5% Citric Acid Solution
 - Phosphoric Acid Solution 0.1-0.2%, pH 2.0

Important Factors for Good Sheet Filtrations:

- Maintain consistent conditions of flow and pressure throughout filtration.
- Use only proper grades suggested for specific purposes. Do not mix grades within a single filtration without a diversion chamber.
- If regeneration is attempted, use only clean water below 120°F in reverse direction of flow. Regeneration is most effective if done right before high differential pressure is reached; i.e. below 15-20 psi (1.0-1.5 bar). Recirculate product after regeneration in critical applications.
- Assure sheets are properly oriented in filter with creped filter sheet surface facing inlet plates and screened side marked with grade and logo facing outlet plates.
- If excess edge leakage occurs (more than 3-5 gallons per 8 hr shift), check condition of filter for proper gaskets, good lubrication, or warped plates.
- Prevent release of gas from solutions inside of filter by maintaining appropriate backpressure: for still wine 10-15psi, for carbonated beverages at least 1 atm above product equilibrium pressure. Keep filter well vented through use of the outlet at the highest available point and by bleeding the vent valves.
- Proper prefining, treatment with enzymes or prefiltrations with diatomaceous earth will usually lead to greater economy and reliability of sheet filtrations.
- Wines should not be premembraned filtered with sheets more than 24 hours before the membrane filtration. With recently blended or heavily pigmented red wines, sheet filtration may be necessary immediately prior to membrane filtration.
- Consult Scott Laboratories, Inc. representative for suggestions or trial filtration apparatus.