

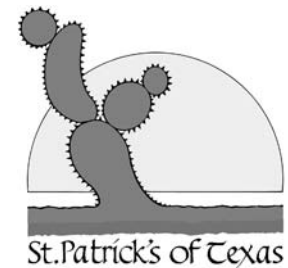
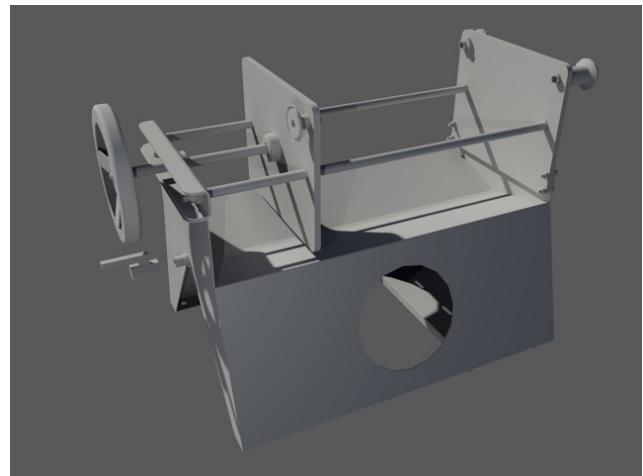
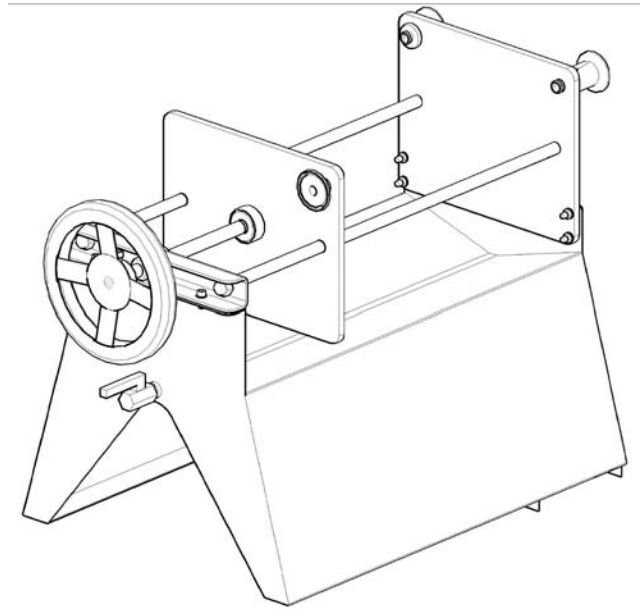
20x20 Plate and Frame Filter—Packing List

Components

- Base
- Sliding End Plate
- Fixed End Plate
- 4 M6 Allen Bolts Long with nuts (for Fixed End Plate to Base)
- 2 Support Rods with 4 M12 Nuts
- Hand-Wheel
- Thread Rod with jam nut (for Handwheel)
- Bracket
- 2 M6 Allen Bolts Short with nuts(for Bracket to Base)
- 4 Casters
- Pump
- Mounting Bolts for Pump (2 M6 with nuts and washers, and 1 M5 long with washer)
- 3/4" Pliovic 3/4" tubing---9"
- 2 ESS12 Hose Clamps
- 4 1.5" TC Clamps
- 4 1" TC Gaskets
- TC x HB 1.5" x 3/4"
- TC x HB 1.5" x 3/4" 90°
- Pressure Gauge
- 1" Butterfly Valve
- 1.5" TC End Cap
- 29 Center Plates
- 1 plastic Male End Plate (Sliding Endplate side)
- 1 plastic Female End Plate (Fixed End Plate Side)
- 31 Thick Gaskets
- 2 Thin Gaskets
- 3/8" Ball Valve
- 2 Rubber Edging--46"

Supplies

- No. 4 metric Allen wrench



Filter – Assembly

1. Put Rubber Edging on cutouts. See Figure 1. There are sharp edges so please be careful during this step.



Figure 1

2. Invert the base and attach the wheels. See Figure 2.



Figure 2

3. Attach the pump. (a) Remove the small leg and allen bolt from bottom of pump. See Figure 3.



Figure 3

(b) Slide pump into base. Use two bolts and washers to hold pump in center of base. See Figure 4. Use long M5 bolt to attach back leg of pump. Do not overtighten this bolt.



Figure 4

4. Attach Fixed End Plate to base with bolts and nuts as shown in Figure 5. Note TriClamp ferrules face outward.

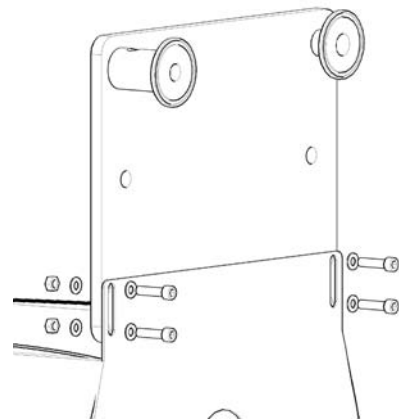


Figure 5

5. Please note the ends of the Support Rods are different. See Figure 6. End with collar mates with Fixed End Plate.

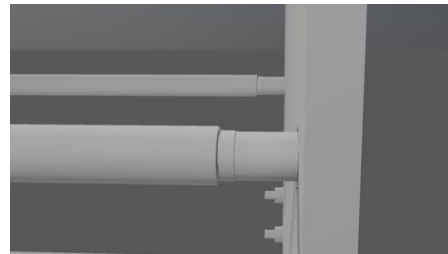


Figure 6

6. Slide Support Rods through Sliding End Plate. See Figure 7. Sliding End Plate Ferrule faces outward. Attach Support Rods to Fixed End Plate using the two M12 nuts.



Figure 7

7. See Figure 8. Attach other end of Support Rods to Bracket with 2 M12 nuts. Attach Bracket to Base with nuts and bolts. Figure 9. Tighten Support Rod bolts and bracket nuts securely.

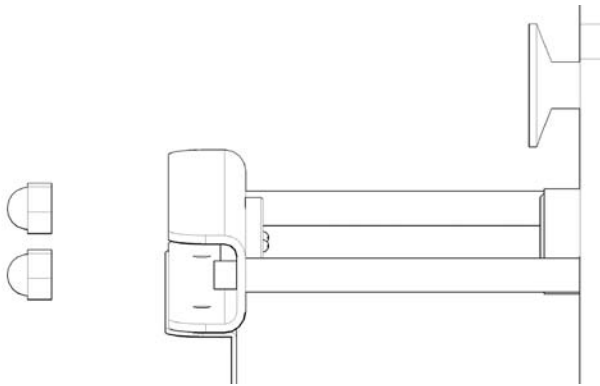


Figure 8

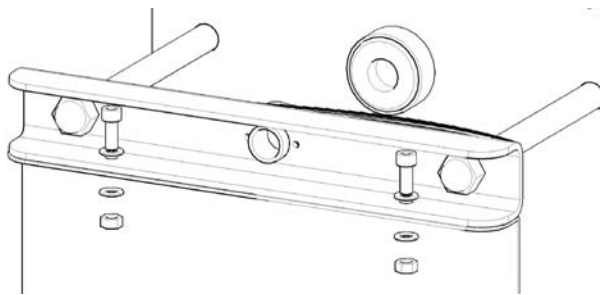


Figure 9

8. Thread handwheel onto threaded rod about 3 turns. Tighten jam nut to secure rod, then tighten allen bolt. See Figure 10. Thread rod into Bracket.



Figure 10

9. Attach 3/8 ball valve to drain outlet of base.

10. See Figure 11. Put THIN gasket on inlet of Fixed Endplate. Place THIN gasket on Sliding Endplate as shown. See Figure 12. Put plastic Female Endplate on Fixed Endplate. Put plastic Male Endplate on Sliding Endplate.

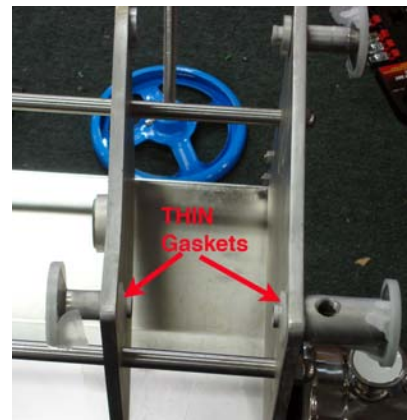


Figure 11

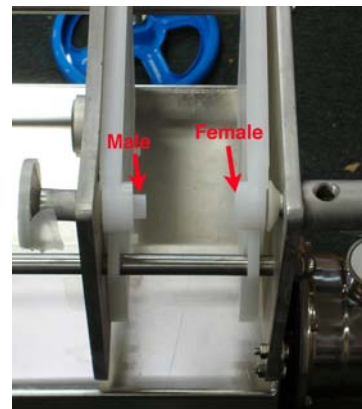


Figure 12

11. Place one thick gasket on plastic Male End Plate. Place one thick gasket on outlet of Fixed Endplate. Place thick gasket on each of the 29 Center Plates.

12. Assemble the center plates as shown in Figure 13.

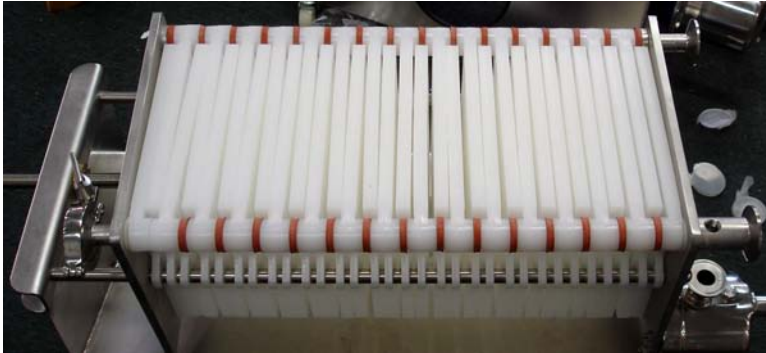


Figure 13

13. Assemble the fittings and valve as shown in Figure 14. Attach the pressure gauge (use teflon tape to make seal).



Figure 14

14. Attach the End Cap on the Sliding EndPlate. Please note: If you are using double filtration, the End Cap moves to the Fixed Endplate.

Single Filtration vs Double Filtration: Inlet is the same.

Single Filtration: Outlet is on Fixed Endplate and end cap on Sliding Endplate.

Double Filtration: Outlet is on Sliding Endplate and end cap on Fixed Endplate.

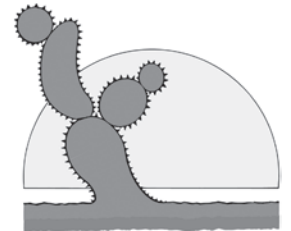
Using the Filter

Single filtration. OUTLET is on fixed plate--pump end of filter. Triclamp ferrule on moveable plate is capped.

Double Filtration: OUTLET is on moveable plate. Triclamp ferrule on fixed plate is capped.

First time operation.

Use water. Set up for single filtration.



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Basic Operation

Place filter sheets in dry as instructed below.

Tighten handwheel firmly. After sheets become wet, tighten handwheel again to stop leaks.

Prime pump by pouring water into pump head.

Start pump, retighten handwheel as needed to stop leaks. Introduce product.

After filtration.

Run CLEAN PURE water through pump. Be sure to remove all chemicals. Remove drain plug from pump head to drain all liquid, then replace drain plug.

Inserting Filter Sheets

Each filter sheet has a directional flow which allows the product to pass through. The filters have both a smooth and a porous (topographically rough) side. The product must go in from the rough (porous) side and must exit from the smooth. The smooth side has a fine checkerboard woven appearance. The rough side looks like a foamy milk surface. On Cordenon filter sheets, the rough side is stamped with the product code. This may not be true for other brands.

Loading the filters sheets. The sheets alternate, rough, smooth, rough, smooth....

Working from the pump side of filter. 1st sheet--rough faces pump. 2nd--smooth faces pump. 3rd--rough faces pump. 4th--smooth faces pump.

To understand why this is so, please examine the plates carefully to understand the flow of the wine through the filter.

Double Filtration

As a general rule, use coarse: fine sheets in 2:1 ratio.

Ferrule on fixed end plate is capped. OUTLET is now on moveable endplate.

Place Double Filtration Plate and its accompanying endplates in filter. When viewing from pump-end of filter, the hole in stainless plate is on the right.

General guidelines for depth filtration (i.e., plate and frame filtering with filter sheets)

How many gallons can I filter before changing filter sheets?

Typically 10-15 gallons for each 20x20 sheet.

Typically 40-60 gallons for each 40x40 sheet.

But, this assumes your wine is clean and you are polishing. The results can be much less if you have cloudy wine.

Stop filtration and change sheets when the pressures become too high. You can still push wine through the sheets at higher pressure but you are not filtering effectively.

Washing

Even though we use raw materials of excellent quality and take special care in the production and converting process, the filter sheets can initially transfer scents and flavours. As a result, it is necessary to filter cold water through the filter sheets to wash them. This will eliminate all the small fibres and mineral particles that can become detached during the placement of the sheets.

The water used for washing should be neutral (pH=7) or slightly acidic.

If you cannot wash with water, we recommend recycling the first few gallons of filtered wine.

Stopping and starting. If filtration is stopped, then the first volumes of wine upon restart should be recycled.

Filtering

We recommend recycling the first volumes of filtered wine or liquid. In order to achieve a good filtration quality we advise not to exceed the these maximum values.

Maximum flow rate recommended for each surface

Coarse filtration 1000 l/hm² (This equates to 43 gallons/hour for each 40x40 sheet and ~10 gallons/hour for each 20x20 sheet.)

Clarification 500 l/hm² (This equates to 21 gallons/hour for each 40x40 sheet and ~5 gallons/hour for each 20x20 sheet.)

Sterilisation 350 l/hm² (This equates to 15 gallons/hour for each 40x40 sheet and ~3.5 gallons/hour for each 20x20 sheet.)

Differential Pressure recommended:

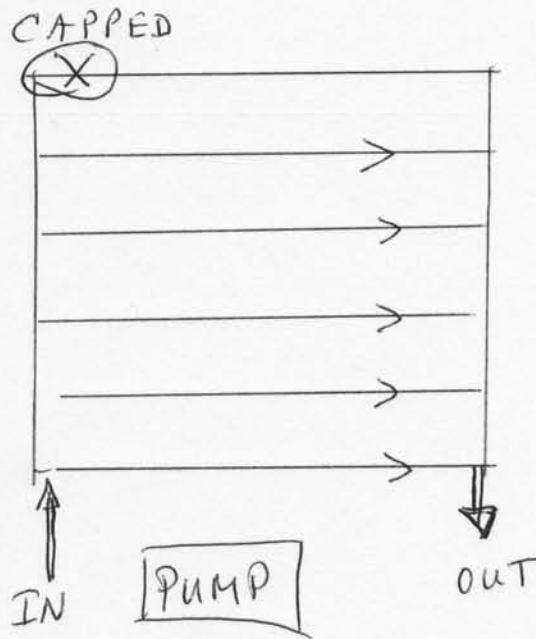
Coarse filtration: maximum differential pressure 2,5 bar (36 psi)

Clarification: maximum differential pressure 2,0 bar (30 psi)

Sterilisation: maximum differential pressure 1,2 bar (18 psi).

20x20 FILTER

SINGLE
FILTRATION



DOUBLE
FILTRATION

