

PEREGRINE MOBILE BOTTLING



PEREGRINE MOBILE BOTTLING, LLC offers Premium Mobile Bottling, Mobile Crossflow Filtration, Commercial Tent and Bottling Team Services to companies in the Wine and Cider Industry. It is our Mission to provide our customers with Highest Product Quality, Latest Available Technology and Customized, Personal Service. Following our success with our **KRONES**-engineered mobile bottling line, we introduced our mobile **PALL OENOFLOW XL-6S Crossflow Filtration** unit. For further information and availability please contact Thomas Jordan at thomas@PeregrineMobileBottling.com or 707-637-7584.

PALL OENOFLOW XL 6-S – SPECIFICATION SHEET



A. Equipment Parameters:

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|---------------------------|--|
| 1. Model: | Pall Oenoflow XL 6-S |
| 2. Year: | 2016 |
| 3. No. of Filter Modules: | 6 |
| 4. Filter Output: | - Min. Output 1,000 gallons per hour (“dirty” Red Wine) - Maximum Output 3,000+ gallons per Hour (“clean” White Wine) |



B. Specific Features:

1. **PMB Trailer Set-Up:** The OenoFlow XL 6-S is installed in a custom-built, all-aluminum, 18 ft. box trailer. The trailer is equipped with an on-board 230V / 460V 3-phase transformer, air compressor and LED lighting.
2. **Filtration Modules:** The OenoFlow XL6-S is equipped with polymeric Microza[®] hollow fiber modules. Each crossflow membrane module provides 230 square feet / 21.5 square meters of filtration surface resulting in a Total Filtration Surface of 1,380 square feet / 129 square meters. The WUSP-6443 Microza[®] hollow fiber modules are approved for food contact and designed to operate at a maximum temperature of 140 °F (60 °C). The membranes themselves are constructed of polyvinylidene fluoride (PVDF) while the housing is polysulfone.
3. **Unit Operation / Automation:** The Pall OenoFlow unit is equipped with a fully automated production process including filtration with automatic backflush, cleaning and cycle programs.
4. **VFD-Controlled Pumps:** Infeed, circulation and discharge pumps are all equipped with various frequency drives (VFD) for smooth and gentle wine handling. VFDs allow pumps to ramp up to nominal speeds in order to avoid harsh product handling. **PMB operates the only mobile crossflow unit in the industry where all three pumps are VFD-controlled** (usually none of the pumps or only infeed and discharge pumps are VFD-controlled).
5. **Crossflow Filtration Unit Skid Design:** The entire crossflow filtration unit is installed on a 304L stainless steel welded skid supporting the filtration membranes, manifolds, pumps, interconnecting piping, valves, tanks





instruments, electrical cabinets and HMI.

- Two tanks are part of the skid. A 140 gallon (530 L) feed/CIP tank T1 (304 SS) provides for the production feed and concentration as well as self-contained CIP supply tank for cleaning operations. A 32 gallon (121 L) filtrate/backflush tank T2 supplies filtrate for backflush operation. It allows to operate independently of any winery conditions such as high head pressure downstream of the system.
- An inlet pre-filter with 250 micron screen captures larger solids prior to entering the filtration system.
- Water is filtered using Pall's 1 micron Profile Star cartridge included in the on-skid water filter housing.



C. Peregrine Mobile Bottling's Decision Making Factors to purchase the Pall OenoFlow XL 6-S for our Mobile Filtration Unit:

As a service provider to the wine industry, Peregrine Mobile Bottling is committed to provide **state-of-the-art Technology** in order to achieve **highest Quality** for our customers. Technology, Quality and **excellent Service** of our highly-skilled Team are the pillars of our company which have allowed us to build long-lasting customer relationships. To achieve this we select equipment that fulfills our very high Technology and Quality standards and requirements under the consideration of Reliability, Flexibility, Minimized Product Losses and Ease of Operation.

1. Reliability:

Reliability is a major decision making factor for any equipment investment. As a service provider we are paid by the amount of performed production (gallons filtered or cases of wine bottled). Thus, **Consistent Long-term Uptime / Equipment Availability** and **Consistent Output Performance over time** are our predominant decision making factor.



From our own research and discussions with many winemakers about their crossflow experience with various filters, we concluded that Pall's technology fulfill these requirements and offer extremely high reliability due to:

- i. **Consistent Output Performance over time** of the Filtration Modules based on **membrane material and design, filter backflush feature** as part of the filtration cycle program and **diligent daily cleaning routine** after filtration;
- ii. **Mechanical System reliability** based on selected Alpha Laval and KSB pumps;
- iii. **Automation System reliability** based on selected Allen Bradley Controls.



2. Flexibility:

The Pall OenoFlow XL-S Technology offers us the flexibility to filter small and big wine lots. The automation software includes the options to operate the crossflow unit on all six or just one filtration module. Thus, we are able to filter lots as small as one barrel (59 gallons / 225 liters) as well as big lots of several thousand gallons in the appropriate time. The flexibility to operate a crossflow unit which is able to run up to 3,000+ gallons per hour on white wines and still be able to filter one-barrel lots of the same quality was a significant factor for us to select Pall as our vendor.

3. **Minimized Product Losses:** Crossflow technology offers significant savings compared to pad filtration due to the reduced product losses. Pall's automated concentration and final concentration cycles result in very low product losses. Per 6-8 hours of max. product cycle the loss results to 3-6 gallons.

There is actually no difference in volume loss when operating the unit with a single membrane for small lots or with all six membranes for bigger lots. When operating six modules the unit automatically goes into concentration and then final concentration mode at the end of the filtration process, consolidates the product still remaining in the modules and piping system and reduces it to a very low residual volume by filtering it through just one module.

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- 4. Ease of Operation:** The fully automated crossflow unit offers a significant advantage compared to semi-automated units. With pre-programmed filtering including back-flushing and cleaning cycles a continuous and repeatable quality production is guaranteed. A fully automated system does reduce potential mistakes of human nature.

For additional information on mobile filtration and bottling service or any other bottling and packaging related subjects please contact:

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