



what's cool

Products that are smart, make your tasks easier and provide cost or labor savings

Bill Pregler

Bill Pregler has worked in the winery equipment industry for many years and is a staff writer for *Wine Business Monthly*.

New Filter Design from Willamette Cross Flow

Design delivers technology to the small winery

I FIRST INTERVIEWED Corey Morris of Willamette Cross Flow (WCF) in 2010 while revisiting the technology and researching an article on mobile cross-flow services. Back then, Morris had one trailer. Today, his fleet travels throughout Washington and Oregon, and his regular client list now includes more than 500 wineries.

This is a testament to how rapidly the wine industry is finally taking to filtration. It also tells me that Morris is doing everything right and probably has as much knowledge as anyone about cross-flow on a wide spectrum of wines. By now he also has plenty of experience allaying the fears and concerns of winemakers about the science.

It was therefore especially good news to hear his personally designed, modular system is now patented and available for wineries to purchase.

Today, regardless of gallon flow or winery size, the basic concepts of cross-flow remain consistent. It is only a matter of scale, and with that Morris has used his experience to build a wonderfully simple yet effective unit, with special consideration for the smaller winery.



The patented, symmetrical, three-cartridge manifold provides even flow and pressure across all filtering media.

ALL PHOTOS COURTESY WILLAMETTE CROSS FLOW



Designed for the smaller winery, the WCF filter is compact and highly portable throughout the cellar.

Cross-flow Features

The heart of his patented filter is the symmetrically fed cartridge manifold. Some filtration designs are parallel or “in-line,” meaning the cartridges may have differential pressures and uneven filtration. With this unique manifold, all cartridges are fed simultaneously, providing equal flow throughout the total filtering surface. Morris chose **Koch Industry** polysulphone, hollow fiber membrane cartridges for dependability and gentle treatment of wine. They are off-the-shelf and made domestically in Massachusetts.

Each manifold will hold one to three cartridges. A single cartridge would be sufficient for a small winery needing to filter 2,000 gallons. Three cartridges are for 5,000+ gallons. The unit is modular and can be expanded to complement a winery's growth. Adding a second, three-way manifold would double production capacity. Here, the pumps are simply doubled to accommodate flow.

I particularly like the use of clear housings. According to Morris, he has learned that winemakers actually like to see what is going on with their wine. The clarity will also alert you if there is a problem with a cartridge.



The manual electrical control panel is easy to use and NEMA 4-certified.

The system has only two moving parts: the low shear centrifugal feed and circulation pumps. What is cool is that both pumps can be used remotely as cellar transfer pumps. In a similar vein, the integral Endress Hauser flow meter, with a few quick plumbing changes, can be used by cellar workers to monitor flows of wine in non-filter situations. The Goulds/Baldor pumps are also made in the USA.

When his mobile trailers arrive at a winery, the units are off-loaded and then rolled into the cellar. Consequently, these designs had to evolve as highly portable, well-balanced and with a low center of gravity. The unit is only 30 inches wide and easily passes through standard doors.

The entire filter is designed as “tool-less.” I like the fact you receive your new filter in pieces in a box, and you then assemble it in about an hour without tools.

All electrical components are made by the brand **Allen Bradley**, housed in a stainless electrical box and come with NEMA 4 certification for wet environments. The system is manual in operation, has a low flow warning, frequency drive and speed control.

His company is full service with repair, cleaning and reconstruction available, though I cannot think of anything a winery could possibly need beyond new filter cartridges, which he supplies at a good discount from the manufacturer. WCF can also help with financing, including leasing.

What’s Cool: WCF is the newest member on my “Made-in-America” list of companies. I proudly feature businesses that provide our industry with cool innovation, always based on field experience, and made using local fabricators and domestic components.

With Morris’ design, if you need a spare part, it will probably be at the local **Grainger** supply store. That is totally cool.

In any form of production, efficiency is my mantra. Efficient equipment design and operation, with ease of training, results in product consistency.

Morris’ design is for the smaller operation and is suitable for any winery that produces up to 10,000 cases. Even big wineries, however, have smaller problem batches, and this unit could easily fill a void when a large filter would not be economical. Finally, it would be the perfect cross-flow system for the custom crush pad with a myriad of lot sizes.

For more information, contact: Corey Morris at Willamette Cross Flow at 971-241-2033 or www.cross-flow.com. **WBM**

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