

3M™ High Flow Series 0.5µm Cartridges improve the filterability of challenge wine.



The Problem

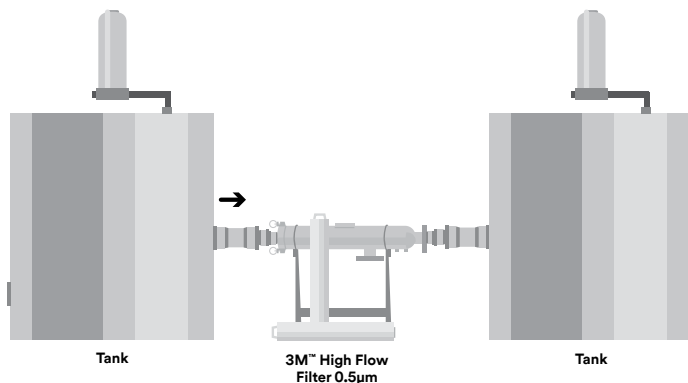
A fine wine is more than just the sum of its ingredients. Membrane filtration is the best method to achieve microbiology stability without using chemicals or heat. This helps ensure that the organoleptic properties of the wine are preserved until opening the product — weeks, months, or years after bottling. “Challenge” wines contain particles and small colloidal aggregates that clog sterilizing membrane filtration.

Larger bottling facilities have the space and capital for expensive, high waste crossflow operations or lenticular/filter aid cartridge systems to process challenge wines. Mobile bottlers can manage challenge wines, but they are not available in all regions. Craft, independent, and small wineries are often without these necessary resources. Ultimately, batches of wine can be discarded as unfilterable.

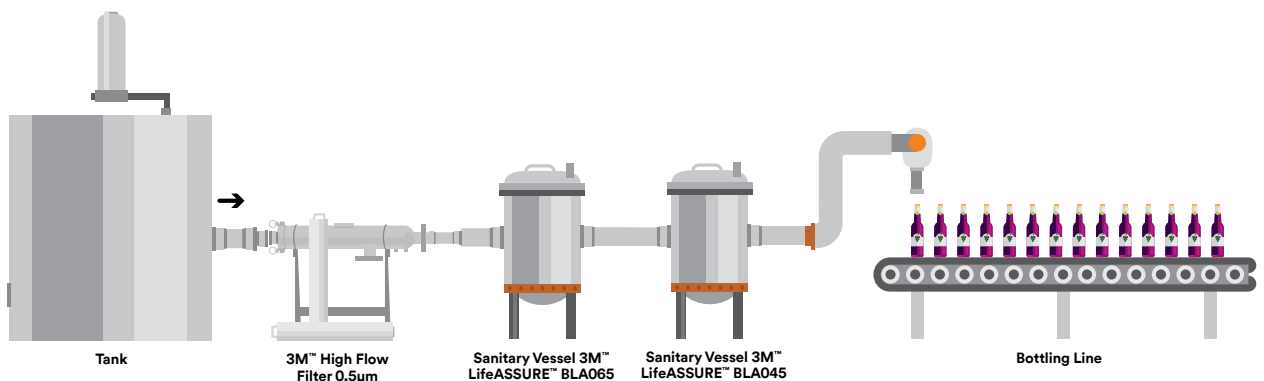
Two wineries located in France and the United States partnered with 3M to improve filterability of their challenge wines. One large bottling operation wanted to reduce the cost and waste of crossflow filtration on their challenge wines. One small winery wanted to save their unfilterable wine from disposal.

The Process

Customer 1



Customer 2



The Solution

Both customers evaluated the 3M™ High Flow Series Filter 0.5µm filter product line extension. The 3M application engineering team provided pre-production filters and trial filter vessels at no cost to the customer, monitored the filters in service when possible, and reported findings to the customer.

The 99.9% (Beta 1000) efficient 3M High Flow Series Filter 0.5µm incorporates a diamond shaped pleat structure, which offers a substantial increase in surface area. The 3M High Flow Series Filter 0.5µm is for wineries and bottlers to reduce clogging/filterability indices and turbidity, while avoiding costly crossflow and ergonomically unfavorable filter aid/lenticular cartridge systems. Because of its ergonomic, fast change out process and absolute rated performance, the 3M High Flow Series Filter 0.5µm extends the life of more expensive sterilizing grade membrane filters resulting in lower total cost of filtration.

Application Engineering

The cornerstone of 3M's philosophy is service to customers, not only in product quality and prompt delivery, but also in validation, application support, and the sharing of scientific information.

By using 3M products, customers have access to 3M Application Engineering support, a global team of market-focused scientists and engineers who excel in supporting collaborative efforts between customers and 3M.

Our Application Engineers can work with you from start to finish to suggest the most effective and economical filters to achieve the clearest results.

For more information, contact your 3M sales representative.

Intended Use: 3M High Flow Series Filter Cartridges are intended for use in the industrial filtration applications of aqueous fluids in accordance with the applicable product instructions and specifications. 3M High Flow Series Filter Cartridges products are also intended for use with non-aqueous fluids where materials of construction are compatible. Certain limited 3M High Flow Series Filter Cartridges products are also intended for use in Food and Beverage (F&B) applications. For details related to the specific use conditions or limitations for food contact applications please contact your 3M representative for more information. Since there are many factors that can affect a product's use, the customer and user remain responsible for determining whether the 3M product is suitable and appropriate for the user's specific application, including user conducting an appropriate risk assessment and evaluating the 3M product in user's application.

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The Result

The largest bottling operation filtered (7) batches of challenge wine types [Bordeaux (red), BABV (red), IGP Pinot Noir (red), Loupiac (sweet), Sauvignon IGP (white), and Bordeaux (white)] totaling 18,200 gallons (689 HL) with unmeasurable clogging indexes through a single 40" 3M High Flow Series Filter 0.5µm. Warm water (55°C) cleaning prevented color transfer between batches. Clogging indices and turbidities were significantly reduced, which made it possible to effectively protect the downstream sterilizing filters.

The small winery used a 10" 3M™ High Flow Series Filter 0.5µm, a 20" 3M™ LifeASSURE™ BLA065, and a 20" 3M LifeASSURE BLA045 to filter their 2022 white and rosé challenge wines, converting nearly 200 gallons of "unfilterable" wine into a sellable product.

3M works directly with individual producers to define ideal systems for clarification, prefiltration, and final filtration. With cost-effective, efficient, and reliable solutions, there's a reason wine producers all over the world choose 3M filtration and separation systems.

3M.com/purification

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