

3M Separation and Purification Sciences Division

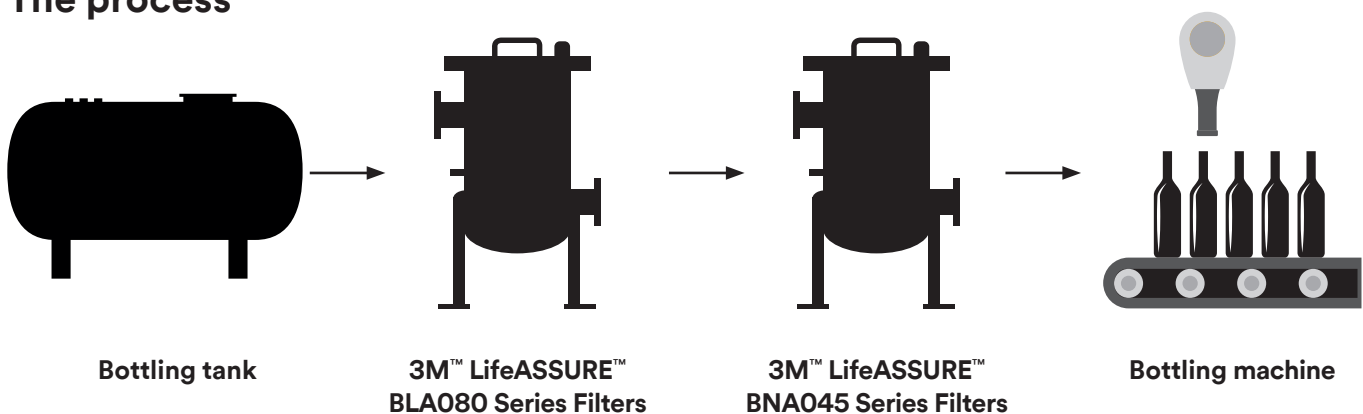
# Major winery switches to 3M™ LifeASSURE™ BNA Series Final Filters and 3M™ LifeASSURE™ BLA Series Prefilters.

## The problem

Winemakers use microporous membrane filters to remove spoilage bacteria and yeast from wine prior to bottling. If left in the wine, these organisms could spoil the flavour or continue to ferment the wine. Unlike beer, which can be protected from spoilage microorganism by either pasteurisation or sterile filtration, wine is almost always sterile filtered.

A large winery was considering alternatives to its current supplier of prefilters and final filters. The winery primarily produced “value priced” wines, with three shifts working 7 days a week. Its current prefilter – final filter selection, although relatively inexpensive on a cost-per-filter basis, seemed to be costing the winery more in the long run. The prefilter, a pleated, non-woven polypropylene-based filter, did not consistently build differential pressure over its service life. This could indicate that it was not fully protecting the final filter, and allowing it to plug more frequently. The winery was also concerned about its final filter, a 0.45 micron-rated PES membrane-based product. It had little technical support over the years from the supplier, and it did not appear that the filter was supported by documented retention of critical spoilage microorganisms to the level that would satisfy the winery. On average, the current prefilter – final filter offering provided a service life 760m<sup>3</sup> per set of twelve, 30" filters.

## The process



## The solution

3M recommended a full scale production trial of the 3M™ LifeASSURE™ BLA080 prefilter and 3M™ LifeASSURE™ BNA045 Series Final Filter. This combination has been successful at a number of wineries, large and small, around the world.

The dual-zone membrane construction of the 3M™ LifeASSURE™ BLA Series Prefilter provides superior protection of the final filter, unlike many nominally rated pleated polypropylene prefilters.

Complementing the 3M™ LifeASSURE™ BLA Series Prefilter is the 3M™ LifeASSURE™ BNA045 Series Final Filter, with a highly asymmetric PES membrane that provides excellent service life with extremely high retention of spoilage microorganisms.

The winery decided to install a set of twelve 30" 3M™ LifeASSURE™ BLA Series Prefilters and 3M™ LifeASSURE™ BNA Series Final Filters on one of their high-speed bottling lines. The trial was run through the busy summer bottling season, with throughput volume, filter integrity, wine quality, and pressure drop monitored daily.

## 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 in the sharing of scientific information.

Our Application Engineering (AE) group is a market-orientated group of scientists and engineers who work closely with customers to solve difficult separation problems and aid in the selection of the most effective and economical filtrations systems. 3M Application Engineers routinely provide end users with:

- ▶ Validation and regulatory support
- ▶ Extractable and compatibility analysis
- ▶ Filter systems optimisation studies
- ▶ 3M™ 101 Series Integrity Testing Device

## Get in touch

Contact us to find out how 3M could help you save on the true cost of filtration in your winery, and help you create a consistently stable, great tasting wine. Or, if you have a complex process problem that requires expert help and would like to schedule an appointment with a 3M Application Engineer, send us a message at [3M.co.uk/foodandbeveragecontact](mailto:3M.co.uk/foodandbeveragecontact) or [www.3Mireland.ie/foodandbeveragecontact](http://www.3Mireland.ie/foodandbeveragecontact).

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## The result

The winery documented a throughput of over 1,100m<sup>3</sup> through a set of twelve, 30" 3M™ LifeASSURE™ BLA Series Prefilters and 3M™ LifeASSURE™ BNA Series Final Filters. This represents a 45% improvement in throughput compared with the previous filters. Furthermore, although more expensive on a per-filter basis, the performance of the 3M™ LifeASSURE™ BLA-BNA Series Filter combination reduced the overall cost of filtration on a volume filtered basis by 30%. The winery was also impressed with the technical support and operator training supplied by 3M Application Engineers to all three shifts at the two major bottling facilities.

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