

# 3M™ High Flow Series Filter Cartridges 0.5µm increased the service life of spring water filters

## The problem



The popularity of bottled water and clear beverages continues to rise in many countries. Consumers are drawn to the consistent taste, convenience, and health attributes that bottled beverages can provide.

Natural springs are one of many sources of water for bottled beverages. Waters pumped from spring bore heads are commonly filtered and treated before temporary storage in silos. Tanker trucks deliver these spring waters to bottling locations for further treatment. Filtration systems at the spring sites are the first line of defense in ensuring contaminant free water at the bottling locations.

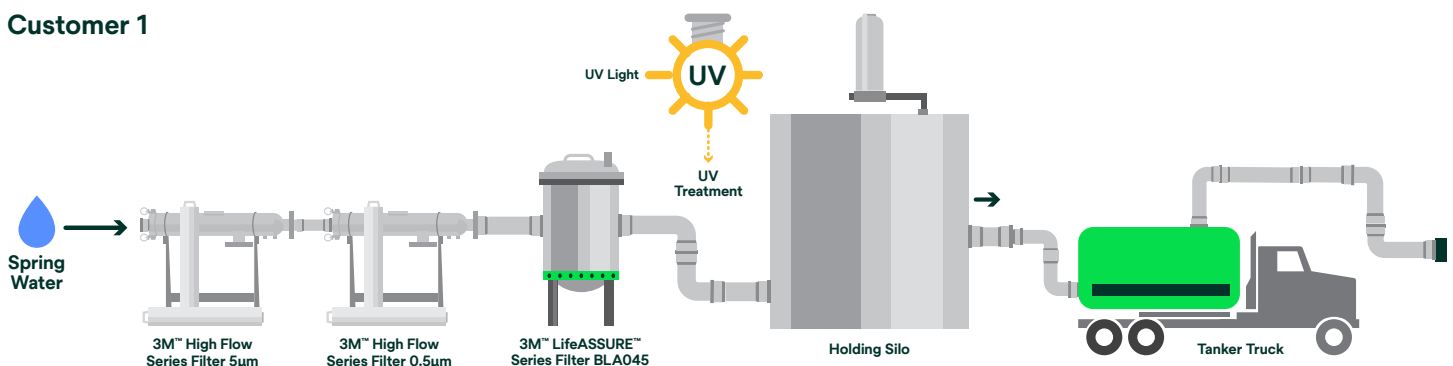
Spring site water quality can vary depending on the climate, location, seasonality, and age of the collection system. Common spring water concerns include silicates, bacteria, heavy and common metallic contaminants. Micron and submicron particle removal efficiency filters are used to reduce the transfer of contaminants into the silo, tanker trucks, and downstream bottling facilities.

Two bottled water plants in the eastern United States previously partnered with Solventum to solve challenges in their spring, bottling, and bottle washing processes. These two customers partnered with us again to increase the service life of their sub-micron particle filters at the spring site locations.

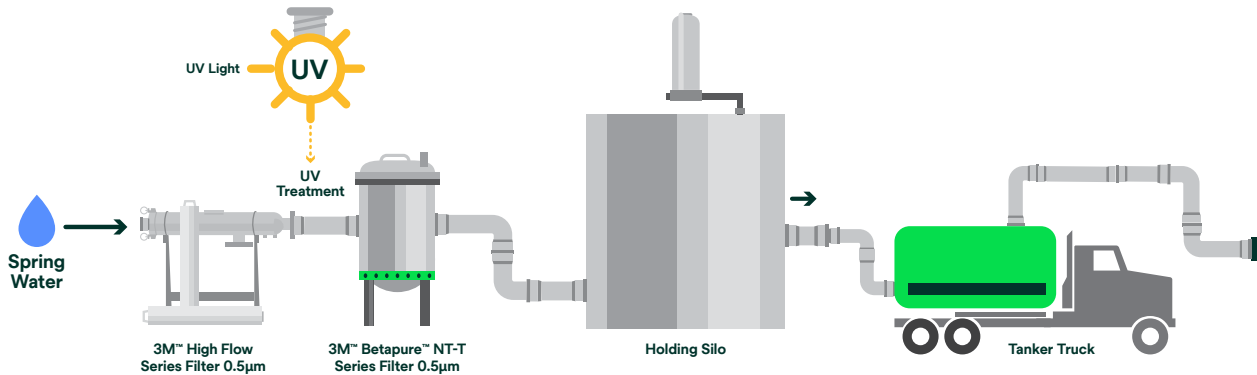
## The process

This process map outlines the bottled water company's filter path, typical for natural spring sites.

### Customer 1



## Customer 2



## The solution

Both customers were using 3M™ High Flow™ Series Filters at their spring site locations and were asked to evaluate the 3M high flow series filter 0.5µm line extension. Our Application Engineering team filters for testing, monitored the filter in service, and collected spent filters and water for analysis.

The 99.9% (Beta 1000) efficient 3M high flow series filter 0.5µm incorporates a diamond-shape pleat structure, which offers a substantial increase in surface area. The 3M high flow series filter 0.5µm is for water bottlers who want the labor saving and ergonomic benefits of a high flow, large format filter coupled with a lower total cost of filtration for their sub-micron applications by extending the life of existing, more expensive downstream filters.

## Application engineering

The cornerstone for Solventum'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 Solventum products, customers have access to Solventum Application Engineering support, a global team of market-focused scientists and engineers who excel in supporting collaborative efforts between customers and Solventum.

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

## The result

The 3M high flow series filters 0.5µm carried more of the contaminants burden than the existing 3M high flow series filters, which extended the service life of the downstream filters. The cost savings from increasing the time between change-outs of the expensive downstream filters far outweighed the increased cost related to the shorter service life of the 3M high flow series filter 0.5µm.

Customer 1 saw a single 3M high flow series filter 0.5µm extend the life of (22) 3M™ LifeASSURE™ BLA045 Series Filter downstream membrane filters from 32 days to 90 days in service (life of the trial). The throughput increased from 2.5 million to 7 million gallons of water, a 180% increase in service life. The 3M high flow series filters lasted 45-days in service and the 3M™ LifeASSURE™ Series Filters did not achieve terminal pressure during the 4-month trial. The (30) LifeASSURE BLA045 series filter cost 20 times more than the 3M high flow series filter resulting in a substantial cost of filtration savings.

Customer 2 saw a 13% reduction in life moving from 3M™ High Flow Series Filter 2.0µm to the 3M high flow series filter 0.5µm yet achieved a 1.5 times increase in 3M™ Betapure™ NT-T Series Filter service life. The Betapure NT-T series filter costs 7 times more than the 3M high flow series filter resulting in a substantial cost of filtration savings.

**Technical Information:** The technical information, guidance, and other statements contained in this document or otherwise provided by Solventum are based upon records by Solventum are based upon records, tests, or experience that Solventum believes to be reliable, but the accuracy, completeness, and representative nature of such information is not guaranteed. Such information is intended for people with knowledge and technical skills sufficient to assess and apply their own informed judgment to the information. No license under any Solventum or third-party intellectual property rights is granted or implied with this information.

**Product Selection and Use:** Many factors beyond Solventum's control and uniquely within user's knowledge and control can affect the use and performance of a Solventum product in a particular application. As a result, customer is solely responsible for evaluating the product and determining whether it is appropriate and suitable for customer's application, including conducting a workplace hazard assessment and reviewing all applicable regulations and standards (e.g., OSHA, ANSI, etc.). Failure to properly evaluate, select, and use a Solventum product and appropriate safety products, or to meet all applicable safety regulations, may result in injury, sickness, death, and/or harm to property.

**Warranty, Limited Remedy, and Disclaimer:** Unless a different warranty is expressly identified on the applicable Solventum product literature or packaging (in which case such express warranty governs), Solventum warrants that each Solventum product meets the applicable Solventum product specification at the time Solventum ships the product. **SOLVENTUM MAKES NO OTHER WARRANTIES OR CONDITIONS, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OR CONDITION OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR ARISING OUT OF A COURSE OF DEALING, CUSTOM, OR USAGE OF TRADE.** If a Solventum product does not conform to this warranty, then the sole and exclusive remedy is, at Solventum's option, replacement of the Solventum product or refund of the purchase price.

**Limitation of Liability:** Except for the limited remedy stated above, and except to the extent prohibited by law, Solventum will not be liable for any loss or damage arising from or related to the Solventum product, whether direct, indirect, special, incidental, or consequential (including, but not limited to, lost profits or business opportunity), regardless of the legal or equitable theory asserted, including, but not limited to, warranty, contract, negligence, or strict liability.



**3M Purification is now part of Solventum**

**Solventum Corporation**  
2510 Conway Avenue East  
Maplewood, MN 55144  
Solventum.com

© Solventum 2025. Solventum, the S logo, Betapure and LifeASSURE are trademarks of Solventum or its affiliates. 3M, and the 3M logo are trademarks of 3M. Other trademarks are the property of their respective owners. 70-2016-0413-2