Reverse Osmosis Bottled Water

CAPABILITY PROFILE

Application Brief

Introduction

Bottled water is a billion-dollar global industry that includes several segments, including spring water and water manufactured thorough the reverse osmosis process. This application note concerns the segment where water is purified through the reverse osmosis process. All bottled water is fully regulated by the U.S. Food and Drug Administration (FDA). It is defined as a packaged food product, and FDA's standards apply to all bottled water manufacturing sites. In addition, individual states may also regulate bottled water and may have their own standards in addition to the federal ones. The International Bottled Water Association (IBWA) is another regulatory body that has its own set of standards, the IBWA Model Code.

Manufacturers of bottled water must be concerned with important issues related to sanitation and purity. Because waterborne cysts, bacteria, and viruses are present in source waters, filtration systems must be designed to address these conditions. Metals and salts can also affect the final products taste, color, and odor. In the design of the filtration and reverse osmosis systems, these are some of the important considerations.

Critical to Quality

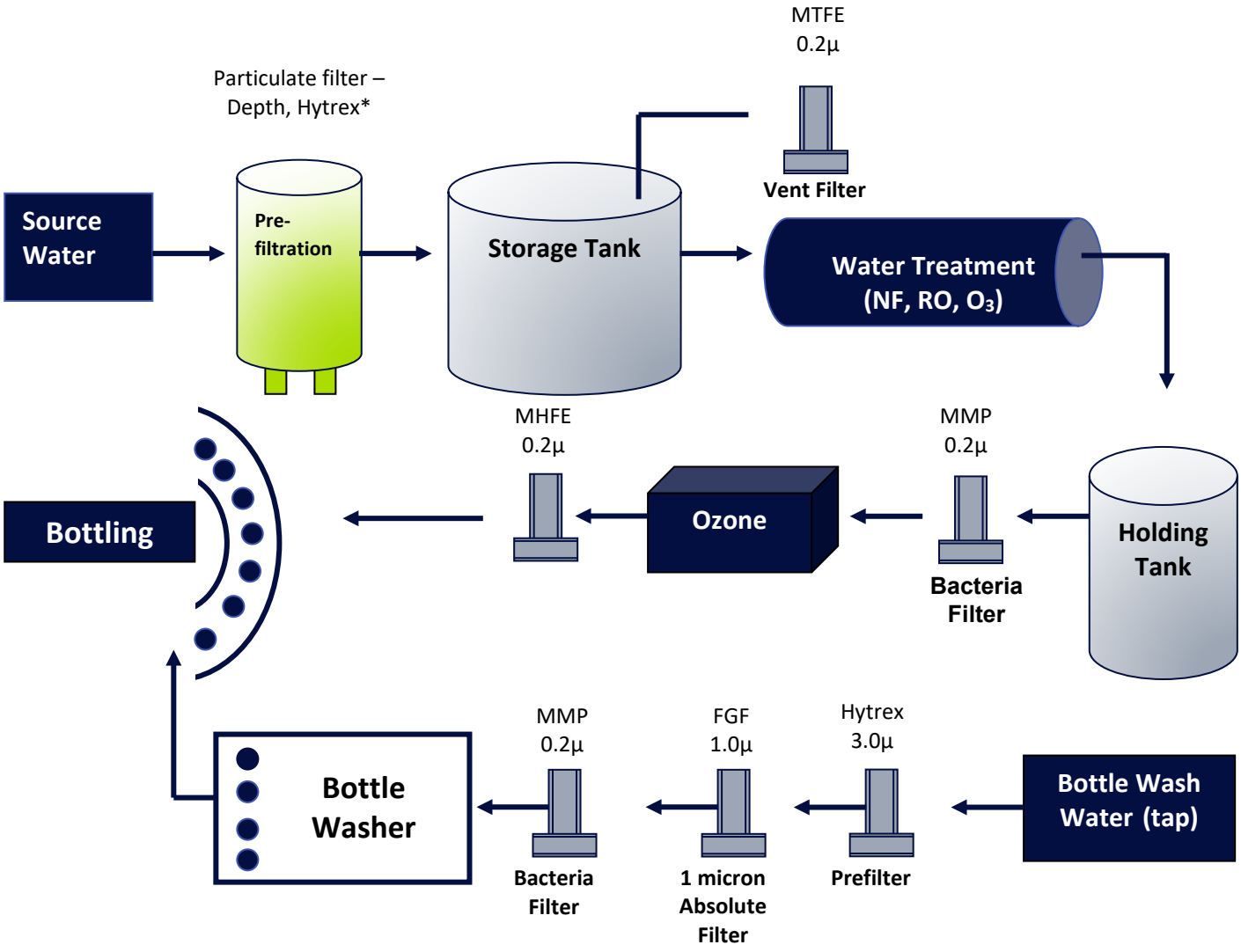
- FDA compliant
- Low total operating cost
- Resistance to sanitizing chemicals
- Elevated temperature resistance
- Local availability and stock of filters
- Long filter life and reliability
- Low maintenance and ease of change out
- Expert technical support
- Single source supplier for RO systems and filters

Reverse Osmosis Process

- Multimedia
- Filter housing
- RO System
- Storage tanks
- Depth filter
- Pleated filter
- Pipe
- UV light
- Pump

Bottled Water Filtration

- Bottling line



FDA Compliant

All Veolia filters materials are FDA compliant. This documentation is essential to making customer and regulatory audits successful.

Long Filter Life and Reliability

Veolia depth and pleated filters are designed to offer the optimum of low-pressure drop and high dirt holding capacity. This combination delivers superior life for the filtration products. Pleated filters are 100% integrity tested to assure reliability.

Low maintenance & ease of change out

Industry-standard end adapters simplify filter change out and installation. Long filter life means maintenance schedules are reduced significantly.

Low Total Operating Cost

The combination of long filter life, low maintenance, and ease of change out results in the lowest total operating cost for filtration products.

Resistance to Sanitizing Chemicals

Constructed of high-quality, performance materials, Veolia filters are resistant to a wide range of sanitizing materials. This includes ozone, to which MHFE is the recommended.

Elevated Temperature Resistance

Veolia filters have good resistance to elevated temperatures. Products are available with added support cores for extreme applications.

Local availability and stock of filters

Veolia's global network of authorized distributors offers local stock and quick response to your filtration needs.

Expert Technical Support

Technical support for application is available through our authorized distributors, and through an 800 number, as well as through the Internet.

Single source supplier for RO machines and filters

Only Veolia offers a complete solution for bottled water applications, including filters, membranes, RO equipment, sanitization chemicals, TOC analyzers, and other related materials.

Summary and Recommendations

Several different filters are used in the bottle water filtration process. For sediment and nominal prefiltration (pre-RO, post multimedia, sediment traps, carbon traps, and so on), a high-efficiency depth filter such as ROSave.Z* is recommended. For critical clarification in pre-filtration applications, Absolute.Za* depth filters are recommended. For final clarification or membrane pre-filtration, Flotrex* AP and Flotrex GF are recommended. These Flotrex filters are suitable for a broad range of applications with pore size ratings from 0.45 to 20 microns. For final filtration where microbial control is required, the Memtrex* MP filters provide assured microbial control, excellent clean flow, and superior service life. For systems continuously sanitized with dissolved ozone, the Memtrex HFE is the filter of choice.

Product	Application	Features	Benefits
ROSave.Z	Pre-filtration	High Dirt Holding Capacity, Low Initial Pressure Drop	Long service life
Absolute.Za	Fine Particle Filtration	>99% filtration efficiency, high dirt holding capacity,	High efficiency, long service life
Flotrex AP	Final Clarification	>99% filtration efficiency, gradient density media	High efficiency, long service life
Flotrex GF	Final Clarification	>99% filtration efficiency	High efficiency, long service life
Memtrex MP	Microbial Control	High performance PES membrane available in pore sizes from 0.03 to 0.65 micron	Assured microbial control, excellent clean flow, long service life
Memtrex HFE	Ozonated Water	All fluoropolymer construction (Halar/PTFE)	Compatible with continuous ozone exposure, greater value compared to competitive PFA/PTFE filters.
Memtrex FE	Vent Filtration	Hydrophobic PTFE membrane	Assured microbial and particulate control.

Veolia Water Technologies
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