

# Merlin™

## POU Drinking Water System Application Guide

### Product Information

Plumbing Codes	Ensure that the installation of the Merlin system complies with all local plumbing codes.
Feed Water	Ensure that the feed water to the Merlin is potable, microbiologically safe, and originates from a known source.
Booster Pump	For inlet pressures less than 45psi, (3 Bar) a booster pump is highly recommended.
High Pressures	For operating pressures greater than 80 psi (5.5 Bar), installation of a pressure-reducing valve is required. Sustained operating pressure over 80 psi (5.5 Bar), will shorten membrane life.
Feed Valves	<p>Due to the wide variety of pipe diameters worldwide, the feed valve is not included with the Merlin system.</p> <p>Feed valves are available in 1/2", 5/8", 14mm, and 15mm compression fittings, as well as 3/8" and 1/2" threaded.</p> <p>Saddle valves are not recommended. See your local plumbing codes.</p>
Pre & Post Filters	<p>The filters are designed to last for 6-12 months under normal household usage.</p> <p>Merlin's carbon filters are specially designed for high flow rates. Using modified non-Merlin filters will result in poor performance.</p> <p>A noticeable reduction in permeate flow may indicate the need for filter replacement.</p>
Faucet/Air Gap	The air gap that is included with the Merlin faucet is sized to accommodate the drain flow from the system. Installation of a non-Merlin air gap will result in leaks out the air gap.

Operation	Merlin will produce approximately 0.5GPM at 50F, 50psi and 750ppm NaCl. (1.89 LPM at 10C and 3.44 bar)
	Variations in temp, psi & TDS will affect system performance Recirculating concentrate to increase system recovery is not recommended.
Performance	After periods of inactivity, it is recommended to open the faucet for 2 minutes to flush the system.
Storage Tanks	Merlin can be used with an atmospheric permeate storage tank, but not a pressurized bladder tank. Using a pressurized permeate storage tank will damage the Merlin system and void the warranty.
Tubing	Merlin's high flow rates require large-diameter tubing for proper operation. 1/2" feed, 3/8"-1/2" concentrate, and 3/8" permeate.  Due to new Merlin technology, installations should have the shortest tubing runs possible to avoid unnecessary pressure drops that can affect system performance.
Feed Water	Merlin has specific requirements for feed water quality. See system specifications in the Merlin Installation and Maintenance manual for details.
Temperature	Merlin's operating range is 40F-100F (4.4C-37.8C).
Servicing	Shut off the feed valve and open the faucet before servicing the Merlin system

## **Commercial Applications**

Most commercial Merlin applications will require additional pretreatment, such as:

- A stand-alone carbon backwashing filter.
- A high-capacity 10-micron sediment filter. This custom sized filter is an available Merlin option.

A booster pump rated for continuous-duty must be used for inlet pressures less than 45psi.