



## PHARMACEUTICAL

### Pharmaceutical companies depend on Purfresh for proven reliability and value

Worldwide pharmaceutical companies require unprecedented reliability and the purest form of water for their products. Heat and distillation treatments are expensive and dangerous to workers, and the industry continues to be more regulated and cost competitive. Ozone is a proven and approved alternative.

#### SCIENCE-BASED SOLUTION

Purfresh's science-based ozone technology provides pharmaceutical companies with a complete integrated solution. The solution efficiently dissolves and applies ozone into treated water and the storage container. Purfresh's specialized contacting equipment allows for higher transfer efficiency. In addition, microcontrollers and monitors are available for maintaining precise ozone concentrations. Components are standardized and modular for minimizing maintenance costs. Purfresh equipment is easy to install, operate, and maintain, and integrates easily into existing equipment and processes. Multiple applications can be supported from one system.

#### OPTIMUM SAFETY AND EFFICACY

Ozone is the safest and most natural purification and disinfection agent for purifying water products. Purfresh's ozone controller carefully measures and continuously controls the dissolved ozone concentration, ensuring effective water treatment while protecting people.



#### NEXT GENERATION PROCESS CONTROL

Purfresh becomes a true partner in operational process control and monitoring by providing Intellipur subscription informatics services. Informatics is the science of information and Purfresh provides a next generation service that includes strict operational control, remote diagnostic monitoring, reporting, and automated alarming. In addition, you can interface directly with a local SCADA (Supervisory Control and Data Acquisition) system.

### KEY FACTS

- Produce USP Purified Water in conjunction with filtration equipment
- Avoid the high cost and high heat of steam or distillation treatments
- Oxidize microorganisms and organics that can compromise USP standards
- Employ ozone to control and periodically sanitize distribution system tanks and piping
- Remote diagnostics, troubleshooting and alarming
- Align with consumer demand for lower chemical use and residuals in the environment
- Be compatible with many materials found in high-purity water systems, including stainless steel, PVC, CPVC, PVDF (Kynar®), PTFE (Teflon®), and glass

*"Ozone is the safest and most natural purification and disinfectant agent for water treatment."*

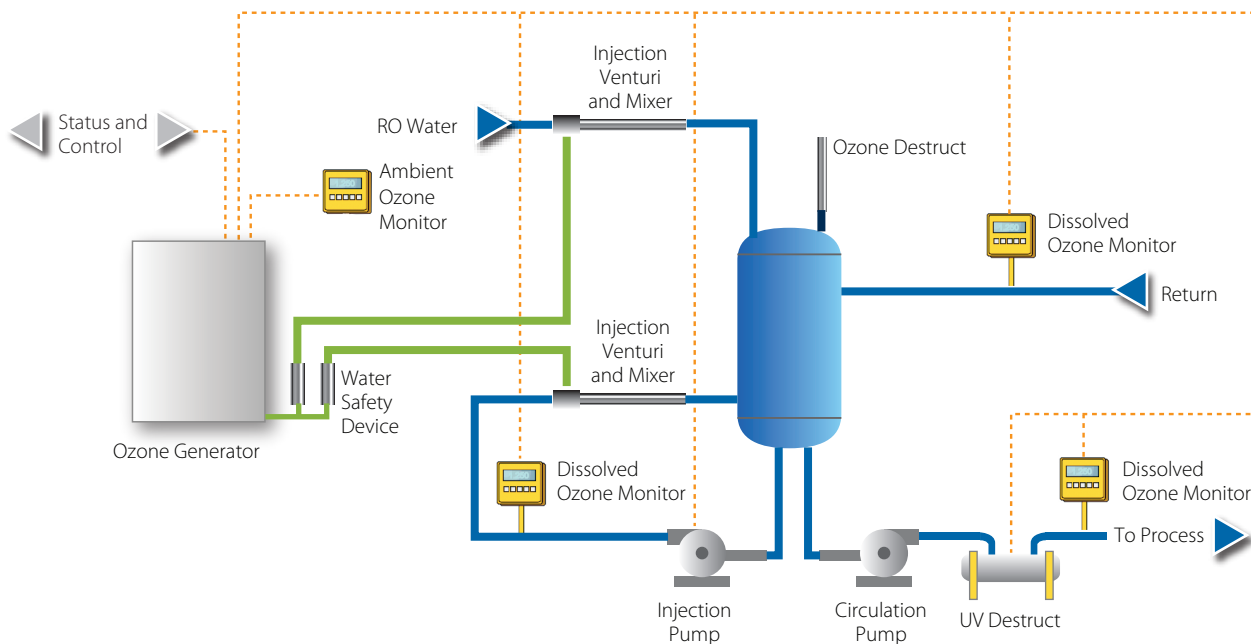
— Arrowhead Spring Water

# PURFRESH WATER: PHARMACEUTICAL

## PURFRESH BENEFITS

	PURFRESH	OTHER SOLUTIONS
SELF-CONTAINED INTEGRATED SYSTEM	Air compression and preparation, ozone contacting, and monitoring components are engineered as a precise package.	Air compression and preparation typically not included. Other components purchased from vendors as needed.
CONTROL SYSTEM	Onboard computer monitors performance and controls ozone production with ORP, DO <sub>3</sub> , and ambient inputs. Remote diagnostics and troubleshooting from Intellipur Command Center	Typically no automatic control system included. External PLC added when needed. Expensive service calls because no remote diagnostic capability
COOLING SYSTEM	Air cooled systems minimize maintenance problems	Water cooling susceptible to corrosion failures.
EASE OF MAINTENANCE	Modular construction minimizes maintenance and repairs. Worldwide service center network.	Repairs usually require total system replacement and associated downtime or time-consuming troubleshooting to the component level.
EXPANDABILITY	25-300% capacity increases in 30 minutes by adding power and ozone cell modules.	If possible, expansion typically requires duplication of feed-gas, cooling, ozone, and control components.

## EXAMPLE SYSTEM



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 Purify, Protect, Preserve.

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