



# CASE STUDY



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Date: August 2013

## Industrial

*Beverage Bottler/Packer*

**Process:**

*Process water pretreatment*

**Product:** ETS SW-635-16 UV

**Flow Rate:** 700 GPM

**Effluent Requirements:**

*4 log reduction*

## Case Study for Beverage Bottler/Packager

### Company Profile

Our client was established in 2004 as a bottler/packer of teas and sports drinks for major suppliers around the globe.

This is a 24 hour operation employing over 150 people and three eight hour shifts. The facility is a proud recipient of the OCIA designation which means they run an all organic production facility.

### Business Situation

It is well recognized that waterborne microorganisms and contaminants of emerging concern like pharmaceuticals and personal care products in the water are responsible for adverse effects on the flavor, color, odor and shelf life of soft drinks, bottled water and food products. Any water being used in the food and beverage industry, either for product, or as part of the process must be treated in order to ensure the integrity of the end product. Ultraviolet disinfection provides an elegant disinfection solution. There is no residual left behind by UV treatment which would interfere with the taste, color or product chemistry of the water, but it does eliminate any pathogens and spoilage organisms present.

### Technical Situation

This bottler has a unique set of variables. The plant can choose between the use of on-site well water and/or municipal water. There are times during the day when the water flow fluctuates. It is crucial that the UV system be able to automatically switch between these very different types and flows of water, and continuously and automatically deliver the required dose of UV light.

In addition to the flow rate and water type, space is at a premium for this facility. The area in which the process has to be installed abuts a fence that cannot be relocated. The footprint must be small.

ETS systems are designed to give you only the UV dosage that you need which makes our system more flexible and cuts down on energy consumption.

## Solution

After consideration of a variety of processes, a validated UV system from Engineered Treatment Systems (ETS) was selected.

The ETS SX-635-16 system was chosen. This inline, third party validated UV system is equipped with 16" flanges, has a lay length of approximately 24", features six 3.5 kW medium pressure UV lamps providing a dose of 120 mJ/cm<sup>2</sup>, and sealed, validated monitors. This system has the ability be dose paced so the correct UV dosage is being applied to the water flowing through the system, adjusting lamp power to accommodate changes in flow and water quality when the client switches between source water. The validated UV monitors are sealed and cannot be operator adjusted. This type of technology is typically used for drinking water treatment.

## Benefits

Operator safety is a primary concern of ETS. The single ended, twist and lock design automatically positions the lamp, reduces the footprint required to perform the work and provides the operators with ease of use while ensuring their safety during scheduled maintenance shutdowns.



ETS UV model SX installed duty/standby

The automated, on line wiping system incorporated in the ETS design keeps the quartz sleeves free from fouling by iron in the nutrient rich well water. If the wiper system was not present, the maintenance cost and downtime on the unit would be extensive. These robust, automated wipers keep the optics free from fouling, and operate continuously as the unit is running.