

Water recovery system reduces soft drink manufacturers water waste by 35%



The filtration and water treatment specialist Puresep provide leading soft drinks manufacturer with a state of the art system to reduce their water usage

Puresep were contacted to look at ways the soft drinks manufacturer could reduce the amount of rinse water sent to drain – in order to help them achieve their water reduction targets

Following an onsite review of the current rinse water configuration, Puresep made recommendations as to what improvements could be made to reduce the amount of water going to waste. The current situation involved four rinsing lines that washed bottles prior to being filled with product. The rinse water was then disposed of down the drain. This was a costly exercise as this waste was of high specification having been de-alkalised, UV sterilised and filtered.

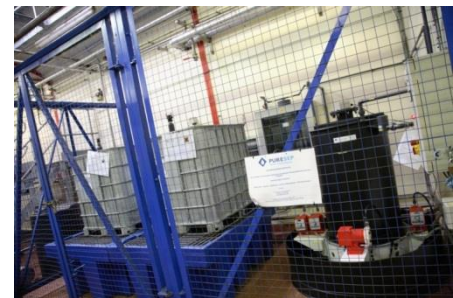
Puresep looked at how this water could be re-used onsite. Each of the four rinsing production lines was fitted with a tank and a submersible pump system. The water from each production line fed into a single common recapture water line that filled a central storage tank.

Inline instrumentation was fitted to ensure the water was of the required specification prior to filling the storage tank. This is controlled using valves and a central PLC. Any out of specification water was sent to waste. The central storage tank was fitted with monitoring equipment to ensure the water continues to remain at the required specification. If the quality of this water degrades it is disposed of and the tank is re-filled with beverage line product make up water to bring the water back into specification.

Variable frequency drive pumps maintain the pressure within the ring main to feed the rinsers. The pressure in the ring main is adjusted by set points in the HMI system.

The return water is fed through a UV sterilisation system and through 10um and 1um absolute cartridge filtration. There are then take-off points to each of the four rinsers. If there is no demand for the water, it continually circulates around the ring main; flowing through the UV and Cartridge filtration systems to maintain sterility.

The environmental KPI goal for the site was to reduce water waste by 2.5%. Following the installation and commissioning by Puresep of the new recovery system the water wastage was reduced by 35%. This amounts to huge cost savings across the production line and a major achievement in meeting the manufacturer's environmental requirements.



Engineering Manager says:
"....Puresep's expertise and knowledge enabled them to see how modifications to an existing system could bring major benefits. Puresep project managed the whole process from design, installation to commissioning. The attention to detail and onsite work is outstanding"

