

Puresep Water Technologies Ltd chosen to provide state of the art water treatment solution for leading soft drinks manufacturer

Puresep Water Technologies has been chosen as the key partner in providing top of the range water treatment plant at the site where leading soft drinks are produced.

Following an in-depth review of requirements, industry recommendations and a major evaluation of available technologies, Puresep were commissioned to provide a turnkey water treatment system to supply purified and sterilised water, on demand. The Puresep water treatment system includes a PureFLOW™ membrane separation plant, which boasts high quality system design and PLC process control and is already being used by major introduction plants across the UK

The Water Treatment Process

Beverage water is fed into an inlet buffer tank and supplies the PureFLOW™ RO (Reverse Osmosis) plant by a VFD (variable frequency drive) controlled pump. The RO membrane separation process utilises high rejection, semi permeable PA (polyamide) membranes to reject dissolved ions from the feed water. The feed water is boosted to 10-12 bar, to drive the separation process, with 20% of this feed water becoming the concentrate waste stream, containing 97-99% of the unwanted ions.

Due to the feed water chemistry, the Puresep technical team recommended an anti-scalent dosing system. PureCare-100



anti-scalent is used to prevent membrane deposits as the concentration effect takes place. This helps to ensure the smooth running of the plant as well as assisting in the efficiency and cost effectiveness of the membranes.

Treated water is then fed into a sterile vented 50,000 litre stainless steel tank at a rate of 20m³ per hour. The tank level is maintained to ensure water is available for the 24 hour batch make up production program with process control to ensure minimal water is stored or wasted at the end of a production cycle.

Water is drawn from the product water tank via a centrifugal pump controlled using a VFD and passes through a UV (Ultraviolet) treatment process, to ensure it is sterilised. The treated water tank also has a recirculation sequence to ensure the stored water is consistent in quality.



Benefits

When the batch product 'make up' is active, the treated water supply route is open allowing supply lines to be flushed and followed by the totalizing of liquid ingredient into the selected batch tank.

The Puresep water system control panel is fully integrated with the plants existing controls. The Ethernet communication interface allows essential data transfer to and from the onsite SCADA control, including: batch volume required, current volume produced, system status and demand signals.

The onsite project manager says "Puresep were chosen because of their recommendations for a bespoke system that ensures cost effectiveness and plant efficiency, we also know that their 24/7 services levels and expert engineers are second to none"

Technical Services Manger, Puresep Water Technologies says: "the water system design and installation featured integrated tank CIP functionality coupled with process control and instrumentation to facilitate additional future water saving benefits. To further enhance our offering we have 24/7 servicing in place from expert engineers"



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