

## Case Study

# Rotork aids in innovative membrane technology wastewater system



**Industry:** Sewage Treatment  
**Client:** Swanage Sewage Treatment Works, Wessex Water, UK  
**Product:** IQT

### Summary

Rotork IQT electric actuators were installed on a water treatment works in Dorset, UK, to operate butterfly and plug valves in an innovative membrane bioreactor technology based system.

### Overview

The membrane bioreactor technology on site at Swanage produces high quality effluent that exceeds EU standards and is cleaner than the sea into which it is discharged. The site treats sewage for a population of around 10,000 which can more than double when the area is busy in the holiday season.

### Challenge

The major plant upgrade that aimed to achieve automation and energy saving measures required reliable and efficient flow control. The plant operators wanted automation of the treatment process that would enable it to run with increased efficiency and reduced energy consumption.

### Solution

Profibus-enabled Rotork IQT actuators were installed to operate butterfly and plug valves on new pipework throughout the plant (the plant upgrade doubled the number of membrane plants in each tank to 36). The actuators operate inlet isolation and outlet modulating valves for sewage, together with air, sodium hypochlorite and wash water injection valves. Other IQT actuators control isolation valves used for automated sequential flushing to maintain membrane efficiency. 51 actuators were installed on each tank to provide automatic sequencing of the sewage treatment, membrane cleaning and backwashing processes.





### Customer Benefits

The high level of process automation enabled by the IQT actuators created process integrity, audit ability and highly reliable and accurate process control.

The increased efficiency saved electrical power, cleaning agents and water. The use of Profibus technology created installation savings in cabling, terminations, PLC hardware and labour.

The double-sealed, IP68 watertight and temporarily submersible enclosure ensures that the actuators operate reliably in this challenging environment.

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