LIGHT WATER
SMART SOLUTIONS

LW EASY-100

CASE STUDY

Manufacturer protects closed loop system and reduces costs using Magnetic Filter and Solid Chemicals

Introduction

In today's world, we continuously hear the word 'reduce' in all aspects of life and one has to think outside the conventional to try to accomplish the requested goals.

A case in point is when the space is reduced to accomplish more on a smaller footprint, however, the requirement arises to reduce the downtime of operations while also trying to reduce logistics costs and at the same time reduce the environmental impact.

These targets are achieved by using multipurpose small installations combined with concentrated solid chemicals instead of complex setups and diluted liquid chemicals.

Challenge

A leading pharmaceutical company needed to provide corrosion protection and microbiological control for a 30 cubic meter closed loop suffering from years of un-treating.

Appearance of water in the closed loop.

Microbiological contamination in the closed loop after 2 days of inoculation (Anaerobic Bacteria test – inoculated vials on the right side).

However, the lack of space made a conventional chemical feed system unpractical. As a result, corrosion rates exceeding 20 mpy (0.50 mm/y) were shortening equipment life, and the loop was being operated with high blow down rates to avoid microbiological and corrosion issues.

Evaluation & Results

LW technical team installed a compact magnetic filter to be used to remove debris, corrosion products and magnetite from the system. Moreover the same filter was used to introduce the chemical in the closed loop.

Magnetic filter installation.

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Magnetite deposits few minutes after LW EASY 100 dissolution.

The chemicals suggested by LW were LW EASY-701, a biocide, and LW EASY-100, a corrosion and dispersant product. Being in a solid form and packed with a water soluble bag, the chemical injection was easy and safe.
No chemical pump was required since the water flow rate from the loop dissolved the chemical passing through the magnetic filter.

Dispensing of LW EASY-701.

Dispensing of LW EASY-100.

Avoiding the construction of a conventional chemical feed station with pumps and controllers saved the manufacturer over EUR 3000 in installation costs. Corrosion rates were reduced to 0.5 mpy (0.0127 mm/y), extending equipment life and water consumption, saving EUR 5000 in water and sewer charges.