

# Reliable, FDA compliant water system for Fisherman's Friend manufacturing, UK

## Pharmaceuticals | Case Study

### The Client

Lofthouse of Fleetwood have been making Fisherman's Friend since 1865 when chemist James Lofthouse of Fleetwood in Lancashire first formulated a menthol and eucalyptus syrup. The company developed Fisherman's Friend into the familiar lozenges which are now available in over a hundred countries around the world.

The enormous popularity and success of Fisherman's Friend has led to Lofthouse of Fleetwood receiving the Queens Award to industry for Export Achievement on three separate occasions, along with many other awards for export success.



### Key Figures

- Several million lozenges consumed globally every year
- Exported to over 100 countries
- New production facility required to meet expansion needs
- Manufacturing must comply with FDA and MHRA regulations

### The Client's Needs

The success of Fisherman's Friend worldwide has meant several expansions to the manufacturing facility over the years. But exporting has made other demands: some countries require the product to meet with the regulations of the US Food and Drugs Administration (FDA) and the Medical Health Regularity Authority (MHRA).

This means that water used in manufacture must comply with the water quality standards for Purified Water, that is conductivity  $<1.3\mu\text{S}/\text{cm}$  at  $25^\circ\text{C}$ , Total Organic Carbon  $<500\text{ppb}$  and total viable bacteria count  $<100\text{cfu}/\text{ml}$ . Lofthouse of Fleetwood has three separate production facilities, each supported by an Veolia Water Technologies validated water purification system.

Now they were installing another new production facility to meet expansion needs for new 'zip' packaging for the overseas market and, several million Fisherman's Friends being consumed globally every year, reliability was top of the wish list. Once again, Lofthouse of Fleetwood turned to Veolia Water Technologies

### The Solution

The main Fisherman's Friend production facility, where water is used as an ingredient, is supplied with Purified Water by an Veolia Water Technologies ORION packaged water treatment solution system, whilst the sugar free facility has an IonPRO LX system to supply up to 1000 litres/hr water for final rinse following cleaning.

Veolia Water Technologies's solution for the new Pharma suite facility was a second IonPRO LX, together with full support provided by a 24 hour response service agreement and a 'Disaster Recovery Plan'.



IonPRO LX system

## Process Description

The IonPRO LX contains a fully integrated water treatment train. The mains water is softened using duplex softeners to ensure continuous flow availability followed by a granular carbon cartridge pre filter to remove chlorine. The pre-treated water is delivered to an integral tank from which it is pumped to low pressure reverse osmosis modules which remove over 95% of dissolved salts and 99% of organics and bacteria.

Finally it is polished by continuous electro-deionisation (CEDI) to produce Purified Water with, typically, conductivity less than 0.2  $\mu$ S/cm, organics less than 100ppb and total bacteria count less than 10cfu/ml. Sanitisation sequence is fully automatic and utilises the integral tank for chemical mixing and recirculation.

Cleaning in place is carried out manually and also uses the integral tank. The complete assembly is mounted on a wheeled base for ease of access during maintenance. The IonPRO LX was factory tested and provided with a full validation pack covering installation qualification (IQ) and operational qualification (OQ).



## Results

The IonPRO LX is fully compliant with FDA and MHRA regulations and, as Lofthouse of Fleetwood knows from experience, it is a very reliable plant. However, Engineering Section Leader Paul Grassie is aware of the cost of lost production, so to ensure that all the water systems operate at peak performance he took out a five-year AQUAservice Diamond - 24 hour response service contract which covers all four plants. This means that Veolia Water Technologies's engineer can prioritise any issues, reduce down time and minimise disruption to manufacturing.

The contract includes emergency breakdown cover, parts and consumables, media/membrane replacements, calibration and an in-depth annual report for regulatory compliance. By taking up a multi-year agreement, Lofthouse of Fleetwood benefit from fixed price for the duration, providing cost savings and reducing admin time.

In addition, Lofthouse of Fleetwood has registered under the AQUAMOVE™ ReACT scheme for disaster recovery planning. This is where modifications have been made to the inlet/outlet, so that in the event of a major failure, a mobile treatment plant can be on site, connected to the system and operational within a few hours.

## Benefits

- Familiar IonPRO technology
- Compliance with FDA and MHRA regulations
- Multi-year AQUA service Diamond agreement
- AQUAMOVE™ Disaster Recovery Plan