

## CASE HISTORY

### Macaw Soft Drinks, Nelson, Lancashire

<b>End User</b>	Macaw Soft Drinks (now Cott Soft Drinks)
<b>Process</b>	Ultrafiltration
<b>Application</b>	Upgrading mains water quality

#### Introduction

By effectively combining two process systems, ACWA produced a unique treatment plant for the upgrade of mains water at the manufacturing facility of this leading producer of “retailer brand” soft drinks. By selecting the most suitable and effective treatment processes, one of the main considerations was the plant’s ability to address some of the client’s production problems by removing Cryptosporidium from incoming water supplies.

#### Description

The complete turnkey process, designed, installed and commissioned by ACWA, employs ACWA’s new AMIAD self-cleaning filtration system for treating a variable flow of mains water before it passes through the skid mounted membranes of a state of the art Ultrafiltration plant. Although the process of ultrafiltration was already well-proven within the UK soft drinks industry, the new ACWA plant was to be the first to benefit from the latest Superfil membrane units.

The AMIAD filtration system, used as a primary process, is capable of providing 10 micron filtration at flow rates up to 160m<sup>3</sup>/hour within a ‘footprint’ of 1.5m<sup>2</sup>. The system requires no costly replacement cartridges and, with only one moving part, is very simple and easy to maintain.

The ultrafiltration plant incorporates a unique flow distribution system which allows an unlimited number of membrane elements to be connected in series – a feature which, by offering flexibility and compactness, enables ACWA’s Process Engineers to investigate a wider range of options when considering the system design. With a potential throughput of 140m<sup>3</sup>/hour, the plant is no more than 2.5m high, occupying an area of around 20m<sup>2</sup>. Flexibility has been achieved by the use of inverter controlled pumps throughout the system - a feature which also makes the entire plant energy efficient.

As part of the total contract ACWA supplied the plant’s sophisticated PLC process control system; together with break/backwash and wastewater tanks; level controllers, pumps, valves and associated pipework for the complete system.

