



HIGH RECOVERY UNIT FOR BEVERAGE PROCESS

United Kingdom, 1680 m³/d

Aim of the Project

The project delivers high-recovery purified water for downstream processes at a beverage manufacturing site in the United Kingdom. The client required a solution capable of meeting high water-production demand, maximizing recovery, and fitting within a very limited footprint—all while reducing brine generation and discharge.

Lenntech engineered and supplied a fully automated water treatment plant consisting of water conditioning, a Closed-Circuit Reverse Osmosis (CCRO) unit, storage tanks, and a distribution skid.

The CCRO technology enables high purification efficiency while maximizing water recovery and minimizing both brine production and the need for chemical cleaning (CIP), further supporting the client's brine-reduction objectives.

The installation operates through a PLC-based automation system, enabling continuous monitoring, data acquisition, and remote operation.

Scope of Work

- ▶ Engineering, manufacturing and assembly
- ▶ Site commissioning
- ▶ CCRO recovery gradually increased up to 93%
- ▶ High Rejection Low Energy CCRO membranes
- ▶ Feed water pH adjustment
- ▶ Water quality monitoring in distribution line
- ▶ Compatible with existing client's CIP station
- ▶ Advanced control for fully automatic operation
- ▶ Top brand equipment selected according to client's preferences
- ▶ In-line CCRO data normalization and performance monitoring

▶ FEED WATER QUALITY

Conductivity: 400 µS/cm
Hardness: 180 mg CaCO₃/L

▶ PRODUCT WATER QUALITY

Conductivity: <80 µS/cm
Hardness: < 5 mg CaCO₃/L

Key accomplishments

WATER
RECOVERY

UP TO

93%

CONDUCTIVITY

< 80

µS/cm

WASTEWATER
DISCHARGE
REDUCTION UP TO

77%

WITH CCRO