Mega Modular
Treatment Plant

Municipal Treatment Range
Nanofiltration Plant
50<500m³ / DAY
An Introduction

Modular Treatment Solutions

RSE offers its clients a complete modular design, build and delivery engineering and construction service. RSE is the market leader in the design, fabrication and delivery of award winning water treatment plants across the UK.

Our specialist water treatment division has successfully delivered multiple modular plants offering tremendous environmental, quality and health and safety benefits over traditional on-site fabrication and assembly. The RSE modular water treatment range offers a simple, robust solution. Our technologies include nanofiltration and ultrafiltration, reverse osmosis and other specialist processes for the supply of top quality water from poor quality raw water envelopes.

What we offer

- Project cost certainty – offsite build means minimal site time
- Programme efficiency and certainty – weather, site and logistical dependencies removed
- Treatment processes tailored to individual site conditions
- Consistently high build quality
- Health and safety benefits from construction in a factory environment
- Environmental benefits from offsite factory construction
- Proven process engineering, factory tested
- Standardisation for O&M’s and commonality of spares
- Guaranteed whole life costs
- Inbuilt redundancy / supply resilience
- Fully wet tested and pre-commissioned before load-out
- Energy efficient plant reducing opex costs
- Remote supervision and support facilities
- Accelerated regulatory compliance, delivering top quality potable water
- Guarantees customer satisfaction
- Reputational benefits
The Water Treatment Experts
Mega Modular

Nanofiltration Plant
0.5ML<2.5ML / DAY

The following ancillaries/enhancements can be provided:
- Reverse osmosis
- Chloramination
- SOADA
- Plumbersolvency dosing
- UV disinfection

Our mega modular treatment range includes the following as standard:
- BIM compliant autodesk inventor 3D model
- Factory pre-assembly
- Duty/standby plant and equipment
- Water quality sampling instruments
- Integrated HMI (human machine interface)
- Telemetry
- IMCC (intelligent motor control centre)
- Profibus communications network
- Remote plant control

A range of robust solutions based on Nanofiltration treatment for the supply of excellent quality water from extremely poor quality raw water sources.

Integrated Components:
- Final water collection and transfer
  - Final water tank
  - Final water uplift pumps (if required)
- Mess facilities typically comprises
  - Control room
  - Laboratory
  - Canteen
  - WC
- Stream 1
- Stream 2
- Stream 3
- Nanofiltration membranes
  - Sodium hypochlorite dosing including
    - Chemical transfer
    - Dilution & storage
    - Dosing pumps
- pH correction & remineralisation
  - Sodium carbonate dosing
  - Batching & storage
  - Dosing pumps

This range is particularly suited to municipal water supplies and industrial applications.

Each plant is comprised of modular skids which are fabricated and fully dry assembled including interconnections within our purpose built facility, before shipping to site for installation within a portal frame building. All terminations and civil interfaces are accurately surveyed, confirmed and verified before leaving our premises.
Why Nanofiltration?

- No chemical / sludge removal
- Fully automated membrane cleaning system
- Low chemical usage
- Unmanned operation
- Remote monitoring
- Profibus enabled
- Duty stand-by system
- Energy efficient management system

Nanofiltration Table of Treatment

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Raw Water</th>
<th>Final Water</th>
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<tbody>
<tr>
<td>pH</td>
<td>2.0-9.5</td>
<td>Typically 8.0</td>
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<tr>
<td>Turbidity</td>
<td>Max. 10</td>
<td>Less than 0.2</td>
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<tr>
<td>Colour</td>
<td>Max. 430</td>
<td>Less than 2</td>
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<tr>
<td>Iron</td>
<td>Max. 3670</td>
<td>Less than 7</td>
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<tr>
<td>Total Mn</td>
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<tr>
<td>Total Al</td>
<td>Max. 860</td>
<td>Less than 9</td>
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<tr>
<td>Susp Solids</td>
<td>Max. 5.0</td>
<td>Trace</td>
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<tr>
<td>TDC</td>
<td>Max 43</td>
<td>Less than 10</td>
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