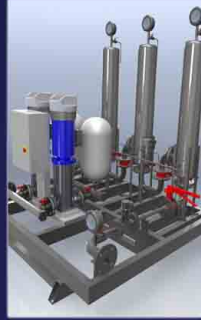


**BARR + WRAY**  
[www.barrandwray.com](http://www.barrandwray.com)



# Water Solutions

Glasgow • London • Beijing • Dubai • Hong Kong



# WaterEngineering

Barr + Wray Ltd with over 50 years' experience has gained widespread recognition as a leading provider of water and wastewater treatment solutions.

Our services range from feasibility study to design, supply, installation and to a lifetime of aftersales service. The combination of experience and expertise resulted in our company being acknowledged as a highly innovative and successful company in a truly competitive market.

## Water Solutions Division

Water Solutions is the environmental process engineering division of B+W, with main activities covering design, supply, installation and commissioning of water & wastewater treatment systems.

We are recognised experts in borehole and surface water treatment, filtration, disinfection, water purification, solids separation and industrial wastewater treatment.

Our services include both packaged water / waste water treatment systems and turnkey engineered solutions for all industrial sectors.

Combining innovative process design with the latest technologies, we provide tailor made solutions for all water applications.



INVESTOR IN PEOPLE



constructionline



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## Other Services

### Environmental Consultancy Services

Through a process of client consultation, site investigation and analysis of water & wastewater characteristics, our experienced staff can establish the nature of any water or wastewater and design a treatment regime accordingly.

Our services include site surveys, composite sampling, water & wastewater characterisation, treatment optioneering, feasibility tests through to the complete detailed treatment plant specification.

### Laboratory Testing

Our consultancy services are complimented by a dedicated in-house laboratory and enhanced by an established relationship with external accredited test specialists.

Composite sampling, water characterisation, flocculation tests and multi-media filtration trials can be performed in-house. We also provide on-site testing when measurement of fresh samples is required.

This facility is available as a stand alone service or incorporated as part of a wider service to determine the most appropriate and economical treatment solution.



### On Site Pilot Trials

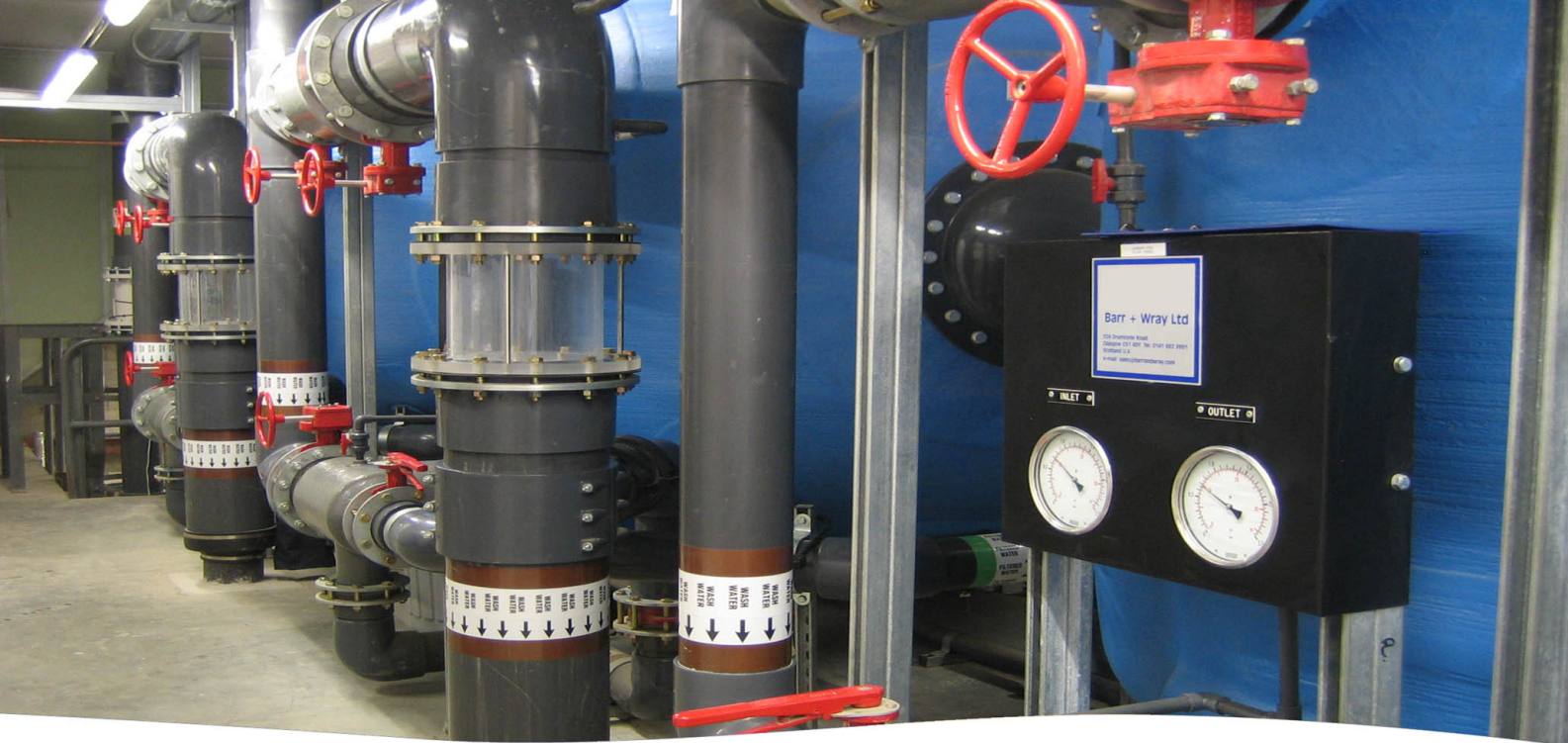
B+W's Environmental Testing Units (ETU's) are self-contained mobile testing facility designed to assist in the selection of appropriate treatment regimes for a diverse range of water and wastewater applications. All equipment is mounted within a 10ft x 6ft road trailer to provide an easily transportable and convenient test facility. These multipurpose units consists of aeration, multi-media filtration, pH control, cartridge filtration, softener, reverse osmosis and ultra-violet disinfection.

These pilot facilities have been designed to be flexible and can be used for many applications including borehole water, wastewater treatment and recovery, rainwater harvesting and treatment of surface water.

The ETU's have the capability to perform a number of treatment processes including:

- Reduction in turbidity and suspended solids.
- Removal of iron and manganese.
- Removal of ammonia and barium.
- Water softening.
- Disinfection.
- pH correction.
- Removal of colour and organics.
- Reduction in conductivity and total dissolved solids.
- Removal of Cryptosporidium.

Information obtained from the ETU pilot trials allows us to offer proven and guaranteed solutions for unique treatment requirements.



## Water Treatment

### Wastewater Treatment

Most industries are reliant on water. To protect the environment, it is important that contaminants are removed from the waste stream prior to discharge. The damaging effects of all waste can be successfully reduced by optimising the process design and equipment selection of the treatment facility.

Each type of wastewater is unique and identification of source and composition is essential to design and implement the most appropriate treatment regime. **B+W** utilises a comprehensive portfolio of technologies spanning all stages of pre-treatment, preliminary, primary, secondary and final tertiary wastewater treatment.

Using our in-house design and engineering services, we offer a complete solution for all wastewater treatment requirements to ensure a cleaner, greener environment.



### Purified Water Systems

Many industries such as pharmaceutical, healthcare, and semi-conductor are dependant on a reliable and consistent supply of ultra-pure water.

Ultra-pure water is classified as being pathogen and endotoxin free and has a conductivity of less than 0.054  $\mu$ S/cm at 25 $^{\circ}$ C.

Selection of the optimal process is crucial to achieve stringent system requirements and often involves a combination of carbon filtration, reverse osmosis, ion exchange, disinfection and cartridge filtration.

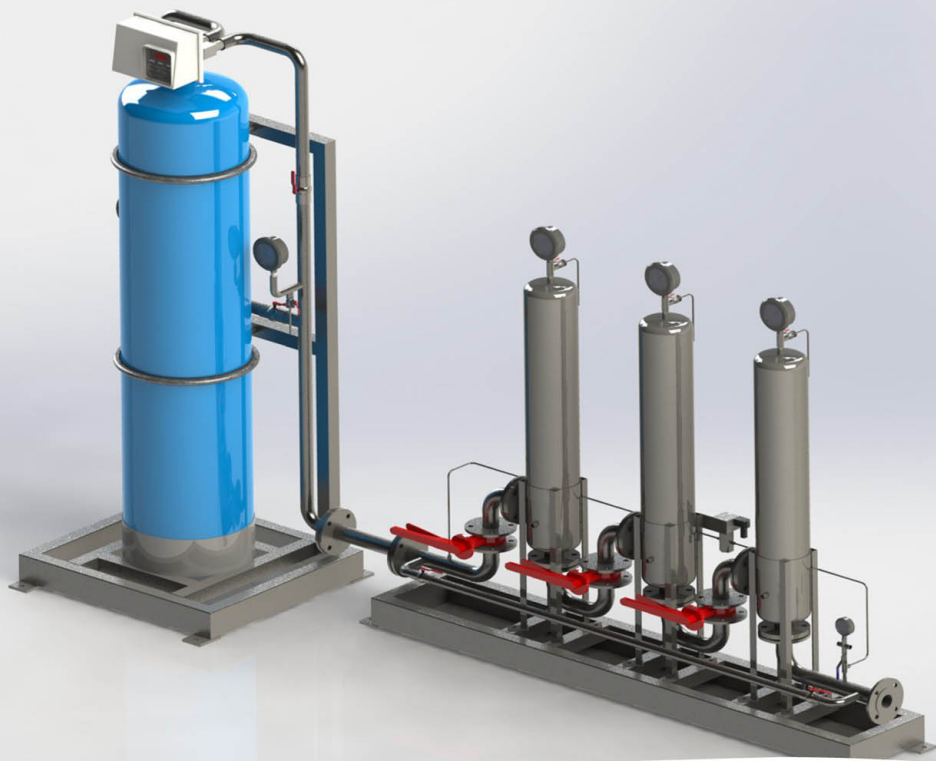
Using our in-house process equipment expertise, **B+W** offers the complete solution to satisfy customer requirements.

### Borehole Water Treatment

Water abstracted from underground springs or wells usually requires treatment prior to use as potable water. **B+W** can treat suitable wells and springs to produce abundant quantities of fresh, quality water for use as domestic drinking or industrial process water.

Treatment often includes aeration and the removal of impurities such as iron, manganese and hydrogen sulphide. Detailed analysis of the water characteristics from the well aids selection of the most appropriate filtration system to produce the highest quality potable water.

**B+W** has extensive experience in the design, supply and installation of borehole treatment systems and has successfully installed plants for the beverage industry, hotels, abattoirs, sports centres, bottled water producers, MOD and cryptos removal systems.



## Summary of Services

### Package Plants

B+W design and fabricate engineered package plants for a wide and varying range of clients. Each plant is custom built to fulfil specific site requirements.

Pre-fabricated plants offer many benefits with the particular advantage of allowing off-site testing prior to installation. This minimises any on-site inconvenience during installation and commissioning.

Our skid-mounted units range from basic booster pump sets through to comprehensive multi-stage water processing facilities.

Examples include potable water filtration and disinfection units for hospitals and filtration rigs and packaged reverse osmosis or ion exchange facilities to provide high purity water.

B+W has developed a compact skid-mounted water filtration package plant designed to remove cryptosporidium at small/medium sized WTP's. These skids offer a compact "plug & play" solution and can be tailored to treat the water envelope specific to each water treatment works.



### We offer:

- Environmental Consultancy Services
- Laboratory Testing
- On-site Pilot Trials
- Process Design
- Bespoke Waste Water Treatment Plants
- Package Treatment Plants
- After sales service

### Processes:

- Water Treatment Packages
- Effluent Treatment Packages
- Borehole Water Treatment
- Pumping Systems
- Filtration Systems
- Disinfection Systems
- Cryptosporidium Removal skids



# BARR + WRAY

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