



SEWACO SERVICES

BROCHURE

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COMPANY PROFILE

The company commenced trading in 1979. Specialist activities include the design, manufacture, supply and construction of purpose built plant and equipment for use in water supply systems and treatment of municipal sewage and industrial waste water.

Sewaco manufacture a wide range of HYCOVER Rotary distributors including Trough arm, Standard arm & Self dosing siphon types suitable for either pump, gravity or siphon feed systems. The HYCOVER ranges of machines are designed to handle a wide variety of application rates with flows from 5 l/s to 980 l/s.

Sewaco works together with many Water Utility Companies across the UK, which include Anglian Water, Severn Trent Water, Scottish Water, Welsh Water, Yorkshire Water, Southern Water, Wessex Water and also with major Contractors.

The range of specialist activities include:-

Equipment.

- HYRATE Biofilter towers, both rectangular and Polytower format.
- Factory built timber support matrix for modular plastic media.
- HYCOVER static and rotary distributors.
- AUTOCLEANSE automatic nozzle cleansing systems.
- Dissolved Air Flotation plant.
- Activated Carbon filters.
- Fixed Bridge Scraper units.
- Travelling Bridge sludge removal systems.
- Water Meter Boundary Boxes
- Specialist 'one-off' plant to meet specific applications.
- Complete M & E projects, including procurement and construction.

Processes.

- High rate Biofiltration for BOD/COD removal and nitrification applications.
- Aeration systems for Activated Sludge and Balance/Buffer Tanks.
- Scum dispersion systems for Settlement Tanks
- Activated Carbon for odour control, chemical and colour removal.
- Nutrient Dosing and pH Control.
- Instrumentation and Motor Control Centres with PLC controls.
- Site survey and total process design packages.
- Modular HYRATE Biofilter plant available for 'on site' trials of differing media types. Plant also available for relief of overloaded plant or during outage of installed equipment and re-furbishing.



Design.

- C A D using Ashlar Vellum software for preparation of detailed drawings and plant layout.
 - Complete 'in-house' scheme and equipment design and plant layout.
 - Civils outline design prepared for detailing by others.
- John Watson Associates act as our Structural Consultants.

Technical.

- Over 40 years experience in design, new process development, manufacture and construction of equipment and systems for handling and treatment of effluents and sludges from animal husbandry, breweries, dairy and cheese making, confectionery, distilleries, food processing, maltings, paper, palm oil, petrochemical, sugar mills and refineries; municipal sewage treatment plant both in the U.K and overseas.

Manufacturing.

- All structural steelwork is designed and manufactured by our 'in house' team to ensure the highest standards of quality and finished work is maintained. Welding undertaken by Lloyds certificated craftsmen. Full assembly and dimensional checks carried out at every stage during manufacture and assembly. Finished product subjected to application of suitable protective coatings to meet individual requirements.
- Special 'clean room' facilities are used for preparation, assembly and testing of products for use in potable water supply.
- Production and inspection records retained for life expectancy of plant and equipment.

Site Erection Services.

- Our team of installation engineers undertake all erection and plant installation. Media packing is carried out using specialist handling cradles to avoid damage.
- All members of site installation teams have received full training in all aspects of the work to be undertaken. and hold appropriate CITB certification; including Confined Space; Working at Heights; Banksman/Slinger. Appointed Person for crane movements and lift assessments; and are C.S.C.S card holders.
- Fully detailed Method Statements are prepared and all aspects of project work comply with C.D.M requirements.



SEWACO SERVICES.

The following résumé outlines the range of specialist services and equipment currently offered by SEWACO LIMITED. Technical information covering specific items is available on request.

- Activated Carbon Filters.** Design, manufacture supply and installation of activated carbon filters and associated plant for adsorption of contaminants from water, effluent and gasses.
- Activated Sludge** Sewaco manufactures and supplies a range of waste water treatment systems that incorporate surface and sub-surface aeration equipment. Complete plant designed to meet individual site requirements.
- Analysis.** Analytical services are available to undertake detailed examination of waste water samples, including analysis of raw and treated effluent, to monitor BOD; S.S; pH; Ammonia; NH₃; H₂S; etc. We have portable batch and bottle samplers available for hire.
- Biofiltration.** Purpose designed ordered plastic media biological filter beds for a range of biodegradable wastes are constructed to meet specific applications. These include plant to handle carbonaceous effluent and nitrifying applications.
- Biological Treatment.** A full range of treatment plant design and construction services are offered. These include site investigation and report preparation; project and process design and costing; plant layout design; equipment selection procurement and installation. Commissioning, Plant Operative training, and plant maintenance
- Chemical Dosing Plant.** Provision of precision dosing systems; bulk chemical storage; dilute solution make-up systems and process monitoring.
- Clarifiers.** A range of Clarifiers are available for settlement and flotation separation of liquids and sludges. These can incorporate specialist media packs to improve rate of separation. Also flotation and sedimentation can be achieved in the same vessel where conditions require this.



Consultancy.

Sewaco provides full Consultancy services for handling and treatment of liquid and solid wastes from biological and chemical processes. Detailed studies can be undertaken to determine source of pollution, limit water consumption and control of waste production. Plant performance monitoring and trouble shooting.

Design

Sewaco works with a number of associated undertakings that enable us to carry out preparation of outline and detailed plant and process design to meet individual project requirements. All aspects of civil, structural, mechanical, electrical work together with preparation of drawings can be undertaken. Specialist engineers can be made available to liaise with factory and plant engineers.

Diffused Aeration.

Sewaco offers a range of coarse and fine bubble air diffusers suitable for pneumatic agitation and aeration of liquids.

Dissolved Air Flotation.

Sewaco manufactures a highly efficient and simple system for separation of fine suspended solids and emulsified solutions. Plant incorporates specially designed flocculation vessels, compact flotation cells, with collection system, and white water generation plant. Using a range of chemical coagulants and flocculation agents enables the plant to handle a diverse effluent source.

Effluent Treatment Plant.

A full range of mechanical plant and associated electrical equipment is backed up by a comprehensive installation service.

Electrical Control Systems.

Sewaco, in conjunction with their electrical equipment suppliers, offers a comprehensive service for design, supply and installation of motor control panels and electronic control systems that can be used to decant supernatant liquor or act as controlled flow discharge from Balance Tanks and storage vessels.

Flow Measurement.

Recording and Sampling. Sewaco supplies composite flow and measurement systems. These include ultrasonic, noncontact level monitoring; 'in pipe' flow measurement and 'time of flight' systems. Measurement systems can be linked to automatic sampling plant, print out and electronic recording units.

Foam Damping and Floating Sludge Dispersion.

Low pressure spray nozzles and pipework is installed to apply coarse and fine droplets of effluent to break up foam and floating solids. Plant can be designed for manual or automatic operation.



HYRATE Biofilters.

Sewaco has developed a range of open and closed top rectangular and Polytower structures suitable for containment of modular plastic media. The design of each containment shell ensures adequate ventilation of the media pack. Shells can be single skin internally clad or double skin externally clad with internal impervious membrane for maximum protection of the structural element. A wide choice of finished colours is available to meet local planning requirements. All structures are formed from materials that are aesthetically pleasing and suitable for recycling at the end of their operational life.

HYCOVER Distribution Systems. Plastic media biofilters require specific wetting rates to prevent build-up of biomass within the media pack. Sewaco HYCOVER static and rotary distributors have been designed to meet this requirement.

Static systems suit the plan of HYRATE rectangular biofilter while rotary distributors are designed for circular filter shells and HYRATE Polytower structures. Static distributors can be fitted with AUTOCLEANSE, our automatic nozzle cleansing system. This minimises biomass accumulation and thereby reduces plant maintenance.

HYCOVER Rotary distributors are arranged for reaction drive and can be fit-tered with variable speed electric drive. Periodic flushing can be achieved when electric drive is provided. In the event of power loss machines automatically revert to reaction drive. Machines are fitted with stainless steel tubular or open trough type arms.

Media Support Matrix Modules. Factory assembled pre-fabricated and tailor made timber media support matrix modules are designed specifically for use in conjunction with modular plastic media. Specially treated timber beams provide excellent ventilation of the media pack, avoiding accumulation of sludge pockets on wide surfaces, and accept full operational loads at up to 600 kg/m³ of media with adequate safety margin to ensure long and effective operational life. Prefabricated matrix modules are delivered to site ready for immediate installation, reducing construction time.

Media Guard

Product comes in various dimensions from 1 to 4 meters wide, placed in panels, joined together to form a complete membrane to prevent trash entrainment of the biological pack. Product can be retrofitted or as a part of the new build specification.



- Modular Biofilter Towers.** A modular design of rectangular HYRATE biofilter is available, designed to fit onto 2.5 mt wide road transport trailers. These modular biofilters are ideal for temporary site installation or for small treatment works where large units cannot be accommodated. Modules are delivered to site, packed with media ready for installation on a flat concrete slab.
- Nitrifying Biofilters.** Using the HYRATE filter design and HYCOVER distributors impressive reduction of ammonia levels with high flow rates can be achieved.
- pH Control.** Control of pH forms an essential part of most chemical and biological treatment processes. pH Control systems including makeup, dosing and monitoring plant are offered as part of any design package, with a range of selected good quality equipment provided which meets most applications.
- Pilot Plant.** Often it is necessary to carry out 'on site' trials of the selected process prior to construction of full scale plant. This will provide essential data to ensure that subsequent plant installation meets the required performance level. Sewaco can provide a range of suitable small scale plant for hire or purchase.
- Plastic Modular Media.** Sewaco can incorporate many different makes of modular media into their structures and processes, selecting the most suitable for each application. Alternatively accepting 'free issue' media when this meets clients requirements.
- Portable Plant.** Mobile HYRATE modular biofilter towers are available for HIRE or sale. In addition there is a full complement of pumps, electrical controls, tanks and pipework available in our HIRE Fleet. Let us know your requirements.
- Process Design.** See Design.
- Pump Stations and Pipework.** Sewaco undertakes design, selection and supply of most types of pumping equipment for handling and transfer of sewage effluents and sludges. Installation is undertaken by our skilled team of engineers who are fully trained and certificated for confined space operations.

**Rotary Distributors.**

Sewaco manufactures a range of rotary distributor machines. These include Self Dosing HYCOVER rotary distributors, together with machines suitable for gravity and pumped feed. Machines, ranging in size from 4.0 up to 35.0 mt diameter, are available that can be arranged to receive up to 8 times D.W.F. Centre bowls and main support columns are fabricated from GMS or stainless steel materials dependant on site requirements, with integral dosing syphons where applicable. Stainless tubular and open trough type arms are fitted as standard. Special spreader plates are fitted to ensure curtain effect distribution onto media surface. Nozzle rodding caps and full flow washout end caps are provided to simplify routine maintenance. Centrally mounted belt drive Electric Power units are offered where speed control and periodic slow speed operation is required.

Roughing Filters.

Sewaco range of HYRATE Rectangular and Polytower Biofilter shells are suitable for use where roughing filters are required.

Scum Dispersion.

A low pressure spray system developed for effective dispersion of floating sludge on settlement tanks. The process uses final effluent to apply coarse droplets to the tank surface to break up floating sludge flocs. The system is simple to install; requires low energy, is fully automatic in operation and needs minimum maintenance.

Screens.

Sewaco manufactures mechanically raked coarse bar screens and static RUN-DOWN screens for fine screen applications using wedge wire panels.

Service & Maintenance.

Sewaco provides a full after sales service together with routine maintenance and contract service for all types of sewage and effluent plant installations.

Settlement Tanks.

The range of equipment offered includes hopper bottom steel vessels, glass coated above ground and concrete segment tanks. In addition we manufacture full bridge scraper bridges with surface and bottom scraper mechanisms. Sludge draw-off side tanks and transfer pump systems.

Stainless steel scum boards and vee notch peripheral weir channels are fabricated 'in house' to our own design and can be installed in all types of tank de-sign

**Sludge Removal Systems.**

Sewaco produce a travelling bridge 'Sludge Seeker' system that is ideally suited for removal of settled solids from rectangular horizontal flow settlement tanks of any length and up to 10 mts wide. Sludge Seeker systems can be manually operated or fully automated to remove sludge at a predetermined density, thus reducing the volume of liquid for disposal. The system can be adapted to suit many types of sediment and has the ability to work through any depth of sludge. 'Sludge Seeker' systems are suited for use in primary settlement tanks, mud basins and can be raft mounted for operating in lagoons.

Solids Separation.

Processes include vacuum filtration, flotation, sedimentation and screening.

Spray Irrigation Systems.

Final effluent polishing systems on controlled grass plots, using low pressure dispersion heads, provides an effective method for tertiary treatment. This method of treatment can be used to improve distribution over existing gravity fed plots and to direct flow onto sites not accessible by gravity. Application rates and irrigation areas are dependent upon effluent quality and daily flow. Run-off is usually suitable for direct discharge to watercourse.

Steel Structures.

Sewaco undertakes all kinds of steel fabrication, including access stairways; platforms; portal frame buildings and tower shells using 'in house' design and manufacturing facilities. All structures are designed by specialist engineers to ensure compliance with relevant standards.

Storage Tanks.

Manufactured in a range of materials to suit specific applications, including mild or low carbon steel; stainless steel; G.R.P; and most types of plastic materials.

Surface Aerators.

Two types of floating Surface Aerators suitable for installation in lagoons, aeration basins and large Activated Sludge and Extended Aeration systems, are manufactured by Sewaco.

Single pontoon high speed 'Farrator' aerators that can be fitted with motor sizes in the 5.5 - 11 kW range. These achieve oxygen transfer rates of 1.5 - 1.7 kg O₂/kWhr.

Triple pontoon slow speed aerators with motor sizes in the 7.5 - 30 kW range. These machines achieve oxygen transfer rates of 1.6 - 1.9kg/O₂/kWhr. This type of machine can also be bridge mounted.



Sub-surface Aeration.

Systems are fed by positive displacement or rotary vane blowers. Air being fed to sub surface ejectors to mix and agitate lagoons and aeration basins and for blending of Balance Tank contents. Diffusers are designed to produce medium or fine bubble aeration of effluents and ensuring maximum oxygen transfer by retaining air bubbles in the mixed liquor. This results in high O₂ transfer and low operating costs.

Trough Type Rotary Distributors. The HYCOVER range of rotary distributors can be fitted with stainless steel open troughs incorporating our unique design to minimise Vee notch blockage. Trough machines also incorporate anti surge control which prevents flow tracking from one trough to the opposite trough.

Vacuum Filters.

Sewaco manufactures special flat bed vacuum filter trays suitable for batch operations to dewater small volumes of sludge or wet product for recovery of residue for subsequent use.

Waste Product Recovery.

Many process operations produce a waste product. Detailed investigation of operating methods can often minimise waste production. Advice is also available on methods of handling, storage, disposal or recovery for use as a valuable by-product elsewhere.

Water Meter Boundary Boxes. Meter Box Systems is a wholly owned subsidiary of Sewaco Ltd.

A range of underground boundary boxes are manufactured which are fully WRAS approved and certificated for use on potable water supply. All include the efficient MBS Manifold that incorporates stop tap and non-return valve with top entry meter mounting point that accepts all types of screw-in water meter. These include:-

SENATE Box, suitable for all domestic and small commercial installations, available as a wet enclosure with 200 mm dia guard tube and tilting Top Hat to accept both cast iron and plastic surface box. Fitted with JG Speedfit 'push fit' socket type horizontal inlet and outlet connections.

SENATE Draindown Box. The intention of the drain down unit box is to drain the property during periods of non-residence, particularly suited to holiday lets where winter occupancy is not required.

SENATE Hydrant Box. This type of Water Meter Box provides the ideal way of connecting flexible hoses to underground supply mains. Suitable for use with both, potable and recycled water for irrigation of formal and pleasure gardens, camp sites etc.



Multiport Manifold Box. Used for multiple water meter installation (up to 16 water meters in one chamber), suitable for installation in brownfield location.

All boundary box units are fitted with the JG range of Speedfit 'push fit' connections. A full range of JG Speedfit 'push fit' pipe fittings are available to complement most installation requirements.

Cast iron and plastic surface boxes can be supplied for both SENTRY and SENATE boxes.

A range of bottom entry water meters can be supplied to suit site requirements.

White Water Generators.

Suitable for operation with Dissolved Air Flotation plant the White Water generators are available to suit most sizes of D.A.F. unit. Saturation vessels can be arranged for use in both horizontal and vertical orientations. Vessels can be manufactured in stainless or epoxy coated mild steel. Air for induction can be either compressor fed or venturi induced.



Selected List of Installations.

The following list includes sites at which Sewaco equipment has been installed.

Aberlour STW
Scottish Water

Manufacture and construct 8.8 mt HYRATE Polytower biofilter packed with 218 m³ modular media for secondary treatment of municipal sewage. Tower includes timber media support matrix, access stairway and HYCOVER rotary distributor fitted with belt type electric drive unit. Distributor designed to supply variable pumped feed rate of 4 – 12 lt/sec. Commission on completion.

Armadale STW
Scottish Water

Manufacture and construct 11.5 mt HYRATE Polytower packed with 306 m³ modular media for nitrifying treatment of municipal sewage. Tower includes timber media support matrix, access stairway and HYCOVER rotary distributor fitted with belt type electric drive unit. Distributor designed to supply constant pumped feed rate of 116 lt/sec. Commission on completion.

Ashford WTW
Southern Water

Design, manufacture, supply and installation of 1 off 20.15 mt a/flats HYRATE Polytower Biofilter shell constructed as EIGHT sided open top structure complete with HYCOVER trough type rotary distributor designed to receive up to 291 lt/sec; low level air ventilation system. Supplied with timber support matrix; variable speed electro-pneumatic drive provided with a local compressor panel. Plant commission on completion.

Aylsham STW
Anglian Water

Manufacture and construct 8.8 mt HYRATE Polytower packed with 315 m³ modular media for secondary treatment of municipal sewage. Tower includes timber media support matrix, access stairway and HYCOVER rotary distributor fitted with belt type electric drive unit. Distributor designed to supply variable pumped feed rate of 30 lt/sec. Commission on completion.



Balmedie STW
Scottish Water

Manufacture, construct and commission twin 13.2 mt HYRATE Polytower biofilters each packed with 615 m³ modular media for nitrifying tertiary treatment of municipal sewage. Towers include timber media support matrix, common access stairway with high level catwalk and HYCOV-ER rotary distributors each fitted with belt type electric drive unit. Distributors designed to supply variable pumped feed rate of 18 - 75 lt/sec. Commission on completion.

Bexhill & Hastings STW.
Southern Water

Design, manufacture and installation of low pressure static spray system for dispersion of floating sludge on 12 No 9 mt x 30 mt rectangular horizontal flow final settlement tanks. Commission on completion.

British Nuclear Group
Berkeley Centre STW.

Refurbishment and uprating of existing domestic sewage treatment plant including installation of aerated Balance Tank, Forward Flow control, new Screenings plant, 4.8 x 4.2 mt rectangular HY-RATE biofilter timber media support matrix, 72 m³ of roughing type modular media, HYCOVER static distribution system and AUTOCLEANSE nozzle cleaning system. New diffused aeration system in A/S plant. Demolition and disposal of redundant plant including old biofilter etc once new system is operational. Commission on completion.

Boxford STW
Anglian Water

Manufacture and install modular timber media support matrix and HYCOVER rotary distributor c/w belt type electric drive unit into 5.9 mt dia open top filter shell. Pack 82 m³ free issue modular media and commission plant on completion. Distributor receives pumped feed ranging from 10 – 15 lt/sec. Commission on completion.

Coverack STW
Southwest Water

Manufacture and construction of 6.0 x 4.8 rectangular HYRATE biofilter with access stairway, timber matrix plastic modular media and HYCOVER static distribution system applying 2.2 m³/m²/hr. Commission on completion.

Darton STW
Yorkshire Water

Design, manufacture, supply and installation of 4 no HYCOVER Open Trough distributor machines to suit 7.8mt dia filter shells. Each distributor designed to receive feed up to 125 lt/sec. Each unit complete with Drive Unit, LCP, rotation monitor, washout box and gate interlock.



Dorchester STW
Wessex Water

Manufacture and construction of central access stairway and catwalk with stainless steel flow splitter tank for filter Nos 8 & 9, together with installation of associated pipework feeding 50 lt/sec to each of two 26 mt dia gravity fed HYCOVER rotary distributor machines, fitted with electric drive. Commission plant on completion.

Manufacture and installation of two 27.5 mt dia Self Dosing HYCOVER Rotary distributor machines on Filter Nos 3 & 4. Each machine receiving 37 lt/sec. Each machine fitted with electric drive. Commission on completion.

Upgrading of Filter Nos 8 & 9 by raising media pack and lifting distributor machines and splitter tank.

Dorchester S.T.W.

Conversion of Filter No 3 to receive 24.5 mt dia HYRATE Polytower Filter shell containing 1767 m³ modular media, packed to 3.6 mts; complete with timber media support matrix Access Stairway, HYCOVER rotary distributor to pass 48 lt/sec, fitted with electro-pneumatic drive. Filter shell fitted with low level ventilation control system. Commission on completion.

East Calder STW
Scottish Water

Design, manufacture and construction of 3 No 18.0 mt HYRATE Polytower filters each fitted with modular timber media support matrix and packed to 6.0 mt depth with 1500 m³ modular media for nitrification of final effluent. Installation includes access stairways and twin high level gantry with running beams for removal of large submersible sewage pumps.

Eign STW
Welsh Water

Design, manufacture and construction of 18.5 mt HYRATE Polytower biofilter complete with modular timber media support matrix and packed to 6.0 mt depth with 1600 m³ modular media for secondary treatment. Installation includes access stairway.



Evercreech STW.
Wessex Water

Supply and installation of modular HYRATE Pilot Plant for feasibility study for treatment of strong primary settled sewage. Design, manufacture and construction of new 11.5 mt HYRATE Polytower biofilter with roof, access stairway and low level odour extract system. Filter packed to 5.4 mt depth with 620 m³ modular media installed on modular timber matrix. A stainless steel trough type HYCOVER rotary distributor to apply pumped feed of 55 lt/sec is installed inside the filter. The distributor is fitted with over mounted external electric drive unit. Commission system on completion.

Great Chesterford STW
Anglian Water

Manufacture and construct 9.25 mt HYRATE Polytower packed with 248 m³ modular media for secondary treatment of municipal sewage. Tower includes timber media support matrix, access stairway and HYCOVER rotary distributor fitted with belt type electric drive unit. Distributor designed to supply variable pumped feed rate of 30-36 lt/sec. Commission plant on completion.

Girvan STW
Scottish Water

Design manufacture and construct twin 8.8 mt HYRATE Polytower roughing biofilters each with modular timber media support matrix and prefabricated steel distributor support column. Each filter packed with 345 m³ roughing type modular media and fitted with reaction type HYCOVER rotary distributors each rated to receive pumped flow of up to 128 lt/sec.

Iwerne Minster STW
Wessex Water

Single stage 3.6 x 3.0 x 2.4 mt packed depth rectangular HYRATE biofilter complete with timber media support matrix, 25.9 m³ modular media and HYCOVER static distribution system to apply pumped feed of 21.6 m³/hr. Commission plant on completion.

Jedburgh STW
Scottish Water

Design manufacture and construct 14.7 mt HYRATE Polytower Biofilter complete with timber media support matrix, packed with 900 m³ nitrifying modular media and access stairway. Commission on completion.



**Kingston Seymour STW
Wessex Water.**

Manufacture, install and commission triple HYCOVER static distribution system installed in 13.2 x 24 mt plastic media biofilter. System designed to receive variable pumped feed of 120 - 1095 lt/sec. Distribution system fitted with access walkways and AUTOCLEANSE nozzle cleaning system. Plant recommissioned on completion.

**Larkhall STW
Scottish Water**

Design, manufacture, supply and installation of TWO no 15.7mt dia HYCOVER Open Trough type distributor machines, each suitable to receive a gravity feed of 92-156 lt/sec. Each unit complete with Drive Unit, LCP, rotation monitor, gate interlock and washout box.

**Malmesbury STW
Wessex Water**

Design, manufacture and construction of 18.8 mt HYRATE Polytower biofilter complete with modular timber media support matrix, 1105 m3 modular plastic media packed to 3.9 mt depth for secondary treatment. Installation includes stainless steel HYCOVER Trough type rotary distributor with electro pneumatic drive, and inclined access stairway. Commission plant on completion.

**Nynas Petroleum.
Dundee**

Design manufacture and construct 6.0 x 6.6 rectangular HYRATE Biofilter tower containing timber media support matrix, 166 m3 roughing type modular media for treatment of refinery effluent, together with all associated feed pumps, static HYCOVER distribution system to apply pumped feed of 24 lt/sec and fitted with AUTOCLEANSE. Automatic pH & nutrient dosing plant. 6.6 mt dia post biofilter 'rimflow' type downward flow settlement tank with fixed bridge scraper; aerated sludge digester/storage tank; continuous backwash sand filter and final discharge pumps. Complete with electrical control system and instrumentation. Plant commissioned on completion.

**Paddock Wood STW
Southern Water .**

Design manufacture and install 9.3 mt HYCOVER rotary distributor to receive pumped feed ranging from 25 – 120 lt/sec. Distributor mounted on our prefabricated distributor support column. Distributor commissioned on completion.



**Pen Mill STW
Wessex Water.**

Manufacture and installation modular timber matrix, pack 1050 m³ of secondary treatment media and install HYCOVER static distribution system in 10.8 x 18.0 mt enclosed rectangular plastic media biofilter. Distribution system designed to receive up to 110 lt/sec., is fit-ted with AUTOCLEANSE nozzle cleaning system

**Pen Mill STW
Wessex Water**

Design, manufacture, supply, installation and commissioning of 16.0 mt HYRATE Polytower plastic media biofilter complete with roof, timber support matrix and packed with 805 m³ modular plastic media. Electrically powered HYCOVER Trough type Rotary Distributor and Access Stairway.

**Pewsey STW
Wessex Water**

Single stage 5.4 x 3.6 x 3.6 mt packed depth rectangular HYRATE nitrifying biofilter complete with timber media support matrix, 70 m³ modular media and HYCOVER static distribution system to receive pumped feed of 11.2 lt/sec. Plant left operational.

**Ratfyn STW
Wessex Water**

Installation of twin mobile modular HYRATE biofilter towers each containing 23 m³ modular media and supplied complete with associated pumping equipment, tanks and electrical control equipment for treatment of liquors from sludge dewatering plant.

**Roche E T Plant
Basle, Switzerland**

Design and manufacture twin HYCOVER Static distribution system for middle and lower tier of 16.0 mt dia multi-level plastic media biofilter. Each system designed to apply constant pumped feed of 23 lt sec. Equipment shipped to site for installation by others.

**Rotherwas STW
Welsh Water**

Design, manufacture and construction of 18.5 mt HYRATE Polytower biofilter complete with modular timber media support matrix and packed to 6.0 mt depth with 1600 m³ modular media for secondary treatment. Installation includes access stairway.

**Shepton Mallet STW.
Wessex Water**

Manufacture and installation of 6 No 27 mt dia self dosing HYCOVER rotary distributors designed to apply gravity fed flow range of 7.5 – 18.3 lt/sec. Each machine fitted with electric drive, installed on shallow pack plastic media biofilters.
Manufacture and installation of 1 No 22.0 mt HYCOVER rotary distributor, complete with electric drive, designed to receive pumped flow of 42 lt/sec. Machine installed in plastic modular media biofilter and fitted with electric drive unit.



Refurbishment of 4 No 12.2 mt M.T.I Filters, to include removal of 1200 m³ random media; installation of 1200 m³ ordered media. Manufacture and installation of 4 No 12.2 mt stainless steel HYCOVER rotary distributors. each designed to receive gravity feed of up to 33 lt/sec. Manufacture and installation of 57 mt long service bridge to span MTI filters. Bridge supporting 4 No overmounted electric drive units for the distributor machines.

Manufacture and installation of low pressure static spray system for dispersion of floating sludge on 6 No rectangular upward flow settlement tanks.

Stowmarket STW
Anglian Water

Manufacture and install modular timber media support matrix and HYCOVER rotary distributor c/w belt type electric drive unit into 13.6 mt dia open top filter shell. Pack 440 m³ nitrifying modular media and commission plant on completion. Distributor receives pumped feed ranging from 75 – 150 lt/sec.

Tarves STW
Scottish Water

Design manufacture and construct 13.25 mt HYRATE Polytower Biofilter packed with 554 m³ modular media for secondary treatment of municipal sewage. Tower includes timber media support matrix, access stairway and HYCOVER rotary distributor fitted with belt type electric drive unit. Distributor designed to supply variable pumped feed rate of 15 – 20 lt/sec. System set to run on completion.

West Huntspill STW
Wessex Water

Manufacture and installation of Triple HYCOVER static distribution system in 35 x 13 mt rectangular plastic media biofilter. System designed to receive variable pumped flow up to 500 lt/sec. Distribution system fitted with AUTOCLEANSE nozzle cleaning system. System re-commissioned on completion.

Whitburn STW
Scottish Water

Manufacture and install twin 10.8 mt HYRATE Polytower biofilters with modular timber matrix, each filter packed with 495 m³ modular media for nitrification. A common inclined access stairway and high level catwalk connects the twin filters.



**Wickwar STW
Wessex Water**

Manufacture and install single stage 1.8 x 2.4 mt rectangular modular type HYRATE biofilter complete with 15.5 m³ modular media and HYCOVER static distribution system to apply pumped feed of 2.5 lt/sec.

Servicing of Sewage Treatment Plants.

Sewaco service and maintain some 250 private and commercial sewage treatment plants. These include small domestic package type biological systems, pumping stations, and treatment plants serving industrial, residential and catering establishments.