



MATRIX sewage treatment systems are designed to optimise process efficiency, minimise running and maintenance costs and to be as simple and cost effective as possible to install.

Matrix systems are available as a standard single structure 'unitank' design up to residential population equivalents of 300 and thereafter larger systems become a modular design.

The MATRIX sewage treatment system is designed to achieve the minimum required effluent quality standard of 20mg/litre Biochemical Oxygen Demand (BOD) : 30mg/litre Suspended Solids (SS) : 20mg/litre Ammoniacal Nitrogen (NH₄), which in European Standard performance testing relates to an efficiency of better than 94%.

The certified performance of the MATRIX system is that it produces an average final effluent quality of 11mg/litre Biochemical Oxygen Demand (BOD) : 16mg/litre Suspended Solids (SS) and 7mg/litre Ammoniacal Nitrogen. This relates to an average efficiency ratio of 96.2%, better than most other manufacturers, with individual test efficiency results being as high as 98.8%.

As part of the test procedure the MATRIX system was proven to have one of the lowest operating costs.

If a more stringent standard of final effluent quality is required by the Environment Agency, we can normally design to achieve this.

All Matrix treatment plants have a standard inlet invert depth. Integral pumped discharges can also be provided with all units, eliminating the need for additional tankage and installation costs

All Matrix systems are complete with failure alarms as standard (as required by BSEN12566-3).

The MATRIX treatment system is a three stage biological process contained within a single tank structure, based on the principles of a submerged bed reactor and designed in accordance with the requirements of BS6297.

Careful configuration of the internal flowpath and the inclusion of non-mechanical recirculation systems ensures optimal process performance as demonstrated by the exceptional results obtained from the independent testing, providing complete peace of mind for the end user.

There are NO electrical or mechanical components within the treatment plant thereby eliminating the need for any specialist servicing arrangements ensuring that any maintenance requirements on the MATRIX system are kept to an absolute minimum.

MATRIX Benefits

Ask about the possibility of a free site survey and technical proposal with no obligation. Full technical back up and customer service support.

Single tank installation to minimize costs.

Failure alarm systems as standard, not at additional cost.

No mechanical or electrical parts within the unit.

Robust Polypropylene construction for easy and cost effective installation.

No visual intrusion. Flat, flush ground level covers suitable for 1 tonne load.

Simple installation in vehicular areas, up to D400 loading.

Low running and maintenance costs.

Integral discharge pumps where required (all models) no additional tank.

Deep inlet inverts available to avoid pumping crude sewage to plant.

The MATRIX system comprises the CLF unit itself and an enclosure containing an air blower unit and comes complete with 10m of airline.

CLF Unit

This comprises a single tank containing all the components required for the sewage treatment process.

The CLF tank is manufactured in Polypropylene and is supplied in a standard black/blue colour. It is completely impervious to water and sewage and has been designed to ensure a robust construction and a long service life. The tank is provided with a locking manhole cover providing access to all parts of the unit.

The submerged filter beds comprise of plastic pieces of filter media, randomly packed into the tank. The media is made from UV stable uPVC and provides a large surface area on which the bacteria, required for the purification process, can grow. The media is supported on an open mesh panel fixed above the base of the tank.

An air diffuser is installed into the submerged filter bed(s) and is located underneath the filter bed(s) this is connected to the external air supply (blower) by uPVC pipework.

The recirculation pipework is a uPVC pipe running from the bottom of the humus and media tank to the top of the primary settlement tank. The pipework has a tapping at its top where tubing is inserted down the uPVC pipe which is connected to the blower. (NOTE! On all models a control jet in the air line ensures a correctly balanced air flow between the air lift recirculation pipe and the diffuser in the submerged filter zone. The control jet is an integral part of the air lift hose connector which is fitted to the bulkhead between the humus tank and the submerged filter bed) The air lift system is used to recirculate effluent from the humus and media tanks to the primary settlement tank.

Blower

The blower is mounted along with its associated electrical controls inside a weatherproof enclosure.

The electrical controls comprise an isolator and a loss of air alarm connected to an external beacon which will provide a visual warning that the blower is not operational.