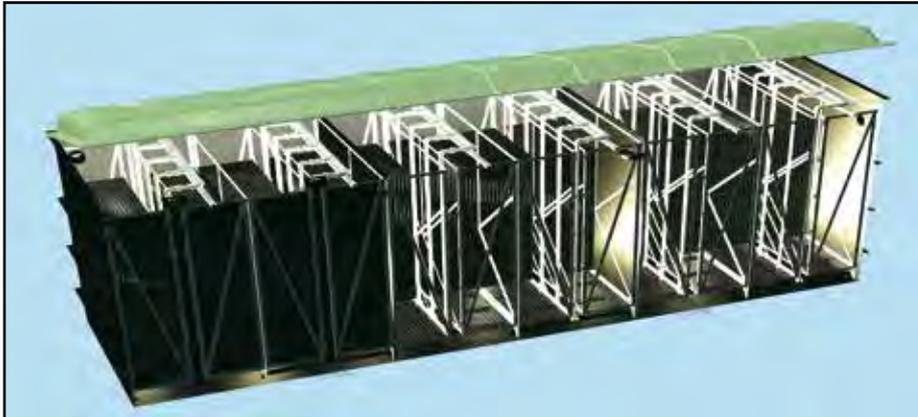


INSIGHT

KEE LAUNCHES NEW NuSAF

AFTER LAUNCHING THEIR NuDisc® Packaged Wastewater Treatment Plant KEE offer another revolutionary fixed film technology using compressed air. Traditionally SAF systems with structured media have been offered with fine bubble membrane diffusers, with the drawback that access to diffusers was difficult. Until now it has been necessary to remove media and empty the reactor tank of wastewater to access the diffusers.



Cut-away view of the New NuSAF

KEE have overcome this and can now offer SAF systems with patented structured media and fine bubble membrane diffusers with facility to access diffusers without the need to remove the media or empty the reactor tanks. They have already installed a 2500 PE SAF System in Scandinavia using this new NuSAF technology and are in the process of building a plant for a UK Water Plc. The UK plant will be commissioned during November/December 2003.

The KEE NuSAF uses patented structured media which has a profile in its shape to induce velocity and pressure gradients in the air/water mixture flowing through the media. This concept enhances mixing and is responsible for keeping the biomass film on the media active and aerobic. KEE have offered SAF Systems for many years and have built in excess of 100 containerised mobile plants for Work and Army Camps, but the systems were designed to be above ground as they needed to be mobile. Access to diffusers was therefore easy.

KEE have also installed SAF Systems in Northern Ireland where final effluent quality achieved is extremely high with BOD less than 4mg/litre, ammoniacal nitrogen less than 2mg/litre, phosphorus less than 4mg/litre and suspended solids less than 10mg/litre. Now comes the NuSAF technology offering all the process stability of fixed film reactors, but with the added advantage of using fine bubble diffused air, patented structured PVC media and the ease of access for maintenance of diffusers. ❖

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Just some of the features in this issue – and more ... ❑ ■

FOR MORE INFORMATION

visit our web site

www.keeprocess.com

or email

sales@keeprocess.com

REPEAT ORDER FROM SATISFIED CUSTOMER



The original system installed by KEE Process.

HAVING SUPPLIED AND INSTALLED A PLANT for Sunterra Europe Ltd for their Time Share Complex in North Devon, KEE have been invited to supply a second system for their site in the Midlands.

KEE have again successfully supplied and installed a new wastewater treatment system for the second site for Sunterra Europe Ltd and now operate all the treatment systems and pumping stations at all the sites owned by Sunterra Europe Ltd in the UK. ❖

NUTRIENT REMOVAL FOR EIRE

THE REQUIREMENTS for final effluent discharge quality in Eire are always under scrutiny and due to the fact that a large proportion of water supply in Eire is derived from ground water sources this is rightly so.

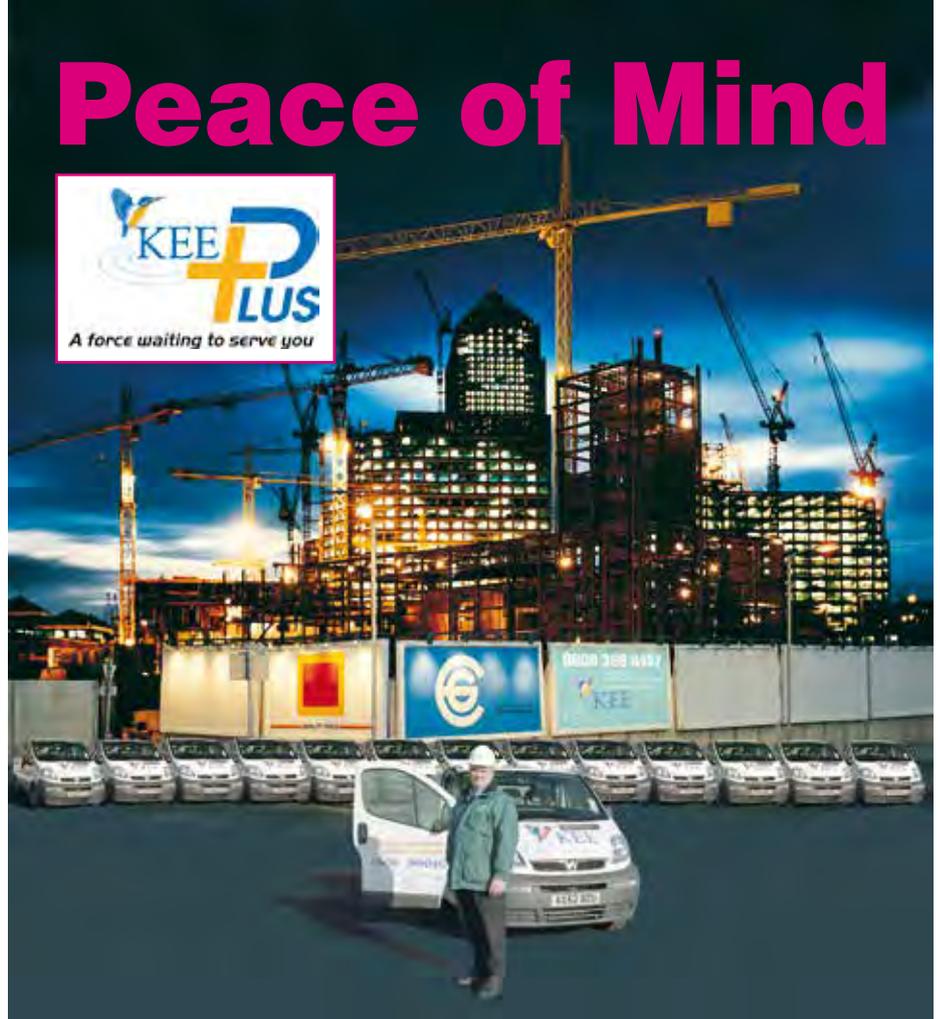
It is necessary to protect the water quality in the aquifer by reducing nitrate levels in the treated wastewater being discharged into the aquifer. In many instances removal of phosphorus is also desirable where there is risk of eutrophication in the receiving waters.

KEE have successfully applied their NuDisc® technology to treat wastewater from a population equivalent of 225 to produce a final effluent with BOD of less than 10mg/litre, suspended solids of less than 10mg/litre, ammoniacal nitrogen of less than 10mg/litre, COD of less than 60mg/litre, phosphorus of less 5mg/litre, FOG less than 1mg/litre and nitrate nitrogen of less than 15mg/litre. KEE NuDisc® N13 has been successfully applied for this project. It is possible to achieve lower values of phosphorus, nitrate nitrogen and ammonia nitrogen where necessary.

Many projects now require extremely low values of ammoniacal nitrogen and total nitrogen in the wastewater being discharged and KEE are supplying treatment plants for projects requiring such high quality of effluent now being stipulated by the Environmental Agencies.

Although KEE have the capabilities to offer activated sludge systems as well as fixed film systems using RBC and SAF technologies, in this instance RBC technology was chosen to provide simplicity of operation and minimise power consumption and ongoing maintenance costs. ❖

Peace of Mind



SINCE 2000 KEE HAVE REALISED that their customers expect more than just the supply of a system for treating wastewater. As a result they now offer their customers a complete package which includes design of a wastewater treatment system, followed by supply, installation, commissioning and operation and maintenance. In effect, KEE would take over treatment and operation of a system on behalf of a client.

Since the launch of the above business strategy, KEE have offered plants at Holiday Resorts, Time Share Establishments, Caravan Parks, Housing Developments, Nursing Homes and Car Dealerships with their "Design, Build and Operate concept". KEE designed the systems which vary in size from 100 PE through to 2000 PE and having successfully installed the system for the clients on a fixed price basis, now operate the plants on behalf of the client, also on a fixed price basis. This ensures that the final effluent discharge criteria laid down by the Environment Agency is always met. For an annual fixed fee KEE undertake all the mechanical and electrical servicing, process operation and sampling of the effluent.

Regular attendance by KEE Technicians on site ensures that the plant is always maintained in good condition and this provides long life for the equipment. Whilst on site the KEE Technician looks for any signs of potential malfunction to ensure that timely preventative action is taken to avoid any future problems.

All this goes on behind the scenes so that the client only ever hears the good news that their plant is working. KEE already operates eight plants on behalf of their clients and are awaiting contracts for more to come on line later this year for Hotel Complexes and Nursing Homes. ❖

Team Work at St. Mellion Golf Club



The KEE installation at St. Mellion Golf Club.

KEE TEAMED UP with the Civil Contractors, Dean & Dyball and Hyder Consulting Limited of Plymouth to design and build the wastewater treatment system which serves the village of St. Mellion and the nearby Golf & Country Club.

The plant is designed for 1000 PE and receives both flows from the Hotel and the Golf Complex and the mixed drainage sewage and surface water from the village of St. Mellion. The plant is designed to produce a final effluent of BOD less than 15mg/litre, suspended solids less than 25mg/litre and

ammoniacal nitrogen less than 6mg/litre. The plant proposed and installed is a twin modular managed flow RBC system and includes flow balancing, pH correction, polyelectrolyte dosing, flow measurement and telemetry outstation. ❖

KEE BIOGUARD helps a School beat the fat problem

A SCHOOL IN BERKSHIRE installed a KEE BioGuard system following persistent problems with grease blocking the sewage pumps which served the main kitchen and one of the dormitory buildings.

The kitchen provides four meals a day to the 400 pupils and staff. Following a site audit by KEE staff it was decided that a BioGuard system located in the main kitchen dosing into the waste pipe from the industrial dishwasher was the best option. After 12 months use there has been no recurrence of the problems with blocked pumps. The school are so pleased with the results from the unit on the kitchen that they are now considering a further unit to resolve grease problems on a secondary pumpstation. ❖

CARAVAN PARK TO RESTORE DISCHARGE CONSENT

A CARAVAN SITE just outside Swindon, contacted KEE Services Ltd because the package treatment plant installed to treat the sewage from the site was failing to meet its consent conditions.

The effluent was constantly just outside the 20 mg/litre BOD and 30 mg/litre SS level set by the Environment Agency. After considering all the options, a KEE BioGuard dosing system was installed to bioaugment the plant. After six weeks dosing the plant was producing BOD and SS of less than 10 mg/litre. The dosing has been maintained, with the plant not failing a routine sample since installation. ❖



The Biological Solution for Clear Results

BUSY KITCHEN ENVIRONMENTS regularly suffer from the unnecessary build-up of fats and grease due to food preparation and dish washing. When left untreated on a regular basis, the build up of fats and grease can result in many common problems such as:

- Frequent emptying of fat traps
- Hygiene concerns
- Unpleasant odours
- Emergency rodding.
- Unnecessary and expensive emergency call-out charges
- Disruptions to services from blocked drains.
- Damage from flooding as a result of blocked drains
- Lost revenue

KEE Bio-Guard - The Permanent Solution

The KEE Bio-Guard technology provides a simple and permanent, long-lasting solution to the unwanted build-up of fat and grease in the drains, thereby reducing the associated risks of blocked drains in the food preparation and cooking areas.

KEE Bio-Guard brings the following benefits:

- Free running drains
- Conformity with effluent treatment regulations
- An environmentally friendly response to a pollution problem
- Automatic dosing avoiding human error
- Control of operational costs
- Peace of mind.

The automatic dosing system is normally wall mounted with the reservoir of liquid stored at ground level. It regularly provides an accurate dose of the liquid biological solution containing micro-organisms specially selected to degrade fat, oil and grease in fat traps and drain lines.

Cost Effective Technology

The KEE Bio-Guard technology is very cost effective both from a capital and operational aspect when compared to other similar systems currently on the market. This cost effectiveness is achieved without compromising the overall system efficacy and operation.

Ease of Installation

Installation is very simple. For the operation of the KEE Bio-Guard system, a 240 volt single-phase non-switchable fused spur close to the system is required.

Looking after our boys in the field



KEE HAVE RECENTLY completed a £1 million order to supply mobile sewage treatment plants to serve Middle East Hospitals.

All equipment was designed, manufactured and delivered by the end of March 2003, but before work could commence the KEE yard had to be extended to create a dedicated work area for the fitting of all the equipment. Quality control was a feature as strict military guidelines in the execution of the contract had to be adhered to.

The equipment consisted of 32 fully fitted-out ISO containers and numerous loose packages. Delivery logistics involved twenty 40 foot lorry deliveries to Longtown on the Scottish Borders. KEE fulfilled the overall contract on time.

KEE range of Technologies include:

- Rotating Biological Contactors (NuDisc® & RBCs)
- Submerged Aerated Filters (EnviroBAFF® & EnviroSAF®),
- Extended Aeration Plants, Sequencing Batch Reactors (SBR)
- Fixed Film Anaerobic Biofilter Reactor

Q. Can KEE Process offer wastewater Treatment Solution for both Domestic, Trade and Industrial Effluent?

A. Yes, KEE are a company of process engineers who can provide a customised wastewater treatment solution at competitive prices.

Q. Can KEE Process provide after sales service and supply original spares for efficient plant operation?

A. In the UK this service offered through KEE Services Ltd. from their head office in Aston Clinton or through their network of nationally based service technicians. Overseas customers are serviced through worldwide network of licensed manufacturers, distributors and agents or directly from the Aston Clinton Head office.

Q. Can KEE Process visit site to assist customers select the most suitable process and plant configuration?

A. In the UK this service is offered at no cost to customers and without obligation. In overseas countries, KEE offer similar competent professional service through network of licensed manufacturers, distributors and agents throughout the world.

Q. Can KEE Process offer On-Site Operation and Preventative Maintenance of Wastewater Treatment Systems?

A. Yes, KEE Group have 15 Technicians based throughout the UK and are able to offer custom tailored package of plant operation, maintenance and facilities management to suit.

Q. Can KEE Process advise and provide solution for the Fat, Oil and Grease (FOG) problems associated with commercial kitchens and catering establishment?

A. KEE have a range of enzyme and microbes additives for manual or automated dosing of the drains to reduce smell and blockage problems associated with the discharge of FOG from a busy kitchen.

GOLF CLUB COMPETITION WON BY KEE

KEE SERVICES WIN an Elite maintenance contract to maintain a competitors manufactured wastewater treatment plant against strong competition.

Mr David Sweetman, the Secretary at the Golf Club stated, "KEE were chosen against all the competition asked to tender because they offered the best proposal and were very professional in their approach to the Golf Club.

When we contacted KEEs existing clients for a reference, we were not only given positive feed back about their capability to provide first class M&E back up and maintenance but also to provide excellent expertise and support for all process related problems as well". ❖

Frequently Asked Questions about KEE capabilities

Q. Can KEE Process offer wastewater Treatment Solution for small and/or large flows?

A. Yes, KEE manufacture their plants and equipment at their Aston Clinton factory and can supply factory built, single piece packaged treatment plant for small flow, modular system for medium sized flow or customised in-situ wastewater treatment solution all at competitive prices.

Q. Can KEE Process offer Turnkey Solution for Wastewater Treatment?

A. KEE offer complete service to their customers including process design, project engineering, installation, commissioning, operation and maintenance of the treatment plants.

Q. Can KEE Process offer a choice of processes?

A. KEE can offer physical, physical-chemical and biological treatment systems. Their biological technologies include Attached Growth (Fixed Film) or Suspended Growth Systems and are able to assist customers choose the most appropriate process to suit their requirements.



PAS 99
Process : IMR 512239
Services : IMR 517921



BS EN ISO 9001
Process : FM 515540
Services : FS 517918



OHSAS 18001
Process : OHS 515542
Services : OHS 517920



BS EN ISO 14001
Process : EMS 515541
Services : EMS 517919



Specialists in Domestic & Industrial Wastewater Treatment

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