



// WATER TREATMENT WITH
MEMBRANE CELL CHLORINE
ELECTROLYSIS

// NEW HOME GROUND FOR
HALLESCHER FC

// REOPENING OF NORDBAD
SWIMMING BATHS
IN HALLE (SAALE)

// MEMBRANE FILTRATION -
A LOW-COST PROCESS

KEEPING OUR WORLD CHAMPION SWIMMER ON COURSE

WATER TREATMENT USING MEMBRANE CELL CHLORINE ELECTROLYSIS

World champion in freestyle swimming Paul Biedermann is one name from Halle (Saale) that everybody knows. At the 2009 World Championships in Rome, he won his first two titles in the 400 and 200 metre freestyle, setting a world record each

time. A renowned German newspaper at the time gave him the title „Paul Superman“ and in 2009 he was also elected as Germany's Sportsman of the Year. As we know however, success doesn't come about by accident.



The membrane cell chlorine electrolysis system EASYMEM 1000

With this in mind, the city of Halle (Saale) has built a new indoor training pool for swimming at the top level as well as swimming clubs and school sport to ensure optimal training conditions for Paul Biedermann and his fellow swimming professionals at the SV Halle sports club, such

as the extremely talented young swimmer Daniela Schreiber, winner of the silver medal in the women's 4x100 metre free-style relay at the World Championships in 2009. The new water treatment equipment commenced operations at the end of August 2011 and, in October, regular training started, quickly followed by the first victories at the World Cup in Stockholm.

Water treatment involves a total volume of approx. 2,500m³ being treated in three pool circuits. EASYMEM 1000, the new membrane cell chlorine electrolysis system for water disinfection from Lutz-Jesco, plays a key role in this water treatment process. EASYMEM uses outstanding new processes to cater for current market requirements, ensuring greater safety in the area

of disinfecting water. EASYMEM's chlorine electrolysis system produces a watery sodium hypochlorite solution (chlorine bleach) directly at the location of usage according to requirements. The product tank's optimised, relatively small size ensures the sodium hypochlorite remains fresh at all times and is free of unwanted side products.

The EASYMEM model series comprises twelve system sizes ranging from 200 – 6,000 g of active chlorine/hour. Bleaching lye concentration is between 25 and 30 g of chlorine/litre. Starting from the product tank, any number of downstream dosage points can be supplied. EASYMEM is an innovative product that can hold its own against competitors and boasts first-class performance data. A key feature for customers is the 5-year warranty for the membrane cells offered by Lutz-Jesco. Further benefits for the operator include its modular construction and the resultant possibilities for flexible arrangement of components. //

NEW HOME GROUND FOR HALLESCHER FC

WATER TREATMENT IN THE RELAXATION POOL

After a construction time of just fourteen months, the venerable, time-honoured „Kurt-Wabbel Stadium“ in the city of Halle (Saale) has been converted into a modern temple of football. The new „Erdgas Sportpark Halle“ was presented to the public for the first time on 17th September 2011. Around 20,000 visitors took the opportunity to both take a look inside the stadium and also get a glimpse behind the scenes. Alongside the team changing rooms and sauna, an essential part of any modern stadium is a relaxation pool.



The relaxation pool in the Erdgas Sportpark

As the name suggests, the aim of a relaxation pool is to revive mind and spirit and enter a state of relaxation. In appearance, a relaxation pool resembles a normal, small-sized swimming

pool. Generally speaking, the pool will be equipped with jets emitting bubbling water, which are activated at all times and have a massaging effect on the body. Relaxation pools are often heated and envelope the body akin to an invisible blanket.

Use of the pool after a difficult game but also after a strenuous training session will help ease bodily stress by soothing any tension for instance. This enables players to regenerate consider-

ably more quickly.

Pools of this type are also subject to requirements for public swimming pools of course, as are treatment systems for the bathing water. To ensure first-rate quality of bathing water and safe hygiene even in case of a low water amount but frequent use, the latest measuring, control and dosing technology is required.

Water treatment for the relaxation pool at the new Erdgas Sportpark uses Lutz-Jesco GmbH technology because



Lutz-Jesco - measurement, control and dosing equipment

planners, system constructors and operators found the best references for such systems on their doorstep, whether these came from the newly built Nordbad swimming baths, the new indoor training pool for Biedermann et al. or the Maya Mare recreation pool, whose positive experiences of systems and equipment by Lutz-Jesco now stretches back 12 years. //

REOPENING OF THE NORDBAD SWIMMING BATHS

TREATMENT OF BATHING WATER CONFORM TO ALL STANDARDS

After a record construction time of just seven months, the renovated old Nordbad swimming baths in Halle (Saale) was reopened on 1st June 2011. The character of this popular open air swimming pool in the city on the River Saale has been preserved while numerous innovations will help visitors over the next few years to enjoy their experience there even more. Halle city council has invested more than three million euro in total in redesigning the swimming baths.

As part of the Nordbad modernisation, the 10-metre diving platform and the basic character of the existing changing rooms have been preserved. As well as the creation of an area for non-swimmers, the pools have been merged while at the same time retaining the 50-metre lanes. New underwater lighting incorporating LED spotlights illuminates the pool atmospherically in the evenings and can also light up the pool very brightly for emergencies. Other new features include a broad wave slide, a splash water shower, a water shoot and 1-metre and 3-metre diving boards.

In the old pool, the water equipment is housed in what is known as the equipment cellar, which has a dual function: by day, the deck of the equipment cellar serves as a sun deck while in the evening,

during film performances, it provides lucrative front-row seating right alongside the water, as well as serving as a stage for minor or major performances.

The highlight comes inside the equipment cellar however. Due to a room height of 2.20 metres, it was decided to opt for a modern ultra-filtration system conform to the DIN 19643 section 4 standard design, for which Lutz-Jesco supplied all dosing, measuring and control equipment. Disinfection takes place via a chlorine gas system conform to DIN 19606, with an automatic changeover switch as a full-vacuum



Multi-channel controllers TOPAX DX and MAGDOS LT diaphragm dosing pumps

system. Measurement and control of the individual pool areas in the combined pool has been retained. The TOPAX devices are connected to the building management facility via Ethernet, with MAGDOS LT pumps used as dosing pumps for pH value correction and precipitation. //

CLEANEST POSSIBLE BATHING FUN FOR YOUNG AND OLD

CHLORINE ELECTROLYSIS SYSTEMS IN INLINE OPERATION

Planning of the Lippe swimming baths in Lünen started back in 2007. The goal of the reconstruction project is to reduce consumption costs, preserve energy supplies and minimise pollution from harmful substances. After a construction time of approximately two years, the swimming baths were opened to the public in September 2011.

Compared to other indoor swimming pools, the swimming baths in Lippe consumes around 50 percent less energy. Improved thermal insulation and triple glazing means less heat losses, resulting in a comfortable ambience for visitors. The numerous swimming pools provide fun and recreation for young and old.

Pool water is enriched with salt, ensu-

ring a pleasant feeling for the skin. Using the „SALT WATER LIGHT®“ process from the Technopool brand, the required hypochlorous acid for disinfection purposes is generated according to needs. This is activated via a PM 01 measuring water panel mounted with a TOPAX DX multi-channel controller. As well as measuring the free chlorine, pH and Redox values the controller also measures temperature and the conductivity. Based on the conductivity parameter, salt content is directed into the individual pools using metering pumps and a natural brine supply in a storage tank.

An EASYZON 5 chlorine dioxide system is installed for disinfection of drinking water. Disinfection parameters are moni-

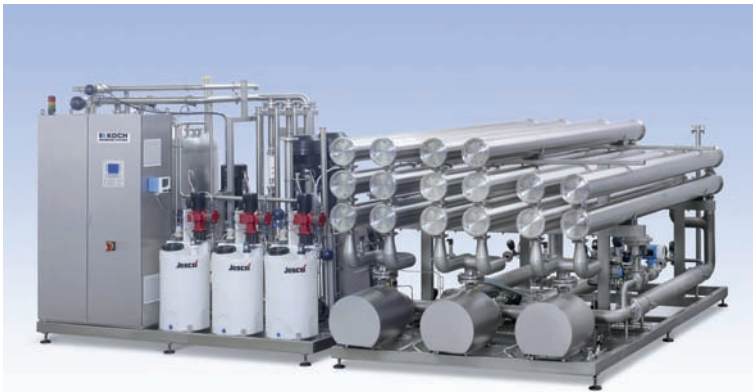
tored and recorded by a single-channel TOPAX L. Disinfectant is metered as required by a dosing pump activated via a contact water meter. //



The Technopool electrolysis system

MEMBRANE FILTRATION - A LOW-COST PROCESS

LU TZ-JESCO DOSING PUMPS IN SYSTEMS BY KOCH MEMBRANE SYSTEMS



Source: Koch Membrane Systems

Membrane systems are now an established low-cost separation process for concentration, fractioning, clarification and desalination of fluids. Besides the low investment and operating costs, a higher product output and simplified process management are further plus points.

The membrane technique is a physical separation process by means of which substances of certain sizes, shapes or with certain properties can be retained. Particularly in the milk, sugar, food, starch or drinks industries, membrane technology has become an indispensable process. It also makes an important contribution to the recycling of process water. Membrane filtration is now a fixed component in the treatment of industrial process flows and is also used to an in-

creasing degree in the manufacture of 2nd-generation biofuels.

Membrane filtration can be subdivided into four processes according to the separation limit: microfiltration (MF), ultrafiltration (UF), nanofiltration (NF) and reverse osmosis (RO). Microfiltration and ultrafiltration are suitable for separation of bacteria, viruses and biomass. Nanofiltration is used in fractioning of low-molecule components and in desalination when the process flow contains high concentrations of acids and lye or organic solvents for example. Reverse osmosis is the method of choice in product concentration and water recovery. As well as the different shapes (pipe membrane, hollow fibre or spiral membrane), various membrane materials are also available depending on the filtration application (e.g. cellulose acetate, polysulphone, polyether sulphone, PVDF, polyamide etc.). Selection of membranes in practice depends on the application and the properties of the product that is to be treated.

In membrane technology, there are many application areas for metering pumps. Koch Membrane Systems is one of the many companies for which Lutz-Jesco acts as a supplier. Applications are essentially as follows:

- + pH stabilisation: In RO systems for water treatment, the inlet flow is acidified for stabilisation purposes. This enables a higher water yield to be attained, which in turn leads to water savings. With membrane systems for product gain, retention of individual substances is optimised by means of pH-value adjustment.
- + Anti-scalant dosing: Anti-scalants enable the stabilisation of hardness beyond the saturation limit which leads to a lowering of the pH value for a higher output and hence results in savings.
- + Disinfection: Disinfectants are frequently dosed to be able to guarantee sterility in the permeate such as in a downstream stacker tank or keep infection by germs in the supply flow of a treatment plant within an acceptable framework.
- + Dosing of purification chemicals: Most membrane systems are purified regularly so that they remain within the desired per-

formance and quality range at all times. To guarantee this, it is important that cleaning agents are metered in exact amounts. When metering cleaning agents, chemical resistance is an additional challenge for pump manufacturers.

„And there are many more applications too,“ explains Jens Gebauer, Senior Project Manager at Koch Membrane Systems. „But they all have one thing in common - the need for a precise and reliable dosing pump. Excessive or insufficient dosing can result in increased costs in the simplest cases or poorer quality, while in the worst case scenario, it can lead to damage to the membranes and the system. For this reason, it is important to use a reliable provider that can also react quickly in case of emergencies. //

CONVENTION AND EXHIBITION DATES

+ parts2clean, 25.10. – 27.10.11, Stuttgart

+ aquanale, 26.10.– 29.10.11, Cologne

+ BDS Swimming Championships, 05.11. – 06.11.11, Leipzig

+ DVGW Meistererfahrungsaustausch, 06.12. – 07.12.11, Lübeck

parts2clean



EDITOR: Lutz-Jesco GmbH / P.O. Box 100164 /

30891 Wedemark / Germany

www.lutz-jesco.de / 24h-Hotline: +49 5130 5802 80

CONTACT PERSON: Kathleen Klettke /

Phone: +49 5130 5802 -135 /

Fax: +49 5130 580268 /

E-mail: kathleen.klettke@lutz-jesco.com

EDITORIAL STAFF: Dr. Hans-Joachim Diederich,

Thomas Beutel, Dietmar Paßfeld