

# Lutz-Jesco Journal

Lutz-Jesco Company Newsletter, 6th Edition, October 2007

**Akzent Hotel Höltje**



**aquanale 2007**



**Municipal Games Halle (Saale)**



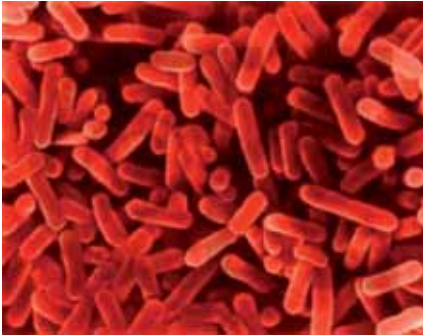
**BRAU Bevale 2007**



## Legionella

### A threat from the water supply system

In Germany, between 8,000 and 10,000 people fall ill with Legionnaire's diseases annually (Legionella pneumonia, Legionellosis) according to expert estimates, and approximately 1,300 to 1,500 of these people die



as a result.

Countless others contract Pontiac fever, whose symptoms resemble those of influenza. These figures are frightening and require measures be taken that are clearly defined in the Drinking Water Regulations. In the case of hospitals and housing for the elderly there are very large drinking water supply systems, which tend to harbour germs due to long

supply lines and large water volumes. In the second quarter of 2007, Lutz-Jesco GmbH successfully extended its product range in the field of Legionella control with its chlorine dioxide system for the generation of 5 g ClO<sub>2</sub>/h.

Using this equipment, it is possible to generate the disinfectant directly at the place it



is needed. Lutz-Jesco GmbH also offers a wide range of accessories for the system. The measuring and regulating

technology provided by Lutz-Jesco uses a measuring cell which can operate under extreme conditions: 6 bar pressure and 60 °C temperature. Chemicals for the system can also be obtained from Lutz-Jesco GmbH. Our sales representatives can explain all aspects of the system and can develop a basic concept that provides safety and support for the customer.

## Chlorine dioxide for Legionella control

### Chlorine dioxide system EASYZON®

With the EASYZON, Lutz-Jesco has developed a compact system for economical, on-site production of chlorine dioxide. One use of this system is for Legionella control and the treatment of drinking and process water. It is characterized by high disinfection effectiveness even at a high pH. EASYZON is available from 5 to 1440 g/h at a pressure of up to 12 bar. The units work according to the acid-chlorite process, with which the usual concentrations of hydrochloric acid and sodium chlorite are used. Dosing or peristaltic pumps, which are included in delivery, ensure a reliable feed rate of the chemicals. Functions are monitored by a control unit, sensors or impulse-controlled signal generators, depending on the system. Due to optimized reaction control, a very stable chlorine dioxide solution is generated that can be dosed with no restrictions, even after 24 hours of storage. Even after this time, it still fulfils the requirements of the

DIN EN 12671 standard.



Chlorine dioxide system EASYZON 5

## Municipal Game

### Talents supported by Technopool and Lutz-Jesco

The 16th Municipal Games took place in June 2007 at the Robert Koch Swimming Pool in Halle (Saale). The Municipal Games consist of many individual events in a wide range of



Robert Koch Swimming Pool

sport. Athletes aged 6 to 18 years compete for medals, certificates and appreciation and gain their first experience in sports competitions. Many of these talented contestants, who later achieve international successes, have won their first medals at the Municipal Games. Technopool Schwimmbadtechnologie GmbH and Lutz-Jesco GmbH support the sports club SV Rotation Halle (Saale) and Anne Kelch. Ms. Kelch, a swimmer, thanked us for this support in a special way – with two first, one second and one third place. Congratulations Anne!



Swimmer Anne Kelch with the medals she won

This event was the last competition before the rebuilding of the swimming pool, starting in late 2007.

## Liliencarré Wiesbaden

### TOPAX® DX - the new standard at the "Fitness-Company"

Origin: Fitness Company Freizeitanlagen GmbH



For the first time, the TOPAX DX is being applied at the Fitness-Company in the Liliencarré shopping centre in Wiesbaden, alongside the well-tried dosing technology from Lutz-Jesco. Even in a fairly small pool of 8.35 x 7.20 x 1.35 m, designed as a concrete basin with a ceramic lining and an all-round overflow channel, the compliance with the DIN 19643 standard, under consideration of the KOK guidelines for pool construction, is decisive for keeping to the hygienic parameters and the basic prerequisite for the operation of the pool. The



process combination flocculation–filtration–chlorination was chosen.

Lutz-Jesco supplied the monitoring board Easypool with the measuring and control unit TOPAX DX as well as dosing devices

for chlorine, pH adjustment and flocculation. In order to ensure uninterrupted dosing by the flocculation agent pump, a suction aid has been built in on the intake side. On the pressure side, the multifunctional valve PENTABLOC provides accurate dosage.

In addition, a self-cleaning injection point of the type SKD has been installed. The control of the flocculation agent pump is carried out by the TOPAX DX unit corresponding to a circulation rate of 44 m<sup>3</sup>/h. By means of this new option of connecting the dosing pump to the measurement and control unit, flocculation is optimized and flocculation agent consumption is reduced. The highest

priority was placed on minimizing the consumption of chemicals whilst keeping to bathing water parameters. By means of the TOPAX DX, a microprocessor-controlled measurement and control unit free chlorine and pH are measured and adjusted, where normally only redox potential is measured. As for the dosage of the flocculation agent, dosing pumps are also used in the disinfection and pH correction process for direct extraction from the delivery package using accessories. The pool water is disinfected by means of sodium hypochlorite, which is supplied by the magnetic membrane pump MAGDOS LT. The required amount is automatically dosed and supplied to the filtrate water by the measurement and control unit. Automatic pH control ensures the neutralization of the pool water. The dosing agent is dosed into the filtrate line as required. For remote control, visualization and archiving, the TOPAX DX has been connected to a PC utilizing the software TopView.

## Application in the Akzent Hotel Höltje in Verden on the Aller

### Swimming pool disinfection without dangerous chemicals using flow-through electrolysis according to DIN 19643



Swimming pool in the Akzent Hotel Höltje

Until mid-July 2006, the water in the indoor swimming pool of the Akzent Hotel Höltje was disinfected by means of calcium hypochlorite via a feeder. Since the handling of calcium hypochlorite requires close supervision and poses a considerable risk (as does the use of sodium hypochlorite), a less dangerous alternative was chosen.

The "SALT WATER LIGHT" technique from Technopool Schwimmbadtechnologie GmbH is a disinfection method that does not require the use of any potentially dangerous substances.

A precondition for the application of this

technique is a slight salinity of the pool water, from about 0.4 percent upwards. The actual disinfection process takes place in a flow-through electrolytic cell that is inserted directly into the filtrate line as a bypass. When the salt water flows through the cell, hypochloric acid is generated and disinfects the pool water. This process is a safe disinfection method that precludes the storage of any chlorine products and eliminates the risk of any chlorine accidents.

This disinfection method was awarded the 5th German award for protection against hazardous substances by the Federal Minis-



TOPAX® NT, MAGDOS LT and Technoline SC14 mounted on monitoring board PM01

ter of Labour and Social Affairs in 2002.

Lutz-Jesco supplied the monitoring board PM01 with the control unit TOPAX® NT, which is used to measure free chlorine, pH, redox potential and temperature.

The TOPAX® NT unit controls the electrolytic cell that regulates the chlorine concentration, and the dosing pump MAGDOS LT that adjusts the pH. On the pressure side, the multi-functional valve PENTABLOC ensures accurate dosage via a self-cleaning injection point of the type SKD.

After one year, Günther Glander, who runs the hotel, commented: "The changeover to the Technopool method has been a complete success. We no longer need to handle dangerous chemicals. Running the system is uncomplicated, and whenever we have any questions, the competent service staff of Lutz-Jesco always help us quickly. Our guests like the pleasant silky-soft water, and appreciate the absence of any chlorine odour. When babies are swimming, they no longer get red eyes."

## Legionella goodbye!

### Lutz-Jesco prevents closure of accident and emergency department

Lutz-Jesco GmbH has emerged as a problem solver for highly contaminated systems in the field of water supply and the monitoring of hygiene parameters according to the Drinking Water Regulations. One example is the case of a renowned hospital in a prominent city that has a „first response“ accident and emergency department. Ambulances from the surrounding region turn there first due to their modern A&E department. However, the A&E department and the operating theatres were on the brink of being closed down by the in-house supervision and the public health department. Legionella contamination,



far in excess of the maximum level allowed according to the Drinking Water Regulations, had been detected.

It quickly became clear that the warm water storage, with 8 m<sup>3</sup> divided into 4 storage tanks, was greatly over-dimensioned. The calculation showed that 2 m<sup>3</sup> were sufficient. In the cold water supply system, a main water meter DN 100 and a bypass DN 40 had been built in. The building's water supply had to be dimensioned in the size of DN 100, because the sprinkler system for the whole building was also connected to it.

It was our primary goal to find a solution that satisfied the Drinking Water Regulations and the hospital's practical needs without interfering with the ongoing operation.

A solution to the most important measure, the downsizing of the storage tank volume was accelerated. Due to the in-line connection



of the tanks, downsizing was an easy task for the installer. In order to keep the option of later expansion open, the redundant reservoirs were emptied and structurally disconnected from the circulation and supply line.

As the second step, the existing water meters were equipped with contact units. In order to find a uniform solution for the main meter and the bypass, contact units with 2.5 litres per impulse were chosen. In order to reduce the level of microbial contamination, the addition of chlorine dioxide by means of dosing pumps was provided in the two cold water systems as well as in the warm water system.

The chlorine dioxide solution is generated on-site from the two basic chemical compounds hydrochloric acid and sodium chlorite in an EASYZON®5 unit from Lutz-Jesco and is stored in a tank.

The injection of the chemical into the cold water systems takes place in proportion to the water throughput through the respective contact water meter. Since magnetic membrane pumps carry out short dosing strokes and the contact sequence of the water meter is 2.5 litres per impulse, pulsation dampers were inserted in both cold water systems in order to achieve constant dosing. These dampers bring about an almost linear dosage of the chemical. Since the monitoring of the water parameters was also an important measure in this case, measurement and control devices from the TOPAX series were applied for this purpose. These devices are connected to a monitoring board which is resistant against a pressure of up to 6 bar and a temperature of up to 60 °C, and reads out the parameters chlorine dioxide concentration, pH and temperature. If any of the parameters differs from the set limits, an alarm is triggered via the central


control unit and dosing is automatically stopped. A magnetic membrane pump was also installed in the warm water system, but without a pulsation damper, because the warm water system is a closed loop, and thus the water circulates through the system several times. As for the cold water, the measurement in the warm water is accomplished by the measurement and control unit TOPAX NT. Again, the measurement fittings have been constructed in a pressure and heat-resistant quality.

Thanks to these fast and efficient measures, the level of microbial contamination was reduced to within the tolerance limits of the Drinking Water Regulations in a matter of days. After 4 weeks, microbial contamination could no longer be detected in the system.


## Dates

- **Machine Expo Brünn**

1<sup>st</sup> to 5<sup>th</sup> October 2007, Brünn/ Czech Republic

-  **aquanaile 2007**

31<sup>st</sup> October to 3<sup>rd</sup> November 2007, Cologne  
Hall 10.1, aisle C, booth 039

-  **Productronica 2007**

13<sup>th</sup> to 16<sup>th</sup> November 2007, Munich  
Hall B4, booth 325

-  **Brau Bevale**

14<sup>th</sup> to 16<sup>th</sup> November 2007, Nürnberg  
Hall 4, booth 4-237

- **Saarlander Legionellentag**

22<sup>nd</sup> November 2007, Saarbrücken

- **Metering Technology Workshop**

27<sup>th</sup> to 29<sup>th</sup> November 2007, Wedemark

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