



// DILUTION STATIONS  
FOR AGGRESSIVE MEDIA

// PARTNERSHIP TRAINING

// RELOCATION OF  
LUTZ-JESCO  
EAST ASIA

## ELIMINATION OF ODOURS AT WASTE WATER PUMPING STATIONS

**LUTZ-JESCO DOSING TECHNOLOGY SUPPLIES FRESH AIR**

Due to the oversizing of some waste water plants and the quantity of waste water becoming constantly lower, some existing plants are operating in partial capacity, only, some have also been reduced in size. Pump stations have to be set up in order to over-

come the long piping routes which can total lengths of 100 km. Longer retention times, caused by slower flow speeds and less waste water, cause at times stagnation in certain sections. Longer retention times of the waste water and also higher ambient tem-

peratures, in particular during the summer months, can result in the formation of hydrogen sulfide in anaerobic conditions due to the biogenous breakdown of the sulphurous organic and inorganic contents in the waste water.

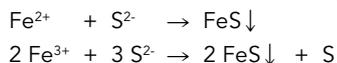
As it is well known hydrogen sulfide is a colourless highly poisonous gas with the typical smell of rotten eggs. The odour threshold lies at approx. 0.15 mg/m<sup>3</sup> air (0.1 ppm). Life threatening effects can start at a concentration of 450 mg/m<sup>3</sup> (300 ppm). The danger is not recognized because the human sense of smell no longer registers such high concentrations, hence it is not perceived any longer as bad odour. There is the additional problem that the concrete and metal on the piping can corrode as a result of the effect of hydrogen sulfide and sulfate.

Odour trouble from hydrogen sulfide are primarily determined in the area directly surrounding the main sewers and waste water pumping plants.

### ODOUR FREE ZONE

In order to prevent the particularly disturbing smell in e.g. inhabited areas, the company Peter W. Thielemann, from Ham-

burg, offers a solution to this problem: a precipitation of hydrogen sulfide with iron salts as a sulfide of low solubility.



An iron sulfide of low solubility develops with the reactions, which leads to the solute sulfide developing into sludge. As an additional positive effect, the ratio of iron for the subsequent waste water is increased, whereby a part of the coagulant is available for the phosphate precipitation. The sludge containing the nutrient is sedimented and filtered in the purification plant and eventually sold as fertilizer.

The mobile "5 feed" storage and dosing container "PWT 5.9" for the dosing stations, which were developed by the Thielemann company, are certified under the Water Resources Act. They are built by the Anlagentechnik Thiel company from Wasbek. The Thielemann company uses the sturdy and reliable dosing technology from Lutz-Jesco to dose the iron salt solution. The process uses motor driven diaphragm



Dosing-container PWT 5.9 with Lutz-Jesco dosing technology



dosing pumps from the MEM-DOS series, solenoid-driven diaphragm dosing pumps from the MAGDOS series as well as the extensive selection of accessories from the company Lutz-Jesco. Furthermore the Thielemann company has developed an innovative control system with operating software for the operator (PWT-Control System).

Thanks to the design of the container it is flexible to use. It can be quickly set up at the locations where the odour is to be removed by hydrogen sulfide, as for example in conjunction with existing ventilation systems. The use of the dosing container pays off with the savings it generates and the additional uses – advantages it creates. //

## LATEST GENERATION OF VACUUM REGULATORS

### COMPLETELY SAFE WITH THE C 2213 AND C 2214



Vacuum regulators C 2213 and C 2214

Safe and reliable purification is particularly important for swimming pool applications. With gas driven installations, the danger that arises from leakages can be

significantly reduced with the use of piping systems in negative pressure. When the piping system works with negative pressure, possible leakages immediately interrupt the flow of the medium.

The C 2213 and C 2214 vacuum regulators developed by Lutz-Jesco fulfill this safety requirement and are attached directly on to bottles or piping that are under pressure, in order to allow the gas to proceed in the piping system only under vacuum conditions.

The C 2213 and C 2214 can be used for the constant withdrawal of chlorine gas, hydrogen chloride, carbon dioxide, ammonia or sulfur dioxide. The various connections for gas tanks and piping systems, a

manometer on the pressure side, a flow restrictor and a residual pressure locking device make the vacuum regulators very versatile in their use.

With a through-put rate of up to 10 kg Cl<sub>2</sub>/h the C 2213 is designed both for cylinder banks for parallel withdrawal and also for classic single bottle plants. A safety pressure relief valve that is integrated in the C 2214 prevents the inadmissible increase of pressure in the subsequent vacuum piping system. The quantity of gas dosed can be adjusted for ideal conditions with a dosing valve and a flow meter in the C 2214.

Apart from meeting the highest safety standards, the vacuum regulators guarantee a long service life thanks to the high quality and chemically resistant materials from which they are made. //

# DILUTION STATIONS FOR AGGRESSIVE MEDIA

## LUTZ-JESCO DOSING STATIONS FOR HIGHLY CONCENTRATED SUBSTANCES



**Semi-automatic ammonia dilution station**

If liquids are dosed when they are diluted, it usually involves particularly aggressive, corrosive or health endangering media. Apart from polymers, examples are hydrazine and ammonia liquor. Before they are used, the liquids are reduced to a less dangerous concentration or to one that is specific for its intended use. Both substances are mainly used in power stations or other steam systems.

For a long time hydrazine ( $N_2H_4$ ) was deemed to be a good inhibitor against corrosion. Due to its characteristics (reduces oxygen with the simultaneous rise of the pH value) hydrazine works against the two main factors for the formation of rust. Another advantage is that with the usage of hydrazine, water and nitrogen are the only secondary products that develop. Furthermore hydrazine is a so-called hypergolic rocket fuel, i.e. it reacts with a corresponding oxidizer without the supply of energy from an ignition or spark. The use of hydrazine as a steam additive is significantly restricted as it is classified as a carcinogenic substance.

When ammonia is dissolved in water it produces ammonia liquor ( $NH_4OH$ ), in industry terms and in laboratories also sim-

ply called ammonia. In the household it is well-known as salmiac. Although the smell is highly unpleasant, it is often used as a cleaning agent, especially against mould. Even wasps avoid the stench and by placing a glass of ammonia under their nest they will be almost sure to leave. The maximum solution capacity of ammonia in water amounts to 32 %. It is very corrosive at this concentration and is therefore mainly diluted to below 10 % before use. One of its main uses is also its alkaline effect in steam and condensation pipelines. Due to its vapour pressure it is one of the few alkalis media that is also effective in the vapour phase.

It is possible, thanks to the dosing technology of Lutz-Jesco, to dilute such highly concentrated substances quickly and simply. The ammonia solution is, for example, pumped from a supply unit via a suction line with vapour return and over a motor driven MINIDOS diaphragm dosing pump until it reaches a dosing device. Water is simultaneously fed into the storage container via a water dilution connection. The air displaced therein travels to the outside through the activated carbon filter or a vent pipe. The quantity calculated for the desired concentration is measured on the scaling sintered in the storage container and dispensed via a manual ball valve into the dilution container. The mixture is homogenized with a manual agitator and finally dosed into the system with a MAGDOS DX magnetic dosing pump. The MAGDOS can be controlled in proportion to quantity by using a standard signal or with a continuously adjustable natural frequency. Either way, a safety valve should



**There is the option of inserting a snubber to even out the fluctuations in pressure**

be installed to ensure the safety of the pressure line. The entire system sits on a PE collection tray with WHG marks of compliance.

## HELAMIN DOSING STATIONS

There are further products from different suppliers used for conditioning water, especially in the power station sector. That is why we built some dilution dosing stations, for example, for the HELAMIN company. The operation sequence resembles



**HELAMIN dosing station**

that of the ammonia dilution. The only difference is lays in the construction; both membrane dosing pumps are housed in a separate wall mounted casing. By default, the dosing consoles have a removable perspex cover which not only gives the operator protection from potential spray but also offers protection for the pumps and peripheral devices against dust and dirt. Only as much solution as needed is prepared for further dosing. The MAGDOS LT then extracts the solution from the dosing container until it is empty. It disconnects when there is a minimum contact in the suction line. At longer downtimes it can alternatively be rinsed out with pure water. The MAGDOS LT creates back pressures of up to 16 bar and is therefore also suitable for hotter steam systems. Motor driven diaphragm dosing pumps from the MIDIDOS series are used as transfer pumps. With their unusual design (the motor is mounted at the bottom) these pumps are very economically priced and are sturdy dosing pumps for simple use. //

## TRAINING PARTNERSHIP IN WEDEMARK

„THE ECONOMY NEEDS NEW BLOOD – KEYS TO SUCCESS FOR LOW QUALIFIED LABOUR“

On the initiative from Ulrich Grösch, managing director of the vehicle parts service centre Mellendorf GmbH (FS-ZM), the idea of a training site group in Spring 2005 together with the promotion of the economic development in the Wedemark community was born. In October 2005 interested companies expressed their readiness to take part in such a work-group and with the support of the Konrad-Adenauer school the first two participants were able to accept a training contract on the 1st September 2006. Besides FS-ZM GmbH and Lutz-Jesco the training group includes the Georg Ebeling Spedition GmbH, Fresh Breeze GmbH & Co.KG, Hensel Zimmertürenfabrik GmbH, Mercedes-Benz, Niederlassung Hannover, Wedemark's learning centers and the promotion of economic development in the Wedemark community.

The trainees (skilled workers for warehousing logistics) carry out their training for specific, agreed upon periods by the partners, in the respective companies that

belong to the group. They receive additional training at a learning centre for the theoretical aspects of the training. Since 2006 six high school students have taken part in the training and so far nobody has dropped out. All trainees should be employed after the completion of their training.

The project was initiated because of the great demand for new personnel in warehousing management. At the same time, the companies involved see the initiative as being part of their overall social responsibility. The project is exclusively self-financed.

### HANNOVER PRIZE 2008

In the middle of November the business network: "Training partnership in Wedemark" was awarded the Hannover prize 2008 by the business community Hannover e.V.. The prize allocates a total of 8,000 euros and gives exemplary concepts for the integration of low qualified labour



into the work process. Christian Wulff, Prime Minister of Lower Saxony is the patron. The prizes are handed over by the Minister of Economic Affairs of Lower Saxony, Walter Hirche. The model character is hereby high: the idea of the training group can be taken on by other companies and is transferable to different occupational profiles. //

## A NEW YEAR – A NEW BEGINNING

LUTZ-JESCO EAST ASIA HAS MOVED INTO ITS NEW PREMISES

On the 2nd of January this year, Lutz-Jesco East Asia Sdn Bhd, the Malaysian subsidiary of Lutz-Jesco GmbH, not only has had its first work day of the year 2009, but also the first work day in a new office space.

Until now Lutz-Jesco East Asia had been using the premises of another company. Due to its expansion of activities and the increase in personnel to six people it was imperative that they found their own premises. After a quick and complex renovation

just before Christmas the employees could not only use new office and meeting areas, but finally also stockrooms including a work station, which would also



serve as a training area for clients. In addition they set up a reception area with a



showroom attached, where visitors to Lutz-Jesco are shown our products.

We wish the team every success in their new premises. //

### CONVENTION AND EXHIBITION DATES

+ WASSER BERLIN 2009, 30.03. – 03.04.09, Berlin

+ ACHEMA 2009, 11.05. – 15.05.09, Frankfurt/Main

+ DVGW Jubiläumskongress, 22.09 – 23.09.09, Leipzig

+ Aquanale 2009, 28.10. – 31.10.09, Cologne



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