



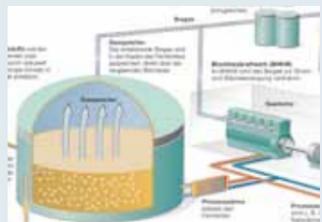
AERZEN

COMOPRESS

CUSTOMER JOURNAL OF AERZENER MASCHINENFABRIK.

EDITION 1 | 2013

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Rotary Lobe Compressors instead of Surface Aerators New concept for waste water treatment



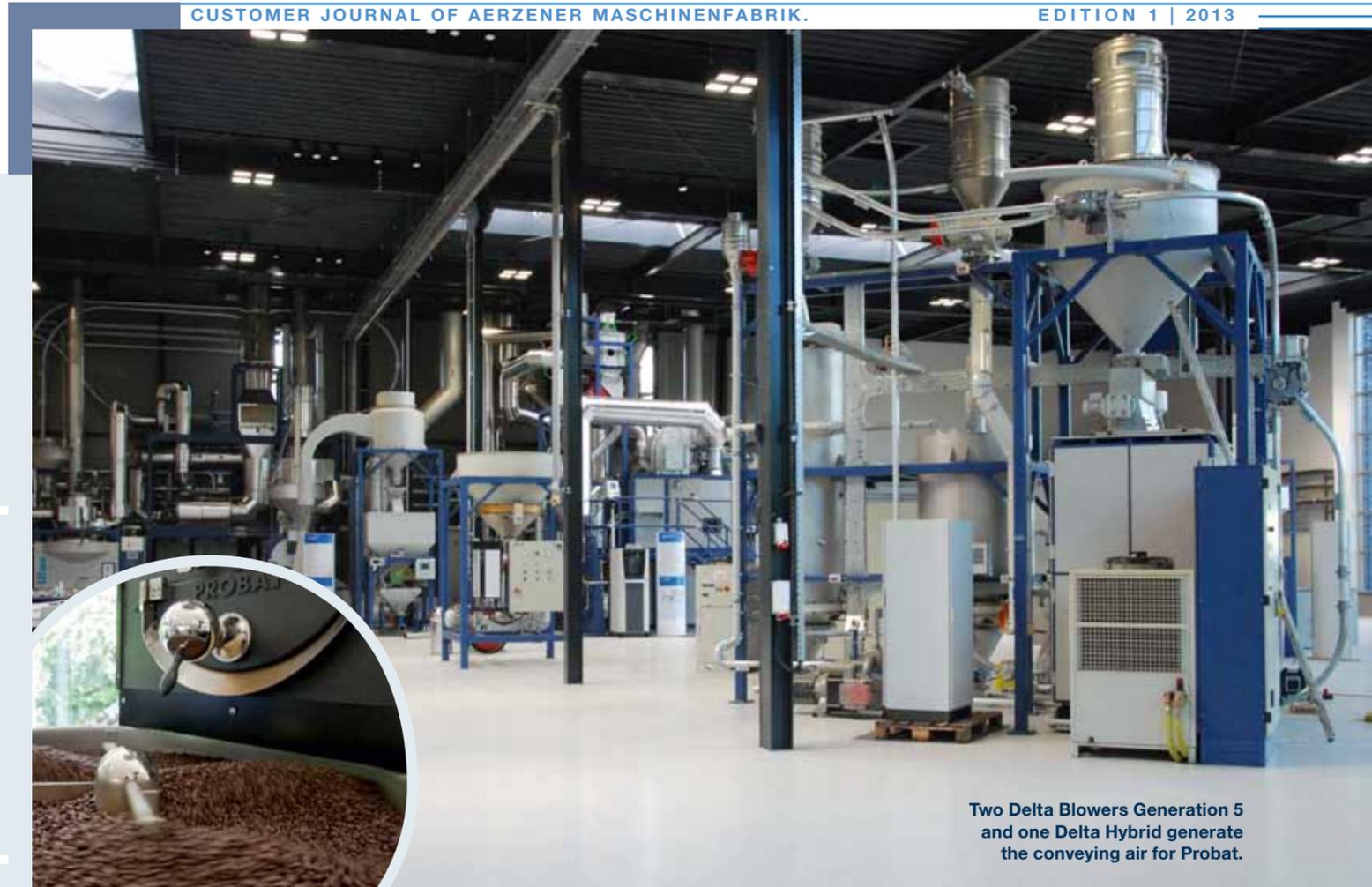
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Two Delta Blowers Generation 5 and one Delta Hybrid generate the conveying air for Probat.

Hybrid meets Hybrid – for purest coffee enjoyment

Oilfree conveying air in coffee roasting equipments

From storage of the green coffee up to packaging machine: the roast machine manufacturer Probat in Emmerich relies on Delta Blowers and Delta Hybrids for the pneumatic conveyance of the black gold.

Since its foundation in 1868 the Probat-Werke has concentrated with more than 600 employees worldwide on roasting machines and equipments for coffee and food industry. Until today, the world market leader has sold more than 110,000 roasting machines – from manual global roaster via fully automatic largescale roasters up to the new tangential roaster Jupiter Hybrid with which the most diverse roasting profiles can be prepared in one roasting machine.

For transport of the coffee, Probat prefers the pneumatic conveyance. As the conveying air is in direct contact with the product, it has to be absolutely oilfree. For production of the conveying air as over- or negative pressure, Probat has used Aerzen units since 1996.

For over- and negative pressure

In September 2012, Probat opened a new Research – and Technology Centre. There, the conveying air required in the roasting machines is generated by two Delta Blowers Generation 5 and one Delta Hybrid. Upon storage of the green coffee into silos with overpressure between 1,000 and

2,000 mbar, the Delta Blower is used, also during transport to the roasting machine with overpressure.

The Delta Hybrid is responsible for transport of the particularly sensitively roasted beans to the roasted coffeesilos and to bagging station with negative pressure as well as for transport to grinding plant with overpressure. The Delta Hybrid unit generates a negative pressure of 300 mbar on suction side as well as an overpressure of 600 mbar on discharge side. Therefore, a conventional blower unit could be replaced acc. to the principle “Two become one”.

Again, two Delta Blowers transport the ground coffee to the ground coffee silos and to the packaging machines with negative pressure. As an alternative, however, also Delta Hybrids can be used. The required differential pressure is decisive for the selection dependent on the piping length and the specific energy advantages of the Hybrid.

Close co-operation

All Aerzen units are fully automatically integrated in the process of the roasting equipment and are switched via a super-



Michael Engels, Plant Engineer Probat:

»Since 1996 we have collaborated with Aerzener Maschinenfabrik, as products, advice and service completely fulfill our expectations. Therefore, redundancy units are no

longer necessary for Aerzen units in our roasting equipments.«

ordinated intelligent SPS control depending on the program. The respective blower units are driven with a constant volume flow whereby the pressure is built up depending on conveying capacity and pipe length. Thanks to a bypass solution, Aerzen had developed together with Probat, a part of the volume flow can be led back from discharge to suction side for the overpressure units.

All units are supplied with country-specific documents and in operator-specific designs up to special colourings.

Delta Hybrid and Jupiter Hybrid

Aerzener Maschinenfabrik and Probat are a perfect match: for reasons of their foundation and the Hybrid, that both companies have within their scope of supply, now “A good omen for a successful future for both sides”, comments Michael Engels of Probat. ○

Dear Readers,

“Standing still is moving backwards!” Again in 2013 this will be a key message, but also a challenge for Aerzener Maschinenfabrik. With the Business Unit Biogas we take account of the increasing importance of this market and will be able in future to offer for a variety of applications solutions “from a single source”, i.e.

even more application-oriented than before. Also, as far as general organisational conditions are concerned, a lot is happening at Aerzener Maschinenfabrik: Besides the start of the SAP programme in the middle of this year, the new administration building is nearing completion and this will take into account the continuing growth of our company.

For “COMVAC”, as one of our most important trade fairs in the compressed air segment, we are anticipating exciting discussions concerning innovations and appreciate your involvement. We look forward to welcoming you!

Please enjoy reading this latest edition of Aerzen COM.PRESS!

Yours



Rainer Lübbecke, Head of Process Gas Division



The readers of a Polish specialist journal had been convinced by the energy efficiency of Delta Hybrid.

Poland voted Delta Hybrid "Product of the Year"

The Polish specialist journal "Ulryzanie Ruchu" (Ger. plant engineering) has voted Aerzen rotary piston compressor Delta Hybrid "Product of the Year 2012" in Poland. In the first phase, a jury of four had assessed all the submitted products. Then, in the second phase, the readers of the print and online edition decided on the awarding of the coveted title. This positive assessment of Delta Hybrid was primarily due to its energy efficiency.

On 20th March representatives of Aerzen subsidiary in Poland accepted the award on the fair AUTOMATICON in Warsaw.



The Product of the Year is awarded with this logo.

New Managing Director at Aerzen do Brazil

Rainer von Siegert has become the new Managing Director of the Brazilian subsidiary, Aerzen do Brazil, as of 1st January 2013. Von Siegert has been working for the Aerzen Group since August 2012, when he assumed the MD role on a temporary basis following a sudden change in management at the Brazilian subsidiary.



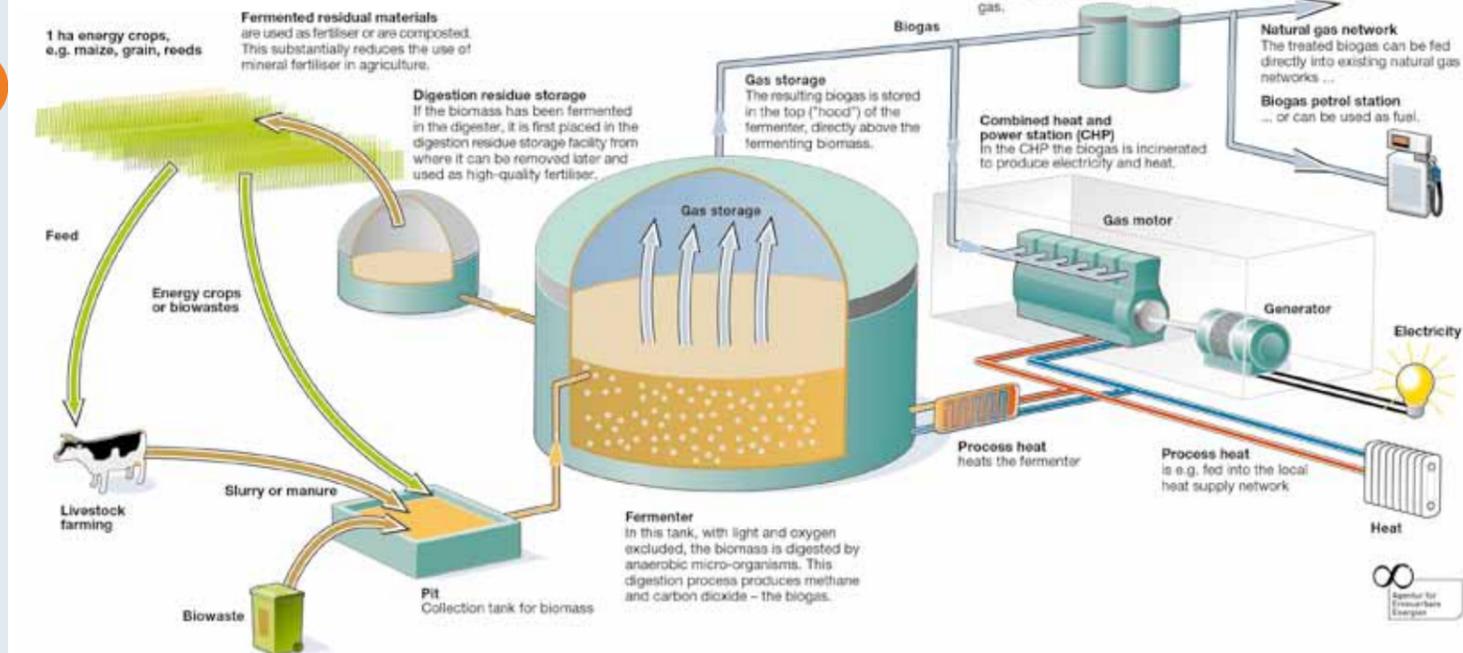
Rainer von Siegert

New Managing Director at Aerzen Switzerland

Marcel Strotz will take over the management of Aerzen Switzerland as of 1st April 2013. Strotz, who has been working at Aerezener Maschinenfabrik since December 2012, will replace longtime Managing Director, Vito Jahn, who is retiring after many years of loyal service.



Marcel Strotz



Schematic diagram of a biogas plant

Aerzen Biogas solutions

From biogas treatment to feeding of biomethane

With the establishment of the "Business Unit Biogas" in mid-2012, Aerezener Maschinenfabrik has taken a new path, in order to better serve a steadily increasing group of clients, by taking care of the projects of the biogas treatment resp. feeding.

Due to the wide range of blower and compressor designs, Aerezener Maschinenfabrik occupies a special position in the market. Regardless of whether it's in oil-free compressing or in oil-injection, Aerzen always offers the best solution for the corresponding treatment process, as well as for individual customer requests.

"We always prefer direct contact with our customers, as this is the only way to get to know the necessary details, in order to modify the compressors and blowers. For customers, the following question always has priority: Do Aerzen machines fit in our process?", explains Axel Cichon, Manager of the Business Unit Biogas. "In addition, it is mandatory to stipulate the compressor and blower material being used under

consideration of the corrosive components in the Biogas and Aerzen scope of delivery, with possible supply provided by the customer, as well as to clarify the interfaces and the integration in the customer's system."

Optimal conditions:

Thanks to our intensive know-how and years of experience in respect of compression of process gases of all types, Aerezener Maschinenfabrik may benefit from all this within the various procedures and application areas. In addition, the application of biogas is also gaining in importance at an international level, and German plant manufacturers also supply their machines and processes abroad. Thanks to our 40 companies worldwide Aerezener Maschinenfabrik is strongly placed to support the customers

fully both at home and abroad and to coordinate services as necessary.

Uncompromising quality

There is a constant exchange of information between Aerzen companies and headquarters in regard to new markets and local features. Many sets of rules, especially in the area of machine safety, are interpreted and weighted differently outside the EU. "In matters concerning safety, we are not prepared to make any compromises", assures Cichon. "Aerzen represents the highest quality and the safest products, which are fully compliant with the relevant legal regulations such as machinery directives, ATEX and other rules. All these facts are greatly appreciated by our customers worldwide." ○



Bernd Wöhlken, Gabriel Ventosa and a representative of the Mexican Chamber of Commerce (from left) at the official opening of Aerzen Mexico.

Aerzen Mexico

10th Anniversary celebrations

Aerzen Mexico had two reasons to celebrate at the end of last year: the subsidiary celebrated its 10th anniversary, and at the same time inaugurated its new building.

The repair and office areas now occupy about 1,600 square metres in total - about three times more than before the move, which took place in September 2011. The Delta Blower Generation 5 will be produced here to shorten delivery times and to optimise the logistics.

The guests entered the new building accompanied by Mexican folk music.

Aerzen Mexico's General Manager, Gabriel Ventosa, General Manager Bernd Wöhlken, and the Regional Manager for North America, Stephan Brand, welcomed the visitors. A presentation of the Aerzen product programme followed, and a live presentation of the Delta Hybrid was given on the roadshow truck. Finally, all of the guests had lunch together. ○



The team of Aerzen Mexico

Around 40 guests and business partners attended a celebration to mark the 10th anniversary and the official opening of Aerzen Mexico on 29th November 2012. Besides the anniversary of the subsidiary and the official opening of the new building there was another reason to celebrate for the team at Metepec: the certification according to the quality standard ISO 9001.

VM45 G5-E and VML60 G5-E

Delta Screw now even more energy-efficient

A compressor concept, well-proven over many years, shows that it is still more than capable of meeting modern requirements. The result: an oil-free compressor which sets new standards in energy efficiency and reliability.

With VM45 G5-E and VML 60 G5-E, two types of the new Delta Screw-series are available. Depending on the pressure ratio or volume flow they can offer energy savings of up to 6 per cent.

This energy-saving capability was achieved through numerous constructive additional developments. The air to be compressed is fed in via a separate inlet channel, which improves the specific capacity of the unit considerably. In addition, optimised flow channels and a new flow-technically improved silencer free of absorption material on the discharge side, minimise the pressure losses significantly. This vertically arranged five-chamber reactive silencer is the result of years of research by the Aerzen development team. A patent has been applied for. Moreover, by using two compensators, the system is also 100 per cent stress-free.

Instead of a mechanically-driven acoustic hood fan, an electrical fan is used. This

can be positioned particularly efficiently, can be controlled temperature-dependent, can if necessary be operated in run-down, and is thus designed to be energy-saving. The cooling air for the oil cooler is also now fed in directly from the outside via an inlet channel - a detail which also improves the economy of a compressor. Further revised types of the Delta Screw series will follow, step-by-step. ○



Delta Screw experienced a constructive further development.

Improved performance: Delta Hybrid D 98 V

The requirements for Aerzen machines increase continually – this is due to the constantly increasing fields of application. Aerzener Maschinenfabrik received an order to design a Delta Hybrid-stage which can be used in negative pressure up to -900 mbar. Aerzen met the challenge and developed the Delta Hybrid D 98 V. In this case the “V” stands for “Vacuum”. The design has been completed and the first field tests will start shortly. In particular, the stage can be used in both stationary as well as in mobile areas. Another advantage, particularly for vehicle manufacturers, is the weight-performance ratio. In the past, a screw compressor or a blower with pre-inlet could be used for a negative pressure of -900 mbar. With the Delta Hybrid D 98 V a negative pressure up to -900 mbar as well as an overpressure of 1.500 mbar at a volume flow up to 5.400 m³/h can be realized. This means that, Delta Hybrid D 98 V combines the advantages of the blower with pre-inlet and those of the screw compressor – with a low space requirement.



The D 98 V stage can be used for a negative pressure up to -900 mbar.

Aerzen VMW-packed units

Innovative oil-free Air Compressors

Thanks to the new series VMW, AERZEN SYSTEMS offers an alternative technology in regard to dry-compressing or oil-injected compressors: Water is injected in a single stage compressor for cooling and lubrication of the screw rotors.

The application of absolutely clean compressed air is mandatory for many sectors. Even slight contaminations in the smallest ppm-range may make the final product unusable, such as food, pharmaceutical products or electronic components or may lead to surface defects, e.g. during painting. In this sector, traditionally, two-stage dry-compressing screw compressors are applied. However, these require a large amount of engineering efforts. Standard oil-injected compressors with a variety of filters switched in series cannot be considered as solution due to the risk of oil breakthrough.

Closed water cycle

Regarding the innovative series VMW with single stage compressor, the injected water destined for the cooling and lubrication of the screw rotors is then extracted again from the air by means of a separator and an integrated dryer (dew point + 3 °C). Therefore, only absolutely clean water is used, i.e. condensate. Due to the excellent thermal absorption rate of the water, this process is very efficient. The reliable

functionality of this design is proved by the certification issued by the laboratory FRESSENIUS with a class 0-certification for the oil-free unit.

Efficient and varied

All types of series VMW, including air- and water-cooled machines are provided with

speed controls for the efficient, consumption-oriented compressed air generation. Modern control systems ensure a trouble-free interaction of several machines and accessory components. ○



The VMW-series exclusively works with absolutely clean water.

New Aerzen subsidiary in Taiwan

On 1st January 2013 Aerzener Maschinenfabrik established a new subsidiary in Taiwan. All orders and financial transactions of Aerzen Asia Singapore - Taiwan Representative Office, so the entity's official name, are settled through Aerzen Asia Pte. Ltd. in Singapore which is the 100 per cent owner of the new entity. A new country manager is now located in Taipei - he replaces C.C. Lin of Tiphery Corp. who has coordinated business in Taiwan for Aerzener Maschinenfabrik for the past 20 years. With the establishment of this new entity, Aerzen will significantly strengthen its presence in Taiwan.



TRADE FAIR SPECIAL

Water-Injected Compressor Series Expands

For generating absolutely oil-free compressed air, Aerzener Maschinenfabrik has developed the new VMW-water stage. New, single stage VMW water stages working up to 13 bar have already been tested successfully under practical conditions and in continuous hard operation. Besides considerably improved efficiency they also offer significantly reduced maintenance expenditure, and are available for the time being for driving capacities of 45 to 110 kilowatts, and for maximum intake volume flows of between 13.4 and 17.2 cubic metres per minute. The new Aerzen VMW-water stages were designed exclusively for directly drive. They work at speeds of 1,500 to 5,000 rotations per minute and can be used in plants with constant speed as well as in demand-controlled plants.



Water instead of oil.

Exhibition dates

In 2013 Aerzener Maschinenfabrik, its sales companies and representatives will once again participate in fairs and trade exhibitions worldwide of a number of different industries.

Milling Machinery Exhibition, Istanbul/Turkey	4th–7th April 2013
ComVac, Hanover/Germany	8th–12th April 2013
PowTech, Nuremberg/Germany	23rd–25th April 2013
Wasser Berlin Int., Berlin/Germany	23rd–26th April 2013
Maintenance, Stuttgart/Germany	24th/25th April 2013
IFAT China, Shanghai/China	May 2013
Targi, Katowice/Poland	10th–13th September 2013
2. Praktiker Tagung „Schüttgüter“ (bulk material), Dortmund/Germany	17th–18th September 2013
GAT/WAT, Nuremberg/Germany	30th September–2nd October 2013
Sy Mas, Poland	October 2013
Easy Fair Solids, Rotterdam/Netherlands	2nd/3rd October 2013
Weftec, Chicago/USA	5th–9th October 2013
K, Düsseldorf /Germany	16th–23rd October 2013
Aquarama, Belgium	Autumn 2013
Pollutec, Paris/France	3rd–6th December 2013

TRADE
FAIR
SPECIAL



The open doors on the long side of the oxygen-container provide a view of the three Aerzen Delta Hybrid machines.

New concept for waste water treatment at PCK

Rotary Lobe Compressors instead of Surface Aerators

PCK refinery converted its aeration basin with a size of 2,000 cubic metres from surface aeration by means of surface aerators to areatype aeration on the ground of the basin. In the pilot project, a new container station with three Aerzen rotary lobe compressors series Delta Hybrid makes available the required oxygen.

PCK in Schwedt/Oder, 100 kilometres north-east of Berlin, is one of the biggest refineries in Germany and one of the top refineries in Europe. With its 1,150 employees it processes every year up to twelve million tons of crude oil and is the most important supplier of fuel in Berlin and Brandenburg. Every plane starting in Berlin flies and every tenth car in Germany runs with fuel from Schwedt.

Focussed on energy and environmental protection

For PCK compliance with highest safety standards is obligation same as environmental protection. With its latest investment into the inhouse waste water treatment PCK intends to achieve several targets: A new aeration system on aeration basin 3 is intended to increase the efficiency and the profitability of the water treatment sustainably, to increase the water temperature, to improve the activity of the bacteria in particular during winter months, and finally reduce the development of odour considerably.

The waste water cleaning plant works in accordance with the biological principle. In the four aeration basins working in parallel the pre-purified water is treated by means of bacteria. In order to ensure intensive work and sufficient reproduction of the bacteria the basins with a depth of about six metres had been supplied with oxygen by means of surface aerators since the 1970s. Intensive swirling of the water surface however involves disadvantages such development of noise and odour, unevenly distributed oxygen contents inside the basin as well as cooling down of the water.

Aeration from the bottom instead of from the top

To eliminate these disadvantages first of all in aeration basin 3 a new aeration system was realised and commissioned in October 2012. About 150 to 250 cubic metres of

Enrico Schmotlach,
waste water specialist PCK Schwedt
„If the new oxygen concept proves itself, we will also modify our remaining three aeration basins.“

waste water are fed into the basin every hour. Now the basin is no longer aerated from the top but from the bottom by means of nozzle pipes on the ground of the basin. The oxygen required is supplied by three Delta Hybrid machines. PCK-waste water specialist Enrico Schmotlach is expecting substantial advantages from the new technology:

- lower energy costs due to constant adherence to the oxygen setpoint value;
- generation of oxygen depending on requirements for optimal conditions of the bacteria;
- particularly effective and uniform aeration of the entire contents of the basin due to a constant pressure of 480 mbar in the main pipe;
- reduced discharge of odour-intensive components due to a calm surface;
- especially in winter less loss of heat and reduced inclusion of cold due to a calm waste water surface;
- considerably improved conditions for the bacteria due to increased temperature inside the basin;
- noise reduction to maximum 70 dB(A).

Oxygen from the container

The new oxygen concept was installed in accordance with the stipulations of the extensive functional specification in close proximity to aeration basin 3 in an accessible special container with a length of about seven metres, the longitudinal wall of which can be opened by means of two folding doors. Three closable openings inside the roof make it possible to assemble and disassemble larger components without any problems. A sound-absorbing internal lining of 100 mm thickness and additional sound absorbing inlet and ex-



Each rotary lobe compressor can be switched on and off individually from the outside via emergency off switches at the head of the container.

haust air channels at the two front sides reduce the sound pressure level outside the container to the values as required by the operator. Two thermostat-controlled exhaust air fans guarantee an indoor temperature of maximum 20 °C above outdoor temperature.

The three installed Delta Hybrid machines type D 62 S with a motor rating of 90 kW, 500 V, have been designed for an operating pressure of 700 mbar. Two units are operated speed-controlled via frequency converter (delivery spectrum 18 to 59 m³/min). One unit works with fixed speed and constant delivery quantity of 59 m³/min.

The compressed air leaves the units at ambient temperatures of 30 °C with a temperature of 100 °C and at 0 °C with approx. 70 °C. It cools down on the way to the aeration basin, but even at cold winter temperatures it is fed in the basin with temperatures significantly above 0 °C. The three units can be switched on and off via external master switches. The provided frequency converters of the two controlled units were installed in an adjacent building. The container was equipped in Aerzen in accordance with the stipulations of the functional specification and the special requests of divisions ETA (electrotechnology, drives) and MSR (measurement and control technology), completely piped and wired, transported to Schwedt by means of a flatbed lorry and then installed on a prepared foundation plate by means of a crane. Having connected the electrical cables and compressed air pipe the station was immediately ready for operation. It is run via the central control room which can also intervene directly into the processes of the station.

Practical experience will bring the definite concept

“With this new concept for generating oxygen we have entered new areas”, explains Schmotlach. “For the time being we will gather experiences and find out whether a compressor with regulation can meet the requirement, or whether we have to operate in addition a unit without regulation as base load generator or two compressors with regulation. We have sufficient redundancy in any case.” ○

Investments at home and abroad

Aerzen Further Expands Its Infrastructure

In spite of the sluggish economy Aerzener Maschinenfabrik is adhering to vision 2020 and pressing ahead with the development of its infrastructure.

At present the most eye-catching investment at the location Aerzen is the construction of a new administration building with usable space of about 2,000 square metres. The new foyer, designed as an atrium, is meanwhile taking shape. According to current plans, colleagues will be able to move into the new building in June.

A second construction phase will begin in spring 2014. Arranged over three floors, a further 1,500 square metres of usable space will be built, allowing Aerzener Maschinenfabrik to manage space requirements arising from the considerable growth of the Aerzen group of companies.

Furthermore, for optimisation of the activities of the in-house logistics division, a new logistics centre is planned which will have an area covering 6,000 square metres. This involves an investment of 5 million and will be ready for use in mid 2014.

New vertical machining centre

Aerzen is also investing in technology. For example, at the end of last year the production division received a new vertical machining centre series Unisign 6 made by Unisign, with which side plates for blower stages can be machined. Thanks to "pendulum machining" the ultra-modern

machine is extremely flexible: while one station is being loaded, parts are already manufactured in the second one. A change of tools on the new machine can be done in only nine seconds. So an efficiency level of more than 90 per cent can be achieved on the Unisign 6.

On course internationally

Investments are also being made abroad. In China, a completely new company building is being built, offering, among other things, space for a parts production division and an assembly division, as well as a local purchasing division. The building project involves an investment of 6 million and work will start in April 2013.

With these investments Aerzener Maschinenfabrik is laying the foundations for an outstanding anniversary year in 2014 and preparing for future challenges. ○



The new vertical machining centre Unisign 6



In China a new company building is being built.

Aerzener Maschinenfabrik is a Trusted Partner

In the middle of last year Aerzener Maschinenfabrik gained the so-called AEO-certificate ("Authorised Economic Operator")



and was thus confirmed as a highly trusted trading partner within the European Union. The advantages of gaining this certification include fewer goods controls and accelerated customs procedures.

Since 1st July an agreement has come into force between the U.S. and the EU, which simplifies imports and exports considerably. Consequently, the U.S. and the EU will mutually recognise their authorised economic operators - with "C-TPAT" in the U.S. which corresponds with "AEO" in Europe. Companies will benefit from quicker inspections and lower costs in respect of customs clearance.



size D 152

Delta Hybrid D 152 in field testing

The extension of the series Delta Hybrid range of products is progressing: in the meantime, the development of the next size D 152 has been completed. This machine can be used with negative pressure up to -700 mbar and with positive pressure up to 1,500 mbar at a volume flow of up to 9,000 m³/h. The first machines D 152 S and D 152 H for field testing have already been supplied and commissioned. Field testing will continue until the end of this year. Supply of the first serial machines D 152 S and D 152 H is scheduled for early 2014.

Aerzen Spare Parts Kits

Always a Suitable Spare Part at Hand

Aerzener Maschinenfabrik has been offering spare parts kits for maintenance tasks in the German market for several months.

Repairs need not be costly - particularly in case of older machines. The Aerzen spare parts kits are a well-priced alternative to the purchase of individual spare parts, or their purchase on the secondary market, as the safety of the Aerzen brand and the proven quality come free of charge.

Instead of searching in bills of materials for suitable parts and perhaps forgetting an important spare part, customers can now rely entirely on the experience of Aerzener Maschinenfabrik. The spare parts kits are arranged properly

and include exactly the parts needed for maintenance or for repairs due. So they make an important contribution to a long service life for the machine, and purchases for maintenance tasks can be handled from one source throughout the entire product life cycle.

Another advantage: the kits are less expensive than individual parts purchases and of course are of original equipment quality.

The spare parts kits are available for three-lobe blower series of types GM 3S up to GM 315L.



The spare parts kits are assorted carefully.

Kits for Delta Hybrid and further series, as well as worldwide availability, will follow. ○

www.aerzen.com

New sales engineer for the Asia-Pacific region

In November 2012, Axel Wehling became the new sales engineer for the Asia-Pacific region. His main responsibility, together with Regional Manager, Chuck Lim, is to expand Aerzen's business across the region. As a graduate in technical business administration, and from



Axel Wehling

his time working in the capital goods industry, Wehling has international experience in projects involving multiphase positive displacement pumps and systems in the oil and gas sector.

Questions, Suggestions, Ideas?

We are looking forward to all your queries, comments and suggestions on our customer journal and we are at your disposal for further information on Aerzen products and services. Give us a visit on our website:

www.aerzen.com/news

We are looking forward to your feedback.



The certificate for Aerzen Mexico

ISO-Certificate for Aerzen Mexico

At the end of December 2012 Aerzen Mexico was certified in accordance with ISO 9001-2008. Sales, after-sales and maintenance of blowers, compressors and gas meters all comply with the quality management standard. The certificate is valid until the end of 2015.

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Energy-efficient process air-production

Turbo Blowers Share the Load

Thanks to two new Aerzen Turbo Blowers an industrial sewage treatment plant now works with highest energy efficiency in the Netherlands – inspite of the large capacity utilisation bandwidth from 50 up to 100 percent.



As soon as the oxygen content drops below a set-point value process air is generated.



Turbo blower for the base load

Between beginning of August and March the Aerzen customer produces approx. 9.000 tons of potato starch per week. With the production of starch as well as during its further processing a lot of waste water accumulates which is immediately prepared in a sewage treatment plant on the company site. In three activated sludge tanks the oxygen content is determined via sensors. In case of falling below the setpoint value, oxygen is fed in and the process air production activated via a pressure sensor.

„Amortized in less than five years“

For more than 20 years the process air-production has been effected at the customer first of all by Aerzen Positive Displacement Blowers Type GMb 16f13 with a max. power of 5.000 Nm³/h each. As the motors could be driven with two speeds, the conditions standstill, 50 and 100 percent were possible. In the meantime two units have been dismantled and replaced by two Aerzen Positive Displacement Blowers of series Delta Blower. “When we then planned the modernisation of our process air-production, we originally wanted to install two new positive displacement blowers of the already existing type GM 90S. However, at that time, Aerzener Maschinenfabrik has recommended to choose two new AT-



The machines made by Aerzener arrange for utmost energy efficiency.

Turbo Blowers and to connect them with the two existing positive displacement blowers”, explains the production engineer. “The results of the calculations convinced us. The investment has already amortized via the energy costs in less than five years.”

Turbo Blowers for base load

Now a new AT-Turbo Blower of Type AT 300-0,8 produces the base load with a max. power of 10.000 Nm³ per hour, a smaller Turbo Blower of type AT 150-0,8, the peak load with a max. power of 5.000 Nm³ per hour. In case of further increasing requirement the two older positive displacement blowers are switched in addition. All units are speed-controlled and driven with a constant pressure of 0,6 bar. “Our waste water-introduction quantity fluctuates significantly depending on production and consequently also the process

air-requirement. Therefore the installed capacity is fully utilised.

“We do not maintain any reserves. In case of emergency an Aerzen rental machine replaces the failed capacity“, assures the production engineer.

The described case of application shows that the process-air-requirement of a sewage treatment plant can be produced with highest possible energy efficiency, especially, if it can be realized with different machine types and power by a design concept. They can be defined as ideal base- and peak load units acc. to their constructive properties. Consequently the physical advantages of a flow machine (high energy efficiency in design point) can be ideally combined with the advantages of positive displacement machines (high controllability and good efficiency also in partial load operation). ○

Jubilee

25th Anniversary of Aerzen Special Products

In 2013 the Dutch company Aerzen Special Products (ASP), located in Duiven, will celebrate an important anniversary: For 25 years they have been a main supplier of Aerzener Maschinenfabrik and its subsidiary companies for spare parts such as oil demisters, AERomat start unloading devices and AERopress and AERovac pressure regulators.

It all began with the production of on-off valves. As a result of regular dialogue with Aerzener Maschinenfabrik, and fol-

lowing some local tailoring at the time, AERomat was introduced - and Messrs. ASP in its present form was established, with Aerzener Maschinenfabrik as its sole customer.

Over the course of time, ASP took over the development or modification and production of further products and will in future also supply external companies. At the beginning of March 2013 the company participated for the first time in the “Maintenance” fair in Brussels. ○



The ASP team celebrating the anniversary together.