



AERZEN COM·PRESS

Faster to customer

Expansion in terms of personnel and technology



Local Compressor Production

Really Indian, completely AERZEN



Positive Displacement Blowers

From atmospheric pressure to vacuum



Dear Readers,



Frank Glöckner,
After Sales Field
Service

This is already the third edition this year of our customer journal AERZEN COM.PRESS which you have in your hands - we are already well into the second half of 2015. The holiday season is over and everyday working life has resumed.

This edition will give you an impression about the events of recent months, about changes within AERZEN group, current projects and technical innovations.

We have made some changes in the After Sales division. In future, six additional AERZEN service technicians will be at your disposal.

Thanks to our new assembly assignment software, Geomap, our assembly assignment management team gets a current overview of existing orders and installation locations of the service technicians. Therefore, upon request, a service technician can be at your operation site - just in time!

Please enjoy reading this latest edition of AERZEN COM.PRESS.

Yours,



Thanks to blower technology made by AERZEN, the water supply and water disposal in megacities of the future is particularly resource-conserving and energy efficient.

Water supply for the city of the future

A research project with AERZEN participation had been given an award

The German-Chinese research project SEMIZENTRAL pursues the goal of improving the quality of life in megacities of the future. The project has received one of the 2015 GreenTec Awards. In the fields of water supply and water disposal, AERZEN blower technology plays a key role.

The project SEMIZENTRAL, of the Technical University Darmstadt in the Chinese coastal metropolis of Qingdao, has been given a GreenTec Award. This project shows how to plan infrastructure as needed, and how to put these infrastructure plans into practice. Instead of building one central sewage plant for the entire city, the scientists have pursued a semi-centralised approach with a number of smaller plants. This enables cities to grow in sections and consequently, the water supply and water disposal infrastructure can do likewise. Within this scope of application, AERZEN blower technology has been among the established equipment used worldwide for more than 150 years.

Efficient engineering made by AERZEN

For optimal water treatment, the Technical University Darmstadt and its coopera-

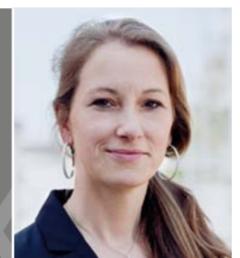
tion partners, Tongji University Shanghai and Qingdao Technological University, applied an especially energy-efficient technology. With regard to sewage water cleaning, basin aeration uses the highest amount of energy, so the application of energy-saving solutions is well worth the effort. For this reason, the decision was made in favour of the AERZEN series Delta Blower and Delta Hybrid. "We were looking for economical blower packages which transport air by means of high

Air quantities to be controlled as required

volume flows", recalls Dr. Susanne Bieker, Research Project Manager. In the aeration basins, two Delta Blower packaged units ensure that in grey water treatment systems, the microorganisms do not run out of air. The blower GM3S supplies a volume flow of up to 210 m³/h. To ensure that the semi-centralised plant, which was taken into operation in 2014, is always working within an optimal range, both functionally and in terms of energy use, components are required which also work with high efficiency in partial-load operation. The adjustment of motor speed and flow capacity to suit daily demand is done by frequency converters. Under similar conditions, 

Dr. Susanne Bieker
Research Project Manager, Technical University Darmstadt

We use AERZEN technology, because it is highly efficient in terms of energy use, it is well aligned and it is reliable over long periods of time.



New manager Process Gas Division (PGD)

After nearly 30 years of successful work as Managing Director for Aerzen U.S.A., Pierre Noack is coming back to Germany. From 1st October 2015, he will take over the management of the Process Gas Division of AERZEN, and will be responsible for all process gas activities within Germany and world-wide AERZEN competence centres.



Pierre Noack

60th anniversary of Aerzen Belgium

On the occasion of the company's 60th anniversary, Aerzen Belgium had invited customers, suppliers, employees and their families to a party. With its theme "The Future is Now", guests at the party had an opportunity to experience time travel. Passing machines from different decades, the path led right up to the present day, when AERZEN has been able to achieve what, until recently, was still a vision of the future. Since its beginnings back in 1955, Aerzen Belgium has expanded several times in respect of office space as well as personnel. Today, the warehouse and workshop extend to 2,000 square metres, and the team consists of 27 employees who provide an extensive range of after-sales services.



The central of Aerzen Belgium's operations near Brussels

Two re-certifications for AERZEN Hungary

AERZEN HUNGÁRIA KFT. has had success on two occasions with re-certifications this year. On 18th March 2015, TÜV Rheinland carried out a re-certification audit concerning ISO 9001:2008. With the complete inspection of the company taking place every three years, the auditors inspected the main areas of sales, production, planning and after sales service. Quality management was also checked and received high praise. The renewal of the welding certificates then followed on 14th May 2015. After these two successes, AERZEN Hungary now aims to achieve the ASME-certification in order to meet American requirements as well.

With their efforts, all employees of AERZEN Hungary contributed to a successful re-certification.



AERZEN Delta Blowers can be applied in membrane filtration basins as well. The generated air flow works as an air blade which removes the biofilm from the diaphragm and prevents the fine pores from clogging. For this, both air quantity and pressure are the decisive factors, and are reason enough to use, in this case, the efficient positive displacement blower GM 10 S made by AERZEN, which delivers a volume of up to 542 m³/h at a differential pressure of up to 1 bar.

The best of both worlds

For the treatment of black water, three Delta Hybrid packaged units are in operation, with a capacity of 690 m³/h. With

this series, AERZEN has succeeded in combining the operating principles of the positive displacement blower and the screw compressor in such a way that they are comparable with standard compressors, but these units require 15% less current. These world first rotary lobe compressors offer completely new possibilities for the generation of negative pressure and overpressure by ingeniously combining the technical advantages of both concepts. For the Technical University Darmstadt these aspects influence the selection of suppliers as Dr. Bieker explains: "We use technology which is highly efficient in terms of energy use and reliable over long periods of time. Everything needs to be coordinated prop-

erly." Worldwide service and a quick supply of spare parts are mandatory as well.

Further optimisations for the future

Productivity, reliability and energy efficiency are becoming ever more important considerations in European mechanical engineering in the assessment of process technology. Dr. Bieker reports that the total cost of ownership (TCO) hardly plays a role in China anymore.

In view of increasing urbanisation, the efficient use of water is becoming more and more important. Saving is well worthwhile! Therefore, AERZEN steadily continues its research in terms of maximum energy efficiency and economy for blower technology.

In wastewater treatment, the AERZEN series Delta Blower and Delta Hybrid are used.

Instead of a central sewage plant, the concept involves smaller plants which are tailored to the development of new residential areas.



AERZEN Service technician

Reaching the customer even faster

In order to meet the increasing requirements for bespoke customer support, AERZEN has employed six new service technicians and implemented the service planning software "GeoMap".

The worldwide demand for original AERZEN service increases from year to year: in the past, the main tasks of the AERZEN After Sales teams largely involved commissioning or general overhaul of AERZEN machines, but today, additional support is increasingly being requested. The number of machines being supported via maintenance contracts has doubled in the last five years. Such contracts can include anything from a yearly visit, right up to an "all-round-package" inclusive of 24/7-emergency service. In order to ensure that this service can be promptly

delivered, AERZEN has employed and specially trained six new service technicians since August.

For optimal planning and co-ordination of the activities of service technicians in the worldwide technical field service, AERZEN After Field Service has additionally implemented the planning software, GeoMap, in June. This system offers a clear geographic presentation of the locations of AERZEN machines, customers and assembly assignments. In case of emergencies, this is a great help, as AERZEN management of assembly assignments can



Thanks to the planning software, Geomap, the assignments of the AERZEN service technicians can now be better coordinated - for greater speed and availability.

immediately identify which service technician is in the vicinity and able to offer corresponding support. In terms of speed and availability of the service technicians, AERZEN has thus taken a significant step forward.

Six new service technicians are for AERZEN



Ali Jaber



Dominik Rimm-Schrader



Markus Duhnsen



Marc Busse



Manuel Postler



Paul Nixon



The aftercooler convinces through especially low pressure losses.

The comprehensive accessories programme includes pressure retaining valves of premium class.



Complementary components for Delta Screw screw compressors

Tailor-made applications thanks to accessories

Screw compressors of series Delta Screw convince by their comprehensive range of accessories: From A to Z, AERZEN offers a wide range of complementary products for tailor-made applications.

Every complete system is only as good as its individual components. Accessories made by well-known partners have been of great importance to AERZEN. Based on a personal consultation, our screw compressors Delta Screw are tailored precisely to the needs of our customers. Besides the proven standard oil "Delta Lube 06", special oils for the food-

stuff industry are also available, as well as silicone-free products. Instead of the regularly used filter cartridges of class EU4, filter cartridges of classes EU5 or EU7 can also be used.

Individually expandable

In addition, AERZEN offers pressure retaining valves of premium class. These

valves guarantee the required back pressure in situations where there are fluctuating pressure ratios. This prolongs the life of both plant and compressor. The aftercoolers convince with their low pressure losses and maximum operating temperatures of up to 280 °C. Upon request, individually adjusted cyclone separators and condensate drains are used, which are designed for the lowest pressure losses. As a special highlight, our air/air aftercooler series is also available. This series is equipped with efficient speed control of the fan. Furthermore, the AERZEN compressors can be set up for online vibration monitoring, in order to detect bearing damage at an early stage and thus to prevent it. However, the best part is this - thanks to the supplied software, the customer is able to carry out this damage analysis himself.

New VM 85 production in India

Really Indian, completely AERZEN

To remain competitive, AERZEN's Indian subsidiary had to produce screw compressor packages of series VM 85 within the country. German standards had to be observed.

Following a market review carried out by Aerzen Machines (India) Pvt. Ltd., it emerged that there is greater demand for screw compressors of the size of our VM 85. It was therefore decided to produce them locally. Our Indian production site already manufactured blower packaged units of series Delta Blower in nominal widths DN50 to DN400, and maintained stages through its own after-sales service. Therefore, the conditions were ideal for an extension of the product programme.

The starting signal for local production came in January 2014. In order to compete

in the highly competitive Indian market, Aerzen Machines India had to make sure that it could produce the compressors in-country, and that most of the components, including main components such as base frame and acoustic hood, could be made in India.

Quality standards are maintained

In order to comply with German standards insofar as the Indian-made packaged units were concerned, Indian colleagues first needed to be trained in Germany. In order to achieve these standards, they worked alongside their German colleagues. One

colleague from the parent company then helped with the establishment of assembly, quality inspection and testing at the Indian factory. Observance of the standards and high AERZEN quality demands is mandatory. "The measurements showed that all performance parameters, such as noise and vibration development, as well as throughput, comply with German specifications", explains Harshal Erande, Production Manager at Aerzen India. The big premiere was on 26th February 2015: For the first time, a packaged unit completely manufactured in Asia had been successfully taken into operation.

The Aerzen Machines India Pvt. team with German colleague Stephan Seedorff



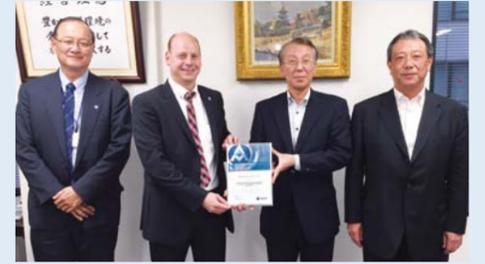
Harshal Erande,
Production Manager of Aerzen Machines India Pvt. Ltd.

The measurements showed that all performance parameters of the packaged units manufactured in India comply with German specifications.



Powerful Trio for Japan!

Aerzener Maschinenfabrik GmbH, and its subsidiary Aerzen Turbo, concluded a distributor agreement with the well-known company Ebara Jitsugyo for the Japanese market in March of this year. The co-operation primarily covers the Japanese wastewater market, as well as sales and service of AERZEN turbo blowers. For further information, please visit: www.ejk.co.jp



Presentation of the AERZEN distributor certificate (from left): Mr. Robert Janson, Representative Director Aerzen Turbo, Mr. Stephan Brand, Director Turbo Business Aerzen Group, Mr. Toru Abe, Associate Executive Corporate Officer Ebara Jitsugyo, Mr. Yoshihiro Miki, General Manager Ebara Jitsugyo

New company and product brochures

We have revised our company and product information for you. Now it is easy to get the new versions of product brochures. You can order them via our website: www.aerzen.com



From now on, new brochures can be downloaded.

More service for South Africa

AERZEN has taken over the management of Airgas Compressors in Johannesburg, South Africa and established a new service subsidiary in Durban on 1st June 2015. As a result of this local support, customers in the South African province of KwaZulu-Natal, as well as those in Mozambique and Mauritius, save on transport costs, because repairs and servicing of blowers and compressors are now effected at site. The new entity is led by Earl Houson and Patrick Clothier. "Thanks to Airgas Compressors' work, AERZEN already has an excellent reputation in Sub-Saharan Africa. By expanding our local portfolio and service, we will continue to grow", according to manager Klaus-Hasso Heller.

Inauguration of the new service subsidiary in Durban, South Africa



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

Aerzen China has a new location

In July of this year, Aerzen China moved to its new location in the Xinzhuang Industrial Park in Shanghai. The building's design reflects the new "Made by AERZEN" concept. It has a production area covering 6,000 square metres, and there are 1,500 square metres of office space and "social" areas.

On 13th October, this building will be formally opened, and a celebration will take place with many customers and business partners invited.



The new building of Aerzen China in Shanghai

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Editorial staff
M/Stephan Brand (v.i.S.d.P.), Sebastian Meißler,
Andreas Gattermann, Frank Glöckner,
Klaus Grote, Klaus Heller, Ingo Kammeyer,
Bernd Wöhlken

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Positive displacement blowers made by AERZEN

From atmospheric pressure to vacuum

As the world's leading manufacturer of special vacuum positive displacement blowers, AERZEN offers a wide range of products. This also includes blowers which generate negative pressure in one and two stages. Customers will find the perfect solution for every application.

Negative pressure from up to 500 mbar (300 mbar abs.) can already be achieved with one stage. This is possible thanks to the AERZEN positive displacement blowers of series Delta Blower G5, or the newly developed rotary lobe compressors of series Delta Hybrid. A vacuum pumping set is mandatory for pressures below 300 mbar abs., and here a backing pump and a vacuum positive displacement blower are combined. The blower and the pump together generate, in two stages, the necessary vacuum. As a pioneer and specialist with years of experience, AERZEN gives advice to manufacturers of such backing pumps in terms of choosing the optimum backing pump, and selects the appropriate AERZEN vacuum positive displacement blower. Both systems need to be coordinated both in terms of their power requirements, and thermally, in an optimal way, so that the required parameters can be fulfilled. Economical and energy-efficient operation of the plant is thus guaranteed.

Series mHV with pre-inlet cooling

For the vacuum range from 300 to 10 mbar, the vacuum blowers with pre-inlet cooling of series mHV are appropriate. AERZEN supplies these solutions in eleven sizes for theoretical nominal intake volume flows from 250 to 61,000 m³/h. The maximum allowed differential pressure depends on the thermal load. Pre-inlet blowers are mainly used in rough vacuum and negative pressure range as backing pump or negative pressure stage against atmosphere, in order to achieve high differential pressures in one stage. Also for high compression ratios in rough vacuum up to $p_2/p_1 = 5$, these blowers are the right choice. Pre-inlet blowers of series mHV guarantee continuous operation without overheating problems.

Air-cooled series HV

The air-cooled blowers of series HV are designed for the fine vacuum range from 200 to 10⁻³ mbar. AERZEN supplies these solutions in eleven sizes for theoretical nominal intake volume flows from 180 to 97,000 m³/h and support speeds from 3,000 to 3,600 rpm. They work either



Vacuum-tight canned motor blower of series CM/HM for the high vacuum range

with vertical direction of flow (type of construction: GM) or with horizontal direction of flow (type of construction: GL). The horizontal direction of flow allows a particularly compact type of construction. Both types of construction are used in the coating process, in chemical and process engineering and process engineering, in the metallurgy and packing industries, in central vacuum plants, in helium compression and helium leak detection systems, in the manufacturing of lamps, tubes, solar equipment and in the automotive industry. For particular applications, special seals can be used for air-cooled, splash lubricated blowers. Special variants of material, e.g. for housing parts and rotary pistons, can also be used.

Series CM and HM for continuous operation

The AERZEN canned motor blowers of series CM and HM have been designed for 24-hour operation. They are certified for ATEX zone 0 and cover the entire high-vacuum range from 200 to 10⁻⁵ mbar. For lubrication, mineral oil or Fomblin oil are to be used. Series CM for aggressive gases is available in 14 sizes for theoretical nominal intake volume flows from 110 to 15,340 m³/h. Series

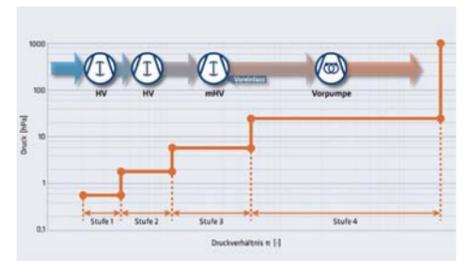
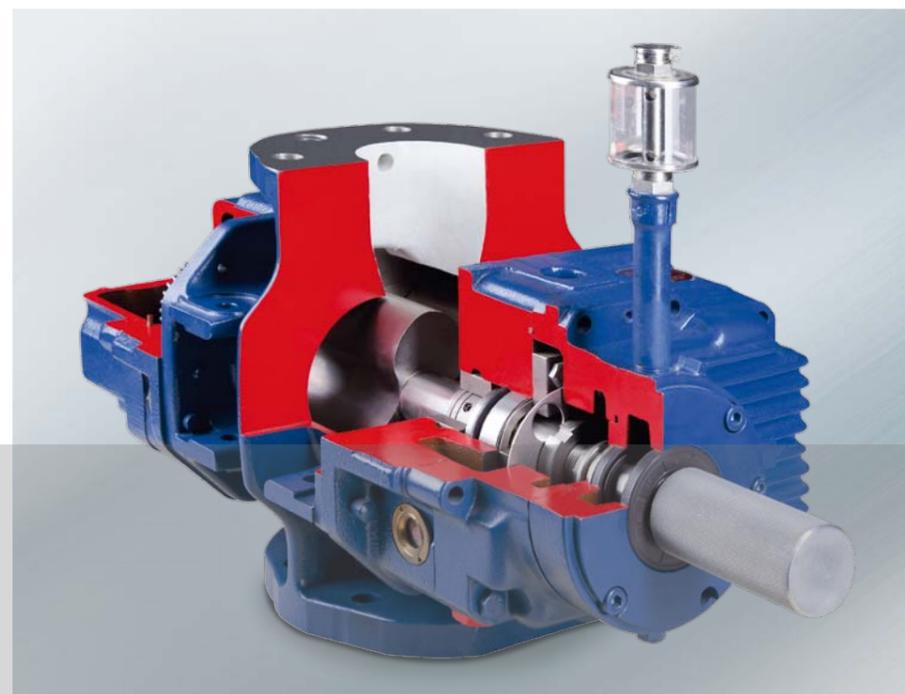


Diagram of a 4-stage pumping set: stages 1 and 2 with HV blower

HM for neutral gases is available in 9 sizes for theoretical nominal intake volume flows from 406 to 15,570 m³/h.

These systems are appropriate for the production of an industrial vacuum, for example in chemical and process engineering and process engineering, in foil and glass coating, evacuation of hydrogen, in helium leak detection systems and in any situations where leakages must be avoided. In addition, these blowers have proven to be a great success in the semiconductor industry, in microelectronics, in the manufacture of flat screens, in laser technology and in solar technology. The canned motor blowers can deliver in both directions - vertical and horizontal. The series water cooling of the motors allows operation under clean room conditions. An excellent mechanical resistance (up to 230 mbar) reduces the pumping times considerably. The application of a frequency converter makes a high control range (1:5) possible, and therefore, smaller blower sizes can also be used. Thanks to different motor variants for network, cyclical and continuous operations, an individual solution can always be found, even for special applications. AERZEN can offer an appropriate product for every situation. ○



The air-cooled blower GMa 10.2 HV works with vertical direction of flow.