

Quality by tradition -

150 years of Aerzener Maschinenfabrik



3D animation showing the new administration building inaugurated in 2013/14 on the premises of the company headquarters in Aerzen

150 years of experience in all branches

In our anniversary year 2014 we proudly ance". This underlines our continuing objective to our customers worldwide of first-rate performance with a new definition of quality. Our high quality aspirations With a good four dozen workers the company made agricultural implements such as harrows and tedders while the foundry made drinking fountains and crosses for tombstones. The first positive displacement blower was produced already in 1868. is now being run by the fourth generation and compressing gas. Our products stand for energy efficiency and procedures that help protect resources. Around 2,000 employees work for the company at its headquarters in

150 years of quality, innovative ideas, service and efficiency

In our anniversary year we look back on an European continent to produce positive displacement blowers using the Roots method, Hermann Allstaedt, the Managing Director during the 1930s who focused production consistently on blowers, pumps and an international approach by founding the the last 150 years the "Aerzeners" often took brave decisions which put them a step ahead of the competition. Even so, time and again we had to deal with major chalfinancial crisis during the 1920s, the threat of dismantling in the post-war years or the recent economic crises since the start of the new millennium. But even in difficult times we have always won through with quality commitment and support of our skilled,

150 years global brand Aerzen

So where do we stand today? Even as a global Group we have still preserved the character of an independent, medium-sized family company. Our success has always depended crucially on high quality standards as well as a deeply anchored culture of innovation and consistent customer orientation in all parts of the company. Products made in Aerzen stand for sustainability and energy efficiency. They help to protect the environment and resources. Integrity and reliability are among our most valuable attributes. All over the world communication, team spirit and trust, commitment, initiative and diversity of opinions are the elementary pillars that uphold our corporate culture – values founded in the 150 years of our history.





Founding period in Aerzen 1864–1907



In 1864 Wilhelm Meyer, son of a Jewish bank and merchant family from Hanover, starts a machine foundry in Aerzen. The company is geared for success right from the start: in 1868 Aerzener Maschinenfabrik is the first company on the European continent to make positive displacement blowers using the Roots method. In the 1880s the product range is extended to include positive displacement blowers, steam traction engines, drills and circular saws. An economic boom is triggered in 1897 when the railway line is opened from Hamelin via Aerzen to Lage. The Weserbergland is now connected to Germany's industrial centres.

Aerzener Maschinenfabrik is founded in 1864 by the manufacturer and merchant Wilhelm Meyer.

Already as a young man, merchant Wilhelm Meyer from Hanover (1836–1884) runs an agricultural machine factory in Reher near Hamelin. Up to 50 workers produce agricultural machinery. When the premises get too small, in 1864 Wilhelm Meyer founds a machinery factory in Aerzen. He uses the nearby Grieße stream to provide natural power for his machines. The company swiftly establishes contacts with England as the motherland of industrialisation and sets up an iron foundry in Aerzen. From 1868 onwards the company produces the first positive displacement blowers produced on the European continent using the method developed by Francis Marion Roots - blowers that are far more efficient than conventional machines. But to start with, the positive displacement blowers are just one of a whole range of products. Initially they are used in the field forges also made in Aerzen where they are responsible for generating wind.

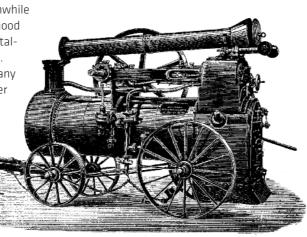
Aerzener Maschinenfabrik also benefits from the economic boom following the founding of the German Empire. Meanwhile about 80 employees make their livelihood here. Among others, a forge and a metalworking shop are added to the factory. Wilhelm Meyer retires from the company in 1872 and hands it over to his younger brothers Sigmund (1840 – 1911) and Emil (1841 – 1899). The economic upswing enjoyed by Aerzener Maschinenfabrik during this period is due

Heinrich Meier who works tirelessly at designing and patenting new machines such as steam traction engines for threshing grain and tedder machines. He devotes particular attention to the safety of his workers. For example, machines made in Aerzen are designed with dangerous cogwheels securely accommodated in metal boxes. In 1878 Aerzener Maschinenfabrik causes quite a sensation at the

above all to the

factory director

trade show for industry, skilled crafts and factories in Hanover. The company receives the first prize for its products in the agriculture and forestry class. Numerous new customers are acquired during the 1880s including chemical companies, shipyards, railway workshops and other up-and-coming branches of industry. The Roots blowers become a best-seller with their increasing popularity as blowers for smithy hearths, ousting the hitherto standard bellows. The company's success is not limited to Germany alone: traction engines in particular help Aerzener Maschinenfabrik to increasingly cultivate new sales markets in Russia, Austria and Hungary. At the same time the product range is constantly expanded to include drills, field forges, circular saws and well pumps. The foundry produces not only garden furniture and crosses for tombstones but also drinking fountains that are put up in squares and market places throughout Germany.



Traction engines for threshing machines become best-sellers.





Since 1868, all the castings for machines made in Aerzen were produced in the factory's own iron foundry (at the top).

Towards the end of the 19th century, pneumatic hammers and blowers are among the most important production lines at Aerzener Maschinenfabrik.

Given the crisis in large-scale agriculture,

from 1894 the new factory director Wilhelm

chinery. Instead he focuses consistently on

Muhlert stops producing agricultural ma-

making blowers and products for the

tic hammers. Aerzener Maschinen-

fabrik is quick to adapt to

customer requests and con-

in its range including pitch

up to the railway network

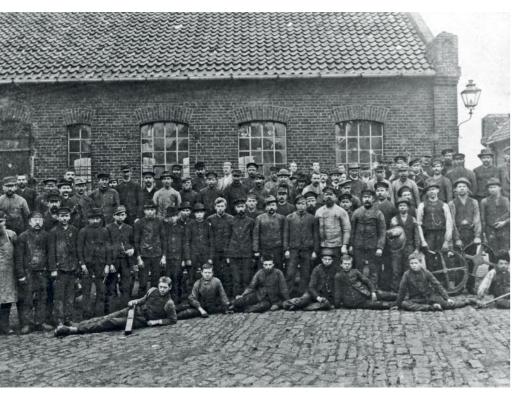
and a real boom ensues.

machines for breweries that apply a coating of pitch to the inside of wooden barrels. In 1897 Aerzen is connected

stantly includes new machines

growing heavy industry such as smithy

hearths, heating furnaces and pneuma-





The workforce at the turn of the century in front of one of the production buildings.



Aerzener Luftdruckhämmer

Just a few weeks later a new production record is set up: the 5,000th positive displacement blower is finished and sent to Berlin by rail.

The new century brings fundamental changes in the company management. In 1902 Sigmund Meyer retires from business and the long-standing factory director Wilhelm Muhlert becomes the Managing Director. When profits fail to develop as expected, in 1907 the engineer Hermann Allstaedt (1873 – 1942) from a wealthy family is brought into the company as personally liable partner and Managing Director. He turns the company into a GmbH (limited liability company).

Precision blowers from Aerzen using the Roots method with steam drive and iron blades.



Specialist for positive displacement blowers 1907 – 1938



Engineer Hermann Allstaedt, Managing Director of Aerzener Maschinenfabrik since 1907, steers the company through stormy times: the First World War and hyperinflation. From the mid 1920s, products made in Aerzen are being purchased by an increasing number of purchasers in Germany and abroad. But after the stock market crash in 1929 the situation becomes increasingly dramatic. The company has to dismiss dozens of workers and closes the foundry. With his brave decision to specialise from now on in making positive displacement blowers. Hermann Allstaedt sets the points for the company to find its way out of the crisis and into a successful future.

Hermann Allstaedt is Managing Director of Aerzener Maschinenfabrik from 1907 to 1941.

Hermann Allstaedt puts Aerzener Maschinenfabrik back on the road to success. He invests in expanding the Aerzen site and, like his predecessors, focuses on expanding the range and on product innovations. One of the best-sellers consists of the "modern dedusting system" for houses which the company starts offering in 1909. A positive displacement blower from Aerzen installed in the basement works with a system of pipes to remove dust from curtains, carpets and furniture. In the same year the company obtains a patent for silencers for blowers to clearly reduce the operating noise level of the machines. Hermann Allstaedt's willingness to respond at any time to customers' requests is demonstrated by the invention of the running or guide wheels for turbo machines in 1910 and the start of production for turbo blowers for iron foundries, collieries and chemical industrial companies in 1911.

With the outbreak of the First World War in summer 1914, many of the 200 workers at Aerzener Maschinenfabrik volunteer for military service or are conscripted into the armed forces. Together with the lack of workers, Hermann Allstaedt also struggles to cope with the restrictions prevailing in international trade relations. From 1914/1915 arms are produced in Aerzener Maschinenfabrik, including above all gun carriages consisting of mobile steel frames for transporting guns. All in all, the company manages to survive well during the war years. And the first orders from abroad start arriving in Aerzen again already in 1919.



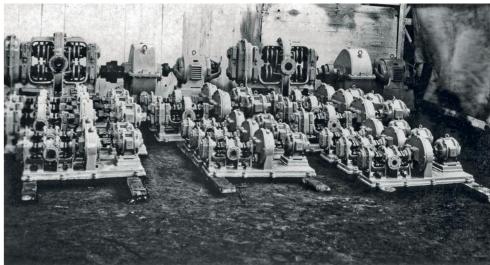


Following a smooth start in the post-war years, Aerzener Maschinenfabrik then goes through a difficult period under the impact of the crises of the Weimar Republic. Galloping inflation has a major effect on work processes. As soon as the workers receive their daily wages, they go shopping to spend as much as possible of their money which loses value by the hour. In August 1923 Aerzener Maschinenfabrik distributes its own emergency money to the workforce. It can either be redeemed with the company solidarity fund or is accepted in payment by the Kreditbank Aktiengesellschaft Hamelin. The currency reform at the end of 1923 restores a certain degree of economic

Quality products "made in Aerzen": the dedusting system patented in 1909 (at the top); rotation pumps (at the bottom).



stability to Germany but this still does not herald a golden era for Aerzener Maschinenfabrik. In the crisis Hermann Allstaedt decides to start making rotary piston pumps again, which his predecessor Muhlert had stopped producing in the 1890s. The rotors of the new generation of pumps are based on rotary pistons, similar to the blower. They stand out with symmetrical, two-cog profiles so that they can pump both thick and thin fluids. The new pumps are launched in 1926 and are soon in great demand particularly from customers in the chemical industry. One particular success consists in an export order to India for 18 pumps at the end of the 1920s.



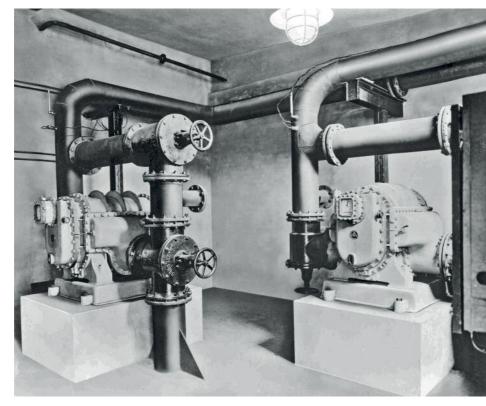
During the crisis of the 1920s, Aerzener Maschinenfabrik focuses on producing positive displacement blowers and rotary piston pumps.

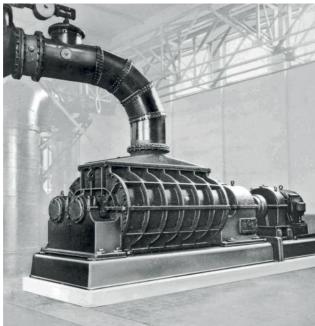
In Aerzen they also use the proven Roots principle for rotary piston gas meters: blower MG 50 (on the left); a rotary piston gas meter station (at the bottom).



The hesitant economic recovery in Aerzen is brought to an end in 1929 by the New York stock market crash and the subsequent world economic crisis. Redundancies cannot be avoided. In 1930 only about 100 workers are employed in Aerzen. Furthermore, the foundry is closed after 62 years. This eliminates many products from the range. But at the same time Hermann Allstaedt starts to produce rotary piston gas meters – a crucial step on the way to becoming specialists for positive displacement machines. Purchasers soon also include Ruhrgas AG and Friedrich Krupp AG. Bolstered by this success, from 1931 Hermann Allstaedt focuses consistently on specialisation. From now on Aerzener Maschinenfabrik only produces three different types of positive displacement machines: blowers, pumps and gas meters, thus setting the points for moving the company out of the economic crisis.

Following the seizure of power by the national socialists, Aerzener Maschinenfabrik benefits from the general economic recovery. The first foreign commercial agency in Milan is opened in 1934. In the following year, Aerzener Maschinenfabrik receives a large order from the Soviet Union and supplies positive displacement blowers for expanding the oil fields in the Caucasus. A new production record is celebrated in 1936 with the delivery of the 20,000th positive displacement blower.

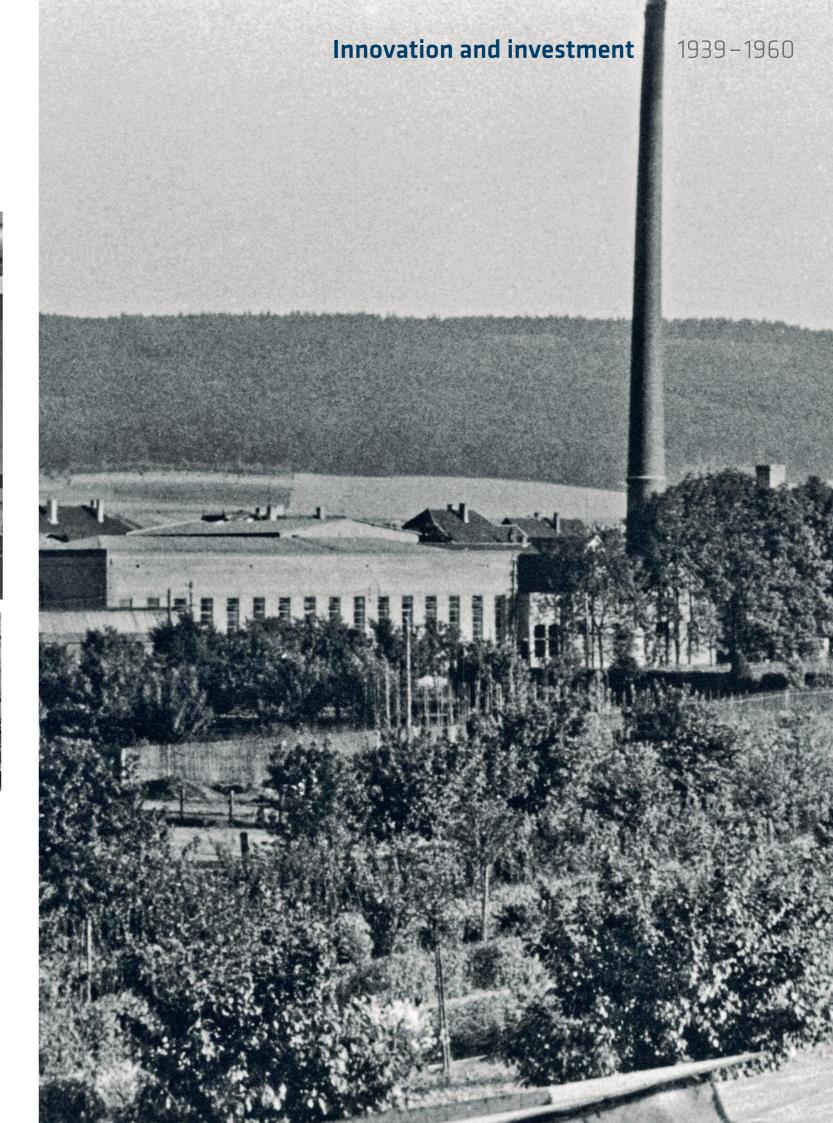






Reorganisation: in 1929, all blower series are reorganised in their overall structure.

This gas extraction unit is supplied by Aerzener Maschinenfabrik in the 1930s to Friedrich Thyssen's central coking plant in Duisburg-Hamborn.



Innovation and investment 1939 - 1960 150 years of Aerzener Maschinenfabrik

Karlheinrich Heller runs Aerzener Maschinenfabrik from 1941 to 1960.



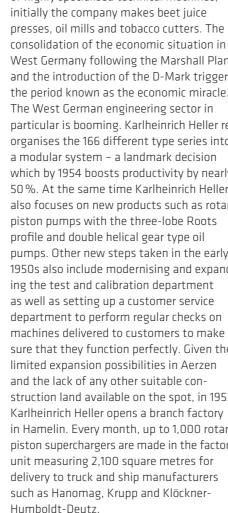
Since the start of the Second World War in 1939, contracts for arms keep Aerzener Maschinenfabrik working at capacity levels. In the middle of the war Karlheinrich Heller takes over the management from his father-in-law Hermann Allstaedt in 1941 and starts to develop the first screw compressors. Aerzener Maschinenfabrik was essentially spared from air raids during the war, so that on obtaining permission from the British occupying force, work can begin again already shortly after the end of the war. During the 1950s. Aerzener Maschinenfabrik also experiences its own economic miracle. The site in Aerzen is modernised and a branch factory is opened in Hamelin. When Karlheinrich Heller dies suddenly in 1960, he leaves behind a prosperous company.

The development and production of screw compressors begins in the middle of the Second World War



which he puts into practice after the Second World War. Today the screw compressor is one of the key products made by Aerzener Maschinenfabrik.

Despite the threat of dismantling after the end of the war in 1945, production in Aerzen is swiftly restored. But instead of highly specialised technical machines, initially the company makes beet juice presses, oil mills and tobacco cutters. The consolidation of the economic situation in West Germany following the Marshall Plan and the introduction of the D-Mark trigger the period known as the economic miracle. The West German engineering sector in particular is booming. Karlheinrich Heller reorganises the 166 different type series into a modular system - a landmark decision which by 1954 boosts productivity by nearly 50 %. At the same time Karlheinrich Heller also focuses on new products such as rotary piston pumps with the three-lobe Roots profile and double helical gear type oil pumps. Other new steps taken in the early 1950s also include modernising and expanding the test and calibration department as well as setting up a customer service department to perform regular checks on machines delivered to customers to make sure that they function perfectly. Given the limited expansion possibilities in Aerzen and the lack of any other suitable construction land available on the spot, in 1953 Karlheinrich Heller opens a branch factory in Hamelin. Every month, up to 1,000 rotary piston superchargers are made in the factory unit measuring 2,100 square metres for delivery to truck and ship manufacturers such as Hanomag, Krupp and Klöckner-Humboldt-Deutz.

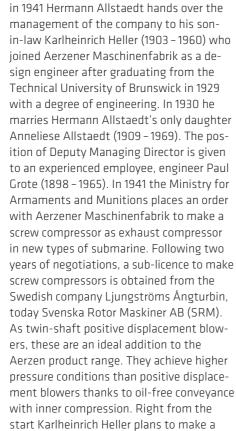


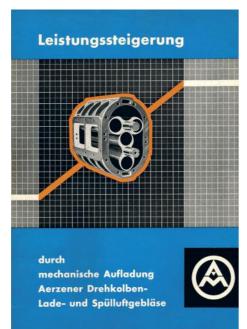
In 1954 Aerzener Maschinenfabrik has 464 workers and office employees. Although the workforce grows continuously as a result of the boom the company still preserves a friendly working atmosphere like in a big family. As with his predecessors, the wellbeing of his employees is always close to Karlheinrich Heller's heart. He lets the workforce participate in the company profits and pays a special bonus for marriages, births, anniversaries and also for building their own homes.

The Aerzen site is extended at the end of the 1950s. This entails moving the Grieße stream which up to now has run across the company premises with a constant risk of flooding. Then today's Unit III is constructed for the turning shop and the tool shop as the first large new-build after the Second World War. Just after the new unit is inaugurated, the 100,000th positive

INNOVATION AND INVESTMENT

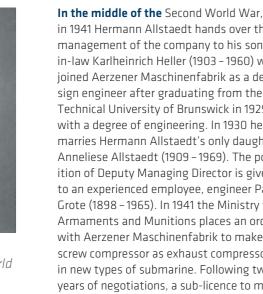
Aerzener Maschinenfabrik also benefits from the sustained arowth in West Germany's economy: here a worker inspects screw compressor rotors in the test fixture.





universal screw compressor, a project

Superchargers and scavenging blowers made in Aerzen are in great demand particularly with truck and shipbuilding companies.



In 1959, workers proudly present the 100,000th positive displacement blower made in Aerzen (on the left). Aerzener Maschinenfabrik shows its gas meters at an exhibition in Berlin (on the right).





displacement blower leaves Aerzener
Maschinenfabrik. In the most successful
year hitherto in the company history, the
meanwhile 600 employees generate overall
production amounting to 1,718 tonnes.
To quote the local newspaper; "Aerzener
Maschinenfabrik plays the same role for
Aerzen that Krupp plays for Essen."
The sudden death of Karlheinrich Heller on
20 July 1960 is a great shock, not just for
the workforce. Around 2,000 people attend
the funeral. The procession to the cemetery
is so long that at times it disrupts traffic
on the main B1 road. This is the end of an
era in Aerzen.



Although the workforce grows during the busy years of the "economic miracle", the company still preserves a friendly working atmosphere like in a big family; group picture showing the production department.



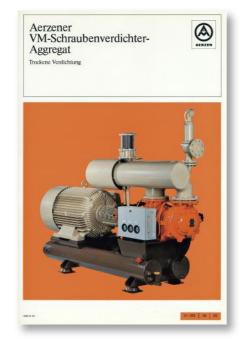


Following the death of Karlheinrich Heller, the company is run for five years by Paul Grote. When he dies, Hasso Heller, the only son of Anneliese and Karlheinrich Heller, becomes Managing Director. The new boss advocates an international approach and in 1968 founds Aerzen France as the first foreign subsidiary. This is followed by branches in England, the USA and South Africa among others. At the same time, Hasso Heller maintains the modernisation course started by his predecessors. He continues to expand the Aerzen site and launches innovative products such as the world's largest positive displacement blower. The new Delta Screw and Delta Blower series are still being used in the 1990s to cultivate new customer relations.

Hasso Heller is Managing Director of Aerzener Maschinenfabrik from 1965 to 2000.

Following the death of her husband, Anneliese Heller entrusts the leadership of the company to Paul Grote, a deserving "Aerzener". He continues his predecessor's modernisation strategy: a new production unit covering 4,500 square metres, today's Unit IV, is constructed in 1962. Following this expansion, in summer 1963 the Hamelin branch is integrated in the Aerzener site. And the company continues to grow. In the anniversary year 1964, the workforce increases to 700; thanks to the high profits in preceding years, the share capital is doubled from three to six million D-Mark.

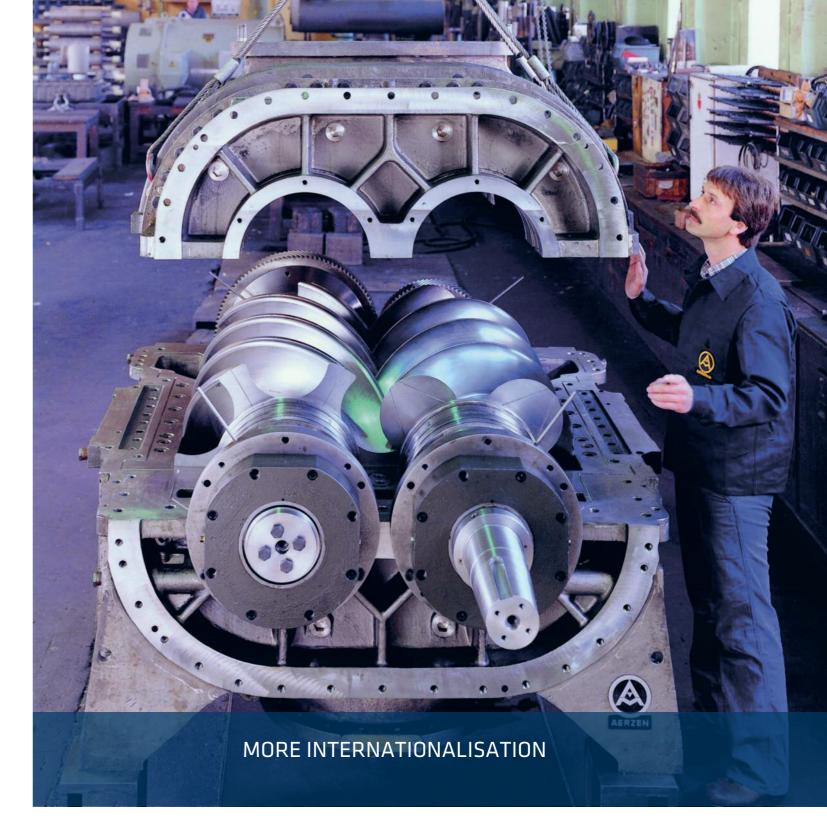
When Paul Grote dies in 1965, Hasso Heller (born 1935) takes over the company management, just twelve months after joining the management team as an assistant. By the end of the 1960s Hasso Heller has added enhanced screw compressors to the delivery programme that compress air and neutral gases for higher pressures. In 1968 at the Hanover Fair the company presents the first screw compressors with oil injection for the refrigeration industry. At the same time Hasso Heller ventures a step abroad: in 1968 he founds Aerzen France S.A.R.L. as the first foreign subsidiary for Aerzener Maschinenfabrik. A global customer service is gradually established over the next few years.





Aerzener Maschinenfabrik continues its internationalisation efforts in the 1970s. Aerzen Machines Ltd. is founded in London in 1973, followed in 1978 by Aerzen Nederland B.V. in Arnheim. Another milestone is set in 1974 with type approval pursuant to the regulations of the European Economic Community. Gas meters from Aerzen are thus the first rotary piston gas meters to be approved in all countries of the European Common Market. Aerzener Maschinenfabrik is also on an expansion course within Germany. This includes in 1978 the takeover of the company Thomas in nearby Emmerthal, a firm specialising in appliance and pipeline construction, today Emmerthaler Apparatebau. As a result Aerzener Maschinenfabrik can now supply complete appliances and plant sections, thus offering an increasing range of engineering services.

Modern machinery results in a clear increase in productivity (at the top). Among others, Hasso Heller adds screw compressors supported on roller bearings to the company's range (on the left).



The new employees in Emmerthal benefit from the flexitime working arrangements already established in 1973 for the core workforce in Aerzen and can organise their working hours on a more flexible basis than most other West German employees. The company premises in Aerzen are also modernised. A new test facility building is constructed in 1975 followed in 1979 by the inauguration of the new administration building on Hermann-Allstaedt-Weg.

Aerzener Maschinenfabrik still continues to make a name for itself with spectacular product innovations. In 1978 for instance the company presents the world's largest positive displacement blower with a huge piston measuring 1.5 metres in diameter for use in the steel industry. New standards are also set in 1984 by the world's largest screw compressors with a rotor diameter of 845 millimetres. Another important new construction made in Aerzen is presented in 1987 with the patented three-lobe blowers. This world innovation from Aerzen sets a new market standard which is still in force today.

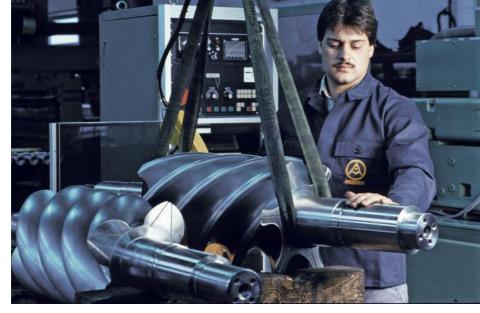
Modern times: assembly of a 15 tonne process gas screw compressor for compressing 36,500 cubic metres of coking gas per hour.



Aerzen USA Corporation set up in 1983 is the company's first branch outside Europe.

At the same time the company remains on internationalisation course. Following subsidiaries in Spain and Belgium, in 1983 Hasso Heller founds the first company outside Europe with Aerzen USA Corporation. This is followed in 1985 and 1987 by Airgas Compressor in South Africa and Aerzen Canada; from 1987 Aerzener Maschinenfabrik joins forces with its subsidiary Aerzen Special Products to expand its international supplier network for accessory components. By the end of the 1980s the company has nine foreign subsidiaries. Around 950 employees work for Aerzener Maschinenfabrik all over the world. The financial figures also speak for themselves. In 1989 the company generates record turnover amounting to 180 million D-Mark.

In 1990 Aerzener Maschinenfabrik is one of the very first German companies to be awarded the DIN EN ISO 9001 certificate, thus showing its customers that high quality standards are heeded in Aerzen. Hasso Heller also focuses on new pioneering products. The Delta Blower machine has been in production since 1994, followed in 1996 with the Delta Screw series of particularly energy-efficient screw compressor units. After 35 years at the helm of Aerzener Maschinenfabrik, in 2000 Hasso Heller retires from operative business and entrusts his son Klaus-Hasso (born 1967) to lead the family company into the 21st century.









Important developments that keep pace with constantly increasing market requirements include customer-oriented solutions for screw compressors (at the top), the world's largest positive displacement blower (on the left), the Delta Screw compressor series (on the right) and the Delta Blower machine series (at the bottom).



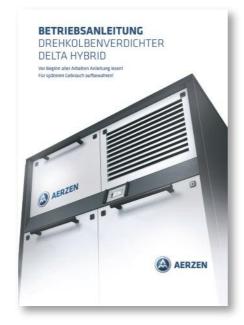


Economic crisis in the engineering sector with fewer orders and shorttime working: on becoming Managing Director of Aerzener Maschinenfabrik in 2000, Klaus-Hasso Heller faces major challenges. He restructures the production programme, streamlines internal processes, invests in the Aerzen site and forges ahead with internationalisation. At the same time he focuses on new energy-efficient products such as the Delta Hybrid, the world's first series of rotary piston compressors. His efforts pay off. In the anniversary year 2014, the order books of Aerzener Maschinenfabrik are well filled and around 2,000 workers are employed at the company headquarters and in the more than 40 subsidiaries worldwide.

Klaus-Hasso Heller has been running Aerzen in the fourth generation since 2000.

When Klaus-Hasso Heller 2000 becomes his father's successor as Managing Director of Aerzener Maschinenfabrik in 2000, he faces difficult circumstances. The poor economic situation in Germany's engineering sector means that incoming orders for Aerzen in 1999 remain below target. Klaus-Hasso Heller uses a whole bundle of measures to put Aerzener Maschinenfabrik back on the road to success. He restructures the product range and focuses manufacturing even more than before on standardised modules. He also changes the sales strategy. Aerzener Maschinenfabrik appears not just at trade-fairs held mainly in Europe but also takes part in exhibitions overseas. Like his predecessors, Klaus-Hasso Heller invests heavily in the Aerzen site. The efforts soon start to take effect. Orders worth a record-breaking 128 million Euro are received in 2004.

The company premises continue to expand in the next few years: in 2008 a new Production Centre is inaugurated for screw compressor stages and blower units. In the anniversary year 2014, a new office building will be completed together with a logistics centre. At the moment, the company head-quarters in Aerzen and the subsidiaries in Rinteln and Emmerthal have a workforce



of around 1,300 employees. This makes
Aerzener Maschinenfabrik one of the largest
employers in the region. The employees
appreciate their company as a reliable partner with a friendly working atmosphere like
in a big family. Aerzener Maschinenfabrik
actively cultivates the next generation of
employees particularly in the technical
sector. This is why the company appears
at training fairs, gives technical seminars
at Hanover University and offers an
attractive graduate entry programme
for young engineers.



Investment in the Aerzen site: numerous new buildings have been erected in recent years.



At the same time as expanding the Aerzen site, Klaus-Hasso Heller also persists with his father's internationalisation course. In 14 years more than 20 new companies join the Aerzen Group. Together with East Europe, Aerzener Maschinenfabrik also focuses on Asia. For the first time in the company's history, in January 2011 a production site for main components is founded abroad in cooperation with the subsidiary Aerzen Turbo in South Korea. Furthermore in spring 2013 the company management makes around six million Euro available for the construction of a new company building in Shanghai.

International growth also makes increasing demands of the aftersales service. A proactive service has been in place since 2005. Aerzen staff regularly visit customers and their machinery on site and offer their support, and the range of services is expanded. Moreover, in 2006 the service company Abaris Blower Repair N.V. is founded in Belgium. This firm also takes on the maintenance of positive displacement blowers and screw compressors from manufacturers no longer represented on the market. In 2009 Aerzener Maschinenfabrik builds its own repair and spare parts centre.



Outside view of the production centre opened in Aerzen in 2008: large quantities of standard machines are produced in the energy-efficient building, leading to a clear increase in production capacities.

Efficient production of a great variety of types is one of Aerzen's specialities.



The success of Aerzener Maschinenfabrik is still driven by quality products and product innovations. For example, blowers and screw compressors made in Aerzen are now being used increasingly for the treatment of biogas. At the 2010 IFAT environment trade fair in Munich the company presents the Delta Hybrid as the world's first series of rotary piston compressors which consume up to 15 % less energy than conventional compressors. Energy is also saved by the 5th generation of turbo blowers for particularly efficient generation of process air. In 2010 Aerzener Maschinenfabrik is mentioned for the first time in the "Lexikon der deutschen Weltmarktführer" (Encyclopaedia of German World Market Leaders).

Aerzener Maschinenfabrik marches on into the second decade of the new millennium led by a troika of managers. In 2011 Klaus-Hasso Heller is joined in the company management team by industrial engineer Bernd Wöhlken and engineer Björn Irtel who have both been at Aerzen for many years. The company's Vision 2020 is presented by the new management team in 2011 with an ambitious programme for realigning and expanding the Group. The new objective aims at establishing Aerzener Maschinen-













Positive displacement blowers, rotary piston compressors, turbo blowers, screw compressors and gas meters from Aerzen make industrial processes energy-efficient and sustainable. For 150 years, the company has stayed at the helm of the market and led technology and innovation with a constant flow of new patents and innovative product improvements.





